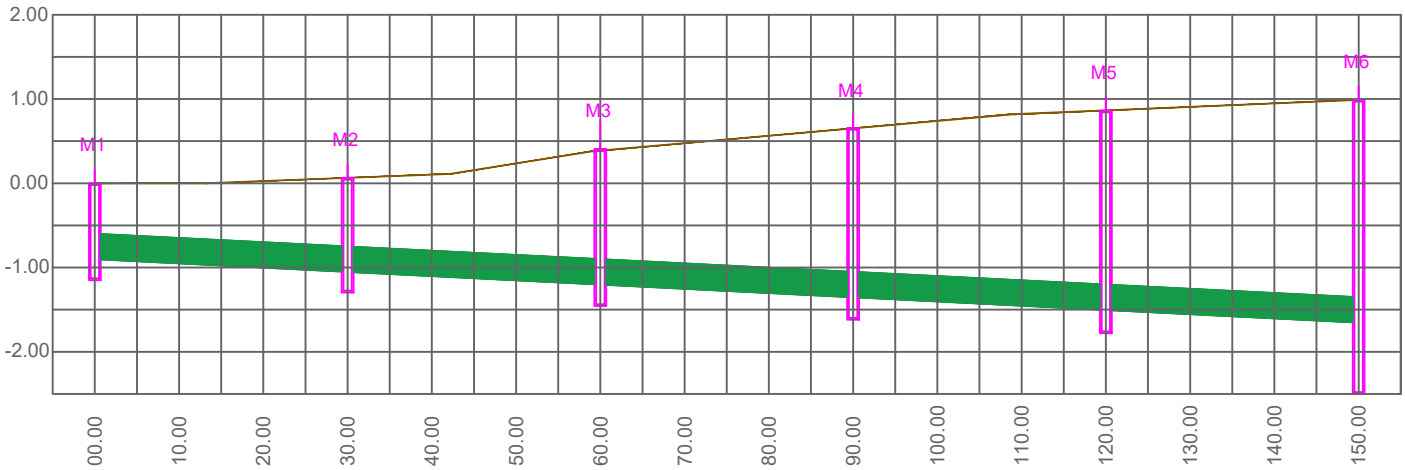
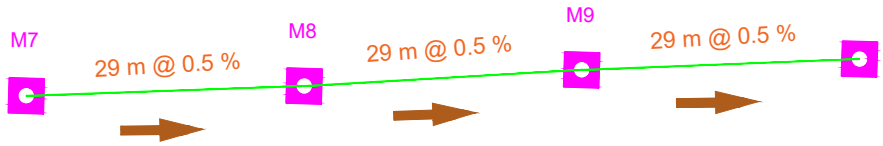


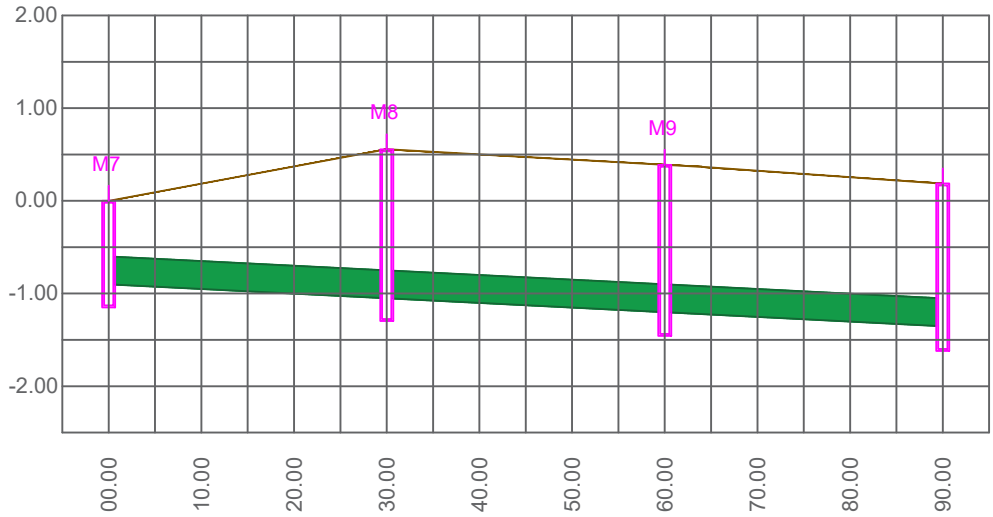


manhole name	M1	M2	M3	M4	M5	M6
manhole level	0.00	0.06	0.41	0.66	0.87	0.99
manhole depth	1.15	1.36	1.86	2.27	2.64	3.50
distance	30	30	30	30	30	
Change	30	60	90	120	150	
slope	0.005	0.005	0.005	0.005	0.005	
excavation level	-1.10	-1.25 / -1.25	-1.40 / -1.40	-1.55 / -1.55	-1.70 / -1.70	-1.85
excavation depth	1.10	1.31 / 1.31	1.81 / 1.81	2.19 / 2.19	2.56 / 2.56	2.84

Line # 1 Abo Solaiman	Ø 300 mm L = 150 m	average excavation 1.97 m	average manhole depth 1.48 m



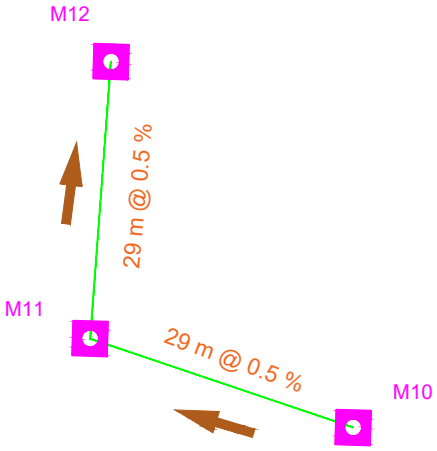


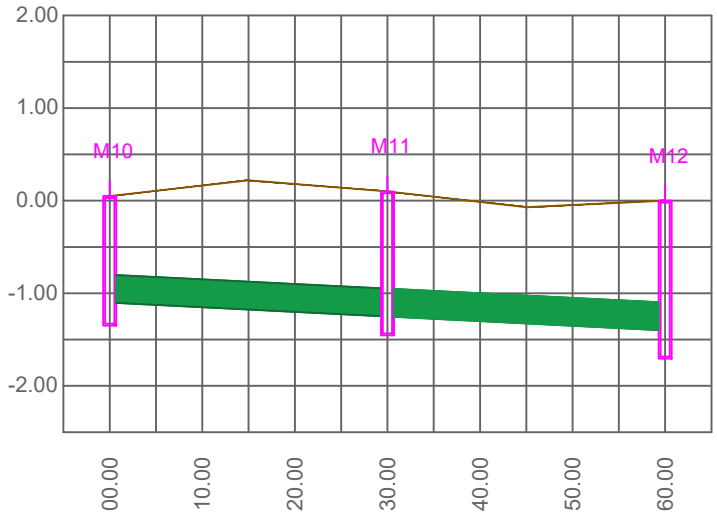


manhole name	M7	M8	M9	
manhole level	0.00	0.55	0.39	0.19
manhole depth	1.15	1.85	1.84	2.00
distance	30	30	30	
Change	30	60	90	
slope	0.005	0.005	0.005	
excavation level	-1.10 -1.25	-1.25 -1.40	-1.40 -1.55	
excavation depth	1.10 1.80	1.80 1.80	1.80 1.73	

Line # 2 Abo Odai	Ø 300 mm L = 90 m	average excavation 1.67 m	average manhole depth 1.48 m

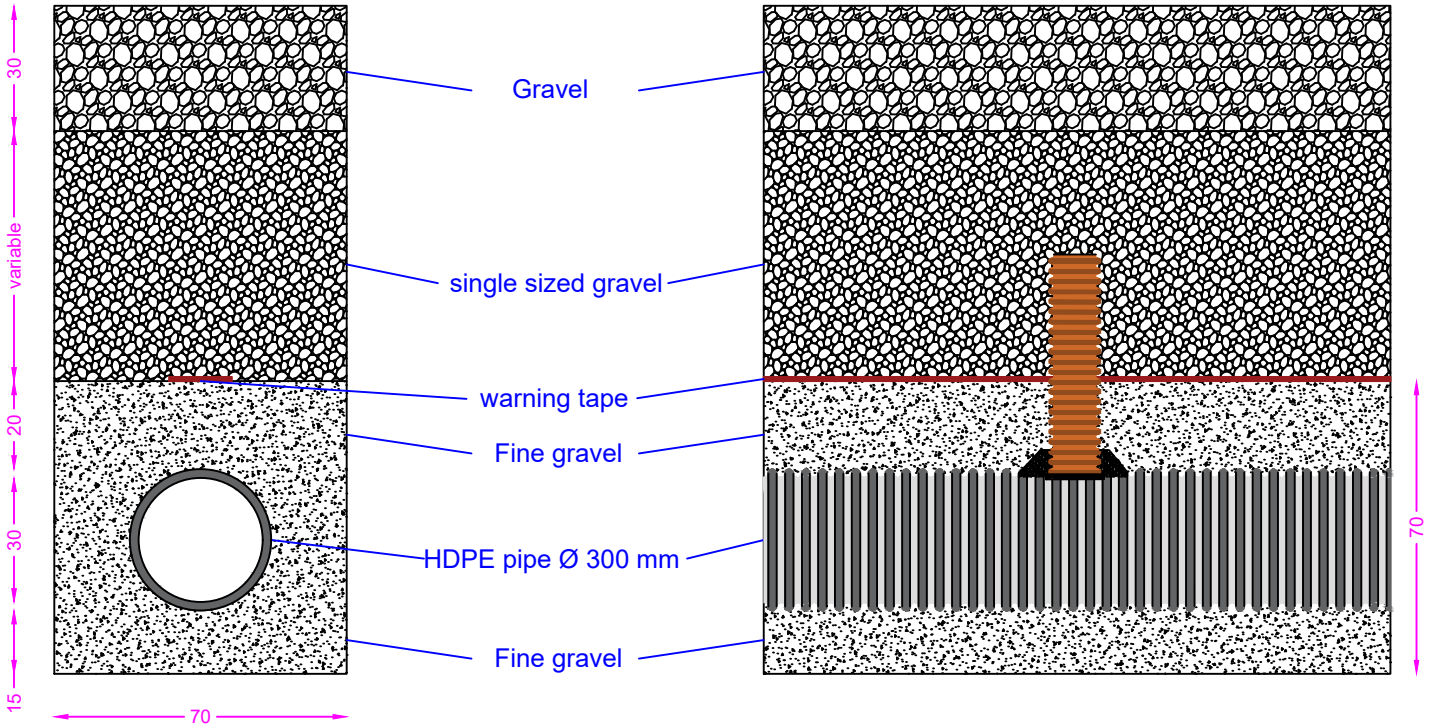




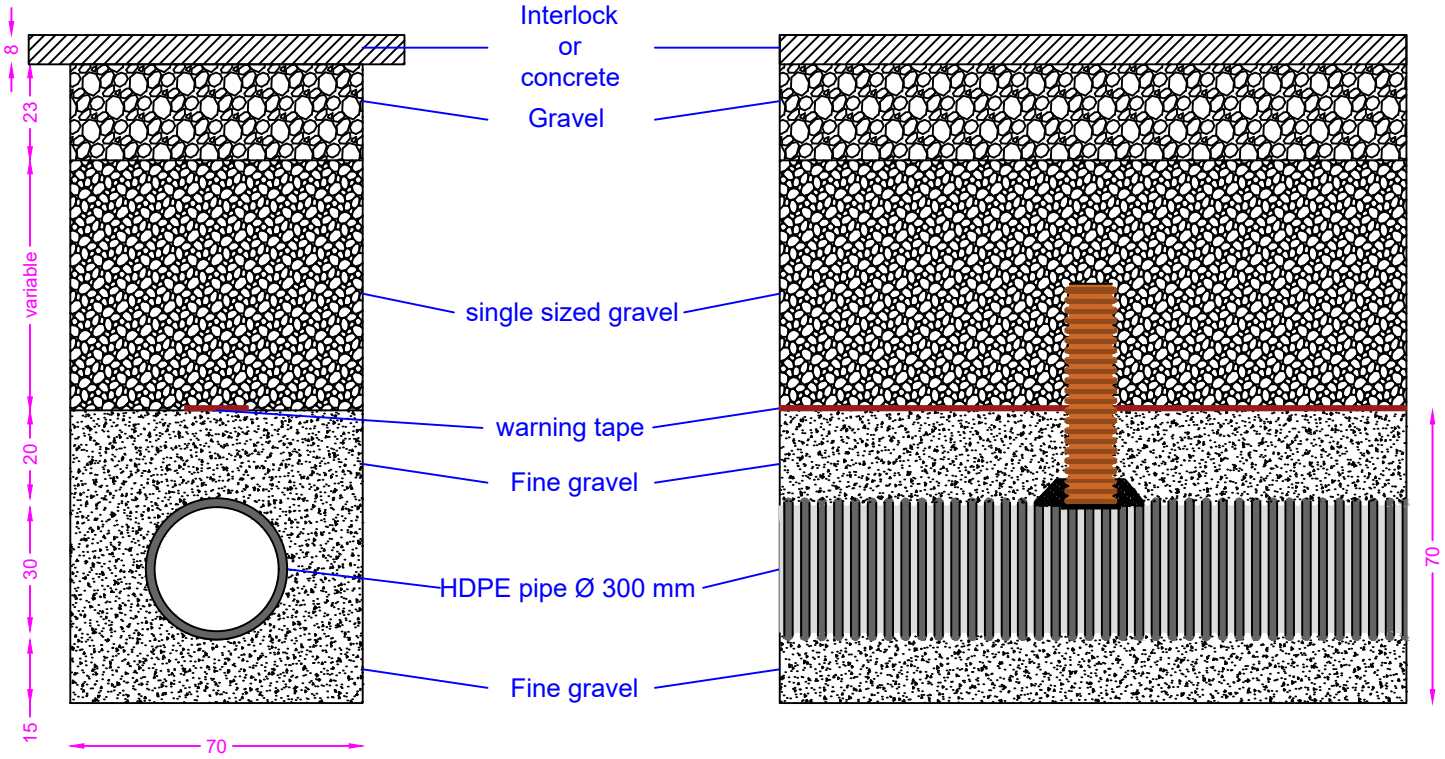


manhole name	M10	M11	M12
manhole level	0.05	0.10	0.00
manhole depth	1.40	1.55	1.71
distance	30	30	
Change	30	60	
slope	0.005	0.005	
excavation level	-1.10	-1.25 -1.25	-1.60
excavation depth	1.35	1.55 1.55	1.60

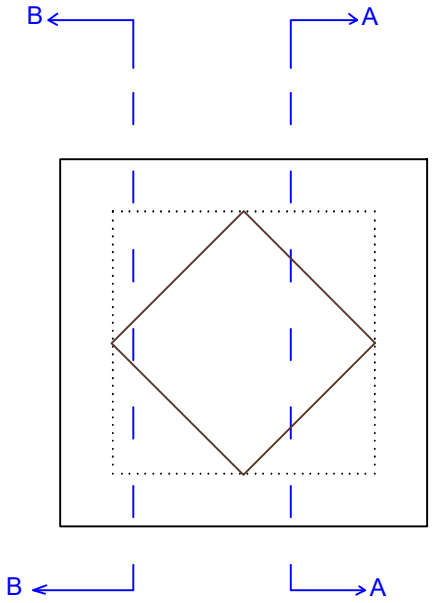
Line # 3 Sattouf	Ø 300 mm L = 60 m	average excavation 1.50 m	average manhole depth 1.55 m

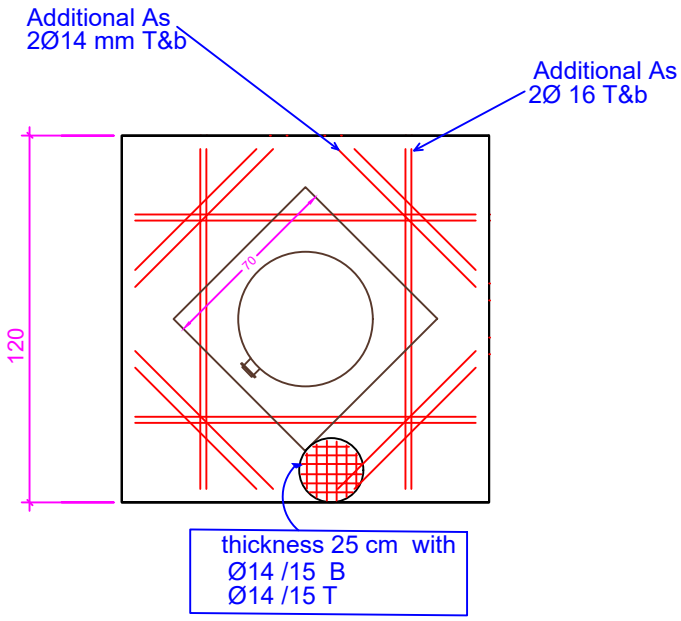


Section of sewage pipe 300 mm gravel backfill

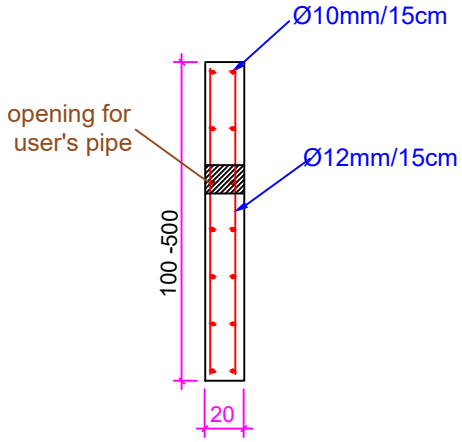


Section of sewage pipe 300 mm interlock cover

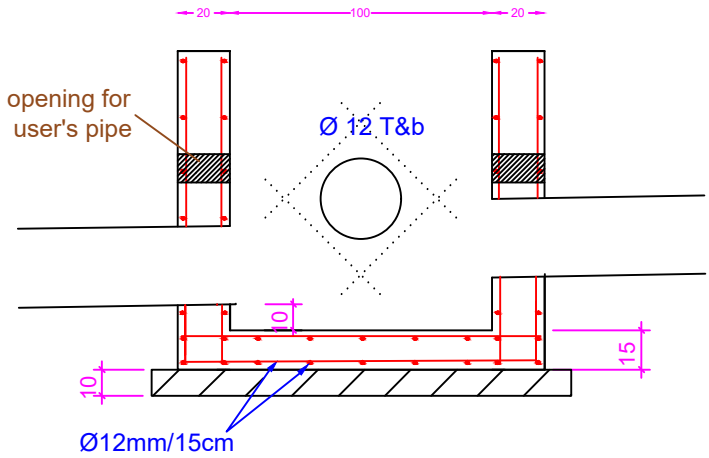




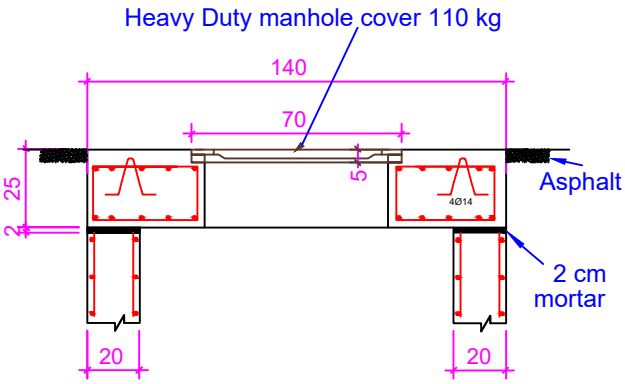
Manhole Cover Plan



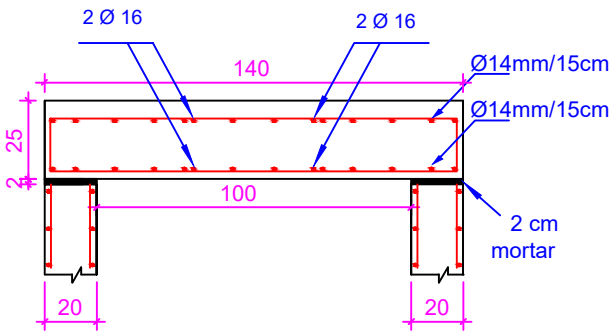
Wall reinforcement



Wall and floor



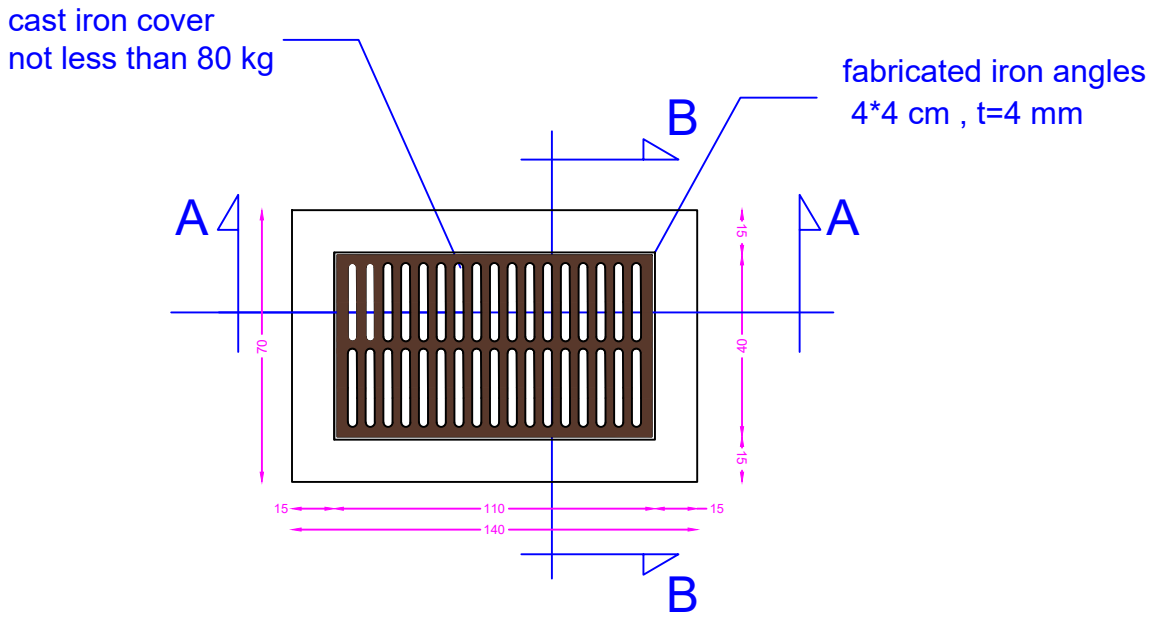
Sec A



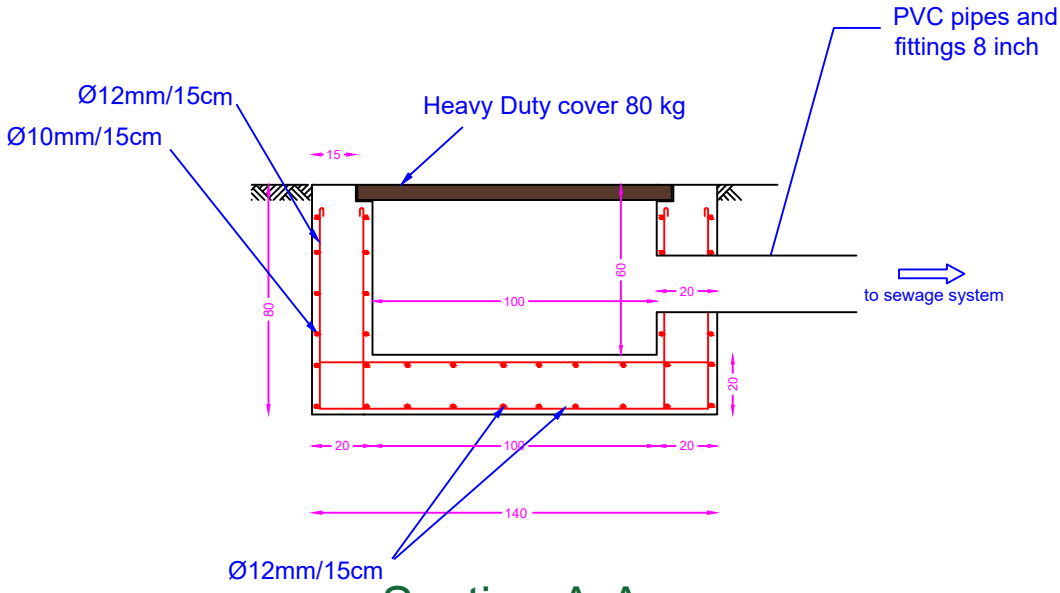
Sec B

Vertical Section

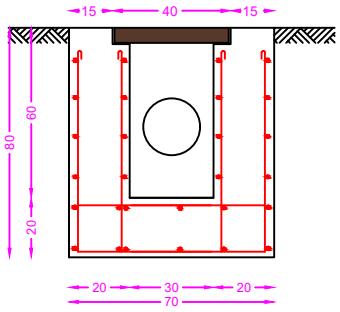
section and plan of manhole 100 cm



Layout of rainwater grating 140 x 70 cm



Section A-A



Section B-B

Rainwater grating details