



Autorità di Bacino Distrettuale
dell'Appennino Settentrionale

TORRENTE IMPERO

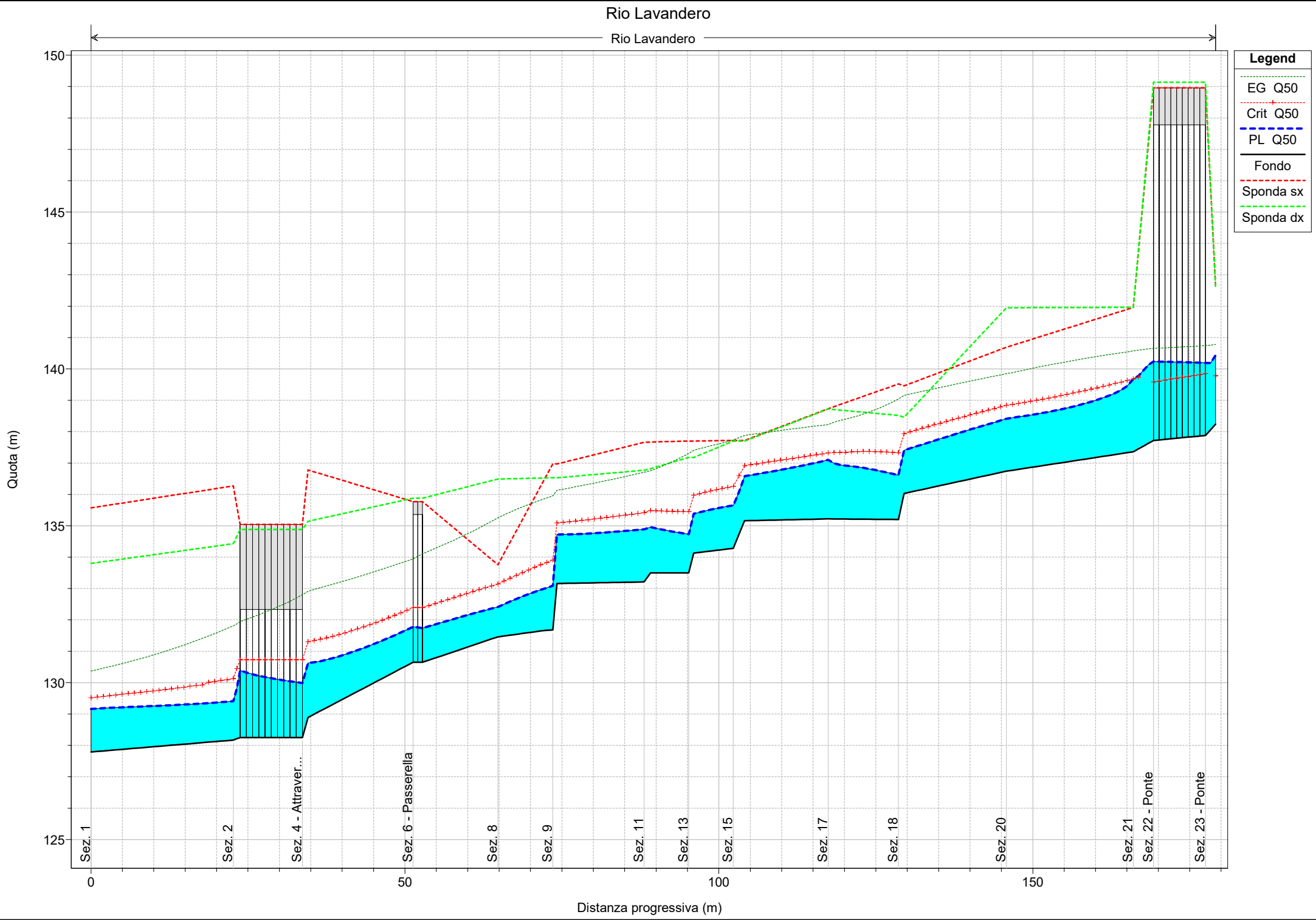
Ambito di Bacino n.6 - IMPERO

**PIANO DI BACINO STRALCIO
PER LA TUTELA DAL RISCHIO IDROGEOLOGICO**
(ai sensi dell'art. 1, comma 1, del D.L. 180/1998 convertito in L. 267/1998)



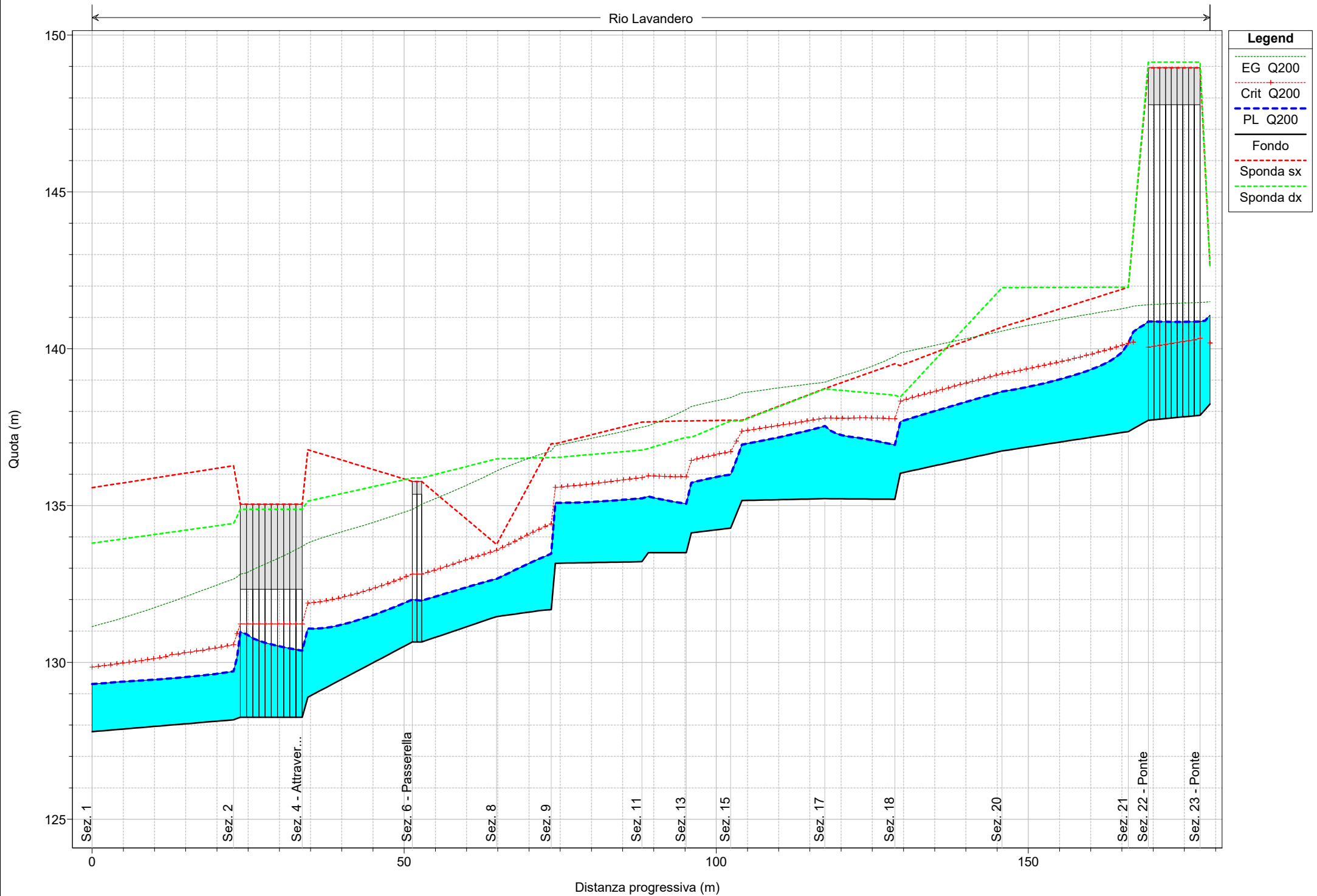
VERIFICHE IDRAULICHE – R. LAVANDERO

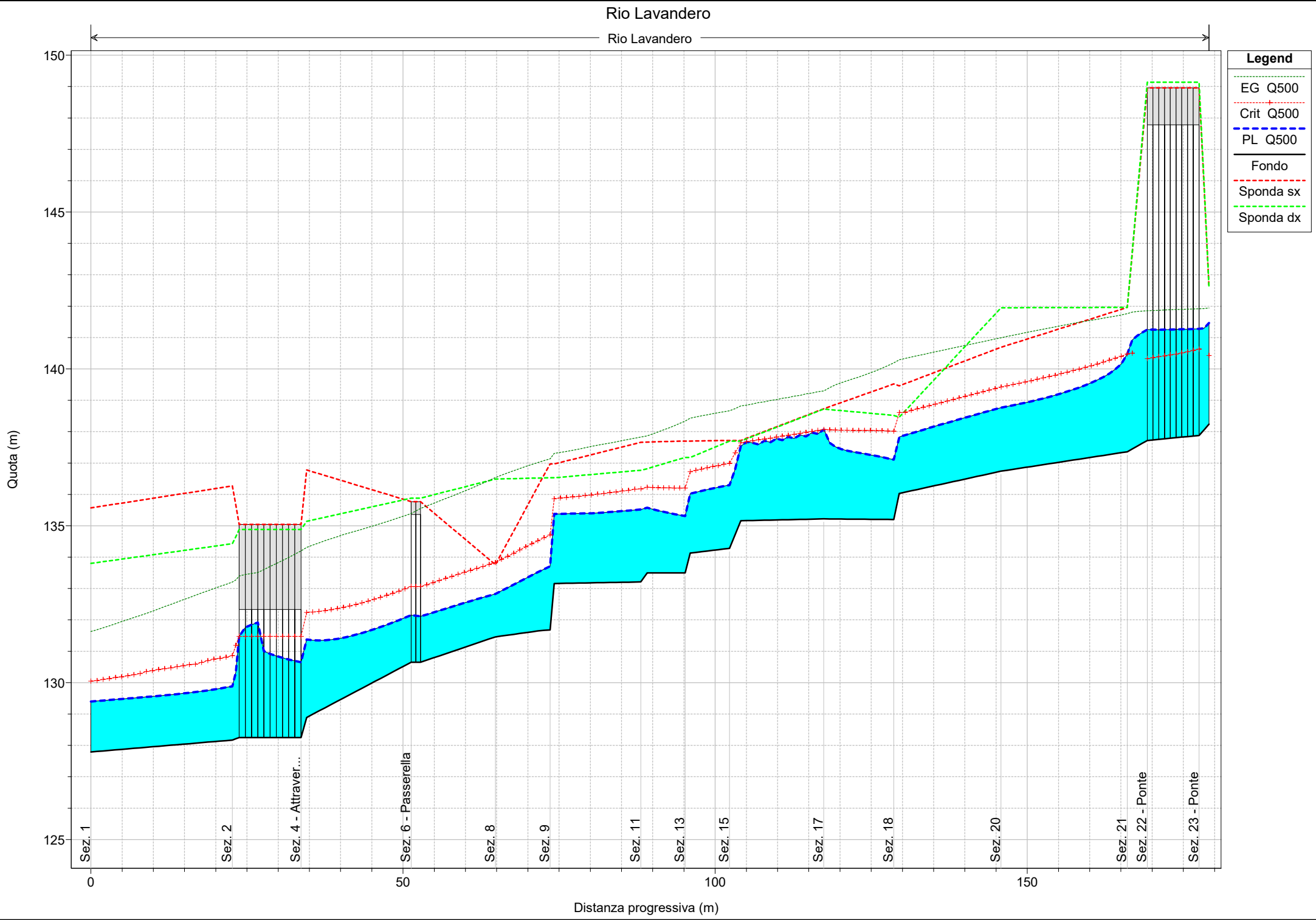
APPROVAZIONE	Delibera del Consiglio Provinciale di Imperia n. 88 del 15/10/2002
ULTIMA MODIFICA DELL'ELABORATO	Decreto del Segretario Generale n. 143 del 15/12/2022
ENTRATA IN VIGORE	BURL n. 3 del 18/01/2023 – parte II

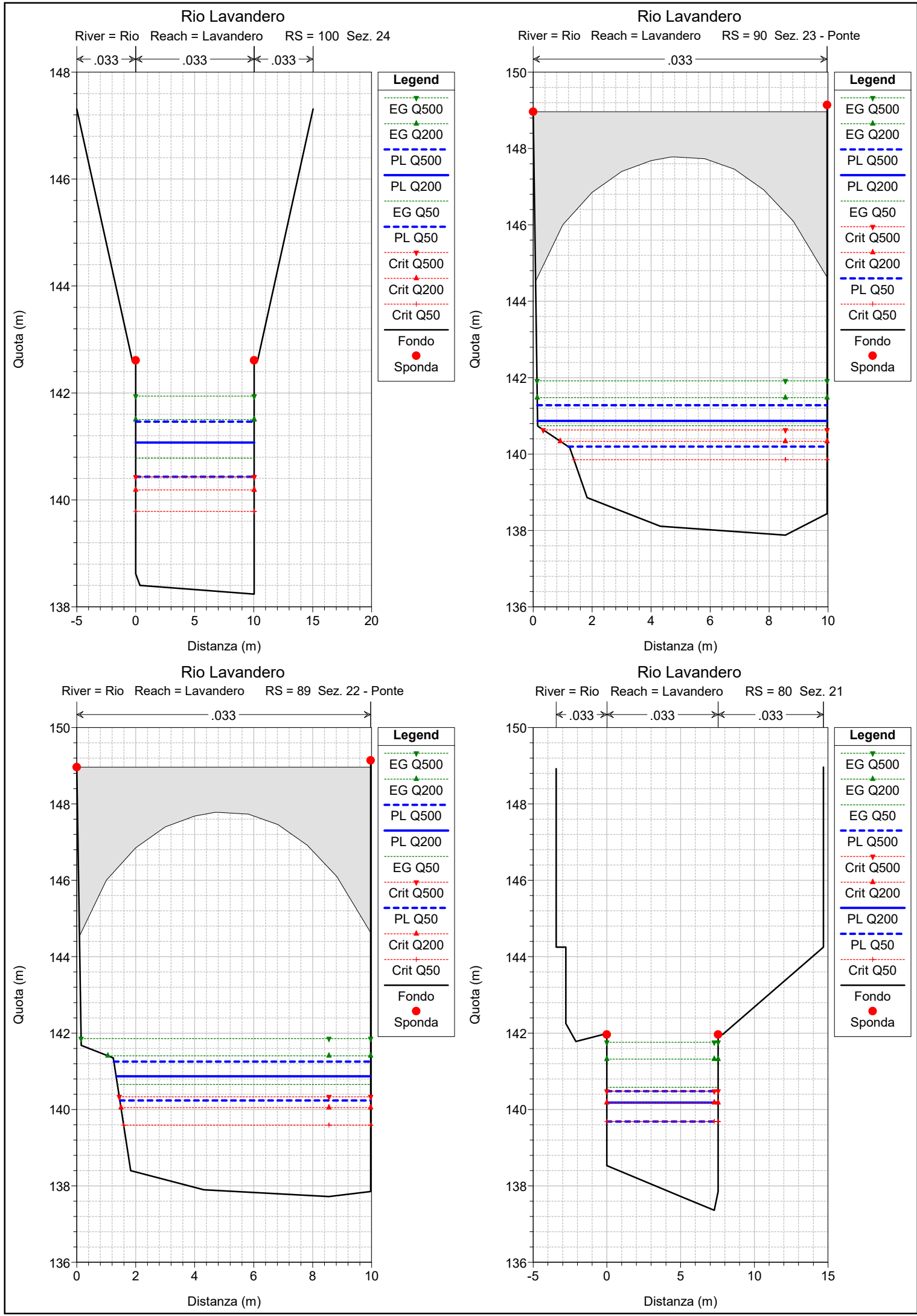


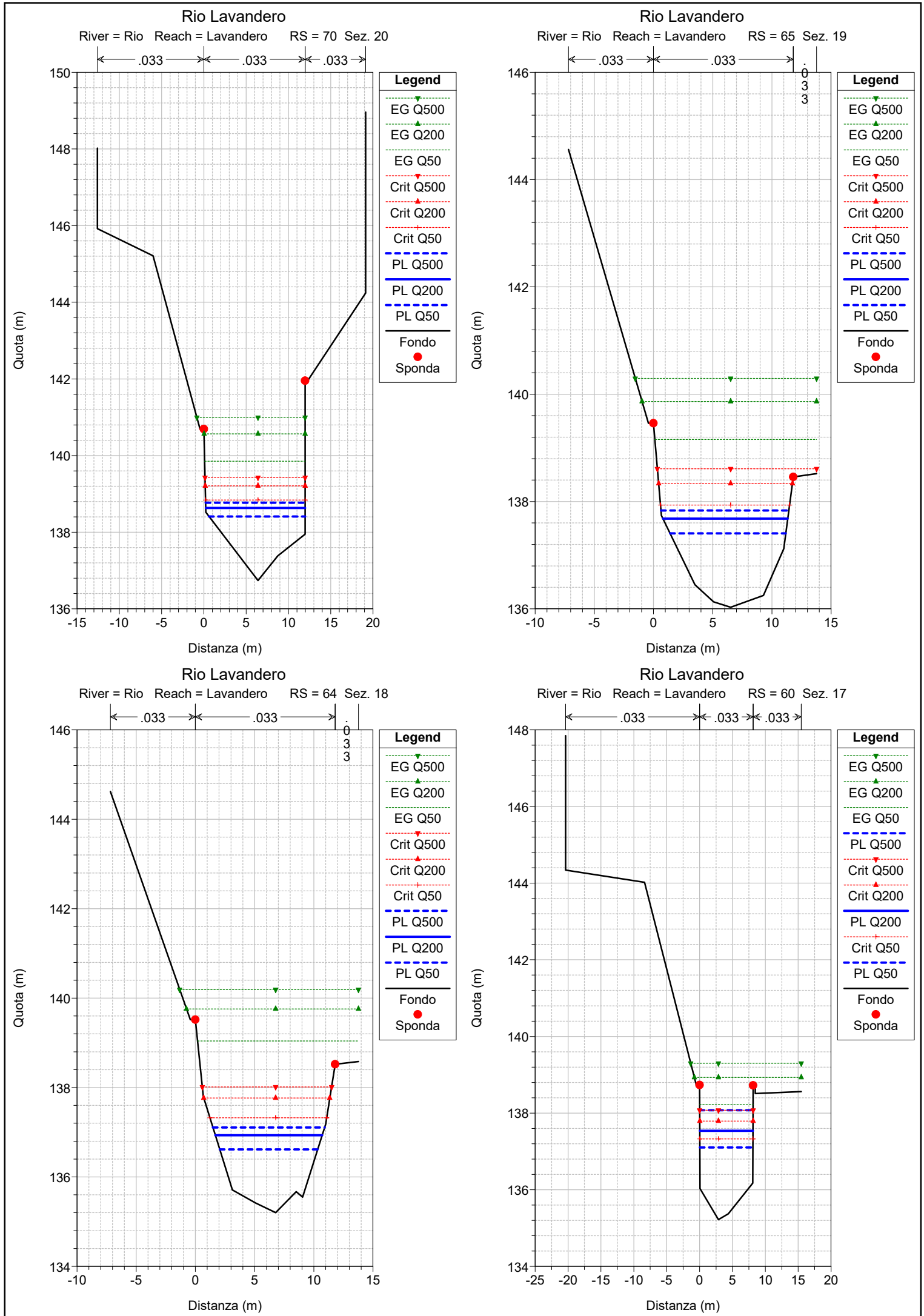
Rio Lavandero

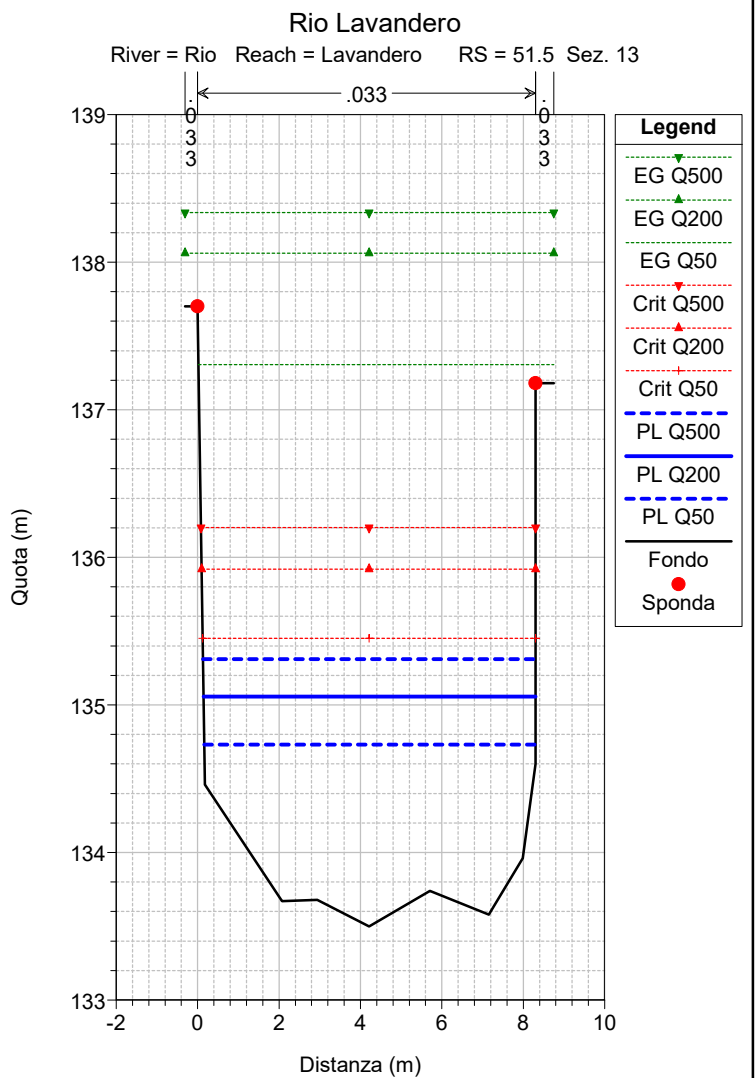
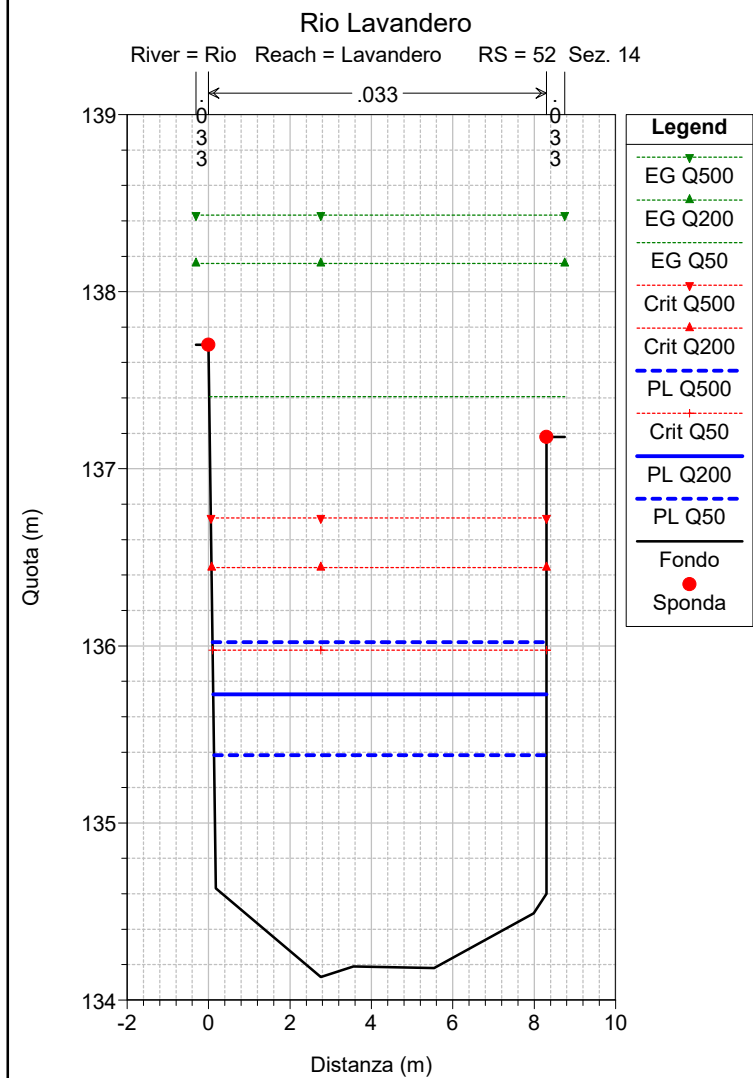
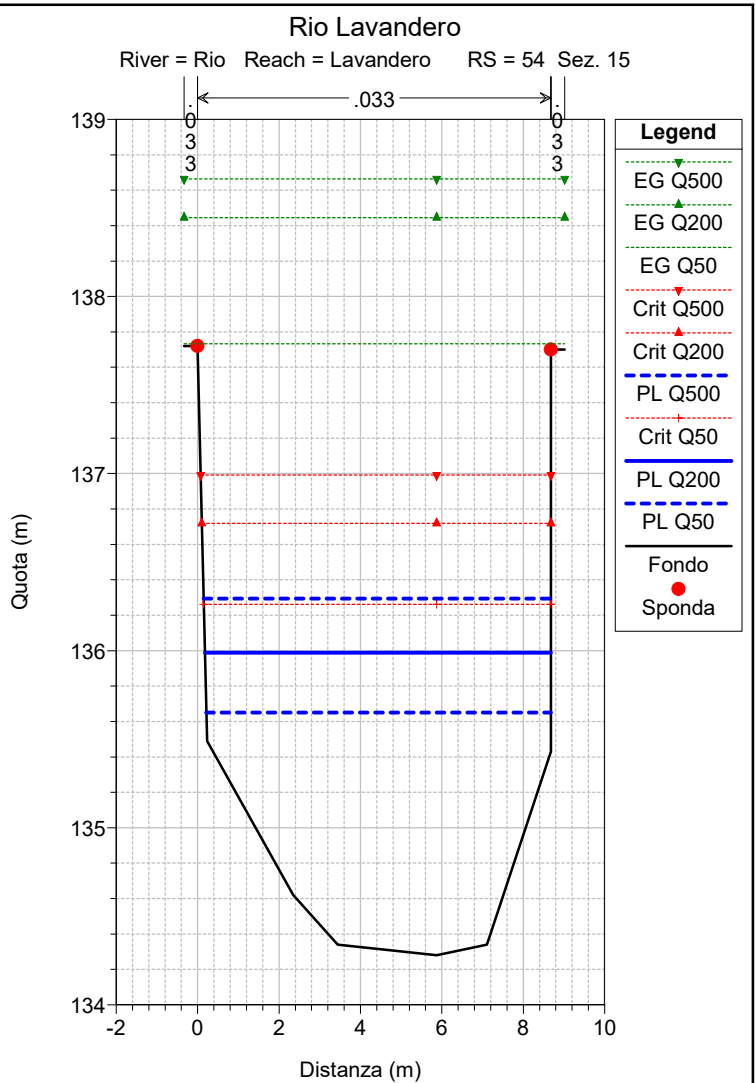
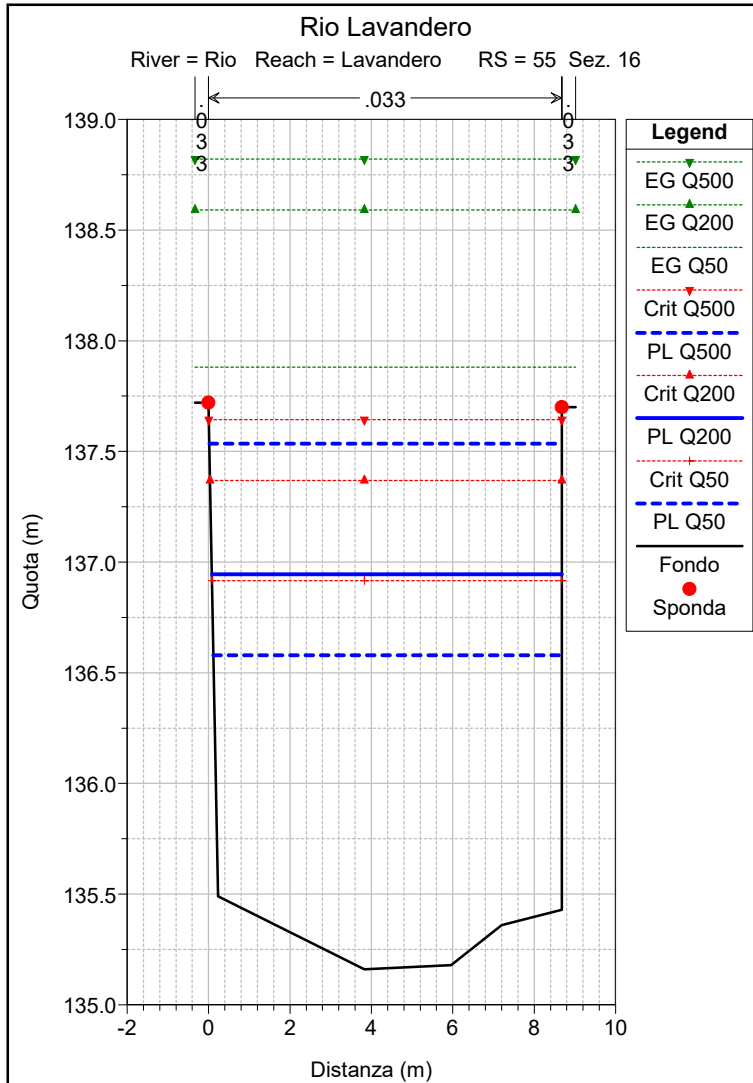
Rio Lavandero

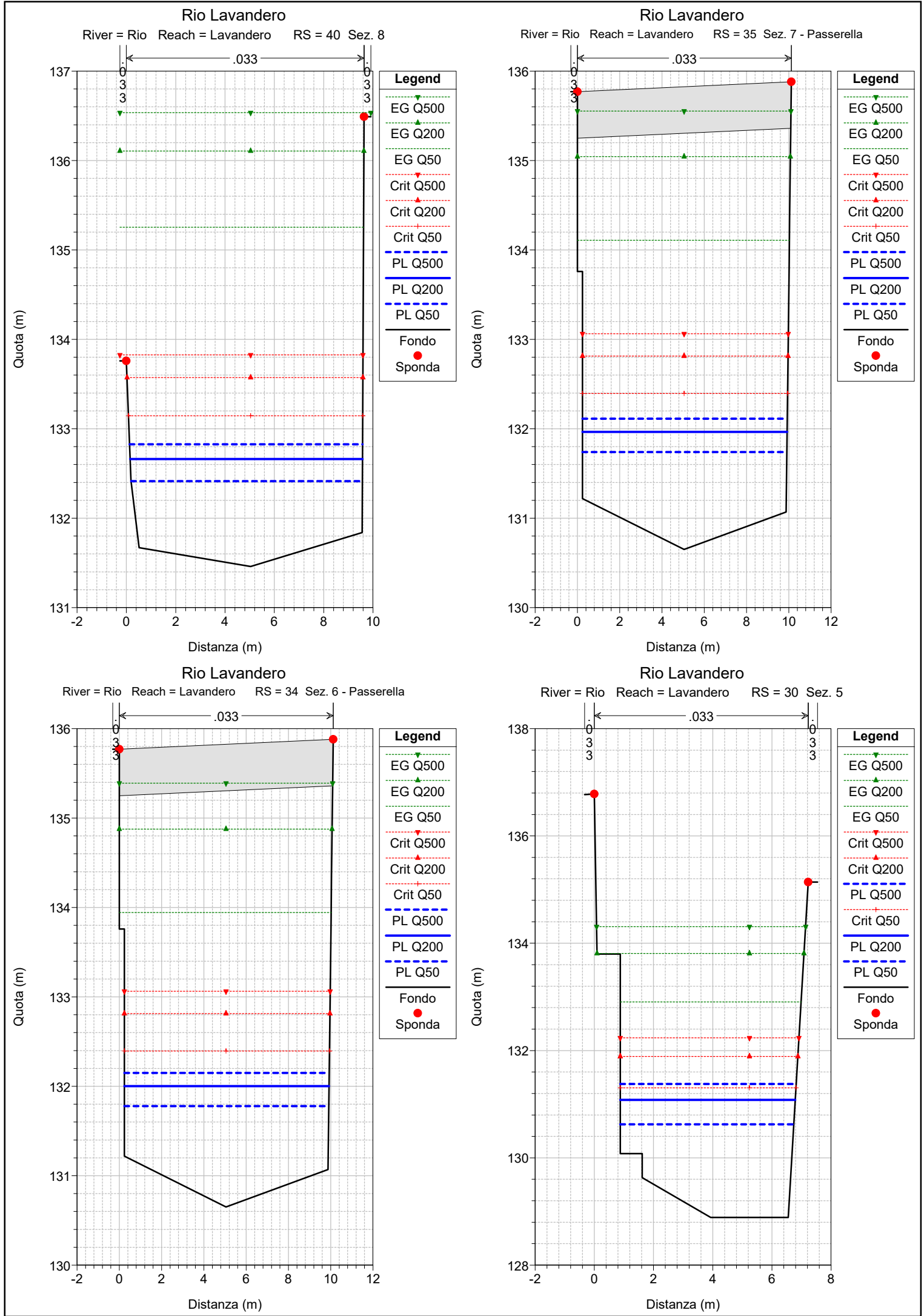






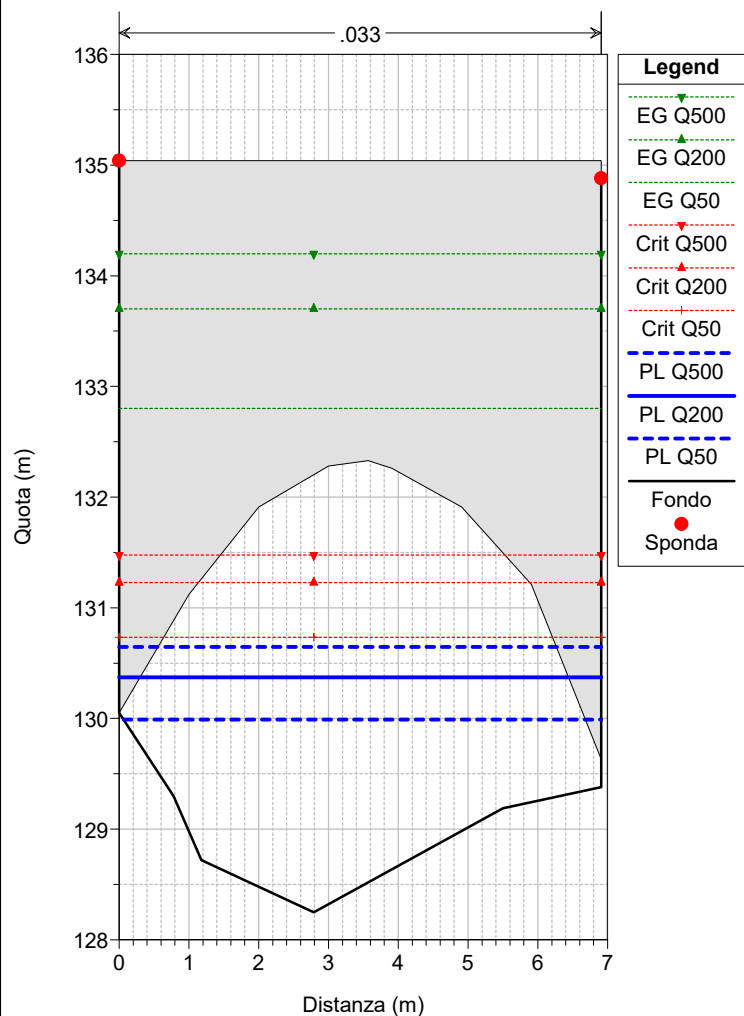






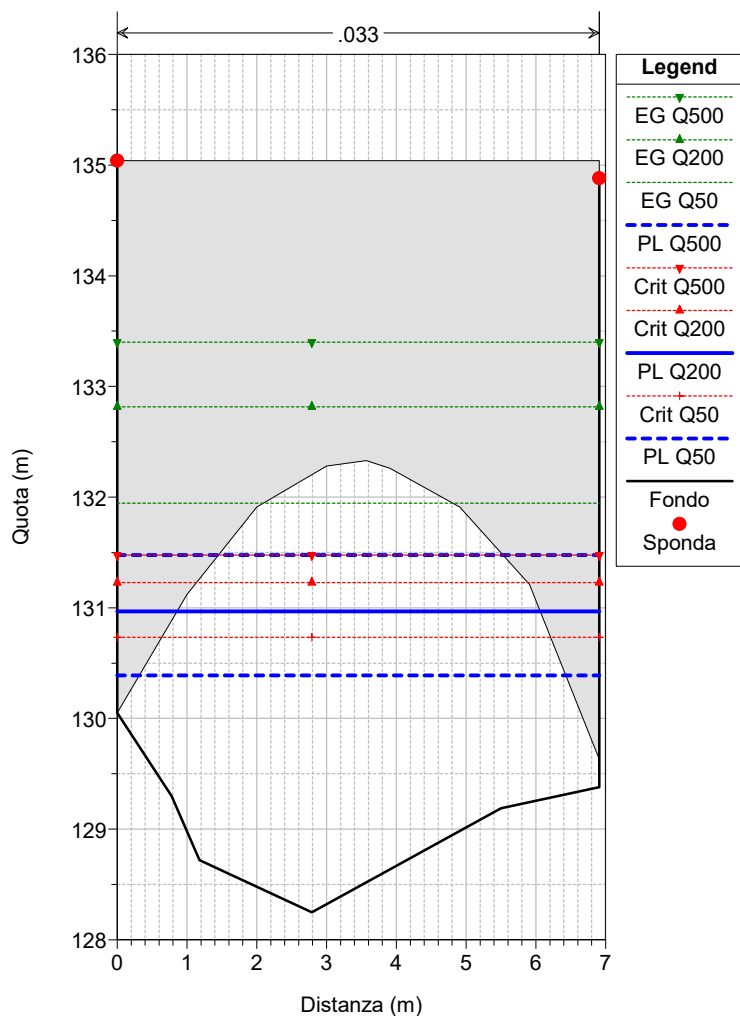
Rio Lavandero

River = Rio Reach = Lavandero RS = 20 Sez. 4 - Attraversamento



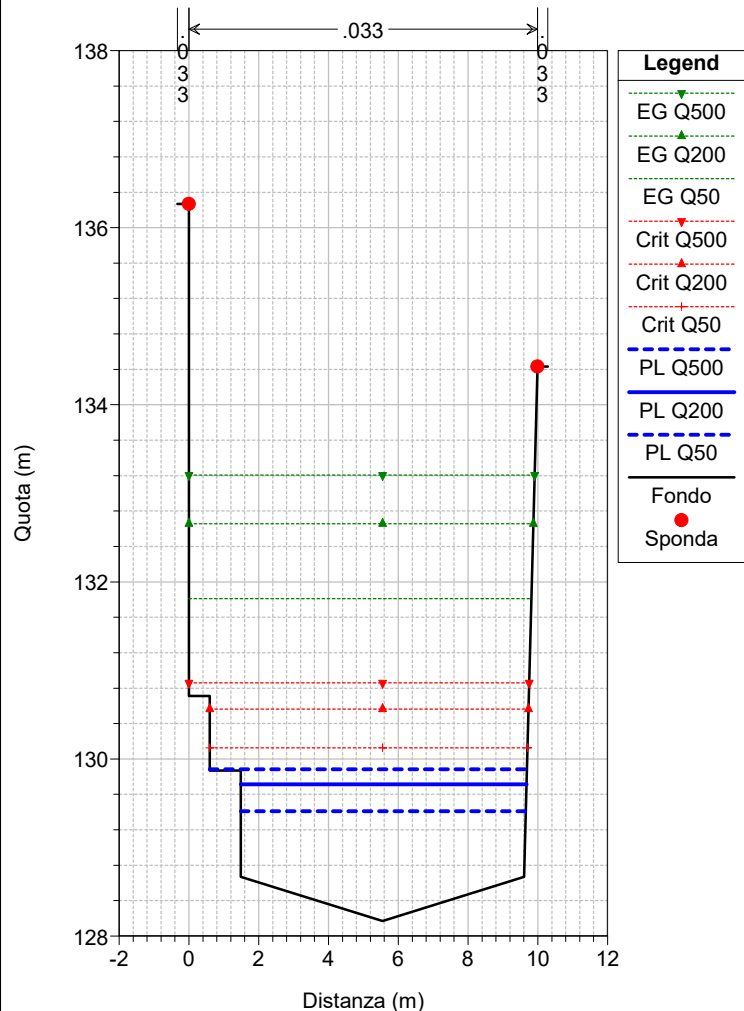
Rio Lavandero

River = Rio Reach = Lavandero RS = 19 Sez. 3 - Attraversamento



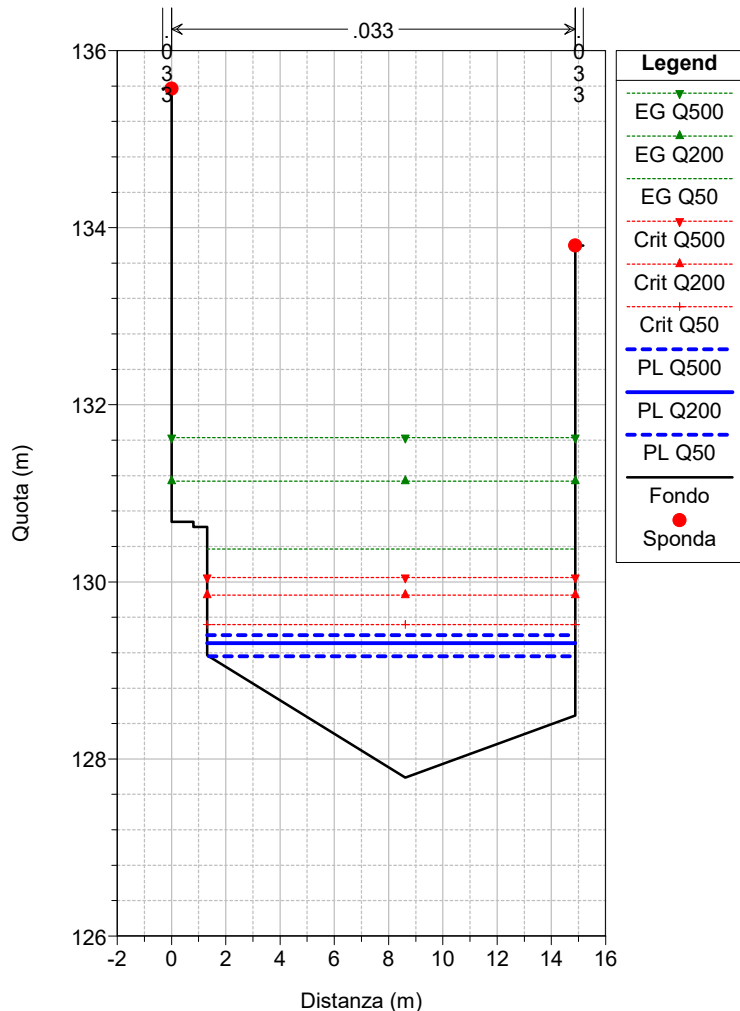
Rio Lavandero

River = Rio Reach = Lavandero RS = 10 Sez. 2



Rio Lavandero

River = Rio Reach = Lavandero RS = 0 Sez. 1



HEC-RAS Plan: Lavandero River: Rio Reach: Lavandero

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	LOB Elev	L. Freeboard	ROB Elev	R. Freeboard	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)
Lavandero	100	Q50	55.33	138.24	140.43	142.61	2.18	142.61	2.18	139.78	140.78	0.004356	2.62	21.13
Lavandero	100	Q200	80.06	138.24	141.07	142.61	1.54	142.61	1.54	140.19	141.50	0.004215	2.90	27.58
Lavandero	100	Q500	96.33	138.24	141.46	142.61	1.15	142.61	1.15	140.43	141.94	0.004190	3.06	31.49
Lavandero	90	Q50	55.33	137.88	140.19	144.52	4.33	144.63	4.44	139.85	140.74	0.007140	3.28	16.85
Lavandero	90	Q200	80.06	137.88	140.87	144.52	3.65	144.63	3.76	140.34	141.48	0.006344	3.45	23.22
Lavandero	90	Q500	96.33	137.88	141.28	144.52	3.24	144.63	3.35	140.63	141.92	0.005849	3.54	27.21
Lavandero	89	Q50	55.33	137.72	140.23	144.54	4.30	144.63	4.40	139.59	140.66	0.005021	2.87	19.27
Lavandero	89	Q200	80.06	137.72	140.87	144.54	3.67	144.63	3.76	140.05	141.41	0.005227	3.24	24.71
Lavandero	89	Q500	96.33	137.72	141.25	144.54	3.28	144.63	3.38	140.33	141.85	0.005347	3.44	28.03
Lavandero	80	Q50	55.33	137.36	139.69	141.96	2.27	141.96	2.27	139.69	140.58	0.014746	4.18	13.23
Lavandero	80	Q200	80.06	137.36	140.18	141.96	1.78	141.96	1.78	140.18	141.32	0.015113	4.72	16.97
Lavandero	80	Q500	96.33	137.36	140.48	141.96	1.48	141.96	1.48	140.48	141.76	0.015463	5.02	19.21
Lavandero	70	Q50	55.33	136.74	138.41	140.69	2.28	141.95	3.54	138.84	139.85	0.037922	5.31	10.42
Lavandero	70	Q200	80.06	136.74	138.63	140.69	2.06	141.95	3.32	139.21	140.56	0.040914	6.15	13.01
Lavandero	70	Q500	96.33	136.74	138.77	140.69	1.92	141.95	3.18	139.42	140.99	0.041699	6.61	14.57
Lavandero	65	Q50	55.33	136.03	137.41	139.46	2.05	138.46	1.05	137.93	139.16	0.042464	5.86	9.45
Lavandero	65	Q200	80.06	136.03	137.68	139.46	1.78	138.46	0.78	138.33	139.87	0.042457	6.55	12.22
Lavandero	65	Q500	96.33	136.03	137.83	139.46	1.63	138.46	0.63	138.61	140.29	0.042422	6.95	13.86
Lavandero	64	Q50	55.33	135.20	136.62	139.52	2.90	138.52	1.90	137.32	139.04	0.061249	6.90	8.02
Lavandero	64	Q200	80.06	135.20	136.93	139.52	2.59	138.52	1.59	137.77	139.76	0.055433	7.45	10.75
Lavandero	64	Q500	96.33	135.20	137.11	139.52	2.41	138.52	1.41	138.01	140.19	0.053673	7.78	12.39
Lavandero	60	Q50	55.33	135.22	137.10	138.73	1.63	138.72	1.62	137.33	138.22	0.019747	4.69	11.80
Lavandero	60	Q200	80.06	135.22	137.54	138.73	1.19	138.72	1.18	137.79	138.93	0.019337	5.23	15.32
Lavandero	60	Q500	96.33	135.22	138.07	138.73	0.66	138.72	0.65	138.07	139.30	0.013782	4.90	19.66
Lavandero	55	Q50	55.33	135.16	136.58	137.72	1.14	137.70	1.12	136.92	137.88	0.027027	5.05	10.95
Lavandero	55	Q200	80.06	135.16	136.94	137.72	0.78	137.70	0.76	137.37	138.59	0.026696	5.68	14.09
Lavandero	55	Q500	96.33	135.16	137.54	137.72	0.18	137.70	0.17	137.64	138.82	0.015740	5.02	19.19
Lavandero	54	Q50	55.33	134.28	135.65	137.72	2.07	137.70	2.05	136.26	137.73	0.049514	6.39	8.66
Lavandero	54	Q200	80.06	134.28	135.99	137.72	1.73	137.70	1.71	136.72	138.45	0.043740	6.94	11.53
Lavandero	54	Q500	96.33	134.28	136.29	137.72	1.43	137.70	1.41	136.99	138.66	0.034847	6.82	14.13
Lavandero	52	Q50	55.33	134.13	135.38	137.70	2.32	137.18	1.80	135.98	137.41	0.049710	6.30	8.78
Lavandero	52	Q200	80.06	134.13	135.73	137.70	1.97	137.18	1.45	136.44	138.16	0.045197	6.91	11.59
Lavandero	52	Q500	96.33	134.13	136.02	137.70	1.68	137.18	1.16	136.72	138.43	0.037434	6.88	14.01

HEC-RAS Plan: Lavandero River: Rio Reach: Lavandero (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	LOB Elev	L. Freeboard	ROB Elev	R. Freeboard	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)
Lavandero	51.5	Q50	55.33	133.50	134.73	137.70	2.97	137.18	2.45	135.45	137.31	0.068744	7.11	7.79
Lavandero	51.5	Q200	80.06	133.50	135.06	137.70	2.64	137.18	2.12	135.92	138.06	0.059544	7.68	10.43
Lavandero	51.5	Q500	96.33	133.50	135.31	137.70	2.39	137.18	1.87	136.20	138.34	0.050314	7.70	12.50
Lavandero	51	Q50	55.33	133.50	134.96	137.67	2.71	136.82	1.86	135.48	136.75	0.039406	5.93	9.32
Lavandero	51	Q200	80.06	133.50	135.29	137.67	2.38	136.82	1.53	135.95	137.54	0.038451	6.65	12.04
Lavandero	51	Q500	96.33	133.50	135.57	137.67	2.10	136.82	1.25	136.23	137.86	0.033222	6.70	14.37
Lavandero	50	Q50	55.33	133.21	134.89	137.66	2.77	136.77	1.88	135.42	136.71	0.040297	5.97	9.26
Lavandero	50	Q200	80.06	133.21	135.23	137.66	2.43	136.77	1.54	135.90	137.50	0.039053	6.67	12.00
Lavandero	50	Q500	96.33	133.21	135.52	137.66	2.14	136.77	1.25	136.18	137.83	0.033777	6.73	14.32
Lavandero	45	Q50	55.33	133.16	134.72	136.97	2.25	136.53	1.81	135.09	136.13	0.027052	5.25	10.53
Lavandero	45	Q200	80.06	133.16	135.08	136.97	1.89	136.53	1.45	135.58	136.91	0.028180	5.99	13.36
Lavandero	45	Q500	96.33	133.16	135.38	136.97	1.59	136.53	1.15	135.86	137.31	0.025885	6.15	15.66
Lavandero	44	Q50	55.33	131.68	133.09	136.97	3.88	136.53	3.44	133.91	135.95	0.066320	7.50	7.38
Lavandero	44	Q200	80.06	131.68	133.47	136.97	3.50	136.53	3.06	134.42	136.74	0.059478	8.02	9.99
Lavandero	44	Q500	96.33	131.68	133.71	136.97	3.26	136.53	2.82	134.71	137.13	0.054029	8.19	11.76
Lavandero	40	Q50	55.33	131.46	132.41	133.76	1.35	136.49	4.08	133.14	135.25	0.095788	7.46	7.41
Lavandero	40	Q200	80.06	131.46	132.66	133.76	1.10	136.49	3.83	133.57	136.11	0.085940	8.22	9.74
Lavandero	40	Q500	96.33	131.46	132.83	133.76	0.93	136.49	3.66	133.83	136.54	0.079094	8.53	11.29
Lavandero	35	Q50	55.33	130.65	131.74	135.25	3.51	135.36	3.62	132.39	134.11	0.074715	6.82	8.12
Lavandero	35	Q200	80.06	130.65	131.97	135.25	3.28	135.36	3.39	132.81	135.04	0.074580	7.77	10.30
Lavandero	35	Q500	96.33	130.65	132.11	135.25	3.14	135.36	3.25	133.06	135.55	0.072618	8.22	11.72
Lavandero	34	Q50	55.33	130.65	131.78	135.25	3.47	135.36	3.58	132.39	133.94	0.064928	6.52	8.49
Lavandero	34	Q200	80.06	130.65	132.00	135.25	3.25	135.36	3.36	132.81	134.88	0.067102	7.51	10.66
Lavandero	34	Q500	96.33	130.65	132.15	135.25	3.10	135.36	3.21	133.06	135.39	0.066244	7.97	12.08
Lavandero	30	Q50	55.33	128.89	130.63	136.78	6.15	135.14	4.51	131.30	132.91	0.050741	6.69	8.27
Lavandero	30	Q200	80.06	128.89	131.08	136.78	5.70	135.14	4.06	131.89	133.81	0.047897	7.32	10.94
Lavandero	30	Q500	96.33	128.89	131.38	136.78	5.40	135.14	3.76	132.24	134.31	0.045698	7.58	12.71
Lavandero	20	Q50	55.33	128.25	129.99	130.05	0.06	129.63	-0.36	130.73	132.80	0.069876	7.43	7.45
Lavandero	20	Q200	80.06	128.25	130.37	130.05	-0.32	129.63	-0.74	131.23	133.70	0.065528	8.08	9.91
Lavandero	20	Q500	96.33	128.25	130.65	130.05	-0.60	129.63	-1.02	131.48	134.20	0.062817	8.34	11.55
Lavandero	19	Q50	55.33	128.25	130.39	130.05	-0.34	129.63	-0.76	130.73	131.95	0.030434	5.53	10.01
Lavandero	19	Q200	80.06	128.25	130.97	130.05	-0.92	129.63	-1.34	131.23	132.82	0.030091	6.02	13.30
Lavandero	19	Q500	96.33	128.25	131.48	130.05	-1.43	129.63	-1.85	131.48	133.40	0.029952	6.14	15.68

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	LOB Elev	L. Freeboard	ROB Elev	R. Freeboard	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)
Lavandero	10	Q50	55.33	128.17	129.41	136.27	6.86	134.43	5.02	130.13	131.81	0.065309	6.86	8.06
Lavandero	10	Q200	80.06	128.17	129.71	136.27	6.56	134.43	4.72	130.56	132.66	0.060775	7.60	10.54
Lavandero	10	Q500	96.33	128.17	129.88	136.27	6.39	134.43	4.55	130.86	133.21	0.067599	8.07	11.93
Lavandero	0	Q50	55.33	127.79	129.16	135.57	6.41	133.80	4.64	129.52	130.37	0.035341	4.87	11.35
Lavandero	0	Q200	80.06	127.79	129.31	135.57	6.26	133.80	4.49	129.85	131.14	0.044349	5.99	13.36
Lavandero	0	Q500	96.33	127.79	129.40	135.57	6.17	133.80	4.40	130.05	131.63	0.048995	6.62	14.56