

ITEM 05607.83XX M - SYNTHETIC SNOW FENCE

DESCRIPTION

This work shall consist of furnishing and erecting snow fence of the size and at the locations shown on the plans and in reasonable close conformity with the lines and grades shown on the plans or established by the Engineer. Construction of fencing shall be done in accordance with this specification and the details shown on the plans.

MATERIALS

Snow Fence. Snow fence material shall be manufactured for the intended purpose and shall conform to the following specifications:

Material:	High density polyethylene (HDPE)
Porosity:	50% ($\pm 3\%$)
Min. longitudinal tensile strength:	16,000 N/m of width
Min. transverse tensile strength:	3,500 N/m of width
Max. elongation at break (longitudinal):	100%
Min. aperture dimension:	25 mm
Color:	Black

Tensile strength and elongation to be determined in accordance with ASTM D4595.

For ultraviolet (UV) protection, synthetic fencing materials having a thickness less than 1 mm shall contain at least 2.0% well-dispersed carbon black as determined by ASTM D4218, in addition to any other chemical additives for UV resistance.

Wood Poles. Wood poles and braces shall comply with the requirements of §712-14, Stress Graded Timber and Lumber. The wood poles and braces shall have a minimum allowable extreme fiber stress of 11,000 kPa and they shall be sound, free from loose knots or decay, and with no through checks on tops or butts. Poles shall be machine peeled to a smooth uniform appearance and free from all inner bark.

Wood poles shall be ordered 150 mm longer than the nominal length to allow for proper vertical alignment.

All wood poles and braces shall be pressure treated in accordance with the requirements of §708-31, Wood Preservative - Water Borne. Unless otherwise specified, any necessary cutting shall be completed prior to pressure treatment. If cutting is permitted and performed after treatment, such cuts and holes shall be swabbed, sprayed, or brushed with two coats of the preservative initially used. Handling and care shall conform to AWWA Standard M4.

Approval of poles for use under this specification will be by the Engineer. Application for such approval must contain the following information:

Species of wood proposed for use.

Type of preservative and minimum retention in kg per cubic meter.

Pressure preservative treatment method.

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The requirements for inspections contained in §712-14 and §708-31 are waived.

Steel Angles. Angles shall be structural carbon steel conforming to the requirements of ASTM A36M.

Steel Hardware. Bolts, nuts and circular washers shall meet the requirements of ASTM A307, A563M and F436, respectively. All hardware shall be plated or coated in accordance with the provisions of Type II of §719-01.

Grout. Grout shall consist of one part cement conforming to the requirements of §701-01, Portland Cement, Type 2 and two parts fine aggregate conforming to the requirements of §703-07, Concrete Sand. The grout shall be mixed to a plastic consistency showing no signs of free water. The mixing and consolidation of the grout shall be in a manner approved by the Engineer.

The basis for acceptance for all materials will be the manufacturer's certification that the requirements of this specification have been met.

CONSTRUCTION DETAILS

The Contractor shall perform such clearing and grubbing as may be necessary to construct the fence to the required grade and alignment, not to exceed ten feet from the fence line. Fence shall generally follow the contour of the ground. Grading shall be performed where necessary to provide a neat appearance and to maintain the specified bottom gap.

The snow fence shall be erected as shown on the plans, in accordance with the manufacturer's instructions, or as directed by the Engineer. Fence shall generally follow the contour of the ground. Grading shall be performed where necessary to provide a neat appearance and to maintain the specified bottom gap.

The fence fabric shall be run straight, with a vertical alignment deviation over a three-pole span not to exceed 7 mm. All poles shall be placed in properly prepared holes, as shown on the plans. Poles shall be set plumb with a maximum lean of 15 mm in any direction, and to the required grade and alignment. The windward face of all poles shall be within 15 mm of the indicated fence line. Cutting of the tops of the poles will be allowed only with the approval of the Engineer and under the conditions specified by him. Cutoffs exposing untreated wood shall be field treated in accordance with AWWA Standard M4. Pre-augured holes shall be backfilled with grout.

Line poles shall be spaced equidistant in the fence line at the spacing shown on the plans, or as directed by the Engineer. End, corner, and intermediate poles shall be placed at the locations indicated on the plans, or as directed by the Engineer, and in the manner as shown on the plans.

When the plans require that the poles, braces, or anchors be imbedded in concrete or grout, the Contractor shall install temporary guys or braces as may be required to hold the poles in proper position until such time as the concrete has set sufficiently to hold the poles. Unless otherwise permitted, no materials shall be installed on poles or strain placed on guys and bracing set in concrete or grout until seven days have elapsed from the time of placing the concrete or grout.

Intermediate poles and pole assemblies, end poles, corner poles, approach spans, and bracing shall be as shown on the plans.

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Synthetic fencing materials shall be attached to the vertical supports by steel angles of the size and in the manner shown on the plans. The angles shall be tightly bolted to the vertical supports as shown on the plans. The fence shall be sandwiched between two (2) 75 mm wide strips of 1.5 mm thick ethylene propylene diene monomer (EPDM) elastomeric roofing membrane.

Synthetic fencing materials must be stretched taut according to manufacturer's specifications, but in no case shall tension be less than 1800 N per meter.

METHOD OF MEASUREMENT

Fencing shall be measured as the number of linear meters along the top of the fencing from center to center of the end poles, properly furnished, and installed in accordance with the plans, specifications, and directions of the Engineer. An allowance of 4 m will be added for each end pole, corner pole and intermediate pole installed in accordance with the plans, specifications, and directions of the Engineer.

BASIS OF PAYMENT

The unit price bid per linear meter of fencing shall include the cost of furnishing all labor, materials, tools, and equipment necessary to satisfactorily complete the work, including any necessary grading.

Payment will be made under the following items:

Item 05607.8301 M - Synthetic Snow Fence, 1.8 m Height

Item 05607.8302 M - Synthetic Snow Fence, 2.1 m Height

Item 05607.8303 M - Synthetic Snow Fence, 2.4 m Height

Item 05607.8304 M - Synthetic Snow Fence, 2.7 m Height

Item 05607.8305 M - Synthetic Snow Fence, 3.0 m Height