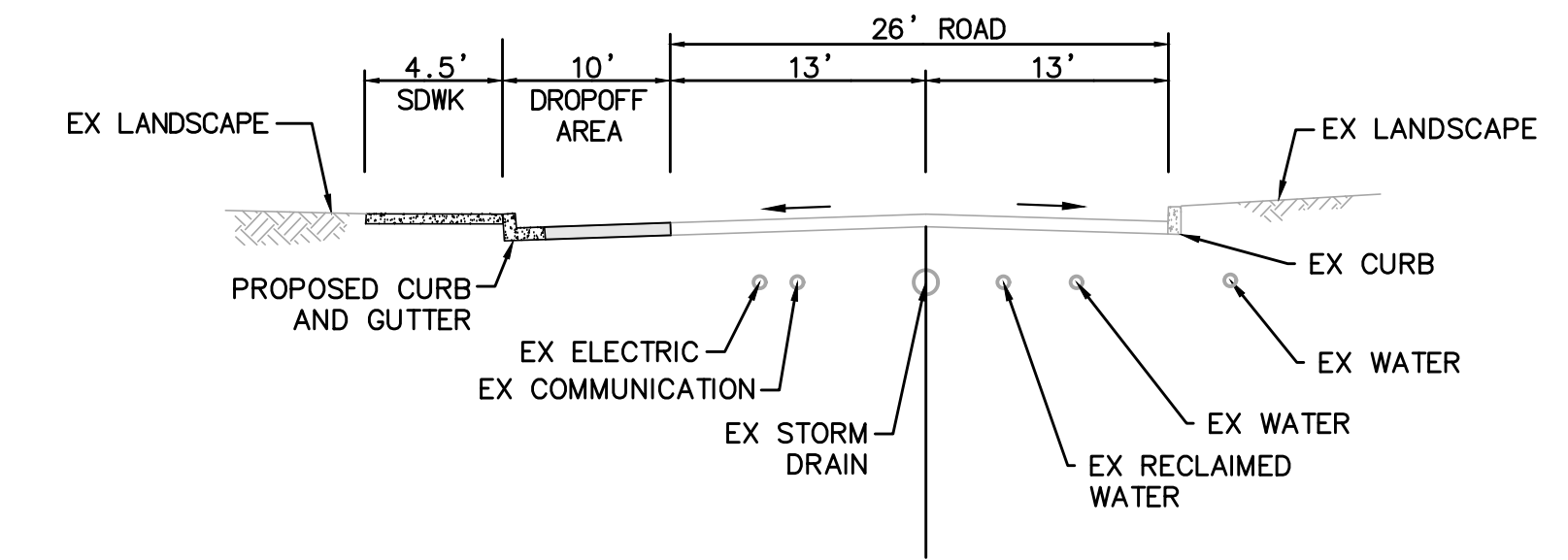


**A**  
C-4.1 SECTION N.T.S.

**B**  
C-4.1 NOT USED N.T.S.



**C**  
C-4.1 SECTION N.T.S.

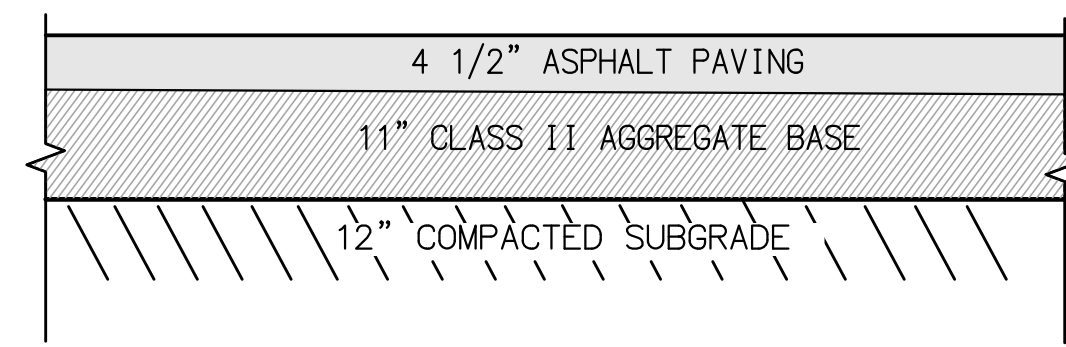
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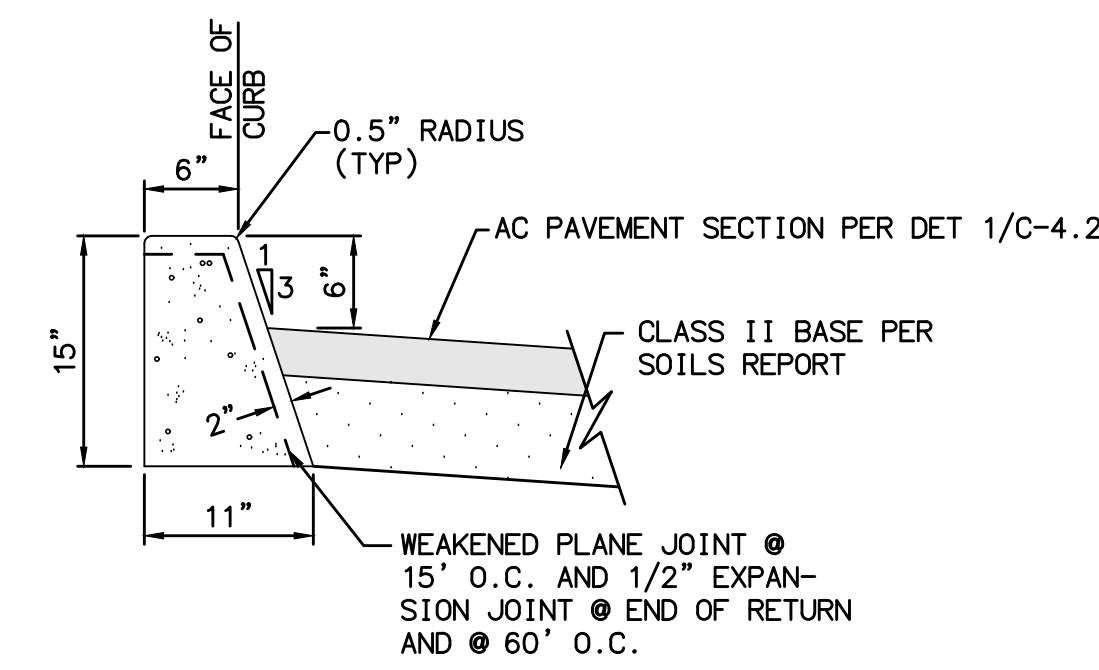
2. GEOTECHNICAL INVESTIGATIONS FOR THE SURROUNDING IMPROVEMENTS DESCRIBE THE UNDERLYING SOILS AS SANDY CLAY OVER HIGHLY CEMENTED GRAVEL AND COBBLE CONGLOMERATE (LINDA VISTA FORMATION AND STADIUM CONGLOMERATE). NO GROUNDWATER WAS ENCOUNTERED. TRENCHING INTO THE LINDA VISTA FORMATION AND STADIUM CONGLOMERATE WILL BE DIFFICULT AND MAY REQUIRE HEAVY EQUIPMENT.

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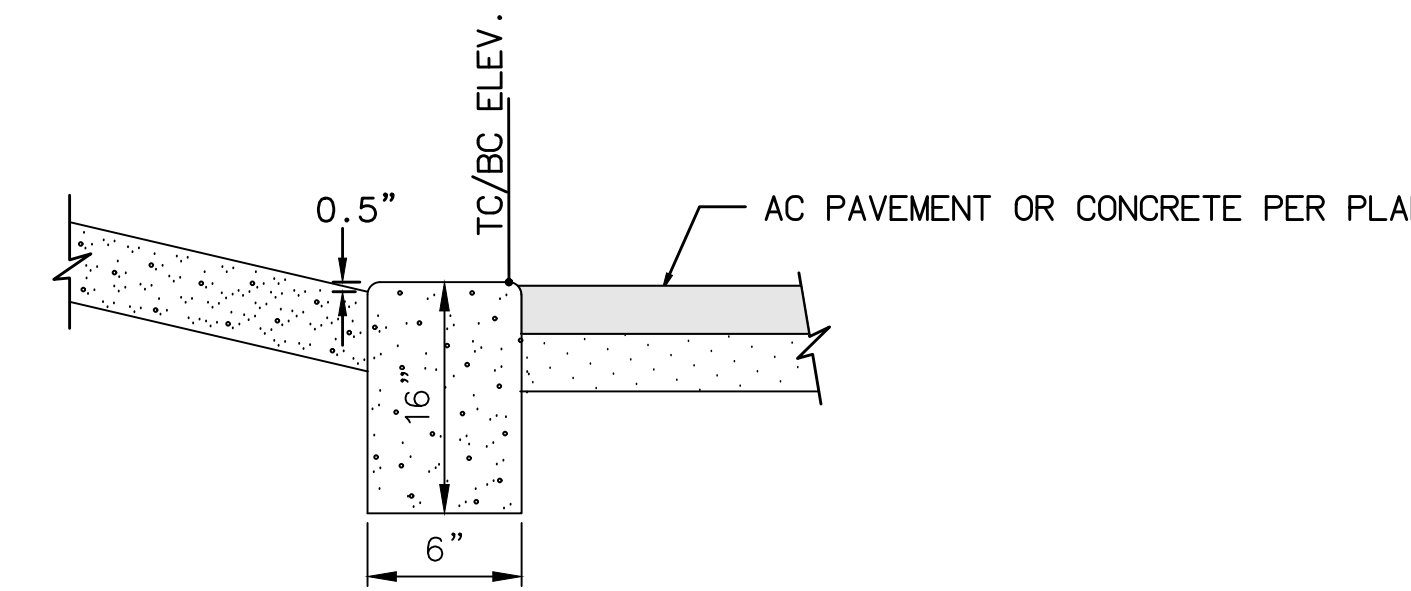
|  |   |             |                    |  |  |                            |
|--|---|-------------|--------------------|--|--|----------------------------|
|  | APPROVED BY   | APPROVED BY | DRAWN<br>MAG       | <b>SECTIONS AND DETAILS</b><br><b>MIRAMAR COLLEGE</b><br><b>INFRASTRUCTURE AND SITE</b><br><b>DEVELOPMENT PHASE II ( SOUTH )</b><br><b>SCOPE "B"</b> |  | DATE<br>SEPTEMBER 12, 2017 |
|  |   |             | CHECKED<br>JHS     |  |  | SHEET<br><b>14</b>         |
|  | <b>ENGINEER OF WORK</b><br>JAY A. SULLIVAN<br>Exp. 06-30-19 | D.S.A.      | DISTRICT ARCHITECT | REVISION<br>1  | SAN DIEGO COMMUNITY COLLEGE DISTRICT<br>OF <b>46</b> |                            |



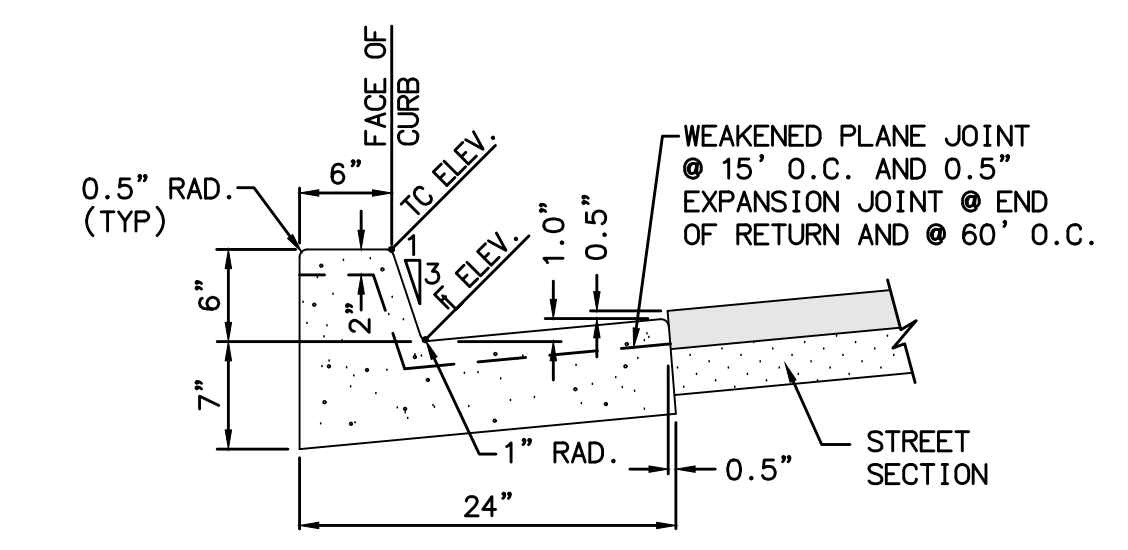
1  
C-4.2  
DETAIL  
AC PAVEMENT SECTION  
N.T.S.



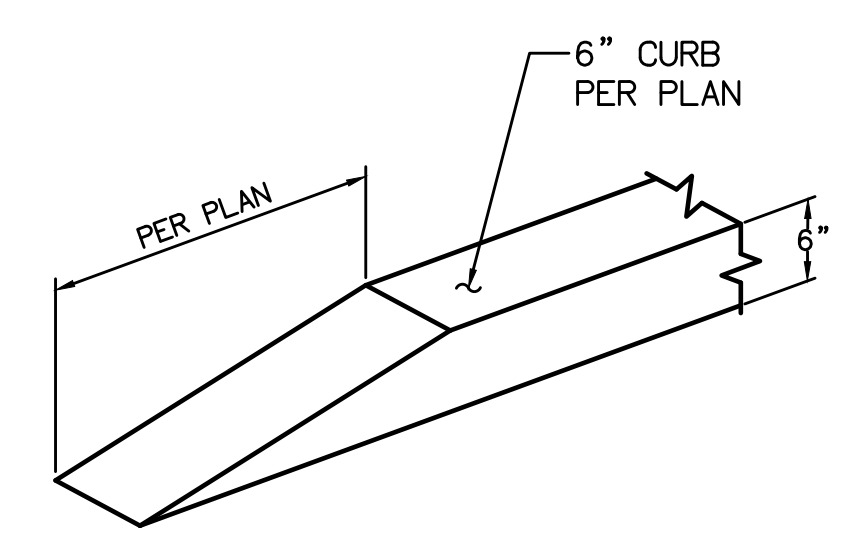
2  
C-4.2  
DETAIL  
6" CURB  
N.T.S.



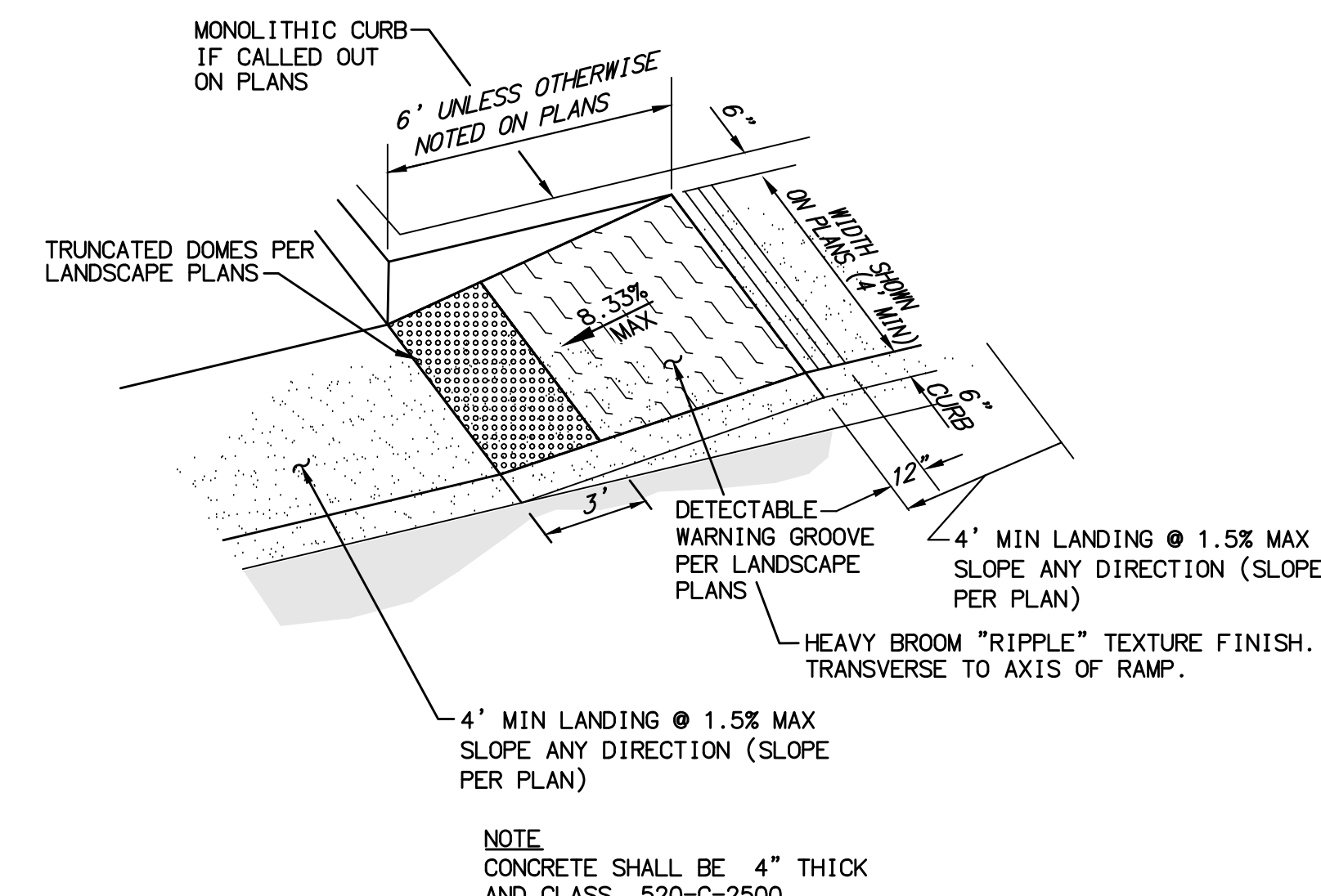
3  
C-4.2  
DETAIL  
0" CONCRETE CURB  
N.T.S.



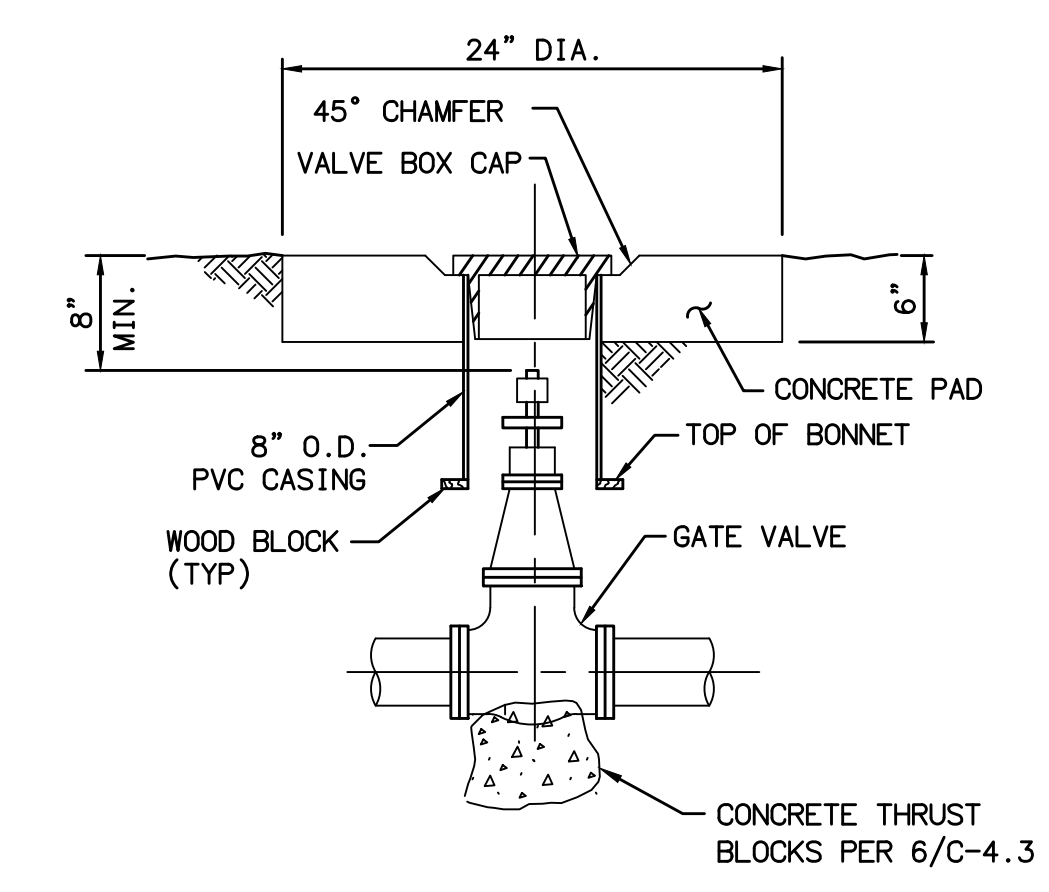
4  
C-4.2  
DETAIL  
6" CURB AND GUTTER  
N.T.S.



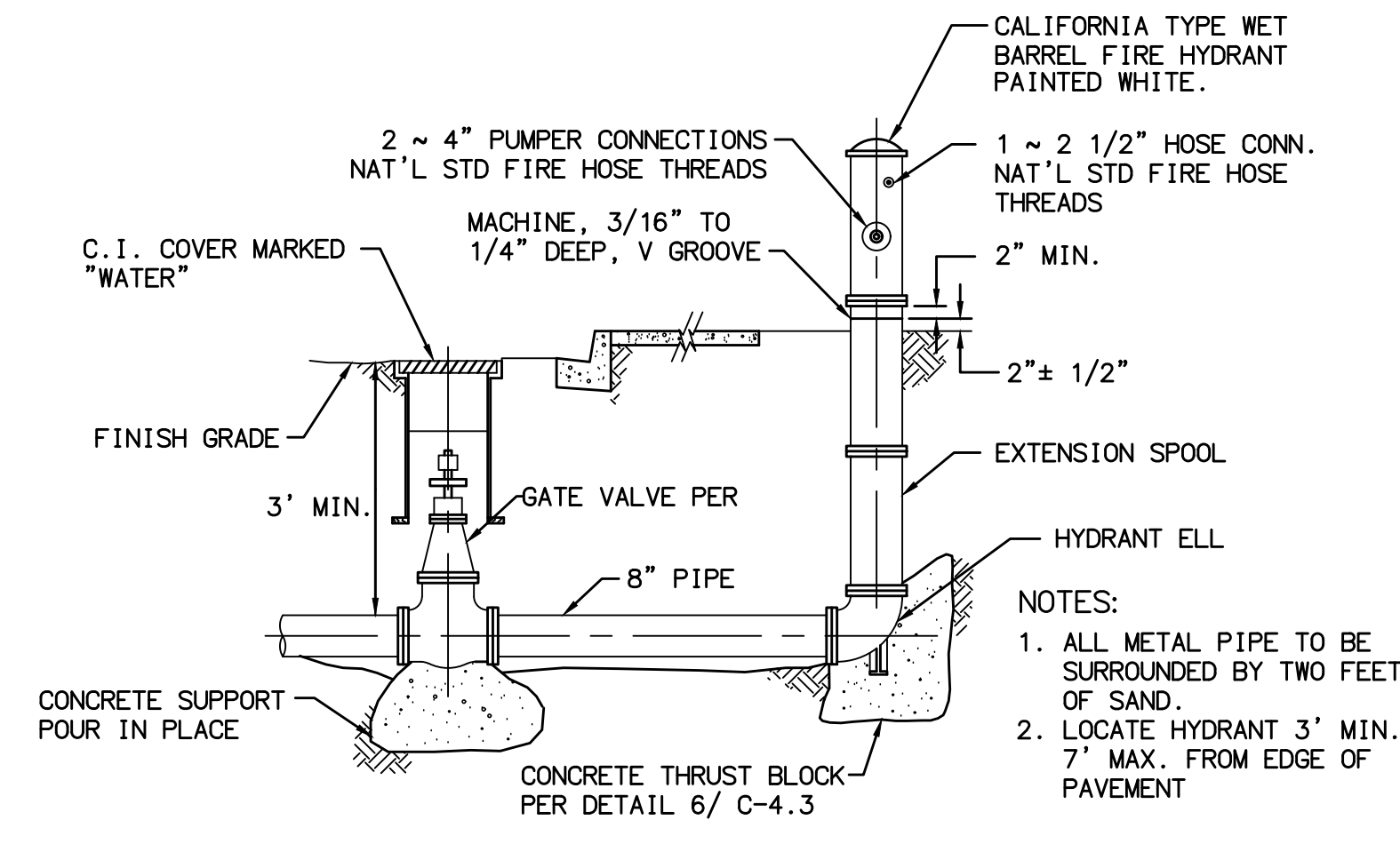
5  
C-4.2  
DETAIL  
6" TO 0" CURB TRANSITION  
N.T.S.



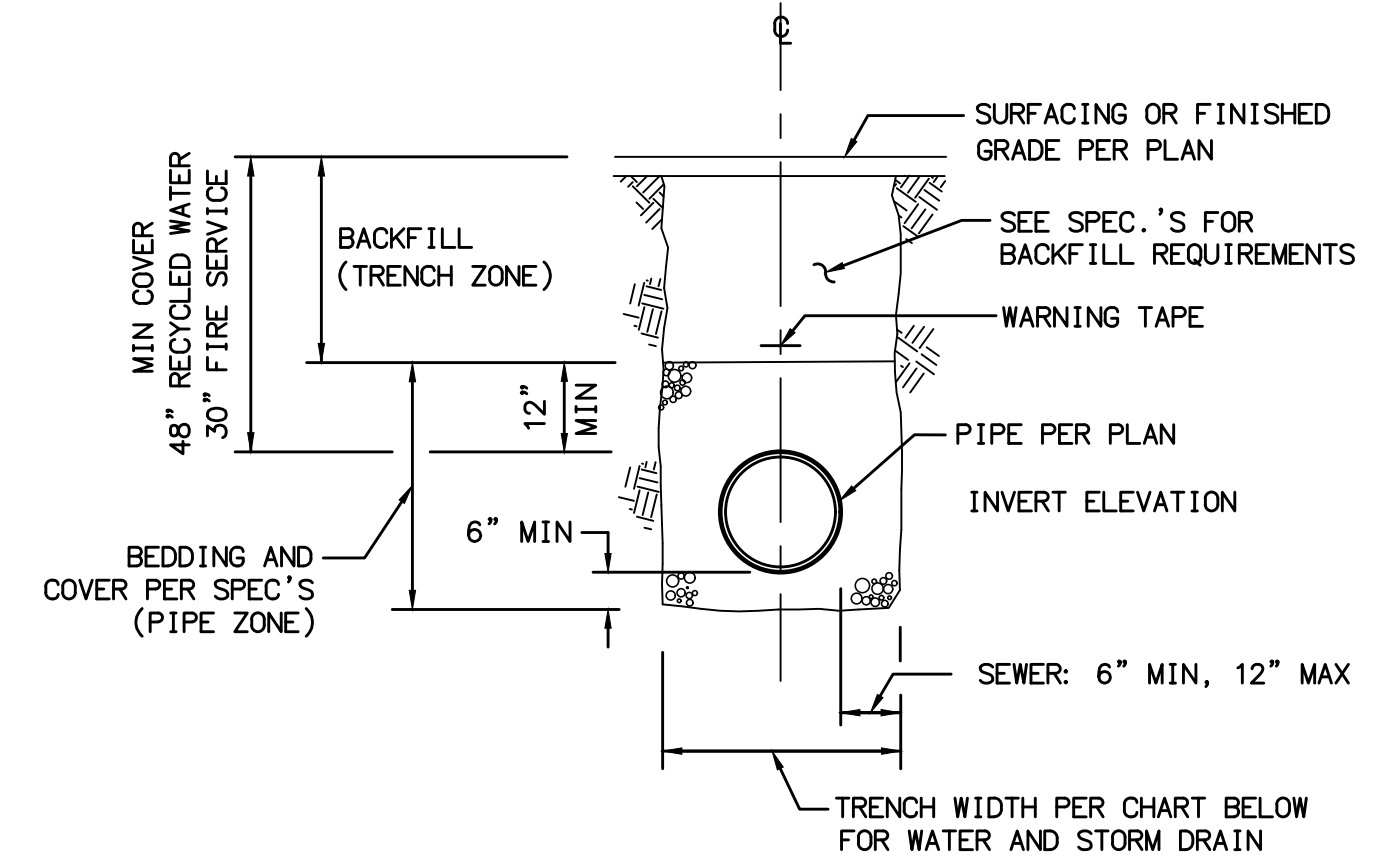
6  
C-4.2  
DETAIL  
PARALLEL CURB RAMP  
N.T.S.



7  
C-4.2  
DETAIL  
GATE VALVE  
N.T.S.



8  
C-4.2  
DETAIL  
FIRE HYDRANT ASSEMBLY  
N.T.S.

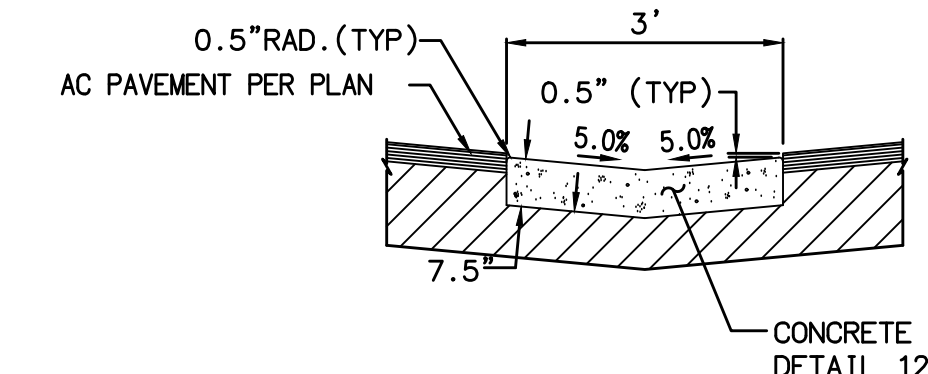


**TRENCH WIDTH:**

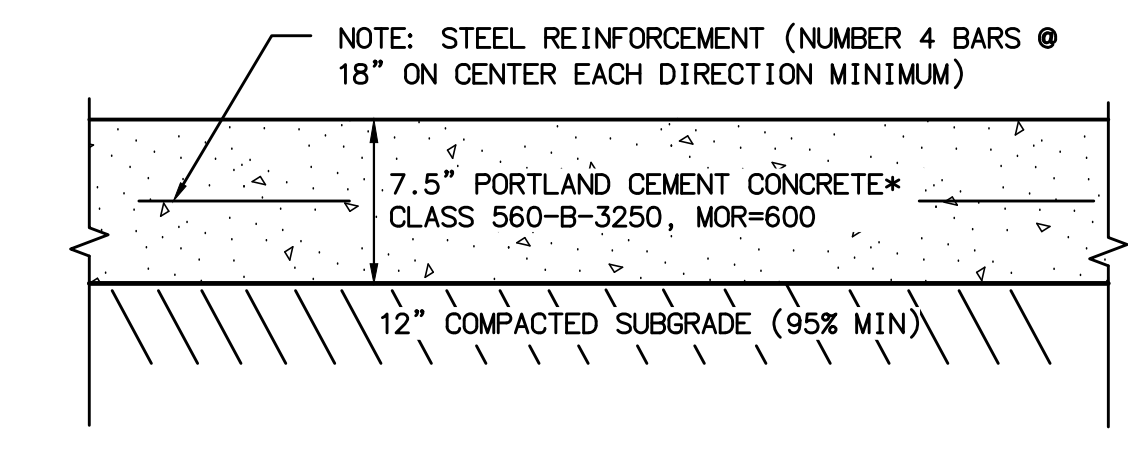
| NOM. INSIDE PIPE DIAMETER | MIN DISTANCE | MAX DISTANCE |
|---------------------------|--------------|--------------|
| 4" & SMALLER              | 18"          | 28"          |
| 6"-8"                     | 24"          | 32"          |
| 10"-12"                   | 28"          | 36"          |

**NOTES:**  
 1. FOR TRENCHING IN EXISTING PAVEMENTS, SEE STANDARD DRAWINGS G-24 OR G-25 FOR TRENCH RESURFACING  
 2. VERTICAL EXCAVATIONS GREATER THAN 4 FEET HIGH SHOULD NOT BE ATTEMPTED WITHOUT PROPER SHORING PER CAL-OSHA OR SLOTTED METHODS TO PREVENT LOCAL INSTABILITIES.  
 3. WHERE UTILITIES CROSS, SEE DETAIL 9/C-4.2

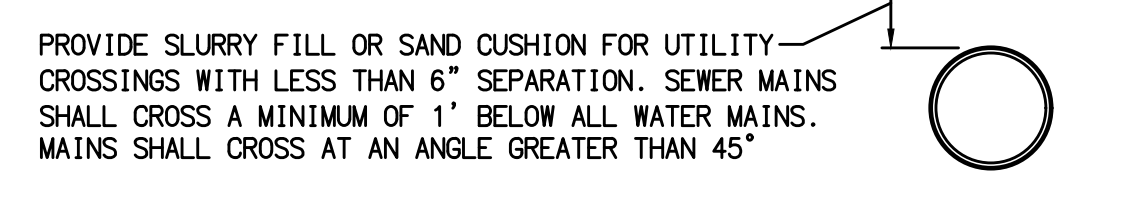
10  
C-4.2  
DETAIL  
UTILITY TRENCH  
N.T.S.



11  
C-4.2  
DETAIL  
CONCRETE RIBBON SWALE  
N.T.S.



12  
C-4.2  
DETAIL  
HEAVY VEHICLE CONCRETE PAVEMENT SECTION  
N.T.S.



9  
C-4.2  
DETAIL  
UTILITY CROSSING  
N.T.S.

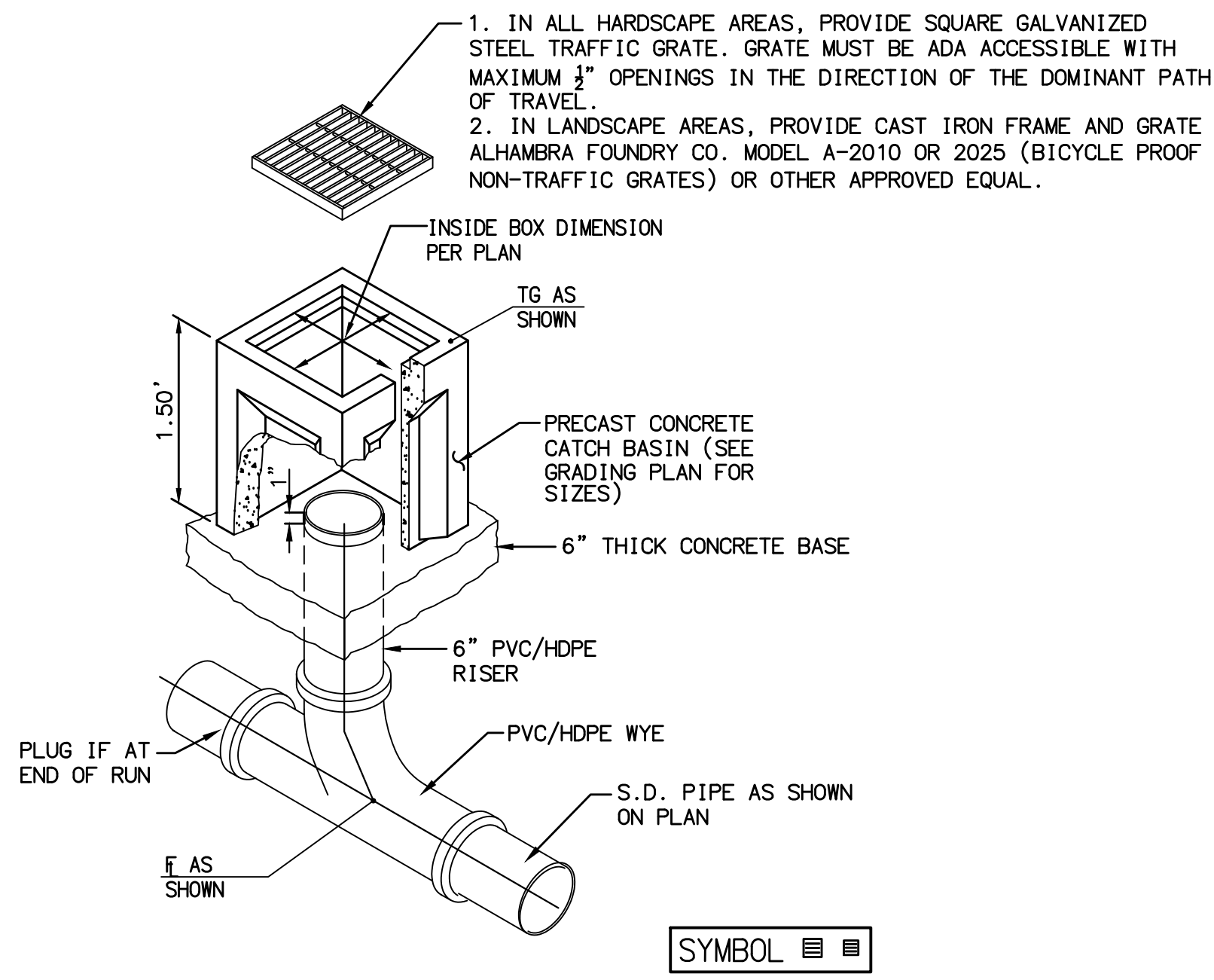
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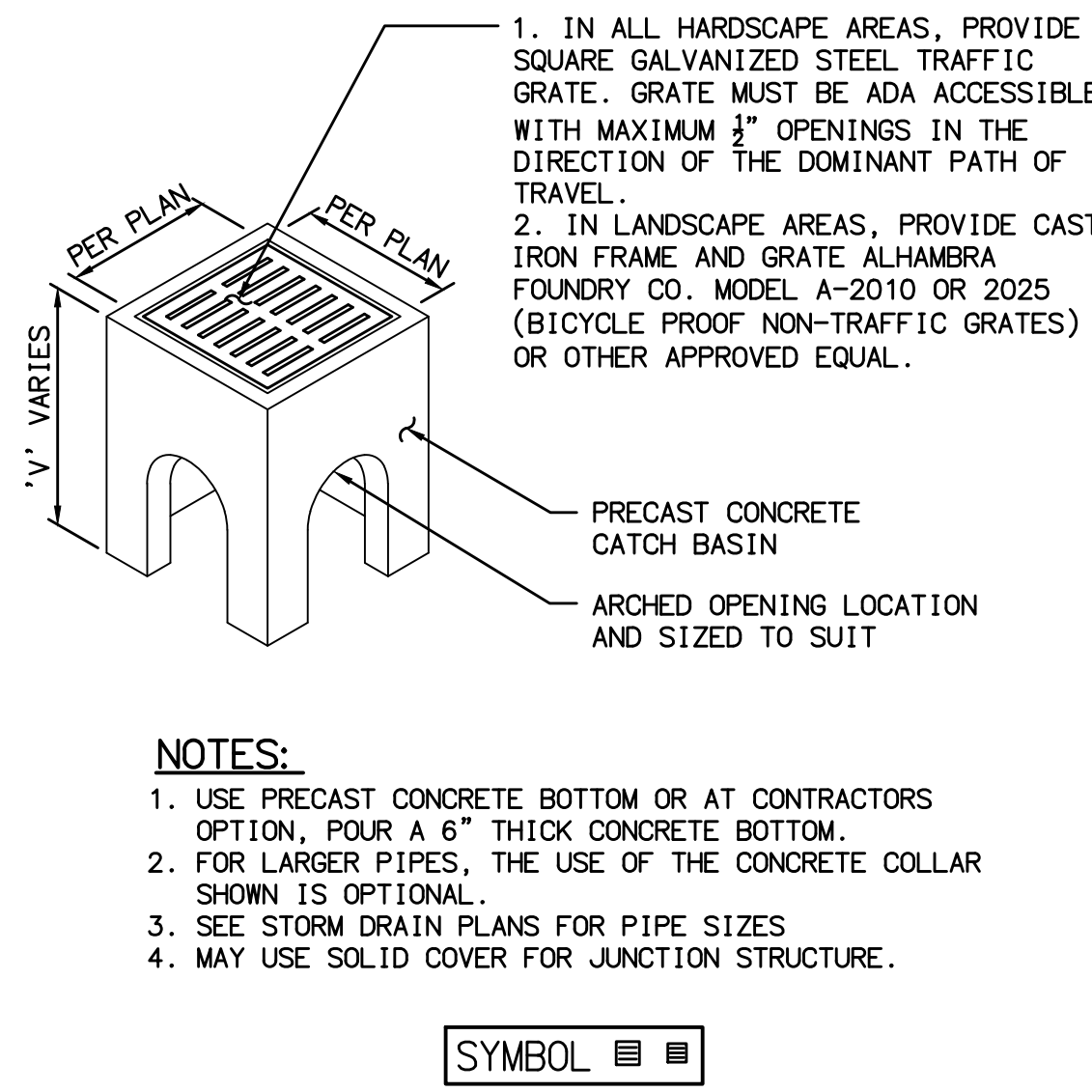
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|  |  |             |                    |   |                |                            |
|--|--|-------------|--------------------|---|----------------|----------------------------|
|  | APPROVED BY  | APPROVED BY | DRAWN<br>MAG       | SECTIONS AND DETAILS<br>MIRAMAR COLLEGE<br>INFRASTRUCTURE AND SITE<br>DEVELOPMENT PHASE II ( SOUTH )<br>SCOPE "B"<br>SAN DIEGO COMMUNITY COLLEGE DISTRICT |                | DATE<br>SEPTEMBER 12, 2017 |
|  |  |             | CHECKED<br>JHS     |   |                | SHEET<br>15                |
|  | ENGINEER OF WORK<br>JAY A. SULLIVAN<br>Exp. 06-30-19 | D.S.A.      | DISTRICT ARCHITECT | REVISION<br>1   | C-4.2<br>OF 46 |                            |

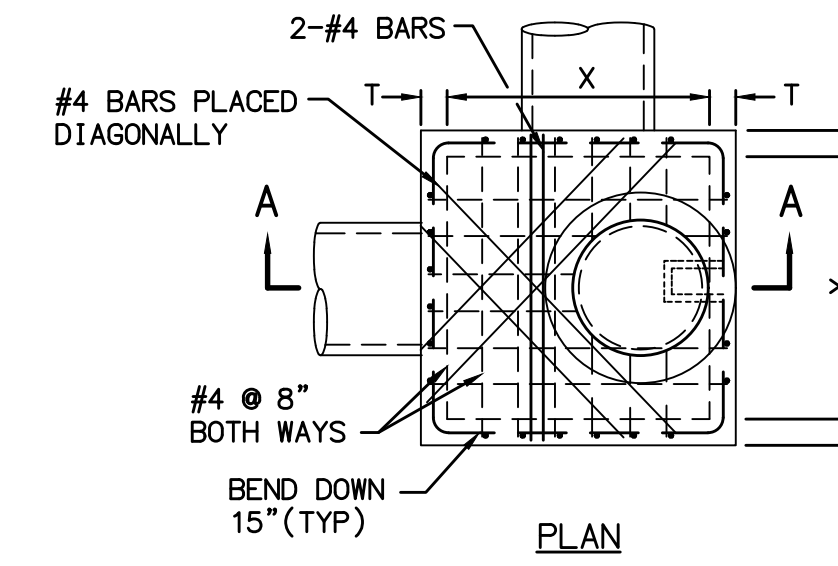


1  
C-4.3  
DETAIL  
PRECAST CONCRETE CATCH BASIN 1  
N.T.S.

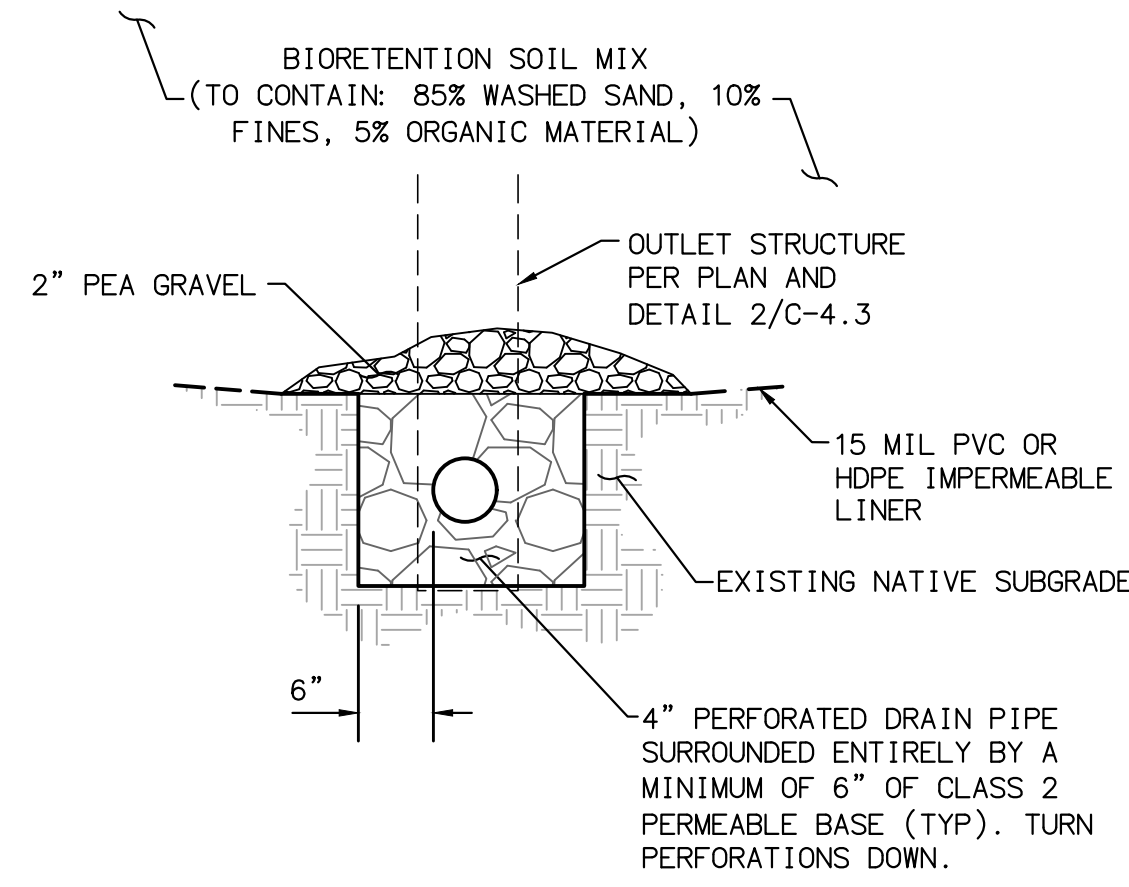
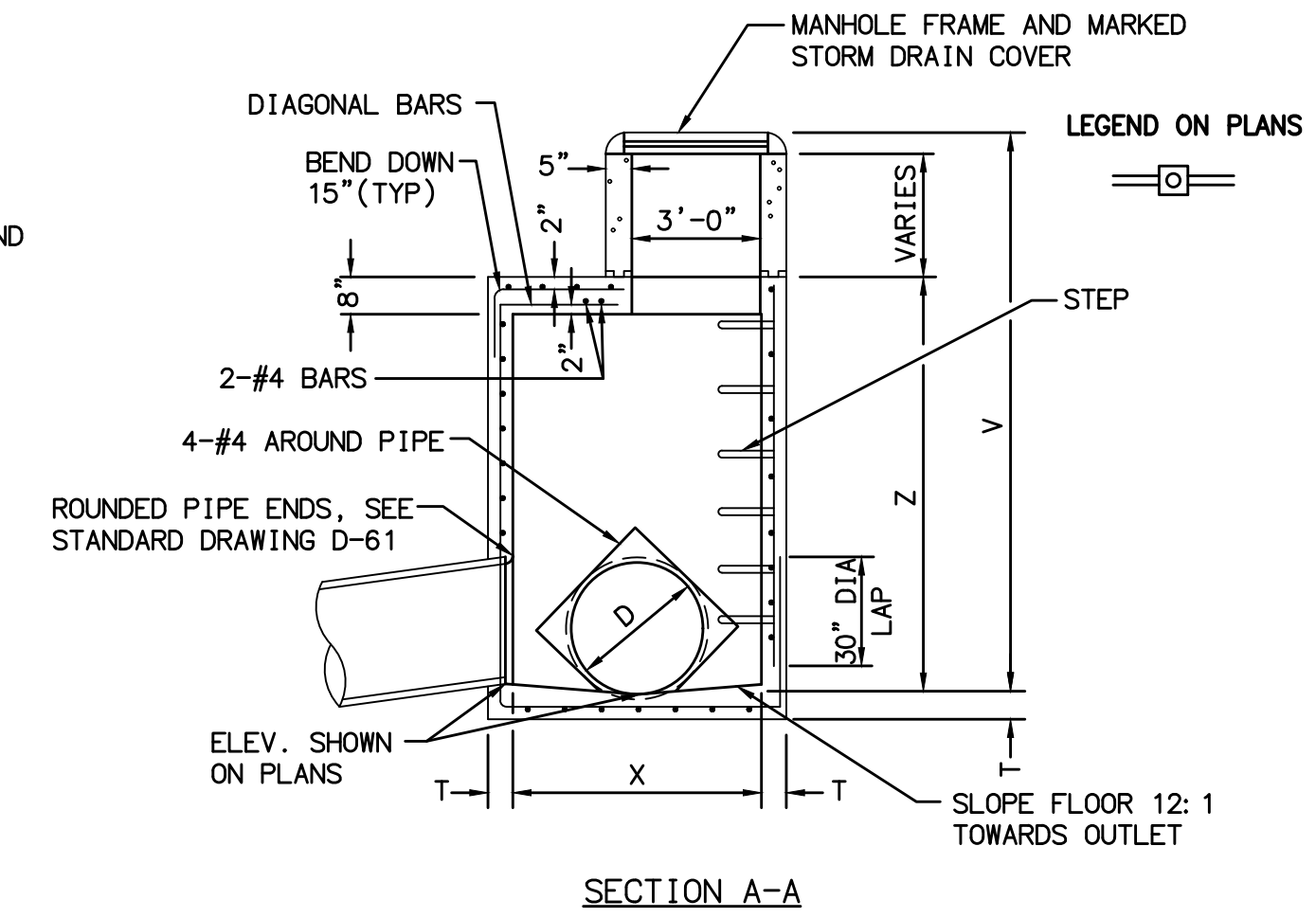


2  
C-4.3  
DETAIL  
PRECAST CONCRETE CATCH BASIN 2  
N.T.S.

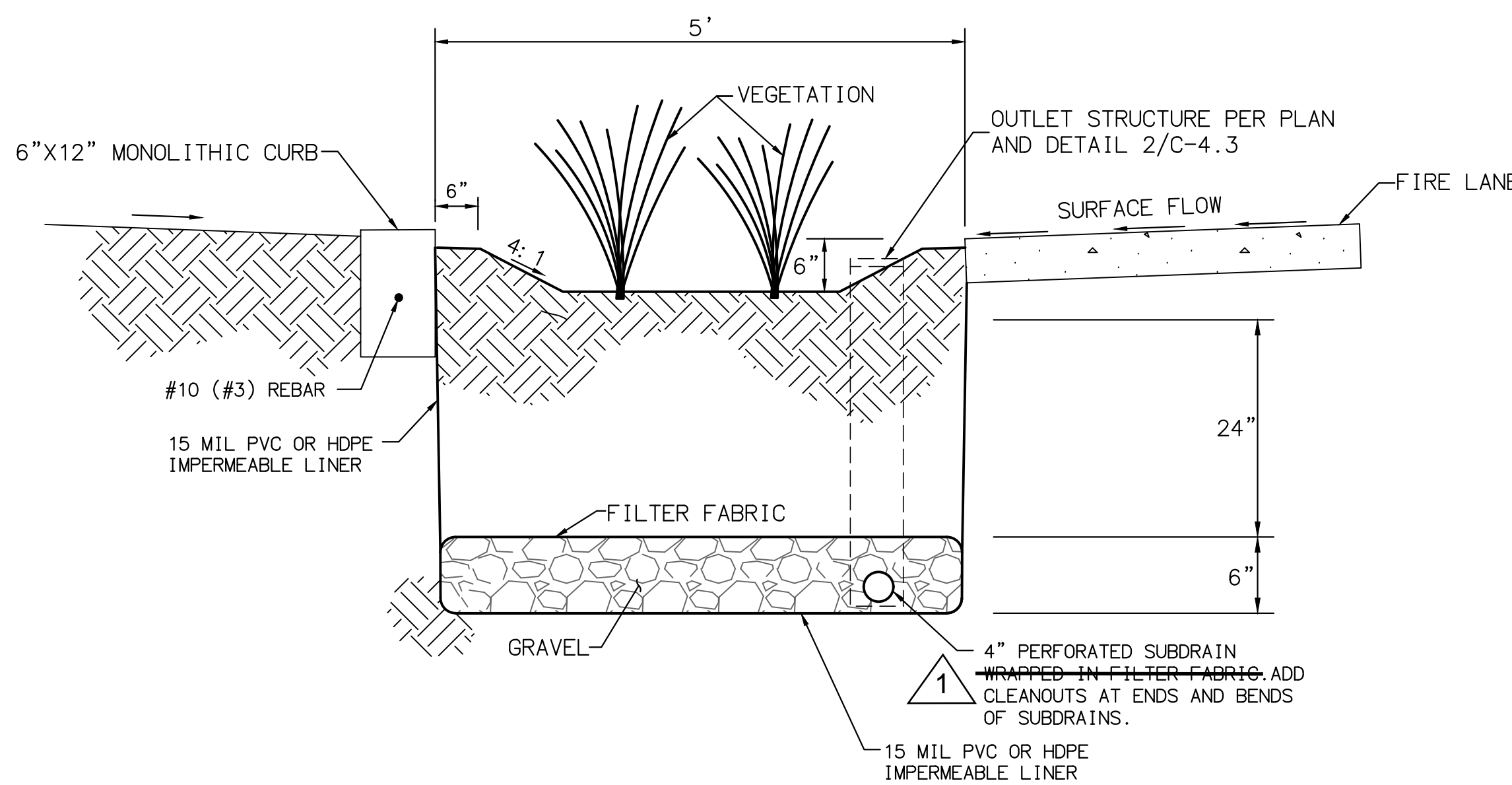
- NOTES:**
1. CONCRETE BASE SHALL BE 560-C-3250
  2. ALL PRECAST COMPONENTS SHALL BE REINFORCED WITH 1/4" DIAMETER STEEL, WOUND SPIRALLY ON 4" CENTERS.
  3. ALL JOINTS SHALL BE SET IN CLASS C MORTAR.
  4. MAINTAIN 1 1/2" CLEAR SPACING BETWEEN REINFORCING AND SURFACE UNLESS OTHERWISE NOTED.
  5. EXPOSED EDGES OF CONCRETE SHALL BE ROUNDED WITH A RADIUS OF 1/2".
  6. CLEANOUTS WITHIN FIRE LANE SHALL BE HS20-44 RATING AND THIS RATING SHALL BE MARKED ON MANHOLE COVER



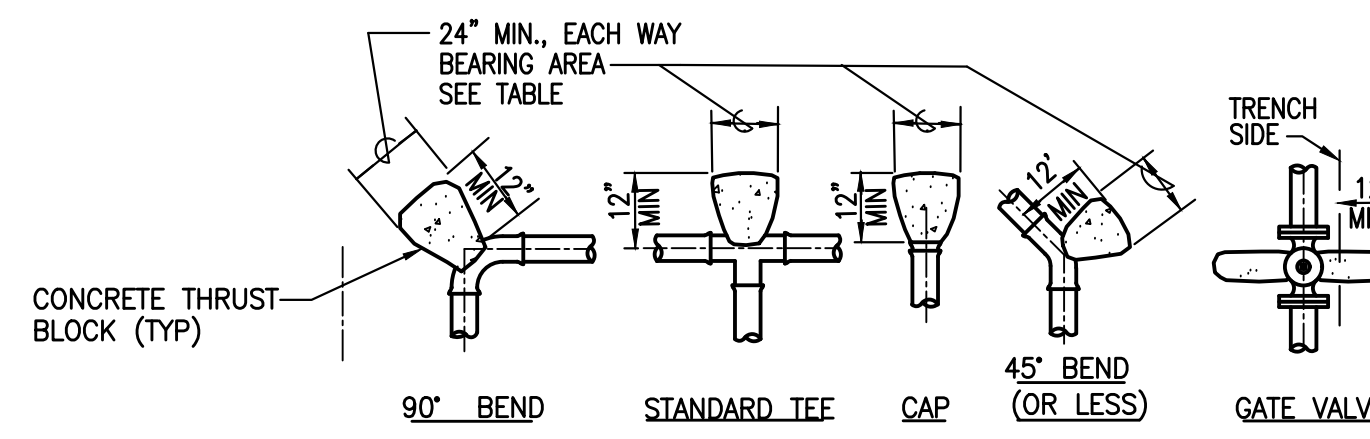
3  
C-4.3  
DETAIL  
STORM DRAIN CLEANOUT-TYPE 'A'  
N.T.S.



4  
C-4.3  
TYPICAL SECTION  
BIO-FILTRATION COLLECTION PIPE TRENCH  
N.T.S.



5  
C-4.3  
DETAIL  
BIO-FILTRATION BASIN  
N.T.S.



- NOTES:**
1. MAX. ALLOWABLE SOIL PRESSURE (MASP) = 1,250 PSF
  2. DESIGN OPERATING PRESSURE (DOP) = 120 PSI
  3. DESIGN TEST PRESSURE (DTP) = 200 PSI
  4. CONCRETE THRUST BLOCKS SHALL NOT INFRINGE ON VALVE OPERATORS, BOLTS, ETC.
  5. ALL THRUST BLOCK BEARING AREAS SHALL BE CARRIED TO UNDISTURBED SOIL.
  6. IF MASP, DOP, OR DTP DIFFERS THEN THRUST BLOCK BEARING AREAS AND VOLUMES MUST BE RE-CALCULATED.
  7. THRUST BLOCKS SHALL BE USED AT CONNECTIONS BETWEEN EXISTING & NEW PIPE MAINS WHERE JOINTS ARE NOT RESTRAINED.
  8. RESTRAINED JOINTS MUST BE USED FOR ALL VERTICAL BENDS
  9. RESTRAINED JOINTS MAY BE USED IN LIEU OF HORIZONTAL THRUST BLOCKS AT THE DISCRETION OF THE CONTRACTOR AND APPROVED BY THE DESIGNER OF RECORD.
  10. RESTRAINED JOINTS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.

| PIPE SIZE | FITTINGS |      |         |         |               |  | BEARING AREA (SQ. FEET) |
|-----------|----------|------|---------|---------|---------------|--|-------------------------|
|           | 90°      | 45°  | 22 1/2° | 11 1/4° | TEE, CAP & GY |  |                         |
| 4"        | 4.6      | 2.5  | 1.3     | 0.9     | 3.2           |  |                         |
| 6"        | 10.5     | 5.7  | 2.9     | 1.5     | 7.5           |  |                         |
| 8"        | 18.2     | 9.8  | 5.0     | 2.7     | 13.0          |  |                         |
| 10"       | 26.0     | 14.0 | 7.2     | 4.2     | 18.4          |  |                         |
| 12"       | 38.7     | 27.4 | 10.7    | 6.0     | 27.4          |  |                         |

| PIPE SIZE | FITTINGS |     |         |         |     |          | LENGTH (FT) EACH SIDE |
|-----------|----------|-----|---------|---------|-----|----------|-----------------------|
|           | 90°      | 45° | 22 1/2° | 11 1/4° | TEE | DEAD END |                       |
| 4"        | 20       | 8   | 4       | 2       | 1   | 52       |                       |
| 6"        | 27       | 12  | 6       | 3       | 21  | 74       |                       |
| 8"        | 35       | 15  | 7       | 4       | 42  | 96       |                       |
| 10"       | 42       | 18  | 9       | 5       | 59  | 115      |                       |
| 12"       | 49       | 20  | 10      | 5       | 79  | 136      |                       |

HORIZONTAL BEND THRUST  
BLOCK TABLE AND DETAILS

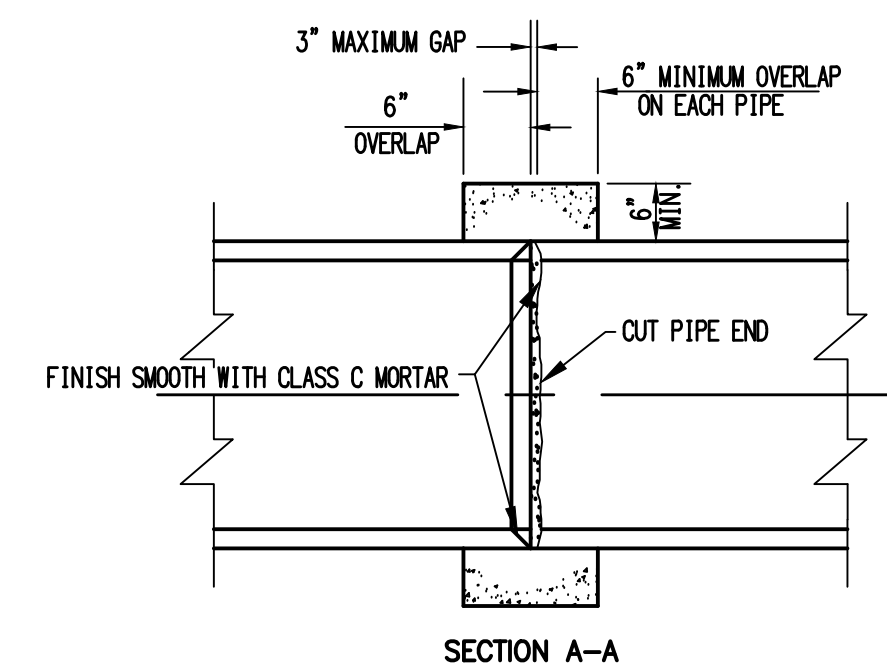
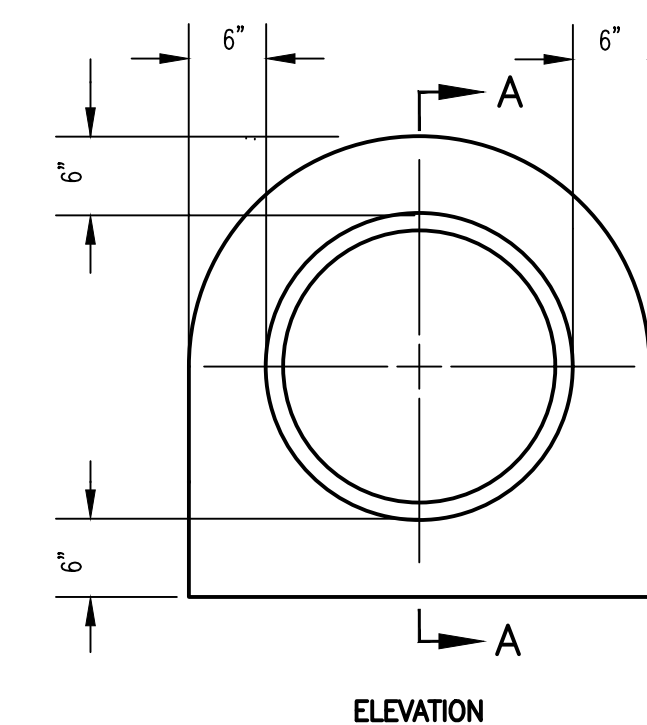
HORIZONTAL BEND RESTRAINED  
JOINT TABLE AND DETAILS

RESTRAINED JOINTS TABLE:

| PIPE SIZE | FITTINGS |         |         |     | LENGTH (FT) EACH SIDE |
|-----------|----------|---------|---------|-----|-----------------------|
|           | 45°      | 22 1/2° | 11 1/4° | TEE |                       |
| 4"        | 22       | 11      | 6       |     |                       |
| 6"        | 31       | 15      | 8       |     |                       |
| 8"        | 40       | 20      | 10      |     |                       |
| 10"       | 48       | 23      | 12      |     |                       |
| 12"       | 57       | 27      | 14      |     |                       |

VERTICAL BEND RESTRAINED JOINT TABLE AND DETAILS

6  
C-4.3  
DETAIL  
CONCRETE THRUST BLOCKS AND RESTRAINED JOINTS  
N.T.S.



- NOTES:**
1. PIPE COLLAR DOES NOT HAVE TO BE FINISHED IF COVERED.
  2. CONCRETE SHALL BE 560-C-3250.
  3. WHERE GAP EXCEEDS 3" BUT IS NOT MORE THAN 6" AN INTERNAL FORM SHALL BE USED.

7  
C-4.3  
DETAIL  
PIPE COLLAR  
N.T.S.

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|--|-------------|--------------------|----------------|---|--|
|  | APPROVED BY | APPROVED BY        | DRAWN<br>MAG   | SECTIONS AND DETAILS  |  |
|  |             |                    | CHECKED<br>JHS | MIRAMAR COLLEGE<br>INFRASTRUCTURE AND SITE<br>DEVELOPMENT PHASE II ( SOUTH )<br>SCOPE "B" |  |
| ENGINEER OF WORK<br>JAY A. SULLIVAN<br>Exp. 06-30-19 | D.S.A.      | DISTRICT ARCHITECT | REVISION<br>1  | SAN DIEGO COMMUNITY COLLEGE DISTRICT  |  |
|  |             |                    |                | DATE<br>SEPTEMBER 12, 2017  |  |
|  |             |                    |                | SHEET<br>16   |  |
|  |             |                    |                | C-4.3   |  |
|  |             |                    |                | OF<br>46  |  |

