

**831 - DITCH LINING**

**SECTION 831**

**DITCH LINING**

**831.1 DESCRIPTION**

Construct the designated types of ditch lining as shown in the Contract Documents.

**BID ITEMS**

Aggregate Ditch Lining (\*)  
Aggregate Backslope Ditch Lining  
Concrete Ditch Lining  
Concrete Backslope Ditch Lining  
\*Size

**UNITS**

Ton  
Ton  
Square Yard  
Square Yard

**831.2 MATERIALS**

Provide materials that comply with the applicable requirements.

Concrete and Grout .....	<b>SECTIONS 401 &amp; 402</b>
Aggregates for Concrete Not On Grade .....	<b>SECTION 1102</b>
Stone .....	<b>DIVISION 1100</b>
Type 2 Liquid Membrane-Forming Compound .....	<b>DIVISION 1400</b>
Welded Steel Wire Fabric .....	<b>DIVISION 1600</b>
Fibrous Concrete Reinforcement (macro) .....	<b>DIVISION 1700</b>

**831.3 CONSTRUCTION REQUIREMENTS**

**a. General.** Construct the ditch to the lines and grades shown in the Contract Documents before placing the ditch lining. Prepare for the ditch lining by undercutting the finished ditch to the depth required for the ditch lining. When required, compact the excavated area. The subgrade shall be well compacted prior to placing ditch lining. After the ditch lining is completed, backfill and compact around the structures.

**b. Aggregate Ditch Lining and Aggregate Backslope Ditch Lining.** Construct the aggregate ditch lining and aggregate backslope ditch lining according to the Contract Documents.

**c. Concrete Ditch Lining and Concrete Backslope Ditch Lining.** Construct the concrete ditch lining and concrete backslope ditch lining according to the Contract Documents. After the steel reinforcement is in place, place the concrete starting at the lower end and progressing to the upper end of the ditch lining.

Use Grade 3.0(AE) concrete, unless shown otherwise in the Contract Documents.

Fibrous concrete reinforcement may be used in lieu of steel mesh, unless specified otherwise in the Contract Documents. If fibrous concrete reinforcement is used, comply with these requirements:

- Use the macrofibers at the rate specified by the manufacturer. Add the macrofibers to the concrete mixture at the same time the individual concrete components are added and before the mixing revolutions are started at the concrete batch plant.
- Have a technical representative of the macrofiber manufacturer present at the concrete batch plant to obtain proper proportioning and mixing of the product. The Engineer will waive this requirement if the Contractor can provide evidence of previously satisfactorily using the product.

Uniformly consolidate the concrete without voids. Finish the concrete surface with a wooden float, followed by a light brooming. Do not walk on the concrete surface during placement.

Apply Type 2 liquid membrane-forming compound as the curing medium. Apply the curing medium immediately after the concrete surface is finished, and before the set takes place. Maintain the cure for 7 days. In cold weather, maintain the concrete temperature above 32°F for the first 4 days of the 7 day cure.

**831.4 MEASUREMENT AND PAYMENT**

The Engineer will measure aggregate ditch lining and aggregate backslope ditch lining by the ton.

The Engineer will measure concrete ditch lining by the square yard, measured along the finished surfaces.

Payment for "Aggregate Ditch Lining", "Aggregate Backslope Ditch Lining", "Concrete Ditch Lining" and "Concrete Backslope Ditch Lining" at the contract unit prices is full compensation for the specified work.