Black text – from standard FAA spec	Blue text – additions to FAA standard spec
~~Strikeout text~~ – deletions from FAA standard spec	Red text – notes to the Engineer/won't appear in spec

I. DESCRIPTION

A. GENERAL

1. This item shall consist of electrical manholes and junction structures (handholes, pullboxes, junction cans, etc.)

II. EQUIPMENT AND MATERIALS

A. GENERAL

1. All equipment and materials shall be subject to acceptance through manufacturer's certification

2. Manufacturer's certifications shall not relieve the Contractor of responsibility

3. All materials and equipment shall be submitted to the Engineer for approval

4. The data submitted shall be sufficient, to determine compliance with the plans

5. All equipment and materials shall be guaranteed against defects for a period of at least twelve (12) months

B. CONCRETE STRUCTURES

1. Cast-in-place concrete structures shall conform to the details and dimensions shown on the plans

2. All handholes and electrical vaults shall be provided with a saddle rack on each vertical wall

3. LOADING

a) The Contractor shall provide stamped, engineering calculations showing 100,000 lbs wheel loading

C. JUNCTION CANS

1. Junction Cans shall be L-867 Class 1 or L-868 Class 1

D. MORTAR

1. The mortar shall be composed of one part portland cement and two parts mortar sand

E. CONCRETE

1. All concrete shall conform to Section 54

F. FRAMES AND COVERS

1. The frames shall conform to:

~~a)~~ ~~ASTM A 48~~

~~b)~~ ~~ASTM A 47.~~

c) ASTM A 27.

d) ASTM A-283, Grade D

e) ASTM A 536.

f) ASTM A 897.

Each pull box frame and cover shall be equipped with spring loaded assisted lifting devices

G. LADDERS

1. Ladders, installed in all manholes deeper than 5’-0”

H. REINFORCING STEEL

1. All reinforcing steel shall be deformed bars

I. BEDDING/SPECIAL BACKFILL

1. As shown on the plans

J. FLOWABLE BACKFILL

1. Shall conform to the requirements of Item P-153

K. CABLE TRAYS

1. Shall be of galvanized steel, or plastic

L. PLASTIC CONDUIT

1. Shall comply with Specification Section 71

M. CONDUIT TERMINATORS

1. Shall be bell shaped

N. PULLING-IN IRONS

1. Shall be manufactured with 7/8-inch diameter steel

O. GROUND RODS

1. Ground rods shall be one piece, copper

III. CONSTRUCTION METHODS

A. UNCLASSIFIED EXCAVATION

1. It is the Contractor's responsibility to locate existing utilities

B. CONCRETE STRUCTURES

1. Concrete structures shall be built on prepared foundations

C. PRECAST UNIT INSTALLATIONS

1. Precast units shall be installed plumb and true

D. PLACEMENT AND TREATMENT OF CASTINGS, FRAMES AND FITTINGS

1. All castings, frames and fittings shall be placed in the positions indicated

E. INSTALLATION OF LADDERS

1. Ladders shall be installed such that they may be removed if necessary

F. REMOVAL OF SHEETING AND BRACING

1. All sheeting and bracing shall be withdrawn

G. BACKFILLING

1. After a structure has been completed, the area around it shall be backfilled

H. CONNECTION OF DUCT BANKS

1. Reinforcement rods shall be placed in the structure wall

I. GROUNDING

1. A ground rod shall be installed in the floor of all concrete structures

J. CLEANUP AND REPAIR

1. Damaged areas shall be repaired

K. RESTORATION

1. The Contractor shall dispose of all surplus material

L. INSPECTION

1. Prior to final approval, the electrical structures shall be thoroughly inspected

M. MANHOLE ELEVATION ADJUSTMENTS

1. The Contractor shall adjust the tops of existing manholes in areas designated

2. Duct extension to existing ducts

IV. METHOD OF MEASUREMENT

1. Manhole and pull box structures shall be measured by the completed unit installed, in place

V. BASIS OF PAYMENT

1. Payment will be made at the contract unit price

VI. MATERIAL REQUIREMENTS

1. ANSI/IEEE Std 81

2. AC 150/5345-7

3. AC 150/5345-26

4. FED SPEC J-C-30

5. ASTM B.3

6. ASTM B.8

END OF SECTION 72