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**COMUNE DI CESENA**  
**Settore Edilizia Pubblica**

**INDAGINE CONOSCITIVA, VERIFICA DELLA STABILITA' DEL  
VERSANTE E PROGETTAZIONE PRELIMINARE-DEFINITIVA  
RELATIVI ALLA MESSA IN SICUREZZA DELL'EX DISCARICA IN  
LOCALITA' RIO EREMO**

**PROGETTO DEFINITIVO**  
**Opere di primo stralcio**

**ALLEGATO 1**  
**TABULATI RISULTATI SIMULAZIONE IDRAULICA**

Faenza, 17/01/2008

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### STATO DI PROGETTO (Tr = 30 anni)

HEC-RAS    Plan: Stato di progetto (30)    River: Rio Cesuola    Reach: Discarica    Profile: 26.1mc/s												
Reach	River Sta	Section #	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan
			(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m <sup>2</sup> )	(m)		(N/ m <sup>2</sup> )
Discarica	1111.42	1	83.89	86.69	85.89	86.77	0.002876	1.47	28.98	43.31	0.35	45.35
Discarica	1101.42	2	83.98	86.68		86.74	0.002096	1.28	29.16	29.88	0.30	34.14
Discarica	1091.42	3	84.14	86.58		86.71	0.004004	1.68	20.30	22.26	0.41	60.08
Discarica	1081.42	4	84.04	86.42	85.98	86.65	0.007741	2.18	13.64	13.71	0.56	104.91
Discarica	1071.42	5	83.95	86.30	85.88	86.55	0.010693	2.23	11.70	9.39	0.63	117.49
Discarica	1061.42	6	83.76	85.84	85.84	86.36	0.029398	3.19	8.18	7.86	1.00	258.93
Discarica	1051.42	7	83.18	85.78	85.47	86.11	0.013197	2.64	11.21	9.47	0.66	159.29
Discarica	1041.42	8	83.12	85.74		85.98	0.008982	2.26	13.75	12.68	0.57	114.68
Discarica	1031.42	9	83.08	85.45		85.84	0.016793	3.01	12.16	17.53	0.74	205.61
Discarica	1021.42	10	82.98	85.58		85.69	0.003717	1.73	23.80	23.84	0.38	61.72
Discarica	1011.42	11	83.14	85.47		85.64	0.005465	1.99	19.64	22.78	0.47	83.87
Discarica	1001.42	12	83.30	85.40		85.57	0.006753	2.13	18.83	22.74	0.53	97.46
Discarica	991.42	13	83.21	85.29		85.50	0.008223	2.27	16.83	21.89	0.58	113.12
Discarica	981.42	14	83.10	85.13		85.40	0.010726	2.48	14.62	22.03	0.65	137.85
Discarica	971.42	15	83.00	85.01		85.29	0.011573	2.46	14.19	22.04	0.67	138.90
Discarica	961.42	16	82.90	84.95		85.17	0.009084	2.29	16.64	22.37	0.59	117.14
Discarica	951.42	17	82.70	84.87		85.07	0.009452	2.30	17.60	22.61	0.59	119.04
Discarica	941.42	18	82.54	84.79		84.97	0.009114	2.25	18.58	22.87	0.57	114.29
Discarica	931.42	19	82.49	84.67		84.87	0.009674	2.36	18.00	23.71	0.59	124.45
Discarica	921.42	20	82.43	84.57		84.77	0.010612	2.37	17.86	25.04	0.61	128.62
Discarica	911.42	21	82.38	84.36		84.64	0.014480	2.65	15.53	25.84	0.71	164.41
Discarica	901.42	22	82.32	84.30		84.51	0.009112	2.26	17.86	26.05	0.59	115.38
Discarica	891.42	23	82.22	84.22		84.42	0.008697	2.22	18.12	26.04	0.58	110.83
Discarica	881.42	24	82.12	83.94		84.28	0.016590	2.85	13.71	25.91	0.79	188.96
Discarica	871.42	25	82.01	83.80		84.11	0.015112	2.74	14.79	27.33	0.76	174.41
Discarica	861.42	26	81.89	83.76		83.95	0.010462	2.32	19.01	29.41	0.63	123.93
Discarica	851.42	27	81.81	83.57		83.82	0.015574	2.65	16.63	28.89	0.75	166.61
Discarica	841.42	28	81.72	83.43		83.67	0.012599	2.44	16.92	30.97	0.69	140.28
Discarica	831.42	29	81.52	83.35		83.54	0.010441	2.19	17.66	31.38	0.62	113.59
Discarica	821.42	30	81.32	83.09		83.41	0.013803	2.69	14.41	29.42	0.74	165.78
Discarica	817.92	31	81.25	83.05	83.05	83.36	0.012714	2.62	14.72	28.83	0.71	156.40
Discarica	811.42	32	81.10	82.74	82.88	83.23	0.024926	3.16	10.21	24.88	0.95	244.92

HEC-RAS Plan: Stato di progetto (30) River: Rio Cesuola Reach: Discarica Profile: 26.1mc/s												
Reach	River Sta	Section #	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan
			(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m²)	(m)		(N/ m²)
Discarica	801.42	33	80.88	82.71	82.68	83.02	0.012009	2.68	14.71	23.48	0.70	159.07
Discarica	791.42	34	80.65	82.42	82.40	82.86	0.017083	3.00	10.40	17.48	0.82	205.51
Discarica	781.42	35	80.43	82.12	82.05	82.66	0.022383	3.28	8.40	8.13	0.93	252.09
Discarica	771.42	36	80.20	81.93	81.85	82.44	0.019970	3.17	8.74	8.76	0.88	232.72
Discarica	761.42	37	79.98	81.81		82.24	0.015496	2.93	9.55	8.39	0.78	193.98
Discarica	751.42	38	79.75	81.48	81.45	82.04	0.021463	3.41	8.53	7.83	0.93	264.07
Discarica	741.63	39	79.53	81.22	81.22	81.82	0.023371	3.50	8.28	7.74	0.96	280.67
Discarica	732.79	40	79.29	80.77	80.95	81.52	0.047760	3.84	6.80	7.32	1.27	385.53
Discarica	722.79	41	79.02	80.67	80.67	81.25	0.024978	3.39	8.07	7.83	0.97	272.49
Discarica	712.79	42	78.74	80.33	80.39	80.97	0.029255	3.56	7.63	7.65	1.05	304.84
Discarica	702.79	43	78.47	80.10	80.12	80.70	0.025937	3.43	7.96	7.78	0.99	279.89
Discarica	692.79	44	78.20	79.81	79.85	80.43	0.027395	3.49	7.82	7.78	1.01	290.96
Discarica	682.79	45	77.92	79.52	79.58	80.15	0.028249	3.52	7.76	7.97	1.03	297.29
Discarica	672.79	46	77.65	79.43	79.22	79.80	0.012776	2.82	11.19	10.44	0.74	174.52
Discarica	662.79	47	77.38	79.03	79.03	79.61	0.024991	3.39	8.06	7.82	0.97	272.59
Discarica	658.93	48	77.27	78.47	78.74	79.42	0.065052	4.31	6.10	7.77	1.50	496.22
Discarica	652.79	49	77.16	78.82	78.67	79.24	0.015854	2.93	9.83	9.05	0.81	194.98
Discarica	642.79	50	76.99	78.68		79.08	0.014494	2.85	10.15	9.15	0.77	182.88
Discarica	632.79	51	76.82	78.57		78.93	0.012468	2.72	10.71	9.34	0.72	164.19
Discarica	622.79	52	76.64	78.54		78.80	0.008399	2.31	12.19	9.84	0.60	116.55
Discarica	612.79	53	76.47	78.47		78.72	0.007120	2.28	13.11	10.08	0.56	109.84
Discarica	602.79	54	76.29	78.44		78.64	0.005244	2.07	14.66	10.52	0.49	88.14
Discarica	592.79	55	76.12	78.41		78.59	0.004183	1.95	16.76	17.64	0.44	75.66
Discarica	582.79	56	75.95	78.40		78.54	0.003042	1.75	18.68	14.35	0.38	59.51
Discarica	572.79	57	75.77	78.40	77.24	78.51	0.002028	1.49	20.99	12.46	0.32	42.49
Discarica	570.88	58	75.74	78.36	77.34	78.50	0.002825	1.69	18.40	12.21	0.36	55.72
Discarica	565.35	59	75.68	78.36	77.37	78.48	0.003095	1.57	20.15	14.30	0.37	51.08
Discarica	555.35	60	75.70	78.24		78.43	0.005901	2.03	15.99	13.13	0.46	88.14
Discarica	545.35	61	75.64	78.05		78.34	0.009190	2.43	11.64	7.43	0.56	128.51
Discarica	535.35	62	75.59	77.93		78.24	0.010432	2.55	11.12	7.30	0.60	142.72
Discarica	525.38	63	75.53	77.39	77.39	78.05	0.029001	3.63	7.53	6.12	0.97	312.44
Discarica	525.35	64	75.53	77.25	77.37	78.04	0.036925	3.95	6.89	5.97	1.09	377.25
Discarica	515.35	65	74.95	76.92	76.32	77.10	0.005253	1.91	14.72	11.11	0.48	77.84

HEC-RAS Plan: Stato di progetto (30) River: Rio Cesuola Reach: Discarica Profile: 26.1mc/s												
Reach	River Sta	Section #	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan
			(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m²)	(m)		(N/ m²)
Discarica	505.35	66	74.89	76.87		77.05	0.005146	1.90	14.83	11.14	0.47	76.71
Discarica	495.35	67	74.83	76.82	76.20	77.00	0.005054	1.89	15.08	12.84	0.47	75.81
Discarica	485.35	68	74.77	76.77	76.14	76.95	0.004917	1.87	15.44	14.96	0.46	74.31
Discarica	475.35	69	74.70	76.73	76.07	76.90	0.004639	1.84	15.37	11.28	0.45	71.25
Discarica	465.35	70	74.64	76.67	76.03	76.85	0.004958	1.94	15.18	11.17	0.47	78.80
Discarica	455.35	71	74.59	76.61	75.98	76.80	0.004982	1.95	15.15	11.16	0.47	79.17
Discarica	445.35	72	74.54	76.57		76.75	0.004800	1.92	15.50	13.08	0.47	76.49
Discarica	435.35	73	74.49	76.44		76.68	0.006979	2.25	13.17	16.69	0.56	106.76
Discarica	425.35	74	74.44	76.42		76.60	0.005280	1.92	14.90	20.42	0.48	78.65
Discarica	415.35	75	74.39	76.34		76.55	0.005794	2.04	14.46	12.63	0.51	88.27
Discarica	405.35	76	74.34	76.28		76.49	0.005924	2.06	14.28	11.60	0.51	89.62
Discarica	395.35	77	74.29	76.24		76.42	0.005472	1.93	14.92	14.15	0.49	80.05
Discarica	388.87	78	74.26	76.18		76.38	0.006140	2.07	14.57	13.93	0.52	91.35
Discarica	385.35	79	74.24	76.17		76.36	0.005671	1.95	14.86	14.19	0.49	81.94
Discarica	380	80	74.21	76.14		76.33	0.005622	1.94	15.06	14.73	0.49	81.29
Discarica	370	81	74.16	76.09		76.27	0.005565	1.87	15.57	15.90	0.48	76.83
Discarica	360	82	74.10	76.06		76.21	0.004649	1.77	18.82	23.09	0.45	67.15
Discarica	347.07	83	74.03	75.97		76.14	0.005238	1.90	16.66	101.86	0.48	77.23
Discarica	340	84	73.99	75.94		76.10	0.005008	1.85	17.76	26.21	0.47	73.28
Discarica	330	85	73.94	75.94		76.04	0.003341	1.54	24.49	30.99	0.38	50.49
Discarica	320	86	73.88	75.88		76.00	0.003922	1.71	22.74	31.29	0.42	61.31
Discarica	310	87	73.83	75.84		75.96	0.003818	1.62	21.29	23.88	0.41	55.98
Discarica	300	88	73.77	75.83		75.92	0.003019	1.50	24.18	24.37	0.37	47.12
Discarica	297.54	89	73.71	75.81		75.91	0.003907	1.63	23.85	24.91	0.41	56.83
Discarica	290	90	73.62	75.78		75.88	0.004340	1.72	26.03	35.51	0.42	63.54
Discarica	280	91	73.60	75.56		75.80	0.014553	2.50	17.31	32.62	0.73	150.35
Discarica	270	92	73.62	75.48	75.37	75.61	0.016403	2.23	19.63	32.98	0.71	130.51
Discarica	260	93	73.57	75.44		75.51	0.004868	1.53	29.21	40.20	0.44	54.83
Discarica	250	94	73.30	75.41		75.47	0.002998	1.33	30.76	38.71	0.35	39.32
Discarica	240	95	73.27	75.34		75.43	0.004036	1.68	26.87	35.20	0.42	60.16
Discarica	230	96	73.26	75.26		75.39	0.005055	1.80	23.40	33.59	0.47	70.50
Discarica	220	97	73.28	75.03		75.30	0.012634	2.48	15.74	32.18	0.71	143.24
Discarica	210	98	73.05	74.96		75.17	0.010045	2.16	17.05	35.33	0.63	110.44

HEC-RAS Plan: Stato di progetto (30) River: Rio Cesuola Reach: Discarica Profile: 26.1mc/s												
Reach	River Sta	Section #	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan
			(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m <sup>2</sup> )	(m)		(N/ m <sup>2</sup> )
Discarica	200	99	72.76	74.75	74.46	75.05	0.011069	2.50	13.11	24.71	0.66	140.72
Discarica	190	100	72.41	74.80	74.21	74.93	0.004627	1.80	24.97	52.10	0.43	69.15
Discarica	180	101	72.26	74.70	74.01	74.88	0.005520	1.96	16.98	23.79	0.46	82.01
Discarica	170	102	72.07	74.64		74.82	0.006190	1.96	16.39	93.75	0.47	84.08
Discarica	160	103	72.04	74.71		74.76	0.001048	0.94	31.06	65.86	0.22	17.91
Discarica	150	104	71.99	74.61		74.73	0.004052	1.64	20.32	49.34	0.40	57.99
Discarica	140	105	71.94	74.57	73.78	74.69	0.004030	1.65	19.79	18.78	0.40	58.49
Discarica	130	106	71.91	74.55	73.73	74.65	0.003151	1.55	24.78	33.82	0.37	49.96
Discarica	120	107	71.84	74.31	73.80	74.58	0.010026	2.33	12.78	23.99	0.59	123.00
Discarica	110	108	71.75	74.32		74.46	0.006455	1.89	23.23	38.64	0.46	80.86
Discarica	100	109	71.67	74.03	74.03	74.34	0.016643	2.73	14.52	27.49	0.72	177.52
Discarica	90	110	71.58	73.94	73.76	74.12	0.008945	2.12	18.93	31.55	0.57	103.79
Discarica	80	111	71.50	73.63	73.63	73.99	0.014264	2.99	13.91	23.33	0.73	195.52
Discarica	70	112	71.42	73.62	73.32	73.81	0.007315	2.18	18.01	24.92	0.54	103.28
Discarica	60	113	71.25	73.56		73.73	0.008126	2.08	18.80	26.33	0.55	98.41
Discarica	50	114	71.12	73.51		73.65	0.005780	1.82	20.65	26.98	0.47	74.31
Discarica	40	115	71.08	73.46		73.59	0.005408	1.78	21.41	26.95	0.46	70.43
Discarica	30	116	71.08	73.42		73.54	0.004597	1.72	23.56	30.27	0.43	64.67
Discarica	20	117	71.04	73.27		73.47	0.008254	2.24	18.43	26.54	0.56	110.44
Discarica	10	118	70.91	72.98	72.98	73.34	0.016346	2.98	13.65	23.36	0.77	201.82
Discarica	0	119	70.86	72.79	72.57	72.97	0.010004	2.34	18.33	24.25	0.61	124.13

### STATO DI PROGETTO (Tr = 200 anni)

HEC-RAS    Plan: Stato di progetto (200)    River: Rio Cesuola    Reach: Discarica    Profile: 38.0mc/s												
Reach	River Sta	Section #	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan
			(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m <sup>2</sup> )	(m)		(N/ m <sup>2</sup> )
Discarica	1111.42	1	83.89	87.07	86.36	87.14	0.002169	1.45	47.63	53.33	0.31	41.26
Discarica	1101.42	2	83.98	87.04		87.12	0.002019	1.42	43.75	48.74	0.31	39.52
Discarica	1091.42	3	84.14	86.94		87.09	0.003846	1.87	29.30	30.06	0.42	69.95
Discarica	1081.42	4	84.04	86.84	86.29	87.04	0.005385	2.14	26.09	27.22	0.48	92.84
Discarica	1071.42	5	83.95	86.69	86.21	86.96	0.008961	2.34	20.03	30.64	0.60	121.11
Discarica	1061.42	6	83.76	86.18	86.18	86.78	0.027922	3.43	11.08	25.25	1.00	284.74
Discarica	1051.42	7	83.18	85.99	85.83	86.50	0.018645	3.31	13.24	27.67	0.79	244.52
Discarica	1041.42	8	83.12	85.94		86.30	0.012708	2.83	16.45	14.39	0.69	175.32
Discarica	1031.42	9	83.08	85.77		86.16	0.014936	3.19	18.35	20.70	0.72	218.03
Discarica	1021.42	10	82.98	85.88		86.01	0.004146	2.00	31.66	29.66	0.41	78.62
Discarica	1011.42	11	83.14	85.75		85.96	0.006119	2.32	27.04	32.22	0.51	108.13
Discarica	1001.42	12	83.30	85.64		85.88	0.008321	2.58	24.55	28.43	0.60	137.40
Discarica	991.42	13	83.21	85.53		85.79	0.009121	2.63	22.33	23.67	0.62	144.86
Discarica	981.42	14	83.10	85.37		85.69	0.011167	2.80	20.15	23.30	0.68	167.14
Discarica	971.42	15	83.00	85.25		85.57	0.011856	2.77	19.63	23.32	0.70	167.09
Discarica	961.42	16	82.90	85.19		85.45	0.009710	2.61	22.08	23.48	0.63	144.75
Discarica	951.42	17	82.70	85.10		85.34	0.010074	2.60	23.02	23.69	0.62	145.92
Discarica	941.42	18	82.54	85.02		85.23	0.009897	2.56	23.89	23.75	0.60	141.77
Discarica	931.42	19	82.49	84.89		85.13	0.010757	2.70	23.13	24.58	0.64	156.55
Discarica	921.42	20	82.43	84.77		85.01	0.011769	2.71	22.99	25.82	0.65	161.17
Discarica	911.42	21	82.38	84.61		84.89	0.013195	2.82	21.93	26.76	0.70	175.61
Discarica	901.42	22	82.32	84.53		84.76	0.009515	2.54	23.80	26.88	0.62	138.69
Discarica	891.42	23	82.22	84.43		84.67	0.009576	2.54	23.65	26.86	0.62	139.15
Discarica	881.42	24	82.12	84.13		84.52	0.017290	3.18	18.88	26.68	0.82	225.87
Discarica	871.42	25	82.01	84.00		84.35	0.015814	3.06	20.10	28.05	0.79	208.60
Discarica	861.42	26	81.89	83.95		84.17	0.011452	2.64	24.49	30.13	0.67	153.74
Discarica	851.42	27	81.81	83.77		84.03	0.014901	2.86	22.56	29.66	0.76	185.15
Discarica	841.42	28	81.72	83.64		83.89	0.012046	2.65	23.51	31.79	0.69	156.27
Discarica	831.42	29	81.52	83.55		83.77	0.010550	2.43	24.15	32.41	0.64	133.35
Discarica	821.42	30	81.32	83.32		83.64	0.012851	2.88	21.28	30.29	0.73	180.39
Discarica	817.92	31	81.25	83.25	83.25	83.60	0.013623	2.96	20.40	29.57	0.75	190.91
Discarica	811.42	32	81.10	83.16	83.08	83.44	0.012463	2.62	21.05	26.40	0.70	155.58

HEC-RAS Plan: Stato di progetto (200) River: Rio Cesuola Reach: Discarica Profile: 38.0mc/s												
Reach	River Sta	Section #	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan
			(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m <sup>2</sup> )	(m)		(N/ m <sup>2</sup> )
Discarica	801.42	33	80.88	83.08		83.33	0.008542	2.62	23.64	25.38	0.61	141.04
Discarica	791.42	34	80.65	82.99		83.25	0.007477	2.50	22.69	23.63	0.57	127.53
Discarica	781.42	35	80.43	82.58	82.58	83.12	0.015411	3.35	14.00	17.49	0.81	236.48
Discarica	771.42	36	80.20	82.13	82.33	82.90	0.025692	3.95	10.93	13.26	1.02	344.35
Discarica	761.42	37	79.98	82.15	82.12	82.65	0.014463	3.26	14.77	17.89	0.79	223.99
Discarica	751.42	38	79.75	82.24	81.96	82.48	0.006371	2.49	24.90	26.45	0.54	121.65
Discarica	741.63	39	79.53	81.54	81.54	82.32	0.023300	4.03	10.89	10.23	1.00	346.16
Discarica	732.79	40	79.29	81.00	81.27	82.00	0.052652	4.42	8.60	8.03	1.36	487.64
Discarica	722.79	41	79.02	81.03	81.03	81.72	0.021688	3.75	11.09	8.92	0.95	305.58
Discarica	712.79	42	78.74	80.62	80.74	81.46	0.028986	4.10	9.98	8.52	1.08	376.10
Discarica	702.79	43	78.47	80.46	80.47	81.17	0.022347	3.79	10.97	8.87	0.96	312.24
Discarica	692.79	44	78.20	80.68	80.21	80.69	0.000460	0.65	106.00	77.63	0.14	8.41
Discarica	682.79	45	77.92	79.93	79.93	80.61	0.021465	3.73	11.33	68.17	0.94	302.37
Discarica	672.79	46	77.65	79.84	79.56	80.26	0.010867	3.06	15.79	11.89	0.71	189.84
Discarica	662.79	47	77.38	79.38	79.38	80.08	0.022018	3.77	11.03	8.89	0.95	308.93
Discarica	658.93	48	77.27	78.72	79.07	79.90	0.058387	4.84	8.09	8.50	1.48	574.17
Discarica	652.79	49	77.16	79.19	79.00	79.70	0.014234	3.26	13.39	10.16	0.80	223.24
Discarica	642.79	50	76.99	79.08		79.55	0.012381	3.12	14.09	10.36	0.75	201.92
Discarica	632.79	51	76.82	79.01		79.42	0.010315	2.95	15.07	10.68	0.69	176.99
Discarica	622.79	52	76.64	79.00		79.30	0.007026	2.52	17.33	16.91	0.57	126.83
Discarica	612.79	53	76.47	78.95		79.23	0.006004	2.48	20.34	18.84	0.54	119.05
Discarica	602.79	54	76.29	78.94		79.16	0.004340	2.22	23.33	18.73	0.46	92.91
Discarica	592.79	55	76.12	78.94		79.11	0.003239	2.00	26.51	19.38	0.40	74.20
Discarica	582.79	56	75.95	78.92		79.08	0.002737	1.91	26.52	16.06	0.38	66.43
Discarica	572.79	57	75.77	78.91	77.56	79.04	0.002065	1.72	27.75	14.15	0.33	52.85
Discarica	570.88	58	75.74	78.87	77.69	79.04	0.002761	1.92	25.01	13.90	0.37	66.81
Discarica	565.35	59	75.68	78.88	77.66	79.01	0.002638	1.71	27.99	15.92	0.35	55.60
Discarica	555.35	60	75.70	78.79		78.97	0.004875	2.09	23.65	15.07	0.42	87.43
Discarica	545.35	61	75.64	78.52		78.89	0.009381	2.76	15.35	8.81	0.58	156.70
Discarica	535.35	62	75.59	78.39		78.79	0.010184	2.89	14.86	9.15	0.61	171.44
Discarica	525.38	63	75.53	77.79	77.79	78.59	0.027552	4.03	10.15	7.13	0.97	361.42
Discarica	525.35	64	75.53	77.64	77.77	78.58	0.034435	4.34	9.39	6.76	1.08	427.32
Discarica	515.35	65	74.95	77.30	76.61	77.54	0.005305	2.21	19.18	12.26	0.50	97.10



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Reach	River Sta	Section #	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan
			(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m <sup>2</sup> )	(m)		(N/ m <sup>2</sup> )
Discarica	505.35	66	74.89	77.25		77.49	0.005205	2.19	20.17	17.72	0.49	95.75
Discarica	495.35	67	74.83	77.21	76.49	77.43	0.004964	2.16	21.07	18.59	0.48	92.07
Discarica	485.35	68	74.77	77.17	76.43	77.38	0.004554	2.08	23.56	26.02	0.46	85.57
Discarica	475.35	69	74.70	77.10	76.36	77.33	0.004887	2.16	20.08	15.01	0.48	91.77
Discarica	465.35	70	74.64	77.03	76.33	77.28	0.005288	2.28	19.47	12.27	0.50	101.94
Discarica	455.35	71	74.59	76.98	76.29	77.23	0.005355	2.29	19.38	12.25	0.51	102.97
Discarica	445.35	72	74.54	76.93	76.23	77.17	0.005173	2.26	19.83	12.61	0.50	99.61
Discarica	435.35	73	74.49	76.79		77.10	0.007216	2.59	19.30	23.09	0.58	133.56
Discarica	425.35	74	74.44	76.81		77.01	0.004634	2.08	24.05	25.48	0.47	85.59
Discarica	415.35	75	74.39	76.66		76.95	0.006600	2.45	19.88	23.75	0.56	119.86
Discarica	405.35	76	74.34	76.55		76.87	0.007597	2.58	18.03	20.55	0.60	133.76
Discarica	395.35	77	74.29	76.53		76.78	0.006306	2.31	19.55	18.18	0.54	108.74
Discarica	388.87	78	74.26	76.44		76.74	0.007462	2.52	18.69	17.86	0.59	128.86
Discarica	385.35	79	74.24	76.43		76.70	0.006840	2.37	19.08	18.16	0.56	115.11
Discarica	380	80	74.21	76.40		76.66	0.006851	2.37	19.31	18.85	0.56	114.96
Discarica	370	81	74.16	76.34		76.59	0.006687	2.27	19.83	18.18	0.54	107.36
Discarica	360	82	74.10	76.33		76.51	0.005122	2.05	25.27	25.57	0.48	86.31
Discarica	347.07	83	74.03	76.19		76.43	0.006616	2.32	21.39	105.79	0.55	110.66
Discarica	340	84	73.99	76.16		76.38	0.005952	2.20	24.11	30.67	0.52	99.20
Discarica	330	85	73.94	76.18		76.30	0.003823	1.80	31.86	32.13	0.42	65.93
Discarica	320	86	73.88	76.10		76.26	0.004578	2.00	29.89	33.57	0.46	80.89
Discarica	310	87	73.83	76.04		76.21	0.004998	1.99	25.91	24.23	0.47	82.00
Discarica	300	88	73.77	76.01		76.15	0.004117	1.87	28.72	24.72	0.43	71.22
Discarica	297.54	89	73.71	75.99		76.14	0.005183	2.01	28.44	25.27	0.48	83.79
Discarica	290	90	73.62	75.96		76.10	0.005338	2.04	32.96	38.63	0.47	86.54
Discarica	280	91	73.60	75.77		76.01	0.013494	2.67	24.35	35.46	0.72	163.45
Discarica	270	92	73.62	75.71	75.50	75.84	0.013176	2.29	27.69	36.64	0.66	128.33
Discarica	260	93	73.57	75.68		75.76	0.004477	1.65	38.78	40.40	0.43	60.03
Discarica	250	94	73.30	75.64		75.72	0.003185	1.50	40.07	40.14	0.37	47.61
Discarica	240	95	73.27	75.56		75.68	0.004510	1.93	34.90	37.89	0.46	76.37
Discarica	230	96	73.26	75.47		75.62	0.005731	2.09	30.59	36.36	0.51	90.82
Discarica	220	97	73.28	75.32		75.54	0.009450	2.46	25.47	35.97	0.63	131.72
Discarica	210	98	73.05	75.28		75.45	0.006594	2.06	29.00	38.27	0.53	92.10

HEC-RAS Plan: Stato di progetto (200) River: Rio Cesuola Reach: Discarica Profile: 38.0mc/s												
Reach	River Sta	Section #	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan
			(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m <sup>2</sup> )	(m)		(N/ m <sup>2</sup> )
Discarica	200	99	72.76	75.10	74.98	75.36	0.008492	2.52	24.25	37.94	0.60	133.12
Discarica	190	100	72.41	75.18	74.80	75.26	0.002803	1.60	46.32	59.23	0.35	50.83
Discarica	180	101	72.26	75.04	74.48	75.22	0.004781	2.05	29.97	41.60	0.45	84.58
Discarica	170	102	72.07	74.95		75.16	0.006389	2.21	23.19	99.69	0.49	101.88
Discarica	160	103	72.04	75.02		75.09	0.001398	1.17	39.95	67.65	0.25	26.94
Discarica	150	104	71.99	74.91		75.06	0.004551	1.88	26.07	65.49	0.43	73.59
Discarica	140	105	71.94	74.84	74.16	75.01	0.004716	1.97	25.68	24.46	0.45	79.37
Discarica	130	106	71.91	74.83	74.09	74.95	0.003511	1.80	35.97	46.74	0.39	64.25
Discarica	120	107	71.84	74.47	74.46	74.86	0.014125	2.89	17.18	29.09	0.71	186.15
Discarica	110	108	71.75	74.56		74.69	0.006214	1.97	32.61	38.92	0.46	85.22
Discarica	100	109	71.67	74.24		74.57	0.017881	3.00	20.93	34.08	0.76	208.54
Discarica	90	110	71.58	74.26		74.41	0.007243	2.07	30.42	40.57	0.52	95.59
Discarica	80	111	71.50	73.83		74.28	0.016256	3.44	19.37	28.91	0.80	250.30
Discarica	70	112	71.42	73.87		74.10	0.007880	2.49	24.98	30.60	0.58	128.37
Discarica	60	113	71.25	73.82		74.01	0.008307	2.26	26.58	32.24	0.57	112.20
Discarica	50	114	71.12	73.77		73.93	0.006121	2.08	28.33	33.93	0.50	91.92
Discarica	40	115	71.08	73.71		73.87	0.005944	2.06	28.87	33.99	0.49	89.89
Discarica	30	116	71.08	73.67		73.81	0.005034	1.98	31.52	34.54	0.46	81.42
Discarica	20	117	71.04	73.49		73.73	0.009230	2.58	24.76	30.96	0.61	140.45
Discarica	10	118	70.91	73.24	73.24	73.60	0.015359	3.20	20.56	29.37	0.76	221.30
Discarica	0	119	70.86	73.04	72.80	73.25	0.010020	2.59	24.79	27.61	0.62	144.76