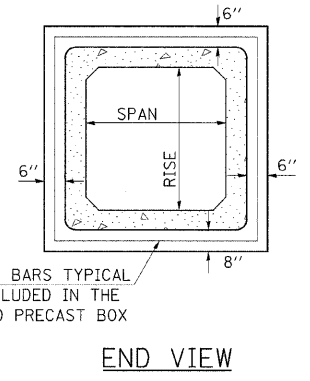
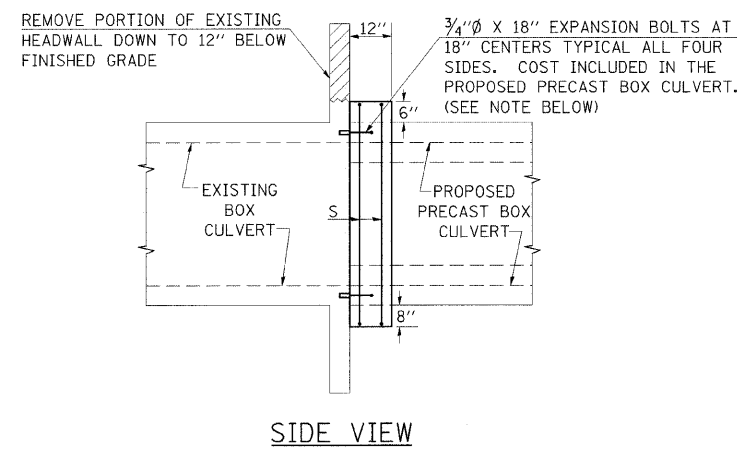


| F.A.S. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|-----------------------|----------------|------------------|--------------|-----------|
| 932 | (8,9,11)W,RS-1 | * | 401 | 199 |
| STA. | TO STA. | | | |
| FED. ROAD DIST. NO. - | ILLINOIS | FED. AID PROJECT | | |
| * JOHNSON & POPE | | | | |

DETAILS OF CONCRETE COLLAR FOR PRECAST BOX CULVERT



TABULATION
(FOR INFORMATION PURPOSES ONLY)

| SPAN X RISE | CLASS SI CONG. CU. YD. (EST.) |
|-------------|-------------------------------|
| 2' X 2' | 0.26 |
| 3' X 2' | 0.30 |
| 3' X 3' | 0.34 |
| 4' X 2' | 0.36 |
| 4' X 3' | 0.39 |
| 4' X 4' | 0.43 |
| 5' X 2' | 0.41 |
| 5' X 3' | 0.45 |
| 5' X 4' | 0.49 |
| 6' X 2' | 0.47 |
| 6' X 3' | 0.51 |
| 6' X 4' | 0.54 |

THE CONCRETE COLLAR SHALL BE CONSIDERED INCLUDED IN PRECAST CONCRETE BOX CULVERT, WHICH PRICE SHALL INCLUDE THE REMOVAL OF SUCH PORTIONS OF THE EXISTING HEADWALLS AS MAY BE REQUIRED. CLASS SI CONCRETE SHALL BE USED THROUGHOUT.

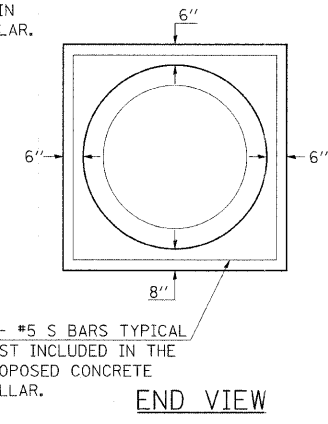
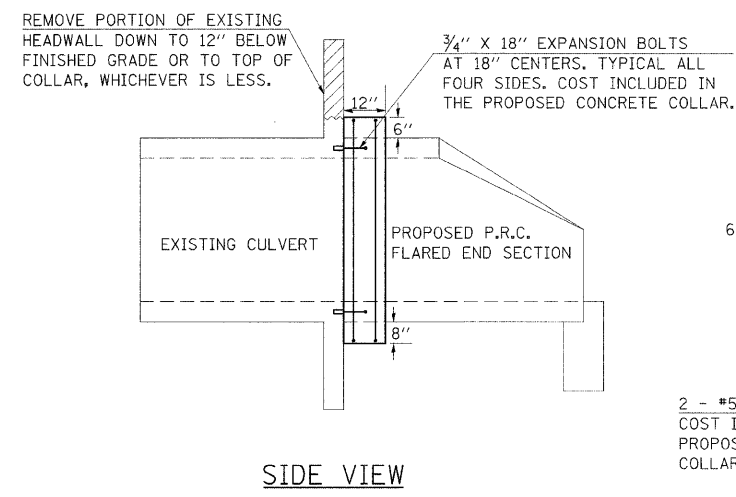
NOTE:
ANCHOR BOLTS, MEETING THE REQUIREMENTS OF ARTICLE 1006.09 OF THE STANDARD SPECIFICATIONS, SHALL EXTEND A MINIMUM OF 9 INCHES INTO THE NEW CONCRETE. EXPANSION SHIELDS SHALL PROVIDE A MINIMUM CERTIFIED PROOF LOAD OF 4080 POUNDS.

REVISIONS

| | | | |
|---------|---------|---------|----------|
| DRAWN | 8-15-89 | REVISED | 12-17-01 |
| REVISED | 2-15-90 | REVISED | |
| REVISED | 8-10-90 | REVISED | |
| REVISED | 8-19-94 | REVISED | |

STD. 9-45

DETAIL OF CONCRETE COLLAR FOR P.R.C. FLARED END SECTION



TABULATION

| DIAMETER OF PIPE | CLASS SI CONG. CU. YD. (EST.) |
|------------------|-------------------------------|
| 12" | 0.16 |
| 15" | 0.19 |
| 18" | 0.23 |
| 24" | 0.29 |
| 30" | 0.37 |
| 36" | 0.44 |
| 42" | 0.53 |
| 48" | 0.62 |
| 54" | 0.71 |
| 60" | 0.81 |
| 72" | 1.03 |

THE CONCRETE COLLAR SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC YARD FOR CONCRETE COLLAR, AS SHOWN ON THE PLANS, WHICH PRICE SHALL INCLUDE THE REMOVAL OF SUCH PORTIONS OF THE EXISTING HEADWALLS AS MAY BE REQUIRED. CLASS SI CONCRETE SHALL BE USED THROUGHOUT.

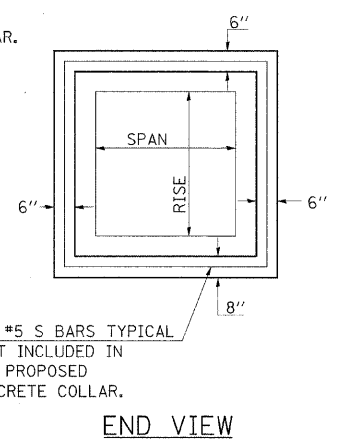
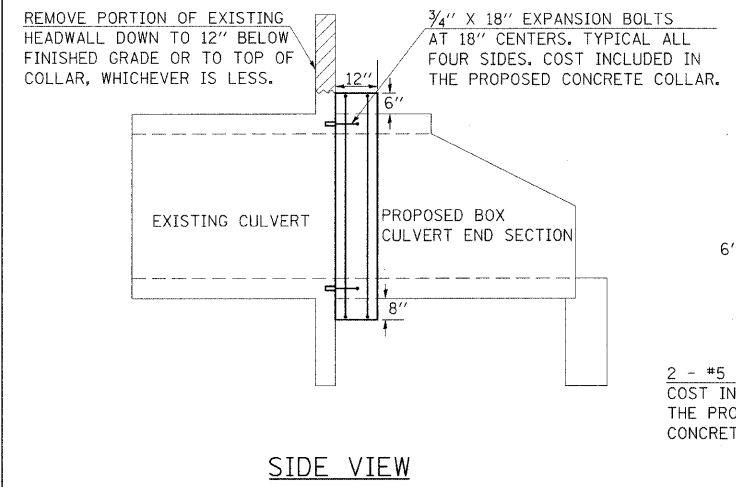
NOTE:
ANCHOR BOLTS, MEETING THE REQUIREMENTS OF ARTICLE 1006.09 OF THE STANDARD SPECIFICATIONS, SHALL EXTEND A MINIMUM OF 9 INCHES INTO THE NEW CONCRETE. EXPANSION SHIELDS SHALL PROVIDE A MINIMUM CERTIFIED PROOF LOAD OF 4080 POUNDS.

REVISIONS

| | |
|---------|----------|
| DRAWN | 9-7-89 |
| REVISED | 8-16-94 |
| REVISED | 12-17-01 |
| REVISED | 01-10-07 |

STD. 9-47

DETAIL OF CONCRETE COLLAR FOR PRECAST BOX CULVERT END SECTION



TABULATION

| SPAN X RISE | CLASS SI CONG. CU. YD. (EST.) |
|-------------|-------------------------------|
| 2' X 2' | 0.26 |
| 3' X 2' | 0.30 |
| 3' X 3' | 0.34 |
| 4' X 2' | 0.36 |
| 4' X 3' | 0.39 |
| 4' X 4' | 0.43 |
| 5' X 2' | 0.41 |
| 5' X 3' | 0.45 |
| 5' X 4' | 0.49 |
| 5' X 5' | 0.53 |
| 6' X 2' | 0.47 |
| 6' X 3' | 0.51 |
| 6' X 4' | 0.54 |
| 7' X 5' | 0.64 |
| 8' X 3' | 0.61 |
| 8' X 6' | 0.72 |
| 9' X 6' | 0.78 |
| 10' X 5' | 0.79 |

NOTE:
ANCHOR BOLTS, MEETING THE REQUIREMENTS OF ARTICLE 1006.09 OF THE STANDARD SPECIFICATIONS, SHALL EXTEND A MINIMUM OF 9 INCHES INTO THE NEW CONCRETE. EXPANSION SHIELDS SHALL PROVIDE A MINIMUM CERTIFIED PROOF LOAD OF 4080 POUNDS.

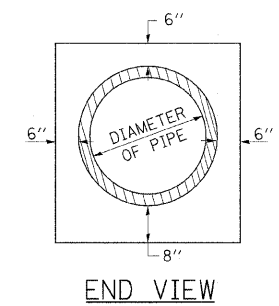
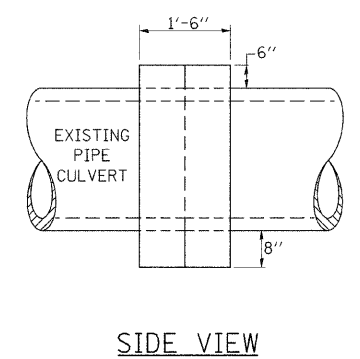
THE CONCRETE COLLAR SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC YARD FOR CONCRETE COLLAR, AS SHOWN ON THE PLANS, WHICH PRICE SHALL INCLUDE THE REMOVAL OF SUCH PORTIONS OF THE EXISTING HEADWALLS AS MAY BE REQUIRED. CLASS SI CONCRETE SHALL BE USED THROUGHOUT.

REVISIONS

| | |
|---------|----------|
| DRAWN | 9-7-89 |
| REVISED | 8-16-94 |
| REVISED | 12-17-01 |
| REVISED | 01-10-07 |

STD. 9-46

DETAILS OF CONCRETE COLLAR PIPE TO PIPE



TABULATION

| DIAMETER OF PIPE | CL SI CONG CU YDS EST |
|------------------|-----------------------|
| 12" | 0.24 |
| 15" | 0.29 |
| 18" | 0.32 |
| 24" | 0.44 |
| 30" | 0.56 |
| 36" | 0.66 |
| 42" | 0.80 |
| 48" | 0.93 |
| 54" | 1.07 |
| 60" | 1.22 |
| 72" | 1.55 |

THE CONCRETE COLLAR SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC YARD FOR CONCRETE COLLAR, AS SHOWN ON THE PLANS, WHICH PRICE SHALL INCLUDE THE REMOVAL OF SUCH PORTIONS THE EXISTING HEADWALLS AS MAY BE REQUIRED. CLASS SI CONCRETE SHALL BE USED THROUGHOUT.

REVISIONS

| | |
|---------|---------|
| DRAWN | 7-13-90 |
| REVISED | 8-22-94 |
| REVISED | |
| REVISED | |

STD. 9-79