

THIS MEMO IS EXPIRED

April 12, 2000

MEMORANDUM NO. 16-00

**TO: DISTRICT CONSTRUCTION ENGINEERS
DISTRICT MATERIALS ENGINEERS**

FROM: Greg Xanders, State Construction Engineer

COPIES: Tom Malerk, Florida Prestressed Concrete Association

SUBJECT: REVISED SPEC. - MINOR DEFECT REPAIR PROCESS

For some time now, Department prestress engineers and prestress industry representatives have been requesting a change in the procedure for documenting the minor defect repair process. The current procedure is specified in 450-2.6.12.4 Repair Methods and Materials, and requires the submission of a Noncomplying Prestressed Precast Concrete Component Data Sheet for each minor repair. Since these types of repairs are routinely performed, requiring the submission of a detailed data sheet each time a repair is performed generates a great deal of unnecessary paperwork. Therefore, the specification is in the process of being revised to eliminate the submission of the data sheet. However, in order to continue the tracking of minor repairs, the prestress producer will be required to maintain a Minor Defect Log that will be reviewed and concurred with by the appropriate Department representative. The Department will also maintain a concurrent log.

As of the date of this memorandum, the attached revised specification will be used on all projects for which Article 450-2.6.12.4 applies. This memorandum eliminates the need to execute a change order for ongoing projects in order to implement the revision. For each project affected, a copy of this memorandum shall be filed in the project records.

If further discussion of this matter is desired, contact Steven Plotkin at (850) 414-4155 or 994-4155 sc or Imad Mansour at (352) 337-3242 or 642-3242 sc.

GX/pc
Attachment

**PRESTRESSED CONSTRUCTION B NONCOMPLYING PRESTRESSED
MEMBERS.
(REV 3-20-00)**

SUBARTICLES 450-2.6.12 AND 450-2.6.12.4 (OF THE SUPPLEMENTAL SPECIFICATIONS) IS DELETED AND THE FOLLOWING IS SUBSTITUTED:

450-2.6.12 NONCOMPLYING PRESTRESSED MEMBERS:

450-2.6.12.1 GENERAL: WHEN A PRECAST PRESTRESSED CONCRETE MEMBER DOES NOT COMPLY WITH THE REQUIREMENTS OF THIS SECTION OR IS DAMAGED, USE THE FOLLOWING PROVISIONS FOR EVALUATING AND DISPOSING OF DEFICIENCIES. APPLY THESE PROVISIONS IN ALL CASES WHICH CLEARLY FALL UNDER THE CIRCUMSTANCES DESCRIBED. CONSIDER SITUATIONS NOT COVERED BY THESE SPECIFIC CIRCUMSTANCES ON THEIR INDIVIDUAL MERITS. CONSIDER AND APPLY THE FOLLOWING WHERE PRACTICAL.

THE ENGINEER WILL EXAMINE ALL DEFICIENCIES TO DETERMINE THE APPLICABLE PROVISIONS AND REQUIREMENTS OF THIS ARTICLE AND WHICH COURSE OF ACTION IS APPROPRIATE. IF THE ENGINEER DETERMINES THAT A DEFICIENCY IS A MINOR DEFECT TO BE REPAIRABLE REPAIRED IN ACCORDANCE WITH 450-2.6.12.4 WITHIN THE TERMS OF THIS ARTICLE, APPROPRIATE REPAIRS MAY BE EXECUTED IMMEDIATELY. IF THE ENGINEER DETERMINES THAT A DEFICIENCY REQUIRES AN ENGINEERING EVALUATION AND DISPOSITION, ~~THE CONTRACTOR MAY~~ SUBMIT A REPAIR PROPOSAL TO THE DEPARTMENT IN ACCORDANCE WITH 450-2.6.12.5. MAKE ALL REPAIRS WHICH REQUIRE A REPAIR PROPOSAL UNDER THE OBSERVATION OF AND TO THE SATISFACTION OF THE ENGINEER.

THE DISPOSITION OF DEFICIENCIES AND REPAIR METHODS PROVIDED HEREIN SHALL AT NO TIME, AND UNDER NO CIRCUMSTANCES, BE USED AS AN EXCUSE FOR OR APPLIED IN SUCH A MANNER SO AS TO RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY FOR QC IN ACCORDANCE WITH 450-2.2.3. THE NUMBER AND TYPE OF DEFICIENCIES EVALUATED UNDER THIS SPECIFICATION WILL, HOWEVER, BE USED IN EVALUATING THE CONTRACTOR'S QUALITY CONTROL.

IN ADDITION, THE DEPARTMENT WILL REQUIRE A CREDITONANY MEMBER WITH DEFICIENCIES ATTRIBUTABLE TO THE CONTRACTOR WHICH IS EVALUATED IN ACCORDANCE WITH 450-2.6.12.5 AND IS ACCEPTED FOR USE IN THE STRUCTURE.

BEAR THE COSTS OF REPAIRS AND ANY ACTIONS TAKEN TO RECTIFY DEFICIENCIES AT NO EXPENSE TO THE DEPARTMENT.

450-2.6.12.4 REPAIR METHODS AND MATERIALS: FOR MINOR DEFECTS REPAIRED IN ACCORDANCE WITH THE REQUIREMENTS HEREIN, THE ENGINEER WILL NOT REQUIRE A REPAIR PROPOSAL AND REVIEW. ~~PROCEED WITH THE DEFECT REPAIR UPON COMPLETING THE "NONCOMPLYING PRESTRESSED PRECAST CONCRETE COMPONENT DATA SHEET" (FDOT FORM No. 700-030-010) AND RECEIVING SIGNATURE VERIFICATION BY THE ENGINEER INDICATING THE INFORMATION ON THE FORM IS CORRECT.~~ MAINTAIN FOR EACH PROJECT A MINOR DEFECT LOG WHICH SHALL BE AVAILABLE FOR REVIEW BY THE DEPARTMENT UPON REQUEST. THE MINOR DEFECT LOG SHALL CONTAIN THE FOLLOWING FOR EACH MINOR DEFECT: PRODUCT DESCRIPTION, UNIT SERIAL NUMBER, DATE CAST, DEFECT DECIPTION INCLUDING DIMENSIONS, REPAIR METHOD AND MATERIALS, REPAIR DATE, SIGNATURE OF PRODUCER-S QUALITY CONTROL REPRESENTATIVE, AND SIGNATURE OF THE ENGINEER. PROCEED WITH THE DEFECT REPAIR UPON COMPLETING THE REQUIRED MINOR DEFECT LOG INFORMATION AND SIGNATURE VERIFICATION ON THE LOG BY THE ENGINEER INDICATING

CONCURRENCE WITH THE INFORMATION. IF THE CONTRACTOR ELECTS TO PROPOSE AN ALTERNATE REPAIR METHOD, SUBMIT A PROPOSAL IN CONFORMANCE WITH 450-2.6.12.5. PRIOR TO REPAIR, PREPARE THE SURFACE OF THE REPAIR AREA BY REMOVING ALL LAITANCE, LOOSE MATERIAL, FORM OIL, CURING COMPOUND, AND ANY OTHER DELETERIOUS MATTER. COMPLETE ALL REPAIRS, OTHER THAN REPAIRS TO CRACKS AND SURFACE GRINDING, WITHIN THREE WORKING DAYS OF DISCOVERY. THE THREE WORKING DAY PERIOD FOR THE COMPLETION OF REPAIRS MAY BE EXTENDED IF AUTHORIZED BY THE ENGINEER. CURE REPAIRED SURFACES FOR THE FULL 72 HOUR CURING TIME. REPAIRED SURFACES SHALL HAVE A SURFACE TEXTURE, FINISH AND COLOR WHICH MATCHES THE APPEARANCE OF THE UNAFFECTED SURROUNDING AREA OF THE MEMBER.

(1) COSMETIC SURFACE FILLING: REPAIR AREAS TO BE FILLED WITH AN APPROVED HIGH-STRENGTH, NON-METALLIC, NON-SHRINK GROUT MEETING THE REQUIREMENTS OF SECTION 934. MIX, APPLY AND CURE THE GROUT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. COATING OF THE PREPARED SURFACE WITH EPOXY BONDING AGENT PRIOR TO GROUT PLACEMENT, IS NOT REQUIRED.

(2) SURFACE RESTORATION: MAINTAIN THE SURFACE CONTINUOUSLY WET FOR A MINIMUM OF THREE HOURS PRIOR TO APPLICATION OF REPAIR MATERIAL. REPAIR AREAS TO BE RESTORED WITH A MORTAR MIX CONSISTING BY VOLUME OF ONE PART CEMENT, 2.5 PARTS SAND THAT WILL PASS A NO. 16 [1.18 MM] SIEVE, AND SUFFICIENT WATER TO PRODUCE A VISCOUS SLURRY MIX OR REPAIR AREAS TO BE RESTORED WITH AN APPROVED HIGH-STRENGTH, NON-METALLIC, NON-SHRINK GROUT MEETING THE REQUIREMENTS OF SECTION 934. MIX, APPLY AND CURE THE GROUT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. CURE AREAS REPAIRED WITH A MORTAR MIX IN ACCORDANCE WITH 450-2.6.9.6. COATING OF THE PREPARED SURFACE WITH EPOXY BONDING AGENT PRIOR TO GROUT PLACEMENT IS NOT REQUIRED.

(3) CUTTING AND FILLING: CAREFULLY CUT ALL FEATHERED EDGES OF THE AREA TO BE REPAIRED BACK PERPENDICULAR TO (OR SLIGHTLY UNDERCUT FROM) THE SURFACE TO THE DEPTH OF SOUND CONCRETE OR TO A MINIMUM DEPTH OF 2 INCH [50 MM], WHICHEVER IS DEEPER. COAT THE PREPARED SURFACE WITH AN APPROVED EPOXY BONDING AGENT APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. FILL THE CUTOUT AREA WITH AN APPROVED HIGH-STRENGTH, NON-METALLIC, NON-SHRINK GROUT MIXED AND APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. FIRMLY CONSOLIDATE THE GROUT MIX IN THE CUTOUT AREA.

(4) RESTORATION OF SURFACES AND EDGES: WHEN REINFORCING STEEL, PRESTRESSING STRAND, INSERTS OR WELDMENTS ARE EXPOSED, REMOVE CONCRETE FROM AROUND THE ITEMS TO PROVIDE A 1 INCH [25 MM] CLEARANCE ALL AROUND. FORM SURFACES AND EDGES TO THE ORIGINAL DIMENSIONS AND SHAPE OF THE MEMBER. COAT THE PREPARED SURFACE WITH AN APPROVED EPOXY BONDING AGENT APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. RESTORE SURFACES AND EDGES WITH AN APPROVED HIGH-STRENGTH, NON-METALLIC, NON-SHRINK GROUT MIXED AND APPLIED IN

ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. FIRMLY CONSOLIDATE THE GROUT MIX IN THE AREA TO BE REPAIRED.

(5) **REMOVAL AND RESTORATION OF UNSOUND CONCRETE:** CAREFULLY CUT THE AREA OF UNSOUND CONCRETE TO BE REPAIRED BACK PERPENDICULAR TO (OR SLIGHTLY UNDERCUT FROM) THE SURFACE AND TO THE DEPTH OF SOUND CONCRETE OR TO A MINIMUM DEPTH OF 1 INCH [25 MM], WHICHEVER IS DEEPER. WHEN REINFORCING STEEL, PRESTRESSING STRAND, INSERTS OR WELDMENTS ARE EXPOSED, REMOVE THE CONCRETE FROM AROUND THE ITEMS TO PROVIDE A 1 INCH [25 MM] CLEARANCE ALL AROUND. COAT THE PREPARED SURFACE WITH AN APPROVED EPOXY BONDING AGENT APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND THEN FILLED WITH AN APPROVED HIGH-STRENGTH, NON-METALLIC, NON-SHRINK GROUT MIXED AND APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. FIRMLY CONSOLIDATE THE GROUT MIX IN THE AREA TO BE REPAIRED. RESTORE SURFACES AND EDGES TO THE ORIGINAL DIMENSIONS AND SHAPE OF THE MEMBER.

(6) **SURFACE GRINDING:** GRIND OFF MISSHAPED FORMED SURFACES WITH AN ABRASIVE STONE ACCORDING TO THE FOLLOWING LIMITATIONS AND REQUIREMENTS:

APPLY TWO COATS OF AN APPROVED PENETRANT SEALANT, LISTED ON THE CURRENT QUALIFIED PRODUCTS LIST, IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 413, TO ANY SURFACES WHICH ARE NOT SUBSEQUENTLY ENCASED IN CONCRETE, IMMEDIATELY AFTER GRINDING HAS BEEN ACCEPTED.

DO NOT APPLY A PENETRANT SEALER TO ANY SURFACES TO BE SUBSEQUENTLY ENCASED IN CONCRETE.

(7) **TREATMENT OF CRACKS:** TREAT CRACKS IN ACCORDANCE WITH SECTION 400, AND SECTION 411 OR SECTION 413, AS APPLICABLE