

**INLETS, MANHOLES, AND JUNCTION BOXES – RETRACTABLE CURB INLET SCREENS AND DRAINAGE STRUCTURE OUTLET PIPE CONNECTION SCREENS.  
(REV 3-11-13)**

ARTICLE 425-3 is deleted and the following substituted:

**425-3 Materials.**

**425-3.1 General:** Meet the following requirements:

Sand (for mortar).....	902-3.2
Portland Cement.....	Section 921
Water.....	Section 923
Reinforcing Steel .....	931-1.1 and 415-3
Brick and Concrete Masonry Units.....	Section 949
Castings for Frames and Gratings.....	Section 962
Stainless Steel .....	ASTM A-176
Hot Dip Galvanized Steel .....	ASTM A-123
Aluminum .....	Section 965

**425-3.2 Gratings, Covers, and Frames:** Use gratings and frames fabricated from structural steel or cast iron as designated in the appropriate Design Standard. When “Alt. G” grates are specified in the plans, provide structural steel grates that are galvanized in accordance with the requirements of ASTM A-123.

Use rigid frames and covers either 24 inches or 36 inches or optional three-piece adjustable frames and covers as indicated in Design Standards Index No. 201.

For three-piece adjustable frames, the inner frame may include replaceable resilient seats to support the cover. In addition, the inner frame shall indicate it is adjustable, by clearly having the word “adjustable” imprinted into the exposed portion of the inner frame so “adjustable” is visible from the roadway after installation.

**425-3.3 Retractable Curb Inlet Screens:** Fabricate all components from stainless steel or hot dip galvanized steel. Do not use hot dip galvanized steel components within 500 feet of a coast. Ensure retractable curb inlet screens capture particle sizes at a minimum diameter of 3/4 inches. Ensure that the retractable curb inlet screen does not cover more than 50% of the curb inlet opening. Remove all sharp edges from screen edges. Ensure that the retractable curb inlet screen does not restrict the hydraulic capacity of the inlet by more than 15% while in the open position. Ensure that the screen is recessed from the curb face at least one inch.

Provide a manufacturer’s certification specifying a minimum service life of 15 years. Provide a manufacturer’s warranty of a minimum of five years, transferable to the Department, on all retractable curb inlet screen systems. If an outlet pipe is present, use drainage structure outlet pipe connection screens in conjunction with retractable curb inlet screens, unless the drainage structure does not have at least one manned access point for the drainage system’s maintenance.

**425-3.4 Drainage Structure Outlet Pipe Connection Screens:** Ensure that the drainage structure, in which the outlet pipe connection screen is installed, provides at least one manned access point for the drainage system’s maintenance. Ensure the drainage structure outlet pipe connection screen has a bypass in case of overflow. Fabricate all components from stainless steel, aluminum, or hot dip galvanized steel. Do not use hot dip galvanized steel components within 500 feet of a coast. Provide a manufacture’s certification specifying a minimum service

life of 25 years. Provide a manufacturer's warranty of a minimum of five years, transferable to the Department, on all drainage structure outlet pipe connections screens. Drainage structure outlet pipe connection screens may be used independently from retractable curb inlet screens.

ARTICLE 425-6 (Pages 431 - 432) is expanded by the following new Subarticle:

**425-6.8 Retractable Curb Inlet Screen and Drainage Structure Outlet Pipe Connection Screen Installation:** Install retractable curb inlet screens and drainage structure outlet pipe connection screens according to the manufacturer's instructions and at the plan dimensions. Adjust retractable curb inlet screens to automatically retract at a water depth of three inches unless otherwise specified in the plans. Adjust retractable curb inlet screens to automatically close once the water depth subsides to less than one inch.

ARTICLE 425-7 (Page 432) is deleted and the following substituted:

**425-7 Method of Measurement.**

The quantities to be paid for will be (1) the number of inlets, manholes, junction boxes, and yard drains, completed and accepted; (2) the number of structures of these types (including also valve boxes) satisfactorily adjusted, (3) the number of retractable curb inlet screens less than or equal to 5 feet wide and the number greater than 5 feet wide, completed and accepted, and (4) the number of drainage structure outlet pipe connection screens corresponding to each pipe size completed and accepted.

ARTICLE 425-8 (Page 432) is deleted and the following substituted:

**425-8 Basis of Payment.**

**425-8.1 New Structures:** Price and payment will be full compensation for furnishing all materials and completing all work described herein or shown in the plans, including all clearing and grubbing outside the limits of clearing and grubbing as shown in the plans, all excavation except the volume included in the measurement designated to be paid for under the items for the grading work on the project, all backfilling around the structures, the disposal of surplus material, and the furnishing and placing of all gratings, frames, covers, and any other necessary fittings.

**425-8.2 Adjusted Structures:** When an item of payment for adjusting manholes, valve boxes, or inlets is provided in the proposal, price and payment will be full compensation for the number of such structures designated to be paid for under such separate items, and which are satisfactorily adjusted, at the Contract unit prices each for Adjusting Inlets, Adjusting Manholes, and Adjusting Valve Boxes.

For any of such types of these structures required to be adjusted but for which no separate item of payment is shown in the proposal for the specific type, payment will be made under the item of Adjusting Miscellaneous Structures.

**425-8.3 Retractable Curb Inlet Screens and Drainage Structure Outlet Pipe Connection Screens:** Price and payment will be full compensation for furnishing all materials

and completing all work described herein and shown in the plans, including removal of any existing drainage structure materials, installation of new systems, and disposal of surplus material.

**425-8.4 Payment Items:** Payment will be made under:

- Item No. 425- 1- Inlets - each.
- Item No. 425- 2- Manholes - each.
- Item No. 425- 3- Junction Boxes - each.
- Item No. 425- 4- Adjusting Inlets - each.
- Item No. 425- 5- Adjusting Manholes - each.
- Item No. 425- 6- Adjusting Valve Boxes - each.
- Item No. 425- 8- Adjusting Miscellaneous Structures - each.
- Item No. 425- 10- Yard Drains - each.
- Item No. 425- 11- Modify Existing Drainage Structure – each.
- Item No. 425- 12- Retractable Curb Inlet Screens - each.
- Item No. 425- 13- Drainage Structure Outlet Pipe Connection Screens – each.

Do Not Use Without  
CO Specs Authorization