

## PROJECT CONCEPT STATEMENT

Outlet Scour - 4' x 4' RCB Culvert  
Located 0.1 Mi. S. of 390<sup>th</sup> Street  
T95N, R32W, Section 6  
Palo Alto County

Project Number: STPN-004-5(47)—2J-74  
PIN: 19-74-004-010

Highway Division  
Office of Bridges and Structures

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### **Project Description**

The drainageway at the outlet of a 4' x 4' reinforced concrete box (RCB) culvert has eroded. The culvert is located at station 725+08.75 (mile marker 111+/-). The eroded area is approximately 31 feet by 37 feet. The exact depth of erosion is unknown but appears to be several feet in height. Utility conduits have been exposed due to the erosion.

### **Need for Project**

If left in its current state the eroded area will continue to expand and could cause damage to the roadway pavement. Also damage to the exposed utility conduit could occur or worsen.

### **Concept**

#### **Partially Grouted Class E Revetment**

The eroded void can be filled with partially grouted class E revetment. The revetment will be underlain with engineering fabric. The voids between the revetment will be partially filled with grout. The grout will aid in holding the rock particles together so movement will be minimized during storm events.

The utility companies should be contacted to determine if any repairs, realignment, etc. is necessary for the conduits prior to the placement of the revetment.

A concept drawing is not provided with this concept statement.

Cost Estimate:

Grout	\$	7,800
Engineering Fabric	\$	940
Revetment, Class E	\$	13,750
Traffic Control	\$	1,000
Mobilization (10%)	\$	2,350
Contingencies (20%)	\$	<u>5,200</u>
Total Cost	\$	31,040

NOTE: Right of way and/or easement costs are not included in the above cost estimates.

**Recommendation**

Installation of the above described measures are recommended.

**Special Considerations**

We are anticipating temporary easements will be needed during construction and permanent easements\right of way will be needed for future maintenance.

The project is located within a Zone AE flood hazard area. Base flood elevations have been established in this zone.

Since the basin is less than 100 square miles in area a DNR Floodplain Development Permit will not be required.

The creek is not a protected stream.

The Office of Location and Environment has not reviewed this project but environmental review and clearances may be required.

A ground survey will be required.

Extant of existing utilities unknown.

Railroads are not present in the project area and railroad expansion is not expected.

It is anticipated the work for the primary project would be awarded to one prime contractor. The Office of Bridges and Structures will coordinate the plan preparation with assistance from the Office of Design.

Trails are present within the immediate project area and trail expansion is not expected in this area.