

Floodplain Management Services

Mount Morgan Local Catchment Study – Baseline Flooding and Hazard Assessment - Volume 2

Mount Morgan Local Catchment Study

Baseline Flooding and Hazard Assessment - Volume 2

Client: Rockhampton Regional Council

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Explanatory Notes and Disclaimer

These maps are to be read in conjunction with the Mount Morgan Local Catchment Study - Volume 1 (AECOM, 2018). Study methodology and assumptions are outlined in the Volume 1 report.

This mapping has been developed to represent local catchment flood behaviour in the Mount Morgan local catchment area, bounded by the model extents described in the Volume 1 report. It is noted that flooding occurs upstream and downstream of these locations which are outside the extent of the two-dimensional hydraulic models.

Information presented in this mapping may vary, depending upon development within the floodplain over time. It is suggested that the TUFLOW models and these associated maps be updated by Council as development occurs.

The development of the TUFLOW hydraulic model is detailed in the Mount Morgan Local Catchment Study - Volume 1 Report (AECOM, 2018). This report outlines input data, modelling assumptions and schematisation parameters adopted.

All information presented in this mapping is expressed in metres Australian Height Datum (AHD).

Hydraulic model results used in this mapping is based on a 4m fixed Cartesian grid hydraulic model. Use of the mapping to determine hydraulic parameters in sub-grid scale applications is not recommended.

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- 2. Using the map/s and associated data for any purpose not agreed to in writing by Rockhampton Regional Council.

Baseline Mapping

Baseline Mapping	
Map Number	Title
MM-01	Peak Flood Depths (1 EY 60 min Storm Event)
MM -02	Peak Flood Heights (1 EY 60 min Storm Event)
MM -03	Peak Depth Averaged Flood Velocity (1 EY 60 min Storm Event)
MM -04	Peak Flood Depths (39% AEP 60 min Storm Event)
MM -05	Peak Flood Heights (39% AEP 60 min Storm Event)
MM -06	Peak Depth Averaged Flood Velocity (39% AEP 60 min Storm Event)
MM -07	Peak Flood Depths (18% AEP 60 min Storm Event) Overview
MM -08	Peak Flood Depths (18% AEP 60 min Storm Event) Area 1
MM -09	Peak Flood Depths (18% AEP 60 min Storm Event) Area 2
MM -10	Peak Flood Depths (18% AEP 60 min Storm Event) Area 3
MM -11	Peak Flood Depths (18% AEP 60 min Storm Event) Area 4
MM -12	Peak Flood Heights (18% AEP 60 min Storm Event) Overview
MM -13	Peak Flood Heights (18% AEP 60 min Storm Event) Area 1
MM -14	Peak Flood Heights (18% AEP 60 min Storm Event) Area 2
MM -15	Peak Flood Heights (18% AEP 60 min Storm Event) Area 3
MM -16	Peak Flood Heights (18% AEP 60 min Storm Event) Area 4
MM -17	Peak Depth Averaged Flood Velocity (18% AEP 60 min Storm Event) Overview
MM -18	Peak Depth Averaged Flood Velocity (18% AEP 60 min Storm Event) Area 1
MM -19	Peak Depth Averaged Flood Velocity (18% AEP 60 min Storm Event) Area 2
MM -20	Peak Depth Averaged Flood Velocity (18% AEP 60 min Storm Event) Area 3
MM -21	Peak Depth Averaged Flood Velocity (18% AEP 60 min Storm Event) Area 4
MM -22	Peak Flood Depths (10% AEP 60 min Storm Event)
MM -23	Peak Flood Heights (10% AEP 60 min Storm Event)
MM -24	Peak Depth Averaged Flood Velocity (10% AEP 60 min Storm Event)
MM -25	Peak Flood Depths (5% AEP 60 min Storm Event)
MM -26	Peak Flood Heights (5% AEP 60 min Storm Event)
MM -27	Peak Depth Averaged Flood Velocity (5% AEP 60 min Storm Event)
MM -28	Peak Flood Depths (2% AEP 60 min Storm Event)
MM -29	Peak Flood Heights (2% AEP 60 min Storm Event)
MM -30	Peak Depth Averaged Flood Velocity (2% AEP 60 min Storm Event)
MM -31	Peak Flood Depths (1% AEP Across Multiple Storm Durations) Overview
MM -32	Peak Flood Depths (1% AEP Across Multiple Storm Durations) Area 1
MM -33	Peak Flood Depths (1% AEP Across Multiple Storm Durations) Area 2
MM -34	Peak Flood Depths (1% AEP Across Multiple Storm Durations) Area 3
MM -35	Peak Flood Depths (1% AEP Across Multiple Storm Durations) Area 4
MM -36	Peak Flood Heights (1% AEP Across Multiple Storm Durations) Overview

Map Number	Title Title
MM -37	Peak Flood Heights (1% AEP Across Multiple Storm Durations) Area 1
MM -38	Peak Flood Heights (1% AEP Across Multiple Storm Durations) Area 2
MM -39	Peak Flood Heights (1% AEP Across Multiple Storm Durations) Area 3
MM -40	Peak Flood Heights (1% AEP Across Multiple Storm Durations) Area 4
MM -41	Peak Depth Averaged Flood Velocity (1% AEP Across Multiple Storm Durations) Overview
MM -42	Peak Depth Averaged Flood Velocity (1% AEP Across Multiple Storm Durations) Area 1
MM -43	Peak Depth Averaged Flood Velocity (1% AEP Across Multiple Storm Durations) Area 2
MM -44	Peak Depth Averaged Flood Velocity (1% AEP Across Multiple Storm Durations) Area 3
MM -45	Peak Depth Averaged Flood Velocity (1% AEP Across Multiple Storm Durations) Area 4
MM -46	Peak Flood Depths (0.2% AEP 60 min Storm Event)
MM -47	Peak Flood Heights (0.2% AEP 60 min Storm Event)
MM -48	Peak Depth Averaged Flood Velocity (0.2% AEP 60 min Storm Event)
MM -49	Peak Flood Depths (0.05% AEP 60 min Storm Event)
MM -50	Peak Flood Heights (0.05% AEP 60 min Storm Event)
MM -51	Peak Depth Averaged Flood Velocity (0.05% AEP 60 min Storm Event)
MM -52	Peak Flood Depths (PMF 60 min Storm Event)
MM -53	Peak Flood Heights (PMF 60 min Storm Event)
MM -54	Peak Depth Averaged Flood Velocity (PMF 60 min Storm Event)
MM -55	Peak Flood Extent (60 min Storm Event)

Dam Break

Map Number	Title
MM -56	Bam Break Scenarios Overview
MM -57	Bam Break Scenarios Area 1
MM -58	Bam Break Scenarios Area 2
MM -59	Bam Break Scenarios Area 3
MM -60	Bam Break Scenarios Area 4
MM -61	Impact Timing (PMP, Without Failure)
MM -62	Impact Timing (Sunny Day Failure)
MM -63	Impact (PMP, With Failure)
MM -64	Peak Flood Depth (PMF, Without Failure) Overview
MM -65	Peak Flood Depth (PMF, Without Failure) Area 1
MM-66	Peak Flood Depth (PMF, Without Failure) Area 2
MM -67	Peak Flood Depth (PMF, Without Failure) Area 3
MM -68	Peak Flood Depth (PMF, Without Failure) Area 4
MM -69	Peak Depth Averaged Flood Velocity (PMF, Without Failure) Overview
MM 70	Peak Depth Averaged Flood Velocity (PMF, Without Failure) Area 1

Map Number	Title Title
MM -71	Peak Depth Averaged Flood Velocity (PMF, Without Failure) Area 2
MM -72	Peak Depth Averaged Flood Velocity (PMF, Without Failure) Area 3
MM -73	Peak Depth Averaged Flood Velocity (PMF, Without Failure) Area 4
MM -74	Peak Flood Hazard (PMF, Without Failure) Overview
MM -75	Peak Flood Hazard (PMF, Without Failure) Area 1
MM -76	Peak Flood Hazard (PMF, Without Failure) Area 2
MM -77	Peak Flood Hazard (PMF, Without Failure) Area 3
MM -78	Peak Flood Hazard (PMF, Without Failure) Area 4
MM -79	Peak Flood Depth (Sunny Day Failure) Overview
MM -80	Peak Flood Depth (Sunny Day Failure) Area 1
MM -81	Peak Flood Depth (Sunny Day Failure) Area 2
MM -82	Peak Flood Depth (Sunny Day Failure) Area 3
MM -83	Peak Flood Depth (Sunny Day Failure) Area 4
MM -84	Peak Depth Averaged Flood Velocity (Sunny Day Failure) Overview
MM -85	Peak Depth Averaged Flood Velocity (Sunny Day Failure) Area 2
MM -86	Peak Depth Averaged Flood Velocity (Sunny Day Failure) Area 3
MM -87	Peak Depth Averaged Flood Velocity (Sunny Day Failure) Area 4
MM -88	Peak Depth Averaged Flood Velocity (Sunny Day Failure) Area 1
MM -89	Peak Flood Hazard (Sunny Day Failure) Overview
MM -90	Peak Flood Hazard (Sunny Day Failure) Area 2
MM -91	Peak Flood Hazard (Sunny Day Failure) Area 3
MM -92	Peak Flood Hazard (Sunny Day Failure) Area 4
MM -93	Peak Flood Hazard (Sunny Day Failure) Area 1
MM -94	Peak Flood Depth (PMF, With Failure) Overview
MM -95	Peak Flood Depth (PMF, With Failure) Area 1
MM -96	Peak Flood Depth (PMF, With Failure) Area 2
MM -97	Peak Flood Depth (PMF, With Failure) Area 3
MM -98	Peak Flood Depth (PMF, With Failure) Area 4
MM -99	Peak Depth Averaged Flood Velocity (PMF, With Failure) Overview
MM -100	Peak Depth Averaged Flood Velocity (PMF, With Failure) Area 2
MM -101	Peak Depth Averaged Flood Velocity (PMF, With Failure) Area 3
MM -102	Peak Depth Averaged Flood Velocity (PMF, With Failure) Area 4
MM -103	Peak Depth Averaged Flood Velocity (PMF, With Failure) Area 1
MM -104	Peak Flood Hazard (PMF, With Failure) Overview
MM -105	Peak Flood Hazard (PMF, With Failure) Area 2
MM -106	Peak Flood Hazard (PMF, With Failure) Area 3
MM -107	Peak Flood Hazard (PMF, With Failure) Area 4
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Map Number	Title
MM -108	Peak Flood Hazard (PMF, With Failure) Area 1

Sensitivity Analyses

Map Number	Title
MM -109	Difference in Peak Flood Height: +15% Roughness minus Baseline (1% AEP 60min Storm Event)
MM -110	Difference in Peak Flood Height: -15% Roughness minus Baseline (1% AEP 60min Storm Event)
MM -111	Difference in Peak Flood Height: Climate Change to 2100 minus Baseline (1% AEP 60min Storm Event)
MM -112	Difference in Peak Flood Height: Full Storage Dam Failure + 18% AEP 60min minus 18% AEP 60min Storm Event
MM -113	Difference in Peak Flood Height: Full Storage Dam Failure + 1% AEP 60min minus 1% AEP 60min Storm Event
MM -114	Difference in Peak Flood Height: Full Storage Dam Failure + 18% AEP 60min minus Crest Level Dam Failure
MM -115	Difference in Peak Flood Height: Full Storage Dam Failure + 1% AEP 60min minus Crest Level Dam Failure
MM -116	Difference in Peak Flood Height: 20% Stormwater Infrastructure Blockage minus Baseline (18% AEP 60min Storm Event)
MM -117	Difference in Peak Flood Height: 50% Stormwater Infrastructure Blockage minus Baseline (18% AEP 60min Storm Event)
MM -118	Difference in Peak Flood Height: 100% Stormwater Infrastructure Blockage minus Baseline (18% AEP 60min Storm Event)
MM -119	Difference in Peak Flood Height: Key Culvert 20% Blockage (18% AEP 60min Storm Event)

Flood Hazard

1 lood Hazard	
Map Number	Title Title
MM -120	Peak Flood Hazard (18% AEP 60 min Storm Event) Overview
MM 121	Peak Flood Hazard (18% AEP 60 min Storm Event) Area 1
MM -122	Peak Flood Hazard (18% AEP 60 min Storm Event) Area 2
MM -123	Peak Flood Hazard (18% AEP 60 min Storm Event) Area 3
MM -124	Peak Flood Hazard (18% AEP 60 min Storm Event) Area 4
MM -125	Baseline Flood Hazard (1% AEP Across Multiple Storm Durations) Overview
MM -126	Peak Flood Hazard (1% AEP Across Multiple Storm Durations) Area 1
MM -127	Peak Flood Hazard (1% AEP Across Multiple Storm Durations) Area 2
MM -128	Peak Flood Hazard (1% AEP Across Multiple Storm Durations) Area 3
MM -129	Peak Flood Hazard (1% AEP Across Multiple Storm Durations) Area 4

Sewerage Infrastructure

Map Number	Title
MM -130	Sewerage Infrastructure Overview



































































































































































































































































