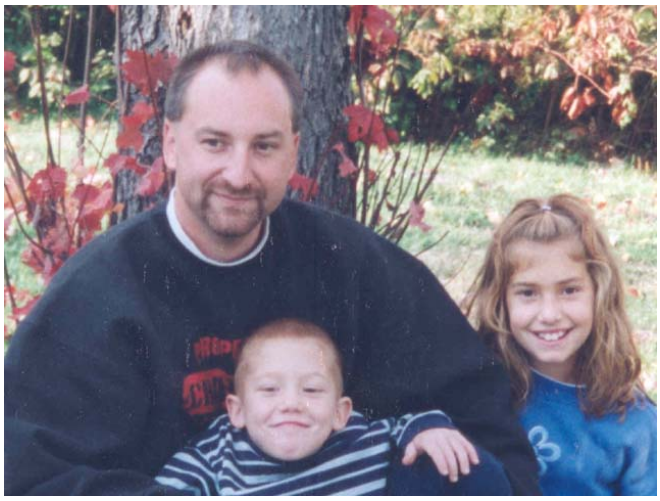
More Master Road Scholars



Master Road Scholar Greg Hatfield

Greg Hatfield is the Superintendent of the Public Works Department in Whitefield. Greg has been at this position for five years. He's been with Whitefield for 11 years previously he was an equipment operator and highway foreman. He worked for the State of NH's Bureau of Off-Highway Vehicles a division of DRED doing trail maintenance and building bridges.

Greg takes classes to benefit the town and himself. Classes allow him to stay current by keeping up with the latest and newest ideas. They allow him to expand his knowledge of older information, too. He feels that, just when you think you don't have anything else to learn, there's always some new, valuable information to be found.

Greg's supervisors are very pleased with his achievement of Master Road Scholar status. He likes to send his crew to classes as well, and feels that the Technology Transfer Center is a valuable asset to all towns.

Greg has two children, a son and a daughter. He enjoys hunting, fishing and four wheeling with his kids.

Congratulations to Master Road Scholar Greg Hatfield!

Culvert Maintenance

Poorly working culverts can cause flooding that significantly damages roads and bridges.

A crushed or plugged culvert allows water to back up in roadside ditches, even during normal wet weather. This contributes to road deterioration because standing water prevents drainage from the road base and subgrade.

Municipalities should inspect culverts at least once a year. They should prioritize the needed repair and maintenance, and schedule it through the spring, summer, and fall.

A guide to culvert repair is included below, and a general maintenance schedule is outlined in the sidebar.

Summer

- Remove blockages.
- Clean and flush the length of the pipe.
- Repair, improve or install head walls, pipe ends, and splash pads.
- Trim and remove brush at pipe ends and mow grass and weeds
- Cut and remove trees and limbs that threaten to fall and block upstream ditches.
- Establish vegetation on bare slopes at pipe ends.
- Add fill to cover pipe more thoroughly.

Fall

- Remove blockages.

Spring

- Inspect inside as well as both ends of the pipe.
- Remove blockages (trash, brush, etc.).
- Mark head walls or pipe ends for snowplow operators.

Source:
Nevada Milepost, Vol. 12, No. 1 Spring 2002, page 7

Guide to Culvert Repair

CULVERT ENDS		
What you observe	*What may be the reason*	*How to fix it*
Scouring or erosion at the inlet	Ditch is too steeply graded. Pipe is poorly located or aligned. No headwalls. Pipe is clogged.	Line the inlet with stone. Realign the pipe. Install headwalls. Clean and flush the pipe.
Scouring or erosion at the outlet	Pipe is sloped too much. No endwalls or aprons. Outlet velocity is too high.	Build a stone splash pad. Install endwalls or aprons. Check design and replace pipe.
"Ponded" water	Inlet is too high. Ditch grade is too flat.	Match the inlet to the channel bottom. Reset the pipe and/or raise the channel. Regrade the ditch to maintain correct flow.
Dented or crushed ends	Vehicles or snowplows are hitting the ends.	Fix, mark, and protect the pipe ends.
Heavy corrosion	Water flowing through the pipe is acidic.	Install a sleeve of PVC in the pipe, or replace with a PVC or concrete pipe.
"Piping" around outlet	Pipe is incorrectly installed, causing water to flow along the outside surface of pipe.	Reinstall the pipe on suitable, properly compacted bedding. Install a headwall or entrance device.
INSIDE CULVERTS		
Sediment buildup	Pipe carrying sediment inefficiently. Objects blocking the pipe to the culvert.	Determine sediment source and install erosion prevention measure to reduce sediment. Redesign and install pipe to carry sediments through it. Debris is traveling from the ditch. Remove the blockage. Install check dams upstream of the culvert.
Sagging bottom	Foundation material has settled or has low bearing capacity.	Reinstall the pipe on suitable, properly compacted bedding.
Crushed top	Cover is inadequate. Soil around pipe isn't compacted sufficiently and/or traffic load is too great.	Do one or more of the following: Add cover. Reinstall the pipe more deeply, and use suitable, properly compacted bedding and backfill. Install multiple small pipes or a pipe with a different shape. Replace pipe with a stronger one.
Heavy corrosion	Water flowing through the pipe is acidic.	Install a sleeve of PVC in the pipe, or replace with a PVC or concrete pipe.

Source:

Nevada Milepost, Vol. 12, No. 1 Spring 2002, page 7

Road Business, Spring, Vol. 18, No. 1