

From Mark Geib, Engineer of Operations Field Services Division

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Questions regarding
this advisory should be
directed to:

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Bridge Railing Height and Fall Protection

This Advisory serves to clarify the impacts to the statewide bridge maintenance program as a result of the recent MIOSHA Citation and Notification Advisory, July 22, 2015, titled *Fall Protection Citation, Bridge & Overpass Barrier Walls/Railings*. A 2013 Michigan Occupational Safety and Health Administration (MIOSHA) citation regarding employees working adjacent to a low bridge railing resulted in negotiations and a settlement agreement with MIOSHA and the Michigan Department of Transportation (MDOT).

Employees working six feet or more above a lower level must be protected from falling by use of a guardrail system, safety net system, or personal fall protection. To be considered a guardrail, a bridge barrier or railing must have a height of 42 inches plus or minus 3 inches (a minimum height of 39 inches). Therefore, any work on bridge decks with existing barrier/railing heights less than 39 inches must incorporate some type of modification or personal fall protection system to keep employees safe. This rule does not apply to employees making an inspection, an investigation, or an assessment of workplace conditions before the actual start of work or after all work has been completed. The greatest MDOT employee impacts are to the bridge maintenance workers involved in deck patching, joint repair and bridge deck overlays.

Bridge Field Services is currently evaluating equipment that can be used to modify the railing heights of noncompliant (less than 39 inches) barriers and railings. Please contact Bridge Field Services prior to implementing barrier/railing modifications. Typical shapes of noncompliant barriers/railings are the Type 5 barrier, 2-tube railing and some older parapet style railings. Awareness should also be given to those decks that have received overlays, as the plans may indicate a compliant railing height, but the field conditions vary due to the placement of a rigid concrete overlay. When scoping bridges for the Region maintenance work plans, please note the railing heights so efforts can be made to provide the necessary fall protection.

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When deck patching is isolated to one or a few locations, the barrier/railing adjacent to the work must be higher than 39 inches or personal fall protection must be used. The operation should be boxed off with vehicles and/or equipment to prevent exposure to barriers/railings that are not 39 inches in height.

When deck patching is not isolated, it may be necessary to modify all of the bridge deck barrier/railing to the required height for the duration of the work.

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When working on bridge deck joints near barrier/railings less than 39 inches in height, the barrier/railing adjacent to the work must be modified to meet the minimum height requirement or personal fall protection must be used. The length of the height modification need only be to the extent needed to provide adequate space for the work. Vehicles and/or equipment should be used to box off the operation and limit the amount of barrier/railing modification.

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When conducting bridge deck overlays, all barrier/railing less than 39 inches in height must be modified to meet minimum height requirements or some type of personal fall protection system must be implemented.

Please keep in mind that any type of barrier modifications are temporary in nature. These systems have not been crash tested, are not in compliance with FHWA bridge barrier crash requirements and must only be used during the work operation and immediately removed prior to opening the bridge to traffic.

The first workers on the bridge deck are responsible for the installation of the barrier/railing modifications. The barrier/railing must be in front of the workers at all times. This is their only task until such time that the system is fully installed. The barrier/railing modifications must be done before any other work, and must be the last thing removed, when the work is completed. Workers near noncompliant barrier/railing and not actively involved in the modification work, must exit the bridge deck, or utilize personal fall protection.

Please contact Bridge Field Services, Region Bridge Support, Jason DeRuyver (517) 322-3342 for support regarding noncompliant bridge barriers and railings.

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