

Riprap Revegetation Research Project - Implementation Report.

Several years ago a specification was written to revegetate areas covered by riprap placed on bridge ends and streambanks up and downstream from bridge openings. The purpose was to establish riparian vegetation in these areas. Concerns for habitat restoration for sensitive/T&E species, aesthetics and bank stability were initially the purpose of creating the specification.

The specification was first inserted in bridge projects in the eastern part of the state on smaller streams where the consequences of failure [loss of topsoil covering the riprap] was seen as tolerable. The projects where the technique was installed have been monitored since completion. Several have gone through high runoff events - 50 and 100 year flood volumes.

Two years ago Kathy Chase with WWC [local consulting firm] approached MDT to propose a vegetated-riprap research project using technology developed in Colorado. A problem statement was submitted and accepted by the research project selection panel. A technical committee was formed with representatives from Environmental Services, Bridge, Hydraulics, Construction and Geotech. During the course of discussing possible research scenarios, it became obvious the MDT -through the riprap revegetation specification- was already employing a similar technique that Kathy was proposing. The technical committee decided to postpone development of a Request for Proposals until a evaluation of the projects where the specification was already implemented could be completed.

In the fall of 2003, just under 15 projects sites were visited by Phil Johnson and Larry Sickerson. Photographs were taken of each site. Project ages varied from just-completed to over 3 years. Quality assessments were made of specification compliance, presence and retained quantity of soil and revegetation success.

The findings of the evaluation were presented to the technical committee several weeks after the field visits. It was the concensus of the technical committee that the original MDT specification for revegetating riprap was being successfully implemented in the field and that the results were more than satisfactory. Of the projects visited, no failures were recorded.

The committee made one minor technical change to the specification during the final meeting. The members recommended that the RIRRAP REVEGETATION specification be inserted into all projects where riprap was placed on stream/river banks for protection of bridge facilities and generalized bank stability.

A copy of the specification has been provided to the Bridge Bureau. They will insert the specification into the design at the appropriate stage of project development. It should be noted that the specification may not be appropriate on projects where extreme flows are expected. The decision to NOT employ the specification will be made after consultation with members of Environmental Services, the Bridge Bureau and Hydraulics Section.

The Riprap Revegetation specification has been assigned a Contract Plans Item Number for tracking and payment purposes.

The specification was just recently presented to over 100 attendees at the 2004 Construction Seminar in Bozeman. The purpose of the specification was discussed, as well as issues related to successful installation.

No other meetings of the technical committee are planned. It may be necessary to make minor modifications to the specification at a later date if the need arises. In the meantime, existing and new project sites will continue to be monitored by Environmental Services.

Otherwise, the project should be considered complete.