

**Projects First-Round Winner**

Innovations Challenge  
<http://wwwi/intranet/cr/SolutionsAtWork/Innovations.htm>

**April 2015**

Prepared by Transportation Planning  
Missouri Department of Transportation

## Median Barrier Wall Modification



### Description

This innovation drastically improves the overall design and implementation process associated with the replacement of Type A median barrier wall sections throughout the state. Previously, the standard procedures for median barrier wall replacement involved the complete removal of existing barrier, installation of temporary barrier systems, and then complete reconstruction of a new barrier system. This innovation utilizes the existing Type A barrier system as a core structure for a new Type C barrier system by encapsulating the existing barrier with a slip-forming process. The main issues associated with the replacement of concrete median barrier wall along high traffic roadways are related to constructability. Traffic volumes prohibit the use of lane closures except during specific hours, and these tight timeframes drastically affect contractor efficiencies. Work hour restrictions limit contractors to an eight hour window typically 10 p.m. to 6 a.m., making removal of the existing concrete barrier wall and replacement virtually impossible.

### Benefit

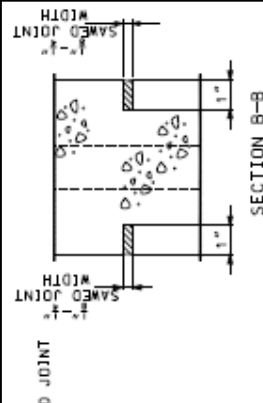
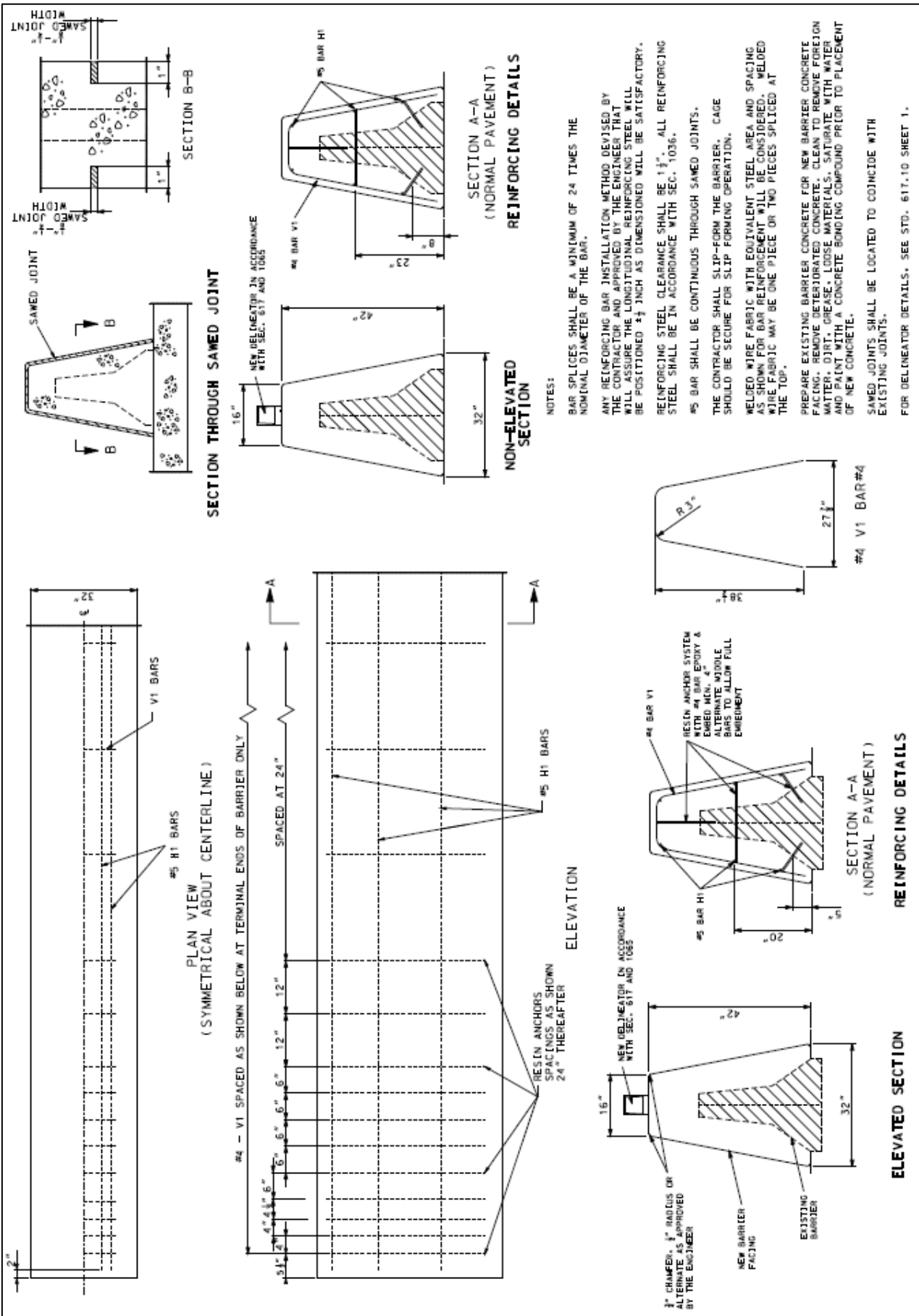
The innovation saves time and money by simplifying the process, reduces the overall duration of the project and it drastically improves safety associated with median barrier replacement. This innovation reduces the amount of concrete and alleviates concerns related to the concrete strength before opening to traffic.

### For More Information Contact:

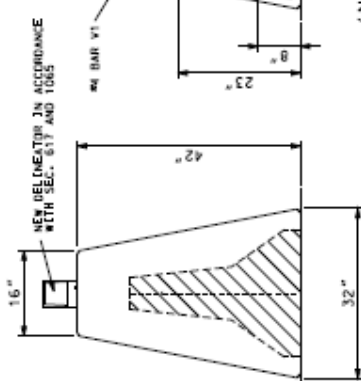
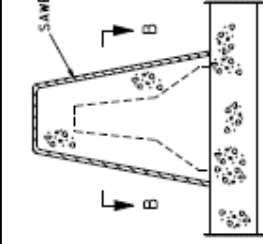
Jerad Noland at [jerad.noland@modot.mo.gov](mailto:jerad.noland@modot.mo.gov) or (573) 406-6548.

Additional photos can be seen by accessing the Innovations Challenge homepage at:  
<http://wwwi/intranet/cr/SolutionsAtWork/Innovations.htm>.

# Median Barrier Wall Modification Plan Sheet



SECTION THROUGH SAWED JOINT



SECTION A-A (NORMAL PAVEMENT) REINFORCING DETAILS

NOTES:

BAR SPLICES SHALL BE A MINIMUM OF 24 TIMES THE NOMINAL DIAMETER OF THE BAR.

ANY REINFORCING BAR INSTALLATION METHOD DEvised BY THE CONTRACTOR AND APPROVED BY THE ENGINEER THAT WILL ASSURE THE LONGITUDINAL REINFORCING STEEL WILL BE POSITIONED  $\pm \frac{1}{2}$  INCH AS DIMENSIONED WILL BE SATISFACTORY.

REINFORCING STEEL CLEARANCE SHALL BE  $\frac{1}{2}$ " ALL REINFORCING STEEL SHALL BE IN ACCORDANCE WITH SEC. 1036.

#5 BAR SHALL BE CONTINUOUS THROUGH SAWED JOINTS.

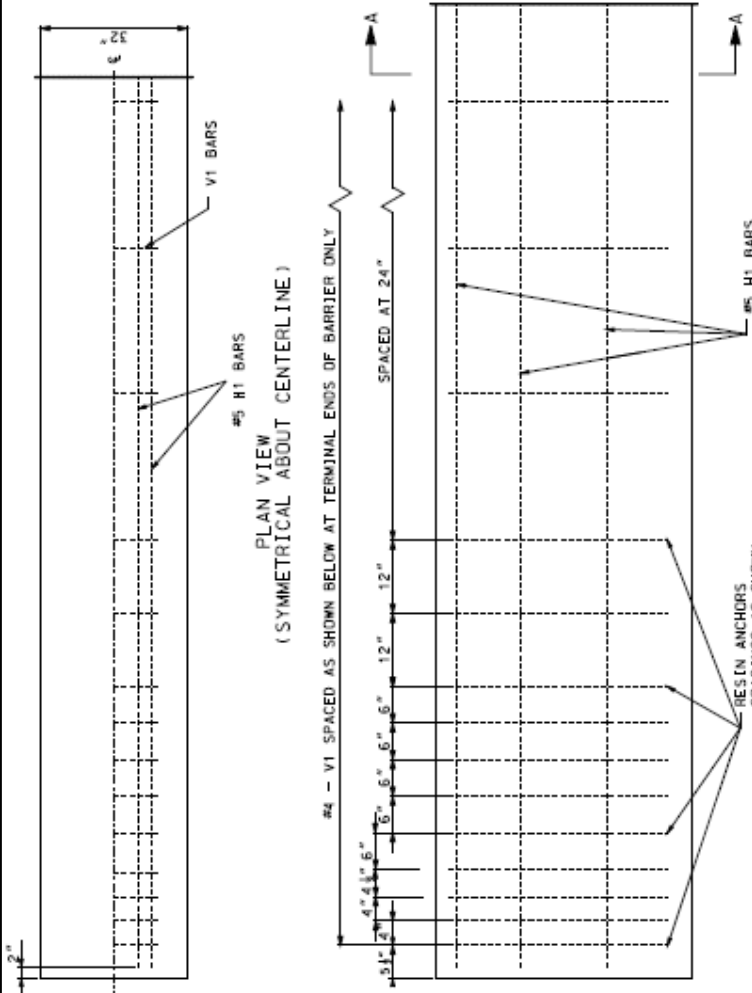
THE CONTRACTOR SHALL SLIP-FORM THE BARRIER. CAGE SHOULD BE SECURE FOR SLIP FORMING OPERATION.

WELDED WIRE FABRIC WITH EQUIVALENT STEEL AREA AND SPACING AS SHOWN FOR BAR REINFORCEMENT WILL BE CONSIDERED. WELDED WIRE FABRIC MAY BE ONE PIECE OR TWO PIECES SPLICED AT THE TOP.

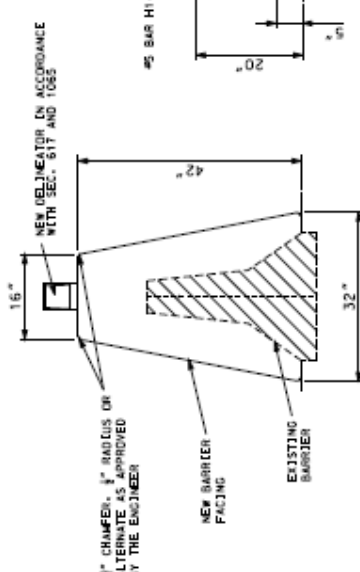
PREPARE EXISTING BARRIER CONCRETE FOR NEW BARRIER CONCRETE FACING. REMOVE DETERIORATED CONCRETE. CLEAN TO REMOVE FOREIGN MATTER, DIRT, GREASE, LOOSE MATERIALS. SATURATE WITH WATER AND PAINT WITH A CONCRETE BONDING COMPOUND PRIOR TO PLACEMENT OF NEW CONCRETE.

SAWED JOINTS SHALL BE LOCATED TO COINCIDE WITH EXISTING JOINTS.

FOR DELINEATOR DETAILS, SEE STD. 617.10 SHEET 1.



ELEVATION



ELEVATED SECTION

SECTION A-A (NORMAL PAVEMENT) REINFORCING DETAILS

SECTION B-B

SECTION THROUGH SAWED JOINT

SECTION A-A (NORMAL PAVEMENT) REINFORCING DETAILS