0541-02-G
1 March 2010

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PLANS AND DOCUMENTS referred to in the ULDA APPROVAL dated 5 / 7 / 12

Nicky Crane
Assistant Development Manager
ULDA
PO Box 3643
South Brisbane BC QLD 4101

Dear Nicky,

SUBJECT: IMPACT ASSESSMENT OF THE REVISED FULL DEVELOPMENT FOOTPRINT AND FLOOD MITIGATION INFRASTRUCTURE

As requested we have assessed the impacts of the full Fitzgibbon UDA development based on the following modifications (as shown in the attached figure 1):

- Revised Roghan Road Detention Basin (DB1) wall;
- Revised Carseldine Drain Detention Basin (DB2) outlet.
- Remove the flood protection levee between DB2 and the Bill Brown sports field (Le_4);
- Revised Area E2 and Area G development footprints based on drawings provided by CONICS Ltd;

The impacts were assessed using our hydrologic and hydraulic models for Fitzgibbon Chase and the overall development of the UDA as documented in the following report:

Flood and Stormwater Management Studies for the Fitzgibbon Development Scheme, Ref. 0541-01-G [Rev 1] dated 24 July 2009.

The following Fitzgibbon Urban Development Area (UDA) development features were included in the TUFLOW model:

- The Full development with Option 9 flood mitigation works (WRMa, 2009);
- Relocation of a footbridge crossing along Fitzgibbon Drain (WRMb, 2009);
- The revised Area E1 development (WRMc, 2009);
- The revised Area E2 development, (WRM, 2010a);
- The revised DB1 outlet configuration (WRM, 2010b); and
- Roghan Road culvert crossing of Carseldine Drain (Cu_4).

The revised DB2 outlet was modelled with the following characteristics (see attached figure 2):

- Low Flow Channel = 5 m wide at invert 8.1 m AHD;
- Spillway = 25.0 m wide at invert 9.5 m AHD; and
- Basin Wall Crest Elevation = 10.5 m AHD;

Table 1 shows the 100 year ARI water levels and water level impacts in the study area for pre-development and full development without Le_4. Figure 1 shows the 100 year ARI flood extent and water level impacts of the proposed development. Figure 3 shows the predevelopment 100 yr ARI flood extent and reporting locations in the study site.

The results of the flood modelling show that the revised development configuration without Le_4 will ensure that 100 year ARI water levels are similar to the original configuration.

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

For and on behalf of
WRM Water & Environment Pty Ltd

Julian Orth
Project Engineer

References:

WRMa (2009) *Flood and Stormwater Management Studies for the Fitzgibbon Development Scheme*, Ref. 0541-01-G [Rev 1] dated 24 July 2009

WRMb (2009) *Fitzgibbon Chase - Relocation of Footbridge*, Ref. 0541-01-Q dated 2 September 2009

WRMc (2009) *Fitzgibbon Urban Development Area E1 Flood Impact Assessment and Stormwater Management Plan*, Ref. 0541-02-B [Rev 1] dated 25 November 2009

WRMa (2010) *Fitzgibbon Urban Development Area E2 Flood Impact Assessment and Stormwater Management Plan*, Ref. 0541-02-D dated 15 January 2010

WRMb (2010) *Revised Low Flow Pipe Invert Levels For the Proposed Roghan Road Detention Basin (DB1)*, Ref. 0541-02-F dated 8 February 2010

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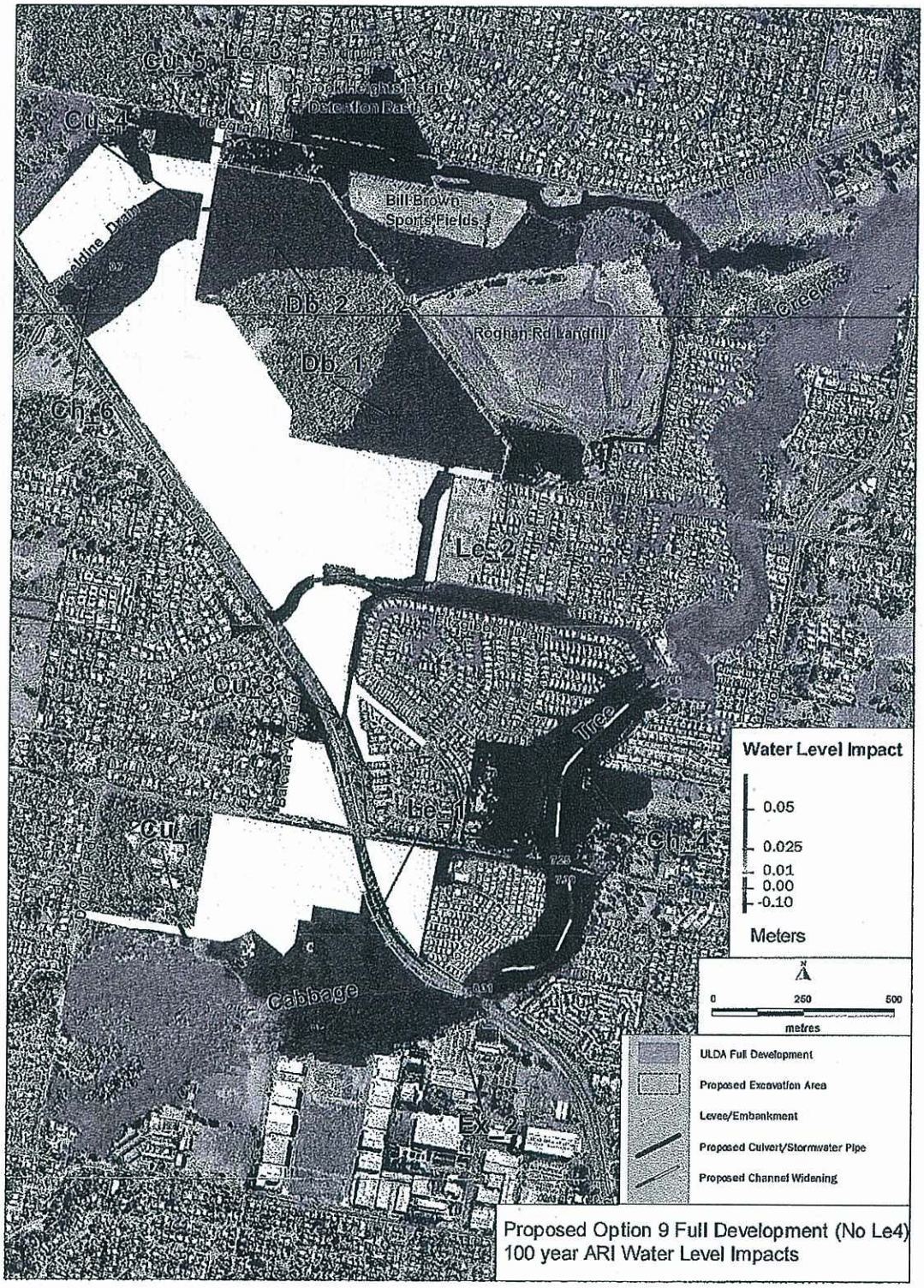

Figure 1 Full Development (No Le4) 100 yr ARI Flood Extent and Development Impacts

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Subject: DB2 Outlet Configuration

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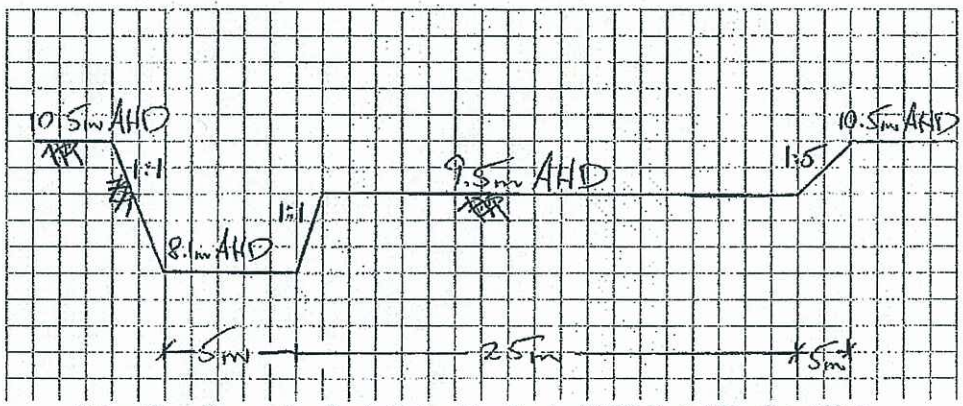

Figure 2 Carseldine Drain Detention Basin (DB2) Outlet Configuration

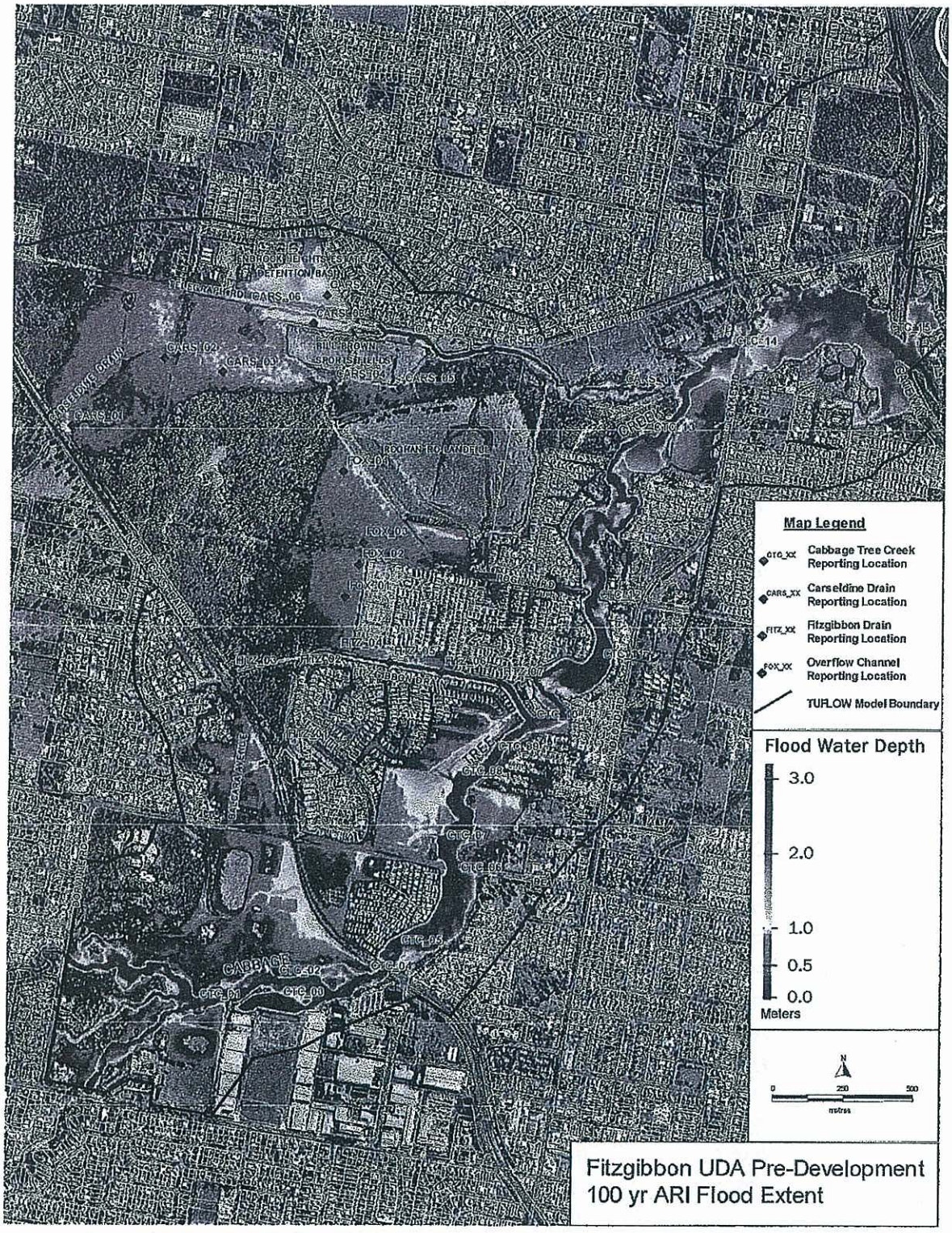

Figure 3 Pre-Development 100 year ARI Flood Extent and Reporting Locations, Fitzgibbon UDA

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Table 1 - 100 year ARI Water Level Impacts, Full Development

Reporting Location	Q100 Peak Flood Level (m AHD)		Full Dev. Q100 Water Level Impact
	Pre-Development	Full Dev.	
CARS_01	11.65	11.10	-0.55
CARS_02	9.55	10.65	1.10
CARS_03	9.24	10.28	1.04
CARS_04	9.08	9.43	0.35
CARS_05	8.58	8.97	0.39
CARS_06	9.19	8.69	-0.50
CARS_07	9.15	8.76	-0.39
CARS_08	9.15	8.68	-0.47
CARS_09	8.01	7.79	-0.22
CARS_10	7.47	7.35	-0.12
CARS_11	5.96	5.85	-0.11
CTC_01	15.48	15.49	0.01
CTC_02	14.47	14.64	0.17
CTC_03	14.37	14.60	0.23
CTC_04	13.71	14.08	0.37
CTC_05	12.65	12.58	-0.07
CTC_06	12.50	12.33	-0.17
CTC_07	12.38	12.07	-0.31
CTC_08	12.11	11.56	-0.55
CTC_09	11.56	11.04	-0.52
CTC_10	10.31	10.30	-0.01
CTC_11	9.26	9.24	-0.02
CTC_12	8.69	8.68	-0.01
CTC_13	5.95	5.95	0.00
CTC_14	4.69	4.69	0.00
CTC_15	3.90	3.89	-0.01
FITZ_01	11.77	11.60	-0.17
FITZ_02	10.62	10.48	-0.14
FITZ_03	11.90	10.86	-1.04
FITZ_04	10.47	10.39	-0.08
FITZ_05	10.46	10.38	-0.08
FITZ_06	10.46	10.38	-0.08
FITZ_07	10.44	10.38	-0.06
FOX_01	9.78	10.31	0.53
FOX_02	9.76	10.29	0.53
FOX_03	9.71	10.24	0.53
FOX_04	9.70	10.24	0.54