



SUMP SPECIFICATIONS AND DIAGRAMS

General Notes Regarding Design:

1. Design parameters (volume of sump and diameter of outflow orifice) shall be based on Table 1.
2. Sump shall be filled in with either AASHTO #57 limestone or 2B gravel.
3. Sump shall be wrapped on all sides, including top and bottom, (before pipe framework is installed or gravel filled in) with PennDOT Type B Non-Woven Geotextile Material. Allow enough extra material to completely cover the top of the sump.
4. The dimensions of L (Length), W (Width), and D (Depth) shall vary as per design volume required (see Table 1 to determine volume required). *The minimum ratio of L (Length) to W (Width) is 3:1 (i.e. $L = 3W$).*
5. The total depth of the hole being dug will be the depth of the sump *plus 12"* for fill to be placed on top
6. The upright perforated pipes (risers) shall extend 18" below the bottom of the sump and shall be filled with, or sit in, 4" of concrete.
7. All pipe and fittings shall be ASTM D2729.
8. No 90 degree elbows are permitted on cleanout installation. Cleanouts shall be located just before any horizontal bends.
9. The inflow & outflow pipes shall be *solid (non-perforated)* HDPE Corrugated Plastic or PVC Collection Pipe.
10. The inflow pipe (4" diameter minimum) shall be connected to the inflow riser at the highest point possible.
11. The outflow pipe (6" diameter minimum) shall be connected to the outflow riser at the lowest point possible. and have a downward slope. The pipe shall have an outflow orifice-cap with a hole drilled (see Table 1 to determine the diameter of this hole) to restrict the flow of water. The cap is placed on the end of the outflow pipe *where it protrudes into the outflow riser.*
12. The outflow pipe may not terminate any closer than 10' to any property line *and may NOT cause additional stormwater runoff on an adjacent property where it did not previously exist.*
13. The outflow pipe shall terminate at surface level on a rock discharge pad (24"x24"x12") comprised of #57 limestone or 2B gravel.
14. Excavate the bottom of the sump to a uniform, level, un-compacted subgrade which is free from rocks and debris. Do not compact the subgrade. To the greatest extent possible, excavation should be performed with the lightest equipment practical. Excavation equipment should be placed outside the limits of the sump pit.

General Notes Regarding Location:

1. Sumps in fill areas are not permitted. Sumps underneath driveways are strongly discouraged and should only be used when no other option is available.
2. The sump shall be oriented such that the longest side is parallel to any changes in grade.
3. When feasible, the sump shall be located such that the outflow elevation is below the basement floor elevation.

Inspection Requirements:

1. A minimum of three inspections are required. The first shall be conducted after the hole has been dug, wrapped in fabric and the piping framework has been installed but *before* the hole is filled with gravel. The inspector will need to verify the size of the outflow orifice and then verify installation of the orifice cap.
2. The second inspection shall occur after the sump has been filled with gravel/limestone and the fabric has been wrapped over the top of the sump. The inspector will also verify that there is 12" of clearance for fill to be placed on top of the sump and that the risers extend to ground level.
3. The Final inspection will occur once the sump has been covered with 12" of fill and re-vegetated.

DIAGRAM 1 - OVERHEAD VIEW OF SUMP

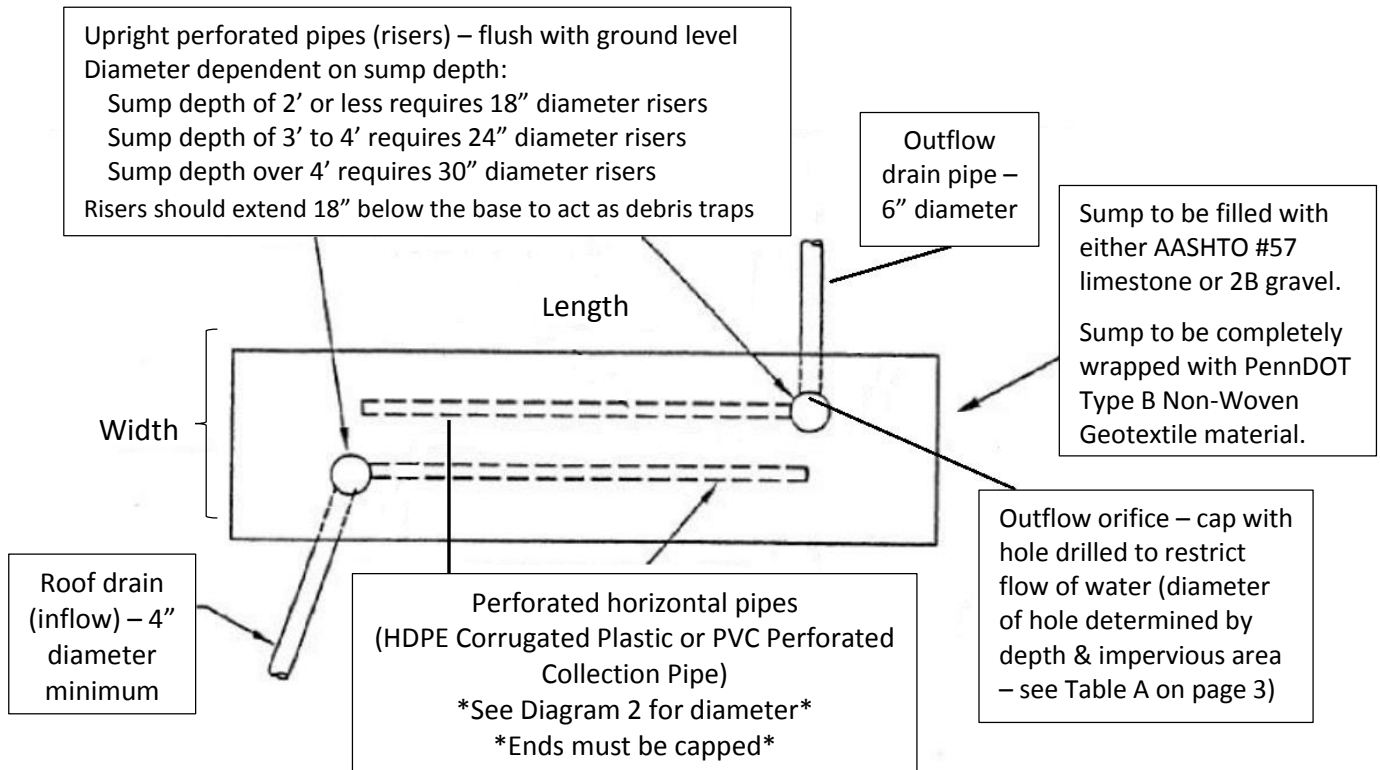


DIAGRAM 2 - SIDE VIEW OF SUMP

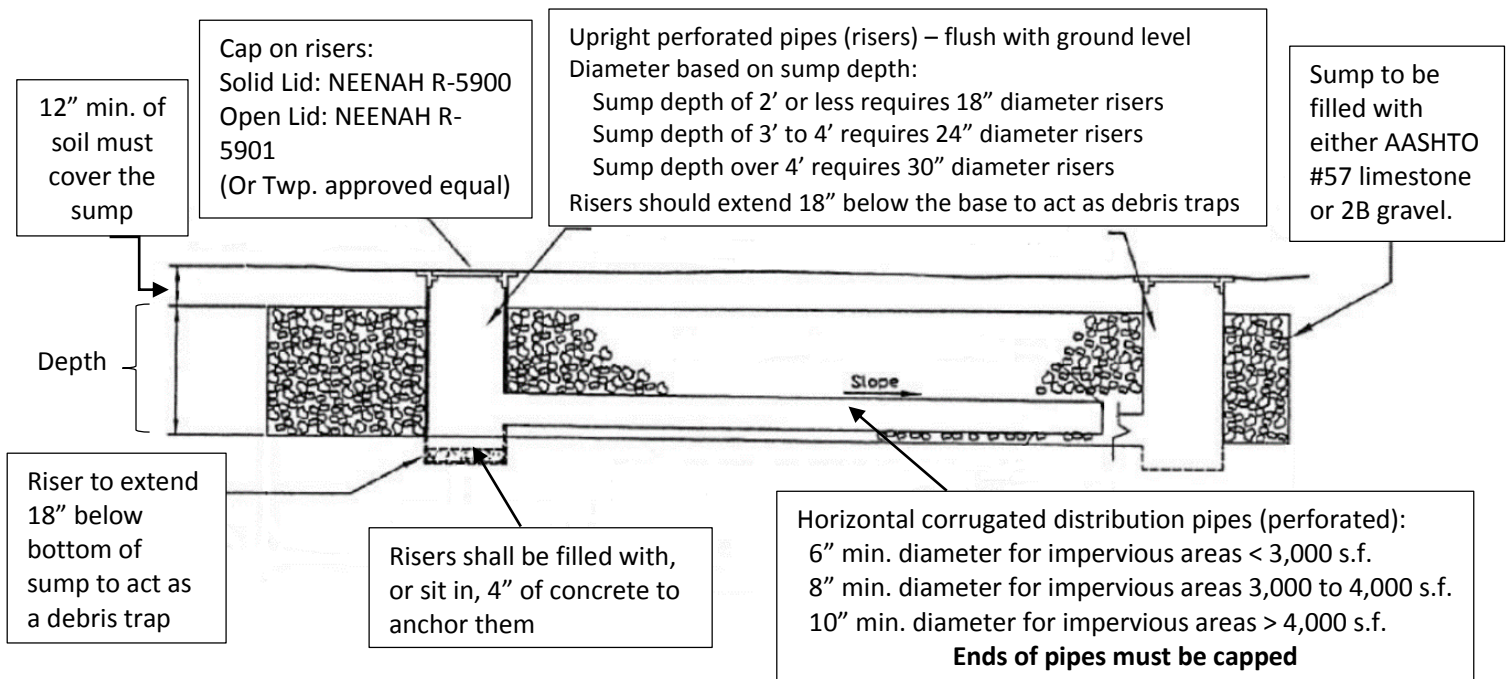


DIAGRAM 5 – ACCEPTABLE ALTERNATIVE TO CAP RISER

ACCEPTABLE ALTERNATIVE TO CAP RISER

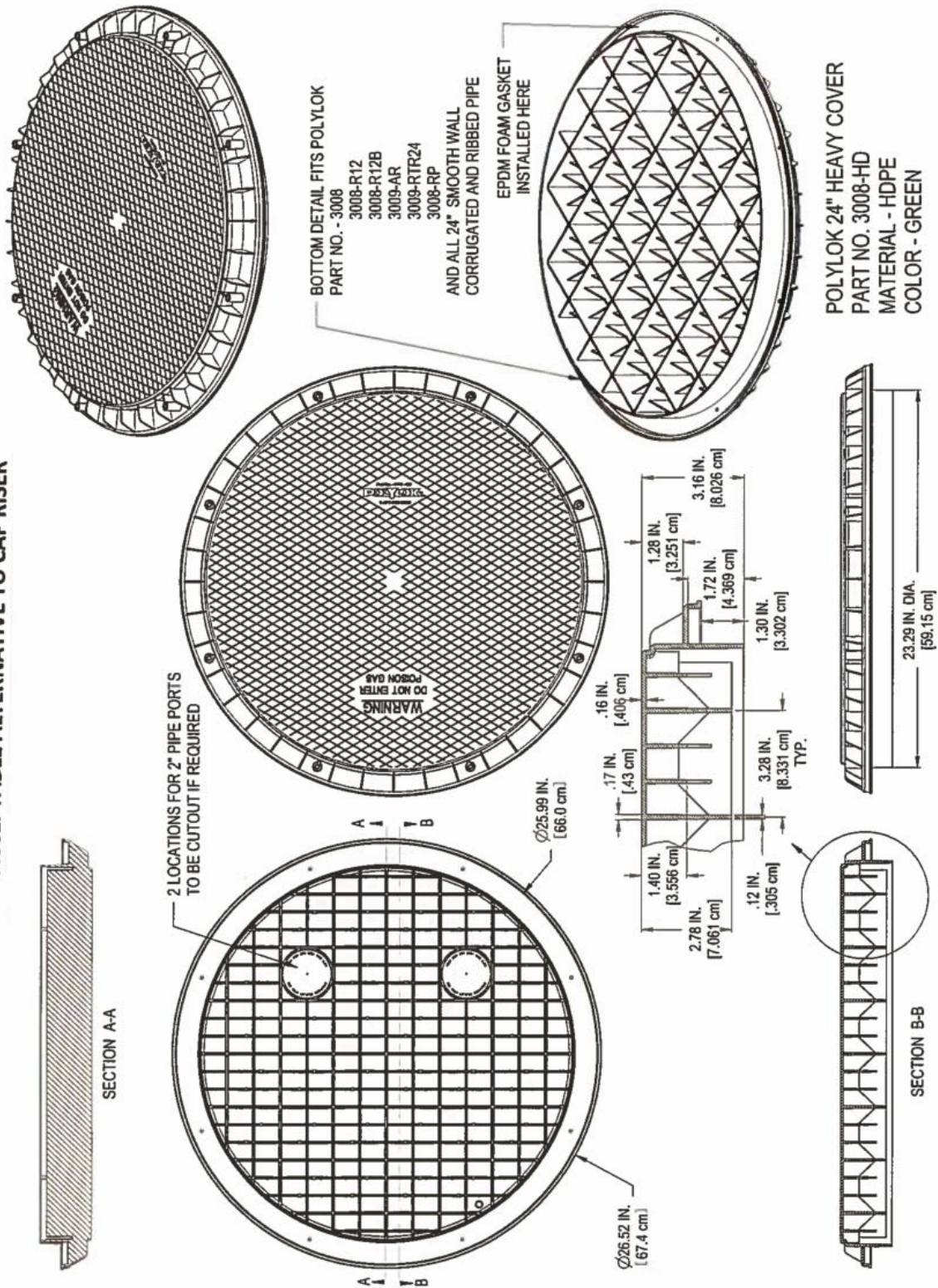


TABLE 1 – SUMP SPECIFICATIONS

Please use the total proposed impervious surface area, along with the desired depth, to determine the required sump volume and diameter of the outflow orifice.

IMPERVIOUS AREA (SQ. FT.)	DEPTH OF SUMP (FT.)					SUMP VOLUME REQUIRED (CU. FT.)
	1	2	3	4	5	
	DIAMETER OF OUTFLOW ORIFICE (IN)					
400	11/16	9/16	1/2	1/2	1/2	170
600	13/16	11/16	5/8	9/16	9/16	255
800	15/16	13/16	11/16	5/8	5/8	340
1000	1-1/16	7/8	13/16	3/4	11/16	425
1200	1-3/16	1-0	7/8	13/16	3/4	510
1400	1-1/4	1-1/16	15/16	7/8	13/16	595
1600	1-3/8	1-1/8	1-0	15/16	7/8	680
1800	1-7/16	1-3/16	1-1/16	1-0	15/16	765
2000	1-1/2	1-1/4	1-1/8	1-1/16	1-0	850
2200	1-9/16	1-5/16	1-3/16	1-1/8	1-1/16	935
2400	1-5/8	1-3/8	1-1/4	1-3/16	1-1/8	1020
2600	1-11/16	1-7/16	1-5/16	1-1/4	1-1/8	1105
2800	1-3/4	1-1/2	1-3/8	1-1/4	1-3/16	1190
3000	1-13/16	1-9/16	1-3/8	1-5/16	1-1/4	1275
3200	1-7/8	1-5/8	1-7/16	1-3/8	1-1/4	1360
3400	1-15/16	1-5/8	1-1/2	1-3/8	1-5/16	1445
3600	2-0	1-11/16	1-9/16	1-7/16	1-3/8	1530
3800	2-1/16	1-3/4	1-9/16	1-7/16	1-3/8	1615
4000	2-1/8	1-13/16	1-5/8	1-1/2	1-7/16	1700
4200	2-3/16	1-13/16	1-11/16	1-9/16	1-7/16	1785
4400	2-1/4	1-7/8	1-11/16	1-9/16	1-1/2	1870
4600	2-5/16	1-15/16	1-3/4	1-5/8	1-9/16	1955
4800	2-5/16	1-15/16	1-3/4	1-5/8	1-9/16	2040
5000	2-3/8	2-0	1-13/16	1-11/16	1-5/8	2125



SUMP APPLICATION:

- ❖ There will be a \$35.00 fee for any sump application that does not accompany a building permit, due once the application is approved. All checks are made payable to “Township of Hampton.”
- ❖ If the scope of work requires our engineer to inspect the sump, you will be billed the actual cost of the invoice.

Site Address: _____

Contact Name: _____ Phone # _____

1. Impervious Area of Construction: _____ square feet
2. Required Sump Volume (See Table 1): _____ cubic feet

Dimensions of Sump Pit:

The minimum ratio of Length to Width is 3:1 (i.e. the value recoded for Length must be 3 times the value recorded for Width). When you multiply the Length x Width x Depth, the total should equal the required sump volume.

3. _____ ft. x _____ ft. x _____ ft.
Length Width Depth

Pipe Information:

4. Diameter of perforated upright pipe (see Diagram 1): 18” 24” 30”
5. Length of perforated horizontal collection pipes: _____ feet *per side*
6. Diameter of perforated horizontal collection pipes (see Diagram 2): 6” 8” 10”
7. Diameter of Outflow Orifice (see Table 1): _____ inches

Location of Sump Pit:

8. Please attach a copy of an official stamped survey with this application
9. On the survey, please draw the location of the sump and outflow pipe
10. On the survey, please mark the approximate distances of the sump and the outflow to the various property lines

Signature

Date