

# slag Successes

News and Information about the Iron and Steel Slag Industry

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## Wilmington VA Hospital puts all its slag in gabion baskets and it works

International Mill Service supplied two tons to shore up the creek bank under pedestrian bridge



*Wilmington, DE Veterans Administration Hospital project, 2" to 4" steel slag in gabion baskets.*

Let nature have its way and even small creeks can wash away soil, eroding foundations. That's just what was happening under a pedestrian bridge on the campus of the Wilmington, Delaware, Veterans Administration Hospital.

Enter gabion baskets, a 4,000-year-old idea using rectangular wire mesh baskets filled with stones – to shore up the creek banks and control water flow.

In this case, steel slag was used. Why slag? Its angular 'particle shape' provides stability to the stream bank. Those same angular shapes create a high angle of internal friction, preventing erosion.

The density of the slag-filled gabions give the stability needed to support the soil under the concrete steps, supporting the bridge structure and the people who cross it. Because steel slag is not affected by freezing and thawing, its use along creek beds is even more advantageous.

More than a decade ago, International Mill Service supplied 200 tons of 2" to 4" steel slag to Tri-County Construction for this project.

Proof that steel slag doesn't impede growth of vegetation, it was difficult finding an open area to photograph the gabions as they look today.

Keeping water in its place – another reason slag is the material of choice.

*Another slag success on other side.*



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slag Successes *Continued*

## In the SE corner of Idaho, not far from the Old Oregon Trail, slag-filled gabions keep erosion at bay

Not far from the intersection of the Old Oregon Trail Road and U.S. Highway 30 in the mountains of

Idaho near McCammon, a bridge crosses the railroad tracks. Both the highway and railroad embankments are subject to erosion by the runoff from rain and/or melting snow. The soils commonly found in the area are fine and granular without a clay binder. That soil type is the least resistant to erosion, especially since the area is semi-arid and has low vegetation growth which could further protect the slope from

from further erosion. Gabion baskets filled with 2" to 4" steel slag from nearby Nucor Steel in Plymouth, Utah was the choice made by the regional office of Idaho DOT.

Economical, dense, angular with a high degree of internal friction and being available locally made steel slag the right choice for the project.

Placement of the gabion baskets along the highway's shoulder now adds to the stability of the guard rail while allowing for excellent drainage of the roadway through permeable fabric and the open graded steel slag aggregate. This simple but effective repair will protect the shoulder from further erosion.

*This is another  
Slag Success Story  
brought  
to you by the  
National Slag Association.*



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cially since the area is semi-arid and has low vegetation growth which could further protect the slope from erosion. Engineered fill with this soil type was used to build U.S. 30 many years ago and not long ago the Idaho DOT saw a need to repair an eroding section of the embankment.

The Department used the best and most cost-effective means to stabilize the 30° slope along the roadside to protect the guard rails



*Slag-filled gabions.*



*Filling the baskets with 2"-4" slag.*



*Road crew secures the gabion baskets.*

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