

**Appendix D
Hydrology Report**

QFCI

Date: 27/09/11 Jm

Exhibit Number: 645


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GL1/LTR/P42910.232
PRH:jlh

23 October, 1997

Ms Fiona Kennedy
Woodward Clyde Limited
49 Park Road
MILTON QLD 4064

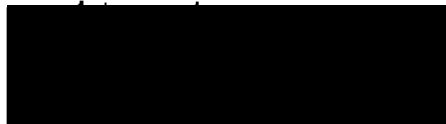
Dear Ms Kennedy

**Re: Proposed Development at
1519 Ipswich Road, Rocklea
for ICI Dulux Australia Limited.**

At the request of Mr Glen McElroy of Dulux, we attach our letter regarding flood levels, addressed to Brisbane City Council.

Please forward this to Council to address the information that Glen McElroy has previously provided them.

Yours faithfully



PETER HUGHES
HUGHES CONSULTING SERVICES PTY LTD

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GL2/LTR/P49210.201
MSD:mg

20 October, 1997

The Executive Officer
Brisbane City Council
GPO Box 1434
BRISBANE QLD 4001

Dear Sir,

Re: Proposed Development at 1519 Ipswich Road Rocklea for ICI Dulux Australia Pty Ltd

At the request of ICI Dulux Australia Pty Ltd, we have reviewed the probability of potential flooding for both the existing and proposed Dulux sites at Rocklea.

The sites investigated are the existing factory site at 1447 Ipswich Road and the adjoining proposed factory extension at 1519 Ipswich Road, Rocklea. Both sites generally fall gently from the front entrance at between RL of 7.5m and 7.0m to the flood regulation line for Stable Swamp Creek at about RL 6m to 5m, and then the surface slopes to the flood plain area at about RL 1.5m. Any existing or proposed planned building is or shall be outside this Regulation Line.

Stable Swamp Creek is a tributary of Oxley Creek which flows into the Brisbane River. The Stable Swamp Creek flood plain forms part of the Oxley Creek flood plain, hence there is a potential for future inundation from Stable Swamp Creek or from backwater from both Oxley Creek and Brisbane River.

Information received from Brisbane City Council (BCC) and from previous Flooding Risk Studies by Hughes McNaughton Consultants (1992) indicates the flood levels (AHD) recorded and those predicted for the three sources are as listed in Table 1.

TABLE 1 - SUMMARY OF RECORDED & PREDICTED FLOOD LEVELS

Flood Frequency	Stable Swamp Creek	Oxley Creek	Brisbane River
Maximum Recorded	4.41m (1967)		10.9m (1974) *
AEP 100	4.1m	6.9m	8.0m
AEP 50		5.8m	
AEP 40			5.0m

AEP is the probability of a given discharge with a period of one year.
* Pre-Wivenhoe Dam
Source: Brisbane City Council

Considering these potential flood levels and the fact that the lowest ground floor manufacturing or storage floor level is about RL 6.8m and then varying up to approximately RL 8.0m in the newer buildings, any Stable Swamp Creek flood event will be well in excess of 1 in 100 years to cause flooding. Hence flooding potential from this source is not considered to be of any risk.

The other two watercourses, Oxley Creek and Brisbane River, are considered as a potential source of site inundation due to their backwater storage affects along Stable Swamp Creek. The annual exceedence probability for each watercourse is approximately 1 in 100 years for Oxley Creek and 1 in 75 years for the Brisbane River. From general experience of the tributary creeks, the period of inundation would generally be no longer that twenty four (24) hours.

The type of flooding produced by the Brisbane River flood plain in Brisbane's suburbs is not "flash flooding", warning of potential flooding is of 2-3 days. Therefore, Dulux management and staff would have sufficient time to ensure, or take any preventative measures that they may deem necessary, to accommodate site inundation, i.e. to provide product storage above floor level.

As the reduced floor level (RL) for the warehousing and factory area is approximately RL 6.8m or higher, inundation from Oxley Creek source would be an extremely rare event (i.e. about 1 in 100 years AEP).

A once in 100 year flood event from the Brisbane River will result in site inundation to a maximum of 1.0 - 1.2m over the factory floor area and as previously indicated, factory and warehousing precautions would be implemented. This limited flood inundation over the estimated probable once in 60 year return period is considered an acceptable level of inundation for industrial and manufacturing operations where the manufacturing component of the operation is totally above this flood return period. In addition, with the available time warning of flooding from the Brisbane River, adequate management precautions are available to raise any stock above the flood level to higher storage levels within the warehouse.

This is the accepted scenario of our client, ICI Dulux Australia Pty Ltd, who have accepted flood inundation of their facilities at an estimated once in 60 year flood event from the Brisbane River, as a risk considering the operational circumstances outlined previously.

Accordingly, it is recommended that the minimum floor levels for all new buildings used for administration, manufacturing, storage or warehousing be set at of RL 7.0m AHD, and all buildings are to be located outside the Regulation Line of Stable Swamp Creek as located and adjusted by survey from time to time.

Yours faithfully,



PETER R HUGHES
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