



## ABOUT THIS PROJECT

**PROJECT NAME:** [Evaluation of Rock Check Dam Performance Using Large-Scale Testing Techniques](#)

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State Planning and Research

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# RESEARCH IN PROGRESS

## Evaluating the performance of current rock check dam standards

Construction work on roads disrupts soil, which creates loose, contaminated sediment. When it rains, stormwater containing sediment flows from disturbed areas into roadside channels. High velocity in channels can lead to additional erosion and increase the risk of downstream pollution. Sediment-laden stormwater may negatively impact the environment, decrease nearby culvert and drain capacity, and increase the risk of flooding adjacent roadways and properties. Installing temporary rock check dams in the roadside channels can mitigate these impacts and protect downstream areas.

Rock check dams, typically small and constructed of rock, slow the velocity of flowing water in a channel, which reduces the amount

of erosion that occurs within the channel and can capture suspended sediment in the flowing water.

This project is evaluating existing Iowa DOT rock check dam standards along with proposed modifications to determine and develop the most efficient, cost-effective designs and installation methods for future use. “The results of this project will provide valuable guidance for the construction and use of rock check dams in Iowa,” explained Melissa Serio, earthwork field engineer at Iowa DOT Construction and Materials Bureau. “By identifying the best design approaches and maximizing the effectiveness of rock check dams, we can better mitigate the negative effects of stormwater erosion at road construction sites.”

The modifications include using a smaller rock gradation to further slow flow, a fabric overlay to increase impoundment potential, construction techniques to allow for dewatering after storms, and additional or a reduced amount of rock material in the dam.

The research is expected to conclude in November 2024.

*To learn more about this project and subscribe to updates, visit [Idea #3783](#).*

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