

# BACKWALL REPAIR DETAILS

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## BACKWALL REPAIRS

THIS WORK SHALL CONSIST OF REMOVING UNSOUND CONCRETE, REBUILDING THE END DAMS, AND REPLACING THE CONCRETE FOR BRIDGES 0207R&L. THE TRAFFIC CONTROL FOR THIS WORK IS DESCRIBED IN THE GENERAL NOTES UNDER ITEM 614 - MAINTAINING TRAFFIC, AND SHOWN ON THE TRAFFIC CONTROLS PLAN SHEETS 44 TO 47.

### 1) REMOVAL OF CONCRETE

ALL CONCRETE FROM CURB PLATE TO CURB PLATE WITHIN THE REPAIR LIMITS, SHOWN ON SHEET 38, AND ALL CONCRETE IN THE ADDITIONAL AREAS SHOWN ON SHEET 39 SHALL BE REMOVED. ANY OTHER UNSOUND CONCRETE, AS DETERMINED BY THE ENGINEER, IN THE BACKWALLS ADJACENT TO THE ABOVE AREAS, SHALL ALSO BE REMOVED.

SHOULD ANY PORTION OF THE APPROACH SLAB BECOME UNDERMINED, SOIL UNDERNEATH IT SHALL BE REPLACED AND COMPACTED. THIS MAY REQUIRE ADDITIONAL APPROACH SLAB REMOVAL, AS DIRECTED BY THE ENGINEER. BERM AREAS DAMAGED BY THE WORK SHALL BE REPAIRED BY REPLACING AND COMPACTING THE SOIL UNDERNEATH; AND THEN REPLACING ITEM 310 SUBBASE AND ITEM 301 - BITUMINOUS AGGREGATE BASE BRINGING THE SURFACE FLUSH WITH THE SURROUNDING AREAS.

ANY REINFORCING STEEL EXPOSED BY THE REMOVAL SHALL BE EXPOSED THE FULL CIRCUMFERENCE OF THE BAR ALLOWING A MINIMUM OF 1" FROM EXISTING CONCRETE. THE CONTRACTOR MAY REMOVE ANY PORTION OF ANY REINFORCING BAR, PROVIDING THAT THEY BE REINSTALLED USING APPROVED MECHANICAL BUTT JOINTS. THE BOTTOM SURFACE OF ALL REMOVAL AREAS SHALL BE HORIZONTAL ( $\pm 15^{\circ}$ ) FOR THE ENTIRE THICKNESS OF THE REMOVAL AREA.

### 2) REPLACEMENT OF CONCRETE

IMMEDIATELY BEFORE ANY NEW CONCRETE IS PLACED, ALL EXISTING CONCRETE SURFACES WITH WHICH IT WILL BE IN CONTACT, SHALL BE SANDBLASTED, AND THEN COATED WITH EPOXY BONDING AGENT CONFORMING TO AASHTO M-235-73I.

WHEN THE EPOXY IS TACKY, THE NEW CONCRETE SHALL THEN BE PLACED WITHIN THE REPAIR LIMITS AS SHOWN ON THE DETAILS AND OUTSIDE THE REPAIR LIMITS AS NEEDED TO BRING THE SURFACES FLUSH WITH THE SURROUNDING AREAS. THE TOP SURFACE SHALL BE FINISHED IN ACCORDANCE WITH 305.01. ALL REINFORCING STEEL SHALL HAVE AT LEAST 2" OF COVER.

### 3) REBUILDING END DAMS

THIS WORK SHALL CONSIST OF REBUILDING THE END DAMS OF THE LAK 44-0207L AND LAK 44-0207R BRIDGES AS PER STANDARD BRIDGE DRAWING SD-1-69, WITH THE FOLLOWING EXCEPTIONS. ANY EXISTING STEEL MAY BE REUSED, INCLUDING THE L6x4x1 LOWER END DAM ANGLES, IF THE ENGINEER DEEMS IT SALVAGEABLE. WHENEVER A WELD BETWEEN THE L8x4x1 UPPER END DAM ANGLE AND THE L6x4x1 DECK ANGLE IS BROKEN, REWELDING ACCORDING TO 513.17 SHALL BE PERFORMED. THE CONTRACTOR SHALL USE TWO 5/6" INCH CONTINUOUS FILLET WELDS, ONE ON THE TOP OF THE L6x4x1, AND ONE BELOW, OR ONE 1/2" CONTINUOUS WELD ABOVE, AS SHOWN ON SHEET NO. 38.

### 4) BASIS OF PAYMENT

THE COST OF THE REMOVAL WORK FOR THE BACKWALL AND APPROACH SLAB, THE COST OF BERM REMOVAL AND REPLACEMENT NEEDED TO PERFORM THE BACKWALL REPAIRS, AND THE COST OF REMOVAL & REPLACEMENT OF PORTIONS OF REINFORCING BARS THAT ARE CUT FOR THE CONTRACTOR'S CONVENIENCE, INCLUDING ALL LABOR, EQUIPMENT, TOOLS AND MATERIALS NECESSARY, SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 202 - PORTIONS OF STRUCTURES REMOVED.

THE FOLLOWING WORK, INCLUDING ALL TOOLS, LABOR, AND EQUIPMENT, SHALL BE PAID FOR BY THE UNIT PRICE BID FOR ITEM 511 - CLASS C CONCRETE SUBSTRUCTURE:

- 1) REPLACEMENT OF CONCRETE IN THE BACKWALLS AND APPROACH SLABS
- 2) REBUILDING THE END DAMS INCLUDING THE COST OF THE CONCRETE REMOVAL AND REPLACEMENT NECESSARY TO REWELD THE L8x4x1 UPPER END DAM ANGLES TO THE L6x4 ON THE BRIDGE.
- 3) BENDING AND REPOSITIONING THE REINFORCING STEEL TO PROVIDE 2" MINIMUM CLEARANCE FROM THE SURFACE OF THE REBUILT BACKWALL.

THE COST OF FABRICATION AND DELIVERY OF THE NEW MATERIALS NEEDED FOR REBUILDING THE END DAMS SHALL BE PAID FOR BY THE UNIT PRICE BID FOR ITEM 513 - STRUCTURAL STEEL.

FOR QUANTITIES SEE SHEET 34