

**CITY OF FORT SMITH SUPPLEMENTAL SPECIFICATION  
CONCRETE GENERAL**

**SECTION 401** of the Standard Specifications for Public Works Construction, February 2008 Edition, is hereby amended as follows:

**401.04 CLASSIFICATION**

This sub-section shall be deleted in its entirety and replaced with the following:

Concrete shall be classified as provided for below. The strengths for each classification of concrete shall be the minimum 28 days compressive strength for that class of concrete.

<b>Class of Concrete</b>					
<b>Characteristic</b>	<b>“AAA”</b>	<b>“AA”</b>	<b>“A”</b>	<b>“B”</b>	<b>“P”</b>
Minimum Compressive Strength (psi at 28 days)	4,000	3,500	3,000	2,500	4,000
Minimum Cement Factor (lbs per cubic yard)	611	585	540	495	564
Maximum Water/Cement Ratio (lb/lb)	0.44	0.49	0.49	0.58	0.45
Slump Range (inches)*	1”-4”	1”-4”	1”-4”	1”-4”	Max 2” slipform Max 4.5” handform

\*When using admixtures to increase slump, concrete shall have a slump of 4 inches +/- 1 inch before the admixture is added and a maximum slump of 8 inches at the point of delivery after the admixture is added.

The total air content of the concrete shall be within the following limits based upon measurements made on the concrete immediately after discharge from the mixer in accordance with ASTM C231:

<b>Max. Size of Coarse Aggregate</b>	<b>Air Content</b>
1-1/2”	4.0% to 7.0 %
1”	4.5% to 7.5%
3/4”	4.5% to 7.5%

The following general requirements shall govern unless otherwise shown on the plans or Standard Details, listed specifically otherwise in the individual specification sections, or revised in the Supplemental Specifications or in the Special Conditions:

**Class “AAA”** concrete shall be used in drainage facilities, retaining walls, signal pole foundations, bridge footings, piers, bents, columns, abutments, and superstructures, including girders, beams, floor slabs, and parapet walls.

**Class “AA”** concrete shall be used in sidewalks, curbs and gutters, driveways, pavement aprons and swales, deep patch, Portland cement concrete base, and controller cabinet foundations. Concrete for deep patch shall be high-early strength.

**Class “A”** concrete shall be used in sewer vaults, manholes, and structures and as specified in miscellaneous construction.

**Class “B”** concrete shall be used in sewer and water line blockings and encasement.

**Class “P”** concrete shall be used in Portland cement concrete pavement.

#### **401.07 QUALITY CONTROL AND QUALITY ASSURANCE ACCEPTANCE TESTING**

The table below the first paragraph of Item A. QUALITY CONTROL BY THE CONTRACTOR shall be deleted and replaced with the following:

<b>Property</b>	<b>Test Methods</b>
Coarse and Fine Aggregate	ASTM C 136 (AASHTO T 27) gradation ASTM C 566 (AASHTO T 255) moisture
Air Content	ASTM C 231 (AASHTO T 152)
Slump	ASTM C 143 (AASHTO T 119)
Compressive Strength	ASTM C 39 (AASHTO T 97)

The first sentence of the second paragraph of Item A. QUALITY CONTROL BY THE CONTRACTOR shall be deleted and replaced with the following:

Test specimens for compressive strength determined by cylinders will be obtained according to ASTM C 31 (AASHTO T 23).

The first sentence of the second paragraph of Item B. QUALITY ASSURANCE TESTING AND ACCEPTANCE shall be deleted and replaced with the following:

At least four (4) test cylinders shall be made and tested for Quality Assurance purposes from each lot (100 cubic yards) of concrete or 1,000 linear feet of curb and/or gutter placed, or fraction thereof placed each day, unless otherwise stated in the Specifications or permitted by the Engineer.

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The first sentence of the third paragraph of Item B. **QUALITY ASSURANCE TESTING AND ACCEPTANCE** shall be deleted and replaced with the following:

The average breaking strength of two cylinders from each lot tested at 28 days shall equal or exceed the minimum required 28 day strength specified.