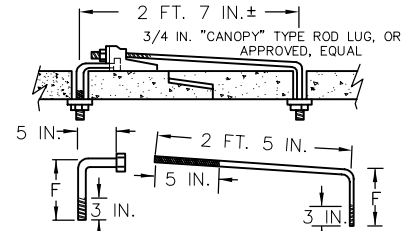
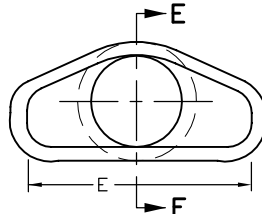
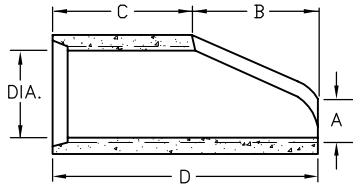


| PIPE I.D. IN. | DIMENSIONS | | | | | |
|---------------|------------|-------|-------|-------|-------|--|
| | A IN. | B IN. | C IN. | D IN. | E IN. | |
| 12 | 5 1/2 | 23 | 49 | 72 | 24 | |
| 15 | 7 | 26 | 47 | 73 | 29 | |
| 18 | 11 1/2 | 26 | 48 | 74 | 36 | |
| 24 | 12 | 43 | 54 | 97 | 48 | |
| 30 | 17 | 53 | 43 | 96 | 60 | |
| 36 | 18 | 60 | 37 | 97 | 71 | |
| 42 | 24 | 61 | 36 | 97 | 78 | |
| 48 | 28 | 70 | 28 | 98 | 84 | |
| 54 | 27 | 65 | 35 | 100 | 90 | |
| 60 | 36 | 58 | 40 | 98 | 96 | |
| 72 | 34 1/2 | 75 | 21 | 96 | 108 | |



3/4 IN. GALVANIZED ANCHOR BOLTS, NUTS AND WASHERS, MILD STEEL, ASTM A 307. ROD LUG SHALL BE COATED WITH COAL-TAR EPOXY PAINT OR APPROVED EQUAL.

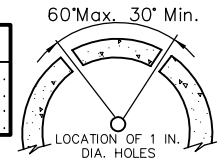


SECTION X-X

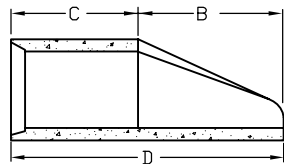
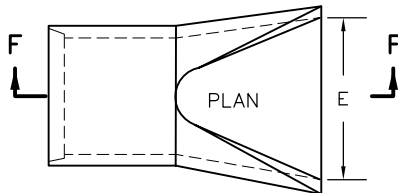
END VIEW

END SECTION FOR REINFORCED CONCRETE CIRCULAR PIPE

| PIPE DIAMETER | F |
|-----------------|-------|
| 18 IN. - 30 IN. | 5 IN. |
| 36 IN. - 42 IN. | 6 IN. |
| 48 IN. - 60 IN. | 7 IN. |
| 72 IN. - 84 IN. | 9 IN. |



CONCRETE JOINT FASTENER.

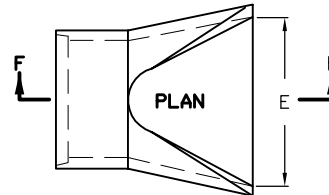


SECTION F-F

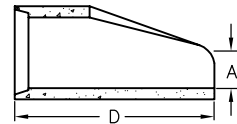
END VIEW

| EQUIVALENT CIRCULAR DIAM. (IN.) | NOMINAL (IN.) DIMENSIONS | | DIMENSIONS (INCHES) | | | | |
|---------------------------------|--------------------------|------|---------------------|----|----|----|----|
| | SPAN | RISE | A | B | C | D | E |
| 24 | 30 | 19 | 8 1/2 | 39 | 33 | 72 | 48 |
| 30 | 38 | 24 | 9 1/2 | 54 | 18 | 72 | 60 |
| 36 | 45 | 29 | 11 1/8 | 60 | 24 | 84 | 72 |
| 42 | 53 | 34 | 15 3/4 | 60 | 36 | 96 | 78 |
| 48 | 60 | 38 | 21 | 60 | 36 | 96 | 84 |
| 54 | 68 | 43 | 25 1/2 | 60 | 36 | 96 | 90 |
| 60 | 76 | 48 | 30 | 60 | 36 | 96 | 96 |

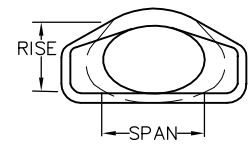
END SECTION FOR REINFORCED CONCRETE ELLIPTICAL PIPE



SEE FIGURE 1 OF AASHTO M 206 FOR ACTUAL SIZES



SECTION F-F



END VIEW

| EQUIVALENT CIRCULAR DIAM. (IN.) | NOMINAL (IN.) DIMENSIONS | | DIMENSIONS (INCHES) | | | | |
|---------------------------------|--------------------------|------|---------------------|----|----|----|-----|
| | SPAN | RISE | A | B | C | D | E |
| 24 | 29 | 18 | 8 1/2 | 39 | 33 | 72 | 48 |
| 30 | 36 | 22 | 9 1/2 | 50 | 46 | 96 | 60 |
| 36 | 43 | 27 | 11 1/8 | 60 | 35 | 96 | 72 |
| 42 | 50 | 31 | 15 3/4 | 60 | 36 | 96 | 78 |
| 48 | 58 | 36 | 21 | 60 | 36 | 96 | 84 |
| 54 | 65 | 40 | 25 1/2 | 60 | 36 | 96 | 90 |
| 60 | 72 | 44 | 30 | 60 | 36 | 96 | 96 |
| 72 | 86 | 54 | 31 | 60 | 39 | 99 | 120 |

END SECTION FOR REINFORCED CONCRETE ARCH PIPE

GENERAL NOTES:

1. REVISED CDOH M-603-10
2. CONCRETE END SECTIONS ARE TO BE FURNISHED WITH TOUGE OR GROOVE AS REQUIRED.
3. INSIDE CONFIGURATION AND JOINT OF CONCRETE END SECTION AND PIPE SHALL MATCH.
4. CONCRETE PIPE JOINT FASTENERS, WHERE SHOWN ON PLANS, SHALL BE INSTALLED SO THAT A MINIMUM OF 15 LINEAR FEET OF THE OUTLET END OF THE ARE MECHANICALLY LOCKED TOGETHER. END SECTION LENGTHS, WHEN USED, WILL BE INCLUDED IN THE 15 L.F. REQUIRED.

CONCRETE END SECTIONS



CITY OF
FORT COLLINS
UTILITIES
FORT COLLINS, CO.
(970) 221-6700

STORMWATER
CONSTRUCTION DETAILS

APPROVED:

DATE: 01/31/01

DRAWN BY: NBJ

DETAIL

D-15