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Imple	ementing D	rainage
Soil	Spacing	Depth
Texture	(ft)	(ft)
Clay	30 – 50	3.0 - 3.6
Clay Loar	n 39 – 69	3.0 - 3.6
Average Lo	am 59 – 98	3.6 – 4.0
Fine Sandy L	oam 98 – 120	4.0 - 4.6
Sandy Loa	m 98 – 197	4.0 - 5.0
Peat and M	uck 98 – 295	4.0 - 5.0
Inviorate d Ca	148 - 500	10-08





















Implementing Drainage	Soil Texture	Max. Velocity ft/sec
High velocities can:	Sand & sandy loam	3.5
Cause sink holesBlow outs	Silt & silt Loam	5.0
• Watch for steep to flat grade changes and overloading of mains!	Silty clay loam	6.0
	Clay & Clay loam	7.0
	Course sand or gravel	9.0

Implementing Drainage						
Drain's inside diameter	Smooth drains not subjected to fine sand or silt	CPE drains not subjected to fine sand or silt	Smooth drains where fine sand or silt may enter	CPE drains where fine sand or silt may enter		
3* inches	0.08% grade	0.10% grade	0.60% grade	0.81% grade		
4* inches	0.05% grade	0.07% grade	0.41% grade	0.55% grade		
5* inches	0.04% grade	0.05% grade	0.30% grade	0.41% grade		
6* inches	0.03% grade	0.04% grade	0.24% grade	0.32% grade		
8-12* inches		0.07% grade				
12 or more* inches		0.05% grade				

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Installing Drainage

- Connections
 - Recommended on bigger pipe

Costs and Payback

Item	Cost	
10 inch Single Wall Perf Pipe	0	
Gravel	2,714	
Misc (Fittings, outlet, etc)	300	
Excavation	3,000	
Labor	1,000	
Est. Drain coverage (\$90/hour 15 hours)	1,350	
Misc Equipment (Loader, etc)	700	
Total	9,064	
\$/Foot	7.88	

Item	Cost	
10 inch Single Wall Perf Pipe	2,530	
Gravel	2,714	
Misc (Fittings, outlet, etc)	300	
Excavation	3,000	
Labor	1,000	
Est. Drain coverage (\$90/hour 15 hours)	1,350	
Misc Equipment (Loader, etc)	700	
Total	11,364	
\$/Foot	10.08	

