

Challenging today. Reinventing tomorrow.

# **Excluding Long-List Actions RAA**

CAP Meeting 25<sup>th</sup> October 2023

# **Refining list of Actions**

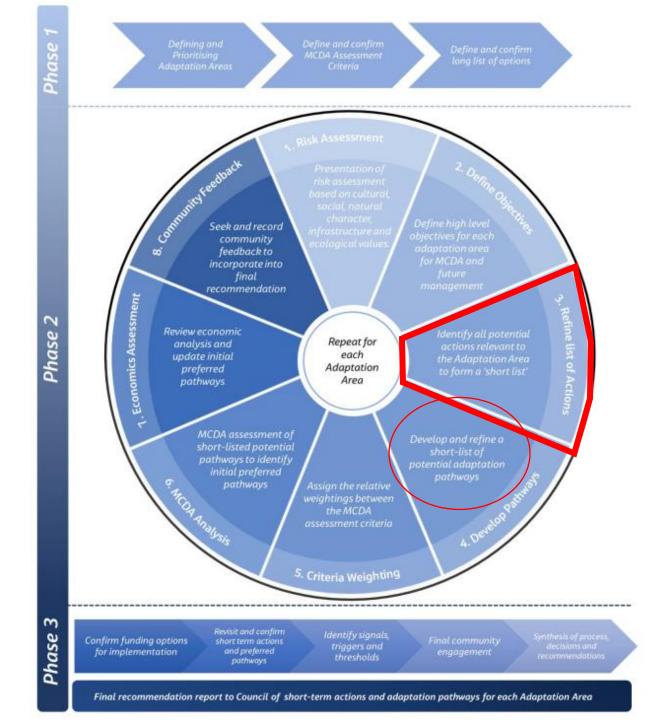
The purpose of this session is to exclude options from the long-list that the CAP consider to not be suitable for the Raumati Adaptation Area – based on knowledge of the area and communities, and objectives formed in the previous session of this workshop.

The TAG have undertaken a pre-excluding of the options to get the CAP started, based on whether actions would be technically feasible, or were likely to succeed.

The following reasons for excluding should be considered and recorded in the Table. If there are reasons other than these, then they should also be recorded:

- A. Will not provide for the objectives defined by CAP
- B. Does not have a good track record of being successful in this environment
- C. Insufficient or limited space to implement the action
- D. Not suitable for the environment it is being applied to
- E. It is not a practical solution
- F. Limited benefits
- G. Other

The remaining actions deemed relevant for application within the Adaption Area by the CAP will form the 'short list' of actions, which can then be used to form adaptation pathways (Phase 2, Step 4).



# **OPTIONS**

ACTIONS

## ENHANCE ACCOMMODATE

### PROTECT

We keep the hazard away

### RETREAT

### **AVOID**



We maintain and improve

- Enhance existing erosion ٠ protection structures
- Enhance existing inundation protection
- Enhance access and ramps
- Dune and wetland enhancement/resilience
- Emergency management
- Environmental monitoring
- Community education and risk awareness
- Private owners' ٠ responsibility

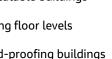
We live with the hazard



- Relocatable buildings
- Raising floor levels
- Flood-proofing buildings
- Flood proofing ٠ infrastructure

٠

٠





# Soft Engineering (Erosion)

Beach drainage .

٠

- Beach scraping
- Renourishment Dune reconstruction

#### Hard Engineering (Erosion)

- Sea walls (vertical, revetment, buried, interlocking)
- Groynes ٠
- Vertical permeable sills ٠
- Detached breakwater .

#### Inundation controls

- Controlled/planned mouth openings of lagoons or rivers
- Culvert outfalls .
- Flood gates ٠
- Storm surge barriers
- Stopbanks
- Earth bunds
- Pump stations

We move away from the hazard



- **Buyouts/Land Acquisition**
- Future Interests
- Land Swaps
- Leasebacks ٠

#### We don't move into the way of the hazard in the first place



Raising minimum floor levels of new builds

•

.

- Reduce further intensification or development
- Trigger-based or time limited . land use consents
- Zoning and setback controls •
- Transferable development rights

#### TAG Excluding **OPTIONS** ENHANCE ACCOMMODATE PROTECT **AVOID** RETREAT We move away from the We maintain and improve We don't move into the way of the We live with the hazard We keep the hazard away what we are already doing hazard hazard in the first place Soft Engineering (Erosion) Relocatable buildings Raising minimum floor levels **Buyouts/Land Acquisition** Enhance existing erosion Beach drainage (B) & (C) of new builds protection structures Beach scraping (D), (E), & (G) Raising floor levels Future Interests Renourishment (B), (D), & (F) Reduce further intensification Enhance existing ACTIONS • Dune Reconstruction (D) & (C)Flood-proofing buildings Land Swaps inundation protection or development Hard Engineering (Erosion) Flood proofing Trigger-based or time limited Enhance access and ramps Leasebacks Sea walls (vertical, infrastructure land use consents Dune and wetland (D) & (E) revetment, buried, It is recommended that interlocking) Zoning and setback controls -enhancement/resilience • retreat is considered as — Groynes (E) & (D) a broad option by the Vertical permeable sills (B) & (D) Transferable development Emergency management CAP, and the details of Detached breakwater (D) & (F) rights (E) the actions to Environmental monitoring Inundation controls implement the retreat Controlled/planned mouth (D) & (F) are considered further Community education and openings of lagoons or rivers risk awareness after the Takutai Kapiti Culvert outfalls process is completed. Flood gates Private owners' Storm surge barriers (E) & (F) responsibility Stopbanks Earth bunds

Pump stations

# **Copyright notice**

### Important

The material in this presentation has been prepared by Jacobs<sup>®</sup>.

All rights reserved. This presentation is protected by U.S. and International copyright laws. Reproduction and redistribution without written permission is prohibited. Jacobs, the Jacobs logo, and all other Jacobs trademarks are the property of Jacobs Engineering Group Inc.

Jacobs is a trademark of Jacobs Engineering Group Inc.