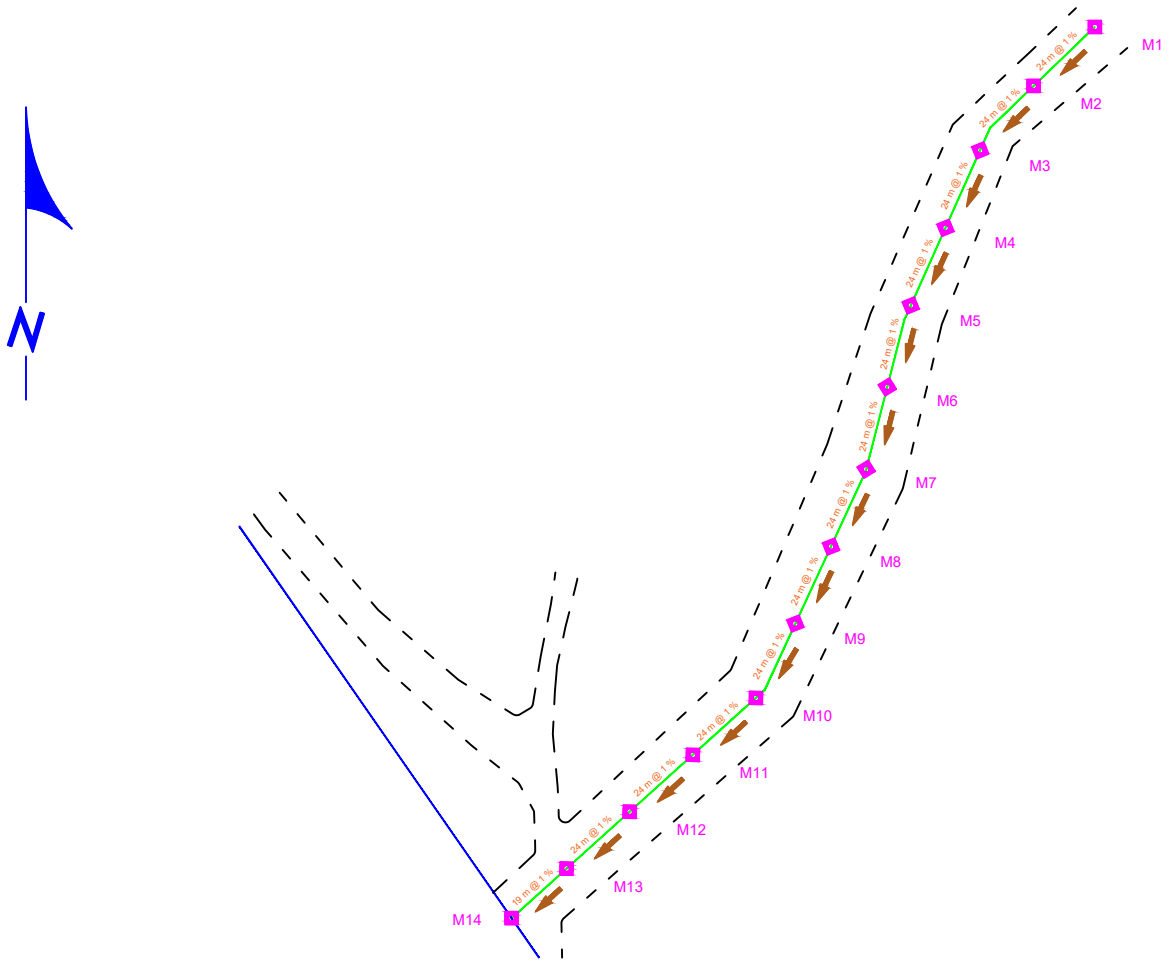
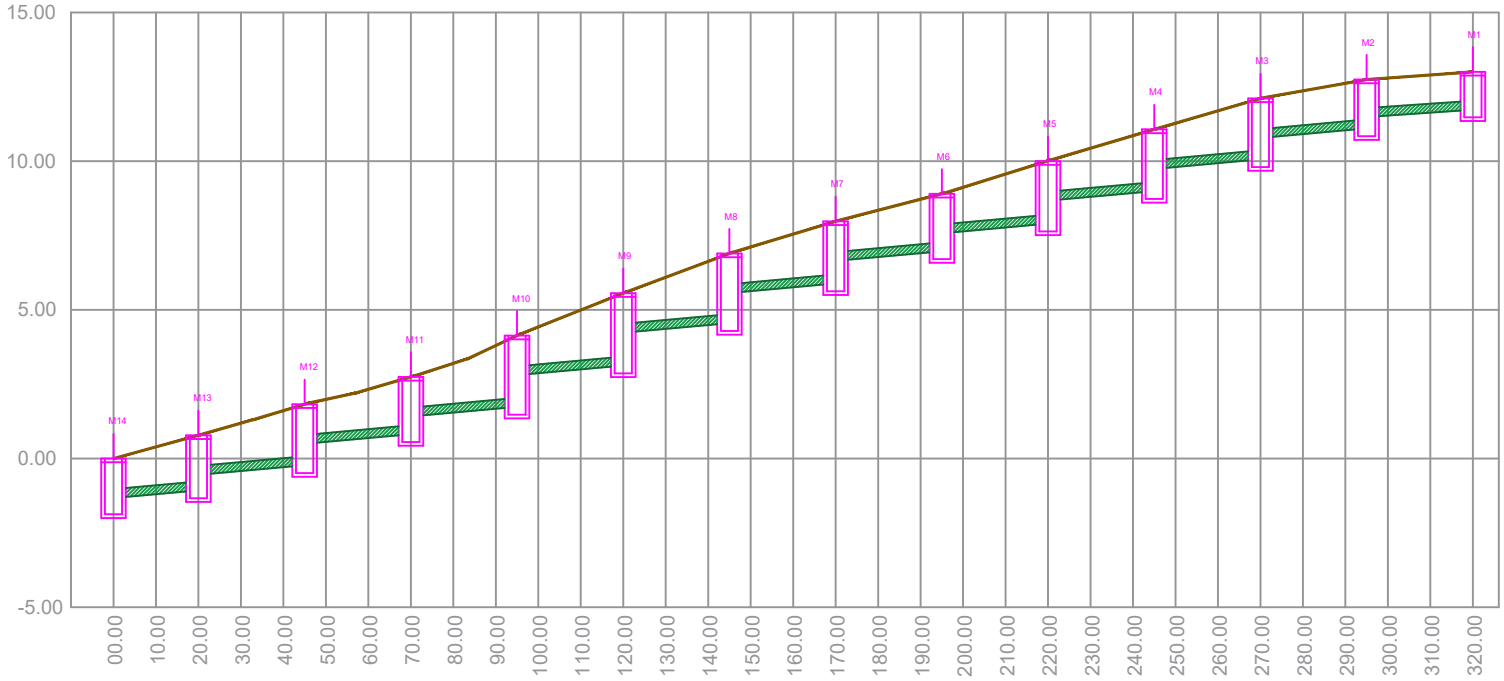
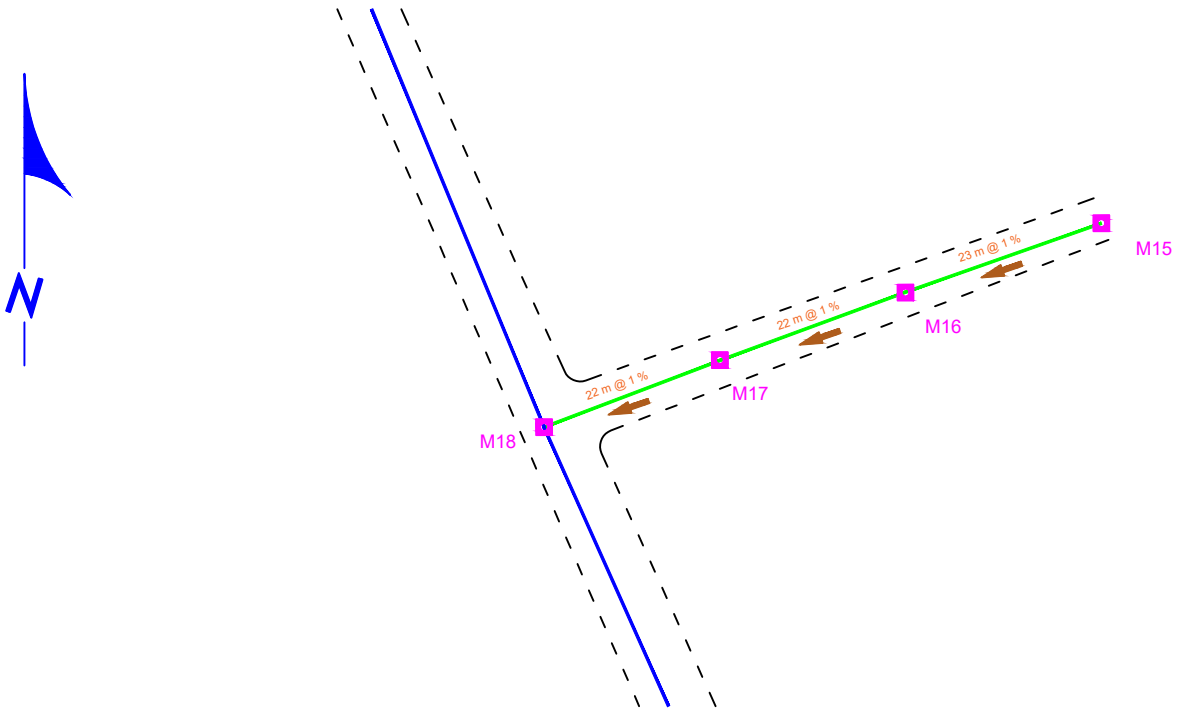
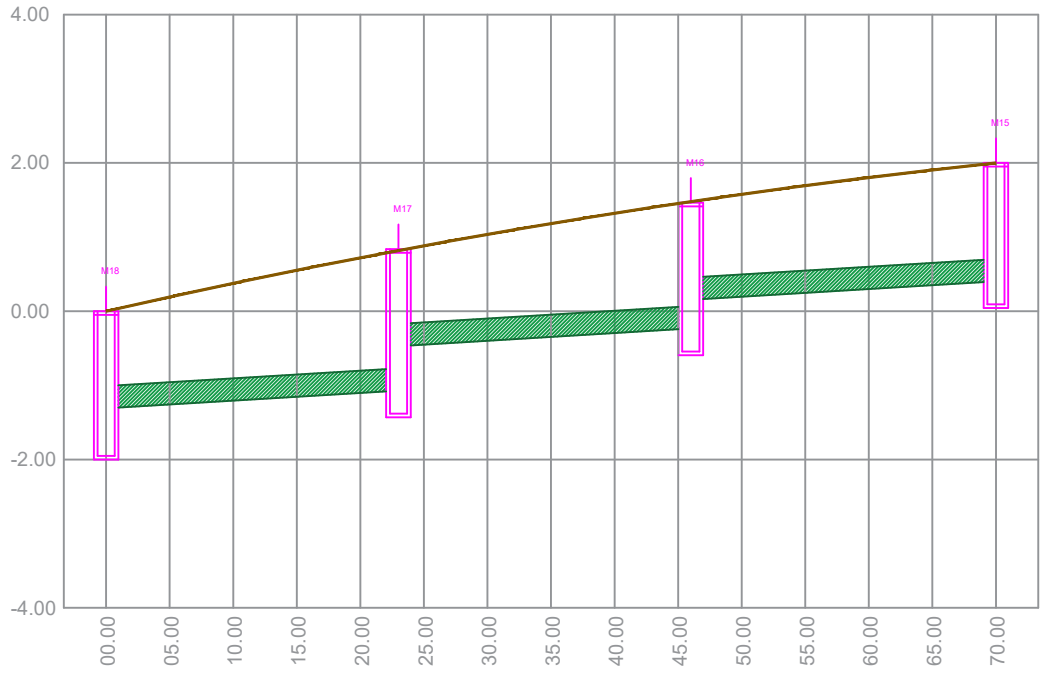




manhole name	M14	M13	M12	M11	M10	M9	M8	M7	M6	M5	M4	M3	M2	M1
manhole level	0.00	0.78	1.82	2.74	4.13	5.56	6.89	7.97	8.90	10.00	11.07	12.11	12.74	13.00
manhole depth	1.90	2.14	2.33	2.21	2.68	2.72	2.63	2.38	2.22	2.39	2.36	2.33	1.93	1.55
distance	20	25	25	25	25	25	25	25	25	25	25	25	25	25
Change	20	45	70	95	120	145	170	195	220	245	270	295	320	
slope	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
excavation level	-1.50	-1.26	-1.66	-0.41	+0.38	+0.63	+1.30	+1.55	+2.69	+2.94	+4.12	+4.37	+5.38	+5.70	+6.53	+6.78	+7.46	+7.71	+8.56	+8.81	+9.62	+9.87	+10.67	+10.92	+11.36	+11.55
excavation depth	1.50	2.10	1.50	2.31	1.50	2.18	1.50	2.65	1.50	2.70	1.50	2.60	1.50	2.32	1.50	2.20	1.50	2.36	1.50	2.35	1.50	2.30	1.50	1.90	1.50	1.50

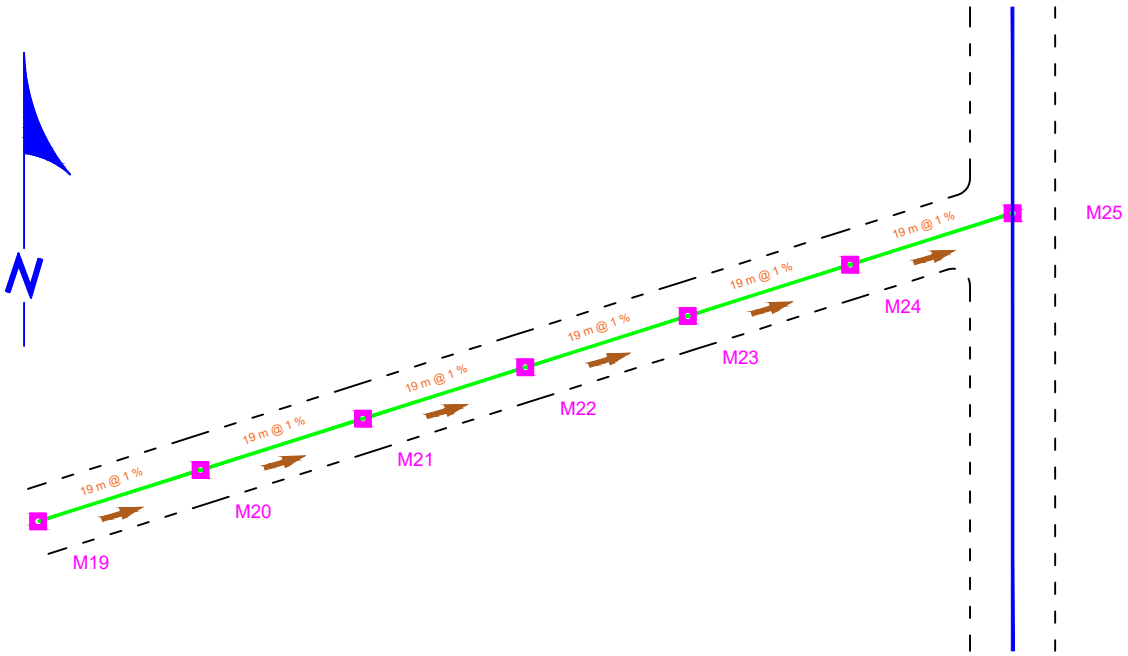
Line # 1	Ø 300 mm L = 320 m	average excavation 1.78 m	average manhole depth 2.26 m

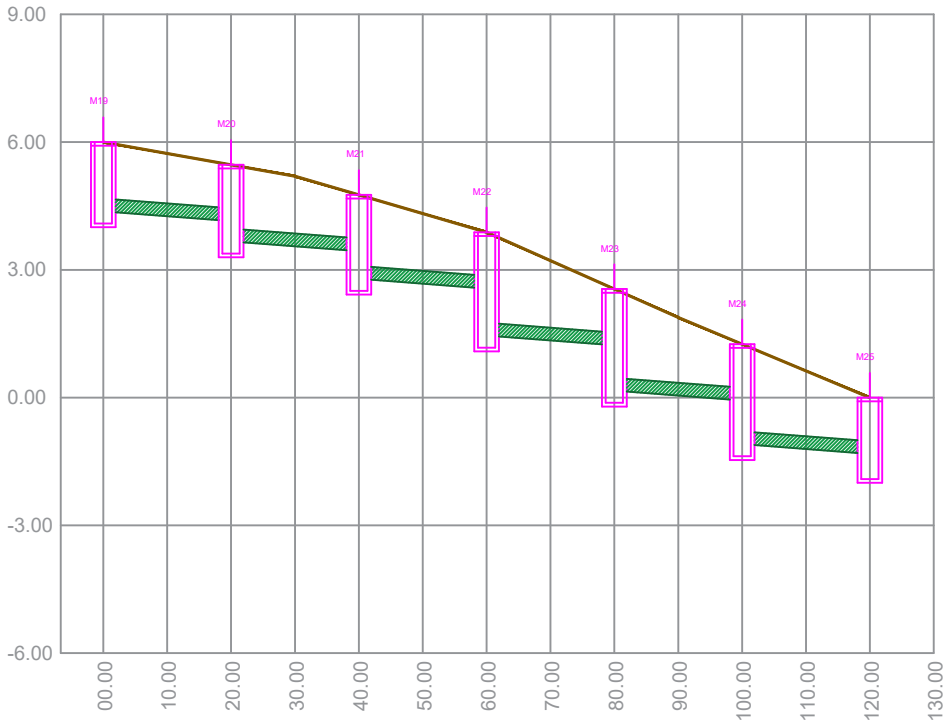




manhole name	M18	M17	M16	M15
manhole level	0.00	0.84	1.48	2.00
manhole depth	1.90	2.17	1.96	1.86
distance	23	23	24	
Change	23	46	70	
slope	0.01	0.01	0.01	
excavation level	-1.50 / -1.28	-0.66 / -0.44	-0.66 / +0.59	
excavation depth	1.50 / 2.07	1.50 / 1.90	1.50 / 1.81	

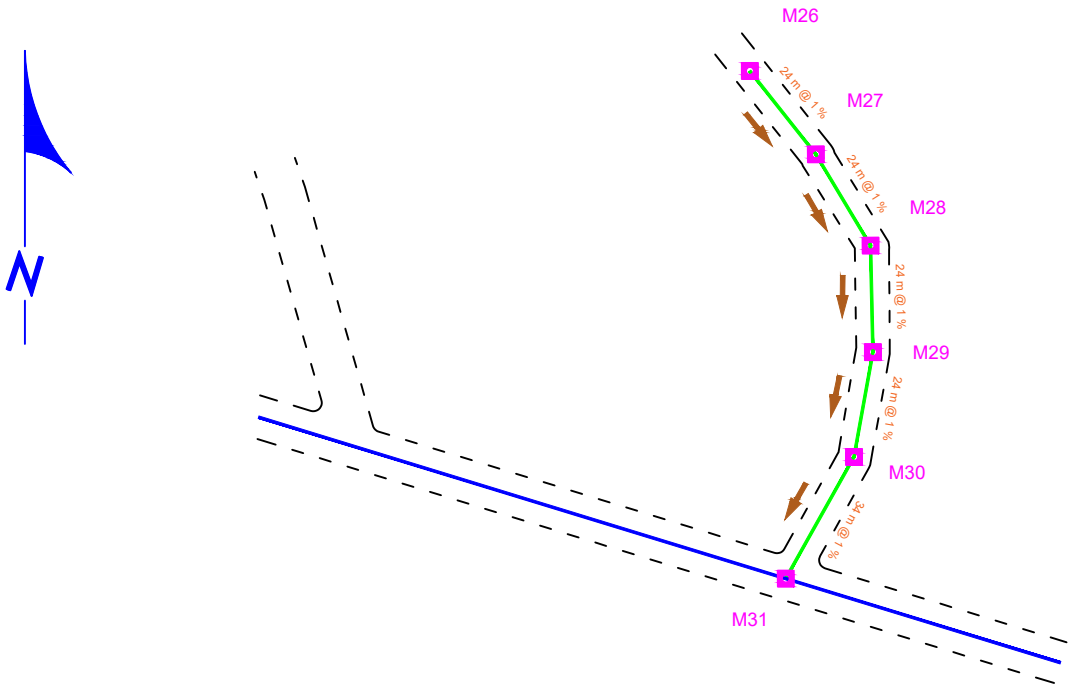
Line # 2	Ø 300 mm L = 70 m	average excavation 1.32 m	average manhole depth 2.0 m

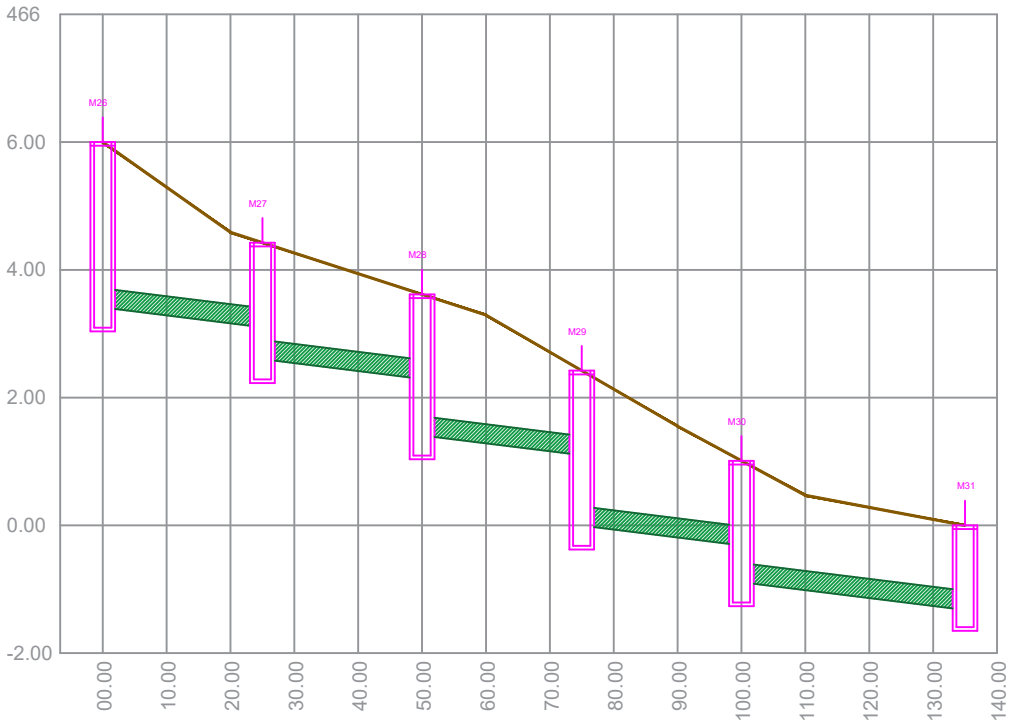




manhole name	M19		M20		M21		M22		M23		M24		M25
manhole level	6.00		5.47		4.76		3.88		2.55		1.26		0.00
manhole depth	1.90		2.07		2.24		2.70		2.66		2.62		2.00
distance		20		20		20		20		20		20	
Change		20		40		60		80		100		120	
slope		0.01		0.01		0.01		0.01		0.01		0.01	
excavation level	+4.15	+3.97	+3.45	+3.26	+2.57	+2.38	+1.23	+1.09	-0.06	-0.24	-1.31	-1.50	
excavation depth	1.85	1.50	2.02	1.50	2.19	1.50	2.65	1.50	2.61	1.50	2.57	1.50	

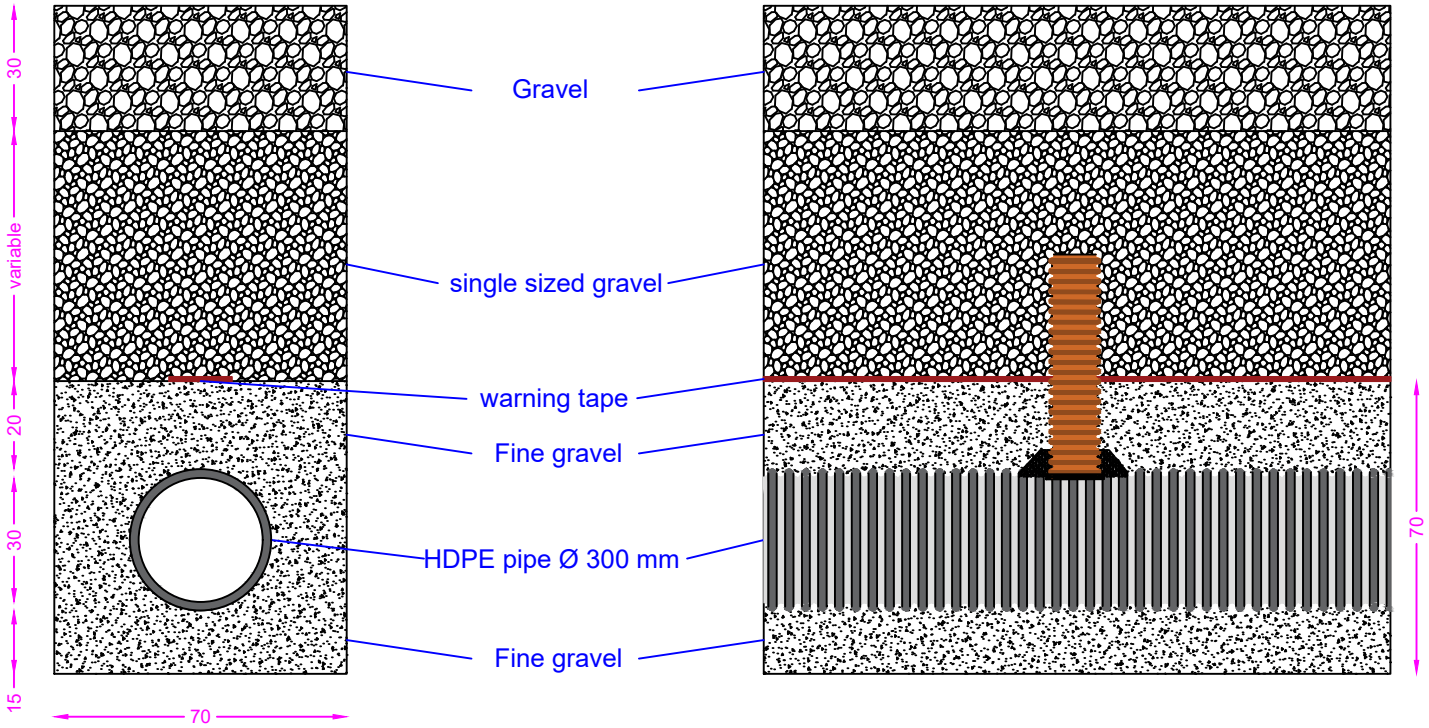
Line # 3	Ø 300 mm L = 120 m	average excavation 1.80 m	average manhole depth 2.3 m



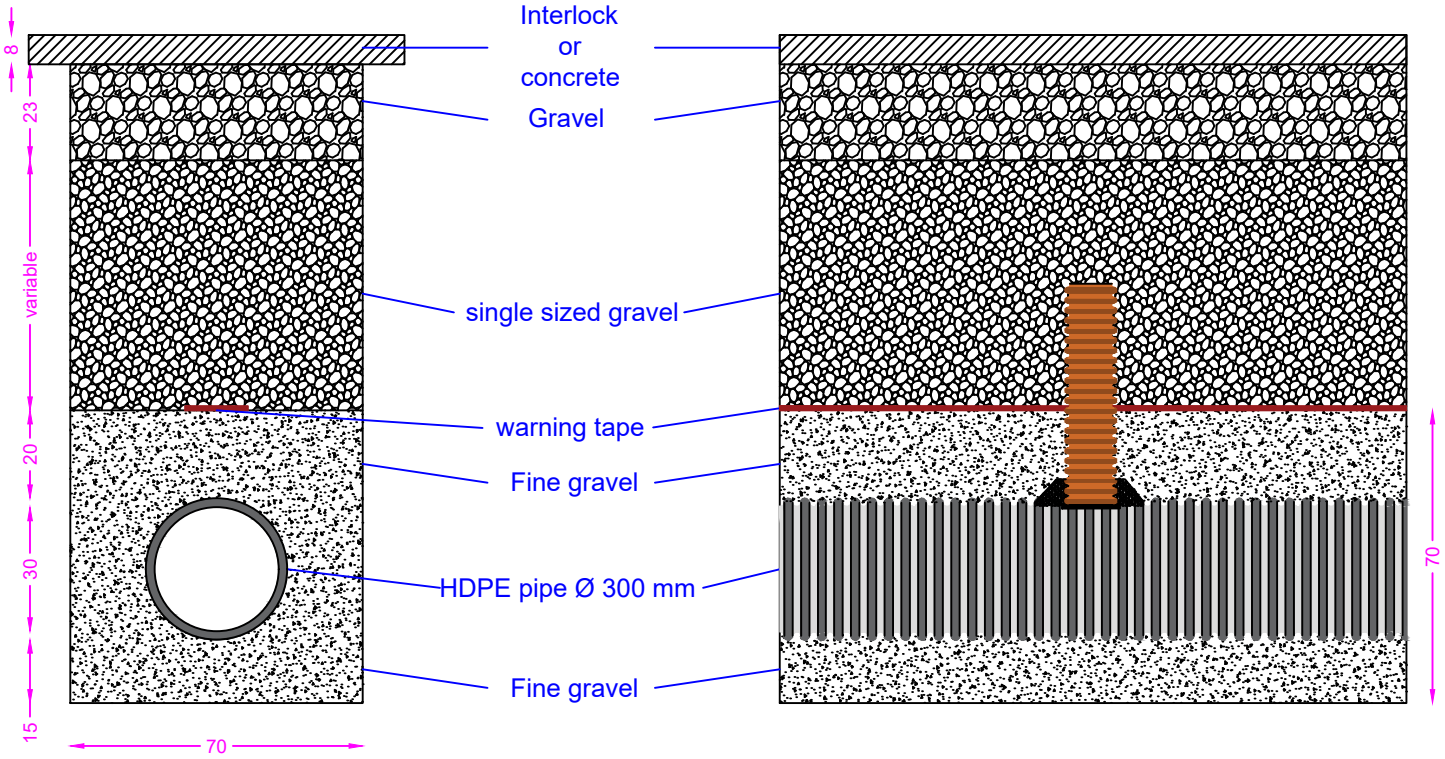


manhole name	M26		M27		M28		M29		M30		M31	
manhole level	6.00		4.42		3.62		2.42		1.01		0.00	
manhole depth	2.96		2.20		2.58		2.80		2.27		1.65	
distance	25		25		25		25		35			
Change	25		50		75		100		135			
slope	0.01		0.01		0.01		0.01		0.01			
excavation level	+3.19	+3.32	+2.38	+2.12	+1.18	+0.92	-0.23	-0.49	-1.11	-1.50		
excavation depth	2.81	1.50	2.05	1.50	2.43	1.50	2.65	1.50	2.12	1.50		

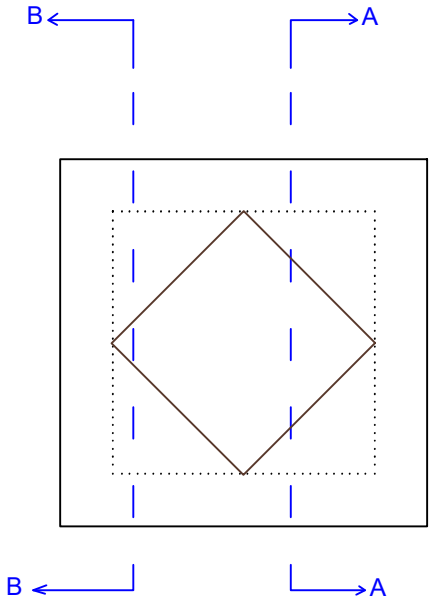
Line # 4	Ø 300 mm L = 135 m	average excavation 1.46 m	average manhole depth 2.32 m

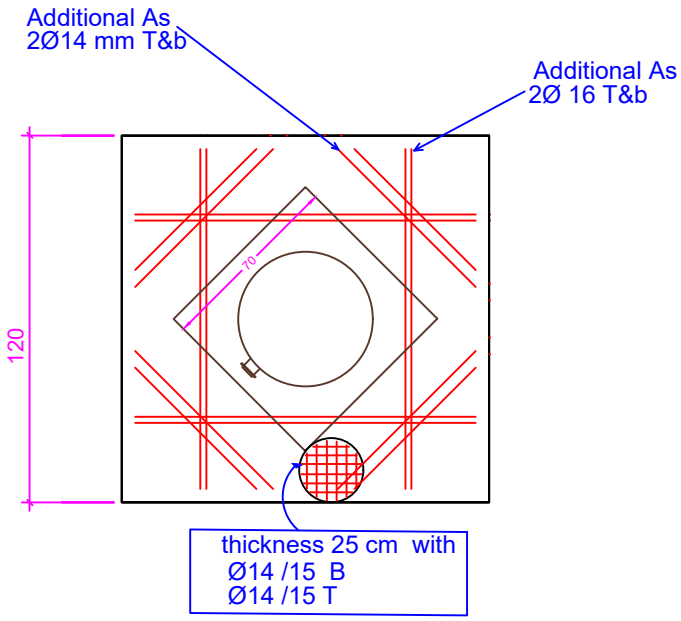


Section of sewage pipe 300 mm gravel backfill

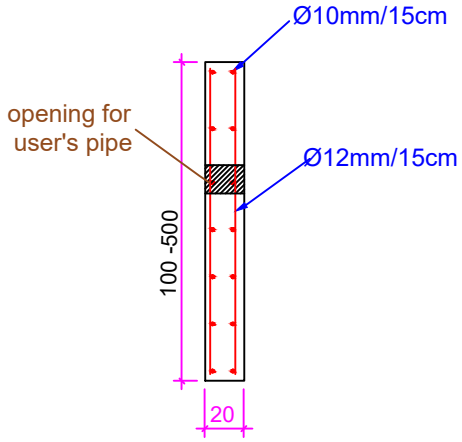


Section of sewage pipe 300 mm interlock cover

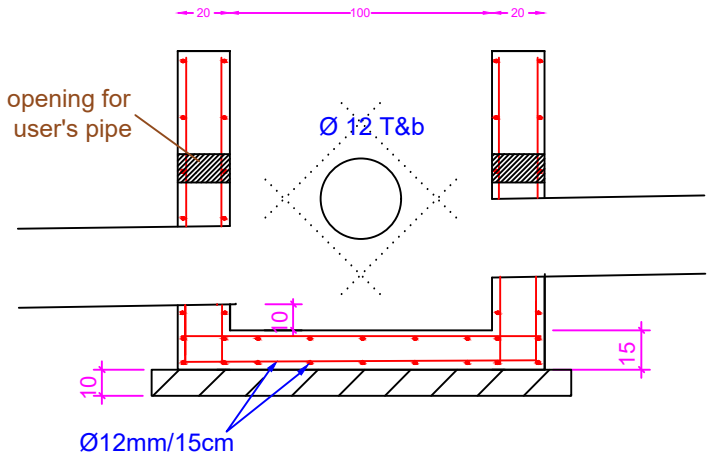




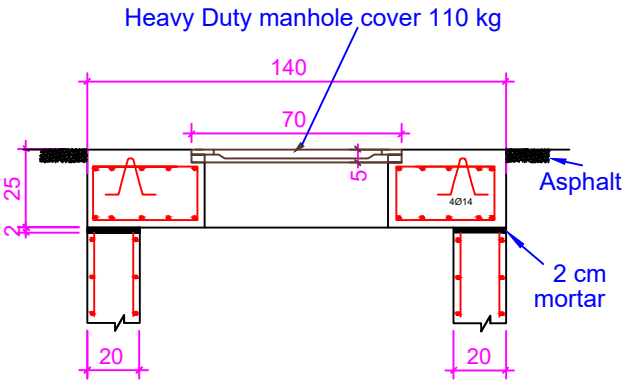
Manhole Cover Plan



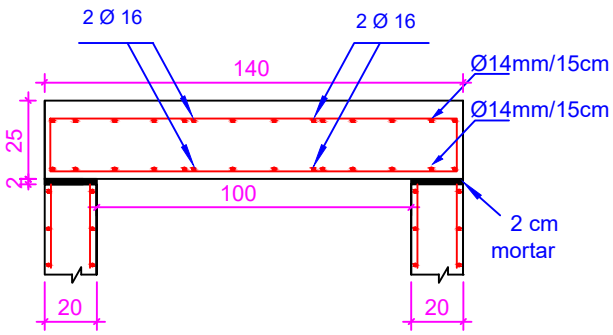
Wall reinforcement



Wall and floor



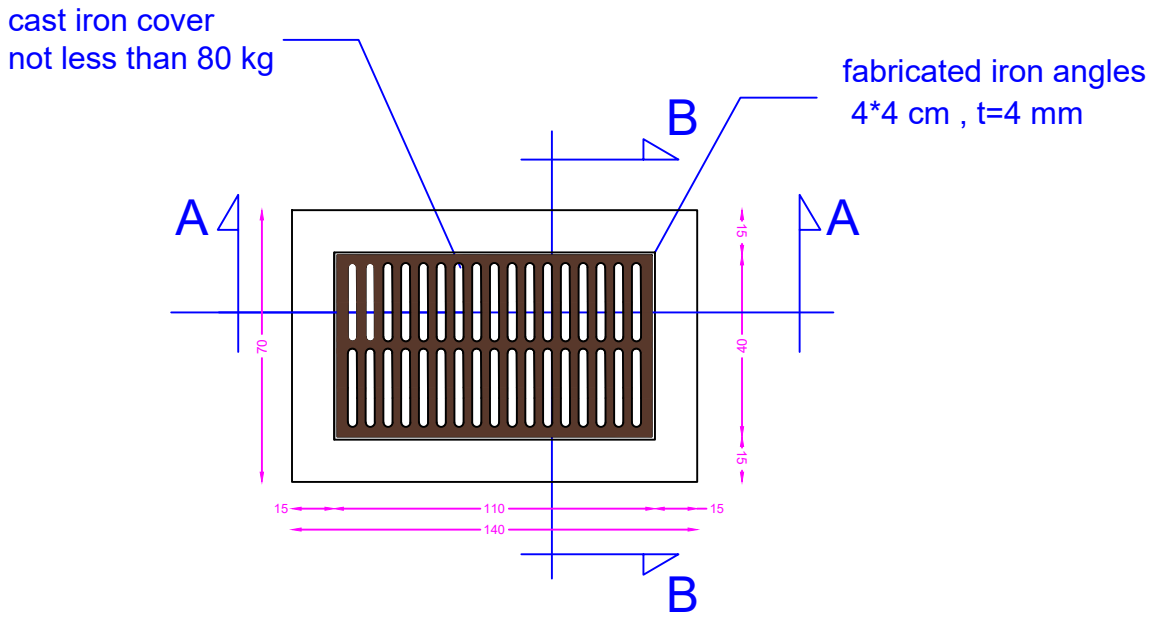
Sec A



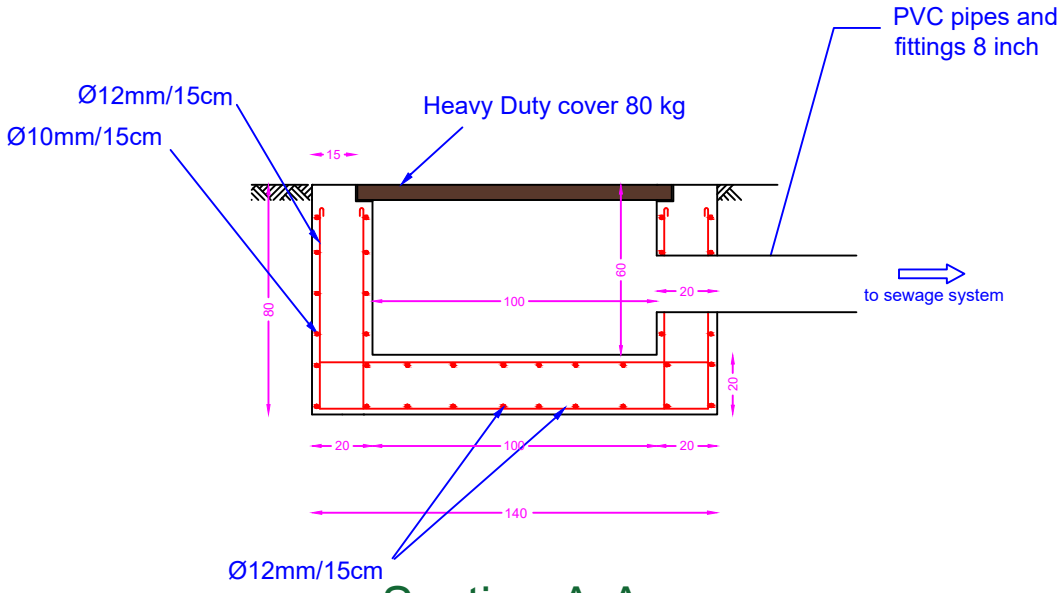
Sec B

Vertical Section

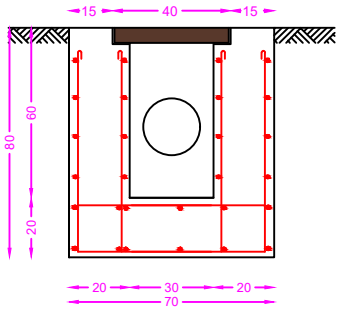
section and plan of manhole 100 cm



Layout of rainwater grating 140 x 70 cm



Section A-A



Section B-B

Rainwater grating details