
Driveway Repair Services

**Is the Road to your House
Paved in Gold?
Driveway Repair or
Replacement Services**



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The Truth about Driveway Repairs

To avoid witnessing your driveway begin to heave and crack, the best prevention is good installation. While you may be able to fill small cracks and holes in solid-material driveways yourself, a professionals are required for larger repairs. It is the nature of driveway materials that the more maintenance you have to do yourself, the more you can do yourself in the area of repairs. In other words, you need to keep gravel evened out, clean and free of weeds (which can be time consuming and those little stones get everywhere), but unlike asphalt, you don't need to get it resurfaced or resealed. For surfaces such as asphalt and concrete, large trucks and rollers are also used for major repairs and sealing.

Driveway Materials

Listed from the most to the least expensive:

1. COBBLE STONE if you can find the precious granite.
2. PAVERS OR BRICK with various colors and design patterns. (The term pavers refers to man made pre-cast blocks)
3. STAMPED & COLORED CONCRETE with various design patterns.
4. CONCRETE in its most natural form. Any decorative variations will alter price.
5. STAMPED & COLORED ASPHALT known as street print.
6. ASPHALT an economical choice, has flexibility because it is made of oil based by-product.
7. MACADAM (Also known as Tar & Chip), a stone base with hot oil to secure smaller color stones which produce a
8. rough surface (often with loose stone)
9. STONE DRIVEWAYS if you like maintenance, (constant movement of stone and don't forget about weed growth)
10. GRAVEL DRIVEWAYS of course every driveway listed above has much of the precious material but they are not exposed. Gravel is always a good place to start if money is an issue because it can be covered at a later date with the material of your choice.
11. RECYCLED GRAVEL also known as R.A.P is even a better tribute to any driveway. It costs less because it is man-made and contains crushed asphalt, crushed concrete and brick but it is a great base for paving over or to leave exposed. The product holds very well in rain and snow and is very durable. Water seems to penetrate well and it does not turn to mud easily (as will the more expensive gravel with clay).

Problems Can Be Avoided If the Driveway Is Built Properly

Concrete

There are many important steps in building a **concrete** driveway. The items listed below are the **most common causes of problems** when not done properly.

- A properly prepared subgrade
- The correct concrete mix
- Correctly placed joints

- Proper drainage
- Reinforcement
- Proper Finishing

A Properly Prepared Subgrade:

The subgrade should be compacted and have an even thickness. A standard driveway is 4" thick – you want 4" thick continuously, not a 3½" to 4½" varying thickness.

Many western states have expansive soils. In these conditions, from 2" to 8" of crushed rock should be used as subgrade material depending on the soils level of expansiveness. If you have doubts about the soil characteristics in your area, consult a soils engineer.

The Correct Concrete Mix:

A 4000-psi, 1 to 2 / water to cement ratio is best for driveway construction. This provides better wear ability and a ‘denser’ concrete than the typical 2500-psi mix. Concrete is permeable and ‘wicks’ moisture from beneath the slab. With the moisture come salts from the soil that can leave efflorescence on the surface. The .50 w/c mix provides a geometric reduction in this ‘wicking’ action.

Excess water should not be added at the project site, as this will dilute the water to cement ratio. In cold climates, air entrainment should be added to the concrete at the batch plant. This entrained air allows any moisture that does enter the concrete to expand in the microscopic air pockets during a freeze/thaw cycle instead of putting internal pressure on the concrete.

Correctly Placed Joints

Joints should be at least ¼ the concrete thickness – so a 1" deep joint should be used in a 4" thick driveway. Joints should also be spaced 2-3 times in feet the thickness of the concrete: so a 4" thick driveway should have joints no farther than 8’ – 12’.

If joints are spaced too far apart, cracks will often occur where the joints should have been.

Proper Drainage

For best drainage, the concrete should slope ¼" per running foot away from the home. If proper drainage is prevented do to the area of concrete being locked between two structures, a drain may need to be installed which will collect the water at a low point in the concrete and feed it down the drain.

Reinforcement

Reinforcement can be with either wire mesh, or steel bars placed in a grid pattern. In either case blocks should be used to keep the reinforcement in the center of the concrete. Note that reinforcement does not eliminate cracks – it simply holds them together.

Proper Finishing

After concrete is bull-floated, it should be left alone until all the bleed water on top of the concrete has evaporated. Starting the finishing operation too soon can trap surface water and create a weak surface.

Asphalt

Nearly every road in the world is made of asphalt because it is economical. It is resistant to cracking because it is made of oil that gives it more elasticity than concrete, and easier to keep clean because it is already black. The downside is the heat it draws on a hot summer day (because of its dark color).

Asphalt can also be applied over concrete or be re-applied over existing asphalt. This method is known as resurfacing, and is **only as good as the base you are covering**. If you apply new asphalt over badly cracked concrete or asphalt, within a year or so the resurface **will also crack**. With age, asphalt becomes brittle and dries out from the elements, so the older it is, the more vulnerable to cracking. Seal coating rejuvenates the elasticity in asphalt and should be applied every 2 - 3 years.

Patching and Filling Pot Holes:

Filling cracks and pot holes is not only aesthetically pleasing, it also prevents moisture from getting under the rest of the asphalt where it works with the frost to expand cracks, which leads to heaving and soil erosion. Filling cracks and pot holes reduces the risk of tripping and personal injury.

Seal Coating:

A high power blower combined with the vigorous use of a hard wire brush is used to remove dirt and moss prior to sealing. Pressure washing with a 3500 p.s.i. pressure washer is occasionally required to prepare asphalt that is covered with a heavy build up of moss. A second coat of sealer can be applied (highly recommended, especially on high traffic areas) as soon as the first coat has dried. Drying time can vary from 15 minutes in direct sun to overnight. A minimum of 15 degrees celsius is required for proper drying.

Macadam

Macadam driveways are basically crushed stone or gravel driveways that are sprayed with hot oil (liquid asphalt) placed on the compacted gravel base. Also known as **Tar & Chip** when applied to existing asphalt or concrete driveways (resurface).

A layer of 1/4" - 1/2" colored stone is applied to fill the voids then rolled. Cement sand slurry or a coat of asphalt is sometimes used as a binder.

This system is an alternative to asphalt and is popular, not only for its color choices, but also for its reasonable cost.

Macadam driveways come in a variety of colors & stone sizes, provide good traction on icy roadways, and require minimal maintenance. It lacks the longevity of concrete or asphalt, but can be rejuvenated every 6–10 years with a new coat of liquid asphalt & different stone color at a reasonable cost.

Stone Driveways

Stone driveways are a bit crude, the stone can move so much, that maintenance can be an ongoing problem.

Stone can be purchased in a variety of sizes and color, and may be practical for large applications. They should always be applied on a good solid gravel base and never exceed 2" - 4" in depth.

Stone, when used as a driveway will often end up in your garage, and make a great item for kids

to throw through a window, probably why it is not allowed in many cities as a driveway material. Stone driveways are seen more in rural applications where the driveways are so long, it wouldn't be practical to use concrete or asphalt.

Maintenance is constant, as the driveway is always in need of re-grading and weed control.

Gravel Driveways

Gravel driveways are the least expensive. However every driveway is made of gravel and then covered with the many choices listed above. In a way, everyone has a gravel driveway with a finish on top. Gravel driveways, unfinished, do hold very well if they are not on a steep hill (rain will wash it away eventually) or in a low spot leaving the driveway under water.

The best gravel to leave exposed for a long time is **R.A.P. (recycled asphalt product)**, a great product on any driveway. It costs less because it is a recycled blend of crushed asphalt, crushed concrete and crushed brick.

The product holds well in rain and snow and is very durable. Water seems to penetrate and it does not turn to mud easily (as will the more expensive gravel with clay).

Gravel driveways are only as good as the gravel used. Some riverbank gravels are very sandy, get sloppy in rain and don't compact well. Most good compact able gravels are man-made and called processed gravel.

Some processed gravels are more expensive than R.A.P. and do not hold up to rain and snow as well. Most processed gravels contain a clay mix, which has great compacting features but the clay gets soupy when wet. .

If you have a large driveway project and money is an issue, you could start with a good solid gravel base of R.A.P. leaving it exposed for a year or more until you can afford the desired finish. It will cost you a little bit more to have just gravel installed for now and having it finished later, but it will break up the cost and have time to fully settle & serve it's purpose. You can also do your driveway project in stages. If you have a very large driveway, finish one small section at a time, step by step to fit your budget!

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