



**PROPOSED
DEVELOPMENT
AT
253 TELEGRAPH ROAD
FITZGIBBON
(Area D2 – MCU)**

**STORMWATER MANAGEMENT
CITY PLAN CODE COMPLIANCE**

Prepared for
URBAN LAND DEVELOPMENT AUTHORITY

ISSUE DETAILS

Issue 1 Urban Land Development Authority July 2012

Reviewed by..... Date.....
Approved for issue by Date.....

TABLE OF CONTENTS

1 **INTRODUCTION**3
2 **SITE CHARACTERISTICS**.....3
3 **DATA**3
4 **CITY CODE COMPLIANCE**4

APPENDIX A	Site Layout
APPENDIX B	Stormwater Concept Sketches
APPENDIX C	Flood Levels

1 INTRODUCTION

The proposed Material Change of Use is shown on the layout drawing ULD035 PR 01.03 (Title Scheme 1) dated 11th July 2012 by Degenhart Shedd in Appendix A. This report examines the relevant development issues for the site involved with stormwater management. The purpose of the report is to demonstrate at a conceptual level, that the performance criteria in the *Fitzgibbon - Interim Land Use Plan* can be met.

2 SITE CHARACTERISTICS

The development area, is to be accessed from Rogan Road, refer plan in Appendix A. The total area of the site is 0.7 hectares and has a designation of residential as defined in Part 3 of the Development Scheme for Fitzgibbon Development Area.

The site slopes from the west to the east at a nominal grade of 1.30% (1 in 80). Bulk fill has been placed over the site and the proposed allotments satisfy Brisbane City Council and QUDM flood immunity requirements. Preliminary "Erosion Hazard Assessment" (EHA) using the BCC supporting technical notes has been completed and is included as an addendum in the Filling and Excavation code compliance. The EHA classifies the site as a High Risk site.

3 DATA

A flood impact report was prepared by WRM Water and Environment 24 July 2009. This report is the basis of the bulk fill that has been placed on the site to provide flood immunity for the development. Levee's Le_2, Le_3 and Le_4 as shown in figure 1 (Appendix C) have been constructed. In addition to these levees works have been undertaken to lower the haul road in the vicinity of Cu_4 which is to be constructed as part of the Rogan Road extension. The relevant background information to this has been included in Appendix C. Preliminary concept drawings for the stormwater are included in Appendix B.

4 CITY CODE COMPLIANCE

The following matrix provides assessment of the development against the performance criteria defined in the City Plan.

STORMWATER MANAGEMENT CODE PERFORMANCE CRITERIA AND ACCEPTABLE SOLUTIONS DEVELOPMENT AT 253 TELEGRAPH ROAD, FITZGIBBON

PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS	SOLUTIONS	COMMENTS	COUNCIL USE ONLY
GENERAL				
P1 The planning of the stormwater management system must provide for the integrated management of stormwater in order to: • Minimise flooding. • Protect and enhance environmental values of receiving waters. • Maximise the use of water sensitive urban design principles. • Maximise the use of natural waterway corridors and natural channel design principles. • Maximise community benefit. • Maximise safety risk to all persons.	A1.1 The proposal complies with the Subdivision and Development Guidelines .	Yes	The proposed development will comply with the appropriate guidelines.	
	A1.2 A Site Based Stormwater Management Plan (SBSMP) is prepared for all major and minor stormwater management measures. The SBSMP must provide for the following where applicable: • An underground and/or open drain/overland flowpath network maximising the use of natural channel design and water sensitive urban design principles. • Make provision for detention/retention storage basins. • An Erosion and Sediment Control (ESC) Program where required by Council's Erosion and Sediment Control Standard. • Retention of natural waterway corridors • Public safety factors and risk management measures.		Stormwater treatment devices within the road reserve have not been included. Conceptual sketches are included in the Appendices for reference. The site will be subject to whole of site random audits.	

	A1.3 The proposal complies with any Stormwater Management Plan (SMP), Local Stormwater Management Plan (LSMP) or Waterways Management Plan (WMP) prepared by Council. <i>Note: the Subdivision and Development Guidelines provide guidance on the level of information required for different development types.</i>	Yes	The development will comply with any additional stormwater reports which become available.	
FLOODING				
P1 The proposed stormwater management system or site works must not adversely impact on flooding or drainage of properties that are upstream, downstream or adjacent to the subject site.	A1 The proposal meets the requirements of Council's Subdivision and Development Guidelines and does not result in an increase in flood level or flood duration on upstream, downstream or adjacent properties. <i>Note: compliance with this acceptable solution can be demonstrated by the submission of a hydraulic and hydrology report (as part of a SBSMP) identifying potential flooding impacts on upstream, downstream or adjacent properties.</i>	Yes	The site has been filled to comply with the current BCC Subdivision and Development Guidelines.	
P2 The drainage network must provide capacity to safely convey stormwater run-off resulting from relevant design storm events taking into account increased run-off from roof drainage.	A2.1 The design demonstrates that a drainage network will be provided that will comply with Council's Subdivision and Development Guidelines. <i>Note: compliance with this acceptable solution can be demonstrated by identifying the conceptual drainage requirements for the proposal in a SBSMP.</i>	Yes	Refer attached sketch.	

	A2.2 The design allows sufficient area to provide for a drainage network that will comply with Council's Subdivision and Development Guidelines. <i>Note: compliance with this acceptable solution can be demonstrated by the submission of a hydraulic and hydrology report (as part of a SBSMP) identifying the area required to accommodate the drainage network.</i>	Yes	Sufficient area will be provided for the drainage network as per council's guidelines.	
P3 Development design (including any carparking areas) must reduce property damage, provide flood immune access to the property and, where applicable, ensure the safety of all persons by ensuring that the development levels are set above the relevant design flood level or storm surge level.	A3.1 All development (including ancillary structures and carparking areas) is located above minimum flood immunity levels in accordance with Council's Subdivision and Development Guidelines. <i>Note: compliance with this acceptable solution can be demonstrated by the submission of a hydraulic and hydrology report identifying flood levels and development design levels (as part of a SBSMP).</i>	Yes	Refer WRM Water and Environment report 24 July 2009 (Appendix C – Part). The proposed allotments are compliant with this report.	
	A3.2 Road access is provided in accordance with the flood immunity levels identified in Council's Subdivision and Development Guidelines. <i>Note: compliance with this acceptable solution can be demonstrated by the submission of a hydraulic and hydrology report identifying flood levels and development design levels.</i>	Yes	Refer WRM Water and Environment 24 July 2009. The proposed roads are compliant with flood immunity levels required by Council.	

P4 Any channel works that are part of the development, major drainage works or flood mitigation works must maintain and/or enhance the environmental values of the waterway corridor or drainage corridor.	A4 Design and construction of channel works incorporate water sensitive urban design and natural channel design features which will comply with: • Council's Subdivision and Development Guidelines, and • Where applicable and SMP, LSMP or WMP prepared by Council. <i>Note: compliance with this acceptable solution can be demonstrated by the provision of conceptual details of any channel works (as part of a SBSMP).</i>	NA	No channel works are proposed.	
P5 Erosion treatment works along waterway banks and associated drainage structures must maintain or enhance the environmental values of waterways.	A5 Design and construction of erosion treatment features incorporate natural channel design features which will comply with: • Council's Subdivision and Development Guidelines, and • Council's Urban Creek Erosion – Guidelines for Selecting Remedial Works. • Council's Urban Creek Erosion – Guidelines for Selecting Remedial Works. <i>Note: compliance with this acceptable solution can be demonstrated by the provision of conceptual details of any erosion treatment works (as part of a SBSMP).</i>	Yes	The site will be subject to random audits to ensure that erosion and sediment controls such as sediment fences and gully pit protection measures are in place to ensure that the waterways are protected.	
P6 Bridges and culverts provided for flood immunity to minimise traffic disruption must improve public safety and allow for fauna movement and recreation corridors where there needs are identified.	A6 The design complies with Council's Subdivision and Development Guidelines. <i>Note: compliance with this acceptable solution can be demonstrated by the provision of conceptual details of any bridge or culvert works (as part of a SBSMP).</i>	NA	No bridges or culverts are proposed for this stage of the development.	

P7 The design and construction of detention and retention storage features must: • Achieve acceptable impacts on environmental values. • Provide for recreational use where possible. • Achieve acceptable risk to all persons' safety and property.	A7 The design complies with Council's Subdivision and Development Guidelines and where applicable any SMP, LSMP or WMP prepared by Council. <i>Note: compliance with this acceptable solution can be demonstrated by the provision of conceptual details of any detention and retention storage features (as part of a SBSMP).</i>	Yes	Refer WRM Water and Environment 24 July 2009.	
WATER QUALITY AND DRAINAGE				
Low Risk Development				
P1 Water quality impacts must be minimised using best practice techniques.	A1.1 The design provides for stormwater quality best management practices that are sufficient to treat the target pollutants and will comply with Council's Subdivision and Development Guidelines. <i>Note: compliance with this acceptable solution can be demonstrated by indicating the areas that are to be set aside for water quality best management practices. For most development this can be achieved by determining pollutant loads using hand calculations as set out in Council's Guidelines for Pollutant Export Modelling in Brisbane and identifying the type and size of stormwater quality best management practices based on the efficiencies identified in Council's Subdivision and Development Guidelines.</i>	Yes	Best practices will be used where practical to treat pollutants exiting the site as per council guidelines. Refer Stormwater Concept Plan.	
	A1.2 Stormwater quality best management practices are designed, constructed and maintained in accordance with Council's Subdivision and Development Guidelines. <i>Note: compliance with this acceptable solution can be demonstrated by</i>	Yes	All stormwater quality best management practices will be designed, constructed and maintained as per the Concept Plan.	

	<i>providing conceptual detail of how stormwater quality will be managed (as part of a SBSMP).</i>			
P2 Release of sediment laden stormwater is minimised.	A2 All development complies with Council's Erosion and Sediment Control Standard . <i>Note: compliance with this acceptable solution can be demonstrated by providing conceptual details of how the requirements of Council's Erosion and Sediment Control Standard will be met (conceptual SBSMP). This will generally be conditioned and may require the submission of a subsequent detailed SBSMP for operational works.</i>	Yes	Devices will be put in place to minimise sediment laden stormwater exiting the development site refer Concept Plan.	
High Risk Development				
P3 Environmental values and water quality objectives of receiving waters within or downstream of the proposal are protected or enhanced.	A3.1 Relevant water quality objectives for receiving waters re identified and site specific discharge standards met. <i>Note: compliance with this acceptable solution may be demonstrated by following the process outlines in the Management of Urban Stormwater Quality Planning Scheme Policy. This can be documented in a SBSMP.</i>	Yes	The development is a high risk development, sediment controls will be reviewed on a daily basis and adjusted as required while on-site construction is in progress.	
	A3.2 The design provides for stormwater quality best management practices that are sufficient to treat the target pollutants and will comply with the Council's Subdivision and Development Guidelines .	Yes	Devices will be put in place to minimise sediment laden stormwater exiting the development site refer Concept Plan.	

	A3.3 Stormwater quality best management practices are designed, constructed and maintained in accordance with Council's Subdivision and Development Guidelines. <i>Note: compliance with this acceptable solution can be demonstrated by providing conceptual detail of how stormwater quality will be managed (as part of a SBSMP).</i>	Yes	The interface between the development and the Waterway Corridor to the south will be protected with erosion and sediment controls such as sediment basins and sediment fences. Landscaping plans will be prepared and implemented to ensure that the waterway is protected.	
P4 Release of sediment laden stormwater is minimised.	A4 All development complies with Council's Erosion and Sediment Control Standard. <i>Note: compliance with this Performance Criteria/Acceptable Solution can be demonstrated by providing conceptual details of how the requirements of Council's Erosion and Sediment Control Standard will be met (conceptual SBSMP). This will generally be conditioned and may require the submission of a subsequent detailed SBSMP for operational works.</i>	Yes	Devices will be put in place to minimise sediment laden stormwater exiting the development site refer Concept Plan.	

APPENDIX C

Flood Levels

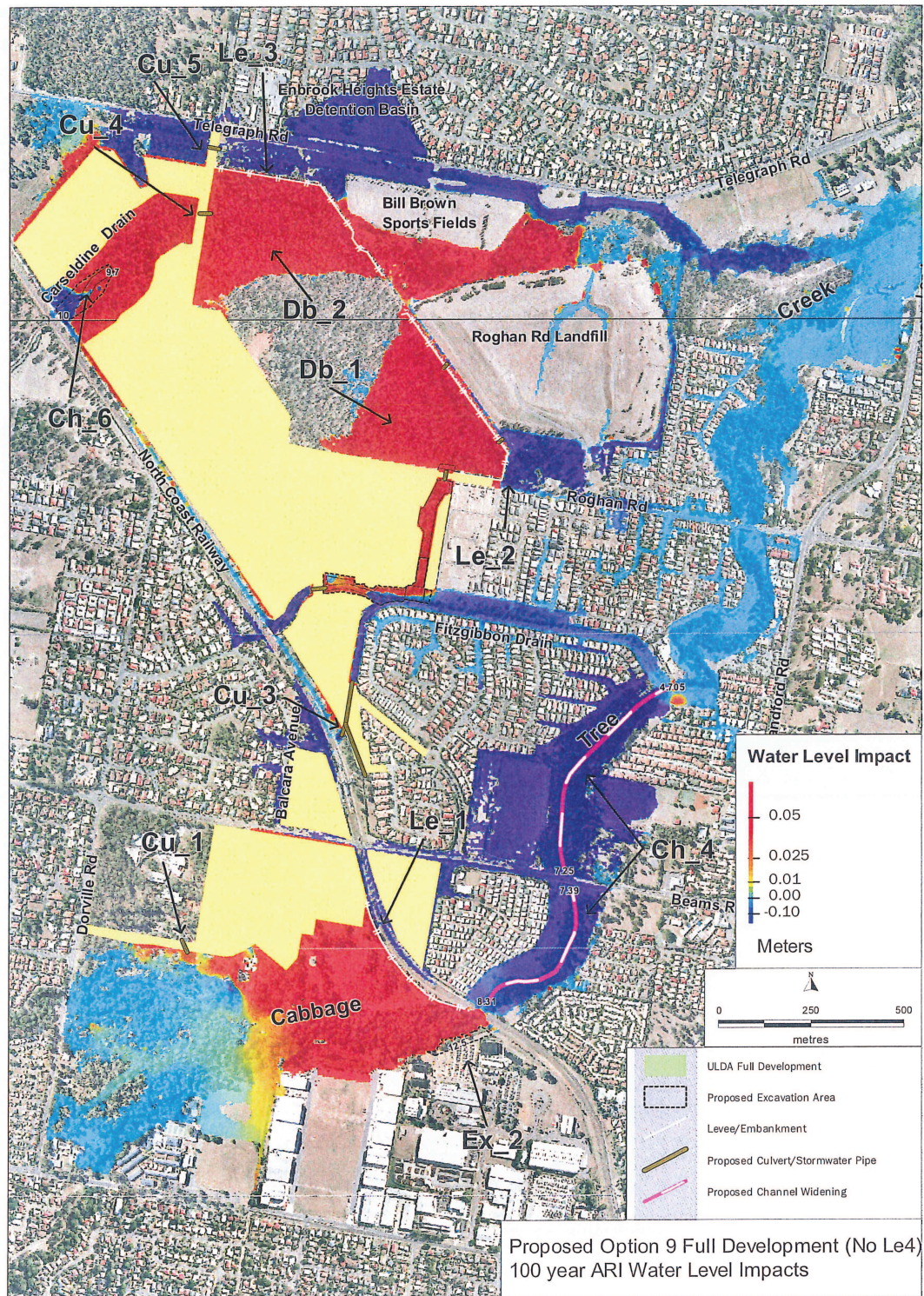


Figure 1 Full Development (No Le4) 100 yr ARI Flood Extent and Development Impacts