

SECTION 451

CONCRETE HEADWALLS FOR STRUCTURAL PLATE STRUCTURES

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CONCRETE HEADWALLS FOR STRUCTURAL PLATE STRUCTURES**

451.01 SCOPE

This specification covers the Department's requirements for the construction of concrete headwalls for structural plate pipes, pipe-arches, arches, and long span structural plate structures. The headwalls, incorporating galvanized anchor bolts and reinforcing steel, shall be as shown on the drawings, or as directed by the Owner's Representative.

Where unwatering is required, it shall be carried out as specified in Section 180.

451.02 MATERIALS

451.02.01 Galvanized Anchor Bolts

The Contractor shall supply all galvanized anchor bolts and associated hardware required to anchor the concrete headwall to the structural plate structure. Supplied anchor bolts and associated hardware shall meet the specification of the structural plate structure designer.

451.02.02 Concrete

Concrete for use in constructing the headwalls shall be supplied by the Contractor and shall meet the specification for “Substructure, Reinforced Wharf Deck, Cast-in-Place Median & Precast Traffic Barrier” concrete, in accordance with Section 904.

451.02.03 Reinforcing Steel

Reinforcing steel shall be of the sizes shown in the drawings.

Reinforcing steel shall conform to the requirements of Section 905.

451.03 FORMWORK

Formwork shall be supplied by the Contractor, and shall conform to the requirements of Section 907.

451.04 PLACING OF REINFORCING STEEL

Reinforcing steel shall be placed in accordance with the requirements of Section 905.

451.05 PLACING CONCRETE AND GALVANIZED ANCHOR BOLTS

Concrete shall be placed in accordance with the requirements of Section 904.

Anchor bolts shall be installed as detailed on the for construction drawings.

451.06 CURING THE CONCRETE

Concrete shall be cured in conformity with the requirements of Section 904.

451.07 MEASUREMENT FOR PAYMENT

Measurement for payment for Concrete Headwalls for Structural Plate Structures shall be calculated from the dimensions of the headwalls as laid out in accordance with the contract drawings and such measurements will be computed to obtain the volume in cubic meters, rounded to two decimal places.

451.08 BASIS OF PAYMENT

Payment at the contract price for Concrete Headwalls for Structural Plate Structures shall be full compensation for all labour, materials, and equipment use required to: supply and place formwork, to supply and install galvanized anchor bolts, to supply reinforcing steel, to protect and clean the reinforcing steel as required, to bend, cut and weld the reinforcing steel, to place the reinforcing steel in the work, to support the reinforcing steel during the

placing, to supply and place concrete, to cure the concrete, and to remove the forms; together with labour, materials, and equipment used to provide such unwatering provisions that may be necessary in order to carry out the work according to these specifications.

It should be clearly understood, that the supply and placement of the reinforcing steel and anchor bolts are included in the basis of payment for Concrete Headwalls for Structural Plate Structures.

**451.09 CONCRETE ACCEPTANCE AND REDUCED PAYMENT CRITERIA ON
CONCRETE HEADWALLS FOR STRUCTURAL PLATE STRUCTURES**

Concrete footings and headwalls, as defined by the contract item and the required specified strength at 28 days, must have an average tested strength at 28 days equal to or greater than that specified for payment at the bid price.

Concrete of a lower strength will have Section 904.11.03 apply for adjustment of the unit price applicable or judgement of the acceptability of the concrete placed for this item.