



Spring cleaning and maintenance

With spring upon us you need to change gears in your operations. It's time to service and prepare the snow blowers, V-plows, wings, belly scrapers, the huge FWDs and various other winter maintenance equipment for their summer hibernation.

As workers lay aside parkas, heavy gloves and five-buckle boots for lighter and less cumbersome clothing, the motor graders give up their heavier accessories to take on the lighter duty of gravel maintenance.

Single and tandem axle dump trucks shed their sanders and snowplows and begin new assignments. They haul gravel, asphalt and a host of other materials such as hot mix for patching potholes or for filling washouts left by early spring runoff. The trucks also are used to carry guardrail beams and posts, signs and culverts.

Now also is the time to service and prepare machinery that will be needed not only for immediate spring work but also for summer and fall use. Tractors, mowers, air compressors, distributors, self-propelled rollers, brush cutters, concrete power screeds, lay-down machines and power tools need to be gone over and made ready for what's ahead.

Let's look at some of the many activities that occur when winter gives way to spring.

Bridges

Winter operations often leave an accumulation of icing sand along the curb and gutter of bridge decks as well as on top of the curb and around the bridge guardrail posts.

After sweeping the deck with a power broom, it is a good idea to come along with a power wash to thoroughly remove the residual sand from expansion seals/joints and from around the base plates of the rail posts. The power washing operation also will clean areas of the steel railing and components that have been scratched or in some way damaged by the plows during winter.

These areas of cosmetic damage can then be prepared for touch-up painting to minimize any damage from corrosion. It is especially important to maintain the protective coating around base plates and anchor bolts because water and slush tend to sit there for extended periods of time.

Make sure that deck drains are cleaned out and check superstructure elements beneath the deck that need cleaning, painting or some other type of attention.

Spring also is when minor accident damage and deck spalls appear that were not evident during the winter.

Your spring work plan should include vegetation control. Large vegetation needs to be removed from beneath the structure before it causes channel flow problems or impedes inspection. Sometimes it is advantageous to chemically treat some areas to stem the proliferation of undergrowth instead of fighting the problem by continuously mowing or using the chain saw.

Spring also is the best time to review your most recent bridge inspection reports and see what the engineer's recommendations were in regard to scour repair, weight limit postings, etc. For greater efficiency try to take care of all the maintenance at once.

Signs and delineators

Winter operations can be hard on roadside markers such as signs and delineators. This is especially true on rural highways that lack sizeable shoulders and thus require locating markers near the edge of the roadway. Signs and markers that have not become misaligned or completely destroyed often need attention as well.

The melting snow combined with the dust and grit accumulation on the road surface make for a murky slush that vehicles splatter on signs and delineators. This debris destroys their reflectivity needed for night visibility. You want to clean the signs and delineators once the slush season has passed.

Where there is a sufficient right-of-way area for signs and delineators, you may want to consider moving them farther away from the edge of the roadway surface. In particularly splash-prone areas this could be an activity scheduled for upcoming months to minimize damage and the need for as much cleaning in the future.

Guardrails

Most guardrails are located on hills and curves—the areas that receive the bulk of the sanding during winter maintenance operations. Consequently, the icing sand build up around the posts and beneath the rail itself must be removed and hauled away.

Leaving this build up can eventually create a ramp effect for an errant vehicle to be vaulted to a height that reduces the

Continued on page 2

Spring cleaning and maintenance



Examples of a bent stop sign support and bent and damaged delineators.

guardrail's effectiveness. Although there are machines designed specifically to remove this material from beneath the rail and from around the posts, most crews employ a more labor-intensive method that involves pulling the material out toward the roadway and loading it with the use of a small skid loader.

Simply shoving the material out from under the rail and over the inslope is not a recommended procedure from an environmental standpoint or where appearance of the roadside is a consideration.

Snow fence

Having served its purpose, a snow fence that has been placed on private land usually must be taken up and hauled to storage. Owners of cultivated land sometimes ask that the fence be removed.

Litter pick up

As the last of the winter's snow cover disappears, several months of roadside trash begins to surface in the ditches and along the fence lines.

This accumulation of salt and sand can adversely affect drainage.



Spring is when the litter is most visible because the vegetation on the inslopes and in the ditches has not begun to grow to provide a cover for even the smallest low-lying objects.

Many road agencies in Nevada plan for this annual event by calling on the Department of Corrections to furnish inmate labor to pick up the litter.

Road surface repair

Early spring work often consists of temporary repairs to the road surface to place it in an acceptable condition until weather patterns settle enough to permit major maintenance projects.

Potholes in asphalt and spalls in concrete often need to be addressed with a "quick fix" such as filling with cold mix until a more permanent repair can be made. Be sure to have patch material on hand or have quick access to it.

Culvert inspection and clean out

Early spring runoff can cause conditions around smaller drainage structures that need to be taken care of to allow them to

Rusted areas on this guardrail should be painted.



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The support posts of this guardrail may be broken.



Mulching a gravel road shoulder with a shouldering disk.

work. The accumulation of debris around the inlet will impede the flow of the water entering the culvert.

Culverts that have not been properly sized or installed can develop problems at the outlet end that require constant attention. Water velocity through the pipe that is too high can cause a deep scour hole where the water exits the pipe.

When the velocity is too low, water-borne silt will tend to settle at the outlet. If allowed to build up, the silt eventually will reduce the carrying capacity to the point of burying that end of the culvert.

Sometimes the scour hole problem can be corrected by using rip rap so that the water velocity is dissipated before entering the natural drainage channel farther down stream. Generally, the silting problem only can be addressed by periodically inspecting and cleaning out the channel when the situation requires that something be done.

Gravel road reshaping

Spring is the best time to reshape the surface and shoulders of a gravel road. Wait until the roadway has stabilized after the spring thaw.

Small potholes and ruts should be cut and filled. Often the roadway crown needs to be restored. It also is the best time to “pull shoulders” to restore good drainage from the roadway to the ditch. These jobs are much easier before vegetation begins to grow and interferes with your work.

Survey the road system and handle the critical areas first, particularly those roads with extreme high shoulders and/or those that are scheduled to have a fresh coat of gravel placed on them later in the season.

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The silting and debris in these culverts need attention before spring and summer rains begin.



For additional information, contact the Nevada T² Center at the address shown below.

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