



4.1.1 Marco principal

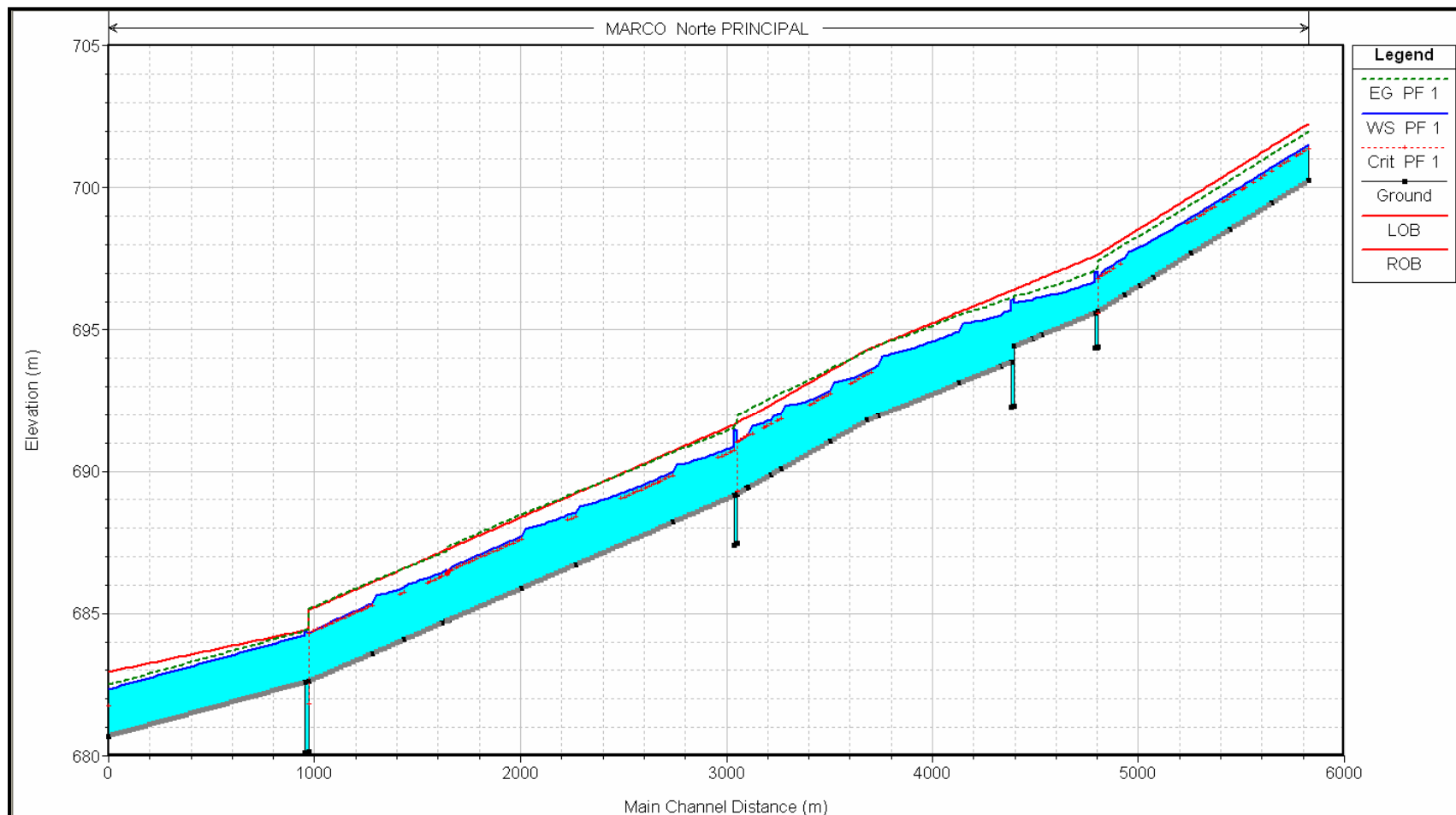


Figura 10: Resultado de la simulación. Perfil longitudinal del Marco Principal



Tabla 10: Resultado de la simulación en secciones del Marco Principal

P.K	Q Total (m3/s)	Nivel Crit. (m)	Nivel Energía (m)	Pte línea Energ.(m/m)	Veloc. (m/s)	Area de flujo (m2)	Ancho sol. (m)	Froude	Radio hidra. (m)	Peniente solera	Calado max.(m)	Cota clave (m)	Cota solera (m)	Resguardo %
5824.31	7.6	701.38	701.97	0.0045	3.03	2.51	2	0.86	0.56	0.0045	1.26	702.25	700.25	37.0
5804.93*	7.6	701.3	701.89	0.0045	3.03	2.51	2	0.86	0.56	0.0045	1.26	702.16	700.16	37.0
5785.55*	7.6	701.21	701.8	0.0045	3.03	2.51	2	0.86	0.56	0.0045	1.26	702.08	700.08	37.0
5766.18*	7.6	701.12	701.71	0.0045	3.03	2.51	2	0.86	0.56	0.0045	1.26	701.99	699.99	37.0
5746.80*	7.6		701.62	0.0045	3.03	2.51	2	0.86	0.56	0.0045	1.26	701.9	699.9	37.0
5727.43*	7.6	700.95	701.54	0.0045	3.03	2.51	2	0.86	0.56	0.0045	1.26	701.81	699.81	37.0
5708.05*	7.6	700.86	701.45	0.0045	3.03	2.51	2	0.86	0.56	0.0045	1.26	701.73	699.73	37.0
5688.68*	7.6	700.77	701.36	0.0045	3.03	2.51	2	0.86	0.56	0.0045	1.26	701.64	699.64	37.0
5669.30*	7.6		701.27	0.0045	3.02	2.51	2	0.86	0.56	0.0045	1.26	701.55	699.55	37.0
5649.93	7.6	700.6	701.19	0.0045	3.03	2.51	2	0.86	0.56	0.0045	1.26	701.47	699.47	37.0
5631.36*	7.6		701.1	0.0045	3.02	2.51	2	0.86	0.56	0.0045	1.26	701.38	699.38	37.0
5612.79*	7.6	700.43	701.02	0.0045	3.03	2.51	2	0.86	0.56	0.0045	1.26	701.3	699.3	37.0
5594.22*	7.6	700.35	700.94	0.0045	3.03	2.51	2	0.86	0.56	0.0045	1.26	701.21	699.21	37.0
5575.65*	7.6		700.85	0.0045	3.02	2.51	2	0.86	0.56	0.0045	1.26	701.13	699.13	37.0
5557.08*	7.6	700.18	700.77	0.0045	3.03	2.51	2	0.86	0.56	0.0045	1.26	701.05	699.05	37.0
5538.51*	7.6		700.69	0.0045	3.02	2.51	2	0.86	0.56	0.0045	1.26	700.96	698.96	37.0
5519.94*	7.6	700.01	700.6	0.0045	3.03	2.51	2	0.86	0.56	0.0045	1.26	700.88	698.88	37.0
5501.37*	7.6	699.93	700.52	0.0045	3.03	2.51	2	0.86	0.56	0.0045	1.26	700.8	698.8	37.0
5482.80*	7.6		700.43	0.0045	3.02	2.51	2	0.86	0.56	0.0045	1.26	700.71	698.71	37.0
5464.23*	7.6	699.76	700.35	0.0045	3.03	2.51	2	0.86	0.56	0.0045	1.26	700.63	698.63	37.0
5445.67	7.6	699.68	700.27	0.0045	3.02	2.51	2	0.86	0.56	0.0045	1.26	700.55	698.54	37.3
5426.73*	7.6	699.59	700.18	0.0045	3.02	2.51	2	0.86	0.56	0.0045	1.26	700.46	698.46	37.0
5407.80*	7.6	699.51	700.1	0.0045	3.02	2.51	2	0.86	0.56	0.0045	1.26	700.37	698.37	37.0
5388.87*	7.6		700.01	0.0045	3.02	2.52	2	0.86	0.56	0.0045	1.26	700.29	698.29	37.0
5369.94*	7.6	699.34	699.93	0.0045	3.02	2.51	2	0.86	0.56	0.0045	1.26	700.2	698.2	37.0
5351.01*	7.6	699.25	699.84	0.0045	3.02	2.51	2	0.86	0.56	0.0045	1.26	700.12	698.12	37.0
5332.07*	7.6	699.17	699.76	0.0045	3.02	2.52	2	0.86	0.56	0.0045	1.26	700.03	698.03	37.0
5313.14*	7.6	699.08	699.67	0.0045	3.02	2.52	2	0.86	0.56	0.0045	1.26	699.95	697.95	37.0
5294.21*	7.6	699	699.59	0.0045	3.02	2.52	2	0.86	0.56	0.0046	1.26	699.86	697.86	37.0
5275.28*	7.6	698.91	699.5	0.0044	3.01	2.52	2	0.86	0.56	0.0045	1.26	699.78	697.78	37.0
5256.35	7.6	698.83	699.42	0.0044	3.01	2.53	2	0.86	0.56	0.0045	1.26	699.69	697.69	37.0
5237.91*	7.6	698.75	699.33	0.0044	3.01	2.53	2	0.85	0.56	0.0045	1.26	699.61	697.61	37.0
5219.48*	7.6		699.25	0.0044	3	2.53	2	0.85	0.56	0.0045	1.27	699.53	697.53	36.5
5201.05*	7.6		699.17	0.0044	3	2.54	2	0.85	0.56	0.0045	1.27	699.44	697.44	36.5
5182.61*	7.6		699.09	0.0044	2.99	2.54	2	0.85	0.56	0.0045	1.27	699.36	697.36	36.5

Anexo 6



P.K	Q Total (m3/s)	Nivel Crit. (m)	Nivel Energía (m)	Pte linea Energ.(m/m)	Veloc. (m/s)	Area de flujo (m2)	Ancho sol. (m)	Froude	Radio hidra. (m)	Peniente solera	Calado max.(m)	Cota clave (m)	Cota solera (m)	Resguardo %
5164.18*	7.6		699	0.0043	2.98	2.55	2	0.84	0.56	0.0045	1.27	699.28	697.28	36.5
5145.75*	7.6		698.92	0.0043	2.97	2.55	2	0.84	0.56	0.0045	1.28	699.19	697.19	36.0
5127.31*	7.6		698.84	0.0043	2.96	2.56	2	0.84	0.56	0.0045	1.28	699.11	697.11	36.0
5108.88*	7.6		698.76	0.0042	2.95	2.57	2	0.83	0.56	0.0045	1.29	699.03	697.03	35.5
5090.45*	7.6		698.68	0.0042	2.94	2.59	2	0.82	0.56	0.0045	1.29	698.95	696.95	35.5
5072.02	7.6		698.6	0.0041	2.92	2.6	2	0.82	0.57	0.0045	1.3	698.86	696.86	35.0
5055.82*	7.6		698.53	0.0040	2.91	2.62	2	0.81	0.57	0.0045	1.31	698.79	696.79	34.5
5039.63*	7.6		698.46	0.0040	2.89	2.63	2	0.8	0.57	0.0045	1.32	698.72	696.72	34.0
5023.44*	7.6		698.39	0.0039	2.86	2.66	2	0.79	0.57	0.0045	1.33	698.64	696.64	33.5
5007.25	7.6		698.32	0.0038	2.83	2.69	2	0.78	0.57	0.0045	1.34	698.57	696.57	33.0
4988.56*	7.6		698.25	0.0036	2.79	2.73	2	0.76	0.58	0.0046	1.36	698.49	696.49	32.0
4969.88*	7.6		698.17	0.0034	2.72	2.79	2	0.74	0.58	0.0045	1.4	698.4	696.4	30.0
4951.20*	7.6		698.11	0.0032	2.66	2.86	2	0.71	0.59	0.0045	1.43	698.32	696.32	28.5
4932.52	8.02		698.02	0.0045	3.06	2.62	2	0.85	0.57	0.0045	1.31	698.23	696.23	34.5
4914.01*	8.02	697.33	697.94	0.0045	3.06	2.62	2	0.85	0.57	0.0045	1.31	698.15	696.15	34.5
4895.51*	8.02		697.85	0.0045	3.06	2.62	2	0.85	0.57	0.0045	1.31	698.07	696.07	34.5
4877.00*	8.02	697.16	697.77	0.0045	3.06	2.62	2	0.85	0.57	0.0045	1.31	697.98	695.98	34.5
4858.50*	8.02	697.08	697.69	0.0045	3.06	2.62	2	0.85	0.57	0.0045	1.31	697.9	695.9	34.5
4839.99*	8.02	696.99	697.6	0.0045	3.06	2.62	2	0.85	0.57	0.0045	1.31	697.82	695.82	34.5
4821.49*	8.02	696.91	697.52	0.0046	3.08	2.6	2	0.86	0.57	0.0045	1.3	697.73	695.73	35.0
4802.99	8.02	696.83	697.42	0.0059	3.4	2.36	2	1	0.54	124.2676	1.18	697.65	695.65	41.0
4802.97	8.02	695.58	697.16	0.0008	1.52	5.29	2	0.3	0.73	0.0042	2.64	697.65	694.4	18.8
4798.72	12.21		697.15	0.0008	1.72	7.1	2.71	0.34	0.89	0.0041	2.62	697.63	694.38	19.4
4790.99	12.21		697.13	0.0002	1.13	10.84	4	0.22	1.15	-124.2750	2.71	697.6	694.35	16.6
4790.98	12.21		697.09	0.0027	2.77	4.41	4	0.84	0.71	0.0030	1.1	697.6	695.6	45.0
4771.03*	12.21		697.04	0.0027	2.76	4.43	4	0.84	0.71	0.0030	1.11	697.54	695.54	44.5
4751.09*	12.21		696.98	0.0026	2.74	4.45	4	0.83	0.72	0.0030	1.11	697.48	695.48	44.5
4731.14*	12.21		696.92	0.0026	2.72	4.49	4	0.82	0.72	0.0030	1.12	697.42	695.42	44.0
4711.20*	12.21		696.86	0.0025	2.7	4.52	4	0.81	0.72	0.0030	1.13	697.36	695.36	43.5
4691.25*	12.21		696.81	0.0025	2.68	4.56	4	0.8	0.73	0.0029	1.14	697.3	695.3	43.0
4671.31*	12.21		696.76	0.0024	2.64	4.62	4	0.79	0.73	0.0030	1.15	697.25	695.25	42.5
4651.36*	12.21		696.7	0.0023	2.6	4.69	4	0.77	0.74	0.0030	1.17	697.18	695.19	41.2
4631.42*	12.21		696.65	0.0022	2.56	4.77	4	0.75	0.75	0.0029	1.19	697.13	695.13	40.5
4611.47*	12.21		696.6	0.0021	2.52	4.85	4	0.73	0.76	0.0030	1.21	697.07	695.07	39.5
4591.53*	12.21		696.56	0.0019	2.46	4.97	4	0.7	0.77	0.0030	1.24	697.01	695.01	38.0
4571.58*	12.21		696.52	0.0018	2.39	5.11	4	0.67	0.78	0.0029	1.28	696.95	694.95	36.0
4551.64*	12.21		696.48	0.0017	2.33	5.25	4	0.65	0.79	0.0030	1.31	696.89	694.89	34.5
4531.7	12.5		696.44	0.0017	2.35	5.31	4	0.65	0.8	0.0029	1.33	696.83	694.83	33.5



P.K	Q Total (m3/s)	Nivel Crit. (m)	Nivel Energía (m)	Pte linea Energ.(m/m)	Veloc. (m/s)	Area de flujo (m2)	Ancho sol. (m)	Froude	Radio hidra. (m)	Peniente solera	Calado max.(m)	Cota clave (m)	Cota solera (m)	Resguardo %
4516.74*	12.5		696.41	0.0016	2.31	5.41	4	0.63	0.81	0.0030	1.35	696.79	694.79	32.5
4501.78*	12.5		696.38	0.0015	2.26	5.53	4	0.61	0.82	0.0029	1.38	696.74	694.74	31.0
4486.83	13.27		696.35	0.0018	2.46	5.39	4	0.68	0.81	0.0030	1.35	696.7	694.7	32.5
4468.88*	13.27		696.32	0.0017	2.41	5.52	4	0.65	0.82	0.0030	1.38	696.64	694.64	31.0
4450.93*	13.27		696.28	0.0016	2.35	5.65	4	0.63	0.83	0.0030	1.41	696.59	694.59	29.5
4432.98*	13.27		696.25	0.0015	2.29	5.79	4	0.61	0.84	0.0030	1.45	696.54	694.54	27.5
4415.03*	13.27		696.22	0.0014	2.23	5.94	4	0.58	0.85	0.0030	1.49	696.48	694.48	25.5
4397.08	13.27		696.19	0.0013	2.18	6.09	4	0.56	0.86	208.7846	1.52	696.43	694.43	24.0
4397.07	20.97		696.15	0.0003	1.41	14.88	4	0.23	1.3	0.0034	3.72	696.43	692.33	9.3
4379.59	20.97		696.15	0.0003	1.39	15.11	4	0.23	1.31	-159.0613	3.78	696.37	692.27	7.8
4379.58	20.97		696.11	0.0020	2.88	7.28	4	0.68	0.95	0.0029	1.82	696.37	693.87	27.2
4364.67*	20.97		696.08	0.0019	2.85	7.36	4	0.67	0.96	0.0030	1.84	696.33	693.83	26.4
4349.76*	20.97		696.05	0.0019	2.82	7.44	4	0.66	0.96	0.0029	1.86	696.28	693.78	25.6
4334.86	22		696.01	0.0023	3.08	7.14	4	0.74	0.94	0.0030	1.78	696.24	693.74	28.8
4316.34*	22		695.96	0.0023	3.05	7.2	4	0.73	0.95	0.0030	1.8	696.18	693.68	28.0
4297.82*	22		695.91	0.0022	3.02	7.28	4	0.72	0.95	0.0030	1.82	696.13	693.63	27.2
4279.3*	22		695.87	0.0021	2.99	7.35	4	0.7	0.96	0.0030	1.84	696.07	693.57	26.4
4260.78*	22		695.82	0.0021	2.96	7.43	4	0.69	0.96	0.0030	1.86	696.02	693.52	25.6
4242.26*	22		695.78	0.0020	2.93	7.52	4	0.68	0.97	0.0030	1.88	695.96	693.46	24.8
4223.74*	22		695.74	0.0019	2.88	7.63	4	0.67	0.98	0.0030	1.91	695.91	693.41	23.6
4205.22*	22		695.7	0.0019	2.84	7.75	4	0.65	0.98	0.0030	1.94	695.85	693.35	22.4
4186.7*	22		695.66	0.0018	2.8	7.87	4	0.64	0.99	0.0030	1.97	695.8	693.3	21.2
4168.18*	22		695.63	0.0017	2.75	7.99	4	0.62	1	0.0030	2	695.74	693.24	20.0
4149.66*	22		695.59	0.0016	2.71	8.12	4	0.61	1.01	0.0030	2.03	695.69	693.19	18.8
4131.14	24.59		695.53	0.0028	3.39	7.26	4	0.8	0.95	0.0029	1.82	695.63	693.13	27.2
4111.51*	24.59		695.47	0.0027	3.38	7.28	4	0.8	0.95	0.0030	1.82	695.57	693.07	27.2
4091.88*	24.59		695.42	0.0027	3.37	7.3	4	0.8	0.95	0.0029	1.83	695.51	693.01	26.8
4072.26*	24.59		695.36	0.0027	3.36	7.32	4	0.79	0.96	0.0030	1.83	695.46	692.96	26.8
4052.63*	24.59		695.3	0.0027	3.35	7.35	4	0.79	0.96	0.0029	1.84	695.4	692.9	26.4
4033.01*	24.59		695.25	0.0026	3.33	7.37	4	0.78	0.96	0.0029	1.84	695.34	692.84	26.4
4013.38*	24.59		695.19	0.0026	3.32	7.4	4	0.78	0.96	0.0030	1.85	695.28	692.78	26.0
3993.75*	24.59		695.14	0.0026	3.31	7.43	4	0.77	0.96	0.0029	1.86	695.22	692.72	25.6
3974.13*	24.59		695.08	0.0026	3.29	7.46	4	0.77	0.97	0.0030	1.87	695.16	692.66	25.2
3954.50*	24.59		695.03	0.0025	3.28	7.5	4	0.76	0.97	0.0029	1.88	695.11	692.61	24.8
3934.88*	24.59		694.97	0.0025	3.26	7.54	4	0.76	0.97	0.0029	1.88	695.05	692.55	24.8
3915.25*	24.59		694.92	0.0025	3.25	7.58	4	0.75	0.97	0.0030	1.89	694.99	692.49	24.4
3895.62*	24.59		694.87	0.0024	3.22	7.64	4	0.74	0.98	0.0029	1.91	694.93	692.43	23.6
3876.00*	24.59		694.82	0.0024	3.2	7.69	4	0.74	0.98	0.0030	1.92	694.87	692.37	23.2



P.K	Q Total (m3/s)	Nivel Crit. (m)	Nivel Energía (m)	Pte linea Energ.(m/m)	Veloc. (m/s)	Area de flujo (m2)	Ancho sol. (m)	Froude	Radio hidra. (m)	Peniente solera	Calado max.(m)	Cota clave (m)	Cota solera (m)	Resguardo %
3856.37*	24.59		694.77	0.0023	3.17	7.76	4	0.73	0.99	0.0029	1.94	694.81	692.31	22.4
3836.75*	24.59		694.72	0.0023	3.14	7.83	4	0.72	0.99	0.0029	1.96	694.76	692.26	21.6
3817.12*	24.59		694.67	0.0022	3.11	7.9	4	0.71	0.99	0.0030	1.98	694.7	692.2	20.8
3797.49*	24.59		694.62	0.0021	3.08	7.99	4	0.7	1	0.0029	2	694.64	692.14	20.0
3777.87*	24.59		694.57	0.0021	3.05	8.07	4	0.68	1	0.0030	2.02	694.58	692.08	19.2
3758.24*	24.59		694.53	0.0020	3	8.18	4	0.67	1.01	0.0029	2.05	694.52	692.02	18.0
3738.62	26.55		694.45	0.0033	3.7	7.18	4	0.88	0.95	0.0030	1.8	694.46	691.96	28.0
3720.40*	26.55		694.4	0.0034	3.73	7.12	4	0.89	0.94	0.0030	1.78	694.41	691.91	28.8
3702.18*	26.55	693.5	694.34	0.0035	3.76	7.06	4	0.9	0.94	0.0030	1.76	694.35	691.85	29.6
3683.97	26.55	693.44	694.28	0.0036	3.82	6.94	4	0.93	0.93	0.0041	1.74	694.3	691.8	30.4
3663.97*	26.55	693.36	694.2	0.0035	3.79	7	4	0.91	0.93	0.0041	1.75	694.22	691.72	30.0
3643.97*	26.55	693.28	694.12	0.0034	3.75	7.08	4	0.9	0.94	0.0041	1.77	694.14	691.64	29.2
3623.97*	26.55	693.2	694.04	0.0033	3.71	7.16	4	0.88	0.94	0.0041	1.79	694.05	691.55	28.4
3603.97*	26.55	693.12	693.97	0.0032	3.64	7.3	4	0.86	0.95	0.0041	1.83	693.97	691.47	26.8
3583.97*	26.55		693.9	0.0030	3.56	7.47	4	0.83	0.97	0.0041	1.87	693.89	691.39	25.2
3563.97*	26.55		693.83	0.0028	3.47	7.65	4	0.8	0.98	0.0041	1.91	693.81	691.31	23.6
3543.97*	26.55		693.77	0.0026	3.39	7.84	4	0.77	0.99	0.0041	1.96	693.73	691.23	21.6
3523.97*	26.55		693.71	0.0024	3.3	8.05	4	0.74	1	0.0041	2.01	693.64	691.14	19.6
3503.97	28.04	692.77	693.63	0.0037	3.92	7.16	4	0.93	0.94	0.0041	1.79	693.56	691.06	28.4
3483.97*	28.04	692.69	693.55	0.0037	3.9	7.19	4	0.93	0.95	0.0041	1.8	693.48	690.98	28.0
3463.97*	28.04	692.6	693.47	0.0036	3.88	7.23	4	0.92	0.95	0.0041	1.81	693.4	690.9	27.6
3443.97*	28.04	692.52	693.39	0.0035	3.85	7.29	4	0.91	0.95	0.0041	1.82	693.32	690.82	27.2
3423.97*	28.04	692.44	693.31	0.0035	3.81	7.36	4	0.9	0.96	0.0041	1.84	693.23	690.73	26.4
3403.97*	28.04	692.36	693.24	0.0033	3.74	7.49	4	0.87	0.97	0.0041	1.87	693.15	690.65	25.2
3383.98*	28.04		693.17	0.0031	3.67	7.64	4	0.85	0.98	0.0042	1.91	693.07	690.57	23.6
3363.98*	28.04		693.1	0.0029	3.59	7.81	4	0.82	0.99	0.0041	1.95	692.99	690.49	22.0
3343.98*	28.04		693.03	0.0028	3.51	7.99	4	0.79	1	0.0041	2	692.91	690.4	20.3
3323.98*	28.04		692.97	0.0026	3.43	8.19	4	0.76	1.01	0.0041	2.05	692.82	690.32	18.0
3303.98*	28.04		692.91	0.0024	3.34	8.39	4	0.74	1.02	0.0041	2.1	692.74	690.24	16.0
3283.98*	28.04		692.85	0.0023	3.26	8.61	4	0.71	1.04	0.0041	2.15	692.66	690.16	14.0
3263.99	29.92	691.86	692.78	0.0033	3.82	7.82	4	0.87	0.99	0.0041	1.96	692.58	690.08	21.6
3247.32*	29.92	691.79	692.71	0.0033	3.79	7.9	4	0.86	0.99	0.0041	1.97	692.51	690.01	21.2
3230.65*	29.92		692.65	0.0031	3.73	8.02	4	0.84	1	0.0041	2.01	692.44	689.94	19.6
3213.99	30.47	691.68	692.6	0.0035	3.9	7.81	4	0.89	0.99	0.0041	1.95	692.37	689.87	22.0
3196.49*	30.47	691.6	692.53	0.0034	3.87	7.88	4	0.88	0.99	0.0041	1.97	692.3	689.8	21.2
3178.99*	30.47	691.53	692.46	0.0033	3.83	7.95	4	0.87	1	0.0041	1.99	692.23	689.73	20.4
3161.49*	30.47		692.4	0.0032	3.77	8.08	4	0.85	1	0.0041	2.02	692.16	689.66	19.2
3143.99*	30.47		692.34	0.0031	3.71	8.21	4	0.83	1.01	0.0041	2.05	692.09	689.59	18.0



P.K	Q Total (m3/s)	Nivel Crit. (m)	Nivel Energía (m)	Pte linea Energ.(m/m)	Veloc. (m/s)	Area de flujo (m2)	Ancho sol. (m)	Froude	Radio hidra. (m)	Peniente solera	Calado max.(m)	Cota clave (m)	Cota solera (m)	Resguardo %
3126.49*	30.47	691.32	692.28	0.0029	3.65	8.35	4	0.81	1.02	0.0041	2.09	692.01	689.51	16.4
3108.99	31.23	691.27	692.2	0.0042	4.21	7.42	4	0.99	0.96	0.0041	1.86	691.94	689.44	25.6
3099	31.23	691.23	692.16	0.0042	4.21	7.42	4	0.99	0.96	0.0040	1.85	691.9	689.4	26.0
3083.23*	31.23	691.17	692.09	0.0043	4.23	7.38	4	0.99	0.96	0.0041	1.85	691.84	689.34	26.0
3067.47*	31.23	691.11	692.03	0.0043	4.25	7.35	4	1	0.96	0.0040	1.84	691.77	689.27	26.4
3051.71	31.23	691.04	691.97	0.0043	4.26	7.33	4	1.01	0.96	173.9983	1.83	691.71	689.21	26.8
3051.7	31.23	689.29	691.63	0.0006	1.97	15.88	4	0.31	1.33	0.0037	3.97	691.71	687.46	6.6
3035.42	31.23		691.6	0.0003	1.53	20.39	5	0.24	1.55	-173.9687	4.08	691.65	687.4	4.0
3035.41	31.23	690.73	691.54	0.0029	3.63	8.61	5	0.88	1.02	0.0032	1.72	691.65	689.15	31.2
3015.80*	31.23	690.67	691.48	0.0029	3.61	8.64	5	0.88	1.02	0.0032	1.73	691.59	689.09	30.8
2996.20*	31.23	690.61	691.42	0.0028	3.6	8.68	5	0.87	1.02	0.0032	1.74	691.53	689.03	30.4
2976.60*	31.23	690.54	691.36	0.0028	3.59	8.71	5	0.87	1.03	0.0032	1.74	691.46	688.96	30.4
2957.00*	31.23	690.48	691.3	0.0028	3.57	8.75	5	0.86	1.03	0.0032	1.75	691.4	688.9	30.0
2937.40*	31.23		691.24	0.0027	3.55	8.79	5	0.85	1.03	0.0032	1.76	691.34	688.84	29.6
2917.80*	31.23		691.18	0.0027	3.53	8.84	5	0.85	1.04	0.0032	1.77	691.28	688.78	29.2
2898.20*	31.23		691.12	0.0026	3.5	8.91	5	0.84	1.04	0.0032	1.78	691.22	688.72	28.8
2878.60*	31.23		691.07	0.0026	3.47	8.99	5	0.83	1.05	0.0032	1.8	691.15	688.65	28.0
2859.00*	31.23		691.01	0.0025	3.44	9.08	5	0.81	1.05	0.0032	1.82	691.09	688.59	27.2
2839.40*	31.23		690.96	0.0024	3.41	9.17	5	0.8	1.06	0.0032	1.83	691.03	688.53	26.8
2819.80*	31.23		690.9	0.0023	3.37	9.28	5	0.79	1.06	0.0032	1.86	690.97	688.47	25.6
2800.20*	31.23		690.85	0.0023	3.33	9.39	5	0.78	1.07	0.0032	1.88	690.91	688.41	24.8
2780.60*	31.23		690.8	0.0022	3.27	9.54	5	0.76	1.08	0.0032	1.91	690.84	688.34	23.6
2761.*	31.23		690.75	0.0021	3.22	9.71	5	0.74	1.09	0.0032	1.94	690.78	688.28	22.4
2741.4	32.81	689.85	690.69	0.0030	3.75	8.75	5	0.91	1.03	0.0031	1.75	690.72	688.22	30.0
2721.67*	32.81	689.79	690.62	0.0030	3.75	8.75	5	0.9	1.03	0.0032	1.75	690.66	688.16	30.0
2701.95*	32.81	689.73	690.56	0.0030	3.74	8.77	5	0.9	1.03	0.0032	1.75	690.59	688.1	29.7
2682.22*	32.81	689.67	690.5	0.0030	3.73	8.78	5	0.9	1.03	0.0031	1.76	690.53	688.03	29.6
2662.50*	32.81	689.6	690.44	0.0030	3.73	8.8	5	0.9	1.03	0.0032	1.76	690.47	687.97	29.6
2642.77*	32.81	689.54	690.38	0.0030	3.72	8.82	5	0.89	1.03	0.0031	1.76	690.41	687.91	29.6
2623.05*	32.81	689.48	690.32	0.0030	3.71	8.84	5	0.89	1.04	0.0032	1.77	690.35	687.85	29.2
2603.33*	32.81	689.42	690.25	0.0029	3.7	8.86	5	0.89	1.04	0.0032	1.77	690.28	687.78	29.2
2583.60*	32.81	689.35	690.19	0.0029	3.69	8.89	5	0.88	1.04	0.0031	1.78	690.22	687.72	28.8
2563.88*	32.81	689.29	690.13	0.0029	3.68	8.91	5	0.88	1.04	0.0031	1.78	690.16	687.66	28.8
2544.15*	32.81	689.23	690.07	0.0029	3.67	8.94	5	0.88	1.04	0.0032	1.79	690.1	687.6	28.4
2524.43*	32.81	689.17	690.01	0.0028	3.66	8.97	5	0.87	1.04	0.0031	1.79	690.03	687.53	28.4
2504.71*	32.81	689.1	689.95	0.0028	3.64	9	5	0.87	1.05	0.0032	1.8	689.97	687.47	28.0
2484.98*	32.81	689.04	689.89	0.0028	3.63	9.04	5	0.86	1.05	0.0032	1.81	689.91	687.41	27.6
2465.26*	32.81		689.83	0.0027	3.61	9.09	5	0.85	1.05	0.0031	1.82	689.85	687.35	27.2



P.K	Q Total (m3/s)	Nivel Crit. (m)	Nivel Energía (m)	Pte linea Energ.(m/m)	Veloc. (m/s)	Area de flujo (m2)	Ancho sol. (m)	Froude	Radio hidra. (m)	Peniente solera	Calado max.(m)	Cota clave (m)	Cota solera (m)	Resguardo %
2445.53*	32.81		689.77	0.0027	3.59	9.13	5	0.85	1.06	0.0031	1.83	689.79	687.29	26.8
2425.81*	32.81		689.71	0.0027	3.58	9.18	5	0.84	1.06	0.0032	1.84	689.72	687.22	26.4
2406.08*	32.81		689.65	0.0026	3.55	9.25	5	0.83	1.06	0.0031	1.85	689.66	687.16	26.0
2386.36*	32.81		689.59	0.0025	3.52	9.33	5	0.82	1.07	0.0032	1.87	689.6	687.1	25.2
2366.64*	32.81		689.54	0.0025	3.49	9.41	5	0.81	1.07	0.0032	1.88	689.54	687.04	24.8
2346.91*	32.81		689.48	0.0024	3.45	9.51	5	0.8	1.08	0.0031	1.9	689.47	686.97	24.0
2327.19*	32.81		689.43	0.0023	3.41	9.61	5	0.79	1.09	0.0031	1.92	689.41	686.91	23.2
2307.46*	32.81		689.37	0.0023	3.37	9.72	5	0.77	1.09	0.0032	1.94	689.35	686.85	22.4
2287.74*	32.81		689.32	0.0022	3.32	9.88	5	0.75	1.1	0.0032	1.98	689.29	686.79	20.8
2268.02	34.06	688.4	689.26	0.0028	3.7	9.21	5	0.87	1.06	0.0032	1.84	689.22	686.72	26.4
2249.15*	34.06	688.34	689.2	0.0028	3.68	9.24	5	0.86	1.06	0.0031	1.85	689.16	686.66	26.0
2230.29*	34.06	688.28	689.15	0.0028	3.67	9.28	5	0.86	1.07	0.0032	1.86	689.11	686.61	25.6
2211.42*	34.06		689.09	0.0028	3.66	9.32	5	0.85	1.07	0.0032	1.86	689.04	686.55	25.3
2192.56*	34.06		689.03	0.0027	3.64	9.36	5	0.85	1.07	0.0031	1.87	688.98	686.48	25.2
2173.69*	34.06		688.98	0.0027	3.62	9.4	5	0.84	1.07	0.0032	1.88	688.93	686.43	24.8
2154.83*	34.06		688.92	0.0026	3.6	9.47	5	0.83	1.08	0.0031	1.89	688.87	686.37	24.4
2135.96*	34.06		688.86	0.0026	3.57	9.54	5	0.83	1.08	0.0032	1.91	688.81	686.31	23.6
2117.1*	34.06		688.81	0.0025	3.54	9.62	5	0.82	1.09	0.0032	1.92	688.75	686.25	23.2
2098.23*	34.06		688.76	0.0025	3.51	9.71	5	0.8	1.09	0.0031	1.94	688.69	686.19	22.4
2079.37*	34.06		688.7	0.0024	3.48	9.79	5	0.79	1.1	0.0032	1.96	688.63	686.13	21.6
2060.50*	34.06		688.65	0.0023	3.44	9.9	5	0.78	1.1	0.0032	1.98	688.57	686.07	20.8
2041.64*	34.06		688.6	0.0023	3.4	10.01	5	0.77	1.11	0.0031	2	688.51	686.01	20.0
2022.77*	34.06		688.55	0.0022	3.37	10.12	5	0.76	1.12	0.0032	2.02	688.45	685.95	19.2
2003.91	35.5	687.61	688.49	0.0032	3.89	9.14	5	0.92	1.06	0.0031	1.83	688.39	685.89	26.8
1984.25*	35.5	687.55	688.42	0.0032	3.89	9.13	5	0.92	1.06	0.0032	1.83	688.33	685.83	26.8
1964.6*	35.5	687.49	688.36	0.0032	3.89	9.13	5	0.92	1.06	0.0031	1.83	688.26	685.77	26.5
1944.94*	35.5	687.42	688.3	0.0032	3.89	9.13	5	0.92	1.06	0.0032	1.83	688.2	685.7	26.8
1925.29*	35.5	687.36	688.24	0.0032	3.89	9.13	5	0.92	1.06	0.0031	1.83	688.14	685.64	26.8
1905.63*	35.5	687.3	688.17	0.0032	3.89	9.13	5	0.92	1.06	0.0032	1.83	688.08	685.58	26.8
1885.98*	35.5	687.24	688.11	0.0032	3.89	9.13	5	0.92	1.06	0.0031	1.83	688.02	685.52	26.8
1866.32*	35.5	687.18	688.05	0.0032	3.89	9.13	5	0.92	1.05	0.0031	1.83	687.95	685.45	26.8
1846.67*	35.5	687.11	687.99	0.0032	3.89	9.12	5	0.92	1.05	0.0032	1.82	687.89	685.39	27.2
1827.01*	35.5	687.05	687.93	0.0032	3.89	9.12	5	0.92	1.05	0.0032	1.82	687.83	685.33	27.2
1807.36*	35.5	686.99	687.86	0.0032	3.89	9.12	5	0.92	1.05	0.0031	1.82	687.77	685.27	27.2
1787.70*	35.5	686.93	687.8	0.0032	3.89	9.11	5	0.92	1.05	0.0032	1.82	687.71	685.21	27.2
1768.05*	35.5	686.86	687.74	0.0032	3.9	9.11	5	0.92	1.05	0.0031	1.82	687.64	685.14	27.2
1748.39*	35.5	686.8	687.68	0.0032	3.9	9.1	5	0.92	1.05	0.0031	1.82	687.58	685.08	27.2
1728.74*	35.5	686.74	687.61	0.0032	3.9	9.09	5	0.92	1.05	0.0032	1.82	687.52	685.02	27.2



P.K	Q Total (m3/s)	Nivel Crit. (m)	Nivel Energía (m)	Pte linea Energ.(m/m)	Veloc. (m/s)	Area de flujo (m2)	Ancho sol. (m)	Froude	Radio hidra. (m)	Peniente solera	Calado max.(m)	Cota clave (m)	Cota solera (m)	Resguardo %
1709.08*	35.5	686.68	687.55	0.0032	3.91	9.08	5	0.93	1.05	0.0032	1.82	687.46	684.96	27.2
1689.43*	35.5	686.61	687.49	0.0032	3.91	9.08	5	0.93	1.05	0.0032	1.82	687.39	684.89	27.2
1669.77*	35.5	686.55	687.43	0.0033	3.93	9.04	5	0.93	1.05	0.0031	1.81	687.33	684.83	27.6
1650.12	35.5	686.49	687.36	0.0037	4.12	8.61	5	1	1.02	0.0031	1.72	687.27	684.77	31.2
1649.12*	35.5	686.48	687.35	0.0045	4.39	8.09	5.05	1.11	0.98	0.0031	1.6	687.27	684.77	36.0
1648.12*	35.5	686.46	687.33	0.0042	4.3	8.25	5.1	1.08	0.99	0.0031	1.62	687.26	684.76	35.2
1647.12*	35.5	686.45	687.3	0.0040	4.22	8.41	5.15	1.06	1	0.0031	1.63	687.26	684.76	34.8
1646.12*	35.5	686.44	687.28	0.0039	4.16	8.53	5.2	1.04	1.01	0.0028	1.64	687.26	684.76	34.4
1645.12*	35.5	686.42	687.26	0.0033	3.93	9.03	5.25	0.96	1.04	0.0031	1.72	687.26	684.76	31.2
1644.12*	35.5	686.41	687.25	0.0031	3.86	9.2	5.3	0.94	1.05	0.0031	1.73	687.25	684.75	30.8
1643.12*	35.5	686.4	687.23	0.0030	3.79	9.36	5.35	0.92	1.06	0.0031	1.75	687.25	684.75	30.0
1642.12*	35.5	686.38	687.22	0.0029	3.73	9.52	5.4	0.9	1.07	0.0031	1.76	687.25	684.75	29.6
1641.12*	35.5	686.37	687.2	0.0028	3.67	9.67	5.45	0.88	1.07	0.0031	1.77	687.24	684.74	29.2
1640.12	35.5		687.19	0.0026	3.61	9.83	5.5	0.86	1.08	0.0032	1.79	687.24	684.74	28.4
1620.21	35.96	686.31	687.14	0.0028	3.69	9.73	5.5	0.89	1.08	0.0032	1.77	687.18	684.68	29.2
1601.79*	35.96	686.25	687.09	0.0027	3.68	9.78	5.5	0.88	1.08	0.0032	1.78	687.12	684.62	28.8
1583.37*	35.96	686.19	687.03	0.0027	3.66	9.82	5.5	0.87	1.08	0.0032	1.79	687.06	684.56	28.4
1564.95*	35.96	686.13	686.97	0.0027	3.64	9.87	5.5	0.87	1.09	0.0031	1.8	687	684.5	28.0
1546.54*	35.96	686.07	686.92	0.0026	3.62	9.93	5.5	0.86	1.09	0.0032	1.8	686.94	684.44	28.0
1528.12*	35.96		686.86	0.0026	3.59	10.01	5.5	0.85	1.1	0.0032	1.82	686.89	684.39	27.2
1509.70*	35.96		686.81	0.0025	3.56	10.1	5.5	0.84	1.1	0.0031	1.84	686.83	684.33	26.4
1491.29*	35.96		686.76	0.0024	3.53	10.19	5.5	0.83	1.11	0.0031	1.85	686.77	684.27	26.0
1472.87*	35.96		686.7	0.0024	3.49	10.29	5.5	0.82	1.11	0.0032	1.87	686.71	684.21	25.2
1454.45*	35.96		686.65	0.0023	3.45	10.41	5.5	0.8	1.12	0.0031	1.89	686.65	684.15	24.4
1436.04	36.67	685.74	686.6	0.0027	3.67	9.99	5.5	0.87	1.09	0.0032	1.82	686.59	684.09	27.2
1416.75*	36.67	685.68	686.54	0.0026	3.64	10.07	5.5	0.86	1.1	0.0032	1.83	686.53	684.03	26.8
1397.46*	36.67		686.48	0.0026	3.61	10.15	5.5	0.85	1.1	0.0032	1.85	686.47	683.97	26.0
1378.17*	36.67		686.43	0.0025	3.58	10.24	5.5	0.84	1.11	0.0032	1.86	686.41	683.91	25.6
1358.89*	36.67		686.37	0.0024	3.55	10.34	5.5	0.83	1.12	0.0032	1.88	686.35	683.85	24.8
1339.60*	36.67		686.32	0.0024	3.51	10.45	5.5	0.81	1.12	0.0032	1.9	686.29	683.79	24.0
1320.31*	36.67		686.27	0.0023	3.46	10.61	5.5	0.79	1.13	0.0032	1.93	686.23	683.73	22.8
1301.02*	36.67		686.22	0.0022	3.4	10.79	5.5	0.77	1.14	0.0032	1.96	686.17	683.67	21.6
1281.74	37.94	685.29	686.15	0.0032	3.93	9.65	5.5	0.95	1.07	0.0032	1.75	686.11	683.61	30.0
1262.45*	37.94	685.23	686.09	0.0032	3.93	9.65	5.5	0.95	1.07	0.0032	1.75	686.05	683.55	30.0
1243.16*	37.94	685.17	686.03	0.0032	3.93	9.64	5.5	0.95	1.07	0.0032	1.75	685.98	683.48	30.0
1223.87*	37.94	685.11	685.96	0.0032	3.93	9.64	5.5	0.95	1.07	0.0032	1.75	685.92	683.42	30.0
1204.59*	37.94	685.05	685.9	0.0032	3.94	9.64	5.5	0.95	1.07	0.0032	1.75	685.86	683.36	30.0
1185.30*	37.94	684.99	685.84	0.0032	3.94	9.63	5.5	0.95	1.07	0.0032	1.75	685.8	683.3	30.0



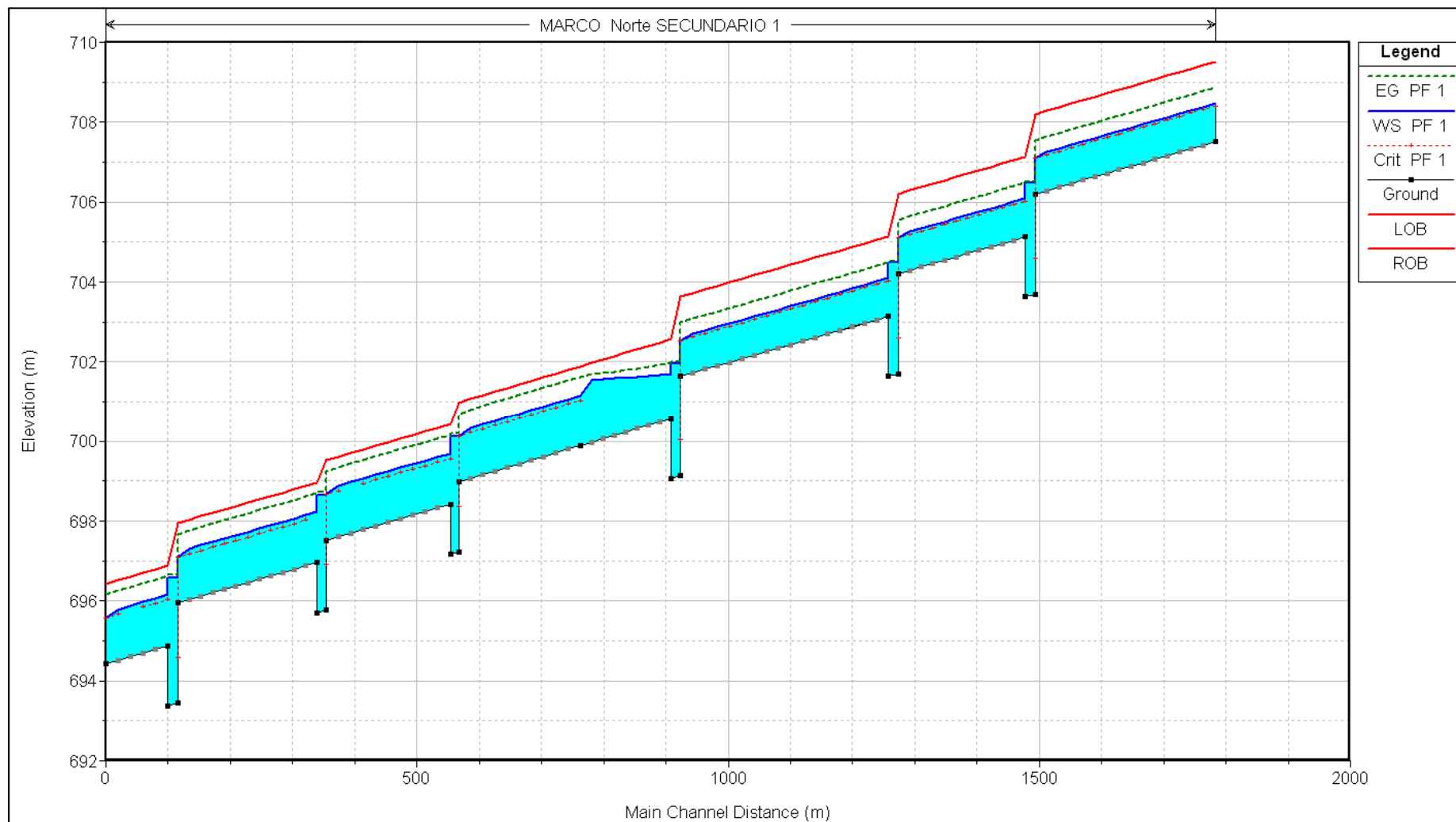
P.K	Q Total (m³/s)	Nivel Crit. (m)	Nivel Energía (m)	Pte línea Energ.(m/m)	Veloc. (m/s)	Area de flujo (m²)	Ancho sol. (m)	Froude	Radio hidra. (m)	Peniente solera	Calado max.(m)	Cota clave (m)	Cota solera (m)	Resguardo %
1166.01*	37.94	684.93	685.78	0.0032	3.94	9.62	5.5	0.95	1.07	0.0032	1.75	685.74	683.24	30.0
1146.73*	37.94	684.87	685.72	0.0032	3.95	9.61	5.5	0.95	1.07	0.0032	1.75	685.68	683.18	30.0
1127.44*	37.94	684.8	685.66	0.0032	3.95	9.6	5.5	0.96	1.07	0.0032	1.74	685.62	683.12	30.4
1108.15*	37.94	684.74	685.6	0.0032	3.96	9.58	5.5	0.96	1.07	0.0032	1.74	685.56	683.06	30.4
1088.87*	37.94	684.68	685.54	0.0033	3.97	9.56	5.5	0.96	1.06	0.0032	1.74	685.5	683	30.4
1069.58*	37.94	684.62	685.48	0.0033	3.98	9.53	5.5	0.97	1.06	0.0032	1.73	685.43	682.93	30.8
1050.29*	37.94	684.56	685.41	0.0033	3.99	9.5	5.5	0.97	1.06	0.0032	1.73	685.37	682.87	30.8
1031.01*	37.94	684.5	685.35	0.0034	4.01	9.45	5.5	0.98	1.06	0.0032	1.72	685.31	682.81	31.2
1011.72*	37.94	684.44	685.29	0.0034	4.04	9.39	5.5	0.99	1.05	0.0032	1.71	685.25	682.75	31.6
992.436*	37.94	684.38	685.23	0.0035	4.07	9.31	5.5	1	1.05	0.0032	1.69	685.19	682.69	32.4
973.15	37.94	684.32	685.17	0.0036	4.09	9.27	5.5	1.01	1.04	248.5500	1.69	685.13	682.63	32.4
973.14	37.94	681.82	684.45	0.0003	1.65	22.99	5.5	0.26	1.66	0.0016	4.18	684.49	680.13	Sec. Abier.
954.16	37.94		684.41	0.0000	0.65	58.37	10	0.11	2.75	-248.5426	4.29	684.41	680.1	Sec. Abier.
954.15	37.94		684.4	0.0020	1.73	21.88	10	0.48	1.26	0.0020	1.65	684.41	682.6	Sec. Abier.
934.271*	37.94		684.36	0.0020	1.73	21.88	10	0.48	1.26	0.0020	1.65	684.38	682.56	Sec. Abier.
914.393*	37.94		684.32	0.0020	1.73	21.87	10	0.48	1.26	0.0020	1.65	684.35	682.52	Sec. Abier.
894.515*	37.94		684.28	0.0020	1.73	21.88	10	0.48	1.26	0.0020	1.65	684.32	682.48	Sec. Abier.
874.637*	37.94		684.24	0.0020	1.73	21.87	10	0.48	1.26	0.0020	1.65	684.29	682.44	Sec. Abier.
854.759*	37.94		684.2	0.0020	1.73	21.88	10	0.48	1.26	0.0020	1.65	684.26	682.4	Sec. Abier.
834.881*	37.94		684.16	0.0020	1.73	21.89	10	0.48	1.26	0.0019	1.65	684.23	682.36	Sec. Abier.
815.003*	37.94		684.12	0.0020	1.73	21.87	10	0.48	1.26	0.0020	1.65	684.2	682.32	Sec. Abier.
795.125*	37.94		684.08	0.0020	1.73	21.88	10	0.48	1.26	0.0020	1.65	684.17	682.28	Sec. Abier.
775.246*	37.94		684.04	0.0020	1.73	21.88	10	0.48	1.26	0.0020	1.65	684.14	682.24	Sec. Abier.
755.368*	37.94		684	0.0020	1.73	21.88	10	0.48	1.26	0.0020	1.65	684.11	682.2	Sec. Abier.
735.490*	37.94		683.96	0.0020	1.73	21.87	10	0.48	1.26	0.0020	1.65	684.08	682.17	Sec. Abier.
715.612*	37.94		683.92	0.0020	1.73	21.88	10	0.48	1.26	0.0020	1.65	684.05	682.13	Sec. Abier.
695.734*	37.94		683.88	0.0020	1.73	21.88	10	0.48	1.26	0.0020	1.65	684.02	682.09	Sec. Abier.
675.856*	37.94		683.85	0.0020	1.73	21.87	10	0.48	1.26	0.0020	1.65	683.98	682.05	Sec. Abier.
655.978*	37.94		683.81	0.0020	1.73	21.88	10	0.48	1.26	0.0019	1.65	683.95	682.01	Sec. Abier.
636.1*	37.94		683.77	0.0020	1.73	21.87	10	0.48	1.26	0.0020	1.65	683.92	681.97	Sec. Abier.
616.221*	37.94		683.73	0.0020	1.73	21.88	10	0.48	1.26	0.0020	1.65	683.89	681.93	Sec. Abier.
596.343*	37.94		683.69	0.0020	1.73	21.87	10	0.48	1.26	0.0020	1.65	683.86	681.89	Sec. Abier.
576.465*	37.94		683.65	0.0020	1.73	21.88	10	0.48	1.26	0.0020	1.65	683.83	681.85	Sec. Abier.
556.587*	37.94		683.61	0.0020	1.73	21.88	10	0.48	1.26	0.0020	1.65	683.8	681.81	Sec. Abier.
536.709*	37.94		683.57	0.0020	1.73	21.87	10	0.48	1.26	0.0020	1.65	683.77	681.77	Sec. Abier.
516.831*	37.94		683.53	0.0020	1.73	21.87	10	0.48	1.26	0.0020	1.65	683.74	681.73	Sec. Abier.
496.953*	37.94		683.49	0.0020	1.74	21.87	10	0.48	1.26	0.0020	1.65	683.71	681.69	Sec. Abier.
477.075*	37.94		683.45	0.0020	1.73	21.87	10	0.48	1.26	0.0020	1.65	683.68	681.65	Sec. Abier.



P.K	Q Total (m3/s)	Nivel Crit. (m)	Nivel Energía (m)	Pte linea Energ.(m/m)	Veloc. (m/s)	Area de flujo (m2)	Ancho sol. (m)	Froude	Radio hidra. (m)	Peniente solera	Calado max.(m)	Cota clave (m)	Cota solera (m)	Resguardo %
457.196*	37.94		683.41	0.0020	1.73	21.88	10	0.48	1.26	0.0020	1.65	683.65	681.61	Sec. Abier.
437.318*	37.94		683.37	0.0020	1.73	21.87	10	0.48	1.26	0.0020	1.65	683.62	681.57	Sec. Abier.
417.440*	37.94		683.33	0.0020	1.73	21.88	10	0.48	1.26	0.0020	1.65	683.59	681.53	Sec. Abier.
397.562*	37.94		683.29	0.0020	1.73	21.87	10	0.48	1.26	0.0020	1.65	683.56	681.49	Sec. Abier.
377.684*	37.94		683.25	0.0020	1.73	21.87	10	0.48	1.26	0.0020	1.65	683.53	681.45	Sec. Abier.
357.806*	37.94		683.21	0.0020	1.73	21.88	10	0.48	1.26	0.0020	1.65	683.5	681.41	Sec. Abier.
337.928*	37.94		683.17	0.0020	1.73	21.87	10	0.48	1.26	0.0020	1.65	683.47	681.37	Sec. Abier.
318.049*	37.94		683.13	0.0020	1.73	21.88	10	0.48	1.26	0.0019	1.65	683.44	681.33	Sec. Abier.
298.171*	37.94		683.09	0.0020	1.74	21.86	10	0.48	1.26	0.0020	1.64	683.41	681.29	Sec. Abier.
278.293*	37.94		683.05	0.0020	1.73	21.87	10	0.48	1.26	0.0019	1.65	683.38	681.25	Sec. Abier.
258.415*	37.94		683.01	0.0020	1.74	21.86	10	0.48	1.26	0.0020	1.64	683.35	681.22	Sec. Abier.
238.537*	37.94		682.97	0.0020	1.74	21.87	10	0.48	1.26	0.0020	1.65	683.31	681.17	Sec. Abier.
218.659*	37.94		682.93	0.0020	1.73	21.87	10	0.48	1.26	0.0020	1.65	683.29	681.14	Sec. Abier.
198.781*	37.94		682.89	0.0020	1.74	21.86	10	0.48	1.26	0.0020	1.64	683.25	681.1	Sec. Abier.
178.903*	37.94		682.85	0.0020	1.74	21.86	10	0.48	1.26	0.0020	1.65	683.22	681.06	Sec. Abier.
159.024*	37.94		682.82	0.0020	1.74	21.85	10	0.48	1.26	0.0020	1.64	683.19	681.02	Sec. Abier.
139.146*	37.94		682.78	0.0020	1.74	21.86	10	0.48	1.26	0.0020	1.64	683.16	680.98	Sec. Abier.
119.268*	37.94		682.74	0.0020	1.74	21.84	10	0.48	1.26	0.0020	1.64	683.13	680.94	Sec. Abier.
99.3904*	37.94		682.7	0.0020	1.74	21.85	10	0.48	1.26	0.0020	1.64	683.1	680.9	Sec. Abier.
79.5123*	37.94		682.66	0.0020	1.74	21.86	10	0.48	1.26	0.0020	1.64	683.07	680.86	Sec. Abier.
59.6342*	37.94		682.62	0.0020	1.74	21.84	10	0.48	1.26	0.0020	1.64	683.04	680.82	Sec. Abier.
39.7561*	37.94		682.58	0.0020	1.74	21.85	10	0.48	1.26	0.0020	1.64	683.01	680.78	Sec. Abier.
19.8779*	37.94		682.54	0.0020	1.74	21.83	10	0.48	1.26	0.0020	1.64	682.98	680.74	Sec. Abier.
0	37.94	681.75	682.5	0.0020	1.74	21.83	10	0.48	1.26		1.64	682.95	680.7	Sec. Abier.



4.1.2 Marco Secundario 1



ANEXO 6: ESTUDIO HIDRÁULICO DE LA RED DE DRENAJE URBANA



Tabla 12: Resultado de la simulación en secciones del Marco Secundario 1

P.K	Q Total (m3/s)	Nivel Crit. (m)	Nivel Energía (m)	Pte linea Energ.(m/m)	Veloc (m/s)	Area de flujo (m2)	Ancho sol. (m)	Froud e	Radio hidra. (m)	Penient e solera	Calado max.(m)	Cota clave (m)	Cota solera (m)	Resguard o %
1792.60	5.34	708.41	708.86	0.0045	2.78	1.92	2	0.91	0.49	0.0045	0.96	709.51	707.51	52.0
1773.31 *	5.34	708.32	708.78	0.0045	2.78	1.92	2	0.91	0.49	0.0045	0.96	709.42	707.42	52.0
1754.02 *	5.34	708.23	708.69	0.0045	2.78	1.92	2	0.91	0.49	0.0045	0.96	709.34	707.34	52.0
1734.73 *	5.34	708.14	708.6	0.0045	2.78	1.92	2	0.91	0.49	0.0045	0.96	709.25	707.25	52.0
1715.44 *	5.34	708.06	708.51	0.0045	2.78	1.92	2	0.91	0.49	0.0046	0.96	709.16	707.16	52.0
1696.15 *	5.34	707.97	708.43	0.0045	2.78	1.92	2	0.91	0.49	0.0045	0.96	709.07	707.07	52.0
1676.86 *	5.34	707.88	708.34	0.0045	2.78	1.92	2	0.91	0.49	0.0045	0.96	708.99	706.99	52.0
1657.57 *	5.34	707.79	708.25	0.0045	2.78	1.92	2	0.91	0.49	0.0045	0.96	708.9	706.9	52.0
1638.28 *	5.34	707.71	708.17	0.0045	2.78	1.92	2	0.9	0.49	0.0045	0.96	708.81	706.81	52.0
1618.99 *	5.34	707.62	708.08	0.0045	2.78	1.92	2	0.9	0.49	0.0045	0.96	708.72	706.72	52.0
1599.70 *	5.34	707.53	707.99	0.0045	2.77	1.93	2	0.9	0.49	0.0046	0.96	708.64	706.64	52.0
1580.41 *	5.34	707.44	707.9	0.0044	2.77	1.93	2	0.9	0.49	0.0045	0.96	708.55	706.55	52.0
1561.12 *	5.34	707.36	707.82	0.0044	2.76	1.93	2	0.9	0.49	0.0045	0.97	708.46	706.46	51.5
1541.83 *	5.34	707.27	707.73	0.0044	2.76	1.94	2	0.89	0.49	0.0045	0.97	708.38	706.37	51.7
1522.54 *	5.34	707.18	707.64	0.0044	2.76	1.93	2	0.9	0.49	0.0045	0.97	708.29	706.29	51.5
1503.26	5.34	707.1	707.55	0.0054	2.98	1.79	2	1.01	0.47	248.54	0.9	708.2	706.2	55.0
1503.25	5.34	704.6	706.52	0.0003	0.96	5.56	2	0.18	0.74	0.0045	2.78	708.2	703.7	38.2
1487.76	5.34		706.52	0.0003	0.94	5.69	2	0.18	0.74	-149.15	2.84	707.13	703.63	18.9
1487.75	5.34	706.03	706.48	0.0045	2.78	1.92	2	0.9	0.49	0.0045	0.96	707.13	705.13	52.0
1469.18 *	5.34	705.94	706.4	0.0045	2.78	1.92	2	0.9	0.49	0.0045	0.96	707.05	705.05	52.0
1450.62	5.34	705.86	706.32	0.0045	2.78	1.92	2	0.9	0.49	0.0045	0.96	706.96	704.96	52.0

Anexo 6



P.K	Q Total (m3/s)	Nivel Crit. (m)	Nivel Energía (m)	Pte linea Energ.(m/m)	Veloc . (m/s)	Area de flujo (m2)	Ancho sol. (m)	Froud e	Radio hidra. (m)	Penient e solera	Calado max.(m)	Cota clave (m)	Cota solera (m)	Resguard o %
*														
1432.06 *	5.34	705.77	706.23	0.0045	2.78	1.92	2	0.9	0.49	0.0045	0.96	706.88	704.88	52.0
1413.49 *	5.34	705.69	706.15	0.0045	2.77	1.93	2	0.9	0.49	0.0045	0.96	706.8	704.8	52.0
1394.93 *	5.34	705.61	706.07	0.0045	2.77	1.93	2	0.9	0.49	0.0045	0.96	706.71	704.71	52.0
1376.37 *	5.34	705.52	705.98	0.0045	2.77	1.93	2	0.9	0.49	0.0045	0.96	706.63	704.63	52.0
1357.81 *	5.34	705.44	705.9	0.0044	2.77	1.93	2	0.9	0.49	0.0045	0.97	706.55	704.54	51.7
1339.24 *	5.34	705.36	705.82	0.0044	2.76	1.93	2	0.9	0.49	0.0045	0.97	706.46	704.46	51.5
1320.68 *	5.34	705.27	705.73	0.0044	2.75	1.94	2	0.89	0.49	0.0045	0.97	706.38	704.38	51.5
1302.12 *	5.34	705.19	705.65	0.0045	2.77	1.93	2	0.9	0.49	0.0045	0.96	706.29	704.29	52.0
1283.56	5.34	705.11	705.56	0.0054	2.98	1.79	2	1.01	0.47	248.54	0.9	706.21	704.21	55.0
1283.55	5.34	702.61	704.53	0.0003	0.96	5.56	2	0.18	0.74	0.0045	2.78	706.21	701.71	38.2
1268.07	5.34		704.53	0.0003	0.94	5.69	2	0.18	0.74	-149.12	2.84	705.14	701.64	18.9
1268.06	5.34	704.04	704.49	0.0045	2.78	1.92	2	0.9	0.49	0.0045	0.96	705.14	703.14	52.0
1248.39 *	5.34	703.95	704.41	0.0045	2.78	1.92	2	0.9	0.49	0.0045	0.96	705.05	703.05	52.0
1228.73 *	5.34	703.86	704.32	0.0045	2.78	1.92	2	0.9	0.49	0.0045	0.96	704.96	702.96	52.0
1209.07 *	5.34	703.77	704.23	0.0045	2.77	1.93	2	0.9	0.49	0.0045	0.96	704.88	702.87	52.2
1189.41 *	5.34	703.68	704.14	0.0045	2.77	1.92	2	0.9	0.49	0.0045	0.96	704.79	702.79	52.0
1169.74 *	5.34	703.59	704.05	0.0045	2.78	1.92	2	0.9	0.49	0.0045	0.96	704.7	702.7	52.0
1150.08 *	5.34	703.51	703.97	0.0045	2.78	1.92	2	0.9	0.49	0.0045	0.96	704.61	702.61	52.0
1130.42 *	5.34	703.42	703.88	0.0045	2.77	1.93	2	0.9	0.49	0.0045	0.96	704.52	702.52	52.0
1110.76 *	5.34	703.33	703.79	0.0045	2.77	1.93	2	0.9	0.49	0.0045	0.96	704.43	702.43	52.0
1091.09	5.34	703.24	703.7	0.0045	2.77	1.93	2	0.9	0.49	0.0045	0.96	704.35	702.35	52.0

Anexo 6



P.K	Q Total (m3/s)	Nivel Crit. (m)	Nivel Energía (m)	Pte linea Energ.(m/m)	Veloc . (m/s)	Area de flujo (m2)	Ancho sol. (m)	Froud e	Radio hidra. (m)	Penient e solera	Calado max.(m)	Cota clave (m)	Cota solera (m)	Resguard o %
*														
1071.43 *	5.34	703.15	703.61	0.0045	2.77	1.93	2	0.9	0.49	0.0045	0.96	704.26	702.26	52.0
1051.77 *	5.34	703.06	703.52	0.0044	2.76	1.93	2	0.9	0.49	0.0045	0.97	704.17	702.17	51.5
1032.11 *	5.34	702.98	703.44	0.0044	2.76	1.93	2	0.9	0.49	0.0045	0.97	704.08	702.08	51.5
1012.44 *	5.34	702.89	703.35	0.0044	2.76	1.94	2	0.89	0.49	0.0045	0.97	703.99	701.99	51.5
992.787 *	5.34	702.8	703.26	0.0044	2.75	1.94	2	0.89	0.49	0.0045	0.97	703.91	701.91	51.5
973.124 *	5.34	702.71	703.17	0.0043	2.74	1.95	2	0.89	0.49	0.0045	0.97	703.82	701.82	51.5
953.462 *	5.34	702.62	703.08	0.0044	2.75	1.94	2	0.89	0.49	0.0045	0.97	703.73	701.73	51.5
933.8	5.34	702.54	702.99	0.0054	2.98	1.79	2	1.01	0.47	248.57	0.9	703.64	701.64	55.0
933.79	5.34	700.04	702.02	0.0003	0.94	5.67	2	0.18	0.74	0.0045	2.83	703.64	699.14	37.1
918.31	5.34		702.01	0.0003	0.92	5.8	2	0.17	0.74	-149.12	2.9	702.57	699.07	17.1
918.3	5.34		701.99	0.0029	2.34	2.28	2	0.7	0.53	0.0047	1.14	702.57	700.57	43.0
899.473 *	5.34		701.93	0.0025	2.24	2.38	2	0.66	0.54	0.0047	1.19	702.49	700.48	40.8
880.647 *	5.34		701.88	0.0023	2.14	2.5	2	0.61	0.56	0.0046	1.25	702.4	700.4	37.5
861.821 *	5.34		701.84	0.0020	2.04	2.62	2	0.57	0.57	0.0047	1.31	702.32	700.31	34.8
842.995 *	5.34		701.8	0.0018	1.94	2.75	2	0.53	0.58	0.0047	1.37	702.23	700.23	31.5
824.169 *	5.34		701.76	0.0016	1.85	2.88	2	0.49	0.59	0.0047	1.44	702.14	700.14	28.0
805.343 *	5.34		701.73	0.0014	1.77	3.02	2	0.46	0.6	0.0046	1.51	702.06	700.06	24.5
786.517 *	5.34		701.7	0.0012	1.69	3.16	2	0.43	0.61	0.0046	1.58	701.97	699.97	21.0
767.691	7.7	701.03	701.62	0.0046	3.07	2.51	2	0.88	0.56	0.0047	1.25	701.89	699.89	37.5
747.609 *	7.7	700.94	701.53	0.0046	3.07	2.51	2	0.88	0.56	0.0047	1.25	701.8	699.8	37.5
727.528 *	7.7	700.85	701.44	0.0046	3.07	2.51	2	0.87	0.56	0.0047	1.25	701.71	699.71	37.5

Anexo 6



P.K	Q Total (m3/s)	Nivel Crit. (m)	Nivel Energía (m)	Pte linea Energ.(m/m)	Veloc . (m/s)	Area de flujo (m2)	Ancho sol. (m)	Froud e	Radio hidra. (m)	Penient e solera	Calado max.(m)	Cota clave (m)	Cota solera (m)	Resguard o %
707.447 *	7.7	700.76	701.35	0.0046	3.07	2.51	2	0.87	0.56	0.0047	1.26	701.62	699.62	37.0
687.366 *	7.7	700.67	701.26	0.0046	3.06	2.51	2	0.87	0.56	0.0047	1.26	701.53	699.53	37.0
667.285 *	7.7	700.58	701.17	0.0046	3.06	2.52	2	0.87	0.56	0.0046	1.26	701.43	699.43	37.0
647.204 *	7.7	700.49	701.08	0.0046	3.06	2.52	2	0.87	0.56	0.0047	1.26	701.34	699.34	37.0
627.123 *	7.7	700.4	700.99	0.0046	3.06	2.52	2	0.87	0.56	0.0047	1.26	701.25	699.25	37.0
607.042 *	7.7	700.31	700.9	0.0046	3.05	2.52	2	0.87	0.56	0.0047	1.26	701.16	699.16	37.0
586.961 *	7.7	700.21	700.81	0.0046	3.07	2.51	2	0.87	0.56	0.0047	1.25	701.07	699.07	37.5
566.88	7.7	700.12	700.7	0.0059	3.37	2.29	2	1.01	0.53	173.97	1.14	700.98	698.98	43.0
566.87	7.7	698.37	700.21	0.0006	1.33	5.77	2	0.25	0.74	0.0045	2.88	700.98	697.23	23.2
553.39	7.7		700.2	0.0006	1.31	5.88	2	0.24	0.75	-124.28	2.94	700.42	697.17	9.5
553.38	7.7	699.56	700.16	0.0045	3.03	2.54	2	0.86	0.56	0.0045	1.27	700.42	698.42	36.5
533.384 *	7.7	699.47	700.07	0.0045	3.03	2.54	2	0.86	0.56	0.0045	1.27	700.33	698.33	36.5
513.388 *	7.7	699.38	699.98	0.0045	3.03	2.54	2	0.86	0.56	0.0045	1.27	700.24	698.24	36.5
493.392 *	7.7	699.29	699.89	0.0045	3.03	2.54	2	0.86	0.56	0.0045	1.27	700.15	698.15	36.5
473.396 *	7.7	699.2	699.8	0.0045	3.03	2.54	2	0.86	0.56	0.0045	1.27	700.06	698.06	36.5
453.4*	7.7	699.11	699.71	0.0045	3.02	2.55	2	0.86	0.56	0.0045	1.27	699.97	697.97	36.5
433.404 *	7.7	699.02	699.62	0.0045	3.02	2.55	2	0.85	0.56	0.0045	1.27	699.88	697.88	36.5
413.408 *	7.7	698.93	699.53	0.0044	3.02	2.55	2	0.85	0.56	0.0045	1.28	699.79	697.79	36.0
393.412 *	7.7		699.44	0.0044	3.02	2.55	2	0.85	0.56	0.0045	1.28	699.7	697.7	36.0
373.416 *	7.7	698.75	699.35	0.0045	3.04	2.53	2	0.86	0.56	0.0045	1.27	699.61	697.61	36.5
353.42	7.7	698.66	699.24	0.0059	3.37	2.29	2	1.01	0.53	173.969	1.14	699.52	697.52	43.0
353.41	7.7	696.91	698.75	0.0006	1.33	5.77	2	0.25	0.74	0.0045	2.88	699.52	695.77	23.2
339.93	7.7		698.74	0.0006	1.31	5.88	2	0.24	0.75	-124.28	2.94	698.96	695.71	9.5

Anexo 6



P.K	Q Total (m3/s)	Nivel Crit. (m)	Nivel Energía (m)	Pte linea Energ.(m/m)	Veloc . (m/s)	Area de flujo (m2)	Ancho sol. (m)	Froud e	Radio hidra. (m)	Penient e solera	Calado max.(m)	Cota clave (m)	Cota solera (m)	Resguard o %
339.92	7.7		698.7	0.0045	3.03	2.54	2	0.86	0.56	0.0045	1.27	698.96	696.96	36.5
321.194 *	7.7	698.02	698.61	0.0045	3.03	2.54	2	0.86	0.56	0.0045	1.27	698.88	696.88	36.5
302.468 *	7.7	697.93	698.53	0.0045	3.03	2.54	2	0.86	0.56	0.0045	1.27	698.79	696.79	36.5
283.742 *	7.7	697.85	698.45	0.0045	3.03	2.54	2	0.86	0.56	0.0045	1.27	698.71	696.71	36.5
265.016 *	7.7	697.77	698.36	0.0045	3.03	2.54	2	0.86	0.56	0.0045	1.27	698.62	696.62	36.5
246.290 *	7.7	697.68	698.28	0.0045	3.03	2.54	2	0.86	0.56	0.0045	1.27	698.54	696.54	36.5
227.565 *	7.7	697.6	698.19	0.0045	3.03	2.54	2	0.86	0.56	0.0045	1.27	698.46	696.46	36.5
208.839 *	7.7	697.51	698.11	0.0045	3.03	2.54	2	0.86	0.56	0.0045	1.27	698.37	696.37	36.5
190.113 *	7.7	697.43	698.03	0.0045	3.02	2.55	2	0.86	0.56	0.0045	1.27	698.29	696.29	36.5
171.387 *	7.7	697.35	697.94	0.0045	3.02	2.55	2	0.86	0.56	0.0045	1.27	698.2	696.2	36.5
152.661 *	7.7	697.26	697.86	0.0044	3.02	2.55	2	0.85	0.56	0.0045	1.28	698.12	696.12	36.0
133.935 *	7.7	697.18	697.77	0.0045	3.04	2.53	2	0.86	0.56	0.0045	1.27	698.03	696.03	36.5
115.21	7.7	697.09	697.67	0.0059	3.37	2.29	2	1.01	0.53	248.58	1.14	697.95	695.95	43.0
115.2	7.7	694.59	696.67	0.0005	1.23	6.28	2	0.22	0.76	0.0045	3.14	697.95	693.45	30.2
99.72	7.7		696.66	0.0005	1.2	6.41	2	0.21	0.76	-149.13	3.2	696.88	693.38	8.6
99.71	7.7	696.02	696.62	0.0045	3.03	2.54	2	0.86	0.56	0.0045	1.27	696.88	694.88	36.5
79.768*	7.7	695.93	696.53	0.0045	3.02	2.55	2	0.86	0.56	0.0045	1.27	696.79	694.79	36.5
59.826*	7.7	695.84	696.44	0.0044	3.02	2.55	2	0.85	0.56	0.0045	1.27	696.7	694.7	36.5
39.884*	7.7		696.35	0.0044	3.02	2.55	2	0.85	0.56	0.0045	1.28	696.61	694.61	36.0
19.942*	7.7	695.66	696.26	0.0045	3.04	2.54	2	0.86	0.56	0.0045	1.27	696.52	694.52	36.5
0	7.7	695.57	696.15	0.0059	3.37	2.29	2	1.01	0.53		1.14	696.43	694.43	43.0



4.1.3 Marco Secundario 2

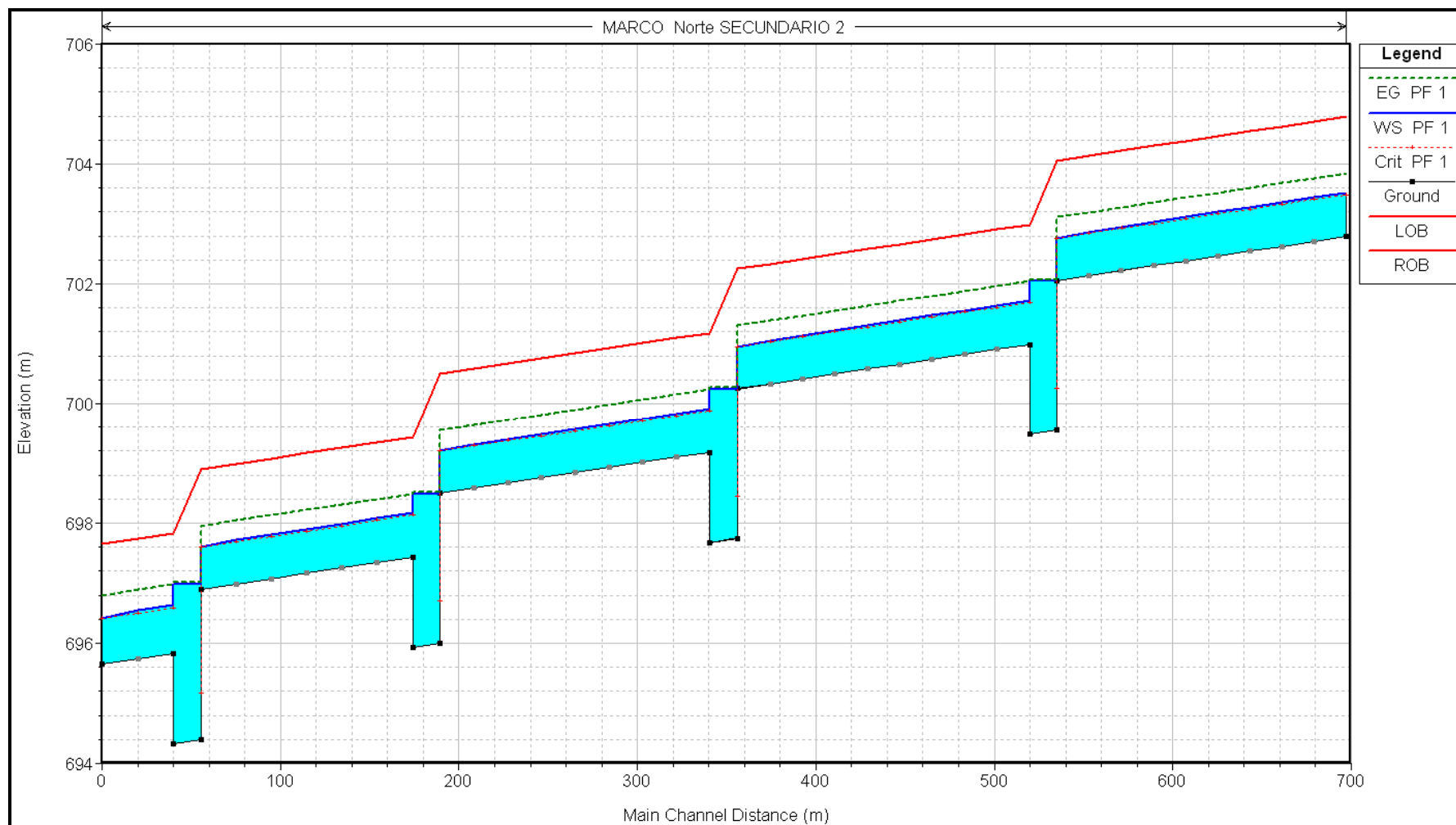


Figura 12: Resultado de la simulación. Perfil longitudinal del Marco Secundario 2



Tabla 13: Resultado de la simulación en secciones del Marco Secundario 2

P.K	Q Total (m3/s)	Nivel Crit. (m)	Nivel Energ.(m)	Pte linea Energ.(m/m)	Veloc. (m/s)	Area de flujo (m2)	Ancho sol. (m)	Froude	Radio hidra. (m)	Peniente solera	Calado max.(m)	Cota clave (m)	Cota solera (m)	Resguardo %
697.30	3.7	703.49	703.85	0.0045	2.52	1.47	2	0.94	0.42	0.0045	0.73	704.79	702.79	63.5
679.286*	3.7	703.41	703.77	0.0045	2.52	1.47	2	0.94	0.42	0.0045	0.73	704.71	702.71	63.5
661.273*	3.7	703.33	703.69	0.0045	2.52	1.47	2	0.94	0.42	0.0045	0.73	704.63	702.63	63.5
643.26*	3.7	703.25	703.6	0.0045	2.52	1.47	2	0.94	0.42	0.0045	0.73	704.55	702.55	63.5
625.246*	3.7	703.17	703.52	0.0045	2.52	1.47	2	0.94	0.42	0.0046	0.73	704.47	702.47	63.5
607.233*	3.7	703.09	703.44	0.0045	2.52	1.47	2	0.94	0.42	0.0045	0.73	704.38	702.38	63.5
589.22*	3.7	703	703.36	0.0045	2.52	1.47	2	0.94	0.42	0.0045	0.73	704.3	702.3	63.5
571.206*	3.7	702.92	703.28	0.0045	2.52	1.47	2	0.94	0.42	0.0045	0.73	704.22	702.22	63.5
553.193*	3.7	702.84	703.2	0.0046	2.55	1.45	2	0.96	0.42	0.0045	0.73	704.14	702.14	63.5
535.18	3.7	702.76	703.12	0.0051	2.64	1.4	2	1.01	0.41	248.543	0.7	704.06	702.06	65.0
535.17	3.7	700.26	702.08	0.0002	0.74	4.99	2	0.15	0.71	0.0045	2.49	704.06	699.56	44.7
519.69	3.7		702.08	0.0002	0.72	5.12	2	0.14	0.72	-149.12	2.56	702.99	699.49	26.9
519.68	3.7	701.69	702.05	0.0045	2.52	1.47	2	0.94	0.42	0.0045	0.73	702.99	700.99	63.5
501.518*	3.7	701.61	701.97	0.0045	2.53	1.47	2	0.94	0.42	0.0045	0.73	702.91	700.91	63.5
483.357*	3.7	701.53	701.88	0.0045	2.53	1.46	2	0.94	0.42	0.0046	0.73	702.83	700.83	63.5
465.196*	3.7	701.44	701.8	0.0045	2.52	1.47	2	0.94	0.42	0.00	0.73	702.74	700.74	63.5
447.035*	3.7	701.36	701.72	0.0045	2.52	1.47	2	0.94	0.42	0.0045	0.73	702.66	700.66	63.5
428.874*	3.7	701.28	701.64	0.0045	2.53	1.46	2	0.94	0.42	0.00	0.73	702.58	700.58	63.5
410.713*	3.7	701.2	701.55	0.0046	2.53	1.46	2	0.95	0.42	0.0046	0.73	702.5	700.5	63.5
392.552*	3.7	701.12	701.47	0.0046	2.54	1.46	2	0.95	0.42	0.0045	0.73	702.41	700.41	63.5
374.391*	3.7	701.03	701.39	0.0048	2.57	1.44	2	0.97	0.42	0.0045	0.72	702.33	700.33	64.0
356.23	3.7	700.95	701.31	0.0051	2.64	1.4	2	1.01	0.41	248.543	0.7	702.25	700.25	65.0
356.22	3.7	698.45	700.27	0.0002	0.74	4.99	2	0.15	0.71	0.0045	2.49	702.25	697.75	44.7
340.74	3.7		700.27	0.0002	0.72	5.12	2	0.14	0.72	-149.15	2.56	701.18	697.68	26.9
340.73	3.7	699.88	700.24	0.0045	2.52	1.47	2	0.94	0.42	0.0045	0.73	701.18	699.18	63.5
321.826*	3.7	699.8	700.15	0.0045	2.52	1.47	2	0.94	0.42	0.0045	0.73	701.09	699.1	63.3
302.922*	3.7	699.71	700.07	0.0045	2.52	1.47	2	0.94	0.42	0.0045	0.73	701.01	699.01	63.5
284.018*	3.7	699.63	699.98	0.0045	2.52	1.47	2	0.94	0.42	0.0045	0.73	700.93	698.93	63.5
265.115*	3.7	699.54	699.9	0.0045	2.52	1.47	2	0.94	0.42	0.0045	0.74	700.84	698.84	63.0
246.211*	3.7	699.46	699.81	0.0045	2.51	1.47	2	0.94	0.42	0.00	0.74	700.76	698.75	63.2
227.307*	3.7	699.37	699.73	0.0045	2.52	1.47	2	0.94	0.42	0.0045	0.73	700.67	698.67	63.5
208.403*	3.7	699.29	699.64	0.0046	2.55	1.45	2	0.95	0.42	0.00	0.73	700.59	698.59	63.5
189.5	3.7	699.2	699.56	0.0051	2.64	1.4	2	1.01	0.41	248.543	0.7	700.5	698.5	65.0
189.49	3.7	696.7	698.52	0.0002	0.74	4.99	2	0.15	0.71	0.0045	2.49	700.5	696	44.7
174.01	3.7		698.52	0.0002	0.72	5.12	2	0.14	0.72	-149.12	2.56	699.43	695.93	26.9
174	3.7	698.13	698.49	0.0045	2.51	1.47	2	0.93	0.42	0.0045	0.74	699.43	697.43	63.0



P.K	Q Total (m3/s)	Nivel Crit. (m)	Nivel Energ.(m)	Pte linea Energ.(m/m)	Veloc. (m/s)	Area de flujo (m2)	Ancho sol. (m)	Froude	Radio hidra. (m)	Peniente solera	Calado max.(m)	Cota clave (m)	Cota solera (m)	Resguardo %
154.25*	3.7	698.04	698.4	0.0045	2.51	1.47	2	0.93	0.42	0.0045	0.74	699.34	697.34	63.0
134.5*	3.7	697.95	698.31	0.0044	2.51	1.48	2	0.93	0.42	0.0044	0.74	699.25	697.25	63.0
114.75*	3.7	697.87	698.22	0.0044	2.51	1.48	2	0.93	0.42	0.0045	0.74	699.16	697.17	62.8
95.*	3.7	697.78	698.14	0.0044	2.5	1.48	2	0.93	0.42	0.0045	0.74	699.08	697.08	63.0
75.25*	3.7	697.69	698.05	0.0045	2.52	1.47	2	0.94	0.42	0.0045	0.74	698.99	696.99	63.0
55.5	3.7	697.6	697.96	0.0051	2.64	1.4	2	1.01	0.41	248.543	0.7	698.9	696.9	65.0
55.49	4.19	695.16	697.02	0.0002	0.81	5.16	2	0.16	0.72	0.0045	2.58	698.9	694.4	42.7
40.01	4.19		697.01	0.0002	0.79	5.3	2	0.16	0.73	-149.12	2.65	697.83	694.33	24.3
40	4.19	696.59	696.98	0.0044	2.59	1.62	2	0.92	0.45	0.0045	0.81	697.83	695.83	59.5
20.*	4.19	696.5	696.89	0.0045	2.6	1.61	2	0.93	0.45	0.0045	0.8	697.74	695.74	60.0
0	4.19	696.41	696.8	0.0052	2.75	1.52	2	1.01	0.43		0.76	697.65	695.65	62.0