

Runoff Reduction Plan

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This Runoff Reduction Plan includes instructions for installing the proposed practice to increase water infiltration on your property. The following practice is included in this plan:

- Underground infiltration

The practice is to be installed at the base of the gravel driveway and parking area beginning at the north property line.

An underground infiltration system will be used to capture runoff from the driveway and garage.

Driveway area draining to infiltration system: 4,560 ft²
Water generated with a 1 inch rain: 380 ft³
Rock infiltration volume required: 950 ft³

A 15 X 30 X 2.16 ft infiltration pit will collect 975 ft³ of runoff water.

The soil test indicates that sand and gravel soils begin at a depth of about 24 inches. There is an iron pan layer at 64 inches with evidence of occasional soil saturation between 43 and 69 inch depth. To ensure sand layer is reached but saturated soils are avoided, the bottom of the rock infiltration basin must be placed at a depth of 26 inches. Additional depth is not beneficial to this practice.

I understand that you have already notified Diggers Hotline and utility lines are marked. You are also aware of the location of the septic lines and will inform the contractor.

Silt fence must be in place below excavation area and where berm is to be placed before project begins.

A permit from the Polk County Zoning office may be required.

Rock Infiltration Basin

Quantities are indicated in a separate table.

Instructions:

1. Dig a pit of the specified size. In your case, the dimensions should be 15 ft. by 30 ft. by 26 inches deep. The bottom of the pit must be flat to maximize infiltration.
2. An optional pretreatment may be created along the uphill edge of the infiltration basin. This pretreatment trench would be dug out as sediment accumulates.
3. Line the sides of the pit with filter fabric allowing for pipe to exit the rock chamber of the pit. Do not place filter fabric on the bottom to avoid clogging.
4. Fill the pit with clean, $\frac{3}{4}$ to 1 $\frac{1}{2}$ inch washed rock, stopping approximately 4 inches from the top.
5. Add a horizontal layer of filter fabric on top of the rock.
6. Cover the filter fabric with $\frac{3}{4}$ to $\frac{1}{4}$ inch gravel to the surface. Do not use fines because they will clog the infiltration pit.

Concrete Boat Ramp Removal

1. Silt fence or other erosion control device must be in place below excavation area before project begins.
2. Break up and remove concrete.
3. Add topsoil and seed disturbed area with lawn seed.
4. Cover with straw blanket or netless excelsior erosion control blanket.
5. Water regularly until vegetation is well-established.
6. Remove erosion control device only after lawn is well established.

Water Diversion Berms

1. Create a broad berm below the infiltration basin. The berm should be about 8 feet wide including side slopes and be level across the top, extending about 4 inches above the top of the infiltration basin.
2. Create an earthen berm that extends from below the boathouse to the ice ridge just above the OHWM. This berm will have a one foot wide top with sloping sides to total 3 feet and be about 6 inches above existing ground.
3. Compact the berms to ensure stability.
4. Seed with lawn grass and annual rye and cover with netless excelsior erosion control blanket. Water regularly until vegetation is well-established.