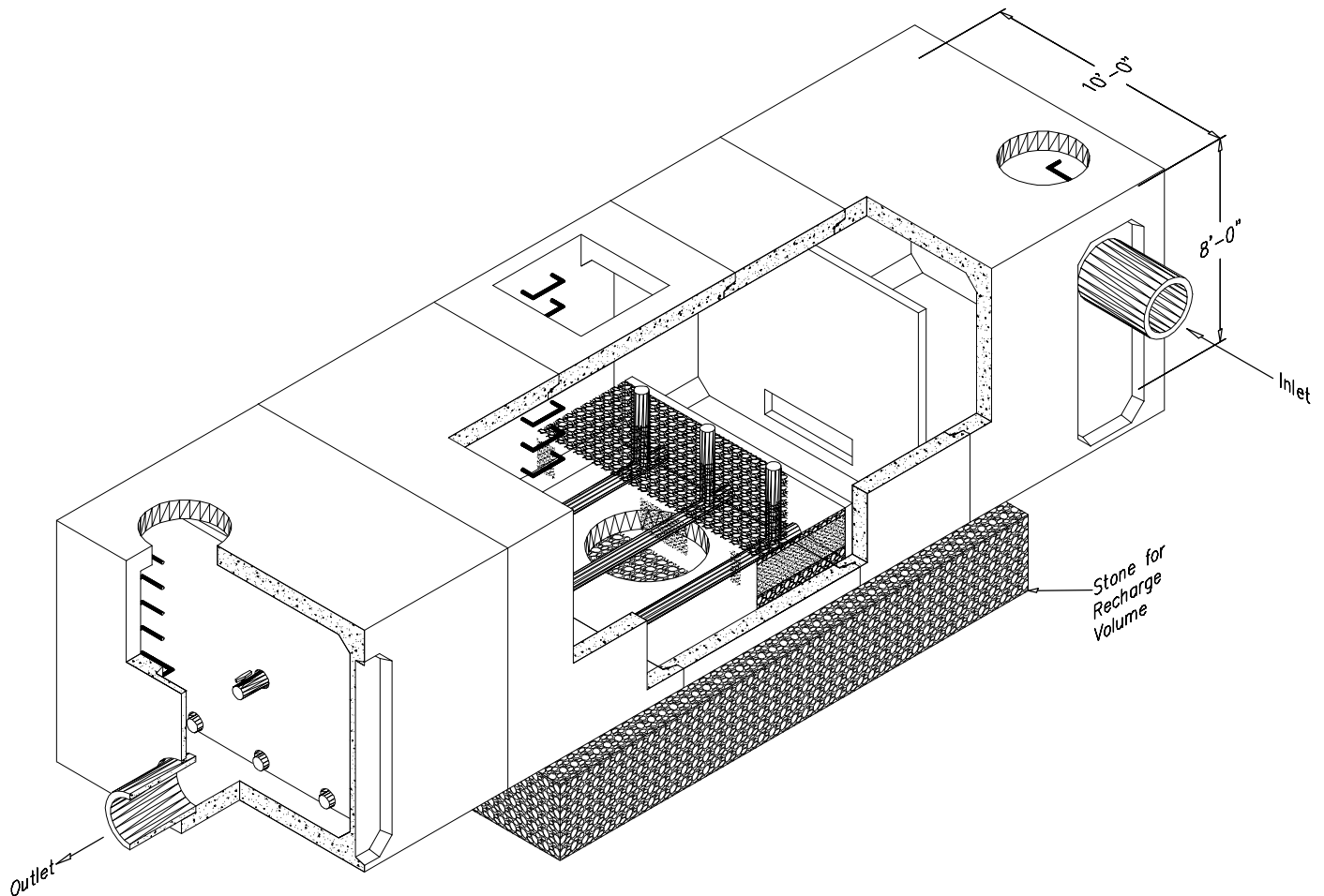
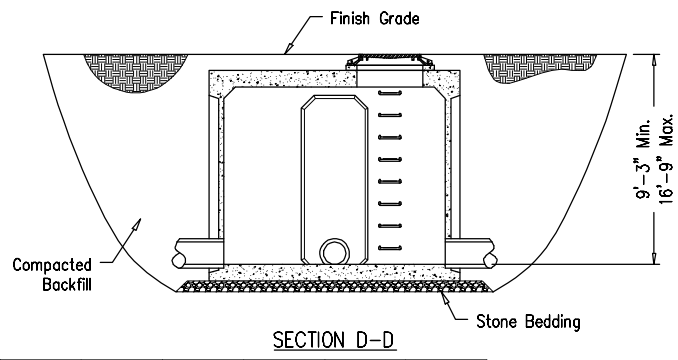
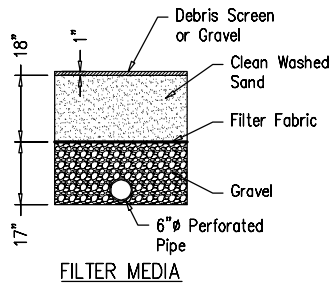
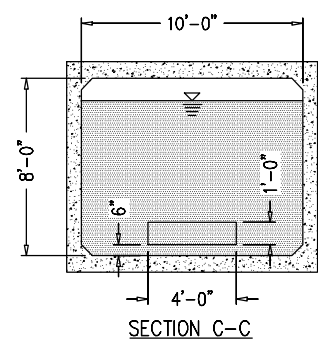
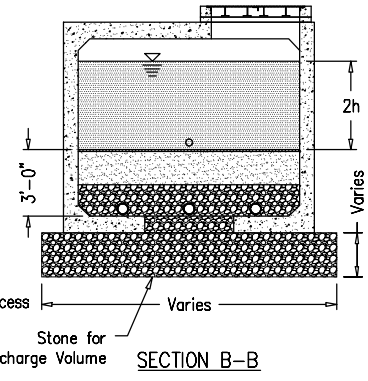
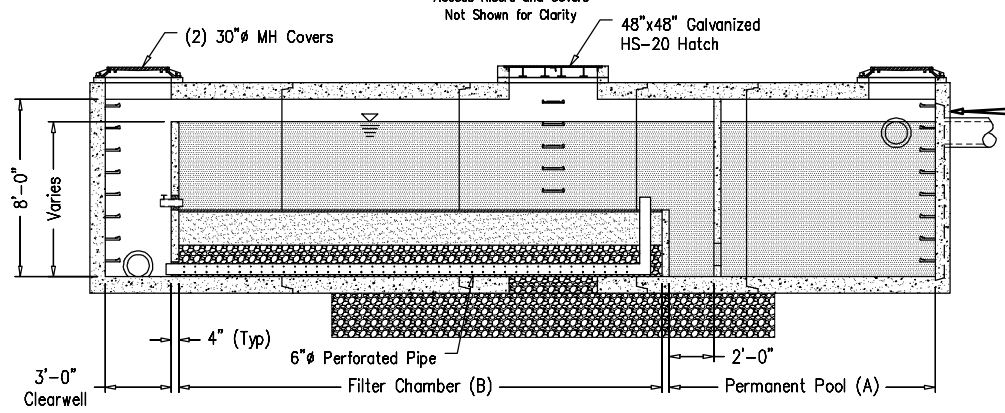
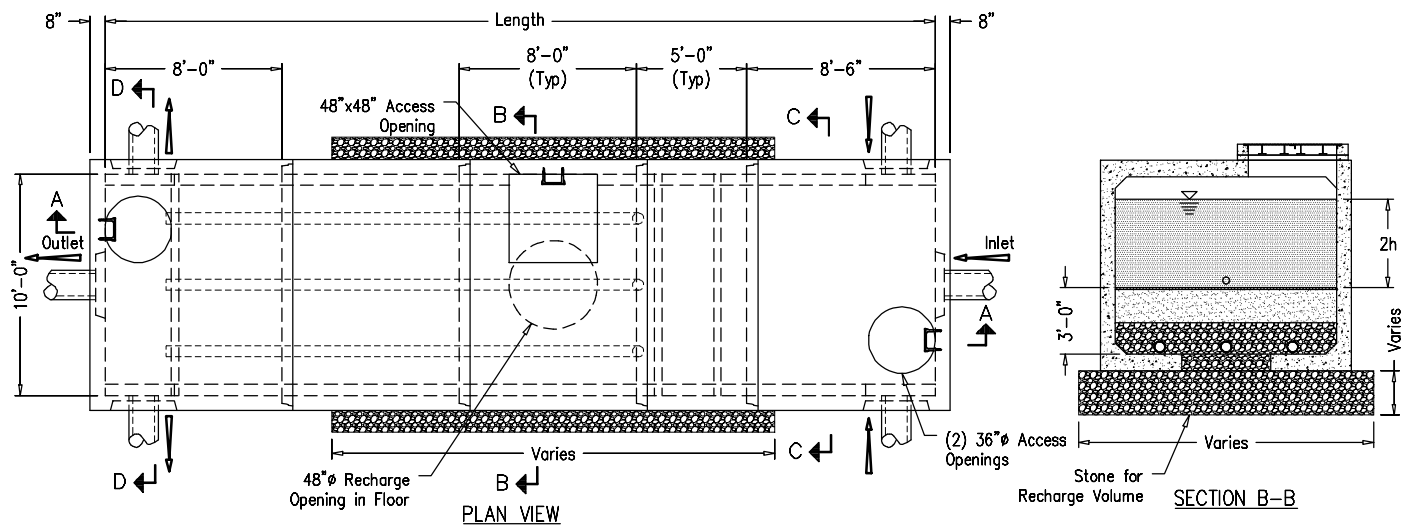


# Water-Tight Underground Sandfilter w/ Recharge



## DESIGN SPECIFICATIONS:

- Concrete Min (28-Day) Compressive Strength 5,000 psi.
- Reinforcing Deformed Bars: ASTM A-615 (Fy=60 ksi)
- Reinforcing Deformed Wire: ASTM A-185 or A-497 (Fy=65 ksi).
- Design Live Load: AASHTO HS-20.
- Earth Cover: 0'-6" Min. to 8'-0" Max.
- Soil Unit Weight: 120 pcf.
- Design Specifications: AASHTO, 16th Edition & ASTM C 890
- Water-tight Joint Specification: ASTM C 443



Sandfilter Chamber Lengths												
Drainage Area (Acres)	.25	.50	.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00
Permanent Pool (A)	6'-10"	13'-10"	20'-10"	26'-10"	33'-10"	41'-10"	45'-10"	54'-10"	58'-10"	66'-10"	74'-10"	79'-10"
Filter Chamber (B)	6'-0"	12'-0"	18'-0"	23'-0"	29'-0"	35'-0"	41'-0"	46'-0"	52'-0"	58'-0"	63'-0"	69'-0"
Clearwell	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"
Total Length	16'-6"	29'-6"	42'-6"	53'-6"	66'-6"	80'-6"	90'-6"	104'-6"	114'-6"	128'-6"	141'-6"	152'-6"

- Sandfilter Sizing Notes:**
- Sizes Figured Using "Unified Stormwater Sizing Method" Per The State Of Maryland.
  - Areas Are "Total Drainage Areas" Draining To Sandfilter.
  - Impervious Cover = 90%
  - Rainfall Depth = 1.0"
  - Height Of Water Above Filter (2h) = 4'-0"

Filter Media Quantities & Specifications			
Material	Qty/lf of Filter (B)	Specification	Notes
Sand	15 cf/lf	Clean AASHTO-M-6 or ASTM C-33 Concrete Sand	Size = .02" to .04"
Underdrain Gravel	14.4 cf/lf	AASHTO-M-43	Size = .375" to .75"
Filter Fabric	11.0 sf/lf	ASTM-D-4833 (PS = 125 lbs.) & ASTM-D-4632 (TS = 300 lbs.)	Must Maintain 125 gpm per sq. ft. Flow Rate
Underdrain Piping	3.0 ft/lf	F 758, Type PS 28 or AASHTO-M-278	6" Dia., .375" perf. @ 6" cc, 4 Holes Per Row

## Water-Tight Underground Sandfilter w/ Recharge



**ROTONDO**  
Environmental Solutions LLC

4950 EISENHOWER AVE., UNIT C  
ALEXANDRIA, VA 22304  
PHONE: 703-212-4830  
FAX: 703-212-4832  
WEB: www.rotondo-es.com