SECTION 02625 - CORRUGATED METAL PIPE

City of San Diego, CWP Guidelines

PART 1 -- GENERAL

1.1 WORK OF THIS SECTION

A. The WORK of this Section includes providing corrugated metal pipe and appurtenant work, complete in place.

B. Corrugated metal pipe shall include round pipe, pipe arch, and underdrain pipe, both corrugated steel and corrugated aluminum, coated and uncoated, with or without a paved invert, and including fittings, couplings, and related accessories.

1.2 RELATED SECTIONS

A. The WORK of the following Section applies to the WORK of this Section. Other Sections of the Specifications, not referenced below, shall also apply to the extent required for proper performance of this WORK.

1. Section 02140 Dewatering
2. Section 02200 Earthwork

1.3 STANDARD SPECIFICATIONS

A. Except as otherwise indicated in this Section of the Specifications, the CONTRACTOR shall comply with the Standard Specifications for Public Works Construction (SSPWC), as specified in Section 01090 - REFERENCE STANDARDS.

1.4 SHOP DRAWINGS AND SAMPLES

A. The following shall be submitted in compliance with Section 01300:

1. Shop drawings and product information data for all materials to be furnished under this Section.

1.5 OWNER'S MANUAL

A. The following shall be included in the OWNER'S MANUAL in compliance with Section 01300:

1. Manufacturer's or fabricator's Certificates of Compliance stating that samples representing each lot have been tested and inspected in accordance with the Contract Documents and have been found to meet the requirements for the material described.

[1.6 FIELD TESTING

A. Pipe shall be field tested for leakage, as indicated, after it has been installed.]

PART 2 -- PRODUCTS

2.1 CORRUGATED STEEL PIPE, PIPE ARCH, AND UNDERDRAIN

A. Corrugated steel pipe, pipe arch, and underdrain and coupling bands and fittings for each type, shall conform to the requirements of SSPWC Subsection 207-11 and shall be fabricated from either zinc-coated steel sheet or aluminum-coated steel sheet, as indicated.

B. Zinc-coated steel sheet shall be further coated by pressing inert mineral fibers into the molten zinc on both surfaces of the sheet and then coating the sheet with a bituminous saturant.

C. Fabricated pipe and pipe arches shall be free from blisters, unsaturated spots, cracks in the bonding, unbonded areas and other defects.

2.2 CORRUGATED ALUMINUM PIPE, PIPE ARCH, AND UNDERDRAIN

A. Corrugated aluminum pipe, pipe arch, underdrain and coupling bands and fittings for each type, shall conform to the requirements of SSPWC Subsection 207-13.

2.3 COATINGS

A. Coatings shall comply with SSPWC Subsections 207-11.5.2 and 207-13.6. Coatings shall be applied to one or both pipe surfaces, as indicated. Any appearance of pinholes, blisters, cracks, or lack of bond shall be cause for rejection.

2.4 LININGS

A. Linings shall comply with SSPWC Subsections 207-11.5.3 and 207-13.6.

2.5 PAVINGS

A. Paving shall comply with SSPWC Subsections 207-11.5 and 207-13.6 except as indicated otherwise.

B. Paving material shall cover at least [25] percent of the periphery of round pipe and [40] percent of the periphery of pipe arches.

2.6 UNDERDRAINS

A. Underdrains shall comply with SSPWC Subsection 207-11.8.

2.7 SCHEDULE OF CORRUGATED METAL PIPE

A. Corrugated metal pipe shall meet the following requirements:

1.	Pipe location and designation:	[ ]
2.	Type of pipe:	[Circular] [Pipe Arch] [Underdrain]
3.	Pipe material:	[Steel] [Aluminum]

4. Coating of steel sheet (prior to fabrication for steel pipe): [Zinc] [Aluminum] [Bituminous]

5. Size: [ ] [As Indicated]

6. Wall thickness: [ ]

7. Corrugation:

   a. Type: [Annular] [Helical]
   b. Dimension: [ ]

8. Type of coating (after fabrication): [Bituminous] [Polymeric] [Asphalt Mastic]

9. Type of lining: [Bituminous] [Concrete]

10. Type of paving: [Bituminous] [Concrete]

11. Extent of paving: [25%] [40%]

PART 3 -- EXECUTION

3.1 INSTALLATION

A. Pipe shall be installed in accordance with manufacturer's recommendations, in compliance with SSPWC Subsections 306-1, 306-1.2.7 and the following.

B. Pipeline trench excavation shall be in accordance with the requirements of Section 02200, including the situation where pipelines are to be installed in embankment or structure fills.

C. Pipe bedding shall be in accordance with the requirements of Section 02200 and shall have a minimum thickness of [8] inches under the pipe.

D. All pipe shall be transported, stored, and handled with care. It shall not be rolled or dragged over gravel or rock, and during placement, shall be prevented from striking rock or other hard objects. Special care shall be taken in handling and placing coated pipe to avoid damaging the coating.

E. Pipe shall be placed with longitudinal seams at the sides and with outside laps of circumferential joints upgrade.

F. Connecting bands shall be placed with clamping angles and bolts at top of the pipe. For watertight joints, the band and gasket material shall be placed in accordance with the manufacturer's recommendations.

G. Pipe trench backfill shall be in accordance with the requirements of Section 02200. Particular care shall be taken to assure that specified compaction is attained under the haunches of the pipe.

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NTS: The following leakage test should only be included if the pipe is bituminous-lined and coated prior to installation and if couplings utilize a sealing compound or gasket to attain a watertight joint as specified in SSPWC Subsection 207-11.2.2. Leakage tests are not usually required for culverts or storm drains.

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[3.2 TESTING FOR LEAKAGE

A. A leakage test shall be performed after the pipe has been laid and backfill has been placed and compacted to a minimum of 2 feet above the pipe.

B. The leakage test shall be performed in accordance with SSPWC Subsection 306-1.4.6 and the allowable leakage shall be calculated from the criterion therein.

C. Any leakage in excess of the allowable leakage shall be stopped in a manner satisfactory to the CONSTRUCTION MANAGER, and the test repeated until the total leakage does not exceed the allowable leakage. All obvious leaks shall be stopped in a manner satisfactory to the CONSTRUCTION MANAGER, whether or not the leakage from the line exceeds that permitted herein.]

** END OF SECTION **