

500 STRUCTURES

ITEM 517 RAILINGS

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517.01 Description. This work consists of furnishing, constructing, and erecting the type of railing specified. This work also consists of providing and galvanizing structural posts, anchors, and connections .

517.02 Construction Methods, General. Construct railings shown on the plans. Install railing posts, panels and openings vertical except that posts for low metal railings on concrete parapets shall be normal to grade line. Install tops of railings parallel to grade line.

Remove or release shoring or falsework supporting the superstructure before placing railing that has no expansion joints at posts or that is on the concrete parapet.

517.03 Materials. Railing materials shall conform to the following:

Concrete, Class S.....	499, 511
Reinforcing steel.....	509, 709
Structural steel.....	513
Ductile Iron casting.....	711.13
Aluminum.....	711.20
Stainless steel fasteners	730.10
Metal deep beam rail.....	710.06
Timber	711.26
Paint	708
Pipe	707.08
Steel tubing.....	707.10
Preformed fillers (sponge rubber or PVC)	705.03, 711.28

Submit mill test reports for structural steel, wrought iron and aluminum according to Section 501.07.

517.04 Steel and Iron Railings. Unless specified to paint according to Item 514, galvanize all parts of steel and iron railings.

Erect metal deep beam rail elements according to Item 606.

517.05 Aluminum Railings. Use alloy conforming to 711.20 for aluminum railings.

Give the extreme outside surfaces of cast railing posts a 40 grit finish. The Contractor is not required to provide a special finish for other portions of railings. Do not scratch, dent or cause other damage that may affect the durability or appearance of the railing.

Use galvanized steel anchor bolts and hexagon nuts conforming to 711.02. Coat the entire projecting portion of anchor bolts and fill the space between the bolts and post base with an aluminum-impregnated caulking compound.

Where aluminum contacts concrete or stone masonry, thoroughly coat the contact surfaces with an aluminum-impregnated caulking compound or with a heavy bituminous paint pigmented with aluminum powder or paste, thereby providing an aluminum appearance. Where aluminum contacts different metal, thoroughly coat the contact surface with an aluminum-impregnated caulking compound, or place a synthetic rubber impregnated fabric gasket between the metals.

Weld only where shown on the plans using the inert gas shielded metal-arc or tungsten-arc method without flux, or by other approved methods.

517.06 Method of Measurement. The City will measure Railing by the number of linear feet (meters) of railing including end posts. If deep beam guardrail is used, the City will measure the length of railing between the first posts off the bridge excluding the first posts off the bridge. If handrails or tubular backup rails are used, the City will not measure any portions extending beyond the posts off the bridge.

517.07 Basis of Payment. The City will pay for accepted quantities at the contract price as follows:

Item	Unit	Description
517	Linear Foot (Meter)	Railing (_____)

The cost of hand rails or tubular backup rails extending beyond the first posts off the bridge are included for payment in the unit price bid for the measured length.