

# ROAD BUSINESS

A newsletter for municipal employees, public and private road-related organizations, and citizens.

## On the Road in NH:



### Weare DPW Replaces Bridge on Abijah Bridge Road

Submitted by Carl Knapp, Director of Public Works, Town of Weare

After four years of design and permitting, the Town of Weare Public Works Department was able to start construction of the bridge over Lake Horace on Abijah Bridge Road.

Work began in Spring of 2008 with the creation of an extensive traffic detour route. Second, 900 feet of road was reconstructed, which included moving a majority of the road away from the existing site. Third, all necessary trees were removed and silt fence and several hundred feet of silt boom were installed in the lake.

Next, a majority of the new road was built. Then, the old bridge — a wood deck over steel girder, which was fourteen feet wide by approximately thirty-eight feet in length — was removed. Old abutments were also removed and large boulder rip-rap was placed in the channel to protect new footings and abutments. Shortly, after these installations, the rain began to fall!

The crew had four three-inch pumps running continuously for several weeks to keep footing areas dewatered while the pouring was completed. Once the footings were installed, the crew was able to stop pumping the water. Then the abutments and back-walls were poured. Simultaneously, the crew placed rip-rap on the slopes, installed drainage and made the preparations for the pavement.

The new bridge, a complete wooden struc-

ture that is 24 feet wide and 57 feet long, arrived. The crew set the stringers, which were 42 inch tall laminated wood beams, with a large excavator. Then, the six-inch wooden deck was installed.

Wood guard rail was installed on the new bridge along with approach rail. Next, base coat pavement was laid down, after which Corten Natural rusting steel rail was installed on the rest of the roadway. Siltation devices were then removed, and the roadway and new bridge were opened to traffic.

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UNH Technology Transfer Center Mission: To provide technical and management information about roads and bridges to municipal officials and road-related organizations.

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As part of this project, a low-level water control structure was installed to keep the upper wetlands full during the annual drawdown of the lake.

Other than high water, the entire project went very well. It was completed primarily by town forces and at a much lower cost than bid price, including manpower, equipment and fuel.

The total cost of this project was approximately \$508 thousand, and Weare expects an 80% reimbursement from the State. Approximately \$200

thousand tax-payer's dollars were saved!

Weare DPW worked very closely with the following groups: Piscataqua Water Association, NH Department of Environmental Services, NH Fish and Game, Ducks Unlimited, NH Bureau of Dams, and the local conservation commission.

*Thanks to the following: SEA Consultants, permitting, design and engineering; Boisvert Brothers Tree Service, tree removal; Bayview Construction, concrete work; Harry Weatherbee, SWPP plan and testing; Pike Industries, paving; CWS Guardrail. Also a huge thank you to the Weare Public Works Department crew for a very large undertaking!*

## NHDOT Recommends JOMA 6000 Plow Blade

Submitted by Ashley Benson, UNH T<sup>2</sup> Project Assistant & UNH Masters in Literature Student

During the winter of 2008-2009, New Hampshire Department of Transportation (NHDOT) conducted a test of the JOMA 6000 Plow Edge, manufactured by Black Cat Blades.

The JOMA 6000 differs from standard carbide plow edges because it is a composite type blade, using sections of rubber and steel. The sections in the JOMA blade pivot, allowing them to shape to the roadway being plowed.

The test was a comparison between the JOMA 6000 blades and the current NHDOT standard carbide blades, to determine which blade cleaned the roadway of snow more effectively and to determine the amount of wear on the blade edge. Both the standard carbides and the JOMA blades were each tested on two sections of roadway that represent the best and worst road conditions on NH state roads.

NHDOT reports that the JOMA 6000 performed very well on both roadway sections. The JOMA blades removed more of the snow and slush layer that is often left behind by the standard carbides in use by the NHDOT. In addition, NHDOT reports that the JOMA blades have a much longer life expectancy than the standard carbide blades.

Specifically, the JOMAs outlasted the carbides in life expectancy by two and three times more, depending on the road conditions.

The flexible design of the JOMA 6000 plow edge also allowed NHDOT to use the same snow plow on roadways with varying conditions. Results from the test do indicate that the JOMA 6000 plow edge does allow for excessive blow-over, due to the angle at which the edge is connected to the snow plow. While this was reduced during the trial by adjusting the angle, and eliminated by the addition of a steel flap, the standard carbide blades do not have this issue.

Financially, the reports of the NHDOT trial indicate that JOMA 6000 blades are more cost-effective than the standard carbide blades. Although the initial cost is higher, replacement costs are significantly lower due to the longer life expectancy. NHDOT reports that in terms of finances and performance, 8 sets of the standard NHDOT carbide blades are required to match one set of the JOMA blades. **Due to the successes in the trial comparing JOMA 6000 blades and carbide blades, NHDOT recommends their use statewide for this coming winter season.**