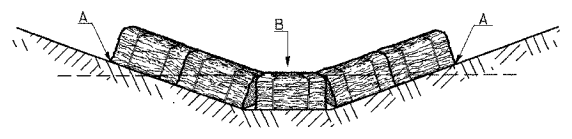


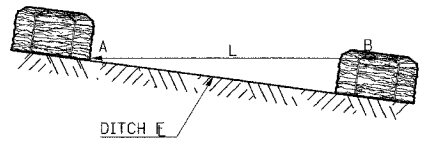
TEMPORARY DITCH CHECKS

PLACEMENT OF TEMPORARY STRAW BALE DITCH CHECK IN DRAINAGEWAY



POINTS A SHOULD BE HIGHER THAN POINT B

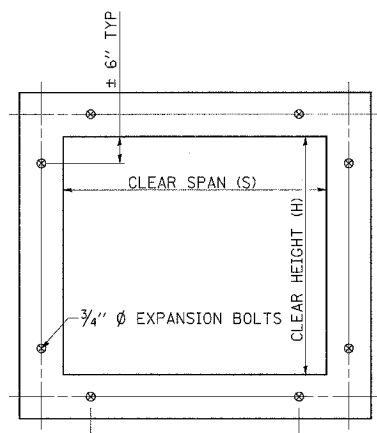
SPACING BETWEEN TEMPORARY DITCH CHECKS



L = THE DISTANCE SUCH THAT POINTS A AND B ARE OF EQUAL ELEVATION
 B = THE LOW POINT IN CENTER OF CHECK

EXPANSION BOLTS REQUIRED FOR CULVERT EXTENSIONS

| F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------|----------|------------------|--------------|-----------|
| 132 | (42x11-3 | SALINE | 46 | 20 |
| STA. | TO STA. | | | |
| FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT | | |



CROSS SECTION THRU BARREL

FOR ANCHOR BOLT REQUIREMENTS, SEE ARTICLE 1006.09 OF THE STANDARD SPECIFICATIONS.

EXPANSION BOLTS SHALL CONSIST OF SELF DRILLING EXPANSION SHIELDS AND 3/4" Ø HOOKED BOLTS. HOOKED BOLTS SHALL EXTEND A MINIMUM OF 9" INTO NEW CONCRETE.

MINIMUM CERTIFIED PROOF LOAD=7500 LBS.

BOLTS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR EXPANSION BOLTS, 3/4 INCH.

| H OR S | NO. EXPANSION BOLTS REQ'D/SIDE | | | |
|--------|--------------------------------|---------|-----------------|---------|
| | EXTENSION ≤ 15' | | EXTENSION > 15' | |
| | NO. | SPACING | NO. | SPACING |
| 2.0 | * | * | * | * |
| 2.5 | 2 | 18" | 2 | 18" |
| 3.0 | 2 | 24" | 2 | 24" |
| 4.0 | 3 | 18" | 3 | 18" |
| 5.0 | 4 | 16" | 3 | 24" |
| 6.0 | 5 | 15" | 4 | 20" |
| 7.0 | 5 | 18" | 4 | 24" |
| 8.0 | 6 | 17" | 5 | 21" |
| 9.0 | 6 | 19" | 5 | 24" |
| 10.0 | 7 | 18" | 6 | 21" |
| 11.0 | 8 | 17" | 6 | 24" |
| 12.0 | 8 | 19" | 7 | 22" |

* NOTE: USE MINIMUM OF 1 EXPANSION BOLT AT EACH CORNER.

EXAMPLE:
 6' X 4' BOX CULVERT TO BE EXTENDED 18' AT ONE END ONLY.

FROM TABLE FIND:
 6' SIDE REQUIRES (4)-3/4" Ø EXPANSION BOLTS AT 20" CENTERS
 4' SIDE REQUIRES (3)-3/4" Ø EXPANSION BOLTS AT 18" CENTERS

TOTAL NO. REQUIRED
 (4+3)2 = (14)-3/4" Ø EXPAN. BOLTS

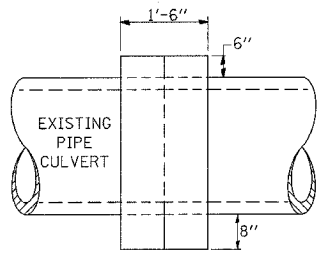
| REVISIONS | |
|-----------|---------|
| DRAWN | 9-01-89 |
| REVISED | 10-3-01 |
| REVISED | |
| REVISED | |

STD. 9-108

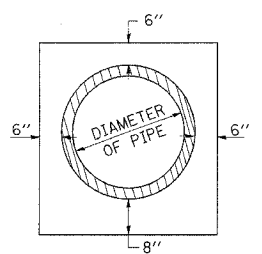
| REVISIONS | |
|-----------|----------|
| REDRAWN | 2-15-89 |
| REVISED | 8-15-94 |
| REVISED | 12-14-01 |
| REVISED | |

STD. 9-9

DETAILS OF CONCRETE COLLAR PIPE TO PIPE



SIDE VIEW



END VIEW

TABULATION

| DIAMETER OF PIPE | CL SI CONC 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 |

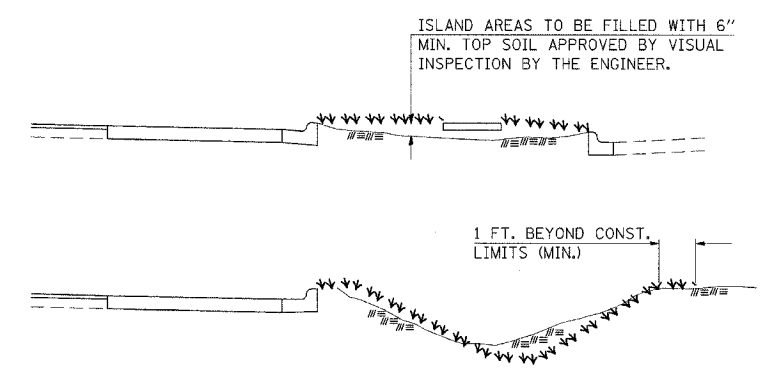
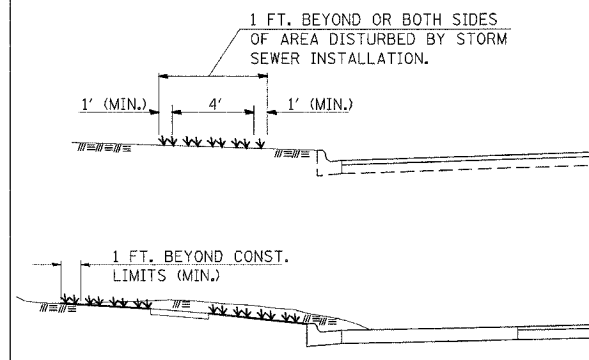
THE CONCRETE COLLAR SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC YARD FOR CONCRETE COLLAR, AS SHOWN ON THE PLANS, WHICH PRICE SHALL INCLUDE THE REMOVAL OF SUCH PORTIONS THE EXISTING HEADWALLS AS MAY BE REQUIRED.

CLASS SI CONCRETE SHALL BE USED THROUGHOUT.

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

STD. 9-79

SEEDING & MULCHING



---INDICATES LIMITS OF SEEDING & MULCHING

GENERAL NOTES

IN GENERAL, ALL EARTH SURFACES DISTURBED DURING CONSTRUCTION OPERATIONS SHALL BE SEEDDED AND MULCHED UPON COMPLETION OF ALL GRADING OPERATIONS.

FERTILIZER NUTRIENTS AND LIMESTONE SHALL BE APPLIED TO ALL SEEDED AREAS.

THE RATES OF APPLICATION OF FERTILIZER, MULCH AND LIMESTONE SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS.

SECTIONS 250 AND 251 OF THE STANDARD SPECIFICATIONS SHALL GOVERN THIS WORK EXCEPT AS SPECIFIED HEREIN OR AS NOTED IN THE SPECIAL PROVISIONS.

| REVISIONS | |
|-----------|---------|
| DRAWN | 6-15-89 |
| REVISED | 8-16-94 |
| REVISED | |
| REVISED | |

STD. 9-52

DETAILS: TEMPORARY DITCH CHECK, EXPANSION BOLTS CONCRETE COLLAR, SEEDING & MULCHING

PLT DATE = 11/16/2006
 FILE NAME = c:\nrc\jesta\c9802305\p1002305.dwg
 USER NAME = nrcasdp