

**Table 1: Existing and Proposed HEC-RAS Flows on Jock River and Van Gaal and Arbuckle Drains**

<i>River</i>	<i>Reach</i>	<i>River Station</i>	Flow (m <sup>3</sup> /s)					
			Existing Conditions <sup>(1)</sup>			Proposed Conditions <sup>(1)</sup>		
			<i>1</i>	<i>2</i>	<i>4</i>	<i>1</i>	<i>2</i>	<i>4</i>
Jock River	Reach 1	22026	5.540	167.682	156.000	5.553	162.984	156.000
Jock River	Reach 2	21359	5.773	74.628	161.760	5.791	72.528	161.760
Jock River	Reach 3	18677	17.624	88.341	166.760	17.968	86.918	166.760
Jock River	Reach 4	16872	15.385	85.979	181.760	16.538	84.831	181.760
Jock River	Reach 5	16112	16.168	143.467	180.000	17.607	142.834	180.000
Jock River	Reach 6	11769	10.864	153.565	185.000	13.041	153.217	185.000
Jock River	Reach 7	10144	8.741	152.939	196.000	10.995	152.501	196.000
Jock River	Reach 7	6550	9.652	189.823	201.000	11.906	190.147	201.000
Jock River	Reach 7	3699	5.067	211.402	205.000	5.967	210.855	205.000
Joys Road Trib	Reach 1	705	2.619	3.166	0.883	2.505	3.160	0.883
Moore Drain	Reach 1	298	2.172	2.132	0.322	3.425	2.726	0.198
Moore Drain Trib	Reach 1	1026	N/A	N/A	N/A	0.844	0.656	0.033
Moore Drain Trib	Reach 1	311	1.866	1.594	0.259	3.342	2.688	0.167
Van Gaal Drain	Reach 3	3494	3.701	4.228	1.636	3.294	4.073	1.636
Van Gaal Drain	Reach 3	3322	4.021	4.588	1.651	3.747	4.488	1.651
Van Gaal Drain	Reach 3	3175	4.813	5.235	1.653	4.811	5.225	1.653
Van Gaal Drain	Reach 2	2554	7.272	8.316	2.857	6.889	8.182	2.857
Van Gaal Drain	Reach 2	2076	9.543	10.808	3.286	9.309	9.973	3.286
Van Gaal Drain	Reach 2	1340	11.434	11.619	3.426	10.712	11.087	3.426
Van Gaal Drain	Reach 2	1312	12.2	12.204	3.439	11.470	11.680	3.438
Van Gaal Drain	Reach 1	746	16.377	15.739	4.056	15.576	15.203	4.185
Van Gaal Drain	Reach 1	666	16.377	15.739	4.056	15.576	15.203	4.185
Van Gaal Drain	Reach 1	226	16.419	15.777	4.371	15.600	15.138	4.504

<sup>(1)</sup> Scenario Descriptions:

1. The Van Gaal Drain 100 year summer peak flow reaches the Jock River
2. The Van Gaal Drain 100 year spring peak flow reaches the Jock River
4. The Jock River 100 year spring peak flow reaches the outlet of the Van Gaal Drain

**Table 2: Existing and Proposed Simulated Maximum Water Surface Elevations on Van Gaal and Arbuckle Drains**

River	Reach	River Station	Maximum Water Surface Elevation (m)								
			Existing Conditions <sup>(1)</sup>			Proposed Conditions <sup>(1)</sup>			Difference <sup>(1)</sup>		
			1	2	4	1	2	4	1	2	4
Van Gaal Drain	Reach 3	3494	97.56	97.60	97.16	97.52	97.59	97.16	-0.03	-0.01	0.00
Van Gaal Drain	Reach 3	3322	97.43	97.47	97.06	97.41	97.46	97.06	-0.02	-0.01	0.00
Van Gaal Drain	Reach 3	3312	97.42	97.45	97.05	97.40	97.45	97.05	-0.02	0.00	0.00
Van Gaal Drain	Reach 3	3311	Culvert								
Van Gaal Drain	Reach 3	3302	97.33	97.35	97.01	97.31	97.35	97.01	-0.02	0.00	0.00
Van Gaal Drain	Reach 3	3297	97.27	97.32	96.98	97.26	97.32	96.98	-0.01	0.00	0.00
Van Gaal Drain	Reach 3	3185	97.17	97.25	96.56	97.18	97.25	96.56	0.00	0.00	0.00
Van Gaal Drain	Reach 3	3175	97.16	97.23	96.59	97.15	97.22	96.59	0.00	0.00	0.00
Van Gaal Drain	Reach 3	3174	Culvert								
Van Gaal Drain	Reach 3	3165	96.75	96.74	96.55	96.75	96.74	96.55	0.00	0.00	0.00
Van Gaal Drain	Reach 3	3149	96.72	96.71	96.51	96.72	96.71	96.51	0.00	0.00	0.00
Van Gaal Drain	Reach 3	3086	96.65	96.63	96.40	96.65	96.63	96.40	0.00	0.00	0.00
Van Gaal Drain	Reach 3	3016	96.61	96.59	96.33	96.61	96.59	96.33	0.00	0.00	0.00
Van Gaal Drain	Reach 3	2980	96.57	96.56	96.28	96.57	96.56	96.28	0.00	0.00	0.00
Van Gaal Drain	Reach 3	2851	96.41	96.42	96.03	96.40	96.42	96.03	-0.01	0.00	0.00
Van Gaal Drain	Reach 3	2808	96.38	96.39	96.01	96.37	96.39	96.01	-0.01	0.00	0.00
Van Gaal Drain	Reach 3	2658	96.28	96.29	95.95	96.26	96.28	95.95	-0.02	0.00	0.00
Van Gaal Drain	Reach 2	2554	96.27	96.29	95.94	96.25	96.28	95.94	-0.02	0.00	0.00
Van Gaal Drain	Reach 2	2478	96.16	96.15	95.88	96.14	96.16	95.88	-0.02	0.00	0.00
Van Gaal Drain	Reach 2	2157	95.47	95.48	95.03	95.46	95.47	95.03	-0.01	-0.01	0.00
Van Gaal Drain	Reach 2	2076	95.26	95.27	94.84	95.26	95.25	94.84	-0.01	-0.02	0.00
Van Gaal Drain	Reach 2	1974	95.10	95.11	94.73	95.10	95.10	94.73	-0.01	-0.02	0.00
Van Gaal Drain	Reach 2	1922	94.99	94.99	94.68	94.99	94.98	94.68	0.00	-0.01	0.00
Van Gaal Drain	Reach 2	1833	94.85	94.85	94.62	94.84	94.83	94.62	-0.01	-0.02	0.00
Van Gaal Drain	Reach 2	1796	94.80	94.81	94.59	94.80	94.80	94.59	0.00	-0.01	0.00
Van Gaal Drain	Reach 2	1735	94.71	94.72	94.57	94.70	94.71	94.57	0.00	-0.01	0.00
Van Gaal Drain	Reach 2	1728	94.69	94.69	94.57	94.69	94.69	94.56	0.00	-0.01	0.00
Van Gaal Drain	Reach 2	1727	Culvert								
Van Gaal Drain	Reach 2	1717	94.69	94.69	94.31	94.69	94.67	94.31	-0.01	-0.02	0.00
Van Gaal Drain	Reach 2	1615	94.60	94.61	94.24	94.58	94.58	94.23	-0.02	-0.03	0.00
Van Gaal Drain	Reach 2	1555	94.53	94.55	94.21	94.51	94.51	94.20	-0.02	-0.03	0.00
Van Gaal Drain	Reach 2	1488	94.45	94.45	94.18	94.42	94.42	94.18	-0.03	-0.03	0.00
Van Gaal Drain	Reach 2	1416	94.39	94.41	94.14	94.33	94.35	94.14	-0.06	-0.06	-0.01

**Table 2: Existing and Proposed Simulated Maximum Water Surface Elevations on Van Gaal and Arbuckle Drains**

River	Reach	River Station	Maximum Water Surface Elevation (m)								
			Existing Conditions <sup>(1)</sup>			Proposed Conditions <sup>(1)</sup>			Difference <sup>(1)</sup>		
			1	2	4	1	2	4	1	2	4
Van Gaal Drain	Reach 2	1400	94.36	94.36	94.14	94.31	94.31	94.14	-0.05	-0.05	-0.01
Van Gaal Drain	Reach 2	1364	94.31	94.29	94.13	94.26	94.24	94.13	-0.05	-0.05	-0.01
Van Gaal Drain	Reach 2	1340	94.21	94.19	94.13	94.17	94.15	94.12	-0.04	-0.05	0.00
Van Gaal Drain	Reach 2	1339	Culvert								
Van Gaal Drain	Reach 2	1312	94.14	94.12	94.12	94.10	94.07	94.12	-0.04	-0.05	-0.01
Van Gaal Drain	Reach 2	1302	94.15	94.14	94.12	94.09	94.08	94.12	-0.06	-0.07	-0.01
Van Gaal Drain	Reach 2	1268	94.14	94.14	94.12	94.08	94.06	94.12	-0.06	-0.08	0.00
Van Gaal Drain	Reach 2	1212	94.10	94.11	94.12	94.01	94.02	94.11	-0.09	-0.10	0.00
Van Gaal Drain	Reach 2	1169	94.04	94.08	94.12	93.92	93.95	94.11	-0.12	-0.13	-0.01
Van Gaal Drain	Reach 2	1091	93.97	94.04	94.12	93.81	93.89	94.11	-0.16	-0.15	-0.01
Van Gaal Drain	Reach 2	1002	93.93	94.02	94.12	93.68	93.84	94.11	-0.24	-0.18	-0.01
Van Gaal Drain	Reach 2	961	93.92	94.02	94.12	93.64	93.83	94.11	-0.28	-0.19	-0.01
Van Gaal Drain	Reach 2	910	93.91	94.02	94.12	93.60	93.83	94.11	-0.31	-0.19	-0.01
Van Gaal Drain	Reach 2	840	93.91	94.02	94.12	93.58	93.82	94.11	-0.32	-0.19	-0.01
Van Gaal Drain	Reach 1	746	93.90	94.01	94.12	93.57	93.82	94.11	-0.33	-0.19	-0.01
Van Gaal Drain	Reach 1	705	93.89	94.01	94.11	93.54	93.81	94.11	-0.35	-0.20	-0.01
Van Gaal Drain	Reach 1	668	93.84	93.99	94.11	93.42	93.79	94.11	-0.43	-0.20	-0.01
Van Gaal Drain	Reach 1	666	93.32	93.68	94.10	93.11	93.63	94.10	-0.22	-0.05	0.00
Van Gaal Drain	Reach 1	656	Culvert								
Van Gaal Drain	Reach 1	647	93.07	93.58	94.10	93.17	93.63	94.10	0.10	0.04	0.00
Van Gaal Drain	Reach 1	645	93.23	93.67	94.10	93.18	93.65	94.10	-0.05	-0.02	0.00
Van Gaal Drain	Reach 1	592	93.28	93.70	94.10	93.22	93.67	94.10	-0.05	-0.02	0.00
Van Gaal Drain	Reach 1	521	93.26	93.70	94.10	93.20	93.67	94.10	-0.06	-0.02	0.00
Van Gaal Drain	Reach 1	277	92.96	93.66	94.10	92.90	93.64	94.10	-0.06	-0.03	0.00
Van Gaal Drain	Reach 1	275	92.87	93.51	94.09	92.82	93.50	94.09	-0.04	-0.02	0.00
Van Gaal Drain	Reach 1	269	Culvert								
Van Gaal Drain	Reach 1	263	92.58	93.39	94.09	92.57	93.38	94.09	-0.02	-0.01	0.00
Van Gaal Drain	Reach 1	226	92.40	93.44	94.09	92.37	93.43	94.09	-0.03	-0.01	0.00
Van Gaal Drain	Reach 1	0	91.28	93.45	94.09	91.30	93.44	94.09	0.02	-0.01	0.00
Moore Drain Trib	Reach 1	1026	N/A	N/A	N/A	95.00	94.99	94.63	N/A	N/A	N/A
Moore Drain Trib	Reach 1	826	N/A	N/A	N/A	94.93	94.94	94.37	N/A	N/A	N/A
Moore Drain Trib	Reach 1	626	N/A	N/A	N/A	94.90	94.93	94.24	N/A	N/A	N/A
Moore Drain Trib	Reach 1	526	N/A	N/A	N/A	94.89	94.86	94.17	N/A	N/A	N/A

**Table 2: Existing and Proposed Simulated Maximum Water Surface Elevations on Van Gaal and Arbuckle Drains**

River	Reach	River Station	Maximum Water Surface Elevation (m)								
			Existing Conditions <sup>(1)</sup>			Proposed Conditions <sup>(1)</sup>			Difference <sup>(1)</sup>		
			1	2	4	1	2	4	1	2	4
Moore Drain Trib	Reach 1	311	94.60	94.58	94.48	94.77	94.66	94.12	0.17	0.08	-0.36
Moore Drain Trib	Reach 1	90	94.20	94.18	94.11	94.00	93.94	94.11	-0.20	-0.24	0.00
Moore Drain	Reach 2	555	94.67	94.63	94.33	94.18	94.18	94.18	-0.49	-0.45	-0.15
Moore Drain	Reach 2	500	94.44	94.41	94.23	94.16	94.16	94.16	-0.28	-0.25	-0.07
Moore Drain	Reach 1	298	93.90	94.02	94.12	93.91	93.86	94.11	0.01	-0.15	-0.01
Moore Drain	Reach 1	130	93.91	94.02	94.12	93.58	93.82	94.11	-0.33	-0.19	-0.01
Joys Road Trib	Reach 1	705	97.59	97.79	97.10	97.56	97.78	97.11	-0.04	0.00	0.00
Joys Road Trib	Reach 1	664	97.60	97.79	97.04	97.56	97.79	97.04	-0.04	0.00	0.00
Joys Road Trib	Reach 1	635	97.50	97.68	97.00	97.46	97.67	97.00	-0.03	0.00	0.00
Joys Road Trib	Reach 1	634	Culvert								
Joys Road Trib	Reach 1	622	97.21	97.26	96.96	97.20	97.26	96.96	-0.01	0.00	0.00
Joys Road Trib	Reach 1	602	97.21	97.27	96.95	97.20	97.27	96.95	-0.01	0.00	0.00
Joys Road Trib	Reach 1	322	96.65	96.71	96.45	96.64	96.71	96.45	-0.01	0.00	0.00
Joys Road Trib	Reach 1	275	96.50	96.56	96.20	96.48	96.56	96.20	-0.02	0.00	0.00
Joys Road Trib	Reach 1	30	96.29	96.30	95.96	96.27	96.29	95.95	-0.02	0.00	0.00

<sup>(1)</sup> Scenario Descriptions:

1. The Van Gaal Drain 100 year summer peak flow reaches the Jock River
2. The Van Gaal Drain 100 year spring peak flow reaches the Jock River
4. The Jock River 100 year spring peak flow reaches the outlet of the Van Gaal Drain