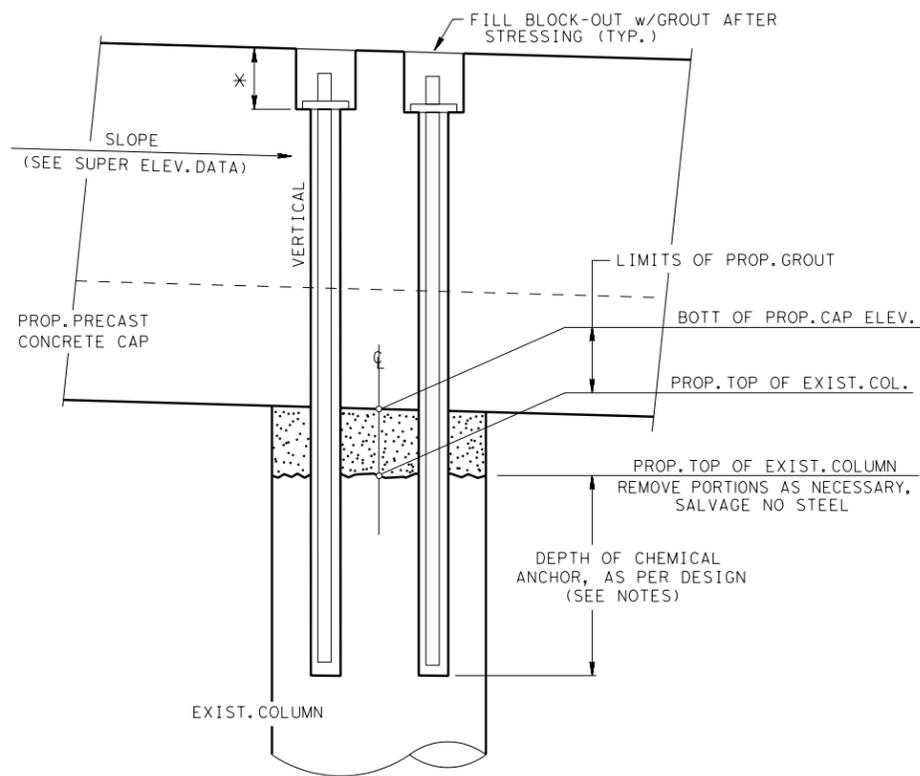
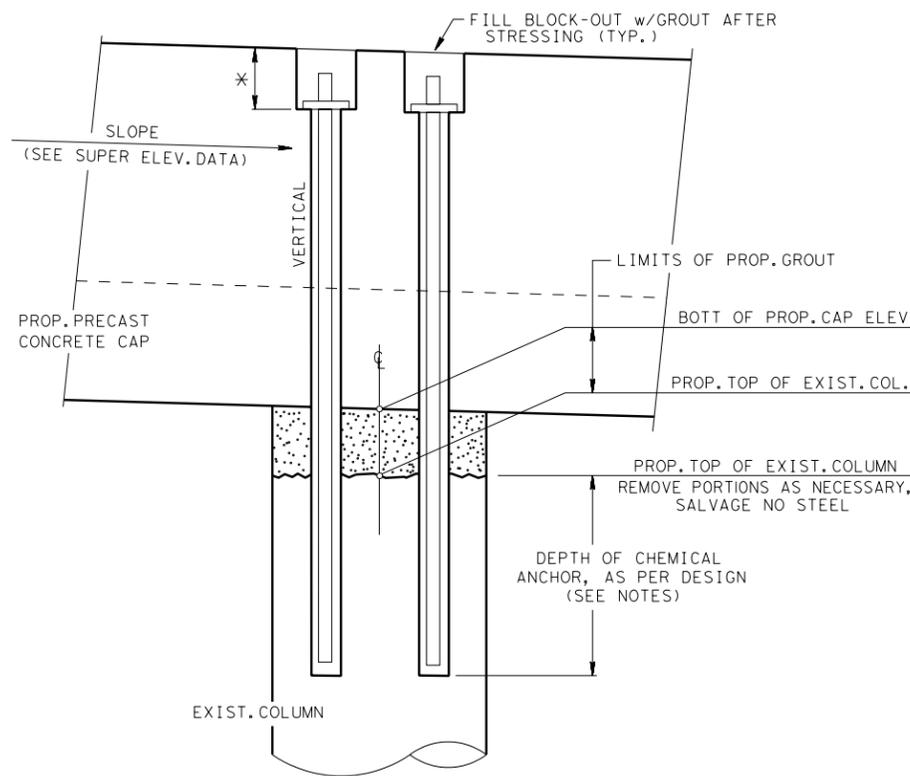


* AS PER SHOP APPROVED SHOP DRAWINGS



TYPICAL SECTION THRU SHEATHING
CONNECTION "A" DETAIL



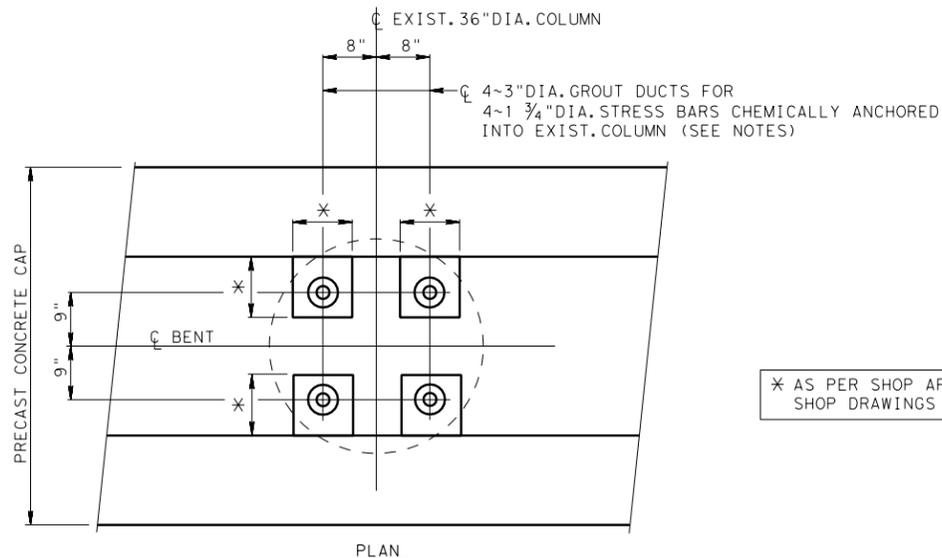
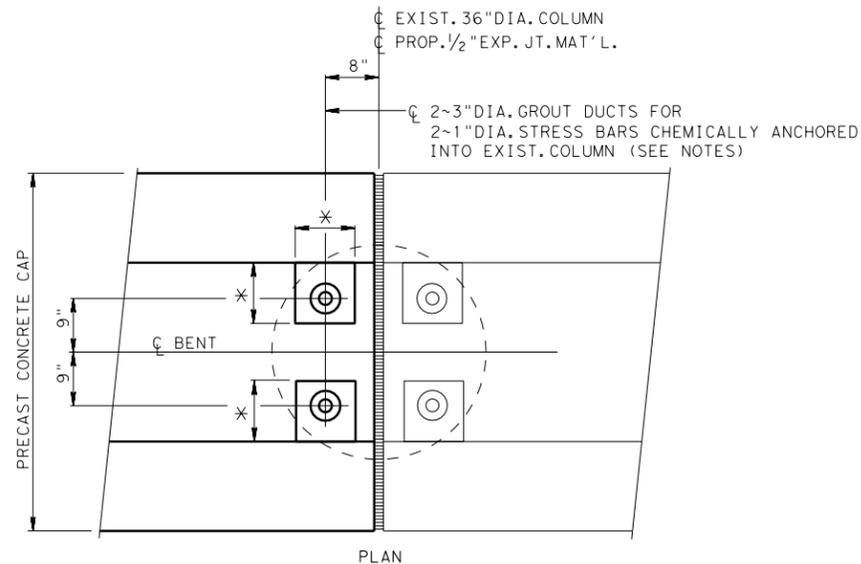
TYPICAL SECTION THRU SHEATHING
CONNECTION "C" DETAIL

JHB43B9 9-6-96

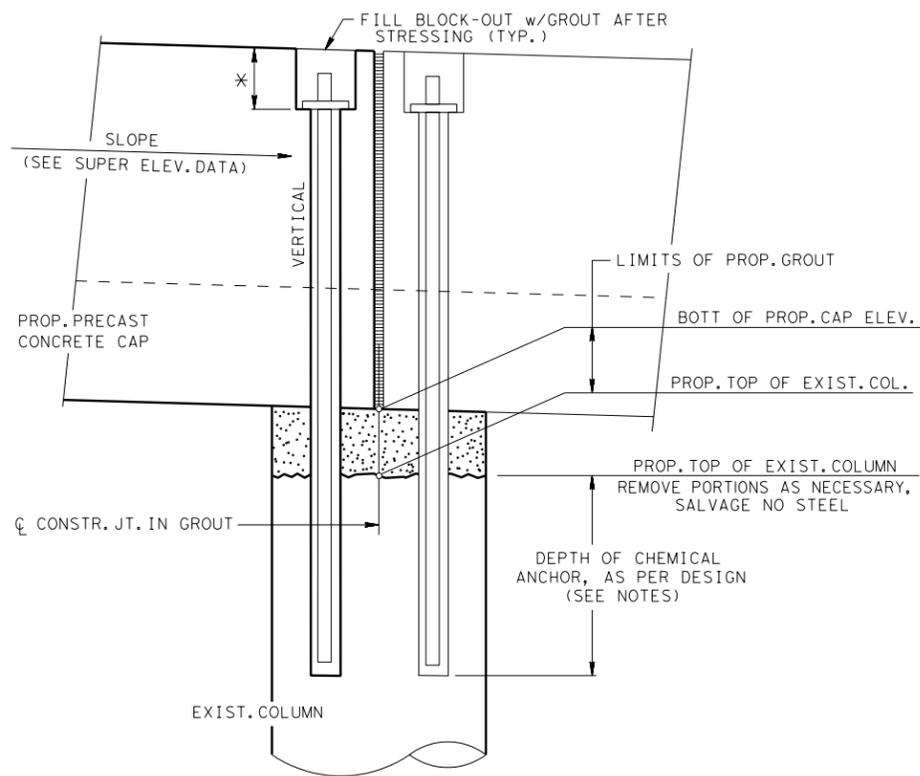
 TEXAS DEPARTMENT of TRANSPORTATION
CAP TO COLUMN
CONNECTION DETAILS
IH 45
PIERCE ST. ELEVATED FREEWAY

| | | | | | |
|-----|-----|--------------------------------------|-------------|-------------------------|---|
| DN: | | ORIGINAL DATE OF DRAWING: SEP 1 1996 | STATE | FEDERAL AID PROJECT NO. | ROADWAY NO. |
| CK | DN: | REVISTIONS: | 6 TEXAS | BR 96 (760) | IH45 |
| CK | DN: | | STATE DIST. | COUNTY | CONTROL NO. SECTION NO. JOB NO. SHEET NO. |
| TR: | | | HOUSTON | HARRIS | 0500 03 472 157 |

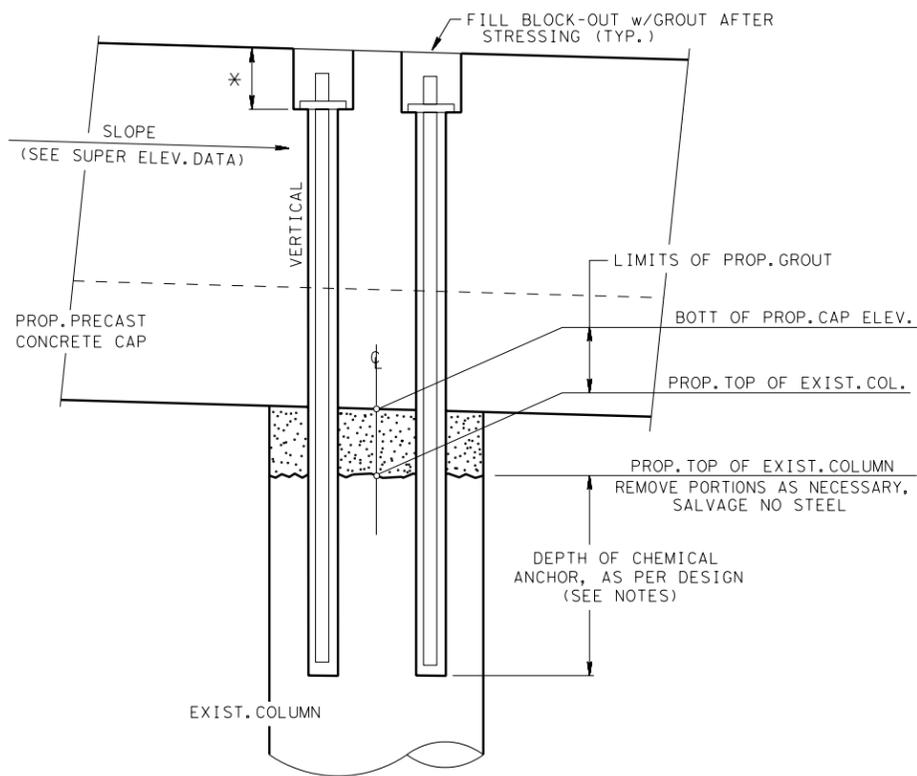
SHEET 1 OF 3 SHEETS



* AS PER SHOP APPROVED SHOP DRAWINGS



TYPICAL SECTION THRU SHEATHING
 CONNECTION "B" DETAIL



TYPICAL SECTION THRU SHEATHING
 CONNECTION "D" DETAIL



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TEXAS DEPARTMENT of TRANSPORTATION
 CAP TO COLUMN CONNECTION DETAILS
 IH 45
 PIERCE ST. ELEVATED FREEWAY

| | | | | | | | | | |
|---------------|--|-------------------------------------|--|----------------------|--|--------------------------------------|--|-------------------|--|
| DNI: KLO | | ORIGINAL DATE OF DRAWING: SEPT 1996 | | STATE: TEXAS | | FEDERAL AID PROJECT NO.: BR 96 (760) | | HIGHWAY NO.: IH45 | |
| CK DNI: TxDOT | | REVISIONS: | | STATE DIST.: HOUSTON | | COUNTY: HARRIS | | CONTROL NO.: 0500 | |
| TR: | | | | SECTION NO.: 03 | | JOB NO.: 472 | | SHEET NO.: 157 | |

ESTIMATED QUANTITIES ~ ITEM 426 PRESTRESSING (GROUTED)

| BENT | NUMBER OF CONNECTION "A" PER BENT | NUMBER OF CONNECTION "B" PER BENT | NUMBER OF CONNECTION "C" PER BENT | NUMBER OF CONNECTION "D" PER BENT | QUANTITIES (MKF) | | |
|---|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|------------------|----------------|------------|
| | | | | | ONE BENT | PROJECT TOTALS | |
| | | | | | | SOUTHBOUND | NORTHBOUND |
| 38-46 N.B. | — | — | 3 | — | 0.6 | — | 5.4 |
| 40-46 S.B. | — | — | 3 | — | 0.6 | 4.2 | — |
| 50, 51, 55, 56, 60, 61, 65, 66 70, 71, 80, 81 N.B. or S.B. | — | 1 | 2 | — | 0.5 | 6.0 | 6.0 |
| 52, 53, 54, 57, 58, 59, 62, 63 64, 67, 68, 69, 72, 73, 74, 77 78, 79, 82 N.B. or S.B. | — | — | 2 | — | 0.4 | 7.6 | 7.6 |
| 75, 76 N.B. or S.B. | 2 | 1 | — | — | 0.5 | 1.0 | 1.0 |
| 83, 84 N.B. or S.B. | — | — | 2 | — | 0.4 | 0.8 | 0.8 |
| 85, 86 N.B. or S.B. | — | 1 | 2 | — | 0.5 | 1.0 | 1.0 |
| 89 N.B. or S.B. | — | — | — | 2 | 0.4 | 0.4 | 0.4 |
| 87, 88, 97, 98, 99, 100 N.B. or S.B. | — | — | 2 | — | 0.4 | 2.4 | 2.4 |
| 112, 113 N.B. or S.B. | 2 | 1 | — | — | 0.5 | 1.0 | 1.0 |
| TOTAL | | | | | | 24.4 | 25.6 |

| PRESTRESSING QUANTITIES PER CONNECTION | |
|--|----------------|
| CONNECTION TYPE | QUANTITY (MKF) |
| A | 0.2 |
| B | 0.1 |
| C | 0.2 |
| D | 0.2 |

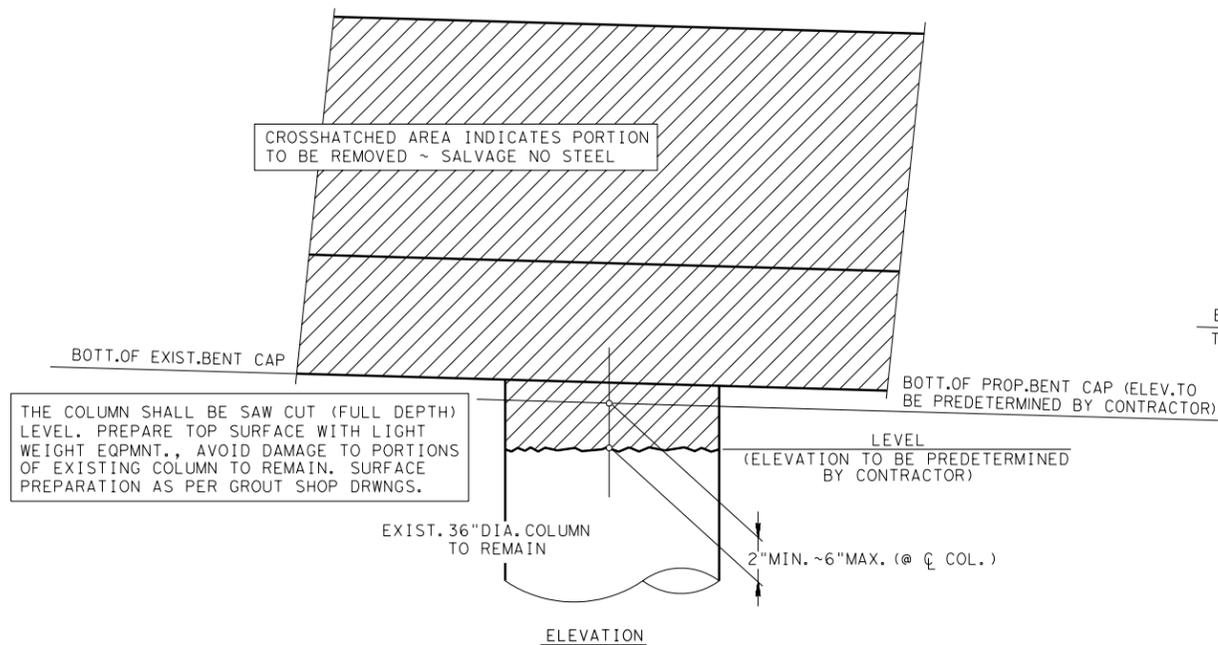
| DESIGN/PROOF LOADS | | |
|--------------------|-----------------------|--------------------------|
| CONNECTION TYPE | STRESS BAR DIA. (IN.) | DESIGN/PROOF LOAD (KIPS) |
| A | 1 3/8 | 140 |
| B | 1 | 95 |
| C | 1 1/4 | 105 |
| D | 1 3/4 | 130 |

NOTES:

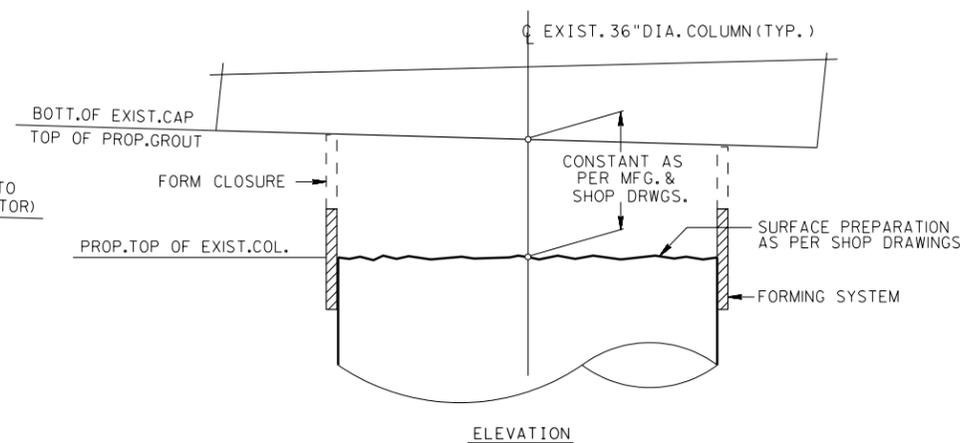
1. ALL GRADES, DIMENSIONS AND ELEVATIONS SHALL BE VERIFIED AND/OR DETERMINED PRIOR TO START OF WORK. THE CONTRACTOR SHALL SURVEY THE BRIDGE PRIOR TO PRECASTING THE CAPS, VERIFYING AND/OR CORRECTING ALL GRADES, DIMENSIONS AND ELEVATIONS SHOWN THROUGHOUT THE PLAN SET.
2. THE POST TENSIONED SYSTEM SHALL BE THE DYWIDAG THREADBAR RESIN ANCHORED SYSTEM. THIS SYSTEM SHALL USE A FAST CURING POLYESTER RESIN TO DEVELOP ANCHORAGE. SEE TABLE FOR DESIGN ANCHORAGE. ALL STRESS BARS SHALL BE GRADE 150. ALL SHEATHING IS 3" DIA. (THE SHEATHING IS OVERSIZED FOR PRECASTING TOLERANCES). THE EFFECTIVE POST TENSIONED FORCE AFTER SEATING SHALL BE 5 KIPS. FOR PAYMENT A 10 FOOT LENGTH OF BAR IS USED TO CALCULATE A "PRESTRESSING" QUANTITY AS OUTLINED IN THE SPEC. ITEM 426, ACTUAL LENGTH MAY VARY, PAYMENT SHALL BE PLAN QUANTITY. SHOP DRAWINGS ARE REQUIRED.
3. THE ANCHORAGE OF THE STRESS BARS SHALL BE PROOF TESTED BY DYWIDAG PERSONNEL, AS FOLLOWS:
 - A. THE FIRST BENT CAP ERECTED SHALL HAVE ALL BARS IN ALL CONNECTIONS PROOF TESTED TO THE VALUE SHOWN IN TABLE. PROOF TEST ONE BAR AT A TIME. IF ANY BAR FAILS THE MANUFACTURER SHALL SUBMIT A REDESIGN WITHIN TWO WORKING DAYS. THE REDESIGN SHALL BE IMPLEMENTED ON THE NEXT BENT. TESTING AT SAME RATES WILL PROCEED UNTIL THE ANCHORAGE IS DEVELOPED. NO FURTHER BRIDGE CONSTRUCTION MAY OCCUR UNTIL A BENT IS DEEMED ACCEPTABLE BY TxDOT ENGINEERS.
 - B. ALL CONNECTIONS SHALL HAVE A MINIMUM OF ONE BAR PER CONNECTION PROOF TESTED TO THE VALUE SHOWN IN TABLE.
4. THE GROUT BETWEEN THE COLUMN AND THE CAP SHALL BE A NONSHRINK CEMENTITIOUS GROUT WITH A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, OUTLINING THE GROUT MATERIAL TO BE USED, THICKNESS, SURFACE PREPARATION, FORMING SYSTEM, DELIVERY SYSTEM, CONSTRUCTION SEQUENCE AND ANY OTHER PERTINENT INFORMATION RELATING TO A SUCCESSFUL INSTALLATION. THE SHOP DRAWINGS SHALL BE PREPARED BY QUALIFIED REPRESENTATIVES OF THE GROUT MANUFACTURER AND SHALL BEAR THE SEAL OF A REGISTERED ENGINEER IN THE STATE OF TEXAS.
5. CONSTRUCTION DETAILS SHOWN MAY NOT BEGIN UNTIL SHOP DRAWINGS FOR THE PRECAST CAPS, THREADBAR POST TENSIONED SYSTEM AND GROUT SYSTEM ARE APPROVED.

THE FOLLOWING CONSTRUCTION SEQUENCE SHALL BE FOLLOWED:

- A. REMOVE EXISTING CAP AND COLUMN TO THE LIMITS SHOWN.
- B. ERECT PRECAST CAP AND SUPPORT TO GRADES SHOWN.
- C. INSTALL GROUT.
- D. INSTALL THREADBARS.
- E. REMOVE SUPPORTS.
- F. TEST ANCHORAGE (PER NOTE 3), STRESS AND GROUT THREADBARS.
- G. PROCEED WITH SUPERSTRUCTURE CONSTRUCTION.
- H. OR AS APPROVED BY ENGINEER AS SHOWN ON SHOP DRAWINGS.



LIMITS OF DEMOLITION



TYPICAL GROUT DETAIL



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TEXAS DEPARTMENT of TRANSPORTATION

CAP TO COLUMN CONNECTION DETAILS

IH 45

PIERCE ST. ELEVATED FREEWAY

| | | | | | |
|--|---------|--------------|--------------|--------------------------|--------------|
| DNI: KLO ORIGINAL DATE OF DRAWING: SEPT 1996 | | REV. NO.: | STATE: | FEDERAL AID PROJECT NO.: | HIGHWAY NO.: |
| CK DNI: | TxDOT | 6 | TEXAS | | IH45 |
| TR: | | | | | |
| CK TR: | | | | | |
| STATE DIST.: | COUNTY: | CONTROL NO.: | SECTION NO.: | JOB NO.: | SHEET NO.: |
| HOUSTON | HARRIS | 0500 | 03 | 472 | 158 |