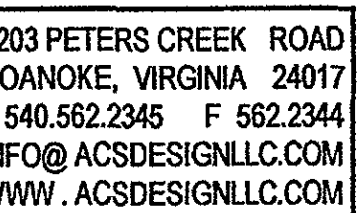


1. Install groundwater monitoring wells as specified by the locations indicated herein. The groundwater monitoring wells shall be used to establish existing groundwater chemistry for comparison to future groundwater samples that may be taken once the proposed mass drainfield system is placed into operation.
2. Groundwater monitoring wells shall be drilled 50-feet below existing groundwater tables as determined by the well driller during drilling operations.
3. Monitoring wells shall be constructed from slotted and/or perforated well casing. Well casing shall be SCH 80 PVC or mild steel. Casing shall be installed the full depth of the well.
4. Each monitoring well shall have an approved well head cap installed. The well head shall include a warning label that the well is for groundwater sampling and monitoring purposes only.
5. The well driller shall provide a well log indicating depth of well, depth to groundwater table, casing diameter, material, and depth of installation, and well driller responsible for installation. The well driller shall procure three water samples for water chemistry testing. Testing shall be performed by an independent laboratory and shall include testing for organics, inorganics, and metals. Testing shall include nitrate testing. Test reports shall be provided to the owner, the consulting engineer, Franklin County, and Franklin County Health Department.
6. The well head shall be permanently located using GPS and/or latitude and longitude coordinates. The coordinates shall be provided as part of the well log.

1. All construction shall be in accordance with the Virginia Department of Health's sewage handling and disposal regulations.
2. Layout and design of the drainfields is based upon recommendations made by SETEC Consultants, Inc.
3. No grading of the drainfield sites shall be completed until the Health Department has reviewed and approved the proposed sewage disposal system plans.
4. Areas proposed for drainfield development shall be cleared, with all sod, trees, and stumps removed prior to installation of percolation lines.
5. Following construction, all disturbed areas shall be graded to provide positive drainage and reseeded with grass until a suitable ground cover is established. Ponding water shall not be acceptable.
6. All construction shall be inspected and approved by the Franklin County Health Department prior to being placed in service.
7. Gravity sewer lines - all proposed 4" and 6" gravity sewer lines shall be either PVC Schedule 40 (solvent weld joints), PVC SDR-35 (push-on joints), or ductile iron. The minimum allowable slope for 4" lines shall be 1.25" per 10 feet (1.04%). The minimum slope for 6" lines shall be 0.75" per 10 feet (0.62%).
8. Sewage force main - all proposed sewage force mains shall be either PVC SDR-21 (push-on joints) or PVC C-900 (push-on joints). The minimum allowable pipe cover shall be 36". Force mains shall be pressure tested for leaks in accordance with AWWA water line testing requirements with a test pressure of 150 psi.
9. Gravity sewage percolation lines - all gravity sewage percolation lines shall be 4" diameter, installed with a slope not less than 2" per 100 feet (0.33%). Percolation lines shall be ASTM standard perforated plastic drainage tubing. Drain holes shall be three (3) 1/2" - 3/4" placed within an arc of 130 degrees, spaced at four (4) inch intervals.
10. Distribution boxes - all sewage distribution boxes shall be concrete with the number of effluent ports shown. All effluent ports shall be the same diameter and located at the same elevation. Effluent ports shall be located at a lower elevation than the influent ports. Distribution boxes shall be installed level and shall be field tested with water to ensure equal flow distribution.
11. The monitoring wells shall be installed in the existing trenches as indicated on the site plan.
12. A level sensing pressure transducer shall be installed and connected to a level indicating recorder on each monitoring well. This equipment can be powered by battery or solar.
13. Monitoring well casing material shall be 6-inch diameter Schedule 80 PVC pipe.
14. The bottom of the monitoring well casing shall be embedded into the gravel trench in such a manner that the bottom of the casing matches the centerline of the perforated drain pipe.
15. The monitoring well shall be marked by a metal tee post. A sign indicating the type of well shall be posted on the sign.
16. Level sensing transducers shall be installed in drainfields C and E and shall be rotated on a bi-annual basis throughout the remaining drainfields.

MASS DRAINFIELD SCHEDULE							
DF AREA	KSAT (IN/HR)	DF SIZE	GDP @ .25 KSAT	MAX LOADING RATE (GPB/FTSQ)	SQFT TRENCH BOTTOM	INSTALLATION DEPTH	VDH PERMI
A	.632	7x100'	4200	2.0	2100	84"	
B	.682	8x100'	4800	2.0	2400	84"	
C	.683	12x100'	7200	2.0	3600	84"	
D	.530	10x100' 4x75'	6000 1800	1.98	3000 900	84"	
E	.341	12x100'	4680	1.30	3600	84"	
J	.341	12x75'	3510	1.30	3700	84"	
TOTAL PRIMARY D/F			32190		15600		
F		10			3000		
G		12			3600		
H		12			3600		
TOTAL RESERVE	.743	34	20400	2.00	10200		
OVERALL			52590		28500		



**The Coves at Smith Mountain Lake  
Optima Properties-Smith Mountain Lake, LLC  
Franklin County, Virginia**

# MASS RAINFIELD PLAN