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**WYOMING**  
DEPARTMENT  
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# Laser technology tests road striping paint

*A vehicle-mounted unit offers a safer alternative for WYDOT employees*

Continued from front cover



Photo: Matt Groff

The Retroreflector provides WYDOT with accurate data on the longevity and visibility of epoxy or waterborne paint materials.

The mobile unit is mounted onto the truck at a bit of a skew so Allen can stay in the wheel path and not drive directly over the lane. He can drive at highway speed while the laser shoots off at an angle about 20 feet or so in front of the truck and about 4 inches off the ground.

“I can collect a lot of data pretty quickly, and the more I collect, the more accurate the results are. Plus, it’s far safer because I’m inside of the truck instead of standing in live traffic using a handheld retro gun, which is how we used to do it. So this machine is quite the upgrade,” Allen said.

WYDOT only owns one Retroreflector since the equipment is expensive, so Allen stays busy testing roads throughout the state. Some roads are tested every year, and others are tested on request from the district traffic engineers. Data is also collected to help with a research project through the University of Wyoming.

“I never in a million years would have thought paint on a road was so interesting,” Allen remarked. “But once I got into this, I realized it’s not just paint lines on a road. The lines are keeping people into the act of driving, directing us where to go in the safest manner whatsoever.” ❖



value for its dollar.

“Paint is a pretty big expense, but it’s obviously necessary,” Allen said. “If you’ve ever driven on a road at night, you’re definitely going to want a visible paint line.”

Furthermore, as the use of autonomous vehicles increases, so will the need for good quality paint lines, since road markings help driverless vehicles navigate the road.

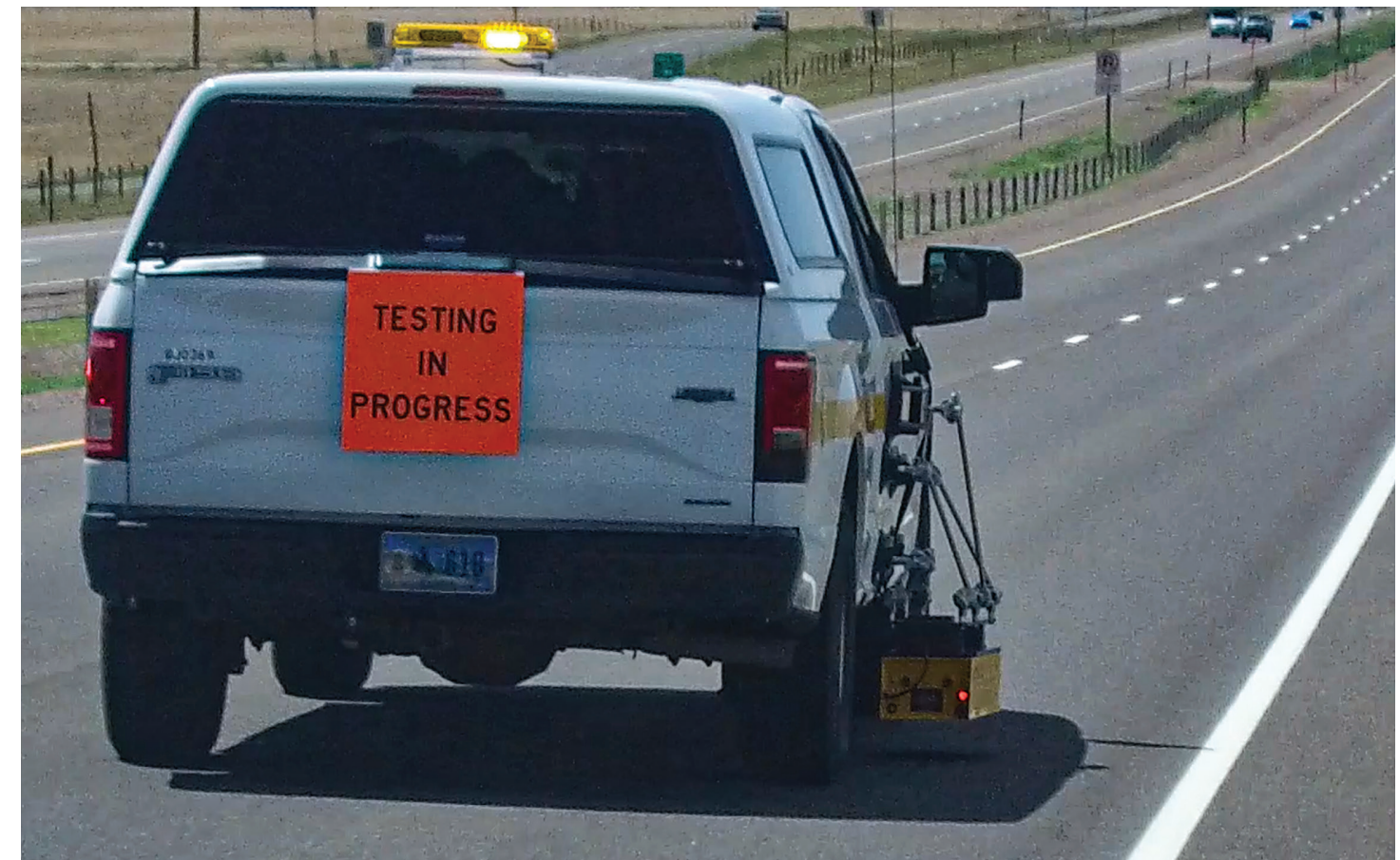


Photo: Matt Groff

The mobile unit stays low to the ground and can be deployed at normal highway speed. The laser shoots out 20 feet ahead is not a hazard to other vehicles, although the operation does tend to draw curiosity from people passing by.

By Mark Horan

In the last two years, Traffic studies has been making good use of a new piece of equipment called a Mobile Retroreflector.

The machine, a rectangular box which fastens to the side of a work truck with a series of suction cups, uses laser technology to test the retro-reflectivity of glass beads that are embedded into the paint during the striping process.

The laser takes a reading every few inches of road, which generates approximately 400 data readings per minute. The data feed is saved on a laptop and is sent to Traffic or district engineers to analyze how long the paint is lasting and how reflective the lines are, particularly at night.

“If you can’t see the paint line on the road, you don’t know where you’re at in the road, and that’s obviously a pretty

big problem,” said Travis Allen, the Traffic studies technician who operates the equipment.

A variety of factors such as traffic volume and weather exposure go into determining how often a road needs to be repainted. Using the reflectometer gives engineers a better idea of when to re-stripe and what materials will last the longest so WYDOT can get the most

Continued on back cover

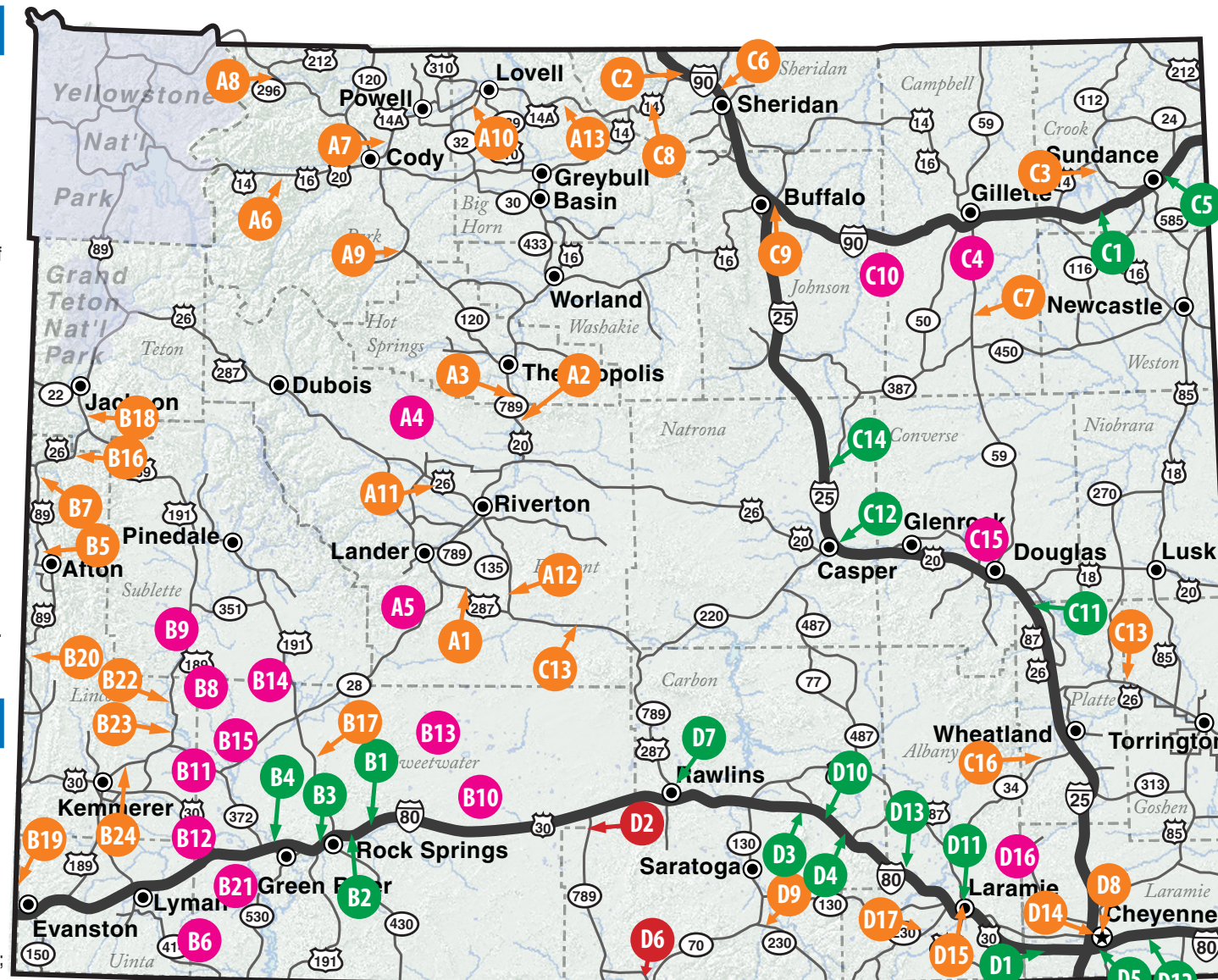


## Northwest Wyoming - A

- A1** US 287/WYO 789 Muddy Gap/Lander Twin Creek and Lyons Valley (MM 64.27-74.21, MM 74.21-81.03) Bridge rehab, guardrail upgrades, bituminous surfacing, chip seal, ADA curb/gutter. Stop-light traffic control. Delays. Expected completion: June 30.
- A2** Shoshoni/Thermopolis-Badwater section. Pavement surfacing, fencing, milling, plant mix, chip seal MM 100.47-108.83. Expected delays. Expected completion: Oct. 31.
- A3** US 20/WYO 789. Slide repair, grading, slide stabilization, manual rock scaling, rock fall mitigation in Wind River Canyon. MMs 116.3-120.6.
- A4** District 5 bridge rehab. Grading, milling, pavement, bridge rehab, guardrail work. Locations: WYO 295 MM 12.55; US 14A MM 28.97; WYO 433 MM 11.27; WYO 172 MM 0.78; US 26 MM 126.15; and US 26 MM 69.42. Expected completion: Nov. 20.
- A5** District fencing. Various locations. WYO 28, US 287.
- A6** US 14/16/20 west of Cody. Yellowstone NP to Fishhawk Trailhead, MM 0.00 (Yellowstone east entrance)-MM 10.25 (Fishhawk Trailhead). Milling, paving, guardrail work. Delays expected.
- A7** US 14A NE of Cody, Shoshone River Bridge MM 5.59-7.54. Milling, overlay, chip seal, guardrail repair.
- A8** WYO 296 Chief Joseph Highway Two Dot Slide, MM 41.35. Slide Repair. One-way traffic during work. Delays of up to 20 minutes.
- A9** WYO 120 Meeteetse-Cody Meeteetse North, MM 51.75-57.93. Pavement leveling, overlay, chip seal. Delays of up to 20 minutes.
- A10** US 14A-Byron Streets. Asphalt pavement, electrical work, traffic control, sidewalk, curb/gutter, grading, surfacing, milling on 1.4 miles. Short delays expected.
- A11** US 26-Riverton. Diversion Dam, Kinnear Section. Asphalt pavement milling, overlay, chip seal. MM 112.98-125.11. Delays expected.
- A12** WYO 135-Riverton. Sand Draw, Beaver Rim section. MM 24.15-34.59. Asphalt pavement milling, overlay, chip seal, chip seal of Sweetwater Station rest area. Delays expected.
- A13** US 14A/Lovell-Burgess Jct., Medicine Wheel Project. Grading, milling plant mix, bituminous surfacing, misc. work; 9.70 miles (MM 70.72) Delays. Expected completion: Oct. 31.

## Southwest Wyoming - B

- B1** I-80/Rock Springs-Bitter Creek Section (MM 138-143). Pavement overlay, bridge rehab. Reduced speeds. Expected completion: Aug. 31.
- B2** I-80 Rock Springs East (MM 105-120). Bridge replacement, concrete paving in EB lane. Two-way traffic in WB lane. 16 ft width restriction. Expected completion: July 31, 2023.
- B3** Rock Springs/I-80 Interchange Road. Replace/reconstruct interchange – 0.81 miles. Expected completion: June 30, 2023.
- B4** WYO 530 bridge rehab (MM 0-1). Bridge rehab on NB structure. Traffic rerouted on SB structure. 14 ft width restriction. Expected completion: Oct. 31.
- B5** WYO 89/Idaho border (MM 45-55). Box culvert install, guardrail, cold in-place recycling, paving, chip seal. One-lane traffic, portable signals/multiple sites 24/7. 12 ft width restriction. Expected completion: Aug. 31.
- B6** Sweetwater/Uinta Counties. Various locations on I-80. Epoxy pavement lines, misc. work. Expected completion: Sept. 30.
- B7** US 89 (MM 108.13)/Etna North: grading, draining, crushed base, bituminous surfacing, full-depth reclamation – 9.30 miles.
- B8** Lincoln, Sublette, Sweetwater, Teton & Uinta Counties. Striping, misc. work. Expected completion: Oct. 31.
- B9** Sheridan, Sweetwater, Teton, Uinta Counties. Signal upgrade. Electrical, misc. work. Expected completion: Oct. 31.
- B10** Sweetwater County. Bridge rehab. Grading, slab replacement, bridge rehab. I-80 MM 86.38; College Dr. interchange MM .13; and WYO 530 MM 14.66. Expected completion: Oct. 31.
- B11** Lincoln, Sublette, Sweetwater, Teton Counties. Milling plant mix, bituminous surfacing, misc. work. Expected completion: Oct. 31.
- B12** Sweetwater, Uinta Counties. Bridge rehab. Grading, bituminous surfacing, lane rental, misc. work. WYO 374 MM 83.67; WB I-80 MM 5.26; WB I-80 MM 6.26; WB I-80 MM 10.68; WB I-80 MM 15.64; WB I-80 MM 61.59; EB I-80 MM 13.86; and EB I-80 MM 97.05. Expected completion: July 31.
- B13** Sweetwater County. Bridge rehab. Grading, bituminous surfacing, misc. work. Locations: Uinta Drive MM 0.54; WYO 374 MM 78.13; WB I-80 MM 97.05; EB & WB I-80 MM 136.96; and US 30 ramp MM 100.03. Expected completion: Oct. 31.
- B14** Sublette, Sweetwater Counties. Grading, bituminous surfacing, concrete overlay, bridge rehab, guardrail, misc. work. Expected completion: Nov. 30.
- B15** Lincoln, Sublette, Sweetwater, Uinta Counties. Bituminous surfacing, chip seal, misc. work. Expected completion: Aug. 15.
- B16** US 26/89 (MM 127.03). Milling, bituminous surfacing, plant mix, wearing course, misc. work on 5 miles of Expected completion: Sept. 30.
- B17** US 191 (MM 21.00). Grading, milling plant mix, bituminous surfacing, chip seal, misc. work on 11.80 miles. Expected completion: Oct. 31, 2021.
- B18** US 26/89/191. Reconstruction. Grading, draining, placing bases, and bituminous surfacing. 3.46 miles at MM 141.59.
- B19** WYO 89 (MM 9.88). Grading, milling plant mix, bituminous surfacing, misc. work on 11.50 miles of Expected completion: Sept. 30.
- B20** WYO 89 (MM 45.43). Grading, bituminous surfacing, cold in-place recycling, chip seal, box culvert, guardrail, misc. work on 10.30 miles. Expected completion: Oct. 31, 2022.
- B21** WYO 150 (MM 2.46), WYO 372 (MM 17)/ WYO 28 Jct south. Sweetwater, Uinta Counties. Hot in-place recycling, resurfacing, bridge rehab, traffic control, chip seal, guardrail on 19.90 miles. Expected completion: July 31, 2023.
- B22** US 189-LaBarge/Big Piney Road. Grading, milling, crushed base, resurfacing, box culverts, cattle guards, guardrail, fencing, on 19.0 miles. Road-1.9 miles, fencing-14.9 miles, signing-2.2 miles (MM 86). Expected completion: Oct. 31, 2023.



## Legend

- I** **Interstate highway work zones:** Generally, there are no delays or detours. Travel may be narrowed to one lane (on pavement) each way and involve a reduced speed limit.
- P** **Two-lane road projects:** Motorists may be required to stop and wait to follow pilot cars. Usually, any delays are limited to 20 minutes or less and travel is on pavement.
- R** **Two-lane road projects:** At times, motorists may have to drive on gravel or another temporary surface, typically for two miles or less. Delays are limited, there are no detours unless specifically noted but there may be a pilot car.
- D** **District-wide projects:** Various locations, may involve reduced speeds.

### Not every project is listed

Due to the unpredictable nature of the construction process, not all projects are active all the time. In addition, some short-term projects and smaller projects which disrupt traffic to a lesser degree are not listed. Completion dates are approximate.

**Commercial vehicle operators:** In work zones, size and weight restrictions may apply. Ask for details at any Wyoming port of entry or call (307) 777-4376. Current restrictions are also available on the Internet at [www.wyroad.info/highway/restrictions.html](http://www.wyroad.info/highway/restrictions.html).

- B23** US 189/WYO 89. Grading, traffic control, erosion control, misc. work on 1.20 mile (MM 73.05) by Fontenelle Reservoir. Expected completion: Aug. 31.
- B24** US 189-(MM 53.50). Bituminous surfacing, cold in-place recycling, traffic control, grading, misc. work on 7.70 miles. Expected completion: July 31, 2023.

## Central & Northeast Wyoming - C

- C1** I-90/Moorcroft-Sundance. EB and WB lanes MM 160.31-168.50. Mill, overlay, wearing course.
- C2** US 14 Rancheater bridge. Remove, replace structure over railroad tracks.
- C3** US 14 Sundance west to Devils Tower Jct. Mill, overlay. MM 186.10-196.96. Completion date: Oct. 2022.
- C4** I-90 Bridge rehab. Lane closures, reduced speeds. (MM 102.52, MM 130.25, MM 178.19).
- C5** I-90 Crack and seat with bridge repairs. Head to head traffic in EB lane. WB lane closed. (MM 187-192).
- C6** I-90 West of Sheridan to Acme Interchange. MM 15.3-19.46. Mill, overlay with wearing course. EB lane, reduced speeds, lane closures, detour. Completion date Oct. 2022.
- C7** WYO 59 south passing lane extension at six locations from (MM 77.97 - 101.38). Expected completion: October 2022.
- C8** US 14 West Burgess Junction to Sibley Lake MM 57-65. Mill, overlay.
- C9** I-90/US 16 Buffalo bridge repair. Lane closures, traffic control.
- C10** Chip seals – various locations.
- C11** Resurfacing of NBL on I-25 between Glendo, Douglas (MM 109.11-114.78). Mill, overlay, resurface, median work.
- C12** I-25/Walsh Drive. Bridge replacement (MM 185.35-186.24).
- C13** US 26 (MM 15.51-20.01) Overlay Guernsey-Fort Laramie.
- C14** I-25, Casper/Kaycee-Horse Ranch Creek south (MM 200-210.41). Mill, overlay.
- C15** I-25 Bridge rehab/guardrail upgrade along Douglas marginal (MM 138-142), WYO 450, US 85. Lane closures, traffic signals, flaggers, open at night. Bridge rehab only at MM 137 NB/SBL; MM 139.76 NBL; 160.87 SBL; and 172.12 SBL.
- C16** WYO 34 west of Wheatland. Mill, overlay.

## Southeast Wyoming - D

- D1** I-80 between Laramie, Cheyenne (MM 324-331) Milling, paving and bridge rehabilitation in EB/WB lanes. Expected completion: summer 2023.
- D2** WYO 789 at Creston Jct. – (MM 0-10) milling, paving, structure work. Lane closures with pilot car, alternating traffic in single lane. Expected completion: summer 2022.
- D3** I-80/Halleck Ridge (MM 245-252). Milling, paving, bridge and guardrail work in EB/WB lanes. Lane closures, reduced speeds. Expected completion: fall 2022
- D4** I-80/Arlington. Milling, paving and bridge work. Lane closures, reduced speeds. Expected completion: fall 2023.
- D5** I-80/Parsley Blvd. Bridge replacement. Lane closures on I-80; full closure of Parsley Blvd. with detours for duration of work. Expected completion: winter 2022.
- D6** WYO 70/Savery (MM 11-17) Milling, paving and bridge work. Lane closures with pilot car and alternating one-way traffic. Expected completion: summer 2023.
- D7** I-80 through Rawlins. Concrete slab replacement. Lane closures, reduced speeds. Expected completion: fall 2022.
- D8** I-180/Warren Ave (Lincolnway-24th St) Milling, paving, traffic signal upgrades, curb/gutter, ADA corner upgrades. Lane closures; sidewalks remain open. Expected completion: fall 2022.
- D9** WYO 230 east of Riverside (MM 100-111). Milling, paving and bridge rehab. Lane closures, alternating one-way traffic, reduced speeds. Expected completion: fall 2022.
- D10** I-80 MM 252-258 Milling, paving operations. Expect lane closures.
- D11** I-80/West Laramie (MM 313-310). Pavement, bridge work EB/WB lanes. Lane closures, reduced speeds, some delays. Expected completion: fall 2022.
- D12** I-80 372-382 Paving operations, Expect lane closures.
- D13** I-80 MM 287-294 Paving operations, expect lane closures.
- D14** Signalization project at Yellowstone and 4 mile, in Cheyenne.
- D15** Signalization project at 3rd St. and Flint, in Laramie.
- D16** District-wide chip seal project. Various locations.
- D17** Paving, milling, and widening lanes on WYO 230 between MM 2.5-11.5.

**Check the construction report online at:**  
[www.wyroad.info](http://www.wyroad.info):  
**Construction – Statewide**