

Heathcote Floodplain Management Options

Land Drainage Recovery Programme - October 2017



Heathcote River Floodplain Management

July 2017



Heathcote River Floodplain Management

Format

1. Brief summary presentation
 - Process
 - Options
 - Next steps
2. Discussion tables for each option

Objective: Restoring to at least pre-EQ flood risk

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Options in brief

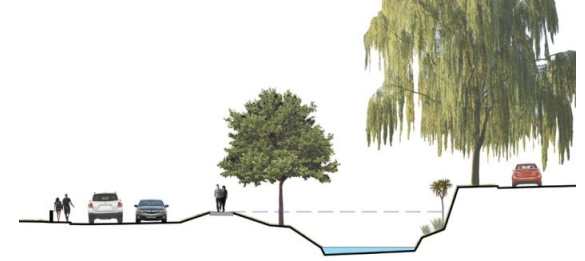
Storage



Dredging



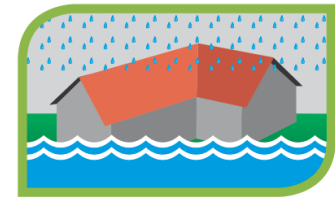
Stopbanks



Stabilisation



Flood Intervention Policy



Together build a robust approach

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Process

1. Investigations ✓
2. Present options ✓ (reports released this week)



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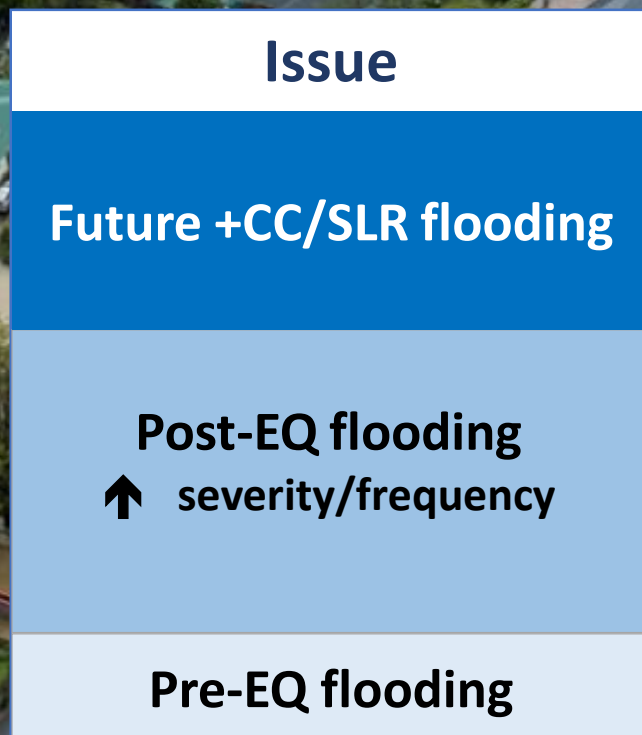
Process (continued)

3. Approvals & funding:

- a) Storage approved & in construction/design ✓
- b) Stabilisation approved – consult Nov 2017 ✓
- c) Woolston Cut dredging – early 2018 ✓
- d) Other options approval & funding needed –
November 2017 Council meeting

4. Engagement & implementation if approved

Action now with a long term view



Options long list – what was considered

Reducing or attenuating the flood sources

- Upper Heathcote storage scheme
- Further upstream storage (i.e. in Hendersons basin)
- Catchment-wide micro-storage
- Eastern hills attenuation
- Tidal suppression (eg barrage)

Improving the capacity of the river or keeping the river within the banks

- Mid-Heathcote storage
- Stopbanks (full length and discrete locations)
- Dredging (full reach and individual reaches)
- Floodplain widening (through bank stabilisation)
- Channel diversion (i.e. bypass culverts)
- River mouth pump station

Changing the impact of flooding

- House raising / purchase (Flood Intervention Policy)
- Changing land use (“room for the river” in future)
- Reduced level of service

Options considered #1

Reducing or attenuating the flood sources

- Upper Heathcote storage scheme
- Further upstream storage (i.e. in Hendersons basin)
- Catchment-wide micro-storage
- Eastern hills attenuation
- Tidal suppression (eg barrage)

Selected options list #1

Reducing or attenuating the flood sources

- Upper Heathcote storage scheme
- ~~Further upstream storage (i.e. in Hendersons basin)~~
- ~~Catchment wide micro storage~~
- ~~Eastern hills attenuation~~
- ~~Tidal suppression (eg barrage)~~

Options considered #2

Improving the capacity of the river or keeping the river within the banks

- Mid-Heathcote storage
- Stopbanks (full length and discrete locations)
- Dredging (full reach and individual reaches)
- Floodplain widening (through bank stabilisation)
- Channel diversion (i.e. bypass culverts)
- River mouth pump station

Selected options #2

Improving the capacity of the river or keeping the river within the banks

- ~~Mid-Heathcote storage~~
- Stopbanks (~~full length and~~ discrete locations)
- Dredging (~~full reach and~~ individual reaches)
- Floodplain widening (through bank stabilisation)
- ~~Channel diversion (i.e. bypass culverts)~~
- ~~River mouth pump station~~

Options considered #3

Changing the impact of flooding

- House raising / purchase (Flood Intervention Policy)
- Changing land use (“room for the river” in future)
- Reduced level of service

Selected options #3

Changing the impact of flooding

- House raising / purchase (Flood Intervention Policy)
- ~~Changing land use (“room for the river” in future)~~
- ~~Reduced level of service~~

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Achievable building blocks

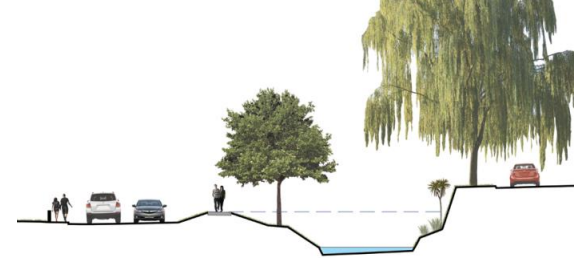
Storage



Dredging



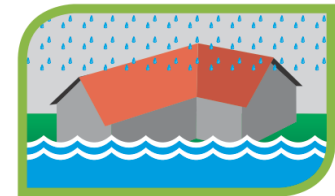
Stopbanks



Stabilisation

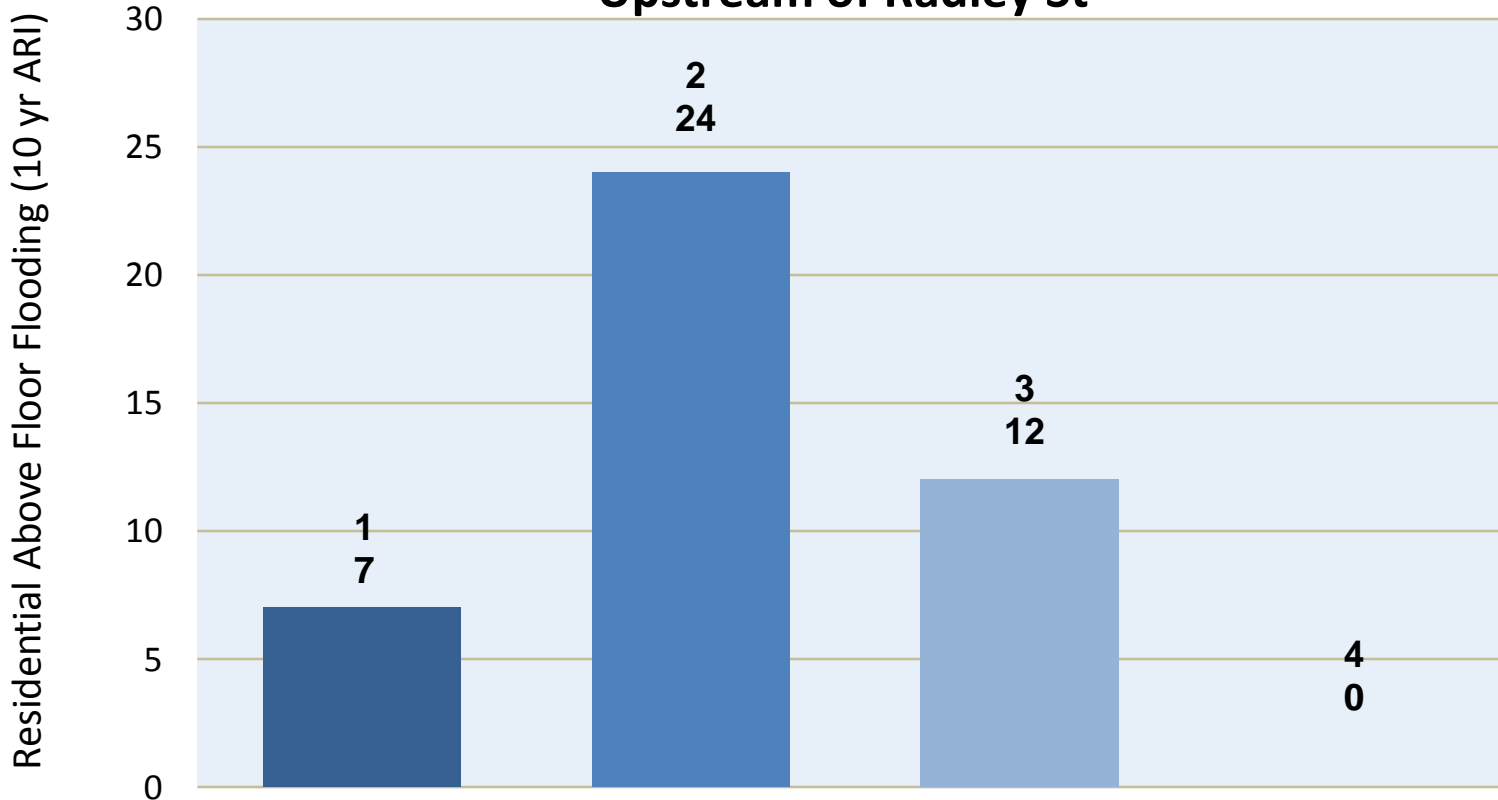


Flood Intervention Policy



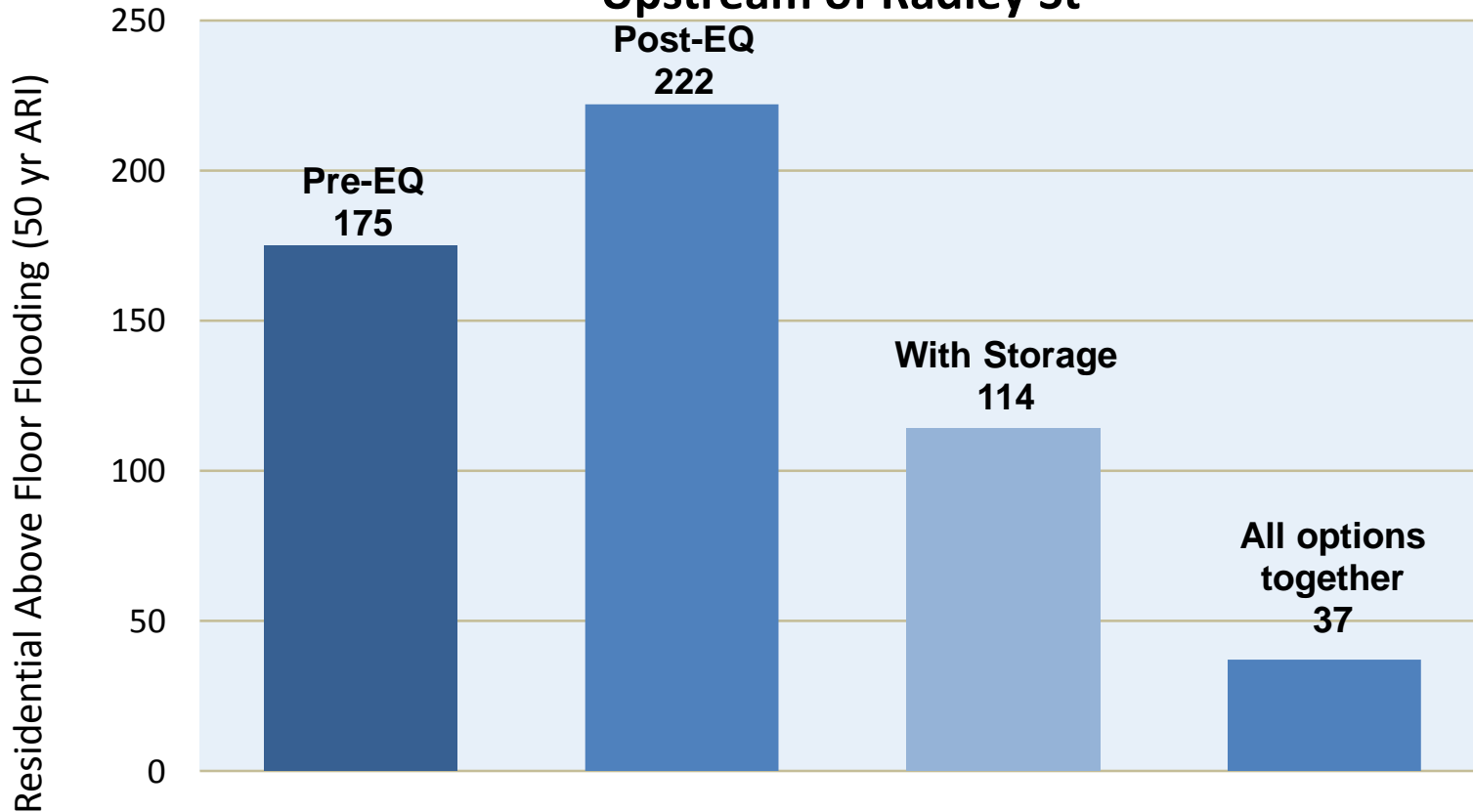
Benefits in frequent flooding (10 yr ARI)

Heathcote River – Modelled Floor Levels at Risk
Upstream of Radley St



Benefits in extreme flooding (50 yr ARI)

Heathcote River – Modelled Floor Levels at Risk
Upstream of Radley St



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Next steps

1. Continue storage schemes
2. Woolston Cut dredging approved – early 2018
3. Bank stabilisation – consultation Nov 2017
4. Seek Council approval & funding for:
 - a) Dredging
 - b) Low stopbanks
 - c) Flood Intervention Policy
5. If additional options approved: implement