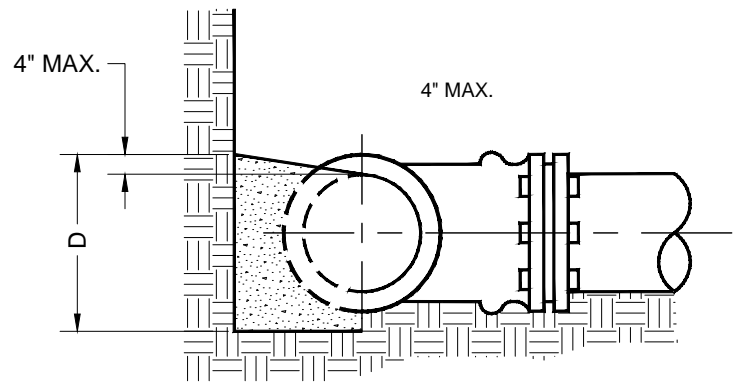
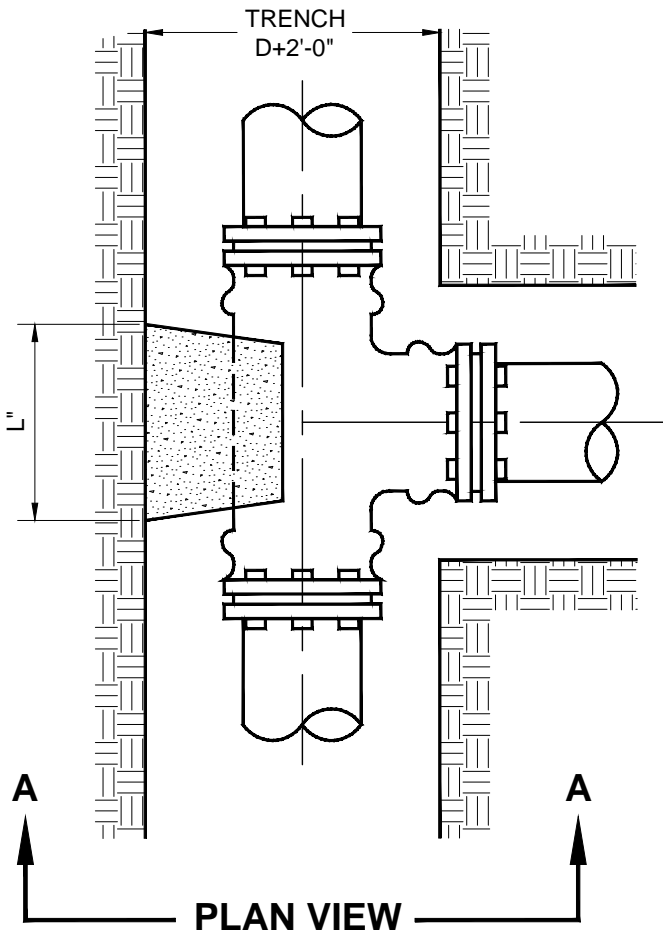


| R U N | BRANCH | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------|--------|----|-------|----|----|-------|----|----|-------|----|----|-------|-----|----|-------|-----|----|-------|-----|----|-------|-----|----|-------|--|--|--|
| | 3" | | | 4" | | | 6" | | | 8" | | | 12" | | | 16" | | | 20" | | | 24" | | | | | |
| | L | D | Vc.f. | L | D | Vc.f. | L | D | Vc.f. | L | D | Vc.f. | L | D | Vc.f. | L | D | Vc.f. | L | D | Vc.f. | L | D | Vc.f. | | | |
| 3" | 12 | 5 | 0.5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4" | 10 | 6 | 0.5 | 11 | 8 | 0.8 | | | | | | | | | | | | | | | | | | | | | |
| 6" | 9 | 7 | 0.5 | 11 | 8 | 0.8 | 18 | 12 | 1.9 | | | | | | | | | | | | | | | | | | |
| 8" | 8 | 8 | 0.5 | 10 | 9 | 0.7 | 18 | 12 | 1.9 | 23 | 16 | 3.5 | | | | | | | | | | | | | | | |
| 12" | 6 | 12 | 0.6 | 8 | 12 | 0.8 | 18 | 12 | 1.9 | 23 | 16 | 3.5 | 38 | 22 | 8.7 | | | | | | | | | | | | |
| 16" | 6 | 16 | 0.8 | 6 | 16 | 0.8 | 14 | 16 | 2.0 | 20 | 18 | 3.3 | 36 | 23 | 8.7 | 49 | 30 | 13.6 | | | | | | | | | |
| 20" | 6 | 20 | 1.0 | 6 | 20 | 1.0 | 11 | 20 | 1.9 | 18 | 20 | 3.3 | 35 | 24 | 8.7 | 46 | 32 | 13.6 | 60 | 38 | 26.5 | | | | | | |
| 24" | 6 | 24 | 1.2 | 6 | 24 | 1.2 | 9 | 24 | 1.9 | 15 | 24 | 3.3 | 30 | 28 | 8.7 | 42 | 36 | 14.0 | 54 | 42 | 26.3 | 68 | 48 | 45.4 | | | |



NOTE:

1. BACKER DESIGNED FOR 3000PSF SOIL BEARING.
2. CONCRETE TO BE PLACED AGAINST UNDISTURBED EARTH.
3. PROVIDE CLEARANCE FOR REMOVAL OF BOLTS.

NOT TO SCALE

DATE: SEPT. 2020

STANDARD CONSTRUCTION DRAWING



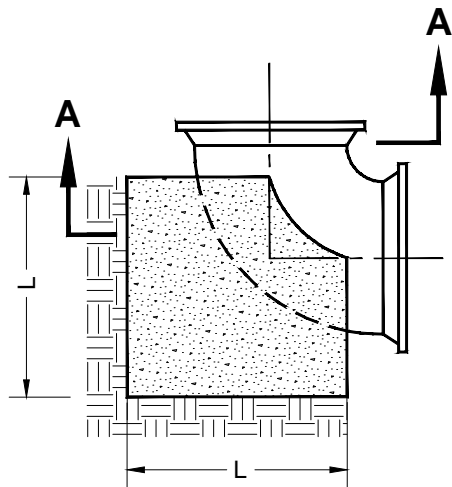
CONCRETE BACKING
TEES

DRAWING NO.

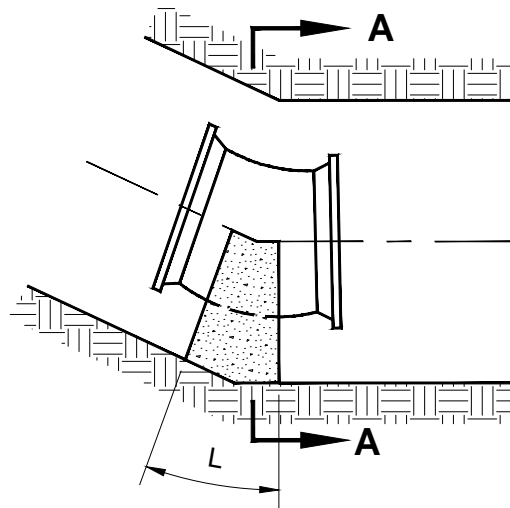
SAS-17

SHEET 1 OF 3

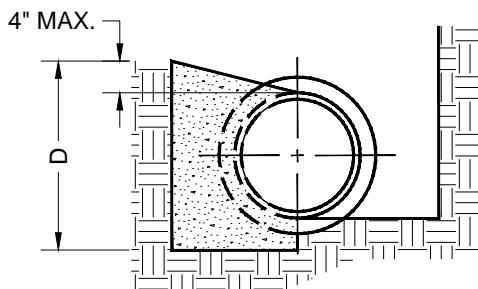
| SIZE OF PIPE | DEGREE OF BEND | | | | | | | | | | | |
|--------------|----------------|----|--------|-------|----|--------|-----|----|--------|-----|----|--------|
| | 11 ¼° | | | 22 ½° | | | 45° | | | 90° | | |
| | L | D | V c.f. | L | D | V c.f. | L | D | V c.f. | L | D | V c.f. |
| 3" | 4 | 3 | 0.1 | 6 | 4 | 0.2 | 10 | 4 | 0.3 | 10 | 4 | 0.3 |
| 4" | 5 | 4 | 0.2 | 9 | 5 | 0.4 | 14 | 5 | 0.6 | 14 | 5 | 0.6 |
| 6" | 8 | 6 | 0.5 | 12 | 7 | 0.7 | 20 | 8 | 1.4 | 18 | 9 | 1.7 |
| 8" | 9 | 8 | 0.7 | 16 | 9 | 1.4 | 24 | 12 | 2.7 | 25 | 11 | 4.0 |
| 12" | 14 | 12 | 1.8 | 24 | 14 | 3.6 | 36 | 18 | 6.8 | 32 | 18 | 10.7 |
| 16" | 18 | 16 | 3.4 | 32 | 18 | 6.7 | 36 | 32 | 13.4 | 41 | 26 | 25.4 |
| 20" | 25 | 20 | 6.4 | 30 | 30 | 11.5 | 49 | 36 | 20.5 | 50 | 32 | 46.5 |
| 24" | 27 | 24 | 9.0 | 39 | 34 | 18.4 | 60 | 42 | 35.0 | 58 | 40 | 77.7 |



90° BENDS



<90° BENDS



SECTION A-A

NOTES:

1. BACKER DESIGNED FOR 3000PSF SOIL BEARING.
2. CONCRETE TO BE PLACED AGAINST UNDISTURBED EARTH.
3. PROVIDE CLEARANCE FOR REMOVAL OF BOLTS.

NOT TO SCALE

DATE: SEPT. 2020

STANDARD CONSTRUCTION DRAWING



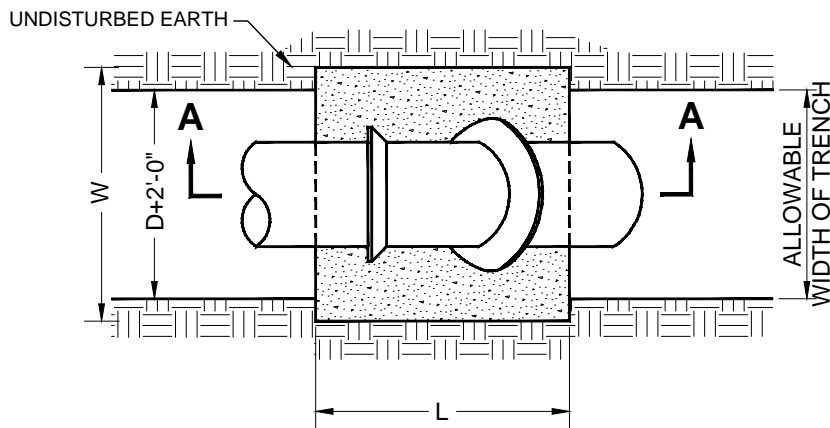
CONCRETE BACKING
HORIZONTAL & VERTICAL BENDS

DRAWING NO.

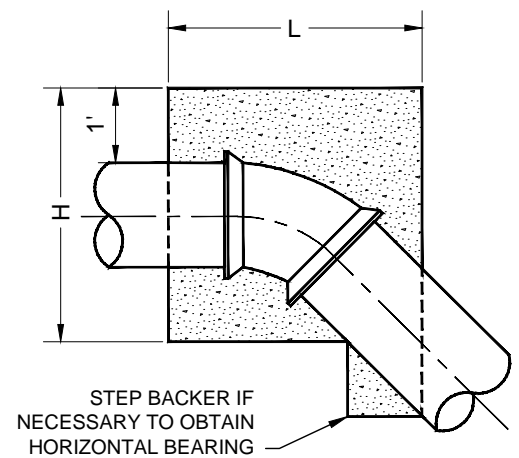
SAS-17

SHEET 2 OF 3

| SIZE OF PIPE | DEGREE OF BEND | | | | | | | | | | | | | | | |
|--------------|----------------|----|----|--------|---------|----|----|--------|-----|----|----|--------|-----|-----|----|--------|
| | 11 1/4° | | | | 22 1/2° | | | | 45° | | | | 90° | | | |
| | L | W | H | V c.f. | L | W | H | V c.f. | L | W | H | V c.f. | L | W | H | V c.f. |
| 3" | 12 | 18 | 12 | 1.5 | 13 | 25 | 16 | 3.0 | 18 | 30 | 19 | 5.9 | 25 | 30 | 24 | 10.4 |
| 4" | 12 | 24 | 16 | 2.6 | 16 | 30 | 18 | 5.0 | 22 | 36 | 24 | 11.0 | 27 | 48 | 25 | 18.7 |
| 6" | 12 | 48 | 18 | 6.0 | 15 | 43 | 36 | 13.4 | 30 | 55 | 24 | 22.9 | 37 | 54 | 36 | 41.6 |
| 8" | 12 | 63 | 24 | 10.5 | 18 | 57 | 34 | 20.2 | 36 | 57 | 33 | 39.2 | 47 | 60 | 46 | 75.0 |
| 12" | 20 | 54 | 36 | 22.6 | 37 | 62 | 37 | 49.0 | 48 | 62 | 51 | 87.9 | 66 | 66 | 66 | 166.4 |
| 16" | 31 | 65 | 38 | 44.3 | 60 | 65 | 39 | 88.1 | 65 | 65 | 65 | 159.2 | 72 | 96 | 72 | 288.0 |
| 20" | 45 | 70 | 40 | 72.8 | 56 | 70 | 60 | 136.2 | 72 | 76 | 78 | 247.0 | 86 | 108 | 84 | 451.8 |
| 24" | 41 | 72 | 54 | 92.3 | 67 | 74 | 69 | 198.0 | 88 | 84 | 84 | 359.1 | 96 | 120 | 96 | 640.0 |



PLAN VIEW



SECTION A-A

NOTES:

1. BACKER DESIGNED FOR 3000PSF SOIL BEARING.
2. CONCRETE TO BE PLACED AGAINST UNDISTURBED EARTH.
3. PROVIDE CLEARANCE FOR REMOVAL OF BOLTS.

NOT TO SCALE

DATE: SEPT. 2020

STANDARD CONSTRUCTION DRAWING



CONCRETE BACKING
VERTICAL BENDS
(OVER BENDS ONLY)

DRAWING NO.
SAS-17
SHEET 3 OF 3