

SECTION 33 44 13.13
CATCH BASINS

PART 1 GENERAL

1.01 REFERENCES

A. The following is a list of standards that may be referenced in this section:

1. American Welding Society (AWS): Code for Welding in Building Construction.
2. ASTM International (ASTM):
 - a. A36/A36M, Standard Specification for Carbon Structural Steel.
 - b. A48/A48M, Standard Specification for Gray Iron Castings.
 - c. A615/A615M, Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.
 - d. C94/C94M, Standard Specification for Ready-Mixed Concrete.
 - e. C387/C387M, Standard Specification for Packaged, Dry, Combined Materials for Mortar and Concrete.
 - f. C478, Standard Specification for Circular Precast Reinforced Concrete Manhole Sections.

PART 2 PRODUCTS

2.01 CONCRETE

A. Physical Characteristics:

1. Type: Ready-mixed, conforming to ASTM C94/C94M, Alternate 2.
2. Maximum Size of Aggregate: 1-1/2 inch.

B. Functional Characteristics:

1. Compressive Field Strength: Not less than 2,500 psi at 28 days.

C. Performance Characteristics:

1. Slump: Between 2 inches and 4 inches.
2. Assumed Field Strength: 85 percent of strength of laboratory-cured cylinders.

2.02 FORMS

A. Physical Characteristics:

1. Exposed Surfaces: Plywood.
2. Other Surfaces: Steel, matched boards, plywood, or other acceptable material.
 - a. Trench walls, large rock, and earth are not acceptable form material.

B. Functional Characteristics:

1. Form vertical surfaces.
2. Provide fillets on re-entrant angles.

C. Performance Characteristics: None.

2.03 REINFORCING STEEL

A. Physical Characteristics: None.

B. Functional Characteristics: Conform to ASTM A615/A615M, Grade 60, deformed bars.

C. Performance Characteristics: None.

2.04 PRECAST UNITS

A. At the option of Contractor, approved precast units may be substituted for cast-in-place units.

1. Physical Characteristics: None
2. Functional Characteristics: Conform to ASTM C478 except dimensions shall be as shown.
3. Performance Characteristics:
 - a. Concrete Risers for Extensions: 6 inches high maximum and of same quality as sections.
 - 1) Confirm acceptability of risers with Contracting Officer before installation.

2.05 MORTAR

- A. Physical Characteristics: None.
- B. Functional Characteristics:
 - 1. Standard premixed mortar conforming to ASTM C387/C387M, Type S, or proportion one part portland cement to two parts clean, well-graded sand which will pass a 1/8-inch screen.
 - 2. Admixtures may be used if not exceeding the following percentages of weight of cement:
 - a. Hydrated Lime: 10 percent.
 - b. Diatomaceous Earth or Other Inert Materials: 5 percent.
- C. Performance Characteristics:
 - 1. Consistency of Mortar: As required to readily adhere to concrete.

2.06 FRAMES AND GRATES

- A. Physical Characteristic:
 - 1. Connections: Welded in accordance with requirements of current Code For Welding in Building Construction of the American Welding Society.
 - 2. Clean and hot-dip galvanized after fabrication.
- B. Functional Characteristics:
 - 1. Frames and Grates for Catch Basins and Storm Drain Inlets: Steel conforming to ASTM A36/A36M.
- C. Performance Characteristics: None.

2.07 FRAMES AND GRATINGS

- A. Physical Characteristics:
 - 1. Bearing Surfaces: Clean and provide uniform contact.
 - 2. Castings: Tough, close-grained gray iron, sound, smooth, clean, free from blisters, blowholes, shrinkage, cold shuts, and defects.
- B. Functional Characteristics: Frames and Grates for Catch Basins and Storm Drain Inlets: Cast iron conforming to ASTM A48/A48, Class 30.
- C. Performance Characteristics: None.

PART 3 EXECUTION

3.01 EXCAVATION AND BACKFILL

- A. Excavate as required to accomplish construction. Backfill as specified for adjoining pipe trench.

3.02 CONSTRUCTION OF CATCH BASINS AND INLETS

- A. Construct inlets and catch basins at locations shown and in accordance with the Drawings. Construct tight and well-braced forms to dimensions and elevations required. Chamfer form corners.
- B. Prior to placing concrete, remove water and debris from forms. Moisten forms just prior to placing concrete. Handle concrete from transporting vehicle to forms in a continuous manner as rapidly as practical without segregation or loss of ingredients. Immediately after placing, compact concrete with mechanical vibrator. Limit duration of vibration to time necessary to produce satisfactory consolidation without causing segregation.
- C. Screed top surface of exposed slabs and walls. When initial water has been absorbed, float surfaces with wood float and lightly trowel with steel trowel to smooth finish free from marks or irregularities. Finish exposed edges with steel edging tool. Remove forms and patch defects in concrete with mortar mixed in same proportions as original concrete mix.
- D. Use a membrane-forming curing compound to prevent loss of moisture for 7 days. Apply curing compound immediately after removal of forms or finishing of slabs. Protect concrete from damage during curing period.

3.03 PLACING PRECAST UNITS

- A. If material in bottom of trench is unsuitable for supporting unit, excavate and backfill to required grade with 3-inch minus, clean, pit-run material. Set units to grade at locations shown.

3.04 EXTENSIONS

- A. Install watertight extensions to height determined by Contracting Officer. Lay risers in mortar with sides plumb and tops to grade. Seal joints with mortar, with interior and exterior troweled smooth. Prevent mortar from drying out and cure by applying a curing compound.

3.05 INSTALLATION OF FRAMES AND GRATES

- A. Set frames and grates at elevations indicated or as determined in field and in conformance with the Drawings.
- B. Frames may be cast in, or set in mortar.

3.06 CLEANING

- A. Upon completion, clean structure of silt, debris, and foreign matter.

END OF SECTION

