



**SECTION A-A**

**COVER:**

Manhole frame and cover shall have a 24" clear opening and a sealed blind pick hole and no side pick hole. (Phoenix Iron works P-1090 or approved equal). Frame and cover shall be a 10.5% machined matched fit. The cover shall be lettered "SANITARY SEWER". The inside of the frame shall be grouted with non-shrink grout.

**ADJUSTMENT TO GRADE:**

Adjust to grade per Engineering Standard 6040.

**COLLAR:**

Collar shall be constructed per Engineering Standard 6040.

**CONE:**

Cone shall be concentric and conform to the requirements for risers. Eccentric cone may be used only in special cases with the prior written approval of the Utilities Department.

**MANHOLE RISERS:**

Manhole risers shall be precast concrete conforming to ASTM C-478 and shall have a 6" minimum wall thickness with minimal reinforcements. Manholes shall be 4' in diameter unless the size and/or number of inlet(s) and outlet(s) warrants the use of a 5' diameter manhole.

**JOINTS:**

Joints shall be set with butyl rubber sealant (RUB-R-NEK). Inside of joints shall be grouted with non-shrink grout. Manhole shall be sealed with an external rubber sleeve (9" Infi-Shield Gator Wrap or approved equal). The application shall form a continuous seal that applies inward pressure on the protected joint for the life of the application.

**BASE:**

Manhole base shall be precast reinforced Class 3 concrete with extended base and conform to the requirements for manhole risers. All pipe connections' size, angle, depth and quantity shall be field verified and measured prior to ordering precast base. All pipe connections shall be cored to fit flexible connectors (KOR-N-SEAL or equal) either by manufacturer or contractor using approved equipment. Gaps and holes between manhole base and pipe connections shall be filled with non-shrink grout. The precast base shall be bedded on a minimum of 6" of well graded crushed rock over native material that is either undisturbed or compacted to 95%. (See Standard Specification Section 26-1.02F for crush rock requirements).

**INVERT:**

Invert shall be completed in a single pour using Class 3 concrete with steel trowel finish. Any change in direction shall be a fixed radius curve extending from the inlet wall to the outlet wall. Inside surface of invert and area between pipe connection and channel shall be free from gaps, holes and sharp edges. All inlets shall be designed and installed such that the top of pipe elevations match as much as possible.

**TESTING:**

See Standard Specifications Section 77-3.03G for Vacuum Test Requirements.

SCALE: N.T.S.

STANDARD CURRENT AS OF: 01/21/2020

APPROVED BY: XX

NOTES:



CAL POLY

**SEWER & STORM  
MANHOLE**

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