

SECTION 540

CAST-IN-PLACE CONCRETE MEDIAN BARRIER

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540.01 SCOPE

This item consists of the construction of concrete median barrier using the slip-forming method in accordance with the contract documents and specifications.

540.02 MATERIALS

540.02.01 Concrete

Concrete shall meet the requirements for substructure concrete as outlined in Section 904.

540.03 CONSTRUCTION

540.03.01 Concrete Mix Design

The Contractor shall submit to the Owner's Representative for acceptance a proposed mix design 14 days prior to its use.

540.03.02 Concrete Placement

The concrete for the median barrier shall be placed by the use of an approved slip-form paver. The slip form shall be cleaned and oiled with an approved form oil prior to each use. The vibration technique used will be such as to ensure the concrete in place shall be void of air pockets.

Adequate workforce shall be scheduled, and concrete trucks sequenced to provide for uniform placing of the concrete with a minimum of interruption.

Precautions shall be taken to prevent any damage to the pavement by the slip-form paver, concrete trucks or other equipment. Damaged surfaces shall be repaired by the Contractor at their own expense.

The surfaces of the median barrier shall not vary by more than 5 millimetres when measured with a 3-metre straight edge.

Concrete spilled on the highway shall be removed and the highway cleaned to the satisfaction of the Owner's Representative.

540.03.03 Finishing

Hand finishing shall be kept to a minimum. Repair of air holes less than 15 millimetres in diameter will not be required. Care shall be taken in any hand finishing that may be required to maintain the correct alignment and grade.

A textured broom or brush finish shall be applied to the finished surface. Hand finishing shall be done with a magnesium or wood float but shall be kept to a minimum.

540.03.04 Curing

White membrane curing compound, if used, shall be applied immediately after finishing. Curing shall consist of two spray applications of the compound with the second application applied in a direction perpendicular to the first. The Contractor shall submit the specifications of the proposed compound to the Owner's Representative for review and approval.

The Contractor shall ensure the curing compound is applied in accordance with all aspects of the manufacturer's specifications. The application and appearance of the curing compound shall be uniform and free of defects (spatters, runs, sagging, thin application, etc.) and areas of poor appearance. Any curing compound that is applied in a manner that does not meet this specification or exhibits defects, in the opinion of the

Owner's Representative, shall be rejected and subject to repair. A holdback of 25% will be applied against the unit of measure of the item being coated with curing compound until such time as the application is completed to the satisfaction of the Owner's Representative.

540.03.05 Control Joints

Control joints shall be saw cut with an approved power saw, as soon as the concrete has hardened sufficiently to permit sawing without excessive raveling and before shrinkage cracking takes place, but no later than 12 hours after placing the concrete. Control joints shall be sawed to a minimum depth of 50 millimetres and shall be spaced at equidistant intervals along the length of the barrier, but not longer than 2.5 metre spacing. Joints shall be cut neatly in a vertical plane.

All joints shall be caulked with Dymeric sealant or an approved equal.

Any portions of median barrier that are deemed unacceptable by the Owner's Representative due to concrete quality or appearance issues (sags, poor finishing, etc.) shall be removed and replaced by the Contractor at their own expense. Sections deemed unacceptable shall be completely removed to the adjacent control joints (minimum 2.5 meters).

Uncontrolled shrinkage cracks that occur shall be subject to the approval of the Owner's Representative. If deemed unacceptable, the section of concrete median containing the crack shall be completely removed to the adjacent control joints (minimum 2.5 meters) and replaced at the Contractor's expense.

540.03.06 Construction Joints

Vertical construction joints at the ends of slip-formed barrier segments shall include a vertical key in the joint surface as shown on the plans or approved by the Owner's Representative.

540.04 MEASUREMENT FOR PAYMENT

Measurement for payment for cast-in-place concrete median barrier will be by means of the required completed and accepted median barrier, measured in linear metres rounded to one decimal place.

540.05 BASIS OF PAYMENT

Payment at the contract price per linear metre of cast-in-place concrete barrier median shall be compensation in full for all plant, labour, materials and equipment use to, supply

and place concrete with an approved slip-form paver to the line and grade established by the Owner's Representative, cure the concrete, cut and caulk all control joints, and finish the concrete.