BURNETT RIVER FLOODPLAIN ACTION PLAN

COMMUNITY REFERENCE GROUP MEETING

TUESDAY 8 OCTOBER 2013 – 4PM

COMMITTEE ROOM, BUNDABERG MAIN ADMINISTRATION OFFICE, 190 BOURBONG STREET,

BUNDABERG

AGENDA

RSVP Robyn Laing
Tuesday, 8 October 2013- 9am
Robyn laing @bundaberg.gld.gov.au

_	
A)	Apologies:

- B) Confirmation of Minutes:
- C) Report on Community Consultation Process

Council's part in the collection of flood submissions concludes on 4 October 2013. Flood consultants, GHD will prepare all flood submissions received by Council at close of business on 4 October 2013. This report will not be received by Council until 8 October 2013 and will be made available at the Meeting.

The CRG may include an Addendum to this Report outlining additional flood resilience options for analysing with the MCA tool.

D) Multi-Criteria Analysis Assessment - MCA

GHD flood consultants will submit the MCA to Council by the end of this week and it will be distributed by separate email on 4 October 2013.

- E) Other Matters raised by CRG Members:
- F) Next Meeting Date:

Burnett River Floodplain Risk Management Study

Draft Multi Criteria Assessment Framework

INSTRUCTIONS:

1 Review the preliminary suggested criteria under each category below. The floodplain risk management options will be assess against each of these criteria as part of the MCA.

each option at this stage, but a high-level assessment of the relative costs can be undertaken quickly.)

Add to or modify the list of criteria for each option. The list of criteria should be kept short and concise, and should readily allow for high-level assessment during the MCA (e.g. detailed costings won't be prepared for

Item	Economic Aspects
A	Overall cost-benefit
В	Cost of implementation
С	Cost of maintainance / upkeep
D	Inundation of agriculture land
E	Impact on local business / commercial land
F	Impact on residential properties
G	Impact on municipal infrastructure / utilities (roads, drainage, electricity, treatment plants, etc.)
Н	
I	
J	

Item	Social Aspects
Α	Communication / notification during a flood event
В	Flood warning time
С	Frequency and duration of flooding or isolation
D	General amenity
E	Visual amenity
F	Cultural heritage
G	Impact on community infrastructure (parks, public places, etc.)
Н	
I	
J	

Item	Environmental Aspects
А	Impact on terrestrial environment (flora / fauna)
В	Impact on marine environment (flora / fauna)
С	Difficulty of environmental approvals
D	Impact on river stability / sedimentation
E	
F	
G	
Н	
l	
J	

Burnett River Floodplain Risk Management Study

INSTRUCTIONS:

- 1 First assign weightings to the overall categories of economic, social and environmental aspects.
- 2 Then assign weightings to the individual criteria within each option.

HOW TO USE THE PAIRED COMPARISON MATRICES:

- The paired comparison matrices below are provided as a tool to help assign relative weightings to each criteria.
- ii The matrices work by comparing each criteria against all others one at a time, and determining which of the pair of criteria is more important. An overall score is then determined for each criteria based on how it faired against all other criteria in the pair-wise comparisons.
- iii Note that the weightings provided below are simply intended to demonstrate the function of this spreadsheet. The CRG is advised to start afresh and determine independent weightings for each item.
- 1 Start by listing all criteria to be considered, and assigning each a letter.
- 2 Label the rows and columns of the matrix with the letter labels.
- 3 In each blank cell in the matrix, compare the criteria in the corresponding row and column, and write down the letter corresponding to the most important criteria of the two.
- 4 After completing the matrix, review the calculated weights to the right.
- 5 Using your own judgement, adjust the weights manualy if necessary.

Overall Categories - Calculation of Weightings

	Eco	Soc	Env	SCORE	RANK	CALCULATED WEIGHT	ADOPTED WEIGHT
Eco				2	1	67%	
Soc	Eco			1	2	33%	
Env	Eco	Soc		0	3	0%	
					TOTAL	100%	

Economic Criteria

Α	Overall cost-benefit
В	Cost of implementation
С	Cost of maintainance / upkeep
D	Inundation of agriculture land
E	Impact on local business / commercial land
F	Impact on residential properties
G	Impact on municipal infrastructure / utilities
Н	
1	
J	

Social Criteria

Α	Communication / notification during a flood event
В	Flood warning time
С	Frequency and duration of flooding or isolation
D	General amenity
E	Visual amenity
F	Cultural heritage
G	Impact on community infrastructure
Н	
1	
J	

Environmental Criteria

Α	Impact on terrestrial environment (flora / fauna)
В	Impact on marine environment (flora / fauna)
С	Difficulty of environmental approvals
D	Impact on river stability / sedimentation
E	
F	
G	
Н	
J	

Economic Criteria - Calculation of Weightings

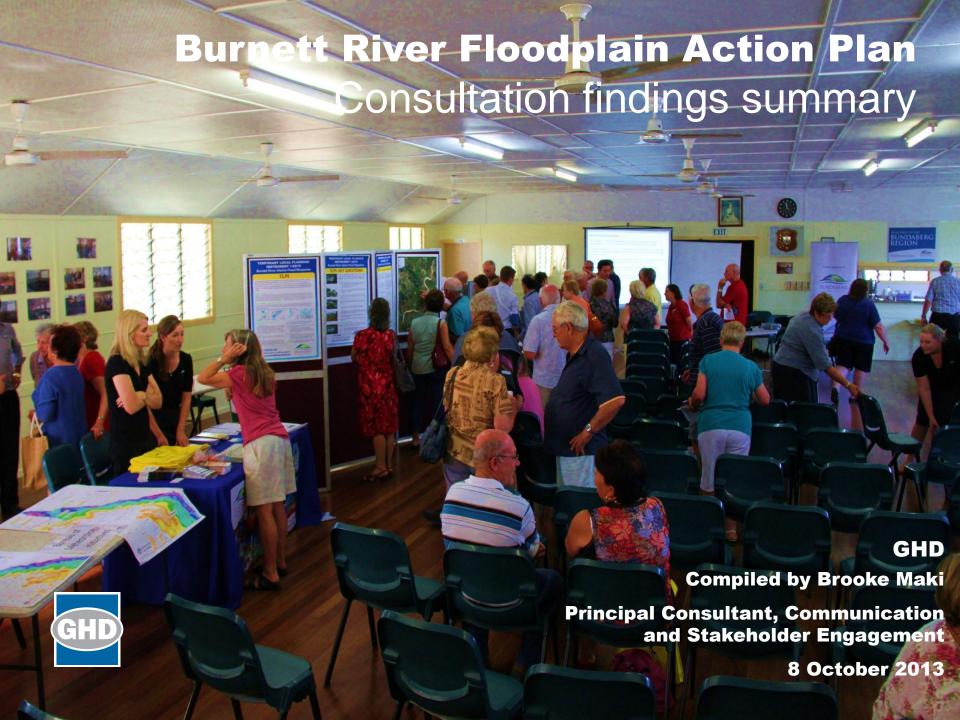
_													
		Α	В	С	D	E	F			SCORE	RANK	CALCULATED WEIGHT	ADOPTED WEIGHT
	Α									2	4	13%	
	В	Α								2	4	13%	
	С	Α	В							1	6	7%	
	D	D	В	С						3	2	20%	
	E	Е	E	Е	D					4	1	27%	
	F	F	F	F	D	E				3	2	20%	

Social Criteria - Calculation of Weightings

	_						 	 				
	Α	В	С	D	E	F			SCORE	RANK	CALCULATED WEIGHT	ADOPTED WEIGHT
Α									2	4	13%	
В	Α								2	4	13%	
C	Α	В							1	6	7%	
D	D	В	С						3	2	20%	
Е	E	E	E	D					4	1	27%	
F	F	F	F	D	E				3	2	20%	

Environmental Criteria - Calculation of Weightings

	A	В	С	D				SCORE	RANK	CALCULATED WEIGHT	ADOPTED WEIGHT
Α								2	1	33%	
В	Α							2	1	33%	
С	Α	В						1	3	17%	
D	D	В	С					1	3	17%	



Why undertake a structured communication and public consultation program?

To help support the project goal:

To identify and assess a set of preferred floodplain risk management options that build flood resilience, foster community preparedness, and ultimately save lives.

To achieve the following objectives:

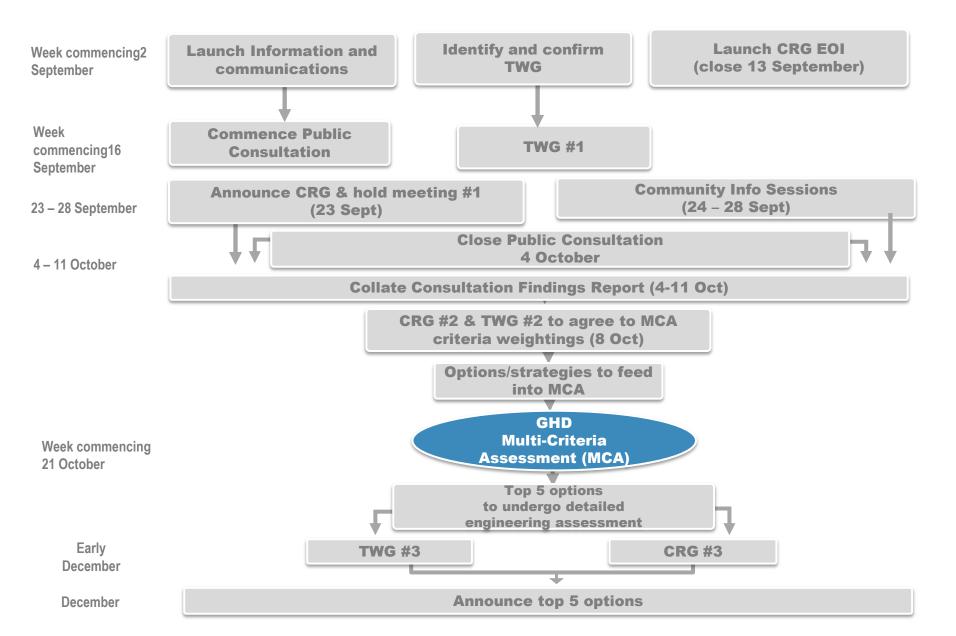
- 1. Engage directly impacted individuals to build trust, confidence in the process and progress
- 2. Motivate and inspire community-wide participation to better understand their preferences and opinions
- 3. Build community-wide awareness of the various floodplain resilience options/measures
- 4. Clearly and widely communicate the top five options







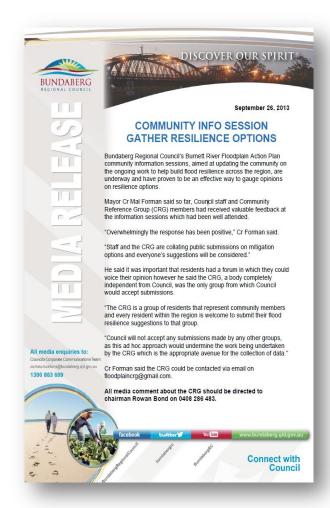
Consultation timeline



Lead-up activities – to gain interest and awareness

Comprehensive communication, public consultation, stakeholder engagement leading to:

- CRG expressions of interest sought and confirmed
- Media interviews on ABC Wide Bay, 4BU and Seven
- BRC website content updates prominent location
- Dedicated email floods@bundaberg.qld.gov.au
- Stakeholder briefings and presentations
- Advertisements in 3 local papers to promote CRG and Info Sessions
- E-update to over 10,000+ individuals and organisations to encourage participation
- Speaking role at TAFE on 22 August
- Info Session Posters across community touch-points
- Facebook posts and Tweets reaching 4,000+ people
- Factsheets x 3
- YouTube videos and animations





Ideas and feedback collection

There were four main ways people could get involved:

- Email your ideas (been receiving feedback and community correspondence since January)
- 2. Come along to an Info Session
- 3. Talk to your CRG member
- 4. Complete a Community Questionnaire





Community information sessions

- 280+ attendees across 10 Community Information Sessions at six locations
- Format included:
 - Outcomes of 2013 flood study
 - Overview of action plan process
 - Info on how to get involved
 - Six display stations and staff, counsellors
 - Opportunity for detailed one-on-one chats with Council and GHD technical leads
 - Attended by Councillors and Mayor Forman

Advise residents







Dredge the river in strategic Put flood gates in

Put flood gates in Paradise Dam.
Destroy the Burnett River barrage.
Dredge the river

Need an early warning system so we can evacuate over the bridge ASAP.



places

Community information sessions locations and #'s

Location	Sessions dates	Attendees (approximate)
North Bundaberg Progress Hall	Tuesday, 24 September x 3	120
r regrees rian	Wednesday, 25 September x 1	55
East State School Hall	Wednesday, 25 September x 2	60
St George Hall, near South Kolan School	Thursday, 26 September x 1	20
Wallaville Hall	Friday, 27 September x 1	10
Avoca State School Hall	Saturday, 28 September x 1	10
Goodnight Scrub	Wednesday, 2 October x 1	6
		Total = 280+























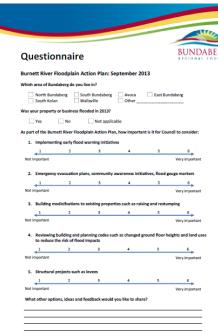
Community feedback and ideas findings

1. Submissions received to Council:

Method	Responses
Public submissions received from January to August (prior to formal consultation period)	44
Public ideas received during formal consultation period (Sept-October)	98
Anecdotal feedback received at the Information Sessions (by both BRC and GHD team members)	57
	TOTAL 199

2. Questionnaires and Post-it Notes:

Method	Responses
Questionnaire	76
Post-its	31



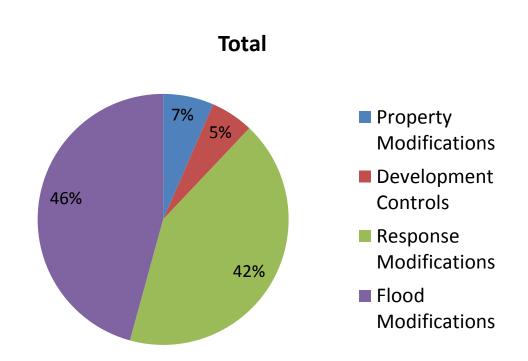


Collated ideas into four manageable themes

Theme	Types of measures, ideas, options
1. Flood Prevention modifications	 Designing measures to alter the behaviour of the flood itself by reducing flood levels and/or velocities or by excluding flood waters from areas at risk Options may include levees, river dredging and vegetation removal
2. Property modifications	 Modifications to existing buildings to remove them from flooding Options could include re-zoning and house raising
3. Development controls	 Reviewing building and planning codes such as changed ground floor heights and land uses to reduce the risk of flood impacts
4. Response modifications	 Increasing the ability of people to respond appropriately in times of flood and/or enhancing the flood warning and evacuation procedures in an area Options may include improving community awareness, improving flood warning systems, and updating local flood and evacuation plans

Findings – emailed public submissions, anecdotal feedback (ALL)

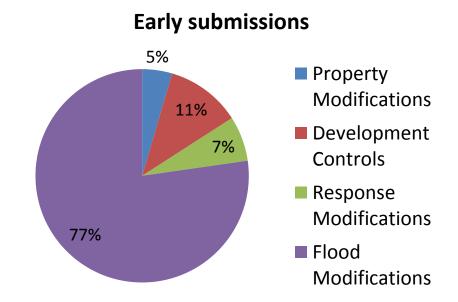
- Almost half (46%) the ideas where about flood modifications (changing the behaviour of the water)
- Closely followed by 42% of ideas about responding during a flood event





Findings – emailed public submissions, anecdotal feedback (EARLY SUBMISSIONS)

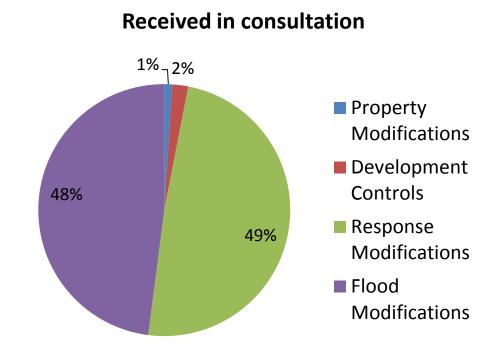
- A large proportion (77%) of ideas where about flood modifications (changing the behaviour of the water) – a natural reaction immediately after a major flood event
- Then followed by 11%
 about development controls
 (building and planning
 codes) again makes
 sense in clean-up mode





Findings – emailed public submissions, anecdotal feedback (RECEIVED DURING CONSULTATION PERIOD)

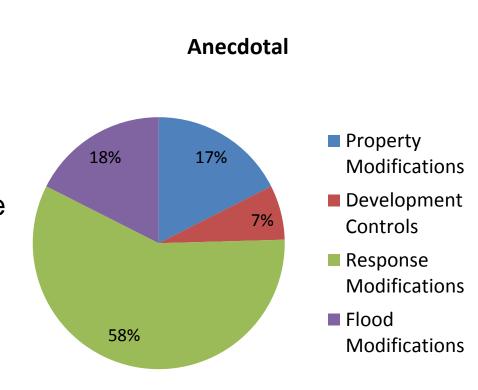
- During the consultation (Sept 2013), there was a close split between response modifications (49%) and flood modifications (48%)
- A very small number of ideas came in about development controls and property modifications





Findings – emailed public submissions, anecdotal feedback (ANECDOTAL FEEDBACK RECEIVED BY THE TEAM AT INFO SESSIONS)

- Much smaller number of ideas were received about flood modifications (18% only) when the team talked people one-onone at the info sessions
- More than half of the ideas were about responding during a flood event (58%)
- Interestingly, people also wanted to discuss property modifications (17%), when previously it was not raised as much





Questionnaire results snap-shot

71% of questionnaire respondents were flood affected

57% were from North Bundaberg

Almost half of all respondents were flood affected residents of North Bundaberg

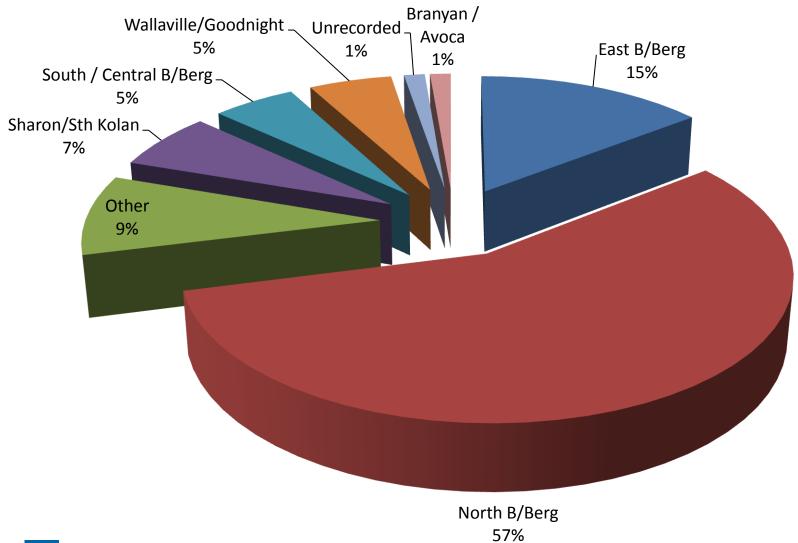
Most important issues were flood response/warning mechanisms and evacuation plans

Those not impacted by floods placed greater emphasis on the importance of reviewing planning and building codes

Flood-affected people saw early warnings as more important than flood modifications (noted as 'structural' on the questionnaire)

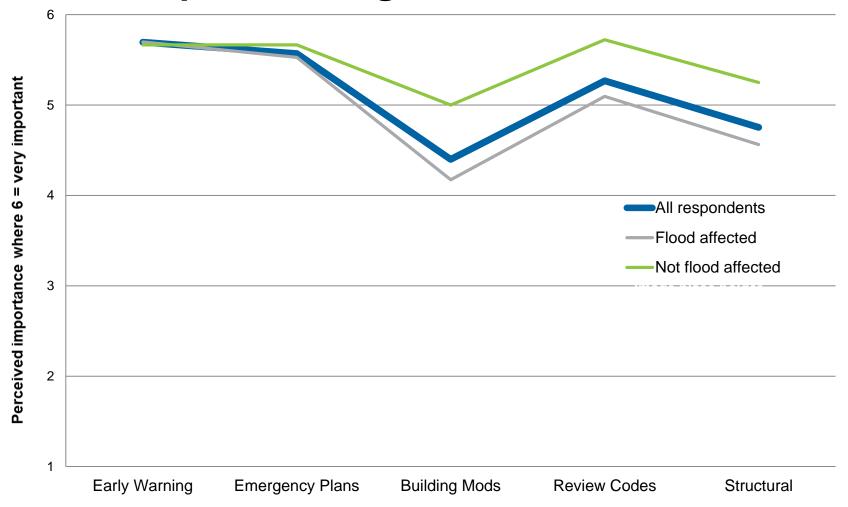
Interestingly, those not affected, saw structural modifications as more important than those who were affected

Questionnaire findings: Respondent's residence





Average perceived importance of floodplain management measures





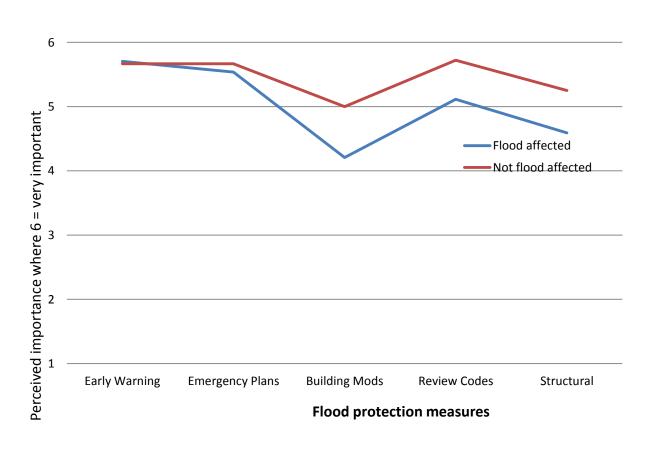
Overall ranking of floodplain resilience measures/options

- 1. Early flood warning initiatives
- 2. Evacuation plans, community awareness initiatives, flood gauge markers
- 3. Review of building and planning codes such as changed ground floor heights and land uses to reduce the risk of flood impacts
- 4. Structural projects such as levees
- 5. Building modifications to existing properties such as raising and restumping



Perceived importance of measures: flood-affected v unaffected people

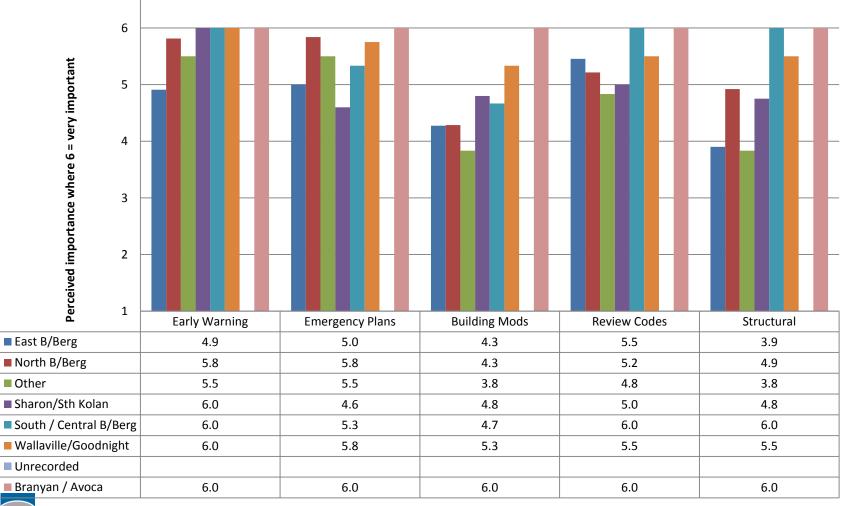
- Flood-affected people saw response modifications (noted as 'early warnings' on the questionnaire) as more important than flood modifications (noted as 'structural' on the questionnaire)
- Interestingly, those not affected, saw structural modifications as more important than those who were affected





Different ideas from different locations

Perception of flood protection measures to people in different areas





Key community comments (from the questionnaire comments field and post-it note ideas board at Info Sessions)



Flood prevention modifications

We need to be protected not told we are going to lose everything again

Dredging of the river. Remove Ben Anderson barrage. Treat problem areas e.g. dredging and not spend valuable finances repairing homes & businesses over and over again

More important Flood Gates.
1.6m in our house...so something should be done.

Do not remove barrage because millions of tonnes of sand held back will end up down stream and cause a bigger flood down stream



Development controls

Clear zoning of streets - estates that have not been affected but have limited access are identified to be able to return to homes Establish long term development planning so we don't build on flood plains

Advise residents of levels taken of their property. i.e. inundation level taken at each garage door

Council free up some parcels of land like Grantham. Ballot of people that want to participate in relocation of homes



Response modifications

Improve early warning process and alarms

Operational centre for Police & SES, Secure AQC site

Early warnings and ongoing information is paramount.
With no power and no phone the information must come by SMS, ABC radio to keep us updated and safe.

On the North Side - loud speakers, sand bags, some official logo to use to help evacuate the locals when in boats, put/buy some army ducks, SES office/station on the north side.



Property modifications

What is the flood level associated with my property (all in AHD)?

It would not be practical to raise the floor of my business

What is the floor level of 'my' living floor?

I would like funding and help with river bank stabilization which is getting closer to our home. Help with all kinds of suitable plants and trees to plant to help stabilise river bank



Next steps and any questions...

Activity	When
GHD's Full Consultation Findings Report to be collated	By Tuesday 16 October and provided to the CRG members for their perusal
CRG members to agree and confirm the MCA criteria weightings	8 October 2013
GHD to run MCA process and report back	Next CRG meeting (TBC)

Any questions about these initial findings, or the questionnaire, please do not hesitate to ask Brooke Maki, Principal Consultant, GHD





www.ghd.com