

**11000 Noise Barriers – General****Index**

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**11000-1     Scope**

This Section includes the procedures for obtaining Product Approval and describes noise barriers which have been approved for sound attenuation in the City of Saskatoon. This Section shall be read in conjunction with Sections 11001, Construction Materials – Concrete Noise Barriers and 11002, Construction Materials – Transparent Noise Barriers. Materials which have not been approved for use in any of these three Sections, may only be used with the written approval of the Specification and Product Review Committee (SPRC).

**11000-2     New Material**

All material supplied under this Contract shall be newly manufactured and free from all defects. Salvaged materials from prior use will not be accepted. Materials which have been in storage may not be accepted unless the Supplier can demonstrate that the materials have not been damaged in any way during storage.

**11000-3     Product Approval**

Suppliers wishing to have a product approved for use in the City of Saskatoon shall submit the following items:

1. A description of the product including detailed drawings and specifications.
2. A sample of the product.
3. Test results indicating compliance with the industry standard specifications such as ASTM or CSA. Tests shall be certified by a Professional Engineer from an independent testing firm.
4. A list of users who may be contacted with respect to the product's performance.

At least 8 weeks will be required to evaluate the product. Approval for use in the City of Saskatoon shall be at the direction of the Specification and Product Review Committee (SPRC).

**11000-4     Qualifications**

Manufacturers shall prove that they are capable of fulfilling these specifications.

Prior to beginning the work, the Contractor will submit manufacturer's samples of product, certified test data, and shop drawings of framing and connection details for approval.

**11000-5     Design**

The noise barrier shall be designed in accordance with either:

1. CAN/CSA-S6 Canadian Highway Bridge Design Code; or
2. AASHTO Guide Specification for the Structural Design of Sound Barriers, 1989 edition incorporating 1992 & 2002 amendments; or
3. AASHTO LRFD Bridge Design Specification 6th Edition (2012).

Foundations shall be designed to meet or exceed the recommendations of the geotechnical report for the area the noise barrier is to be constructed.

The top of the barrier profile shall be installed level. To accommodate sloping ground, the barrier shall be evenly stepped with all panels installed level.

**11000-6     Sound Transmission Class (STC)**

The Sound Transmission Class (STC) of the specimen shall be 20 or greater and shall be determined from the measured sound transmission loss in accordance with ASTM-E413.

**11000-7     Post Foundation Concrete**

Concrete used for post foundations shall achieve a minimum of 25 MPa compressive strength at 28 days.

**11000-8     Materials**

Noise barriers shall meet or exceed the accelerated weathering test and test for colour fastness. Materials normally subject to damage from Ultra Violet (U.V.) rays shall be treated to make them U.V. resistant.

All materials shall be protected from weather and damage while in transit or at the construction site.

**11000-9     Samples**

Prior to production of materials, the Contractor shall supply samples for visual inspection.

Full production of materials shall not commence until approval of the samples, in respect to finishes, colour, dimensions, tolerances, workmanship, etc. has been given.

The samples approved by the project Engineer shall be used as a standard for consistency of colour and texture.

**11000-10    Color and Finish**

The coloring used in concrete posts and panels must be integral to the concrete. It is not acceptable to stain the posts and panels after the concrete has cured.

Panels are to be sandstone colored and posts are to be charcoal colored. If the posts are poured integrally with the panels, both may be sandstone.

The surface texture shall be subject to approval by the Engineer.

**11000-11    Drawings**

The successful tenderer shall be required to submit Shop Drawings to scale showing the proposed method of panel erection, post details, and attachment method. The Shop Drawings and attached notes shall stipulate the construction of both posts and panels and the respective finishes and bear the seal of a professional engineer registered in the Province of Saskatchewan, with permission to consult.

**11000-12    Construction**

The noise barrier shall be constructed at the location and grade established by the Engineer.

**End of Specification 11000**