



Gravel Driveways Frequently Asked Questions

www.fallschurchva.gov/Stormwater

Why are gravel driveways considered impervious?

Gravel driveways are considered impervious because they prevent infiltration, which results in stormwater flowing off these surfaces at a higher rate than pervious surfaces. This is typically due to compaction of the underlying soil and stones by vehicles.

Who else classifies gravel as impervious?

The City is following a nationally accepted standard by classifying gravel as impervious. In Virginia, the Department of Environmental Quality publishes the *Virginia Stormwater Management Handbook*, which defines impervious as, “a surface composed of any material that significantly impedes or prevents natural infiltration of water into soil. Impervious surfaces include, but are not limited to, roofs, buildings, streets, parking areas, and any concrete, asphalt, or compacted gravel surface.” The table provided to the right illustrates gravel’s level of imperviousness as compared to other types of cover. To the right of each cover type you’ll see a series of numbers. Depending on the specific situation and soil type (well-drained [A] to poorly-drained [D]) an engineer assigns the appropriate runoff value. Gravel is listed as impervious and ranges between 76 and 91. Higher values indicate higher rates of runoff.

TABLE 4 - 6a
Runoff Curve Numbers for Urban Areas¹

<i>Adapted from TR-55 Table 2-2a. --Runoff Curve Numbers for Urban Areas²</i>					
Cover Description	Curve Numbers for Hydrologic Soil Group:				
Cover Type and Hydrologic Condition	Average percent impervious area ²	A	B	C	D
<i>Fully developed urban areas (vegetation established) :</i>					
Open space (lawns, parks, golf courses, cemeteries, etc.) ² :					
Good condition (grass cover > 75%)		39	61	74	80
Impervious areas:					
Paved parking lots, roofs, driveways, etc. (excluding right-of-way)		98	98	98	98
Streets and roads:					
Paved; curbs and storm sewers (excluding right-of-way)		98	98	98	98
Paved; open ditches (including right-of-way)		83	89	92	93
Gravel (including right-of-way)		76	85	89	91
Dirt (including right-of-way)		72	82	87	89
Urban districts:					
Commercial and business	85	89	92	94	95
Industrial	72	81	88	91	93
Residential districts by average lot size:					
1/8 acre or less (town houses)	65	77	85	90	92
1/4 acre	38	61	75	83	87
1/3 acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
2 acres	12	46	65	77	82
<i>Developing urban areas:</i>					
Newly graded areas (pervious areas only, no vegetation) ²		77	86	91	94
Idle lands (CN's are determined using cover types similar to those in TR-55 Table 2-2c).					

*Average runoff condition and $I_a = 0.2S$

¹Refer to [TR-55](#) for additional cover types and general assumptions and limitations.

²For specific footnotes, see [TR-55 Table 2-2a](#).

I poured water on my driveway and it disappeared. Is it really impervious?

Not all gravel driveways are created and maintained equally. While some driveways may hold water to some degree there are others that are poorly drained and have a high amount of runoff. Over time gravel driveways collect debris/dirt and compact into an impervious layer, which is what makes them effective, hard surfaces for vehicles.

Can I get credit for my gravel driveway?

There is currently no credit available for gravel driveways. Since there are varying levels of permeability in the upper stone layer of gravel driveways it would be difficult for the City to categorize them differently without testing each one, which would require additional staffing resources.

Are there permeable driveway surfaces?

There are several widely accepted permeable surfaces available for use as a driveway and which would qualify for a stormwater credit. The most common are permeable pavers, grass pavers, porous concrete, and porous asphalt. For more information or examples of these please visit the City's website at www.fallschurchva.gov/Stormwater or contact the Department of Public Works at (703) 248-5026.