Wairoa Wastewater Scheme

Presbyterian Methodist Hall,

28 November 2017

What should Wairoa do with its wastewater?

The Journey so far

VISION

1) long-term goal is removing wastewater discharges from the Wairoa River

2) commitment to improving river health not just related to wastewater – but in a holistic way

Includes

- implementing improvements for managing wastewater,
- and improving catchment water quality.

THE STARTING POINT

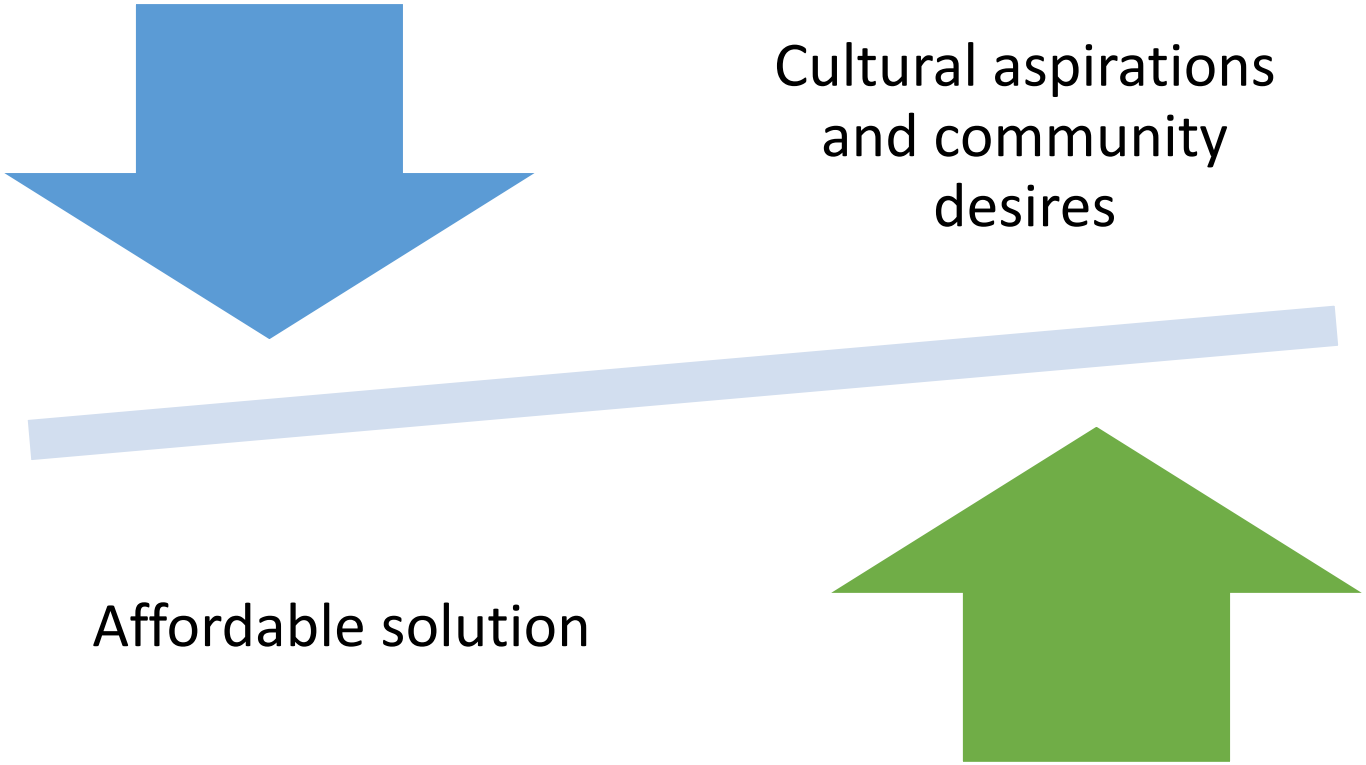
Reconsenting treated wastewater discharges from Wairoa District Council's current wastewater treatment plant needs reconsenting – need to consider alternatives

Current system **not considered acceptable by many** - despite not having any significant measurable effects

Exact effects and impact likely being masked condition of the river as a whole

The community would like to see water quality in their river improved.

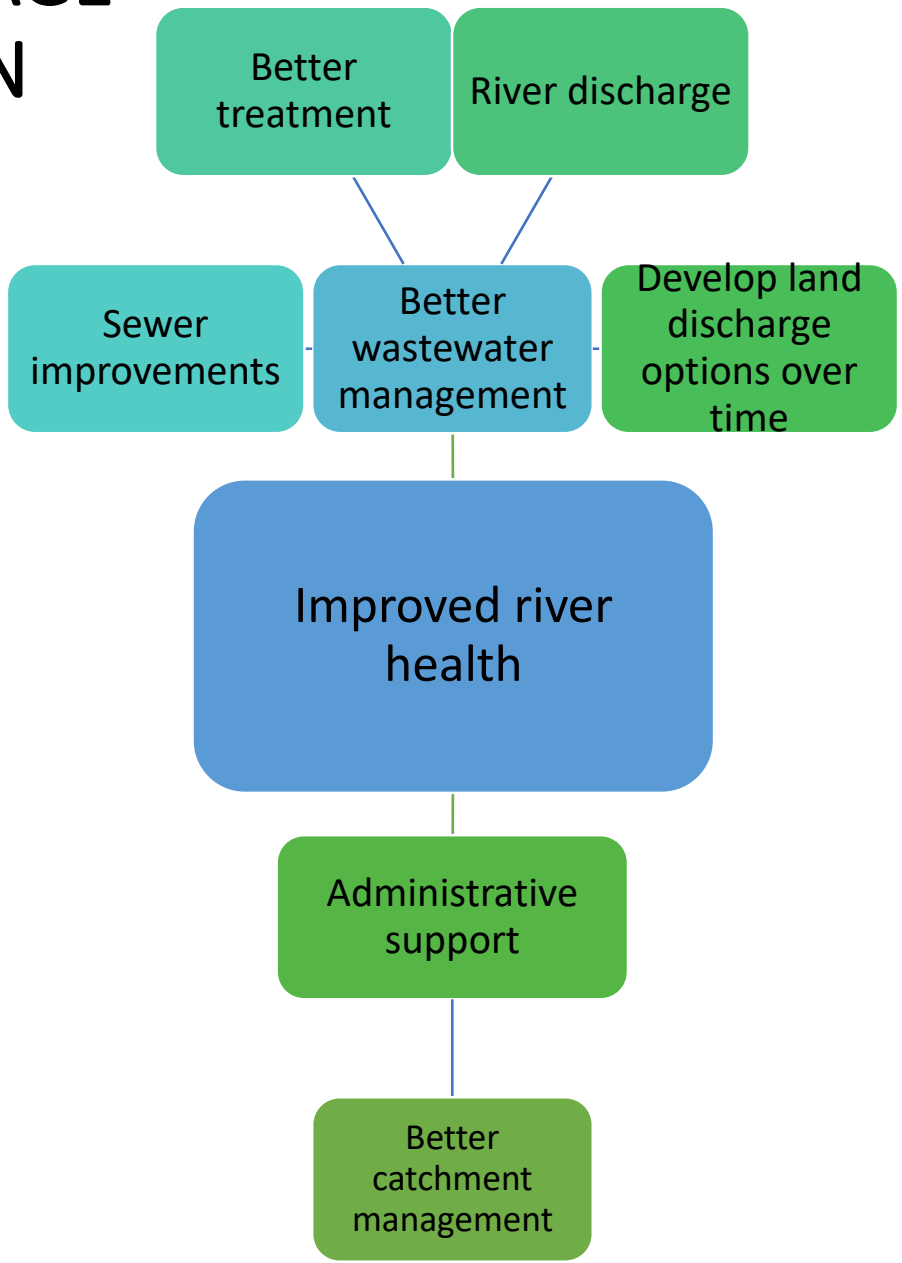
THE INTENT



‘Quick wins’ possible in the short term

- improving effluent quality
- irrigating land close to the wastewater treatment plant

THE PACKAGE - INTENTION



THE PACKAGE - OVERVIEW

Now

- 100 % River discharge

A - Soon

- Sand filter system
- UV treatment before river discharge
- Look at some land application (irrigation)

B - Interim

- As with Soon, but more and larger irrigation areas
- Investigate and construct some storage ponds

C - Future

- As much as possible applied to land
- Possibly only when significant storms there is discharge to river

THE PACKAGE DETAILS

Wastewater Infrastructure Improvements

- **Extra treatment**
  - Filtration - sand/media to remove algae and particulate
  - Disinfection - Ultra Violet Light Treatment to reduce bugs even further than curent treatment
- **Reticulation upgrades**
  - Sewer pipe replacement
  - Pump station upgrades
- **Discharge management**
  - Ceasing illegal connections
  - Add storage to allow for continuous slower dicharge rate
  - Maintain existing discharge
  - Make upgrades
  - Change to 24/7 discharge
  - Make changes over time

Wastewater Irrigation

- **Irrigate neighbouring land**
  - Adjacent land
  - Potentially council land includng Landfill forestry
  - Other farmers in area as needed
- **Provide some storage to reduce summer river discharge**
- **Develop over time based on willingness and funding**

Catchment Advocacy

- **Contribute to driving catchment improvements**
- **WDC to be part of catchment decisions**
- **Work with HBRC and community to make changes**
- **Work with community to create opportunities**
- **Partial funding of catchment administration**

THE OPTIONS

Many and varied

Many are technically challenged

Many too expensive for the community

Include

- continuing the existing discharge,
- modifying the existing discharge potentially with additional treatment,
- using an ocean outfall and
- various forms of land application.

CONSIDERATIONS

Need to balance

- level of investment required – Parts A, B or C
- potential improvements and benefits from investing

Need to decide on

- minimum level of treatment
- costs
- whether investment is proportionate to the improvement in Wairoa River i.e. better gains with money spent elsewhere

Remember

- **wastewater management is a modern phenomenon that largely didn't exist 100 years ago**,

OTHER CONSIDERATIONS

Manage unique wastes

- commercial wastes
- mortuary waste and
- hospital waste

Reticulation improvements

- reduce stormwater and groundwater entering the system
- pump station capacity improvements

IMPLICATIONS

Financial	• Costs to be affordable to rate payers ($5 million project = $200/yr or $4/wk rate increase over 30 years) - Part A
Cultural	• Inclusion of land for filtration and ideally no wastewater going directly into river
Environmental	• Improved bug removal and ideally minimal wastewater going to water
Recreational	• Limited wastewater entering water and improved bug removal

TIMING

Within 5 Years	Within 10 years	Within 20 years	Within 30 years
• Improvement of areas of the reticulation system (i.e. pipe relining) • Improve treatment of effluent discharging from the WWTP to the estuary, allowing for 24 hour discharge • Add an area of irrigation (<50 ha) close to treatment ponds • WDC to advocate for Wairoa River Catchment initiatives	• Expand wastewater irrigation area to WDC forestry block (landfill area) and neighbouring land • Continue reticulation improvements • Develop storage capacity to make treatment more effective and irrigation options more viable • Catchment projects underway (i.e. riparian planting and retirement of grazing land in priority sub-catchments)	• Further irrigation areas identified and infrastructure put in place (i.e. up to 300 ha of irrigation) • Catchment project works have covered 50% of the catchment area	• Removal of all (or most) wastewater discharge to the river • Further irrigation areas identified (i.e. up to 600 ha of irrigation) • Up to 70% of the catchment area has had project works established and maintenance of these areas will be ongoing

COSTS

Gradual implementation over time starting with additional treatment;

Part A - target $5 million or about $200 per connection per year ($4/wk)

If additional funding could do more – Parts B and C

FINAL NOTE

it has taken more than 100 years for the river to reach its current condition

fixing it will not happen overnight

THE PACKAGE - SUMMARY

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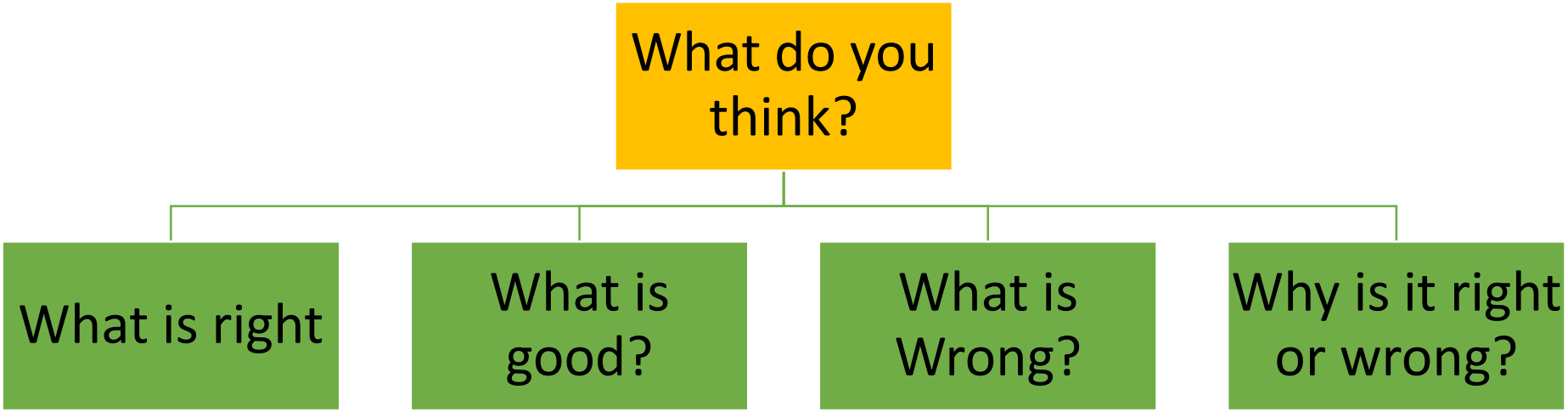
NEXT


What do you think?
What is right
What is good?
What is Wrong?
Why is it right or wrong?

FEEDBACK

When

- On going
- Good to have some by 8 December
- Council meeting to discuss 13 December
- Recommendation to Council early Feb 2018

How

- Now
- Next couple days
- Email
- Web
- Phone


WAIROA DISTRICT COUNCIL

End

- Extra slides follow

THE SOLUTION

Long term sustainable wastewater solution

- requires multiple angles to be considered to improve river health
- opportunities exist and are needed to improve the Mauri of the Wairoa River

Both objectives can work alongside each other, and potentially can be complementary when addressed as a **Package**.

SUMMARY – INVESTIGATIONS & TECHNICAL INFORMATION

A range of technical reports have been completed summarising background information. These relate to various areas of the wastewater system, the environment and the management of such a system. These reports assist with developing options along with engagement with the community and affected parties.

Reticulation	Treatment	Water	Land	Tangata Whenua	Planning
•Wastewater flows and modelling investigated	•Analysis of current treatment and flows entering the wastewater treatment ponds	•River monitoring and assessment of water quality around the outfall pipe	•Land assessment and costs for wastewater irrigation suitability around Wairoa	•Identification of sites of significance and worldview on Wairoa wastewater	•Policy documentation identified – Freshwater and Coastal and Options for wastewater identified

Please visit the Wairoa District Council Website for further information
http://www.wairoadc.govt.nz/services/water/wastewater/

SUMMARY – OPTIONS &

< $2 M

$2 - 5 M

$15 - 20 M

> $20 M

$10 < 20 M

Status Quo

- 1.1 Status Quo
- 1.2 River-low bugs/24-hour continuous discharge

River

- 2.1 River-low bugs
- 2.2 River-low bugs/HRLP-OLF
- 2.3 River-HRLP-OLF
- 2.4 River-50% flow/low bugs/HRLP-OLF
- 2.5 River(new)-low bugs -HRLP-OLF

Ocean

- 3.1 Ocean
- 3.2 Ocean-HRLP-OLF

Land

- ation rate 1
- gation rate 1
- uffer/irrigation rate 1
- buffer/irrigation rate 1
- ation rate 2
- gation rate 2
- uffer/irrigation rate 2
- buffer/irrigation rate 2

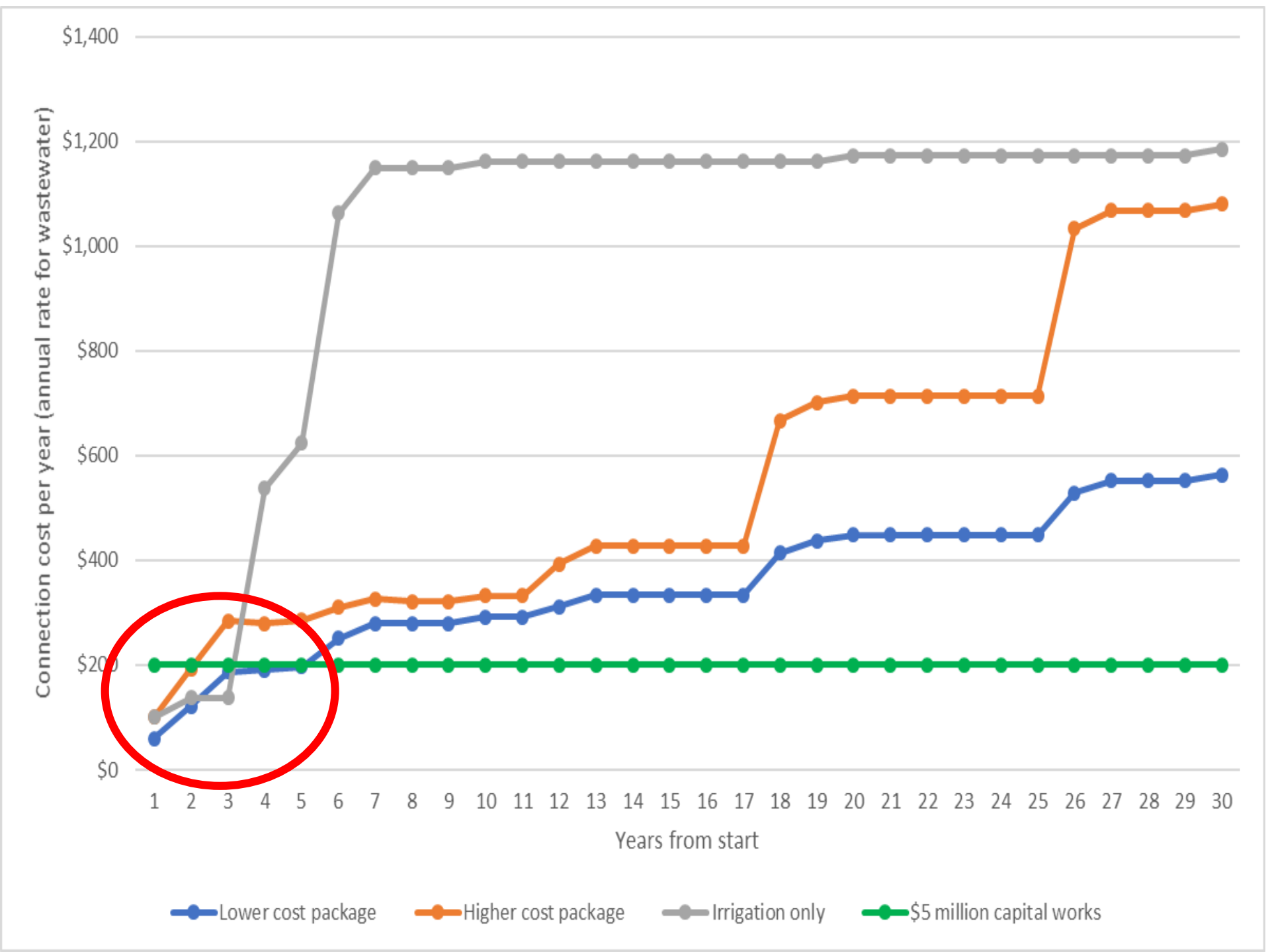
Combo

- 5.1 Combo-River/land-HRLP-OLF/14 day sto
- 5.2 Combo-River/land-HRLP-OLF/90 day sto
- 5.3 Combo-50% flow/River/land-HRLP-OLF/14
- 5.4 Combo-50% flow/River/land-HRLP-OLF/90 day

Rule of thumb:

$5 M = $200/y = $4/wk

$10 M = $400/y = $8/wk


$1,400
$1,200
$1,000
$800
$600
$400
$200
$0
Connection cost per year (annual rate for wastewater)
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
Years from start
Lower cost package
Higher cost package
Irrigation only
$5 million capital works