

# A Long-Term Approach for Retaining Smooth Pavement

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## SELFLEVEL Asphalt Installation – Traverse City, Michigan

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**SELFLEVEL® Access Assemblies by EJ help a Michigan resort city keep streets level.**

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The City of Traverse City in Northern Lower Michigan began a pavement preservation project to extend the life of its streets. In addition to improved pavement longevity, motorists would enjoy smoother, safer streets. That's important to any city, but especially to a small resort city (population circa 15,000) with a big reputation to maintain. Traverse City has been heralded as one of the most beautiful small towns in America (Condé Nast Traveler), one of the top 25 places to retire (Forbes), one of America's favorite beach towns (Travel & Leisure) and a bevy of other accolades. The tourist trade brings in an estimated \$1 billion annually. It's also a City known for severe winters. That translates to frost heave, which can cause streets to rise and manhole covers to sink, resulting in damaged pavement.

### Dealing with multiple issues

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The City's use of standard one-frame manhole assemblies was proving to be problematic for a number of reasons. As part of the preservation project, the City opted to use a cold milling and resurfacing process, when possible, rather than going for a total reconstruction. This involved laying a 3/4-inch to a 1 1/2-inch cap on the asphalt streets.

"The problem when you do something of this nature is that your manhole structures are now below the road," said Robert Becker, Street Department Supervisor for the City of Traverse City.

Frost heave, an on going issue for Traverse City, can also create sunken manholes and cracks in surrounding pavement. In February 2014, the temperature dipped to -18° F, and that didn't even break the City's all-time low record! Typically, the frost line depth in Michigan

is 42 inches, but that year it reached even deeper in some places. One or two more severe winters like that could put a crimp in the City's preservation efforts.

With an average annual snowfall of up to 145 inches, snow plows are on duty during much of the winter. Snow-covered streets that hid sunken manholes could potentially damage snowplows and other vehicles, as well as endanger street workers and motorists. The City was dealing with the issue of uneven streets the only way it knew how - by resetting or replacing the manhole assemblies using standard, one-frame manhole assemblies. However, traditional manhole cover replacement can require extensive time, effort and increased costs.

It needed a better solution, especially with its newly launched pavement preservation project.

### **Taking SELFLEVEL® Access Assemblies for a test run**

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Peter Staley, EJ sales representative for Northern Michigan and the Upper Peninsula, suggested Becker try the SELFLEVEL Access Assembly by EJ. EJ specifically engineered this two-frame system to keep manhole covers flush with the pavement. The self-leveling frame keeps the assembly centered over the manhole, while the unattached upper frame is free to rise and fall with the pavement. It can be used for new installations or retrofits in asphalt or concrete.

"Peter's a great asset to us," Becker said. "He was gracious enough to let us put two in as a prototype."

Union Street, a busy, north-south residential street used by locals to get from one side of the city to the other, was selected for the test site. This was a new installation versus a retrofit. In June 2014 the City installed two EJ 1040 series SELFLEVEL adjustable manhole assemblies at the intersection of Union Street and Griffin Street. The installation process was as smooth as the resulting street. Staley and several EJ engineers attended the installation to provide assistance.

"It was just a simple matter of demonstrating it to the paving crew by helping them install the first one," Staley said. "Once they see how it goes together they can take over."



The initial result got a big thumbs-up from everyone.

"Everything worked just swell," Becker said. "The manhole covers stayed level with the road."

"The SELFLEVEL adjustable manhole assembly solves three difficult issues - getting the angle of the casting to match the pitch of the road, setting the casting to the correct elevation, and mitigating frost heave," Staley said.

Another plus for the City: The SELFLEVEL 1040 series uses the same 26-inch manhole covers the City keeps in stock. If a snowplow damages a cover it can be replaced immediately.

"Interchangeable is always good," Becker said.

## **A-plus service**



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When Becker noticed some rattling in one of the SELFLEVEL manhole assemblies, he mentioned it to Staley. Staley went with him to the site and together they installed a new gasket.

"Since we did that it hasn't rattled anymore," Becker said. "Now EJ mills the gasket into the cover itself to take care of that problem. The service we get from EJ - and especially Peter - is awesome. They always put a lot of effort into coming up with solutions for us."

### **So far so good**

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After two years the SELFLEVEL adjustable manhole assemblies have lived up to expectations.

"We're very happy with them," Becker said. "They're still level. There's no cracking."

If the intersection of Union Street and Griffin Street ever needs to be re-milled and resurfaced all the City will need to do is reset the SELFLEVEL adjustable manhole assembly to the new height.

"It will save the price of having to put a whole new structure in," Becker said. "We always like to try new and better things to enable us to look down the road for future uses."

## Learn More

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View the installation instruction video below or talk to an expert at EJ to find out how the innovative features of the SELFLEVEL Access Assembly can work for your next manhole project, whether you're working with asphalt or concrete. Learn more about the concrete installation on the [SELFLEVEL Concrete](#) case study.