

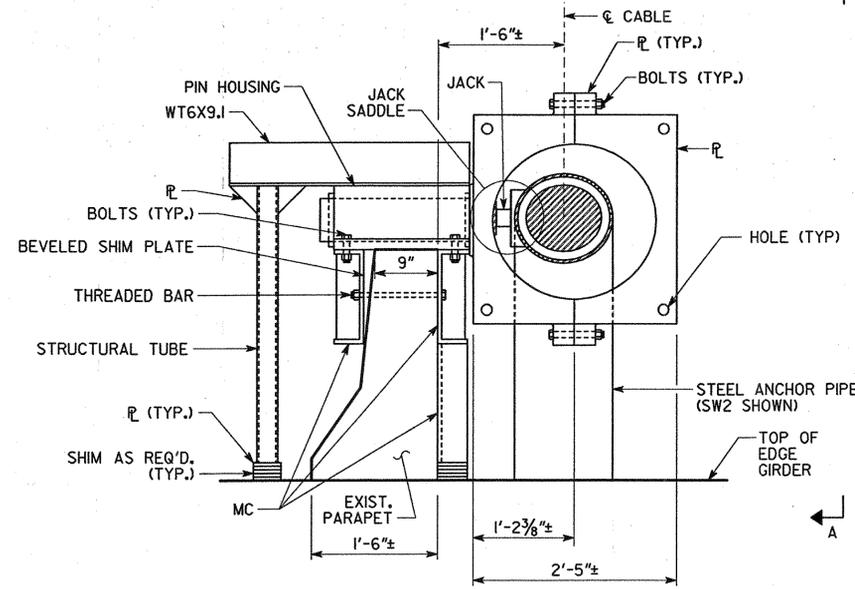
STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GEORGIA	CSNHS-M002-00 (373)	18	26

**SUGGESTED SEQUENCE**

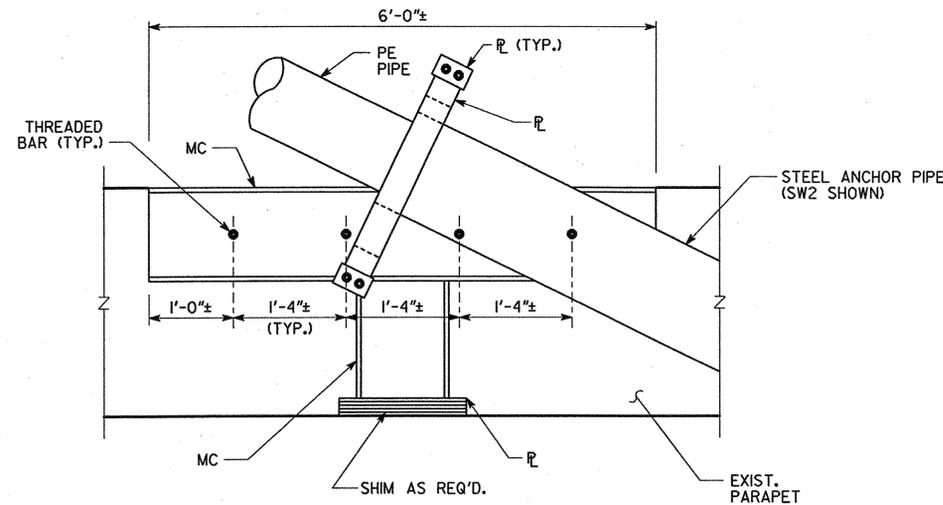
**REPAIR ITEM ② HEAT STRAIGHTENING OF STEEL ANCHOR PIPE**

THIS REPAIR SHALL BE PERFORMED PRIOR TO REPAIRS ④ AND ⑤. CARE SHALL BE TAKEN NOT TO DAMAGE ANY PART OF THE STAY CABLE OR BRIDGE COMPONENT DURING THIS REPAIR.

1. MOVE PROTECTIVE BOOT, KEEPER RINGS AND WASHERS AWAY FROM ANCHOR PIPE.
2. REMOVE EXISTING PAINT OR GALVANIZATION FROM ANCHOR PIPE.
3. INSTALL INSULATING BLANKETS, AIR COOLING AND MISCELLANEOUS THERMAL PROTECTION EQUIPMENT.
4. INSTALL RESTRAINING FRAME.
5. MEASURE ANCHOR PIPE.
6. MARK INTENDED HEATING PATTERN ON ANCHOR PIPE.
7. APPLY RESTRAINING LOAD. MONITOR AND RECORD RESTRAINING LOAD.
8. HEAT ANCHOR PIPE. MONITOR AND RECORD HEATING TEMPERATURE.
9. COOL ANCHOR PIPE. MONITOR AND RECORD COOLING TEMPERATURE.
10. PREPEAT STEPS 5 THROUGH 7 UNTIL ANCHOR PIPE IS IN DESIRED LOCATION.
11. REMOVE RESTRAINING ASSEMBLY.
12. CLEAN AND PAINT ANCHOR PIPE.
13. REINSTALL PROTECTIVE BOOT, KEEPER RINGS AND WASHER.



**SUGGESTED RESTRAINING FRAME**



**VIEW A-A**

**NOTES**

1. FOR GENERAL NOTES, SEE SHEET NO. 7.
2. FOR ADDITIONAL NOTES AND DETAILS, SEE SHEET 17.
3. THE CONTRACTOR SHALL DESIGN AND SUBMIT TO THE ENGINEER, FOR APPROVAL, CALCULATIONS AND SHOP DRAWINGS OF THE INTENDED JACKING FRAME. DETAILED SHOP DRAWINGS SHOWING SETUP JACKING FRAME SHALL INCLUDE ANCHOR PIPE, UTILITIES, PARAPET, UNDER-BRIDGE TRAVELER RAIL, EDGE GIRDER, STAY CABLE AND OBSTRUCTIONS WITHIN THE VICINITY OF THE REPAIR. THE CONTRACTOR SHALL NOTE THAT EACH REPAIR LOCATION HAS DIFFERENT EXISTING CLEARANCES AND OBSTRUCTIONS. DETAILS SHOWN OF JACKING ASSEMBLY PROVIDE A UNIFORM BASIS OF BIDDING ONLY. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THE FABRICATED JACKING FRAME CAN BE INSTALLED, UTILIZED AND HEATING OPERATIONS PERFORMED AT EACH REPAIR LOCATION WITHOUT DAMAGING THE EXISTING STRUCTURE. EXISTING UTILITIES SHALL BE TEMPORARILY RELOCATED BY THE CONTRACTOR TO ACCOMMODATE INSTALLATION OF JACKING FRAME. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER, FOR APPROVAL, A DETAILED PROCEDURE OF THE HEAT STRAIGHTENING REPAIR INCLUDING CALCULATIONS FOR ALL STRESSES INDUCED BY THE JACKING FRAME. SEE SPECIAL PROVISIONS.
4. THE RESTRAINING FORCE SHALL BE MONITORED AND CONTROLLED BY THE USE OF CALIBRATED GAUGES. THE RESTRAINING FORCE SHALL BE APPLIED BEFORE HEATING AND BE SELF-RELIEVING AS CONTRACTION OCCURS. SEE SHEET 17 FOR MAXIMUM RESTRAINING LOADS. THE CONTRACTOR SHALL SUBMIT A CONVERSION TABLE FOR PRESSURE GAUGES USED TO MONITOR THE LOAD ON THE ANCHOR PIPE.
5. THE CONTRACTOR SHALL PROTECT THE PE PIPE WITH INSULATING BLANKETS AND A CONTINUOUS SOURCE OF AIR VENTILATION INSIDE THE ANCHOR PIPE BETWEEN THE INSULATING BLANKETS AND PE PIPE. THE AIR TEMPERATURE BETWEEN THE INSULATING BLANKETS AND PE PIPE SHALL BE CONTINUOUSLY MONITORED. HEATING OPERATIONS SHALL NOT START OR CONTINUE IF THE MEASURED AIR TEMPERATURE EXCEEDS 200 DEGREES FAHRENHEIT.
6. THE HEAT APPLIED FOR CARBON STEEL SHALL NOT EXCEED 1200 DEGREES FAHRENHEIT. BASE STEEL TEMPERATURE SHALL BE MONITORED WITH CONTACT PYROMETRIC INSTRUMENTS OR TEMPERATURE SENSING CRAYONS. HEATING SHALL BE DISCONTINUED IF THE BASE METAL TEMPERATURE EXCEEDS 1200 DEGREES FAHRENHEIT.
7. THE CONTRACTOR SHALL USE LINE AND/OR VEE HEAT PATTERNS WITH A SINGLE ORIFICE TORCH TIP.
8. AMBIENT AIR COOLING SHALL BE UTILIZED UNTIL 600 DEGREES FAHRENHEIT IN THE BASE METAL IS ACHIEVED THEN ADDITIONAL COOLING MAY BE ACHIEVED THROUGH COMPRESSED AIR COOLING.
9. THE CONTRACTOR SHALL KEEP THE ANNULAR SPACE BETWEEN THE PE PIPE AND ANCHOR PIPE DRY DURING THE ENTIRE COURSE OF THE REPAIR.
10. THE RESULTING ANNULAR SPACE SHALL BE WITHIN 1/8" OF BEING FULLY CONCENTRIC ABOUT THE STAY CABLE.

REPAIR LEGEND	
REPAIR	DESCRIPTION
①	STEEL ANCHOR PIPE CRACK REPAIR
②	HEAT STRAIGHTENING OF STEEL ANCHOR PIPE
③	REMOVAL OF EXISTING PROTECTIVE BOOTS, STEEL KEEPER RINGS AND WASHERS
④	INSTALLATION OF NEW WASHERS AND STEEL KEEPER RINGS
⑤	PROTECTIVE BOOT RETROFIT
⑥	MISCELLANEOUS CONCRETE REPAIRS
⑦	TIE-DOWN BOOT REPAIR
⑧	MISCELLANEOUS ELECTRICAL REPAIRS
⑨	CABLE STAY PROTECTIVE TAPE REPAIR

BRIDGE SHEET  
18 OF 26

DATE	
REVISIONS	
BY	

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GEORGIA  
**DEPARTMENT OF TRANSPORTATION**  
OPERATIONS DIVISION-OFFICE OF MAINTENANCE

HEAT STRAIGHT. OF ANCHOR PIPES 2 OF 2  
TALMADGE MEMORIAL BRIDGE RETROFIT  
CHATHAM COUNTY CSNHS-M002-00 (373)

NO SCALE MARCH 2006

DESIGNED K.J.B.	CHECKED T.S.	REVIEWED
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