In the matter of the Commissions of Inquiry Act 1950 Commissions of Inquiry Order (No.1) 2011 Queensland Floods Commission of Inquiry

Witness Statement of Gregory Kirk

I, Gregory Kirk, of Sydney, New South Wales, say as follows:

- I hold the position of Senior Executive Leader within the Australian Securities and Investments Commission (ASIC), located at 100 Market Street, Sydney, New South Wales.
- I make the following statement in response to a request from the Queensland Floods Commission of Inquiry (QFCI) for information from ASIC in relation to the QFCI investigation into the performance of private insurers in meeting their claims responsibilities arising from the Queensland floods in December 2010 and January 2011, and in particular, in response to the letter from the QFCI dated 30 September 2011 attached herein and marked as 'Annexure 1' and subsequent clarification of the issues of interest to the QFCI.
- Except where otherwise stated, I make this statement from my own knowledge and on the basis of information and belief after making enquiries with relevant officers of ASIC.

Qualifications and Professional Experience

 I hold a Bachelor of Arts and a Bachelor of Laws, and have responsibility for the Deposit-Takers, Credit and Insurers stakeholder team within ASIC.

Introduction

- The responsibilities of ASIC include licensing and regulating general insurers, administering
 the dispute resolution framework which applies to the general insurance industry, and
 promoting the confident and informed participation of consumers of insurance and other
 financial products and services.
- 6. Providers of financial services, including insurers, are required to hold an Australian Financial Services Licence (AFSL). Under the *Corporations Act* 2001, AFSL holders must have a dispute resolution system that consists of: (a) Internal Dispute Resolution (IDR) processes that meet ASIC's approved standards and requirements; and (b) membership of an ASIC approved External Dispute Resolution (EDR) scheme. The requirements concerning dispute resolution are set out in more detail in Regulatory Guide 165 *Licensing: Internal and external dispute resolution* (RG 165) and Regulatory Guide 139 *Approval and oversight of external dispute resolution schemes* (RG 139) available on the ASIC website.
- 7. The Financial Ombudsman Service (FOS) is an independent dispute resolution service that deals with disputes involving consumers of insurance and other financial services. The FOS external dispute resolution service is required to meet the standards and measures set out in ASIC's RG 139 and relied upon by ASIC in approving FOS under ASIC Class Order [CO

- 09/340] in compliance with the requirements of the *Corporations Act* noted above. A majority of insurers are members of this scheme.
- 8. The General Insurance Code of Practice (the GI Code) was developed by the Insurance Council of Australia (ICA) with the stated goal of raising customer service standards in the Australian insurance industry and protecting the rights of policyholders. ASIC does not have a role in monitoring or enforcing the GI Code. Where a code of conduct has been developed by financial services providers, including insurers, approval of the code by ASIC under s1101A of the Corporations Act can be sought, however this is not mandatory. The ICA has not sought ASIC approval for the GI Code. Nevertheless, despite ASIC's limited role with the GI Code, the ICA generally consults ASIC when it reviews the GI Code and has been consulting ASIC in relation to proposed changes to the GI Code currently being considered by the ICA.

Complaints received by ASIC

- 9. To date, ASIC has received 3 complaints that relate to Queensland floods insurance claims of interest to the QFCI. This small number may be in part due to claims still being processed by insurers or under review according to the insurers' IDR processes, or under review by the FOS. To date, there is no evidence of systemic issues arising from these complaints.
- 10. When a complaint is received, the complainant is generally informed of their options to pursue an outcome with their insurer through IDR, and subsequently where necessary, through EDR. Contact details are provided for the FOS. In some cases, ASIC has provided complainants with the contact details of Queensland Legal Aid, should they wish to obtain legal assistance.
- ASIC, as part of its regular communications with consumer representatives, has also invited Queensland Legal Aid, New South Wales Legal Aid and the Insurance Law Service (part of the Consumer Credit Legal Centre NSW) who are involved in assisting consumers to make claims, to lodge complaints with ASIC where they are concerned about an issue.
- 12. Attached and marked 'Annexure 2', 'Annexure 3', and 'Annexure 4' are summaries and related documents containing details about each of the three complaints ASIC has received regarding Queensland floods insurance claims of interest to the QFCI. Some of these documents have been redacted by ASIC. The information that has been redacted by ASIC disclose, or have a tendency to disclose, the personal details of insureds (including names, home addresses, email addresses, and telephone numbers for particular insureds). Annexure 2B is a copy of a letter dated 28 September 2011 sent from RACQ to ASIC, it contained 5 attachments which are listed in Annexure 2. Attachment 5 of Annexure 2B was provided to ASIC in an already redacted form (the name of the insured, and the FOS complaint number, having been redacted). In relation to that Attachment, ASIC has further redacted the document to remove details of the address of the insured, or a neighbouring address. ASIC has made these redactions on the basis that the QFCI does not require personal details of insureds to be disclosed.

13. In addition, ASIC has not released Attachment 3 of Annexure 2B. This attachment contains a table of personal details of 247 insureds (including name of insureds, address of insureds and, for each named insured, amounts of sum insured and insurance claim amounts). To redact these personal details, and provide a redacted copy would render the unredacted portion of the table essentially meaningless to the QFCI. ASIC has withheld this document on the basis that the QFCI does not require personal details of insureds to be disclosed.

Reports received by ASIC from the Financial Ombudsman Service (FOS)

- 14. Under the RG 139 standards and measures expected of FOS by ASIC in approving FOS under ASIC Class Order [CO 09/340], FOS is required to regularly report to ASIC on complaints, systemic issues, and serious misconduct. This assists ASIC in reviewing the operations of FOS and in identifying systemic issues and problems that require regulatory attention, such as serious misconduct as contemplated by RG 139 (at RG 139.119-RG 139.128). In summary, a 'systemic issue' is an issue that will have an effect on people beyond the parties to the dispute. 'Serious misconduct' is conduct that may be fraudulent or grossly negligent, or may involve a wilful breach of applicable laws or obligations under the FOS Terms of Reference¹.
- As part of ASIC's approval and continuing oversight of EDR schemes, ASIC meets quarterly with representatives from the EDR schemes, including FOS. FOS reports quarterly to ASIC on systemic issues for the previous quarter. Financial services providers are generally not identified in these reports. Relevant ASIC staff and the FOS systemic issues manager meet each quarter to discuss the individual cases reported. At these meetings, attendees update ASIC on general complaints trends and emerging issues. At all 2011 meetings, Queensland floods related issues and complaints have been a topic of discussion, however, to date no systemic issues with flood claims handling have been reported to ASIC during these meetings or contained within the relevant "FOS Systemic Issues" quarterly report.
- 16. FOS in certain circumstances also has the ability to report systemic issues directly to ASIC outside its quarterly reports. ASIC has not received any such reports from FOS relating to the Queensland floods.
- 17. ASIC also makes contact with FOS if issues arise between regular meetings. ASIC has opened a dialogue with FOS in relation to particular FOS determinations that ASIC considers may involve systemic issues in relation to disclosure documents. These determinations relate broadly to the adequacy of disclosure by insurers to consumers about limits on flood insurance coverage. In order to examine the issues raised by these determinations (including confirming the names of the insurers and further particulars of the issues), on 22 September 2011, ASIC issued a notice to FOS requiring the production of books. These books are due to be produced to ASIC by 13 October 2011.

Other ASIC investigations, reports or complaints received by ASIC

^{1.} FOS terms of Reference can be found at http://www.fos.org.au/public/download.jsp?id=4040

- As part of ASIC's oversight of the financial services market, including the operation of Australian Financial Service Licensees, ASIC conducts reviews of disclosure documents of financial services providers from time to time for compliance with the requirements of the Corporations Act and the Australian Securities and Investments Commission Act. Such reviews can include consideration of product disclosure statements, insurance policies and advertising and other promotional material. In doing so, ASIC takes into account matters of relevance to consumers.
- 19. ASIC meets regularly with representatives of industry and consumer representative groups. This enables ASIC to remain informed about current relevant stakeholder issues. For instance, members of ASIC's relevant stakeholder teams meet quarterly with the ICA, during these quarterly meetings held throughout 2011, issues and updates relating to Queensland floods claims were discussed, including the total value and number of claims and payouts, and the general processes for handling the large volume of claims. The processes of particular insurers in handling claims were however not discussed at those meetings. ASIC also meets quarterly with ASIC's Consumer Advisory Panel (comprising 10 consumer representative groups) to discuss issues in financial services impacting on consumers. Commencing in 2011, ASIC also meets quarterly with another group of consumer representative groups to specifically discuss insurance issues.
- 20. ASIC recently conducted a claims handling and IDR review in relation to motor vehicle insurance claims in 2010-2011, and published a report and findings on 10 August 2011: Report 245 Review of general insurance claims handling and internal dispute resolution procedures, and a copy is attached for information, together with a copy of the relevant media release ('Annexure 5'). Although the Report is primarily concerned with motor vehicle insurance, the general principles stated in the Report are likely to be of relevance to claims handling and internal dispute resolution procedures applicable to the Queensland floods.

Date: 5 October 2011



Our ref: Doc 1741038

30 September 2011

Ms Janean Richards Assistant Secretary Office of Legal Services Coordination 3-4 National Circuit BARTON ACT 2600

By email: QFCI2011@ag.gov.au

Dear Ms Richards

ASIC investigations of complaints relating to insurance claims arising from the Queensland floods

The Commission is seeking a statement from Mr Kirk which addresses the following points:

- 1. Details of any complaint/s received by ASIC relating to Queensland floods insurance claims, including (but not limited to):
 - 1.1. the nature of the complaint/s;
 - 1.2. the source of the complaints (please note that the Commission does not require personal details to be disclosed);
 - 1.3. the insurance company/ies to which the complaint/s relate/s;
 - 1.4. when the complaint/s were received;
 - 1.5. action taken by ASIC, if any, in response to the complaint/s;
 - 1.6. the outcome, if any, of any action taken by ASIC;
 - 1.7. remedial action taken, if any, by the insurance company/ies to which the complaint/s relate/s:
 - 1.8. if no action has been taken by ASIC in response to the complaint/s the status of the complaint/s.
- 2. Details of any report/s made by the Financial Ombudsman Service to ASIC relating to Queensland floods insurance claims, including (but not limited to):
 - 2.1. the number of reports made to ASIC;
 - 2.2. when the report/s were received by ASIC;
 - 2.3. the matter/s reported to ASIC;
 - 2.4. the insurance company/ies to which the matter/s relate;
 - 2.5. action taken by ASIC, if any, in response to the complaint/s;
 - 2.6. the outcome, if any, of any action taken by ASIC;
 - 2.7. if no action has been taken by ASIC in response to the complaint/s the status of the matter/s.

400 George Street Brisbane GPO Box 1738 Brisbane Queensland 4001 Australia Telephone 1300 309 634 Facsimile +61 7 3405 9750 www.floodcommission.qld.gov.au ABN 82 696 762 534

- 3. Details (as outlined above) of any complaint or report received by ASIC or investigation made by ASIC which is not captured by points 1 and 2 above.
- 4. In respect of entry 1, Annexure 1, of the information provided to the Commission on 27 September:
 - 4.1. What is the name of the insurer?
 - 4.2. What information which the insurer used in assessing the flood claim did the insurer refuse to release to the insured?
 - 4.3. When, and at what stage of the process, did the insured request the information (for example, at initial claims stage, internal review stage, FOS stage)? Please provide a copy of any records relating to those requests (redacted if necessary for privacy/secrecy reasons; but if redacted, please state the reason for redaction).
 - 4.4. Please provide a copy of any response made by the insurer to the insured in respect of the insured's request for information (redacted if necessary for privacy/secrecy reasons; but if redacted, please state the reason for redaction).
 - 4.5. Please set out the action ASIC has taken in respect of the matter, including, but not limited to:
 - 4.5.1. the steps ASIC took to address the complaint with the insurer;
 - 4.5.2. the insurer's response; and
 - 4.5.3. any remedial action taken in respect of the issue. In this regard, please provide copies of all records of communication between ASIC

and the insurer (redacted if necessary for privacy/secrecy reasons; but if redacted,

please state the reason for redaction).

- 4.6. As to the final column in Annexure 1, and the entry 'General information including about IDR and EDR provided to consumer', please provide a copy of any communication to the insured in this regard (redacted if necessary for privacy/secrecy reasons; but if redacted, please state the reason for redaction) and advise the reason underlying ASIC's decision to provide this information about IDR and EDR to the consumer.
- 4.7. Did the refusal to provide the information give rise to any systemic issue? If so, what issue? And what action, if any, has ASIC taken in respect of it? What action, if any, does ASIC intend to take in respect of it, and what is the expected timeframe for that?
- 4.8. Is there any outstanding action with respect to this complaint, or has ASIC finalised the complaint to its satisfaction.
- 5. In respect of entry 13, Annexure 1, of the information provided to the Commission on 27 September 2011:
 - 5.1. What is the name of the insurer?
 - 5.2. What, specifically, was the concern about the insurer's claims handling process? In responding to this, please detail the factual background and basis of the complaint.
 - 5.3. As to the final column in Annexure 1, and the entry 'ASIC is making ongoing inquiries', please set out what action ASIC has taken in respect of the matter, including, but not limited to, what steps ASIC has taken to date with respect to the complaint, the nature of the ongoing inquiries and the expected timeframe for completion of those inquiries. In this regard, please provide copies of all records of communication between ASIC and the insurer and ASIC and the insured (redacted if

- necessary for privacy/secrecy reasons; but if redacted, please state the reason for redaction).
- 5.4. Does the concern about the insurer's claims handling process give rise to any systemic issue? If so, what systemic issue? And what action, if any, has ASIC taken in respect of it? What action, if any, does ASIC intend to take in respect of it; and what is the expected timeframe for that?
- 6. In respect of entry 14, Annexure 1, of the information provided to the Commission on 27 September 2011:
 - 6.1. What is the name of the insurer?
 - 6.2. What, specifically, was the concern about the insurer's use of desk-top assessment of flood claims and use of district hydrology reports? In this regard, please detail the factual background and basis of the complaint.
 - 6.3. As to the final column in Annexure 1, and the entry 'ASIC is making ongoing inquiries', please set out what action ASIC has taken in respect of the matter, including, but not limited to, what steps ASIC has taken to date with respect to the complaint, the nature of the ongoing inquiries and the expected timeframe for completion of those inquiries. In this regard, please provide copies of all records of communication between ASIC and the insurer and ASIC and the insured (redacted if necessary for privacy/secrecy reasons; but if redacted, please state the reason for redaction).
 - 6.4. Does the concern about the insurer's claims handling process give rise to any systemic issue? If so, what systemic issue? And what action, if any, has ASIC taken in respect of it? What action, if any, does ASIC intend to take in respect of it; and what is the expected timeframe for that?
- 7. In respect of paragraph 15 of the information provided to the Commission on 27 September 2011:
 - 7.1. Please identify the FOS determinations, and provide a copy of any records in respect of same which are in the possession of ASIC.
 - 7.2. What are the systemic issues?
 - 7.3. What action is being taken by ASIC with respect to these FOS determinations which ASIC consider may involve systemic issues, including, but not limited to, the nature and purpose of the dialogue with FOS?

Please note that the Commission requires the statement by 12 pm, Tuesday, 4 October 2011.

Should you have any queries, please contact Mr Lachlan Zangari on telephone or Ms Kyla Hayden on telephone

Yours sincerely

Jane Moynihan

Executive Director

Witness Statement of Gregory Kirk

Annexure 2
Statement in response to information requested from ASIC by the QFCI on 30 September 2011

Number	QFI Request	ASIC response
4	In respect of Annexure 1, entry 1:	
4.1	What is the name of the insurer?	RACQ Insurance Limited.
4.2	What information which the insurer used in assessing the flood claim did the insurer refuse to release to the insured?	Hydrologist Reports.
4.3	When, and at what stage of the process, did the insured request the information (for example, at initial claims stage, internal review stage, FOS stage)? Please provide a copy of any records relating to those requests (redacted if necessary for privacy/secrecy reasons; but if redacted, please state the reason for redaction).	ASIC does not possess this information.
4.4	Please provide a copy of any response made by the insurer to the insured in respect of the insured's request for information (redacted if necessary for privacy/secrecy reasons; but if redacted, please state the reason for redaction).	ASIC does not possess the original correspondence from the insurer to the insured, however the complaint advised that the following wording was used: " our client does not wish to provide a copy of its hydrologist report because the report contain private information in relation to many other people whose privacy our client is required to protect and because the report is subject to legal professional privilege".
4.5	Please set out the action ASIC has taken in respect of the matter, including but limited to:	
4.5.1	The steps ASIC took to address the complaint with the insurer;	ASIC wrote to RACQ about its purported refusal to supply claimants with access to a copy of the relevant hydrologist report.

		ASIC sought RACQ's advice as to whether this is correct, and if so, on what basis access would be denied to the relevant hydrologist report.
4.5.2	The insurer's response; and	RACQ advised that it refused to provide copies of the reports as they considered the reports to be privileged, falling in to the exemption of 3.4.3 of the General Insurance Code of Conduct and as such did not have to be provided to claimants under the code
		RACQ further advised that based on advice from the Financial Ombudsman Services (FOS) that adverse inferences may be drawn about the content of the reports if they were not disclosed to FOS for determination, RACQ has subsequently (as of 19 August 2011) been providing "copies of the hydrology reports (but not the schedules identifying other insured) to any policy holder who requests a copy".
4.5.3	Any remedial action taken in respect of the issue.	Based on the current information available, including RACQ now providing copies of the reports to insured on request, ASIC currently considers that further remedial action is unnecessary.
4.5 (cont)	In this regard, please provide copies of all records of communication between ASIC and the insurer (redacted if necessary for privacy/secrecy reasons; but if redacted, please state the reason for redaction).	Records of communication between ASIC and the insurer, include: • Letter 13 September 2011 – ASIC to RACQ (Annexure 2A) • Letter 28 September 2011 – RACQ to ASIC (Annexure 2B)
4.6	As to the final column in Annexure 1, and the entry 'General information including about IDR and EDR provided to consumer', please provide a copy of communication to the insured in this regard (redacted if necessary for privacy/secrecy reasons; but if redacted, please state the reason for redaction) and advise the underlying reason underlying ASIC's decision	Records of communication between ASIC and the insured's lawyer, include: • Email titled "RACQ IDR" from to John Price (FOS) dated 3 May 2011 Bcc to ASIC (Annexure 2C) • Letter 31 May 2011 – ASIC to Insurance Law Service (Annexure 2D) • File Note Phone Call 2 June 2011 – ASIC (Service (Annexure 2E)) ASIC's Underlying Reason: ASIC will commonly advise complainants to pursue their complaint through the

	to provide this information about IDR and EDR to the consumer.	statutorily required IDR and EDR processes available to them. ASIC decision to investigate a complaint is not dependant on either the use or outcome of an IDR or EDR process but consideration is given to whether the complainant has attempted to resolve the issue through the IDR and EDR process.
4.7	Did the refusal to provide the information give rise to any systemic issue? If so, what issue? And what action, if any, has ASIC taken in respect of it? What action, if any, does ASIC intend to take in respect of it and what is the expected timeframe for that?	Based on the current information available, ASIC is not satisfied of the existence of a systemic issue that is in breach of the financial services laws. Unless further evidence is provided to ASIC that establishes the existence of a systemic issue that is in breach of the financial services laws, ASIC does not consider further action necessary.
4.8	Is there any outstanding action with respect to this complaint, or has ASIC finalised the complaint to its satisfaction.	ASIC is still considering its response to RACQ's last correspondence, however based on the current information available, ASIC considers that the complaint is likely to be finalised.

Annexure 2 Attachments

- 2A Letter 13 September 2011 ASIC to RACQ
- 2B Letter 28 September 2011 RACQ to ASIC
 - Attachment 1 Investigation of January 2011 Inundation Events Ipswich Cooper Grace Ward Lawyers March 2011
 - Attachment 2 Water Technology Update Independent Analysis Water Inundation Ipswich Region.
 - Attachment 3 Table (withheld)
 - Attachment 4 Hydrology Information Sheets
 - Attachment 5 Hydrologist Statements to Financial Ombudsman Services
- 2C Email titled "RACQ IDR" from to John Price (FOS) dated 3 May 2011 Bcc to ASIC
- 2D Letter 31 May 2011 ASIC to Insurance Law Service
- 2E File Note Phone Call 2 June 2011 ASIC to Insurance Law Service (

Witness Statement of Gregory Kirk

Annexure 3

Statement in response to information requested from ASIC by the QFCI on 30 September 2011

5	In respect of Annexure 1, entry 13:	
5.1	What is the name of the insurer?	Commonwealth Insurance Limited (CommInsure)
5.2	What, specifically, was the concern about the insurer's claim handling process? In responding to this, please detail the factual background and basis for the complaint.	CommInsure had classed the damage to the property as Flood (which was excluded by the policy) instead of Flash-Flood (which was covered to a specified amount). Key to this dispute was when the damage occurred as CommInsure's definition of Flash-Flood can include riverine flooding that occurs within 24hrs of the beginning of a storm. The complaint alleged that date of the damage on the assessment was incorrect. The complaint also included references to the complainant not having spoken to either the loss adjustor or the hydrologist before CommInsure had completed its assessment.
5.3	As to the final column in Annexure 1, and the entry 'ASIC is making ongoing inquiries', please set out what action ASIC has taken in respect of the matter, including, but not limited to, what steps ASIC has taken to date with respect to the complaint, the nature of the ongoing inquiries and the expected timeframe for completion of those inquiries. In this regard, please provide copies of all records of communication between ASIC and the insurer and ASIC and the insured (redacted if	 Records of communication between ASIC and the insured, include: File Note Phone Call: 28 February 2011 10.20am ASIC (insured (Annexure 3A)) File Note Phone Call: 28 February 2011 3.40pm ASIC (insured (Annexure 3B)) Letter – 23 March 2011 ASIC to insured (Annexure 3C) The complainant was thanked for the information and recommend to pursue their individual complaint through IDR / EDR in the meantime. ASIC has been actively monitoring all complaints received to identify similar

	necessary for privacy/secrecy reasons; but if redacted, please state the reason for redaction)	complaints that may indicate a systemic issue. ASIC not identified any similar complaints as of the date of the request.
5.4	Does the concern about the insurer's claim handling process give rise to any systemic issue? If so, what systemic issue? And what action, if any, has ASIC taken in respect of it? What action, if any, does ASIC intend to take in respect of it and what is the expected timeframe for that?	If ASIC received further complaints that indicated the existence of a systemic issue, ASIC would then undertake an investigation to determine the existence and extent of a systemic issue. If a relevant systemic issue is identified then the appropriate action would then be taken.

Annexure 3 Attachments

- File Note Phone Call: 28 February 2011 10.20am ASIC (File Note Phone Call: 28 February 2011 3.40pm ASIC () to insured 3A
- 3B) to insured
- 3C Letter – 23 March 2011 ASIC to insured

Witness Statement of Gregory Kirk

Annexure 4

Statement in response to information requested from ASIC by the QFCI on 30 September 2011

6.1	What is the name of the insurer?	CGU Insurance Limited
6.2	What, specifically, was the concern about the insurer's use of desk-top assessment of flood claims and use of district hydrology reports? In this regard, please detail the factual background and basis of the complaint?	The complainant raised concerns in relation to the 'desk top triage process' CGU adopted to assess home insurance claims made on CGU policies after the QLD flood event. It was alleged that the 'desk top triage process' employed by CGU, consisted of asking up to five short questions of the policy holder and referring to a 'Google map' or 'Near map' image of the policy holder's damaged property in order to decide a claim. This approach is in contrast to sending a qualified assessor to the customer's property to inspect the damage suffered in all cases and it was alleged that this process has caused a number of claims from policy holders to be incorrectly declined. There were also concerns whether CGU adequately communicated to policy holders their rights under this process, specifically in relation to their ability to an on-site assessment.
6.3	As to the final column in Annexure 1, and the entry 'ASIC is making ongoing inquiries', please set out what action ASIC has taken in repect of the matter including, but not limited to, what steps ASIC has taken to date with respect to the complainant, the nature of the ongoing inquiries and the expected timeframe for completion of those inquiries. In this regard, please provide copies of all records of	Records of communication between ASIC and the complainant include: • Email - 10 April 2011 - QLD Legal Aid to ASIC • Email - 11 April 2011 - ASIC to QLD Legal Aid • Email - 11 April 2011 - QLD Legal Aid to ASIC As a result of the concerns raised by the complaint, ASIC commenced a surveillance activity in relation to CGU Insurance Limited on 22 nd March 2011. ASIC wrote to CGU requesting information about CGU's procedures for handling

	communication between ASIC and the insurer and ASIC and the insured (redacted if necessary for privacy/secrecy reasons; but if redacted, please state the reason for redaction).	home insurance claims during the QLD flood event, details of any claims where there was a different assessment outcome between the initial desk top assessment and subsequent escalation to an onsite inspection by a qualified assessor and CGU's views about how its procedures ensure that it complies with its various obligations. Subsequent ASIC enquiries have been concerned with how CGU communicated to policy holders their ability to obtain an on-site assessment. These enquires are ongoing with CGU's response expected by 7 October 2011. Records of communications between ASIC and CGU are annexed. ASIC has been actively monitoring all complaints received to identify similar complaints that may indicate a systemic issue.
6.4	Does the concern about the insurer's claims handling process give rise to any systemic issues? If so what systemic issues? And what action, if any, has ASIC taken in respect of it? What action, if any, does ASIC intend to take in respect of it; and what is the expected timeframes for that?	ASIC have not identified any similar complaints as of the date of the request. The concerns identified by the complaint in relation to CGU's 'Desk top triage' process employed to assess claims from the QLD flood event indicated a sufficient potential of a systemic issue to warrant further investigation. A surveillance activity was commenced by ASIC on 22 nd March 2011 and a summary of the actions taken by ASIC is provided in section 6.3. It appears that the process CGU employed is acceptable as there is no evidence that assessing a claim under the 'Desk top triage' process has adversely affected the outcome of any individual claimant. It also appears to comply with obligations under section 4 of the General Insurance Code of Practice. It is noted that if claimants had been disadvantaged by the process ASIC would be more likely to consider it a systemic issue.

	ASIC enquiries concerning how CGU communicated to policy holders their ability to obtain an on-site assessment may indicate a potential systemic issue. These enquiries remain ongoing.
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Annexure 4 Attachments

- 4A Email 11 April 2011 ASIC to QLD Legal Aid
- 4B Email 11 April 2011 QLD Legal Aid to ASIC
- 4C Letter 20 April 2011 ASIC to CGU Insurance Ltd
- 4D Letter 13 May 2011 CGU Insurance Ltd to ASIC with attachments.
- 4E Letter 30 June 2011 CGU Insurance Ltd to ASIC with attachments
- 4F Letter 3 August 2011 ASIC to CGU Insurance Ltd
- 4G Letter 28 September 2011 ASIC to CGU Insurance Ltd
- 4H Email 10 April 2011 QLD Legal Aid to ASIC





ASIC

Australian Securities & Investments Commission

Level 5, 100 Market Street, Sydney GPO Box 9827 Sydney NSW 2001 DX 653 Sydney

Telephone: (02) 9913 2000 Facsimile: (02) 9911 2414

13 September 2011

Mr Compliance Manager and Company Secretary RACQ Insurance Limited PO Box 4 SPRINGWOOD OLD 4127

By Email:

Dear Mr

Re: Home and contents policies - flood cover

As you will be aware, the Australian Securities and Investments Commission (ASIC) is Australia's corporate, markets and financial services regulator. ASIC's responsibilities include enforcement of the consumer protection provisions of the *Australian Securities and Investments Commission Act 2001* (the ASIC Act) as well as the administration of the *Insurance Contracts Act* 1984 (the IC Act).

Areas of interest

We are requesting some information in relation to claims made as a result of the recent natural disasters, in particular the flooding that affected Brisbane and other parts of Queensland earlier this year.

 RACQ's Media Release of 2 August 2011 titled "RACQ Insurance announces claims re-assessment" (the Media Release)

We seek to understand the basis for the original refusal of the claims referred to in the Media Release, the reason why these denials were reversed and whether RACQ believes it is likely that any further claims previously denied will be overturned as a result of the information referred to in the Media Release.

Please also advise whether RACQ is aware of any customers who may be affected by RACQ's decision, but to date have not received a payment for any reason, including but not limited to either withdrawing a claim before a determination or not making an initial claim.

Please also advise whether RACQ has considered whether section 57 of the *Insurance Contracts Act* 1984 may apply to any of those previously denied claims and, if so, has determined whether the relevant policy holders will be paid interest.

2. Hydrology reports

Deposit Takers, Credit & Insurers

We have received a number of complaints in relation to RACQ's purported refusal to supply claimants with access to a copy of the relevant hydrologist report.

We seek your advice as to whether this is correct, and if so, on what basis access would be denied to the relevant hydrologist report. Please also confirm whether this remains an issue for claimants after RACQ's reversal of previously denied claims referred to in the Media Release of 2 August.

We ask that you respond to this letter by 21 September 2011.

This request is being made without the use of ASIC's compulsory powers. Please advise immediately should you require a Notice pursuant to ASIC's statutory powers in order to provide a comprehensive response to this letter.

Please contact	if you have any questions about this letter.
Yours sincerely,	
Senior Manager	



RACQ Insurance Limited ABN 50 009 704 152

2649 Logon Road, Eight Mile Plains, Qld 4113 | PO Box 4, Springwood, Qld 4127 Ph: (07) 3361 2444 Fox: (07) 3841 2995 Web: racqinsurance.com.au

Notoring .

> Insurance

> Finance

Travel

28 September 2011

Ms
Senior Specialist
Deposit Takers, Credit & Insurers
Australian Securities & Investments Commission
GPO Box 9827
SYDNEY NSW 2001

By Email:

Dear Ms Curtis

Re: Home and contents policies - flood cover

We refer to your letter dated 13 September 2011.

Area of interest 1 - RACQ's media release of 2 August 2011

- We understand ASIC's request for information to relate to the following matters.
 - (a) The basis for the original refusal of the claims referred to in the 2 August media release.
 - (b) The reason why these denials were reversed.
 - (c) Whether RACQ Insurance believes it is likely that any further claims previously declined will be reversed as a result of the information referred to in the media release.
 - (d) Whether RACQ Insurance is aware of any policyholders who may be affected by RACQ Insurance's decision but have not received a payment for any reason, including but not limited to either withdrawing a claim before a determination or not making an initial claim.
 - (e) Whether RACQ Insurance has considered whether s 57 of the Insurance Contracts Act 1984 (Cth) (ICA) may apply to any of the previously denied claims and, if so, has determined whether the relevant policyholders will be paid interest.
- 2. RACQ Insurance responds as follows.

Basis of original refusal of claims

3. RACQ Insurance's Household PDS defines flash flooding and stormwater runoff (which is covered by the policy) as a sudden flood caused by heavy rain that fell no more than 24 hours prior to the flash flood or stormwater runoff. Damage caused by flood (defined as rising water which enters the home as a result of it running off or overflowing from any origin or cause) is excluded from cover (unless additional cover is applied for separately).

- 4. This means that in order to decide inundation claims in the Ipswich area, it was necessary to determine the cause of the flooding (and the timing of the damage). This was done by obtaining expert reports from hydrologists. RACQ Insurance used Mr Stephen Clark of Water Technology and staff under his supervision as its hydrologists for the Queensland Floods.
- Water Technology produced its original report on the flooding which took place in the Ipswich area on 9 March 2011. A copy of this report is attached to this letter as **Attachment 1**. This report contains schedules of policyholders. We have not covered the names of the policyholders (or the details of their claims) as it is relevant to answering ASIC's questions that these names be disclosed. However, in the interests of protecting the privacy of policyholders we request that ASIC treat this information confidentially.
- 6. In part the original report identifies that flooding in certain downstream parts of the Bremer River in the Ipswich region had been affected by tailwater from the Brisbane River. The Brisbane River was swollen from the releases from the Wivenhoe Dam that had commenced from 7 January 2011 and which were increased on and from 9 January 2011 and from further rainfall which commenced on 9 January 2011.
- 7. In order to investigate the causes of the flooding in the Ipswich area Water Technology utilised a computer programme known as MIKE11. The MIKE11 computer programme requires data about the catchments, rivers and flood plains to be inputted. The data is then used to construct a model for a particular river system using the MIKE11 program. Water Technology had constructed their own model of the Bremer River using data that was then available to them. This data was limited, in the sense that it did not include, for example, cross sectional information about the Bremer River below the water level. Using the information then at its disposal Water Technology modelled the causes of flooding in the Ipswich area and the effect on that flooding of the tailwater in the Brisbane River.
- 8. Water Technology's original report in relation to Ipswich was provided to RACQ Insurance's lawyers (Cooper Grace Ward (CGW)) on 9 March 2011. The report indicated that on the basis of the available data (having run the MIKE 11 model), absent the high Brisbane River tailwater at the junction of the Bremer River the water in the Bremer River would largely have been contained within its banks.
- 9. The effect of this report was that the high level of the Brisbane River was a material cause of the Ipswich flooding. The same report (as well as Water Technology's report obtained for Brisbane) indicated that a significant cause of the high level of water in the Brisbane River was the Wivenhoe release rather than rain within the preceding 24 hours, and this was therefore not covered by the policy.
- 10. The original report from Water Technology was based on all of the data then available to Water Technology. It provided, as the author stated, a reasonable estimate of the impact on the Bremer River of the tailwater effect of the Brisbane River.
- 11. Accordingly, RACQ Insurance declined a number of claims on the basis that a real cause of the flooding to those properties was the flooding of the Brisbane River (essentially due to releases from the Wivenhoe Dam, being rain which occurred more than 24 hours prior to the flooding and was therefore excluded under the policy).

The reason these decisions were reversed

 Water Technology believed that local authorities and government authorities had a MIKE 11 model containing more complete data with the model outputs calibrated against actual results ("more complete MIKE 11 model").

- 13. Prior to preparing its original report requests had been made, initially by Water Technology and then by Cooper Grace Ward (CGW), for a complete MIKE 11 model from SEQ Water, the Brisbane City Council (BCC) and the Ipswich City Council.
- 14. Water Technology believed that this data might exist as a result of work Water Technology was aware that the relevant agencies had previously undertaken, but Water Technology did not know:
 - (a) whether this data existed in the form that Water Technology hoped;
 - (b) whether the data would be made available, or how long it would take to obtain it, if at all;
 - (c) whether the data would lead to different results from the results Water Technology would obtain using the data they already had.
- There was throughout January and February 2011 pressure from policyholders and others for speedy decisions on claims in the Ipswich area.
- 16. As RACQ Insurance did not know if the more complete MIKE11 model would become available to Water Technology, or what it might contain, it made its decision as to causation initially on the basis of Water Technology's original report (which indicated that Water Technology had run its MIKE 11 simulation for the Bremer River using the data available to them), on the basis that a real cause of the flooding to those properties was the flooding of the Brisbane River (essentially due to releases from the Wivenhoe Dam, being rain which occurred more than 24 hours prior to the flooding and was therefore excluded flooding under the policy).
- 17. Subsequently Water Technology was provided with the BCC MIKE 11 model. When the BCC model was examined it contained data concerning the Brisbane River catchment and its configuration and also data concerning the Bremer River catchment and its configuration. This latter aspect was something that Water Technology had hoped would be part of the BCC model but did not expect that it would be provided in that detail in the BCC model (as distinct from the models which had been sought from the Ipswich City Council and SEQ Water but which had not been provided). This was useful for Water Technology's analysis of the Ipswich region. Thereafter the hydrologists were able to carry out further investigations of the cause of flooding in the Ipswich area using that model. This additional work was complicated and time consuming; it was not simply a matter of plugging in a disk and running off a new set of graphs. The steps that needed to be taken are detailed in pages 3 to 5 of the supplementary Water Technology report (referred to below).
- 18. Water Technology provided a supplementary report dated 14 June 2011 to CGW using the BCC MIKE 11 model. This report is attached to this letter as Attachment 2. Again, RACQ Insurance requests that ASIC treat the schedules to the supplementary Water Technology report confidentially to protect the privacy of the policyholders referred to in the schedules. The supplementary report addressed the effect of the Brisbane River tailwater at the junction of the Bremer and Brisbane Rivers again.
- 19. The data in the supplementary report identifies that the elevated level of the Brisbane River had an influence on the level of the Bremer River but not as substantial as Water Technology had concluded in its original report. In terms of policy response, it was necessary to consider whether the effect of the Brisbane River tailwater was still to be regarded as a real cause of the loss or not. RACQ Insurance sought advice from CGW. CGW conducted a detailed legal review of the position and sought the advice (on a number of issues and occasions) of counsel. CGW's advice was provided to RACQ Insurance on 11 July 2011 together with the Water Technology supplementary report. Subsequent further advice was obtained over the next week or so clarifying matters which RACQ Insurance wished clarified in respect of the supplementary report.

- 20. Having received and considered the supplementary report and legal advice, on 2 August 2011 RACQ Insurance made the announcement the subject of ASIC's first area of interest. Attachment 3 is a schedule which sets out these 247 claims and relevant details about them.
- 21. Written notification was sent by express post that same day, and attempts were made to contact all affected customers by telephone. Some policyholders were reached on 2 August 2011, but a large number were only reached on 3 or 4 August. During the telephone call where affected customers were informed of this decision, the operator also attempted to put in place arrangements to assess and settle the claims where possible (refer to Attachment 3 for details).
- 22. Prior to the announcement, RACQ Insurance took a number of steps to ensure that once the decision was announced, claims would be processed as quickly as possible. These steps included:
 - (a) A full reconciliation and analysis of the claims impacted by the reassessment to ensure all affected customers' claims were identified and required contact and other key information was centrally recorded.
 - (b) Development of a specific claims management strategy to support the effective and empathetic management of the claims. This included resource allocation to support the immediate requirement to personally contact all affected customers to communicate the decision and make loss adjustment appointments and ongoing prompt management of settlements and payments.
 - (c) Reassignment of internal loss adjusting personnel who would travel to Ipswich and meet personally with each affected policyholder to assess and manage the claim in conjunction with the customer.
 - (d) The preparation of scripting and letters to support the communication of the decisions.
 - (e) Communication with other areas of the claims team to ensure consistent and clear customer communications (this included management of the anticipated inbound calls following the announcement of the reassessment from those who were and were not impacted).
- 23. Many policyholders (in total 194) affected by this decision had received money from RACQ's Special Fund. Although the Special Fund was set up for the benefit of policyholders not entitled to indemnity under the policy, RACQ Insurance decided not to deduct the amount of those payments from the settlements of their claims or otherwise attempt to recover those payments.

Does RACQ Insurance believe it is likely that any further claims previously declined will be reversed as a result of the information referred to in the media release?

24. RACQ Insurance does not believe it is likely that any further claims previously declined will be reversed as a result of the information referred to in the media release.

Is RACQ Insurance aware of any policyholders who may be affected by RACQ Insurance's decision but have not received a payment for any reason, including but not limited to either a policyholder withdrawing a claim before a determination or not making an initial claim?

25. RACQ Insurance is aware of five policyholders who upon being informed of the decision to pay their claim chose to not pursue their claims because of the trivial nature of the damage sustained from the inundation of their properties.

- 26. RACQ Insurance is not aware of any policyholders who may be affected by RACQ Insurance's decision but who did not make an initial claim. RACQ Insurance took a number of steps to encourage the lodgement of all claims. These steps included:
 - (a) issuing specific instructions to the team handling claims relating to the floods that RACQ Insurance's usual policy of lodging claims should apply – that is, that all claims relating to inundation should be lodged regardless of whether the cause of the inundation may have appeared to be "Flood" (and thus not covered under the policy) so that they could be properly investigated;
 - including prominent advertisements on the website of RACQ and RACQ Insurance encouraging customers to make claims;
 - (c) through RACQ's General Manager of External Relations, arranging for a media release to be issued on 16 January 2011 which encouraged customers to contact RACQ Insurance and make a claim; and
 - (d) announcing publicly the decision to reverse the claims decisions in the Ipswich area.
- 27. In light of that approach, the publicity surrounding the issue, and the special fund established by RACQ to make compassionate payments to RACQ Insurance customers most in need, RACQ Insurance believes it is reasonably likely that any RACQ Insurance customer affected who wished to lodge a claim would have done so.

Has RACQ Insurance considered whether s 57 of the Insurance Contracts Act 1984 (Cth) (ICA) may apply to any of the previously denied claims and, if so, has it determined whether the relevant policyholders will be paid interest?

- RACQ Insurance has considered whether section 57 of the ICA may apply and has determined that it does not.
- 29. Section 57 of the ICA provides that interest is payable on any amount that an insurer is liable to pay to an insured under a contract of insurance for the period commencing on the day as from which it was unreasonable for the insurer to have withheld payment of the amount.
- 30. As has been stated by Nicholas J in the NSW Supreme Court,1 "the question of reasonableness is to be judged by reference to the true position in respect of the claim with allowance to be made for the insurer to have a reasonable period of time within which to investigate the claim and to consider its position". This is a question of fact to be determined having regard to all the circumstances of the case.
- 31. While every case must be considered on its facts, the case of Elilade Pty Ltd v Nonpareil Pty Ltd [2002] FCA 909 is instructive.
- 32. On the facts of Elilade, the court considered it reasonable for the insurer to have taken 3 months to instruct loss assessors, a further 7 months to make an offer and then another month to agree on quantum in the context of a complex flood claim with multiple causes of loss.
- 33. The Queensland floods created an unprecedented challenge for RACQ Insurance to respond to. The total number of claims arising from Cyclone Tasha in December 2010 and the flooding in Central and Southern Queensland in January 2011, as at 31 August 2011, was 6,235. Taken together with the claims arising from a series of severe storms in Brisbane and the south east in mid December 2010 and Cyclone Yasi which crossed the Queensland Coast on 2 February, 2011, RACQ Insurance received over 15,800 claims in a period of a little over 2 months.

Diosdado Sayseng v Kellogg Superannuation Pty Ltd [2007] NSWSC 857 at [7].

- 34. The factors which are relevant to the reasonableness of the time taken to pay claims include:
 - (a) the scale of the disasters and the consequent volume of claims;
 - (b) the limited availability of hydrologists with the relevant expertise;
 - the complexity of the hydrological issues raised by the flooding in the context of our policy; and
 - (d) the difficulties encountered in obtaining the necessary data for the hydrologists to use for their models.
- 35. In respect of the Ipswich claims in particular, as noted above, the hydrology issues involved not only an analysis of the Bremer River catchment and waterway levels, but also Wivenhoe and the Brisbane River.
- 36. The decision made to approve claims previously declined arose directly from the provision of Water Technology's supplementary report based on the utilisation of a more complete MIKE 11 model which had been sought but which was not available to Water Technology at the time of the original report.
- The other steps taken by RACQ Insurance (referred to above) have ensured accelerated treatment and payment of these claims since 2 August 2011.
- 38. RACQ Insurance considers that its claims response time was reasonable in all the circumstances and that there is no period during which interest in accordance with section 57 is payable on the relevant claims.

Area of interest 2 - Release of hydrology reports

- 39. We understand ASIC's request for information to relate to the following matters:
 - (a) Whether RACQ Insurance has refused to supply claimants with copies of hydrology reports;
 - (b) If so, on what basis has access been denied; and
 - (c) Whether this remains an issue for claimants after RACQ Insurance's reversal of previously denied claims referred to in the media release of 2 August 2011.

Has RACQ Insurance refused to supply claimants with copies of hydrology reports?

- 40. RACQ Insurance initially did not provide claimants with copies of hydrology reports. However, wherever a claimant requested a copy of a hydrology report, they were offered or provided with a detailed information sheet which set out key hydrology findings for their region in a format which was intended to be easy for consumers to understand.
- 41. Additionally, any policyholder who made a complaint to the Financial Ombudsman Service was provided with a detailed individual report for their property from the author of the regional hydrology report that related to their region.
- 42. For the reasons set out below, this is no longer the position adopted by RACQ Insurance and since on or about 19 August 2011, any policyholder who requests a copy of a hydrology report is given a copy.

On what basis was access to hydrology reports denied?

- 43. Water Technology was engaged by CGW to prepare those reports on RACQ Insurance's behalf and the reports were provided to CGW for the dominant purposes of:
 - (a) RACQ Insurance obtaining legal advice as to issues of causation and whether claims should be accepted pursuant to the terms of the policy; and
 - (b) Use in or in connection with litigation which RACQ Insurance reasonably anticipated as a result of the Queensland floods, given the large number of claims and the amount of adverse publicity given to insurers declining claims.
- 44. RACQ Insurance accordingly considered that the hydrology reports were privileged.
- 45. Additionally, the hydrology reports were prepared on a regional basis and included schedules containing personal information about numerous RACQ Insurance policyholders. RACQ Insurance considered that the inclusion of personal information about individual policyholders gave rise to obligations under the *Privacy Act* 1988 (Cth) not to disclose that information.
- 46. Clause 3.4.3 of the General Insurance Code of Practice (Code) provides that policyholders are to have access to information relied on by the insurer to assess their claim. However, in "special circumstances" (such as where information is subject to privacy laws, where information is protected from disclosure by law, or where the release of the information may be prejudicial to the insurer in relation to a dispute about the claim) or where a claim is being or has been investigated the insurer may decline to release information and reports (although not unreasonably).
- 47. Clause 6.1.4 of the Code contains similar wording in respect of complaints.
- 48. RACQ Insurance took the view that these exceptions to the obligation to provide access to information preserved the operation of legal professional privilege (as a substantive right not to be lightly abrogated) as well as confirming that the obligations of the *Privacy Act* 1988 (Cth) took precedence over the Code. "Information" was provided to the insured, as far as was possible without waiving that privilege or disclosing personal information about other insureds.
- 49. RACQ Insurance maintains that it was entitled to take the approach that it did. Its decision to now provide copies of the reports is not a concession by it that it was not entitled to refuse to provide copies of the reports. The reasons for RACQ Insurance's decision in this regard are set out further below.

Is the release of hydrology reports to claimants still an issue after RACQ Insurance's reversal of previously denied claims referred to in the media release of 2 August 2011?

- 50. As stated above, RACQ Insurance has since 19 August 2011 provided copies of its hydrology reports (but not the schedules identifying other insureds) to any policyholder who requests a copy. This decision, however, is not a result of the re-assessment of claims in Ipswich. The reasons for RACQ Insurance's decision to provide copies of the hydrology reports to a policyholder who requests a copy are discussed below.
- 51. As mentioned above, RACQ Insurance arranged for the preparation of a series of information sheets for each region summarising Water Technology's findings in detail, which were provided to policyholders upon request. Copies of these information sheets for each region are attached to this letter as Attachment 4. These provide detailed information in plain English as to RACQ Insurance's reasons for the decisions.

- Also attached (as Attachment 5) are examples of the detailed customer specific statements 52. from the relevant hydrologist dealing with policyholders' specific properties in complaints before FOS, also as mentioned above.
- FOS entered into correspondence with CGW and RACQ Insurance about the provision of the hydrology reports, as did Caxton Legal Centre (Caxton) and Legal Aid Queensland (LAQ), each acting for a number of RACQ Insurance policyholders.
- From around late July or early August 2011 FOS indicated to RACQ Insurance that it would draw adverse inferences about the content of the principal hydrology reports if they were not disclosed to FOS for use in determining disputes. This was despite the other hydrology evidence which RACQ Insurance was providing in relation to the particular disputes being considered by FOS.
- In that circumstance, RACQ Insurance determined that it would provide copies of the hydrology 55. reports to FOS and to Caxton, LAQ and to unrepresented policyholders who had disputed the decision on their claim with RACQ Insurance.
- Following on from this, a decision was made to release the hydrology reports to any policyholder on request.

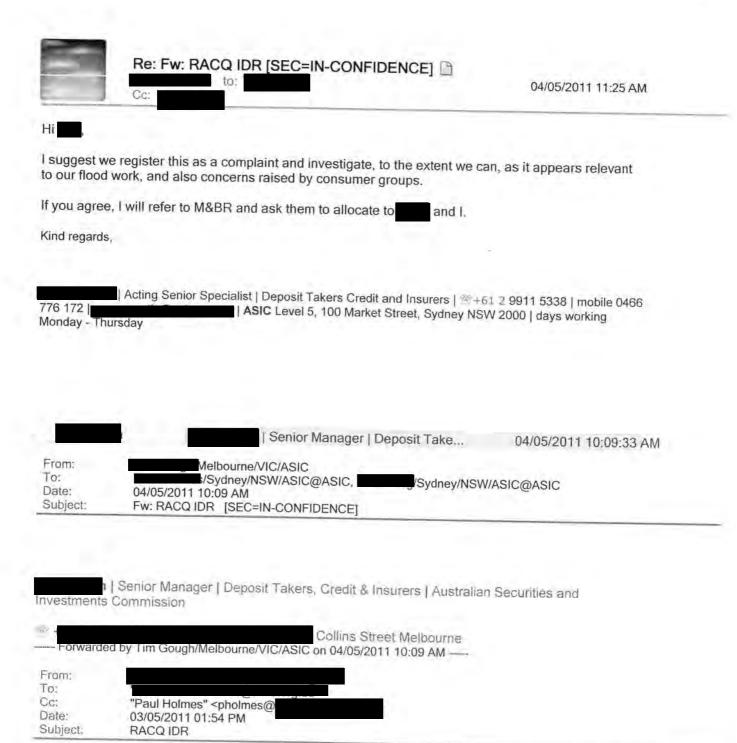
The current status of the hydrology reports

Copies of all of the hydrology reports have now been provided to FOS and to Caxton and LAQ and to unrepresented policyholders who had made a complaint relating to hydrology issues.

We trust that the responses provided in this letter are satisfactory. Please advise us if there are any additional matters with which RACQ Insurance can assist, or if further explanation or amplification would be helpful in relation to any of the matters set out above or in the attachments to this letter.

Yours faithfully

Bradley Heath Chief Executive Officer **RACQ Insurance Limited**



This email message has been processed by MIMEsweeper

Dear

I'm writing to draw your attention to a systemic issue in relation to RACQ's handling of storm/flood disputes.

RACQ are consistently failing to provide a copy of their hydrologist report when a copy of the report is requested. I quote from a letter from RACQ's legal

representatives, Cooper Grace Ward lawyers, to the Insurance Law Service:

".... our client does not wish to provide a copy of its hydrologist report because the report contain private information in relation to many other people whose privacy our client is required to protect and because the report is subject to legal professional privilege".

In the experience of the Insurance Law Service and Legal Aid QLD, this seems to be a standard response from RACQ's lawyers.

I note the hydrologist report is crucial in the dispute resolution process. RACQ is not assisting the dispute resolution process by making these reports unavailable. Further, RACQ do not adequately explain why they believe there is legally privileged information in their hydrologist report.

Under 3.4.3 of the General Insurance Code of Practice, a consumer has the right to access to information which the insurer has relied on in assessing their claim. RACQ are breaching their obligations under 3.4.3 of the code by failing to provide access to crucial information in deciding claims.

Please investigate. I look forward to your response.

Regards,

Principal Solicitor Insurance Law Service Consumer Credit Legal Centre (NSW) Inc. ph:

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A Please consider the environment before printing this email

Our Reference: 20662/11

PCS 2011/12158

31 May 2011

Insurance Law Service PO Box 538 Surry Hills NSW 2010

Attention:

Dear Ms

RACQ INSURANCE LIMITED (ACN 009 704 152)

I note that you raised concerns that RACQ Insurance Limited ("RACQ") had failed to comply with its obligations under 3.4.3 of the General Insurance Code of Practice by failing to disclose a copy of their hydrologists report when requested.

Outcome of ASIC's consideration

After careful consideration ASIC has decided that we will not take any further action into the issues you have raised at this time.

ASIC conducts an assessment of every complaint we receive. In determining which matters we will select for further action consideration is given to a range of factors, including the likely regulatory effect of any available action.

We have recorded the information you have provided in our confidential internal database. This information will assist us if we receive further similar complaints.

Although we have decided not to investigate your complaint at this time, this does not prevent your clients from pursuing any civil remedies otherwise available to them. In the circumstances, the Insurance Law Service may be better placed to advise your clients as to the legal remedies available to them.



ASIC's response to the Queensland floods

Despite the above, ASIC is continuing to monitor issues relating to insurance held by residents in Queensland during the recent floods.

The issue you have raised has been bought to the attention of ASIC's Deposit Takers, Credit and Insurers team, who have noted the information for intelligence purposes.

Thank you for taking the time to raise this issue with ASIC and I encourage you to continue to bring any concerns you may have to ASIC's attention.

If you have any questions in relation to this letter please contact me on

Yours sincerely

Misconduct & Breach Reporting Stakeholder Services



Filenote: Financial Services Surveillance - Targeted

Status: FINALISED

RACQ INSURANCE LIMITED - PMR 2011/8199

Last updated on 04/10/2011 by

(NSW)

Subject Related complaint - Insurance Law Service - 2066/11

Epsom

PMR 2011/8199

Security Classification

In Confidence

ID

Date

02/06/2011

Include in Filenote Summary

Yes O No

Details:

Phone Call from to
Advised that ASIC NFA letter had been sent.
Thanked for the information, important for intelligence purposes.
advised matter was with FOS

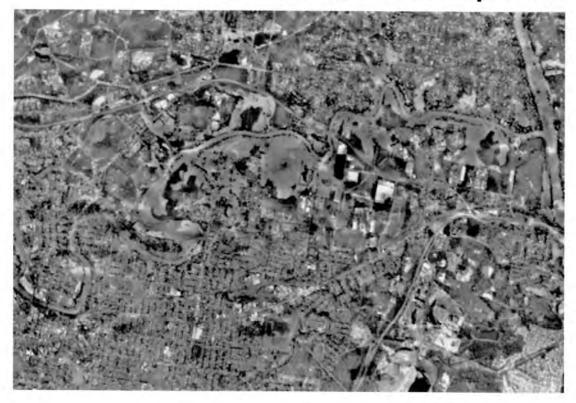
Documents:

Document Activity

ATTACHMENT 1



Investigation of the January 2011 Inundation Event - Ipswich



CONFIDENTIAL AND SUBJECT TO LEGAL PROFESSIONAL PRIVILEGE

Date:

March 2011



Client: Cooper Grace Ward Lawyers



Cover Photo: reproduced from www.nearmap.com.au

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1 INTRODUCTION

This report has been undertaken by Water Technology, specialist flooding engineers. The purpose of the report is to provide advice to Cooper Grace Ward Lawyers (CGW), who is acting on behalf of RACQ Insurance Limited (RACQI), on the cause of inundation events that occurred across the Ipswich Region in January 2011. This report has been prepared upon a geographical basis. It is recognised that individual properties within the geographical zone the subject of this report may be affected by issues that are specific to those properties. Water Technology has identified a number of properties in this category and has been instructed to undertake further investigations in relation to them. These further investigations will be reported upon separately.

We note that this report is confidential and for internal use by the client to assist them in processing claims for the particular event, time and location described above.

This is a technical report and the author has made opinions based on generally accepted engineering industry standard definitions for stormwater and flooding terminology for the purposes of classifying the particular inundation event that occurred as noted above. It is noted that these classifications are site specific and therefore the author has also provided additional information where necessary in order for the client to make a determination on whether a particular claim falls within RACQI's policy coverage. The decision of whether or not to pay a claim rests solely and entirely with the insurance company.

This report and any attachments have been prepared for the purpose of gathering information and/or for the purpose of giving and/or receiving legal advice and/or the giving and/or receiving of legal advice and is both confidential and subject to legal professional privilege.



2 **GUIDELINES AND TERMINOLOGY**

The terminology used in this report is provided in Table 2.1. This terminology is based on the glossaries of following documents and information from the Bureau of Meteorology, with additional information and examples provided by Water Technology to further clarify the use in this report:

- "Floodplain Management in Australia: Best Practice Principles and Guidelines SCARM Report 73", 2000, CSIRO.
- 2. "Queensland Urban Drainage Manual", Second Edition, 2008, Queensland Government Natural Resources and Water.
- "Mitigating the Adverse Impacts of Flood, Bushfire and Landslide State Planning Policy Guideline SPP1/03", June 2003, Queensland Government.
- 4. "Australian Rainfall and Runoff Volume 1 A Guide to Flood Estimation", 1998, Institution of Engineers Australia.
- 5. Bureau of Meteorology (2011) definitions and terminology as listed on their webpage http://www.bom.gov.au/hydro/flood/flooding.shtml#definitions_terminology

Term	Definition		
Annual Exceedance Probability (AEP)	The probability of exceedance of a given discharge within a period of one year. Can be expressed as a percentage (eg 1% change in any one year) or 1 in Y [years] (eg a probability of 1 in 100). This report will generally use ARI terminology.		
Average Recurrence Interval (ARI)	The average or expected period between exceedances of a given discharge expressed in years. This is a another method of expressing the magnitude of a particular event in probabilistic terms (eg a "100 year ARI flood" can also be described as a flood with an AEP of "1%"" or "1 in 100"). The ARI of a flood event is a statistical estimate that gives no indication of when a flood of that size or larger will occur next.		
Backwater	No definition in documents listed above. We define as a body or area of water where there is little or no current that is connected to a drainage system or receiving water either above or below ground (pipe drainage). The water level of the backwater area is governed by the adjacent drainage system or receiving water.		
Breakout	No definition in the documents listed above. Breakout flows occur when flow in a river system reaches a level high enough to engage a wider or an alternate flow path other than the normally defined channel.		
Catchment	The area of land contributing stormwater runoff to a particular site or point under consideration. It always relates to a particular location and includes the catchments of tributary streams as well as the main stream.		



Term	Definition		
Critical Storm Duration	The duration of the storm event that produces the largest flood discharge at the location of interest. Critical storm duration depends on the catchment size, topography (slope, drainage path, presence of storages or basins), magnitude of storm, land use of the catchment (eg urban, rural or forest). In general terms the critical storm duration provides an indication of how long a catchment takes to deliver peak flow to a particular point of interest following rainfall commencement. When the rainfall is not at a constant intensity the timing of the peak flood will depend on the temporal pattern of rainfall.		
Detention Basin	A large, open, free draining basin that temporarily "detains" collected stormwater runoff. These basins are normally maintained in a dry condition between storm events.		
Drainage System	A system of gully [street or field] inlets, pipes, overland flow paths, open channels, culverts and detention basins used to convey runoff to its receiving waters.		
Flash Flood	Sudden and unexpected flooding caused by local heavy rainfall either at the site in question or upstream. Often defined as flooding within six hours of the rain which causes flooding.		
Flood	The temporary inundation of land by expanses of water that overtop the natural or artificial banks of a watercourse, including a drainage channel, stream, creek, river, estuary, lake or dam, or any associated water holding structure. A flood can be caused by excessive rainfall, storm surge, dambreak or a tsunami.		
Local Runoff	Refer to "Runoff" and "Stormwater Flooding".		
Minor flood level	A flood level that causes inconvenience. Low-lying areas next to watercourses are inundated which may require the removal of stock and equipment. Minor roads may be closed and low-level bridges submerged.		
Moderate flood level	In addition to the above for minor flooding, the evacuation of some houses may be required. Main traffic routes may be covered with flood waters. The area of inundation is substantial in rural areas requiring the removal of stock.		
Major flood level	In addition to the above for minor and moderate flooding, extensive rural areas and/or urban areas are inundated. Properties and towns are likely to be isolated and major traffic routes likely to be closed. Evacuation of people from flood affected areas may be required.		
Rainfall Intensity	The rate at which rain falls, typically measured in mm/hour. Rainfall intensity varies throughout a storm. This variation is called a temporal pattern.		
Receiving Waters	A body of water (normally sea, river, creek or larger drainage system) that receives flow from a generally smaller (tributary) drainage system,		



Term	Definition		
Runoff	That part of rainfall which is not lost to infiltration, evaporation, transpiration or depressions in the ground.		
	We add that for the purposes of investigating or studying a flood it is the amount of rainfall that drains along the surface and into the "drainage system" or directly into receiving waters. Local runoff is that which occurs locally to a point in question (i.e. within a backyard) and has not yet reached a drainage system.		
Stormwater Flooding	CSIRO (2000) defines as "inundation by local runoff caused by heavier than usual rainfall. Stormwater flooding can be caused by local runoff exceeding the capacity of an urban stormwater drainage system or by the backwater effects of mainstream flooding causing urban stormwater drainage systems to overflow."		
	We add that the capacity of the local stormwater drainage system to drain runoff can be lessened by backwater effects of a downstream receiving water system or by obstructions. Inundation caused by backwater surcharging out of a stormwater drainage system from a flood would not necessarily be classed as stormwater flooding as the source of water or the flood level reached may not be caused by local runoff.		
Surface Water or Inundation	Any water collecting on the ground or in an open drainage system or receiving water body.		
	In this report we use these terms to discuss water before it is categorised into flood, stormwater or other.		

CGW has provided the following definitions for the purposes of this report:

- a) Flood is rising water which enters a home as the result of it running off or overflowing from any origin or cause;
- b) Flash flood and stormwater runoff is a sudden flood caused by heavy rain that fell no more than 24 hours prior to the flash flood or stormwater runoff; and
- c) Water inundation is the influx of water onto the property (i.e. the expression is not being used to refer only to properties which have been completed immersed in water).

In preparing this report the author is therefore cognisant of clarifying the time to flood as the time taken between the commencement of "flood-causing" rainfall and the time for a particular site to be flooded as RACQI's definition will result in a wider geographic region meeting this definition than the standard definition defined in CSIRO (2000).



3 PURPOSE AND SCOPE OF THE REPORT

The purpose of the report is to provide advice to Cooper Grace Ward Lawyers on the cause of inundation events that occurred across the Ipswich region in January 2011.

This report is confidential and for internal use by the client to assist them in processing claims for the particular event, time and location described above.

This report is based on:

- A desktop review of rainfall and flow data for the Rivers and Creeks to these inundation events.
- A review of available news and gathered internet footage and photos.
- A review of historic flooding.
- Site inspections.
- Discussions with the owners and witnesses of inundated properties.



4 METEOROLOGY

The National Climate Centre's Special Climate Statement 24 (BoM, 25 January, 2011) provides an overview of the January 2011 rainfall which resulted in the inundation event in Ipswich. Several extracts of this report are quoted below:

Major Rain Events of the Period

10 to 12 January. An upper-level low combined with a humid easterly flow to bring very heavy rain to southeast Queensland and northeast New South Wales. The heaviest falls were in the areas north and west of Brisbane. ... Three-day totals exceeded 200 mm over most of the area bounded by Brisbane, Gympie and Toowoomba, including the majority of the Brisbane River Catchment. Further south, totals exceeding 100 mm extended to the coast and adjacent ranges of New South Wales north of Coffs Harbour, locally approaching 200 mm on parts of the Northern Tablelands, and also extended into inland southern Queensland as far west as Dalby. The heavy rain covered a smaller area than was the case in the late December event. The highest daily totals observed in the Bureau's regular network were 298.0 mm at Peachester and 282.6 mm at Maleny on 10 January, while the highest three-day totals were 648.4 mm at Mount Glorious and 617.5 mm at Peachester. Intense short-period falls also occurred during the event, with one-hour falls in excess of 60 mm occurring on both 10 and 11 January at numerous stations in various locations north and west of Brisbane. It is possible that higher short-period falls occurred in areas between observing sites.

Extreme Daily Rainfall Totals for the Period

Peak rainfalls from the 1974 event were substantially heavier than those in 2011. Many stations in the 1974 event experienced daily totals which exceeded 400 mm; the highest were 563.2 mm at Mount Tamborine and 561.5 mm at Wundurra, in the Gold Coast hinterland, while in the Brisbane area 475.8 mm fell on 26 January at Enoggera Reservoir.. 1974 also saw much heavier rainfall in metropolitan Brisbane than 2011, with Brisbane's three-day and peak one-day totals of 600.4 mm and 314.0 mm in 1974 comparing with 166.2 mm and 110.8 mm in 2011. However, in 1974 the heaviest rains were close to the coast, whereas in 2011 heavy falls spread further inland, and on the western fringe of the Brisbane River catchment and on the Great Dividing Range 2011 was the wetter of the two events (Figure 5 ...). The weeks prior to the 1974 event, whilst wetter than normal, were also less wet than the equivalent weeks prior to the 2011 event.

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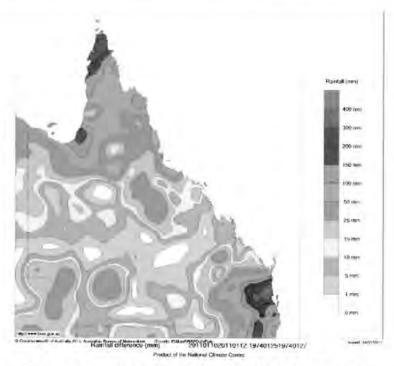


Figure 4-1 Three day rainfalls for 10 to 12 January 2011 (extract from Figure 5 - BOM, 2011)

Floods resulting from the rainfall

The most destructive floods during the period occurred during the second week of January in the southeast corner of Queensland and adjacent border areas of New South Wales. There was major flooding through most of the Brisbane River catchment, most severely in the Lockyer and Bremer catchments where numerous flood height records were set ..., along with the Toowoomba area just outside the Brisbane catchment. In Brisbane it was the second-highest flood of the last 100 years, after January 1974. The flooding caused substantial loss of life, and thousands of properties were inundated in metropolitan Brisbane and elsewhere. Major flooding with inundation of properties also extended inland to the upper Condamine-Balonne catchment, with Chinchilla and Dalby being severely affected for the second time in less than a month. ...



5 RAINFALL AND STREAM GAUGING STATIONS

Figure 5.1 and Figure 5.2 show the rainfall and stream gauging stations the entire catchment and the Ipswich area, respectively.

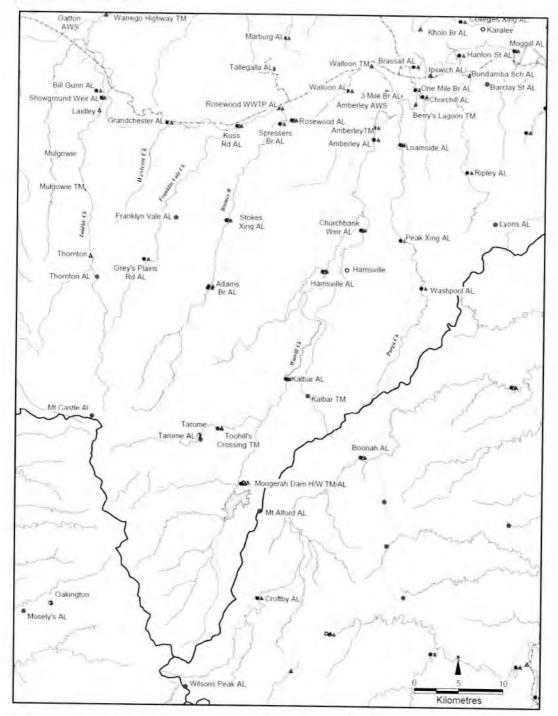


Figure 5.1 Ipswich Catchment Rainfall and Stream Gauging Stations – Catchment



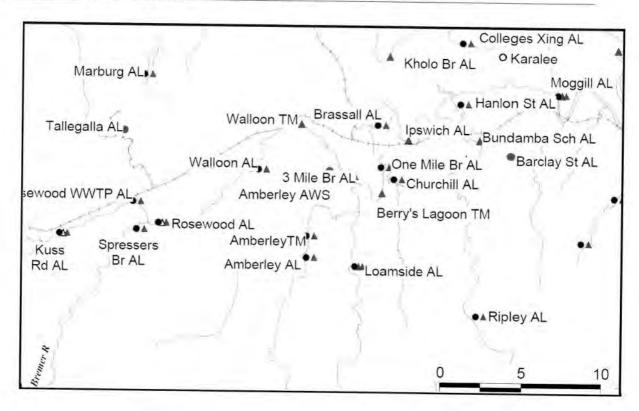


Figure 5.2 Ipswich Catchment Rainfall and Stream Gauging Stations – Ipswich Area



6 RAINFALL

Heavy rain fell in the Bremer River catchment on 11 January 2011 which, combined with the lesser rain on 9 and 10 January, resulted in increased Bremer River discharges and water levels. Figure 6.1 and Figure 6.2 show hourly and cumulative rainfall totals, respectively. Figure 6.1 and Figure 6.2 show that the rainfall was varied throughout the catchment. Intense rainfall fell in the upper Bremer River catchment (Tallegalla), the upper Bundamba Creek catchment (Lyons Bridge), moderate to heavy rainfall fell in the Warrill Creek catchment (Amberley and Tarome) and only low to moderate rain fell in the Ipswich City area (Bundamba, Brassall).

Figure 6.3 shows the intensity-frequency-duration (IFD) chart for Ipswich, together with the severities of the recorded rainfall at four locations in the catchment. Figure 6.3 shows the rainfall at Tallegalla was extreme, with the 12, 24, 48 and 72 hour intensities greater than the 100 year rainfall average recurrence interval (ARI).

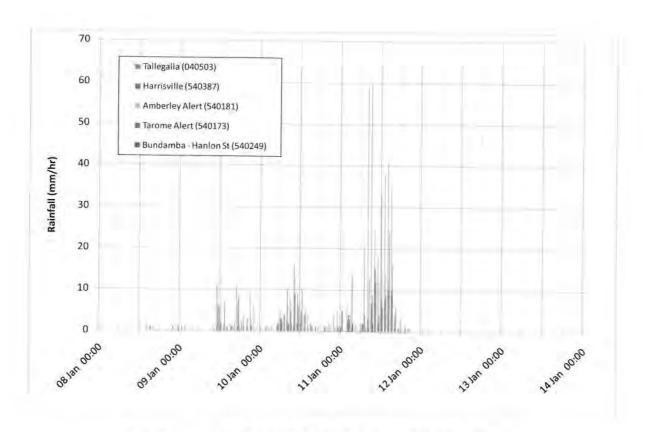


Figure 6.1 Hourly Rainfall Totals at Selected Rainfall Stations

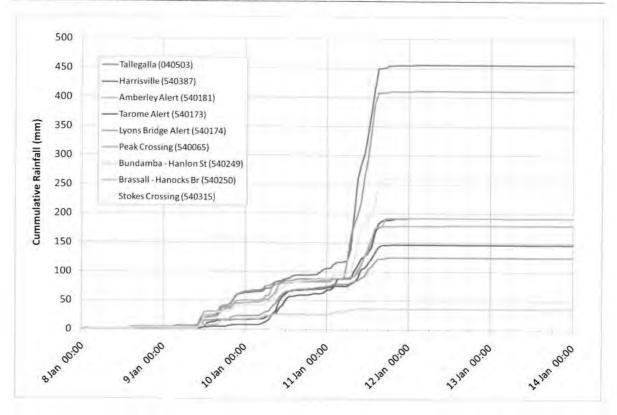


Figure 6.2 Cumulative Rainfall Totals at Selected Rainfall Stations

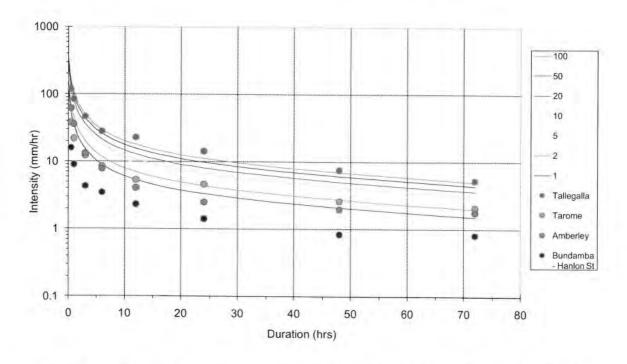


Figure 6.3 Intensity-Frequency-Duration Analysis of Selected Rainfall Stations within the Catchment



7 BREMER RIVER LEVELS

7.1 General

Figure 7.1 and Figure 7.2 show the translation of the January 2011 flood through Ipswich. Table 7.1 shows the timeline of the flood wave along the Bremer River. The adopted stream gauging stations are on the following rivers:

- Warrill Creek: Churchbank Weir.
- Bremer River: Walloon Alert, One Mile, Ipswich
- Brisbane River: Moggill (just downstream of the junction of the Bremer and Brisbane Rivers)

Table 7.1 Timeline of Events in the Bremer River, Warrill Creek and Brisbane River

	The breme liver, warm creek and brisbane Riv			
Time / Date	Elapsed Time Since Rainfall Commencement (hrs)	River	Event	
0600 hrs 11 Jan	0		At Tallegalla, the rainfall causing the event commenced	
0800 hrs 11 Jan	2	Bremer R	The Bremer River at Walloon shows a rapid response to the rainfall with the river commencing to rise	
1700 hrs 11 Jan	11	Bremer R	The Bremer River at Walloon Peaks at 31.87 m	
2100 hrs 11 Jan	15	Warrill Ck	Churchbank Weir (Warrill Ck) shows only small flows for the event. This is consistent with the generally low rainfall totals recorded for the Warrill Ck catchment.	
0100 hrs 12 Jan	19	Bremer R	The Bremer River at One Mile peaks at 21.35 m AHD	
1300 hrs 12 Jan	29	Bremer R	The Bremer River at Ipswich peaks at 19.4 m AHD	
1500 hrs 12 Jan	31	Brisbane R	The Brisbane River at Moggill [040812] peaks at 17.87 m AHD	

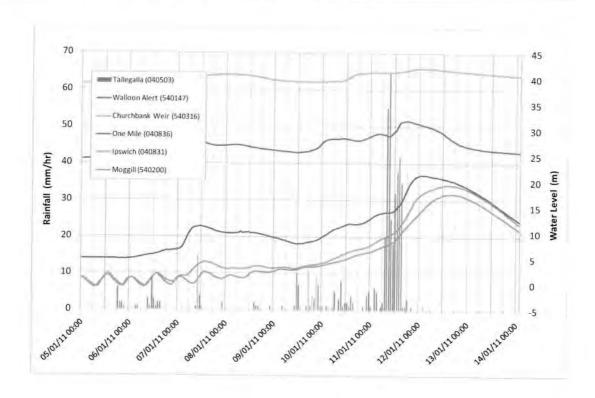


Figure 7.1 Translation of the January 2011 Flood Through Ipswich

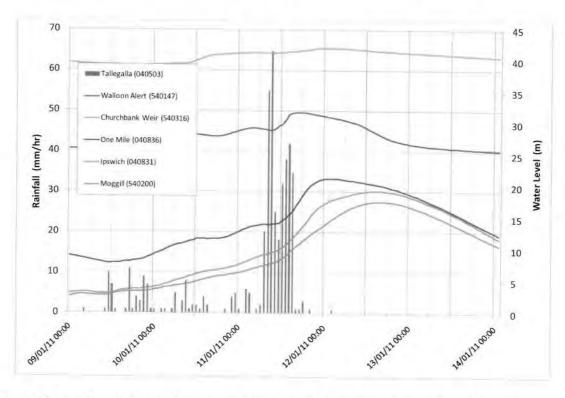


Figure 7.2 Translation of the January 2011 Flood Through Ipswich – Enlarged Image

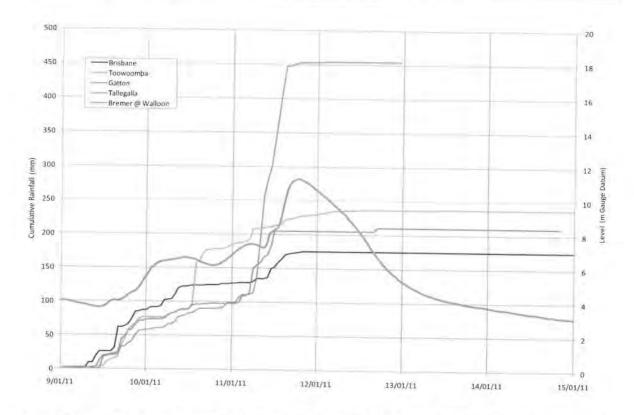


Figure 7-3 Cumulative Rainfall Records (selected) in the catchment below Wivenhoe Dam and Bremer River height at Walloon

Figure 7-3 shows the cumulative rainfall for selected rainfall gauges in and adjacent to the Brisbane River catchment, together with river heights for the Bremer River at Walloon.

At the time of writing of this report, there was limited discharge information available at gauging stations. Figure 7-4 provides an indication of the relative magnitude of the discharges within the Brisbane River at Savages Crossing (# 143001) and the Bremer River at Walloon (# 143107).

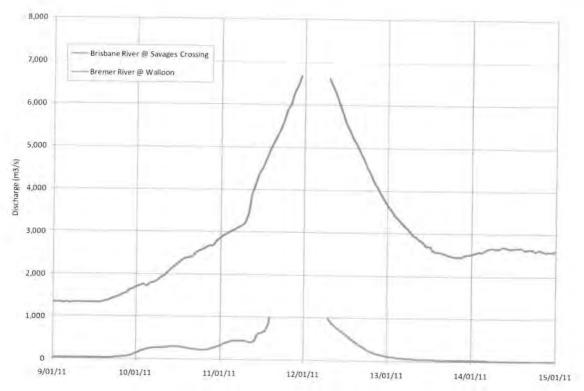


Figure 7-4 Brisbane and Bremer River Discharge Comparisons

Note that this comparison is limited by the amount of information available at the time of preparation of this report.



7.2 Discussion

Figure 7.2 shows rainfall occurring on the 9th and 10th of January. That lead to an increase in the river level as measured at the Walloon gauge reaching the minor flood level (5m) and approaching the moderate flood level (6.5m) on the 10th of January. That rainfall does not appear to have had an appreciable impact on river levels downstream as also shown in Figure 7.2, nor is the inundation associated with the minor to moderate flood level likely to have an impact in the vicinity of the Walloon Gauge.

Figure 7.3 shows heavy rainfall commencing 06:00 11th January resulted in a rapid increase in the Bremer River level at Walloon gauge.

Figure 7.1, Figure 7.2 and Table 7.1 provide an indication of the impact of the Brisbane River on Bremer River flood levels. In particular, Figure 7.2 indicates that

- There is a clear peak in water level for the Walloon alert gauge at 1700 11 January 2011 associated with the peak flow from the Bremer River catchment.
- The One Mile gauge peak level (at 0100 12 January) is associated with the combined effects of peak flow from the Bremer River and increased Brisbane River levels from the junction of the Bremer and Brisbane Rivers.
- The peak water level for the Bremer River at Ipswich (1300 12 January) occurs just slightly before the peak water level at the Brisbane River Moggill Gauge occurs (1500 12 January).
- The general shape of the gauge record for the Bremer River at Ipswich is similar to the general shape of the Brisbane River gauge record at Moggill. This indicates that water levels at the Ipswich gauge are significantly influenced by the Brisbane River "Tailwater". Tailwater in this instance refers to elevated Brisbane River levels at the Brisbane and Bremer River junction leading to an elevation of water levels in the Bremer River. Without the model referred to in Section 8.2 we are not presently able to identify the extent of the effect of that tailwater upstream of the Ipswich gauge.

There are some locations upstream of Ipswich where in our opinion the levels of the Bremer River are unlikely to be affected at all or materially affected by the effect of the Brisbane River tailwater. As mentioned above, without the model referred to in Section 8.2 we are not presently able to identify the upstream extent of the affect of the tailwater. We have however, in Schedule C to this report identified those properties, which, without the benefit of that modelling we are confident that any flooding would be unaffected by the influence of the tailwater of the Brisbane River.



8 BRISBANE RIVER IMPACT ON BREMER RIVER WATER LEVELS

8.1 Overview

An assessment was made of the impact of the Brisbane River water levels on the Bremer River Water levels to provide a preliminary estimate of which properties (if any) would have been inundated by the Bremer River in the absence of elevated Brisbane River levels.

8.2 Methodology

A hydraulic model of the Brisbane and Bremer Rivers has been previously developed by others for use in flood planning and management of the rivers. Requests to access this model or equivalent have recently been made to SEQWater, Brisbane City Council and Ipswich City Council. Unfortunately, at the time of writing of this report, no response to whether or not this model is available has been received.

In order to undertake a preliminary assessment of the impact of Brisbane River tailwater levels, a course MIKE-11 hydraulic model was developed based upon survey data available at the time of writing of this report for Ipswich and estimated river discharges based upon the recorded rainfall and river discharge data. This model was checked for broad consistency to the recorded inundation levels in Ipswich.

The MIKE-11 hydraulic model was used to model the effect of the rain in the catchment of the Bremer River through Ipswich City under two conditions:

- A Brisbane River level of 17.87 m AHD (which represents the peak level at the Moggill gauge on the 12th January) to represent the January 2011 Event.
- A lowered Brisbane River level to represent the effect of the rain in the Bremer River catchment without a corresponding flood in the Brisbane River.

Figure 8.1 shows the modelling results. The following is of note with respect to Figure 8.1:

- The blue line provides a good representation (when compared available flood imagery <u>www.nearmap.com.au</u> and the Queensland Reconstruction Authority Interactive mapping tool (http://qldreconstruction.org.au/vour-community-reconstruction-updates/interactive-map) of the recorded inundation extent.
- The yellow line shows that, based upon the modelling assumptions, without elevated Brisbane River levels, Bremer River flows would have been essentially confined within bank.
- The majority of properties that were inundated by river water are located between the two river level estimates.

The approach adopted provides a reasonable estimate of the extent of the Bremer River inundation making an assumption that there were not elevated water levels within the Brisbane River, but conservative in the sense that it shows the level below which the Bremer River would not have fallen making that assumption.

For a more accurate estimate the previously developed model should be used or alternatively this current model could be calibrated.

WATER TETHIN



Modelled Bremer River Inundation Extents for the January 2011 Event With and Without High Brisbane River Tailwater Figure 8.1



9 BRISBANE RIVER INUNDATION

Areas of Ipswich City downstream of the Bremer River – Brisbane River confluence were inundated by the Brisbane River during the January 2011 event.

9.1 The Brisbane River Catchment Above Wivenhoe Dam

- Wivenhoe Dam experienced significant inflows over the period 9th (Sunday), 10th (Monday) and 11th (Tuesday) of January associated with rainfall in the catchment above Wivenhoe during this same period.
- Rainfall commenced at approximately 06:00 on the 9th (Sunday) of January.
- These inflows contributed to a peak outflow from Wivenhoe occurring at approximately 00:00 (midnight) on the 12th (Wednesday) of January.
- Significant Wivenhoe discharges occurred greater than 24 hours after the commencement of
 the rainfall event that lead to the significant inflows into Wivenhoe dam. Therefore, any
 inundation directly associated with the Brisbane River flows below Wivenhoe dam would be
 attributable to the rain event that commenced at approximately 06:00 9th January (and
 indeed earlier rainfall).

9.2 Brisbane River Catchment Below Wivenhoe Dam

- No rainfall was recorded at the Brisbane Rainfall Gauge within the 24 hours preceding the peak Brisbane River level.
- A significant rainfall event occurred at Tallegalla in the Upper Bremer River catchment between approximately 06:00 and 15:00 on 11th January.
- Figure 7-3 shows the rapid response of the Bremer River at Walloon to the Tallegalla rainfall.
- The available gauging information presented in Figure 7-4 indicates that in terms of peak flow, the Bremer River contributed of the order of 15-25% of the Brisbane River flow. This is a necessarily imprecise figure because it is based on derived discharge information (which is both incomplete and in any event imprecise) and there are additional catchments contributing to both the Brisbane and Bremer River flows downstream of these gauges.
- Due to high Brisbane River tailwater levels there would have been some attenuation of the peak flow rate in the lower reaches of the Bremer River.
- This means that the overall contribution of water from the Bremer River to the Brisbane River (in terms of peak flow) is likely to be less than the estimate above. Based on the data currently available it is not possible to quantify how much less.



10 CONCLUSIONS

10.1 Bremer River Inundation

From our review of the available data for the January 2011 event we have formed the following opinions with regard to Bremer River inundation in the Ipswich area:

- Heavy rainfall commenced within the Bremer River Catchment at approximately 0600 hrs 11 January 2011.
- The Bremer River peaked at the One Mile Gauge at 0100 hrs 12 January (19 hrs later).
- The Bremer River peaked at the Ipswich Gauge at 1300 hrs 12 January (29 hrs later).
- There are some locations upstream of Ipswich where in our opinion the levels of the Bremer River are unlikely to be affected at all or materially affected by the effect of the Brisbane River tailwater. As mentioned above, without the model referred to in Section 8.2 we are not presently able to identify the upstream extent of the effect of the tailwater. We have however, in Schedule C to this report identified those properties, which, without the benefit of that modelling we are confident that any flooding would be unaffected by the influence of the tailwater of the Brisbane River.
- Bremer River water levels within the lower reaches were impacted by high Brisbane River tailwater levels. These properties are included in Schedule B Part 1 as indicated below.
- Preliminary modelling showed that the Brisbane River tailwater level substantially increased water levels in the lower Bremer River.

10.2 Site Specific Issues

As mentioned at the outset Water Technology has identified from within the properties listed in Schedule B Part 1 a number of properties where, in addition to flooding as described under the preceding heading, it is possible flooding may have occurred by some different mechanism.

These properties have been identified as requiring further investigation based upon site specific criteria including proximity to elevated floodplain features and potentially restrictive drainage culverts/channels.

These properties will be the subject of further investigations which will be reported upon separately. They have been listed in Schedule B Part 3.

10.3 Brisbane River Inundation

From our review of the available data for the event of January, 2011 we have formed the following opinions with regard to direct Brisbane River inundation in the Ipswich area:

- Damage directly associated with Brisbane River inundation generally in the Goodna area post 06:00 on the 12th (Wednesday) of January has been caused by "flood".
- A small proportion of the overall depth of the Brisbane River generally in the Goodna area pre 06:00 on the 12th (Wednesday) may be partially attributable to rainfall that fell within the catchments downstream of Wivenhoe Dam in the preceding 24 hours.
- Thereafter, the Brisbane River water level continued to rise steadily to its peak level recorded (at the Moggill Gauge) at approximately 15:00 on the 12th (Wednesday) January.

The properties referred to above are generally in the Goodna area and inundated by flood are identified in Schedule A.



As mentioned above, it is possible that some individual properties within the list in Schedule A similarly may have been affected by stormwater runoff, either because of their particular location or because of characteristics unique to those properties. Further investigations would be required to identify the existence of properties which fall into this category, if any. Water Technology has been instructed to seek to identify any properties that fall within this category. It has not been possible at the time of writing this report to identify any such properties.

10.4 Schedule B

Schedule B lists the sites where it has not been possible to formulate an opinion at the time of provision of this report. It includes properties inundated by that part of the Bremer River which was affected by the elevated Brisbane River tailwater (Schedule B Part 1) and properties which appear to be outside the inundation zone (Schedule B Part 2) but which may or may not be subject to the same inundation mechanism in respect of the properties listed in Schedule B part 1.



11 REFERENCES

- Bureau of Meteorology, 2011, Special Climate Statement 24, "Frequent heavy rain events in late 2010/early 2011 lead to widespread flooding across eastern Australia". First issued 7th January, 2011, Updated 25th January, 2011. http://www.bom.gov.au/climate/current/statements/scs24b.pdf
- Bureau of Meteorology, 2011, Definitions and Terminology, http://www.bom.gov.au/hydro/flood/flooding.shtml#definitions terminology
- CSIRO, 2000, "Floodplain Management in Australia: Best Practice Principles and Guidelines SCARM Report 73".
- Institution of Engineers Australia, 1998, "Australian Rainfall and Runoff Volume 1 A Guide to Flood Estimation".
- Queensland Government Department of Environment and Resource Management Historical monitoring data Watershed, http://www.derm.qld.gov.au/watershed/html/wshed.html.
- Queensland Government Natural Resources and Water, 2008, "Queensland Urban Drainage Manual", Second Edition.
- Queensland Reconstruction Authority Interactive mapping tool (http://qldreconstruction.org.au/your-community-reconstruction-updates/interactive-map
- Queensland Government, June 2003, "Mitigating the Adverse Impacts of Flood, Bushfire and Landslide State Planning Policy Guideline SPP1/03".



12 AUTHORS QUALIFICATIONS

The author of this report is Mr Stephen Quinton Clark. In arriving at my opinions in this report. I have been assisted by the following Water Technology staff who have carried out certain work under my direction and supervision:



I have reviewed their work and the opinions expressed in this report are my own.

Details of qualifications are provided in Table 12-1 below.

Table 12-1 Authors Qualifications

Full Name	Stephen Quinton Clark		
Job Position	Director		
Location	Brisbane, Queensland		
Qualifications	Bachelor of Civil Engineering (Hons), UQ, 1988		
	Master of Engineering Science, UQ, 1999		
	National Professional Engineers Register (NPER)		
	Registered Professional Engineer Queensland (RPEQ)		
Key Areas of Relevant Expertise	Hydrologic and hydraulic engineering, floodplain management and flood warning		

This report contains my preliminary views on the January, 2011 flood event within the Ipswich Local Government Area. It is preliminary essentially because not all inspections have been completed and not all relevant data is available. In due course should you wish it, I will prepare a final report after the completion of those further investigations (by me or by others). That report, that has been requested by CGW, should be prepared in the form required by the rules of court for an expert witnesses report, given the possibility of litigation arising.

However, subject to those further investigations, this preliminary report refers to all material matters of which I am currently aware and could reasonably obtain at the time of writing which might affect my conclusions.



Mr Stephen Quinton Clark

ATTACHMENT 2



0/ Pr 10/4 to

Subject to Legal Professional Privilege

Cooper Grace Ward Level 21 400 George St Brisbane QLD 4001

Attn: Andrew Ward

Dear Andrew,

SUBJECT: INDEPENDENT ANALYSIS – WATER INUNDATION – IPSWICH REGION

We refer to our report dated March 2011 (the report) and subsequent letters of 14 March, 20 March, 25 March, 29 March, 6 April, 14 April 2011, two letters of 19 April 2011, 6 May 2011, 16 May 2011, 19 May 2011 and 6 June 2011.

The purpose of this update is to report on Water Technology's further investigations into the likely cause of Bremer river inundation within the city of Ipswich.

1.0 Background

Section 7 of the report contained the following discussion:

"Figure 7.1, Figure 7.2 and Table 7.1 provide an indication of the impact of the Brisbane River on Bremer River flood levels. In particular, Figure 7.2 indicates that

- There is a clear peak in water level for the Walloon alert gauge at 1700 11 January 2011 associated with the peak flow from the Bremer River catchment.
- The One Mile gauge peak level (at 0100 12 January) is associated with the combined effects of peak flow from the Bremer River and increased Brisbane River levels from the junction of the Bremer and Brisbane Rivers.
- The peak water level for the Bremer River at Ipswich (1300 12 January) occurs just slightly before the peak water level at the Brisbane River Moggill Gauge occurs (1500 12 January).
- The general shape of the gauge record for the Bremer River at Ipswich is similar to the general shape of the Brisbane River gauge record at Moggill. This indicates that water levels at the Ipswich gauge are significantly influenced by the Brisbane River "Tailwater". Tailwater in this instance refers to elevated Brisbane River levels at the Brisbane and Bremer River junction leading to an elevation of water levels in the Bremer River. Without the model referred to in Section 8.2 we are not presently able to identify the extent of the effect of that tailwater upstream of the Ipswich gauge.



There are some locations upstream of Ipswich where in our opinion the levels of the Bremer River are unlikely to be affected at all or materially affected by the effect of the Brisbane River tailwater. As mentioned above, without the model referred to in Section 8.2 we are not presently able to identify the upstream extent of the affect of the tailwater. We have however, in Schedule C to this report identified those properties, which, without the benefit of that modelling we are confident that any flooding would be unaffected by the influence of the tailwater of the Brisbane River."

Since the preparation of the report, Water Technology has now been provided with the Brisbane River Mike 11 model and other relevant information. This model has been used to further investigate the impact of the Brisbane River on Bremer River flood levels as is discussed in the following sections.

2.0 Previous Analysis

The report presented the results of the preliminary analysis of the Bremer River undertaken prior to Water Technology having access to the Brisbane River Mike 11 model. This previous analysis also utilised a Mike11 model developed from terrain information and preliminary discharge estimates for the January 2011 event in the Bremer River that were available to the Water Technology at the time.

This model was checked for broad consistency to the recorded inundation levels in Ipswich.

Section 8 of the report states:

"Figure 8.1 shows the modelling results. The following is of note with respect to Figure 8.1:

- The blue line provides a good representation (when compared available flood imagery www.nearmap.com.au and the Queensland Reconstruction Authority Interactive mapping tool (http://qldreconstruction.org.au/your-community-reconstructionupdates/interactive-map) of the recorded inundation extent.
- The yellow line shows that, based upon the modelling assumptions, without elevated Brisbane River levels, Bremer River flows would have been essentially confined within bank.
- The majority of properties that were inundated by river water are located between the two river level estimates.

The approach adopted provides a reasonable estimate of the extent of the Bremer River inundation making an assumption that there were not elevated water levels within the Brisbane River, but conservative in the sense that it shows the level below which the Bremer River would not have fallen making that assumption. For a more accurate estimate the previously developed model should be used or alternatively this current model could be calibrated."

3.0 Water Technology's Further Analysis

While the above original analysis was conducted using the best available information, Water Technology's subsequent analysis has had the benefit of substantial further information which only became available after the original analysis was performed, including:

- The Brisbane River Mike11 model (provided by Brisbane City Council), which contained important
 information that Water Technology did not have access to (for example Water Technology did not
 have any information about characteristics of any of the river systems below the water level when
 performing the original analysis),
- LIDAR terrain information (provided by DERM) covering the area under consideration, which was much more detailed than the terrain information Water Technology had access to when performing the original analysis,



SEQWater's submission to the Queensland Floods Commission of Inquiry "January 2011 Flood Event

— Report on the operation of Somerset Dam and Wivenhoe Dam" 2 March 2011, which contained
information (particularly with regard to Bremer River catchment inflows) that was not available at
the time of the original analysis.

Following receipt of the above information, Water Technology undertook a further analysis of the inundation mechanisms along the length of the Bremer River. Please note that for the purposes of this investigation, the area of interest is defined as the Bremer River from Amberley to the junction with the Brisbane River.

The steps that were carried out by Water Technology to complete this further analysis are as follows:

- 1. The Brisbane River Mike11 model provided by Brisbane City Council was established on Water Technology's system.
- 2. The Brisbane River model is large and covers from Wivenhoe Dam wall to the mouth of the Brisbane River together with a selection of major tributaries to the Brisbane River downstream of Wivenhoe Dam wall. Water Technology therefore simplified the model structure in the area of interest ie the Bremer River from Amberley to its junction with the Brisbane River. The revised model structure is shown in Attachment A.
- 3. The inflow of water into the Bremer River from the catchment (upstream of the Bremer River / Warrill Creek junction) in the relevant period was fed into the model. These inflows were based on a combination of gauge observations and information presented in SEQWater's submission to the Queensland Floods Commission of Inquiry "January 2011 Flood Event Report on the operation of Somerset Dam and Wivenhoe Dam" 2 March 2011.
- The inflow of water into the Brisbane River from both Wivenhoe Dam and Lockyer Creek based on information presented in SEQWater's submission to the Queensland Floods Commission of Inquiry was also fed into the model.
- The model was used to simulate the January 2011 flood event over the period 8 January 2011 to 14
 January 2011. This enabled time histories of water levels for the January 2011 event at various
 locations throughout the Brisbane and Bremer River system to be produced.
- 6. The time histories of water level as produced by the model were checked against water levels as recorded at gauging stations.
 - In particular, water levels as recorded on the Brisbane River at the Moggill Gauge and the Bremer River at the One Mile, Brassall and Ipswich gauges were examined in detail. In addition, the Bundamba (Hanlon's Bridge) gauge on Bundamba Creek was examined. This gauge is located just upstream of the junction of Bundamba Creek and the Bremer River and (for this particular event) provides an accurate indication of elevated Bremer River water levels.
 - The general shape and peak water levels recorded at the Brassall gauge are inconsistent with the One Mile Creek gauge and Ipswich gauge records suggesting that there is some inaccuracy in the Brassall Gauge record. The source of these inconsistencies has not been examined, but the Brassall gauge record has not been used for detailed comparisons.
- 7. Other sources of information used to check the model predictions included the inundation information provided by the Insurance Council of Australia and the flood photography available through www.nearmap.com.
- 8. The comparison with the available gauge records and other relevant information indicated that the model as received did not reproduce the January 2011 event accurately in the area of interest. Sources of inaccuracy could include any (or all) of the following:



- a. Uncertainty in catchment inflows,
- b. Uncertainty in the original model accuracy through the area of interest,
- c. Modifications to the terrain since model establishment,
- In order to accurately reproduce the observed water levels for the January 2011 event, the hydraulic "roughness" of the model throughout the Bremer River was adjusted in order to ensure accurate representation of gauged water levels across the full range of water levels experienced.
- 10. For example, it was observed that the peak water level on the Brisbane River at the Moggill Gauge was approximately 1.7m lower than the peak water level of the Bremer River as indicated by the Bundamba (Hanlons Bridge) gauge. Given the closeness of these two gauges this appeared to be an anomaly.
- 11. Water Technology took steps to verify that these recorded peak water levels were correct. These steps included:
 - a. Conducting a detailed comparison of the Ipswich, Bundamba (Hanlon St) and Moggill gauge records over the period of the January 2011 event,
 - b. Comparing the recorded inundation extent reported by the Insurance Council of Australia with the topographic data,
 - Reviewing available information on flood surface profiles through this area from previous flood events (eg 1974).
- 12. Having confirmed that the recorded peak water levels were consistent with other data, Water Technology investigated the possibility that cross section data included in the Brisbane River Mike11 model may have been missing key (restrictive) cross sections in the lower reaches of the Bremer River. Water Technology did this by comparing cross section data within the received model to topographic information (based on LIDAR). This analysis confirmed that the cross section data in the received model was consistent with topographic information in the area considered.
- 13. Having confirmed the above matters, Water Technology considered adjusting other parameters in the model to replicate the behaviour referred to in paragraph 10 above across the full range of recorded water levels. Ultimately, the adjustment made was to modify the hydraulic roughness around the junction of the Brisbane and Bremer Rivers (which necessitated consequential modifications throughout the rest of the Bremer River model) to replicate the recorded event. The modification that was made was to introduce higher roughness values into the upper levels of the cross sections of the Bremer River.
- 14. Although there are other variables (in particular Bremer River inflows) I believe it was appropriate to make the adjustments referred to in paragraph 13 for the following reasons:
 - a. Of the possible parameters the greatest uncertainty is associated with roughness because it is inherently difficult to quantify, and the roughness parameter actually incorporates the effect of a large number of varying physical processes (eg topographic features not represented by the cross sections, meandering, obstructions and vegetation).
 - b. It was not possible to replicate in the model both the peak and rising limbs of the observed event through the lower reaches of the Bremer River without modifying the hydraulic roughness description.



- c. There did not appear to be any principled basis to depart from the Bremer River inflow information derived using information contained in SEQWater's submission to the Queensland Floods Commission of Inquiry "January 2011 Flood Event Report on the operation of Somerset Dam and Wivenhoe Dam" 2 March 2011.
- d. While not commonly done in Australia, the approach of varying roughness vertically is commonly used internationally in narrow, deep rivers. Relative to the characteristics of most Australian rivers, this section of the Bremer River is quite narrow and therefore, in my opinion, it is appropriate to adopt this international practice.
- 15. Once the model accurately reproduced the behaviour of the January 2011 event in the area of interest, two further simulations were performed. These were:
 - a. Low Brisbane Tailwater Water flowing into the Bremer River from the catchment upstream of the junction between Bremer River and Warrill Creek at the rate reported by SEQWater in the period from 8 to 14 January 2011, but assuming typical levels of tailwater in the Brisbane River at the same time;
 - b. Low Flow normal inflows from both the Bremer and Brisbane River catchments.
- 16. The output of the model following the completion of the simulations is a series of time histories of flows and levels throughout the modelled area for each scenario. These time histories enable the respective contributions from the relevant inputs to be determined, in this case the inputs being the inputs from the inflow into the Bremer River on the one hand, and the Brisbane River tailwater, on the other.

The time histories of water levels at key gauge stations are presented in Attachment B. The thick blue line shows the actual recorded water level at each of the gauges. The thin blue line shows the results of this model recreating the January 2011 event. The red line shows the results of the model using the Low Brisbane Tailwater scenario. The green line shows the results of the model using the Low Flow scenario.

A long section of the Bremer River with the various scenarios plotted is presented in Attachment C. The thin blue line shows the peak water level predicted by this model recreating the January 2011 event. The red line shows the peak water level predicted by this model based on the Low Brisbane Tailwater. The green line shows the peak water level predicted by this model based on the Low Flow. The invert (or base) of the river is also plotted on the long section by a brown line.

17. The results of the simulations were applied to terrain data to generate inundation lines that represent the likely effects of the modelled scenarios.

These inundation lines are presented in Attachment D. The thick blue line shows the inundation extent as provided by the Insurance Council. The red line shows the inundation extent predicted by the model based on the Low Brisbane Tailwater.



4.0 Conclusions

The simulations of the Bremer River conducted during the course of this analysis should still be regarded as provisional. A comprehensive investigation of the study area would involve a thorough review of the hydrology and hydraulics of the study area and a complete recalibration of the modified Brisbane River Mike11 model.

However, in my opinion, the analysis conducted is suitable to provide an indication of the order of magnitude of the effects of the Brisbane River tailwater on inundation within the Bremer River.

Based on the simulations conducted using the modified Brisbane River Mike11 model, attachments B and C indicate that:

- At the One Mile gauge, the elevated Brisbane River levels are predicted to have increased the Bremer River level by approximately 0.5m,
- Attachment C clearly shows the sloping water surface through this reach of the river containing the One Mile gauge, extending down to approximately the Ipswich gauge,
- At the Ipswich gauge, the elevated Brisbane River levels are predicted to have increased the Bremer River level by approximately 4m,
- Attachment C shows the water surface slope "flattening out" as the floodplain broadens downstream
 of the Ipswich gauge,
- Levels downstream of the Ipswich gauge appear to be controlled by a combination of the tailwater level in the Brisbane River and the restrictive cross sections near the mouth of the Bremer River. For the simulated January 2011 event, the high Brisbane River tailwater appears to be the dominant factor. For the low Brisbane River tailwater simulation, the restrictive cross sections near the mouth appear to be the dominant factor.
- At the Bundamba gauge, the elevated Brisbane River levels are predicted to have increased the Bremer River level by approximately 5m.

Please do not hesitate to contact me if you have any queries.

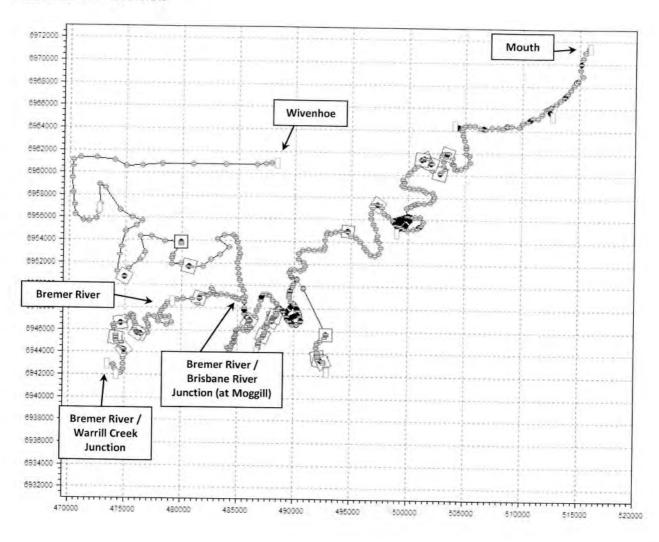
For and on behalf of Water Technology Pty Ltd



Mr Steve Clark Director

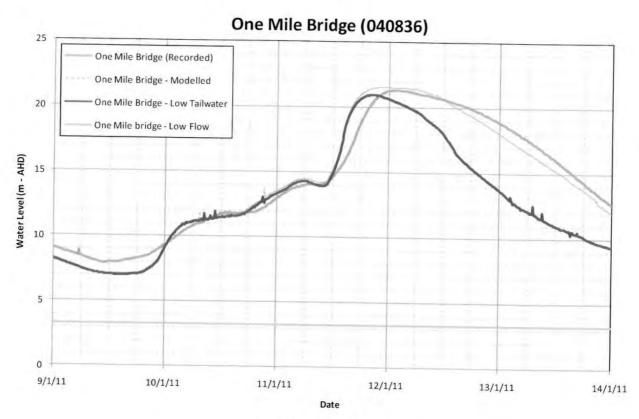


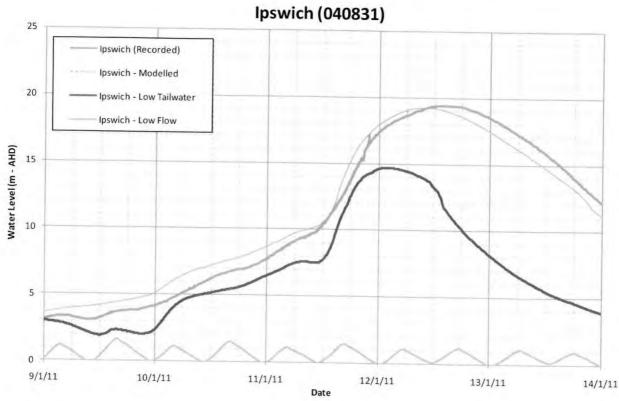
Attachment A - Overview

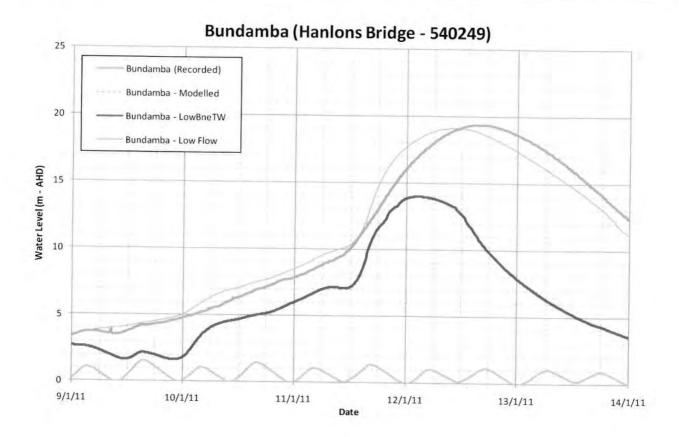




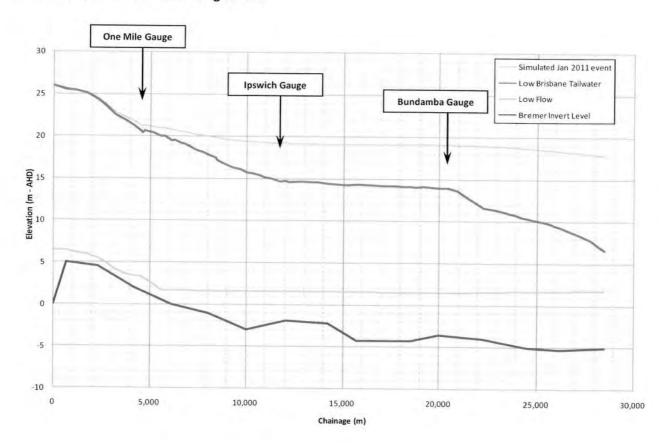
Attachment B Time histories of water level at key gauges





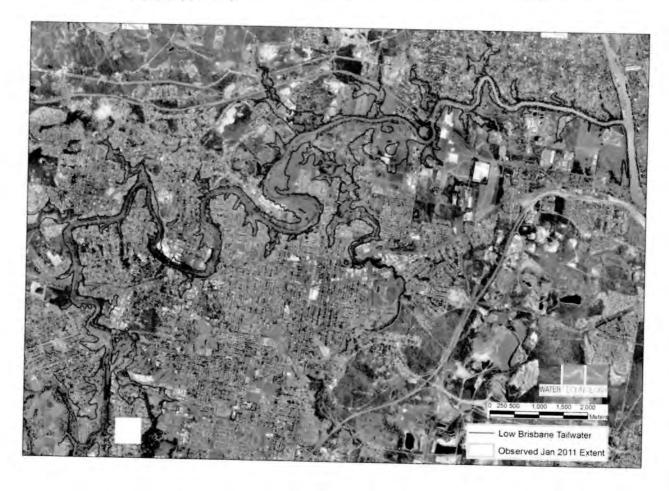


Attachment C - Bremer River Long Section





Attachment D – Aerial Photographs with inundation lines with the Insurance Council of Australia Inundation Zone (thick blue line) and flood extents for the Low Brisbane Tailwater scenario (red line)



ATTACHMENT 4



Hydrology Information Sheets

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REPORT BY RACQ INSURANCE LIMITED ON ITS INVESTIGATIONS INTO BRISBANE FLOODS

This document has been prepared by RACQ Insurance Limited to provide its policyholders with some further details of the investigations it has carried out into the flooding which occurred in Brisbane in January 2011.

RACQ Insurance's investigations

RACQ Insurance has carried out extensive investigations into the floods in Brisbane. These
investigations have included site investigations of each insured property by loss adjusters and an
analysis of relevant hydrology data, including rainfall measurements, river heights, the topography
of the catchment area for Brisbane and the rate and speed at which water flowed through that
catchment.

The key results

- 2. A substantial amount of rain fell in the Brisbane River catchment above Wivenhoe Dam both before, but particularly over the period 9, 10 and 11 January 2011 commencing at approximately 9am on 9 January 2011. This rain caused significant inflows into the Wivenhoe Dam, the level of which is reported to have peaked at approximately before midnight on 11 January 2011.
- 3. There were significant discharges of this water from the Wivenhoe Dam which flowed into the Brisbane River which worked its way down the River towards Brisbane. A substantial amount of rain also fell in the Bremer River catchment from around 6.00am on 11 January 2011. This rain travelled down the Bremer River towards the junction of the Bremer River and the Brisbane River.
- The Bremer River contributed in the order of 15% to 25% of the Brisbane River's peak flow. This is a necessarily imprecise figure because some important data is still not available to us.
- 5. Due to the high Brisbane River tailwater levels there was some attenuation of the peak flow rate in the lower reaches of the Bremer River. This means that the overall contribution of the Bremer River to the Brisbane River is likely to be less than the above estimate but we cannot presently say by how much less.
- 6. A small proportion of the overall depth of the Brisbane River prior to 6.00am on 12 January 2011 may be partially attributable to the rain that fell in the Bremer River catchment on 11 January 2011. However, the overwhelming influence on the flooding of the Brisbane River was the rain which fell some days earlier and its subsequent release from the Wivenhoe Dam.
- After 6.00am on 12 January 2011, the Brisbane River continued to rise to its peak level of 4.45m (recorded at the Brisbane City Gauge at approximately 4.00am on 13 January 2011).

Impact on application of policy

- RACQ Insurance's standard policy provides coverage for loss or damage caused by "Flash flood or stormwater run-off". That expression is defined as "A sudden flood caused by heavy rain that fell no more than 24 hours prior to the flash flood or stormwater run-off". Otherwise, RACQ Insurance's standard policy does not cover flooding.
- The majority of properties that reported damage in Brisbane were inundated as a result of the release of water from Wivenhoe Dam that followed the rainfall in the Brisbane River catchment that commenced on 9 January 2011.
- This does not meet the requirements of "Flash flood or stormwater run-off" as defined in RACQI's standard policy. Claims for loss or damage in Brisbane will, therefore, generally not be covered.
- 11. There may be some properties which have suffered damage at different times or as a result of different causes specific to their location. Decisions on these claims will be made on a case by case basis.

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REPORT BY RACQ INSURANCE LIMITED ON ITS INVESTIGATIONS INTO BUNDABERG FLOODS

This document has been prepared by RACQ Insurance Limited to provide its policyholders with details of the investigations it has carried out into the flooding which occurred in the Bundaberg region in December 2010.

RACQ Insurance's investigations

RACO Insurance has carried out extensive investigations into the floods in the Bundaberg region.
These investigations have included site investigations of each insured property by loss adjusters
and an analysis of relevant hydrology data, including rainfall measurements, river heights, the
topography of the catchment area for the Bundaberg region and the rate and speed at which water
flowed through that catchment.

The key results

- A substantial amount of rain fell in the Burnett River catchment area (south of Bundaberg) between 16 December 2010 and 19 December 2010. This rain caused the Burnett River catchment to be saturated.
- There was further substantial rainfall in the Burnett River catchment between 22 and 28 December 2010. The heaviest rain fell on the morning of 25 December 2010. This rainfall was associated with a moist easterly flow brought into the region by Cyclone Tasha which was first declared a tropical low on 24 December 2010.
- 4. The Burnett River levels rose and ultimately peaked on 30 December 2010.
- There was localised rainfall in Bundaberg on 27 and 28 December 2010. However, this rain had no appreciable effect on the peak flood level on 30 December 2010.
- The rain which fell between 22 and 28 December 2010 (and particularly the rain on 25 December 2010) was the principal cause of inundation in Bundaberg which peaked on 30 December 2010.

Impact on application of policy

- 7. RACQ Insurance's standard policy provides coverage for loss or damage caused by "Flash flood or stormwater run-off". That expression is defined as "A sudden flood caused by heavy rain that fell no more than 24 hours prior to the flash flood or stormwater run-off". Otherwise, RACQ Insurance's standard policy does not cover flooding.
- 8. The majority of properties that reported damage in the Bundaberg region were inundated as a result of flooding due to rain that fell more than 24 hours prior to the flood occurring (i.e. rain which fell between 22 and 28 December 2010) and are therefore not covered by the Policy.
- There may be some areas which have suffered damage at different times or as a result of different causes specific to their location. Decisions on these claims will be made on a case by case basis.

AJW10091926 3728865v1



REPORT BY RACQ INSURANCE LIMITED ON ITS INVESTIGATIONS INTO THE CABOOLTURE REGION

This document has been prepared by RACQ Insurance Limited to provide its policyholders with some further details of the investigations it has carried out into the flooding which occurred in the Caboolture region in January 2011.

RACQ Insurance's investigations

1. RACQ Insurance has carried out extensive investigations into the floods in the Caboolture region (comprising the area in and around the Bureau of Meteorology stations at Wamuran, Upper Caboolture, Caboolture WTP, Round Mt AL, Morayfield AL, Burpengary AL WTP, Beachmere and Browns Creek). These investigations have included site investigations of each insured property by loss adjusters and an analysis of relevant hydrology data, including rainfall measurements, river heights, the topography of the catchment for the Caboolture region and the rate and speed at which water flowed through the catchment.

The key results

- A substantial amount of rain fell in the Caboolture region on 11 January 2011, with the heaviest rain falling between approximately 5.00am and 2.00pm on 11 January 2011.
- The rainfall intensities recorded over the western areas in the Caboolture region were significantly higher than those recorded near the coast and to the southwest of Caboolture.
- 4. Peak inundation levels were recorded at a number of the Bureau of Meteorology stations in the Caboolture region, including Upper Caboolture at 10.00am on 11 January 2011 (within 5 hours of the commencement of the rainfall event), Caboolture WTP at approximately 1.30pm on 11 January 2011 (within 8 hours of the commencement of the rainfall event) and for all areas downstream of these locations within 12 14 hours of the commencement of the rainfall event.
- 5. There are some parts of the Caboolture region that are not directly connected with a water course that had a water level gauge. However, the nature of the rainfall patterns in the Caboolture region, including those areas where rain and water level gauges are available, suggests that peak inundation would have occurred in these areas within the course of the (9 hour) rainfall event.

Impact on application of policy

- RACQ Insurance's standard policy provides coverage for loss or damage caused by "Flash flood or stormwater run-off". That expression is defined as "A sudden flood caused by heavy rain that fell no more than 24 hours prior to the flash flood or stormwater run-off". Otherwise, RACQ Insurance's standard policy does not cover flooding.
- The majority of properties that reported damage in the Caboolture region were inundated as a
 result of flooding due to rain that fell within 24 hours of the flood occurring and are, therefore,
 covered by the Policy.
- There may be some areas which have suffered damage at different times or as a result of different causes specific to their location. Decisions on these claims will be made on a case by case basis.

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REPORT BY RACQ INSURANCE LIMITED ON ITS INVESTIGATIONS INTO CHINCHILLA FLOODS

This document has been prepared by RACQ Insurance Limited to provide its policyholders with details of the investigations it has carried out into the flooding which occurred in Chinchilla in December 2010 and January 2011.

RACQ Insurance's investigations

RACQ Insurance has carried out extensive investigations into the floods in Chinchilla. These
investigations have included site investigations of each insured property by loss adjusters and an
analysis of relevant hydrology data, including rainfall measurements, river heights, the topography
of the catchment area for Chinchilla and the rate and speed at which water flowed through that
catchment.

The key results

 Chinchilla was inundated by two different flood events, which peaked on 28 December 2010 and 12 January 2011 respectively.

28 December 2010 event

- 3. Charleys Creek had an elevated water level on the days leading up to the peak.
- Heavy rainfall commenced in the catchment at approximately 2.00am on 23 December 2010. Its
 impact on the level of Charleys Creek was small and the water had largely drained away within 24
 hours.
- 5. Further rainfall commenced at approximately 6.00pm on 25 December 2010. The level of Charleys Creek did not change materially within the next 24 hours. The water level did not rise above the Major flood height (6 metres) until around 3.00am on 27 December 2010 and it did not peak (at 7.24 metres) until around 6.00am on 28 December 2010 (approximately 60 hours after the second rainfall event commenced).

12 January 2011 event

- 6. Further heavy rain fell in the catchment from around 12,00pm on 10 January 2011.
- 24 hours after the commencement of this rainfall, the level of Charleys Creek increased significantly to approximately 6.53 metres. The level of Charleys Creek then continued to rise in the absence of any further rain, peaking at approximately 7.00am on 12 January 2011 at 7.45 metres (approximately 31 hours after the commencement of the rainfall).

Impact on application of policy

- 8. RACQ Insurance's standard policy provides coverage for loss or damage caused by "Flash flood or stormwater run-off". That expression is defined as "A sudden flood caused by heavy rain that fell no more than 24 hours prior to the flash flood or stormwater run-off". Otherwise, RACQ Insurance's standard policy does not cover flooding.
- The majority of properties that reported damage in Chinchilla on 28 December 2010 were inundated as a result of flooding due to rain that fell outside 24 hours of the flood occurring. These claims will, therefore, not be covered by the policy.
- 10. The majority of properties that were inundated on 28 December 2010 were inundated for a second time on 12 January 2011. As noted, the inundation on 12 January 2011 was the result of rain that fell within 24 hours of the flood occurring and is therefore covered by the policy. Therefore, any damage that can be shown to have been caused exclusively by the 12 January 2011 flooding will be covered under the policy.

Individual Properties

11. There may be some areas which have suffered damage at different times or as a result of different causes specific to their location. RACQI is continuing to investigate these areas and decisions on these claims will be made on a case by case basis.

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REPORT BY RACQ INSURANCE LIMITED ON ITS INVESTIGATIONS INTO DALBY FLOODS

This document has been prepared by RACQ Insurance Limited to provide its policyholders with details of the investigations it has carried out into the flooding which occurred in Dalby in December 2010 and January 2011.

RACQ Insurance's investigations

RACQ Insurance has carried out extensive investigations into the floods in Dalby. These
investigations have included site investigations of each insured property by loss adjusters and an
analysis of relevant hydrology data, including rainfall measurements, river heights, the topography
of the catchment area for Dalby and the rate and speed at which water flowed through that
catchment.

The key results

 Dalby was inundated by three different flood events occurring on 20 December 2010, 27 December 2010 and 10 January 2011.

20 December 2010 Event

- Rain starting in the catchment around 8.00pm on 16 December 2010 had the effect of elevating the Myall Creek water levels.
- By around 6.00am on 20 December 2010 the Myall Creek water level had risen to approximately 2.3 metres. It reached its peak of 2.84 metres at around 2,00pm on 20 December 2010.

27 December 2010 Event

- 5. The level of the Myall Creek was slightly elevated by earlier rainfall.
- 6. The inundation peak on 27 December 2010 was a result of rain falling between approximately 7.00pm on 25 December 2010 and approximately 2.00pm on 27 December 2010. By 7.00pm on 26 December 2010 (24 hours after the rain commenced), the water level was approximately the same as that at the commencement of the rainfall around 0.74 metres.
- From this time, as a result of further heavy rain, the Myall Creek water level began to rise again.
 The water level peaked at 3.54 metres at approximately 7.00pm on 27 December 2010 (48 hours
 after commencement of the rainfall event).
- The majority of the rainfall that led to the peak fell in the period 32 hours preceding it.

10 January 2011 Event

- 9. The level of the Myall Creek was elevated due to rain failing on 6 and 7 January 2011. This rain caused the Myall Creek level to rise to a height of approximately 2.54 metres at around 7.00am on 7 January 2011. By around 3.00pm on 9 January 2011, most of this water had drained away.
- Heavy rain starting falling at approximately 11.00am on 9 January 2011. By approximately 11.00am on 10 January 2011 the Myall Creek water level had risen considerably to 3.39 metres. The water level peaked at 3.74 metres at approximately 5.00pm on 10 January 2011 (32 hours after the rainfall commenced).
- 11. The peak water level was attributable to rain that commenced falling more than 24 hours before the peak, but significant rain continued to fall within 24 hours of the peak and which caused Myall Creek to continue to rise to its ultimate peak.

Impact on application of policy

12. RACQ Insurance's standard policy provides coverage for loss or damage caused by "Flash flood or stormwater run-off". That expression is defined as "A sudden flood caused by heavy rain that fell no more than 24 hours prior to the flash flood or stormwater run-off". Otherwise, RACQ Insurance's standard policy does not cover flooding.

- 13. Damage caused by the water level reaching 2.3 metres at the Myall Creek gauge around 20 December 2010 would be a result of rain that fell within 24 hours of the flood. To the extent that claims relate to damage caused by this water level, they will be covered by the policy.
- 14. The dominant cause of damage caused by the water levels beyond this (ie above 2.3 metres and up to the peak level of 2.94 metres at the Myall Creek gauge) on 20 December 2010 was rain that fell more than 24 hours earlier. Accordingly, a claim for such damage is not be covered by the policy.
- 15. The flood that occurred on 27 December 2010, which peaked at 3.54 metres at approximately 7.00pm on 27 December 2010, was caused by rain which had commenced falling 48 hours earlier. Consequently, damage caused by this flood will not be covered by the policy.
- Any damage caused exclusively by the water level of 3.5 metres at approximately 12noon on 10 January 2011 will be covered. Damage caused thereafter is not covered as this will have resulted from rain that fell more than 24 hours before that damage occurred.

Individual Properties

17. There may be some areas which have suffered damage at different times or as a result of different causes specific to their location. RACQI is continuing to investigate these areas and decisions on these claims will be made on a case by case basis.

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REPORT BY RACQ INSURANCE LIMITED ON ITS INVESTIGATIONS INTO IPSWICH FLOODS (APPROACHING THE BREMER RIVER AND BRISBANE RIVER JUNCTION)

This document has been prepared by RACQ Insurance Limited to provide its policyholders with details of the investigations it has carried out into the flooding which occurred in Ipswich (approaching the Bremer River and Brisbane River junction) in January 2011.

RACQ Insurance's investigations

1. RACQ Insurance has carried out extensive investigations into the floods in Ipswich (approaching the Bremer River and Brisbane River junction). These investigations have included site investigations of each insured property by loss adjusters and an analysis of relevant hydrology data, including rainfall measurements, river heights, the topography of the catchment area for Ipswich and the rate and speed at which water flowed through that catchment.

The key results

- A substantial amount of rain fell in the Bremer River catchment from around 6.00am on 11 January 2011. At approximately 5.00pm on 11 January 2011 the Bremer River peaked at Walloon at 31.87m.
- This water travelled down the Bremer River causing inundation to some properties upstream of the junction of the Bremer and Brisbane Rivers.
- 4. As this water headed down the Bremer River towards the junction with the Brisbane River, the Brisbane River started to have a major effect. The level of the Brisbane River was elevated at this time due to earlier rain and releases from the Wivenhoe Dam due in particular to rain which fell in the dam's catchment area from around 6.00am on 9 January 2011. The elevated level of the Brisbane River meant that the water from the Bremer River could not flow into the Brisbane River at the same rate as it normally would.
- 5. Accordingly, for properties along the Bremer River approaching the junction with the Brisbane River, there were two mechanisms contributing to the flooding one being the rain which had recently fallen in the Bremer River catchment and the other being the elevated level of the Brisbane River which inhibited that water's flow into the Brisbane River.
- 6. The peak of the Bremer River at One Mile (21.35m AHD) at approximately 1.00am on 12 January 2011 was attributable to the combined effects of flow from the Bremer River and the elevated levels of the Brisbane River. Likewise, the shape of the gauge results for the Bremer River at Ipswich is similar to the general shape of the Brisbane River gauge results at the Brisbane River Moggill Gauge, indicating that the Brisbane River was having a major influence on the levels of the Bremer River in this area.

Impact on application of policy

- 7. RACQ Insurance's standard policy provides coverage for loss or damage caused by "Flash flood or stormwater run-off". That expression is defined as "A sudden flood caused by heavy rain that fell no more than 24 hours prior to the flash flood or stormwater run-off". Otherwise, RACQ Insurance's standard policy does not cover flooding.
- As noted, the area comprising areas of the Bremer River approaching the junction of the Bremer River and the Brisbane River were flooded by a combination of;
 - (a) the rain in the upper part of the catchment (which had occurred within 24 hours); and
 - (b) the effect of the elevated levels of the Brisbane River (which was caused by the release of water from the Wivenhoe Dam following rain which fell more than 24 hours before the event).
- As the rain which fell within 24 hours was not the dominant cause of the flooding in this area, it
 does not meet the requirements of "Flash flood or stormwater run-off" as defined in RACQI's
 standard policy and is therefore not covered.

Individual Properties

10. There may be some areas which have suffered damage at different times or as a result of different causes specific to their location. RACQI is continuing to investigate these areas and decisions on these claims will be made on a case by case basis.

AJW10091926 3741104v1



REPORT BY RACQ INSURANCE LIMITED ON ITS INVESTIGATIONS INTO IPSWICH FLOODS (DOWNSTREAM OF THE BREMER AND BRISBANE RIVER JUNCTION)

This document has been prepared by RACQ Insurance Limited to provide its policyholders with details of the investigations it has carried out into the flooding which occurred in Ipswich (downstream of the Bremer and Brisbane River junction) in January 2011.

RACQ Insurance's investigations

1. RACQ Insurance has carried out extensive investigations into the floods in Ipswich (downstream of the Bremer and Brisbane River junction). These investigations have included site investigations of each insured property by loss adjusters and an analysis of relevant hydrology data, including rainfall measurements, river heights, the topography of the catchment area for Ipswich and the rate and speed at which water flowed through that catchment.

The key results

- A substantial amount of rain fell in the Bremer River catchment from around 6.00am on 11 January 2011. At approximately 5.00pm on 11 January 2011 the Bremer River peaked at Walloon at 31.87m.
- This water travelled down the Bremer River towards the junction of the Bremer and Brisbane Rivers.
- 4. There are some areas of Ipswich downstream of the junction between the Bremer River and the Brisbane River (such as Goodna) which were inundated. The Brisbane River Moggill Gauge indicates that the peak water level around this area occurred around 3.00pm on 12 January 2011.
- 5. This flooding was attributable to the release of water from the Wivenhoe Dam. Some of the rain which began falling in the Bremer River catchment around 6.00am on 11 January 2011 would have flowed into the Brisbane River by this point, but the overwhelming cause of the flooding in these areas was the flood water from the Brisbane River that had been released from Wivenhoe Dam in particular as a result of the heavy rain that had fallen in the dam's catchment area since 6.00 am on 9 January 2011.

Impact on application of policy

- 6. RACQ Insurance's standard policy provides coverage for loss or damage caused by "Flash flood or stormwater run-off". That expression is defined as "A sudden flood caused by heavy rain that fell no more than 24 hours prior to the flash flood or stormwater run-off". Otherwise, RACQ Insurance's standard policy does not cover flooding.
- As noted, the areas around Goodna, where the peak inundation by the Brisbane River occurred at around 3.00pm on 12 January 2011.
- The dominant cause of this inundation was the rain which fell in the Wivenhoe Dam catchment in particular the rain commencing around 6.00am on 9 January 2011 which was then released into the Brisbane River.
- 9. Damage caused to properties by this event is not covered under the policy.

Individual Properties

10. There may be some areas which have suffered damage at different times or as a result of different causes specific to their location. RACQ Insurance is continuing to investigate these areas and decisions on these claims will be made on a case by case basis.

AJW10091926 3741123v1



REPORT BY RACQ INSURANCE LIMITED ON ITS INVESTIGATIONS INTO IPSWICH FLOODS (UPPER BREMER RIVER CATCHMENT AREA)

This document has been prepared by RACQ Insurance Limited to provide its policyholders with details of the investigations it has carried out into the flooding which occurred in Ipswich (in the upper Bremer River catchment area) in January 2011.

RACQ Insurance's investigations

1. RACQ Insurance has carried out extensive investigations into the floods in Ipswich (downstream of the Bremer and Brisbane River). These investigations have included site investigations of each insured property by loss adjusters and an analysis of relevant hydrology data, including rainfall measurements, river heights, the topography of the catchment area for Ipswich and the rate and speed at which water flowed through that catchment.

The key results

- A substantial amount of rain fell in the Bremer River catchment from around 6.00am on 11 January 2011. At approximately 5.00pm on 11 January 2011 the Bremer River peaked at Walloon at 31.87m.
- This water travelled down the Bremer River towards to the junction of the Bremer and Brisbane Rivers and, in the areas approaching the junction of the Bremer and Brisbane Rivers, began to interact with the Brisbane River.
- 4. However, there are some upstream areas of the Bremer River (those covered by this report) where the Bremer River is unlikely to have been materially affected by the Brisbane river, and therefore any inundation is attributable to the rain which fell in the Bremer River catchment from around 6.00am on 11 January 2011.

Impact on application of policy

- RACQ Insurance's standard policy provides coverage for loss or damage caused by "Flash flood or stormwater run-off". That expression is defined as "A sudden flood caused by heavy rain that fell no more than 24 hours prior to the flash flood or stormwater run-off". Otherwise, RACQ Insurance's standard policy does not cover flooding.
- As stated above, the upstream areas of the Bremer River covered by this report were flooded by rain which fell not more than 24 hours earlier (starting at 6.00am on 11 January 2011).
- The flooding in these upstream areas meets the requirements of "Flash flood or stormwater run-off" as defined in RACQI's standard policy and is therefore covered.

Individual Properties

8. There may be some areas which have suffered damage at different times or as a result of different causes specific to their location. RACQI is continuing to investigate these areas and decisions on these claims will be made on a case by case basis.

AJW10091926 3740966v1



REPORT BY RACQ INSURANCE LIMITED ON ITS INVESTIGATIONS INTO THE LOWER LOCKYER VALLEY FLOODS

This document has been prepared by RACQ Insurance Limited to provide its policyholders with details of the investigations it has carried out into the flooding which occurred in the Lower Lockyer Valley in January 2011.

RACQ Insurance's investigations

- 1. RACQ Insurance has carried out extensive investigations into the floods in the Lower Lockyer Valley. These investigations have included site investigations of each insured property by loss adjusters and an analysis of relevant hydrology data, including rainfall measurements, river heights, the topography of the catchment area for the Lower Lockyer Valley and the rate and speed at which water flowed through that catchment.
- The Lower Lockyer includes the following:
 - (a) Lockyer Creek Reach from the Catchment Divide to Gatton;
 - (b) Laidley Creek extending downstream to Laidley; and
 - (c) Downstream Reaches to Brisbane River junction.

The key results

Lockyer Creek Reach from the Catchment Divide to Gatton

- A substantial amount of rain fell in the Lockyer Creek Reach from the Catchment Divide to Gatton over the period 5 January 2011 to 11 January 2011, with the heaviest rain falling between 9 January 2011 and 11 January 2011.
- The rainfall and river gauge data that is available for this area indicates that each rainfall event had an impact on the catchment causing flood peaks within 24 hours of each rainfall event.

Laidley Creek extending downstream to Laidley

- A substantial amount of rain fell in Laidley Creek extending downstream to Laidley over the period 5 January 2011 to 11 January 2011, with the heaviest rain falling between 9 January 2011 and 11 January 2011.
- The rainfall and river gauge data that is available for this area indicates that each rainfall event had an impact on the catchment causing flood peaks within 24 hours of each rainfall event.

Downstream Reaches to Brisbane River junction

- A substantial amount of rain fell in Downstream Reaches to Brisbane River junction over the period 5 January 2011 to 11 January 2011, with the heaviest rain falling between 9 January 2011 and 11 January 2011.
- 8. The peak water level which occurred at approximately midnight on 6 January 2011, was attributable to rainfall which fell in the preceding 24 hours.
- The peak water level which occurred at approximately 06:00 on 10 January 2011, was attributable
 to rainfall which fell in the preceding 24 hours augmenting somewhat elevated water levels
 themselves caused by rain which had fallen earlier than the preceding 24 hours.
- 10. The peak water level which occurred at approximately 18:00 on 11 January 2011, was attributable to rainfall which fell in the preceding 24 hours augmenting substantially elevated water levels themselves caused by rain which had fallen earlier than the preceding 24 hours.

Impact on application of policy

- 11. RACQ Insurance's standard policy provides coverage for loss or damage caused by "Flash flood or stormwater run-off". That expression is defined as "A sudden flood caused by heavy rain that fell no more than 24 hours prior to the flash flood or stormwater run-off". Otherwise, RACQ Insurance's standard policy does not cover flooding.
- 12. The majority of properties that reported damage in the Lockyer Creek Reach from the Catchment Divide to Gatton and Laidley Creek extending downstream to Laidley were inundated as a result of flooding due to rain that fell within 24 hours of the flood occurring. These claims will, therefore, be covered by the Policy.
- For properties that reported damage in the Downstream Reaches to Brisbane River junction, the inundation was the result of rain that fell both within, and outside of, 24 hours of the flood occurring.
- 14. Without accessing further information and undertaking further investigations it is not possible at this stage to confirm whether the requirements of "Flash flood or stormwater run-off" as defined in RACQI's standard policy are satisfied. Further investigations are being undertaken to assess the cause of inundation for properties in this part of the Lower Lockyer Valley.
- 15. There may be some areas which have suffered damage at different times or as a result of different causes specific to their location. Decisions on these claims will be made on a case by case basis.

AJW10091926 3732475v1



REPORT BY RACQ INSURANCE LIMITED ON ITS INVESTIGATIONS INTO MIDDLE BRISBANE RIVER REACHES FLOODS

This document has been prepared by RACQ Insurance Limited to provide its policy holders with details of the investigations it has carried out into the flooding which occurred across the Middle Brisbane River Reaches region (**Middle Brisbane**) in January 2011. Middle Brisbane includes the areas of Fernvale, Lowood, Wivenhoe Pocket and other locations in the vicinity of these areas.

RACQ Insurance's investigations

1. RACQ Insurance has carried out extensive investigations into the floods in Middle Brisbane. These investigations have included site investigations of each insured's property by loss adjusters and, in some cases, hydrologists and an analysis of relevant hydrology data, including rainfall measurements, river heights, the topography of the catchment area for Middle Brisbane and the rate and speed at which water flowed through that catchment.

The key results

- There were two events that occurred on 11 January 2011 causing inundation in Middle Brisbane;
 - the overflowing of local creeks and streams and the presence of stormwater run-off attributable to significant rain that fell over the Middle Brisbane catchment area between approximately 4:00am and 3:00pm on 11 January 2011 (First Event);
 - (b) the rising Brisbane River after approximately 4:00 pm on 11 January 2011 which was caused by significant releases of water from Wivenhoe Dam. The majority of the water released from Wivenhoe Dam at this time had fallen as rain over the Wivenhoe Dam catchment area on 9 January 2011 or earlier (Second Event).
- While the First Event and Second Event occurred on the same day, they are distinct events and the inundation from the First Event had largely receded prior to the commencement of the Second Event.

Impact on application of the policy

- 4. RACQ Insurance's standard policy (Policy) provides coverage for loss or damage caused by "Flash flood or stormwater run-off". That expression is defined in the Policy as "A sudden flood caused by heavy rain that fell no more than 24 hours prior to the flash flood or stormwater run-off". Otherwise, RACQ Insurance's standard policy does not cover flooding.
- Damage suffered during the First Event was a result of flooding that was attributable to rain that fell within 24 hours of the flood occurring. Damage caused by the First Event will be covered by the Policy as it meets the definition of "Flash flood or stormwater run-off".
- Damage caused by the Second Event was a result of direct inundation of rising waters from the Brisbane River. The water which caused this inundation had generally fallen as rain on or before 9 January 2011 and was stored in the Wivenhoe Dam before being released on 11 January 2011.
- Accordingly, this rain had fallen more than 24 hours prior to the inundation occurring and damage caused to properties by the Second Event will not be covered by the Policy.

SJD10091926 3834967v3



REPORT BY RACQ INSURANCE LIMITED ON ITS INVESTIGATIONS INTO MORETON BAY FLOODS.

This document has been prepared by RACQ Insurance Limited to provide its policyholders with some further details of the investigations it has carried out into the flooding which occurred in the "Moreton Bay investigation area" in January 2011.

RACQ Insurance's investigations

1. RACQ Insurance has carried out extensive investigations into the floods in the Moreton Bay investigation area (comprising the area in and around the Bureau of Meteorology stations at Baxters Creek, Dayboro WTP, Kobble Creek AL, Mt Samson, Lake Kurwongbah, North Pine Dam, Cedar Creek, Mt Glorious, Samford Village, Upper Kedron and Deagon). These investigations have included site investigations of each insured property by loss adjusters and an analysis of relevant hydrology data, including rainfall measurements, river heights, the topography of the catchment for the Moreton Bay investigation area and the rate and speed at which water flowed through the catchment.

The key results

- A substantial amount of rain fell in the Moreton Bay investigation area, commencing at approximately 5.00am on 11 January 2011 and continuing until approximately 2.00pm on the same day.
- Peak inundation levels were recorded at a number of the Bureau of Meteorology stations in the Moreton Bay investigation area (including, Baxters Creek, Kobble Creek, Cedar Creek, North Pine Dam, Samford Village, Lake Kurwongbah and Deagon) within 9 hours of the commencement of the rainfall event.
- In some parts of the Moreton Bay investigation area, there were multiple rain events which led to local river/creek systems peaking more than once. This is reflected at the rain and river gauges at North Pine Dam, Lake Kurwongbah and Samford Village amongst others.
- In each case, the peak in the river level caused by the rain event receded quickly before the subsequent rain event led to a further peak in the river/creek.
- 6. There are some parts of the Moreton Bay investigation area that are not directly connected with a water course that had a water level gauge. However, the nature of the rainfall patterns in the Moreton Bay investigation area, including those areas where rain and water level gauges are available, suggests that peak inundation would have occurred in these areas within the course of the (9 hour) rainfall event.

Impact on application of policy

- 7. RACQ Insurance's standard policy provides coverage for loss or damage caused by "Flash flood or stormwater run-off". That expression is defined as "A sudden flood caused by heavy rain that fell no more than 24 hours prior to the flash flood or stormwater run-off". Otherwise, RACQ Insurance's standard policy does not cover flooding.
- The majority of properties that reported damage in the Moreton Bay investigation area were inundated as a result of rain that fell within 24 hours of the flood occurring and are, therefore, covered by the Policy.
- 9. There may be some properties within the Moreton Bay investigation area which have suffered damage which is not explained by the mechanisms set out above but which occurred at different times or as a result of different causes specific to their location. Decisions on these claims will be made on a case by case basis.

AJW10091926 3732486v1



REPORT BY RACQ INSURANCE LIMITED ON ITS INVESTIGATIONS INTO OAKEY FLOODS

This document has been prepared by RACQ Insurance Limited to provide its policyholders with details of the investigations it has carried out into the flooding which occurred in Oakey in January 2011.

RACQ Insurance's investigations

RACQ Insurance has carried out extensive investigations into the floods in Oakey. These
investigations have included site investigations of each insured property by loss adjusters and an
analysis of relevant hydrology data, including rainfall measurements, river heights, the topography
of the catchment area for Oakey and the rate and speed at which water flowed through that
catchment.

The key results

- Significant rain fell in the Oakey Creek catchment over the period from 9 to 11 January 2011. Other moderate rainfalls were also experienced in the preceding four days.
- The heaviest rain fell in the catchment over three main periods at around noon to 11.00pm on 9 January 2011, noon to 6.00pm on 10 January 2011 and midnight on 10 January 2011 to noon on 11 January 2011.
- 4. Stream gauging station data has been requested but has not been made available at this point. However, the rainfall data and other available evidence indicates that:
 - it is most likely that the 9 and 10 January 2011 rainfall resulted in elevated levels in Oakey Creek. However, the Creek did not reach a level to cause flooding on 10 January 2011;
 - (b) the 11 January 2011 rainfall further increased Oakey Creek discharges and inundation of the Town occurred;
 - (c) the inundation that occurred on 11 January 2011 was a result of the rainfall that occurred over 9, 10 and 11 January 2011.
- However, without this stream gauging data, it is not possible to identify the specific time at which
 the flood waters rose to a level which caused damage to property.

Impact on application of policy

- 6. RACQ Insurance's standard policy provides coverage for loss or damage caused by "Flash flood or stormwater run-off". That expression is defined as "A sudden flood caused by heavy rain that fell no more than 24 hours prior to the flash flood or stormwater run-off". Otherwise, RACQ Insurance's standard policy does not cover flooding.
- 7. Without accessing further river gauge information, it is not possible at this stage to confirm whether the requirements of "Flash flood or stormwater run-off", as defined in RACQI's standard policy, is satisfied. Further investigations are being undertaken to assess the cause of inundation for properties in Oakey.

JET10091926 3775230v1



REPORT BY RACQ INSURANCE LIMITED ON ITS INVESTIGATIONS INTO REGIONAL FITZROY FLOODS (THEODORE)

This document has been prepared by RACQ Insurance Limited to provide its policyholders with details of the investigations it has carried out into the flooding which occurred in Regional Fitzroy (Theodore) in December 2010/January 2011.

RACQ Insurance's investigations

1. RACQ Insurance has carried out extensive investigations into the floods in Regional Fitzroy (Theodore). These investigations have included site investigations of each insured property by loss adjusters, site inspections of selected properties by hydrologists and an analysis of relevant hydrology data, including rainfall measurements, river heights, the topography of the catchment area for the Fitzroy River and the rate and speed at which water flowed through that catchment.

The key results

- Theodore was inundated to varying extents during the period from 23 December 2010 to 7 January 2011. The inundation of Theodore peaked on 1 January 2011 when the level of the Dawson River at Theodore was recorded at 14.7 metres.
- Heavy rainfall commenced in the upper reaches of the Theodore Catchment (at Injune and Taroom) on 17 December 2010 and continued falling until 19 December 2010. As a result of this rain, the levels of the Dawson River had risen well above the Major Flood Level of 12 metres on 23 December 2010.
- 4. A rainfall event on 22 December 2010 maintained the high levels of the Dawson River.
- Further rain falling throughout the upper catchment on 25 and 26 December 2010 caused the Dawson River to continue to rise. The river reached 14.4 metres at approximately 5.00am on 28 December 2010, which is more than 2 metres over the major flood level (when the township of Theodore was evacuated).
- The Dawson River receded slightly, only to rise again to the ultimate peak of 14.7 metres on 1
 January 2011. This was again the result of rain that had commenced falling more than 24 hours
 earlier.
- 7. The high tailwater level in the Dawson River may have had a significant effect on the levels of Castle Creek, adjacent to the Theodore township. However, given that the rain that caused the overflow of both those waterways had commenced falling more than 24 hours before those events occurred, their respective contributions to the inundation of Theodore is not relevant.

Impact on application of policy

- 8. RACQ Insurance's standard policy provides coverage for loss or damage caused by "Flash flood or stormwater run-off". That expression is defined as "A sudden flood caused by heavy rain that fell no more than 24 hours prior to the flash flood or stormwater run-off". Otherwise, RACQ Insurance's standard policy does not cover flooding.
- Each of the claims received by RACQ Insurance reporting damage in Theodore over the period from 23 December 2010 to 1 January 2011 were inundated as a result of flooding due to rain that fell outside 24 hours of the flood occurring. These claims will, therefore, not be covered by the policy.

JJD10091926 3901536v1



REPORT BY RACQ INSURANCE LIMITED ON ITS INVESTIGATIONS INTO ROCKHAMPTON FLOODS

This document has been prepared by RACQ Insurance Limited to provide its policyholders with some further details of the investigations it has carried out into the flooding which occurred in Rockhampton in January 2011.

RACQ Insurance's investigations

RACQ Insurance has carried out extensive investigations into the floods in Rockhampton. These
investigations have included site investigations of each insured property by loss adjusters and an
analysis of relevant hydrology data, including rainfall measurements, river heights, the topography
of the catchment area for Rockhampton and the rate and speed at which water flowed through that
catchment.

The key results

- The Fitzroy River was elevated during December 2010. It reached a Moderate flood level on 14
 December 2010 which peaked at 7.65m on 16 December 2010. This was attributable primarily to
 the cumulative rainfall that fell between 1 to 4 December 2010 with some further contribution from
 rainfall on 11 and 12 December 2010
- The river then fell to 5.5m on 23 December 2010 and from there began to rise due to the widespread rainfall occurring from 23 to 28 December 2010. This rainfall was associated with a moist easterly flow brought into the region by Cyclone Tasha, which was first declared a tropical low on 24 December 2010.
- 4. The Fitzroy River then flooded with a peak at 9.2m on or about 4 January 2011. The period of time that the river was in flood was substantial. It maintained levels of over 9m till 11 January 2011 and was over the Major flood level of 8.5m for the period from 1 to 14 January 2011.
- There was local rainfall in the City of Rockhampton around the times that the Fitzroy River level
 was peaking (eg on 6 January 2011). However, this rainfall was of a relatively low intensity and
 occurred after the flood had peaked.

Impact on application of policy

- RACQ Insurance's standard policy provides coverage for loss or damage caused by "Flash flood or stormwater run-off". That expression is defined as "A sudden flood caused by heavy rain that fell no more than 24 hours prior to the flash flood or stormwater run-off". Otherwise, RACQ Insurance's standard policy does not cover flooding.
- 7. RACQ Insurance's findings indicate that the flooding which occurred in Rockhampton in January 2011 was the result of rain which had fallen between 23 and 28 December 2010. As this rain fell more than 24 hours before the flooding, it does not meet the requirements of "Flash flood or stormwater run-off" as defined in RACQI's standard policy and is therefore not covered by the Policy.

AJW10091926 3728860v1



REPORT BY RACQ INSURANCE LIMITED ON ITS INVESTIGATIONS INTO THE SUNSHINE COAST FLOODS

This document has been prepared by RACQ Insurance Limited to provide its policyholders with details of the investigations it has carried out into the flooding which occurred on the Sunshine Coast in January 2011.

RACQ Insurance's investigations

1. RACQ Insurance has carried out extensive investigations into the floods on the Sunshine Coast. These investigations have included site investigations of each insured property by loss adjusters and an analysis of relevant hydrology data, including rainfall measurements, river heights, the topography of the catchment area for Sunshine Coast and the rate and speed at which water flowed through that catchment.

The key results

- The most significant rainfall event for this region occurred on 11 January 2011. The area gauges for Palmwoods, Warana bridge, Nambour and West Woombye experienced three peaks of rainfall on 9, 10 and 11 January 2011.
- At the Warana bridge Nambour and West Woombye gauges each peak had subsided before the next significant rainfall event occurred.
- 4. The Palmwoods Sports Ground station, before the 11 January 2011 event, the water had receded to the minor flood level of 3.5 meters. The peak on 11 January 2011 was recorded at 5.0 meters gauge datum. This inundation occurred in less than twenty-four hours.
- The Tewantin gauge shows that there were two peaks, 9 January and 11 January 2011. The 9
 January 2011 peak was not above the anticipated high tide level and the 11 January event was only
 slightly above (less than 0.2 meters). This downpour could have exceeded the capacity of the
 stormwater system.
- 6. The Picnic Point station had one peak on 11 January 2011 with minor rainfall occurring in the days prior to the inundation. The gauge maintained higher levels than expected due to the freshwater discharge from the Maroochy River system. Due to the intensity of the rain, it is possible that the stormwater drainage system would have failed.

Impact on application of policy

- 7. RACQ Insurance's standard policy provides coverage for loss or damage caused by "Flash flood or stormwater run-off". That expression is defined as "A sudden flood caused by heavy rain that fell no more than 24 hours prior to the flash flood or stormwater run-off". Otherwise, RACQ Insurance's standard policy does not cover flooding.
- Any damage that arises from the flood events detailed above is likely to fall within the definition of Flash flood or stormwater run-off. To the extent that claims relate to damage caused by these inundations, they will be covered by the policy.

Individual Properties

9. There may be some areas which have suffered damage at different times or as a result of different causes specific to their location. RACQI is continuing to investigate these areas and decisions on these claims will be made on a case by case basis.

JET10091926 3747095v1



REPORT BY RACQ INSURANCE LIMITED ON ITS INVESTIGATIONS INTO WARWICK FLOODS

This document has been prepared by RACQ Insurance Limited to provide its policyholders with details of the investigations it has carried out into the flooding which occurred in Warwick in December 2010 and January 2011.

RACQ Insurance's investigations

RACQ Insurance has carried out extensive investigations into the floods in Warwick. These
investigations have included site investigations of each insured property by loss adjusters and an
analysis of relevant hydrology data, including rainfall measurements, river heights, the topography
of the catchment area for Warwick and the rate and speed at which water flowed through that
catchment.

The key results

 Warwick was inundated by two different flood events, which peaked on 27 December 2010 and 11 January 2011 respectively.

27 December 2010

- Rain in the catchment starting around 1.00am on 26 December 2010 had the effect of elevating the Condamine River levels (at the Warwick and Murrays Bridge gauges). This rainfall continued for approximately 37 hours until around 2.00pm on 27 December 2010.
- 24 hours after the commencement of this rain, the Condamine River level was approximately 2.56m at the Warwick gauge, well below the Minor flood level of 4.0 metres.
- The Condamine River level did not reach the Major flood level height of 6 metres until around 4.30pm on 27 December 2010 (approximately 40.5 hours after rainfall commencement).
- The maximum inundation level of 7.09m at Warwick occurred at around 9.00pm on 27 December 2010 (44 hours after the rainfall commenced). The majority of the rainfall that led to this peak fell in the period commencing within 24 hours of the peak occurring.

11 January 2011

- 7. The 11 January 2011 event was attributable to the combined effect of a number of storms commencing at around 4.00am on 6 January 2011. The first storm caused the Condamine River to rise, with each successive storm either increasing or maintaining the elevated water level.
- Between around 4.00am on 6 January 2011 and 3.00pm on around 10 January 2011, the maximum height of the Condamine River was approximately 3.3 metres (below the Minor flood level of 4 metres).
- A storm commencing at around 6.00am on 10 January 2011 resulted in the Condamine River reaching the Moderate flood level of 5 metres at around 10.00pm on 10 January 2011 and a further storm commencing around 8.00am on 11 January 2011 contributed to the Condamine River level peaking at 7.73 metres at around 8.00pm on 11 January 2011.
- The majority of the rainfall that led to this peak fell in the period commencing within 24 hours of the peak occurring.

Impact on application of policy

11. RACQ Insurance's standard policy provides coverage for loss or damage caused by "Flash flood or stormwater run-off". That expression is defined as "A sudden flood caused by heavy rain that fell no more than 24 hours prior to the flash flood or stormwater run-off". Otherwise, RACQ Insurance's standard policy does not cover flooding.

- 12. The flooding on both 27 December 2010 and 11 January 2011 was contributed to by rain which fell more than 24 hours earlier, however, our investigations lead us to conclude that the real cause of the peak flooding on those days was heavy rain that fell within 24 hours of those peaks occurring.
- Accordingly, both of these flood events meet the requirements of "Flash flood and stormwater run off "as defined in RACQI's standard policy and are therefore covered.

Individual Properties

14. There may be some areas which have suffered damage at different times or as a result of different causes specific to their location. RACQI is continuing to investigate these areas and decisions on these claims will be made on a case by case basis.

AJW10091926 3775154v1

ATTACHMENT 5

FINANCIAL OMBUDSMAN SERVICE

	NUMBER:
Applicant:	
	AND
Financial Service Provider:	RACQ INSURANCE LIMITED

STATEMENT

I Stephen Quinton Clark, of 93 Boundary Street, West End, Brisbane in the State of Queensland state as follows:

Qualifications

- I am specialist flooding engineer and Director of Water Technology Pty Ltd at 93 Boundary Street, West End, Brisbane. My key areas of expertise are hydrologic and hydraulic engineering, floodplain management and flood warning.
- I have the following qualifications: Bachelor of Civil Engineering (Hons) from the University of Queensland, Masters of Engineering Science from the University of Queensland, National Professional Engineers Register and Registered Professional Engineer Queensland. I attach as EXHIBIT SQC01 to this affidavit a copy of my curriculum vitae.

My engagement

3. In January 2011, in the aftermath of the Queensland floods, Cooper Grace Ward Lawyers on behalf of RACQ Insurance limited engaged me to assist with hydrological investigations into the Queensland floods. Since then I have been engaged on an ongoing basis (and am still engaged) to assist in determining claims by insured customers. Below I identify investigations which are specifically relevant to the property of the applicant in this FOS dispute) at the cooperation of the Subject Property).

Process for considering the Subject Property

- 4. To determine the cause of the inundation of the Subject Property I started by considering the regional factors which led to the inundation in Brisbane generally. I then performed a site specific review of the Subject Property to consider whether the inundation of the Subject Property may have been the result of stormwater run-off.
- 5. I believe this approach is an appropriate way to assess the cause of the inundation at the Subject Property because the factors which led to the rise in the Brisbane River occurred on a regional basis. The rise in the Brisbane River (which was caused by the mechanisms explained below) is what would have led to the inundation of the vast majority of properties which were inundated in the Brisbane region. However, inundation caused by stormwater

runoff is generally very site specific, and so it is necessary to consider site specific features of the Subject Property to determine whether stormwater run-off may have caused the inundation.

Inundation event Brisbane

- I have carried out extensive investigations into the inundation which occurred in Brisbane in January 2011.
- In particular my investigations were to determine whether the inundation in that region was caused by heavy rain that fell no more than 24 hours prior to the flood or whether it was the result of some other cause.
- The area I looked at includes the Brisbane River catchment up to Brisbane.
- 9. In forming my opinion set out below I considered meteorology data, rainfall data in the Brisbane River and Wivenhoe Dam catchment area and stream gauge data for the Brisbane River. The rainfall data was collected from the gauging stations at Caboonbah, Mt Stanley and Crows Nest. The stream gauge data was collected from the gauging stations at Lowood, Moggill, Gregor Creek, Jindalee and the Brisbane City gauge. I attach as EXHIBIT SQC02 data the above mentioned data

Regional Conclusions

- Based on the above data I conclude as follows.
- A substantial amount of rain fell in the Brisbane River catchment above Wivenhoe Dam both before, but particularly over the period 9, 10 and 11 January 2011 commencing at approximately 9.00am on 9 January 2011. This rain caused significant inflows into the Wivenhoe Dam, the level of which peaked late in the evening on 11 January 2011. There were significant discharges of this water from the Wivenhoe Dam which flowed into the Brisbane River. This water worked its way down the Brisbane River towards Brisbane.
- A substantial amount of rain also fell in the Bremer River catchment from around 6.00am on 11 January 2011. This rain travelled down the Bremer River towards the junction of the Bremer River and the Brisbane River.
- 13. The Bremer River contributed in the order of 15% to 25% of the Brisbane River's peak flow. Due to the high Brisbane River tailwater levels, there was some attenuation of the peak flow rate in the lower reaches of the Bremer River. This means that the overall contribution of the Bremer River to the Brisbane River is likely to be less than 15% to 25% but it is not possible at this stage to precisely say by how much less.
- 14. A small proportion of the overall depth of the Brisbane River prior to 6.00am on 12 January 2011 may be partially attributable to the rain that fell in the Bremer River catchment on 11 January 2011. However, the overwhelming influence on the flooding of the Brisbane River

was the rain which fell some days earlier over the Wivenhoe Dam catchment and its subsequent release from Wivenhoe Dam.

 After 6.00am on 12 January 2011, the Brisbane River continued to rise to its peak level of 4.45m (recorded at the Brisbane City Gauge at approximately 4.00am on 13 January 2011).

Further investigations - terrain data

- 16. As already mentioned, the above analysis was performed on a regional basis. Stormwater issues are generally very site specific. Accordingly, I undertook further steps to identify whether the cause of the inundation to the Subject Property may have been stormwater.
- 17 CSIRO defines Stormwater Flooding as:

inundation by local runoff caused by heavier than usual rainfall. Stormwater flooding can be caused by local runoff exceeding the capacity of an urban stormwater drainage system or by the backwater effects of mainstream flooding causing urban stormwater drainage systems to overflow.

- 18. When considering terrain data, the main thing that I considered is whether the Subject Property is higher than the surrounding areas. This would suggest a lower likelihood of stormwater and/or flash flood issues (and the converse also applies).
- I attach as EXHIBIT SQC03 to this statement a copy of the terrain data for the Subject Property.
- 20. This shows that the level of the Subject Property varies from a low point of approximately RL 8m AHD to RL 15.3m AHD at the low point adjacent to Moggill Road, to a high point in excess of RL 15m AHD. The house and garage on the Subject Property are approximately RL 12.5m AHD.
- 21. Pullen Pullen Creek is approximately 450m West of the Subject Property. It runs generally in a North-South direction before turning East and running in a South-Easterly direction to the Brisbane River. I attach as EXHIBIT SQC04 an aerial photograph of the area on 13 January 2011 obtained from www.nearmap.com.au The photograph shows where the backwater from the Brisbane River has flowed into the Pullen Pullen Creek.
- 22. The terrain data also shows that there is a high point approximately 250m to the East of the Subject Property. There is also a gully (the Gully) running from this high point through to Pullen Pullen Creek. The Gully appears to be located on the property immediately to the South of the Subject Property. The lowest point of the Gully adjacent to Moggill Road in the vicinity of the Subject Property is approximately RL 6.5m AHD. The Gully drains to Pullen Pullen Creek via large stormwater culverts underneath Moggill Road.
- 23. I will refer further to this terrain data when discussing the Applicant's version of events below.

Applicant's version of events

- I have reviewed a copy of the Applicant's two page position paper which was attached to the Applicant's FOS dispute form.
 - Timing of inundation
- 25. The Applicant's position paper provides important information relating to the timing of the inundation of the house on the Subject Property. It is helpful to compare that information to data regarding the timing of the rising of the Brisbane Rive in the vicinity of the Subject Property.
- 26. **EXHIBIT SQC05** to this statement is a graph intended to show the timing of the rising of the Brisbane River. On it are plotted, the level of the Brisbane River at the Moggill Alert Gauge, the level of the Brisbane River at the Jindalee Alert Gauge, an interpolated level of the Brisbane River at the point at which Pullen Pullen Creek enters the Brisbane River, the level of the Pullen Pullen Creek at Pinjarra Road, a line marking the minimum property height based on the above data and a line marking the approximate level of the house and garage on the Subject Property. The interpolated line showing the level of the Brisbane River at the Pullen Pullen Creek junction was derived based on an inverse distance weighted interpolation of the Subject Property's location between the Moggill Alert Gauge and the Jindalee Alert Gauge.
- At times when the level of flow in the Pullen Pullen Creek is not significantly elevated and the level of flow in the Brisbane river is elevated, the interpolated line would, in my view, accurately show the level of the Pullen Pullen Creek adjacent to the Subject Property. As the data set out below shows, while there was some rainfall around midday on 11 January 2011 in this area, there was no significant rainfall after that time. Therefore, in my view the level of flow in the Pullen Pullen Creek from late on 11 January 2011 would not have been significantly elevated because higher levels of flow attributable to rainfall on 11 January 2011 would have dissipated by this time. This is confirmed by the level shown on the Pullen Pullen Creek Alert Gauge on Exhibit SQC05.
- 28. I will now compare the data shown in Exhibit SQC05 to the Applicant's version of events.
- 29. The first point that the Applicant makes is that at 3.00am on 12 January 2011 there was "no sign of flooding". This is consistent with the data regarding the level of the Brisbane River. Exhibit SQC05 shows that at 3.00am on 12 January 2011 the water had not reached a level sufficient to inundate the house and garage on the Subject Property.
- 30. The next point that the Applicant mentions is that by 6.00am on 12 January 2011 the water was "lapping at the garage". This is also consistent with the data regarding the level of the Brisbane River. Exhibit SQC05 shows that at 6.00am on 12 January 2011 the water was just slightly below the level sufficient to inundate the house and garage on the Subject Property.

- 31. The Applicant also says that the house on the Subject Property was flooded to a height of approximately 1.3m on 12 January 2011. This is also consistent with the data regarding the level of the Brisbane River. Exhibit SQC05 shows that the peak level of the Brisbane River was roughly 1.3m above the estimated level of the house and garage on the Subject Property, and that this peak level occurred on 12 January 2011.
- The Applicant's account of the event further confirms my view that the inundation of the Subject Property was caused by the rising level of the Brisbane River, and not by stormwater or other local run-off.

Local rainfall

- 33. The Applicant claims that there was water running down what I have described above as the Gully on 12 January 2011. This is difficult to reconcile with the available data.
- 34. I attach as EXHIBIT SQC06 to this statement a copy of the rainfall record for the Pullenvale rainfall gauge and the results of an intensity analysis for the same gauge for the period from 9 January 2011 to 15 January 2011. The Pullenvale gauge is approximately 2.4 kilometres from the Subject Property and in my view is representative of the rain that would have fallen in the vicinity of the Subject Property.
- 35. The gauge records show that approximately 120mm of rain fell over the period 9 January 2011 to 10 January 2011. A further approximately 100mm fell during the course of the day on 11 January 2011. The most intense rainfall on 11 January 2011 was recorded around midday; the majority of rainfall on that day had ceased by 6.00pm.
- 36. The intensity analysis shows that for all shorter durations (ie rainfall events lasting between 12 and 24 hours) the rainfall was of very low intensity (ie between 1 in 1 year and 1 in 2 year events). For longer duration events (ie rainfall events lasting 72 hours) the rainfall was still of relatively moderate intensity (ie a 1 in 5 year event). The relevant durations for present purposes are the shorter duration events because Pullen Pullen Creek is a relatively short creek and so run-off from longer duration events would drain away before it could accumulate.
- In my opinion this rainfall might have caused elevated flows in the Gully on 11 January 2011, but that these flows would not have been sufficient to inundate the house on the Subject Property. Elevated flows due to the run-off from the rainfall on 11 January 2011 would, in my opinion, have dissipated by late in the evening on 11 January 2011.
- I do not think that this rainfall would have caused run-off in the Gully on 12 January 2011, as the Applicant appears to be claiming.
- 39. Overall, the above rainfall data further supports my conclusion that the Subject Property was inundated by the rising level of the Brisbane River and not by stormwater or other local runoff.

Conclusion

- 40. On the basis of the above matters, I conclude that the cause of the inundation of the Subject Property was the rising level of the Brisbane River, which was itself caused by rain which fell more than 24 hours earlier.
- 41. I conclude that the Subject Property was not inundated by stormwater or other local run-off.

All the facts and circumstances above are within my own knowledge save such as are from information only and the means of my knowledge and source of information appear on the face of this my statement.

SIGNED by STEPHEN QUINTON CLARK on 27/6

at Brisbane in the presence of:

Stephen Quinton Clark

Witness

Exhibit sacol



Curriculum Vitae

Steve Clark

BE Hons (Civil), MEng Sc, CPEng, MIEAUST

Director



Fields of Expertise

- Water, floodplain and coastal engineering
- Numerical models
- · Risk/vulnerability assessments
- Hydrologic and hydraulic modelling
- * Hydraulic assessment and design
- Environmental monitoring programs.

Education

- Bachelor of Engineering with Honours, University of Queensland, 1988,
- Masters of Engineering Science, University of Queensland, 1999. Thesis submitted was entitled "The Entrainment of Sediment due to Oscillatory Flows in the Sheet Flow Regime".
- Accredited Water Efficiency Assessor with the Queensland Water Commission

Professional Affiliations

- Registered Professional Engineer, Queensland.
- National Professional Engineers Register
- Member, Engineers Australia
- Member, River Basin Management Society
- Member, Australian Water and Wastewater Association
- Member, Stormwater Industry Association

Countries of Experience

- · Australia
- China
- * Indonesia

Awards

* Kenneth A. Thiess Prize, 1988

Professional History

	matery
2006-present	Water Technology Pty Ltd (QLD)
2001-present	Manager, Brisbane Office Water Technology Pty Ltd Director
1999-2001	Lawson and Treloar Pty Ltd (VIC Manager, Water Resources
1997 - 1999	Lawson and Treloar Pty Ltd (VIC) Senior Engineer
1994 - 1997	Lawson and Treloar Pty Ltd (QLD Engineer
1989 1994	Connell Wagner Pty Ltd (QLD) Engineer

Fields of Special Competence Career Summary

Steve has over 20 years experience as a specialist in the water resources field. He has an Honours Degree in Engineering and a Masters of Engineering Science from the University of Queensland. Following graduation he worked for approximately 10 years throughout Queensland in waterway & floodplain management and Infrastructure investigations. These investigations have included work throughout Brisbane and the Nerang River floodplain on the Gold Coast, Maroochydore, the Noosa River and Lakes system, the Ploneer River floodplain at Mackay, the Tully Murray system and numerous investigations on the Barron River Floodplain.

From 1996 Steve was based in Melbourne Victoria during which time he underlook various flood studies and floodplain management plans for both the Victorian and New South Wales offices of Lawson and Treloar. Of note, between 2002 and 2005 Steve was the principal hydraulic modeller on the Yangtze River Flood Warning and Control Project, a major 5 year AUSAID project in China. As Director of the Brisbane office of Water Technology, Steve has been involved in a diversity of high-profile projects such as managing the hydraulic component of the Pimpama Case Study, National Coastal Vulnerability Assessment for the Federal Department of Climate Change.

Key Projects

- Gwydir Wetlands Hydrodynamic Modelling, Northern NSW Department of Environment, Climate Change and Water. (2009 - current)
- North East Business Park Flood Study, Caboolture QLD Moreton Bay Regional Council (2007-current)
- * Ensham Mine Flood Forecasting System, Emerald QLD Ensham Resources (2009-2010)
- * Regional Planning Project (Flooding), Toowoomba QLD Toowoomba Regional Council (2009).
- Inner City Bypass (ICB) Tunnel Flooding Investigation, Brisbane Northern Busway Alliance (2009)
- National Coastal Vulnerability Assessment Pimpama Case Study, Gold Coast QLD Federal Dept. Climate Change (2008)
- Mangoola Coal Mine Water Management System, Hunter Valley NSW, ATC Williams for Xstrata Coal (2006-2008)
- * Creek Diversions, Mine Water Management Plan, Blackwater QLD, BMA Coal (2008)
- Ballina Salinity Infiltration Study, Ballina NSW, Ballina Shire Council and Department of Commerce, NSW (2007-2008)
- Water Efficiency Management Plans, South East QLD, Austral Bricks, (2007)
- Lower Goulburn Floodplain Rehabilitation Project, VIC, Goulburn Broken CMA (2006)
- Yangtze River Flood Control and Management Project, China Sagric International for AusAid (2002-2005)



EXPERT ADVICE

Water Technology

Kunda Park Central vs Sunshine Coast Regional Council P&E Court Appeal 1057/08 (current). Engaged by Sunshine Coast Regional Council this current project involves the provision of review and expert advice services.

Comiskey Group vs Moreton Bay Regional Council P&E Court Appeal BD 210 of 2010 (current). Expert review, including review of flood related aspects of the proposed development including immunity requirements, stability and emergency management.

Stockland Development Pty Ltd vs Sunshine Coast Regional Council P&E Court Appeal 2282/09 (current). Expert review, including specialist hydraulic modelling of the development, and report preparation.

North East Business Park Pty Ltd vs Moreton Bay Regional Council P&E Court Appeal 254/10 and 255/10 (current). Provision of expert review services of the North East Business Park Development flood study and stormwater management plan for Moreton Bay Regional Council over a period of ~ 2 years. Work included a review of hydraulic modelling, comparison of results with previous flood levels, assessment of compliance with Council floodplain management requirements, identifying any impacts associated with the development and consequent implications, and a report summarising the review findings. Review of the stormwater management plan included a review of reporting and MUSIC modelling, review of relevant standards, comparison of reported results with relevant standards and a report summarising the review findings.

Amendment C70 – Boroondara Planning Scheme. Preparation (and subsequent presentation to VCAT) of an expert witness report for Stockland Pty Ltd summarising the flooding aspects of the proposal and design work undertaken to date for a major commercial and residential in inner Melbourne.

Abacus Hampton Retirement Trust vs Bayside City Council. Preparation of an expert witness report for Abacus Hampton Retirement Trust and subsequent presentation to VCAT regarding the flooding and drainage provisions of a proposed apartment block in a highly urbanised area.

Kaldumb Pty Ltd vs East Gippsland Catchment Management Authority. Preparation of an expert witness report for Kaldumb Pty Ltd and subsequent presentation to VCAT regarding flooding aspects associated with a potential industrial subdivision of floodprone (rural) land.

Lawson and Treloar

Strathmerton Deviation - VicRoads. Presentation to a panel hearing in Strathmerton regarding the hydraulic assessment and flooding implications of several potential highway alignments.



INTERNATIONAL EXPERIENCE

Yangtze River (China) Flood Control and Management Project (YRFCMP). The YRFCMP is a joint project of the Chinese and Australian Governments (managed via AusAid), Steve has recently completed undertaking a series of long term deployments in Wuhan, China. Since 2002, he has provided specialist advice on the procurement, establishment and implementation of hydraulic modelling systems within the overall flood management and warning systems.

The final stage of technical work focussed on (quantitatively) improving the accuracy and speed of flood warning procedures and the development of a Decision Support System that combines the current flood forecasting capabilities with web based assessment of flood management options for use in a real time context.

In conjunction with the technical development work, an extensive capacity building program was undertaken. As part of this program Steve had direct inputs into technical capacity building for the Flood Forecasting System and Decision Support System, the underlying hydraulic models and more generally took an active part in "train the trainer" courses.

Lombok (Indonesia) Resort Development Investigations (1995-97) for Lombok Tourism Development Corporation. Site Engineer for the site monitoring program design and initial site work involving site inspections and instrument deployment. Senior Engineer for subsequent preliminary design work included internal canals, lake systems and coastal works for a major resort development. Preliminary water balance, yield modelling and water quality considerations were addressed.

Site work was undertaken at a local level. 2 Australian engineers provided technical input, direction and training, while the site staff undertook the instrument installations, deployments, retrievals and general site measurements. This provided both an intensive initial data gathering exercise, and provided the necessary training for local staff to establish an ongoing monitoring program. The results of the results of the ongoing monitoring program were subsequently used in later stages of the design.

International Team Support (90-95) for various projects. While with Connell Wagner's Water Group, Steve was a hydraulic engineer as part of the Brisbane Office support and design team for projects undertaken by various overseas offices in Papua New Guinea, (Kainantu Water Supply and Sewerage Schemes) and China (Liaoning Urban Infrastructure Project).

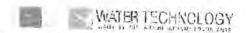
WATERWAY/FLOODPLAIN MANAGEMENT INVESTIGATIONS

Water Technology

Gwydir Wetlands Hydrodynamic Modelling (2009 - current) for NSW Department of Environment, Climate Change and Water.

Project Manager and specialist hydraulic modeller for this major eco-hydraulics investigation aimed at developing advanced hydrodynamic modelling tools to assist in the environmental management of the Gwydir Wetlands.

National Coastal Vulnerability Assessment - Pimpama Case Study (2008) undertaken as part of the Federal Department of Climate Change's assessment of the socio-economic impacts and consequences of climate change for coastal communities in support of the 'first pass' National Coastal Vulnerability Assessment. Our role within the overall study team is to provide specialist hydrologic, hydraulic and coastal process advice,



analysis and modelling services in support of the overall coastal vulnerability assessment and specifically the eco-system valuation services.

Burngrove and Deep Creek Diversion, Mine Water Management Plan (2008) for BMA Coal. This project involved the conceptual mine water management plan associated with creek diversions. The mine water management plan aimed to achieve clean water flows in Burngrove and Deep Creeks, Blackwater. A digital terrain model and aerial orthophotos were used in conjunction with the BMA Coal Water Management Strategy to identify current sources of dirty water to the creeks and possible solutions to rectify the problem. Suggestions for achieving clean water flows included altered decant return arrangements, rearrangement of the drainage system and construction of sediment dams.

Coal Seam Gas Effluent Discharge Investigation (2008) for Origin Energy. Project Manager providing specialist hydrologic and hydraulic inputs into the preparation of an Environmental Management Plan for Origin Energy's proposed coal seam gas project at Talinga, which aims to provide up to 90TJ/day of coal seam gas to the Darling Downs Power Station. Part of this project involves the installation of an advanced water treatment (reverse osmosis) facility which will provide purified water for beneficial uses. A series of investigations have been undertaken to investigate the potential discharge of this water to the Condamine River and identify constraints and opportunities associated with this process. Investigations have included Hec-Ras modelling of sediment deposition and scouring and use of the DERM IQQM between the Condamine Weir and Beardmore Dam

Yallock Outfall Sediment Trap and Ephemeral Wetland Functional Design for Melbourne Water. Water Technology is providing specialist hydraulic design services to the team (Neil Craigie, Pat Condina, Landstart, Sandra Brizga and Ecology Australia) undertaking the functional design. The aims of this investigation are to establish the functional design, ensure no adverse impact on adjacent areas and to demonstrate both of these to stakeholders.

Niddrie Quarry Stream Rehabilitation Project for Melbourne Water via Neil Craigle. Provision of specialist hydraulic design services for rehabilitation design for this urban waterway.

Lawson and Trelogr

Mitta Mitta Geomorphic Investigation for North East CMA.

Badger Creek Geomorphic Investigation for Melbourne Water. Provision of specialist hydraulic analysis and design services to as part of a multidisciplinary team investigating sand management issues.

Glenelg River Sand Management Investigations. Provision of specialist hydraulic and sediment transport analysis/modelling as part of a multidisciplinary team investigating sand management issues.

Tambo River Geomorphic Investigation. The 1998 Tambo River event caused significant damage in the floodplain. Specialist two dimensional hydraulic modelling was undertaken as part of an integrated study approach considering flooding, longer term geomorphological processes and potential waterway management options

Upper Oxley Creek for Logan City Council. Full 2D modelling of the rehabilitation requirements of a reach of Oxley Creek.

Secondment to Brisbane City Council Works Design, Hydraulics Group. Duties included provision of specialist hydraulic design services, assessment flooding and mitigation works following the September 1996 flood event, liaison with the Parks & Environment Sections with regard to vegetation issues and subsequent hydraulic assessments.



PLANNING

Western Downs Regional Council Planning Scheme Project –Flooding and Stormwater Analysis (2010 – current). WDRC require a new planning scheme following amalgamation of 6 local councils to form the WDRC. Several towns in WDRC are experiencing rapid growth, and Water Technology is conducting a flooding and stormwater analysis for each town to assist in development of a new planning scheme. The flooding study will identify areas at risk of inundation and their impact on current and future development. In addition Q100 hazard categories will be identified. The stormwater analysis will define and map stormwater corridors, and define trunk drainage infrastructure needed currently and for future development.

Toowoomba Regional Council Regional Planning Project (Flooding) (2009). The aim of the project was to produce a new planning scheme policy for the TRC following the amalgamation of eight councils into one. Involved review of existing flood studies, collation of GIS flood data, collation of pseudo-flood data (e.g. waterway extent, previous flood overlays) and rating the quality of each dataset. Also included the provision of expert advice on the best way to account for the uncertainty in the different qualities of flood information in the new planning scheme policy. Involved extensive collaboration with Council staff and other project team professionals (e.g. planners, scientists, engineers).

INFRASTRUCTURE INVESTIGATIONS/DESIGN

Water Technology

Ensham Mine Flood Forecasting (2009-2010) for Ensham Resources. Project Manager for the development and calibration of a hydrologic flood forecasting model to provide Ensham Mine with in-house warning of floods from the Nogoa River (QLD). Historically, Ensham has experienced difficulty in gaining access to information and/or forecasts during events. The real time model developed will provide easier access and a greater level of detail and accuracy than is currently available.

Inner City Bypass (ICB) Tunnel Flooding Investigation (2009 - current) for the Northern Busway Alliance.

Assessment of the cause of flooding of the Brisbane ICB flooding in November 2008. Results were used to assist in the settlement of compensation claims by the Brisbane City Council against the Northern Busway Alliance.

Mine Water Management System Design (2006-2008) for the Xstrata Mangoola coal mine in NSW. Detailed event and long term modelling has been undertaken within the Goldsim modelling system to analyse potential risks to the mine associated with water availability. A Monte Carlo approach was utilised as part of the design process for on site storages and quantifying risks associated with water supply and potentially discharge from site.

Ballina Salinity Investigations for Ballina Shire Council and Department of Commerce. Co-ordination of salinity testing program and associated analysis to identify sources of saline infiltration into the Ballina Sewer Network with the aim of reducing salinity at the Ballina Treatment Works. The ultimate aim of the project is to reduce salinity levels to the point where re-use of the waste water is possible without the installation of an RO plant.

Scour Investigation, Princess Highway crossing of Mitchell River at Bairnsdale for VicRoads (2006). Detailed hydraulic analysis and scour investigation as inputs to a structural stability analysis of the existing bridge. Numerous mitigation options were investigated prior to VicRoads determining that the preferred option was structural reinforcement of the existing bridge.

Scour Investigation, Princess Highway crossing of Tambo River at Swan Reach for VicRoads (2006). Detailed hydraulic analysis and scour investigation as inputs to a structural stability analysis of the existing bridge.



Calder Freeway, Carlsruhe Section Specialist Hydraulic Design for John Holland via EGIS. Detailed hydraulic analysis and design of the new Calder Freeway crossing of the Campaspe River.

Heany Park Review for Fisher Stewart. Provision of expert (3rd party) review services for drainage design of an existing subdivision.

Lawson and Treloar

Hydraulic assessment of proposed Shepparton Bypass for VicRoads. Hydraulic analysis of the proposed Shepparton Bypass (Western Route) for presentation at the Panel Hearings.

Princes West Project for Leightons/GHD. Detailed hydraulic assessment and design as part of the successful Design and Construct bid. Design services were provided to both optimise the proposed design, and provide detailed information as to the potential impacts to key stakeholders.

Princes West Project for VicRoads. Comprehensive and detailed hydrologic and hydraulic assessment of the existing status of the Princes West freeway between Melbourne and Geelong for VicRoads. Crossing upgrades were designed for varying levels of immunity and various configurations. Also included was extensive consultation with relevant stakeholders and authorities along the route of the proposed upgrades.

Goulburn Valley Highway Hydraulic Assessment. Hydraulic Assessment and design of several potential alignments (in the vicinity of Strathmerton) across both the Murray River and it's floodplain. Full two dimensional modelling has been used to define flow paths on a broad scale. Detailed modelling was undertaken in the vicinity of the proposed route embankments as input to structure design.

Specialist Hydraulic Investigations/Design Projects. Numerous investigations/preliminary designs undertaken for VicRoads including:

- North Arm Bridge (Lakes Entrance) Afflux Study
- Home Creek, Goulburn River
- Hallam Bypass (Eummemmering Creek)
- Swansea Road Duplication (Olinda Creek)

Hendra Doomben Relief Drainage Investigation. Detailed MOUSE modelling of a severely under-capacity stormwater drainage network and relief system design.

Hemmant Master Drainage Study. Detailed MIKE 11 & MOUSE modelling of a low lying residential area, included analysis and assessment of flooding hazard, design of mitigation works. Initial study results have transferred to BCC's GIS system for over-the-counter interrogation.

Brookbent Road (1996) for Brisbane City Council. Detailed hydraulic assessment of the effect of the failure of the Brookbent Road crossing (embankment) during the March '96 Oxley Creek event. Sensitivity of upstream, floodprone areas to various proposed crossing reinstatement options has been conducted.

Mudgeeraba Connection Road for Gold Coast City Council. Evaluation using quasi 2D modelling of the effects of various hydraulic structure configurations for a proposed road crossing of a floodplain.

Cairns International Airport Master Drainage Study for Cairns Port Authority. Major trunk drainage system analysis and design utilising fully unsteady analysis techniques. Tools being utilised include MIKE21, MIKE11 and MOUSE.



RTA Route Selection Study, Wollongong (1994), including runoff-routing and MIKE 11 modelling of Macquarie Rivulet and Lake Illawarra.

Connell Wagner

Eastern Corridor Study, Brisbane - Gold Coast 1991. Assessment of the hydraulic impact of various proposed alignment options of the duplication of the Pacific Highway.

Relief Drainage System Design, Albion Windsor, Brisbane 1990. Upgrade of an existing inadequate pipe drainage system (Capital cost \$2 million)

Burdekin River Irrigation Area Modelling, Ayre 1989. Additional modelling of the Northcote Section of the Burdekin Area utilising the MIKE-11 modelling package

FLOODPLAIN MANAGEMENT INVESTIGATIONS

Water Technology

Western Downs Regional Council Planning Scheme Project —Flooding and Stormwater Analysis (2010 — current). Project Manager for several flood studies of towns in the Western Downs, WDRC require a new planning scheme following amalgamation of 6 local councils to form the WDRC. Several towns in WDRC are experiencing rapid growth, and Water Technology is conducting a flooding and stormwater analysis for each town to assist in development of a new planning scheme. Flood studies will be conducted for Chinchilla, Tara, Miles and Jandowae; and the Dalby flood study will be reviewed.

North East Business Park Flood Study (current). Expert reviewer for Moreton Bay Regional Council engaged to review floodplain management and water quality (stormwater management planning) aspects of the proposed development.

Lower Goulburn Floodplain Rehabilitation Project for Goulburn Broken CMA via SKM. Provision of specialist hydraulic modelling services for the largest hydraulic analysis project undertaken to date in Victoria, as part of one of the largest floodplain rehabilitation projects proposed. The terrain being used for this project incorporates the latest in aerial laser scanning technology which provides an extremely detailed data set (requiring special processing techniques) for the entire study area.

Flooding Investigations for the Wimmera CMA. Project Manager for the Horsham Flood Study, the Dimboola Flood Study and the Glenorchy to Horsham Flood Scoping Study. The three studies have been undertaken using a risk management approach with the key outcome being an increased understanding of exposure of the communities to flooding. Project scopes have included extensive community and authority consultation, detailed survey (field and photogrammetric), detailed hydrology and hydraulics and the provision of maps associated with reporting requirements.

Little Yarra Flood Mapping for Melbourne Water. Detailed Hydrologic and Hydraulic analysis to enable flood mapping of the Little Yarra River to Yarra junction.

Lawson and Treloar

Shepparton Floodplain Management Investigation for Shepparton City Council. Project Manager for the hydraulic investigation and design portion (to delivery of design events stage) of the largest floodplain management investigation undertaken at the time in Victoria.



Myrtleford Floodplain Management Study. Project Manager for the hydraulic analysis component of the project, the outputs of which were inundation maps for existing conditions, mitigation option design and mitigation option mapping.

Traralgon Floodplain Management Study (1998) for Shire of Traralgon. Project Manager for the hydraulic analysis portion of this project aimed at providing a comprehensive understanding of the flooding mechanisms is being gained through this state of the art fully two dimensional, dynamic flooding investigation.

Euroa Floodplain Management Study (1997) for Shire of Strathbogie. Project Manager for the hydraulic analysis portion of this Floodplain Management Study. A comprehensive understanding of the damaging and complex flooding regime at Euroa was provided through full two dimensional hydraulic modelling. Subsequently, the Impact of various potential flood protection measures (mitigation schemes, both structural and non-structural) and flood warning systems were assessed.

High Definition Flood Study, Wallsend Plattsburg – Detailed hydraulic assessment using full two dimensional unsteady analysis of several severely floodprone (urban) areas of Newcastle, including analysis and provision of results for incorporation into Council's GIS system.

Nerang River Flood Mitigation Assessment. Assessment of the potential for flood mitigation works on the Nerang River floodplain utilising existing hydraulic structures and/or additional works.

Flood Study of Oxley Creek (1996/97) for Brisbane City Council to augment BCC's Waterways Strategy Plan. Oxley Creek is the most technically challenging creek in the Brisbane area with dramatic changes recorded over time as part of the creeks natural morphology and in response to significant sand extraction operations. Primary outcomes are the delineation of flood regulation lines based on hydrologic and hydraulic analysis. Secondary outcomes are the assessment of hydraulic structures, the effects of catchment development and the development of revegetation strategies.

Upper Barron Delta Modelling. Full 2D modelling of the Upper Barron Delta was conducted using a course grid model for the entire Barron Delta and a fine grid model for the upper portions. The purpose of the investigation was to examine the impact of both proposed developments and sand extractions on flooding through existing residential areas.

Flood Study of the Noosa River System for Noosa Council. This study forms the basis for a flood plain management study aiming to develop a floodplain management plan. Components of the study include:

- evaluation of the hydrologic and hydraulic characteristics of the Noosa River catchment and determination
- integration of model results into Noosa Council's existing GIS information networks.

Tully Murray Water Management Scheme for Department of Primary Industries, Water Resources. Detailed floodplain modelling and hydraulic design of a master drainage plan. Tools being used include RAFTS, MIKE11 and MIKE21.

Emerald Floodplain Scoping Study (1994) for the Department of Primary Industries, Water Resources. This study was conducted to identify the methodology, data requirements and approximate costs associated with work necessary to develop a floodplain management plan for the Emerald floodplain system.

Ironbark Creek T.C.M. Study (1994), including data interface preparation.



Connell Wagner

Barron Delta Flooding Checks, Cairns (1989-1994). Ongoing work associated with the investigation of the effects of proposed developments upon flooding in the Barron Delta area, using the ESTRY numerical model.

Woodford Flood Study, Nambour 1993. Hydrologic (RORB) and hydraulic (HEC-2) investigation of a proposed development involving floodway encroachment.

Bulimba Creek East Master Drainage Study, Brisbane 1990-1991. Catchment management consideration of environmental values, economic analysis and public involvement.

Eudlo Creek Flood Study, Maroochydore 1989. Development of a MIKE 11 model of Lower Eudlo Creek for road crossings and flood mitigation.

DEVELOPMENT PROPOSALS ASSESSMENT/DESIGN

Water Technology

Provision of specialist hydrologic and hydraulic design services associated with several proposed developments in south east Queensland and Northern NSW. Some examples are:

Bethania Flooding Assessment (2009-2010) for AV Jennings. Project Manager for the assessment of flooding impacts of a proposed 4 ha residential development in Logan, QLD. Work included MikeFlood hydraulic modelling and WBNM hydrological modelling.

Everton Park Proposed Reconfiguration of a Lot (2009) for Conics Pty Ltd. Project Manager for the investigation of 100 year ARI flooding for a property in Everton Park, QLD. A Brisbane City Council Mike11 model was updated with new survey and a new inundation extent was defined.

Eight Mile Plains Stormwater Management Assessment (2008) for Lambert and Rehbein. Project Manager for the assessment of stormwater impacts of a proposed child care centre in Eight Mile Plains, QLD. Work included MikeStorm modelling to conceptually design onsite stormwater detention (in the form of underground tanks).

North Shearwater Precinct Development – Local Environment Study (2008) for Great Lakes Council. Project Manager for the Water Technology component of hydrology, flooding and local drainage aspects of the LES for the North Shearwater precinct development, NSW. Work involved hydrologic (WBNM) and hydraulic analysis (Mike21) of pre and post development cases, including consideration of elevated downstream estuary levels due to climate change and more extreme climate change scenarios. Water Technology was sub contracted to GeoLink for this project.

Northeast Parkhurst Master Plan – Stage 1 – Flooding Constraints (2008) for Wolters Consulting. Review of previous work related to flood constraints that has implications for the Master Planning process for the Northeast Parkhurst development, Rockhampton. Work included review of aerial photography/flooding/contour data of the area, desktop review of a previous flood report in terms of hydrological and hydraulic analysis, review of site opportunities and constraints for flooding relating to sustainability design principles, and implications for the Master Planning process.

Mackay Christian College Local Drainage Investigation (2007) for Sanders Turner Ellick Architects. Project Manager for the assessment of flooding impacts of a proposed school and residential development in Mackay,



QLD. Work included Mike21 hydraulic modelling linked to MOUSE for assessment of flooding and stormwater networks.

Lawson and Treloar

"The Waterways" Development. Provision of hydraulic analysis and design services associated with both floodplain conveyance and wetland operational issues.

Stamford Park Investigations. Provision of hydraulic analysis and design services to City of Knox associated with Corhanwarrabul Creek.

Emerald Lakes Project Flooding Assessment. Utilising state of the art, two dimensional modelling techniques (including detailed schematisation of canal developments and hydraulic controls such as bridges, culverts, locks and weirs), various development scenarios affecting the Nerang River and associated floodplain system are currently being assessed

Dong Ah Project. This study involved the hydraulic design ranging from preliminary conceptual advice through to detailed quasi 2D modelling of a proposed golf course development. Issues associated with the golf course included zero impact on neighbouring properties, provision of bunding for more common design events, conveyance, flood storage and design level issues for varying land use areas, lake and wetland water quality issues. Subsequent investigations have included water quality considerations and water balance modelling.

Hydraulic Investigation of the "Colorada" Levee banks, Emerald Floodplain (1994). In order to quantify the likely impacts on Nogoa River flooding, an investigation was conducted into the hydraulic behaviour of a proposed levee bank.

Connell Wagner

Cubberla Creek Villa Development, Brisbane 1992. Hydrologic (RORB) and hydraulic (HEC-2) investigation of Cubberla Creek for a proposed villa development including analysis of floodway encroachment by the development

COASTAL INVESTIGATIONS, ASSESSMENT AND DESIGN

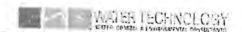
Water Technology

National Coastal Vulnerability Assessment - Pimpama Case Study (2008-2009) undertaken as part of the Federal Department of Climate Change's assessment of the socio-economic impacts and consequences of climate change for coastal communities in support of the 'first pass' National Coastal Vulnerability Assessment. Our role within the overall study team is to provide specialist hydrologic, hydraulic and coastal process advice, analysis and modelling services in support of the overall coastal vulnerability assessment and specifically the eco-system valuation services.

"The Waterways" Development. Provision of detailed hydraulic analysis and design services investigating the flushing regime of the constructed lake/canal system.

Lawson and Treloar

Port of Geelong Channel Improvement Program. Undertook fieldwork and associated reporting as part of the dredge operation monitoring program.



Emerald Lakes Project Flooding Assessment. Utilising state of the art, two dimensional modelling techniques (including detailed schematisation of canal developments and hydraulic controls such as bridges, culverts, locks and weirs), various development scenarios affecting the Nerang River and associated floodplain system are currently being assessed

Dong Ah Project. This study involved the hydraulic design ranging from preliminary conceptual advice through to detailed quasi 2D modelling of a proposed golf course development. Issues associated with the golf course included zero impact on neighbouring properties, provision of bunding for more common design events, conveyance, flood storage and design level issues for varying land use areas, lake and wetland water quality issues. Subsequent investigations have included water quality considerations and water balance modelling.

Connell Wagner

Green Island Coral Dredging - Impact Assessment Study (1993). Engineer responsible for field work including extensive sediment sampling, water quality monitoring and current metering.

Detailed design of Dalrymple Bay Coal Terminal Berth 2 Extension (1992) providing a second berth for vessels up to 200,000 DWT. Member of the design team for the offshore structural works component.

Dredging and reclamation strategy for Port Development Works, Townsville (1992). Development of an implementation plan for capital works at the Port of Townsville with specific regard to dredging and reclamation options in terms of technical performance, implementation advantages or disadvantages and capital cost.

Wellington Point Canal Estate, Moreton Bay 1992. Investigation of proposed marina and associated dredged entrance channel. Numerical modelling (RUBICON) was undertaken to investigate entrance channel stability and canal flushing.

Stage 2 Embley Estuary Environmental Monitoring, Weipa 1993. Engineer responsible for the water quality aspects of a multidisciplinary field work program designed to establish baseline data for the Embley River Estuary. Subsequent work included the formulation of a long term work and modelling program.

Weipa Sediment Sampling and Monitoring Program for the Albatross Bay Dumpsite, (1992) for Department of Transport. Supervision of field work over a 6 month period following channel maintenance dredging and associated dumping including extensive sediment sampling, water quality monitoring and benthic community monitoring.

Weipa Environmental Monitoring Program, (1991) for Department of Transport. Supervision of field work over a 6 month period following dredging and dumping including water quality and benthic community monitoring.

Long Term Strategy for Spoil Disposal, Port of Cairns (1991-1993). Examination of all possible land and sea disposal sites and methods for the disposal of maintenance dredge spoil from the Cairns shipping channel using a generalised, logical two pass screening process.

Cairns Port Authority Offshore Spoil Dump Studies (1989 -1993).

Following monitoring and assessment work over a three year period, short (approximately 6 months) and long (greater than 12 months) term monitoring programs were established. These



programs (with a budget in excess of \$1.5 million) to date have included:

- numerical modelling of dredge induced plumes
- numerical prediction of deposited spoil resuspension and dispersion over the short and long term
- field work program utilising state-of-the-art dredge and dump monitoring techniques (seabed, surface and aerial operations) and the analysis of gathered data
- detailed analysis (including statistical work) of long term current, wave, wind etc. records
- installation of long term monitoring equipment (current meters, waverider buoy, tide gauge, anemometer, fixed bed turbidity meters)
- flume work aimed at quantifying the threshold of movement of Cairns Harbour Dredge Spoil
- preparation of public information reports

Offshore Spoil Dump Study, Port of Mackay (1991), evaluation of the impact of spoil disposal via both surface and aerial monitoring programs

Mandurah Ocean Marina Study, Western Australia (1989). Numerical hydraulic modelling (RUBICON) of the estuarine lake system and associated sediment transport modelling to assess the impact of dredging a new ocean entrance channel and the construction of a marina.

WATER EFFICIENCY MANAGEMENT PLANS

Water Technology

Australbricks Rochedale and Riverview plants. Preparation of a Water Efficiency Management plan and investigation of potential water savings associated with construction of an on-site storage for rainwater harvesting. Funding applications for construction of the storage were prepared and funding was successfully obtained for this major project. Following construction, substantial water savings have been realised.

"Palm Lodge" Nursing Home Facility for Ozcare. Preparation of Water Efficiency Management Plan and preparation of funding applications for rebates associated with installation of water efficient fixtures.

Peel St Homeless Men's Nursing Home Facility for Ozcare. Preparation of Water Efficiency Management Plan and preparation of funding applications for rebates associated with installation of water efficient fixtures.

RELEVANT PUBLICATIONS

Clark, SQ. Wen, L. & Bishop, WA, "RERP Gwydir Wetland Hydrodynamic Model Development Overview". 18th QLD Water Symposium, Brisbane, Australia, 2010.

Clark, 5Q "Hydraulic Roughness Characteristics of the Yangtze River", 16th Queensland Water Symposium, University of Queensland, July, 2007.

Markar, MS, Clark, SQ, Min Yaowu and Zheng Jing, "Evaluation of Hydrologic and Hydraulic Models for Real-Time Flood Forecasting Use in the Yangtze River Catchment", Australian Journal of Water Resources, Vol 10, No 1, May 2006.

Betts, HW, Joy, CS, Markar, MS, Clark, SQ, Sterling, E., Gooda, M., Jin Xingping, Wu Daoxi, 2005b. "The Achievements of the Yangtze River Flood Control and Management Project", The 2nd International Yellow River Forum Zhengzhou, 18-21October 2005a. China

Clark, SQ, Womersley, TJ, Min Yaowu., Zhang Fangwei., Huang Wei, "Two Dimensional Modelling of the Dongting Lakes in support of the Flood Forecasting and Options Analysis Systems of the Yangtze River Flood



Control and Management Project", The 2nd International Yellow River Forum Zhengzhou, 18-21October 2005.

Markar, MS, Clark SQ, Min Yaowu, Zhang Fang Wei & Zhou Hongmei "Trialling of a new flood forecasting system for the Yangtze River in China", The 2nd International Yellow River Forum Zhengzhou, 18-21 October, 2005. China.

Betts, HW, Sterling, E., Clark, SQ, Markar, MS, M. Chen, Huang Wei, "Flood Management Decision Making in the Yangtze River". 8th International River Symposium, Brisbane, Australia, 5th to 9th September, 2005.

Clark SQ, Markar, MS, Womersley, TJ, Min Yaowu, Zhang Fangwei & Huang Wei "Overview of supporting modeling systems developed for the Yangtze River Flood Control and Management Project", 8th International River Symposium, Brisbane, Australia, 5th to 9th September, 2005.

Markar, MS, Clark, SQ, Betts, HW, Gooda, M, Mln Yaowu, Chen Yali, "Improved flood warning for the Yangtze River in China", 8th International River Symposium, Brisbane, Australia, 5th to 9th September, 2005.

Clark, SQ, Markar, MS, Betts, HW, Gooda, M, Min Yaowu, Zhang, Fangwei, Huang Wei, "Use of Numerical Modelling in Support of Yangtze River Flood Forecasting and Decision Making", Third International Symposium on Flood Defence, Nijemegen, 25-27 May 2005. Netherlands

Betts, HW, Sterling, E, Clark, SQ, Wu Daoxi, Wong Jingquan, "An Options Analysis System for Flood Management Decision Making in the Yangtze River Catchment, China". Third International Symposium on Flood Defence, Nijemegen, 25-27 May 2005. Netherlands

Markar, MS, Clark, SQ, Malone, T, Gooda, M., Chen Yali, Min Yaowu., "A New Flood Forecasting System for the Yangtze River in China". Third International Symposium on Flood Defence, Nijemegen, 25-27 May 2005.

Clark, SQ, Markar, MS, Min Yaowu, Wu Daoxi, "Overview of Hydraulic modelling of the Yangtze River for Flood Forecasting Purposes", 8th National Conference on Hydraulic Engineering, Gold Coast, Australia, 2004.

Markar, MS, Clark, SQ, Min Yaowu, Zheng Jing, "Evaluation of Hydrologic and Hydraulic Models for Real-Time Flood Forecasting Use in the Yangtze River Catchment.", 8th National Conference on Hydraulic Engineering, Gold Coast, Australia, 2004.

Clark, SQ, Muncaster, S., Reithmuller, E., "Horsham Flood Study", Third Victorian Flood Management Conference, Horsham, Australia, 2003.

Tierney, G., Dando, T., McCowan, A., Clark, SQ, Womersley, TJ., "Development of a detailed hydraulic model using ALS data as part of the Lower Goulburn Floodplain Rehabilitation Scheme", Third Victorian Flood Management Conference, Horsham, Australia, 2003.

Clark, SQ & Mallory, G. "Geelong Freeway Upgrade: Drainage Design for a Highway that Crosses a Complex Floodplain" Hydraulics in Civil Engineering, Hobart, Australia, 2001.

Robertson, P., Daly, M., Clark, SQ, "An Overview of Floodplain Management Planning and Implementation in Traralgon" Second Victorian Flood Management Conference, Traralgon, Australia, 2001.

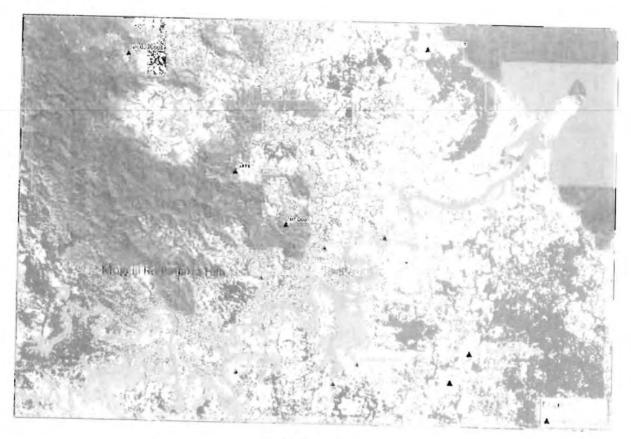
Craigie, NM, Brizga, S. Clark, SQ, Candy, R. "Integrated Hydraulic and Geomorphological Investigations of the Tambo River" Xth World Water Congress, Melbourne, Australia, 2000.

Bishop, WA. Collins, NI. Callaghan, DP. and Clark, SQ "Detailed Two Dimensional Flood Modelling of Urban Developments", 8th International Conference on Urban Storm Drainage, 1999.

Clark, S. & Nielsen, P, 1996, "Sheet Bed Flow Modelled as Pure Convection", 25th International Conference on Coastal Engineering, Orlando, USA, 1996.

Collins, N. & Clark, SQ, "Full Two-Dimensional Floodplain Modelling", 8th Queensland Hydrology Symposium, IEAust, Queensland Division, Brisbane, Australia, 1995.

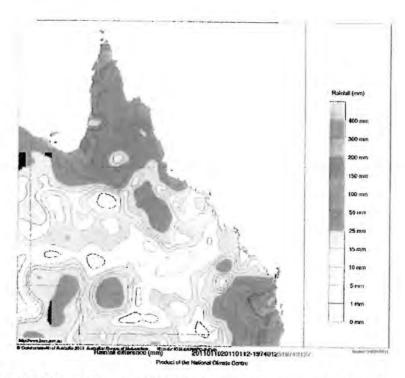
Collins, N. McAdam, M. & Clark, SQ, "Long Term Environmental Planning - Weipa Port Dredging". 11th Australasian Conferenc



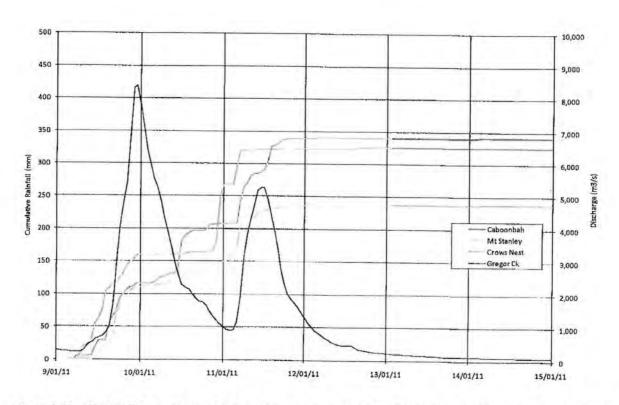
"Brisbane Area"



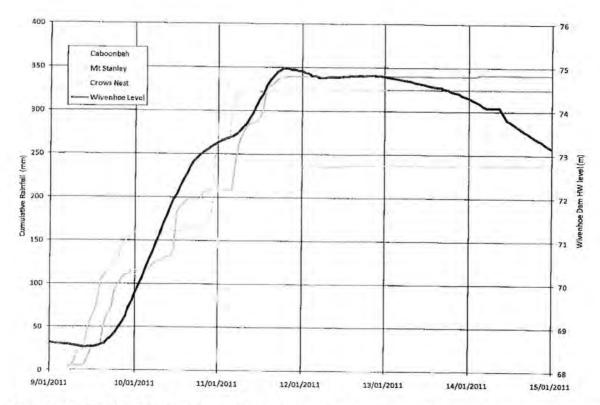
Brisbane River Catchment and Selected Brisbane River Gauging Stations



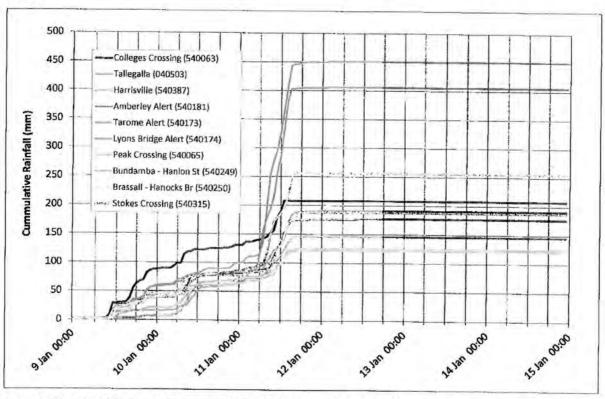
Three day rainfalls for 10 to 12 January 2011 (extract from Figure 5 - BOM, 2011)



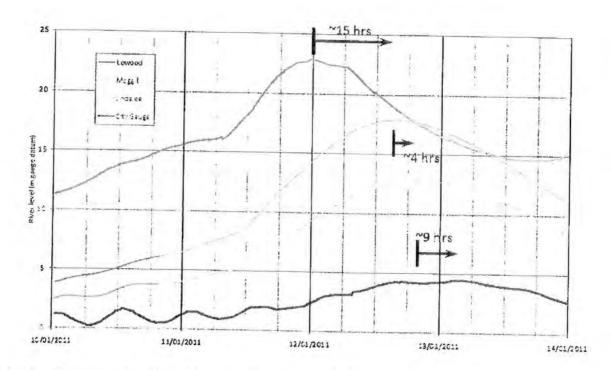
Cumulative Rainfall Records totals and Brisbane River (Gregor Ck) inflows to Wivenhoe Dam (9th to 15th January, 2011)



Cumulative Rainfall Records (selected) in the catchment above Wivenhoe Dam and Wivenhoe Dam Levels



Cumulative Rainfall Records (selected) in the catchments below Wivenhoe Dam



Recorded Brisbane River Levels at Gauges Below Wivenhoe Dam



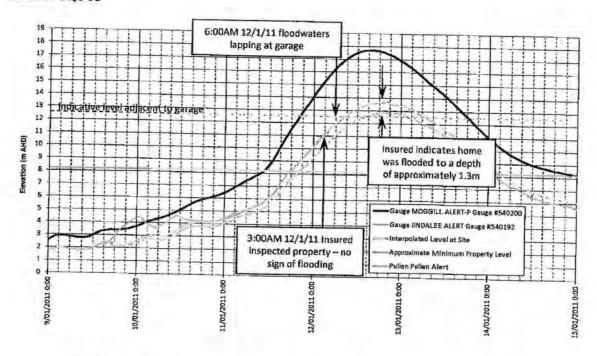
Topographic Plot of Site



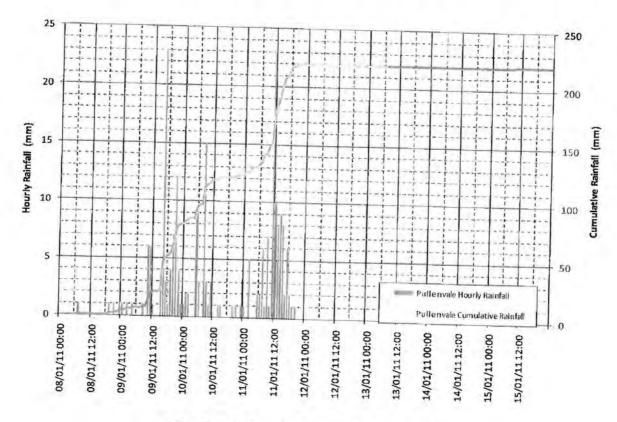
Aerial Image of the Site (Nearmap 2011)



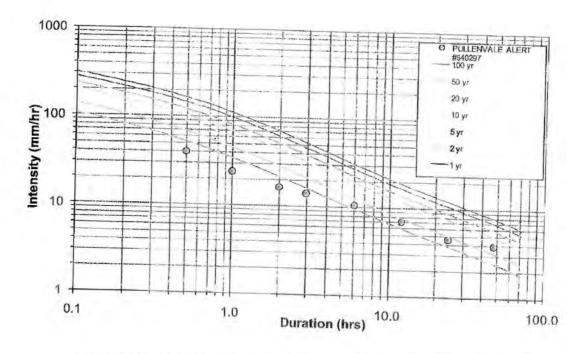
Aerial photo of the downstream reaches of Pullen Pullen Creek and the junction with the Brisbane River (reproduced from www.nearmap.com.au) taken on 13 January 2011.



Brisbane River Water Levels near the Property and Minimum Property Level



Rainfall Record for the Pullenvale Alert Station



Rainfall Intensity Frequency Duration Analysis for the Pullenvale Alert Station

FINANCIAL OMBUDSMAN SERVICE

	NUMBER:
Applicant:	
	AND
Financial Service Provider:	RACQ INSURANCE LIMITED

STATEMENT

Stephen Quinton Clark, of 93 Boundary Street, West End, Brisbane in the State of Queensland state as follows:

Qualifications

- I am specialist flooding engineer and Director of Water Technology Pty Ltd at 93 Boundary Street, West End, Brisbane. My key areas of expertise are hydrologic and hydraulic engineering, floodplain management and flood warning.
- I have the following qualifications: Bachelor of Civil Engineering (Hons) from the University of Queensland, Masters of Engineering Science from the University of Queensland, National Professional Engineers Register and Registered Professional Engineer Queensland. I attach as EXHIBIT SQC01 to this affidavit a copy of my curriculum vitae.

My engagement

3. In January 2011, in the aftermath of the Queensland floods, Cooper Grace Ward Lawyers on behalf of RACQ Insurance limited engaged me to assist with hydrological investigations into the Queensland floods. Since then I have been engaged on an ongoing basis (and am still engaged) to assist in determining claims by insured customers. Below I identify investigations which are specifically relevant to the property of the Applicant in this FOS dispute) at Property).

Process for considering the Subject Property

- 4. To determine the cause of the inundation of the Subject Property I started by considering the regional factors which led to the inundation in Brisbane (Including Fernvale) generally. I then performed a site specific review of the Subject Property to consider whether the inundation of the Subject Property may have been the result of stormwater run-off.
- 5. I believe this approach is an appropriate way to assess the cause of the inundation at the Subject Property because the factors which led to the rise in the Brisbane River occurred on a regional basis. The rise in the Brisbane River (which was caused by the mechanisms explained below) is what would have led to the inundation of the vast majority of properties

which were inundated in Brisbane. However, inundation caused by stormwater runoff is generally very site specific, and so it is necessary to consider site specific features of the Subject Property to determine whether stormwater run-off may have caused the inundation.

Inundation event

- 6. I have carried out extensive investigations into the inundation which occurred in Middle Brisbane in January 2011. By "Middle Brisbane" I mean the area generally depicted in the picture which is EXHIBIT SQC02 to this statement, and in particular the immediate downstream flow area of the Brisbane River from Wivenhoe Dam through the areas in the vicinity of Wivenhoe Pocket, Lowood and Fernvale. The area I looked at includes the Fernvale region.
- In particular my investigations were to determine whether the inundation in that region was caused by heavy rain that fell no more than 24 hours prior to the inundation or whether it was the result of some other cause.
- 8. In forming my opinion set out below I considered meteorology data, rainfall data in Middle Brisbane area and stream gauge data in the Middle Brisbane area. The rainfall data was collected from gauges at Lowood and Savages Crossing. The stream gauge data was collected from gauge stations on the Brisbane River at Lowood and Savages Crossing and the Lockyer Creek at O'Reilly's Weir. I attach as EXHIBIT SQC03 copies of the above mentioned data.
- 9. As I explain below, in the course of examining the flood in Middle Brisbane it was necessary to consider the effect of release of water from Wivenhoe Dam on the middle reaches of the Brisbane River. I attach as EXHIBIT SQC04 data I considered in relation to the Wivenhoe Dam catchment area (being rainfall data from rainfall gauges at Caboonbah, Mount Stanley, Crows Nest; level gauge records for Wivenhoe Dam headwater; derived discharges for the stream gauge at Gregor Creek). Also included in this data is the discharge history published by SEQ Water for Wivenhoe Dam for the relevant period.
- 10. I have also considered rainfall in the Lockyer Creek catchment. I attach as EXHIBIT SQC05 data I considered in this regard, being rainfall data from rainfall gauges at Gatton, Toowoomba and Tallegalia and stream data from stream gauges at Glenore Grove, Lyons Bridge, Rifle Range Road and O'Reilly's Weir.

Regional conclusions

- Based on the above data I conclude as follows.
- 12. There were two possible mechanisms operating in relation to the flooding in Fernvale one being the rain which had recently fallen in Fernvale and the other being the elevated levels of the Brisbane River (which is discussed further below).

Local Rainfall

13. In relation to the rain which had recently fallen in Fernvale the data I considered demonstrated that there was heavy rainfall which fell in and around the Fernvale area between 4.00am and 3.00pm on 11 January 2011. The intensity of the rainfall during these periods was sufficient to cause localised flash flooding or stormwater damage to some properties in Fernvale. However, for the reasons explained below under the heading "Site specific issues", I do not believe that the house on the Subject Property experienced inundation from such a cause.

Elevated levels of the Brisbane River

- 14. In relation to elevated levels of the Brisbane River, the data I considered demonstrated that the rising Brisbane River water level at Lowood and Savage's Crossing is attributable to the release of water from the Wivenhoe Dam which occurred on 11 January 2011 and, to a lesser extent, Lockyer Creek inflows and local catchment run-off. The relative significance of these three factors is discussed further below.
- 15. Wivenhoe Dam experienced significant inflows between the period from 6.00am on 9 January 2011 to 11 January 2011 associated with rainfall in the catchment above Wivenhoe during the same period. These inflows contributed to a peak outflow from Wivenhoe Dam occurring between approximately 7.00pm and 9.00pm on 12 January 2011. Any inundation directly associated with the Brisbane River flows below Wivenhoe Dam would be attributable to the rain event that commenced at approximately 6.00am on 9 January 2011 (and indeed earlier rainfall).
- 16. The Brisbane River level at Lowood peaked at shortly after midnight on 12 January 2011. The fact that the peak at Lowood occurred very shortly after the peak release from Wivenhoe Dam is a strong indicator that the main factor in the peak water level at Lowood was the release of water from the Wivenhoe Dam. This is confirmed by the fact that the shape of the hydrograph for the Brisbane River at Lowood is similar to the shape of the hydrograph of the Wivenhoe Dam releases and is significantly different from the shape of the hydrograph of the Lockyer Creek at Lyons Bridge.
- Therefore, the water contributed by the Lockyer Creek inflows to the water level of the Brisbane River at Lowood, compared with the water released from Wivenhoe Dam, was substantially smaller (although not insignificant). The water contributed by local catchment run-off, compared with the water released from Wivenhoe Dam, was insignificant. In any event, the majority of the Lockyer Creek inflows were attributable to rain that fell in the Lockyer Creek catchment between 5 January 2011 and 11 January 2011.
- 18. On this basis, I am confident that the peak water level of the Brisbane River at Lowood (and in areas downstream including Fernvale) is attributable to rain that fell more than 24 hours earlier.

19. I should also note that the mechanism of the inundation in Fernvale involves breakout flow from the Brisbane River, rather than simply water overflowing the banks of the Brisbane River in the vicinity of the relevant properties. By "breakout flow", I mean that as the Brisbane River travels East, near where it crosses the Brisbane Valley Highway, there is an area of low ground to the South. During times of elevated flow, this area of low ground becomes a flow path for some of the water, and so a limb of the Brisbane River branches out to the South East near the Brisbane Valley Highway, flows through Fernvale into Ferny Gully and re-joins the Brisbane River. EXHIBIT SQC06 contains images showing this flow path.

Further investigations - terrain data

- 20. As already mentioned, the above analysis was performed on a regional basis. Stormwater issues are generally very site specific. Accordingly, I undertook further steps to identify whether the cause of the inundation to the Subject Property may have been stormwater.
- 21. CSIRO defines Stormwater Flooding as:

inundation by local runoff caused by heavier than usual rainfall. Stormwater flooding can be caused by local runoff exceeding the capacity of an urban stormwater drainage system or by the backwater effects of mainstream flooding causing urban stormwater drainage systems to overflow.

22. To determine whether the Subject Property may have been affected by stormwater and/or flash flooding I looked at data regarding the terrain level of the Subject Property and surrounding areas, and considered information obtained from interviewing the Applicants and neighbours.

Terrain data

- I attach as EXHIBIT SQC07 to this statement a copy of the terrain data for the Subject Property.
- 24. When considering terrain data, the main thing that I considered is whether the Subject Property is higher than the surrounding areas. This would suggest a lower likelihood of stormwater and/or flash flood issues (and the converse also applies).
- 25. Exhibit SQC07 shows that the level of the Subject Property varies from approximately RL 42.5m AHD at the Schmidt Road side of the Subject Property to slightly under RL 42m AHD at the rear of the Subject Property. There are drainage channels along either side of Schmidt Road.
- 26. Ferny Gully is 400m to the South East of the Subject Property on the other side of Poole Road. This gully flows into the Brisbane River, which is approximately 2.5 km to the North East. Ferny Gully has a fairly substantial catchment area. In other words, the surface area collecting rainfall that would drain into Ferny Gully is quite large.

- 27 There is a constructed drainage channel to the North West of the Subject Property. The drains on either side of Schmidt Road would drain through this channel to Ferny Gully. Interviews
- 28. Water Technology made several visits to the Fernvale area, including a site visit of the Subject Property on 6 April 2011. EXHIBIT SQC08 to this statement contains various photographs taken by Water Technology at the 6 April 2011 site inspection, as well as a photograph provided by the resident of 19 Schmidt Street (which is near the Subject Property).
- 29. Water Technology staff also spoke to the specific by telephone on 17 May 2011. During that telephone conversation, see that said that:
 - a) It was raining for the whole day during 10 January 2011 and the morning of 11 January 2011.
 - b) On the morning of 11 January 2011, Poole Street had flooded, and the water almost came into the house on the Subject Property (although it did not actually come into the house).
 - This water subsequently drained away within half an hour.
 - Late In the afternoon on 11 January 2011, the water appeared again and everyone (including the Mokosches) evacuated.
 - e) By 5.45pm the house on the Subject Property was inundated.
 - f) The water which inundated the house on the Subject Property came from the North.
 - g) The water which inundated the house on the Subject Property was fast moving.
- 30. All of the above comments are entirely consistent with the house on the Subject Property having been inundated by breakout flow from the Brisbane River upstream of Fernvale. The water which approached but did not enter the house on the Subject Property in the morning on 11 January 2011 was, in my view attributable to local run-off caused by the heavy rain between 4.00am and 3.00pm on 11 January 2011. However, the water which arrived in the afternoon on 11 January 2011 was attributable to the elevated flows in Brisbane River these elevated flows were caused by the release of water from Wivenhoe Dam which was in turn attributable to rain that had fallen in the Wivenhoe Dam catchment area more than 24 hours earlier.
- 31. In my view it is not surprising that the Brisbane River water was fast moving at this location given its proximity to Wivenhoe Dam, the rapid increase in flow in this section of the Brisbane River caused by the discharges from Wivenhoe Dam, and the relatively steep nature of the Brisbane River and surrounding areas in Fernvale.

Conclusion

- 32. On the basis of the above matters, I conclude that the cause of the inundation of the house on the Subject Property was breakout flow from the Brisbane River, which was itself caused by rain which fell more than 24 hours earlier.
- I conclude that the house on the Subject Property was not inundated by stormwater or other local run-off.

All the facts and circumstances above are within my own knowledge save such as are from information only and the means of my knowledge and source of information appear on the face of this my statement.

SIGNED by STEPHEN QUINTON CLARK on 27.6.11

at Brisbane in the presence of:

Stephen Quinton Clark

Witness

Exhibit sacol



Carriculum Vitae

Steve Clark

BE Hons (Civil), MEng Sc, CPEng, MIEAUST

Director



Fields of Expertise

- * Water, floodplain and coastal engineering
- Numerical models
- Risk/vulnerability assessments
- Hydrologic and hydraulic modelling
- ' Hydraulic assessment and design
- Environmental monitoring programs.

Education

- Bachelor of Engineering with Honours, University of Queensland, 1988.
- Masters of Engineering Science, University of Queensland, 1999. Thesis submitted was entitled "The Entrainment of Sediment due to Oscillatory Flows In the Sheet Flow Regime".
- Accredited Water Efficiency Assessor with the Queensland Water Commission

Professional Affiliations

- · Registered Professional Engineer, Queensland.
- National Professional Engineers Register
- Member, Engineers Australia
- Member, River Basin Management Society
- Member, Australian Water and Wastewater Association
- Member, Stormwater Industry Association

Countries of Experience

- * Australia
- ' China
- Indonesia

Awards

Kenneth A. Thiess Prize, 1988

Professional History

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2006-present	Water Technology Pty Ltd (Qi.D)
2001-present	Manager, Brisbane Office Water Technology Pty Ltd Director
1999-2001	Lawson and Treloar Pty Ltd (VIC)
1997 - 1999	Manager, Water Resources Lawson and Treloar Pty Ltd (VIC) Senior Engineer
1994 - 1997	Lawson and Treloar Pty Ltd (QLD)
1989 - 1994	Engineer Connell Wagner Pty Ltd (QLD) Engineer

Fields of Special Competence Career Summary

Steve has over 20 years experience as a specialist in the water resources field. He has an Honours Degree in Engineering and a Masters of Engineering Science from the University of Queensland. Following graduation he worked for approximately 10 years throughout Queensland in waterway & floodplain management and infrastructure investigations. These investigations have included work throughout Brisbane and the Nerang River floodplain on the Gold Coast, Maroochydore, the Noosa River and Lakes system, the Pioneer River floodplain at Mackay, the Tully Murray system and numerous investigations on the Barron River Floodplain.

From 1996 Steve was based in Melbourne Victoria during which time he undertook various flood studies and floodplain management plans for both the Victorian and New South Wales offices of Lawson and Treloar. Of note, between 2002 and 2005 Steve was the principal hydraulic modeller on the Yangtze River Flood Warning and Control Project, a major 5 year AUSAID project in China. As Director of the Brisbane office of Water Technology, Steve has been involved in a diversity of high-profile projects such as managing the hydraulic component of the Pimpama Case Study, National Coastal Vulnerability Assessment for the Federal Department of Climate Change.

Key Projects

- Gwydir Wetlands Hydrodynamic Modelling, Northern NSW Department of Environment, Climate Change and Water. (2009 - current)
- North East Business Park Flood Study, Caboolture QLD Moreton Bay Regional Council (2007- current)
- * Ensham Mine Flood Forecasting System, Emerald QLD Ensham Resources (2009-2010)
- Regional Planning Project (Flooding), Toowoomba QLD Toowoomba Regional Council (2009).
- Inner City Bypass (ICB) Tunnel Flooding Investigation, Brisbane Northern Busway Alliance (2009)
- National Coastal Vulnerability Assessment Pimpama Case Study, Gold Coast QLD Federal Dept. Climate Change (2008)
- Mangoola Coal Mine Water Management System, Hunter Valley NSW, ATC Williams for Xstrata Coal (2006-2008)
- * Creek Diversions, Mine Water Management Plan, Blackwater QLD, BMA Coal (2008)
- Ballina Salinity Infiltration Study, Ballina NSW, Ballina Shire Council and Department of Commerce, NSW (2007-2008)
 Water Efficience M.
- Water Efficiency Management Plans, South East QLD, Austral Bricks, (2007)
- Lower Goulburn Floodplain Rehabilitation Project, VIC, Goulburn Broken CMA (2006)
- Yangtze River Flood Control and Management Project, China Sagric International for AusAid (2002-2005)

93 Boundary Street. West End, QLD, 4101, Australia
Telephone: Facsimile:



EXPERT ADVICE

Water Technology

Kunda Park Central vs Sunshine Coast Regional Council P&E Court Appeal 1057/08 (current). Engaged by Sunshine Coast Regional Council this current project involves the provision of review and expert advice services.

Comiskey Group vs Moreton Bay Regional Council P&E Court Appeal BD 210 of 2010 (current). Expert review, including review of flood related aspects of the proposed development including immunity requirements, stability and emergency management.

Stockland Development Pty Ltd vs Sunshine Coast Regional Council P&E Court Appeal 2282/09 (current). Expert review, including specialist hydraulic modelling of the development, and report preparation.

North East Business Park Pty Ltd vs Moreton Bay Regional Council P&E Court Appeal 254/10 and 255/10 (current). Provision of expert review services of the North East Business Park Development flood study and stormwater management plan for Moreton Bay Regional Council over a period of ~ 2 years. Work included a review of hydraulic modelling, comparison of results with previous flood levels, assessment of compliance with Council floodplain management requirements, identifying any impacts associated with the development and consequent implications, and a report summarising the review findings. Review of the stormwater management plan included a review of reporting and MUSIC modelling, review of relevant standards, comparison of reported results with relevant standards and a report summarising the review findings.

Amendment C70 – Boroondara Planning Scheme. Preparation (and subsequent presentation to VCAT) of an expert witness report for Stockland Pty Ltd summarising the flooding aspects of the proposal and design work undertaken to date for a major commercial and residential in inner Melbourne.

Abacus Hampton Retirement Trust vs Bayside City Council. Preparation of an expert witness report for Abacus Hampton Retirement Trust and subsequent presentation to VCAT regarding the flooding and drainage provisions of a proposed apartment block in a highly urbanised area.

Kaldumb Pty Ltd vs East Gippsland Catchment Management Authority. Preparation of an expert witness report for Kaldumb Pty Ltd and subsequent presentation to VCAT regarding flooding aspects associated with a potential industrial subdivision of floodprone (rural) land.

Lawson and Treloar

Strathmerton Deviation - VicRoads. Presentation to a panel hearing in Strathmerton regarding the hydraulic assessment and flooding implications of several potential highway alignments.



INTERNATIONAL EXPERIENCE

Yangtze River (China) Flood Control and Management Project (YRFCMP). The YRFCMP is a joint project of the Chinese and Australian Governments (managed via AusAid), Steve has recently completed undertaking a series of long term deployments in Wuhan, China. Since 2002, he has provided specialist advice on the procurement, establishment and implementation of hydraulic modelling systems within the overall flood management and warning systems.

The final stage of technical work focussed on (quantitatively) improving the accuracy and speed of flood warning procedures and the development of a Decision Support System that combines the current flood forecasting capabilities with web based assessment of flood management options for use in a real time context.

In conjunction with the technical development work, an extensive capacity building program was undertaken. As part of this program Steve had direct inputs into technical capacity building for the Flood Forecasting System and Decision Support System, the underlying hydraulic models and more generally took an active part in "train the trainer" courses.

Lombok (Indonesia) Resort Development Investigations (1995-97) for Lombok Tourism Development Corporation. Site Engineer for the site monitoring program design and initial site work involving site inspections and instrument deployment. Senior Engineer for subsequent preliminary design work included internal canals, lake systems and coastal works for a major resort development. Preliminary water balance, yield modelling and water quality considerations were addressed.

Site work was undertaken at a local level. 2 Australian engineers provided technical input, direction and training, while the site staff undertook the instrument installations, deployments, retrievals and general site measurements. This provided both an intensive initial data gathering exercise, and provided the necessary training for local staff to establish an ongoing monitoring program. The results of the results of the ongoing monitoring program were subsequently used in later stages of the design.

International Team Support (90-95) for various projects. While with Connell Wagner's Water Group, Steve was a hydraulic engineer as part of the Brisbane Office support and design team for projects undertaken by various overseas offices in Papua New Guinea, (Kainantu Water Supply and Sewerage Schemes) and China (Liaoning Urban Infrastructure Project).

WATERWAY/FLOODPLAIN MANAGEMENT INVESTIGATIONS

Water Technology

Gwydir Wetlands Hydrodynamic Modelling (2009 - current) for NSW Department of Environment, Climate Change and Water.

Project Manager and specialist hydraulic modeller for this major eco-hydraulics investigation aimed at developing advanced hydrodynamic modelling tools to assist in the environmental management of the Gwydir Wetlands.

National Coastal Vulnerability Assessment - Pimpama Case Study (2008) undertaken as part of the Federal Department of Climate Change's assessment of the socio-economic impacts and consequences of climate change for coastal communities in support of the 'first pass' National Coastal Vulnerability Assessment. Our role within the overall study team is to provide specialist hydrologic, hydraulic and coastal process advice,



PLANNING

Western Downs Regional Council Planning Scheme Project –Flooding and Stormwater Analysis (2010 – current). WDRC require a new planning scheme following amalgamation of 6 local councils to form the WDRC. Several towns in WDRC are experiencing rapid growth, and Water Technology is conducting a flooding and stormwater analysis for each town to assist in development of a new planning scheme. The flooding study will identify areas at risk of inundation and their impact on current and future development. In addition Q100 hazard categories will be identified. The stormwater analysis will define and map stormwater corridors, and define trunk drainage infrastructure needed currently and for future development.

Toowoomba Regional Council Regional Planning Project (Flooding) (2009). The aim of the project was to produce a new planning scheme policy for the TRC following the amalgamation of eight councils into one. Involved review of existing flood studies, collation of GIS flood data, collation of pseudo-flood data (e.g. waterway extent, previous flood overlays) and rating the quality of each dataset. Also included the provision of expert advice on the best way to account for the uncertainty in the different qualities of flood information in the new planning scheme policy. Involved extensive collaboration with Council staff and other project team professionals (e.g. planners, scientists, engineers).

INFRASTRUCTURE INVESTIGATIONS/DESIGN

Water Technology

Ensham Mine Flood Forecasting (2009-2010) for Ensham Resources. Project Manager for the development and calibration of a hydrologic flood forecasting model to provide Ensham Mine with in-house warning of floods from the Nogoa River (QLD). Historically, Ensham has experienced difficulty in gaining access to information and/or forecasts during events. The real time model developed will provide easier access and a greater level of detail and accuracy than is currently available.

Inner City Bypass (ICB) Tunnel Flooding Investigation (2009 - current) for the Northern Busway Alliance.

Assessment of the cause of flooding of the Brisbane ICB flooding in November 2008. Results were used to assist in the settlement of compensation claims by the Brisbane City Council against the Northern Busway Alliance.

Mine Water Management System Design (2006-2008) for the Xstrata Mangoola coal mine in NSW. Detailed event and long term modelling has been undertaken within the Goldsim modelling system to analyse potential risks to the mine associated with water availability. A Monte Carlo approach was utilised as part of the design process for on site storages and quantifying risks associated with water supply and potentially discharge from site.

Ballina Salinity Investigations for Ballina Shire Council and Department of Commerce. Co-ordination of salinity testing program and associated analysis to Identify sources of saline infiltration into the Ballina Sewer Network with the aim of reducing salinity at the Ballina Treatment Works. The ultimate aim of the project is to reduce salinity levels to the point where re-use of the waste water is possible without the installation of an RO plant.

Scour Investigation, Princess Highway crossing of Mitchell River at Bairnsdale for VicRoads (2006). Detailed hydraulic analysis and scour investigation as inputs to a structural stability analysis of the existing bridge. Numerous mitigation options were investigated prior to VicRoads determining that the preferred option was structural reinforcement of the existing bridge.

Scour Investigation, Princess Highway crossing of Tambo River at Swan Reach for VicRoads (2006). Detailed hydraulic analysis and scour investigation as inputs to a structural stability analysis of the existing bridge.



Calder Freeway, Carlsruhe Section Specialist Hydraullc Design for John Holland via EGIS. Detailed hydraulic analysis and design of the new Calder Freeway crossing of the Campaspe River.

Heany Park Review for Fisher Stewart. Provision of expert (3rd party) review services for drainage design of an existing subdivision.

Lawson and Treloar

Hydraulic assessment of proposed Shepparton Bypass for VicRoads. Hydraulic analysis of the proposed Shepparton Bypass (Western Route) for presentation at the Panel Hearings.

Princes West Project for Leightons/GHD. Detailed hydraulic assessment and design as part of the successful Design and Construct bid. Design services were provided to both optimise the proposed design, and provide detailed information as to the potential impacts to key stakeholders.

Princes West Project for VicRoads. Comprehensive and detailed hydrologic and hydraulic assessment of the existing status of the Princes West freeway between Melbourne and Geelong for VicRoads. Crossing upgrades were designed for varying levels of immunity and various configurations. Also included was extensive consultation with relevant stakeholders and authorities along the route of the proposed upgrades.

Goulburn Valley Highway Hydraulic Assessment. Hydraulic Assessment and design of several potential alignments (in the vicinity of Strathmerton) across both the Murray River and it's floodplain. Full two dimensional modelling has been used to define flow paths on a broad scale. Detailed modelling was undertaken in the vicinity of the proposed route embankments as input to structure design.

Specialist Hydraulic Investigations/Design Projects. Numerous investigations/preliminary designs undertaken for VicRoads including:

- North Arm Bridge (Lakes Entrance) Afflux Study
- Home Creek, Goulburn River
- Hallam Bypass (Eummemmering Creek)
- Swansea Road Duplication (Olinda Creek)

Hendra Doomben Relief Drainage Investigation. Detailed MOUSE modelling of a severely under-capacity stormwater drainage network and relief system design.

Hemmant Master Drainage Study. Detailed MIKE 11 & MOUSE modelling of a low lying residential area. Included analysis and assessment of flooding hazard, design of mitigation works. Initial study results have transferred to BCC's GIS system for over-the-counter interrogation.

Brookbent Road (1996) for Brisbane City Council. Detailed hydraulic assessment of the effect of the failure of the Brookbent Road crossing (embankment) during the March '96 Oxley Creek event. Sensitivity of upstream, floodprone areas to various proposed crossing reinstatement options has been conducted.

Mudgeeraba Connection Road for Gold Coast City Council. Evaluation using quasi 2D modelling of the effects of various hydraulic structure configurations for a proposed road crossing of a floodplain.

Cairns International Airport Master Drainage Study for Cairns Port Authority. Major trunk drainage system analysis and design utilising fully unsteady analysis techniques. Tools being utilised include MIKE21, MIKE11 and MOUSE.



RTA Route Selection Study, Wollongong (1994), including runoff-routing and MIKE 11 modelling of Macquarie Rivulet and Lake Illawarra.

Connell Wagner

Eastern Corridor Study, Brisbane - Gold Coast 1991. Assessment of the hydraulic impact of various proposed alignment options of the duplication of the Pacific Highway.

Relief Drainage System Design, Albion Windsor, Brisbane 1990. Upgrade of an existing inadequate pipe drainage system (Capital cost \$2 million)

Burdekin River Irrigation Area Modelling, Ayre 1989. Additional modelling of the Northcote Section of the Burdekin Area utilising the MIKE-11 modelling package

FLOODPLAIN MANAGEMENT INVESTIGATIONS

Water Technology

Western Downs Regional Council Planning Scheme Project —Flooding and Stormwater Analysis (2010 — current). Project Manager for several flood studies of towns in the Western Downs. WDRC require a new planning scheme following amalgamation of 6 local councils to form the WDRC. Several towns in WDRC are experiencing rapid growth, and Water Technology is conducting a flooding and stormwater analysis for each town to assist in development of a new planning scheme. Flood studies will be conducted for Chinchilla, Tara, Miles and Jandowae; and the Dalby flood study will be reviewed.

North East Business Park Flood Study (current). Expert reviewer for Moreton Bay Regional Council engaged to review floodplain management and water quality (stormwater management planning) aspects of the proposed development.

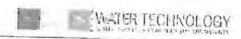
Lower Goulburn Floodplain Rehabilitation Project for Goulburn Broken CMA via SKM. Provision of specialist hydraulic modelling services for the largest hydraulic analysis project undertaken to date in Victoria, as part of one of the largest floodplain rehabilitation projects proposed. The terrain being used for this project incorporates the latest in aerial laser scanning technology which provides an extremely detailed data set (requiring special processing techniques) for the entire study area.

Flooding Investigations for the Wimmera CMA. Project Manager for the Horsham Flood Study, the Dimboola Flood Study and the Glenorchy to Horsham Flood Scoping Study. The three studies have been undertaken using a risk management approach with the key outcome being an increased understanding of exposure of the communities to flooding. Project scopes have included extensive community and authority consultation, detailed survey (field and photogrammetric), detailed hydrology and hydraulics and the provision of maps associated with reporting requirements.

Little Yarra Flood Mapping for Melbourne Water. Detailed Hydrologic and Hydraulic analysis to enable flood mapping of the Little Yarra River to Yarra junction.

Lawson and Treloar

Shepparton Floodplain Management Investigation for Shepparton City Council. Project Manager for the hydraulic investigation and design portion (to delivery of design events stage) of the largest floodplain management investigation undertaken at the time in Victoria.



Myrtleford Floodplain Management Study. Project Manager for the hydraulic analysis component of the project, the outputs of which were inundation maps for existing conditions, mitigation option design and mitigation option mapping.

Traralgon Floodplain Management Study (1998) for Shire of Traralgon. Project Manager for the hydraulic analysis portion of this project aimed at providing a comprehensive understanding of the flooding mechanisms is being gained through this state of the art fully two dimensional, dynamic flooding investigation.

Euroa Floodplain Management Study (1997) for Shire of Strathbogie. Project Manager for the hydraulic analysis portion of this Floodplain Management Study. A comprehensive understanding of the damaging and complex flooding regime at Euroa was provided through full two dimensional hydraulic modelling. Subsequently, the impact of various potential flood protection measures (mitigation schemes, both structural and non-structural) and flood warning systems were assessed.

High Definition Flood Study, Wallsend Plattsburg — Detailed hydraulic assessment using full two dimensional unsteady analysis of several severely floodprone (urban) areas of Newcastle, including analysis and provision of results for incorporation into Council's GIS system.

Nerang River Flood Mitigation Assessment. Assessment of the potential for flood mitigation works on the Nerang River floodplain utilising existing hydraulic structures and/or additional works.

Flood Study of Oxley Creek (1996/97) for Brisbane City Council to augment BCC's Waterways Strategy Plan. Oxley Creek is the most technically challenging creek in the Brisbane area with dramatic changes recorded over time as part of the creeks natural morphology and in response to significant sand extraction operations. Primary outcomes are the delineation of flood regulation lines based on hydrologic and hydraulic analysis. Secondary outcomes are the assessment of hydraulic structures, the effects of catchment development and the development of revegetation strategies.

Upper Barron Delta Modelling. Full 2D modelling of the Upper Barron Delta was conducted using a course grid model for the entire Barron Delta and a fine grid model for the upper portions. The purpose of the investigation was to examine the impact of both proposed developments and sand extractions on flooding through existing residential areas.

Flood Study of the Noosa River System for Noosa Council. This study forms the basis for a flood plain management study aiming to develop a floodplain management plan. Components of the study include:

- evaluation of the hydrologic and hydraulic characteristics of the Noosa River catchment and determination of its flooding characteristics,
- Integration of model results into Noosa Council's existing GIS information networks.

Tully Murray Water Management Scheme for Department of Primary Industries, Water Resources. Detailed floodplain modelling and hydraulic design of a master drainage plan. Tools being used include RAFTS, MIKE11 and MIKE21.

Emerald Floodplain Scoping Study (1994) for the Department of Primary Industries, Water Resources. This study was conducted to identify the methodology, data requirements and approximate costs associated with work necessary to develop a floodplain management plan for the Emerald floodplain system.

Ironbark Creek T.C.M. Study (1994), including data interface preparation.



Connell Wagner

Barron Delta Flooding Checks, Cairns (1989-1994). Ongoing work associated with the investigation of the effects of proposed developments upon flooding in the Barron Delta area, using the ESTRY numerical model.

Woodford Flood Study, Nambour 1993. Hydrologic (RORB) and hydraulic (HEC-2) investigation of a proposed development involving floodway encroachment.

Bulimba Creek East Master Drainage Study, Brisbane 1990-1991. Catchment management consideration of environmental values, economic analysis and public involvement.

Eudlo Creek Flood Study, Maroochydore 1989. Development of a MIKE 11 model of Lower Eudlo Creek for road crossings and flood mitigation.

DEVELOPMENT PROPOSALS ASSESSMENT/DESIGN

Water Technology

Provision of specialist hydrologic and hydraulic design services associated with several proposed developments in south east Queensland and Northern NSW. Some examples are:

Bethania Flooding Assessment (2009-2010) for AV Jennings. Project Manager for the assessment of flooding impacts of a proposed 4 ha residential development in Logan, QLD. Work included MikeFlood hydraulic modelling and WBNM hydrological modelling.

Everton Park Proposed Reconfiguration of a Lot (2009) for Conics Pty Ltd. Project Manager for the investigation of 100 year ARI flooding for a property in Everton Park, QLD. A Brisbane City Council Mike11 model was updated with new survey and a new inundation extent was defined.

Eight Mile Plains Stormwater Management Assessment (2008) for Lambert and Rehbein. Project Manager for the assessment of stormwater impacts of a proposed child care centre in Eight Mile Plains, QLD. Work included MikeStorm modelling to conceptually design onsite stormwater detention (in the form of underground tanks).

North Shearwater Precinct Development – Local Environment Study (2008) for Great Lakes Council. Project Manager for the Water Technology component of hydrology, flooding and local drainage aspects of the LES for the North Shearwater precinct development, NSW. Work involved hydrologic (WBNM) and hydraulic analysis (Mike21) of pre and post development cases, including consideration of elevated downstream estuary levels due to climate change and more extreme climate change scenarios. Water Technology was sub contracted to GeoLink for this project.

Northeast Parkhurst Master Plan – Stage 1 – Flooding Constraints (2008) for Wolters Consulting. Review of previous work related to flood constraints that has implications for the Master Planning process for the Northeast Parkhurst development, Rockhampton. Work included review of aerial photography/flooding/contour data of the area, desktop review of a previous flood report in terms of hydrological and hydraulic analysis, review of site opportunities and constraints for flooding relating to sustainability design principles, and implications for the Master Planning process.

Mackay Christian College Local Drainage Investigation (2007) for Sanders Turner Ellick Architects. Project Manager for the assessment of flooding impacts of a proposed school and residential development in Mackay,



Emerald Lakes Project Flooding Assessment. Utilising state of the art, two dimensional modelling techniques (including detailed schematisation of canal developments and hydraulic controls such as bridges, culverts, locks and weirs), various development scenarios affecting the Nerang River and associated floodplain system are currently being assessed

Dong Ah Project. This study involved the hydraulic design ranging from preliminary conceptual advice through to detailed quasi 2D modelling of a proposed golf course development. Issues associated with the golf course included zero impact on neighbouring properties, provision of bunding for more common design events, conveyance, flood storage and design level issues for varying land use areas, lake and wetland water quality issues. Subsequent investigations have included water quality considerations and water balance modelling.

Connell Wagner

Green Island Coral Dredging - Impact Assessment Study (1993). Engineer responsible for field work including extensive sediment sampling, water quality monitoring and current metering.

Detailed design of **Dalrymple Bay Coal Terminal Berth 2 Extension** (1992) providing a second berth for vessels up to 200,000 DWT. Member of the design team for the offshore structural works component.

Dredging and reclamation strategy for Port Development Works, Townsville (1992). Development of an implementation plan for capital works at the Port of Townsville with specific regard to dredging and reclamation options in terms of technical performance, implementation advantages or disadvantages and capital cost.

Wellington Point Canal Estate, Moreton Bay 1992. Investigation of proposed marina and associated dredged entrance channel. Numerical modelling (RUBICON) was undertaken to investigate entrance channel stability and canal flushing.

Stage 2 Embley Estuary Environmental Monitoring, Weipa 1993. Engineer responsible for the water quality aspects of a multidisciplinary field work program designed to establish baseline data for the Embley River Estuary. Subsequent work included the formulation of a long term work and modelling program.

Weipa Sediment Sampling and Monitoring Program for the Albatross Bay Dumpsite, (1992) for Department of Transport. Supervision of field work over a 6 month period following channel maintenance dredging and associated dumping including extensive sediment sampling, water quality monitoring and benthic community monitoring.

Weipa Environmental Monitoring Program, (1991) for Department of Transport. Supervision of field work over a 6 month period following dredging and dumping including water quality and benthic community monitoring.

Long Term Strategy for Spoil Disposal, Port of Cairns (1991-1993). Examination of all possible land and sea disposal sites and methods for the disposal of maintenance dredge spoil from the Cairns shipping channel using a generalised, logical two pass screening process.

Cairns Port Authority Offshore Spoil Dump Studies (1989 -1993).

Following monitoring and assessment work over a three year period, short (approximately 6 months) and long (greater than 12 months) term monitoring programs were established. These



programs (with a budget in excess of \$1.5 million) to date have included:

- numerical modelling of dredge induced plumes
- numerical prediction of deposited spoil resuspension and dispersion over the short and long
- field work program utilising state-of-the-art dredge and dump monitoring techniques (seabed, surface and aerial operations) and the analysis of gathered data
- detailed analysis (including statistical work) of long term current, wave, wind etc. records
- installation of long term monitoring equipment (current meters, waverider buoy, tide gauge, anemometer, fixed bed turbidity meters)
- flume work aimed at quantifying the threshold of movement of Cairns Harbour Dredge Spoil
- preparation of public information reports

Offshore Spoil Dump Study, Port of Mackay (1991), evaluation of the impact of spoil disposal via both surface and aerial monitoring programs

Mandurah Ocean Marina Study, Western Australia (1989). Numerical hydraulic modelling (RUBICON) of the estuarine lake system and associated sediment transport modelling to assess the impact of dredging a new ocean entrance channel and the construction of a marina.

WATER EFFICIENCY MANAGEMENT PLANS

Water Technology

Australbricks Rochedale and Riverview plants. Preparation of a Water Efficiency Management plan and investigation of potential water savings associated with construction of an on-site storage for rainwater harvesting. Funding applications for construction of the storage were prepared and funding was successfully obtained for this major project. Following construction, substantial water savings have been realised.

"Palm Lodge" Nursing Home Facility for Ozcare. Preparation of Water Efficiency Management Plan and preparation of funding applications for rebates associated with installation of water efficient fixtures.

Peel St Homeless Men's Nursing Home Facility for Ozcare. Preparation of Water Efficiency Management Plan and preparation of funding applications for rebates associated with installation of water efficient fixtures.

RELEVANT PUBLICATIONS

Clark, SQ. Wen, L. & Bishop, WA, "RERP Gwydir Wetland Hydrodynamic Model Development Overview". 18th QLD Water Symposium, Brisbane, Australia, 2010.

Clark, SQ "Hydraulic Roughness Characteristics of the Yangtze River", 16th Queensland Water Symposium, University of Queensland, July, 2007.

Markar, MS, Clark, SQ, Min Yaowu and Zheng Jing, "Evaluation of Hydrologic and Hydraulic Models for Real-Time Flood Forecasting Use in the Yangtze River Catchment", Australian Journal of Water Resources, Vol 10, No 1, May 2006.

Betts, HW, Joy, CS, Markar, MS, Clark, SQ, Sterling, E., Gooda, M., Jin Xingping, Wu Daoxi, 2005b. "The Achievements of the Yangtze River Flood Control and Management Project", The 2nd International Yellow River

Clark, SQ, Womersley, TJ, Min Yaowu., Zhang Fangwei., Huang Wei, "Two Dimensional Modelling of the Dongting Lakes in support of the Flood Forecasting and Options Analysis Systems of the Yangtze River Flood



Control and Management Project", The 2nd International Yellow River Forum Zhengzhou, 18-21October 2005. China

Markar, MS, Clark SQ, Min Yaowu, Zhang Fang Wei & Zhou Hongmei "Trialling of a new flood forecasting system for the Yangtze River in China", The 2nd International Yellow River Forum Zhengzhou, 18-21 October, 2005. China.

Betts, HW, Sterling, E., Clark, SQ, Markar, MS, M. Chen, Huang Wei, "Flood Management Decision Making in the Yangtze River". 8th International River Symposium, Brisbane, Australia, 5th to 9th September, 2005.

Clark SQ, Markar, MS, Womersley, TJ, Min Yaowu, Zhang Fangwei & Huang Wei "Overview of supporting modeling systems developed for the Yangtze River Flood Control and Management Project", 8th International River Symposium, Brisbane, Australia, 5th to 9th September, 2005.

Markar, MS, Clark, SQ, Betts, HW, Gooda, M, Min Yaowu, Chen Yali, "Improved flood warning for the Yangtze-River in China", 8th International River Symposium, Brisbane, Australia, 5th to 9th September, 2005.

Clark, SQ, Markar, MS, Betts, HW, Gooda, M, Min Yaowu, Zhang, Fangwei, Huang Wei, "Use of Numerical Modelling in Support of Yangtze River Flood Forecasting and Decision Making", Third International Symposium on Flood Defence, Nijemegen, 25-27 May 2005. Netherlands

Betts, HW, Sterling, E, Clark, SQ, Wu Daoxi, Wong Jingquan, "An Options Analysis System for Flood Management Decision Making in the Yangtze River Catchment, China". Third International Symposium on Flood Defence, Nijemegen, 25-27 May 2005. Netherlands

Markar, MS, Clark, SQ, Malone, T, Gooda, M., Chen Yali, Min Yaowu., "A New Flood Forecasting System for the Yangtze River in China". Third International Symposium on Flood Defence, Nijemegen, 25-27 May 2005.

Clark, SQ, Markar, MS, Min Yaowu, Wu Daoxi, "Overview of Hydraulic modelling of the Yangtze River for Flood Forecasting Purposes", 8th National Conference on Hydraulic Engineering, Gold Coast, Australia, 2004.

Markar, MS, Clark, SQ, Min Yaowu, Zheng Jing, "Evaluation of Hydrologic and Hydraulic Models for Real-Time Flood Forecasting Use in the Yangtze River Catchment.", 8th National Conference on Hydraulic Engineering, Gold Coast, Australia, 2004.

Clark, SQ, Muncaster, S., Reithmuller, E., "Horsham Flood Study", Third Victorian Flood Management Conference, Horsham, Australia, 2003.

Tierney, G., Dando, T., McCowan, A., Clark, SQ, Womersley, TJ., "Development of a detailed hydraulic model using ALS data as part of the Lower Goulburn Floodplain Rehabilitation Scheme", Third Victorian Flood Management Conference, Horsham, Australia, 2003.

Clark, SQ & Mallory, G. "Geelong Freeway Upgrade: Drainage Design for a Highway that Crosses a Complex Floodplain" Hydraulics in Civil Engineering, Hobart, Australia, 2001.

Robertson, P., Daly, M., Clark, SQ, "An Overview of Floodplain Management Planning and Implementation in Traralgon" Second Victorian Flood Management Conference, Traralgon, Australia, 2001.

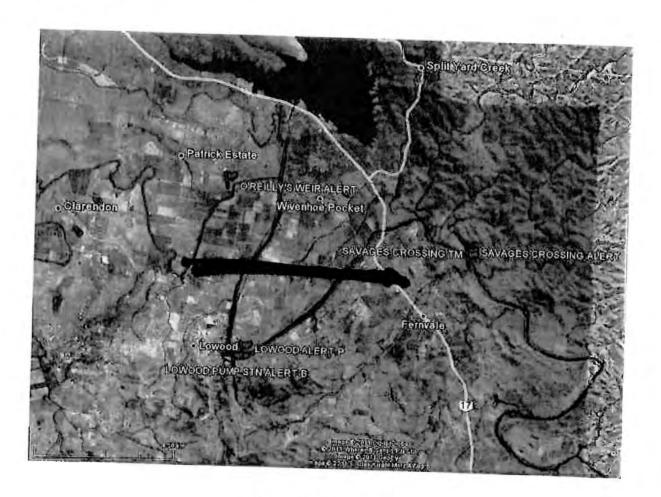
Craigie, NM, Brizga, S. Clark, SQ, Candy, R. "Integrated Hydraulic and Geomorphological Investigations of the Tambo River" Xth World Water Congress, Melbourne, Australia, 2000.

Bishop, WA. Collins, NI. Callaghan, DP. and Clark, SQ "Detailed Two Dimensional Flood Modelling of Urban Developments", 8th International Conference on Urban Storm Drainage, 1999.

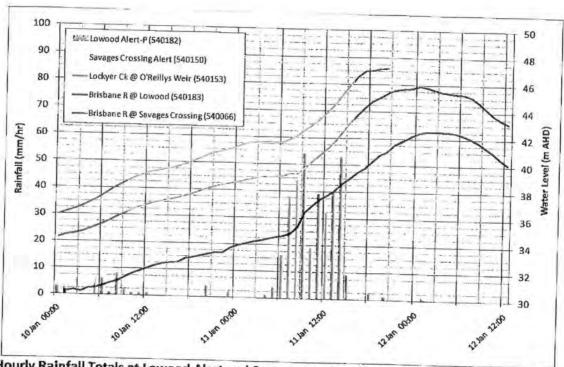
Clark, S. & Nielsen, P, 1996, "Sheet Bed Flow Modelled as Pure Convection", 25th International Conference on Coastal Engineering, Orlando, USA, 1996.

Collins, N. & Clark, SQ, "Full Two-Dimensional Floodplain Modelling", 8th Queensland Hydrology Symposium, IEAust, Queensland Division, Brisbane, Australia, 1995.

Collins, N. McAdam, M. & Clark, SQ, "Long Term Environmental Planning - Weipa Port Dredging". 11th Australasian Conferenc



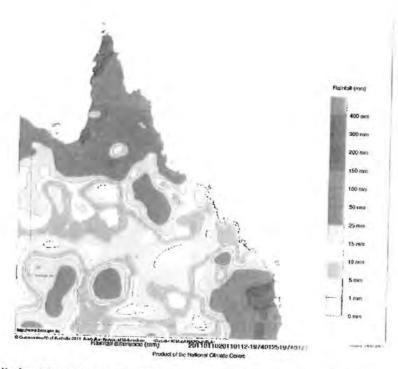
"Fernvale Area"



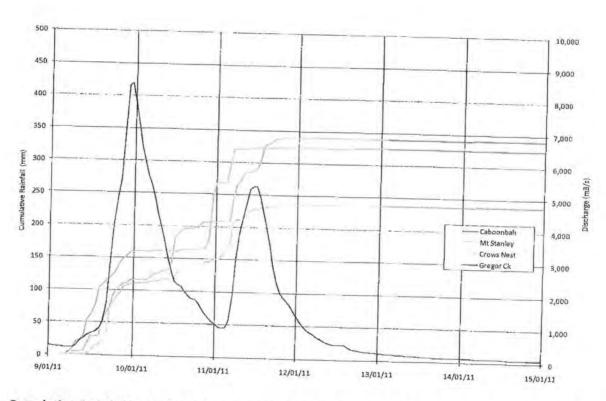
Hourly Rainfall Totals at Lowood Alert and Savages Crossing Alert Rainfall Stations; and River Water Level Time Histories for Lockyer Creek at O'Reillys Weir, Brisbane River at Lowood and the Brisbane River at Savages Crossing.



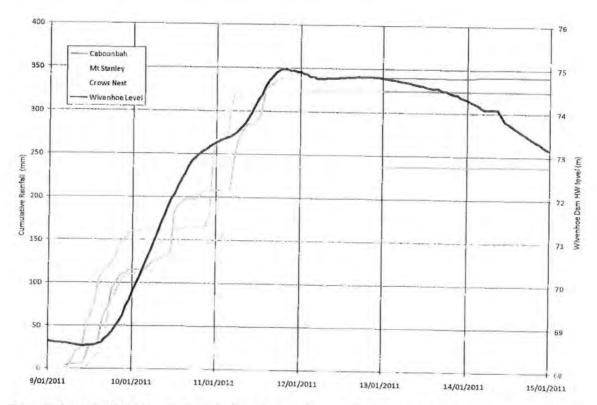
Brisbane River Catchment and Selected Brisbane River Gauging Stations



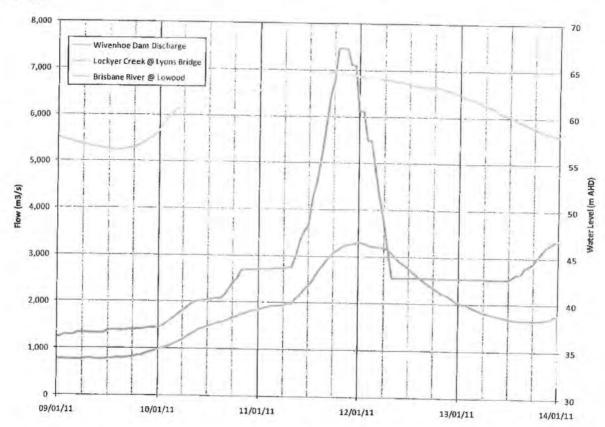
Three day rainfalls for 10 to 12 January 2011 (extract from Figure 5 - BOM, 2011)



Cumulative Rainfall Records totals and Brisbane River (Gregor Ck) inflows to Wivenhoe Dam (9^{th} to 15^{th} January, 2011)



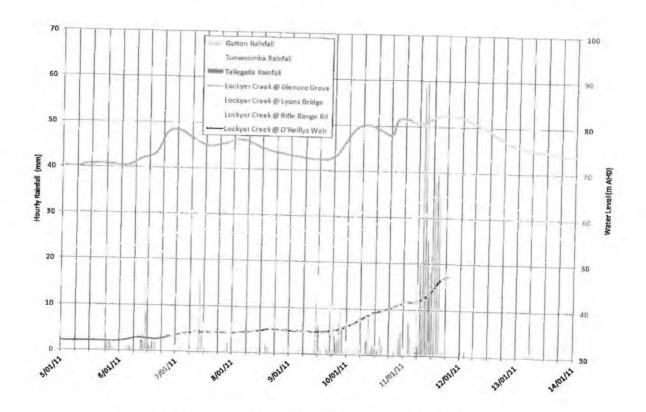
Cumulative Rainfall Records (selected) in the catchment above Wivenhoe Dam and Wivenhoe Dam Levels



Wivenhoe Discharge, Lockyer Creek at Lyons Bridge and Brisbane River at Lowood.



Location of Selected Stream Gauging Stations in the Lower Lockyer Creek and Middle Brisbane River Catchments (Brisbane R – Lockyer Ck Confluence) (Google Earth 2011)

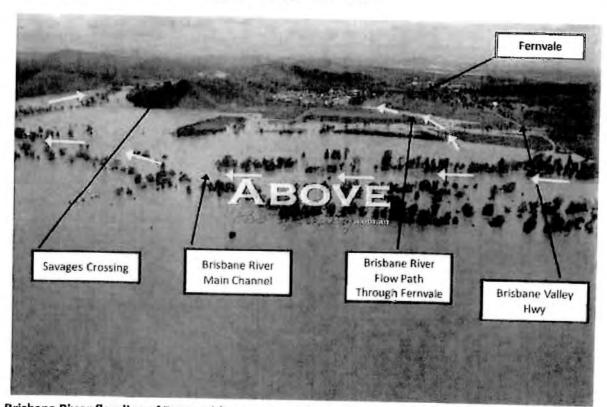


Available Gauge Data for the Lower Reaches of Lockyer Creek

EXHIBIT SQC 06



Fernvale and the Brisbane River (source - Google Earth 2011)

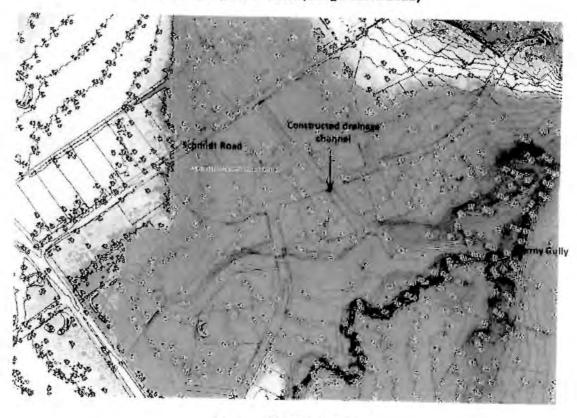


Brisbane River flooding of Fernvael (source www.abovephotography.com.au)

EXHIBIT SQC 07



Aerial Image of the Site (Google Earth 2011)



Topographic Plot of Site



Site Visit 6/4/2011



Site Visit 6/4/2011



Site Visit 6/4/2011



Site Visit 6/4/2011



Local Stormwater Ponding, Looking from Control Ponding Ponding (circa 09:00 on 11 January 2011 - source: Residents at 10 Schmidt St Formwale)

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FINANCIAL OMBUDSMAN SERVICE

	NUMBER:	
Applicant:		
	AND	
Financial Service Provider:	RACQ INSURANCE LIMITED	

STATEMENT

I, Stephen Quinton Clark, of 93 Boundary Street, West End, Brisbane in the State of Queensland state as follows:

Qualifications

- I am specialist flooding engineer and Director of Water Technology Pty Ltd at 93 Boundary Street, West End, Brisbane. My key areas of expertise are hydrologic and hydraulic engineering, floodplain management and flood warning.
- I have the following qualifications: Bachelor of Civil Engineering (Hons) from the University of Queensland, Masters of Engineering Science from the University of Queensland, National Professional Engineers Register and Registered Professional Engineer Queensland. I attach as EXHIBIT SQC01 to this affidavit a copy of my curriculum vitae.

My engagement

3. In January 2011, in the aftermath of the Queensland floods, Cooper Grace Ward Lawyers on behalf of RACQ Insurance limited engaged me to assist with hydrological investigations into the Queensland floods. Since then I have been engaged on an ongoing basis (and am still engaged) to assist in determining claims by insured customers. Below I identify investigations which are specifically relevant to the property of the Applicant in this FOS dispute) at the Cooper Grace Ward Lawyers on behalf of RACQ Insurance limited engaged me to assist with hydrological investigations into the Queensland floods. Since then I have been engaged on an ongoing basis (and am still engaged) to assist in determining claims by insured customers. Below I identify investigations which are specifically relevant to the property of the Cooper Grace Ward Lawyers on behalf of RACQ Insurance limited engaged me to assist with hydrological investigations into the Queensland floods. Since then I have been engaged on an ongoing basis (and am still engaged) to assist in determining claims by insured customers. Below I identify investigations which are specifically relevant to the property of the Subject Property).

Process for considering the Subject Property

- 4. To determine the cause of the inundation of the Subject Property I started by considering the regional factors which led to the inundation in Brisbane generally. I then performed a site specific review of the Subject Property to consider whether the inundation of the Subject Property may have been the result of stormwater run-off.
- 5. I believe this approach is an appropriate way to assess the cause of the inundation at the Subject Property because the factors which led to the rise in the Brisbane River occurred on a regional basis. The rise in the Brisbane River (which was caused by the mechanisms explained below) is what would have led to the inundation of the vast majority of properties which were inundated in the Brisbane region. However, inundation caused by stormwater

runoff is generally very site specific, and so it is necessary to consider site specific features of the Subject Property to determine whether stormwater run-off may have caused the inundation.

Inundation event Brisbane

- I have carried out extensive investigations into the inundation which occurred in Brisbane in January 2011.
- In particular my investigations were to determine whether the inundation in that region was caused by heavy rain that fell no more than 24 hours prior to the flood or whether it was the result of some other cause.
- The area I looked at includes the Brisbane River catchment up to Brisbane.
- 9. In forming my opinion set out below I considered meteorology data, rainfall data in the Brisbane River and Wivenhoe Dam catchment area and stream gauge data for the Brisbane River. The rainfall data was collected from the gauging stations at Caboonbah, Mt Stanley, and Crows Nest. The stream gauge data was collected from the gauging stations at Gregor Creek, Lowood, Moggill, Jindalee and the Brisbane City gauge. I attach as EXHIBIT SQC02 data the above mentioned data.

Regional Conclusions - Brisbane

- Based on the above data I conclude as follows.
- A substantial amount of rain fell in the Brisbane River catchment above Wivenhoe Dam both before, but particularly over the period 9, 10 and 11 January 2011 commencing at approximately 9.00am on 9 January 2011. This rain caused significant inflows into the Wivenhoe Dam, the level of which peaked late in the evening on 11 January 2011. There were significant discharges of this water from the Wivenhoe Dam which flowed into the Brisbane River. This water worked its way down the Brisbane River towards Brisbane.
- 12. A substantial amount of rain also fell in the Bremer River catchment from around 6.00am on 11 January 2011. This rain travelled down the Bremer River towards the junction of the Bremer River and the Brisbane River.
- 13. The Bremer River contributed in the order of 15% to 25% of the Brisbane River's peak flow. Due to the high Brisbane River tailwater levels, there was some attenuation of the peak flow rate in the lower reaches of the Bremer River. This means that the overall contribution of the Bremer River to the Brisbane River is likely to be less than 15% to 25% but it is not possible at this stage to precisely say by how much less.
- 14. A small proportion of the overall depth of the Brisbane River prior to 6.00am on 12 January 2011 may be partially attributable to the rain that fell in the Bremer River catchment on 11 January 2011. However, the overwhelming influence on the flooding of the Brisbane River

- was the rain which fell some days earlier over the Wivenhoe Dam catchment and its subsequent release from Wivenhoe Dam.
- After 6.00am on 12 January 2011, the Brisbane River continued to rise to its peak level of
 4.45m (recorded at the Brisbane City Gauge at approximately 4.00am on 13 January 2011).

Further investigations

- 16. As already mentioned, the above analysis was performed on a regional basis. Stormwater issues are generally very site specific. Accordingly, I undertook further steps to identify whether the cause of the inundation to the Subject Property may have been stormwater.
- CSIRO defines Stormwater Flooding as:
 - Inundation by local runoff caused by heavier than usual rainfall. Stormwater flooding can be caused by local runoff exceeding the capacity of an urban stormwater drainage system or by the backwater effects of mainstream flooding causing urban stormwater drainage systems to overflow.
- 18. The further investigations I undertook to identify whether the cause of the inundation to the Subject Property may have been stormwater were: reviewing terrain data, comparing the reported time of inundation with the timing of the rise of the Brisbane River, and comparing the reported time of inundation with local rainfall data.

Terrain data

- 19. When considering terrain data, the main thing that I considered is whether the Subject Property is higher than the surrounding areas. This would suggest a lower likelihood of stormwater and/or flash flood issues (and the converse also applies).
- I attach as EXHIBIT SQC03 to this statement a copy of the terrain data for the Subject Property.
- I attach as EXHIBIT SQC04 to this statement a copy of the Brisbane City Council FloodWise data for the Subject Property.
- 22. This shows that the level of the Subject Property varies from approximately RL 4.3m AHD to RL 6.9m AHD. There is stormwater infrastructure on Sydney Street, including curb and channelling and stormwater pits. The Subject Property is on the higher side of Sydney Street, and site inspections conducted by Water Technology indicated that the house itself is elevated from the ground.
- The terrain information suggests that it would be unlikely that the Subject Property would experience significant stormwater problems from stormwater or other local run-off.

Minimal local rainfall at time of reported inundation

 Inundation resulting from stormwater or other local run-off generally requires intense levels of rain (ie sufficient to overcome the stormwater drainage system) and will generally occur at the same time as that intense rain or immediately after it (eg within 1 hour for localised stormwater inundation). This is because inundation by stormwater or other local run-off arises because the rate at which the water drains away through the stormwater system is less than the rate at which new water is added by the intense rainfall. Once the intense burst of rainfall is over, the rate at which the run-off is drained away will eventually exceed the rate at which new water is added, and so the overall water level will drop. All of this means that inundation by stormwater or other local run-off responds quickly to heavy local rainfall. This type of inundation will occur quickly after the intense rain has started falling and will generally (depending on variables such as catchment size) recede quickly after the intense rain has ceased falling.

- 25. I attach as EXHIBIT SQC05 to this statement a copy of the rainfall record for the East Brisbane Alert rainfall gauge and the results of an intensity analysis for the same gauge for the period from 9 to 15 January 2011. The East Brisbane Alert gauge is approximately 3.2 kilometres from the Subject Property and in my view is representative of the rain that would have fallen in the vicinity of the Subject Property.
- 26. The gauge records show that approximately 116mm of rain fell over the period 9 January 2011 to 10 January 2011. A further approximately 43mm fell during the course of the day on 11 January 2011. The majority of the rainfall on 11 January 2011 was in two bursts, one around 11.00am and another at 5.00pm.
- 27. However, the intensity analysis shows that the rainfall was of very low intensity throughout this period (ie a less than 1 in 1 year event). In my opinion it is unlikely that rainfall of this magnitude would cause stormwater or other run-off inundation of the Subject Property.

Timing of the rise of the Brisbane River

- 28. The terrain data can also be compared with the time of inundation reported by the Applicant (between 6.00pm on 11 January 2011 and 6.00am on 12 January 2011) to show that the time of inundation coincides with the timing of the rise of the Brisbane River.
- 29. **EXHIBIT SQC06** to this statement is a graph intended to show the timing of the rising of the Brisbane River compared to the approximate level of the Subject Property. On it are plotted, the level of the Brisbane River at the Moggil Gauge, the level of the Brisbane River at the Oxley Creek Mouth Gauge, an interpolated level of the Brisbane River at the Subject Property, and a line marking the minimum property height based on the above FloodWise report. The interpolated line showing the level of the Brisbane River at the Subject Property was derived based on an inverse distance weighted interpolation of the Subject Property's location between the Moggil Gauge and the Oxley Creek Mouth Gauge. I note that the maximum water level shown by the interpolated line is approximately 7.5m whereas the FloodWise report indicates a maximum water level of 7.8m for the Subject Property during the January inundation event. This suggests that the interpolated line may be slightly lower than the actual event for the Subject Property.

- 30. Exhibit SQC06 shows that the Brisbane River was at a level of RL 3m AHD around midday on 11 January 2011. There is a low point in Brougham Street approximately 90m to the East of the Subject Property which is at a level of below RL 3m AHD. Therefore, the level of the Brisbane River probably explains the water that the Applicants saw pooling in Brougham Street in the middle of the afternoon on 11 January 2011.
- 31. Although that water may not have travelled from the Brisbane River to the Subject Property over land, I believe that it would have been water that backed up from the Brisbane River. The way that this can occur is as follows. Stormwater drains generally drain to major watercourses. In the Brisbane region, the stormwater system would generally drain into the Brisbane River. As river levels rise, they eventually rise above the level of the pipes which drain the stormwater into the river. As the river level continues to rise, the levels within the stormwater system are dominated by the level at the outlet to the river. Therefore, as the river level rises, water will travel back up the stormwater pipes. If there is an area of higher ground between the watercourse and a given property, it is possible for the property to be inundated by the rising level of the river, even though the water has not travelled directly from the banks of the river to the site of the property because of the obstruction posed by the higher ground. This backflow effect is depicted in "Case 3" in figure 2.1 of the report by the ICA Hydrology Panel, titled "Flooding in the Brisbane River Catchment, January 2011". A copy of that diagram is attached as EXHIBIT SQC07.
- 32. Exhibit SQC06 also shows that the Brisbane River was at a level of RL 3.8m AHD around 6.00pm on 11 January 2011. I note that the insured has provided photographs showing that the water was at the intersection between Sydney Street and Brougham Street at approximately 5.45pm on 11 January 2011 (a copy of that photograph is EXHIBIT SQC08 to this statement). The terrain data indicates that the level of that intersection is between RL 3.5m AHD and RL 4m AHD. This is consistent with the water at that intersection being water from the rising Brisbane River level.
- Exhibit SQC06 shows that the Brisbane River would have been sufficient to inundate the minimum level on the Subject Property around 10.00pm on 11 January 2011.
- 34. Exhibit SQC06 shows that at around 6.00am on 12 January 2011 the level of the Brisbane River was approximately 1.5m higher than the minimum level of the Subject Property. Given that the house on the Subject Property is raised and will probably not be located on the minimum height of the Subject Property, this is consistent with the Applicant's observations of the water being above knees inside the house on the Subject Property around this time.
- 35. Exhibit SQC06 shows that that the level of the Brisbane River rose approximately 1m between 6.00am on 12 January 2011 and 3.00pm on 12 January 2011. This is also consistent with the Applicant's claim that returned to the Subject Property on the afternoon of 12 January 2011 and that by that time the water was "as high as their necks inside the house".

All of the above information (including the Applicant's version of events as set out in the Applicant's FOS dispute form, the email from to FOS dated 14 March 2011 and the 10 page document titled. Storm Water Damage Report") supports my conclusion that the Subject Property was inundated by the rising level of the Brisbane River.

Conclusion

- 37. On the basis of the above matters, I conclude that the cause of the inundation of the Subject Property was the rising level of the Brisbane River, which was itself caused by rain which fell more than 24 hours earlier.
- I conclude that the Subject Property was not inundated by stormwater or other local run-off.

All the facts and circumstances above are within my own knowledge save such as are from information only and the means of my knowledge and source of information appear on the face of this my statement.

SIGNED by STEPHEN QUINTON CLARK on 29/6/11 at Brisbane in the presence of:

Stephen Quinton Clark

Witness

EXHIBIT SOCKE OF



Curriculum Vitae

Steve Clark

BE Hons (Civil), MEng Sc. CPEng, MIEAUST

Director



Fields of Expertise

- * Water, floodplain and coastal engineering
- * Numerical models
- * Risk/vulnerability assessments
- Hydrologic and hydraulic modelling
- * Hydraulic assessment and design
- Environmental monitoring programs.

Education

- Bachelor of Engineering with Honours, University of Queensland, 1988.
- Masters of Engineering Science, University of Queensland, 1999. Thesis submitted was entitled "The Entrainment of Sediment due to Oscillatory Flows in the Sheet Flow Regime".
- Accredited Water Efficiency Assessor with the Queensland Water Commission

Professional Affiliations

- * Registered Professional Engineer, Queensland.
- * National Professional Engineers Register
- Member, Engineers Australia
- Member, River Basin Management Society
- Member, Australian Water and Wastewater Association
- * Member, Stormwater Industry Association

Countries of Experience

- * Australia
- ' China
- Indonesia

1989 - 1994

Awards

' Kenneth A. Thiess Prize, 1988

Professional History

Professional	History
2006-present	Water Technology Pty Ltd (QLD) Manager, Brisbane Office
2001-present	Water Technology Pty Ltd Director
1999-2001	Lawson and Treloar Pty Ltd (VIC) Manager, Water Resources
1997 - 1999	Lawson and Treloar Pty Ltd (VIC) Senior Engineer
1994 - 1997	Lawson and Treloar Pty Ltd (QLD Engineer

Engineer

Fields of Special Competence Career Summary

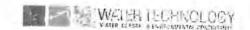
Steve has over 20 years experience as a specialist in the water resources field. He has an Honours Degree in Engineering and a Masters of Engineering Science from the University of Queensland. Following graduation he worked for approximately 10 years throughout Queensland in waterway & floodplain management and infrastructure investigations. These investigations have included work throughout Brisbane and the Nerang River floodplain on the Gold Coast, Maroochydore, the Noosa River and Lakes system, the Pioneer River floodplain at Mackay, the Tully Murray system and numerous investigations on the Barron River Floodplain.

From 1996 Steve was based in Melbourne Victoria during which time he undertook various flood studies and floodplain management plans for both the Victorian and New South Wales offices of Lawson and Treloar, Of note, between 2002 and 2005 Steve was the principal hydraulic modeller on the Yangtze River Flood Warning and Control Project, a major 5 year AUSAID project in China. As Director of the Brisbane office of Water Technology, Steve has been involved in a diversity of high-profile projects such as managing the hydraulic component of the Pimpama Case Study, National Coastal Vulnerability Assessment for the Federal Department of Climate Change.

Key Projects

- * Gwydir Wetlands Hydrodynamic Modelling, Northern NSW Department of Environment, Climate Change and Water. (2009 - current)
- North East Business Park Flood Study, Caboolture QLD Moreton Bay Regional Council (2007- current)
- Ensham Mine Flood Forecasting System, Emerald QLD Ensham Resources (2009-2010)
- Regional Planning Project (Flooding), Toowoomba QLD Toowoomba Regional Council (2009).
- Inner City Bypass (ICB) Tunnel Flooding Investigation, Brisbane Northern Busway Alliance (2009)
- National Coastal Vulnerability Assessment Pimpama Case Study, Gold Coast QLD Federal Dept. Climate Change (2008)
- Mangoola Coal Mine Water Management System, Hunter Valley NSW, ATC Williams for Xstrata Coal (2006-2008)
- Creek Diversions, Mine Water Management Plan, Blackwater QLD, BMA Coal (2008)
- * Ballina Salinity Infiltration Study, Ballina NSW, Ballina Shire Council and Department of Commerce, NSW (2007-2008)
- Water Efficiency Management Plans, South East QLD, Austral Bricks, (2007)
- Lower Goulburn Floodplain Rehabilitation Project, ViC, Goulburn Broken CMA (2006)
- Yangtze River Flood Control and Management Project, China Sagric International for AusAid (2002-2005)

Connell Wagner Pty Ltd (QLD)



EXPERT ADVICE

Water Technology

Kunda Park Central vs Sunshine Coast Regional Council P&E Court Appeal 1057/08 (current). Engaged by Sunshine Coast Regional Council this current project involves the provision of review and expert advice services.

Comiskey Group vs Moreton Bay Regional Council P&E Court Appeal BD 210 of 2010 (current). Expert review, including review of flood related aspects of the proposed development including immunity requirements, stability and emergency management.

Stockland Development Pty Ltd vs Sunshine Coast Regional Council P&E Court Appeal 2282/09 (current). Expert review, including specialist hydraulic modelling of the development, and report preparation.

North East Business Park Pty Ltd vs Moreton Bay Regional Council P&E Court Appeal 254/10 and 255/10 (current). Provision of expert review services of the North East Business Park Development flood study and stormwater management plan for Moreton Bay Regional Council over a period of ~ 2 years. Work included a review of hydraulic modelling, comparison of results with previous flood levels, assessment of compliance with Council floodplain management requirements, identifying any impacts associated with the development and consequent implications, and a report summarising the review findings. Review of the stormwater management plan included a review of reporting and MUSIC modelling, review of relevant standards, comparison of reported results with relevant standards and a report summarising the review findings.

Amendment C70 – Boroondara Planning Scheme. Preparation (and subsequent presentation to VCAT) of an expert witness report for Stockland Pty Ltd summarising the flooding aspects of the proposal and design work undertaken to date for a major commercial and residential in inner Melbourne.

Abacus Hampton Retirement Trust vs Bayside City Council. Preparation of an expert witness report for Abacus Hampton Retirement Trust and subsequent presentation to VCAT regarding the flooding and drainage provisions of a proposed apartment block in a highly urbanised area.

Kaldumb Pty Ltd vs East Gippsland Catchment Management Authority. Preparation of an expert witness report for Kaldumb Pty Ltd and subsequent presentation to VCAT regarding flooding aspects associated with a potential industrial subdivision of floodprone (rural) land.

Lawson and Trelogr

Strathmerton Deviation - VicRoads. Presentation to a panel hearing in Strathmerton regarding the hydraulic assessment and flooding implications of several potential highway alignments.



INTERNATIONAL EXPERIENCE

Yangtze River (China) Flood Control and Management Project (YRFCMP). The YRFCMP is a joint project of the Chinese and Australian Governments (managed via AusAid), Steve has recently completed undertaking a series of long term deployments in Wuhan, China. Since 2002, he has provided specialist advice on the procurement, establishment and implementation of hydraulic modelling systems within the overall flood management and warning systems.

The final stage of technical work focussed on (quantitatively) Improving the accuracy and speed of flood warning procedures and the development of a Decision Support System that combines the current flood forecasting capabilities with web based assessment of flood management options for use in a real time context.

In conjunction with the technical development work, an extensive capacity building program was undertaken. As part of this program Steve had direct inputs into technical capacity building for the Flood Forecasting System and Decision Support System, the underlying hydraulic models and more generally took an active part in "train the trainer" courses.

Lombok (Indonesia) Resort Development Investigations (1995-97) for Lombok Tourism Development Corporation. Site Engineer for the site monitoring program design and initial site work involving site inspections and instrument deployment. Senior Engineer for subsequent preliminary design work included internal canals, lake systems and coastal works for a major resort development. Preliminary water balance, yield modelling and water quality considerations were addressed.

Site work was undertaken at a local level. 2 Australian engineers provided technical input, direction and training, while the site staff undertook the instrument installations, deployments, retrievals and general site measurements. This provided both an intensive initial data gathering exercise, and provided the necessary training for local staff to establish an ongoing monitoring program. The results of the results of the ongoing monitoring program were subsequently used in later stages of the design.

International Team Support (90-95) for various projects. While with Connell Wagner's Water Group, Steve was a hydraulic engineer as part of the Brisbane Office support and design team for projects undertaken by various overseas offices in Papua New Guinea, (Kainantu Water Supply and Sewerage Schemes) and China (Liaoning Urban Infrastructure Project).

WATERWAY/FLOODPLAIN MANAGEMENT INVESTIGATIONS

Water Technology

Gwydir Wetlands Hydrodynamic Modelling (2009 - current) for NSW Department of Environment, Climate Change and Water.

Project Manager and specialist hydraulic modeller for this major eco-hydraulics investigation aimed at developing advanced hydrodynamic modelling tools to assist in the environmental management of the Gwydir Wetlands.

National Coastal Vulnerability Assessment - Pimpama Case Study (2008) undertaken as part of the Federal Department of Climate Change's assessment of the socio-economic impacts and consequences of climate change for coastal communities in support of the 'first pass' National Coastal Vulnerability Assessment. Our role within the overall study team is to provide specialist hydrologic, hydraulic and coastal process advice,



analysis and modelling services in support of the overall coastal vulnerability assessment and specifically the eco-system valuation services.

Burngrove and Deep Creek Diversion, Mine Water Management Plan (2008) for BMA Coal. This project involved the conceptual mine water management plan associated with creek diversions. The mine water management plan aimed to achieve clean water flows in Burngrove and Deep Creeks, Blackwater. A digital terrain model and aerial orthophotos were used in conjunction with the BMA Coal Water Management Strategy to identify current sources of dirty water to the creeks and possible solutions to rectify the problem. Suggestions for achieving clean water flows included altered decant return arrangements, rearrangement of the drainage system and construction of sediment dams.

Coal Seam Gas Effluent Discharge Investigation (2008) for Origin Energy. Project Manager providing specialist hydrologic and hydraulic inputs into the preparation of an Environmental Management Plan for Origin Energy's proposed coal seam gas project at Talinga, which aims to provide up to 90TJ/day of coal seam gas to the Darling Downs Power Station. Part of this project involves the installation of an advanced water treatment (reverse osmosis) facility which will provide purified water for beneficial uses. A series of investigations have been undertaken to investigate the potential discharge of this water to the Condamine River and identify constraints and opportunities associated with this process. Investigations have included Hec-Ras modelling of sediment deposition and scouring and use of the DERM IQQM between the Condamine Weir and Beardmore Dam

Yallock Outfall Sediment Trap and Ephemeral Wetland Functional Design for Melbourne Water. Water Technology is providing specialist hydraulic design services to the team (Neil Craigie, Pat Condina, Landstart, Sandra Brizga and Ecology Australia) undertaking the functional design. The aims of this investigation are to establish the functional design, ensure no adverse impact on adjacent areas and to demonstrate both of these to stakeholders.

Niddrie Quarry Stream Rehabilitation Project for Melbourne Water via Neil Craigie. Provision of specialist hydraulic design services for rehabilitation design for this urban waterway.

Lawson and Trelogr

Mitta Mitta Geomorphic Investigation for North East CMA.

Badger Creek Geomorphic Investigation for Melbourne Water. Provision of specialist hydraulic analysis and design services to as part of a multidisciplinary team investigating sand management issues.

Glenelg River Sand Management Investigations. Provision of specialist hydraulic and sediment transport analysis/modelling as part of a multidisciplinary team investigating sand management issues.

Tambo River Geomorphic Investigation. The 1998 Tambo River event caused significant damage in the floodplain. Specialist two dimensional hydraulic modelling was undertaken as part of an integrated study approach considering flooding, longer term geomorphological processes and potential waterway management options

Upper Oxley Creek for Logan City Council. Full 2D modelling of the rehabilitation requirements of a reach of Oxley Creek.

Secondment to Brisbane City Council Works Design, Hydraulics Group. Duties included provision of specialist hydraulic design services, assessment flooding and mitigation works following the September 1996 flood event, liaison with the Parks & Environment Sections with regard to vegetation issues and subsequent hydraulic assessments.



PLANNING

Western Downs Regional Council Planning Scheme Project —Flooding and Stormwater Analysis (2010 — current). WDRC require a new planning scheme following amalgamation of 6 local councils to form the WDRC. Several towns in WDRC are experiencing rapid growth, and Water Technology is conducting a flooding and stormwater analysis for each town to assist in development of a new planning scheme. The flooding study will identify areas at risk of inundation and their impact on current and future development. In addition Q100 hazard categories will be identified. The stormwater analysis will define and map stormwater corridors, and define trunk drainage infrastructure needed currently and for future development.

Toowoomba Regional Council Regional Planning Project (Flooding) (2009). The aim of the project was to produce a new planning scheme policy for the TRC following the amalgamation of eight councils into one. Involved review of existing flood studies, collation of GIS flood data, collation of pseudo-flood data (e.g. waterway extent, previous flood overlays) and rating the quality of each dataset. Also included the provision of expert advice on the best way to account for the uncertainty in the different qualities of flood information in the new planning scheme policy. Involved extensive collaboration with Council staff and other project team professionals (e.g. planners, scientists, engineers).

INFRASTRUCTURE INVESTIGATIONS/DESIGN

Water Technology

Ensham Mine Flood Forecasting (2009-2010) for Ensham Resources. Project Manager for the development and calibration of a hydrologic flood forecasting model to provide Ensham Mine with in-house warning of floods from the Nogoa River (QLD). Historically, Ensham has experienced difficulty in gaining access to information and/or forecasts during events. The real time model developed will provide easier access and a greater level of detail and accuracy than is currently available.

Inner City Bypass (ICB) Tunnel Flooding Investigation (2009 - current) for the Northern Busway Alliance.

Assessment of the cause of flooding of the Brisbane ICB flooding in November 2008. Results were used to assist in the settlement of compensation claims by the Brisbane City Council against the Northern Busway Alliance.

Mine Water Management System Design (2006-2008) for the Xstrata Mangoola coal mine in NSW. Detailed event and long term modelling has been undertaken within the Goldsim modelling system to analyse potential risks to the mine associated with water availability. A Monte Carlo approach was utilised as part of the design process for on site storages and quantifying risks associated with water supply and potentially discharge from site.

Ballina Salinity Investigations for Ballina Shire Council and Department of Commerce. Co-ordination of salinity testing program and associated analysis to identify sources of saline infiltration into the Ballina Sewer Network with the aim of reducing salinity at the Ballina Treatment Works. The ultimate aim of the project is to reduce salinity levels to the point where re-use of the waste water is possible without the installation of an RO plant.

Scour Investigation, Princess Highway crossing of Mitchell River at Bairnsdale for VicRoads (2006). Detailed hydraulic analysis and scour investigation as inputs to a structural stability analysis of the existing bridge. Numerous mitigation options were investigated prior to VicRoads determining that the preferred option was structural reinforcement of the existing bridge.

Scour Investigation, Princess Highway crossing of Tambo River at Swan Reach for VicRoads (2006). Detailed hydraulic analysis and scour investigation as inputs to a structural stability analysis of the existing bridge.



Calder Freeway, Carlsruhe Section Specialist Hydraulic Design for John Holland via EGIS. Detailed hydraulic analysis and design of the new Calder Freeway crossing of the Campaspe River.

Heany Park Review for Fisher Stewart. Provision of expert (3rd party) review services for drainage design of an existing subdivision.

Lawson and Treloar

Hydraulic assessment of proposed Shepparton Bypass for VicRoads. Hydraulic analysis of the proposed Shepparton Bypass (Western Route) for presentation at the Panel Hearings.

Princes West Project for Leightons/GHD. Detailed hydraulic assessment and design as part of the successful Design and Construct bid. Design services were provided to both optimise the proposed design, and provide detailed information as to the potential impacts to key stakeholders.

Princes West Project for VicRoads. Comprehensive and detailed hydrologic and hydraulic assessment of the existing status of the Princes West freeway between Melbourne and Geelong for VicRoads. Crossing upgrades were designed for varying levels of immunity and various configurations. Also included was extensive consultation with relevant stakeholders and authorities along the route of the proposed upgrades.

Goulburn Valley Highway Hydraulic Assessment. Hydraulic Assessment and design of several potential alignments (in the vicinity of Strathmerton) across both the Murray River and it's floodplain. Full two dimensional modelling has been used to define flow paths on a broad scale. Detailed modelling was undertaken in the vicinity of the proposed route embankments as input to structure design.

Specialist Hydraulic Investigations/Design Projects. Numerous investigations/preliminary designs undertaken for VicRoads including:

- North Arm Bridge (Lakes Entrance) Afflux Study
- Home Creek, Goulburn River
- Hallam Bypass (Eummemmering Creek)
- Swansea Road Duplication (Olinda Creek)

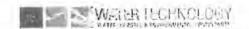
Hendra Doomben Relief Drainage Investigation. Detailed MOUSE modelling of a severely under-capacity stormwater drainage network and relief system design.

Hemmant Master Drainage Study. Detailed MIKE 11 & MOUSE modelling of a low lying residential area. Included analysis and assessment of flooding hazard, design of mitigation works. Initial study results have transferred to BCC's GIS system for over-the-counter interrogation.

Brookbent Road (1996) for Brisbane City Council. Detailed hydraulic assessment of the effect of the failure of the Brookbent Road crossing (embankment) during the March '96 Oxley Creek event. Sensitivity of upstream, floodprone areas to various proposed crossing reinstatement options has been conducted.

Mudgeeraba Connection Road for Gold Coast City Council. Evaluation using quasi 2D modelling of the effects of various hydraulic structure configurations for a proposed road crossing of a floodplain.

Cairns International Airport Master Drainage Study for Cairns Port Authority. Major trunk drainage system analysis and design utilising fully unsteady analysis techniques. Tools being utilised include MIKE21, MIKE11 and MOUSE.



RTA Route Selection Study, Wollongong (1994), including runoff-routing and MIKE 11 modelling of Macquarie Rivulet and Lake Illawarra.

Connell Wagner

Eastern Corridor Study, Brisbane - Gold Coast 1991. Assessment of the hydraulic impact of various proposed alignment options of the duplication of the Pacific Highway.

Relief Drainage System Design, Albion Windsor, Brisbane 1990. Upgrade of an existing inadequate pipe drainage system (Capital cost \$2 million)

Burdekin River Irrigation Area Modelling, Ayre 1989. Additional modelling of the Northcote Section of the Burdekin Area utilising the MIKE-11 modelling package

FLOODPLAIN MANAGEMENT INVESTIGATIONS

Water Technology

Western Downs Regional Council Planning Scheme Project —Flooding and Stormwater Analysis (2010 — current). Project Manager for several flood studies of towns in the Western Downs. WDRC require a new planning scheme following amalgamation of 6 local councils to form the WDRC. Several towns in WDRC are experiencing rapid growth, and Water Technology is conducting a flooding and stormwater analysis for each town to assist in development of a new planning scheme. Flood studies will be conducted for Chinchilla, Tara, Miles and Jandowae; and the Dalby flood study will be reviewed.

North East Business Park Flood Study (current). Expert reviewer for Moreton Bay Regional Council engaged to review floodplain management and water quality (stormwater management planning) aspects of the proposed development.

Lower Goulburn Floodplain Rehabilitation Project for Goulburn Broken CMA via SKM. Provision of specialist hydraulic modelling services for the largest hydraulic analysis project undertaken to date in Victoria, as part of one of the largest floodplain rehabilitation projects proposed. The terrain being used for this project incorporates the latest in aerial laser scanning technology which provides an extremely detailed data set (requiring special processing techniques) for the entire study area.

Flooding Investigations for the Wimmera CMA. Project Manager for the Horsham Flood Study, the Dimboola Flood Study and the Glenorchy to Horsham Flood Scoping Study. The three studies have been undertaken using a risk management approach with the key outcome being an increased understanding of exposure of the communities to flooding. Project scopes have included extensive community and authority consultation, detailed survey (field and photogrammetric), detailed hydrology and hydraulics and the provision of maps associated with reporting requirements.

Little Yarra Flood Mapping for Melbourne Water. Detailed Hydrologic and Hydraulic analysis to enable flood mapping of the Little Yarra River to Yarra junction.

Lawson and Treloar

Shepparton Floodplain Management Investigation for Shepparton City Council. Project Manager for the hydraulic investigation and design portion (to delivery of design events stage) of the largest floodplain management investigation undertaken at the time in Victoria.



Myrtleford Floodplain Management Study. Project Manager for the hydraulic analysis component of the project, the outputs of which were inundation maps for existing conditions, mitigation option design and mitigation option mapping.

Traralgon Floodplain Management Study (1998) for Shire of Traralgon. Project Manager for the hydraulic analysis portion of this project aimed at providing a comprehensive understanding of the flooding mechanisms is being gained through this state of the art fully two dimensional, dynamic flooding investigation.

Euroa Floodplain Management Study (1997) for Shire of Strathbogie. Project Manager for the hydraulic analysis portion of this Floodplain Management Study. A comprehensive understanding of the damaging and complex flooding regime at Euroa was provided through full two dimensional hydraulic modelling. Subsequently, the impact of various potential flood protection measures (mitigation schemes, both structural and non-structural) and flood warning systems were assessed.

High Definition Flood Study, Wallsend Plattsburg – Detailed hydraulic assessment using full two dimensional unsteady analysis of several severely floodprone (urban) areas of Newcastle, including analysis and provision of results for incorporation into Council's GIS system.

Nerang River Flood Mitigation Assessment. Assessment of the potential for flood mitigation works on the Nerang River floodplain utilising existing hydraulic structures and/or additional works.

Flood Study of Oxley Creek (1996/97) for Brisbane City Council to augment BCC's Waterways Strategy Plan. Oxley Creek is the most technically challenging creek in the Brisbane area with dramatic changes recorded over time as part of the creeks natural morphology and in response to significant sand extraction operations. Primary outcomes are the delineation of flood regulation lines based on hydrologic and hydraulic analysis. Secondary outcomes are the assessment of hydraulic structures, the effects of catchment development and the development of revegetation strategies.

Upper Barron Delta Modelling. Full 2D modelling of the Upper Barron Delta was conducted using a course grid model for the entire Barron Delta and a fine grid model for the upper portions. The purpose of the investigation was to examine the impact of both proposed developments and sand extractions on flooding through existing residential areas.

Flood Study of the Noosa River System for Noosa Council. This study forms the basis for a flood plain management study aiming to develop a floodplain management plan. Components of the study include:

- evaluation of the hydrologic and hydraulic characteristics of the Noosa River catchment and determination of its flooding characteristics,
- integration of model results into Noosa Council's existing GIS information networks.

Tully Murray Water Management Scheme for Department of Primary Industries, Water Resources. Detailed floodplain modelling and hydraulic design of a master drainage plan. Tools being used include RAFTS, MIKE11 and MIKE21.

Emerald Floodplain Scoping Study (1994) for the Department of Primary Industries, Water Resources. This study was conducted to identify the methodology, data requirements and approximate costs associated with work necessary to develop a floodplain management plan for the Emerald floodplain system.

Ironbark Creek T.C.M. Study (1994), including data interface preparation.



Connell Wagner

Barron Delta Flooding Checks, Cairns (1989-1994). Ongoing work associated with the Investigation of the effects of proposed developments upon flooding in the Barron Delta area, using the ESTRY numerical model.

Woodford Flood Study, Nambour 1993. Hydrologic (RORB) and hydraulic (HEC-2) investigation of a proposed development involving floodway encroachment.

Bulimba Creek East Master Drainage Study, Brisbane 1990-1991. Catchment management consideration of environmental values, economic analysis and public involvement.

Eudlo Creek Flood Study, Maroochydore 1989. Development of a MIKE 11 model of Lower Eudlo Creek for road crossings and flood mitigation.

DEVELOPMENT PROPOSALS ASSESSMENT/DESIGN

Water Technology

Provision of specialist hydrologic and hydraulic design services associated with several proposed developments in south east Queensland and Northern NSW. Some examples are:

Bethania Flooding Assessment (2009-2010) for AV Jennings. Project Manager for the assessment of flooding impacts of a proposed 4 ha residential development in Logan, QLD. Work included MikeFlood hydraulic modelling and WBNM hydrological modelling.

Everton Park Proposed Reconfiguration of a Lot (2009) for Conics Pty Ltd. Project Manager for the investigation of 100 year ARI flooding for a property in Everton Park, QLD. A Brisbane City Council Mike11 model was updated with new survey and a new inundation extent was defined.

Eight Mile Plains Stormwater Management Assessment (2008) for Lambert and Rehbein. Project Manager for the assessment of stormwater impacts of a proposed child care centre in Eight Mile Plains, QLD. Work included MikeStorm modelling to conceptually design onsite stormwater detention (in the form of underground tanks).

North Shearwater Precinct Development – Local Environment Study (2008) for Great Lakes Council. Project Manager for the Water Technology component of hydrology, flooding and local drainage aspects of the LES for the North Shearwater precinct development, NSW. Work involved hydrologic (WBNM) and hydraulic analysis (Mike21) of pre and post development cases, including consideration of elevated downstream estuary levels due to climate change and more extreme climate change scenarios. Water Technology was sub contracted to GeoLink for this project.

Northeast Parkhurst Master Plan – Stage 1 – Flooding Constraints (2008) for Wolters Consulting. Review of previous work related to flood constraints that has implications for the Master Planning process for the Northeast Parkhurst development, Rockhampton. Work included review of aerial photography/flooding/contour data of the area, desktop review of a previous flood report in terms of hydrological and hydraulic analysis, review of site opportunities and constraints for flooding relating to sustainability design principles, and implications for the Master Planning process.

Mackay Christian College Local Drainage Investigation (2007) for Sanders Turner Ellick Architects. Project Manager for the assessment of flooding impacts of a proposed school and residential development in Mackay,



QLD. Work included Mike21 hydraulic modelling linked to MOUSE for assessment of flooding and stormwater networks.

Lawson and Treloar

"The Waterways" Development. Provision of hydraulic analysis and design services associated with both floodplain conveyance and wetland operational issues.

Stamford Park Investigations. Provision of hydraulic analysis and design services to City of Knox associated with Corhanwarrabul Creek.

Emerald Lakes Project Flooding Assessment. Utilising state of the art, two dimensional modelling techniques (including detailed schematisation of canal developments and hydraulic controls such as bridges, culverts, locks and weirs), various development scenarios affecting the Nerang River and associated floodplain system are currently being assessed

Dong Ah Project. This study involved the hydraulic design ranging from preliminary conceptual advice through to detailed quasi 2D modelling of a proposed golf course development. Issues associated with the golf course included zero impact on neighbouring properties, provision of bunding for more common design events, conveyance, flood storage and design level issues for varying land use areas, lake and wetland water quality issues. Subsequent investigations have included water quality considerations and water balance modelling.

Hydraulic Investigation of the "Colorada" Levee banks, Emerald Floodplain (1994). In order to quantify the likely impacts on Nogoa River flooding, an investigation was conducted into the hydraulic behaviour of a proposed levee bank.

Connell Wagner

Cubberla Creek Villa Development, Brisbane 1992. Hydrologic (RORB) and hydraulic (HEC-2) investigation of Cubberla Creek for a proposed villa development including analysis of floodway encroachment by the development

COASTAL INVESTIGATIONS, ASSESSMENT AND DESIGN

Water Technology

National Coastal Vulnerability Assessment - Pimpama Case Study (2008-2009) undertaken as part of the Federal Department of Climate Change's assessment of the socio-economic impacts and consequences of climate change for coastal communities in support of the 'first pass' National Coastal Vulnerability Assessment. Our role within the overall study team is to provide specialist hydrologic, hydraulic and coastal process advice, analysis and modelling services in support of the overall coastal vulnerability assessment and specifically the eco-system valuation services.

"The Waterways" Development. Provision of detailed hydraulic analysis and design services investigating the flushing regime of the constructed lake/canal system.

Lawson and Treloar

Port of Geelong Channel Improvement Program. Undertook fieldwork and associated reporting as part of the dredge operation monitoring program.



Emerald Lakes Project Flooding Assessment. Utilising state of the art, two dimensional modelling techniques (including detailed schematisation of canal developments and hydraulic controls such as bridges, culverts, locks and weirs), various development scenarios affecting the Nerang River and associated floodplain system are currently being assessed

Dong Ah Project. This study involved the hydraulic design ranging from preliminary conceptual advice through to detailed quasi 2D modelling of a proposed golf course development. Issues associated with the golf course included zero impact on neighbouring properties, provision of bunding for more common design events, conveyance, flood storage and design level issues for varying land use areas, lake and wetland water quality issues. Subsequent investigations have included water quality considerations and water balance modelling.

Connell Wagner

Green Island Coral Dredging - Impact Assessment Study (1993). Engineer responsible for field work including extensive sediment sampling, water quality monitoring and current metering.

Detailed design of Dalrymple Bay Coal Terminal Berth 2 Extension (1992) providing a second berth for vessels up to 200,000 DWT. Member of the design team for the offshore structural works component.

Dredging and reclamation strategy for Port Development Works, Townsville (1992). Development of an implementation plan for capital works at the Port of Townsville with specific regard to dredging and reclamation options in terms of technical performance, implementation advantages or disadvantages and capital cost.

Wellington Point Canal Estate, Moreton Bay 1992. Investigation of proposed marina and associated dredged entrance channel. Numerical modelling (RUBICON) was undertaken to investigate entrance channel stability and canal flushing.

Stage 2 Embley Estuary Environmental Monitoring, Weipa 1993. Engineer responsible for the water quality aspects of a multidisciplinary field work program designed to establish baseline data for the Embley River Estuary. Subsequent work included the formulation of a long term work and modelling program.

Weipa Sediment Sampling and Monitoring Program for the Albatross Bay Dumpsite, (1992) for Department of Transport. Supervision of field work over a 6 month period following channel maintenance dredging and associated dumping including extensive sediment sampling, water quality monitoring and benthic community monitoring.

Weipa Environmental Monitoring Program, (1991) for Department of Transport. Supervision of field work over a 6 month period following dredging and dumping including water quality and benthle community monitoring.

Long Term Strategy for Spoil Disposal, Port of Cairns (1991-1993). Examination of all possible land and sea disposal sites and methods for the disposal of maintenance dredge spoil from the Cairns shipping channel using a generalised, logical two pass screening process.

Cairns Port Authority Offshore Spoll Dump Studies (1989 -1993).

Following monitoring and assessment work over a three year period, short (approximately 6 months) and long (greater than 12 months) term monitoring programs were established. These



programs (with a budget in excess of \$1.5 million) to date have included:

- numerical modelling of dredge induced plumes
- numerical prediction of deposited spoil resuspension and dispersion over the short and long term
- field work program utilising state-of-the-art dredge and dump monitoring techniques (seabed, surface and aerial operations) and the analysis of gathered data
- detailed analysis (including statistical work) of long term current, wave, wind etc. records
- installation of long term monitoring equipment (current meters, waverider buoy, tide gauge, anemometer, fixed bed turbidity meters)
- flume work aimed at quantifying the threshold of movement of Cairns Harbour Dredge Spoil
- preparation of public information reports

Offshore Spoil Dump Study, Port of Mackay (1991), evaluation of the impact of spoil disposal via both surface and aerial monitoring programs

Mandurah Ocean Marina Study, Western Australia (1989). Numerical hydraulic modelling (RUBICON) of the estuarine lake system and associated sediment transport modelling to assess the impact of dredging a new ocean entrance channel and the construction of a marina.

WATER EFFICIENCY MANAGEMENT PLANS

Water Technology

Australbricks Rochedale and Riverview plants. Preparation of a Water Efficiency Management plan and investigation of potential water savings associated with construction of an on-site storage for rainwater harvesting. Funding applications for construction of the storage were prepared and funding was successfully obtained for this major project. Following construction, substantial water savings have been realised.

"Palm Lodge" Nursing Home Facility for Ozcare. Preparation of Water Efficiency Management Plan and preparation of funding applications for rebates associated with installation of water efficient fixtures.

Peel St Homeless Men's Nursing Home Facility for Ozcare. Preparation of Water Efficiency Management Plan and preparation of funding applications for rebates associated with installation of water efficient fixtures.

RELEVANT PUBLICATIONS

Clark, SQ. Wen, L. & Bishop, WA, "RERP Gwydir Wetland Hydrodynamic Model Development Overview". 18th QLD Water Symposium, Brisbane, Australia, 2010.

Clark, SQ "Hydraulic Roughness Characteristics of the Yangtze River", 16th Queensland Water Symposium, University of Queensland, July, 2007.

Markar, MS, Clark, SQ, Min Yaowu and Zheng Jing, "Evaluation of Hydrologic and Hydraulic Models for Real-Time Flood Forecasting Use in the Yangtze River Catchment", Australian Journal of Water Resources, Vol 10, No 1, May 2006.

Betts, HW, Joy, CS, Markar, MS, Clark, SQ, Sterling, E., Gooda, M., Jin Xingping, Wu Daoxi, 2005b. "The Achievements of the Yangtze River Flood Control and Management Project", The 2nd International Yellow River Forum Zhengzhou, 18-21October 2005a. China

Clark, SQ, Womersley, TJ, Min Yaowu., Zhang Fangwei., Huang Wei, "Two Dimensional Modelling of the Dongting Lakes in support of the Flood Forecasting and Options Analysis Systems of the Yangtze River Flood



Control and Management Project", The 2nd International Yellow River Forum Zhengzhou, 18-21October 2005. China

Markar, MS, Clark SQ, Min Yaowu, Zhang Fang Wei & Zhou Hongmei "Trialling of a new flood forecasting system for the Yangtze River in China", The 2nd International Yellow River Forum Zhengzhou, 18-21 October, 2005. China.

Betts, HW, Sterling, E., Clark, SQ, Markar, MS, M. Chen, Huang Wei, "Flood Management Decision Making in the Yangtze River". 8th International River Symposium, Brisbane, Australia, 5th to 9th September, 2005.

Clark SQ, Markar, MS, Womersley, TJ, Min Yaowu, Zhang Fangwei & Huang Wei "Overview of supporting modeling systems developed for the Yangtze River Flood Control and Management Project", 8th International River Symposium, Brisbane, Australia, 5th to 9th September, 2005.

Markar, MS, Clark, SQ, Betts, HW, Gooda, M, Min Yaowu, Chen Yali, "Improved flood warning for the Yangtze River in China", 8th International River Symposium, Brisbane, Australia, 5th to 9th September, 2005.

Clark, SQ, Markar, MS, Betts, HW, Gooda, M, Min Yaowu, Zhang, Fangwei, Huang Wei, "Use of Numerical Modelling in Support of Yangtze River Flood Forecasting and Decision Making", Third International Symposium on Flood Defence, Nijemegen, 25-27 May 2005. Netherlands

Betts, HW, Sterling, E, Clark, SQ, Wu Daoxi, Wong Jingquan, "An Options Analysis System for Flood Management Decision Making in the Yangtze River Catchment, China". Third International Symposium on Flood Defence, Nijemegen, 25-27 May 2005. Netherlands

Markar, MS, Clark, SQ, Malone, T, Gooda, M., Chen Yali, Min Yaowu., "A New Flood Forecasting System for the Yangtze River in China". Third International Symposium on Flood Defence, Nijemegen, 25-27 May 2005. Netherlands

Clark, SQ, Markar, MS, Min Yaowu, Wu Daoxi, "Overview of Hydraulic modelling of the Yangtze River for Flood Forecasting Purposes", 8th National Conference on Hydraulic Engineering, Gold Coast, Australia, 2004.

Markar, MS, Clark, SQ, Min Yaowu, Zheng Jing, "Evaluation of Hydrologic and Hydraulic Models for Real-Time Flood Forecasting Use in the Yangtze River Catchment.", 8th National Conference on Hydraulic Engineering, Gold Coast, Australia, 2004.

Clark, SQ, Muncaster, S., Reithmuller, E., "Horsham Flood Study", Third Victorian Flood Management Conference, Horsham, Australia, 2003.

Tierney, G., Dando, T., McCowan, A., Clark, SQ, Womersley, TJ., "Development of a detailed hydraulic model using ALS data as part of the Lower Goulburn Floodplain Rehabilitation Scheme", Third Victorian Flood Management Conference, Horsham, Australia, 2003.

Clark, SQ & Mallory, G. "Geelong Freeway Upgrade: Drainage Design for a Highway that Crosses a Complex Floodplain" Hydraulics in Civil Engineering, Hobart, Australia, 2001.

Robertson, P., Daly, M., Clark, SQ, "An Overview of Floodplain Management Planning and Implementation in Traralgon" Second Victorian Flood Management Conference, Traralgon, Australia, 2001.

Craigie, NM, Brizga, S. Clark, SQ, Candy, R. "Integrated Hydraulic and Geomorphological Investigations of the Tambo River" Xth World Water Congress, Melbourne, Australia, 2000.

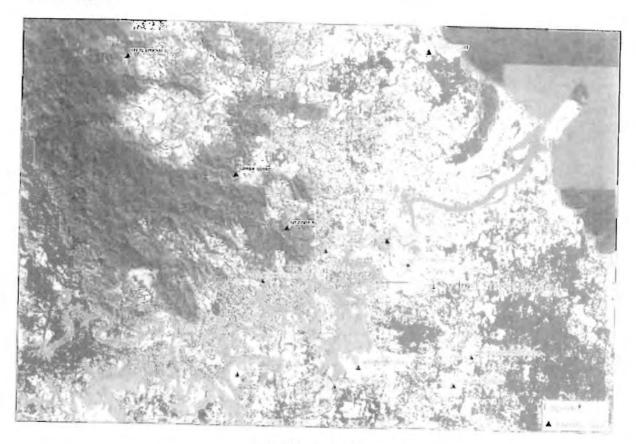
Bishop, WA. Collins, NI. Callaghan, DP. and Clark, SQ "Detailed Two Dimensional Flood Modelling of Urban Developments", 8th International Conference on Urban Storm Drainage, 1999.

Clark, S. & Nielsen, P, 1996, "Sheet Bed Flow Modelled as Pure Convection", 25th International Conference on Coastal Engineering, Orlando, USA, 1996.

Collins, N. & Clark, SQ, "Full Two-Dimensional Floodplain Modelling", 8th Queensland Hydrology Symposium, IEAust, Queensland Division, Brisbane, Australia, 1995.

Collins, N. McAdam, M. & Clark, SQ, "Long Term Environmental Planning - Weipa Port Dredging". 11th Australasian Conferenc

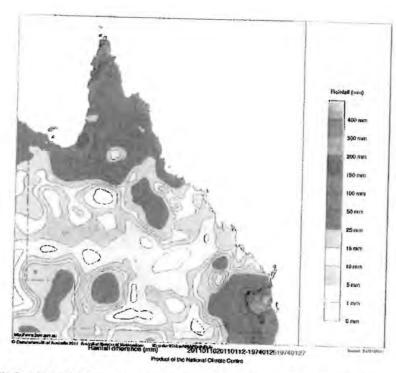
EXHIBIT SQC02



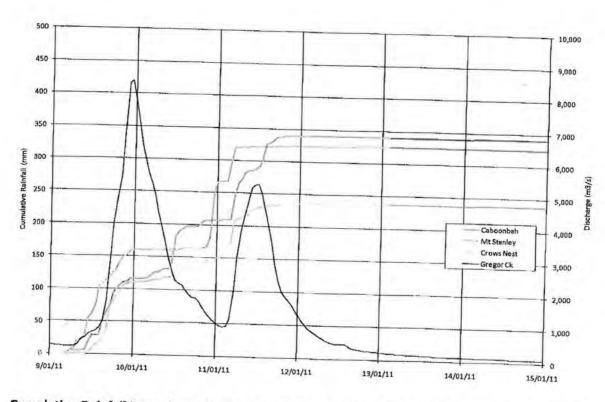
"Brisbane Area"



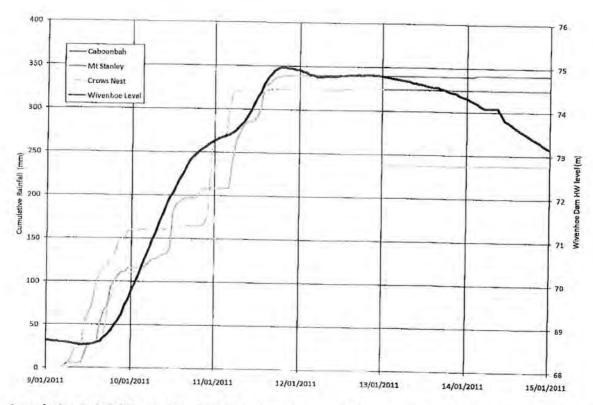
Brisbane River Catchment and Selected Brisbane River Gauging Stations



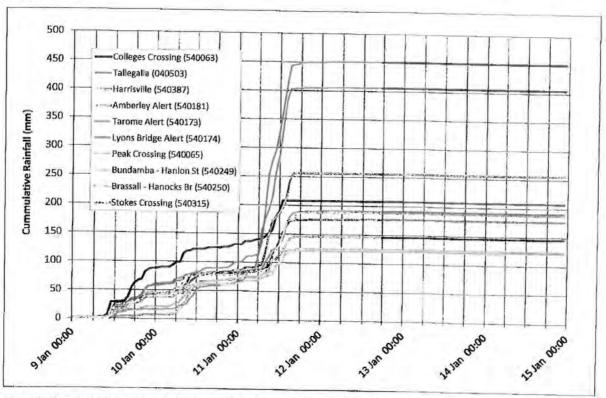
Three day rainfalls for 10 to 12 January 2011 (extract from Figure 5 - BOM, 2011)



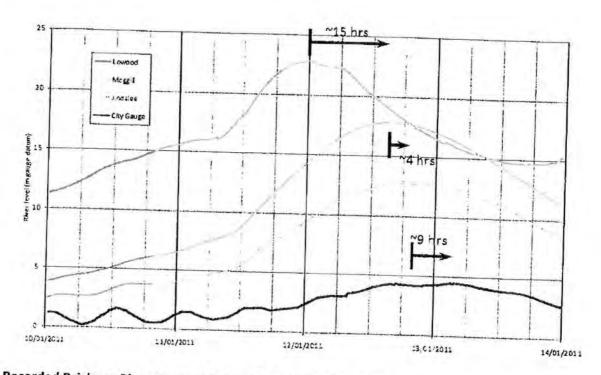
Cumulative Rainfall Records totals and Brisbane River (Gregor Ck) inflows to Wivenhoe Dam (9^{th} to 15th January, 2011)



Cumulative Rainfall Records (selected) in the catchment above Wivenhoe Dam and Wivenhoe Dam Levels

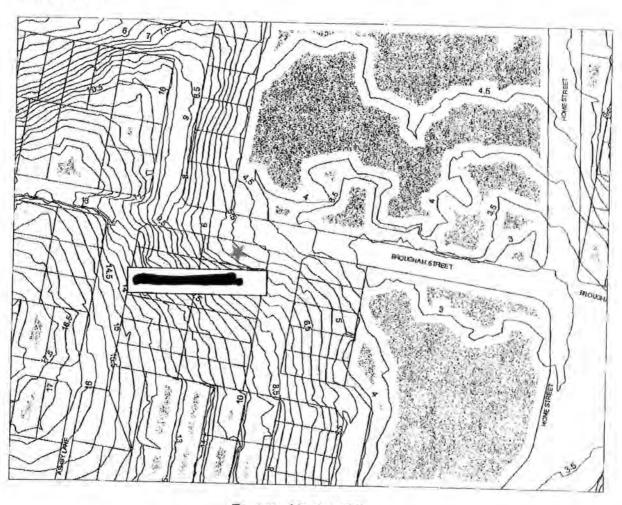


Cumulative Rainfall Records (selected) in the catchments below Wivenhoe Dam



Recorded Brisbane River Levels at Gauges Below Wivenhoe Dam

EXHIBIT SQC 03



Topographic Plot of Site



Aerial Image of the Site (Nearmap 2011)



Aerial Image of the Site (Nearmap 2011)

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Sac 04



Brisbane City Council FloodWise Property Report

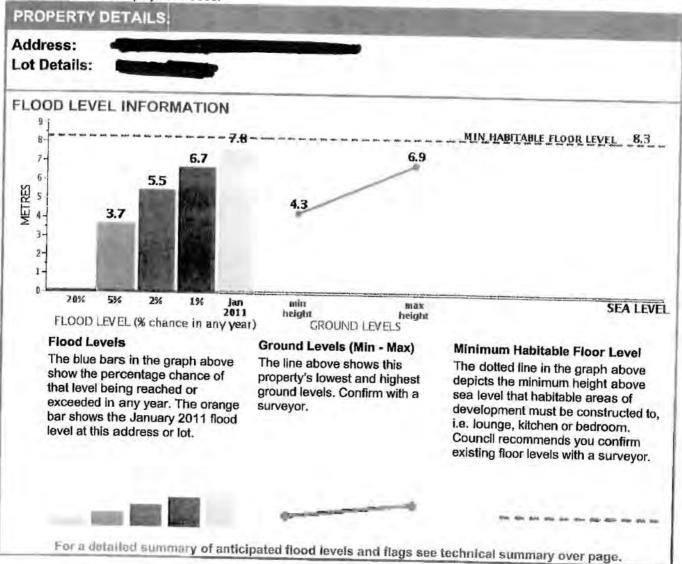
Report Reference

29/06/2011 11:27:48

Dedicated to a better Brisbane

The FloodWise Property Report is a free report to inform Brisbane residents and professionals about flood risks for a specified lot or property so they may better prepare for flooding and to plan and build in accordance with Council requirements. A flood level higher than those shown below can occur in any year, although such events are rare.

To find out more about how the contents of this report may affect your ability to build or renovate, as well as Council advice on how to protect your property and family by being FloodWise, visit www.brisbane.qld.gov.au, a Customer Service Centre or call (07) 3403 8888.



HIGHEST SOURCE OF FLOODING

RIVER The highest source of flooding affecting this property originates from a river. For more information about flooding in your area you can view and download Council's Flood Flag Maps by visiting www.brisbane.qld.gov.au/floodmap

Technical Summary

Use this summary to supply information about this property to surveyors, builders, certifiers, architects and engineers who may request this FloodWise Property Report. This summary has been designed to be easily read if scanned or faxed.



Flooding Information

Estimated Peak Flooding Levels

			a i can i	looding	Levels
Minimum Ground Level (AHD)	4.3 m	ARI (Years)	% chance	Level (AHD)	Source
Maximum Ground Level (AHD)	6.9 m	5	20%	N/A	
Interim Residential Flood Level (IRFL)	7.8 m	20	5%	3.7 m	Divien
Interim Residential Flood Level Source	RIVER	50	2%		RIVER
Minimum Habitable Floor Level (AHD)	8.3 m	100 or DFL		5.5 m	RIVER
	33900	TOO OF DIE	1%	6.7 m	RIVER
	January 2011	1	7.8 m	RIVER	

Disclaimer

- Defined Flood Levels and Interim Residential Flood Levels, and the Minimum Habitable Floor Levels based on them, are determined from the information available to Council at the date of issue. These flood levels, for a particular calculating flood levels.
- 2 Council makes no warranty or representation regarding the accuracy or completeness of a FloodWise Property Report. Council disclaims any responsibility or liability in relation to the use or reliance by any person on a FloodWise Property Report.

Useful Definitions

Australian Height Datum (AHD) – The reference level for defining ground levels in Australia. The level of 0.0m AHD is approximately mean sea level.

Average Recurrence Interval (ARI) or % Chance — The probability of experiencing a flood of a particular magnitude. ARI can be interpreted in terms of years (frequency). ARI levels quoted in this report are measured in height above sea level (AHD). ARI can also be described as the percentage chance that a location will flood in any one year. For example, a 5 year ARI flood event corresponds to a 20% likelihood of a flood of this magnitude or greater occurring in any one year.

Defined Flood Level (DFL) – The flood level associated with a defined flood event. Commonly, the standard used is the 100 year ARI. For further information refer to the House Code in Brisbane City Plan 2000, specifically Table 1: House Flood Immunity Levels for residential property.

Maximum and Minimum Ground Level -- Highest and lowest ground levels on the property based on available ground level information. A Registered Surveyor can confirm exact ground levels.

Minimum Habitable Floor Level – The minimum level above sea level at which habitable areas of development (generally including bedrooms, living rooms, kitchen, study, family and rumpus rooms) must be constructed.

City Plan 2000 – City Plan 2000 sets out what you can build and where new development should go. Council assesses proposed new development against the City Plan 2000.

Interim Residential Flood Level (IRFL) – The flooding standard adopted by Council following the January 2011 flood event to be applied to new residential development.

Find Out More

Whether you are building, buying, renting or preparing your property for flooding, obtaining a FloodWise Property Report is the first step in determining your property's flood risk. Council's 'Be FloodWise' series of publications can assist you to plan ahead, respond to and recover from flooding. They are available online at: http://www.brisbane.qld.gov.au/floodwise or by phoning Brisbane City Council on (07) 3403 8888.

The 'Be FloodWise' publications include:

Preparing for Flooding

Assess your flood risk, prepare for and respond to, flood events.

Be FloodWise - A guide for residents

Buying / Renting

Assess the flood risk of a property before making a decision to rent or buy.

Buying and renting fact sheet

Building or Renovating

Renovations around your home or business can impact on your flooding exposure. Ensure your house meets City Plan 2000 flood immunity

Building and renovating fact sheet

If you are planning to renovate or build, Council recommends you engage a Registered Professional Engineer of Queensland to undertake a thorough assessment of all flood risks specific to the property.



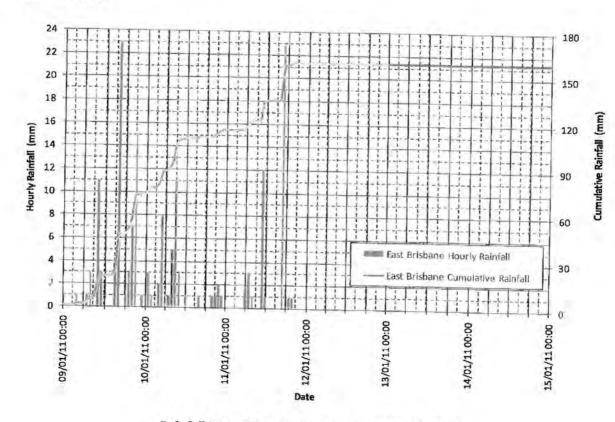
Get a Free Flood Flag Map

Find out more about predicted flooding in your suburb or area by downloading a free Flood Flag Map. The map shows overland flow paths and where flooding may occur from creeks, rivers and storm tides on a suburb scale.

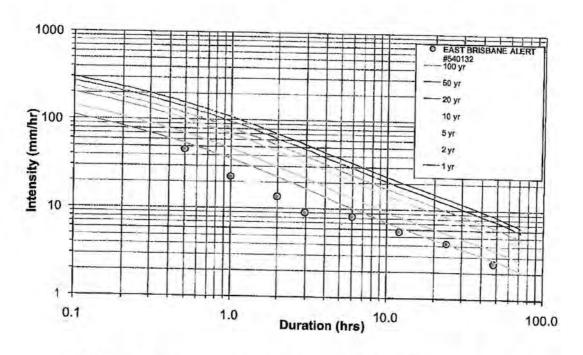
For more information visit www.brisbane.qld.gov.au/ floodmap or visit a Council Customer Service Centre



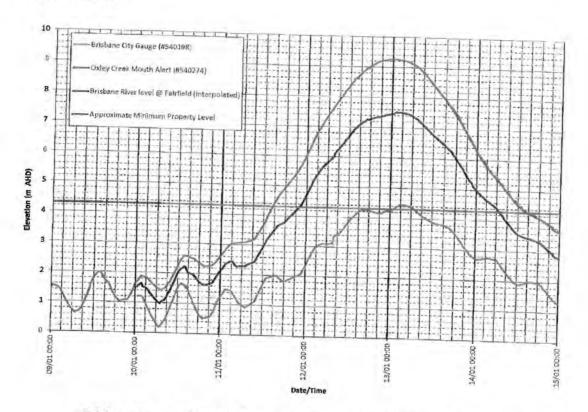
Rainfall and Stream Gauge Locations



Rainfall Record for the East Brisbane Alert Station



Rainfall Intensity Frequency Duration Analysis for the East Brisbane Alert Station



Brisbane River Water Levels near the Property and Minimum Property Level

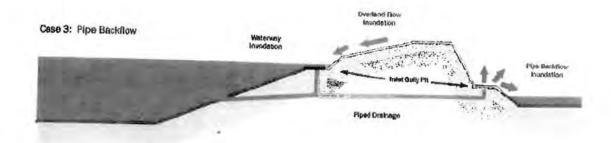
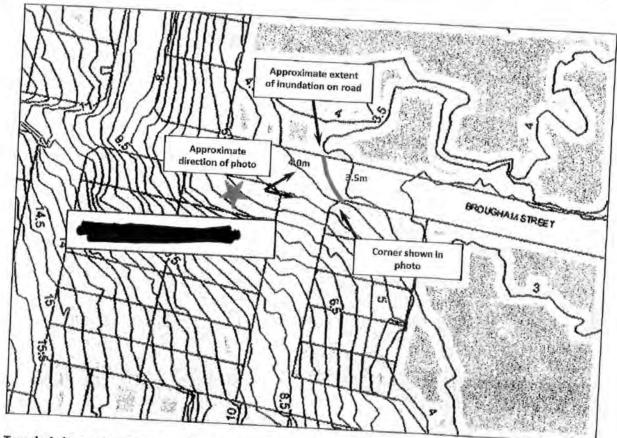


Diagram showing "pipe backflow" reproduced from Insurance Council of Australia report "Flooding in the Brisbane River Catchment January 2011", 20 February 2011.



Extracts from Applicants document titled 'report" with my anotations.

Storm Water Damage



Terrain information for the subject property with my annotations.

Details

Filenote Title Conversation with Complainant

I received a call from the complainant, at 12:51pm on Wednesday 23/02/11. As I was out of the office that week I returned the call on Monday 28/02/11 at 10:20am.

said his main concern was that CommInsure had represented in their correspondence that a hydrologist had been appointed to assess the damage at his premises when this was not the case. Further to this aspect of his concern he said other CommInsure policyholders had received the same information. I noted this information and told a would keep it in mind.

Further, and advised that he had obtained a copy of his file from Comminsure. I asked provide a copy to me to assist in assessing his matter. I provided my email address and advised that he would forward the material to me.

Document Activity

		Filenote
		FINALISE
Details		
Asctec Activity ID	7011/11	Notes Activity COM/11/4TAN/00003 ID
Epsom File	PCS 2011/4686	Epsom Title
Security	In Confidence	
Date Create	d 28/02/2011	Created By
Filenote Titl	e Conversation with	

Details

I spoke with the complainant at 3:40pm.

I asked that he send me further documents regarding his claim as previously discussed. confirmed he would send documents that were titled Filenotes for review.

I also clarified with that ASIC could not assist in resolving his issues with Comminsure. Said he understood this and he had lodged his complaint so that ASIC was made aware of the matter.

I also pointed out to that he should be able to access External Dispute Resolution and he should review his PDS or contact Comminsure to access this. It wasn't aware of this and would review his PDS to look into it further.

Document Activity





ASIC

Australian Securities & Investments Commission

Commonwealth Bank Building 240 Queen Street, Brisbane GPO Box 9827 Brisbane QLD 4001 DX 322 Brisbane

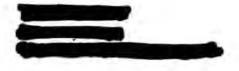
delegance out and 17mi Facsimile: (07) 3867 4725



Our Reference:

7011/11 PCS 2011/4686

23 March 2011



Dear !

COMMONWEALTH INSURANCE LIMITED (ACN 067 524 216)

I refer to your complaint that was lodged with ASIC on 16.February 2011 at an Insurance Council of Australia consumer information session.

I note that your complaint was in regards to your CommInsure claim for damage to your property at Specifically, you raised concerns about the claims process and how the basis upon which the loss adjustor's report was prepared.

Outcome of ASIC's consideration

Your complaint has been referred to one of ASIC's specialist teams who monitor issues within the insurance industry. This will assist the ASIC specialist team in their on-going enquiries into how insurance claims are being handled in light of the recent Queensland floods.

If ASIC's specialist team requires further information they will contact you. In the meantime, thank you for taking the time to bring your concerns to our attention.

Dispute resolution

Although the issues have been raised are being examined by an internal ASIC team that team is not in a position to assist you with your claim.

23 March 2011

As I have previously discussed with you, you should raise concerns about the handling of your claim first via CommInsure's Internal Dispute Resolution ("IDR") service.

If you are not satisfied with the IDR process you may refer the matter to the Financial Ombudsman Service ("FOS"). The contact details for FOS are:

PO Box 3 Melbourne Vic 3001

Phone: 1300 78 08 08 www.fos.org.au

If you have any questions in relation to this letter please contact me on

Yours sincerely,

Misconduct & Breach Reporting Stakeholder Services



relevant report forms.

Fw: Desk Top Assessments of home and contents claims arising out of events in Queensland in January 2011 [SEC=IN-CONFIDENCE]

events in Queensland in January 2011 [SEC=IN-CONFIDENCE]

Boyd Honor to 11/04/2011 11:13 AM

For the CGU file please. Thanks, Boyd Senior Specialist Deposit Takers, Credit & Insurers Extension: Mobile: Direct line: Subscribe to receive information about the new National Consumer Credit Regime. Go to www.asic.gov.au/credit-update /Brisbane/QLD/ASIC on 11/04/2011 11:12 AM -------- Forwarded by Brisbane/QLD/ASIC From: To: Cc: /Brisbane/QLD/ASIC@ASIC 08/04/2011 12:10 PM Date: Desk Top Assessments of home and contents claims arising out of events in Queensland in Subject: January 2011 [SEC=IN-CONFIDENCE] Dear Catherine, I refer to your emailed complaint correspondence with Greg Kirk of ASIC on 10 March 2011 about this matter and our recent telephone discussion. In order to assist the policy holders mentioned in your second email to Greg make initial contact with ASIC, should they wish to proceed to report their concerns to ASIC, please pass on to them the following contact details of (cc'd), Lawyer in ASIC's Misconduct & Breach Reporting Team in Brisbane: Lawyer ASIC Misconduct & Breach Reporting **GPO Box 9827 BRISBANE QLD 4001** Direct Telephone: (Email: We consider that it is appropriate for each policy holder wishing to report their concerns to contact

I will be working closely with in reviewing any concerns reported by policy holders about this matter.

ASIC directly in the first instance. Once ASIC receives initial contact from a policy holder wishing to lodge a report, we will be in a position to provide them with appropriate assistance to submit the

To assist ASIC to progress its consideration of the matter, could you also please advise whether any of your policy holder clients who have requested and received a visit by a qualified assessor subsequent to an initial desk top review have afterwards been advised by their insurer of changes to the insurer's original claim decision?

Thank you very much for your assistance.

Kind regards,

Senior Specialist

Deposit Takers, Credit & Insurers

Extension:

Mobile:

Direct line:

Subscribe to receive information about the new National Consumer Credit Regime. Go to www.asic.gov.au/credit-update



Fw: Desk Top Assessments of home and contents claims arising out of events in Queensland in January 2011 [SEC=IN-CONFIDENCE]

11/04/2011 11:16 AM



For the file please.

Thanks,



Senior Specialist

Deposit Takers, Credit & Insurers

Extension:

Mobile:

Direct line:

Subscribe to receive information about the new National Consumer Credit Regime. Go to

www.asic.gov.au/credit-update

- Forwarded by

Brisbane/QLD/ASIC on 11/04/2011 11:16 AM ----

From:

To:

/Brisbane/QLD/ASIC

Date:

11/04/2011 07:14 AM

Subject:

Fw: Desk Top Assessments of home and contents claims arising out of events in Queensland in January 2011 [SEC=IN-CONFIDENCE]

Classification: In-Confidence

Hi

Fyi,

From: "Catherine Uhr"

Sent: 11/04/2011 07:00 AM ZE10

Subject: RE: Desk Top Assessments of home and contents claims arising out of events in Queensland in January 2011 [SEC=IN-CONFIDENCE]

This email message has been processed by MIMEsweeper

all the clients had given permission to ASIC to call them, so no problems forr your team to ring them to

If I have to do this, it is difficult, I only have 5 lawyers and 300 cases, all of which are urgent..... Ta

Catherine

From: [mailto:

Sent: Friday, April 08, 2011 12:10 PM

1	To: Catherine Uhr Cc: September Subject: Desk Top Assessments of home and contents claims arising out of events in Queensland in January 2011 [SEC=IN-CONFIDENCE]
1	Dear Catherine,
	refer to your emailed complaint correspondence with Greg Kirk of ASIC on 10 March 2011 about this matter and our recent telephone discussion.
•	In order to assist the policy holders mentioned in your second email to Greg make initial contact with ASIC, should they wish to proceed to report their concerns to ASIC, please pass on to them the following contact details of (cc'd), Lawyer in ASIC's Misconduct & Breach Reporting Team in Brisbane:
	Lawyer
	ASIC
j	Misconduct & Breach Reporting
	GPO Box 9827
1	BRISBANE QLD 4001
	Direct Telephone:
ı	Email:
1	We consider that it is appropriate for each policy holder wishing to report their concerns to contact ASIC directly in the first instance. Once ASIC receives initial contact from a policy holder wishing to odge a report, we will be in a position to provide them with appropriate assistance to submit the relevant report forms.
	will be working closely with the in reviewing any concerns reported by policy holders about this
	will be working closely with in reviewing any concerns reported by policy holders about this matter.
5	To assist ASIC to progress its consideration of the matter, could you also please advise whether any of your policy holder clients who have requested and received a visit by a qualified assessor subsequent to an initial desk top review have afterwards been advised by their insurer of changes to the insurer's original claim decision?
	Thank you very much for your assistance.
	Kind regards,
E	Senior Specialist Deposit Takers, Credit & Insurers Extension: Mobile: Direct line: Subscribe to receive information about the new National Consumer Credit Regime. Go to





ASIC

Australian Securities & Investments Commission

Commonwealth Bank Building 240 Queen Street, Brisbane GPO Box 9827 Brisbane QLD 4001 DX 322 Brisbane

Telephone: (07) 3867 4700 Facsimile: (07) 3867 4725

20 April 2011

Mr Dion Gooderham General Counsel CGU Insurance Limited Level 26 NRMA Centre 388 George Street SYDNEY NSW 2000

By Email

and By Post

Dear Mr Gooderham,

Assessments of home and contents insurance claims following recent extreme weather events

As you know, the Australian Securities and Investments Commission (ASIC) is Australia's corporate, markets and financial services regulator. ASIC's responsibilities include enforcement of the consumer protection provisions of the *Australian Securities* and *Investments Commission Act* 2001 (the ASIC Act) as well as the administration of the *Insurance Contracts Act* 1984 (the IC Act).

Concerns have recently been raised with ASIC about the approach that CGU has adopted to assessing home insurance claims made on its policies after the recent extreme weather events in Queensland.

The concerns raised with ASIC relate to the 'desk top triage process', which we understand includes CGU asking up to five short questions of the policy holder and referring to a 'Google Map' or 'nearmap' image of the policy holder's damaged property in order to decide a claim. This approach is in contrast to sending a qualified assessor to the customer's property to inspect the damage suffered in all cases.

ASIC notes that CGU's 'Fundamentals Home Insurance Product Disclosure Statement and Policy' includes the following terms:

- At page 26, an exclusion for loss or damage as a result of, or caused by flood;
- At page 54, 'flood' is defined as 'the covering of normally dry land by water escaping or released from the normal confines of a watercourse or lake, whether or not it is altered or modified. Flood also includes water escaping from the confines of any reservoir, channel, canal or dam.'

 At page 36, a 'Fair Dealing Guarantee' which provides that 'We will meet any claims covered by your policy fairly and promptly' and a 'Service Guarantee' which provides that 'We will provide you with the highest standard of service'.

ASIC would appreciate your response to the concerns outlined in this letter. In particular, we would appreciate information about:

- CGU's procedures for handling home insurance claims, in particular the process
 followed by CGU in order to determine whether a particular policy holder's damage
 is a result of, or has been caused by 'flood' as defined in the relevant CGU insurance
 policy, and details of any changes that have been made to the procedures since 1
 January 2011;
- Details of any claims where there was a different assessment outcome between the initial desk-top assessment and subsequent escalation to an onsite inspection by a qualified assessor; and
- CGU's views about how its procedures ensure that it complies with its obligations
 under the terms of the relevant insurance policy (whether or not those terms are
 express or implied into the contract of insurance), the General Insurance Code of
 Practice and its obligations under the provisions of relevant legislation, including the
 IC Act and ASIC Act.

Please contact me on if you would like to discuss the above.

Thank you for your assistance.

Yours faithfully

Senior Specialist, Deposit Takers, Credit & Insurers



CGU Insurance
CGU Centre, Level 6, 181 William St. MELBOURNE VIC 3000 t (03) 96018429 f (03) 8804 9354

13 May 2011

By Email:

Senior Specialist, Deposit Takers, Credit & Insurers Australian Securities & Investment Commission GPO Box 9827

BRISBANE QLD 4001

Dear Mr

Assessment of Home & Contents Insurance Claims following recent (Qld) extreme weather events

I refer to your letter dated 20 April 2011, requesting information about CGU's assessment process undertaken during the recent QLD flood events.

CGU takes great care to provide its customers with accurate and timely confirmation of policy coverage when lodging a claim. During the recent QLD flood events, our primary concern was to avoid unnecessary delays in evaluating all claims and more specifically, communicating claim decisions where it was clear in the circumstances that a particular loss was caused by flood (as defined under the policy terms).

Section 4.4 of the General Insurance Code of Practice (of which CGU is a signatory), states as follows: "We will establish our own internal processes for responding to CatastrophelMajor Event and disasters." The Code clearly recognises that insurers may need to adopt different measures in catastrophe / major event or disaster situations.

Due to the catastrophic scale of the QLD flood events and the limited number of hydrologist resources available¹, CGU established a process to expedite claims decision making, whilst continuing to maintain the integrity of the process (Desk Top Triage Process)

The Desk Top Triage Process was designed by CGU to allow for consideration of various reliable sources of information to reach an objective and timely decision during a catastrophe event.

Hydrology assessments were booked at least 3 months in advance in the aftermath of the Qld flood events. The delay in hydrology assessments has been cited as a major cause of concern and customer complaint in other forums including the National Disaster Insurance Review (NDIR), Queensland Flood Commission and the Federal Assistant Treasurer, Minister Shorten's office.



The sources of information used in this process included:

- Aerial Photography for each individual customer, CGU utilised a web based aerial
 photography service (NearMaps) to assist in determining whether a customer's property
 had been inundated by flood water. NearMaps provided before, during and after
 photography for the majority of impacted customers in Brisbane and Ipswich.
- Flood Extent Mapping for each individual customer, CGU referred to flood extent
 mapping provided by the Insurance Council of Australia as a guide to determine the
 likelihood of flood water inundation on the customers property.
- Area Hydrology Reports (including impacted suburbs and rainfall data) CGU referred
 to area reports prepared by expert hydrologists. These reports included rainfall data
 which assisted in establishing the likelihood of damage caused by storm water vs. flood
 water.
- Customer Question Set CGU's Claims Technical Counsel in conjunction with an expert
 hydrology company, developed a customer question set (15 questions) which was
 designed to help establish the cause of damage. Specifically, this question set was used to
 establish whether the damage was a result of storm water/storm water run off, or flood.
 The list of questions used in this process is annexed to this letter.

Where the information obtained during the desk top triage process clearly established that the cause of loss resulted from flood (as defined in the policy), CGU would advise the customer of the decision to deny coverage without the need for a site assessment. If coverage was unclear or where the customer disagreed with the outcome of the desk top assessment, CGU would refer the claim for further assessment to collect further information. When a decision is made to deny coverage, CGU always confirms this decision in writing and advises the customer of their review rights should they wish to escalate their claim.

Currently, of approximately 3500 claims received for the recent QLD extreme weather events, 117 customers have elected to have the claim denial reviewed via our Internal Dispute Resolution (IDR) process. As part of the IDR review process, CGU ensures that all claims are site assessed. The majority of these assessments were undertaken by independent hydrologists. To date no QLD flood claim denied using the desk top triage process has been overturned by the IDR department following the site assessments. We believe this clearly supports the rigour and objectivity of the desk top triage process.

Prior to initiating the desk top triage process, CGU consulted the Financial Ombudsman Service (FOS) for its opinion. Our office was advised that under the circumstances, this approach was reasonable and that the FOS' expectation was that insurers should determine claims based on the "best available evidence". FOS noted that it was impractical to site assess all claims within a reasonable timeframe for the insured. Furthermore, we note recent

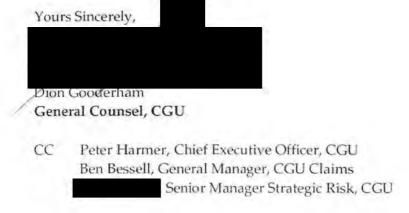
commentary from The Hon Bill Shorten MP supporting timely assessment of flood claims and that Minister Shorten is currently proposing legislative timeframes to expedite the claims decision making process.

CGU met with customers shortly after the Queensland floods, to listen to their feedback about the claims process. A few customers felt unclear about the options if they disagreed with CGU's initial finding on their claim, specifically the option of an individual site assessment. Customers also reported finding some information hard to absorb, due to the understandably traumatic circumstances they had experienced.

In light of this feedback, CGU immediately spoke to it's claims staff about this issue, giving staff guidance to double check that the option to site assess claims had been communicated and understood by our customers. This message was reinforced early in the claims processing for this event and CGU is confident that all customers who would benefit from an individual site assessment have received one.

Throughout the development and implementation of the Desk Top Triage Process CGU has followed all its risk and compliance procedures to ensure that that it provides fair and efficient processing of claims that gave customers clarity on the outcome of their claim as soon as possible. In doing so we believe we have complied with each relevant policy in particular our obligations to act in good faith and deal with claims fairly and promptly. CGU considers that the Desk Top Triage process not only complies with its obligations under all applicable legislation and the General Insurance Code of Practice but also meets our customers' overarching needs to have their claims dealt with efficiently and fairly.

I trust this addresses the queries raised. I would welcome the opportunity to meet with you should you wish to discuss the matter further.







CGU PROPERTY ASSESSMENT REPORT



<u>Date: / / /</u>	
Company Name:	
Assessor's Name:	
Customer Name:	
Property Address:	
Claim No:	
The assessor to ask the insured the questions as those below, but in addition MUST do the following;	Check list/Tick off
1) Take photographs of the property, buildings, home etc, particularly those that show maximum level of water inu 2) Attach a Google Map showing relative position of property to a watercourse 3) Photos that identify any nearby watercourse and that indicate directional flow of floodwater 4) Check with insured as to whether there was any and what damage caused by water through the roof or by overfloand that date and time of that event.	

a) *Insert	What type of house is on the property – low set, highset, double storey, split level, etc?	
b)	Is the house on stumps or slab-on-ground?	
c)	Approximately how high is the habitable floor level above surrounding ground level?	
d)	Is the ground level at the house higher than the street level?	
2		

e)	What date and time was the rain heaviest?	
f)	What time did the heavy rain stop?	
g)	When did the property get inundated (date)?	
h)	What time did the inundation of the property (yard) commence?	
i)	What time did water come into the house, garage, shed, etc?	
 3		

j)	What date and time did the water level in the property peak?	
k)	At its peak, how deep was the water inside the house, garage, shed, etc?	
1)	At its peak, how deep was the water in the yard?	
m)	Which direction did the water come into the property?	
n)	Was the water inundating the property 'clean' or 'dirty'?	
4		

0)	" Was there any and if so what damage caused by rainwater through the roof or by overflowing gutters ? ".	
V:?		
CGU/Pro	operty Assessing Doc 2011	



CGU Insurance

CGU Centre, Level 6, 181 William St, MELBOURNE VIC 3000 t (03) 9601 8429 f (03) 8804 9354

30 June 2011

Emma Curtis

Australian Securities & Investment Commission

By Email: @asic.gov.au

Dear Ms Curtis,

Assessment of Home & Contents Insurance Claims Following 2011 (Qld) Flood Events

I refer to my letter to Mr dated 13 May 2011 and our telephone communication on 20 January 2011. I provide the following additional information as requested.

- A copy of CGU's standard letter which was used in situations where CGU's decision was to decline cover due to the flood exclusion arising out of the Queensland flood events;
- 2. A copy of CGU's document titled "Handling Your Complaint" which is sent with the initial decline letter;
- A copy of CGU's standard letter which was used in situations where the insured sought internal review
 of the initial decision and the decision was to maintain the denial of cover due to the flood exclusion.

These standard form documents did not change throughout the Queensland flood events.

Claims Assessment and the Customer Question Set

As emphasised in our letter of 13 May 2011, the claims handling process relied on a number of sources of information such as Aerial Photography, Flood Extent Mapping, Area Hydrology Reports and a Customer Questionnaire Set. The Customer Questionnaire Set comprised 15 questions which had been developed with expert hydrology advice. Whilst the questions themselves did not change throughout the process, it became apparent relatively early during the events that, some responses to the questions were often put as a narrative rather than as specific responses to specific questions. Some customers also only recalled being asked a few questions when in fact CGU staff had covered all 15 questions during the initial discussion. CGU's procedures were accordingly changed so that our claims officers ensured that each question was made more explicit and distinct.

Site Assessment Options

CGU reviewed its position on or around 19 January 2011 in relation to the option to conduct individual site assessments. Up until then, a site assessment option was not conveyed to customers where a clear decision had been made to decline cover on the basis of a flood exclusion. As indicated, the claims assessment was based on a range of data and other information which was conclusive with a high degree of accuracy as to the

cause of the loss. Site assessments were still always conducted where there was doubt about the cause of the loss (eg uncertainty about whether the loss was caused by storm-water or flood).

After 19 January 2011, an option to site assess was offered by claims staff to impacted customers. Whilst CGU's considers that a site assessment was unlikely to add any more relevant information, CGU accepted feedback from some customers that they wanted the option to have a site assessment conducted. It is worth noting that a specific site hydrology assessment option was also offered prior to any Internal Dispute Resolution (IDR) process commencing (if not already conducted).

We estimate that between 80 to 100 CGU customers had claims denied due to the flood exclusion prior to 19 January 2011. All of these denied claims were subsequently reviewed by senior claims staff to ensure that the available data was unequivocal and the denial decision was valid. In cases where an IDR process has been initiated, a site hydrology assessment has also been conducted. It is worth noting that none of the denial decisions have been changed as a result of these additional reviews.

I trust this addresses your additional queries. Please contact me on	if you would like to discuss
the matter further.	

Yours sincerely,

Dion Gooderham CGU General Counsel, CGU

CC Ben Bessell, General Manager, CGU Claims

CGU Insurance

GPO Box 9902 BRISBANE QLD 4001

ABN 2704 478 371

Tel: Fax:

Dear

Your Claim Number: Your Policy Number:

I am writing to you in relation to a claim you made for damage to your property on or about

Your CGU policy covers inundation by storm water but does not provide insurance coverage for losses caused by flood. Flood is clearly defined in your policy, for details you can refer to page of your ...enter name of policy...policy.

CGU reviews each claim on its individual merits and we do not deny claims lightly. We have carefully reviewed your claim and based on your advice and information available to us, we conclude that the loss for which you have claimed was caused by flood. As a result we are not in a position to pay your claim.

If you disagree with this decision, please contact our office and we will refer your claim to the CGU Dispute Resolution team. The Dispute Resolution team will independently review your claim and provide a decision within 15 business days of receiving your request and all relevant information.

Enclosed is a brochure that will provide you with further information about the dispute resolution process. Please do not hesitate to contact our office on 1300....... if you wish to discuss this matter or require any further information.

Yours sincerely

Claims Consultant CGU Claims



handling your complaint

Handling Your Complaint

Are you unhappy with a decision made by CGU Insurance regarding your insurance and/or do you wish to make a complaint?

At CGU, we value all our customers.

We understand that occasionally some customers are not satisfied with the services or products we provide or do not agree with decisions we make in relation to their insurance.

We have a process to help you if you wish to make a complaint or have a dispute managed.

CGU's Complaints Process

Step 1. Talk to us first

The first thing you should do is contact us. You can contact your nearest CGU Insurance office or talk with a relevant staff member in the department concerned. If you do not have the relevant contact details you can call us on the numbers featured on the back cover. If you let a staff member know what your complaint concerns, they may be able to resolve the issue for you. If not, they will refer you to an appropriate manager.

The Manager or a senior staff member in the Manager's area will review and respond to your complaint.

A response to your complaint will usually be provided within 15 business days from receipt of your complaint.

Step 2. Have your complaint reviewed by the relevant CGU Insurance dispute resolution area

If the Manager or senior staff member cannot resolve your complaint, they will refer it to the relevant CGU Insurance dispute resolution area. Alternatively, you can ask the Manager or senior staff member to refer you to the relevant dispute resolution area.

The relevant dispute resolution area will treat your complaint as a dispute and one of their staff members will liaise with you in relation to the dispute. They will review your dispute and provide you with a decision usually within 15 business days.

Step 3. Seek an External Review of the decision

If you are unhappy with this decision, you may wish to seek an external review of the decision. The relevant dispute resolution area's letter outlining its decision will provide you with information on external review option(s), such as, if appropriate, referring you to the dispute resolution scheme run by the Financial Ombudsman Service (FOS). The toll free number for the FOS is 1300 780 808. Or you can contact them via their website: www.fos.org.au.



'our commitment to customer service'

contact details

Adelaide

80 Flinders Street Adelaide SA 5000 Tel (08) 8405 6300 Fax (08) 8405 6444

Ballarat

The Gordon 1-3 Bath Lane Ballarat VIC 3350 Tel (03) 5329 4100 Fax (03) 5329 4194

Brisbane

189 Grey Street South Bank QLD 4101 Tel (07) 3135 1900 Fax (07) 3212 7898

Hobart

Level 5 188 Collins Street Hobart TAS 7250 Tel (03) 6230 4748 Fax (03) 6230 4740

Website: www.cgu.com.au

Melbourne

181 William Street Melbourne VIC 3000 Tel (03) 9601 8222 Fax (03) 9279 5450

Newcastle

3rd Floor The Metro Cnr Scott & Watt Streets Newcastle NSW 2300 Tel (02) 4935 7100 Fax (02) 4935 7110

Perth

46 Colin Street West Perth WA 6005 Tel (08) 9254 3600 Fax (08) 9254 3601

Sydney 388 George Street Sydney NSW 2000 Tel (02) 8224 4000 Fax (02) 8224 4025



Your insurance adviser is

CGU Insurance Limited ABN 27 004 478 371

CGU0038 REV13 12/08

.



5 April 2011

CGU Insurance

GPO Box 9902 BRISBANE QLD 4001

ABN 2704 478 371

Tel: 1300 882 788 Fax: 07 3135 1413



Dear

Your Claim Number: Your Policy Number: Situation Address:



I am writing to you in relation to a claim you made for damage to your property on or about the 12th January 2011.

As requested I have reviewed your claim and after careful consideration of the information provided, I concur with the original decision to decline the claim for the following reasons;

Summary of the decision

The circumstances of the claim

We received correspondence on the 9th February 2011 requesting reconsideration of your claim.

Your policy coverage relating to the claim

Your CGU policy covers inundation by storm water but does not provide insurance coverage for losses caused by flood. Flood is clearly defined in your policy, for details you can refer to the glossary of your CGU home policy.

The information we have considered in making this decision

CGU reviews each claim on its individual merits and we do not deny claims lightly. We have carefully reviewed your claim; water has escaped from the Brisbane River via storm drains. Where water has escaped a water course by backing up through storm water drains to find an equal level to the river, this is also considered to fall within the definition of Flood under the CGU Policy.

Furthermore, rising storm waters that can not drain into a watercourse because the watercourse is already in flood is also considered flood water

The source of the inundation is from the Brisbane River. I refer to your definition of flood under your CGU policy:

Flood:

The covering of normal dry land by water escaping or released from the confines of a watercourse or lake, whether or not it is altered or modified. Flood also includes water escaping from the confines of any reservoir, channel, canal or dam.

Flood water that mixes with storm water run off that in indutes very story is viewed as damage from floodwater.

Based on your advice and information available to version to pay the loss for which you have claimed was caused by flood. As a result we are not in a position to pay your claim.

If you disagree with this decision, please contact me and I will refer your claim to the CGU Dispute Resolution team. The Dispute Resolution team review your claim and provide a decision within 15 business days of receiving your request and all relevant information.

Enclosed is a brochure that wing the first that the dispute resolution process. Please do not hesitate to contact me on the first that if you wish to discuss this matter or require any further information.

Yours Sincerely,

Team Manager CGU Claims



Our Reference:

PCS2011/6845

1 032011/0643

3 August 2011

Mr Dion Gooderham General Counsel CGU Insurance Limited Lvl 26, NRMA Centre 388 George Street SYDNEY NSW 2000



ASIC

Australian Securities & Investments Commission

Level 5, 100 Market Street, Sydney GPO Box 9827 Sydney NSW 2001 DX 653 Sydney

Lobertrane (102) 1041 (2000) Facsonike (02) 9911 (24) 4

Dear Mr Gooderham

CGU Insurance Limited - Assessments of home and contents insurance claims following recent extreme weather events

I refer to your letter dated 30 June 2011 and our telephone discussion on 19 July 2011 concerning CGU's assessment process during the recent QLD flood event.

CGU noted in its letter of 30 June 2011 that following a review of its claims handling process on 19 January 2011, it decided to offer a specific site hydrology assessment option (prior to any Internal Dispute Resolution (IDR) process commencing) to all declined claimants. However it does not appear to be disclosed in the standard claim decline letter or the IDR decline letter, copies of which you provided to us. We seek your response concerning how a policy holder would be aware that they had the option of a site specific hydrology review.

We also note that CGU appears to have a two tier internal dispute resolution system with the dispute first being processed by a team manager in the Claims department and if requested by the policy holder, secondly by the CGU Dispute Resolution team.

You may be aware that we anticipate shortly releasing a report regarding general insurance claims handling. On 10 May 2011 Senior Manager, and other ASIC staff met with IAG representatives including General Counsel - Direct Insurance - NRMA Insurance to discuss the recommendations of this report.

As discussed at that meeting, a key recommendation of the report is that a review decision at tier 1 should be confirmed in writing and refer to the opportunity to have the decision reviewed at external dispute resolution (EDR). We note that the letter provided by CGU does not refer to EDR although the brochure enclosed does refer to EDR. We seek your comment as to whether CGU will consider more directly notifying a policy holder in the letter that they may go to EDR.

email at	or	or	or via email at
Yours faithfully,			
Acting Senior Manager Deposit Takers, Credit and Insurer	P47		





na track

Our Reference:

PCS2011/6845

ASIC

Australian Securities & Investments Commission

Level 5, 100 Market Street, Sydney GPO Box 9827 Sydney NSW 2001 DX 053 Sydney

Telephonie (02) 0071 2000 Facomile (02) 0011 2414

28 September 2011

Mr Dion Gooderham General Counsel CGU Insurance Limited Lvl 26, NRMA Centre 388 George Street SYDNEY NSW 2000

Dear Mr Gooderham

CGU Insurance Limited (CGU) - Assessments of home and contents insurance claims following recent extreme weather events

I refer to our letter dated 3 August 2011 concerning CGU's assessment process during the recent QLD flood event.

We request that CGU provide a response to the enquiries we raised in the letter referred to above, by close of business Friday 7 October 2011.

If you have any queries please do not hesitate to contact me on email at or via or via email at

Yours faithfully,

Acting Senior Manager Deposit Takers, Credit and Insurers



	Second email: Fw: Concerns about desk top assessments of home and contents claims arising out of events in Queensland in January 2011
1	A PM
With thanks	
	Senior Manager NSW- Senior Manager NSW-
	f:
Forward	/Sydney/NSW/ASIC on 10/03/2011 05:24 PM
From:	Greg Kirk/Sydney/NSW/ASIC
To: Cc:	/Sydney/NSW/ASIC@ASIC /Sydney/NSW/ASIC@ASIC, /Melbourne/VIC/ASIC@ASIC,
Date:	r/Brisbane/QLD/ASIC@ASIC 10/03/2011 05:17 PM
Subject:	Fw: Concerns about desk top assessments of home and contents claims arising out of events in Queensland in January 2011 [SEC=PERSONAL]
Gregory Kirl	k Senior Executive Leader Deposit Takers Credit & Insurers ASIC Sydney
	ed by Greg Kirk/Sydney/NSW/ASIC on 10/03/2011 05:16 PM —
From:	
To:	"Greg Kirk" <greg.kirk@asic.gov.au></greg.kirk@asic.gov.au>
Cc: Date:	10/03/2011 03:07 PM
Subject:	RE: Concerns about desk top assessments of home and contents claims arising out of events in Queensland in January 2011 [SEC=PERSONAL]
This email me:	ssage has been processed by MIMEsweeper
Further to m	ny email,
speak to AS	the numbers of CGU clients we have and want us to ask if they would be prepared to SIC, let me know. Itime here are relevant contacts:-
The first cor	ntact is

is the person who has spearheaded the complaints

1	
2.	
3.	
HOW a	se they have been involved with the 'campaign' under stewardship they have all known to sk for assessment of their claims. have all received site assessment within the last week as a result of this.
The C specia	onsumer Protection Unit at Legal Aid Queensland provides advice and representation lising in consumer injustices including disputes with credit providers and insurers.
Advice	e can be booked by calling 1300 65 11 88 or
Cheer	s,
From:	Solicitor/Consumer Advocate Civil Justice (Consumer Protection) Legal Aid Queensland f 44 Herschel Street GPO Box 2449 Brisbane Qid 4001 Greg Kirk [mailto Thursday, March 10, 2011 11:29 AM
From: Sent: To: Cc: Subje	Greg Kirk [mailto]
From: Sent: To: Cc: Subje	Greg Kirk [mailto Thursday, March 10, 2011 11:29 AM ct: Re: Concerns about desk top assessments of home and contents claims arising out of
From: Sent: To: Cc: Subje	Greg Kirk [mailto Thursday, March 10, 2011 11:29 AM ct: Re: Concerns about desk top assessments of home and contents claims arising out of in Queensland in January 2011 [SEC=PERSONAL] ine, thanks for your email and attachments and for raising this issue with us. We will look into it
From: Sent: To: Cc: Subje events Cather and re	Greg Kirk [mailto Thursday, March 10, 2011 11:29 AM ct: Re: Concerns about desk top assessments of home and contents claims arising out of in Queensland in January 2011 [SEC=PERSONAL] ine, thanks for your email and attachments and for raising this issue with us. We will look into it
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Dear Greg,

I write to complain about a systemic concern in the way that a particular insurer, CGU had dealt with home and contents (general) insurance claims resulting from recent events in Queensland.

I attended a meeting at CGU offices in South Brisbane on Friday morning 18
February together with a number of concerned CGU customers and including
who has had quite a bit of media coverage concerning her CGU
insurance claim refusal and the process which CGU took to assess her claim.

The concern is that CGU used a 'triage' process to assess 2000 Queensland claims. The process involved asking up to 5 short questions and looking at a google or nearmap picture of the customer's property to decide a claim rather than sending a qualified assessor to the customer's property to inspect first hand, at the first opportunity, the damage and speak to the customer.

We are talking about claims for homes valued up to \$600 000, not claims which would not justify a visit from the company's agent. (eg a laptop stolen from the backseat of the car!).

I attach a statement of which details the experience she had making a claim with CGU. The statement was taken on Friday 11 February by me.

<<Insurance</p>
statement taken 11 February 2011.doc>>
who arranged the meeting with CGU and had made public demands for reassessment and compensation, asked CGU on behalf of affected customers to review their triage policy and attend all properties where a customer has received a refusal based upon a desktop brief assessment.

CGU have responded to this, and other demands made by by way of media release dated 22 February 2011 reproduced below. The response falls short of an undertaking to attend every property at the initiative of the company to properly assess claims.

Unfortunately not all clients have the confidence and education to advance their cause that evidences. A number of people are not connected to media outlets and unaware of their rights to dispute refusals of claims. They are exhausted and distressed by events with little wherewithal to actively pursue their rights.

Up to 1000 people in Ipswich, for instance, are displaced.

I am in the process of garnering consent from directly and three

consumers who can relate their experience in attempting to make a claim with CGU.

Legal Aid Queensland acts for a number of affected householders who have been or are likely to be denied claims with CGU but we remain concerned about those customers who are unaware of their rights.

A solution would be for CGU to agree to contact every customer who made a claim and has a refusal or is likely to be refused and urgently assess their claims by sending a qualified assessor to the task.

Any response short of this, risks evidence to support a claim being compromised or lost.

MEDIA STATEMENT

22.02.11

CGU responds to protestor demands

CGU Insurance today responded to demands made by protestors outside its Grey Street offices in

Brisbane on Friday 18th February 2011.

"We have reviewed and made changes to how we communicate our claims assessment process to

customers. We apologise to any customers for whom the process was not previously made clear,"

said Peter Harmer, CEO, CGU Insurance.

"In particular, I want to make sure it's clear that an individual site assessment is available to all of our

customers should they want one."

"If any of our customers have questions about their claim, the assessment or the options

available if they disagree with the outcome, they should call us on 1800 252 461." CGU also announced it will not be making ex-gratia payments to customers affected by flood.

COLUMN TOWN

Mr Harma GU is acutely aware of the hardship faced by those affected by the floods, so this

has been a difficult decision. However, making payments to customers outside of their policy terms is

unsustainable and unfair to customers who have been affected by flood in previous years, both in

Queensland and in other states, who have not received pay for damages caused by flood."

"CGU is paying many thousands of claims for Queensland customers in relation to the recent severe

weather, for damage from causes other than flood. CGU does not provide cover for flood in its

standard home and busines relicies in any part of Australia. This is clear in our policies and we don't

charge our customers for flood cover as part of their premium."

CGU is committed to working with all levels of government and the Insurance Council of Australia to ensure that the right information is made available to enable CGU to provide flood insurance in the future.

ENDS

Media enquiries:

Joanne Doyle or

About CGU

CGU Insurance is the largest provider of general insurance to Australia's regional and rural

communities, a leading workers'

compensation provider and one of Australia's leading commercial insurers. CGU offers a comprehensive range of commercial, rural and

personal insurance products through a network of over 1,000 insurance brokers and authorised representatives. CGU has been

operating in Australia for almost 160 years and is part of Insurance Australia Group (IAG). The Consumer Protection Unit at Legal Aid Queensland provides advice and representation specialising in consumer injustices including disputes with credit providers and insurers.

Advice can be booked by calling 1300 65 11 88 or

Cheers.

Catherine Uhr

Senior Solicitor/Consumer Advocate | Civil Justice (Consumer Protection) | Legal Aid Queensland | 44 Herschet Street | GPO Box 2449 | Brisbane Qld 4001

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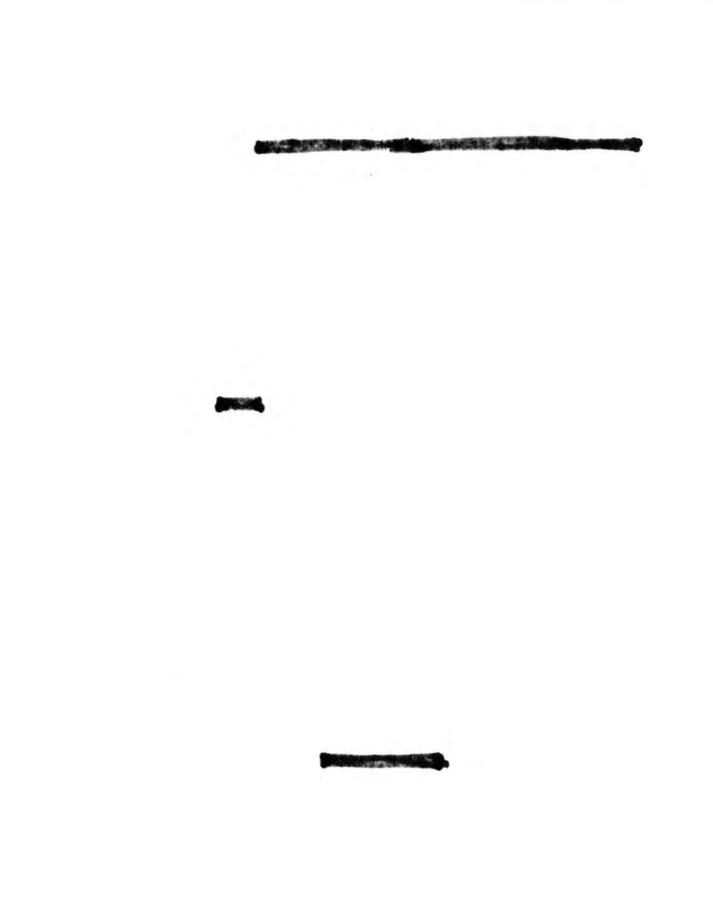
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- I received a call on my mobile in a shopping centre on Thursday 27 January 2011 and I couldn't hear what she was saying but heard the word 'declined', the person was female and had identified as from CGU. I said I couldn't hear could she call me back.
- The next call came at 3pm that afternoon. I was asked 'how are you' are you
 coping, have you found somewhere to stay. I didn't get a name, I asked for
 her name but she kept talking. I made a note of this conversation straight
 after the call.
- 3. I said that I had heard from someone earlier in the day but that I was unable to hear them and she said that she was happy that someone had touched base with me. I then said that I hadn't heard the conversation because I had been inside (riverlink)shopping centre. She told me then that I was not covered by flood and my claim was denied. I explained that on the 14th January the day I made my claim that that lady called had said that even though I was not covered by flood that there was pressure from the Govt because Old was going through an unprecedented time and an assessor would be sent to each and every house and an individual determination would be made.
- I said 'has an assessor come out to make a determination' and she replied, no no one had come out because she had made the decision from her office.
- I asked how did you make that decision, sight unseen, and she replied that she had made her decision from questions I had answered and a satellite picture from google maps taken on the 13 January showing that no water had entered my premises.
- I was really shocked by what she had said. I didn't think to argue that the
 photo must have been taken when the water was receding because the event
 took place over the 11 January and 12 January.
- 7. I thanked her very much for nothing and said karma was a bitch and I hoped she wasn't insured with CGU.
- I received a written refusal dated 28 January 2011 around 1st February 2011.
- I am not back in the house, the water came to a foot from the ceiling. I have no floors, walls or electricity.
- My daughter recently moved out of home. Now I have followed and moved to where she is living.

This statement was read out to by me, Catherine Uhr, this 11th day of February 2011 at 4.25pm.

This is an accurate recollection of events.





Publications > Media Centre > ASIC reviews motor vehicle insurance claims

11–163MR ASIC reviews motor vehicle insurance claims

Wednesday 10 August 2011

Australians who find themselves in a spot of bother with their car have a good chance of making a successful insurance claim, a review of motor vehicle insurers has found.

ASIC's review of more than 1.2 million claims made during 2009 found only 3317 (0.3%) were formally denied.

The report also found a relatively low level of claims-related complaints with 5885 of the total 26,500 complaints received by participating insurers in 2009 being progressed to an internal dispute resolution team.

ASIC's Report 245 Review of general insurance claims handling and internal dispute resolution procedures (REP 245) looked at eight general insurers, representing 20 car insurance brands and approximately 75% of the direct retail market.

'Most consumers have motor vehicle insurance, and many will make a claim at some time,' ASIC Commissioner, Peter Boxall, said. 'Because no insurer-specific comparative data exists for claims handling performance of Australian insurers, it is difficult for consumers to shop around on the basis of quality, efficiency or fairness of claims handling.

'For consumers, the intrinsic value of an insurance product is in the ability to make a successful claim when an insured event occurs. These findings are important in ensuring confident and informed financial consumers.'

The review also makes a number of recommendations including that insurers should record information relating to both denied and withdrawn claims, and should regularly analyse and review that information. In addition to the very small percentage of claims that were denied, more than 7% of claims made in 2009 were withdrawn.

'We think that recording and reviewing information about both denied and withdrawn claims is important, as it may assist in identifying issues relating to disclosure, advertising, sales processes, product design or internal procedures,' Dr Boxall said.

'We also think it is important to understand the circumstances in which claims are withdrawn, to ensure that policyholders are making properly informed decisions that operate in their best interests.'

A further recommendation calls for insurers to provide written responses to consumers who complain about the outcome of their claim, both after any initial review of the complaint as well as when a dispute is finalised. A written response should set out the reasons for the decision, the availability of further review and information about the Financial Ombudsman Service.

'We think our findings are likely to have a broader application across other general insurance product lines, and will work with industry to encourage broader adoption of our recommendations,' Dr Boxall said.

Background

In 2009 there were more than 8.5 million motor vehicle insurance policies in force, 87% of which were comprehensive policies.

For the review insurers were asked to provide statistics and internal documents in relation to

claims handling and internal dispute resolution procedures for motor vehicle insurance policy claims lodged in the period 1 January 2009 to 31 December 2009.

Where consumers want to dispute the denial of a claim by their insurer, they should first take it up with through the insurer's Internal Dispute Resolution (IDR) process. If they are unsatisfied with the outcome they can go to External Dispute Resolution (EDR). It is mandatory for all insurers to provide both IDR and EDR. EDR is free to access and provides an independent, binding decision. The scheme insurers belong to is the Financial Ombudsman Service.

► Download REP 245

ASIC Website: Printed 05/10/2011





REPORT 245

Review of general insurance claims handling and internal dispute resolution procedures

August 2011

About this report

This report examines general insurance claims handling and internal dispute resolution (IDR) procedures in the context of motor vehicle insurance (MVI), and sets out our findings and recommendations.

About ASIC regulatory documents

In administering legislation ASIC issues the following types of regulatory documents.

Consultation papers: seek feedback from stakeholders on matters ASIC is considering, such as proposed relief or proposed regulatory guidance.

Regulatory guides: give guidance to regulated entities by:

- explaining when and how ASIC will exercise specific powers under legislation (primarily the Corporations Act)
- explaining how ASIC interprets the law
- · describing the principles underlying ASIC's approach
- giving practical guidance (e.g. describing the steps of a process such as applying for a licence or giving practical examples of how regulated entities may decide to meet their obligations).

Information sheets: provide concise guidance on a specific process or compliance issue or an overview of detailed guidance.

Reports: describe ASIC compliance or relief activity or the results of a research project.

Disclaimer

This report does not constitute legal advice. We encourage you to seek your own professional advice to find out how the Corporations Act and other applicable laws apply to you, as it is your responsibility to determine your obligations.

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Executive summary

- For consumers, the intrinsic value of an insurance product is in the ability to make a successful claim when an insured event occurs. A claim may be successful at first instance or, if initially unsuccessful, following further review through a dispute resolution process.
- Given recent developments in the general insurance industry, and also changes that have been proposed (but not yet brought into law) to the *Insurance Contracts Act 1984* (Insurance Contracts Act), we considered it timely to conduct a review of general insurance claims handling and internal dispute resolution (IDR) procedures.
- This review was also an opportunity for us to:
 - (a) test consumer concerns raised with industry and with ASIC about the effectiveness of claims handling and dispute resolution in the general insurance sector; and
 - (b) gain a better understanding of insurance practices, including an understanding of how general insurers manage their claims and IDR procedures.
- We selected motor vehicle insurance (MVI) as a representative product for this review because it is the most commonly purchased retail general insurance product in Australia, and because it enabled us to include in the review some newer market entrants.

What we did

- For this review, we asked eight general insurers (representing 20 MVI brands and approximately 75% of the direct retail MVI market) to provide statistics and internal documents in relation to claims handling and IDR procedures for MVI policy claims lodged in the period 1 January 2009 to 31 December 2009.
- In this report we treat individually branded insurers as discrete insurers, and refer to them as 'insurers'.
- 7 The information we obtained included:
 - (a) statistics about policies, claims handling and IDR; and
 - (b) copies of all internal documents, guidelines, scripts and standard letters relating to MVI claims handling and IDR.

In obtaining the information we did not exercise our compulsory 8 information-gathering powers. We acknowledge the cooperation and assistance of all participating insurers.

What we found

- 9 The high-level findings of our review were generally positive. Only a very small number of MVI claims are formally denied, and numbers of claimsrelated complaints also appear to be relatively low.
- Despite those high-level findings, our review found some aspects of both 10 claims handling and IDR procedures that warrant further attention. These are discussed in this report and form the basis of our recommendations. Having considered procedures and practices across the industry, as well as outcomes for consumers, we think our recommendations reflect best practice and will help ensure more confident and informed consumers. A complete list of the recommendations is in the appendix to this report.
- We think many of our findings and recommendations are likely to have a 11 broader application across other general insurance product lines, including those with higher claims-denial rates such as travel insurance and consumer credit insurance.²

Claims handling

- 12 The participating insurers received 1,176,621 MVI claims during 2009. Of these claims, 3317 (or 0.28%) were formally denied.
- In addition to those claims that were denied, more than 7% of the claims 13 reported to ASIC were withdrawn prior to a decision being made.
- A number of insurers were only able to provide information about the basis 14 on which claims were denied or withdrawn by manually extracting data or providing representative samples.
- 15 We think that recording and reviewing information about denied claims is important, as it may assist in identifying issues relating to disclosure, advertising, sales processes, product design or internal procedures.
- 16 We also think it is important to understand the circumstances in which claims are withdrawn, to ensure that policyholders are making properly informed decisions that operate in their best interests.

¹ For the avoidance of doubt, where relevant the recommendations made in this report should be read as having a general application, rather than confined to MVI.

² Financial Ombudsman Service (FOS), *General Insurance Code of Practice: Overview of the year 2009/2010.*

Recommendations 1(a) and 1(b)

Insurers should record information relating to denied and withdrawn claims, and should regularly analyse and review that information.

A significant proportion of claims are denied on the basis of non-disclosure or misrepresentation. This may suggest that consumers do not properly understand their disclosure obligations, the importance of complete and accurate disclosure, or the ramifications of failing to properly disclose relevant matters.

Withdrawn claims

There is a clear difference in approach between insurers regarding the effect a withdrawn claim has on future premiums. For some, a withdrawn claim will not affect a policyholder's future premium calculations, whereas others will in some circumstances take a withdrawn claim into consideration when calculating subsequent premiums for that policyholder.

Recommendation 2

Where a withdrawn claim will result in, or is likely to result in, an increase to future premiums, that should be disclosed.

- We understand from our review that policyholders do not always receive written confirmation of a decision to withdraw a claim.
- We think it is best practice to ensure that policyholders are fully aware of the status of their claim, and that information about re-establishing contact after a claim is withdrawn is conveyed to policyholders.

Recommendation 3

Insurers should consider providing written confirmation of a decision to withdraw a claim, and provide information to assist policyholders who may have further queries or decide to pursue the claim.

Frontline advice about making a claim

- Generally, where frontline staff are permitted to make a decision to deny a claim at initial contact, that decision is reviewed by a claims specialist before being confirmed in writing with reasons for the denial.
- While some insurers allowed their frontline staff more decision-making power than others, we found that protections were generally robust.

Recommendation 4

Decisions by frontline staff that result in a claim being denied should be reviewed before the decision is confirmed.

- While some insurers will not communicate a likely decision prior to a formal decision being made, others leave open the possibility that frontline or claims handling staff might provide an assessment to the policyholder regarding the prospects of a claim in some circumstances.
- Providing policyholders with an assessment of the likely decision, particularly where it is likely the claim will be denied, can have the effect of encouraging or otherwise influencing the policyholder to withdraw the claim rather than allowing it to proceed to a formal denial.
- We consider it important that insurers identify the risk in allowing frontline staff to make an assessment or form (and communicate to the policyholder) an early view of a claim without the benefit of or ability to properly consider additional information that may affect the outcome.

Recommendation 5

Insurers should review current practices for assessments by frontline staff about the possible denial of a claim, and the communication of those assessments to policyholders.

Uninsured motorist extension cover

- Uninsured motorist extension (UME) claims handling has drawn significant criticism from consumer representatives.
- The data we obtained suggests the number of UME claims is very low. This may reflect a lack of consumer awareness of this additional cover.
- The rate of acceptance of these claims was generally lower than for other MVI claims, but it was still reasonably high, with many insurers reporting acceptance rates of between 90% and 100%, and most above 75%.
- A small number of policy disclosure documents contained conditions to a UME claim that appeared difficult to satisfy (e.g. that the policyholder provide evidence that the other party was uninsured), but we also found that the conditions applied in practice do not appear as onerous as described in the policy documents.

Recommendation 6

Insurers should review conditions on UME claims, and review disclosure material to ensure information about UME claims is accurate.

IDR procedures

- Insurers operate 'multi-tiered' IDR procedures that typically have the following stages:
 - (a) frontline (or initial point of contact);
 - (b) Tier 1—the 'complaints' stage, which typically involves a review by an operational area (e.g. claims, underwriting); and
 - (c) Tier 2—the 'IDR' stage, which typically involves a review and decision by a centralised IDR team.
- Not every complaint proceeds through each stage, as some types of complaints will progress immediately to Tier 1 or, in some cases, Tier 2.
- Complaints resolved by frontline staff are not always recorded and decisions are usually communicated verbally.
- We found that some insurers record very little information about matters at Tier 1. Others collect equally detailed data at both Tiers 1 and 2.
- As noted in the guidance contained in Regulatory Guide 165 *Licensing: Internal and external dispute resolution* (RG 165), complaints handling is a useful means of tracking compliance issues or risks. The guidance also states that all complaints should be classified and analysed to identify systemic, recurring and single incident problems and trends, which will help eliminate the underlying causes of complaints and disputes.

Recommendation 7

Insurers should review their systems and processes for recording and analysing Tier 1 complaints to align them with systems used at Tier 2, so that they are able to extract useful information to address the underlying causes of complaints.

- Many decisions made at Tier 1 are communicated to complainants verbally. Where decisions are confirmed in writing, those letters generally refer only to the next level of IDR and do not make any reference to external dispute resolution (EDR).
- For those complainants who do not proceed to Tier 2, which represents more than two-thirds of all complaints, the response received at Tier 1 will effectively be their final response.

Recommendation 8

Decisions at Tier 1 should be confirmed in writing, and the content of those letters aligned with the final response provided at Tier 2.

Disclosure issues

- While not the focus of this review, we identified some issues regarding the accuracy and clarity of disclosure in relation to excesses and no-claims discounts (NCD) schemes.
- Given the complexity and importance of these matters, we think there is scope for improvements to ensure that disclosure is as complete, accurate and as clear as possible.

Recommendation 9

Insurers should review and, where appropriate, improve disclosure and/or make available additional information on excesses and the operation of NCD schemes.

Further work by ASIC

- We have met with all participating insurers to discuss our findings. We acknowledge that the practices identified in this report may not reflect current practices of all relevant insurers, and that in a number of cases insurers are working towards or have already made changes to practices consistent with our recommendations.
- We will work with the Insurance Council of Australia and insurers to encourage appropriate responses to our findings and the adoption of our recommendations.
- We will follow up specific issues identified by our review with individual insurers, including some issues that we have not covered in this report.
- We will also review ASIC's consumer education material relating to those issues where we have identified potential for greater consumer understanding and awareness, and add to or improve existing material as appropriate.

A Background

Key points

We invited eight general insurers to participate in a broad industry review of claims handling and IDR procedures. We selected MVI as a representative product for this review.

The objectives of the review were to test consumer concerns about claims handling and IDR procedures, and provide us with a better understanding of current practices.

We requested statistics and internal documents in relation to MVI policies for claims made during the period 1 January 2009 to 31 December 2009.

In December 2009 there were more than 8.5 million MVI policies in force, 87% of which were comprehensive policies. The market share of participating insurers varied significantly.

Purpose of this review

- For consumers, the intrinsic value of an insurance product is in the ability to make a successful claim when an insured event occurs. A claim may be successful at first instance or, if initially unsuccessful, following further review through a dispute resolution process.
- No insurer-specific comparative data is published about the claims handling performance of Australian insurers. It is therefore not possible for consumers to shop around on the basis of quality, efficiency or fairness of claims handling.
- Equally, while there are regulatory frameworks applying both to claims handling and IDR, we think there is scope for greater understanding of the extent to which current practices align with those frameworks and meet relevant standards.
- We considered it timely to conduct a review of general insurance claims handling and IDR procedures, given:
 - (a) recent industry consolidation;
 - (b) the entry of new insurers into personal insurance lines;
 - (c) the continued development and promotion of online insurance distribution; and
 - (d) the Government's review of the Insurance Contracts Act

- 47 Relevantly, the Financial Ombudsman Service's (FOS) 2009–10 annual review recorded that general/domestic insurance disputes were up 32% for the period overall and that the biggest category related to MVI (41%).³
- This review was also informed by themes arising out of consumer complaints that have been made to ASIC, including concerns about:
 - (a) insurers deterring policyholders from lodging claims;
 - (b) unreasonable delays and poor communication in relation to claims handling; and
 - (c) multi-tiered IDR procedures frustrating and ultimately deterring some complainants.
- The objectives of this review were to:
 - (a) test these consumer concerns, which have also been raised publicly and with Government; 4 and
 - (b) provide us with a better understanding of insurance practices, including an understanding of how general insurers manage their claims and IDR procedures.

Scope of this review

- We selected MVI as a representative product for this review because it is the most commonly purchased retail general insurance product in Australia, and because it enabled us to include in the review some newer market entrants. This aspect has allowed us to compare the claims handling systems and procedures of newer entrants against those of more established insurers.
- In early 2010, we invited eight general insurers (representing 20 MVI brands and approximately 75% of the direct retail MVI market) to participate in a broad industry review of claims handling and IDR procedures.
- Our selection of the insurers and brands included in the review was based on:
 - (a) market prominence and market share; and
 - (b) representation of different sections of the industry, including bankowned, new entrants and online issuers.
- We requested statistics and internal documents in relation to MVI policies for claims made during the period 1 January 2009 to 31 December 2009.

³ FOS, Financial Ombudsman Service 2009–2010 annual review.

⁴ Including in submissions to: R Cornell, *Independent review of the General Insurance Code of Practice*, Insurance Council of Australia, 30 October 2009; and the Senate Economics Committee review of the Australian Consumer Law (September 2009).

- The initial information request included:
 - (a) statistics about policies, claims handling and IDR; and
 - (b) copies of all internal documents, guidelines, scripts and standard letters relating to both MVI claims handling and IDR.
- We obtained further information via follow-up requests made to each of the participating insurers to clarify our understanding of the initial information provided.

What this review does not cover

- The following issues were outside the scope of this review and do not expressly form part of the analysis or recommendations:
 - (a) the quality of actual decision making in the claims handling procedures reviewed;
 - (b) insurers' underwriting practices;
 - (c) the conduct of fraud investigations;
 - (d) preferred repairer networks or other arrangements in relation to insurers and the automotive repair industry; and
 - (e) assessment of vehicle damage related to MVI claims.

MVI market: Number and type of policies in force

Table 1 and Figure 1 show the number and types of MVI policies in force in December 2009, across the group of participating insurers.

Table 1: MVI policies in force across participating insurers

Type of insurance	Figure
Comprehensive	7,436,218
Third-party	760,271
Third-party fire and theft	386,581
Total	8,583,070

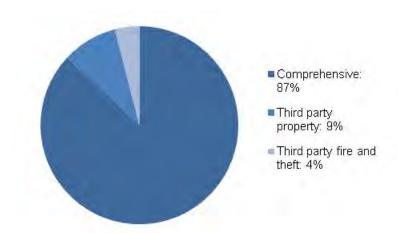


Figure 1: Types of policies issues by participating insurers

The participating insurers reported considerable divergence in market share, with individual insurers having as many as approximately 1.8 million policies and as few as approximately 2000 policies in force at the time of the review.

B Regulatory landscape

Key points

General insurance is subject to the statutory and self-regulatory standards and requirements of:

- the Corporations Act 2001 (Corporations Act) (paragraphs 59–65);
- the Insurance Contracts Act (paragraphs 66–68);
- the Australian Securities and Investments Commission Act 2001 (ASIC Act) (paragraphs 69–70);
- the General Insurance Code of Conduct (GI Code) (paragraphs 71–73);
 and
- the Australian Prudential Regulation Authority (APRA) (paragraphs 74–75).

Corporations Act

- General insurance products are financial products for the purposes of the *Corporations Act 2001* (Corporations Act). General insurers must be licensed by ASIC in accordance with Ch 7 of the Corporations Act in order to provide financial services.
- The Corporations Act sets out the general obligations of an Australian financial services (AFS) licensee, including that they:
 - (a) provide financial services covered by the licence efficiently, honestly and fairly;
 - (b) comply with financial services laws (including the Insurance Contracts Act); and
 - (c) where dealing with retail clients, have a dispute resolution system that includes IDR procedures complying with ASIC standards and requirements, and have membership of an approved EDR scheme (for insurers, this is generally FOS).
- ASIC standards and requirements for IDR are set out in RG 165. IDR is considered in more detail in Section E of this report.
- General insurance products are subject to disclosure requirements under the Corporations Act and the Insurance Contracts Act.
- Chapter 7 of the Corporations Act provides the framework for disclosure about financial products, services and advice. There is a tailored Product Disclosure Statement (PDS) regime for general insurance products that takes

into account all of the information an insurer is required to provide under the Insurance Contracts Act and the information an insurer would provide through their policy terms and conditions, and so:

- (a) removes certain PDS content requirements for general insurance products;
- (b) removes certain PDS content requirements where the information is disclosed by the insurer in another document (e.g. policy terms and conditions); and
- (c) specifies how an insurer is to disclose significant characteristics or features of a general insurance product and the rights, terms, conditions and obligations attached to the product.
- Most insurers state in their PDS words to the effect that 'the terms and conditions of the PDS and the policy schedule constitute our contract with you'.
- 65 'Handling insurance claims' is specifically excluded from the definition of a financial service in the Corporations Act: s766A(2)(b) and reg 7.1.33(1)–(2) of the *Corporations Regulations 2001* (Corporations Regulations). This means that ASIC's powers under Ch 7 generally do not apply to claims handling; however, proposed amendments to the Insurance Contracts Act would introduce new powers for ASIC if brought into law: see paragraph 68.

Insurance Contracts Act

The Insurance Contracts Act regulates the content and operation of insurance contracts. At s13 it enshrines a statutory 'duty of utmost good faith' between an insured and an insurer:

A contract of insurance is a contract based on the utmost good faith and there is implied in such a contract a provision requiring each party to it to act towards the other party, in respect of any matter arising under or in relation to it, with the utmost good faith.

- The Insurance Contracts Act also sets out what consumers must do when applying for an insurance policy, including their duty to disclose to the insurer all relevant information about the risks the insurer is accepting.
- A Bill to amend the Insurance Contracts Act was introduced into Parliament in 2010, but did not pass the Senate before the federal election in August. If passed, the proposed reforms in that Bill would give ASIC powers to:
 - (a) take licensing action for a breach of the duty of utmost good faith in relation to claims handling;
 - (b) take representative action on behalf of third-party beneficiaries (as well as policyholders); and

(c) intervene in any proceedings under the Insurance Contracts Act (based on s1330 of the Corporations Act).

ASIC Act

- The Australian Securities and Investments Commission Act 2001 (ASIC Act) contains ASIC's consumer protection powers in relation to financial products and services, including general insurance.
- It includes prohibitions against misleading or deceptive conduct, unconscionable conduct, and false or misleading representations. The exclusion for claims handling in the Corporations Act is not mirrored in the ASIC Act.

GI Code

- The General Insurance Code of Practice (GI Code) is a voluntary selfregulatory industry code developed by the Insurance Council of Australia.⁵
- All but one of the participating insurers subscribe to the current GI Code.

 Unlike other self-regulatory industry codes in the financial services industry (such as the Code of Banking Practice and the Mutual Banking Code of Practice), the provisions of the GI Code are not contractually binding on subscribers and do not provide any right of action to a consumer or policyholder.
- Relevantly, the GI Code sets standards for both claims handling and complaints handling procedures.

APRA

- The Australian Prudential Regulation Authority (APRA) regulates prudential standards for deposit-taking institutions, general and life insurers and superannuation funds (excluding self-managed funds).
- APRA supervises general insurers under the *Insurance Act 1973* (Insurance Act). APRA's responsibilities under the Insurance Act include:
 - (a) authorising companies to carry on a general insurance business; and
 - (b) monitoring authorised general insurers to ensure their continuing compliance with the Insurance Act—in particular, with the Insurance Act's minimum solvency requirements.

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⁵ The current version of the GI Code took effect on 1 May 2010.

Claims handling procedures

Key points

Our review confirmed that a very high level of MVI claims are accepted, with only about 0.3% of claims received by the participating insurers formally denied.

We also identified higher rates of 'withdrawn' or 'cancelled' claims (more than 7% of claims made).

Participating insurers varied in their ability to extract and report information on both denied and withdrawn claims.

Even with the low levels of denied claims for MVI policies, our view is that recording and analysing information about declined claims is important; it may assist in identifying issues or trends relating to disclosure, advertising, sales processes, product design, customer service or internal procedures.

We also consider that understanding the reasons for and the incidence of withdrawn claims provides a more complete understanding of claims handling.

Accepted claims

- 76 Our review confirmed that a very high level of MVI claims are accepted and that arrangements work well in the majority of cases.
- 77 Our review necessarily examined more closely those claims that were not accepted, whether because they were formally denied or were withdrawn prior to a decision being made.

Denied claims

- The participating insurers received a combined total of 1,176,621 MVI 78 claims during 2009. Of these claims, 3317 (or 0.28%) were formally denied.
- The lowest rates of denied claims were approximately 0.07%.6 The highest 79 rate was 8%, although it should be noted this was derived from a relatively low number of claims.

⁶ One insurer reported no claims denied, for reasons described in paragraph 130. No other insurer took this approach to the consideration of general MVI claims, although some applied a similar approach to UME claims.

Variations in reporting and the quality of information

- We asked the insurers to provide information about the basis on which claims were denied.
- One insurer was unable to provide a breakdown of reasons for denial, and a further eight could only do so by manually reviewing files. Two of those insurers provided a breakdown based on a random sample of 100 denied claims.
- Even with the low levels of denied claims for MVI policies, our view is that recording information about denied claims, including reasons for denial, is important as it allows review and analysis of such information, which may assist in identifying issues or trends relating to disclosure, advertising, sales processes, product design, customer service or internal procedures.

Recommendation 1(a)

Insurers should record information relating to denied claims, and should regularly analyse and review that information.

Most common reasons for claims denial

- While there was a relatively high degree of commonality in the participating insurers' descriptions of the underlying reasons for MVI claims denials, it was not possible to correlate this information exactly across all insurers.
- We were able to determine, however, that the most common category for claims denial was non-disclosure or misrepresentation. For the majority of insurers, this appeared to relate to pre-contractual disclosure or misrepresentation rather than to a fraudulent claim.
- Other common reasons for denial were lack of cover and driving under the influence of alcohol.
- In addition, one insurer reported that 55% of denied claims were denied because the policyholder only had third-party cover (and presumably was seeking cover for their own damage)⁸ and two insurers listed restricted driver exclusions as a common reason for claims denials. One reported that 'Policy exclusion'—including driver age exclusion and unlisted household member exclusion—accounted for 38% of their denied claims, while the other reported that the restricted driver exclusion was their highest denial category at 27% of denied claims.

⁷ One insurer, for example, recorded all denied claims as a breach of policy conditions.

⁸ It appears that most insurers would treat these claims as withdrawn, unless there was a specific dispute about the scope of the cover.

Duty of disclosure

- The Insurance Contracts Act sets out the legal duty of disclosure that a 87 policyholder owes their insurer.⁹
- The Insurance Contracts Act also sets out the remedies available to an 88 insurer if the policyholder fails to comply with the duty of disclosure. These vary depending on whether the disclosure is considered to be innocent or fraudulent, but any finding of non-disclosure can have significant implications for the policyholder's ability to claim under the relevant policy, and it may also impact on the ability of policyholders to obtain insurance in the future.
- 89 The fact that a significant proportion of claims are denied on the basis of non-disclosure or misrepresentation suggests that consumers may not properly understand their disclosure obligations, the importance of complete and accurate disclosure, or the ramifications of failing to properly disclose relevant matters. 10

Communicating claims denials

- All of the participating insurers write to the policyholder when a claim is 90 denied.
- The claim denial letters we reviewed were all consistent with the GI Code, 91 which states (at clause 3.4.5) that:

If we deny your claim, we will provide:

- (a) written reasons for our decision to deny your claim;
- (b) information about our complaints handling procedures; and
- (c) on request ... copies of reports from our service providers which we have relied on in assessing your claim.
- 92 In most cases policyholders will also be advised by phone of the decision to deny their claim.

Quality of claim denial letters

93 We requested copies of (de-identified) claim denial letters from the insurers, including examples showing claims denied on the basis of policy exclusions and non-disclosure.

⁹ MVI is prescribed as an 'eligible contract of insurance' for the purposes of the Insurance Contracts Act and so is subject to specific duty of disclosure rules as set out in s21A. Proposed reforms to to the Insurance Contract Act would also affect the

questions asked of a consumer at policy inception and renewal.

The proposed amendments to the Insurance Contracts Act, referred to in paragraph 68, include changes to the duty of disclosure that are intended to reduce the risk for policyholders of failing to disclose relevant matters.

- We note this request may have allowed for some selection by the insurers of the letters they provided to us, but assume that what was provided was representative of standard correspondence.
- We also reviewed internal claims handling guidance, which confirmed that the participating insurers generally instruct staff to include the reasons for denial in a claim denial letter, consistent with the requirements of the GI Code.
- The quality of the claim denial letters we reviewed was generally high. The letters typically included the following information:
 - (a) the reasons the claim was denied, including the factual basis for the denial;
 - (b) references to the cover provided, policy section, clause and page number where appropriate, as well as relevant policy exclusions; and
 - (c) references to IDR and EDR procedures, often provided as an additional brochure that outlined and explained complaints handling processes.

Withdrawn claims

- 'Withdrawn' claims are those that are notified to the insurer but, for various reasons, do not proceed to an acceptance or denial decision. Different insurers use different terminology including 'withdrawn', 'cancelled' or 'closed' to refer to these claims. In this report we will use the umbrella term 'withdrawn'.
- A low rate of 0.3% for formal denials of claims does not mean that every other claim was accepted.
- In addition to those claims that were denied in 2009, more than 7% were withdrawn. ¹¹ One insurer reported that 32% of claims made in 2009 were withdrawn.

Variations in reporting and quality of information

- We consider that understanding the reasons why claims are withdrawn and monitoring the rates at which they are withdrawn provides a more complete understanding of claims handling, product features and design, as well as of consumer behaviour and understanding, than focusing only on denied claims.
- We asked those insurers that recorded withdrawn claims to provide a breakdown of the reasons that those claims were withdrawn.

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¹¹ Three insurers did not record the numbers of claims withdrawn and so were unable to report a figure.

- Only seven insurers were readily able to provide this information. 12
- Other insurers provided a representative breakdown based on a sample of 100 withdrawn claims.

Reasons for claims being withdrawn

- The significant variations in the way insurers categorise and record information about withdrawn claims mean that it is not possible to reach any firm conclusions regarding the reasons why and the circumstances in which claims are withdrawn.
- It was evident, however, that one of the most common categorisations of claims withdrawn was 'not pursued' or 'withdrawn by policyholder' or relevant equivalent. In some cases 'not pursued' might relate to the absence of any demand from the other party to an incident, or failure by the policyholder to respond to enquiries, but in many cases it will also cover circumstances where the policyholder requests that the claim not proceed.
- We also asked the participating insurers why claims might be withdrawn. A wide variety of reasons were suggested, including where:
 - (a) the amount of the claim is less than or similar to the excess;
 - (b) the policyholder claims directly from the at-fault third party;
 - the insurer is unable to contact the policyholder, or information necessary to consider the claim is not provided by the policyholder;
 - (d) no claim or demands are made by the third party;
 - (e) the policyholder decides not to proceed;
 - (f) the claim was lodged incorrectly;
 - (g) the claim is withdrawn during or after investigation (e.g. at the instigation of the policyholder);
 - (h) stolen goods are recovered intact;
 - (i) there is no or inappropriate cover for the incident; or
 - (i) there is no policy in effect at the time of claim.
- As this list indicates, there will be some circumstances in which the policyholder initiates the withdrawal, and there may be other circumstances in which the insurer effectively initiates the withdrawal—for example, by advising the policyholder that their policy is unlikely to cover the notified incident.
- The circumstances in which a policyholder might lodge a claim and subsequently decide that it is not worth pursuing—for example, because the

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¹² One of those insurers listed approximately 60% of the withdrawn claims as 'closed'.

amount claimed is close to the excess or there is no appropriate cover—are relevant to the issue of providing frontline advice about making claims, discussed at paragraphs 120–141.

- At a minimum, we consider that there is scope for further work by industry to review whether policyholders withdrawing claims are making properly informed decisions that operate in their best interests.
- We also observed that a significant number of withdrawn claims occurred where the policy had lapsed or was not in effect. We are not in a position to speculate on why so many policyholders thought they were covered and discovered only post-claim that the cover was not current, but suggest this is also an area that might warrant further review.

Recommendation 1(b)

Insurers should record information relating to withdrawn claims, and should regularly analyse and review that information.

Effect of withdrawn claims on future premium assessments

- We asked participating insurers whether the withdrawal of a claim would impact on that policyholder's next premium assessment.
- The effect of a withdrawal on future premium calculations might in some situations be a factor policyholders would consider relevant when deciding whether or not to pursue a claim, in particular where the value of the claim is close to the amount of the excess.
- While the majority of insurers do not take withdrawals into account, there is a clear difference in approach across the industry.
- Four insurers take withdrawn claims into account when calculating future premiums for an individual policyholder.
- One insurer will only increase premiums if it incurred costs in relation to the claim prior to it being withdrawn, while another might increase a premium if damage to the insured vehicle that was incurred in the relevant incident was not repaired.
- Two other insurers reported that they might increase premiums after considering a policyholder's claim and incident history.

Recommendation 2

Where a withdrawn claim will result in, or is likely to result in, an increase to future premiums, that should be disclosed.

Communicating claims withdrawals

- A number of the insurers provided examples of claim withdrawal letters in response to our request for pro-forma letters and other customer communications confirming receipt of a claim, advising of the progress of a claim and advising about the decision on a claim. Other insurers did not provide copies of such letters.
- The letters we reviewed included invitations to make contact again in the event that the policyholder wanted the claim re-opened or simply had any queries, and confirmed appropriate contact details.
- We consider that it is useful in some situations to provide written confirmation containing such information where a claim is withdrawn, and in most other cases to provide that information verbally. Information about re-establishing contact after a claim is withdrawn may be particularly important where a policyholder withdraws a claim without having had an opportunity to thoroughly consider their options, particularly where a claim is withdrawn at a very early stage.

Recommendation 3

Insurers should consider providing written confirmation of a decision to withdraw a claim, and provide information to assist policyholders who may have further queries or decide to pursue the claim.

Frontline advice about making claims

- One of the concerns consistently raised by consumer representatives, albeit a concern based on anecdotal evidence, relates to the alleged practice of some insurers of suggesting to a policyholder over the telephone (at the point of initial contact) that their claim cannot or is unlikely to proceed or be accepted. Such advice might be given, for example, on the basis that the underlying policy has lapsed, the policy does not cover the incident or the loss claimed is less than the excess.
- Consumer representatives are concerned that policyholders with legitimate claims may be dissuaded from making or pursuing a claim, or be given incorrect advice. Because this 'advice' is not categorised as a claim denial (it would be more likely to be recorded as a withdrawn claim, if in fact a claim is recorded at all) there will be no written confirmation of the reason the claim was denied, in turn reducing the opportunity a policyholder may otherwise have to seek further advice and/or dispute the decision.
- The focus of our review was not on information provided by frontline staff in response to an inquiry from a policyholder, but rather the role of those staff where a claim has been made.

- Our review has confirmed that some insurers authorise frontline staff to make claims decisions at the initial stage of contact, typically over the telephone.
- That authorisation generally extends only to approving claims, with frontline staff authorised to deny claims only in very limited circumstances.
- Authorisation to determine a claim at this early stage is generally also dependent on the type of claim, with some claims referred to a specialist team or claims manager.¹³
- Four insurers estimate that approximately 95% of claims were determined during the course of the call made by the policyholder to notify the insurer of the claim

Review procedures for frontline decision making

- Generally, where a decision to deny a claim is verbally communicated to a policyholder at initial contact, that decision is reviewed by a claims specialist before being confirmed in writing with reasons for the denial. The frontline staff themselves are not authorised to provide written confirmation of their decision nor is that decision final until it has been reviewed.
- Ensuring a frontline decision is reconsidered by someone with the necessary expertise in assessing claims is an important safeguard for policyholders in the event that the frontline decision was not appropriate in the circumstances.
- We would be concerned if frontline staff were able to deny a claim at the point at which the insurer was notified by a policyholder without any further review to ensure the correct decision was made.

Recommendation 4

Decisions by frontline staff that result in a claim being denied should be reviewed before the decision is confirmed.

Deciding to withdraw a claim

One insurer reported no denied claims, on the basis that its assessment procedure results in policyholders whose claims would not be paid being advised of that likelihood, and as a result invariably withdrawing their claim.¹⁴

¹³ These could include claims on a cover note, for third-party property damage or fire and theft, or UME claims. While claims can only be denied after review by a specialist team or manager, they can still be withdrawn at the frontline.

¹⁴ This insurer received a relatively small number of claims, and confirmed that if a policyholder refused to withdraw their claim it would proceed to a formal denial.

- Another insurer's claims handling system provides a prompt for rejection advice once the customer has provided all of the necessary information. The customer is still able to proceed with a claim after being verbally advised that their claim will be rejected.
- While some insurers will not communicate a likely decision prior to a formal decision being made, others leave open the possibility that frontline or claims handling staff might provide an assessment regarding the prospects of a claim in some circumstances.
- Providing policyholders with an assessment of the likely decision, particularly where it is likely the claim will be denied, can have the effect of encouraging or otherwise influencing the policyholder to withdraw the claim rather than allowing it to proceed to a formal denial.
- While we are not in a position to assess whether or not the extent to which advice of this nature is accurate or reasonable, there does appear to be some risk in allowing or encouraging a policyholder to make a decision based on a frontline assessment.
- That risk relates to the quality of the frontline assessment (and the existence of appropriate monitoring processes), as well as to the ability of a policyholder to then reconsider or seek further advice about their claim.
- A number of insurers also allow frontline staff to provide information about cover prior to a claim being lodged, although this is generally only in relation to inquiries that are straightforward.
- 137 Consumer concerns in this area were raised during consultation on recent changes to RG 165, and the Insurance Council of Australia has suggested the issue could be addressed in the GI Code. 15 We encourage industry to work with consumer representatives to better understand their concerns, and to consider an appropriate self-regulatory response to this issue.

Considering claims on a lapsed policy

- There may be additional reasons to ensure a claim is more comprehensively considered depending on the type of claim or reason for which it might be denied. A good example of this is claims that are likely to be denied because cover has lapsed.
- It is part of one insurer's procedures to advise policyholders at the point of lodgement that cover has lapsed, but to give them the option of proceeding to allow the claim to be considered further. Where the policyholder takes up this option, the claim is referred for consideration of special circumstances,

¹⁵ ASIC understands that the Insurance Council of Australia has proposed an amendment to the GI Code that would require frontline staff to ask policyholders who enquire about a possible claim if they would like to lodge a claim for determination.

such as whether all renewals have been sent to the correct address or whether the claim should receive special consideration on the basis of the length of time the policyholder has been a customer.

- Despite the initial negative assessment of a claim this further consideration may result in the claim being paid, whether in whole or in part. This will only occur, however, where the policyholder requests that the further review take place.
- We consider that there is a risk of poor outcomes for individual policyholders whenever frontline staff are able to make a decision or form (and communicate to the policyholder) an early view of a claim without the benefit of or ability to properly consider additional information that may affect the outcome.

Recommendation 5

Insurers should review current practices for assessments by frontline staff about the possible denial of a claim, and the communication of those assessments to policyholders.

D UME cover and claims handling

Key points

Consumer representatives have raised concerns about UME with ASIC, including that the conditions to a UME claim are unreasonably onerous.

The conditions for UME cover are generally standard, although we did identify some conditions that might be more difficult to satisfy.

In practice, insurers often require less from a policyholder making a claim than disclosure would suggest.

Insurers receive relatively small numbers of UME claims. The rate of acceptance for these claims are high, but are generally lower than for other MVI claims.

- 142 UME cover provides additional protection for those holding policies below the level of comprehensive cover (third-party cover, third-party fire and theft cover, and other policies that do not provide cover for damage to their own vehicle), allowing a policyholder to claim for damage to their own vehicle to a maximum amount, typically between \$3000 and \$5000.
- 143 UME cover can reasonably be characterised as an additional benefit for policyholders who have otherwise chosen the more limited cover of a third-party type policy.
- Most of the participating insurers offered UME cover on relevant MVI policies.

Conditions on cover

- 145 Consumer representatives have raised concerns about UME cover with ASIC, including both that insurers are not making policyholders aware of this cover and that if a policyholder does seek to benefit from the cover, the conditions on UME claims are unreasonably onerous.
- While there is no single approach to UME cover, our review suggests that the conditions on claims are typically that:
 - (a) the other party to the accident is 100% at fault; 16
 - (b) the other party to the accident is uninsured; and

¹⁶ In contrast, a small number of insurers allow the other party to be only 50% or more at fault.

- (c) the policyholder provides contact details for the other party to their insurer, including the other party's name, address and registration details.
- A small number of insurers also require that the incident be reported to police.
- Our review suggests that conditions that might be considered unnecessary are rare; however, we would encourage insurers to review applicable conditions to ensure they are appropriate and do not present an unreasonable barrier to cover
- In practice, many insurers said they would only require the policyholder to provide the other party's telephone number and verbal confirmation that the other party is uninsured to be able to claim, and would not deny a claim solely because a policyholder had not provided everything they were contractually obliged to provide.
- Where disclosure is inconsistent with practice there is a risk that policyholders would not progress to making or inquiring about the option of making a claim. We think it is important that policyholders are given accurate information about their obligations and any conditions to cover.

Recommendation 6

Insurers should review conditions on UME claims, and review disclosure material to ensure information about UME claims is accurate.

UME claims

- The participating insurers received relatively low numbers of UME claims in 2009. As noted at Table 1, in December 2009 there were 1,146,852 third-party and third-party fire and theft policies in force. In contrast, nine insurers received less than 100 UME claims, with others receiving only in the low-to mid-hundreds.
- The rate of acceptance of these claims was generally lower than for other MVI claims, but was still reasonably high, with many insurers reporting acceptance rates of between 90% and 100%, and most above 75%.
- One insurer only accepted 55% of UME claims.¹⁷ Notably, the cover provided by this insurer was subject to a number of conditions that might be difficult to satisfy, including that the policyholder provide evidence that the other party was uninsured. In practice, the insurer was often proactive with

¹⁷ That insurer received 163 UME claims in 2009.

establishing this evidence themselves and their lower acceptance rate can be attributed to the manner in which they lodge their claims.

- In contrast, the insurer with one of the most accessible UME policies received the highest number of claims (1243) and had an acceptance rate of 93%.
- The low number of claims and the lower rate of acceptance than for general MVI claims may suggest both that policyholders are often not aware they have the benefit of UME cover and are not aware at the time of an incident that they should collect information such as the contact details of the other party.
- 156 UME cover is an important additional protection for policyholders who do not have comprehensive cover, particularly those who may have chosen a lower level of cover for affordability reasons. This additional protection is only of value, however, where policyholders are aware of it and understand their obligation to collect information required for a claim.
- There may be scope for industry to consider increasing consumer awareness of UME cover, and take further steps to ensure that policyholders have information about their cover and the information they will need to collect if they intend to make a claim.
- We would also encourage industry to work with consumer representatives to better understand why this is seen as a problematic area.

E IDR procedures

Key points

All participating insurers operate a multi-tiered IDR structure, typically involving:

- · frontline;
- · Tier 1; and
- Tier 2.

Systems and procedures at frontline and, in many cases, at Tier 1 are typically less sophisticated, capturing less information and providing more informal responses to complainants than is the case at Tier 2.

A significant proportion of complaints do not proceed beyond Tier 1. As many insurers do not provide a written response at Tier 1, many complainants will not receive any written response.

Despite the use of multi-tiered structures, most disputes were resolved within the timeframes required by RG 165 and the GI Code.

The level of overturn (disputes decided in favour of the complainant) varied considerably between the participating insurers. We consider that more work is necessary to properly understand the reason for these variances.

Regulatory framework

As described in Section B, IDR (or complaints handling) in the general insurance industry is subject to both statutory and self-regulatory requirements and standards.

Corporations Act

- Under s912A(1)(g) of the Corporations Act, an AFS licensee that provides financial services to a retail client must have a dispute resolution system that complies with s912A(2) of the Corporations Act.
- Section 912A(2) states that a dispute resolution system must consist of:
 - (a) an IDR procedure that:
 - (i) complies with standards and requirements made or approved by ASIC, in accordance with regulations made for the purposes of s912A(2)(a)(i); and
 - (ii) covers complaints against the licensee made by retail clients about the provision of all financial services covered by the licence; and

- (b) membership of one or more EDR schemes that:
 - (i) are approved by ASIC, in accordance with regulations made for the purposes of s912A(2)(b)(i); and
 - (ii) cover complaints against the licensee made by retail clients about the provision of all financial services covered by the licence.

For the exact wording of the requirements, see s912A(2) of the Corporations Act.

Corporations Regulations

- Under reg 7.6.02(1) of the Corporations Regulations, when considering whether to make or approve standards or requirements relating to IDR, ASIC must take into account:
 - (a) Australian Standard AS ISO 10002-2006 Customer satisfaction— Guidelines for complaints handling in organizations (AS ISO 10002-2006); and
 - (b) any other matter ASIC considers relevant.

RG 165

- RG 165 sets out ASIC's standards and requirements for IDR procedures.
- The key requirements for IDR procedures are that financial service providers:
 - (a) adopt the definition of complaint set out in AS ISO 10002-2006:

 An expression of dissatisfaction made to an organisation, related to its products or services, or the complaints handling process itself, where a response or resolution is explicitly or implicitly expected.
 - (b) provide a 'final response' 18 to a complainant within a maximum of 45 days, which must be in writing and set out:
 - (i) the final outcome of the complaint or dispute at IDR;
 - (ii) the complainant's right to take the complaint to EDR; and
 - (iii) the name and contact details of the relevant EDR scheme; and
 - (c) have a system for informing complainants about the availability and accessibility of the relevant EDR scheme.
- In February 2011, ASIC announced changes to RG 165 that allow a more flexible approach to be taken where a complaint is resolved to the complainant's complete satisfaction by the end of the fifth business day after

¹⁸ A final response is required for all claims-related complaints, but may not be required for other complaints that are resolved to the customer's complete satisfaction within five business days.

the complaint is received.¹⁹ A final response is not required for those complaints, unless the complainant has requested a response in writing, and details of the complaint need not be captured and recorded.

- The arrangements for complaints resolved within five business days do not apply to complaints about a denied insurance claim, the value of an insurance claim, or hardship.
- Relevantly, this means that a final response is required for all complaints about a denied insurance claim or the value of an insurance claim.

GI Code

- The GI Code is a voluntary self-regulatory industry code designed to raise standards and improve the way claims and compensation are handled by insurers.
- Whereas RG 165 generally refers only to complaints, ²⁰ the GI Code draws a distinction between 'complaints' and 'disputes'. This is an important distinction.
- Under the GI Code, an insurer has 15 days to respond to a complaint or to agree a reasonable alternative timeline. The insurer must notify the complainant of the response and provide information about how the complainant can have the complaint reviewed by a different employee who has the appropriate expertise, knowledge and authority. There is no requirement to give this notification in writing.
- If the complainant wants this response reviewed, the complaint will then be treated as a dispute, which is also subject to an initial 15-day response timeline. The GI Code states that the insurer will respond to the dispute in writing, giving reasons for the decision and information about how and when to access available EDR schemes. The requirement to respond in writing appears to apply irrespective of the outcome of the dispute.
- In practice, insurers operate 'multi-tiered' IDR procedures that typically have the following stages:
 - (a) frontline (or initial point of contact);
 - (b) Tier 1—the 'complaints' stage, which typically involves a review by an operational area (e.g. claims, underwriting); and

¹⁹ Media Advisory (11-23AD) *Revised internal dispute resolution procedures for financial institutions* (16 February 2011).
²⁰ RG 165 uses the terms 'complaints' and 'disputes'; however, the term 'dispute' is generally reserved for certain matters that fall under the *National Consumer Credit Protection Act 2010* (National Credit Act) and so that definition is not relevant to this review. Otherwise, RG 165 does not draw a practical distinction between complaints and disputes for AFS licensees. This means, for example, that the general 45 day maximum timeframe at IDR applies to all complaints from the date they are received, irrespective of how they may be characterised internally by a licensee.

- (c) Tier 2—the 'IDR' stage, which typically involves a review and decision by a centralised IDR team.
- Although insurers tend to reserve the term 'IDR' to the Tier 2 stage, the Corporations Act and RG 165 apply the term 'IDR' to the entire internal complaints handling process and 'complaint' to all types of complaints or disputes, however described by the insurer. This is the approach we have adopted in this report.

IDR statistics

- We asked participating insurers to provide data about complaints lodged in 2009.
- It is clear from the responses received that there is little consistency between the participating insurers in the collection of and ability to report on information about complaints. Most insurers do not record complaints resolved at the frontline, and some do not collect comprehensive data at Tier 1.
- There was also little correlation between numbers of complaints and numbers of policies, claims or denied claims. Some insurers who reported similar numbers of claims made and claims denied reported very different numbers of complaints.

Numbers and types of complaints

- We asked participating insurers for numbers of complaints at each level of IDR.
- In 2009, the insurers received approximately 20,000 Tier 1 and 6498 Tier 2 complaints.²¹
- Of the Tier 2 complaints, 5885 were claims related.
- As reported at paragraph 78, our review found that in the same period 3317 claims were denied. These figures show that significant numbers of complaints are made about matters not involving claim denials, and suggests that even where a claim is paid some policyholders remain dissatisfied and seek further review of the claims decision.
- While there was some variation across individual insurers, the top three subjects of complaints at Tier 2^{22} were:
 - (a) issues of liability and claims denial;
 - (b) the amount and terms of settlement; and
 - (c) issues around excesses.

²¹ Some insurers were unable to provide an exact figure for complaints at Tier 1.

²² As noted at paragraph 192, information was limited at Tier 1.

Multi-tiered IDR procedures

- The use of multi-tiered IDR procedures by the general insurance industry is often the subject of criticism by consumer representatives, who suggest that they have the effect of frustrating and ultimately deterring some complainants.
- In contrast, other sectors (such as the banking sector) tend to have centralised complaints departments, resolving complaints either at the initial point of contact or escalating them immediately to an IDR team.
- We asked participating insurers a series of questions about their IDR procedures at each level, and reviewed related documentation provided to us.

Frontline

- Most insurers attempt to resolve a complaint at the first point of contact with frontline staff²³ even before it is treated as a Tier 1 complaint.
- The timeframe for resolution by frontline staff is generally short, typically within 24 hours or by the end of the next business day. The longest reported timeframe was three days.
- We found that complaints resolved by frontline staff are unlikely to be recorded and decisions are usually communicated verbally to complainants.
- Some types of complaints will be automatically escalated from the frontline to Tier 1 or to Tier 2. Typically, these include complaints about denial of a claim and may also include complaints about the value of a settlement or complaints about a claim which is still being considered.

Tier 1

- If the complaint is not resolved by frontline staff, the issue is recorded and escalated, generally to Tier 1.
- Many insurers use operational staff at Tier 1. This means that if the complaint involves claim denial, for example, it will be referred to the relevant claim team, typically to the team leader.
- Some insurers escalate certain types of complaints directly to Tier 2. For example, seven of the participating insurers automatically escalate complaints about denial of claims, and two others offer this as an option.
- We found that some insurers record very little information about matters at Tier 1. Others collect equally detailed data at both Tiers 1 and 2.

²³ Usually, frontline staff are customer service or call-centre staff.

- In some cases, we found that information at Tier 1 is recorded in a way that does not facilitate data extraction and reporting.
- As a result of using different systems at Tier 1 and Tier 2, some insurers find it difficult to track a matter across both tiers—for example, once a dispute reaches Tier 2 it may be difficult to determine the decision or the basis for the decision made at Tier 1.
- As noted in the guidance contained in RG 165, complaints handling is a useful means of tracking compliance issues or risks. The guidance also states that all complaints should be classified and analysed to identify systemic, recurring or single incident problems and trends, which will help eliminate the underlying causes of complaints and disputes.

Recommendation 7

Insurers should review their systems and processes for recording and analysing Tier 1 complaints to align them with systems used at Tier 2, so that they are able to extract useful information to address the underlying causes of complaints.

Tier 2

- Where a complaint is not resolved at Tier 1 it progresses to Tier 2, generally to a centralised IDR team (sometimes referred to as 'customer relations' or 'risk management').
- In contrast to Tier 1, where decision makers may be operational staff, Tier 2 decisions are made by staff who specialise in dispute resolution.
- We found that decision-making models at Tier 2 differ across participating insurers.
- Eight insurers use panels at this level, which meet either on a weekly basis or as required. While the composition of the panel varies between insurers, some include senior executives.
- Other insurers have a single decision maker to consider a Tier 2 dispute, although that may still involve a consultative process—for example, with technical officers, team leaders, underwriting teams and relevant business units.
- Overall, we found that Tier 2 complaints are more effectively and comprehensively recorded than frontline or Tier 1 complaints.

Final response letters

Both RG 165 and the GI Code require written confirmation of a final IDR decision ²⁴

Written communication of a final decision is an important part of the complaints handling process because it informs a complainant of the final outcome of the complaint and the basis on which the decision was made, which in turn allows the complainant to obtain advice about that decision and consider further options. A written response also informs complainants of the right to refer the complaint to EDR and provides contact details for the relevant EDR scheme.

Our review suggests that the participating insurers might not be meeting this obligation in all cases.

Tier 1

- 205 We asked insurers for examples of letters provided at Tier 1.
- We found that resolution of complaints and disputes at this level will often not be confirmed in writing and, as a result, relatively few examples were provided. Practice varies across insurers.
- A number of insurers will respond in writing if the complaint concerns a claim denial. Others may respond in writing only if:
 - (a) the manager decides to;
 - (b) the complaint was not decided in the complainant's favour; or
 - (c) the complainant specifically requests it.
- For those letters that we were able to review, there was typically reference only to the next tier of IDR (Tier 2), with no reference to EDR.
- As noted above, the number of complaints that progress to Tier 2 is less than one-third of those that reach Tier 1. This means that the response provided at Tier 1 is effectively the final response for the majority of complainants.
- FOS has recognised this issue and, in the July 2010 issue of *The Circular*, suggests that members:

should <u>beware</u> of the situation when its first-tier response does not clearly inform the applicant:

it is a final decision, and

²⁴ As noted at paragraphs 165–167, RG 165 provides that a final written response may not be required where a complaint is resolved within five days, although it will always be required for complaints about a denied claim or the value of a claim. ²⁵ *The Circular* is a regular publication from FOS on dispute resolution issues.

• what the dispute resolution process is following this initial response, including further IDR steps and/or EDR.

In these situations, it is possible FOS will accept this response as being the 'IDR Response' and proceed with reviewing the dispute, even if the 45 day period has not lapsed to ensure an efficient and timely handling of the dispute.

- This is an aspect of the multi-tiered approach to IDR that we think has greatest capacity for poor outcomes for complainants. Like FOS, we think that insurers should recognise that a Tier 1 response may be the final response for many complainants.
- As noted at paragraphs 165–167, the February 2011 changes to RG 165 mean that a final response must be given for all complaints:
 - (a) not resolved within five business days of receipt; and
 - (b) involving hardship, a declined insurance claim or the value of an insurance claim (regardless of whether they are resolved within five business days of receipt).
- While a Tier 1 response may not necessarily be the final response, it should otherwise align with a Tier 2 final response in that it should:
 - (a) be a written response;
 - (b) explain the decision reached at this stage; and
 - (c) explain the next steps available to the complainant, including escalation to Tier 2 as the immediate next step but also the availability of EDR in the event that the complaint remains unresolved.

Recommendation 8

Decisions at Tier 1 should be confirmed in writing, and the content of those letters aligned with the final response provided at Tier 2.

For the avoidance of doubt, this recommendation is subject to the exception in RG 165 for non claims-related complaints resolved within five business days.

Tier 2

- In the majority of cases, a final response letter will be sent once a complaint has been considered at Tier 2. Our review suggests that these letters are generally expressed in clear, plain language and contain relevant information, including information about EDR.
- Our review found that there may be instances where Tier 2 complaints do not result in a final response being given in writing—for example, where a complaint is resolved in favour of the complainant.

- There is other evidence to suggest that some insurers may not confirm all final responses in writing, even where the dispute is not resolved in favour of the complainant.
- This was of particular concern, and appears directly inconsistent with obligations set out in RG 165. We have followed up these issues with individual insurers as relevant.

IDR timeframes

- 219 RG 165 states that a maximum timeframe of 45 days applies to an IDR process, including any process that involves multiple tiers.
- The GI Code requires subscribers to adhere to the following timeframes:
 - (a) respond to complaints (Tier 1) within 15 business days;
 - (b) respond to disputes (Tier 2) within 15 business days; and
 - (c) update the complainant on the progress of the dispute every 10 days.
- Our review found that the procedures of participating insurers for IDR timeframes were consistent with both the requirements of RG 165 and the GI Code.
- We asked for data showing the time actually taken to finalise complaints.

 The information provided showed that most complaints were resolved within 30 days, with only a very small number exceeding 45 days. ²⁶

Levels of overturn at IDR

- The General Insurance Code of Practice: Overview of the year 2009/2010 report stated that 33% of all personal line general insurance complaints were overturned (i.e. decided in the complainant's favour).
- We asked insurers to tell us about overturn rates for claims-related complaints. Our review suggests that the experience of individual insurers varies considerably, with some significantly higher²⁷ than 33% and some significantly lower.²⁸
- While overturn rates in the vicinity of 33% may reflect the importance of effective and accessible IDR (and EDR) procedures for policyholders, high rates of overturn may possibly reflect poor initial decision making.

²⁶ The distinction between complaints and disputes made by industry mean that we were not always able to determine whether these timeframes were inclusive of Tier 1.

²⁷ In one case, the overturn rate was approximately 60%.

²⁸ Some insurers reported rates between 10% and 15%.

As noted earlier, the quality of decision making in the claims handling process was outside the scope of this review; however, we would encourage industry to consider the implications of both high and low overturn rates, particularly as a possible measure of the quality of both claims decision making and IDR.

F Disclosure issues: Excesses and NCD schemes

Key points

Our review identified a wide range of excesses that can apply to MVI policies; however, we do not think they are always adequately disclosed.

One insurer set out examples of excesses in policy schedules that are not disclosed in the PDS. When excesses are disclosed in the PDS, some examples are unclear or lacking sufficient detail to allow a consumer to properly understand when the excess might apply.

Our review also identified disclosure issues concerning the operation of NCD schemes.

- While the focus of this review was on claims handling and IDR procedures, we also identified some issues relating to disclosure that we consider warrant some comment in this report.
- The issues we identified arose in relation to two particularly complex aspects of the structure of insurance cover and pricing: excesses and the operation of NCD schemes.
- We encourage industry to consider the issues we have identified and consider whether changes or improvements could be made to current practices.
- We may also undertake further work in relation to one or both of these areas.

Recommendation 9

Insurers should review and, where appropriate, improve disclosure and/or make available additional information on excesses and the operation of NCD schemes.

Excesses

Our review identified a wide range of excesses that can apply to MVI policies, including standard or basic excesses, additional excesses, and special or imposed excesses. A typical policy might include between one and seven different excesses.²⁹

²⁹ Where a claim is made, it is possible for multiple excesses to apply, however, others may be mutually exclusive.

- Insurers generally operate a standard or basic excess, the amount of which can generally be increased by policyholders in return for a decreased premium (and, in some cases, decreased for an increased premium).
- Additional excesses might also apply depending on the circumstances of a particular policyholder, driver or incident. These include age excesses (e.g. for drivers under 25 years of age), undisclosed or inexperienced driver excesses, and excesses for theft or other non-collision incidents.
- Special or imposed excesses may apply depending on the type of vehicle insured (e.g. high-performance vehicles), use of the vehicle, or if a driver's driving record or past claims history suggests there may be additional risk.
- As noted earlier in this report, one of the more common reasons for a claim being withdrawn is that the claim amount is close to the excess.³⁰ This suggests that at least some of those policyholders had not appreciated the relevance, amount or existence of the excess when proceeding to lodge their claim.
- Our review identified the issues set out below. These reflect approaches by different insurers rather than general industry practice, but may be relevant to any lack of understanding in relation to excesses.

Table 2: Disclosure issues around insurance policy excesses

PDS not including all relevant excesses	There was one example where certain excesses were set out in policy schedules but not disclosed in the PDS. We consider that the PDS should include a complete list of all relevant excesses.
Unhelpful descriptions of excesses and when they will apply	In some cases the existence of excesses was disclosed, but the description of the excess and the circumstances in which it would apply were unclear or lacking sufficient detail to allow a consumer to properly understand when the excess might apply. We consider that explanations of excesses should be clear and understandable.

NCD schemes

- The majority of insurers operate an NCD scheme, although the details of those schemes vary.³¹
- Typically, these schemes involve discounts on premiums based on the absence of at-fault or unrecoverable claims within previous insurance periods, with the policyholder obtaining further discounts for each

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³⁰ Issues relating to excesses were also the third most common basis for complaints: see paragraph 181.

Three of the newer entrants to the market did not operate a NCD scheme at the time of our review.

consecutive claim-free period up to a maximum level (referred to by some insurers as Rating 1). There are generally five to six levels, with the discount for a Rating 1 driver ranging between 45% and 70%.³²

- An at-fault claim generally results in the policyholder dropping back one level, or in some cases two.
- Where Rating 1 is maintained for a certain period, typically for 1–2 years, many insurers reward policyholders with a 'Rating 1 for life' classification or similar, meaning that the rating will not be affected by any future claims. Policyholders may also receive other benefits as part of having attained lifetime maximum discount status, such as window/windscreen breakage benefits and discount car hire.
- In most cases, ratings protection can be purchased by a policyholder where they have reached the maximum NCD rating but have not yet qualified for a lifetime maximum rating (or if a lifetime maximum rating is not available with the particular policy). This comes at an additional cost, but allows a policyholder to make at least one at-fault claim during the relevant policy period without a negative impact on their rating.
- Rating 1 and Rating 1 for life arrangements are often a feature of marketing for MVI policies and are likely to be important customer-retention tools for insurers, potentially having a significant impact on policyholders' decision making when obtaining and renewing cover.
- We consider that it is important that policyholders properly understand the operation of an NCD scheme, including the cost of additional protection and the impact of a claim not only on their rating but on future pricing decisions.
- Our review identified the issues set out below.

Table 3: Disclosure issues in relation to NCD schemes

Disclosure of the
cost of ratings
protection

Our review suggests that where ratings protection is purchased, the additional cost is not separately disclosed in policy schedules or the PDS. While it may not always be possible to describe or disclose the cost of this option, where it is possible to do so we think policyholders should be made aware of the cost of both fixed and additional components of their premium.

³² Some insurers operate rating scales that extend ratings below the 0% base level, for example where a policyholder on a base level rating makes an at-fault claim.

Disclosure about how NCD schemes work

Some insurers provide very detailed information about the operation of their NCD schemes, whether in their PDS or in separate brochures, including the number of levels, amount of discounts, impact of claims and criteria for ability to purchase NCD protection. Others provide very little information. We think consumers should be able to understand the operation of NCD schemes.

Disclosure about the impact of a claim on premium

Even where a policyholder's claim does not affect their NCD rating (e.g. where a policyholder's rating is protected by either Rating 1 for life or purchased rating protection), it is evident that in some cases future premiums may still increase as a result of a claim. Some insurers disclose this possibility, although the quality and clarity of that disclosure varied, but others do not appear to disclose this possibility at all. Where relevant, we consider that it is important to clearly and prominently disclose that protections and discounts offered under an NCD scheme may not entirely protect against premiums increasing as a result of a claim.

We consider that this practice raises issues that go beyond disclosure. We expect consumer understanding of the fact that a claim may result in higher premiums, even where their rating is protected, would be poor and in some cases the practice may be inconsistent with information about and promotion of NCD schemes. We intend to undertake further work on this issue.

³³ While the NCD itself is unaffected, the discount is only applied after the premium has been increased as a result of the claim.

Appendix: Table of recommendations

Table 4: Recommendations for general insurance claims handling and IDR procedures

Recommendations 1(a) and 1(b)	Insurers should record information relating to denied and withdrawn claims, and should regularly analyse and review that information
Recommendation 2	Where a withdrawn claim will result in, or is likely to result in, an increase to future premiums, that should be disclosed
Recommendation 3	Insurers should consider providing written confirmation of a decision to withdraw a claim, and provide information to assist policyholders who may have further queries or decide to pursue the claim
Recommendation 4	Decisions by frontline staff that result in a claim being denied should be reviewed before the decision is confirmed
Recommendation 5	Insurers should review current practices for assessments by frontline staff about the possible denial of a claim, and the communication of those assessments to policyholders
Recommendation 6	Insurers should review conditions on UME claims, and review disclosure material to ensure information about UME claims is accurate
Recommendation 7	Insurers should review their systems and processes for recording and analysing Tier 1 complaints to align them with systems used at Tier 2, so that they are able to extract useful information to address the underlying causes of complaints
Recommendation 8	Decisions at Tier 1 should be confirmed in writing, and the content of those letters aligned with the final response provided at Tier 2
Recommendation 9	Insurers should review and, where appropriate, improve disclosure and/or make available additional information on excesses and the operation of NCD schemes

Key terms

Term	Meaning in this document
AFS licensee	A person who holds an Australian financial services licence under s913B of the Corporations Act Note: This is a definition contained in s761A of the Corporations Act.
APRA	Australian Prudential Regulation Authority
ASIC	Australian Securities and Investments Commission
ASIC Act	Australian Securities and Investments Commission Act 2001
AS ISO 10002-2006	Australian Standard AS ISO 10002-2006 Customer satisfaction—Guidelines for complaints handling in organizations
Ch 7 (for example)	A chapter of the Corporations Act (in this example numbered 7)
claims handling procedures	The procedures of an insurer for assessing and deciding on claims made by policyholders
complainant	A person who has made a complaint to or against an insurer and whose complaint is at any stage of IDR or EDR
complaint	An expression of dissatisfaction made to an organisation, related to its products or services, or the complaints handling process itself, where a response or resolution is explicitly or implicitly expected Note: This is a definition contained in AS ISO 10002-2006.
Corporations Act	Corporations Act 2001, including regulations made for the purposes of that Act
Corporations Regulations	Corporations Regulations 2001
dispute	A complaint that is unresolved to the satisfaction of the policyholder and insurer becomes a dispute. Under the GI Code, the matter is then reviewed by a different employee who has the appropriate expertise, knowledge and authority
EDR	External dispute resolution
excess	The amount of money a policyholder has to pay in the event of a claim
FOS	Financial Ombudsman Service—an ASIC-approved EDR scheme

Term	Meaning in this document
general insurance product	Has the meaning given in s761A
GI Code	The General Insurance Code of Practice, developed by the Insurance Council of Australia
IDR	Internal dispute resolution
IDR procedures, IDR processes or IDR	Internal dispute resolution procedures/processes that meet the requirements and approved standards of ASIC under RG 165
Insurance Contracts Act	Insurance Contracts Act 1984
Insurance Act	Insurance Act 1973
MVI	Motor vehicle insurance
multi-tiered IDR procedures	IDR procedures that include internal appeals or escalation mechanisms
National Credit Act	National Consumer Credit Protection Act 2009
NCD scheme	No-claims discount scheme
overturn	Where a complaint or dispute is decided in the policyholder's favour
PDS	Product Disclosure Statement
policyholder	A person who holds an insurance policy with an insurer
policy schedule	A document that contains the details of a policy (e.g. the term, the premium and what is covered)
premium	The amount of money charged by an insurer for coverage
Product Disclosure Statement	A document that must be given to a retail client in relation to the offer or issue of a financial product in accordance with Div 2 of Pt 7.9 of the Corporations Act Note: See s761A for the exact definition.
RG 165 (for example)	An ASIC regulatory guide (in this example numbered 165)
s1330 (for example)	A section of the Corporations Act (in this example numbered 1330), unless otherwise specified
Terms of Reference	The document that sets out an EDR scheme's jurisdiction and procedures, and to which scheme members agree to be bound. In some circumstances it might also be referred to as the scheme's 'Rules'
UME cover	Uninsured motorist exclusion cover

Related information

Headnotes

claims denial, claims handling, complaints, disclosure, disputes, excess, external dispute resolution (EDR), final response, general insurance, internal dispute resolution (IDR), motor vehicle insurance (MVI), multi-tiered IDR procedures, no-claims discount (NCD) schemes, uninsured motorist exclusion (UME) cover, withdrawn claims

Regulatory guides

RG 165 Licensing: Internal and external dispute resolution

Legislation

ASIC Act

Corporations Act, Ch 7, s766A(2)(b), 912A(1)(g), 912A(2), 1330; Corporations Regulations, 7.1.33(1)–(2), 7.6.02(1)

Insurance Act

Insurance Contracts Act, s13, 21A

National Credit Act

Reports

FOS, Financial Ombudsman Service 2009–2010 annual review

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Other documents

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