

J. A. JONES CONSTRUCTION COMPANY

SPECIAL PROCESS PROCEDURE

FOR

REPAIR, INSPECTION, DOCUMENTATION, AND VERIFICATION
OF
PLACEMENT 499S03-19

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

EBASCO SERVICES
INCORPORATED

QUALITY
ASSURANCE
ENGINEERING

This Document is:

- Reviewed Without Comments
- Reviewed With Comments as
Noted; Incorporate Comments
and Resubmit; Proceed With
Order.
- Rejected; Revise and Resubmit

NOTE:

Review of this document, with or without comments, is for general conformance with the applicable specifications only and in no way relieves the manufacturer or contractor from full responsibility for delivery of all materials, equipment, services and documentation in strict accordance with the Purchase Order.

By: *[Signature]*
Date: 7-7-77

V.	DATE	ENGINEERING REVIEWED BY	DATE	CONSTRUCTION REVIEWED BY	DATE	QUALITY ASSURANCE APPROVED BY	DATE
1	12-31-76	<i>C. Long</i>	12/31/76	<i>R.B. Mashburn</i>	1-2-77	<i>R.M. Sullivan</i>	1-3-77
1	1/17/77	<i>C. Long</i>	1/17/77	<i>R.B. Mashburn</i>	1-18-77	<i>R.M. Sullivan</i>	1-17-77
2	5-13-77	<i>C. Long</i>	5/13/77	<i>L. Perry</i>	5/13/77	<i>Z.R. White</i>	5/13/77
3	5-23-77	<i>C. Long</i>	5/23/77	<i>B.E. Harris</i>	5/23/77	<i>R.M. Sullivan</i>	5-23-77
4	6-28-77	<i>C. Long</i>	6/21/77	<i>B.E. Harris</i>	7-1-77	<i>Z.R. White</i>	7/1/77

B506220113 850222
PDR FOIA
GARDEB4-455 PDR

FREEDOM OF INFORMATION
ACT REQUEST

84-455
C/630

SPECIAL PROCESS PROCEDURE	PROCEDURE NO. W-SP-16
TITLE: REPAIR, INSPECTION, DOCUMENTATION, AND VERIFICATION	REV. NO. 3 & DATE 5-23-77
PROJECT TITLE: Waterford SES Unit No. 3	
SPECIAL PROCESS PROCEDURE	
1.0	<u>PURPOSE</u>
	The purpose of this procedure is to establish guidelines for the repair, inspection, documentation, and verification of Placement 499S03-19.
2.0	<u>SCOPE</u>
	This procedure shall govern the final repair, inspection, documentation, and verification of Placement 499S03-19 for final acceptance and further construction.
3.0	<u>REFERENCES</u>
	3.1 ACI-503, Guide for Use of Epoxy Compounds with Concrete.
	3.2 Adhesive Engineering Company Technical Bulletins Numbers AE-354/1, AE-408/1, and Specification Number AEMS 309.
	3.3 Nonconformance Report Number JAJ-W3-57 and Ebasco Services, Inc. Nonconformance Report Number W3-93 and Supplement.
	3.4 J. A. Jones Special Process Procedure W-SP-13, Revision 2.
	3.5 J. A. Jones Special Process Procedure W-SP-1, Revision 2.
	3.6 Ebasco Services, Inc. Specification LOU-1564 472, Section 11, Latest Revision, "Concrete Placement, Curing, and Finishing".
	3.7 SIKA Chemical Company Brochure for "Sikadur Epoxy Adhesives".
Rev. 2	3.8 Ebasco Services, Inc. Letter No. F-16304, dated 5-12-77.
Rev. 3	3.9 Ebasco Services, Inc. Letter No. F-16603, dated 5-23-77.
Rev. 4	3.10 Ebasco Services, Inc. Letter No. F-17569, dated 6-28-77.
4.0	<u>DEFINITIONS</u>
	4.1 Engineer: Ebasco Services, Incorporated.
5.0	<u>RESPONSIBILITIES</u>
	5.1 Ebasco Services, Inc. shall be responsible for documentation review and determining if verification is required.
	5.2 J. A. Jones Construction Company shall be responsible for the coring, drilling, purchasing, receiving, and acceptance of grouting materials, grouting operation, quality verification inspection, and documentation for review by the Engineer.

SPECIAL PROCESS PROCEDURE	PROCEDURE NO. W-SP-16
TITLE: REPAIR, INSPECTION, DOCUMENTATION, AND VERIFICATION OF PLACEMENT 492803-19	REV. NO. 3 DATE 5-23-77
PROJECT TITLE: Waterford SES Unit #3	
<p>5.3 J. A. Jones shall have a qualified supervisor present during all grouting operations who shall be in responsible charge of the work.</p> <p>6.0 <u>MATERIAL QUALIFICATION</u></p> <p>The grouting material, Congressive 1380*, shall meet the requirements of Reference 3.4, J. A. Jones Special Process Procedure W-SP-13, Revision 2, Paragraphs 6.6 and 6.7.</p> <p>7.0 <u>REPAIR SEQUENCE</u></p> <p>7.1 The repair work will be performed as follows or as directed by the Engineer.</p> <p>7.1.1 Chip the surface of the placement to the top mat of reinforcing steel in accordance with Section 8 of this procedure.</p> <p>7.1.2 Drill 2" diameter cored grout holes on a 2' x 3' grid in accordance with Section 9 of this procedure.</p> <p>7.1.3 Grout 2" diameter cored holes in accordance with Section 10 of this procedure.</p> <p>7.1.4 Verify and document the repair as directed by the Engineer. Addendum #1 to this procedure shall be written and approved after the grouting operation is completed. Addendum #1 shall contain all verification requirements.</p> <p>7.1.5 Cadweld and repair damaged resteel in accordance with J. A. Jones Special Process Procedure W-SP-1 Reference 3.5, and Section 12 of this procedure.</p> <p>Rev. 2 7.1.6 Repair of abandoned core holes because of obstructions.</p> <p>Rev. 3 7.1.7 Repair of all grounding cables.</p> <p>Rev. 3 7.1.8 Repair or replace all miscellaneous resteel</p> <p>Rev. 2 7.1.9 The chipped area shall be cleaned and inspected then coated with SIKA H-Mod epoxy, Reference 3.7, and a topping of 4000 PSI Class AA concrete applied and finished in accordance with Reference 3.6.</p> <p>8.0 <u>REMOVAL OF SURFACE CONCRETE</u></p> <p>8.1 The surface of the area to be grouted shall be chipped and cleaned to the top mat of reinforcing steel exposing both mats of #11 bars. The area to be chipped and cleaned shall be bounded by the following lines running parallel to existing column lines.</p>	

SPECIAL PROCESS PROCEDURE	PROCEDURE NO. W-SP-16
TITLE: REPAIR, INSPECTION DOCUMENTATION, AND VERIFICATION OF PLACEMENT 499503-19	REV. NO. 3 & DATE 5-23-77
PROJECT TITLE: WATERFORD SES UNIT #3	
<p>8.1.1 South Edge: 6' South of Column Line H.</p> <p>8.1.2 North Edge: 16' North of Column Line H.</p> <p>8.1.3 West Edge: 7'6" West of Column Line 10A Along the Existing Construction Joint.</p> <p>8.1.4 East Edge: 8' East of Column Line 11A.</p> <p>8.2 Care shall be taken not to damage existing embedments and reinforcing steel. Damaged materials shall be repaired or replaced as directed by the Engineer.</p> <p>9.0 <u>CORING OF GROUT HOLES</u></p> <p>9.1 A two (2) foot by three (3) foot grid of grout holes shall be layed out in the exposed area conforming to Attachment A. Locations may vary due to the interferences, i.e. steel, plates, etc.</p> <p>9.2 Two (2) inch diameter cores shall be drilled at all locations. The depth of cores shall be three (3) feet at the south edge increasing in depth by six (6) inches for every two (2) feet increment north of the south edge of the chipped area. See Attachment A.</p> <p>Rev. 2 9.3 If an interference is encountered, drilling shall cease at this location and a new location shall be chosen by the supervisor in charge and concurred with by the Engineer. Repair in accordance with Section 11 of this procedure.</p> <p>9.4 Cores shall be numbered, logged, and stored for future reference.</p> <p>9.5 Core holes shall be cleaned and protected until grouting begins.</p> <p>10.0 <u>GROUTING</u></p> <p>10.1 The Material and Equipment Checklist. Attachment B, shall be completed by Quality Verification personnel before proceeding.</p> <p>10.2 A minimum of four injection machines shall be on hand for the grouting operation.</p> <p>10.3 Complete Part "A" of the Inspection Checklist, Appendix C, for each injection hole before grouting begins.</p>	

SPECIAL PROCESS PROCEDURE	PROCEDURE NO. W-SP-16
TITLE: REPAIR, INSPECTION, DOCUMENTATION, AND VERIFICATION OF PLACEMENT AREA 19	REV. NO. 3 DATE 5-23-77

PROJECT TITLE: Waterford SES Unit #3

10.4 Start grouting along the northern edge of the chipped area. The initial grout hole shall be located approximately four (4) feet west of Column Line 10A. Every other hole in the east-west direction shall be injected until refusal of 180 PSI or grout is observed in the next row of holes lying south. If grout is observed in holes between machines, east-west direction, aggregate shall be added as needed. When aggregate level reaches a point requiring installation of a packer, install packer leaving the vent open until grout is observed flowing out of the vent.

10.5 When refusal is reached, Quality Verification shall complete Part "B" of the Inspection Checklist, Appendix C.

10.6 Grouting shall continue until at least one-fourth ($\frac{1}{4}$) of the area has been grouted. Grouting may cease after one-fourth ($\frac{1}{4}$) of the area has been grouted.

10.7 If grouting was stopped, proceed the following work day as outlined above until all grouting is accomplished.

R-2 11.0 REPAIR OF ABANDONED CORE HOLES BECAUSE OF OBSTRUCTION

R-3 11.1 For core holes 24" and deeper epoxy pressure grouting shall be performed. The grouting material, Concessive 1380, shall meet the requirements of Paragraphs 6.6 and 6.7 of J. A. Jones Procedure W-SP-13 (Rev. 2). Grouting shall commence in the northern holes and proceed southward with grout being injected until refusal of 180 ± 15 psi is attained for five minutes. If grout is observed in any other core holes comply with Paragraph 10.4 of J. A. Jones Procedure W-SP-16 (Rev. 2). Since obstructions were encountered in each of the core holes, to prevent flow of pressured epoxy along the obstruction, place a small amount of aggregate and epoxy over the obstruction and allow it to harden prior to start of pressure grouting.

R-3 11.2 For core holes 24" and less, coat with neat coat of Sika-Dur-Hi Mod Epoxy mix and applied in accordance with manufacturer's recommendations. Back-pour using "Class F Mortar" in layers. Rod or vibrate as required to consolidate.

R-3 11.3 Core Hole No. J-13 shall not be grouted at this time and shall remain open until repairs are directed by the Engineer. When final surface repairs are released for Block 19, a blockout for this core hole shall be installed.

R-2 12.0 VERIFICATION

R-2 12.1 After grouting is completed, the Engineer shall review the operation and determine the verification required. At this time Addendum #1 shall be written and approved for verification of the repair.

R-2 12.2 Section 13 of this procedure shall not be completed until the verification is accepted by the Engineer. After acceptance of the verification the surface shall be repaired.

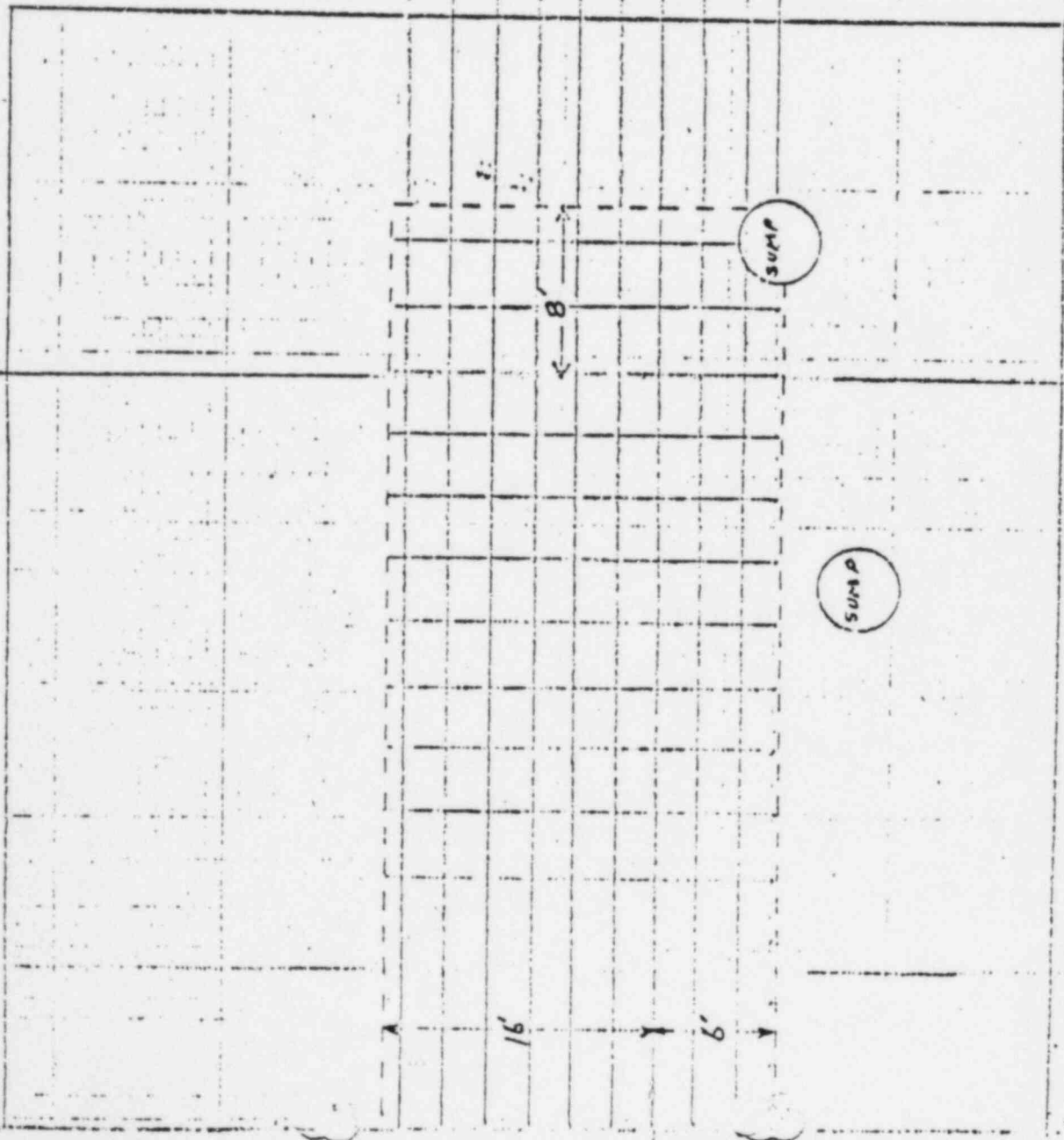
SPECIAL PROCESS PROCEDURE	PROCEDURE NO. W-SP-16
TITLE: REPAIR, INSPECTION, DOCUMENTATION, AND VERIFICATION OF PLACEMENT 499503-19	REV. NO. 3 & DATE 5-23-77
PROJECT TITLE: WATERFORD SES UNIT NO. 3	
13.0 <u>SURFACE REPAIR</u>	
13.1 After verification is completed, the chipped area shall be inspected for damaged materials. Appropriate documentation shall be initiated for the repair of damaged materials.	
13.2 Cadwelding around Columns H10A and H11A shall be completed in accordance with W-SP-1 Reference 3.5.	
13.3 After all damaged materials are repaired, saw cut the edges of the chipped out areas in accordance with Attachment D. The surface of the chipped area shall be cleaned and free from standing water, then coated with a neat coat of SIKA HI-Mod epoxy mixed and applied per manufacturer's requirements. Due to the characteristics of the epoxy, only part may be resurfaced at any one time. J. A. Jones Quality Verification shall verify the acceptance of all materials as to shelf life, mixing, and application.	
R-3	13.4 After the epoxy has been applied, place 4000 PSI Class AA concrete to the required elevation. Finish and cure as required by approved construction drawings and specifications.
-2 14.0 <u>INSPECTION</u>	
14.1 J. A. Jones' Quality Verification personnel shall be responsible for all documentation required by this procedure.	
14.2 J. A. Jones' Quality Verification shall complete the applicable appendixes during the grouting operations.	
14.3 Quality Verification personnel during the grouting operations shall inspect surrounding cores for influence of grout.	
14.4 Any direction received from the Engineer during the completion of the repair shall be documented by Quality Verification personnel, signed, and dated by the directing Engineer.	
-3 15.0 <u>ATTACHMENTS</u>	
15.1 Attachment A: Grout Hole Locations	
15.2 Attachment B: Material and Equipment Checklist	
15.3 Attachment C: Inspection Checklist	
15.4 Attachment D: Sketch of Saw Cut Edges	

EXISTING
C.J.

10A

11A

ATTACHMENT "A"
W-SP-16, REVISION 0



NOTE: 2" ϕ CORES
WILL BE DRILLED
AT INTERSECTION
OF HORIZ. AND
VERT. LINES

LOCATION AND
DEPTH OF GROUT
HOLES FOR REPAIR
OF 499503-19

MATERIAL AND EQUIPMENT CHECKLIST

Materials As Required

ACCEPT

REJECT

Washed and Dried bagged aggregate

Concressive* 1380 epoxy grouting material

1/4" tubing with Certification

plug setting material

1/4" packing gland fittings for 1/4" tube

tubing connectors 1/4" tubing to quick connect

quick disconnects

Waterless hand cleaner

Equipment As Required

Packers with vents and entry port for 2" and 4" diameter

Grouting machines with mixing heads

Flashlights with bulbs and batteries

Vacuum Cleaner

Power outlets connected to one source with equal back up system connected to independent source with tag to "DO NOT DISCONNECT WITHOUT NOTIFYING J. A. JONES SUPERVISOR LOCATED ON PLACEMENT 19"

Air source

0 to 200 PSI minimum pressure gauges with Certification

Portable light stands with lights

Barrier rope with AUTHORIZED PERSONNEL ONLY signs

Tubing cutter

Inspected by:

Time and date:

Grout Hole _____

J. A. JONES CONSTRUCTION COMPANY
WATERFORD RES UNIT #3

INSPECTION CHECKLIST

PART A

	<u>ACCEPT</u>	<u>REJECT</u>
1. Material and Equipment Checklist	_____	_____
2. Area Chipped and Cleaned	_____	_____
3. Hole Clean	_____	_____
4. Grout Tube Installed	_____	_____
5. Grout Hole Filled with Aggregate	_____	_____
6. Packer Installed	_____	_____
7. Fitting Installed	_____	_____

INSPECTOR: _____

SHIFT: _____ DATE: _____

PART B

Estimated Time of Pumping _____

Estimated Quantity of Epoxy Injected _____

Remarks: _____

INSPECTOR: _____

SHIFT: _____ DATE: _____

TOP OF MAT

SAW CUT

2

EXPOSED REINFORCED STL.

