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**BULLETIN 2000-058-PL**

**APRIL 19, 2007**  
Rev. April 7, 2009

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## **SEPARATION OF ROOF DRAINAGE AND FOUNDATION DRAINS**

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Over the years, the Plumbing Inspection Branch has been inundated with complaints of flooding neighbouring properties after a rainstorm. This is especially true where roof drainage water was permitted to pass through the foundation drainage system before reaching the City stormwater connection or sump.

Since October 1, 1987, all new storm drainage systems (including one and two family dwellings) have been required to convey stormwater from roof and paved areas to the sump in approved solid pipe in conformance with Part 7 (Plumbing Services) of the Vancouver Building By-law, Number 9419.

The past practice of conveying such stormwater through the subsoil drainage system and connecting a basement floor drain to discharge into the same subsoil system is not permitted.

Where external downspouts are used to convey roofwater from outside gutters, they will be permitted to discharge into approved solid stormwater piping at grade level providing piping is intercepted by a sump. Storm drainage piping shall be an approved type for outside/underground installation, properly graded and laid in a well tamped trench before inspection and backfilling. Piping shall be sized in accordance with Part 7 (Plumbing Services) of the Vancouver Building By-law, Number 9419.

**Note: A 100mm diameter pipe will drain an area of up to 460 sq m if graded at 2%.**

The current regulations for installation of sumps will remain as before, but will now intercept both storm drainage piping and subsurface drainage water through separate inlets with inverts located a minimum of 100 mm above the outlet to the City storm sewer.

All subsurface drainage shall be installed in accordance with Subsection 9.14 (Drainage) of Division B of the Vancouver Building By-law, Number 9419. There is an exception that allows small paved areas in stairwells and patios at basement levels to drain to the drain tile system as well. The rationale for this exception is that due to restrictions on roof heights many houses are being built deep into the ground. Consequently, a large majority of these small patios or paved areas are too low to drain to the storm sump by gravity and the only practical method is to allow them to flow to the drain tile system. This will eliminate a need for the installation of pumps.

A sump must be installed where drain tile, roof conductors, basement drains & area drains (decks & patio) are being led to the storm sewer connection.

Please note that the following pipe diameters are acceptable for a round sump with a 4 inch diameter discharge pipe to the Storm Sewer:

- 24" up to 4 ft. depth from backwater valve to surface
- 30" up to 5ft.depth from backwater valve to surface
- 36" with ladder required if depth greater than 5 ft. from backwater valve to surface.

Suggested minimum size for sumps with back-water valves

PIPE SIZE	RECTANGULAR CONSTRUCTION	WALL THICKNESS	PIPE CONSTRUCTION	LIQUID DEPTH
6"	2'-6" x 2'-0"	4"	36"	18"
8"	3'-0" x 4'-0"	6"	42"	24"
10"	3'-6" x 4'-0"	6"	48"	30"
12"	4'-0" x 5'-0"	6"	54"	30"
13"	4'-0" x 5'-6"	6"	72"	36"

No object or covering shall be placed over any sump which would interfere with free access for inspection and the removal of sediment or floating matter.

All sumps must be water-tight and extended to the surface of the ground or the floor of a building.

A sump must be located at a depth to effectively drain the lowest floor level of the house by gravity flow. The drainage line entering the sump must be above the maximum sump water level.

**Warning :** No garage waste, trade waste, or other objectionable liquid or solid can be led directly to the sewer connection from the property or to the standard sump which is shown above. All such prohibited wastes shall be led to special sumps of which the particulars may be obtained from the Environmental inspection Branch at 873-7528.

David Pope, Manager  
Plumbing & Gas Inspection Branch

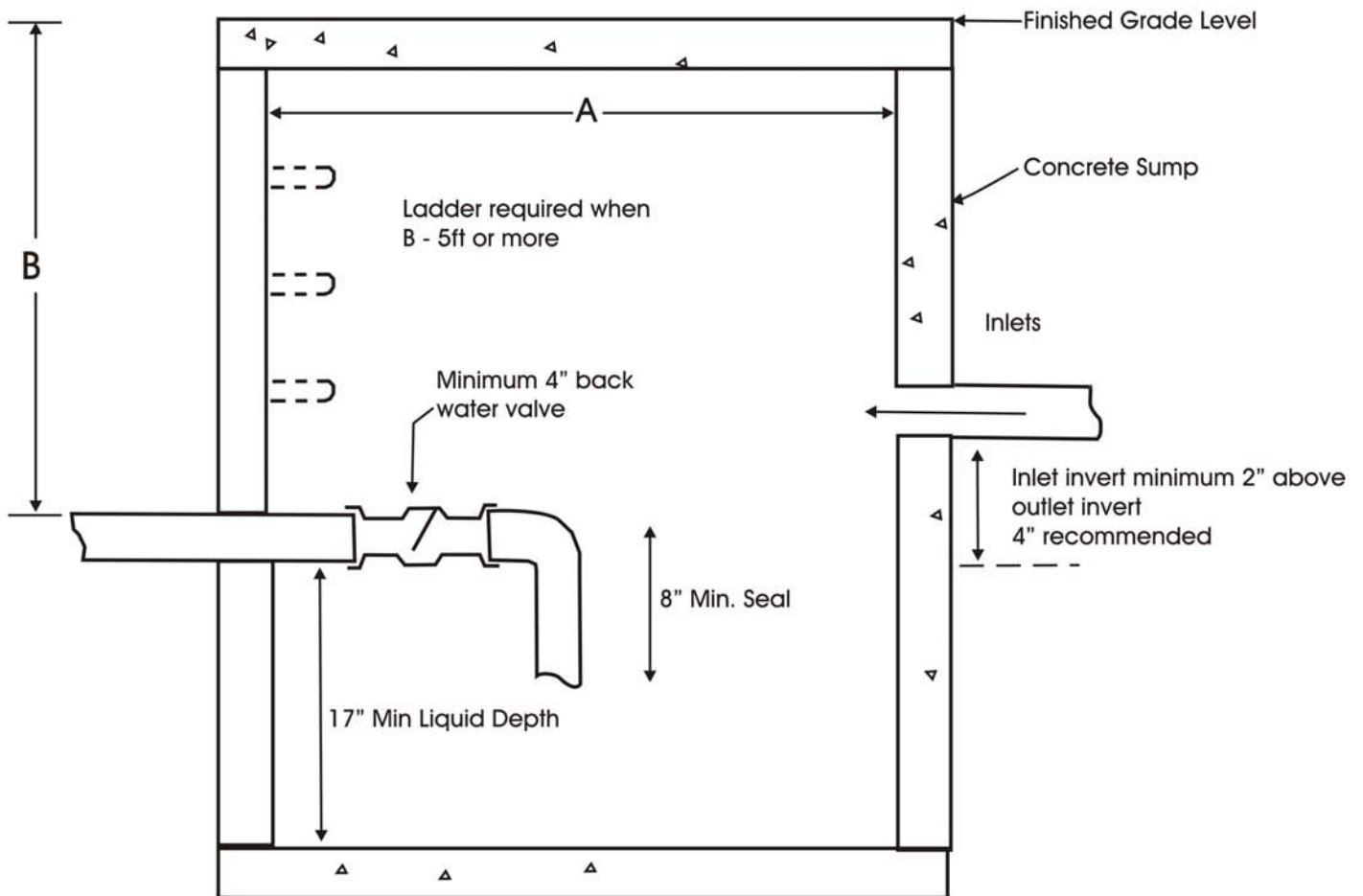
D.H. Jackson, P.Eng.  
Chief Building Official

Attach.

### Storm Sump Detail 1-A NTS

If B = 4ft. Or less, A = min. 24" Diameter  
If B = 5ft. Or less, A = min. 30" Diameter  
If B = more than 5ft. A = min. 36" Diameter with ladder

Sumps shall be water tight to maintain the seal, the liquid level should be checked once a year.



A = Internal Diameter of Sump Barrel  
B = Distance from top of backwater valve to top of sump at Grade Elevation

**Separation of Roof & Foundation Drains  
for 1&2 family Dwellings**

