



APPENDIX B

HYDROLOGICAL MODELLING RESULTS

**Oran Park Precinct Masterplan – Stormwater Quantity Management & Flooding
Sydney Southwest Release Area, Oran Park Precinct**

Prepared for Growth Centres Commission



Existing Local Creeks – Eastern Precinct

RAFTS Node	100 Y ARI Peak Flow (m ³ /s)	20 Y ARI Peak Flow (m ³ /s)	2 Y ARI Peak Flow (m ³ /s)
N1.25	3.61	2.72	1.32
N1.24	2.52	1.74	0.70
D1.23	10.42	7.16	2.95
N1.23	10.00	6.35	1.50
N1.22	14.74	9.59	2.51
N1.21	18.50	12.19	3.37
N1.41	1.79	1.25	0.47
D1.5	3.72	2.65	1.14
N1.6	9.63	6.70	2.70
D1.42	2.90	2.20	1.07
N1.4	13.18	7.65	3.03
N1.3	21.94	13.62	5.43
N1.2	38.33	25.56	8.79
N1.1	46.85	31.62	11.21
D1.0	63.15	42.75	15.98
N2.4	1.46	1.04	0.39
N2.3	3.88	2.70	1.05
N2.2	7.46	5.16	2.13
N2.1	10.90	7.59	3.12
N8.0	3.35	2.37	0.97
N9.0	2.43	1.71	0.70
NthE	8.06	6.37	3.95
N5.5	9.21	6.68	3.21
N5.4	13.77	9.72	4.38
N5.31	2.68	1.87	0.78
N5.3	5.39	3.73	1.54
N5.22	3.71	2.61	1.10
N5.21	2.83	1.98	0.82
N5.2	5.48	3.81	1.59
N5.2	28.34	19.63	7.88
N5.1	30.42	21.05	8.46
N6.0	6.44	4.54	1.83
SthE	36.62	25.15	10.27
N10	5.58	3.99	1.62
N4.1	2.70	1.91	0.75
N4.21	4.39	3.02	1.30
D4.31	2.41	1.79	0.73
N4.3	1.91	1.33	0.52
N4.2	8.98	6.22	2.54
N4.4	4.64	3.27	1.29
N7.0	5.76	4.02	1.62
Sth	42.16	28.78	11.84

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Proposed Local Creeks – Eastern Precinct

No detention

RAFTS Node	100 Y ARI Peak Flow (m ³ /s)	20 Y ARI Peak Flow (m ³ /s)	2 Y ARI Peak Flow (m ³ /s)
N1.25	4.98	3.95	2.13
N1.24	5.03	3.99	2.18
D1.23	17.47	13.45	7.20
N1.23	23.35	18.28	9.84
N1.22	35.72	28.13	15.30
N1.21	43.20	33.81	18.29
N1.41	7.77	6.02	3.15
D1.5	12.46	8.73	4.33
N1.6	9.63	6.70	2.70
D1.42	4.96	3.93	2.09
N1.4	19.13	14.47	7.34
N1.3	32.90	25.71	14.09
N1.2	70.00	53.92	28.91
N1.1	80.06	61.19	32.57
D1.0	103.57	79.53	42.55
N2.4	2.57	2.08	1.14
N2.3	6.54	5.10	2.69
N2.2	14.68	11.33	5.99
N2.1	20.17	15.60	8.29
N8.0	7.62	6.03	3.24
N9.0	5.22	4.11	2.19
NthE	113.48	87.04	46.33
N5.5	13.13	10.27	5.41
N5.4	22.25	17.19	9.09
N5.31	6.22	4.95	2.71
N5.3	31.31	23.94	12.34
N5.22	8.14	6.45	3.52
N5.21	6.43	5.08	2.72
N5.2	39.12	29.97	15.31
N5.1	44.73	34.33	17.40
N6.0	17.00	13.43	7.31
StthE	55.10	42.24	22.08
N10	6.98	5.42	2.79
N4.1	4.90	3.87	2.06
N4.21	8.71	6.76	3.55
D4.31	3.54	2.83	1.48
N4.3	6.54	5.11	2.69
N4.2	15.16	11.79	6.09
N4.4	7.70	6.10	3.23
N7.0	14.67	11.69	6.39

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Existing Local Creeks – Western Precinct

RAFTS Node	100 Y ARI Peak Flow	20 Y ARI Peak Flow	2 Y ARI Peak Flow
	(m ³ /s)	(m ³ /s)	(m ³ /s)
N107	1.97	1.40	0.56
N101.2	9.79	6.85	2.82
N4.4	4.64	3.27	1.29
N101.5	6.88	4.72	1.93
N4.1	2.70	1.91	0.75
N4.21	4.39	3.02	1.30
D4.31	2.41	1.79	0.73
N4.3	1.91	1.33	0.52
N4.2	8.99	6.22	2.54
N100.1	4.62	3.16	1.27
N10	5.58	3.99	1.62
N101.3	8.72	6.24	2.42
N100.6	4.99	3.42	1.49
N100.5	19.16	13.25	5.25
N100.4	25.11	17.34	6.84
N100.3	4.22	3.02	1.27
N100.2	35.08	24.16	9.52
N100a	41.23	28.38	11.18
Cobb_C	99.00	28.38	11.18
N100b	1.76	1.32	0.66
N101.1	1.79	1.21	0.48
N101.8	1.86	1.31	0.53
N101.9	2.51	1.73	0.70
N101.6	5.80	3.99	1.65
N101.7	1.61	1.11	0.47
N101.4	16.82	11.94	4.90
N101	23.49	16.56	6.70
N99	3.53	2.38	0.90
N106.1	2.80	1.96	0.77
N106.2	2.76	1.93	0.76

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Proposed Local Creeks – Western Precinct

RAFTS Node	100 Y ARI Peak Flow (m ³ /s)	20 Y ARI Peak Flow (m ³ /s)	2 Y ARI Peak Flow (m ³ /s)
N107	1.97	1.41	0.57
N101.2	9.30	7.35	3.98
N4.4	7.70	6.10	3.23
N101.5	10.80	8.28	4.22
N4.1	4.90	3.87	2.06
N4.21	8.43	6.58	3.50
D4.31	3.54	2.83	1.48
N4.3	6.38	4.99	2.67
N4.2	14.74	11.50	6.03
N100.1	4.62	3.16	1.26
N10	7.61	6.02	3.03
N101.3	8.75	6.42	2.80
N100.6	4.99	3.42	1.49
N100.5	19.21	13.33	5.34
N100.4	25.16	17.39	6.93
N100.3	4.22	3.02	1.27
N100.2	35.12	24.20	9.66
N100a	41.07	28.36	11.43
Cobb_C_	98.0	117	117
N100b	4.28	3.36	1.81
N101.1	4.60	3.61	1.96
N101.8	4.19	3.27	1.80
N101.9	3.54	2.57	1.22
N101.6	4.62	3.29	1.48
N101.7	2.99	2.31	1.24
N101.4	9.18	6.89	3.70
N101	15.93	12.02	6.27
N99	7.99	6.25	3.29
N106.1	7.33	5.71	2.85
N106.2	7.72	6.06	3.01



APPENDIX C

SOBEK RESULTS

**Oran Park Precinct Masterplan – Stormwater Quantity Management & Flooding
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Existing South Creek

Chainage	Flood Level (m AHD)			
	100 Y ARI	20 Y ARI	2 Y ARI	PMF
-720	55.74	55.57	55.11	57.78
-355	56.62	56.50	56.26	57.86
-105	57.12	56.99	56.75	58.03
175	57.68	57.46	57.07	58.52
360	58.99	58.37	57.51	61.38
485	59.03	58.44	57.58	61.40
635	59.04	58.46	57.68	61.40
780	59.09	58.57	57.93	61.42
1040	59.20	58.73	58.10	61.48
1240	59.33	58.95	58.44	61.52
1465	59.47	59.14	58.66	61.56
1815	60.31	60.07	59.49	61.77
2025	60.96	60.73	60.21	62.10
2205	61.17	60.95	60.51	62.30
2540	62.28	62.14	61.89	62.84
2760	63.73	63.60	63.47	64.19
2970	64.20	64.01	63.80	64.80
3350	65.40	65.01	64.54	66.43
3725	66.32	66.11	65.83	67.09
3900	66.77	66.62	66.30	67.37
4105	67.34	67.19	66.81	67.80
4300	67.95	67.66	67.16	68.65
4545	68.52	68.23	67.70	69.30
4760	68.78	68.52	68.05	69.65
5125	69.39	69.07	68.96	70.32
5245	69.88	69.63	69.48	70.74
5445	71.01	70.86	70.71	71.57
5670	72.20	71.97	71.76	72.92
5835	72.64	72.39	72.16	73.41
5990	72.92	72.59	72.32	73.75
6290	73.49	73.11	72.75	74.30
6500	73.83	73.39	73.02	74.86
6755	74.22	73.76	73.24	75.25
6845	74.76	74.59	73.79	75.51
6955	75.16	74.90	74.26	76.04
7095	75.36	75.06	74.40	76.26
7305	76.24	75.85	75.07	77.07
7460	76.73	76.50	75.88	77.44
7595	77.16	76.95	76.37	77.97
7850	78.02	77.78	77.26	78.84
8050	78.90	78.56	77.87	79.69
8250	79.65	79.30	78.59	80.69
8375	80.39	79.91	79.12	81.35
8640	81.94	81.80	81.49	82.44
8795	82.69	82.57	82.27	83.18

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Developed South Creek

Chainage	Flood Level (m AHD)	
	100 Y ARI	PMF
-720	55.76	57.77
-355	56.68	57.87
-105	57.16	58.05
175	57.72	58.59
360	59.55	61.28
485	59.59	61.30
635	59.59	61.30
780	59.61	61.32
1040	59.68	61.40
1240	59.74	61.46
1465	59.80	61.50
1815	60.48	61.78
2025	61.12	62.16
2205	61.29	62.35
2540	62.41	63.00
2760	63.84	64.34
2970	64.36	64.99
3350	65.71	66.69
3725	66.45	67.30
3900	66.87	67.57
4105	67.44	67.96
4300	68.20	68.89
4545	68.67	69.53
4760	68.94	69.90
5125	69.72	70.62
5245	70.05	70.95
5445	71.11	71.73
5670	72.38	73.14
5835	72.83	73.64
5990	73.19	74.00
6290	73.75	74.53
6500	74.20	75.15
6755	74.57	75.55
6845	74.89	75.76
6955	75.42	76.29
7095	75.67	76.54
7305	76.52	77.30
7460	76.91	77.68
7595	77.39	78.29
7850	78.23	79.13
8050	79.21	80.20
8250	80.07	81.02
8375	80.78	81.61
8640	82.02	82.60
8795	82.83	83.40

Cobbitty Creek

Flood Level (m AHD)	
Chainage (m)	100 Y ARI
0	66.51
100	67.40
214	67.93
286	68.29
383	68.61
483	68.90
579	69.48
697	70.06
805	70.65
908	71.07
1000	72.11
1093	72.51
1193	72.97

Existing Oran Park Precinct – West

Drainage line 1.0

Flood Level (m AHD)	
Chainage (m)	100 Y ARI
0	75.58
42	75.58
134	75.97
220	76.47
297	77.50
389	78.20
486	78.92
587	80.12
821	83.02
904	83.18
1022	84.82
1117	86.64
1142	87.18

Tributary 1.1 – Draining existing Dam

Flood Level (m AHD)	
Chainage (m)	100 Y ARI
0	83.66
92	84.74
186	86.13
256	88.03
265	88.03

Tributary1.2 - Pipes under Northern Road

Flood Level (m AHD)	
Chainage (m)	100 Y ARI
0	81.50
86	82.69
178	84.80
277	86.57
320	88.16
364	89.26
370	89.26

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Existing Oran Park Precinct – East

Creek A

Chainage	Flood Level (m AHD)		
	100 Y ARI	20 Y ARI	2 Y ARI
20	79.09	76.78	77.46
148	79.25	78.80	79.05
241	80.22	79.77	80.04
383	81.91	81.09	81.54
525	83.95	83.62	83.81
680	85.34	84.82	85.11
800	86.67	86.23	86.52
975	88.03	87.59	87.73
1085	89.96	89.86	89.89
1205	90.96	90.74	90.85
1310	93.33	93.02	93.15
1400	94.98	94.74	94.87

Creek B

Chainage	Flood Level (m AHD)		
	100 Y ARI	20 Y ARI	2 Y ARI
19	79.09	78.60	78.39
193	79.53	79.30	79.02
496	81.08	80.67	80.04
609	81.48	81.12	80.39
747	82.09	81.64	80.77
875	82.73	82.30	81.85
925	83.35	83.04	82.47
1110	85.35	85.24	85.07
1177	85.39	85.30	85.08
1298	86.15	86.04	85.73
1374	86.59	86.40	85.92
1448	87.09	86.85	86.20
1535	88.03	87.86	87.15
1626	88.74	88.57	88.09
1680	89.16	88.92	88.36
1754	89.88	89.66	89.04
1867	90.74	90.51	90.16
1945	91.40	91.23	90.66
2000	92.36	92.26	91.95
2116	93.15	92.96	92.52
2188	93.37	93.21	93.03

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Creek C

Flood Level (m AHD)			
Chainage	100 Y ARI	20 Y ARI	2 Y ARI
72	92.79	92.43	92.10
205	91.08	91.00	90.91
307	89.22	89.09	88.87
429	87.39	87.17	86.80
523	85.41	85.28	85.09
613	94.93	94.88	94.81
712	91.89	91.77	91.61
757	96.28	96.16	96.00
819	92.39	92.15	91.86
880	91.45	91.34	91.17
944	90.06	89.87	89.65
1074	88.57	88.45	88.29
1160	86.50	86.34	86.00

Creek D

Flood Level (m AHD)			
Chainage	100 Y ARI	20 Y ARI	2 Y ARI
130	81.36	81.21	80.78
470	83.99	83.89	83.50
722	86.23	86.08	85.76
925	88.91	88.96	88.59
1010	90.05	90.01	89.68
1122	91.23	91.26	91.10
1210	91.92	91.83	91.59
1335	92.90	92.88	92.57
1415	93.88	93.83	93.38
1535	95.10	95.18	94.98
1625	96.98	97.24	97.10
1700	98.05	97.98	97.86