

SECTION 33 44 13
DRAIN INLETS, CATCH BASINS AND DRAIN PIPES

PART 1 GENERAL

1.01 REFERENCE STANDARDS

- A. ASTM A74 - Standard Specification for Cast Iron Soil Pipe and Fittings; 2021.

1.02 SECTION INCLUDES

- A. Under-Slab Requirements for Drainage Systems and Catch Basins.

1.03 RELATED REQUIREMENTS

- A. Section 31 22 00 – Earth Moving (Excavation, Filling and Grading)
- B. Section 31 23 16.13 - Trenching: Excavating and backfilling for site subdrainage systems

1.04 SUBMITTALS

- A. See Section 01 33 00 – Submittal Procedures, for submittal procedures.
- B. Product Data: Provide manufacturer's specifications and descriptive literature, installation instructions, and maintenance information.
- C. Shop Drawings: Indicate plans for each unit or groups of units, elevations with model number, overall dimensions; construction, and anchorage details.
- D. Samples: Submit two sets of manufacturer's available colors for metal furnishings.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Drain inlets, catch basins, and drain pipes shall be constructed/provided as shown on the Drawings and in accordance with these Specifications.
- B. Concrete shall be in accordance with the Concrete Section of these Specifications.
- C. Frames and covers shall be of cast iron. The frames shall be set firmly on the masonry or concrete in a full bed of stiff mortar at the required elevation. The rungs shall be of galvanized wrought iron.
- D. Pipes shall be of Cast Iron and of size shown on the Drawings.
- E. Cast Iron Pipe shall be in accordance ASTM A74, most current version. Pipe lengths shall not exceed twenty (20) feet. Joints for Cast Iron Pipe shall be "Push-on-Joints".
- F. Sand used for backfill under pipes and structures shall comply with ASTM designation C-33, most current version.
- G. All plumbing for this work shall be performed under the supervision of a Licensed Plumber and meet all applicable, current NYC Plumbing Codes, most current version.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Trench and pit excavation must be of sufficient width for proper installation of work. The Contractor shall grade the bottoms of trenches evenly and provide recesses as necessary for joint making and to insure uniform bearing for the full length of barrel for all pipes. Under no circumstances shall he lay pipe or install appurtenances in water. The presence of ground water in soil or the necessity for sheeting, bracing or subgrade stabilization shall not constitute a condition for which any increase may be made in contract price.
- B. Drain lines shall be installed in straight lines and on uniform rates of grade between points where changes in alignment or grade are shown. Interior of pipe shall be cleaned of foreign matter before lowering into trench. Joints for Cast Iron Pipe shall be push-on-joints. Necessary precautions shall be taken to prevent sagging, cracking and to assure tight joints.

- C. Cast Iron Pipe connections shall be laid on a six (6) inch thick compacted layer of sand. The subgrade must be prepared to the proper grade so that the Cast Iron Pipe may be placed on the sand base accurately to line and grade in agreement with the plans. Sand shall also be placed around the pipe to a depth of one-half (1/2) the outer diameter of the pipe and for the full width of the trench.
- D. The Plumber shall connect pipe to existing yard drain inlet or catch basin at an invert elevation to ensure proper flow or at the invert elevation shown on Drawings.
- E. After the installed piping has been tested and inspected, the Contractor shall backfill the excavation in twelve (12) inch layers of approved material, tamped or puddled compactly in place, so as to secure a stable surface. Under locations for pavements and other surfacing, backfill material shall be compacted thoroughly in layers not exceeding six (6) inches. Care must be taken in backfilling not to disturb the pipe. Rock shall not be used for backfill for a depth of two (2) feet over the top of pipe, nor closer than 18 inches below finished grade.
- F. The Contractor shall adjust frames and covers of existing drain grates and other flush surface structures (to remain) in the construction area to the new finished grades. Walls of these structures shall be cut or extended as required. Extensions shall be of brick and mortar, the same thickness as the existing wall. Inside and outside of extension shall be parged with 1:3 cement mortar 1/2" thick. Frames of all adjusted structures shall be set on a full bed of mortar. The Contractor shall properly align the frames and covers. They shall provide all safety and protective barricades around open structures.
- G. The Contractor shall repair in kind all walkways, paved areas, fencing, curbs or lawn areas disturbed during excavation for drain inlets, catch basins and drain pipes.
- H. Drainage structures and drainage pipes shall be cleaned, with all debris and material removed from the drainage system as indicated on the drawings. If the contractor encounters an obstruction, a CCTV camera shall be inserted into the drain-pipe to determine the nature of the blockage. The obstruction must be completely removed.
- I. If a broken or dislocated pipe is the issue, the pipe must be exposed, cut and removed and a new portion of the pipe of the same material and size installed, attached to both ends to the existing pipe in a professional and workmanlike manner. All existing materials affected by these operations shall be completely restored by the contractor. The cost for this shall be negotiated between the contractor and NYCHA.

END OF SECTION 33 44 13