

**Some Briefing Notes to CHRC Recovery program
Sub-groups
Tuesday 8th February 2011**

The following provides a brief summary of activities the Disaster Management Coordinator, Local Disaster Management Group and others in Council have been working on post the flood events 3/12/11 and 27/12/11.

Hydrology and flood inundation

1. Documentation of flood Peaks – for example:
 - **Craigmore** – 18.16m on 29/12/10.
Largest previous – 16.25m in 2008. 38 years of records.
 - **Fairbairn Dam** - 5.58m midnight 30/12/10.
Previous largest - 4.44m in 2008.
Dam 176% capacity, spilling 373,016ML/day (4317cumecs).
 - **Vince Lester** - 16.05m at 0400hrs 31/12/10.
Largest previous – 15.7m in 1957. 60 years of records.
 - **Comet Weir** - 13.94m at 1800hrs 29/12/10.
Largest previous – 13.19m in 1954. 90 years of records.
 - **Comet at Rolleston** – 8.2m 28/12,
Largest previous – 5.87m in Feb 2010. 52 years of records.
 - **Raymond (12+m) & Rewan (11.3+m)** – NOTE: yet to be verified.
2. Have extracted all the rainfall and river sensor level data from our weather monitoring software (Enviromon) for Comet, Nogoia and Theresa ALERT stations. This includes hydrographs and time-step stream level and rain volume data.
3. Have captured the five cross sections where water by-passed the main Nogoia River channel around or through Emerald township. Flow cross sections and discharges have been calculated for two of these so far – water crossing New Street and water passing via Walters farm. The sections where water overtopped the railway line, passed through the railway tunnel and through the washed out culvert at Cole's roundabout are still being calculated.
4. Flood inundation (water over land) has been digitized for the Emerald township. Metadata for the shapefile still needs to be completed. A draft version of this shapefile was provided to State Valuation team one and a half weeks ago to assist them review and revise valuation data and provide advice back to Council for rates adjustment in township area.
5. Extensive surveying (AHD m) has been undertaken within the township:
 - Peak flood heights (including similar locations to 2008 for comparative studies),
 - Key building, infrastructure (rail, drain embankments and road - including culverts), and other heights:
 - Railway bridge bottom and top of girder each end.
 - Rundle Park chopper landing area.
 - Racecourse chopper landing area and touch sports shed..

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25/05/11
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- Council workshop floor.
- Emerald North School new white building floor fronting Borilla Street.
- Showgrounds gravel circuit road, Science centre floor and CHDC building floor and flood.
- Coles complex floor and flood.
- Woolworths complex floor and flood.
- Hospital – new and old hospital buildings, genset pad, community health building – floor and flood
- Qld Ambulance Services – floor and flood.
- PCYC floor.
- TMR floor.
- Police Station floor.
- CHRC council chambers floor.
- BMA town office floor.
- Harvest Life Christian Church – floor and flood.
- Ergon substation – pad level
- Emerald Town Pool – kiosk and chlorine plant – floor and flood.
- Water treatment plant.
- Sewerage and water pumps – top of pump casing and electrical components.
- .Road centerlines for recent new developments.
- Railway line east – west through town, north to Wills Road and small trunk line to Roberts Street / Harvest Life church.
- LN! drain embankments..
- Cross sectional surveys where water bypassed town.
- Documentation and calculation of key decision trigger points for disaster management, safe evacuation and effective public communication. These are based on stream heights at Fairbairn Dam and Vince Lester Bridge for residents along Selma Road and in town eg Vince Lester Bridge is closed at 14.4m.
- Have been preparing responses to correspondence and requests for information received by Council from a variety of individuals and organisations about flood inundation issues.

Gaps:

1. Need to obtain digital copies of BOM, DERM and Sunwater rain and river level data.
2. Need to capture landholder rainfall records from a reasonable cross section of CHRC catchment for the months of October, November and December 2010.
3. Have yet to undertake a survey and capture spot peak flood heights (AHDm) along lower Nogoia and lower Comet floodplains.

4. Need to undertake accurate cross section surveys of some of the river gauging stations for checking existing rating curves.
5. Have not yet digitized extent of land inundation in upper Nogoia and Comet systems.
6. Much planning work with hydrologists, planners and Council to look at impacts of any infrastructure on flood heights and land inundation, decisions about future building and development standards and requirements, and assess opportunity for any flood mitigation works.

Imagery

Imagery is an important tool for assessing flood inundation, stream changes, siltation and landslip issues, infrastructure damage. Imagery acquired to date:

1. Aerial photography of Emerald township and Ensham Mine, captured at 1600hrs 31/12/10. Currently have a digital copy of the data.
2. Aerial photography of Fairbairn Dam to Emerald town, captured 7/2/11. Digital data arriving by mid this week.
3. Tasked SPOT 2.5m pan sharpened multi-spectral image covering Buckland and Vandyke area. Acquisition will hopefully be completed within next 6 days.
4. Have obtained copies of Landsat imagery from State Govt and FBA – need some accurate details on time and date of each image. Much of this has a lot of cloud cover but will be useful data by combining different datasets.
5. Have obtained Radarsat and MODIS satellite data from State Government.
6. Captured oblique aerial photographs from helicopter on Monday 31/12/10 morning of Emerald town and Selma road. On Tuesday 1/1/11 captured shots of Nogoia Floodplain and Raymond Gauge.

Gaps:

1. Need to coordinate a repository of photographs from the general public and landholders in the rural areas.