

Statement of Natalie Plumbe - Citiswich Site

This written statement is provided in response to a Requirement, dated 27 September 2011, pursuant to section 5(1)(d) of the *Commissions of Inquiry Act 1950* (Qld) to provide a written statement, under oath or affirmation, to the Queensland Floods Commission of Inquiry.

I, Natalie Plumbe (nee Handyside), Planner of 45 Roderick Street, Ipswich, in the State of Queensland swear as follows:

Introduction

1. I am employed by Ipswich City Council (**ICC**) as the Team Co-ordinator - Development (**Central Team**) for the City of Ipswich. I commenced employment with ICC as a Senior Development Planner in October 2002 and for a period of approximately 6 years prior to November 2010 I was the Team Co-ordinator - Development (**East Team**).
2. My qualifications, antecedents and responsibilities are set out in my Statement to the Commission dated 7 October 2011 and are not repeated here.
3. This statement concerns a Requirement by the Commission to provide a statement in relation to the development site known as Citiswich. In particular the Commission has requested:
 - (a) a brief chronology of the development of the Citiswich site, commencing with preliminary approval 3356/02/CA; and
 - (b) certain additional information regarding 23 specific development applications listed in the Commission Requirement notice.
4. The Commission has also sought information as to any other development applications that affected site levels, stormwater run off or flood risk regarding the Citiswich site.
5. In my role as Team Co-ordinator - Development (**Central Team**) and in my previous role as Team Co-ordinator - Development (**East Team**) the Citiswich site falls within my geographic area of responsibility.
6. Prior to my assuming the role of Team Co-ordinator - Development (**East Team**) in late 2004, and at the time of the Council's consideration of application 3356/02, the Team Co-ordinator for the Eastern Development Team was Mr [REDACTED]. At that time the ICC Development Manager was Mr Brendan Nelson and the ICC Planning and Development Manager was Mr Gary White.

7. Between 2002 and 30 June 2011 the Citiswich site has been the subject of some 47 applications to Council. Some of those applications have been substantive and material. However, many, including a considerable number of the 23 specific applications listed in the Commission Requirement notice have, in the context of flooding and stormwater related issues, been relatively minor or immaterial, primarily because:
- (a) the site level, flooding and stormwater issues relevant to the application have been considered and addressed in another related application; or
 - (b) the application does not give rise to any material or relevant flooding or stormwater related issues, the area the subject of the application lying well beyond the 1 in 100 flood level and well beyond the range of the 2011 flood.
8. The 23 specific applications the subject of the Commission's Requirement fall into two broad categories:
- (a) 11 applications which concern **material change of use (MCU)** or **reconfiguring a lot (RAL)** proposals; and
 - (b) 12 applications which concern operational works (**OW**) proposals.
9. So as to best assist the Commission in understanding the development application history of the Citiswich site, and the flood and stormwater related matters that are of particular relevance, my statement will be structured in the following way:
- (a) firstly I will provide a brief overview of the Citiswich site;
 - (b) secondly, I will provide a chronology of the 47 applications which have been received and considered by ICC in relation to the Citiswich site;
 - (c) thirdly, in respect of the 23 specific applications the subject of the Commission Requirement (11 MCU or RAL applications and 12 OW applications) I will identify whether the application was in the nature of a substantive and material proposal or concerned, in the context of flooding and stormwater related issues, a relatively minor or immaterial proposal;
 - (d) for those applications that were material, and are in the nature of an MCU or RAL, I will address the Commission's specific questions concerning the application;
 - (e) for the 12 applications the subject of the Commission's Requirement that are in the nature of operational works applications, I will identify the applications as being either material and substantive, or relatively minor and immaterial. However, the Commission's specific questions in relation to these applications will be addressed

in a statement to be provided to the Commission by the Council's Engineering and Environmental Manager, Mr Gary Ellis; and

- (f) finally, where in the chronology I identify a material MCU or RAL application that has not been included in the Commission's specific list of 11 MCU or RAL applications, I will address the Commission's specific questions in relation to that application.
10. I expect that by approaching the statement in this manner the Commission will have the benefit of an understanding of both the overall history of the Citiswich project and of the substantive applications concerning the project that are material to the flooding and stormwater issues of particular interest to the Commission.
11. The sources of information for the matters set out in this statement are:
- (a) my personal knowledge and recollection of relevant events; and
 - (b) my review of the relevant ICC development application files, many of which I understand have been produced to the Commission pursuant to Requirement notices dated 5 August 2011 and 10 August 2011.

Section 1 - Overview of the Citiswich Site

12. The Citiswich development is a large 315 hectare (approximately) site located approximately twenty five (25) kilometres to the west of the Brisbane CBD and about seven (7) kilometres to the east of the Ipswich CBD. The land had historically been used for pastoral production with some industrial uses on part of the site.
13. The land is bounded by the Bremer River to the north, Brisbane Road to the south and the Dinmore and Bundamba residential areas to the east and west respectively. The land is transected by the Warrego Highway in a south-east to north-west direction.
14. The site is mapped as a "regionally significant business enterprise and industry area" under the Ipswich Planning Scheme and is identified as an "enterprise opportunity" under the South East Queensland Regional Plan.
15. Annexed to my statement and marked **NP-15** is a plan identifying the Citiswich site and surrounding landmarks (for ease of reference for the Commission, the numbering of the annexures to this statement follow on from the annexure numbering in my earlier statement dated 7 October 2011). As can be observed from this plan, the site includes an area toward Brisbane Road with a long narrow "handle" extending toward the north and linking this area to the Warrego Highway. This area was formerly occupied by Australian Hardboards and Hume



Solicitor

Master Panel and was not included in the original application over the Citiswich site. Hume Master Panel still operates from this location, however Australian Hardboards has recently closed and this area is likely to be developed in conjunction with the Citiswich site in the future.

16. At the time of lodgement of the first application in relation to the land in September 2002, the applicant was Wingate Properties Pty Ltd and the proposed development was known as the Bremer Business Park. In about 2006 the site was acquired by Walker Corporation Pty Ltd and the development subsequently became known as Citiswich Industrial Estate (**Citiswich**).
17. The first application in relation to the site was Application No. 3356/02 for a preliminary approval to override the planning scheme in accordance with section 3.1.6 of the *Integrated Planning Act 1997* (Qld) (**IPA**) and reconfiguring a lot. This application, which is discussed in more detail in the following sections of my statement, sought development in accordance with a Plan of Development including seven (7) sub-areas.
18. At the time of this initial application, lodged under the Ipswich Planning Scheme 1999, relevant site details included:
 - **Strategic Plan Designation:** Part Major Industrial and part Urban Development;
 - **Zone:** Particular Development 70 (Development in accordance with the Eastern Corridor Structure Plan);
 - **Precinct:** Part Business and Industry Minimal - Low Impact (**ILI**) Precinct, part Business and Industry Medium Impact (**IMI**) Precinct, part Environmental Protection (**OE**) Precinct, part Residential Low Density (**RL3**) Precinct and part Special Opportunity - Bundamba (**SA7**) Precinct.
19. Under the current 2006 Ipswich Planning Scheme the zoning is part Regional Business and Industry (**RB2M**) - Bundamba/Riverview - Medium Impact Business and Industry Zone, part Regional Business and Industry (**RB2L**)-Bundamba/Riverview - Low Impact Business and Industry Zone, part Regional Business and Industry Buffer Zone (**RBB**), part Residential Low Density (**RL2**) Zone and part Large Lot Residential Zone.
20. The original Preliminary Approval was in accordance with a Plan of Development comprising 7 sub-areas:
 - (a) the "Core Sub-Area" comprising an area of approximately 55 hectares, and intended to cater for a wide range of medium to large scale industrial and business activities;

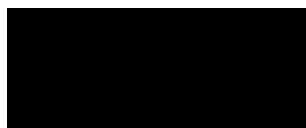


- (b) the "Frame Sub-Area" comprising an area of approximately 50 hectares located between the Core Sub-Area and surrounding sensitive land area, and intended as a transition from the Core Sub-Area activities to the Residential Sub-Area;
- (c) the "Community and Commercial Sub-Area", comprising an area of approximately 5 hectares adjacent to Brisbane Road and the Ebbw Vale Railway Station;
- (d) the "Highways Sub-Area" comprising an area of approximately 37 hectares and providing a transition from the highly intensive industrial character of the Core Sub-Area and the Warrego Highway;
- (e) the "Riverside Sub-Area" located north of the Warrego Highway and providing a transition between the industrial activities to the south and the Bremer River corridor and the rural residential settlements on the northern side of the Bremer River;
- (f) the "Residential Sub-Area" comprising an area of approximately 17 hectares and located in close proximity to the existing residential area of Bundamba; and
- (g) the "Open Space Sub-Area" comprising approximately 100 hectares located throughout the subject land.

Annexed to my statement and marked NP-16 is a plan identifying the Bremer Business Park Sub-Areas.

21. As the project has progressed, the developer had identified seven (7) stages for the project. Annexed to my statement and marked NP-17 is a copy of the Citiswich Staging Plan. This plan has not been formally endorsed by Council. The proposed stages are identified by different colours on the staging plan as follows:

- 1. Stage 1 (Salmon)
- 2. Stage 2 (Pink)
- 3. Stage 3 (Purple)
- 4. Stage 4 (Red)
- 5. Stage 5 (Brown)
- 6. Stage 6 (Orange)
- 7. Stage 7 (Blue)




Solicitor

Open Space Areas are shaded in Green and areas of existing ownership within the site area appear in White. Annexed to my statement and marked **NP-18** is a document which describes the predominant uses proposed for each of the seven (7) stages.

Citiswich - Flood Impact

22. According to Council records the site was partially inundated in the 1974 flood.
23. Ground levels within Citiswich range from approximately RL0m to RL54m. The site therefore falls partially within the 1 in 20 development line: 13.3m AHD and partially within the 1 in 100 flood line: 16.2m AHD. Annexed to my statement and marked **NP-19** is a plan of the site marking the location of the 1 in 20 development (red line) and the 1 in 100 flood line (blue line) for the site.
24. Annexed to my statement and marked **NP-20** is a photograph of the site on which the 1 in 20 development line (yellow line) and the 1 in 100 flood line (blue line) are marked.
25. In the January 2011 flood event, slightly over half of the site received some level of inundation. The areas of the site occupied by stages 1 and 7 received substantial inundation and the areas occupied by stages 2, 3 and 4 sustained some slight inundation. No inundation was experienced in the areas occupied by stages 5 and 6. Most of the areas occupied by stages 2 and 3 also remained free of inundation, and approximately half of the area occupied by stage 4 remained free of inundation.
26. The 2011 flood level was approximately 18.7m AHD. Annexed to my statement and marked **NP-21** is a plan of the site on which the extent of the flooding experienced in January 2011 is shaded in red.
27. Annexed to my statement and marked **NP-22** is a composite plan of the site on which:
 - (a) the site boundary is marked in black;
 - (b) the area within the 1 in 20 development line is shaded in yellow;
 - (c) the area between the 1 in 20 development line and the 1 in 100 flood line is shaded in blue; and
 - (d) the area above the 1 in 100 flood line which experienced inundation in January 2011 is shaded in red.



Sections 2 and 3

Chronology of Citiswich Development Applications, including identification of which of the 23 specific applications the subject of the Commission Requirement notice dated 27 September 2011 constitute material development applications.


1 - Application No. 3356/02

28. This is an application lodged on 5 September 2002 for preliminary approval to override the planning scheme in accordance with section 3.1.6 of the IPA and for preliminary approval for reconfiguring a lot (16 lots into 34 lots). The preliminary approval to override the planning scheme was to establish a framework for the subsequent development the subject site, as previously detailed in paragraph 20 of my statement.
29. Fundamentally it was the Preliminary Approval the subject of this application which, by overriding the Planning Scheme, set up the planning framework for the Citiswich site by "calling up" all of the outcomes being sought in the correlating zones in the Planning Scheme (IPA Scheme) as well as the assessment tables for those zones. It should be noted that approval of this application did not authorise any development to occur, but only set up the framework and mechanism against which future applications for the development of the site would be assessed.
30. The application was determined at full Council and was approved by negotiated decision notice dated 30 June 2004. The reconfiguring a lot component of the application has since lapsed.
31. The Commission has sought additional information in relation to this application (Requirement Notice 5(f)). It is a relevant application and is discussed in further detail in section 4 of my statement below.

2 - Application No. 309/03/MCU

32. This is an application lodged on 22 January 2003 for a material change of use and environmentally relevant activity in connection with the establishment of the premises occupied by Capral. The application was approved by negotiated decision notice on 4 April 2003.
33. The site is located toward the south-east of the Citiswich land, abutting the Warrego Highway (southern side) and Hoepner Road (western side). It does not appear as one of the stages on the Citiswich Staging Plan (annexure NP-17) as at the time of production of that plan the site had been developed. The site is shaded "white" on that plan.




Solicitor

34. The Capral facility has been constructed and is operational. The site did not flood in 2011. The Commission has not sought information in relation to this application and in the context of the Citiswich flood and stormwater related issues it is an immaterial application.

3 - Application No. 314/03/RAL

35. This is an application lodged on 22 January 2003 for the reconfiguration of one lot into 2 lots for purposes associated with creating the Capral lot. The application was approved on 14 March 2003 and the lots have been registered.
36. This application is related to application No. 2 above. The Capral site did not flood in 2011. The Commission has not sought information in relation to this application and in the context of the Citiswich flood and stormwater related issues it is an immaterial application.

4 - Application No. 309/03/OW

37. This is an application for operational works lodged on 4 February 2003 for internal works (**bulk earthworks**) in relation to the Capral site. The application was determined on 6 February 2003, the plan approved and the works have been constructed.
38. This application is related to applications No. 2 and No. 3 above. The Capral site did not flood in 2011. The Commission has not sought information in relation to this application and in the context of the Citiswich flood and stormwater related issues it is an immaterial application.

5 - Application No. 7333/06/OW - Stage Figure 1A

39. This is an operational works application lodged on 1 November 2006 for internal works (**bulk earthworks**) for Stage 1A. The application was determined on 23 March 2007, the plan approved and the works have been constructed.
40. The levels on the approved bulk earthworks plans indicate the site ranges from RL15.6m to RL17m. The site flooded in 2011. The Commission has sought additional information in relation to this application (Requirement Notice paragraph 5(i)). It is a relevant application and is discussed in further detail in the statement of Mr Ellis.

6 - Application No. 1837/07/RAL - Stages 1A, B and C

41. This is an application lodged on 12 March 2007 for the reconfiguration of 3 lots into 28 lots comprising Stages 1A, B and C. It is these sites upon which, among other developments, the Reject Shop and API facility were constructed. The application was approved by negotiated decision notice on 8 July 2008. A number of the lots have been registered.

42. The levels on the approved Bulk Earthworks plans associated with the reconfiguration of lot application indicate the site ranges from RL15.3m to RL19m. The site flooded in 2011.
43. The Commission has not sought information in relation to this application but I do consider it to be relevant in the context of the Citiswich flood and stormwater related issues and it is discussed in further detail in section 4 of my statement below.

7 - Application No. 4264/07/OW - Stages 1B, C and D

44. This is an operational works application lodged on 6 June 2007 for internal works (**bulk earthworks**) for Stages 1B, C and D. This application is related to application No. 6 above. The application was determined on 26 November 2007, the plan approved and the works have been constructed.
45. The site flooded in 2011. The Commission has sought additional information in relation to this application (Requirement Notice paragraph (j)). It is a relevant application and is discussed in further detail in the statement of Mr Ellis.

8 - Application No. 4820/07/OW - Stage 5

46. This is an operational works application lodged on 19 June 2007 for internal works, being a landscaping amenity mound in the buffer zone boarding the existing residential strip adjoining Stage 5. The application was approved on 3 August 2007.
47. The site did not flood in 2011. The Commission has sought information in relation to this application (Requirement Notice paragraph 5(v)), but in the context of the Citiswich flood and stormwater related issues it is an immaterial application. However, as it has been referred to by the Commission, and being an operational works application, it is addressed briefly in the statement of Mr Ellis.

9 - Application No. 5614/07/OW - Stage 1

48. This is an operational works application lodged on 25 July 2007 for municipal works excluding stormwater quality and landscaping works for Stage 1. The application was determined on 8 July 2008, the plan approved and the works have been constructed.
49. The earthworks associated with this site are the subject of application 4264/07 (No.7 above). The assessment undertaken in relation to this application is largely technical in nature, rather than substantive. The application is of marginal relevance. However, it is an application in relation to which the Commission has sought additional information (Requirement notice paragraph 5(w)) and, being an operational works application, it is addressed briefly in the statement of Mr Ellis.




Solicitor

10 - Application No. 6847/07/RAL - Stages 2B and 2C

50. This is an application for RAL for the reconfiguration of 2 lots into 7 industrial lots and a balance lot (park) over part of the area known as Stages 2B and 2C. The application was approved on 29 September 2008 but no lots have been registered.
51. The area of the site where the industrial lots were to be created was not affected by the 2011 flood. The Commission has sought additional information in relation to the application (Requirement notice paragraph 5(l)) but the area the subject of the application is not relevant to flood or stormwater related issues and the application file does not contain any reports or studies relevant to flood or stormwater issues. Unless there is some particular aspect of this application with which I can assist the Commission it appears to be an immaterial application and I do not propose to address it in any further detail in this statement.

11 - Application No. 9070/07/OW - Hoepner Road

52. This is an operational works application lodged on 4 August 2008 for municipal works in connection with the development of Hoepner Road, which is a road located to the east of the site, bisecting the site between Brisbane Road and the Warrego Highway. It was the subject of partial approvals on 18 August 2008, 1 October 2008 and 29 May 2009, and the works have been constructed.
53. The area the subject of the application did not flood in 2011. The Commission has sought information in relation to this application (Requirement notice paragraph 5(m)) but in the context of the Citiswich flood and stormwater related issues it is an immaterial application. However, as it has been referred to by the Commission, and being an operational works application, it is addressed briefly in the statement of Mr Ellis.

12 - Application No. 3739/08/RAL - Stage 1

54. This is an application lodged on 19 May 2008 for the reconfiguration of 3 lots into 3 lots between the Capral site and Stage 1. It was in effect an application for realignment of boundaries. The application was approved on 3 October 2008.
55. The realignment has not proceeded and the area the subject of the application did not flood in 2011. The Commission has not sought information in relation to this application and in the context of the Citiswich flood and stormwater related issues it is an immaterial application.

13 - Application No. 4078/08/RAL - Stage 1D

56. This is an application lodged on 29 May 2008 for the reconfiguration of 3 lots into 20 lots in Stage 1D. The application was approved on 27 May 2010 but no lots have yet been registered.



Solicitor

57. Levels on the approved bulk earthworks plans associated with the reconfiguration of lot application indicate the site ranges from RL15.3m to RL25.5m. The site the subject of the application was partially flooded in 2011.
58. The Commission has not sought information in relation to this application. The bulk earthworks for Stages 1B, C and D are the subject of application 4264/07 (No. 8) above which is an application in relation to which the Commission has sought information and is being addressed by Mr Ellis in his statement. There is nothing on application file 4078/08/RAL that I consider will materially add to the matters to be addressed by Mr Ellis in relation to the Stage 1D.

14 - Application No. 4210/08/RAL - Stage 7

59. This is an application lodged on 3 June 2008 for the reconfiguration of 4 lots into 48 lots in Stage 7. Stage 7 comprises a considerable area of relatively low-lying land between the Warrego Highway and the Bremer River. The application has not yet been determined, as there are unresolved access, cultural heritage, contaminated land, mining, earthworks, water and sewer, stormwater quality and quantity, flooding, buffering and layout issues in relation to Stage 7.
60. The area the subject of this application sustained considerable inundation in 2011. The Commission has not sought information in relation to this application. However, the Commission has sought additional information in relation to applications 5426/10/OW (No.40 below) and 7540/10/OW (No. 43 below) which are the operational works bulk earthworks applications in relation to Stage 7. Mr Ellis will be addressing these operational works bulk earthworks applications in his statement. There is nothing on application file 4210/08/RAL that I consider will materially add to the matters being addressed by Mr Ellis in relation to the Stage 7 earthworks.

15 - Application No. 4673/08/MCU - Stage 1

61. This is an application lodged on 12 June 2008 for a material change of use in connection with a services trades use (warehouse/storage), being the establishment of an office building and warehouse on Stage 1. The application was determined on 13 November 2008 but the approved use has not been constructed.
62. The area the subject of the approval flooded in 2011. The Commission has not sought information in relation to this application. However, the Citiswich flood and stormwater related issues in relation to the development of Stage 1 are being addressed by Mr Ellis in his statement (applications 7333/06 - Stage 1A and 4264/07 - Stages 1B, C and D).

16 - Application No. 5242/08/RAL - Stage 2

63. This is an application lodged on 3 July 2008 for the reconfiguration of a lot, being the creation of an easement over Stage 2. The application was determined on 7 November 2008 but the approved easement has not been registered.
64. The area the subject of the application did not flood in 2011. The Commission has sought information in relation to this application (Requirement notice paragraph 6(n)) but the application and the area the subject of the application are not relevant to any Citiswich flood or stormwater related issues. Unless there is some aspect of this application with which I can assist the Commission it appears to be an immaterial application and I do not propose to address it in any further detail in this statement.

17 - Application No. 6568/08/OW - Stage 1

65. This is an operational works application lodged on 15 August 2008 for earthworks in connection with Stage 1 - Archer Street Park area. The application was not determined as it was withdrawn.
66. The lowest point of the site the subject of the application abuts the Bremer River and the highest point of the site is approximately RL16.22. The area the subject of the application flooded in 2011. As it relates to a park area the application appears to be of marginal relevance. However, it is an application in relation to which the Commission has sought additional information (Requirement notice paragraph 5(c)) and being an operational works application, is addressed briefly in the statement of Mr Ellis.

18 - Application No. 7186/08/MCU - Stage 1

67. This is an application lodged on 11 September 2008 for a material change of use in connection with a services/trades use (warehouse/storage) and advertising devices on Stage 1, being the establishment of the Reject Shop. The application was determined on 30 January 2009 and the approved use, the Reject Shop has been constructed.
68. The area the subject of the approval flooded in 2011. The Commission has not sought information in relation to this application. However, the Citiswich flood and stormwater related issues in relation to the development of Stage 1 are being addressed by Mr Ellis in his statement (applications 7333/06 - Stage 1A and 4264/07 - Stages 1B, C and D).

19 - Application No. 8973/08/RAL - Warrego Highway

69. This is an application lodged on 28 November 2008 for the reconfiguration of 2 lots into 3 lots so as to allow for road widening on the southern side of the Warrego Highway. The application was determined on 12 March 2009.
70. The area the subject of the application flooded in 2011. However, the Commission has not sought information in relation to this application and in the context of the Citiswich flood and stormwater related issues it is an immaterial application.

20 - Application No. 9411/08/MCU - Stage 1

71. This is an application lodged on 18 December 2008 for a material change of use in connection with service/trades use (warehouse/storage) and internal works (stormwater drainage works, earthworks, car park and landscaping) on Stage 1, being the establishment of the Australian Pharmaceutical Industries (API) facility. The application was determined on 30 January 2009 and the proposed use, the API facility has been constructed.
72. The area the subject of the application flooded in 2011. The Commission has sought additional information in relation to this application (Requirement notice paragraph 5(d)). It is a relevant application and is discussed in further detail in section 4 of my statement below.

21 - Application No. 9502/08/OW - Stages 2 and 5

73. This is an operational works application lodged on 19 December 2008 for municipal works - roadworks, constituting Link Road, traversing between Stage 2 and Stage 5. The application was determined on 22 October 2010.
74. The area the subject of the application did not flood in 2011. The Commission has sought information in relation to this application (Requirement notice paragraph 5(o)), but in the context of the Citiswich flood and stormwater related issues it is an immaterial application. However, as it has been referred to by the Commission, and being an operational works application, it is addressed briefly in the statement of Mr Ellis.

22 - Application No. 9535/08/MCU - Stage 1

75. This is an application lodged on 23 December 2008 for material change of use and environmentally relevant activity (ERA) in connection with general industry truck depot and ERA 21 (motor vehicle workshop operation) on Stage 1, being the establishment of the Andrew Print Transport (APT). The application is related to the establishment of the API facility (Application 20 above). The application was determined on 12 May 2009 but the use the subject of the approval has not been constructed.



Solicitor

76. The area the subject of the application flooded in 2011. The Commission has not sought information in relation to this application. The flood and stormwater related issues in relation to the development of Stage 1 are being addressed by Mr Ellis in his statement (applications 7333/06 - Stage 1A and 4264/07 - Stages 1B, C and D) and the MCU application in relation to the API facility (application 9411/08) is being further addressed by me in section 4 of my statement below. Accordingly, unless there is some other aspect of this particular application in relation to which I can assist the Commission I do not propose to address it in any further detail in this statement.

23 - Application No. 1227/09/MCU - Stage 1

77. This is an application for material change of use and operational works in connection with a temporary sales office and internal works on Stage 1, being the establishment of a temporary sales office. The application was determined on 9 November 2009 but the approved use has not been constructed.
78. The area within Stage 1 that is the subject of this application did not flood in 2011. The Commission has not sought information in relation to this application and in the context of the Citiswich flooding and stormwater related issues it is an immaterial application.

24 - Application No. 2900/09/RAL - Warrego Highway

79. This is an application lodged on 18 May 2009 for the reconfiguration of 3 lots into 2 lots so as to allow for road resumption on the northern side of the Warrego Highway. This application is the compensatory application to be considered in conjunction with the Warrego Highway road widening application addressed previously (application 9873/08-RAL). The application was determined on 22 July 2010.
80. The area the subject of the application flooded in 2011. However, the Commission has not sought information in relation to this application and in the context of the Citiswich flood and stormwater related issues, it is an immaterial application.

25 - Application No. 3644/09/OW - Stage 1

81. This is an operational works application lodged on 18 June 2009 for internal works (roadworks, drainage works, landscaping, stormwater, water, sewer) in connection with the APT facility - Stage 1 (application 9535/08/MCU).
82. The application has not been determined and has lapsed.
83. The area the subject of the application flooded in 2011. The application not having been determined and having lapsed, is of limited relevance. However, as it is an application in

relation to which the Commission has sought additional information (Requirement notice paragraph 5(b)), and being an operational works application, it is addressed briefly in the statement of Mr Ellis.

26 - Application No. 4319/09/RAL - Stage 2B

84. This is an application lodged on 15 July 2009 for the reconfiguration of 3 lots into 8 industrial lots and a balance lot in Stage 2B. The application was approved on 30 November 2009 for 3 lots into 4 industrial lots and a drainage and balance lot. To date only one lot has been registered from this development permit.
85. The area the subject of this application did not flood in 2011. The Commission has sought additional information in relation to the application (Requirement notice paragraph 5(r)) but the application and the area the subject of the application are not relevant to any Citiswich flood or stormwater related issues. Unless there is some aspect of this application with which I can assist the Commission it appears to be an immaterial application and I do not propose to address it in any further detail in this statement.

27 - Application No. 4496/09/RAL - Stage 2C

86. This is an application lodged on 23 July 2009 for the reconfiguration of 3 lots into 4 lots in Stage 2C for industrial purposes. The application has not been determined and has lapsed.
87. The area the subject of the application did not flood in 2011. The Commission has not sought information in relation to this application and in the context of the Citiswich flood and stormwater related issues it is an immaterial application.

28 - Application No. 5062/09/RAL - Stage 2 - Hoepner Road

88. This is an application lodged 18 on August 2009 for the reconfiguration of a lot for the creation of a road (Stage 2 Hoepner Road). The application was determined on 18 May 2010 and Hoepner Road was constructed.
89. The Hoepner Road area the subject of this application did not flood in 2011. Annexed to my statement and marked NP-23 is a plan showing the location of the road construction and a 2011 flood map indicating the area of inundation shaded in red. The Commission has sought additional information in relation to this application (Requirement notice paragraph 5(s)) but the application and the area the subject of the application are not relevant to any Citiswich flood or stormwater related issues. Unless there is some aspect of this application with which I can assist the Commission it appears to be an immaterial application and I do not propose to address it in any further detail in this statement.

29 - Application No. 5415/09/CA - Stage 6

90. This is a combined application lodged on 4 September 2009 for reconfiguration of a lot, material change of use and building work. The proposed development relates to the reconfiguration of 4 lots into 122 lots, single residential on a lot not less than 450m², and preliminary approval for building work.
91. The application relates to the residential stage. It was determined on 24 February 2010 and operational works in the nature of sewerage, water, roadworks and earthworks are currently being undertaken. The application relates to an area that did not flood in 2011 and which is located well outside of the 1 in 100 flood line.
92. The Commission has not sought information in relation to this application and in the context of the Citiswich flood and stormwater related issues, it is an immaterial application.

30 - Application No. 7024/09 – Stage 2

93. This is an application lodged on 6 November 2009 for Preliminary Approval in accordance with section 3.1.6 of the IPA and reconfiguring a lot. The Preliminary Approval fundamentally sought to extend the land under the original Bremer Business Park Preliminary Approval (Application 3356/02) for Frame industrial purposes and Community and Commercial purposes into part of the Open Space Sub-Area and to amend the boundary between the Frame Sub-Area and the Community and Commercial Sub-Area to increase the land available for community and commercial purposes.
94. The application was withdrawn on 20 May 2011 and was not determined.
95. The only part of the area the subject of this application to have sustained any inundation in 2011 is an area located within the "green" zone area, which sustained only very slight inundation, limited to the north-east corner of the application area. Annexed to my statement and marked NP-24 is a location map and 2011 flood map identifying the site the subject of the application and the portion of the site (shaded in red) which sustained inundation in 2011.
96. The Commission has sought information in relation to this application (Requirement notice paragraph 5(p)). However, the application having been withdrawn and the only area the subject of the application to have sustained any inundation in 2011 being located in the Open Space (green) Sub-Area (and then only very minimal inundation), the application and the area the subject of the application are of very limited relevance to any flooding or stormwater related issues. Unless there is some aspect of this application with which I can assist the Commission it appears to be an immaterial application and I do not propose to address it in any further detail in this statement.

31 - Application No. 7509/09/RAL – Stage 2 – Hoepner Road

97. This is an application lodged on 25 November 2009 for the reconfiguration of a lot for the creation of a road (Stage 2 – Hoepner Road). The application was determined on 15 February 2010.
98. As noted in paragraphs 88 and 89 above, and annexure NP-23, the Hoepner Road area did not flood in 2011. The Commission has not sought additional information in relation to this application and in the context of the Citiswich flood and stormwater related issues, it is an immaterial application.

32 - Application No. 7936/09/MCU – Stage 1

99. This is an application lodged on 10 December 2009 for material change of use, environmentally relevant activity and operational works (ERA) in connection with business use (service station), ERA 8 (chemical storage) and internal works on Stage 1, being the establishment of a Caltex Service Station. The application was determined on 31 March 2010 and the proposed use, the Caltex Service Station, has been constructed.
100. The area the subject of the approval flooded in 2011. The Commission has not sought information in relation to this application. However, the Citiswich flood and stormwater related issues in relation to the development of Stage 1, are being addressed by Mr Ellis in his statement (applications 7333/06 – Stage 1A and 4264/07 – Stages 1B, C and D).

33 - Application No. 1261/10/RAL – Stage 1B

101. This is an application lodged on 25 February 2010 for the reconfiguration of a lot, being a subdivision by lease in relation to an area of the Citiswich development known as Stage 1B. The lease area related to a service trades use (warehouse/storage) and was approved by Council on 31 March 2010.
102. At the time of the approval of this application, the building was constructed and occupied by the Reject Shop Distribution Warehouse. The land containing the building and associated car parking manoeuvring and landscaping areas were to be leased to the Reject Shop Distribution Warehouse for a period in excess of 10 years. Due to the nature of the application, stormwater and flooding issues were not considered in the assessment of the application.
103. The area the subject of the application was flooded in 2011 and the Commission has sought additional information in relation to this application (Requirement Notice paragraph 5(a)). However, as noted above, because of the nature of the application, no flooding or stormwater issues were considered in relation to it. Unless there is some aspect of this application with

which I can assist the Commission, it appears to be an immaterial application and I do not propose to address it in any further detail in this statement.

34 - Application No. 1294/10/CA – Stages 6C and 6D

104. This is an application lodged on 26 February 2010 for preliminary approval to affect the planning scheme in accordance with section 242 of the SPA, reconfiguration of a lot and material change of use. The proposal concerns Stages 6C and 6D, within the residential area. It is a proposal for development in accordance with the Residential Density (RL2) Zone of the Ipswich Planning Scheme, the reconfiguration of 3 lots into 110 lots and material change of use being single residential on a lot less than 450m².
105. The application is currently in the information and referral stage of IDAS.
106. The area the subject of the application did not flood in 2011 and is located well outside of the 1 in 100 flood line. The Commission has not sought information in relation to the application and in the context of Citiswich flood and stormwater related issues, it is an immaterial application.

35 - Application No. 1333/10/MCU – Stage 1

107. This is an application lodged on 1 March 2010 for material change of use in connection with general industry (pump assembly/servicing/repair) being the establishment of a pump assembly and repair facility on Stage 1. The application was approved on 1 June 2010 and the proposed use has been constructed.
108. The area the subject of the approval flooded in 2011. The Commission has not sought information in relation to this application. However, the Citiswich flood and stormwater related issues in relation to the development of Stage 1 are being addressed by Mr Ellis in his statement (applications 7333/06 – Stage 1A and 4264/07 – Stages 1B, C and D).

36 - Application No. 2414/10/MCU – Stage 1

109. This is an application lodged on 14 April 2010 for material change of use in connection with general industry (manufacture of cleaning machines), being the establishment of a facility on Stage 1 for the manufacture of cleaning machines. The application was approved on 25 June 2010 and the proposed use has been constructed.
110. The area the subject of the approval flooded in 2011. The Commission has not sought information in relation to this application. However, the Citiswich flood and stormwater related issues in relation to the development of Stage 1 are being addressed by Mr Ellis in his statement (applications 7333/06 – Stage 1A and 4264/07 – Stages 1B, C and D).

37 - Application No. 2560/10 – Stage 4

111. This is an application lodged on 21 April 2010 for preliminary approval to affect the planning scheme in accordance with section 242 of the SPA and for reconfiguring a lot. The proposal concerns Stage 4 and the interface of that stage with the adjoining "green" zone. It in effect seeks approval to override the planning scheme so as to encroach the Frame Sub-Area into the Open Space Sub-Area in accordance with section 242 of SPA, and for the reconfiguration of 3 lots into 17 lots plus parkland.
112. The application is in the information and referral stage of IDAS and has not been determined.
113. Part of the area the subject of the application flooded in 2011. The lowest point of the subject site is approximately RL16.22m AHD. The 2011 flood peaked at approximately RL18.7m AHD.
114. The operational works application for the bulk earthworks for Stage 4 (application 3823/10/OW) is related to this application and is the subject of application No. 38 addressed below. Application 3823/10/OW is an application which respect to which the Commission has sought additional information, and is to be addressed in the statement of Mr Ellis.
115. The Commission has not sought information in relation to this application. It has potential relevance in the context of flood and stormwater related issues. However, it is still in the early stages of consideration and the flooding and stormwater related issues in connection with the development of Stage 4 will be addressed by Mr Ellis. For completeness, I have reviewed the application file and, apart from a supporting "Stormwater Management and Flooding Assessment" by Cardo dated March 2011, a copy of which is annexed to my statement and marked NP-24A, it does not contain any flood or stormwater studies specific to this application, or any other information specific to flood or stormwater related issues, additional to that to be addressed by Mr Ellis, that I consider would be of assistance to the Commission.

38 - Application No. 3823/10/OW – Stage 4

116. As noted above, this is an operational works application, lodged on 15 June 2010 for bulk earthworks in connection with Stage 4. The application was determined on 23 July 2010, the plan approved and the works constructed.
117. The site the subject of the application was partially flooded in 2011. The lowest point of the site is approximately RL16.22m and the 2011 flood level was approximately 18.7m. The Commission has sought additional information in relation to this application (Requirement Notice paragraph 5(h)). It is a relevant application and is discussed in further detail in the statement of Mr Ellis.

39 - Application No. 5134/10/RAL – Stage 3

118. This is an application lodged on 5 August 2010 for the reconfiguration of 1 lot into 4 lots plus a balance lot adjoining Bognuda Street in Stage 3A. The application was determined on 2 December 2010 but the lots have not yet been registered.
119. Whilst most of the area the subject of this application is located outside of the area that was flooded in 2011, a small portion of the site, toward the northern end, was flooded, and falls within the 1 in 100 flood line.
120. The Commission has not sought information in relation to this application. At the time of any application for material change of use, following registration of the reconfigured lots, and prior to any development of the lots, relevant conditions as to flooding and stormwater issues will need to be considered for at least the small portion of the site that is potentially flood affected. Annexed to my statement and marked NP-25 is a plan showing the location of the area the subject of application 5134/10 with the portion of the site which sustained inundation in 2011 shaded in red.
121. However, this application is only of very marginal relevance in the context of the Citiswitch flood and stormwater related issues, and unless there is some aspect of the application in relation to which I can assist the Commission, I do not propose to address it in any further detail in this application.

40 - Application No. 5426/10/OW – Stage 7

122. This is an operational works application, lodged on 13 August 2010 for bulk earthworks in connection with Stage 7. The application was determined on 30 May 2011.
123. The estimated site levels for the area the subject of Stage 7 range from approximately RL0m to RL29m. A substantial proportion of the area was inundated in 2011.
124. The approval of this application included conditions:
- (a) precluding fill below the Q20 flood level;
 - (b) requiring provision of compensatory flood storage volume to be provided for any filling situated between the Q20 development line and Q100 flood level; and
 - (c) requiring a flood model and detailed drawings to be submitted to Council for approval prior to any earthworks on site detailing the compensatory storage volume.

125. The Commission has sought additional information in relation to this application (Requirement notice paragraph 5(k)). It is a relevant application and is discussed in further detail in the statement of Mr Ellis.

41 - Application No. 5450/10/RAL – Stages 1, 4 and 7

126. This is an application lodged on 16 August 2010 for the reconfiguration of 1 lot into 2 management lots. The subject lot traversed the Warrego Highway. The purpose of the proposed reconfiguration was to convert the lot into 2 lots located on either side of the highway, so that a subsequent application could be made for one of the (new) lots to be removed from the Contaminated Lands Register.
127. The application was approved on 2 February 2011 although the lots have not yet been registered. The site the subject of the application bisected parts of Stages 1, 4 and 7 and was flooded in 2011. However, the application was purely administrative in nature. The Commission has not sought information in relation to this application and in the context of the Citiswitch flood and stormwater related issues, it is an immaterial application.

42 - Application No. 7282/10/OW – Stage 6

128. This is an operational works application lodged on 25 October 2010 for roadworks, stormwater, water infrastructure, drainage works, earthworks, sewerage infrastructure and landscaping in connection with the proposed residential estate in Stage 6. The application was determined on 10 February 2011 and the operational works are currently in progress.
129. The area the subject of the application did not flood in 2011 and is located well outside of the 1 in 100 flood line. The Commission has sought information in relation to this application (Requirement notice paragraph 5(g)), but in the context of Citiswitch flood and stormwater related issues, it is an immaterial application. However, as it has been referred to by the Commission, and being an operational works application, it is addressed briefly in the statement of Mr Ellis.

43 - Application No. 7540/10/OW – Stage 7

130. This is an operational works application lodged on 4 November 2010 for bulk earthworks in relation to Stage 7. The application has not been determined and is in abeyance pending submission by the applicant of a revised flood study.
131. A substantial proportion of the area the subject of Stage 7 flooded in 2011. The Commission has sought additional information in relation to this application (Requirement notice paragraph 5(e)). It is a relevant application and is discussed in further detail in the statement of Mr Ellis.

44 - No. 7606/10/MCU – Stage 1

132. This is an application lodged on 9 November 2010 for material change of use and operational works in connection with services/trades use (6 tenancies), business use – café (1 tenancy), business use – office (1 tenancy) and advertising devices. It essentially concerns an application for warehouse/café/office uses in Stage 1. The application was approved on 25 May 2011 but the proposed use has not yet been constructed.
133. The area the subject of the approval flooded in 2011. The Commission has not sought information in relation to this application. However, it is an application for MCU within a flood affected area approved by Council since January 2011. I consider it may be of assistance to the Commission to provide further information in relation to the application and approval, and the matter is further addressed in section 4 of my statement below.

45 - Application No. 7782/10/MCU – Stage 1

134. This is an application lodged on 16 November 2010 for material change of use and operational works in connection with services/trades use (warehouse/storage) and advertising devices. The application is for the development of a warehouse/storage facility on Stage 1 for use by OneSteel. The application remains in the decision stage and has not yet been determined.
135. The area the subject of the approval flooded in 2011. The Commission has not sought information in relation to this application. However, the Citiswitch flood and stormwater related issues in relation to the development of Stage 1 are being addressed by Mr Ellis in his statement (applications 7333/06 – Stage 1A and 4264/07 – Stages 1B, C and D).

46 - Application No. 8886/10/CA – Stage 2

136. This is an application lodged on 23 December 2010 for preliminary approval to affect the planning scheme in accordance with section 242 of the SPA and for reconfiguring a lot. The proposal in effect involves a preliminary approval to override the planning scheme and reconfigure three (3) lots into seven (7) industrial lots plus two (2) balance lots within Stage 2 of the Citiswitch development, so as to extend the land under the original Bremer Business Park Preliminary Approval (3356/02) for Frame industrial purposes into part of the Open Space (green zone) to increase the land available for industrial purposes.
137. The application remains in the decision stage and has not been determined.
138. A small area the subject of the application sustained some minor inundation in 2011. Attached to my statement and marked NP-26 is a map identifying the site the subject of the application and showing the small area in the north east portion of the site, shaded in red, that sustained inundation in 2011. There has been no earthworks approval for this part of the Citiswitch

development, and the applicant has only very recently lodged a bulk earthworks application (5478/11) which shows levels ranging between approximately RL16m to RL47m for the Stage 2 area.

139. The Commission has sought additional information in relation to this application (Requirement Notice paragraph 5(t)). It is a relevant application and is discussed in further detail in section 4 of my statement below.

47 - Application No. 3171/11/MCU – Stage 2

140. This is an application lodged on 14 June 2011 for material change of use in connection with business use home improvements store containing bulky goods sales, café, garden centre and shop and services trades use (key cutting) within Stage 2. It relates to the establishment of a Masters Home Improvement Centre.
141. The application remains under consideration and has not been determined.
142. The site the subject of the application did not flood in 2011 and is located well outside of the 1 in 100 flood line. The Commission has sought information in relation to the application (Requirement notice paragraph 5(u)) but the application and the area the subject of the application are not relevant to any Citiswich flood or stormwater related issues. Unless there is some aspect of this application with which I can assist the Commission it appears to be an immaterial application and I do not propose to address it in any further detail in this statement.

Sections 2 and 3 - Conclusion

143. In this section of my statement I have listed a chronology of the applications received by ICC in relation to the Citiswitch site from 2002 up to June 2011. In doing so, I have excluded:
- (a) applications merely for advertising devices; and
 - (b) lapsed or withdrawn applications except as otherwise noted in the chronology.
144. I address in further detail in section 4 of my statement below:
- (a) application No. 3356/02 – Commission requirement paragraph 5(f);
 - (b) application No. 1837/07 – not requested by the Commission;
 - (c) application No. 9411/08 – Commission requirement paragraph 5(d);
 - (d) application No. 7606/10 – not requested by the Commission; and
 - (e) application No. 8866/10 – Commission requirement paragraph 5(t).

145. In the above chronology I have also addressed within my description of each application the remaining MCU and RAL applications referred to in the Commission's requirement notice. Mr Ellis will address in his statement the material operational works applications. These applications concern in particular the applications for bulk earthworks approvals in relation to Stage 1A, Stages 1B, C and D; Stage 4 and Stage 7.

Section 4

Application No. 3356/02

Application Overview

146. I have provided an overview of this application at paragraphs 17-20 and 28-30 of this statement and do not repeat those matters here. The application was lodged on 5 September 2002 and approved by negotiated decision notice on 30 June 2004.
147. The preliminary approval of 30 June 2004 to override the planning scheme established a framework against which future applications for the development of the site would be assessed. At the time of determination of the application the Ipswich Planning Scheme 2004 had just come into effect. However, this application was lodged under the former 1999 planning scheme (non IPA).
148. Attached to my statement are copies of the following documents in relation to this application:
- NP-27:** Bremer Business Park Development Application - Section F - Engineering Studies - September 2002;
- NP-28:** ICC Acknowledgement Notice dated 20 September 2002;
- NP-29:** ICC Information Request dated 23 October 2002;
- NP-30:** Letter Department of Local Government and Planning to Applicant - Referral Coordination Information Request - 23 October 2002
- NP-31:** Letter Sinclair Knight Merz (SKM) to ICC dated 3 December 2002 and enclosed SKM response to information request;
- NP-32:** Letter ICC to applicant requesting additional information 11 June 2003;
- NP-33:** Letter SKM to ICC dated 1 October 2003 in response to additional information request;
- NP-34:** SKM Open Space Master Plan;

- NP-35:** SKM Concept Master Plan for Stormwater Quality Management;
- NP-36:** Letter SKM to ICC dated 19 November 2003 and enclosures.
- NP-37:** Memorandum Senior Development Engineer to Development Team Coordinator dated 2 April 2004;
- NP-38:** Memorandum Development Manager to Planning and Development Manager dated 14 April 2004;
- NP-39:** ICC Development application decision notice dated 30 April 2004;
- NP-40:** Memorandum Planning & Development Manager to Development Manager dated 15 June 2004;
- NP-41:** ICC Development application negotiated decision notice dated 6 July 2004.

Question 1(c): The known site levels at the time of the application

149. Council's records indicate that the RL's for the site range from approximately RL1m AHD to approximately RL54m AHD.

Question 1(d): What assessment process was followed specific to flood impacts and stormwater run-off impacts?

150. Under the Council's assessment regime, the development engineers were responsible for the assessment of such matters as flood impacts and stormwater run-off for this application. The development engineer reviewed the application and provided comments to the development planner for the purposes of the assessment.
151. The application required "referral coordination" to the former Department of Local Government and Planning (**DLGP**) in accordance with section 6.1.35C of the IPA. Referral coordination was triggered as the subject land shares a common boundary with the boundary of the Bremer River (i.e. an area of permanent, periodic or intermittent inundation, whether natural or artificial, with water that is static or flowing, fresh, brackish or salt (Item 5, Part 3, Schedule 7 of the IPA).
152. Consequently, an information request was collated by the former DLGP. Additional information was also sought by Council on 23 October 2002 in relation to both issues of flooding and stormwater quality and quantity. In relation to the issue of stormwater, the following information was requested:

Stormwater Information Request dated 23 October 2002

- (a) A copy of the relevant data files associated with any flood modelling over the subject sites shall be submitted to Council to assist in the assessment of the application.
- (b) Additional information is required for the proposed detention basin/lake strategies as follows:
- Ownership (Council/private);
 - Sizing of the detention basin/lake including preliminary hydraulic calculations;
 - Location of detention basins with respect to the backwater/primary flow associated with the Q100/Q50 flood event;
 - Master plan detailing the timing of the detention basin/lake strategies for various stages of the development;
 - Compliance with relevant legislation (e.g. Water Act 2000),
 - Maintenance strategies (should encompass an economic analysis).
- (c) A demarcation between the primary flow path/back water associated with the Q100/Q50 storm for the Bremer River, Brisbane River and combined flood events shall be established over the site. In addition, the overland flow paths associated with the Q100/Q50 storm shall be shown on the development plan.
- (d) The development of the land would impact on the Warrego Highway that is under the jurisdiction of the Department of Main Roads. To this end an assessment of flooding/drainage impacts on the highway shall be undertaken and the outcomes of such an assessment shall be satisfactory to the DMR.
- (e) Bulk earthworks (including excavation and filling) within primary flow paths and backwater areas shall be clearly identified on the development plan. All proposed earthworks within floodable areas shall be assessed via hydraulic modelling to determine any detrimental affects to upstream, downstream and adjacent properties.
- (f) A flood/drainage master study shall be undertaken of the entire development and shall clearly detail how each proposed stage of the development will link and integrate with further stages.

- (g) A detailed water quality assessment (see Stormwater Quality below) shall be undertaken for the entire development which shall clearly identify water quality objectives and proposed mechanisms to achieve these objectives. The assessment shall clearly detail how each proposed stage of the development will link and integrate with future stages.
- (h) Supporting information including plans, cross sections and assumptions shall be submitted with the studies/assessments.
153. The Applicant responded to this request on 3 December 2002. The response did not sufficiently address all of Council's issues and following a meeting with the applicant further information was requested by Council in a letter to the applicant dated 11 June 2003.
154. On 1 October 2003, the applicant responded to this request. The response included provision of a SKM Concept Plan for Stormwater Quality Management. Additional information was provided by the applicant on 19 November 2003.
155. On 14 April 2004 an impact assessment report was prepared by the Development Manager, informed by an engineering assessment report dated 2 April 2004, which assessed the proposal against the Planning Scheme Policy for Flood Liable or Drainage Problem Land. The engineering report recommended a number of conditions to be included to address the issues of flooding and stormwater.
156. On 30 April 2004 Council approved the application subject to conditions. Condition 18 specifically addressed Stormwater, as detailed below:

Stormwater Conditions of Approval

157. Stormwater

- (a) The developer shall provide all necessary stormwater drainage (both internal and external to the development) and such drainage works (except for roofwater systems) shall be designed and constructed in accordance with QUDM such that the overall drainage system caters for a storm event with an ARI of 100 years.

Overland flow paths shall be suitably designed to cater for the water from a storm event with an ARI of 100 years. In the case where the piped system is carrying part of the flow, the overland flow paths shall be designed to cater for that volume which is represented by the difference between the predicted volume from the storm event with an ARI of 100 years and the capacity of the pipe system, noting the requirements of QUDM.

- (b) All stormwater flows within and adjacent to the Bremer Business Park Area, other than inter-allotment drainage, shall be confined to dedicated roads, drainage reserves, registered drainage easements or within parkland. The registered drainage easements, if related to piped drainage, shall be centrally located over such underground pipe system and shall be not less than 4.0 m wide, except for drainage easements required for side boundaries which may be 3.0 m wide where approved by the Senior Development Engineer. In addition, the easements shall be of suitable width to contain the predicted overland flow from the storm event with an ARI of 100 years in that location.
- (c) No ponding or redirection of stormwater shall occur onto adjoining land unless specifically approved by Council in consultation with the owner of the adjoining land.
- (d) Due consideration shall be given in these and future designs and construction of the development in relation to the effect of the developed catchment flows on the downstream discharge receival areas. Suitable stormwater control devices are to be provided to ensure that there is no increase in flows in watercourses. Such control devices are to be designed so as to integrate the landscaping, recreational, infrastructural and drainage roles of watercourses.
- (e) Each proposed residential, commercial and/or industrial allotment shall be designed to comply with QUDM, Council's standards and the New Ipswich City Planning Scheme, including unimpeded access to a road system which is also above the design flood level.
- (f) There shall be no filling or removal of material in the flood area below the flood level associated with an ARI of 100 years without the approval of the Senior Development Engineer. There shall be minimal disturbance to vegetation in the flood area, unless prior written approval is obtained from Council.
- (g) Filling in proposed Lots, which are adjacent to the watercourse shown on the proposal plan, shall not be undertaken without the written approval of Council.

158. On 6 July 2004 Council approved a negotiated decision notice for the application. The issues of stormwater and flooding were not the subject of the request for a negotiated decision.

Question 2: Known Q100 and Q20 flood levels of surrounding, upstream, downstream and opposite properties:

- (a) **at around the time of the development application;**
 - (b) **at the present day.**
159. The known flood levels of surrounding properties, located upstream, downstream or on the opposite side of the Bremer River to the Citiswich Site, by reference to the Council's flood regulation levels, both at around the time of this application and as at today are:
- (a) 1 in 20 development line: 13.3m AHD as at the time of the application and as at today;
 - (b) 1 in 100 flood line: 18.3m AHD as at the time of the application and 16.2m AHD as at today.

Question 3: What consideration was given to:

- (a) **proximity of the Citiswich site to the Bremer River;**
 - (b) **the site's flood risk or the potential impact of flooding on the proposed use;**
 - (c) **the frequency of past flooding at the site and surrounding properties, including Karalee;**
 - (d) **the potential for surrounding, upstream, downstream or opposite properties to be at greater risk of flooding due to:**
 - (i) **land filling or excavation at Citiswich;**
 - (ii) **the impact of any stormwater or overland flow management facilities servicing Citiswich.**
- (a) **Proximity of the site to the Bremer River**
160. Consideration was given to the site's proximity to the Bremer River and to the Brisbane River. The site is immediately adjacent to the Bremer River. It can also be impacted by backwater flooding from the Brisbane River.
161. As to a Brisbane River flood, the site floods when water levels in the Brisbane River rise and back up into the Bremer River. This creates higher water levels as the Bremer River acts as a backwater and forms a standing pool.

162. As to a Bremer River flood, the site may flood when the Brisbane River is not in flood. This creates lower flood levels as the floodwater is free to discharge out of the Bremer River system and is not backed up. However, a Bremer River flood has higher velocities and is dependant on the conveyance of the river channel to pass the flood to the Brisbane River confluence.
- (b) **The site's flood risk or the potential impact of flooding on the proposed use**
163. The site's flood risk and the potential impact of floods on the proposed use was addressed by Council as detailed in my response to Question 1(d) above.
- (c) **The frequency of past flooding at the site and surrounding properties, including Karalee**
164. It is my understanding that the frequency with which flooding has occurred at this site in the past was a policy consideration in the formulation of the 1-in-100 flood line. This flood line, as it relates to the site, was applied in considering the application. Historical river heights in relation to the site and surrounding properties, including at the suburb of Karalee, were not obtained for the purpose of considering the application, the relevant policy consideration for those purposes being the location of the 1 in 100 flood line.
- (d) **The potential for surrounding, upstream, downstream or opposite properties to be at greater risk of flooding due to:**
- (i) **land filling or excavation at Citiswich**
- (ii) **the impact of any stormwater or overland flow management facilities servicing Citiswich.**
165. The application detailed that all earthworks on the site would be compensatory. However, approval of this application did not authorise any development to occur, and actual approvals for land filling or excavation works would be considered in the subsequent reconfiguring a lot/operational works development permit approval stages of the development.
166. The application and supporting Concept Master Plan for Stormwater Quality Management proposed achievement of a "no worsening" affect in terms of stormwater and that developed conditions flows be mitigated to existing conditions flows for each subcatchment by the placement of detention basins at various locations.

Question 4:

- (a) **Was the application assessed against the earthworks code contained within the Ipswich Planning Scheme and if so, how;**

- (b) Were any measures proposed to mitigate the potential for flooding at the Citiswich site and, if so, briefly describe these measures;
- (c) What expert reports were obtained or received by Council for the purpose of assessing the potential impact of flooding at the Citiswich site and on surrounding properties, how did Council assess the adequacy of these reports and what reliance was placed on them;
- (d) Did Council seek additional information from the applicant about the potential flood and/or stormwater run-off impacts of the proposed development;
- (e) What conditions were imposed on the development to address the impacts of flooding.
- (a) Was the application assessed against the earthworks code
167. The application was not assessed against the earthworks code. The application was lodged prior to the commencement of the IPA scheme which included the earthworks code referred to. In addition, no earthworks were applied for as part of the application. Notwithstanding this, the preliminary approval document called up the tables from the IPA Planning Scheme to allow future development, where relevant, to be assessed against the earthworks code. Preliminary earthworks concepts were submitted as part of the application, as discussed in my response to Question 4(c) below.
- (b) Were any measures proposed to mitigate the potential for flooding at the Citiswich site and, if so, briefly describe these measures
168. At the time this application was being considered, the following measures were proposed to mitigate the potential for flooding at the Citiswich Site:
- no earthworks below the 1 in 100 flood line and all earthworks on the site would be compensatory; and
 - the placement of "off-stream" detention basins.
- (c) What expert reports were obtained or received by Council for the purpose of assessing the potential impact of flooding at the Citiswich site and on surrounding properties, how did Council assess the adequacy of these reports and what reliance was placed on them
169. The following reports have been identified in Council's records management system in relation to the application:

(a) “Development Application Volume F: Engineering Studies – Flooding”, dated September 2002 and prepared by SKM.

- This report was prepared on behalf of the applicant and formed part of the initial application material.
- This report details that no earthworks were proposed below the 1 in 100 flood line and that all earthworks on the site would be compensatory.
- This report details to achieve a “no worsening” affect in terms of stormwater as a result of ultimate development that ‘offstream’ detention basins are supported.
- Section 3.2.1 Brisbane River Flood states “The Brisbane River flood backs up through the site. The water ponds and is very slow moving. To ensure that this flood level is not increased, the development must not fill areas of the floodplain without providing complimentary areas of excavation.” Further the report states “there is more volume available on the floodplain in the developed case than the existing case.....On this basis , the development should not increase flood levels generated by the Brisbane River flood mechanism”.
- Section 3.2.2 Bremer River Flood states “The Bremer River design flood events produce lower flood levels than the Brisbane River floods however, the flow has higher velocity and relies on the conveyance of the channel and floodplain. To ensure that the development has no impact of flood levels, the cross sectional area of the channel and flood plain should not be reduced by development. If encroachment occurs, it should be limited and tested to find potential for increasing flood levels within the site and in adjacent land.” The report concludes that the development is not likely to cause detrimental impacts on the flood levels and will provide adequate flood immunity for the proposed land use.

(b) “Response to Council Issues – Concept Master Plan for Stormwater Quality Management”, dated September 2003 and prepared by SKM.

- This report was prepared on behalf of the applicant and formed of a further response to Council issues during the assessment process.

- This report provided a framework for stormwater management (for both quality and quantity) for the site.
- This report concludes:
 - Developed conditions flows can be mitigated to existing conditions flows for each sub-catchment by placement of detention basins at various locations.
 - Detention basin sizes and locations presented in this report are preliminary and should be considered indicative. The construction of the detention basins identified is considered to be feasible based on the data available at this stage of the site's development. Final detention basin sizing's and locations should be undertaken as part of the detailed design.

170. Council relied on the content of these reports as part of its assessment of the application and consideration of conditions to be imposed in relation to the application. A detailed review of the reports was undertaken by the Council's development engineer and it is as a result of this review that conditions were formulated for the purposes of the Council's decision notice. However, I defer to the knowledge and experience of the Council's development engineers as to Council's assessment of the adequacy of the expert reports.

(d) Did Council seek additional information from the applicant about the potential flood and/or stormwater run-off impacts of the proposed development

171. Council did seek additional information from the applicant about the potential flood and stormwater run-off impacts of the proposed development, as detailed in my response to Question 1(d) above. Further information was requested as the site was affected by the 1 in 20 development line, 1 in 100 flood line, was located adjacent to the Bremer River and was of a large scale.

(e) What conditions were imposed on the development to address the impacts of flooding

172. As previously noted this approval did not authorise any development to occur, only setting a mechanism against which future development would be assessed. This mechanism called up the assessment tables from Council's IPA Planning Scheme. Additionally, some general conditions were also imposed in relation to stormwater, as detailed in my response to Question 1(d) above.



Solicitor

Application No. 1837/07

Application Overview

173. I have provided an overview of this application at paragraphs 41-42 of this statement. The application was lodged on 12 March 2007 for the reconfiguration of a lot (3) lots into (28) industrial lots plus balance lot in four sub-stages over the area of land known as Stage 1 of the Citiswitch development.
174. The application was approved subject to conditions on 28 April 2008, and was then subject to a negotiated decision notice on 3 July 2008. The Council approved 25 lots and a balance lot, with a condition imposed to amalgamate three of the proposed lots (lots 15, 16 and 17) to provide for the future overpass from this site to the northern side of the Warrego Highway. Attached to my statement and marked **NP-42** is a copy of the approved plan for application 1837/07.
175. Attached to my statement are copies of the following documents in relation to this application:
- NP-43:** Cardno - Bremer Business Park Master Plan - Flooding Investigation (included with application) - March 2007;
 - NP-44:** ICC Information Request to applicant dated 25 May 2007;
 - NP-45:** Department of Local Government, Planning, Sport and Recreation to Walker Corporation (Referral Coordination Information Request) - 13 July 2007;
 - NP-46:** Planning Initiatives (on behalf of the applicant) letter to ICC dated 3 August 2007 in response to Information Request;
 - NP-47:** Cardno Bremer Business Park - Stage 1 - Stormwater Management Strategy Report - August 2007;
 - NP-48:** Letter Department of Natural Resources and Water to ICC dated 10 August 2007 - Referring Agency response;
 - NP-49:** Engineering Department Assessment Memorandum dated 15 April 2008;
 - NP-50:** Memorandum Acting Assistance Development Manager to Acting Development Manager - 21 April 2008;
 - NP-51:** ICC Assessment Checklist - Code Assessable Assessment;
 - NP-52:** Development Application Decision Notice dated 22 April 2008;

NP-53: Memorandum Assistant Development Planner to Development Team Coordinator re Negotiated Decision Notice request dated 3 June 2008;

NP-54: ICC Negotiated Decision Notice dated 8 July 2008.

Question 1(c): The known site levels at the time of the application

176. The levels on the approved bulk earthworks plans associated with the reconfiguring a lot application indicate the site levels ranged from RL15.3m AHD to RL19m AHD.

Question 1(d): What assessment process was followed specific to flood impacts and stormwater run-off impacts

177. In accordance with ICC's standard development application assessment process, as detailed in the statement of Ms Joanne Pocock dated 7 October 2011, the issues of flood and stormwater run-off impacts were referred to the Council's Development Engineer for assessment.

178. On 25 May 2007 ICC issued an Information Request to the applicant seeking, among other matters, additional information as to Earthworks, Flooding and Stormwater Quality and Quantity issues. The specific matters raised by the Council Information Request were:

Council's Information Request

179. Earthworks

The Applicant is requested to provide details of the proposed earthworks for the subject property including cut/fill depths, batter slopes, retaining walls, typical cross section (particularly where adjoining roads) etc.

The Applicant shall note the following:

- (i) fill shall not exceed a maximum height of 2.0 metres;
- (ii) retaining walls shall not exceed a maximum height of 1.2 metres with 1 : 4 batters from the top and toe of the wall, unless it can be demonstrated to the Council's Senior Development Engineer's reasonable satisfaction that a greater height is acceptable; and
- (iii) there shall be no fill under the 1:20 development line.

180. Flooding

- (a) The flood investigation report prepared by Cardno Lawson Treloar dated March 2007 appears to not adequately address the impact on flood levels by the proposed development. The Applicant is requested to submit a subsequent flood investigation report which addresses the following:
- (i) calibration for the hydrologic model WBNM and justification of the model's design flow results;
 - (ii) the hydrologic modelling 'pre-development' or existing scenario assumed that the entire external catchments are fully developed, however this is not the case. The Applicant is requested to identify the effect up to the time the entire external catchment is fully developed; and
 - (iii) the flooding investigation report has indicated that there is no impact on the flood levels for surrounding properties, however there are concerns that this information is not accurate considering the significant amount of fill proposed on the site without any compensatory earth works. The proposed filling is expected to reduce the conveyance of the river and is expected to have significant afflux to the Bremer River only flood as well as Brisbane River flood by back water. There are existing properties located on the northern side of the Bremer River opposite the subject site, which are affected by the regional Q20 floods. The Applicant is requested to provide detailed justification of the findings of the flood investigation report.
- (b) The Applicant is also requested to demonstrate that the proposed fill does not compromise the existing flood immunity of the Warrego Highway.

181. Stormwater Quality and Quantity

- (a) It is understood, further to discussions held between [REDACTED] of Walker Corporation, the Healthy Waterways Partnership and Ipswich City Council with respect to the development of the Memorandum of Understanding (MOU), it was agreed in principle that a professional review of stormwater treatment reports is to be undertaken at the expense of the Partnership. The Applicant is requested to

confirm that the relevant reports have been sent to the Partnership for review. A copy of the response is requested to be lodged prior to the decision making period.

- (b) The Applicant is requested to provide a schedule which outlines the implementation timing of the regional water quality treatment measures associated with each stage as conceptually outlined in the Stormwater Management Strategy Overall Site Master Plan.
- (c) The Applicant is requested to provide an individual stage detailed stormwater management plan in accordance with the Stormwater Management Strategy Overall Site Master Plan. The plan shall address the following:
 - (i) treatment of both public and private land with separate treatment trains for each use;
 - (ii) detailed design options which clarify the extent of treatment required (e.g. size of bioretention cells) relative to each industrial site; and
 - (iii) a range of options consistent with the Fact Sheet 3: WSUD in Industrial Areas (Healthy Waterways 2007).

Note: Sufficient detail should be provided so that further stormwater plans are not required for individual industrial lots unless the future Applicants of those lots wish to depart from the strategy outlined. This requirement should be outlined in the report.

A copy of the MUSIC sqz. file is requested for ease of assessment for both the Stormwater Management Strategy Overall Site Master Plan and for each of the stage-based reports.

182. Buffering to Warrego Highway

- (a) The Applicant is requested to demonstrate (via Building Location Envelopes) the developable portion of the lots adjacent to the Warrego Highway taking into account setbacks and landscape buffers from the highway and the internal road.
- (b) The Applicant is requested to provide a cross section of the Warrego Highway, the landscape buffer, the lots and the internal road.

183. As the application involved three or more concurrence agencies, it also required "referral coordination" by the former Department of Local Government and Planning (DLGP) in accordance with the IPA. As a result an Information Request was collated by the former DLGP and issued to the applicant on 13 July 2007. This request included the additional information sought by ICC.
184. By letter dated 2 August 2007 the applicant (by its consultants) responded to the Information Request. This response included updated information as to the flooding and stormwater quality and quantity issues, and included a Cardno Bremer Business Park - Stage 1 Stormwater Management Strategy to Support ROL Development Application dated August 2007.
185. By Memorandum dated 21 April 2008 I, as the Acting Assistant Development Manager - Planning provided the Acting Development Manager with a Code Assessment report in relation to the application, informed by an ICC Engineering Assessment which assessed the application against the Ipswich Planning Scheme 2006. This memorandum included the completed ICC assessment checklist - code assessable development for the application.
186. On 22 April 2008 Council approved the application subject to Stormwater Quantity and Erosion and Silt Management conditions. Subsequently, on 8 July 2008 Council approved a negotiated decision notice for the application, but the original conditions for the Stormwater Quantity and Erosion and Silt Management remained unchanged.

Question 2: Known Q100 and Q20 flood levels of surrounding, upstream, downstream and opposite properties:

- (a) **at around the time of the development application;**
 - (b) **at the present day.**
187. The known flood levels of surrounding properties, located upstream, downstream or on the opposite side of the Bremer River to the Citiswich site, by reference to the Council's flood regulation levels, both at around the time of this application and as at today are:
- (a) 1 in 20 development line: 13.3m AHD
 - (b) 1 in 100 flood line: 16.2m AHD.

Question 3: What consideration was given to:

- (a) **proximity of the Citiswich site to the Bremer River;**
- (b) **the site's flood risk or the potential impact of flooding on the proposed use;**

- (c) **the frequency of past flooding at the site and surrounding properties, including Karalee;**
 - (d) **the potential for surrounding, upstream, downstream or opposite properties to be at greater risk of flooding due to:'**
 - (i) **land filling or excavation at Citiswich;**
 - (ii) **the impact of any stormwater or overland flow management facilities servicing Citiswich.**
- (a) **Proximity of the site to the Bremer River**
188. Consideration was given to the site's proximity to the Bremer River as detailed in the flooding and stormwater management reports obtained in connection with the application. Following consideration of these reports, conditions were imposed in relation to stormwater quantity and erosion and silt management so as to ensure no adverse impact from the proposed development on the Bremer River.
- (b) **The site's flood risk or the potential impact of floods on the proposed use**
189. Consideration was given to the site's flood risk or the potential impact of flooding on the proposed use. It was proposed by the applicant that lots would be filled where applicable to achieve immunity above the 1 in 100 flood line. Notwithstanding this proposal the issue of fill was assessed and approved as part of a subsequent operational works application for this site.
- (c) **The frequency of past flooding at the site and surrounding properties including Karalee**
190. It is my understanding that the frequency with which flooding has occurred at this site in the past was a policy consideration in the formulation of the 1 in 100 flood line. This flood line, as it relates to the site, was applied in considering the application. Historical river heights in relation to the site and surrounding properties, including at the suburb of Karalee, were not obtained for the purpose of considering the application, the relevant policy consideration for those purposes being the location of the 1 in 100 flood line.
- (d) **The potential for surrounding, upstream, downstream or opposite properties to be at greater risk of flooding due to:**
- (i) **land filling or excavation at Citiswich**
 - (ii) **the impact of any stormwater or overland flow management facilities servicing Citiswich.**

191. Although as a reconfiguration of a lot application this application did not actually approve any earthworks (this was the subject of subsequent operational works applications), reporting was submitted to Council in support of undertaking earthworks and stormwater works to achieve flood immunity for lots from the 1 in 100 flood event and from stormwater run-off from proposed development. The expert reporting detailed that the proposed works would not have any flooding impact outside of the site.

- Question 4:**
- (a) Was the application assessed against the earthworks code contained within the Ipswich Planning Scheme and if so, how;**
 - (b) Were any measures proposed to mitigate the potential for flooding at the Citiswich site and, if so, briefly describe these measures;**
 - (c) What expert reports were obtained or received by Council for the purpose of assessing the potential impact of flooding at the Citiswich site and on surrounding properties, how did Council assess the adequacy of these reports and what reliance was placed on them;**
 - (d) Did Council seek additional information from the applicant about the potential flood and/or stormwater run-off impacts of the proposed development;**
 - (e) What conditions were imposed on the development to address the impacts of flooding**

- (a) Was the application assessed against the earthworks code**

192. The engineering report obtained in relation to the application does not identify that the application was assessed against the earthworks code. I understand this is because the actual earthworks in relation to this site were the subject of a subsequent application.

- (b) Were any measures proposed to mitigate the potential for flooding at the Citiswich site and, if so, briefly describe these measures**

193. It was proposed by the applicant that lots would be filled where applicable to achieve immunity above the 1 in 100 flood line. Notwithstanding this proposal, the fill was actually approved as part of subsequent operational works applications. In addition, stormwater management reports detailed measures to be imposed to ensure that there were no impacts outside of the site as a result of the proposed development.

- (c) **What expert reports were obtained or received by Council for the purpose of assessing the potential impact of flooding at the Citiswich site and on surrounding properties, how did Council assess the adequacy of these reports and what reliance was placed on them**

194. Council obtained or received the following expert reports:

- (a) "Bremer Business Park Masterplan – Flooding Investigation", dated March 2007 and prepared by Cardno Lawson Treloar.
- (i) This report was prepared on behalf of the applicant and formed part of the initial application made to Council.
- (ii) This report provided details on a masterplan flood assessment for the proposed Bremer Business Park in support of the overall proposed development. It was proposed to fill some lots to achieve ARI 100 year flood immunity during a major river flood event. It was proposed to maintain existing natural gullies on site and provide any appropriate detention and stabilisation works to ensure no adverse impacts occur.
- (iii) This report concludes the influence of filling in the floodplain will have no adverse flood impacts external to the site and will not increase peak flows into the Bremer River.
- (b) "Bremer Business Park –Stage 1 – Stormwater Management Strategy to Support RAL Development Application", dated August 2007 and prepared by Cardno Lawson Treloar.
- (i) This report was prepared on behalf of the applicant and formed part of the applicant's response to Council's information request.
- (ii) This report provided details on a stormwater management strategy , including local flooding for Stage 1 for the Bremer Business Park. This report refines the assessment of the above report and provides additional details for the proposed stormwater management requirements specifically relating to Stage 1.
- (iii) The report details that this report is the first instalment of the planned stage by stage reports for the site and as the site development progresses, it is planned that individual stage by stage (or series of stages combined) reports will be prepared as part of the detailed design to support subsequent applications.

- (iv) This report concludes the local hydraulic and hydrologic assessment has indicated that within the western tributary the proposed Stage 1 development will cause a minor increase in the predicted peak flows. This predicted increase in flows causes an increase in the flood levels within the tributary. These increases are within the site and below the proposed fill level for the development pad.

195. These reports were provided by the applicant firstly in support of the application (March 2007 report) and subsequently in response to issues raised by Council and the former DLGP in the Information Requests issued to the applicant (August 2007 report). Council relied on the content of these reports as part of its assessment of the application and consideration of conditions to be imposed in relation to the application. A detailed review of the reports was undertaken by the Council's development engineer and it is as a result of this review that conditions were formulated for the purposes of the Council's decision notice.

196. The expert reports were provided by Cardno Lawson Treloar, who are experienced and reputable consultants. To the best of my knowledge the report is authored, reviewed and approved by RPEQ's who are suitably qualified and experienced. However, I defer to the knowledge and experience of the Council's Development Engineers as to how Council assess the adequacy of the expert reports.

(d) Did Council seek additional information from the applicant about the potential flood and/or stormwater run-off impacts of the proposed development

197. Council did seek additional information from the applicant about the potential flood and stormwater run-off impacts of the proposed development, as detailed in my response to question 1(d) above.

(e) What conditions were imposed on the development to address the impacts of flooding

198. The following conditions were imposed on the development to address the impacts of stormwater quantity and erosion & silt management:

Conditions from Council's Decision Notice

199. Plan of Survey

- (a) Easements required for discharge of stormwater over adjacent land shall be agreed to in writing by the owner of the subject land prior to construction work commencing.

- (b) Easements shall be centrally located over the alignment of stormwater paths and be of a width sufficient to encompass the overland flow from a storm event with an ARI of 100 years.
- (c) Easements shall be of sufficient width to contain any fitting, access chamber etc located on stormwater drains, water mains, and sewerage rising mains.
- (d) Land required for detention basins or equivalent are to be dedicated as drainage reserve in favour of Council and not included within parkland dedication unless approved as parkland by Council.

200. Stormwater Quantity

- (a) The developer shall provide all necessary stormwater drainage (both internal and external to the development) and such drainage works (except for roofwater systems) shall be designed and constructed in accordance with QUDM such that the overall drainage system caters for a storm event with an ARI of 100 years.

Overland flow paths shall be suitably designed to cater for the water from a storm event with an ARI of 100 years. In the case where the piped system is carrying part of the flow, the overland flow paths shall be designed to cater for that volume which is represented by the difference between the predicted volume from the storm event with an ARI of 100 years and the capacity of the pipe system, noting the requirements of QUDM.

- (b) All stormwater flows within and adjacent to the Citiswich Area, other than inter-allotment drainage, shall be confined to dedicated roads, drainage reserves, registered drainage easements or within parkland. The registered drainage easements, if related to piped drainage, shall be centrally located over such underground pipe system and shall be not less than 4.0 m wide, except for drainage easements required for side boundaries which may be 3.0 m wide where approved by the Senior Development Engineer. In addition, the easements shall be of suitable width to contain the predicted overland flow from the storm event with an ARI of 100 years in that location.
- (c) No ponding, concentration or redirection of stormwater shall occur onto adjoining land unless specifically approved by Council in consultation with the owner of the adjoining land.

- (d) Due consideration shall be given in these and future designs and construction of the development in relation to the effect of the developed catchment flows on the downstream discharge receival areas. Suitable stormwater control devices are to be provided to ensure that there is no increase in flows in watercourses. Such control devices are to be designed so as to integrate the landscaping, recreational, infrastructural and drainage roles of watercourses. Notably the development shall limit the post-development peak one-year Average Recurrence Interval (ARI) event discharge to the receiving waterway to the pre-development peak one-year ARI discharge. Analysis of pre-development catchment hydrology shall assume current level of development rather than fully developed upstream catchment.
- (e) There shall be no filling or removal of material in the flood area below the development flood line associated with an ARI of 20 years. There shall be minimal disturbance to vegetation in the flood area, unless prior written approval is obtained from Council.
- (f) Filling in proposed Lots, which are adjacent to the watercourse shown on the proposal plan, shall not be undertaken without the written approval of Council.
- (g) A suitable roofwater system shall be designed in accordance with QUDM, for allotments that do not have adequate fall from within the allotment to the design invert level of the kerb and channel or access to lawful discharge point. The design is to be to a minimum Level V in QUDM.

201. Erosion & Silt Management

- (a) The Developer shall prepare an Erosion and Sediment Control Plan (ESCP). The ESCP is to incorporate detailed drawings and a management plan which are to be continually revised subject to Council instruction, site conditions and different development stages particularly during the earthworks stage. Where any amendments are required further approval shall be received from Council. The Developer shall be responsible for the installation and maintenance of silt management facilities from the time of commencement of construction until the development has been released "Off Maintenance". All silt management facilities are to be in accordance with the document "Soil Erosion and Sediment Control" published by the Institution of Engineers Australia, or equivalent.

- (b) A completed copy of the Brisbane City Council Erosion Hazard Assessment Checklist shall be submitted and used as the basis for determining appropriate erosion and sediment control measures.
- (c) The design of sediment basins shall be in accordance with the current version of the Brisbane City Council Sediment Basin Design Construction and Maintenance Guidelines. The Developer shall lodge the detailed calculations as required by steps 1-16 of Section 2 - *Design Procedure* along with detailed drawings.
- (d) A Water Quality Testing strategy including the testing of baseline shall be undertaken as part of the ESCP.
- (e) The ESCP shall be a flexible document which is designed to adapt to the staging of construction works.
- (f) Suitable permanent stabilisation works will be required at stormwater outlets, above and below the culvert. Dumped rock will need to be pocket planted and a layer of geofabric laid below the rocks.
- (g) Particular attention should be paid to batters around culverts and stormwater outlets with the aim to minimise to the greatest possible extent the slope of adjacent batters.
- (h) All lots shall be 90% grassed prior to civil works being accepted off-maintenance and prior to signing the plan of survey.
- (i) Silt traps shall be sited upstream from any park or reserve area discharge point preferably on land comprising future allotments, such that no silt impinges on the park or reserve areas. The silt trap areas may be phased out after the development work is complete and adequate grass cover is obtained.
- (j) Diversion drains and ponds, as necessary, shall be installed on the site before any other work is undertaken on site to ensure that "dirty water" is contained and/or isolated.
- (k) A procedure shall be submitted with the engineering drawings for approval for maintaining the facilities, setting out the frequency of attention, with inspections to be made after each significant rainfall event.

- (l) Council reserves the right to enter the site for the purpose of rectifying any silt management facilities which it deems to be inadequate, improperly maintained or not operating in a satisfactory manner.
- (m) The Developer shall lodge a \$10, 000 siltation and erosion performance bond with Council, prior to the commencement of works, which shall only be released by Council at the termination of the maintenance period. Where Council determines that a draw-down of the bond is required, the Developer shall restore the bond to its full amount within 10 days of a notice from Council to that effect. Such bond shall guarantee adequate performance in the circumstances (i) and (ii) below:
- (i) In the event that instructions issued to the Consulting Engineer by the Senior Development Engineer for the installation of erosion control measures, are not complied with within 24 hours, Council will call upon the bond to the extent required to carry out the necessary works.
- (ii) If the Senior Development Engineer determines that silt damage has occurred on the site, or the downstream drainage system has become silted, the Developer shall be responsible for restoration. Such restoration shall be completed in the time determined by the Senior Development Engineer.
- Should the Developer fail to complete the works determined by the Senior Development Engineer within the specified time, Council shall complete the work and recover all costs from the Developer associated with that work.

Application 9411 of 08

Application overview

202. I have provided an overview of this application at paragraph 71 of my statement. The application was lodged on 18 December 2008 and approved on 30 January 2009. The application was for a material change of use (development permit) for a service trades use (warehouse) and associated operational works (development permit) for stormwater, drainage works, earthworks, car park and landscaping. The total building area for the development is approximately 19,000m². The development is known as "Australian Pharmaceutical Industries (API) and is located within a part of an area known as Stage 1C of the Citiswiche site.

203. Attached to my statement are copies of the following documents in relation to this application:
- NP-55:** Martin Cosgrove & Associates Stormwater Management Report dated 17 December 2008;
- NP-56:** Assessment Manager Acknowledgement Notice dated 23 December 2008;
- NP-57:** Letter Walker Corporation Pty Ltd to ICC dated 20 January 2009;
- NP-58:** Martin Cosgrove & Associates Pty Ltd Stormwater Management Report dated 19 January 2009;
- NP-59:** Memorandum from Engineering & Environment Manager dated 22 January 2009 and attached engineering conditions dated 23 January 2009;
- NP-60:** Memorandum assistant planner (development) to Development Team Coordinator dated 28 January 2009;
- NP-61:** ICC Assessment Checklist – code assessable development dated 30 January 2009;
- NP-62:** ICC Decision Notice dated 30 January 2009.

Question 1c: The known site levels at the time of the application

204. Council's records indicate that RL's for this site range from approximately RL16.90m AHD to approximately RL17.50m AHD.

Question 1d: Did Council seek additional information from the applicant about the potential flood and/or stormwater run-off impacts of the proposed development.

205. As previously discussed, Council's development engineers were responsible for the assessment of such matters as flood impacts and stormwater run-off.
206. Following receipt of the application, a non-statutory information request was made by Council on 16 January 2009 requesting further information with respect to:
- cross sections of proposed earthworks; and
 - detailed hydraulic calculations that support the applicant's stormwater design drawings. Council requested that the design and calculations be adjusted to allow for 300mm of extended detention and not 400mm.
207. The applicant responded to the information request on 20 January 2009 and included as part of its response a revised Stormwater Management Report dated 19 January 2009.

208. On 28 January 2009, a report was prepared by the assistant planner (development) for the development team coordinator in relation to the proposal, informed by an engineering assessment report dated 22 January 2009 which assessed the application against the Ipswich Planning Scheme 2006 and related engineering conditions.
209. On 30 January 2009, Council approved the application subject to stormwater and erosion and silt management conditions and required that development occur in accordance with the proposed earthworks plans and stormwater management report.

Question 2: The known Q100 and Q20 flood levels

210. The known flood levels of surrounding properties, located upstream, downstream or on the opposite side of the Bremer River to the Citiswich site, by reference to the Council's flood regulation levels both at around the time of this application and as at today are:
- (a) 1 in 20 development line: 13.3m AHD;
 - (b) 1 in 100 flood line: 16.2m AHD.

Question 3: What consideration was given to:

- (a) proximity of the Citiswich site to the Bremer River;
 - (b) the site's flood risk or the potential impact of flooding on the proposed use;
 - (c) the frequency of past flooding at the site and surrounding properties, including Karalee;
 - (d) the potential for surrounding, upstream, downstream or opposite properties to be at greater risk of flooding due to:
 - (i) land filling or excavation at Citiswich;
 - (ii) the impact of any stormwater or overland flow management facilities servicing Citiswich.
- (a) Proximity of the site to the Bremer River
211. As part of the assessment of this application, no significant consideration was given to the site's proximity to the Bremer River, as the site was located above the 1 in 100 flood line and was not considered to be at risk of impacts from flooding. Standard conditions were imposed with respect to stormwater and sediment and erosion control to ensure no adverse impacts on the river.

(b) The site's flood risk or the potential impact of floods on the proposed use

212. As part of this assessment, no significant consideration was given to the site's flood risk or the potential impact of flooding on the proposed use on the basis that the lot was located above the 1 in 100 flood line and was not considered to be at risk of impacts from flooding. Standard conditions were imposed in respect to stormwater and sediment and erosion control to ensure no adverse impacts on the river.

(c) The frequency of past flooding at the site and surrounding properties including Karalee

213. As previously discussed, historical river heights in relation to the site and surrounding properties, including the suburb of Karalee, were not obtained for the purpose of considering the application, the relevant policy consideration for those purposes being the location of the 1 in 100 flood line and the lot the subject of the application being located above that flood line.

(d) The potential for surrounding, upstream, downstream or opposite properties to be at greater risk of flooding due to

214. The proposal only involved limited earthworks in the nature of excavation, associated with levelling the site. These earthworks were not considered to have any adverse impacts on the site, surrounding properties, located upstream, downstream or on the opposite side of the Bremer River. In addition, conditions were imposed in respect to stormwater so as to ensure no such adverse impacts.

Question 4:

- (a) Was the application assessed against the earthworks code contained within the Ipswich Planning Scheme and if so, how;**
- (b) Were any measures proposed to mitigate the potential for flooding at the Citiswichee site and, if so, briefly describe these measures;**
- (c) What expert reports were obtained or received by Council for the purpose of assessing the potential impact of flooding at the Citiswichee site and on surrounding properties, how did Council assess the adequacy of these reports and what reliance was placed on them;**
- (d) Did Council seek additional information from the applicant about the potential flood and/or stormwater run-off impacts of the proposed development;**
- (e) What conditions were imposed on the development to address the impacts of flooding.**

(a) **Was the application assessed against the earthworks code**

215. The engineering report in relation to this application does not specifically identify that the application was assessed against the earthworks code. However I understand proposed earthworks were above the 1 in 100 flood line, of a minor nature formalising finished floor levels and unlikely to have any flooding impact.

(b) **Were any measures proposed to mitigate the potential for flooding at the Citiswich site and, if so, briefly describe these measures**

216. As mentioned previously the site was located above the 1 in 100 flood line and accordingly flooding was not considered an issue for the assessment of this application. Conditions were imposed in respect to stormwater for the proposed development.

(c) **What expert reports were obtained or received by Council for the purpose of assessing the potential impact of flooding at the Citiswich site and on surrounding properties, how did Council assess the adequacy of these reports and what reliance was placed on them**

Council obtained or received the following expert reports:

(a) "Stormwater Management Report for Proposed Warehouse/Office Development Lot 23 Ashburn Road, Bremer", dated 17 December 2008 and prepared by Martin Cosgrove and Associates Pty Ltd Consulting Structural and Civil Engineers.

- This report was prepared on behalf of the applicant and formed part of the initial application made to Council.
- This report provided details on stormwater management (for both quality and quantity) for the site to ensure that post-development flows are at or below pre-development flows.
- This report concludes the development including proposed stormwater measures will result in a net reduction in stormwater flows off the site.

(b) "Stormwater Management Report for Proposed Warehouse/Office Development Lot 23 Ashburn Road, Bremer", dated 19 January 2009 and prepared by Martin Cosgrove and Associates Pty Ltd Consulting Structural and Civil Engineers.

- This report was prepared on behalf of the applicant and formed part of the applicant's response to Council's non-statutory information request.
- This report provided details on stormwater management (for both quality and quantity) for the site to ensure that post-development flows are at or below pre-development flows.

- This report concludes the development including proposed stormwater measures will result in a net reduction in stormwater flows off the site.

217. As previously discussed, Council relied on the content of these reports as part of its assessment of the application and consideration of conditions to be imposed in relation to the application. The reports were reviewed by Council's development engineers, and I defer to the knowledge and expertise of the Council's development engineers as to Council's assessment of the adequacy of the expert reports.

(d) Did Council seek additional information from the applicant about the potential flood and/or stormwater run-off impacts of the proposed development

218. As noted in my response to question 1(d) above, Council sought a revised stormwater management plan and earthworks cross sections from the applicant to ensure an adequate assessment could be undertaken in relation to stormwater management issues in accordance with the requirements of the Ipswich Planning Scheme 2006.

(e) What conditions were imposed on the development to address the impacts of flooding

219. Conditions were imposed with respect to stormwater as outlined below:

Stormwater Quantity

- (a) Stormwater quantity management shall be undertaken generally in accordance with the Stormwater Management Plan dated 17 December 2008 and prepared by Martin Cosgrove and Associates Pty Ltd subject to conditions of this approval.
- (b) The Developer shall provide an allotment drainage system designed in accordance with QUDM 2007. The drainage system shall be minimum level IV in QUDM .
- (c) No ponding, concentration or redirection of stormwater shall occur onto adjoining land unless specifically approved by Council in consultation with the owner of the adjoining land.

Application No. 7606/10

Application overview

220. I have provided an overview of this application at paragraphs 132 and 133 of this statement. The application was lodged on 9 November 2010 and approved on 25 May 2011.



221. The application proposed to establish an 8 tenancy building, including both industrial and commercial tenancies over part of the area known as Stage 1C in the Citiswich development. As at the time of my statement, the proposed use has not yet been commenced.
222. This application was determined subsequent to the January 2011 flood event but prior to the Ipswich Temporary Local Planning Instrument coming into effect.
223. Attached to my statement are copies of the following documents in relation to this application:
- NP-63:** Martin Cosgrove & Associates stormwater management plan dated 25 October 2010
- NP-64:** ICC Information request dated 23 November 2010
- NP-65:** Walker Corporation Pty Ltd response to information request dated 8 March 2011
- NP-66:** Martin Cosgrove & Associates stormwater management report dated 3 March 2011
- NP-67:** Memorandum senior engineering officer dated 4 May 2011
- NP-68:** Memorandum senior planner to team coordinator dated 20 May 2011
- NP-69:** ICC assessment checklist – code assessable development
- NP-70:** Letter ICC to Walker corporation dated 8 September 2011 – updated decision notice and conditions.

Question 1c: The known site levels at the time of the application

224. Council's records indicate that RL's for the site range from approximately RL16.30m AHD to approximately RL16.70m AHD.

Question 1d: Did Council seek additional information from the applicant about the potential flood and/or stormwater run-off impacts of the proposed development

225. The development application assessment process in relation to this application was as previously described in my statement. The Council development engineers were responsible for the assessment of such matters as flood impacts and stormwater run off.
226. An information request was made by Council on 23 November 2010 requesting further information in relation to stormwater quality. This request sought the following information:
227. Council's Information Request dated 23 November 2010 - Stormwater Quantity
- (a) The Stormwater Management Plan (SMP) submitted (prepared by Martin Cosgrove and Associates Pty Ltd and dated 25 October 2010) includes a stormwater quantity analysis for a 1 in 50 year Average Recurrence Interval (ARI) stormwater event and

an extended detention depth of 0.6m over the bio retention basin filter media for on-site detention purposes. The applicant is requested to submit an amended SMP prepared by an RPEQ with a stormwater quantity analysis for a stormwater event with an ARI of up to 1 in 100 years pursuant to the Queensland Urban Drainage Manual 2007 (QUDM) and Council's Planning Scheme Policy 3 – General Works. The extended detention depth for the bio retention basin is to be 0.3m for optimum plant health and the proposed detention storage is requested to be amended.

- (b) The stormwater discharge from the proposed development must be maintained at pre-development flows for a stormwater event with an ARI of up to 1 in 100 years. The applicant should identify the proposed method of stormwater detention and clearly identify any stormwater detention structures on the development plan. The applicant is requested to demonstrate that there is sufficient area of land available within the development to provide for the on-site detention system.

228. The applicant responded to the information request on 8 March 2001 with a revised stormwater management report from the applicant's consultant engineers.

229. On 20 May 2011 the senior planner prepared a report informed by an engineering assessment report dated 4 May 2011 which assessed the application against the Ipswich Planning Scheme 2006.

230. On 25 May 2011, Council approved the application subject to the following flooding, stormwater and erosion and silt management conditions:

231. Council's Decision Notice dated 25 May 2011– Flooding, Stormwater Quantity and Erosion and Silt Management

Flooding

- (a) Expensive plant and equipment and stock must be located in the area of the site or building with the greatest flood immunity. The developer is to undertake a risk assessment to determine the floor level which maximises flood immunity having regard to this.
- (b) The building materials and surface treatments used below RL 21m AHD are to be resistant to water damage and must not include wall cavities that may be susceptible to the intrusion of water and sediment. Flood resistant materials such as core filled concrete block are to be used as alternatives to materials such as plasterboard or particle board to minimise replacement/repair and provide for ease of cleaning in the event of a flood.
- (c) Electrical installations must be sited in the area of greatest flood immunity.

- (d) Electrical switchboards, main data servers and the like must be positioned above RL 21m AHD with all electrical and data installations below this level designed and constructed to withstand submergence in flood water.
- (e) Access routes must be designed or alternative emergency evacuation routes provided so that in a flood event occupants can escape to a safe and secure area.
- (f) All buildings must be designed to be capable of withstanding the static and dynamic loads, including debris loads, applicable to a flood event equivalent to the RL 21m AHD.
- (g) Materials stored on site must -
 - (i) be limited to those that are readily able to be moved in a flood event;
 - (ii) not be hazardous or noxious, or comprise materials that may cause a deleterious effect on the environment if discharged in a flood event; and
 - (iii) where capable of creating a safety hazard by being shifted by flood waters, be contained in order to minimise movement in times of flood.
- (h) The development is not permitted to increase the flood hazard (e.g. by way of increased depth, duration or velocity of flood waters or a reduction in warning times) for other properties.

Stormwater Quantity

- (a) The developer must provide all necessary internal and external stormwater drainage to service the development. Such drainage works (except for building gutters and downpipes) must be designed and constructed in accordance with QUDM such that the overall drainage system caters for a storm event with an ARI of 100 years.
- (b) No ponding, concentration or redirection of stormwater may occur onto adjoining land unless specifically approved by Council in consultation with the owner of the adjoining land.
- (c) All stormwater runoff from the development must be discharged in a manner and to a point to be approved by the assessment manager. In this instance, stormwater

discharge from all impervious areas must be directed to the existing stormwater infrastructure in Hawkins Crescent.

- (d) The developer must provide a stormwater detention basin/s (or equivalent) on the subject land, which must be designed and constructed in accordance with QUDM 2007. The detention basin (or equivalent) must be constructed to ensure that flows at any point downstream in the catchment are not increased by the development for any combination of frequency and duration from the storm event with an ARI of one (1) year up to and including the storm event with an ARI of 100 years.
- (e) An amended stormwater management plan must be submitted for approval at the operational works stage demonstrating compliance with subsection (d) above.
- (f) Stormwater drainage plans and calculations must be submitted for approval by the assessment manager, as part of the operational works application.

Erosion & Silt Management

- (a) As part of the application for operational works, the developer must submit an Erosion and Silt Management Plan designed in accordance with 'Best Practice Erosion and Sediment Control' published by the International Erosion Control Association (Australasia) November 2008, or equivalent.
- (b) The developer must install silt management facilities at the commencement of construction and maintain these facilities until the development has been completed.
- (c) Diversion drains and ponds, as necessary, must be installed on the site before any other work is undertaken on site to ensure that water containing silt, clay, solids or contaminants is contained and/or isolated.
- (d) A procedure must be submitted with the engineering drawings for approval for maintaining the facilities, setting out the frequency of attention, with inspections to be made after each significant rainfall event.
- (e) If the assessment manager determines that silt damage has occurred as a result of this development, the developer shall be responsible for restoration of any damage. Such restoration must be completed within a time to be advised by the assessment manager. Should the developer fail to complete the works determined by the assessment manager within the specified time, Council may elect to complete the works and recover all costs associated with that work from the developer.

- (f) For this purpose, the developer must lodge a \$10,000 performance bond with Council, prior to the commencement of work, which shall only be released by Council at the completion of construction. Where Council determines that a draw-down of the bond is required, the developer must restore the bond to its full amount within 10 days of a notice from Council to that effect.
232. On 8 September 2011 Council approved a minor alteration to the decision notice to amend the flooding condition as follows:
- (a) The building materials and surface treatments used below RL 21m AHD are to be resistant to water damage and must not include wall cavities that may be susceptible to the intrusion of water and sediment. Flood resistant materials such as core filled concrete block **or pre-cast concrete** are to be used as alternatives to materials such as plasterboard or particle board to minimise replacement/repair and provide for ease of cleaning in the event of a flood.
- (b) Electrical switchboards, main data servers and the like must be positioned above RL 21m AHD ~~with all electrical and data installations below this level designed and constructed to withstand submergence in flood water~~, however, where circumstances prevent compliance with a height above RL 21m AHD, the height is to be to the satisfaction of the assessment manager. All electrical and data installations below RL 21m AHD are to be accompanied by a sign with minimum dimensions of 300mm x 300mm containing the following wording:
- (c) The following actions should be undertaken in the event of a flood:
- Switch off electrical installations and equipment.
 - Do not operate equipment which is in water or whilst standing in water.
 - Keep away from any live equipment submerged in water.
 - Have any installations or electrical equipment which has been flood damaged checked by an approved electrical contractor before being put back into use.
 - Contact the electricity supplier if one has any concerns about the supply from the electricity meter and backwards.

Question 2: The known Q100 and Q20 flood levels

233. The known flood levels of surrounding properties, located upstream, downstream or on the opposite side of the Bremer River to the Citiswich site, by reference to the Council's flood regulation levels, both at around the time of this application and as at today:

- (a) 1 in 20 development line: 13.3m AHD;
- (b) 1 in 100 flood line: 16.2m AHD.

Question 3: What consideration was given to:

- (a) **proximity of the Citiswich site to the Bremer River;**
 - (b) **the site's flood risk or the potential impact of flooding on the proposed use;**
 - (c) **the frequency of past flooding at the site and surrounding properties, including Karalee;**
 - (d) **the potential for surrounding, upstream, downstream or opposite properties to be at greater risk of flooding due to:**
 - (i) **land filling or excavation at Citiswich;**
 - (ii) **the impact of any stormwater or overland flow management facilities servicing Citiswich.**
- (a) **Proximity of the site to the Bremer River**
234. As part of the assessment of this application, and having regard to the determination of the application subsequent to the January 2011, consideration was given to the site's proximity to the Bremer River notwithstanding the site was located outside of the 1 in 100 flood line. Reasonable and relevant conditions were imposed in respect of flooding, stormwater and erosion and silt management. The flooding condition imposed requirements in relation to:
- (a) location of plant, equipment and stock;
 - (b) floor levels to maximise flood immunity;
 - (c) location of electrical installations, switchboards, main data servers and the like;
 - (d) emergency evacuation routes;
 - (e) design of buildings;
 - (f) materials stored on site;

- (g) development not increasing flood hazard for other properties.
- (b) **The site's flood risk or the potential impact of floods on the proposed use**
235. Consideration was given to the site's flood risk or the potential impact of flooding on the proposed use, as detailed in my response to question 3(a) above.
- (c) **The frequency of past flooding at the site and surrounding properties including Karalee**
236. Historical river heights in relation to the site and surrounding properties, including at the suburb of Karalee, were not obtained for the purpose of considering the application, the relevant policy consideration for those purposes being the location of the 1 in 100 flood line. At the time of determination of this application, the Ipswich TLPI had not taken effect.
- (d) **The potential for surrounding upstream/downstream properties etc**
237. The proposed development only involved limited cut to fill earthworks located above the 1 in 100 flood level and associated with levelling the site to enable a finished floor level of 16.55m AHD and was not considered to have any adverse impacts on the site, surrounding properties located upstream, downstream or on the opposite side of the Bremer River. Conditions were imposed in respect to stormwater and flooding so as to ensure no such adverse impacts.

Question 4:

- (a) **Was the application assessed against the earthworks code contained within the Ipswich Planning Scheme and if so, how;**
- (b) **Were any measures proposed to mitigate the potential for flooding at the Citiswiche site and, if so, briefly describe these measures;**
- (c) **What expert reports were obtained or received by Council for the purpose of assessing the potential impact of flooding at the Citiswiche site and on surrounding properties, how did Council assess the adequacy of these reports and what reliance was placed on them;**
- (d) **Did Council seek additional information from the applicant about the potential flood and/or stormwater run-off impacts of the proposed development;**
- (e) **What conditions were imposed on the development to address the impacts of flooding.**
- (a) **Was the application assessed against the earthworks code**
238. The Council engineering report specifies that the application was assessed against the Ipswich Planning Scheme Part 12, Div 15 – Earthworks Code (including lot filling).

(b) **Were any measures proposed to mitigate the potential for flooding**

239. As detailed in my response to question 3(a) above, measures were proposed to mitigate the potential for flooding at the site.

(c) **In relation to expert reports**

240. Council obtained or received the following expert reports:

(a) "Stormwater Management Report for Proposed Warehouse/Office Development Lot 18 Ashburn Road, Bremer", dated 25 October 2010 and prepared by Martin Cosgrove and Associates Pty Ltd Consulting Structural and Civil Engineers.

- This report was prepared on behalf of the applicant and formed part of the initial application made to Council.
- This report provided details on stormwater management (for both quality and quantity) for the site to ensure that post-development flows are at or below pre-development flows.
- This report concludes the development including proposed stormwater measures will result in a net reduction in stormwater flows off the site.

(b) "Stormwater Management Report for Proposed Warehouse/Office Development Lot 18 Ashburn Road, Bremer", dated 3 March 2011 and prepared by Martin Cosgrove and Associates Pty Ltd Consulting Structural and Civil Engineers.

- This report was prepared on behalf of the applicant and formed part of the applicant's response to Council's information request.
- This report provided details on stormwater management (for both quality and quantity) for the site to ensure that post-development flows are at or below pre-development flows.
- This report concludes the development including proposed stormwater measures will result in a net reduction in stormwater flows off the site.

241. Council relied on the content of these reports as part of its assessment of the application and consideration of conditions to be imposed in relation to the application. However, I defer to the knowledge and experience of the Council's development engineers as to Council's assessment of the adequacy of the expert reports.

(d) Did Council seek additional information from the applicant

242. As previously discussed, a revised stormwater management plan was sought from the applicant to ensure an adequate assessment could be undertaken in accordance with the requirements of the Ipswich Planning Scheme 2006.

(e) What conditions were imposed on the development to address the impacts of flooding

243. The following conditions were imposed in respect to flooding and stormwater as part of Council's minor alterations to the decision notice dated 8 September 2011:

244. Council's Minor Alteration dated 8 September 2011– Flooding, Stormwater Quantity and Erosion and Silt Management

Flooding

- (a) Expensive plant and equipment and stock must be located in the area of the site or building with the greatest flood immunity. The developer is to undertake a risk assessment to determine the floor level which maximises flood immunity having regard to this.
- (b) The building materials and surface treatments used below RL 21m AHD are to be resistant to water damage and must not include wall cavities that may be susceptible to the intrusion of water and sediment. Flood resistant materials such as core filled concrete block or pre-cast concrete are to be used as alternatives to materials such as plasterboard or particle board to minimise replacement/repair and provide for ease of cleaning in the event of a flood.
- (c) Electrical installations must be sited in the area of greatest flood immunity.
- (d) Electrical switchboards, main data servers and the like must be positioned above RL 21m AHD, however, where circumstances prevent compliance with a height above RL 21m AHD, the height is to be to the satisfaction of the assessment manager. All electrical and data installations below RL 21m AHD are to be accompanied by a sign with minimum dimensions of 300mm x 300mm containing the following wording:
The following actions should be undertaken in the event of a flood:
 - Switch off electrical installations and equipment.
 - Do not operate equipment which is in water or whilst standing in water.
 - Keep away from any live equipment submerged in water.

- Have any installations or electrical equipment which has been flood damaged checked by an approved electrical contractor before being put back into use.
 - Contact the electricity supplier if one has any concerns about the supply from the electricity meter and backwards.
- (e) Access routes must be designed or alternative emergency evacuation routes provided so that in a flood event occupants can escape to a safe and secure area.
- (f) All buildings must be designed to be capable of withstanding the static and dynamic loads, including debris loads, applicable to a flood event equivalent to the RL 21m AHD.
- (g) Materials stored on site must -
- (i) be limited to those that are readily able to be moved in a flood event;
 - (ii) not be hazardous or noxious, or comprise materials that may cause a deleterious effect on the environment if discharged in a flood event; and
 - (iii) where capable of creating a safety hazard by being shifted by flood waters, be contained in order to minimise movement in times of flood.
- (h) The development is not permitted to increase the flood hazard (e.g. by way of increased depth, duration or velocity of flood waters or a reduction in warning times) for other properties.

Stormwater Quantity

- (a) The developer must provide all necessary internal and external stormwater drainage to service the development. Such drainage works (except for building gutters and downpipes) must be designed and constructed in accordance with QUDM such that the overall drainage system caters for a storm event with an ARI of 100 years.
- (b) No ponding, concentration or redirection of stormwater may occur onto adjoining land unless specifically approved by Council in consultation with the owner of the adjoining land.

- (c) All stormwater runoff from the development must be discharged in a manner and to a point to be approved by the assessment manager. In this instance, stormwater discharge from all impervious areas must be directed to the existing stormwater infrastructure in Hawkins Crescent.
- (d) The developer must provide a stormwater detention basin/s (or equivalent) on the subject land, which must be designed and constructed in accordance with QUDM 2007. The detention basin (or equivalent) must be constructed to ensure that flows at any point downstream in the catchment are not increased by the development for any combination of frequency and duration from the storm event with an ARI of one (1) year up to and including the storm event with an ARI of 100 years.
- (e) An amended stormwater management plan must be submitted for approval at the operational works stage demonstrating compliance with subsection (d) above.
- (f) Stormwater drainage plans and calculations must be submitted for approval by the assessment manager, as part of the operational works application.

Erosion & Silt Management

- (a) As part of the application for operational works, the developer must submit an Erosion and Silt Management Plan designed in accordance with 'Best Practice Erosion and Sediment Control' published by the International Erosion Control Association (Australasia) November 2008, or equivalent.
- (b) Developer must install silt management facilities at the commencement of construction and maintain these facilities until the development has been completed.
- (c) Diversion drains and ponds, as necessary, must be installed on the site before any other work is undertaken on site to ensure that water containing silt, clay, solids or contaminants is contained and/or isolated.
- (d) A procedure must be submitted with the engineering drawings for approval for maintaining the facilities, setting out the frequency of attention, with inspections to be made after each significant rainfall event.
- (e) If the assessment manager determines that silt damage has occurred as a result of this development, the developer shall be responsible for restoration of any damage.

Such restoration must be completed within a time to be advised by the assessment manager. Should the developer fail to complete the works determined by the assessment manager within the specified time, Council may elect to complete the works and recover all costs associated with that work from the developer.

For this purpose, the developer must lodge a \$10,000 performance bond with Council, prior to the commencement of work, which shall only be released by Council at the completion of construction. Where Council determines that a draw-down of the bond is required, the developer must restore the bond to its full amount within 10 days of a notice from Council to that effect.

Application 8866/10 Application overview

Application Overview

245. I have provided an overview of this application at paragraphs 136-138 of this statement. The application was lodged on 23 December 2010 and remains in the decision stage.
246. The application seeks a preliminary approval to override the planning scheme over the area of land known as stage 2 of the Citiswich development. The preliminary approval in effect seeks to extend the land under the original Bremer Business Park preliminary approval for Frame industrial purposes into part of the Open Space Sub-Area so as to increase the land for industrial purposes.
247. The subject area sustained some minor inundation in January 2011 as identified in attachment NP-26 to my statement.
248. Attached to my statement are copies of the following documents in relation to this application:
- NP-71:** Application Plans
 - NP-72:** Cardno Citiswich Estate – Stage 2 Stormwater Management Strategy December 2010
 - NP-73:** ICC amended acknowledgement notice dated 17 February 2011
 - NP-74:** ICC information request dated 17 February 2011
 - NP-75:** ICC further information request dated 17 May 2011
 - NP-76:** ICC further information request dated 6 October 2011

Question 1c: The known site levels at the time of the application

249. Council's records indicate that RL's for the site range from approximately RL16.5m AHD to approximately RL54 AHD.

Question 1d: Did Council seek additional information from the applicant about the potential flood and/or stormwater run-off impacts of the proposed development.

250. The assessment process to be followed in relation to this application is as previously described in my statement. Assessment in respect of flooding and stormwater matters will be undertaken by Council's development engineers.
251. The application is yet to be determined. An initial stormwater and flooding report was submitted with the application. Council issued an information request to the applicant dated 17 February 2011 and has sought further information on 17 May 2011 and 6 October 2011. Part of the additional information requested arises following the introduction of the Temporary Local Planning Instrument so as to enable the application to be assessed by reference to the new policy document.

Question 2: The known Q100 and Q20 flood levels

252. The known flood levels of surrounding properties, located upstream, downstream or on the opposite side of the Bremer River to the Citiswich site, by reference to the Council's flood regulation levels, both at around the time of this application and as at today are:
- (a) 1 in 20 development line: 13.3m AHD;
 - (b) 1 in 100 flood line: 16.2m AHD.

Question 3: What consideration was given to:

- (a) proximity of the Citiswich site to the Bremer River;
- (b) the site's flood risk or the potential impact of flooding on the proposed use;
- (c) the frequency of past flooding at the site and surrounding properties, including Karalee;
- (d) the potential for surrounding, upstream, downstream or opposite properties to be at greater risk of flooding due to:
 - (i) land filling or excavation at Citiswich;
 - (ii) the impact of any stormwater or overland flow management facilities servicing Citiswich.

(a) Proximity of the site to the Bremer River

253. The application is yet to be determined. Consideration in the assessment process will have regard to the recently adopted Temporary Local Planning Instrument which policy takes account of potential flood risks from the Bremer River.

(b) The site's flood risk or the potential impact of floods on the proposed use

254. In assessing the application by reference to the Temporary Local Planning Instrument, regard will be had to the site's flood risk or the potential impact of flooding on the site. In addition, consideration is being given to the potential flood risk and site impact of the local tributary running through the eastern portion of the site.

(c) The frequency of past flooding at the site and surrounding properties including Karalee

255. Historical river heights in relation to the site and surrounding properties, including the suburb of Karalee will not, so far as I understand it, be obtained for the purpose of considering the application. However, it is my understanding that historical flooding in relation to the site was a policy consideration in the formulation of the TLPI regulated flood line.

(d) The potential for surrounding, upstream, downstream or opposite properties to be at greater risk of flooding due to:

(i) land filling or excavation at Citiswich;

(ii) the impact of any stormwater or overland flow management facilities servicing Citiswich.

256. The potential for surrounding properties to be at a greater risk of flooding will be a relevant consideration in the assessment and determination of the application. In that regard, Council has recently, on 6 October 2011, requested further information in relation to these matters in the context of the TLPI.

Question 4:

(a) Was the application assessed against the earthworks code contained within the Ipswich Planning Scheme and if so, how;

(b) Were any measures proposed to mitigate the potential for flooding at the Citiswich site and, if so, briefly describe these measures;

(c) What expert reports were obtained or received by Council for the purpose of assessing the potential impact of flooding at the Citiswich site and on surrounding properties, how did Council assess the adequacy of these reports and what reliance was placed on them;

- (d) **Did Council seek additional information from the applicant about the potential flood and/or stormwater run-off impacts of the proposed development;**
- (e) **What conditions were imposed on the development to address the impacts of flooding.**
- (a) **The application will not be assessed against the earthworks code as the earthworks code is not an applicable code for the assessment, as no earthworks have been applied for.**
257. The applicant has very recently lodged a bulk earthworks application (5478/11) in relation to the stage 2 area, and the issue of earthworks will be addressed in Council's consideration of that application.
- (b) **Were any measures proposed to mitigate the potential for flooding?**
258. No measures have thus far been imposed as the application is yet to be determined.
- (c) **In relation to expert reports**
259. Council has obtained or received the following expert report:
- (a) "Citiswich Estate –Stage 2: Stormwater Management Strategy to Support Development Application for Reconfiguring a lot and Preliminary Approval to Vary Effect of a Planning Scheme", dated December 2010 and prepared by Cardno Lawson Treloar.
- This report was prepared on behalf of the applicant and formed part of the initial application made to Council.
 - This report provided details on flooding and stormwater management (for both quality and quantity) and provides conceptual details of:
 - Existing site conditions;
 - Proposed site conditions;
 - Management of stormwater quality for the civil construction and operational stages;
 - Management of stormwater quantity; and
 - Administration of the stormwater management strategy.

- This report concludes the strategy complies with the provisions of the Ipswich Planning Scheme and that the local tributary flood assessment indicates that the proposed works will contain the ultimate catchment flows through Stage 2. Further, development pads will be filled to above the 100 year ARI flood levels and that modifications to the existing Capral site detention basin impacted by the Stage 2 earthworks still ensure pre-development peak flows off the Capral site are maintained.

260. This report will be relied upon by Council's development engineers as part of Council's assessment of the application, as will any additional expert reports produced by the Applicant. However, I defer to the knowledge and experience of the Council's development engineers as to Council's assessment of the adequacy of the expert reports.

(d) Did Council seek additional information

261. In Council's request for further information dated 6 October 2011 the applicant has been requested to submit amended hydraulic modelling and associated reporting demonstrating how the development complies with the requirements of the TLPI. Council has required that the amended modelling take account of the Adopted Flood Regulation line and what Council understands to be unapproved earthworks which have taken place on land located within Stage 2 and situated between the 1 in 20 Development Line and the Adopted Flood Regulation. Further, the applicant has been required to demonstrate that the earthworks undertaken on the subject site do not result in a net loss of flood storage volume on the site.

(e) What conditions were imposed

262. The application is yet to be determined.

I make this statement conscientiously believing the same to be true, and by virtue of the provisions of the *Oaths Act 1867* (Qld).

Signed and declared by *Natalie Plumb* at *Ipswich* in the State of Queensland this *12th* day of October 2011 before me:

.....
Deponent

.....
Witness */ SOLICITOR*