

Procedure No. W-SP-6

J. A. JONES CONSTRUCTION COMPANY

SPECIAL PROCESS PROCEDURE

FOR

BENDING AND STRAIGHTENING OF REINFORCING
BARS PARTIALLY EMBEDDED IN CONCRETE AND
PLACING OF BARS IN HARDENED-CONCRETE

WATERFORD SES UNIT NO.3
CONTRACT NO. W3-NY-4

REV.	DATE	ENGINEERING APPROVED BY	DATE	QUALITY ASSURANCE APPROVED BY	DATE	CONSTRUCTION APPROVED BY	DATE
0	4/26/76	P. Gallinetti	4/27/76	well	4/27/76	Les Ferry	4/27/76
1	5/13/76	al Prince	5/13/76	WSE II	5/13/76	Les Ferry	

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FREEDOM OF INFORMATION
ACT REQUEST

84-455

C/608

SPECIAL PROCESS PROCEDURE

TITLE: BENDING AND STRAIGHTENING OF REINFORCING BARS PARTIALLY
EMBEDDED IN CONCRETE AND PLACING OF BARS IN HARDENED CONCRETEPROCEDURE NO.
W-SP-6REV. NO. 1
& DATE 5/13/76

PROJECT TITLE: WATERFORD SES UNIT NO. 3 CONTRACT NO. W3-NY-4

1.0 PURPOSE

To specify methods to be used by J. A. Jones Construction Company and its' subcontractors to straighten reinforcing steel after concrete has been placed.

2.0 SCOPE

This procedure defines the methods to be used to straighten reinforcing steel after concrete has been placed.

3.0 REFERENCES

3.1 ACI 318-71.

3.2 ACI 318-71 - Commentary.

3.3 1975 Supplement to ACI-318-71 and its Commentary.

4.0 DEFINITIONS

None.

5.0 RESPONSIBILITY

5.1 J. A. Jones is to assure proper preparation of reinforcing steel for bending, proper bending of reinforcing steel, and proper protection of concrete surfaces against damage by heating.

6.0 BENDING AND STRAIGHTENING OF REINFORCING DOWELS

6.1 Reinforcing bars projecting from existing concrete at an angle may be brought to their plumb position, and bars that have been bent may be straightened providing that it is performed in accordance with ACI-318-71 and the requirements below.

6.2 The minimum distance from the center of the bend to an existing concrete surface shall be 6 inches or 5 bar diameters whichever is greater.

6.3 The reinforcing bar shall first be heated to between 1100F and 1200F and maintained at that level until bending is complete. The preheat shall be applied to a length of bar equal to 5 bar diameters each way from the center of the bend except that preheat shall not extend below the surface of the concrete. The temperature of the bar at the concrete interface shall not exceed 500°F. The heated bars shall not be artificially cooled (such as by water or forced air) until after cooling to at least 600°F.

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- 6.4 Temperature - Measuring crayons shall be used to determine the temperature. Heat shall be applied in such a way as to avoid damage to the concrete. Care shall be taken to prevent quenching of heated bar either by application of water or by exposure to sudden down pour of rain.

7.0 MINIMUM BEND DIAMETER

- 7.1 In the case of bending of reinforcing bars, the following minimum diameters of bend shall apply:

Bar Sizes 3-8 - 6 bar diameter
Bar Sizes 9-11 - 8 bar diameter
Bar Sizes 14 & 18 - 10 bar diameter

8.0 ACCEPTABILITY OF BARS

- 8.1 Straightened bars shall be visually inspected to determine whether they are cracked, reduced in cross section, or otherwise damaged. Any damaged portions will be cause for rejection and new bar will be grouted in place.

9.0 PLACING DOWELS IN HARDENED CONCRETE

- 9.1 Dowels that are to be placed in hardened concrete shall be drilled and epoxy grouted in place in accordance with the following conditions.
- 9.2 Holes for various size dowels will be drilled as close as possible to design location and in accordance with the charts below:

CHART "A"

Hole Size

Bar Size	4	5	6	7	8	9	10	11	14	18
Minimum Hole Size	1"	1 1/8"	1 1/4"	1 3/8"	1 1/2"	1 5/8"	1 3/4"	1 7/8"	2 1/4"	2 3/4"

CHART "B"

Embedment Length (inches)

Bar Size	4	5	6	7	8	9	10	11	14	18
4000 PSI Concrete	6	6	8	11	15	19	24	29	40	54

- 9.3 Bars will be requisitioned and/or fabricated according to the reinforcing steel design drawings.

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<p>R-1</p> <p>9.4 The hole will be filled half full with the grouting agent prior to inserting dowel. The dowel will be inserted in hole, being careful to insure that the dowel is completely bottomed out. If necessary, add more epoxy agent to completely fill hole.</p> <p>9.5 Bar will be adequately braced during set time of epoxy agent in order to insure dowel is plumb.</p> <p>10.0 <u>ATTACHMENTS</u></p> <p>None.</p>		