552-1 CABLE GUIDE RAIL - OPSS 552

552-1.1 GENERAL

Guide rail itself is a roadside hazard, thus the basic principle is to avoid or minimize its necessity by:

- Flatting side slopes
- Altering geometric design
- Removing or relocating hazards within the design clear zone
- Use of breakaway hardware where appropriate

Only when design adjustments are technically not feasible or economically unjustified should the use of guide rail be considered.

The basic criteria controlling the design of guide rail systems with regard to efficiency are as follows:

a) the barrier must be positive, i.e., it must prevent the vehicle from entering the hazardous area.

b) the impacting vehicle must be re-directed parallel to the barrier so as not to interfere with other traffic.

c) vehicle-barrier interaction must be such that minimum injury is sustained by the occupants.

On the basis of dynamic testing and operational experience the cable guide rail systems satisfy the specific requirements.

552-1.1.1 Cable Guide Rail

Cable Guide Rail Systems consist of three or six cables mounted on the side(s) of wooden posts and anchored by one-cubic metre concrete anchor blocks. The cables are fastened to the post using a standard spacer plate and staples, or lockets.

For warrants in choosing the appropriate type and length of guide rail consult the Traffic Barrier Manual and the appropriate Ontario Provincial Standard Drawings.

552-1.1.2 Tender Items

- Cable Guide Rail
- Anchor Blocks
- Delineator Posts
552-1.3 **Specification**

The requirements for Cable Guide Rail, Anchor Blocks, Delineator Posts and Adjust Cable Guide Rail are contained in OPSS 552.

552-1.4 **Special Provisions**

The designer should refer to chapter ‘E’ of this Manual to review the applicable special provisions.

552-1.5 **Standards Drawings**


522-1.2 **COMPUTATION**

These are Plan Quantity Payment items.

For the items Cable Guide Rail and Adjust Cable Guide Rail, measurement will be computed in metres, from centre to centre of anchor blocks, along the centre line of the guide rail installation, with no additions made for the overlapping length at intermediate anchor blocks.

Where cable guide rail and other types of guide rail overlap, each type is computed as if the other type did not exist.

Anchor blocks are computed in units of each block.

Delineator Posts are computed in units of each post placed.

552-1.3 **DOCUMENTATION**

- Cable guide rail quantities, scaled from plans, will be entered onto the Quantities Miscellaneous 2 sheet, showing station to station and location, with offsets if required.

- Separate columns are required for 3 and 6 Cable Guide Rail types with combined totals transferred to the tender document.

- The guide rail and/or delineator posts are depicted on the contract drawing with the Ontario Provincial Standard Drawing number shown adjacent to the symbol.
Anchor blocks in rock must be identified on the quantity sheet either by placing them in a separate column or by footnote.

Delineator posts are entered as separate line entries on to the "Quantities - Miscellaneous 2" sheet showing station and offset Lt or Rt. The total is transferred to the Tender documents.

When cable guide rail and anchor blocks are to be installed in rock cut areas and there is no rock grading work in the installation areas, then a note must be included in the 'Location and Position' column of the Quantity sheets, denoting guide rail installation in rock. This note however is not necessary with guide rail installations in rock fills.

552-1.3.1 Documentation Accuracy

Station and quantity entries are recorded to the nearest whole metre.

Offsets when required are recorded to 0.1 of a metre.

Spot checking required.