

**SECTION 836  
SLUICE GATE**

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**8366-1 DESCRIPTION**

Construct a sluice gate on an endwall in accordance with the details in the contract and the manufacturer's recommendations.

**8366-2 MATERIALS**

Sluice gates shall meet the manufacturer's recommendations for the corresponding pipe size. Due to variations in individual manufacturer's products, a slight variation from the size specified may be allowed. Submit the proposed catalog cut to the Engineer for approval prior to use.

**8366-3 CONSTRUCTION METHODS**

Provide a gate that forms a watertight seal when closed.

**8366-4 MEASUREMENT AND PAYMENT**

\_\_\_" *Sluice Gate* will be measured and paid as each for the actual number of sluice gates incorporated into the completed and accepted work. Such prices and payment will be full compensation for all materials, labor, tools, equipment and incidentals necessary to complete the work.

The endwall will be measured and paid in accordance with Article 838-4.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
___" Sluice Gate	Each

**SECTION 838  
ENDWALLS**

**838-1 DESCRIPTION**

Perform the work covered by this section including but not limited to excavation, hauling, disposal of materials, furnishing and placing backfill materials, subsurface drainage, concrete, brick masonry, mortar, grout, and furnishing and placing reinforcing steel to construct Portland cement concrete or brick masonry endwalls, either plain or reinforced, in accordance with the contract.

**838-2 MATERIALS**

Refer to Division 10:

<b>Item</b>	<b>Section</b>
Brick	1040-1
Curing Agents	1026
Mortar	1040-9
Precast Concrete Units	1077
Portland Cement Concrete, Class A	1000
Reinforcing Steel	1070-2
Select Material	1016
Subsurface Drainage Materials	1044

Use Portland cement concrete, brick masonry or precast concrete for the endwall unless otherwise specified in the plans.

If precast sections are proposed, submit in writing for approval.

**Section 838**

1 **838-3 CONSTRUCTION METHODS**

2 **(A) Foundation**

3 Do not place concrete or masonry until the foundation is approved.  
4 Excavate foundation to a firm surface, make level or stepped and clean surfaces of loose  
5 material. Make excavation true to lines and dimensions shown on plans.  
6 Where the foundation material is found to be of poor supporting value or of rock, the  
7 Engineer may make minor adjustments in the location of the structure to provide a more  
8 suitable foundation. Where this is not practical, undercut the foundation and condition by  
9 backfilling with an approved select material.

10 **(B) Concrete and Masonry**

11 Construct concrete in accordance with Section 825 and give an ordinary surface finish.  
12 Construct brick masonry in accordance with Sections 830 and 832. Furnish and place  
13 reinforcing steel in accordance with Section 425.  
14 Provide the class of concrete indicated in the plans.  
15 Obtain approval if field conditions necessitate a variance from the plan dimensions of the  
16 structure and footings.  
17 Construct endwalls on the end of a full joint of pipe and in accordance with the details in  
18 the plans.  
19 Any endwall that incorporates an opening for circular pipe 54 inches or greater shall be  
20 reinforced.

21 **(C) Backfill**

22 Complete endwall construction, and remove all forms. Backfill with approved material  
23 after the concrete or brick masonry has cured for at least 7 curing days unless otherwise  
24 permitted. A “curing day” is defined in Article 830-5. Within 4 calendar days after the  
25 completion of the 7 day curing period, shape, compact and complete backfill in  
26 accordance with the contract.

27 **838-4 MEASUREMENT AND PAYMENT**

28 *Endwalls* will be measured and paid in cubic yards of concrete or brick completed and  
29 accepted. This quantity will be computed from the dimensions shown in the plans or from  
30 revised authorized dimensions. Where precast concrete units have been approved and are  
31 used instead of cast-in-place units the quantity to be paid will be computed the same as if  
32 cast-in-place units were used, as no reduction in pay quantity will be made due to the use of  
33 precast instead of cast-in-place endwalls.

34 *Reinforced Endwalls* will be measured and paid in cubic yards of concrete or brick completed  
35 and accepted. This quantity will be computed from the dimensions shown in the plans or  
36 from revised authorized dimensions. Where precast concrete units have been approved and  
37 are used instead of cast-in-place units the quantity to be paid will be computed the same as if  
38 cast-in-place units were used, as no reduction in pay quantity will be made due to the use of  
39 precast instead of reinforced cast-in-place endwalls.

40 Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Endwalls	Cubic Yard
Reinforced Endwalls	Cubic Yard