

San Antonio Water System Standard Specifications for Construction

**ITEM NO. 851
ADJUSTING EXISTING MANHOLES**

851.1 **DESCRIPTION:** This item shall consist of the adjustment of all existing manholes, to include the replacing of existing manhole covers and rings regardless of type shown on the plans and in conformity with the provisions of these specifications. All manholes shall be watertight and coated with a SAWS approved sewer structural coating. An approved list of sewer structural coating manufactures maybe found on the SAWS website.

851.2 **CONSTRUCTION:** Manholes shall be lowered below street subgrade before placing base materials, and openings shall be protected by hatch covers.

Existing manhole rings and covers which are determined by the SAWS Inspector to be in an unacceptable condition, will be removed and replaced with new rings and covers. If cone section is removed the contractor is to upgrade to a 30” opening as required by 30 TAC 217. Contractor shall take all necessary measures to prevent damage to existing or new rings, cover, or cone from equipment and materials used in or taken through the work area. If an existing or new manhole cover, ring, or cone is damaged by the Contractor, it shall be replaced (as directed by SAWS inspector) by the Contractor at his expense. If concrete throat rings are to be installed they must be used in conjunction with a UV stabilized polyethylene liner and I/I barrier. I/I barrier must meet the following ASTM standards: ASTM D-790/1505 Density of Polyethylene Materials, ASTM D1238 Melt Flow index, ASTM 638 Tensile Strength @ Yield (50mm/mm), ASTM 790 Flexural Modulus, ASTM 648 Heat Deflection temperature @ IGEPAL, ASTM 1693 EsCR, 100% IGEPAL/10% IGEPAL.

Manholes shall be adjusted after street the base material has been laid and before placing of the surface course. Manholes that are going to be adjusted on an existing surface course not being replaced will be in accordance to the City of San Antonio Utility Excavation Criteria Manual Standard Drawing No. 8.8. All manholes shall then be raised, or lowered a sufficient height so as to be level with the finished surface course. Adjustment in height will be made by addition or removal of “throat rings” above the manhole “cone” where feasible. A minimum of two and a maximum of six throat rings may be used at each adjusted manhole.

Note: All new manhole installation shall not exceed four throat rings.

All manholes shall be watertight and the interior walls coated with a SAWS approved sewer structural coating. *Note: Check SAWS website for updates on approved materials.*

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For adjusted manholes, apply a combination of both products with the cementitious coating first, followed by the epoxy coating. Lafarge SewperCoat 2000 HR regular, with the required one inch thick application, is the only product yet approved which satisfies the requirement of applying the combination of both the cementitious coating and epoxy coating. Approved materials are as follows:

Cementitious coating: With required one inch thick application.

- Permacast CR-5000
- Strong - Seal MS-2C
- Standard Cement Material Inc. Reliner
- Quadex Aluminaliner

Epoxy coating: With specified thickness application.

- Raven 405 Series High Build Epoxy Liner: Required thickness 125 mils
- Spray Wall polyurethane System: Required thickness 150 mils

Material excavation from around the manholes shall be replaced with flowable concrete in accordance with Standard Drawings, and select materials from the excavation (as shown on the plans or specified by the SAWS). All excess materials shall be disposed of by the Contractor at his own expense and in an approved location.

851.3 **MEASUREMENT:** Manholes completely adjusted, as prescribed above, will be measured by the unit of each manhole adjusted. The excavation and the amount of concrete or reinforced concrete as necessary to fill the area excavated will not be measured for payment.

851.4 **PAYMENT:** The work performed as prescribed by this item will be paid for at the contract unit price bid per manhole for “Adjusting Existing Manholes” which price shall be full compensation for all excavation, including saw cutting of surfaces as required, reinforced concrete and disposal of material excavated; for furnishing and placing all materials and for all labor, tools, equipment and incidentals necessary to complete the work. Note: No separate payment for structural coating.