

31 23 Excavation and Fill

31 23 19 – Dewatering

31 23 19.20 Dewatering Systems

0010 DEWATERING SYSTEMS

		Crew	Daily Output	Labor-Hours	Unit	Material	2022 Bare Costs		Total	Total Incl O&P
							Labor	Equipment		
0020	Excavate drainage trench, 2' wide, 2' deep	B-11C	90	.178	C.Y.		9.40	3.65	13.05	18
0100	2' wide, 3' deep, with backhoe loader	"	135	.119	"		6.30	2.44	8.74	12.05
0200	Excavate sump pits by hand, light soil	1 Clab	7.10	1.127	C.Y.		51.50		51.50	76.50
0300	Heavy soil	"	3.50	2.286	"		104		104	155
0500	Pumping 8 hrs., attended 2 hrs./day, incl. 20 L.F.									
0550	of suction hose & 100 L.F. discharge hose									
0600	2" diaphragm pump used for 8 hrs.	B-10H	4	3	Day		166	18.25	184.25	268
0650	4" diaphragm pump used for 8 hrs.	B-10I	4	3			166	46.50	212.50	299
0800	8 hrs. attended, 2" diaphragm pump	B-10H	1	12			665	73	738	1,075
0900	3" centrifugal pump	B-10J	1	12			665	97	762	1,100
1000	4" diaphragm pump	B-10I	1	12			665	186	851	1,200
1100	6" centrifugal pump	B-10K	1	12			665	455	1,120	1,500
1300	CMP, incl. excavation 3' deep, 12" diameter	B-6	115	.209	L.F.	12.55	10.30	2.86	25.71	32.50
1400	18" diameter		100	.240	"	19.55	11.85	3.29	34.69	43
1600	Sump hole construction, incl. excavation and gravel, pit		1250	.019	C.F.	1.08	.95	.26	2.29	2.89
1700	With 12" gravel collar, 12" pipe, corrugated, 16 ga.		70	.343	L.F.	22.50	16.95	4.70	44.15	55
1800	15" pipe, corrugated, 16 ga.		55	.436		29.50	21.50	6	57	71
1900	18" pipe, corrugated, 16 ga.		50	.480		34.50	23.50	6.60	64.60	81
2000	24" pipe, corrugated, 14 ga.		40	.600		41	29.50	8.20	78.70	98.50
2200	Wood lining, up to 4' x 4', add		300	.080	SFCA	15.30	3.95	1.10	20.35	24
9950	See Section 31 23 19.40 for wellpoints									
9960	See Section 31 23 19.30 for deep well systems									

31 23 19.30 Wells

0010 WELLS

0011	For dewatering 10' to 20' deep, 2' diameter									
0020	with steel casing, minimum	B-6	165	.145	V.L.F.	36	7.20	1.99	45.19	53
0050	Average		98	.245		44	12.10	3.36	59.46	70
0100	Maximum		49	.490		50	24	6.70	80.70	98.50
0300	For dewatering pumps see 01 54 33 in Reference Section									
0500	For domestic water wells, see Section 33 21 13.10									

31 23 19.40 Wellpoints

0010 WELLPOINTS

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0011	For equipment rental, see 01 54 33 in Reference Section									
0100	Installation and removal of single stage system									
0110	Labor only, 0.75 labor-hours per L.F.	1 Clab	10.70	.748	LF Hdr		34		34	51
0200	2.0 labor-hours per L.F.	"	4	2	"		91		91	136
0400	Pump operation, 4 @ 6 hr. shifts									
0410	Per 24 hr. day	4 Eqlt	1.27	25.197	Day		1,425		1,425	2,125
0500	Per 168 hr. week, 160 hr. straight, 8 hr. double time	"	.18	178	Week		10,100		10,100	15,100
0550	Per 4.3 week month	4 Eqlt	.04	800	Month		45,600		45,600	68,000
0600	Complete installation, operation, equipment rental, fuel &									
0610	removal of system with 2" wellpoints 5' OC									
0700	100' long header, 6" diameter, first month	4 Eqlt	3.23	9.907	LF Hdr	154	565		719	1,000
0800	Thereafter, per month		4.13	7.748		123	440		563	790
1000	200' long header, 8" diameter, first month		6	5.333		147	305		452	610
1100	Thereafter, per month		8.39	3.814		69	217		286	400
1300	500' long header, 8" diameter, first month		10.63	3.010		54	172		226	315
1400	Thereafter, per month		20.91	1.530		38.50	87		125.50	173
1600	1,000' long header, 10" diameter, first month		11.62	2.754		46	157		203	285
1700	Thereafter, per month		41.81	.765		23	43.50		66.50	90.50
1900	Note: above figures include pumping 168 hrs. per week,									