

## **ITEM 10615.04 M - CAST IRON TREE GRATE AND SPECIAL FRAMES**

### **DESCRIPTION.**

Under this item the Contractor shall furnish and install cast iron tree grates and frames in accordance with the details and at locations as shown on the plans or where directed by the Engineer.

### **MATERIALS.**

Cast iron tree grates and frames shall conform to the requirements specified for 715-05 Iron Castings and ASTM A48-76 class 35 or better. The grate shall meet Americans with Disabilities Act (ADA) accessibility guidelines for Buildings and Facilities for maximum opening size. All castings shall be manufactured true to pattern; component parts shall fit together in a satisfactory manner. They shall be of uniform quality; free from blowholes, pouring faults, porosity, hard spots, shrinkage, distortion, or other defects. They shall be smooth and well cleaned by shot blasting.

Cast iron tree grates shall be the size, shape and thickness as specified and/or as shown on the plans. Grates shall be manufactured by: Urban Accessories, PO Box 310, 20004 144<sup>th</sup> Avenue NE, Woodinville, Washington, 98072, (425) 487-0488, or approved equal. Cast iron tree grates shall incorporate an expandable tree opening with a minimum size opening as shown on the plans. They shall be furnished with steel angle frames designed for use with the grate. Frames shall be designed to attach to the adjoining sidewalk, curbing or concrete footings. Shop drawings of the frame(s) shall be submitted to and approved by the Engineer prior to fabrication.

Concrete footings as indicated on the plans to support tree grate frames shall meet the requirements of 608-2.01, Portland Cement Concrete Sidewalks and Driveways.

### **CONSTRUCTION DETAILS.**

The Contractor shall install the grates to the lines, grades and dimensions as shown on the plans or as directed by the Engineer. The grate frame shall be anchored into the adjacent sidewalk, curbing or footing as indicated on the plans or as approved by the Engineer. The frame sections shall be bolted together and cast into the concrete or bolted with expansive shields to curbing or existing sidewalk. Concrete footings shall be provided as detailed to provide a solid anchor point in locations where concrete sidewalk does not completely surround the tree pit. The frame must be level and the seat for the grate must be in a true, flat plane.

In locations where tree pits will be installed in existing concrete sidewalks that will remain, tree pits shall be neatly saw cut in to accommodate the tree grate and frame. The concrete and any subbase shall be removed taking care not to damage any existing tree or roots. Frames for tree grates in existing concrete sidewalk shall utilize an alternate method of attaching the frame to the surrounding pavement as indicated on the plans or as approved by the Engineer. Any space

## **ITEM 10615.04 M - CAST IRON TREE GRATE AND SPECIAL FRAMES**

greater than 6 mm between the existing sidewalk and frame shall be filled with grout. Any sidewalk flags cracked or damaged by the contractor shall be replaced as directed by the Engineer at no extra cost to the State. In the event a tree grate cannot be adjusted to accommodate an existing tree, the Engineer will contact the Regional Landscape Architect for an alternative method of covering the surface of the tree pit.

The seat for the grate shall be cleaned prior to setting. The frame and grate shall be set flush with the sidewalk. Grate sections shall be bolted together.

The space between the finished soil line and the bottom of the tree grate shall be filled with 9 mm gravel.

Grate openings shall be modified as required to accommodate existing trees at no extra cost to the State.

### **METHOD OF MEASUREMENT.**

The quantity to be paid for will be measured as the number of tree grates with frames furnished and installed in accordance with the plans and specifications or as directed by the Engineer.

### **BASIS OF PAYMENT.**

The unit bid price shall include the cost of furnishing all labor, materials, and equipment necessary to complete the work including saw cutting, concrete removal, concrete footings, grout, bolts and anchors, 9 mm gravel.