RELEASED FOR CONSTRUCTION 10-05-2010

## POST-TENSIONING OPERATIONS

THE POST-TENSIONING OPERATION SHALL BE PERFORMED ACCORDING TO GDOT STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

THE PERSON IN RESPONSIBLE CHARGE OF THE POST-TENSIONING OPERATION SHALL MEET THE QUALIFICATIONS DESCRIBED IN THE GDOT STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS. DOCUMENTATION OF THIS EXPERIENCE SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

A MEETING BETWEEN THE CONTRACTOR, POST-TENSIONING SUPPLIER, GDOT REPRESENTATIVES AND THE ENGINEER OF RECORD SHALL BE SCHEDULED AT LEAST THIRTY (30) DAYS PRIOR TO POST-TENSIONING OPERATIONS TO REVIEW THE MEANS AND METHODS OF POST-TENSIONING, DUCT SPLICING AND TESTING TENDON GROUTING AND ALL ASSOCIATED FIELD ACTIVITIES. COMPLETE DETAILS FOR THE POST-TENSIONING SYSTEM, TENDON STRESSING DETAILS, STRESSING SEQUENCES, CALCULATED EXTENSIONS OF EACH JACK, FRICTION COEFFICIENT, AND ANCHOR SET LOSSES SHALL BE REVIEWED. TEMPORARY SUPPORT PLATFORM REQUIREMENTS AND DETAILS SHALL BE REVIEWED AT THIS TIME.

THE CONTRACTOR SHALL NOT STRESS ANY POST-TENSIONING TENDONS UNTIL THE ENGINEER IS SATISFIED THAT THE REQUIREMENTS STATED IN THE GDOT STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS HAVE BEEN MET.

STRESSING OF POST-TENSIONING TENDONS FOR SPANS 7-9 SHALL BE ACCOMPLISHED FOR EACH TENDON USING AN ALTERNATING SYMMETRICAL PATTERN ACROSS THE ROADWAY, BEGINNING AT THE CENTER AND WORKING OUTWARD ALTERNATING SIDES.

FOR FIRST STAGE POST-TENSIONING, TENDON PT-1 SHALL BE STRESSED IN ALL BEAMS ACROSS THE WIDTH OF THE BRIDGE AT BOTH ENDS PRIOR TO STRESSING TENDON PT-2 IN EACH BEAM. FOR SECOND STAGE POST-TENSIONING, TENDON PT-3 SHALL BE STRESSED IN ALL BEAMS ACROSS THE WIDTH OF THE BRIDGE AT BOTH ENDS.

ALL TENDONS SHALL BE STRESSED FROM BOTH ENDS.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE INTEGRITY OF THE POST-TENSIONING STRANDS. STRANDS SHALL BE PROTECTED AND HANDLED WITH CARE TO PREVENT DAMAGE OR RUST DURING STORAGE, INSTALLATION, AND PLACEMENT OF GROUT.

## TENDON GROUTING

GROUTING OF POST-TENSIONING TENDONS SHALL BE PERFORMED ACCORDING TO THE REQUIREMENTS OF THE GDOT STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

THE PERSON IN RESPONSIBLE CHARGE OF THE GROUTING OPERATION SHALL MEET THE QUALIFICATIONS DESCRIBED IN THE GDOT STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS. DOCUMENTATION OF EXPERIENCE SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

A MEETING BETWEEN THE CONTRACTOR, POST-TENSION SUPPLIER, GDOT REPRESENTATIVES AND THE ENGINEER OF RECORD SHALL BE SCHEDULED AT LEAST THIRTY (30) DAYS PRIOR TO THE FIRST GROUTING OPERATIONS. AT THE GROUTING OPERATION MEETING, REQUIRED TESTING, CORRECTIVE PROCEDURES AND ANY OTHER RELEVANT ISSUES SHALL BE DISCUSSED.

AFTER TENDONS HAVE BEEN STRESSED, DUCTS SHALL BE GROUTED. GROUTING OF POST-TENSIONING TENDONS SHALL BE COMPLETED NOT MORE THAN 7 DAYS AFTER TENSIONING. GROUT SHALL CONFORM TO GDOT STANDARD SPECIFICATIONS.

TO THE MAXIMUM EXTENT POSSIBLE, GROUT SHALL BE PUMPED FROM THE LOW POINTS IN THE TENDON PROFILE AND VENTED AT THE HIGH POINTS IN THE TENDON PROFILE.

AFTER TENDONS ARE GROUTED, ANCHORAGES AND DUCTS SHALL BE INSPECTED TO DETERMINE IF THEY HAVE BEEN COMPLETELY FILLED WITH GROUT.

| | APPROXIMATE GROUT QUANTITIES: | APPROXIMATE DUCT LENGTH: |
|---|---|---|
| PT-1: | 29.5 CF | 598'-6 3/16" |
| PT-2: | 29.5 CF | 598'-5 13/16" |
| PT-3: | 29.3 CF | 595'-1 3/8" |

QUANTITIES SHOWN ARE BASED ON RESPECTIVE DUCT LENGTHS, HAVING AN INSIDE DIAMETER OF 3.63" AND EACH TENDON CONTAINING 15-0.6" DIA. STRANDS.

THE QUANTITIES SHOWN ARE INTENDED TO ASSIST THE CONTRACTOR AND ENGINEER IN DETERMINING THE AMOUNT OF GROUT NEEDED TO COMPLETELY FILL THE POST-TENSIONING DUCT.

## EPOXY GROUT POUR-BACK FOR POST-TENSIONING ANCHORAGES

AFTER TENDONS HAVE BEEN STRESSED, GROUTED AND INSPECTED, POST-TENSIONING ANCHORAGES SHALL BE ENCAPSULATED IN AN EPOXY GROUT POUR-BACK USING THE FOLLOWING PROCEDURE:

CONCRETE SURFACES OF RECESSES AT POST-TENSIONING ANCHORAGES SHALL BE CLEANED AND ROUGHENED PRIOR TO CASTING POUR-BACKS.

ENCAPSULATE ANCHORAGE AND PERMANENT GROUT CAP WITH A POUR-BACK OF AN APPROVED, HIGH-STRENGTH, HIGH-BOND, LOW SHRINKAGE, SAND-FILLED EPOXY GROUT. FILL ANCHORAGE RECESS TO MATCH ADJACENT SURFACES OF CONCRETE BEAM, PROVIDING A MINIMUM COVER OF 1 1/2" OVER ANCHORAGE AND PERMANENT GROUT CAP.

FILL DRAIN PIPES FOR ANCHORAGE RECESSES IN TOP OF BEAMS USING EPOXY GROUT.

COMPLETELY ENCASE TENDON PT-2 AND TENDON PT-1 BY PLACING END DIAPHRAGM CONCRETE AND ENCASE TENDON PT-3 ANCHORAGE BY PLACING DECK SLAB CONCRETE. THE DECK SLAB CONSTRUCTION JOINT SHALL BE SEALED WITH AN APPROVED TYPE II EPOXY.

## STRUCTURAL STEEL NOTES

ALL INTERMEDIATE DIAPHRAGM STEEL, CONNECTOR PLATES AND PLATE WASHERS SHALL BE AASHTO M270 GRADE 50 OR APPROVED EQUAL.

TENSION ON THE AASHTO M164 H.S. BOLTS THROUGH THE ANGLE OR CHANNEL SHALL BE SNUG TIGHTENED FOLLOWED BY AN ADDITIONAL 1/4 TURN

TENSION ON THE AASHTO M164 H.S. BOLTS THROUGH THE BEAM WEB SHALL BE SNUG TIGHTENED FOLLOWED BY AN ADDITIONAL 1/4 TURN.

USE A PLATE WASHER WITH STANDARD HOLES UNDER EACH BOLT HEAD AND NUT. THE PLATE WASHERS SHALL HAVE SUFFICIENT SIZE TO COVER THE HOLES AFTER INSTALLATION.

PROVIDE SUFFICIENT LENGTH OF ALL BOLTS TO ACCOMMODATE WASHERS AND THE THICKNESS OF CONNECTING MEMBER PLUS AT LEAST 1/4" PROJECTION BEYOND THE NUT.

CONTRACTOR SHALL SUBMIT TWO SETS OF WORKING DRAWINGS FOR THE INTERMEDIATE DIAPHRAGM ASSEMBLY FOR REVIEW, COMMENTS AND ACCEPTANCE. AFTER REVIEW, COMMENTS, AND ACCEPTANCE, SUBMIT SEVEN SETS FOR DISTRIBUTION.

IN THE EXTERIOR BAYS, TEMPORARY STRUTS SHALL BE PLACED BETWEEN PRESTRESSED BEAMS ADJACENT TO THE STEEL DIAPHRAGMS. STRUTS SHALL REMAIN IN PLACE 3 DAYS AFTER CONCRETE IS PLACED. ALL AASHTO M164 H.S. BOLTS SHALL BE FULLY TIGHTENED AFTER THE STRUTS HAVE BEEN REMOVED.

ALL DIMENSIONS SHOWN ARE HORIZONTAL OR VERTICAL UNLESS OTHERWISE NOTED.

BRIDGE NO. 1


THE LPA GROUP

THE LPA GROUP INCORPORATED
TRANSPORTATION CONSULTANTS
3595 ENGINEERING DRIVE
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GEORGIA
DEPARTMENT OF TRANSPORTATION
PRECONSTRUCTION DIVISION-OFFICE OF BRIDGE DESIGN

POST-TENSIONED BEAM NOTES
SR 204 SPUR (DIAMOND CAUSEWAY)
OVER SKIDAWAY NARROWS
CHATHAM COUNTY CSSTP-0008-00(651)

| BY | REVISIONS | DATE |
|---|---|---|
| | | |

DRAWING NO. 35-18

BRIDGE SHEET 18 OF 48

SCALE: NO SCALE OCTOBER 2010

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|---|---|---|
| DESIGNED SAD | CHECKED DGH | REVIEWED WMD / WEI |
| DRAWN JNA / MDM | DESIGN GROUP DGH | APPROVED PVL |