Zitzka

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

INSPECTION REPORT

REGION NO.	REPORT ON	DIVISION
8	Retained EARTH WALL	Montana
DATE OF INSPECTION 8/12/85	INSPECTION MADE BY Mark Zitzka, Preconstruction Engineer & Dave Cough, Field Engineer	PROJECT NO. IR 90-9(64)526
IN COMPANY WITH Unaccompanied		

REMARKS

Lodge Grass - North (Slide Correction)

The project provided a retained earth wall to correct a slide. The inspection was prompted by reports of settlement along the top of the wall and distress cracks along the paved shoulder.

Visual observations confirmed conclusions of previous inspections - the wall is in conformance with plans and specifications. While high winds precluded precise measurements, four to five locations checked well within specified plumbness of ½" per 10' of wall height. No distortion, settlement, etc. of the wall or panels is apparent. Joint spacing varies and perhaps might have been more uniform if foam had not been deleted from sloped joints by change order. Deletion was upon recommendation of VSL who indicated foam was only necessary for walls with free water against them.

Overall appearance is good. No visible distortion or distress in wall itself.

Barrier settlement up to 3" - roadway ½" in outside wheeltrack, driving lane.

Close proximity of wall and dropoff made compaction against face difficult.

Settlement is occurring along the top of the wall and appears to be taking place in asphalt, embankment, and perhaps some backfill at the wall face. This has caused cracks in the paved shoulder, misaligned concrete barrier rail, and slumping of pavement at the face of the wall. The close proximity of roadway to the wall left no effective way to compact embankment or asphalt sloped to the wall face.

All items probably received lower compactive effort against the wall face because of similar problems in operating equipment in this area. Differential compaction is therefore believed to be causing the distress. Concrete barrier has settled slightly through the asphalt in places and sags 3" at one point. Only ½" of settlement was measured on the adjacent section of roadway.

Barrier has contributed to settlement and actually "sheared" through asphalt in places.

Settlement along the top of the wall. Some top panels are held by only one layer of reinforcing mesh. No coping was provided by the plans. alignment pins should be removed and holes should be plugged along the top panels.

Since no backfill material is being lost through the joints, leveling of settled areas with asphalt should prove satisfactory once settlement stops. Concrete barrier will have to be removed and reset. We understand that maintenance has since leveled the roadway. Drain holes under the barrier were plugged with asphalt to keep water from the face of the wall.

A few wall bolts used for aligning panels were left in place and were inducing cracking by concentrating stresses against panels. These should be removed on future walls of this type. Cracked or spelled panels should be repaired.

Alignment bolts left in place. A 2 x 4 on each side of the panel is held by the bolt and aids in alignment during erection.

Note variance in joint spacing.

A monitoring system is being set up to detect any wall movement. We recommend elevations be established on each level of panels. The wall appears to be structurally unaffected at this time.

MSE Wall - Slide Area
IR 90-9(64) 526

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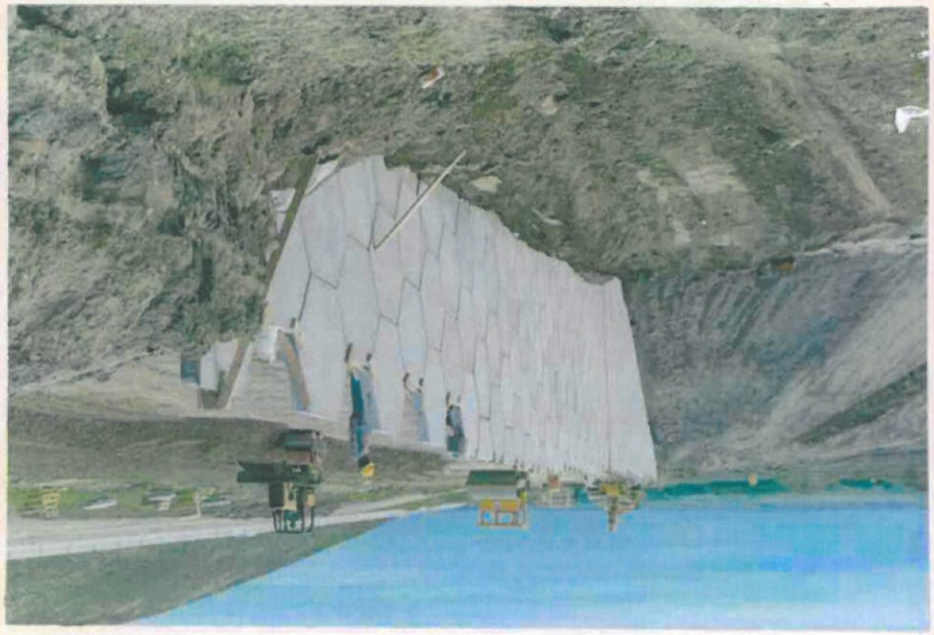

Looking S.
1/8"
1"
IR90-9(64)526
5-10-85

IR90-9(64)526
5-10-85
1" Crack
Looking S.

IR90-9(64)526
5-10-85
7/8" Crack
Looking S.

IR90-9(64)526
5-10-85
1"
7/8"
1/2"
Looking S.

4 25 8

4 25 85

4 25 85