













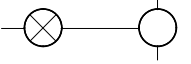
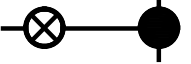
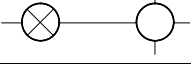
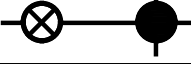
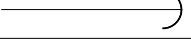
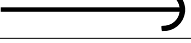
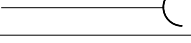






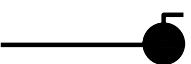
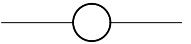


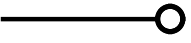
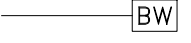
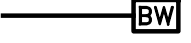






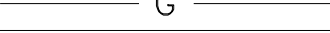




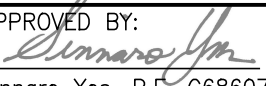
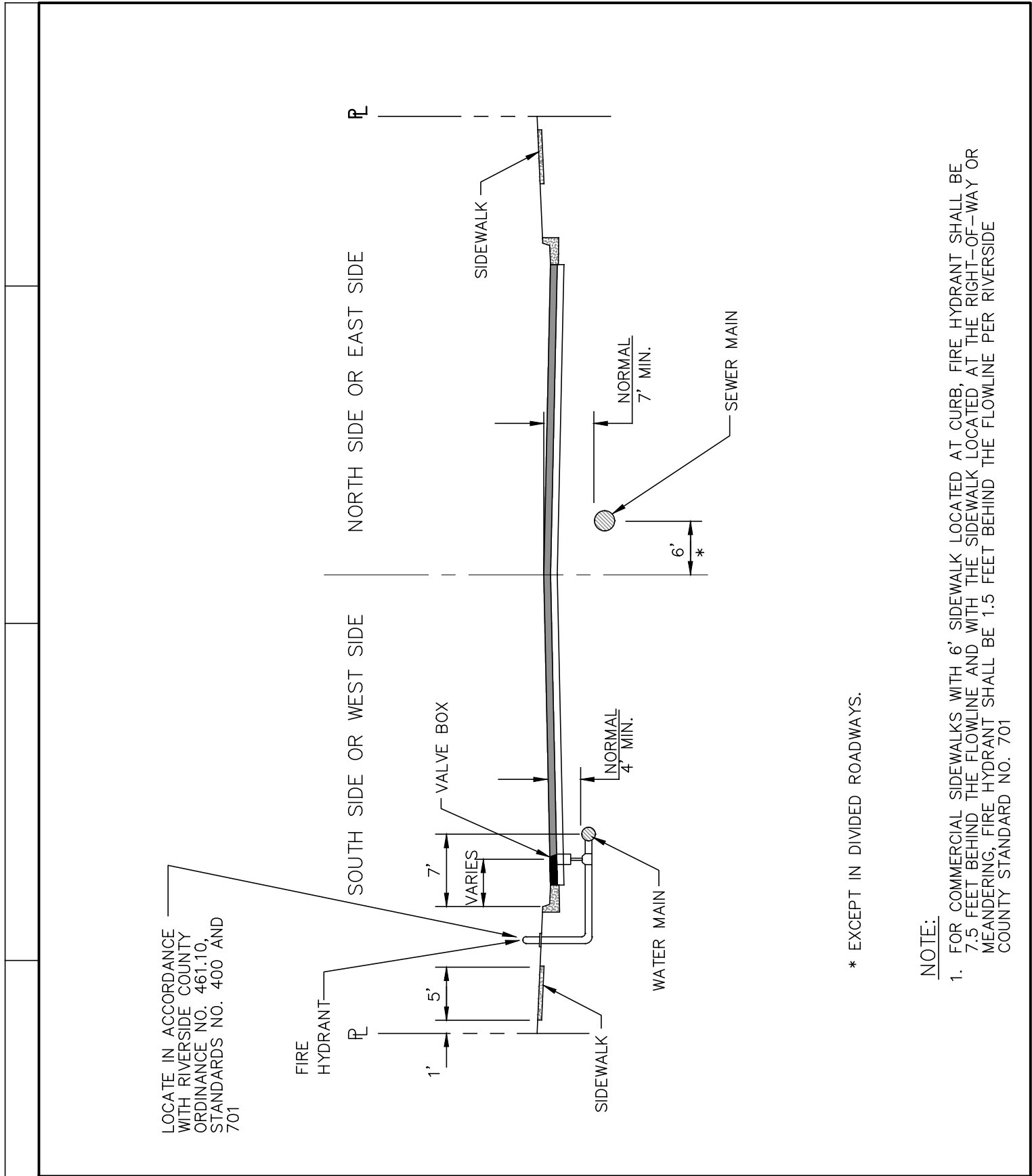
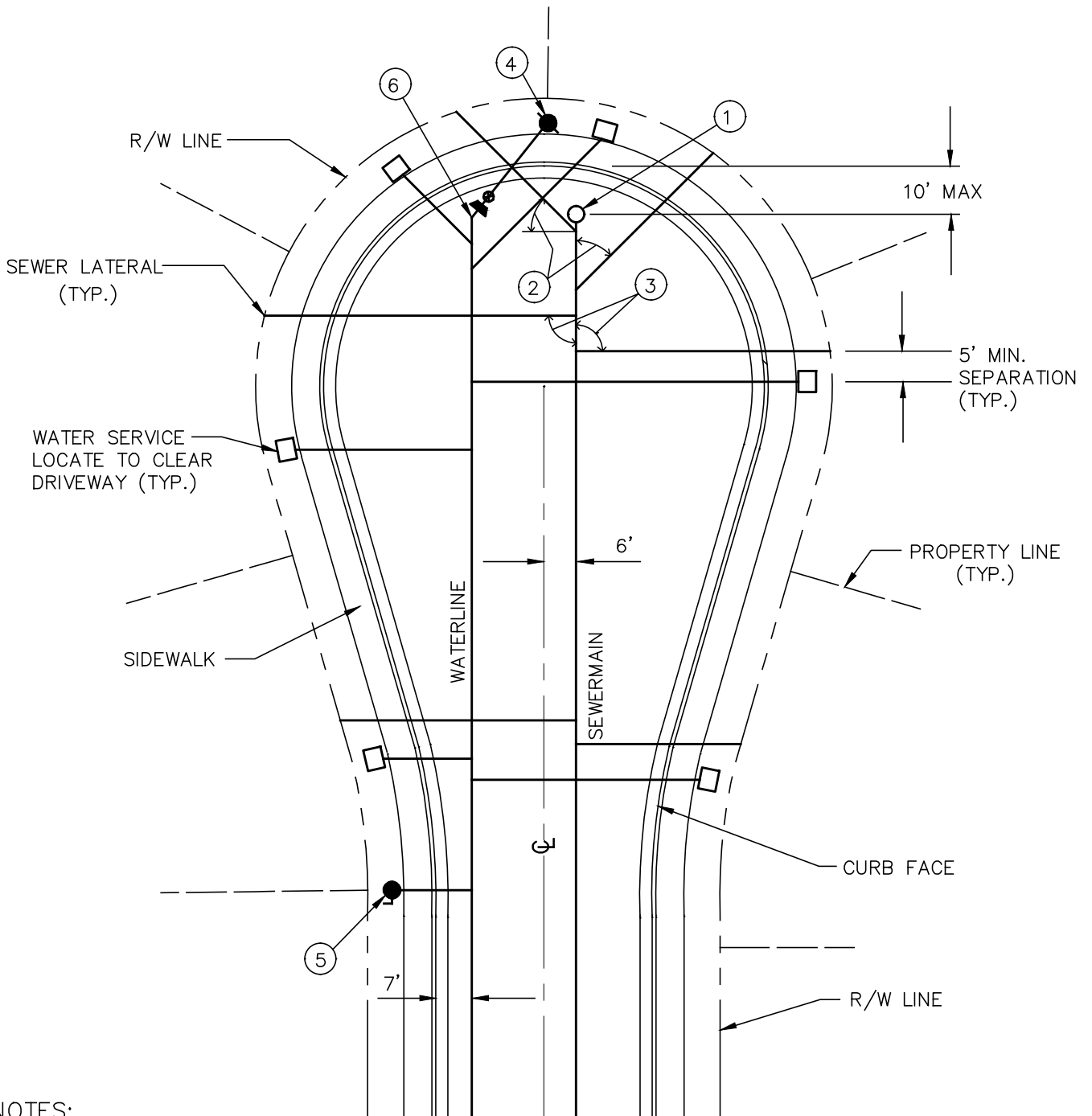


| | SYMBOL FOR: | EXISTING | PROPOSED |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| | TEE |  |  |
| | CROSS |  |  |
| | 90° ELBOW |  |  |
| | 45° ELBOW |  |  |
| | REDUCER |  |  |
| | RESILENT SEAT GATE VALVE (G.V.) |  |  |
| | BUTTERFLY VALVE (B.F.V.) |  |  |
| | STANDARD FIRE HYDRANT PER J.C.S.D. STD. NO. G-1 OR G-2 |  |  |
| | "SUPER" FIRE HYDRANT PER J.C.S.D. STD. NO. G-1A OR G-2A |  |  |
| | CAP |  |  |
| | PLUG |  |  |
| | WATER SERVICE PER STANDARD INDICATED |  |  |
| | BLOW-OFF PER STANDARD INDICATED |  |  |
| | AIR VALVE PER STANDARD INDICATED |  |  |
| | SEWER MANHOLE |  |  |
| | SEWER CLEANOUT |  |  |
| | SEWER BACKWATER VALVE |  |  |
| | WATER PIPELINE |  |  |
| | SEWER PIPELINE |  |  |
| | SEWER FORCE MAIN |  |  |
| | GAS PIPELINE |  | N/A |
| | UNDERGROUND TELEPHONE CABLE |  | N/A |
| | STORM DRAIN PIPE |  | N/A |
| | UNDERGROUND TRAFFIC SIGNAL CABLE |  | N/A |
| | UNDERGROUND ELECTRIC CABLE |  | N/A |
| JURUPA COMMUNITY SERVICES DISTRICT | | | |
| REV. | SCALE: NONE | STANDARD SYMBOLS | DRAWING NO. |
| | DATE: SEPTEMBER 2020 | | AA-1 |
| | APPROVED BY:  Sinnaro Yos, P.E. C68607 | | W.O. 19-0248 |
| | | ALBERT A. WEBB ASSOCIATES CONSULTING ENGINEERS RIVERSIDE CALIFORNIA | |



JURUPA COMMUNITY SERVICES DISTRICT

| | | | |
|------|---------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|--------------|
| REV. | SCALE: NONE | STANDARD WATER/SEWER LOCATION | DRAWING NO. |
| | DATE: SEPTEMBER 2020 | | AA-2 |
| | APPROVED BY:  Sinnaro Yos, P.E. C68607 | ALBERT A. WEBB ASSOCIATES CONSULTING ENGINEERS RIVERSIDE CALIFORNIA | W.O. 19-0248 |



NOTES:

- ① USE EJ COMPOSITE 3200 SERIES 4 LOCK TITUS TWIST LOCK COVER WHERE CUL-DE-SAC CREATES LOW POINT.
- ② 45° ANGLE ONLY IF NECESSARY TO SERVE REAR LOTS (WATER AND SEWER).
- ③ 90° ANGLE (STANDARD) (WATER AND SEWER).
- ④ END OF MAIN FIRE HYDRANT (TO SERVE AS A BLOW-OFF) LOCATE TO CLEAR DRIVEWAYS.
- ⑤ CREATE HIGH POINT (3' MIN. DEPTH OF COVER) AND LOCATE A.V. AT THIS LOCATION.
- ⑥ END OF WATERLINE (MAX. OF 4'+/- DEPTH OF COVER).

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

STANDARD CUL-DE-SAC WATER AND SEWER SERVICES

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

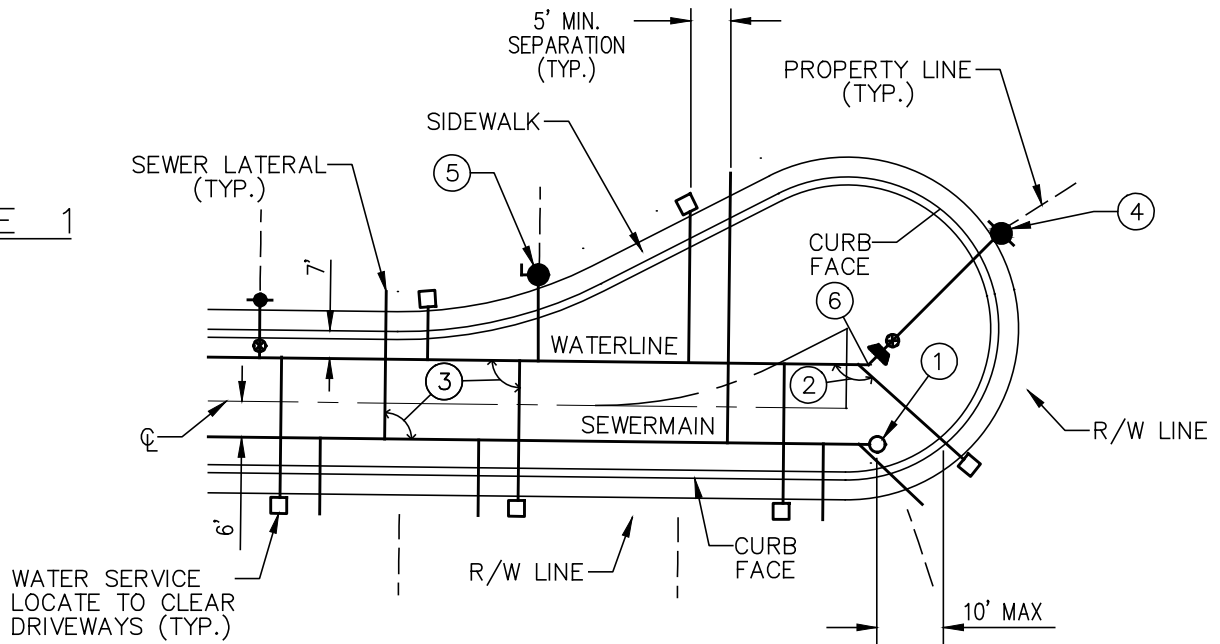
DRAWING NO.

AA-3

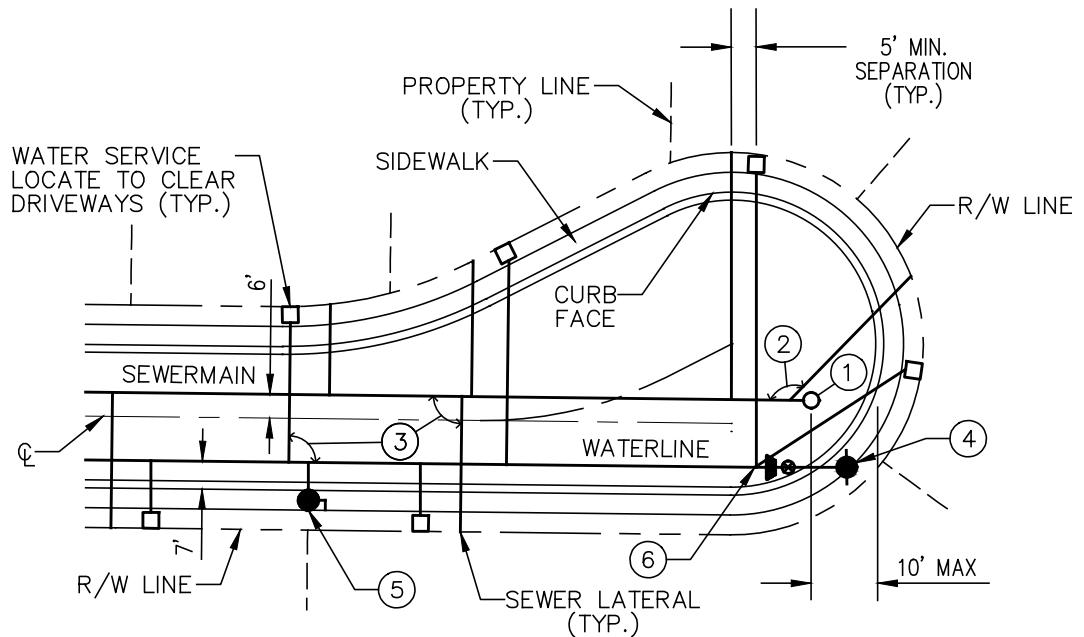
W.O. 19-0248

REV.

CASE 1



CASE 2



NOTES:

- ① USE EJ COMPOSITE 3200 SERIES 4 LOCK TITUS TWIST LOCK COVER WHERE CUL-DE-SAC CREATES LOW POINT.
- ② 45° ANGLE ONLY IF NECESSARY TO SERVE REAR LOTS (WATER AND SEWER).
- ③ 90° ANGLE (STANDARD) (WATER AND SEWER).
- ④ END OF MAIN FIRE HYDRANT (TO SERVE AS A BLOW-OFF) LOCATE TO CLEAR DRIVEWAYS.
- ⑤ CREATE HIGH POINT (3' MIN. DEPTH OF COVER) AND LOCATE A.V. AT THIS LOCATION.
- ⑥ END OF WATERLINE (MAX. OF 4'+/- DEPTH OF COVER).

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

OFFSET CUL-DE-SAC WATER AND SEWER SERVICES

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

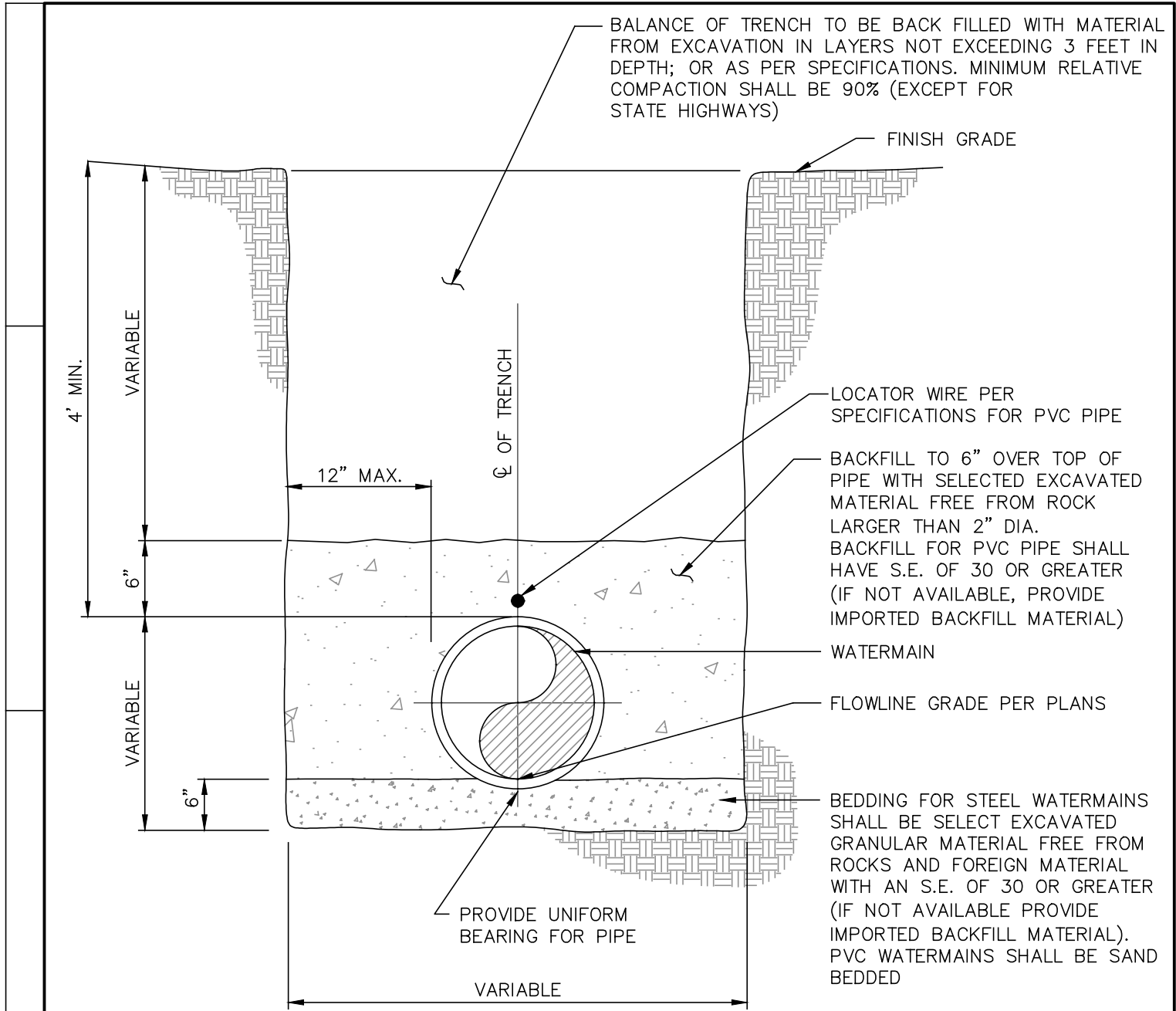
CALIFORNIA

DRAWING NO.

AA-4

W.O. 19-0248

REV.

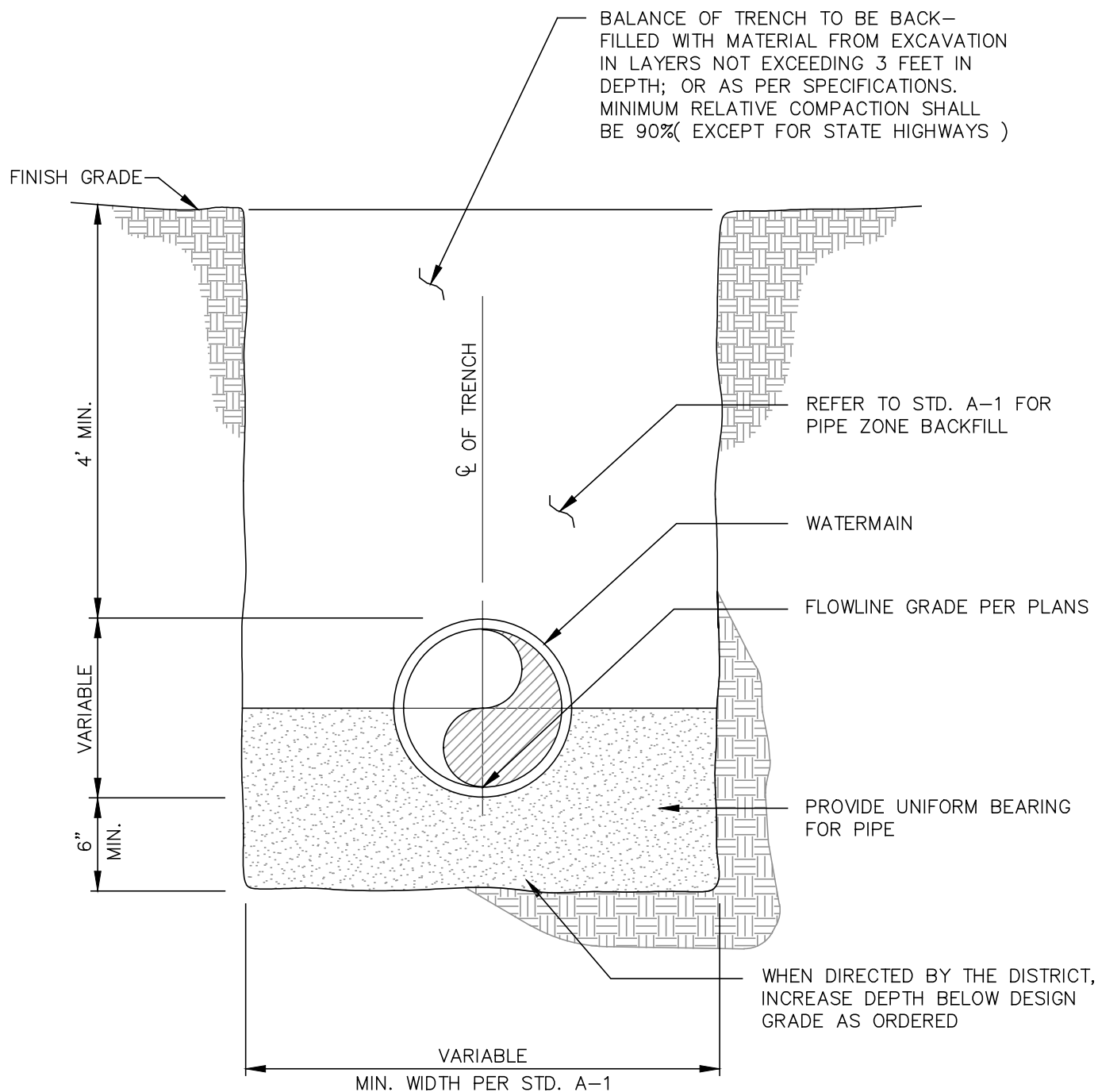


NOTES:

1. WHERE BOTTOM OF EXCAVATION IS IN ROCK WHICH CANNOT BE EXCAVATED TO PROVIDE UNIFORM BEARING FOR THE PIPE, OVEREXCAVATE 6" MINIMUM BELOW DESIGN GRADE, AND REFILL IN 3" THICK COMPACTED LAYERS WITH SELECTED EXCAVATED MATERIAL OR PROVIDE IMPORTED BACKFILL MATERIAL PER SPECIFICATIONS.

JURUPA COMMUNITY SERVICES DISTRICT

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|--------------|
| SCALE: NONE | TYPICAL TRENCH DETAIL | DRAWING NO. |
| DATE: SEPTEMBER 2020 | | A-1 |
| REV. APPROVED BY:  Sinnaro Yos, P.E. C68607 | ALBERT A. WEBB ASSOCIATES CONSULTING ENGINEERS RIVERSIDE CALIFORNIA | W.O. 19-0248 |



NOTE:

1. WHENEVER TRENCH BOTTOM IS INSUFFICIENTLY STABLE, IN THE OPINION OF THE DISTRICT, TO PROVIDE A SUITABLE FOUNDATION FOR THE PIPE, OVEREXCAVATE BELOW DESIGN GRADE AS ORDERED, AND REFILL WITH CAREFULLY PLACED AND SUFFICIENTLY COMPACTED CRUSHED ROCK; OR AS PER SPECIFICATION.

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

WATERLINE SPECIAL BEDDING DETAIL

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

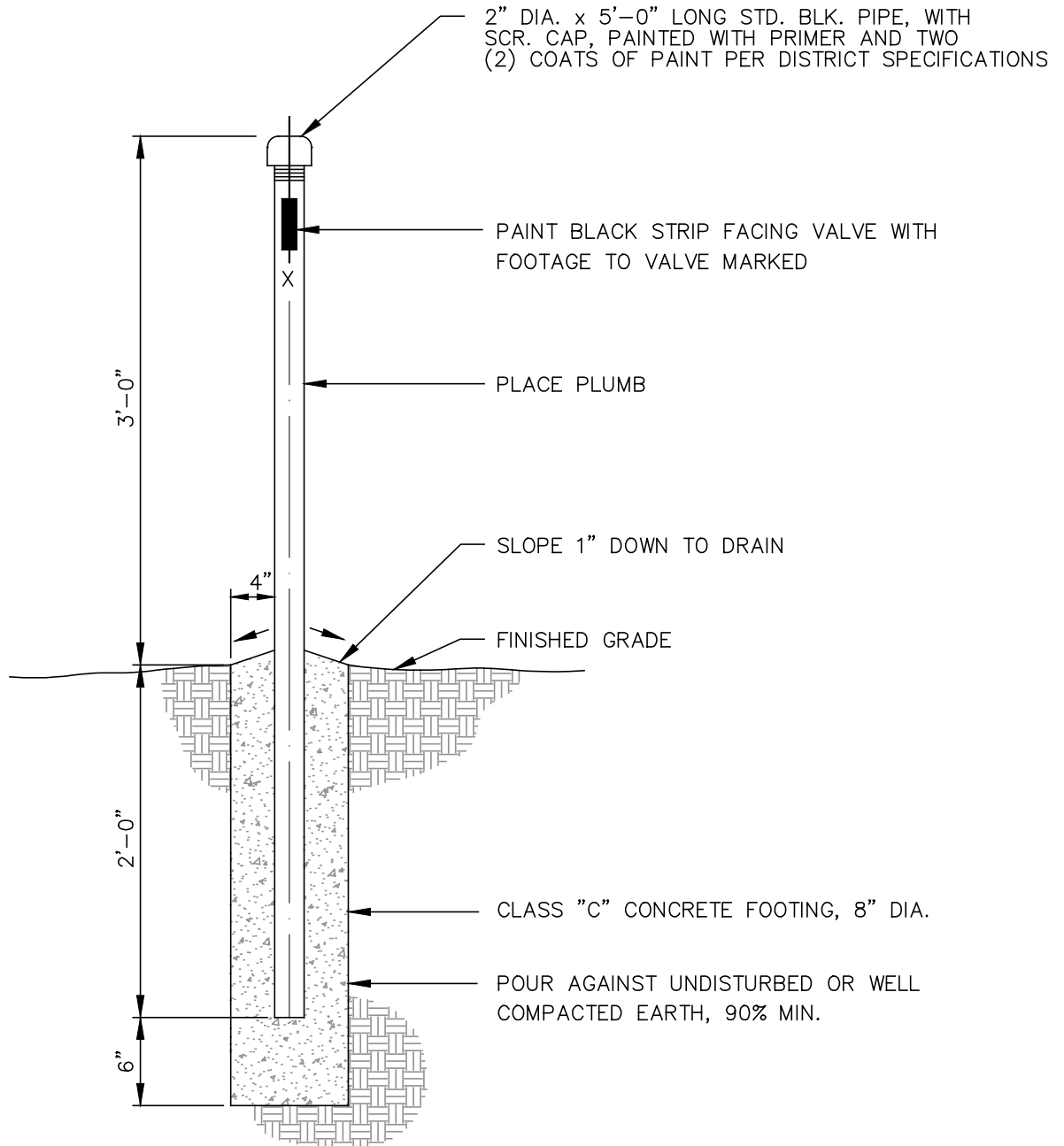
CALIFORNIA

DRAWING NO.

A-2

W.O. 19-0248

REV.



NOTE:

MARKERS TO BE INSTALLED AS DIRECTED IN THE FIELD BY THE DISTRICT, TO INDICATE THE LOCATION OF VALVES OR MANHOLES.

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

STANDARD VALVE AND SEWER MANHOLE MARKER INSTALLATION

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

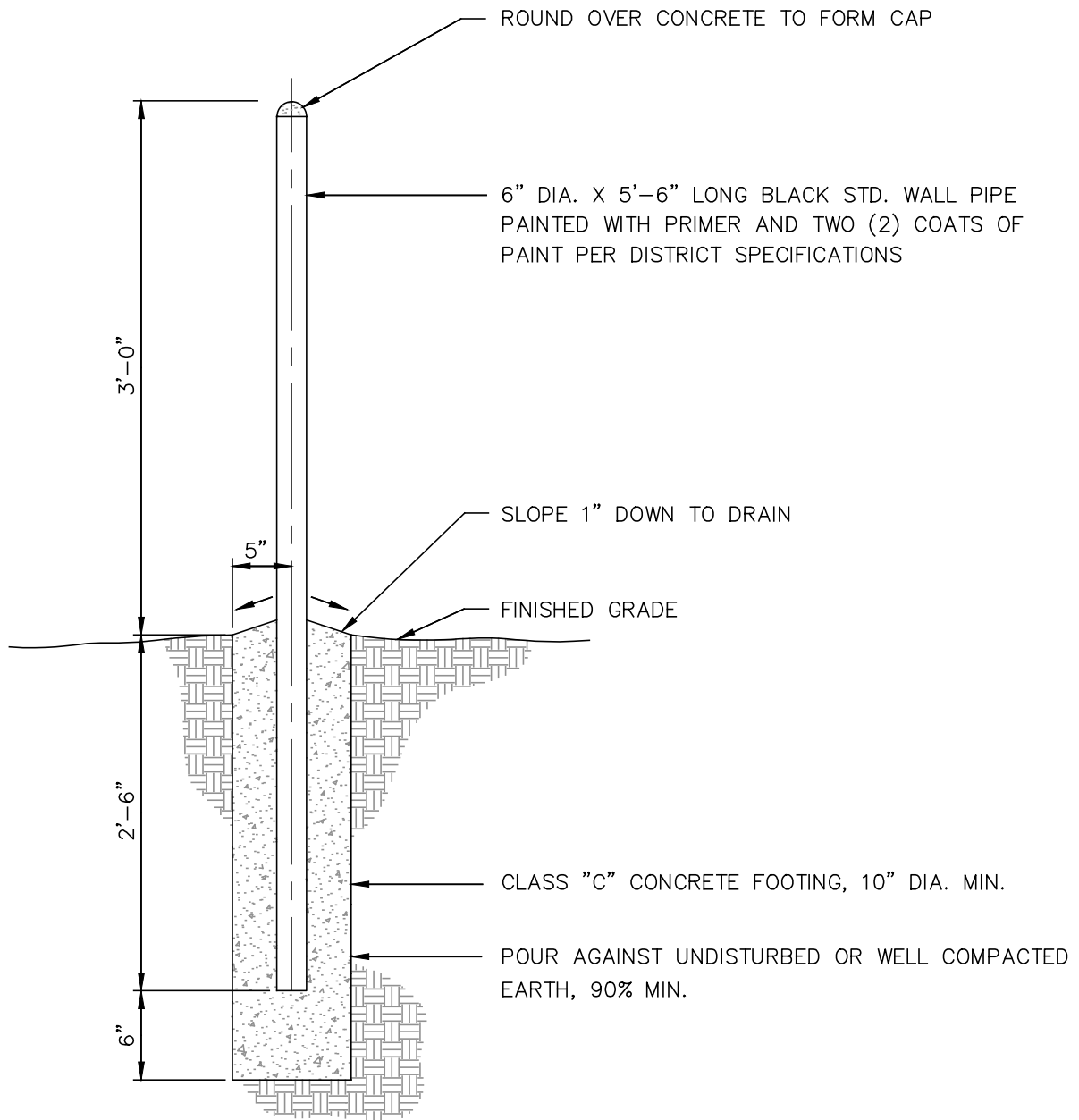
CALIFORNIA

DRAWING NO.

A-3

W.O. 19-0248

REV.



NOTES:

LOCATION SHALL BE AS SHOWN ON PLAN VIEW, OR AS DIRECTED IN THE FIELD
BY INSPECTOR OR ENGINEER.

MINIMUM OF 2 GUARD POSTS ARE TO BE PLACED ON ALL APPURTENANCES
(UNLESS DIRECTED BY JCSD), LOCATION TO BE DETERMINED BY INSPECTOR

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos
Sinnaro Yos, P.E. C68607

STANDARD GUARD POST INSTALLATION

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

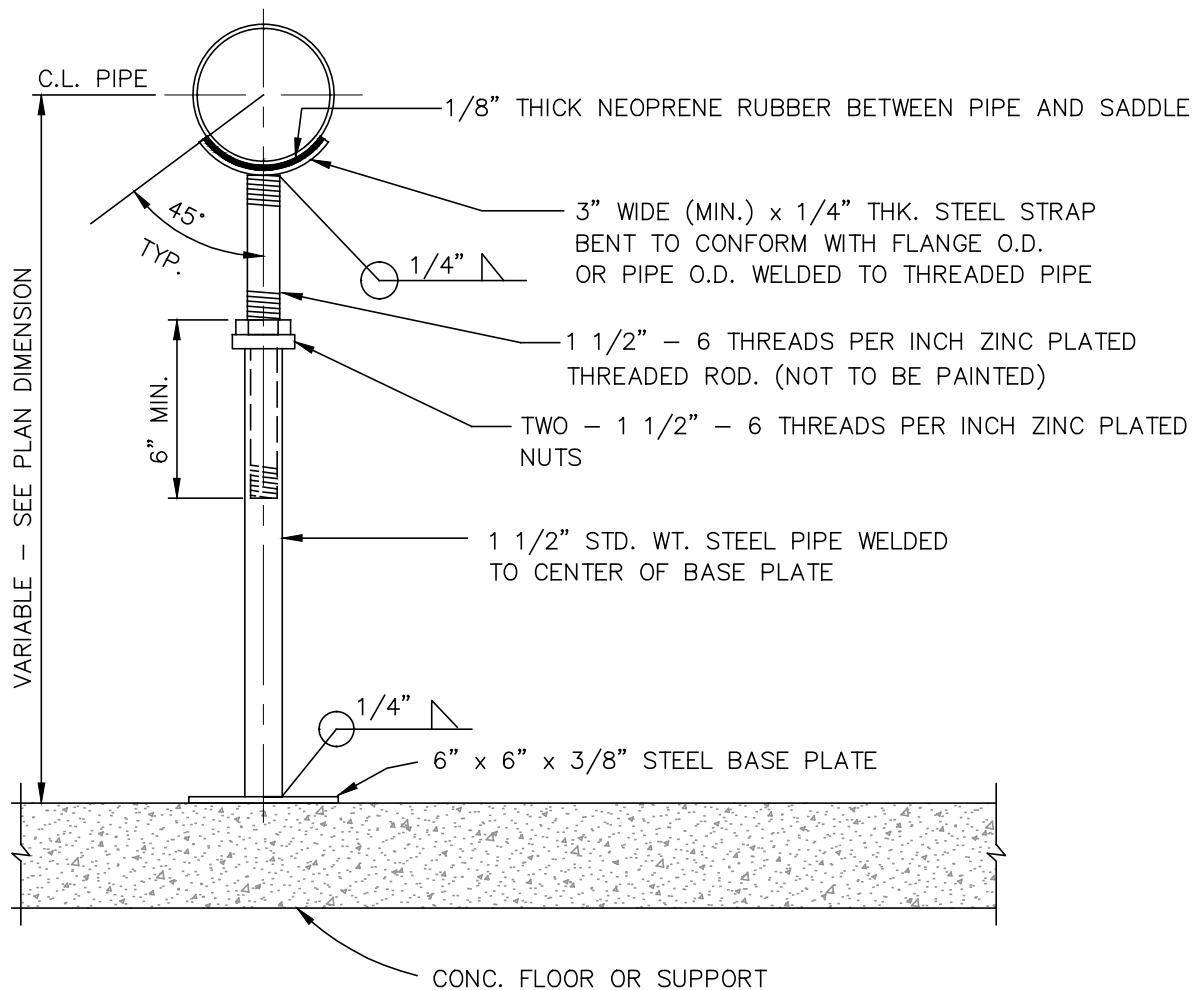
CALIFORNIA

DRAWING NO.

A-4

W.O. 19-0248

REV.



NOTES:

1. 3" x 1/4" STEEL STRAP SHALL BE FORMED TO HAVE FULL & UNIFORM CONTACT FOR ENTIRE LENGTH.
2. PAINT WITH PRIMER & TWO (2) COATS OF PAINT PER DISTRICT SPECIFICATION
3. UPON WRITTEN APPROVAL BY THE DISTRICT, PREFABRICATED ADJUSTABLE PIPE SUPPORTS MY BE USED (PIPE PRODUCTS OR APPROVED EQUAL)

JURUPA COMMUNITY SERVICES DISTRICT

PIPE OR FLANGE SUPPORT DETAIL

DRAWING NO.

A-5

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos
Sinnaro Yos, P.E. C68607

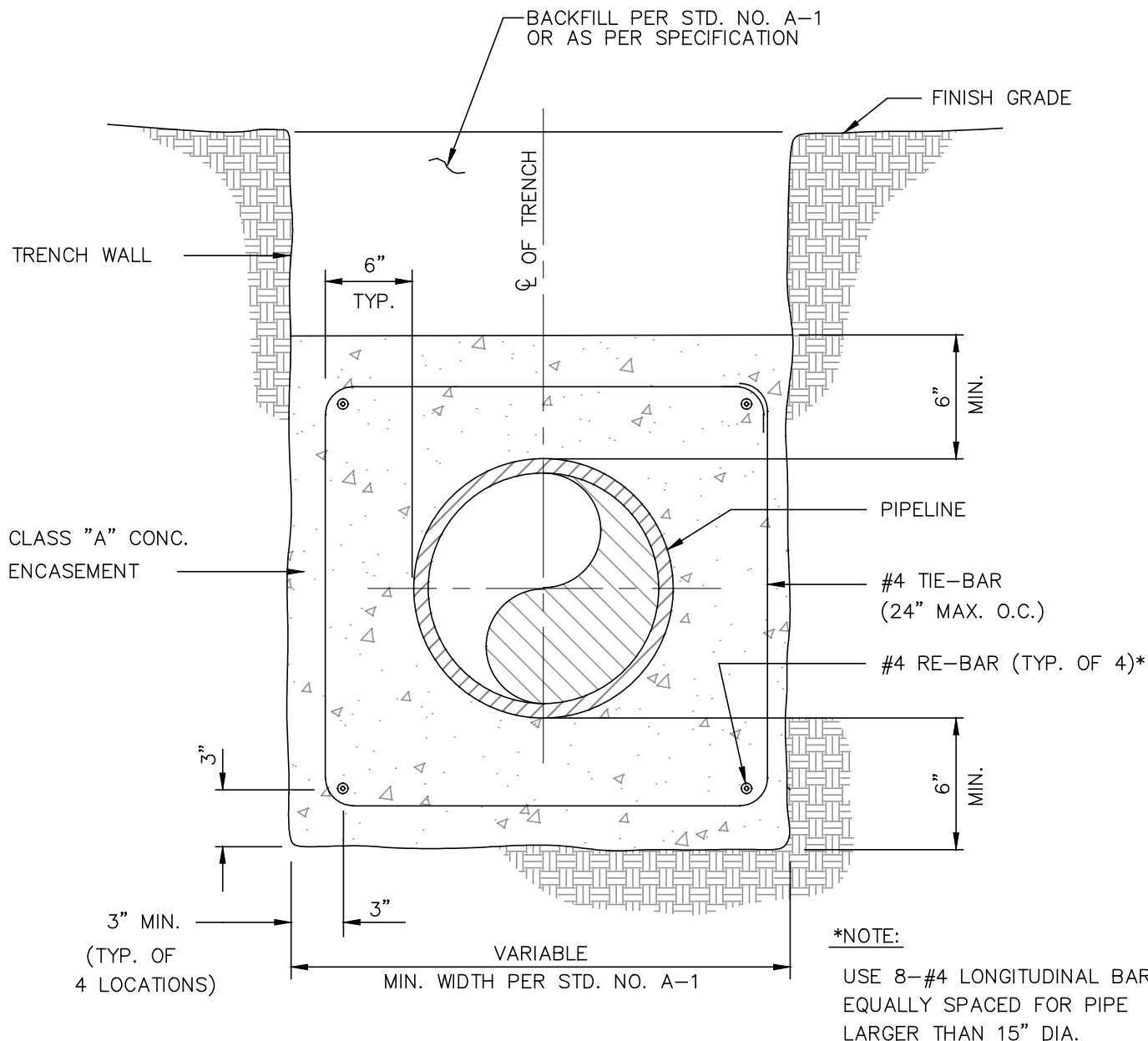
ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

W.O. 19-0248

REV.



NOTES:

1. PIPE ENCASEMENT TO BE INSTALLED WHERE INDICATED ON THE PLANS AND OR AS DIRECTED IN THE FIELD BY THE DISTRICT.
2. CONTRACTOR SHALL TAKE DUE PRECAUTION AGAINST PIPE FLOATATION DURING THE PLACING OF CONCRETE.
3. IF ANY PIPE APPURTENANCE, SUCH AS OUTLETS, MANWAYS, ETC., ARE REQUIRED IN THE AREA WHERE PIPE ENCASEMENT IS REQUIRED, THE ENCASEMENT SHALL BE FORMED SO THAT REASONABLE ACCESS IS AVAILABLE TO THE PIPE APPURTENANCES.

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

WATERLINE ENCASEMENT DETAIL

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

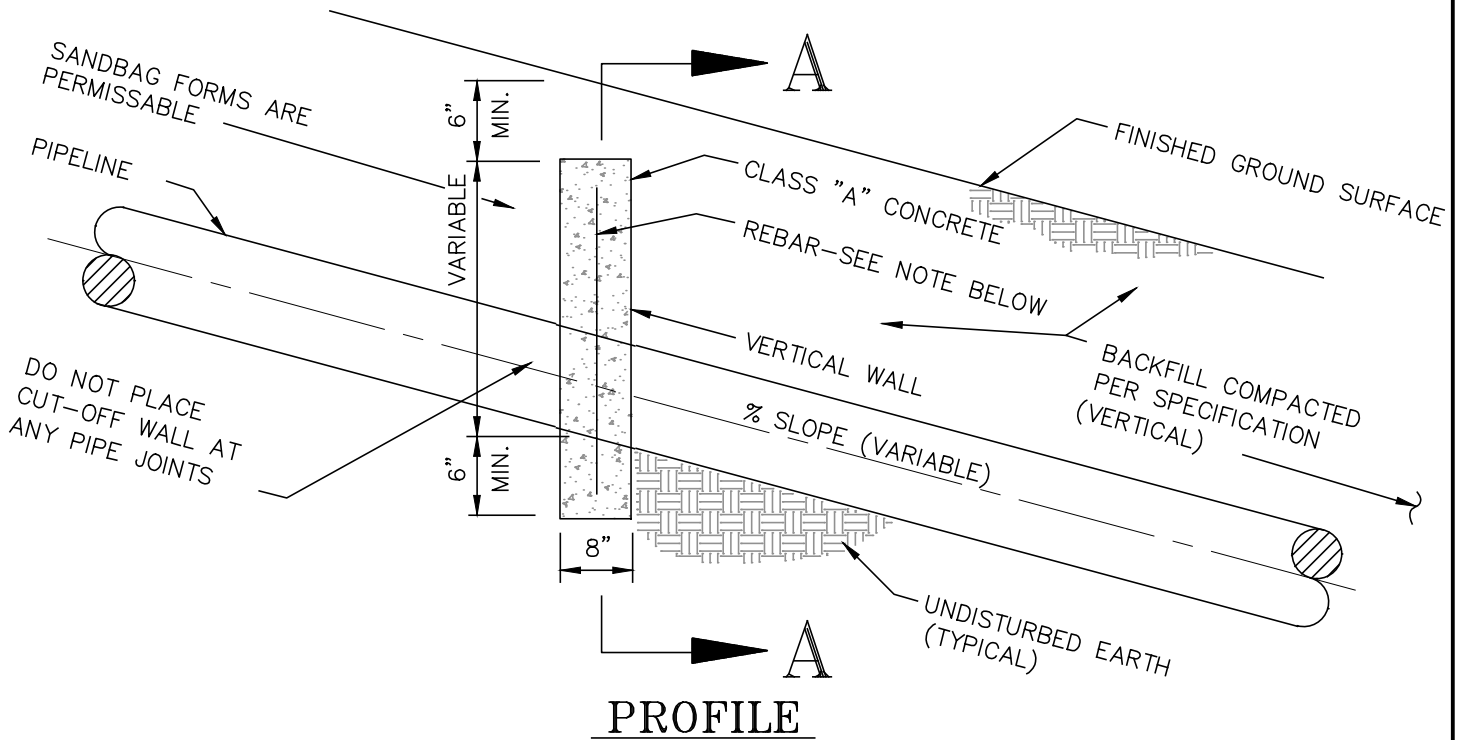
CALIFORNIA

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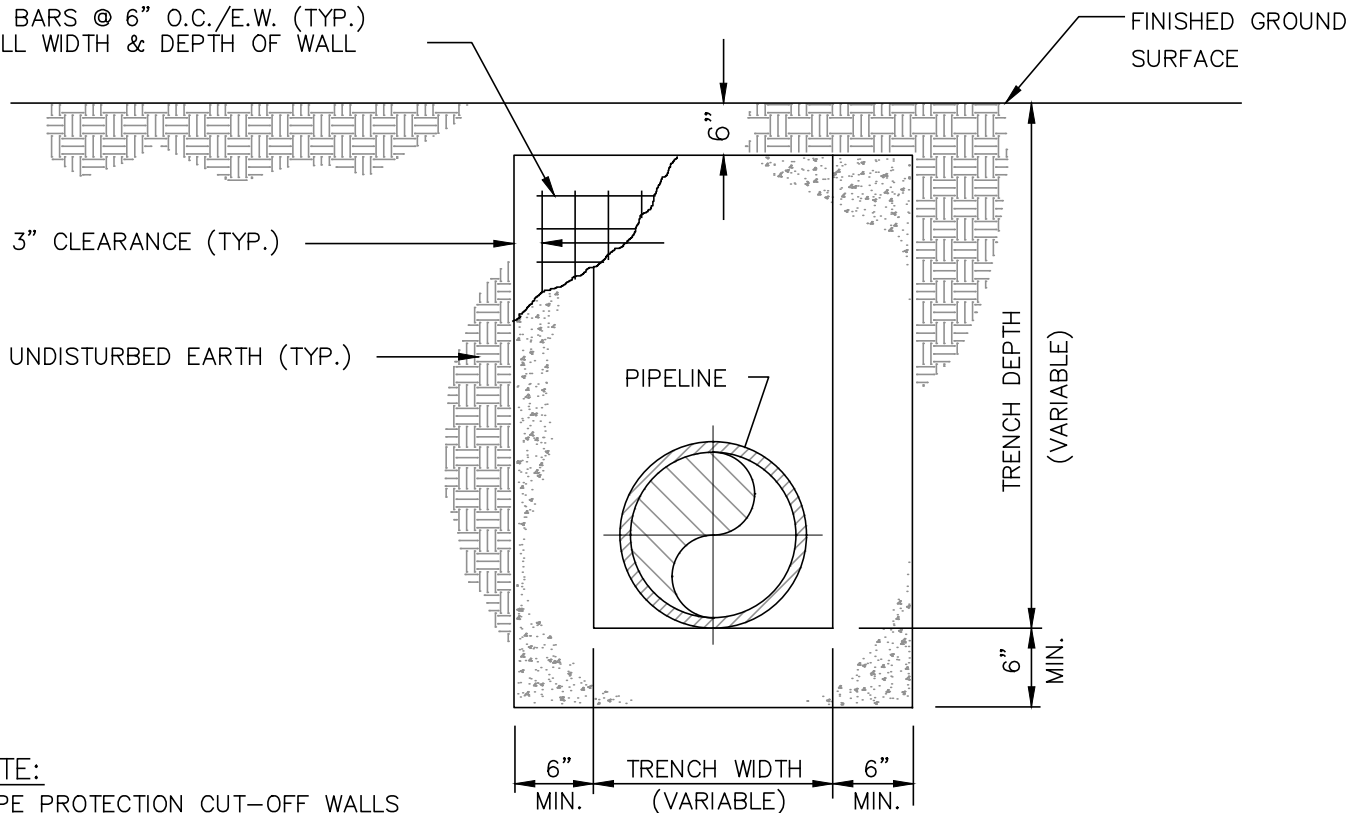
A-6

W.O. 19-0248

REV.



#4 BARS @ 6" O.C./E.W. (TYP.)
FULL WIDTH & DEPTH OF WALL



NOTE:
SLOPE PROTECTION CUT-OFF WALLS
ON THE PLANS OR BY THE DISTRICT.

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

SLOPE PROTECTION CUT-OFF WALL

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

DRAWING NO.

A-7

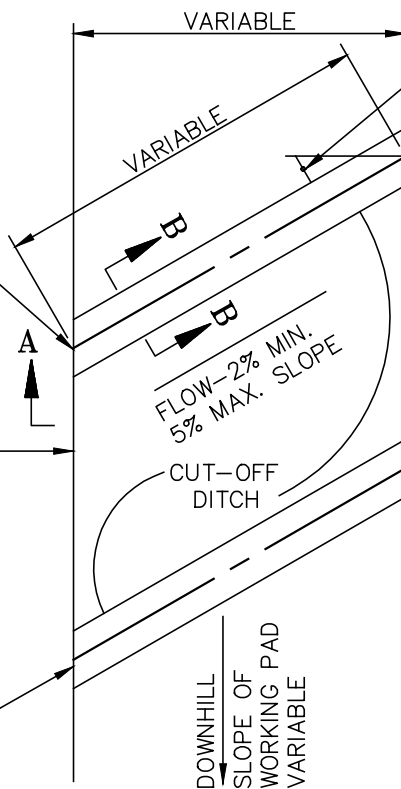
W.O. 19-0248

REV.

ADJUST GRADE AS REQUIRED TO PROVIDE ADEQUATE DRAINAGE FROM END OF CUT-OFF DITCH (TYPICAL)

EDGE OF WORKING PAD

OUTLET TO DISPERSE ONTO ROCKY GROUND OR GROUND WELL COVERED WITH VEGETATION OR UNDISTURBED EARTH AND DISCHARGE INTO NATURAL WATERWAY. IF NONE OF THESE CONDITIONS EXIST, ALTERNATE CUT-OFF DITCHES FROM RIGHT TO LEFT



VARIABLE TO MEET 2% MIN., 5% MAX. FL SLOPE (DEPENDENT UPON DOWN HILL SLOPE OF WORKING PAD)

ADJUST GRADE AS REQUIRED TO PROVIDE ADEQUATE DRAINAGE INTO END OF CUT-OFF DITCH (TYPICAL)

LOCATION, NUMBER AND SPACING OF CUT-OFF DITCHES AS DETERMINED BY THE DISTRICT

EDGE OF WORKING PAD

PLAN VIEW

LEVEL WORKING PAD

WORKING PAD

EDGE OF WORKING PAD

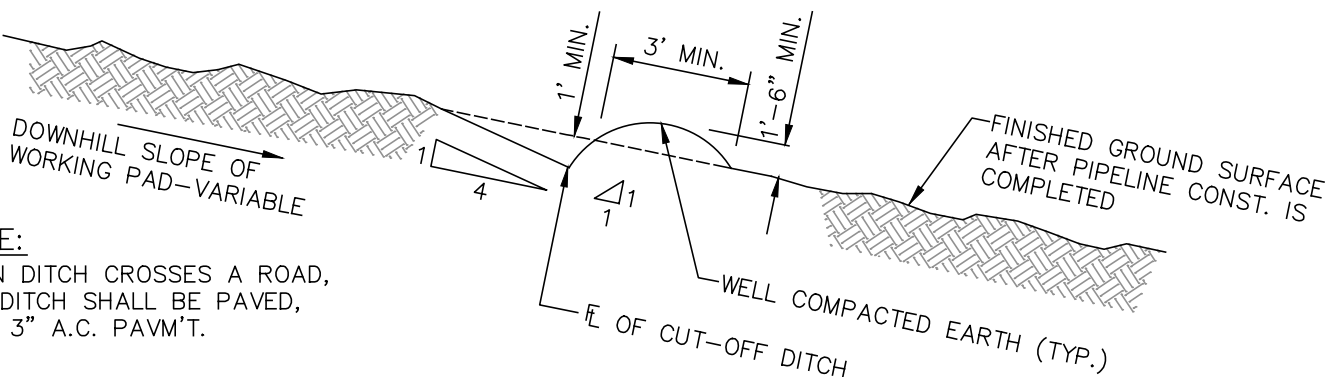
NATURAL GROUND SURFACE

FL CUT-OFF DITCH
2% MIN., 5% MAX. SLOPE

EDGE OF WORKING PAD

"V" DITCHES AS REQ'D. AT THE TOP OF SLOPES—NOT INCLUDED UNDER UNIT PRICE FOR CUT-OFF DITCH CONSTRUCTION

SECTION A-A



NOTE:

WHEN DITCH CROSSES A ROAD, THE DITCH SHALL BE PAVED, WITH 3" A.C. PAVM'T.

SECTION B-B

NOTE:

SLOPE PROTECTION CUT-OFF DITCH TO BE INSTALLED WHERE DIRECTED BY DISTRICT.

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

SLOPE PROTECTION CUT-OFF DITCH

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

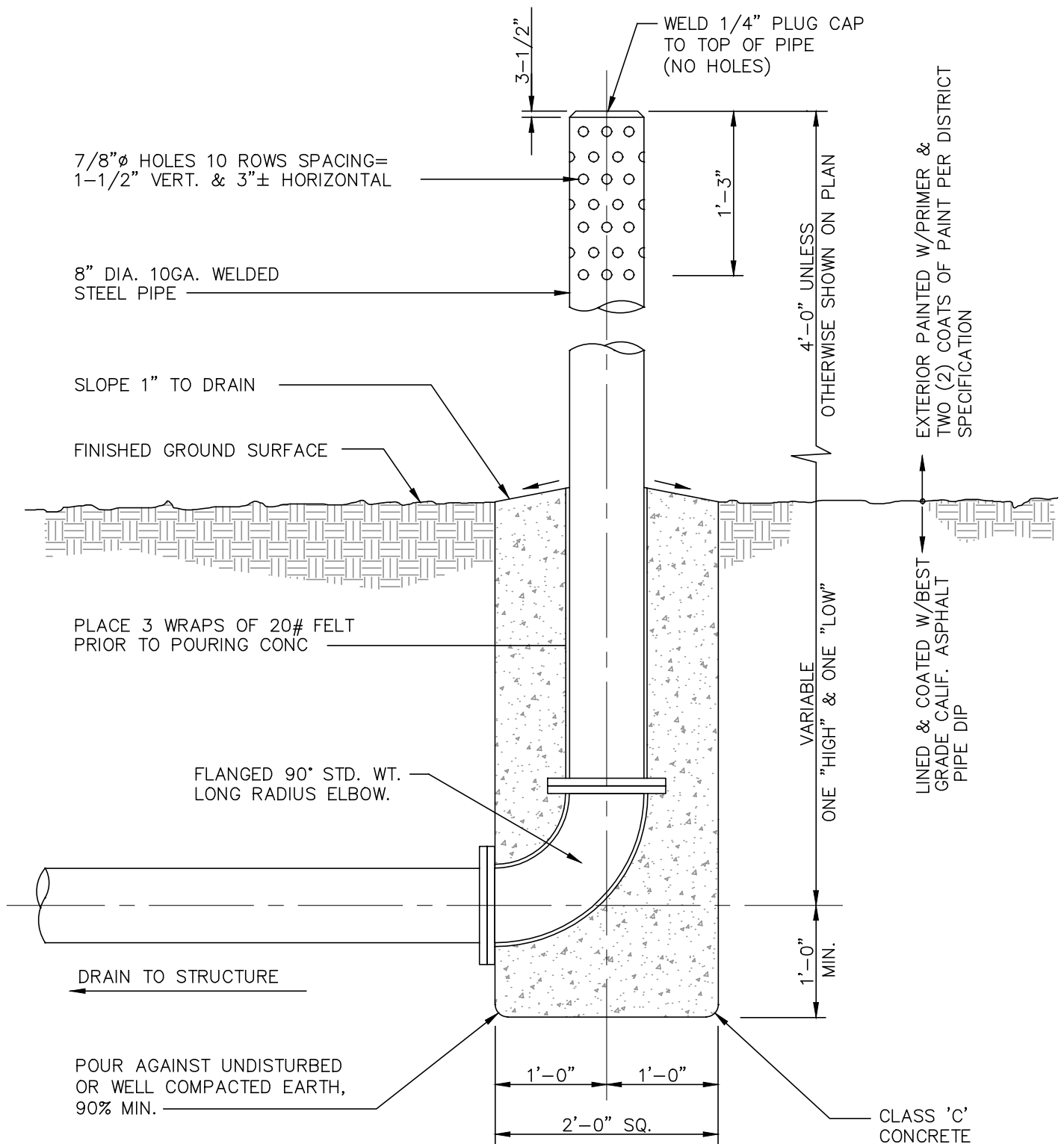
CALIFORNIA

DRAWING NO.

A-8

W.O. 19-0248

REV.



NOTES:

1. FIELD JOINTS MAY BE FLANGED OR WELDED, BUT SHALL NOT PERMANENTLY IMPAIR LINING OR COATING OF PIPE.
2. UPON APPROVAL OF DISTRICT, SCHED. 80 P.V.C. PIPE MAY BE USED FOR VENT IN LIEU OF 10 GA. STEEL.

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

STANDARD VENT INSTALLATION

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

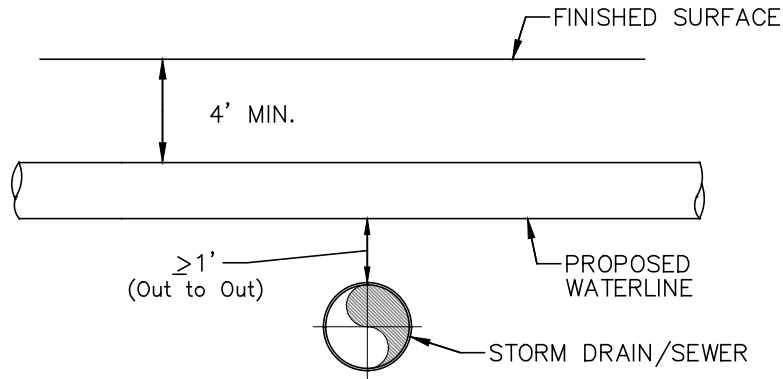
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A-9

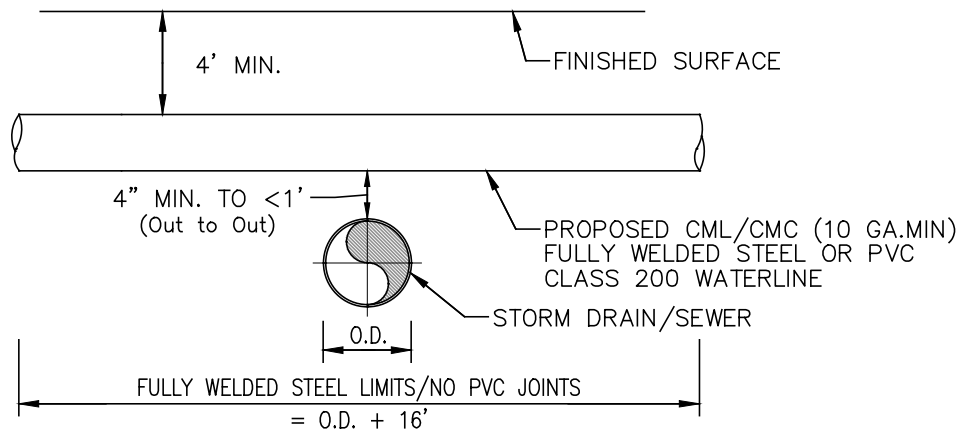
W.O. 19-0248

REV.

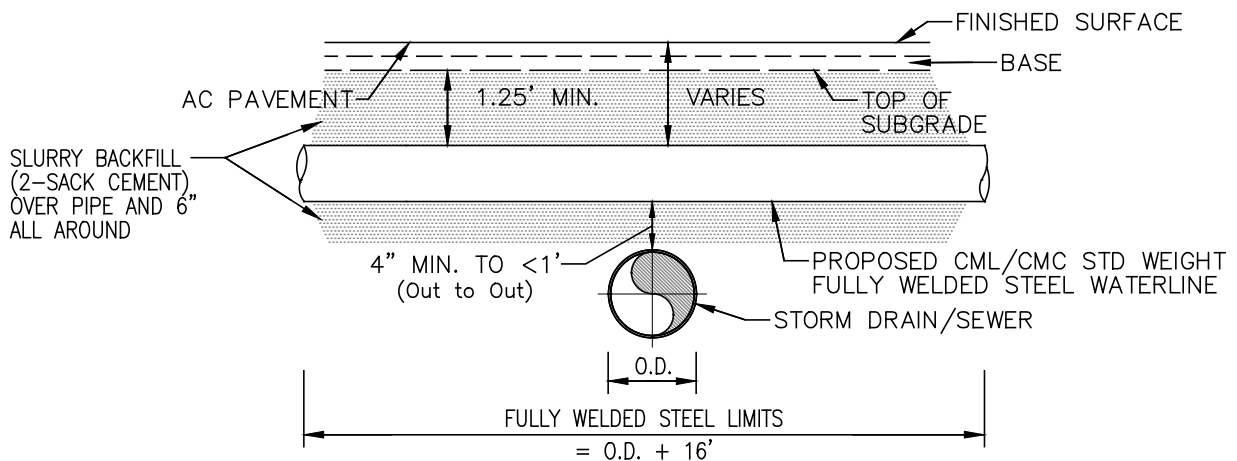
TYPE - 1 STANDARD COVER AND STANDARD SEPARATION



TYPE - 2 STANDARD COVER AND MINIMUM SEPARATION



TYPE - 3 SHALLOW COVER AND MINIMUM SEPARATION



NOTES:

1. WHEN A HIGHPOINT OVER THE STORM DRAIN/SEWER IS CREATED, FOR TYPE-3, A SPECIAL CONSTRUCTION CALLOUT WILL BE NECESSARY ON THE PLANS TO PROTECT IN PLACE THE AIR VALVE DURING CONSTRUCTION.
2. WHEN A CROSSING OCCURS NEAR A TEE OR CROSS, FOR TYPE-3, THE USE OF A BUTTERFLY VALVE IN LIEU OF A GATE VALVE MAY BE REQUIRED, PER DISTRICT APPROVAL.

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

WATERLINES CROSSING OVER STORM DRAINS/SEWERS

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

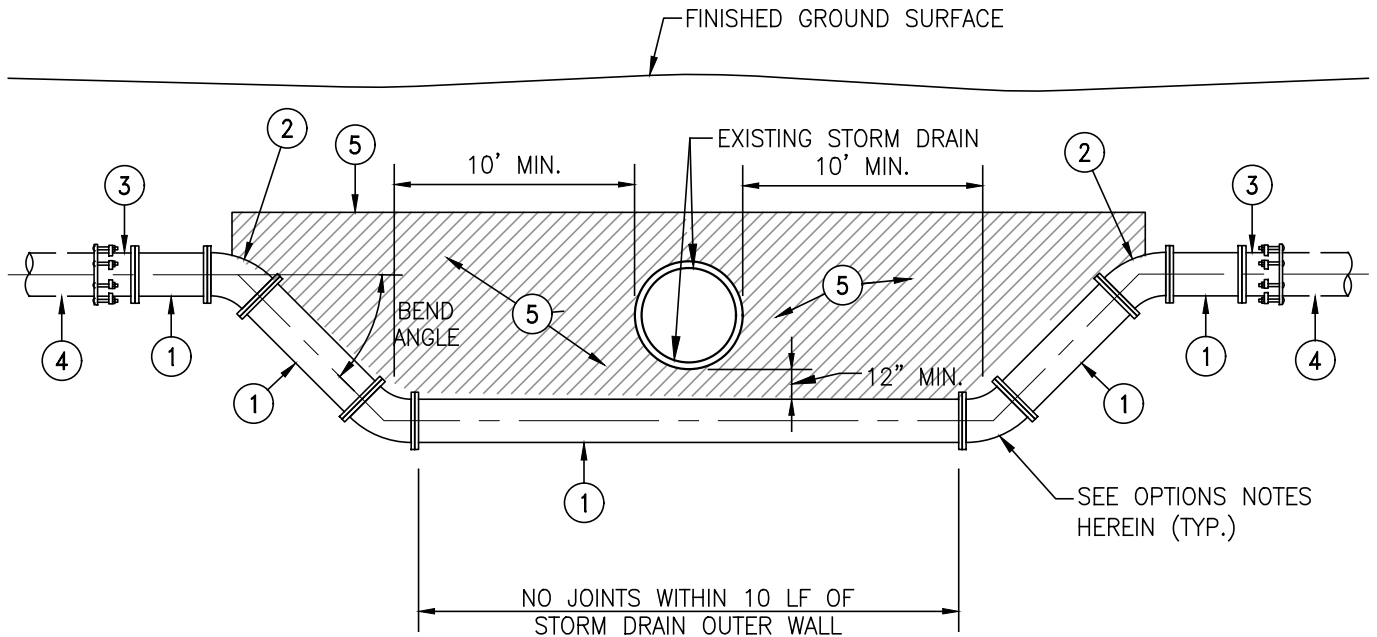
CALIFORNIA

DRAWING NO.

A-11

W.O. 19-0248

REV.



OPTIONS

- (A) NO JOINTS WITHIN 10' OF STORM DRAIN, OR;
- (B) IF JOINTS MUST FALL WITHIN 10' OF STORM DRAIN, JOINTS SHALL BE FULLY WELDED, DOUBLE PASS MINIMUM.

NOTE: JOINTS WITHIN 10" OF STORM DRAIN OUTER WALL MUST BE DOUBLE-PASS WELDED

| ITEM | DESCRIPTION |
|------|------------------------------------------------------------------|
| (1) | FLANGED CML & CMC STD. WT. STEEL WATERMAIN |
| (2) | FLANGED 11.25°, 22.5°, 45° CML & CMC STD. WT. LONG RADIUS ELBOW. |
| (3) | FULLY-RESTRAINED MJxFL PVC/STEEL TRANSITION COUPLING |
| (4) | PVC C909 WATERMAIN |
| (5) | SLURRY BACKFILL (2-SACK CEMENT SLURRY) |

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

WATER MAIN CROSSING UNDER STORM DRAIN

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

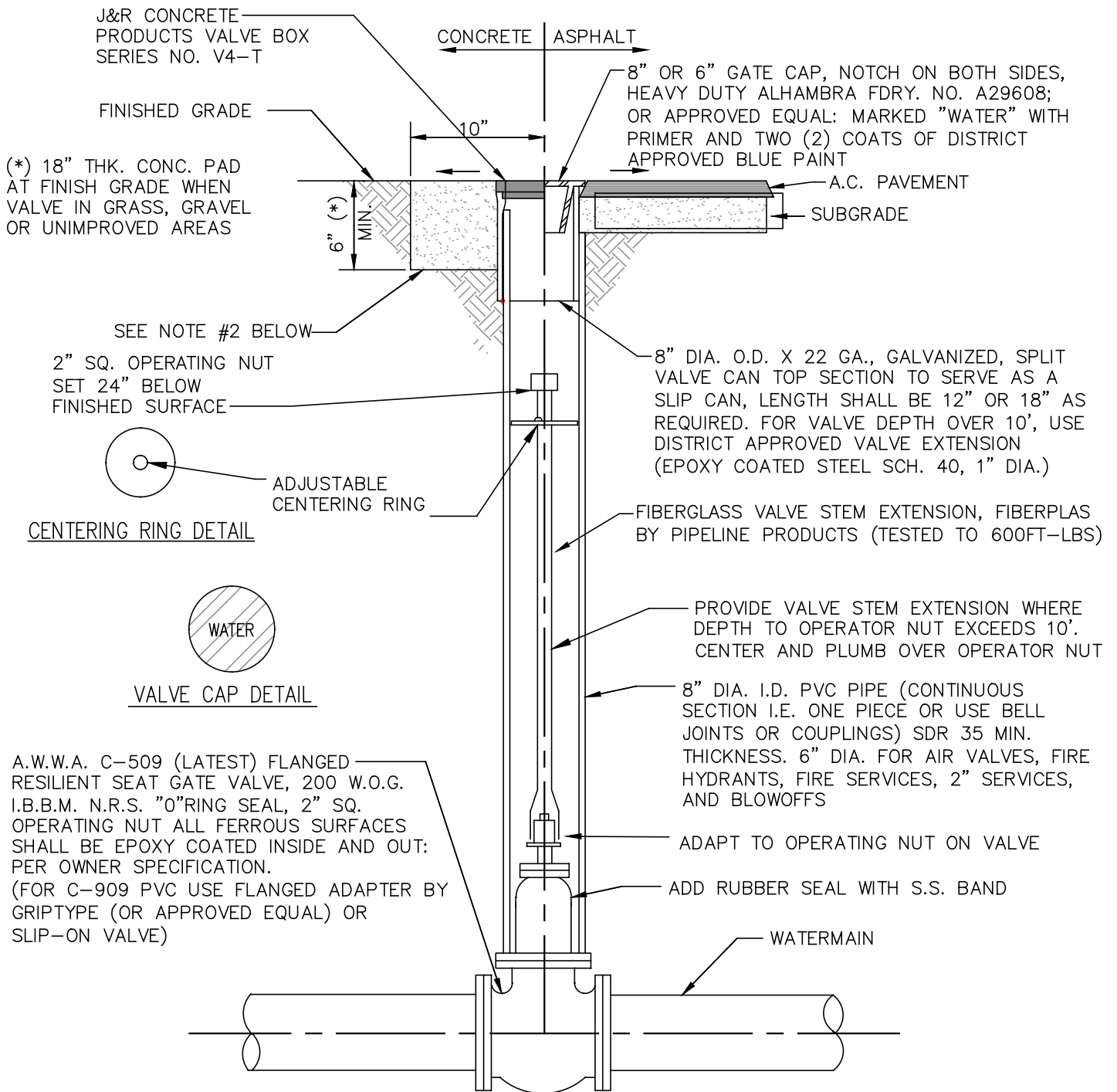
CALIFORNIA

DRAWING NO.

A-13

W.O. 19-0248

REV.



NOTES:

1. VALVE MARKER PER STD. NO. A-3 TO BE INSTALLED AS DIRECTED BY THE DISTRICT.
2. CLASS "B" CONCRETE PAD, 20" SQ. POUR AGAINST WELL COMPACTED EARTH, 90% MIN. RELATIVE COMPACTION AT FINISHED GRADE IN NON-PAVED AREAS.

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

GATE VALVE INSTALLATION

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

DRAWING NO.

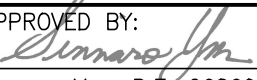
B-1

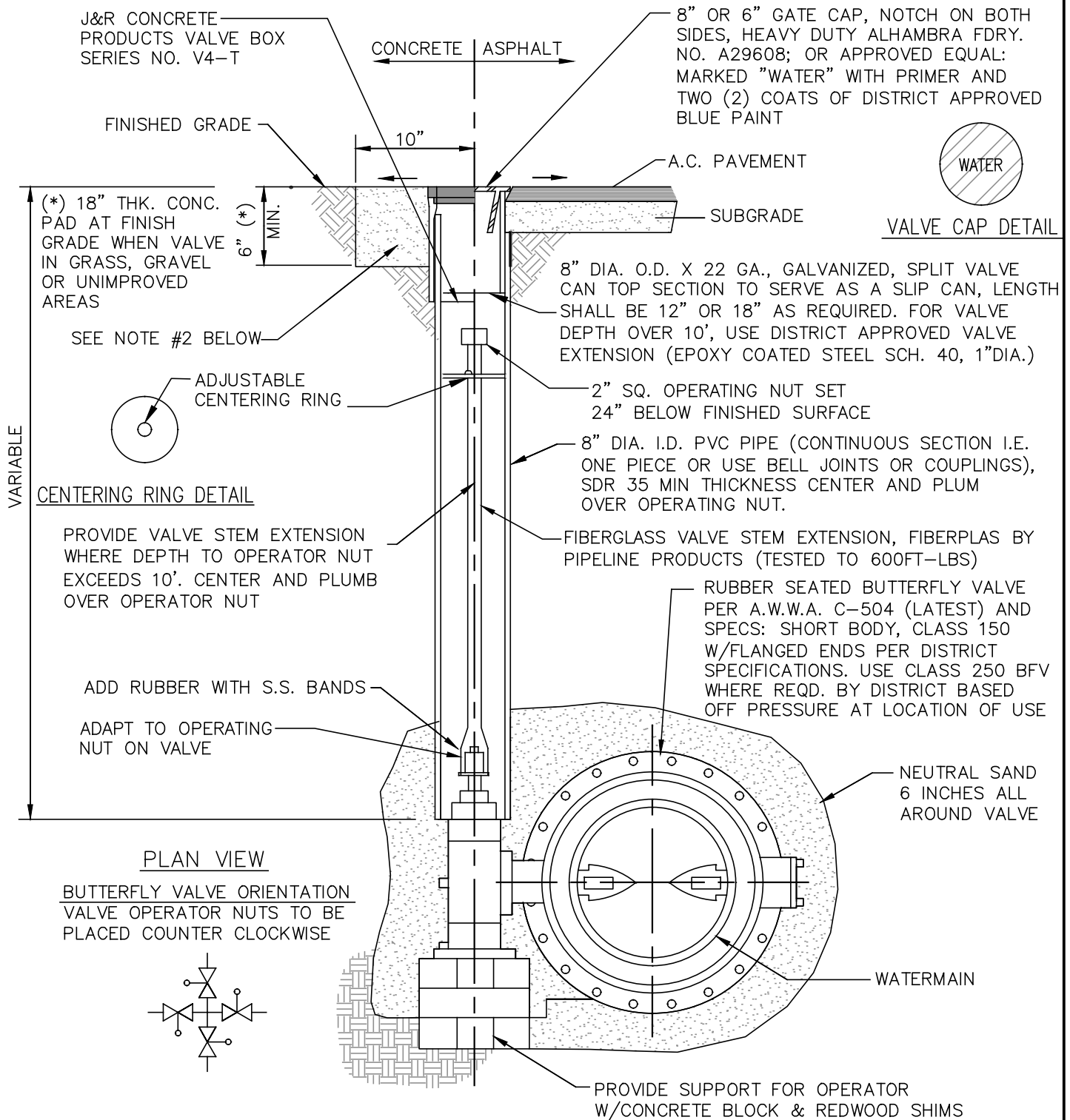
W.O. 19-0248

REV.

STANDARD DRAWING NO. B-2 DELETED

JURUPA COMMUNITY SERVICES DISTRICT

| | | | |
|------|---------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|--------------|
| REV. | SCALE: NONE | GATE VALVE INSTALLATION FOR P.V.C. WATERMAINS | DRAWING NO. |
| | DATE: SEPTEMBER 2020 | | B-2 |
| | APPROVED BY:  Sinnaro Yos, P.E. C68607 | ALBERT A. WEBB ASSOCIATES CONSULTING ENGINEERS RIVERSIDE CALIFORNIA | W.O. 19-0248 |



NOTES:

1. VALVE MARKER PER STD. NO. A-3 TO BE INSTALLED AS DIRECTED BY THE DISTRICT.
2. CLASS "B" CONCRETE PAD, 20" SQ. POUR AGAINST WELL COMPACTED EARTH, 90% MIN. RELATIVE COMPACTION AT FINISHED GRADE IN NON-PAVED AREAS.

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:
Sinnaro Yos
Sinnaro Yos, P.E. C68607

BUTTERFLY VALVE INSTALLATION

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

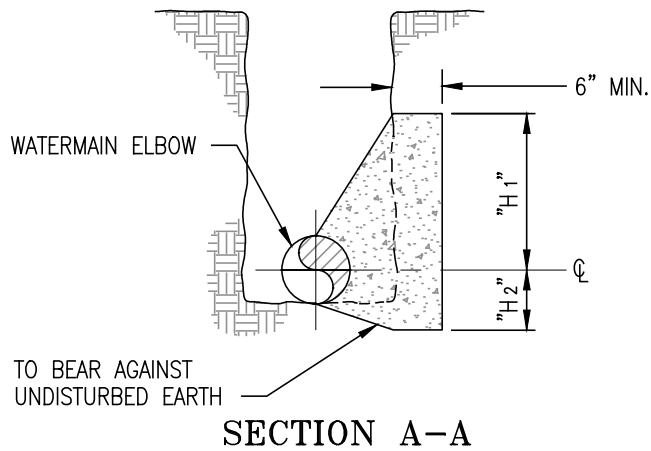
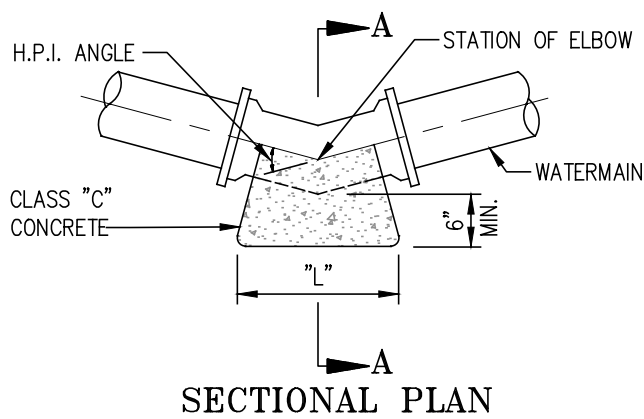
CALIFORNIA

DRAWING NO.

B-3

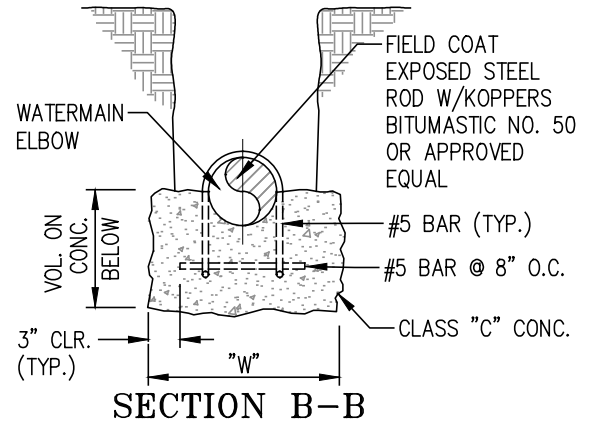
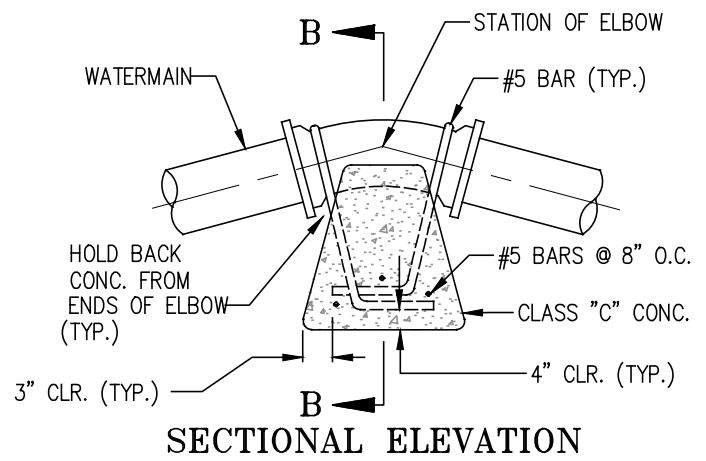
W.O. 19-0248

REV.



HORIZONTAL THRUST BLOCK

| PIPE DIA. | "H1" | "H2" | "L" | H.P.I. ANGLE |
|-----------|---------|---------|-------|--------------|
| 4" | 1/2" OD | 1/2" OD | 4'-0" | 5° TO 41° |
| 4" | 4" | 4" | 4'-0" | 42° TO 83° |
| 4" | 10" | 5" | 4'-0" | 84° TO 104° |
| 6" | 1/2" OD | 1/2" OD | 4'-0" | 5° TO 27° |
| 6" | 6" | 6" | 4'-0" | 28° TO 51° |
| 6" | 1'-6" | 9" | 4'-0" | 52° TO 90° |
| 8" | 1/2" OD | 1/2" OD | 4'-0" | 5° TO 20° |
| 8" | 8" | 8" | 4'-0" | 21° TO 36° |
| 8" | 1'-8" | 10" | 4'-0" | 37° TO 54° |
| 8" | 2'-2" | 13" | 4'-0" | 55° TO 78° |
| 8" | 2'-8" | 16" | 4'-0" | 79° TO 111° |
| 10" | 1/2" OD | 1/2" OD | 4'-0" | 5° TO 16° |
| 10" | 10" | 10" | 4'-0" | 17° TO 28° |
| 10" | 1'-10" | 11" | 4'-0" | 29° TO 39° |
| 10" | 2'-4" | 14" | 4'-0" | 40° TO 53° |
| 10" | 2'-10" | 17" | 4'-0" | 54° TO 70° |
| 10" | 2'-10" | 17" | 6'-0" | 71° TO 120° |
| 12" | 1/2" OD | 1/2" OD | 4'-0" | 5° TO 13° |
| 12" | 12" | 12" | 4'-0" | 14° TO 22° |
| 12" | 2'-0" | 12" | 4'-0" | 23° TO 30° |
| 12" | 2'-6" | 15" | 4'-0" | 31° TO 40° |
| 12" | 3'-0" | 18" | 4'-0" | 41° TO 52° |
| 12" | 3'-0" | 18" | 6'-0" | 53° TO 83° |



VERTICAL ANCHOR BLOCK

| PIPE DIA. | "W" | VOLUME OF CONC. CF | GRADE% DIFFERENCE |
|-----------|-------|--------------------|-------------------|
| 4" | 1'-6" | 4 : 3 | 5 TO 15 |
| 4" | 1'-6" | 6 : 5 | 16 TO 25 |
| 4" | 1'-6" | 8 : 6 | 26 TO 35 |
| 4" | 1'-6" | 10 : 8 | 36 TO 45 |
| 4" | 1'-6" | 13 : 0 | 46 TO 55 |
| 4" | 1'-6" | 15 : 1 | 56 TO 65 |
| 6" | 2'-0" | 7 : 6 | 5 TO 10 |
| 6" | 2'-0" | 11 : 4 | 11 TO 25 |
| 6" | 2'-0" | 15 : 2 | 26 TO 40 |
| 6" | 2'-0" | 22 : 8 | 41 TO 55 |
| 8" | 2'-0" | 10 : 3 | 5 TO 10 |
| 8" | 2'-0" | 15 : 5 | 11 TO 20 |
| 8" | 2'-0" | 20 : 6 | 21 TO 30 |
| 8" | 2'-0" | 31 : 0 | 31 TO 40 |
| 8" | 2'-0" | 41 : 3 | 41 TO 55 |
| 10" | 2'-6" | 20 : 9 | 5 TO 15 |
| 10" | 2'-6" | 27 : 8 | 16 TO 25 |
| 10" | 2'-6" | 41 : 7 | 26 TO 35 |
| 10" | 2'-6" | 55 : 6 | 36 TO 45 |
| 10" | 2'-6" | 69 : 5 | 46 TO 55 |
| 12" | 2'-6" | 27 : 6 | 5 TO 15 |
| 12" | 2'-6" | 36 : 8 | 16 TO 25 |
| 12" | 2'-6" | 55 : 3 | 26 TO 35 |
| 12" | 2'-6" | 73 : 7 | 36 TO 45 |
| 12" | 2'-6" | 92 : 1 | 46 TO 55 |

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

THRUST BLOCKS FOR D.I.P. PIPELINES, CLASS 200 P.S.I. MAX.

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

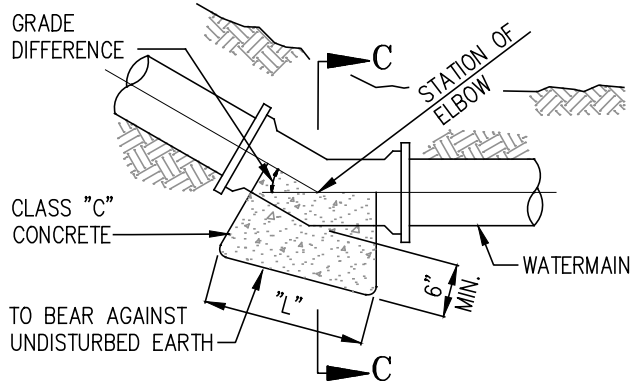
DRAWING NO.

C-1

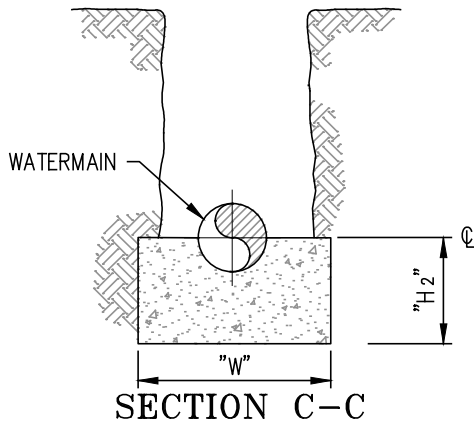
SHEET 1 OF 2

W.O. 19-0248

REV.



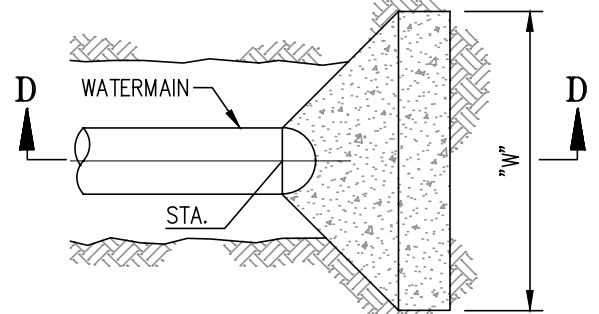
SECTIONAL ELEVATION



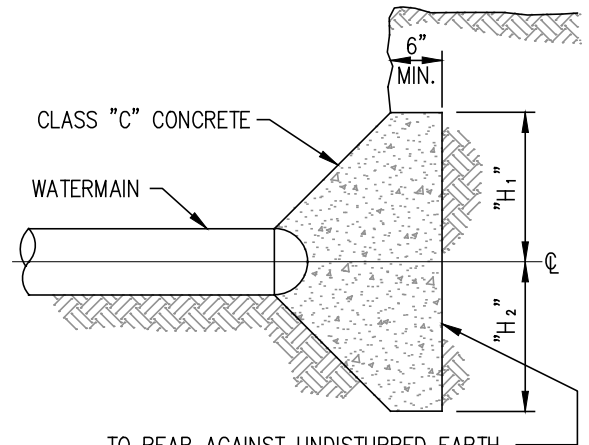
SECTION C-C

VERTICAL BEARER BLOCK

| PIPE DIA. | "W" | "H 2" | "L" | GRADE % DIFF. |
|-----------|-------|-------|-------|---------------|
| 4" | 1'-6" | 8" | 12" | 5 TO 60 |
| 6" | 2'-0" | 9" | 12" | 5 TO 40 |
| 6" | 2'-0" | 9" | 1'-6" | 41 TO 55 |
| 8" | 2'-0" | 10" | 12" | 5 TO 25 |
| 8" | 2'-0" | 10" | 1'-6" | 26 TO 40 |
| 8" | 2'-0" | 10" | 2'-0" | 41 TO 55 |
| 10" | 2'-6" | 14" | 12" | 5 TO 10 |
| 10" | 2'-6" | 14" | 2'-0" | 11 TO 40 |
| 10" | 2'-6" | 14" | 3'-0" | 41 TO 60 |
| 12" | 2'-6" | 15" | 2'-0" | 5 TO 25 |
| 12" | 2'-6" | 15" | 3'-0" | 26 TO 45 |
| 12" | 2'-6" | 15" | 4'-0" | 46 TO 60 |



SECTIONAL PLAN

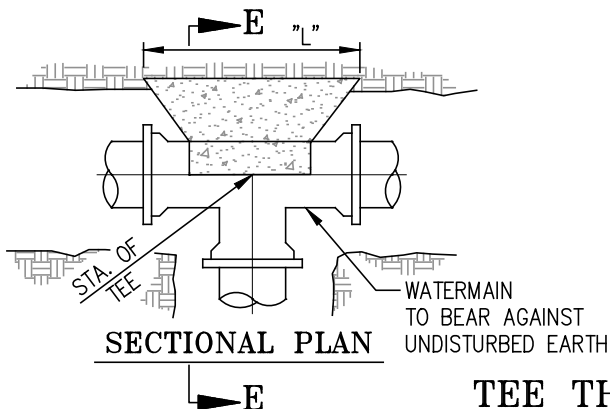


TO BEAR AGAINST UNDISTURBED EARTH

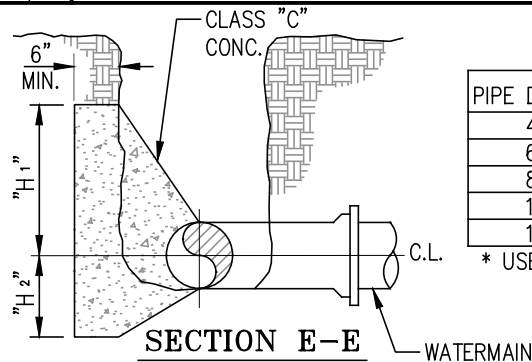
SECTION D-D

END THRUST BLOCK

| PIPE DIA. | "H 1" | "H 2" | "W" |
|-----------|--------|-------|-------|
| 4" | 9" | 6" | 3'-6" |
| 6" | 1'-6" | 9" | 4'-0" |
| 8" | 2'-2" | 13" | 4'-0" |
| 10" | 2'-10" | 17" | 4'-0" |
| 12" | 3'-0" | 1'-6" | 5'-0" |



SECTIONAL PLAN



SECTION E-E

TEE THRUST BLOCK

| PIPE DIA.* | "H 1" | "H 2" | "W" |
|------------|--------|-------|-------|
| 4" | 9" | 6" | 3'-6" |
| 6" | 1'-6" | 9" | 4'-0" |
| 8" | 2'-2" | 13" | 4'-0" |
| 10" | 2'-10" | 17" | 4'-0" |
| 12" | 3'-0" | 1'-6" | 5'-0" |

* USE OUTLET PIPE DIAMETER

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

THRUST BLOCKS FOR D.I.P. PIPELINES, CLASS 200 P.S.I. MAX.

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

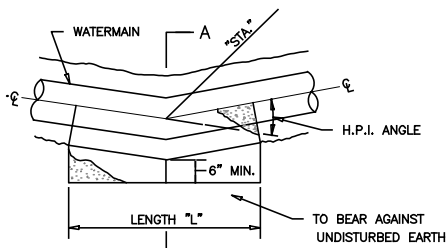
DRAWING NO.

C-1

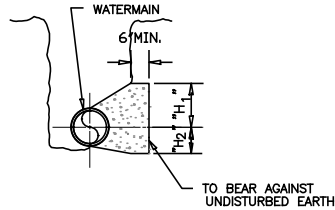
SHEET 2 OF 2

W.O. 19-0248

REV.

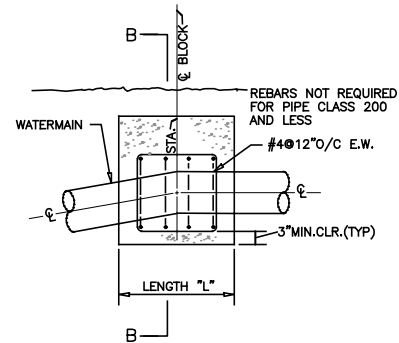


SECTIONAL PLAN

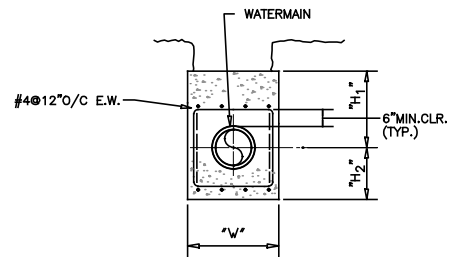


SECTION A-A

| HORIZONTAL THRUST BLOCK | | | | | |
|-------------------------|-------------------|-------------------|--------|------------------------|----------------------------------|
| PIPE DIA. | "H ₁ " | "H ₂ " | "L" | H.P.I. ANGLE (DEGREES) | |
| | | | | CL. 150 | GREATER THAN CL.150 UP TO CL.200 |
| | | | | MINIMUM PIPELINE COVER | DESIGN COVER |
| 6"φ & 8"φ | 9" | 9" | 2'-0" | 2.5' | 2.5' |
| | 9" | 9" | 4'-0" | 5'-21" | 5'-16" |
| | 9" | 9" | 6'-0" | 22'-43" | 17'-32" |
| | 2'-0" | 1'-0" | 5'-0" | 44'-67" | 33'-49" |
| | 2'-0" | 1'-3" | 7'-0" | 68'-101" | 50'-70" |
| 10"φ & 12"φ | 1'-0" | 1'-0" | 2'-0" | 3.0' | 3.0' |
| | 1'-0" | 1'-0" | 4'-0" | 5'-15" | 5'-11" |
| | 1'-0" | 1'-0" | 6'-0" | 16'-31" | 12'-23" |
| | 3'-0" | 1'-6" | 4'-0" | 32'-48" | 24'-36" |
| | 3'-0" | 1'-6" | 6'-0" | 49'-58" | 37'-42" |
| 14"φ & 16"φ | 1'-6" | 1'-6" | 2'-0" | 3.5' | 3.5' |
| | 1'-6" | 1'-6" | 4'-0" | 5'-15" | 5'-11" |
| | 1'-6" | 1'-6" | 6'-0" | 16'-32" | 12'-24" |
| | 3'-6" | 1'-9" | 6'-0" | 33'-49" | 25'-36" |
| | 3'-6" | 1'-9" | 8'-0" | 50'-70" | 37'-51" |
| 18"φ & 20"φ | 1'-6" | 1'-6" | 3'-0" | 3.5' | 3.5' |
| | 1'-6" | 1'-6" | 6'-0" | 4'-15" | 4'-11" |
| | 4'-0" | 2'-0" | 5'-0" | 16'-32" | 12'-23" |
| | 4'-0" | 2'-0" | 7'-0" | 33'-41" | 24'-30" |
| | 4'-0" | 2'-0" | 9'-0" | 42'-59" | 31'-43" |
| 21"φ & 24"φ | 1'-6" | 1'-6" | 4'-0" | 3.5' | 3.5' |
| | 1'-6" | 1'-6" | 8'-0" | 16'-30" | 12'-22" |
| | 4'-0" | 2'-0" | 10'-0" | 31'-38" | 23'-28" |
| | 4'-0" | 2'-0" | 12'-0" | 39'-48" | 29'-36" |
| | 4'-0" | 2'-0" | 14'-0" | 49'-62" | 37'-45" |
| 27"φ & 30"φ | 1'-6" | 1'-6" | 4'-0" | 3.5' | 3.5' |
| | 1'-6" | 1'-6" | 8'-0" | 16'-30" | 12'-22" |
| | 4'-0" | 2'-0" | 10'-0" | 31'-38" | 23'-28" |
| | 4'-0" | 2'-0" | 12'-0" | 39'-48" | 29'-36" |
| | 4'-0" | 2'-0" | 14'-0" | 49'-62" | 37'-45" |
| 33"φ & 36"φ | 1'-6" | 1'-6" | 4'-0" | 3.5' | 3.5' |
| | 1'-6" | 1'-6" | 8'-0" | 16'-30" | 12'-22" |
| | 4'-0" | 2'-0" | 10'-0" | 31'-38" | 23'-28" |
| | 4'-0" | 2'-0" | 12'-0" | 39'-48" | 29'-36" |
| | 4'-0" | 2'-0" | 14'-0" | 49'-62" | 37'-45" |



SECTIONAL ELEVATION



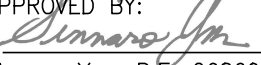
SECTION B-B

| VERTICAL ANCHOR BLOCK | | | | | | |
|-----------------------|-------------------|-------------------|-------|--------|----------------------|----------------------------------|
| PIPE DIA. | "H ₁ " | "H ₂ " | "W" | "L" | GRADE DIFFERENCE (%) | |
| | | | | | CL. 150 | GREATER THAN CL.150 UP TO CL.200 |
| 6"φ & 8"φ | 2'-0" | 2'-0" | 2'-0" | 1'-6" | 4%-24% | 4%-17% |
| | 2'-0" | 2'-0" | 2'-0" | 2'-6" | 25%-41% | 18%-30% |
| | 2'-0" | 2'-0" | 2'-0" | 3'-6" | 42%-63% | 31%-43% |
| | 2'-0" | 2'-0" | 2'-0" | 5'-6" | 64%-154% | 44%-81% |
| | 2'-0" | 2'-0" | 2'-0" | 7'-0" | | 82%-130% |
| 10"φ & 12"φ | 2'-6" | 2'-6" | 3'-0" | 2'-0" | 4%-25% | 4%-19% |
| | 2'-6" | 2'-6" | 3'-0" | 3'-0" | 26%-40% | 20%-29% |
| | 2'-6" | 2'-6" | 3'-0" | 4'-6" | 41%-68% | 30%-46% |
| | 2'-6" | 2'-6" | 3'-0" | 6'-6" | 69%-141% | 47%-77% |
| | 3'-0" | 3'-0" | 3'-0" | 7'-0" | | 78%-132% |
| 14"φ & 16"φ | 3'-0" | 3'-0" | 4'-0" | 2'-0" | 4%-23% | 4%-17% |
| | 3'-0" | 3'-0" | 4'-0" | 3'-6" | 25%-42% | 18%-30% |
| | 3'-0" | 3'-0" | 4'-0" | 5'-0" | 43%-67% | 31%-46% |
| | 3'-0" | 3'-0" | 4'-0" | 7'-0" | 68%-127% | 47%-73% |
| | 3'-0" | 3'-0" | 4'-0" | 10'-0" | | 74%-157% |
| 18"φ & 20"φ | 3'-0" | 3'-0" | 4'-6" | 3'-0" | 4%-24% | 4%-18% |
| | 3'-0" | 3'-0" | 4'-6" | 5'-0" | 25%-42% | 19%-30% |
| | 3'-0" | 3'-0" | 4'-6" | 7'-0" | 43%-66% | 31%-45% |
| | 3'-0" | 3'-0" | 4'-6" | 10'-0" | 67%-128% | 46%-73% |
| | 3'-0" | 3'-0" | 4'-6" | 13'-0" | | 74%-120% |
| 21"φ & 24"φ | 3'-0" | 3'-0" | 5'-0" | 3'-0" | 4%-18% | 4%-13% |
| | 3'-0" | 3'-0" | 5'-0" | 5'-0" | 19%-31% | 14%-22% |
| | 3'-0" | 3'-0" | 5'-0" | 7'-0" | 32%-45% | 23%-32% |
| | 3'-0" | 3'-0" | 5'-0" | 9'-0" | 46%-63% | 33%-43% |
| | 3'-0" | 3'-0" | 5'-0" | 11'-0" | 64%-85% | 44%-56% |
| 27"φ & 30"φ | 3'-0" | 3'-0" | 5'-0" | 14'-0" | 86%-148% | 57%-79% |
| | 3'-6" | 3'-6" | 5'-0" | 15'-0" | | 80%-129% |
| | 3'-6" | 3'-6" | 6'-0" | 3'-0" | 4%-15% | 4%-11% |
| | 3'-6" | 3'-6" | 6'-0" | 5'-0" | 16%-27% | 12%-20% |
| | 3'-6" | 3'-6" | 6'-0" | 7'-0" | 28%-39% | 21%-28% |
| 33"φ & 36"φ | 3'-6" | 3'-6" | 6'-0" | 9'-0" | 40%-53% | 29%-37% |
| | 3'-6" | 3'-6" | 6'-0" | 11'-0" | 54%-70% | 38%-47% |
| | 3'-6" | 3'-6" | 6'-0" | 13'-0" | 71%-93% | 48%-59% |
| | 3'-6" | 3'-6" | 6'-0" | 15'-0" | 94%-127% | 60%-73% |
| | 4'-0" | 4'-0" | 6'-0" | 16'-0" | | 74%-101% |
| 33"φ & 36"φ | 4'-0" | 4'-0" | 6'-0" | 18'-0" | | 102%-133% |
| | 3'-6" | 3'-6" | 7'-0" | 4'-0" | 4%-17% | 4%-12% |
| | 3'-6" | 3'-6" | 7'-0" | 6'-0" | 18%-26% | 13%-19% |
| | 3'-6" | 3'-6" | 7'-0" | 8'-0" | 27%-35% | 20%-26% |
| | 3'-6" | 3'-6" | 7'-0" | 10'-0" | 36%-45% | 27%-32% |
| | 3'-6" | 3'-6" | 7'-0" | 13'-0" | 46%-63% | 33%-44% |
| | 4'-0" | 4'-0" | 7'-0" | 14'-0" | 64%-91% | 45%-58% |
| | 4'-0" | 4'-0" | 7'-0" | 16'-0" | 92%-120% | 59%-71% |
| | 4'-0" | 4'-0" | 7'-0" | 18'-0" | | 72%-85% |
| | 4'-0" | 4'-0" | 7'-0" | 21'-0" | | 86%-116% |

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY: 
Sinnaro Yos, P.E. C68607

THRUST BLOCKS FOR WELDED STEEL PIPELINES, CLASS 200 P.S.I. MAX.

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

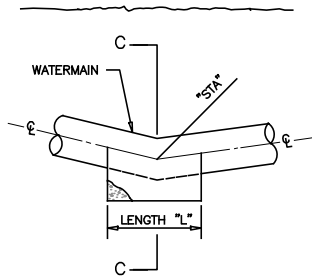
CALIFORNIA

DRAWING NO.

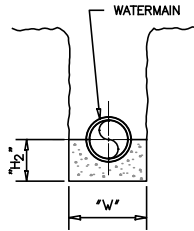
C-2

SHEET 1 OF 3

W.O. 19-0248

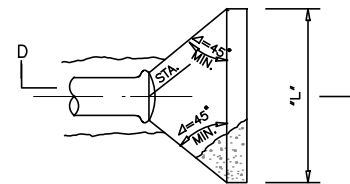


SECTIONAL ELEVATION

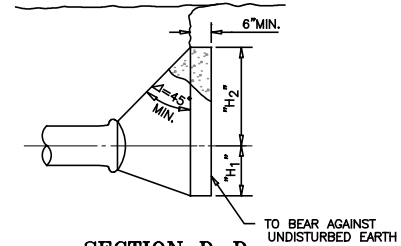


SECTION C-C

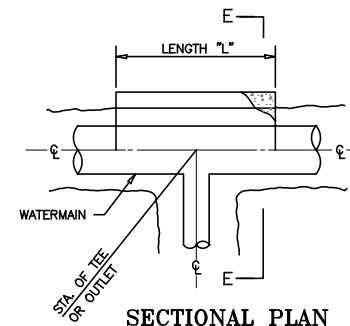
| VERTICAL BEARER BLOCK | | | | | |
|-----------------------|-------------------|-------|-------|----------------------|----------------------------------|
| PIPE DIA. | "H ₂ " | "W" | "L" | GRADE DIFFERENCE (%) | |
| | | | | CL. 150 | GREATER THAN CL.150 UP TO CL.200 |
| 6"φ & 8"φ | 1'-0" | 2'-0" | 0'-6" | 4%-43% | 4%-31% |
| | 1'-0" | 2'-0" | 1'-0" | 44%-131% | 32%-74% |
| | 1'-0" | 2'-0" | 1'-6" | | 75%-202% |
| 10"φ & 12"φ | 1'-0" | 2'-6" | 1'-0" | 4%-49% | 4%-35% |
| | 1'-0" | 2'-6" | 1'-6" | 50%-88% | 36%-57% |
| | 1'-0" | 2'-6" | 2'-0" | 89%-189% | 58%-88% |
| 14"φ & 16"φ | 1'-0" | 2'-6" | 2'-6" | | 89%-142% |
| | 1'-6" | 3'-0" | 1'-0" | 4%-31% | 4%-22% |
| | 1'-6" | 3'-0" | 1'-6" | 32%-50% | 23%-35% |
| 18"φ & 20"φ | 1'-6" | 3'-0" | 2'-0" | 51%-74% | 36%-50% |
| | 1'-6" | 3'-0" | 3'-0" | 76%-201% | 51%-90% |
| | 1'-6" | 3'-0" | 4'-0" | | 91%-201% |
| 21"φ & 24"φ | 1'-6" | 3'-0" | 1'-6" | 4%-29% | 4%-21% |
| | 1'-6" | 3'-0" | 2'-0" | 30%-41% | 22%-29% |
| | 1'-6" | 3'-0" | 2'-6" | 42%-54% | 30%-38% |
| 27"φ & 30"φ | 1'-6" | 3'-0" | 3'-0" | 55%-69% | 39%-47% |
| | 1'-6" | 3'-0" | 4'-0" | 70%-118% | 48%-69% |
| | 1'-6" | 3'-0" | 5'-0" | | 70%-102% |
| 33"φ & 36"φ | 1'-6" | 3'-0" | 6'-0" | | 103%-168% |
| | 1'-6" | 3'-6" | 1'-6" | 4%-23% | 4%-17% |
| | 1'-6" | 3'-6" | 2'-6" | 24%-41% | 18%-30% |
| 21"φ & 24"φ | 1'-6" | 3'-6" | 3'-6" | 42%-64% | 31%-44% |
| | 1'-6" | 3'-6" | 4'-6" | 65%-97% | 45%-61% |
| | 1'-6" | 3'-6" | 5'-6" | 98%-162% | 62%-82% |
| 27"φ & 30"φ | 1'-6" | 3'-6" | 7'-0" | | 83%-139% |
| | 2'-0" | 4'-6" | 2'-0" | 4%-26% | 4%-19% |
| | 2'-0" | 4'-6" | 3'-0" | 27%-41% | 20%-30% |
| 33"φ & 36"φ | 2'-0" | 4'-6" | 4'-0" | 42%-59% | 31%-41% |
| | 2'-0" | 4'-6" | 5'-0" | 60%-82% | 42%-54% |
| | 2'-0" | 4'-6" | 6'-6" | 83%-147% | 55%-79% |
| 21"φ & 24"φ | 2'-0" | 4'-6" | 7'-6" | | 80%-102% |
| | 2'-0" | 4'-6" | 8'-6" | | 103%-138% |
| | 2'-0" | 5'-6" | 2'-0" | 4%-22% | 4%-16% |
| 27"φ & 30"φ | 2'-0" | 5'-6" | 3'-6" | 23%-41% | 17%-30% |
| | 2'-0" | 5'-6" | 5'-0" | 42%-64% | 31%-44% |
| | 2'-0" | 5'-6" | 6'-6" | 65%-99% | 45%-62% |
| 33"φ & 36"φ | 2'-0" | 5'-6" | 8'-0" | 100%-172% | 63%-85% |
| | 2'-0" | 5'-6" | 9'-6" | | 86%-121% |



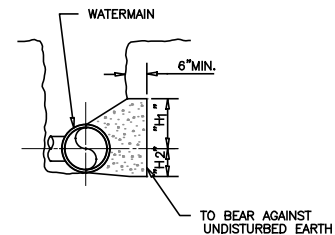
SECTIONAL PLAN



SECTION D-D



SECTIONAL PLAN



SECTION E-E

| END THRUST BLOCK & TEE THRUST BLOCK | | | | |
|-------------------------------------|-------------------|-------------------|------------|----------------------------------|
| PIPE DIA. | "H ₁ " | "H ₂ " | LENGTH "L" | |
| | | | CL.150 | GREATER THAN CL.150 UP TO CL.200 |
| 6"φ & 8"φ | 2'-0" | 1'-0" | 2.5' | 2.5' |
| | | | 3'-0" | 4'-0" |
| 10"φ & 12"φ | 2'-0" | 1'-0" | 3.0' | 3.0' |
| | | | 5'-6" | 7'-6" |
| 14"φ & 16"φ | 3'-0" | 1'-6" | 3.5' | 3.5' |
| | | | 6'-0" | 8'-0" |
| 18"φ & 20"φ | 3'-6" | 1'-9" | 3.5' | 3.5' |
| | | | 7'-6" | 10'-0" |
| 21"φ & 24"φ | 4'-0" | 2'-0" | 3.5' | 3.5' |
| | | | 9'-6" | 12'-6" |
| 27"φ & 30"φ | 4'-6" | 2'-3" | 4.0' | 4.0' |
| | | | 11'-6" | 15'-6" |
| 33"φ & 36"φ | 5'-0" | 2'-6" | 4.0' | 4.5' |
| | | | 14'-6" | 17'-6" |

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:
Sinnaro Yos, P.E. C68607

THRUST BLOCKS FOR WELDED
STEEL PIPELINES, CLASS 200 P.S.I. MAX.

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

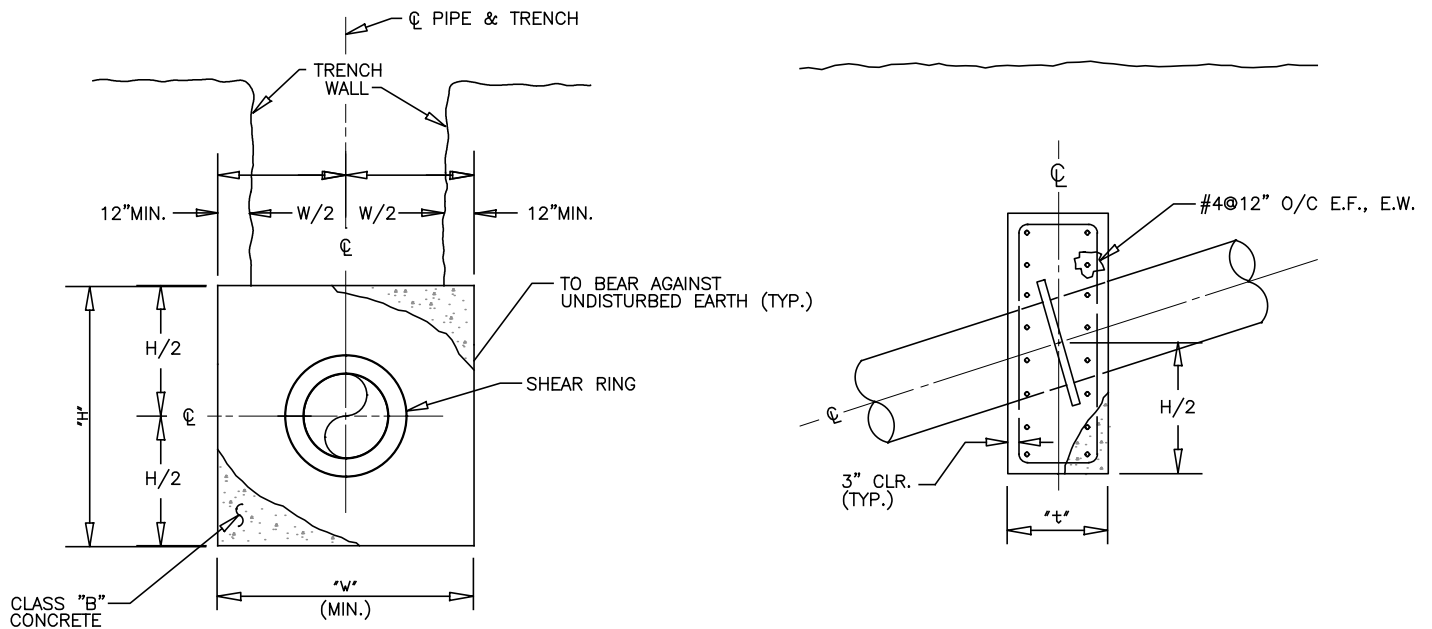
CALIFORNIA

DRAWING NO.

C-2

SHEET 2 OF 3

W.O. 19-0248



| SHEAR RING BLOCK | | | | | | |
|------------------|---------|--------|--------|-----------------------------------|--------|------|
| PIPE DIA. | CL. 150 | | | GREATER THAN CL.150 UP TO CL. 200 | | |
| | MINIMUM | | DESIGN | PIPELINE COVER | | |
| | "H" | "W" | | "H" | "W" | |
| 6"φ & 8"φ | 2'-6" | 4'-6" | 12" | 2'-6" | 5'-6" | 12"* |
| 10"φ & 12"φ | 3'-6" | 5'-6" | 12" | 3'-6" | 7'-0" | 12"* |
| 14"φ & 16"φ | 4'-0" | 8'-0" | 12" | 4'-0" | 9'-0" | 15"* |
| 18"φ & 20"φ | 5'-0" | 8'-6" | 15"* | 6'-0" | 9'-0" | 18"* |
| 21"φ & 24"φ | 6'-0" | 9'-6" | 21"* | 7'-0" | 10'-6" | 21"* |
| 27"φ & 30"φ | 8'-0" | 9'-6" | 22"* | 8'-6" | 11'-6" | 27"* |
| 33"φ & 36"φ | 9'-0" | 11'-6" | 24"* | 10'-0" | 12'-6" | 30"* |

* USE REBAR #4 @ 12" O/C E.F. & E.W.

NOTES:

- ALL THRUST BLOCKS SHALL BE A MINIMUM OF CLASS "C" CONCRETE (4.0 SACKS MIX) AS PER SPECIFICATIONS, EXCEPT SHEAR RING BLOCK WHICH SHALL BE A MINIMUM OF CLASS "B" CONCRETE (5.0 SACKS MIX).
- RE-BAR SHALL BE INTERMEDIATE GRADE DEFORMED BARS CONFORMING TO A.S.T.M. SPEC. A-15 & A-305.
- RE-BAR LAP LENGTH = 18" MIN. OR 36 x RE-BAR DIA., WHICHEVER IS GREATER.
- REBARS ARE REQUIRED FOR SHEAR RING BLOCKS AS NOTED.
- HORIZONTAL THRUST BLOCKS, TEE & END BLOCKS, & SHEAR RING BLOCKS.
 - THE ALLOWABLE LATERAL BEARING PRESSURE AGAINST UNDISTURBED EARTH (P_p) USED IN DESIGN OF BLOCKS IS 333 LBS./SQ. FT./FT. OF DEPTH.
 - THE ALLOWABLE LATERAL BEARING PRESSURE WAS DETERMINED BY USING THE MINIMUM DESIGN PIPELINE COVER AS SHOWN IN THE THRUST BLOCK TABLES.
 - THE TOTAL RESULTANT THRUST FOR HORIZONTAL ANGLES WAS DETERMINED USING THE RELATIONSHIP

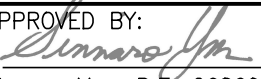
$$HT = 2P \frac{T}{4} D^2 \sin \frac{\Delta}{2}$$
 WHERE HT= TOTAL HORIZONTAL THRUST, LBS.
 D= INSIDE DIAMETER, IN.
 P= INTERNAL PRESSURE, P.S.I.
 Δ= H.P.I., DEGREES.
- VERTICAL BEARING BLOCK & VERTICAL ANCHOR BLOCK,
 - THE ALLOWABLE FOUNDATION PRESSURE AGAINST UNDISTURBED EARTH (P_p) USED FOR DETERMINING THE REQUIRED BEARING BLOCK IS 3000 LBS./SQ.FT.
 - THE TOTAL RESULTANT THRUST FOR VERTICAL ANGLES WAS APPROXIMATED USING THE RELATIONSHIP

$$VT = P \frac{T}{4} D^2 \sin \Delta$$
 (Δ=TAN⁻¹ 9/100).
 WHERE VT= TOTAL VERTICAL THRUST, LBS.
 D= INSIDE PIPE DIAMETER, IN.
 P= INTERNAL PRESSURE, P.S.I.
 Δ= V.P.I., DEGREES.
 g= GRADE DIFFERENCE (%).

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

 Sinnaro Yos, P.E. C68607

THRUST BLOCKS FOR WELDED
 STEEL PIPELINES, CLASS 200 P.S.I. MAX.

ALBERT A. WEBB ASSOCIATES
 CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

DRAWING NO.

C-2

SHEET 3 OF 3

W.O. 19-0248

REV.

MINIMUM PIPE WELDING LENGTHS FOR RESISTANCE

| | INSTALLATIONS FOR CLASS 150 UP TO CLASS 200 (MAX.) | | | |
|--------------|-------------------------------------------------------|----------|----------|----------|
| PIPE DIA. | ANGLE OF BEND* | | | |
| | 0-22.5° | 22.5-45° | 45-67.5° | 67.5-90° |
| 4" | 5' | 15' | 35' | 55' |
| 6" | 10' | 25' | 50' | 80' |
| 8" | 10' | 30' | 65' | 100' |
| 10" | 10' | 40' | 80' | 125' |
| 12" | 10' | 40' | 80' | 125' |
| 14" | 15' | 40' | 80' | 130' |
| 16" | 15' | 45' | 95' | 150' |
| 18" | 15' | 50' | 105' | 165' |
| 20" | 15' | 55' | 115' | 180' |
| 24" | 20' | 65' | 135' | 215' |
| 30" | 20' | 80' | 160' | 260' |
| 36" | 25' | 90' | 190' | 305' |

* AT THE BREAK POINT ANGLES (i.e: 22.5°, 45°, AND 67.5°) THE CONTRACTOR SHALL USE THE THRUST RESTRAINT COLUMN SHOWING THE LONGEST WELD LENGTH.

GENERAL NOTES

1. WELDED PIPE LENGTHS TO BE USED ONLY UPON APPROVAL BY J.C.S.D.
2. WELDED LENGTHS INDICATED ARE TO BE PROVIDED ON EACH SIDE OF BEND.
3. ALL JOINTS WITHIN THE LENGTHS INDICATED SHALL BE FULL WELD, DOUBLE PASS.
4. "DEAD END" THRUST IS EQUIVALENT TO A 90° BEND.
5. FOR SERVICE LATERALS, INCLUDING FIRE HYDRANTS, FIRE SERVICES, BLOW-OFFS ETC., FULLY WELD ALL MAINLINE JOINTS (DOUBLE PASS) 10' MINIMUM EACH SIDE OF TEE OUTLET.

THE FOLLOWING ASSUMPTIONS APPLY

1. LENGTH OF WELDED PIPE IS FOR EACH SIDE OF BEND USING THE FOLLOWING EQUATION:

$$L = 1.5PA (1 - \cos \Delta) / [U(2W_e + W_w + W_p)]$$

WHERE: P = MAXIMUM TEST PRESSURE (PSI)

A = CROSS-SECTION AREA OF THE PIPE (SQ. IN.)

Δ = ANGLE OF BEND (DEGREES)

U = COEFF. OF FRICTION BETWEEN PIPE AND SOIL (ASSUMED 0.3)

W_e = WEIGHT OF THE PRISM OR SOIL OVER THE PIPE (LB/FT.) OF PIPE LENGTH
(WT. OF SOIL ASSUMED TO BE 110 LB/CU. FT.)

W_p = WEIGHT OF THE PIPE (LB/FT)

W_w = WEIGHT OF THE CONTAINED WATER (LB/FT)

2. 3' MINIMUM PIPE COVER FOR PIPE DIAMETERS < 12", 4' MINIMUM PIPE COVER FOR PIPE DIAMETERS > 12".
3. FACTOR OF SAFETY = 1.5 TIMES MAXIMUM DESIGN PRESSURE. (200 PSI)
4. MAXIMUM ANGLE (?) USED FOR EACH RANGE SHOWN.

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:


Sinnaro Yos, P.E. C68607

MINIMUM PIPE WELDING LENGTH FOR THRUST RESTRAINT

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

DRAWING NO.

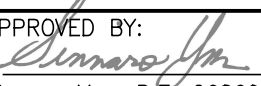
C-2A

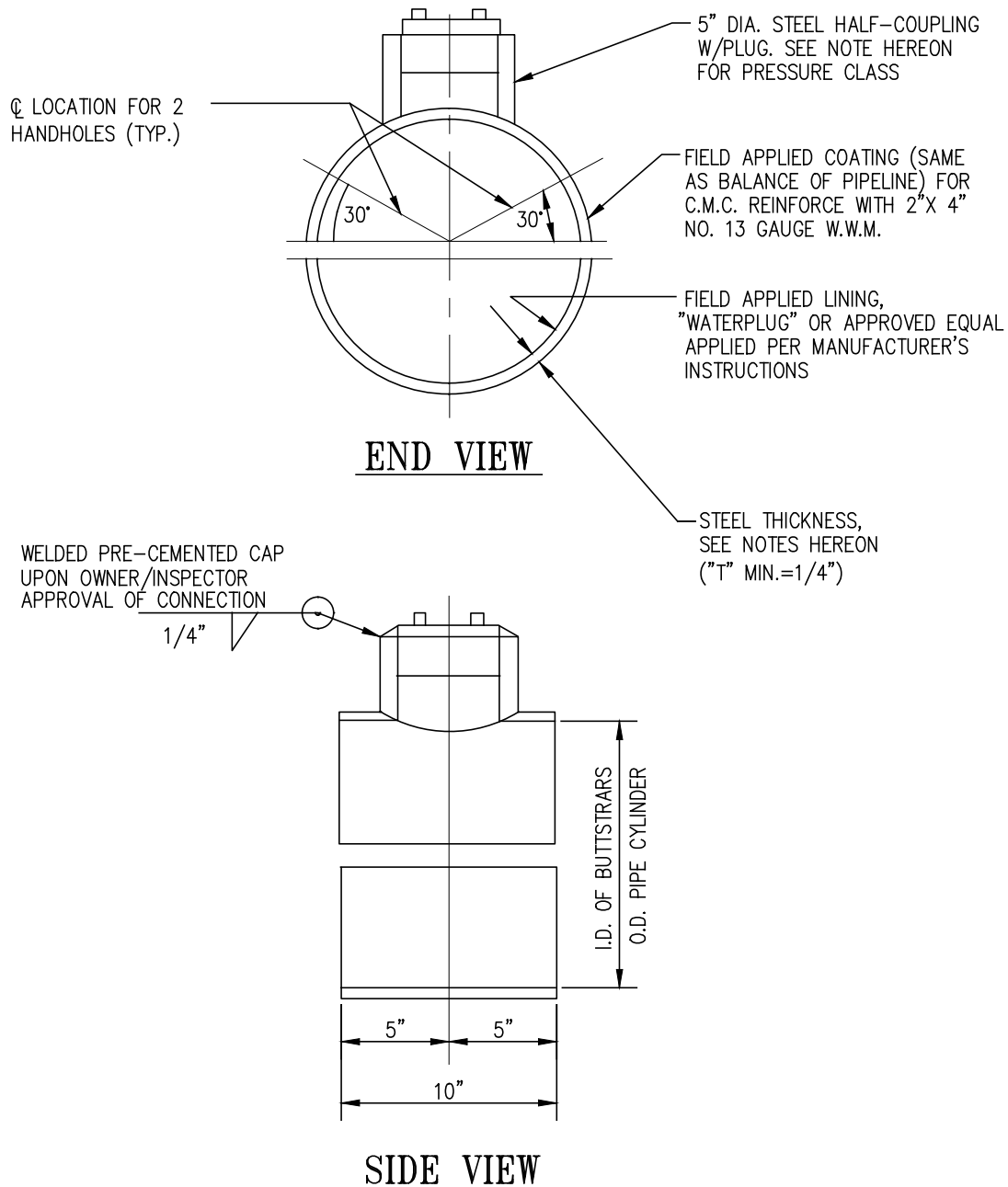
W.O. 19-0248

REV.

STANDARD DRAWING NO. C-2B DELETED

JURUPA COMMUNITY SERVICES DISTRICT

| | | | |
|------|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|--------------|
| REV. | SCALE: NONE | STANDARD RESTRAINT TEES, DEAD ENDS & BENDS FOR PVC C-909 | DRAWING NO. |
| | DATE: SEPTEMBER 2020 | | C-2B |
| | APPROVED BY:  | ALBERT A. WEBB ASSOCIATES CONSULTING ENGINEERS RIVERSIDE CALIFORNIA | W.O. 19-0248 |
| | Sinnaro Yos, P.E. C68607 | | |



NOTES:

- | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>① 1 HANDHOLE REQUIRED FOR 4"Ø PIPE THROUGH 14"Ø PIPE.</p> <p>② 2 HANDHOLES REQUIRED FOR 20"Ø PIPE THROUGH 30"Ø PIPE.</p> <p>③ UP TO CLASS 200 PIPELINES:</p> <p style="padding-left: 20px;">"T" = 1/4" FOR 4" DIA. THROUGH 30" DIA.</p> <p style="padding-left: 20px;">"T" = 5/16" FOR 36" DIA.</p> <p style="padding-left: 20px;">5" - BLACK, HALF-COUPLING, STD. WT.</p> <p style="padding-left: 20px;">5" - BLACK, CORED, BAR PLUG, STD. WT.</p> | <p>④ GREATER THAN CLASS 200 THROUGH CLASS 350 PIPELINES:</p> <p style="padding-left: 20px;">"T" = 1/4" FOR 4" DIA. THROUGH 20" DIA.</p> <p style="padding-left: 20px;">"T" = 5/16" FOR 24" DIA.</p> <p style="padding-left: 20px;">"T" = 3/8" FOR 30" DIA. & 36" DIA.</p> <p style="padding-left: 20px;">5" - BLACK, HALF-COUPLING, EXTRA HEAVY</p> <p style="padding-left: 20px;">5" - BLACK, SOLID, BAR PLUG, EXTRA HEAVY</p> <p>⑤ 4 HANDHOLES REQUIRED FOR PIPE SIZES GREATER THAN 30" DIA.</p> <p>⑥ 4 HANDHOLES REQUIRED FOR PIPE SIZES GREATER</p> <p>⑦ WEDDING BAND NOT ALLOWED</p> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

JURUPA COMMUNITY SERVICES DISTRICT

TYPICAL BUTT STRAP CONNECTION CML/CMC PIPE

DRAWING NO.

C-3

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

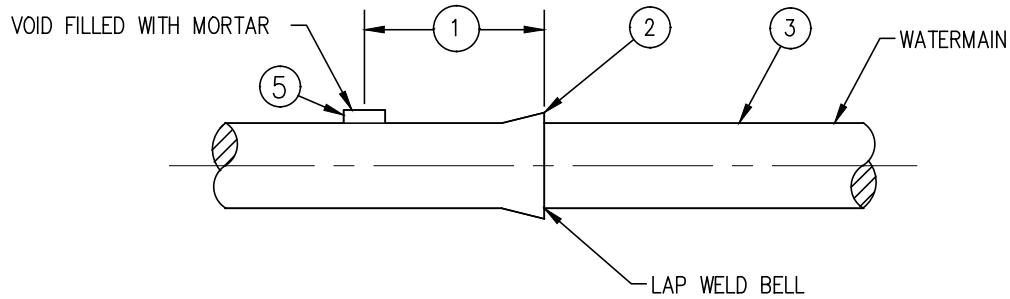
ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

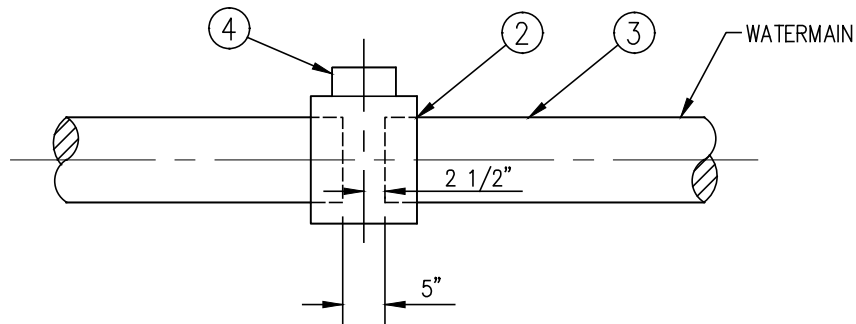
CALIFORNIA

W.O. 19-0248

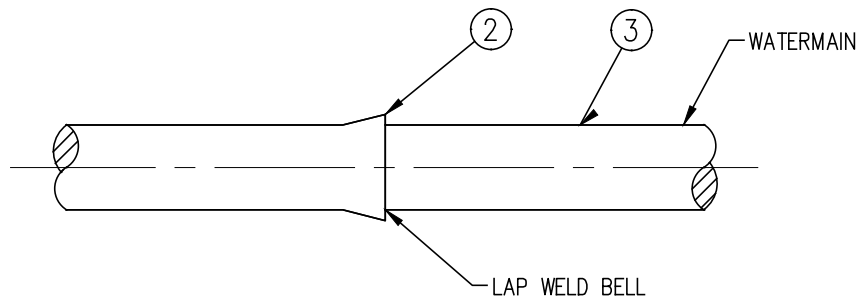
REV.



TYPE - I



TYPE - II



TYPE - III

NOTES:

- ① 1'-0" (12"Ø THRU 36"Ø) AND 6" (LESS THAN 12"Ø) PER STD. NO. C-3.
- ② CUT-TO-FIT OPTIONAL TO THE CONTRACTOR UNLESS OTHERWISE NOTED ON THE PLANS. WELD AS PER SPEC'S.
- ③ CUT-TO-FIT PIPE (LENGTH AS SHOWN ON PLANS). HOLD COATING DISTANCE OF C.T.F. + 6" FIELD APPLIED COATING.
- ④ SPLIT BUTT-STRAP WITH 1 OR 2 HANDHOLES PER STD. NO. C-3.
- ⑤ 5" HALF COUPLING PER STD. NO. C-3 REQUIREMENTS WITH 1/4" PLATE WELDED TO TOP, 10" x 1/4" REINFORCEMENT COLLAR.

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

**TYPICAL CUT-TO-FIT DETAIL
FOR TYPES I, II & III**

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

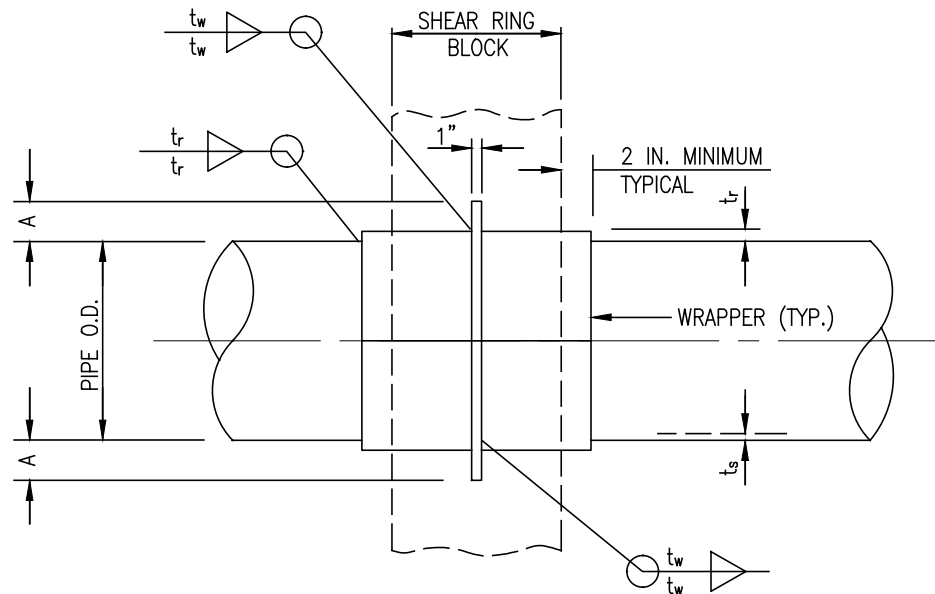
CALIFORNIA

DRAWING NO.

C-4

W.O. 19-0248

REV.



| NOM. PIPE DIA. (in.) | MIN. RING WIDTH "A" (in.) | MIN. WELD, t_w (in.) | MIN. WRAPPER THICKNESS, t_r (in.) |
|-------------------------|------------------------------|---------------------------|----------------------------------------|
|-------------------------|------------------------------|---------------------------|----------------------------------------|

MAXIMUM DESIGN PIPE PRESSURE OF 200 PSI

| | | | |
|----|------|-------|-------|
| 6 | 1.00 | 0.125 | 0.135 |
| 8 | 1.25 | 0.125 | 0.135 |
| 10 | 1.50 | 0.125 | 0.135 |
| 12 | 1.75 | 0.187 | 0.135 |
| 14 | 1.75 | 0.187 | 0.135 |
| 16 | 2.00 | 0.187 | 0.135 |
| 18 | 2.25 | 0.187 | 0.187 |
| 20 | 2.50 | 0.187 | 0.187 |
| 24 | 3.25 | 0.187 | 0.250 |
| 30 | 4.00 | 0.250 | 0.312 |
| 36 | 4.75 | 0.250 | 0.375 |

NOTES:

1. SHEAR RINGS SHALL BE 1" THICK FOR ALL PIPE DIAMETERS.
2. t_s = DESIGN PIPE CYLINDER THICKNESS.
3. REFER TO STD. DWG. NO. C-2 FOR SHEAR RING CONCRETE BLOCK DIMENSIONS.

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

TYPICAL SHEAR RING DETAIL FOR WELDED STEEL PIPE

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

DRAWING NO.

C-5

W.O. 19-0248

REV.

MIN. WRAPPER / COLLAR
REINFORCEMENT THICKNESS

NOM. DIA. RANGE

"t"

4" THRU 18"

3/16"

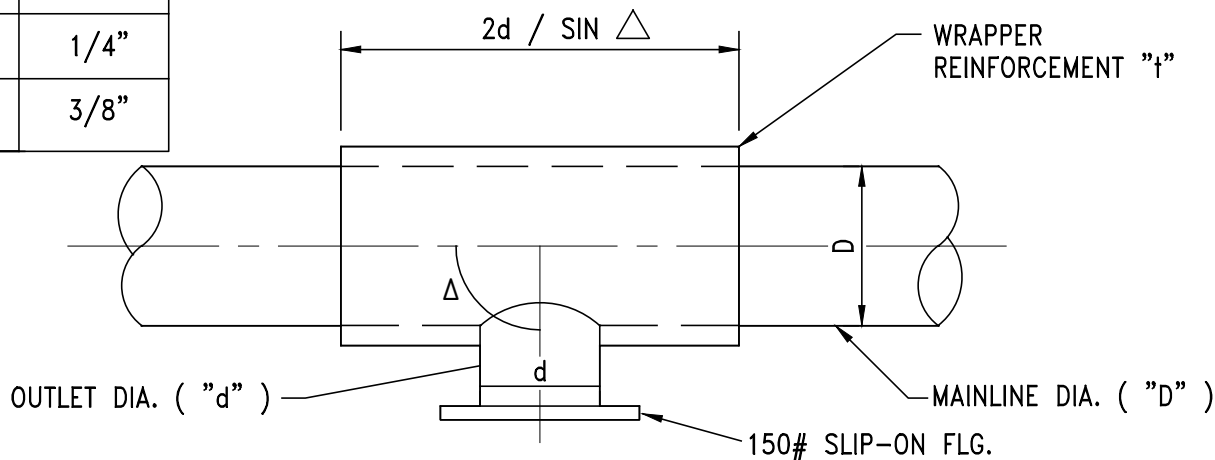
20" THRU 27"

1/4"

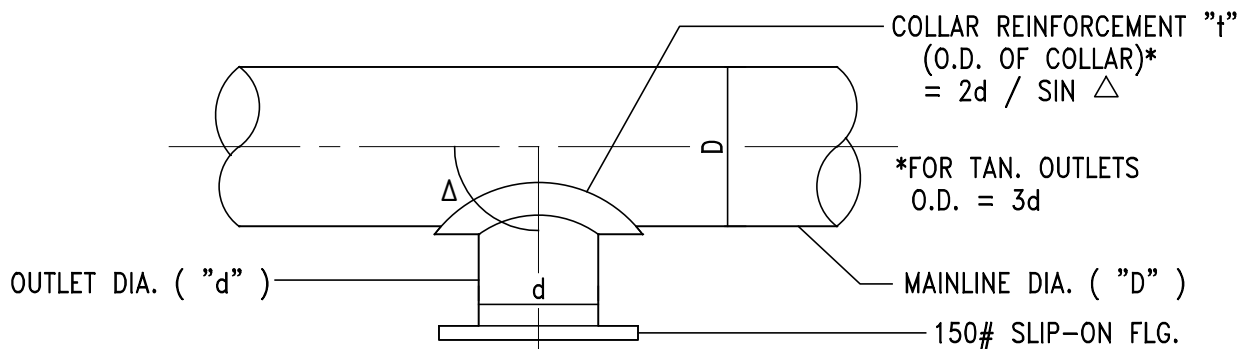
30" THRU 36"

3/8"

D = I.D. OF MAIN PIPE CYLINDER
d = I.D. OF BRANCH PIPE CYLINDER
 Δ = DEFLECTION ANGLE



TYPICAL WRAPPER REINFORCEMENT



ALL FITTINGS, OUTLETS, ETC. SHALL BE CML/CMC W.S.P.

TYPICAL COLLAR REINFORCEMENT

| D | $d/D \sin \Delta = X$ | REINFORCEMENT |
|---------------|-----------------------|---------------|
| LESS THAN 24" | $X \leq 0.6$ | COLLAR |
| | $0.6 < X \leq 1.0$ | WRAPPER |
| | $1.0 < X$ | CROTCH PLATE |
| 24" THRU 36" | $X \leq 0.6$ | COLLAR |
| | $0.6 < X \leq 0.75$ | WRAPPER |
| | $0.75 < X$ | CROTCH PLATE |

NOTES:

1. OUTLETS ARE DESIGNED FOR MAXIMUM PRESSURE CLASS OF 200 P.S.I.
2. ALL OUTLETS REQUIRING CROTCH PLATES, SHALL BE SUBMITTED TO AGENCY FOR APPROVAL.
3. USE A DISTRICT APPROVED TAPPING SLEEVE FOR CONNECTIONS TO PVC PIPE.
4. DISTRICT WILL DETERMINE THE TYPE OF TEE CONSTRUCTION DEPENDING ON THE EXISTING PIPE MATERIAL AND CONDITIONS AS WELL AS THE PROPOSED VALVE INSTALLATION.

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

OUTLET REINFORCEMENT DETAILS

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

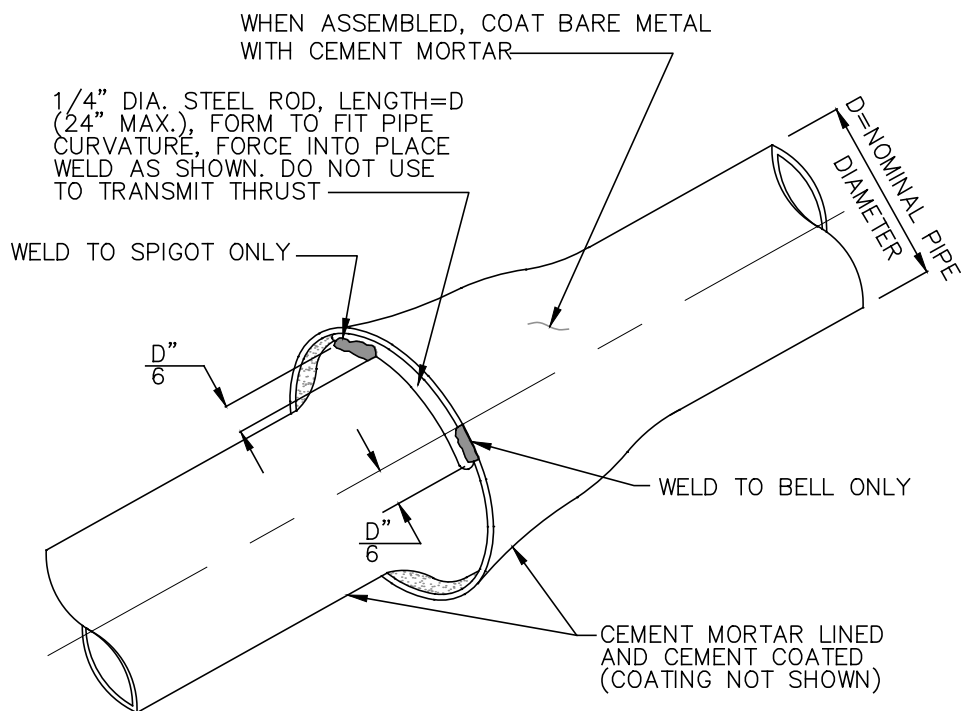
DRAWING NO.

C-6

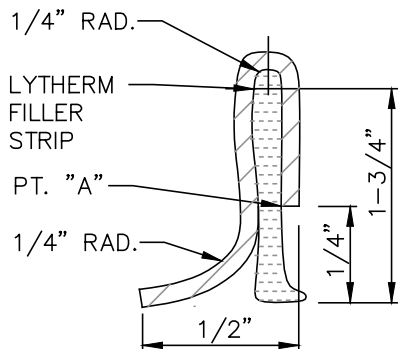
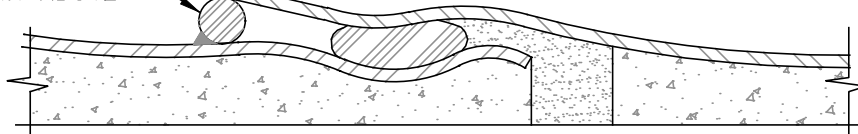
W.O. 19-0248

REV.

NOTE:
DISTRICT DIRECTED
USE ONLY



1/4" DIA. STEEL ROD.
WELD AS SHOWN ABOVE



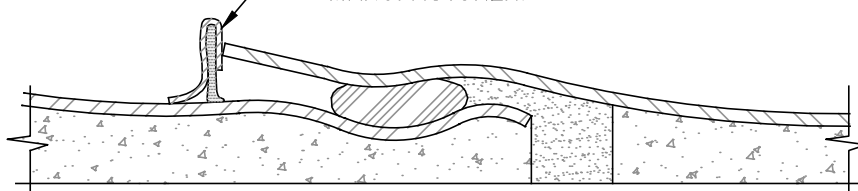
BONDING CLIP DETAIL

MATERIAL PER ASTM A366, COMMERCIAL QUALITY;
10 GA.x2 1/2"LGx1 1/4"WD. LYTHERM STRIP TO
BE 1"± LONG x 1 1/2" WIDE; TO OVERLAP SIDES OF
CLIP. CRIMP CLIP @ POINT "A" TO COMPRESS FILLER.

BOND DETAIL

COATING NOT SHOWN

2 BONDING CLIPS (MIN) REQUIRED PER
JOINT OR AS RECOMMENDED BY
MANUFACTURER.



ALTERNATE BOND DETAIL

COATING NOT SHOWN

NOTES:

1. OMIT WHERE WELDED PIPE JOINT REQUIRED, OR RING SEAL JOINT IS WELDED FOR THRUST.
2. FORCE 1/4" DIA. ROD INTO PLACE. AT ONE END, WELD TO BELL, AT OTHER, WELD TO SPIGOT. REQUIRED LENGTH OF WELD EACH END = D/6 (1" MIN., 4" MAX.)
3. WELD AS SHOWN, DO NOT WELD EITHER END TO BOTH BELL AND SPIGOT OF PIPE.

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

FORMED BELL AND SPIGOT JOINT BONDING DETAIL

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

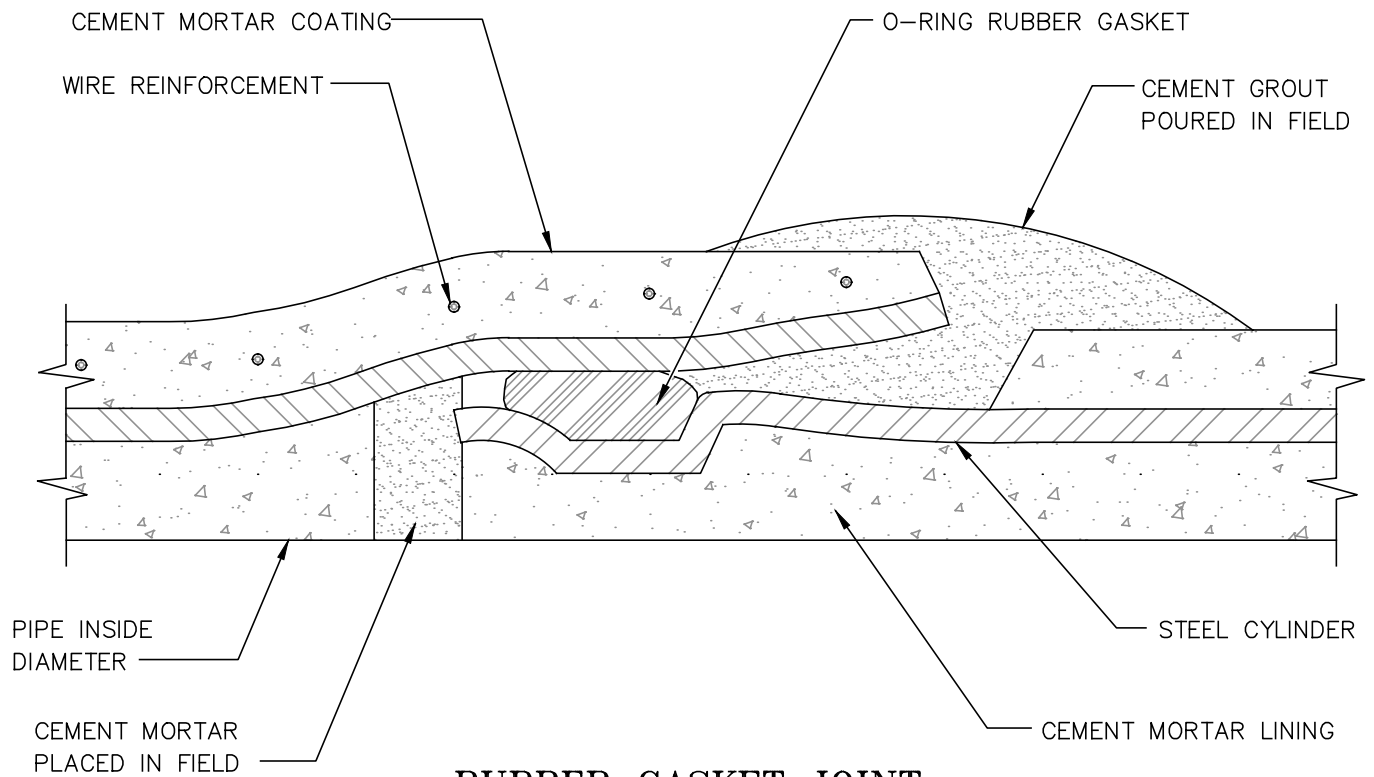
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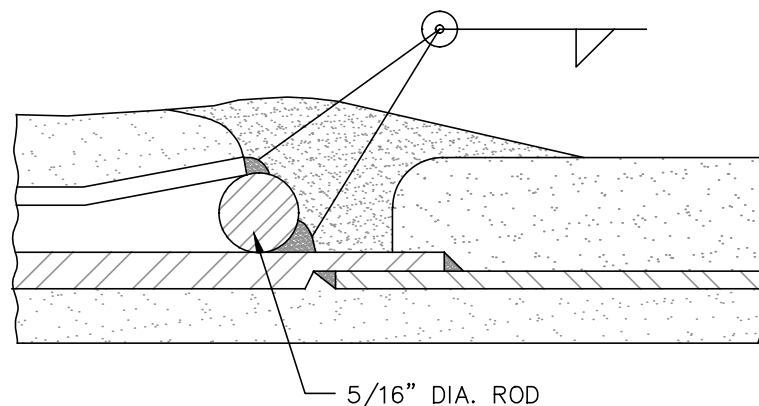
C-7

W.O. 19-0248

REV.



**RUBBER GASKET JOINT
FORMED BELL & SPIGOT JOINT
STEEL CYLINDER PIPE**



WELDED JOINT DETAIL
(DOUBLE PASS, FULL WELD)

REFER TO STD. DWG. C-7 FOR ELECTRICAL CONTINUITY BONDING.

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:
Sinnaro Yos
Sinnaro Yos, P.E. C68607

**FORMED BELL & SPIGOT RUBBER GASKET
JOINT FOR CML & CMC PIPE**

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

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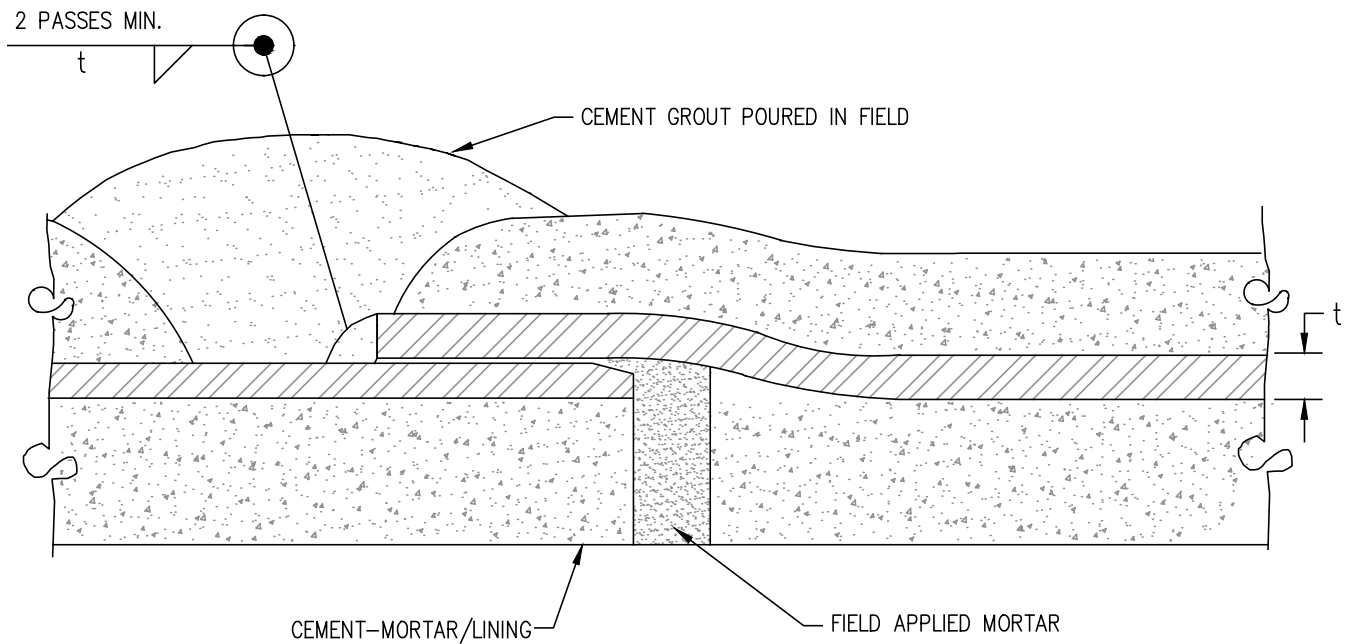
CALIFORNIA

DRAWING NO.

C-8

W.O. 19-0248

REV.



LAP WELDED SLIP JOINT BELL-END STEEL CYLINDER PIPE

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

LAP WELDED SLIP JOINT
BELLED-END CML & CMC PIPE

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

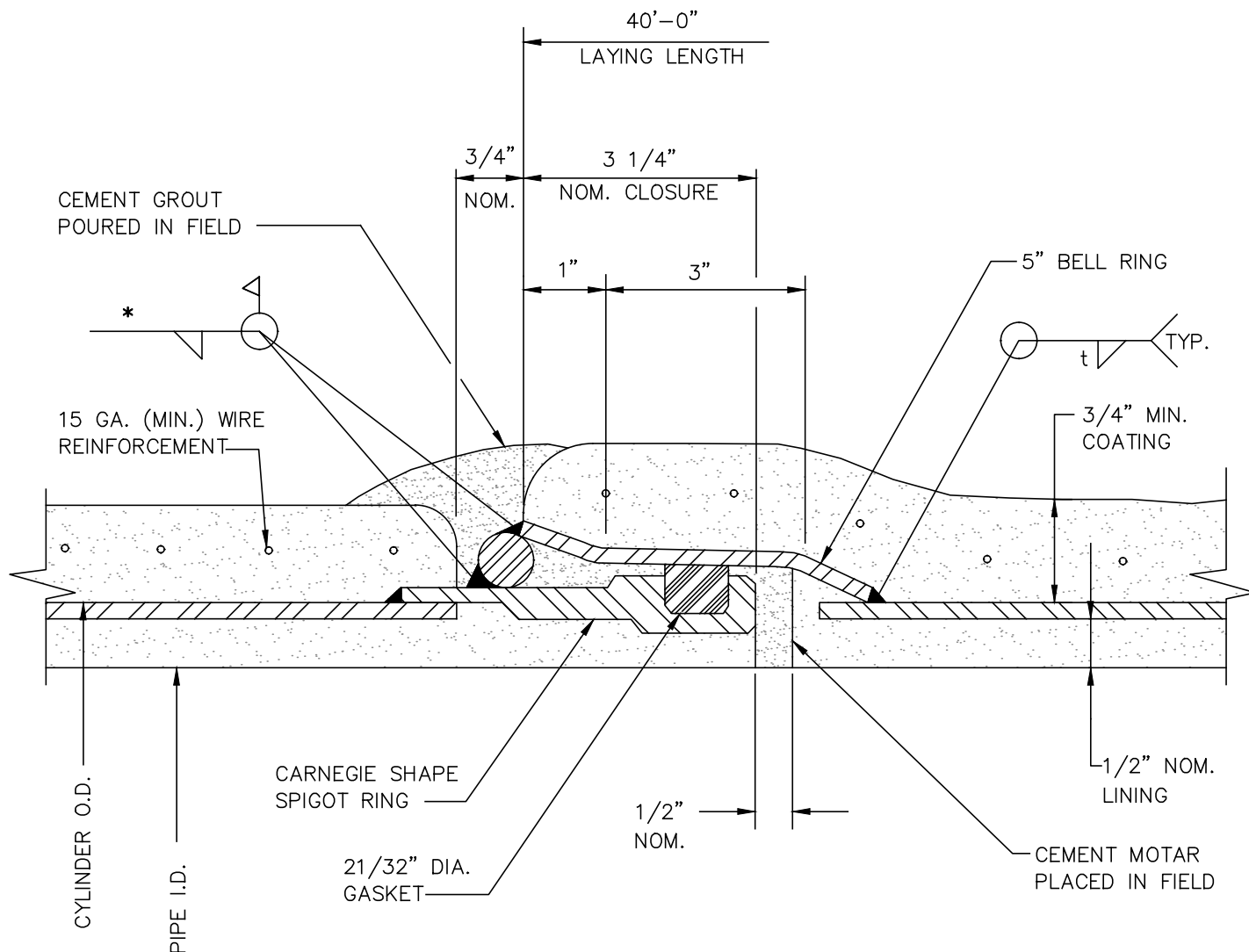
CALIFORNIA

DRAWING NO.

C-9

W.O. 19-0248

REV.



NOTE:

THIS STANDARD SHALL APPLY TO WELDED STEEL PIPE DIAMETERS 27" AND LARGER.

* NOT REQUIRED UNLESS FULL WELD IS SPECIFIED.

REFER TO STD. DWG. C-7 FOR ELECTRICAL CONTINUITY BONDING.

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

CARNEGIE TYPE RUBBER GASKET JOINT FOR CML & CMC PIPE

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

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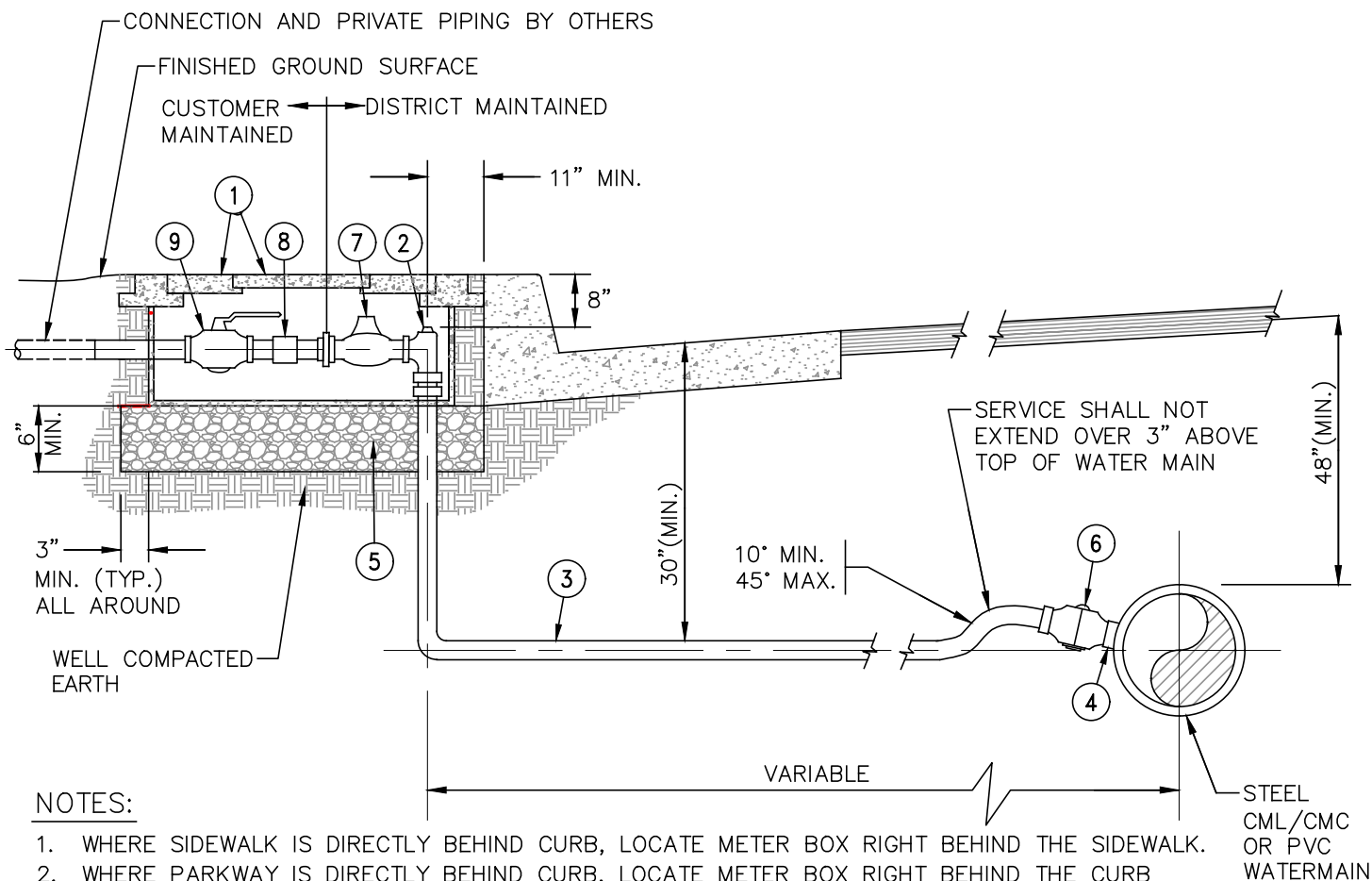
CALIFORNIA

DRAWING NO.

C-10

W.O. 19-0248

REV.



NOTES:

1. WHERE SIDEWALK IS DIRECTLY BEHIND CURB, LOCATE METER BOX RIGHT BEHIND THE SIDEWALK.
2. WHERE PARKWAY IS DIRECTLY BEHIND CURB, LOCATE METER BOX RIGHT BEHIND THE CURB
3. PIPE THREADS SHALL BE CLEAN AND SHARP AND SEALED WITH AN APPROVED JOINT COMPOUND.
4. METER SHALL NOT BE PLACED IN DRAINAGE AREA, DEPRESSIONS OR WITHIN TWO FEET OF A DRIVEWAY APPROACH.
5. DISTRICT MAINTAINED: ANGLE METER, METER, METER TAIL, CHECK VALVE, 2" NIPPLE
6. CUSTOMER MAINTAINED: BRASS BALL VALVE
7. FOR 1" METER INSTALLATION, SUBSTITUTE 1" DIMENSION WHERE 3/4" IS INDICATED.

| ITEM | DESCRIPTION |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ① | J & R POLYMER CONCRETE METER BOX P-W 5-1/2 WITH TWO PIECE COVER OR APPROVED EQUAL. USE METER BOX P-W 5-1/2-20K FOR INCIDENTAL TRAFFIC CONDITIONS, CHECK FOR H2O RATED. |
| ② | 1" x 3/4" BALL ANGLE METER STOP W/ LOCK WING |
| ③ | 1" PLASTIC COATED COPPER TUBE, TYPE K, COPPER SHALL BE CONTINUOUS WITH NO JOINTS FROM SERVICE CONNECTION TO RISER. |
| ④ | BLK. STL. STD. COUPLING TO PIPE W/COLLAR PER STD. D-6 (FOR STEEL WATERMAIN) OR WATERMAIN DIA. X 1" SERVICE SADDLE PER DISTRICT SPECIFICATIONS (FOR PVC WATERMAIN) |
| ⑤ | 3/4" DIA. CRUSHED ROCK |
| ⑥ | 1" DIA. BALL CORP. STOP, I.P.T. INLET X PACK JOINT |
| ⑦ | 3/4" METER W/RADIOREAD, FURNISHED BY THE DISTRICT |
| ⑧ | 1" DIA. BRASS PIPE W/ 1" DIA. BRONZE SPRING CHECK VALVE 1" X 12" BRASS PIPE |
| ⑨ | 1" BRASS BALL VALVE W/ HANDLE |

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

**3/4" OR 1" METER, 1" WATER SERVICE
DETAIL (W/OUT RESIDENTIAL FIRE SPRINKLERS)**

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

DRAWING NO.

D-1

W.O. 19-0248

REV.

STANDARD DRAWING NO. D-1A DELETED

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

3/4" OR 1" METER, 1" WATER
SERVICE DETAIL (PE TUBING)

DRAWING NO.

D-1A

APPROVED BY:



Sinnaro Yos, P.E. C68607

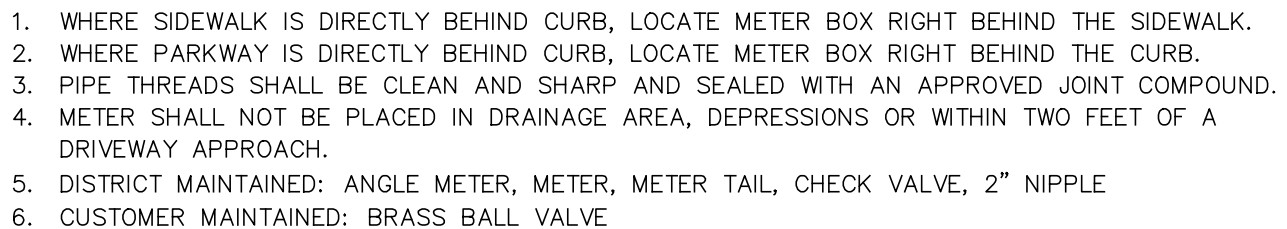
ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

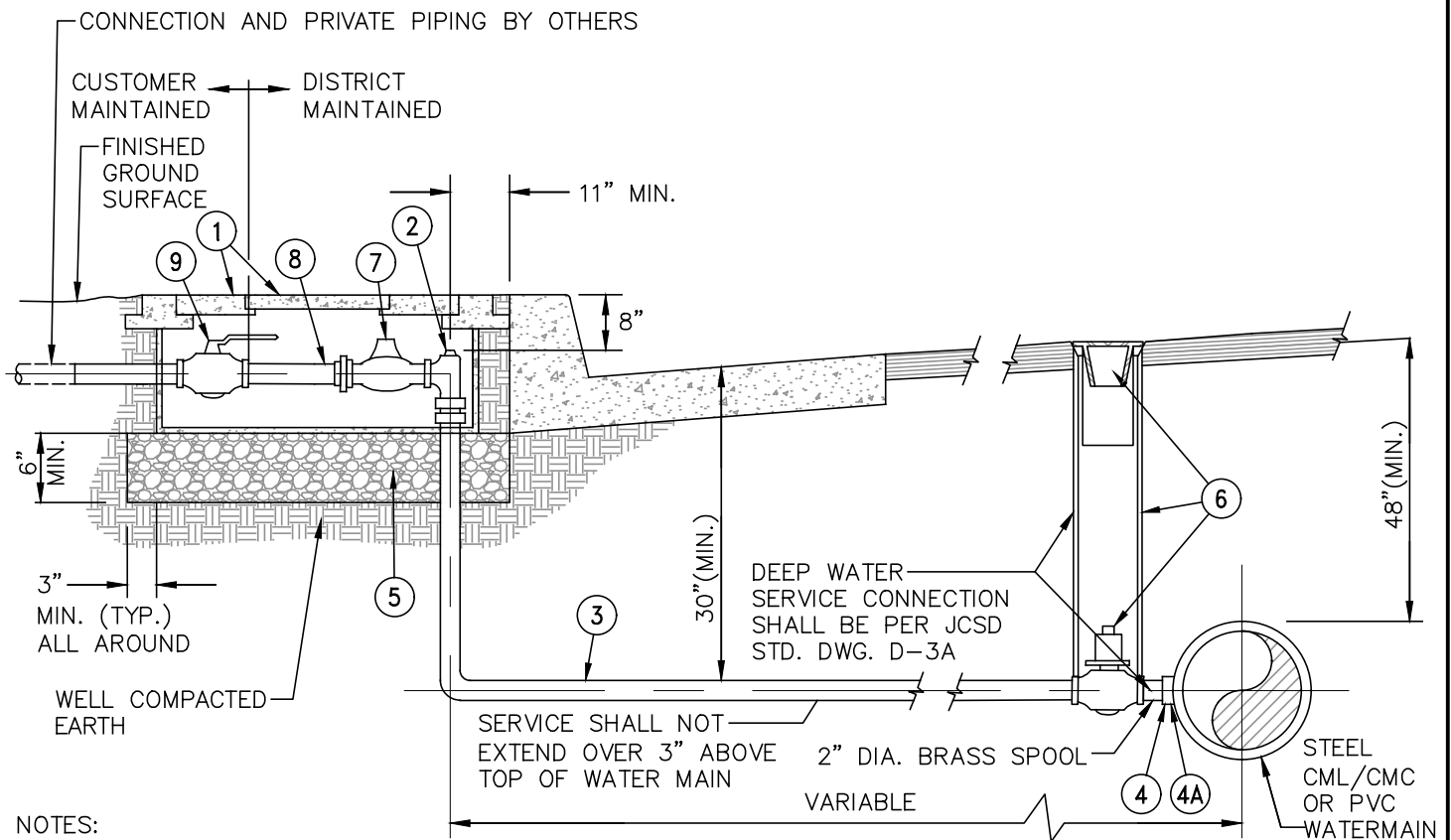
W.O. 19-0248

REV.



W.O. 19-0248

REV.



NOTES:

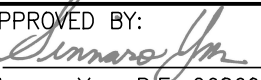
1. WHERE SIDEWALK IS DIRECTLY BEHIND CURB, LOCATE METER BOX RIGHT BEHIND THE SIDEWALK.
2. WHERE PARKWAY IS DIRECTLY BEHIND CURB, LOCATE METER BOX RIGHT BEHIND THE CURB.
3. PIPE THREADS SHALL BE CLEAN AND SHARP AND SEALED WITH AN APPROVED JOINT COMPOUND.
4. METER SHALL NOT BE PLACED IN DRAINAGE AREA, DEPRESSIONS OR WITHIN TWO FEET OF A DRIVEWAY APPROACH.
5. NOTE: FOR 2" SERVICE INSTALLATION, SUBSTITUTE 2" DIMENSION WHERE 1-1/2" IS INDICATED.
6. DISTRICT MAINTAINED: ANGLE METER, METER, METER TAIL, CHECK VALVE, 2" NIPPLE
7. CUSTOMER MAINTAINED: BRASS BALL VALVE

| ITEM | DESCRIPTION |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| ① | J & R POLYMER CONCRETE METER BOX P-W 5-1/2 WITH TWO PIECE COVER OR APPROVED EQUAL. USE METER BOX P-W 5-1/2-20K FOR INCIDENTAL TRAFFIC (H-20) CONDITIONS. |
| ② | 1-1/2" BALL ANGLE METER STOP. W/ LOCK WING |
| ③ | 2" DIA. PLASTIC COATED COPPER PIPE, TYPE K, COPPER PIPE SHALL BE CONTINUOUS WITH NO JOINTS FROM SERVICE CONNECTION TO RISER. |
| ④ | BLK. STL. STD. COUPLING TO PIPE W/ COLLAR PER STD. D-6 (FOR STEEL WATERMAIN) |
| ④A | WATERMAIN DIA. x 2", SERVICE SADDLE PER DISTRICT SPECIFICATIONS (FOR PVC WATERMAIN) |
| ⑤ | 3/4" DIA. CRUSHED ROCK |
| ⑥ | 2" DIA. QUARTER TURN BALL VALVE W/ 2" SQ. OPERATING NUT, 6" DIA. VALVE CAN PER STD. DWG. B-1 (M.I.P. X COMPRESSION) |
| ⑦ | 1-1/2" METER W/RADIOREAD, FURNISHED BY THE DISTRICT |
| ⑧ | 1-1/2" DIA. BRASS PIPE |
| ⑨ | 1-1/2" BRASS BALL VALVE W/ HANDLE. NOTE: NOT REQUIRED IF BACKFLOW ASSEMBLY IS REQUIRED |

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

 Sinnaro Yos, P.E. C68607

1-1/2" METER, 2" WATER SERVICE DETAIL

ALBERT A. WEBB ASSOCIATES
 CONSULTING ENGINEERS

RIVERSIDE

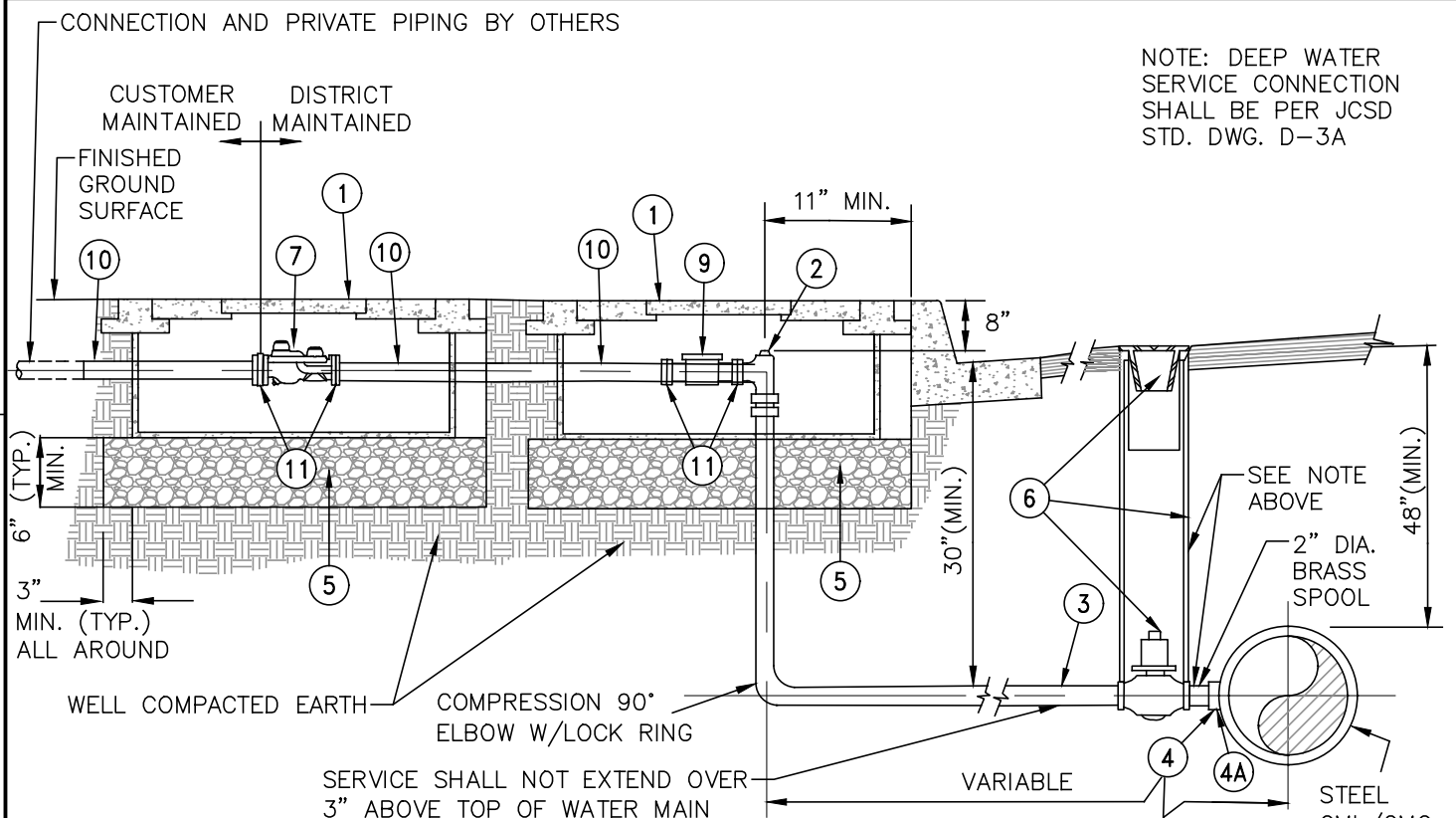
CALIFORNIA

DRAWING NO.

D-2

W.O. 19-0248

REV.



NOTES:

1. WHERE SIDEWALK IS DIRECTLY BEHIND CURB, LOCATE METER BOX RIGHT BEHIND THE SIDEWALK.
2. WHERE PARKWAY IS DIRECTLY BEHIND CURB, LOCATE METER BOX RIGHT BEHIND THE CURB.
3. PIPE THREADS SHALL BE CLEAN AND SHARP AND SEALED WITH AN APPROVED JOINT COMPOUND.
4. METER SHALL NOT BE PLACED IN DRAINAGE AREA, DEPRESSIONS OR WITHIN TWO FEET OF A DRIVEWAY APPROACH.
5. PROVIDE 2" BRASS BALL VALVE W/ HANDLE BEHIND METER IN METER BOX IF BACKFLOW DEVICE IS NOT INSTALLED.
6. COMPOUND METER REQUIRES A SEPARATE BOX.

| ITEM | DESCRIPTION |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ① | J & R POLYMER CONCRETE METER BOX P-W 5-1/2 WITH TWO PIECE COVER OR APPROVED EQUAL. USE METER BOX P-W 5-1/2-20K FOR INCIDENTAL TRAFFIC (H-20) CONDITIONS |
| ② | 2" BRONZE BALL ANGLE METER STOP W/LOCK WING |
| ③ | 2" COPPER WATER SERVICE, TYPE 'L', W/PROTECTIVE WRAP PER SPECIFICATIONS |
| ④ | BLK. STL. STD. COUPLING TO PIPE W/ COLLAR PER STD. D-6 (FOR STEEL WATERMAIN) |
| ④A | WATERMAIN DIA. x 2", SERVICE SADDLE PER DISTRICT SPECIFICATIONS (FOR PVC WATERMAIN) |
| ⑤ | 3/4" DIA. CRUSHED ROCK |
| ⑥ | 2" DIA. QUARTER TURN BALL VALVE W/ 2" SQ. OPERATING NUT, 6" DIA. VALVE CAN PER STD. DWG. B-1 (MIP X COMPRESSION) |
| ⑦ | 2" COMPOUND METER W/RADIOREAD, FURNISHED BY THE DISTRICT (TURBO SERIES METER FOR IRRIGATION DOES NOT REQUIRE STRAINER AND STRAINER BOX) (PLACE METER IN CENTER OF BOX) |
| ⑧ | 2" X 12" BRASS PIPE |
| ⑨ | 2" STRAINER, FURNISHED BY DISTRICT (PLACE STRAINER IN CENTER OF BOX) |
| ⑩ | 2" BRASS PIPE, FIELD ADJUST (MAINTAIN 12" MIN. BETWEEN STRAINER & METER FLANGES) |
| ⑪ | FLANGE TO MATCH STRAINER & METER |

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

2" METER, 2" WATER SERVICE DETAIL

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

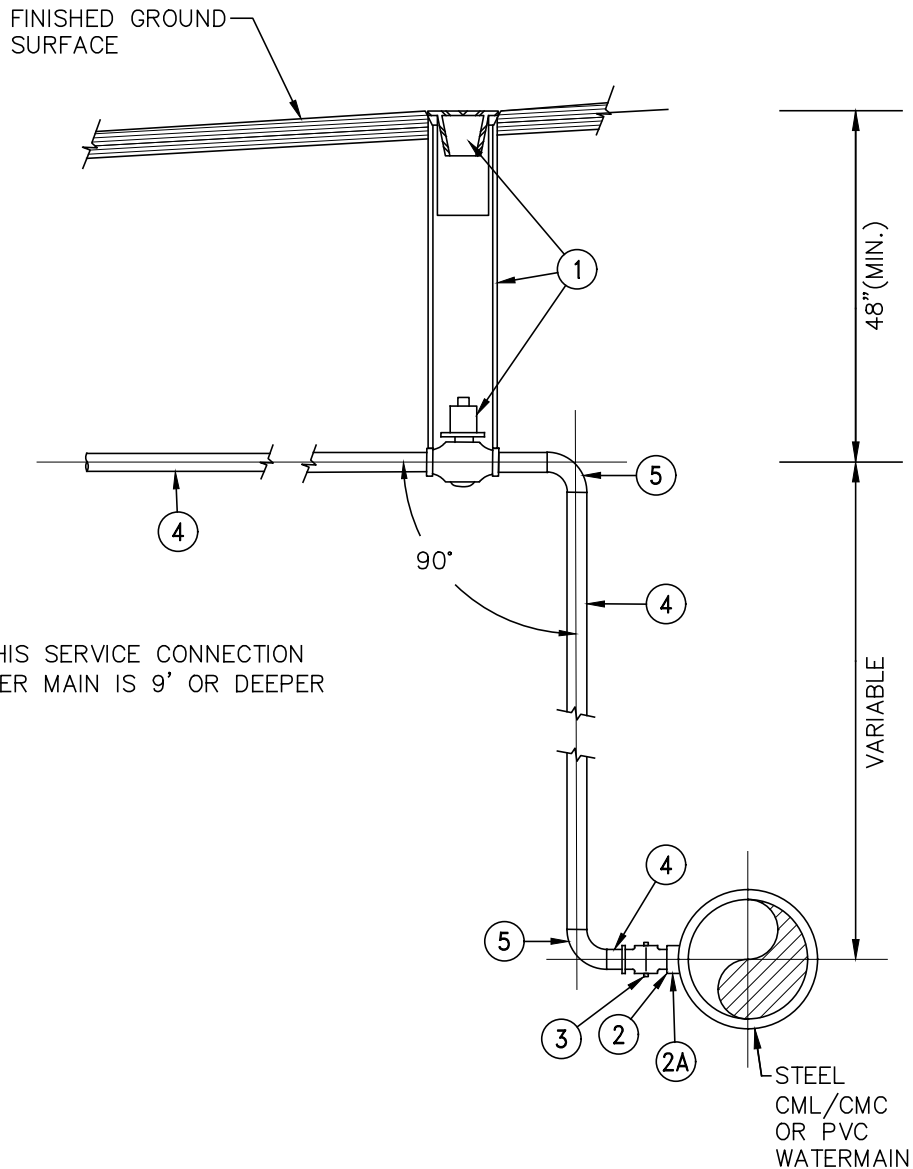
CALIFORNIA

DRAWING NO.

D-3

W.O. 19-0248

REV.



| ITEM | DESCRIPTION |
|------|----------------------------------------------------------------------------------------------|
| ① | 2" DIA. QUARTER TURN BALL VALVE W/ 2" SQ. OPERATING NUT, 6" DIA. VALVE CAN PER STD. DWG. B-1 |
| ② | BLK. STL. STD. COUPLING TO PIPE W/ COLLAR PER STD. D-6 (FOR STEEL WATERMAIN) |
| ②A | WATERMAIN DIA. x 2", SERVICE SADDLE PER DISTRICT SPECIFICATIONS (FOR PVC WATERMAIN) |
| ③ | 2" DIA. BALL CORP. STOP M.I.P. X COMPRESSION |
| ④ | 2" COPPER WATER SERVICE, TYPE "K", W/ PROTECTIVE WRAP PER SPECIFICATIONS |
| ⑤ | COMPRESSION 90° ELBOW W/ LOCK RING |

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

DEEP WATER SERVICE CONNECTION

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

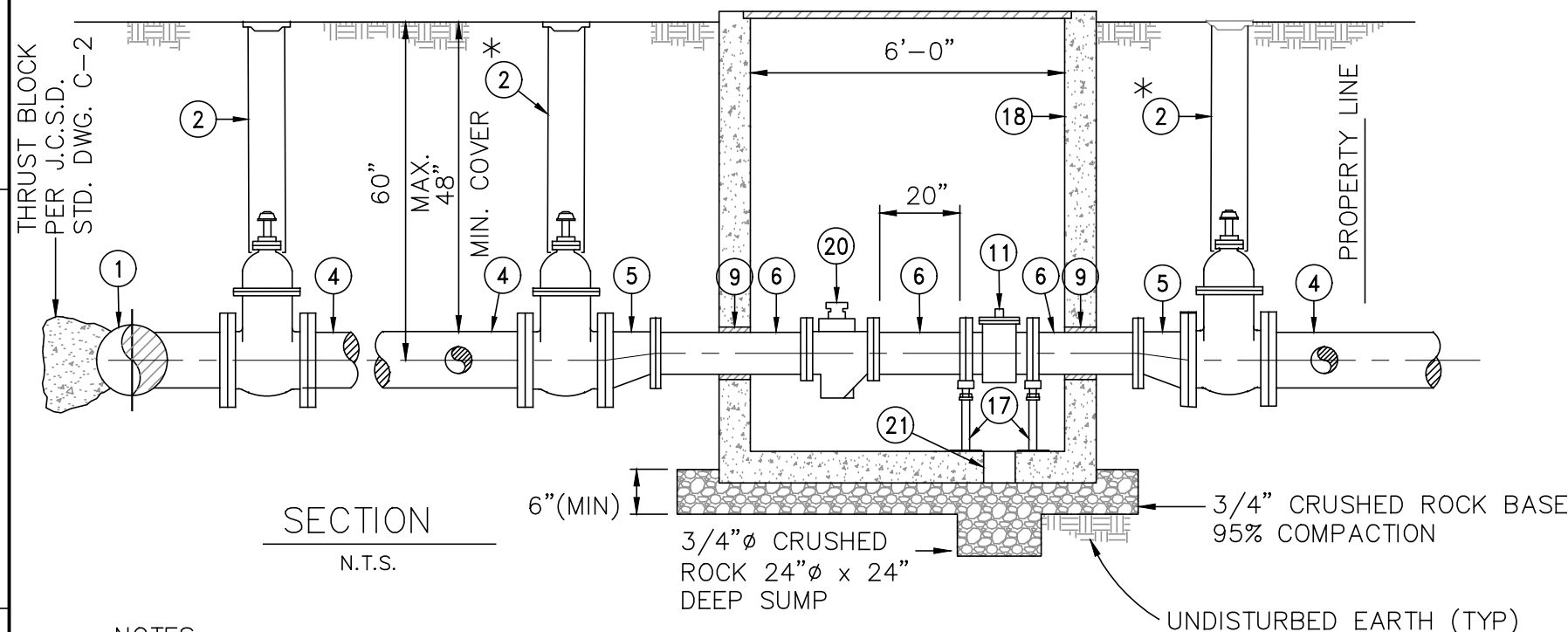
CALIFORNIA

DRAWING NO.


D-3A

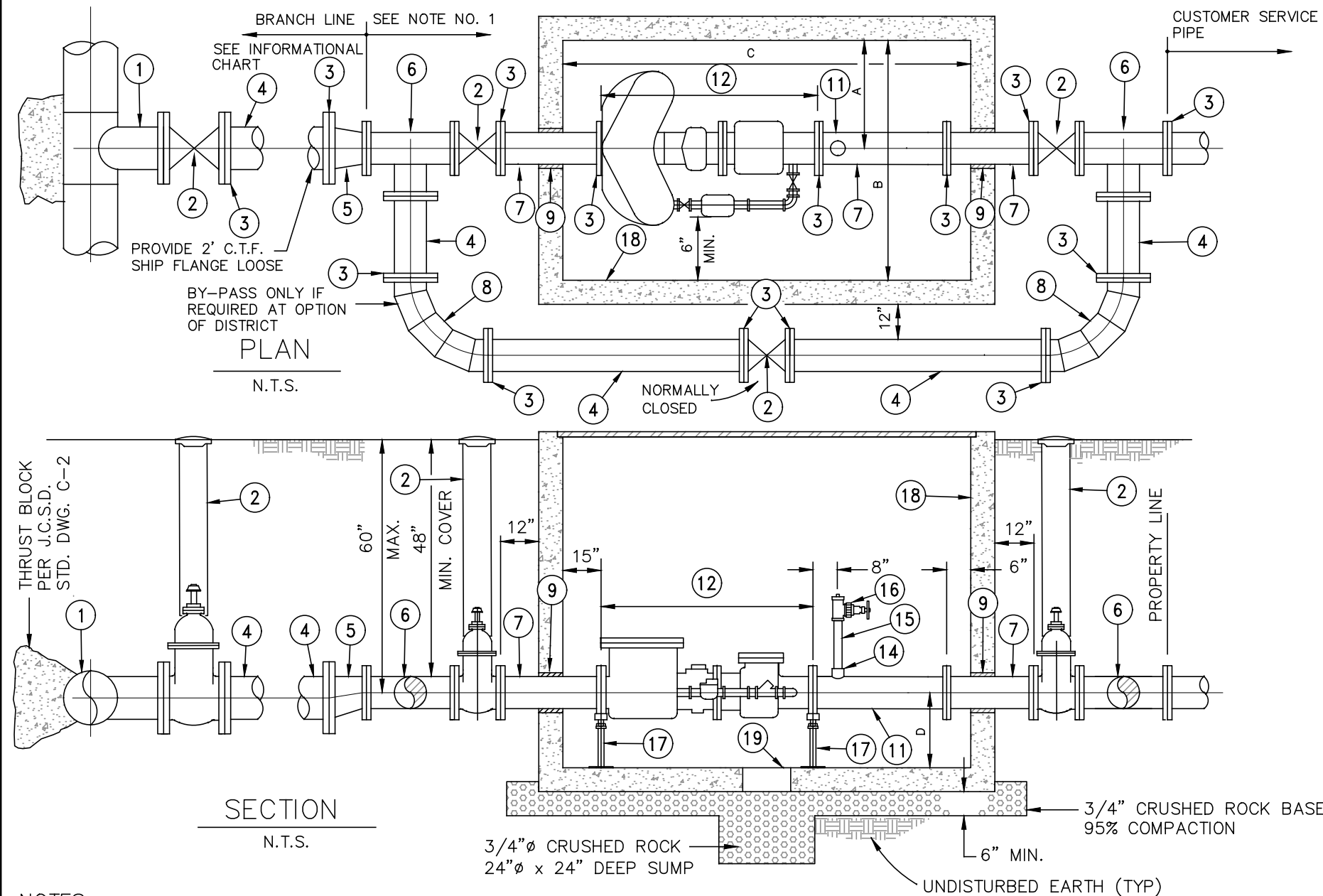
W.O. 19-0248

REV.



- * ONLY IF REQUIRED; AT OPTION OF DISTRICT. IF NO BY-PASS IS INSTALLED THE 4" DIA. GATE VALVE DOWNSTREAM OF THE METER IS NOT REQUIRED AND THE DISTRICT'S MAINTENANCE STOPS AT THE METER.

| | | | |
|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|------------|--------------|
| JURUPA COMMUNITY SERVICES DISTRICT | | | |
| SCALE: | 3" WATER SERVICE METER | | DRAWING NO. |
| DATE: SEPTEMBER 2020 | | | D-4 |
| APPROVED BY:  Sinnaro Yos, P.E. C68607 | ALBERT A. WEBB ASSOCIATES CONSULTING ENGINEERS | | |
| | RIVERSIDE | CALIFORNIA | W.O. 19-0248 |



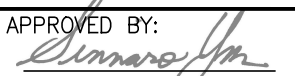
| ITEM | DESCRIPTION |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | MAINLINE DIA. x BRANCH DIA. (A.W.W.A.) FLANGED OUTLET TEE. |
| 2 | VALVE BOX AND GATE VALVE INSTALLATION PER J.C.S.D. STD. DWG. NO. B-1. |
| 3 | 150# SLIP ON FLANGE (TYPICAL). |
| 4 | CML/CMC W.S.P. (12 GA. MIN.). |
| 5 | BRANCH x METER SIZE A.W.W.A. "FLAT TOP" FLANGED REDUCER. |
| 6 | CML/CMC W.S.P. (12 GA. MIN.); OR CML/CMC A.W.W.A. FLANGED TEE IF REQUIRED BY DISTRICT. |
| 7 | STD. WT. STL. PIPE, CML/CMC. |
| 8 | CML/CMC A.W.W.A. FLANGED 90° BEND (CEMENT MORTAR LINED CAST IRON 90° BEND MAY BE SUBSTITUTED UPON APPROVAL BY DISTRICT). |
| 9 | KNOCKOUTS AS REQUIRED (2" LARGER THAN PIPE SIZE O.D. ALL AROUND) DRY PACK ALL AROUND PIPE. |
| 10 | NOT USED |
| 11 | REMOVE AN ADEQUATE AMOUNT OF CMC TO ALLOW PROPER INSTALLATION OF THE FLANGE COUPLING ADAPTOR. PAINT BARE METAL PER NOTE 4. |
| 12 | FIRE SERVICE METER WITH ALL BRONZE BY-PASS ASSEMBLY (INCLUDING GATE VALVES, CHECK VALVE & BY-PASS METER FURNISHED BY DEVELOPER AS APPROVED BY DISTRICT.) WITH RADIO READ. |
| 13 | NOT USED. |
| 14 | 2 1/2", 3/16" THICK WALL, COUPLING WELDED TO TOP OF PIPE. |
| 15 | 2 1/2"Ø x 12" LONG STD. BRASS THREADED NIPPLE. |
| 16 | 2 1/2"Ø SCREWED FIRE PROTECTION GATE VALVE, IPT x NST, WITH HOSE CAP & SAFETY CHAIN, ALL BRONZE, NRS, WITH MAL. IRON HAND WHEEL, 175 PSI MWWP; NIBCO MODEL NO. T-103-HC OR APPROVED EQUAL. |
| 17 | PIPE SUPPORT PER J.C.S.D. STD. DWG. NO. A-5. |
| 18 | PRE-CAST CONCRETE VAULT WITH 2 PIECE 6' x 8' TORSION HINGED GALVANIZED OR ALUMINUM COVER. QUICKSET OR APPROVED EQUAL. COVER TO BE SPECIFIED FOR TRAFFIC LOADS WHERE REQUIRED. PROVIDE 6" X 6" METER READING LID IN COVER. NOTE: DEPENDENT UPON SELECTED METER DIMENSIONS VAULT SIZE MAY NEED TO BE INCREASED TO MAINTAIN MINIMUM INTERNAL CLEARANCE DIMENSIONS SHOWN. |
| 19 | 12" DIA. SUMP |

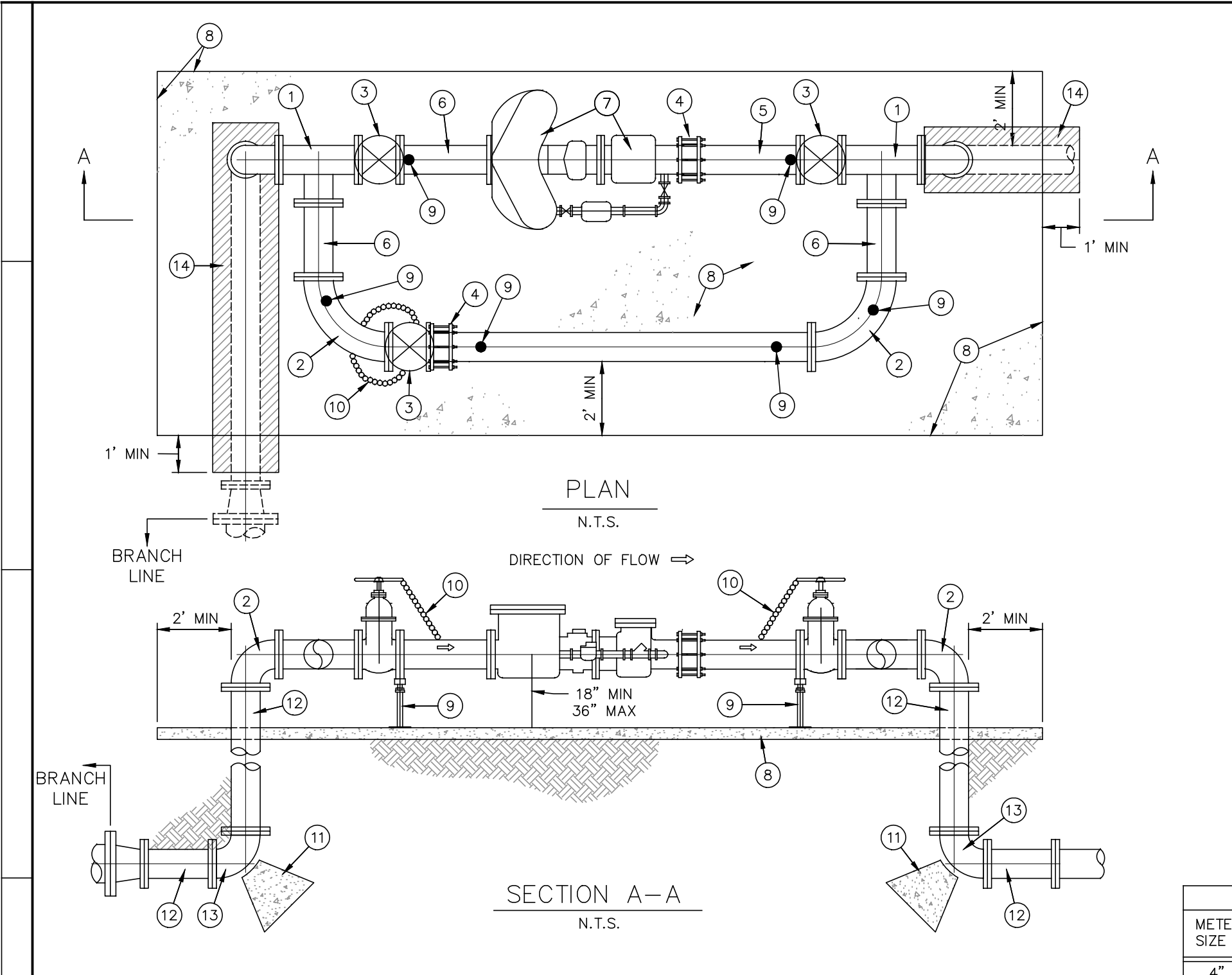
NOTES:

- DIAMETERS FOR PIPELINE & APPURTENANCES SHALL BE EQUAL TO THE METER SIZE.
- THE WATER SERVICE VAULT SHALL BE LOCATED & INSTALLED SUBJECT TO APPROVAL OF THE DISTRICT. WHERE VAULT IS INSTALLED IN PARKWAY WITH CURB AND SIDEWALK, THE VAULT SHALL BE PLACED PARALLEL TO THE CURB LINE AND PIPING.
- ADJUST VAULT AND COVER TO MEET SIDEWALK & CURB GRADE.
- VALVE COVER, POST INDICATOR, AND ALL METAL INSIDE VAULT TO BE PAINTED WITH PRIMER AND TWO (2) COATS OF PAINT PER DISTRICT SPECIFICATION NO PRIMER ON BRASS OR BRONZE.
- ALL FIELD JOINTS SHALL BE FLANGED UNLESS OTHERWISE INDICATED. ALL WELDED JOINTS ON EPOXY LINED STD. WT. PIPE SHALL BE SHOP FABRICATED & ALL EPOXY LINING SHALL BE SHOP APPLIED.
- PIPE THREADS SHALL BE CLEAN AND SHARP, AND SEALED WITH APPROVED JOINT COMPOUND.
- SHOULD THE DEPTH OF THE VAULT EXCEED FOUR (4) FEET, AN OSHA APPROVED LADDER ATTACHED TO AN INSIDE WALL SHALL BE PROVIDED. THE LOCATION OF THE LADDER SHALL BE AS DIRECTED BY THE DISTRICT.
- WHEN A COMPOUND METER IS PROPOSED WITH A SEPARATE STRAINER, PROVIDE MINIMUM 20" FLANGE TO FLANGE SEPARATION BETWEEN THE METER AND STRAINER.

| METER SIZE | BRANCH SIZE | I N F O R M A T I O N A L C H A R T | | | | | |
|------------|-------------|---------------------------------------|-------|--------|-------|-------------------------------------|------------------|
| | | D I M E N S I O N S | | | | M A X I M U M F L O W (G P M) | |
| | | A | B | C | D | DOMESTIC * | DOM. + FIRE FLOW |
| 4" | 6" | 3'-0" | 6'-0" | 8'-0" | 1'-6" | 420 | 1000 |
| 6" | 8" | 3'-0" | 6'-0" | 8'-0" | 1'-8" | 920 | 2000 |
| 8" | 10" | 3'-0" | 6'-0" | 8'-0" | 2'-0" | 1600 | 3500 |
| 10" | 12" | 3'-0" | 6'-0" | 10'-0" | 2'-0" | 2500 | 5500 |

JURUPA COMMUNITY SERVICES DISTRICT

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|---------------------------|
| SCALE: | 4", 6", 8" & 10" WATER SERVICE METER | DRAWING NO. D-5 |
| DATE: SEPTEMBER 2020 | | |
| APPROVED BY:  Sinnaro Yos, P.E. C68607 | ALBERT A. WEBB ASSOCIATES CONSULTING ENGINEERS | W.O. 19-0248 |
| | RIVERSIDE CALIFORNIA | |



| ITEM | DESCRIPTION |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ① | FLANGED STD. WT. TEE (FUSION BONDED EPOXY LINED, OUTSIDE PAINTED). |
| ② | 90° FLANGED STD. WT. ELBOW (FUSION BONDED EPOXY LINED, OUTSIDE PAINTED). |
| ③ | FL X FL RESILIENT WEDGE GATE VALVE. |
| ④ | FLANGE COUPLING ADAPTER. |
| ⑤ | FLANGE X PLAIN END STD. WT. STL SPOOL (LENGTH AS REQUIRED – 1" MIN.) FUSION BONDED EPOXY LINED, OUTSIDE PAINTED. |
| ⑥ | FLANGED STD WT. SPOOL (LENGTH AS REQUIRED) FUSION BONDED EPOXY LINED, OUTSIDE PAINTED. |
| ⑦ | FIRE SERVICE METER WITH ALL BRONZE BY-PASS ASSEMBLY (INCLUDING GATE VALVES, CHECK VALVE & BY-PASS METER FURNISHED BY DEVELOPER AS APPROVED BY DISTRICT). WITH RADIO READ. |
| ⑧ | 6" MIN. THICK CONCRETE PAD W/ 6"X6"X 10 GA. W.W.M. |
| ⑨ | PIPE SUPPORT PER J.C.S.D. STD. DWG. NO. A-5. |
| ⑩ | 1 3/8" ZINC PLATED CHAIN (LENGTH AS REQUIRED – TO SECURE VALVE). |
| ⑪ | THRUST BLOCK PER J.C.S.D. STD. DWG. NO. C1. |
| ⑫ | CML/CMC STD. WT. WSP BELOW GRADE (FUSION BONDED EPOXY LINED, OUTSIDE PAINTED ABOVE GRADE). |
| ⑬ | 90° CML/CMC STD. WT. ELBOW (FL X FL). |
| ⑭ | BACKFILL TRENCH W/2 SACK CEMENT SLURRY |

| METER SIZE | BRANCH SIZE | I N F O R M A T I O N A L C H A R T | | | | | |
|------------|-------------|---------------------------------------|-------|--------|-------|-------------------------------------|------------------|
| | | D I M E N S I O N S | | | | M A X I M U M F L O W (G P M) | |
| | | A | B | C | D | DOMESTIC * | DOM. + FIRE FLOW |
| 4" | 6" | 3'-0" | 6'-0" | 8'-0" | 1'-6" | 420 | 1000 |
| 6" | 8" | 3'-0" | 6'-0" | 8'-0" | 1'-8" | 920 | 2000 |
| 8" | 10" | 3'-0" | 6'-0" | 8'-0" | 2'-0" | 1600 | 3500 |
| 10" | 12" | 3'-0" | 6'-0" | 10'-0" | 2'-0" | 2500 | 5500 |

- NOTES:
- 1. DIAMETERS FOR PIPELINE & APPURTENANCES (EXCEPT BRANCH LINE) SHALL BE EQUAL TO THE METER SIZE.
 - 2. METER SHALL BE INSTALLED IN THE HORIZONTAL PLANE.
 - 3. ALL FIELD JOINTS SHALL BE FLANGED UNLESS OTHERWISE INDICATED. ALL WELDED JOINTS ON EPOXY LINED STD. WT. PIPE SHALL BE SHOP FABRICATED & ALL EPOXY LINING SHALL BE SHOP APPLIED.
 - 4. PIPE THREADS SHALL BE CLEAN AND SHARP, AND SEALED WITH APPROVED JOINT COMPOUND.
 - 5. PAINT SHALL BE SAFETY RED.
 - 6. WHEN A COMPOUND METER IS PROPOSED WITH A SEPARATE STRAINER, PROVIDE MINIMUM 20" FLANGE TO FLANGE SEPARATION BETWEEN THE METER AND STRAINER.

SCALE:

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

4", 6", 8" & 10"

ABOVE GRADE WATER SERVICE METER

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE CALIFORNIA

DRAWING NO.

D-5A

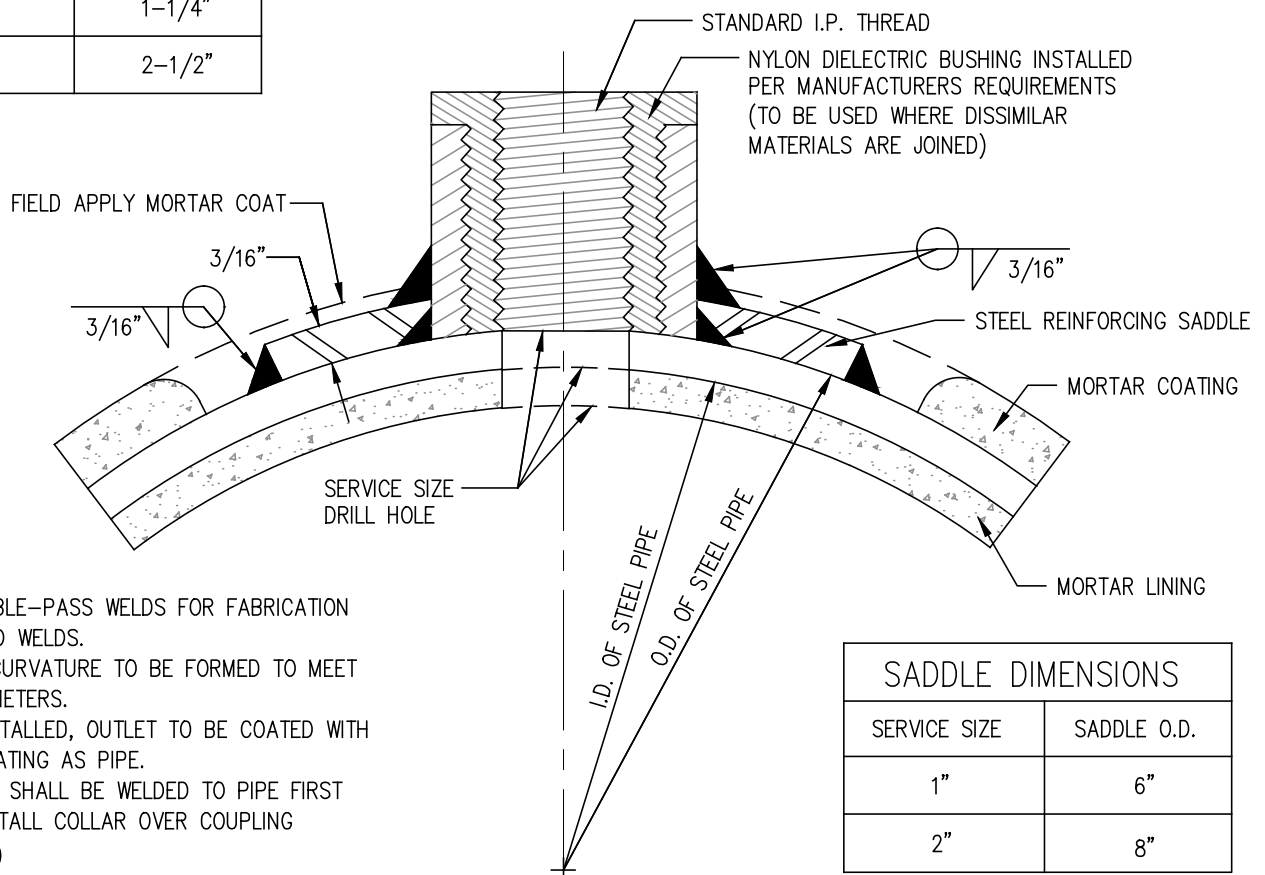
W.O. 19-0248

3000# FORGED STEEL
HALF COUPLING

O.D. OF STEEL REINFORCING SADDLE

TYPICAL COUPLING SIZES FOR DIALECTRIC BUSHING

| SERVICE SIZE (FEMALE THREAD) | COUPLING SIZE (MALE THREAD) |
|---------------------------------|--------------------------------|
| 1" | 1-1/4" |
| 2" | 2-1/2" |



NOTES:

- USE DOUBLE-PASS WELDS FOR FABRICATION AND FIELD WELDS.
- SADDLE CURVATURE TO BE FORMED TO MEET PIPE DIAMETERS.
- WHEN INSTALLED, OUTLET TO BE COATED WITH SAME COATING AS PIPE.
- COUPLING SHALL BE WELDED TO PIPE FIRST THAN INSTALL COLLAR OVER COUPLING (2-PIECE)
- PLASTIC PIPE DIALECTRIC D6A
- PERFORM CONTINUITY TEST.

SADDLE DIMENSIONS

| SERVICE SIZE | SADDLE O.D. |
|--------------|-------------|
| 1" | 6" |
| 2" | 8" |

SECTION A-A

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

SERVICE OUTLET SADDLE

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

DRAWING NO.

D-6

W.O. 19-0248

REV.

STANDARD DRAWING NO. D-7 DELETED

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:



Sinnaro Yos, P.E. C68607

COMMERCIAL / INDUSTRIAL
DUAL METER CONFIGURATION

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

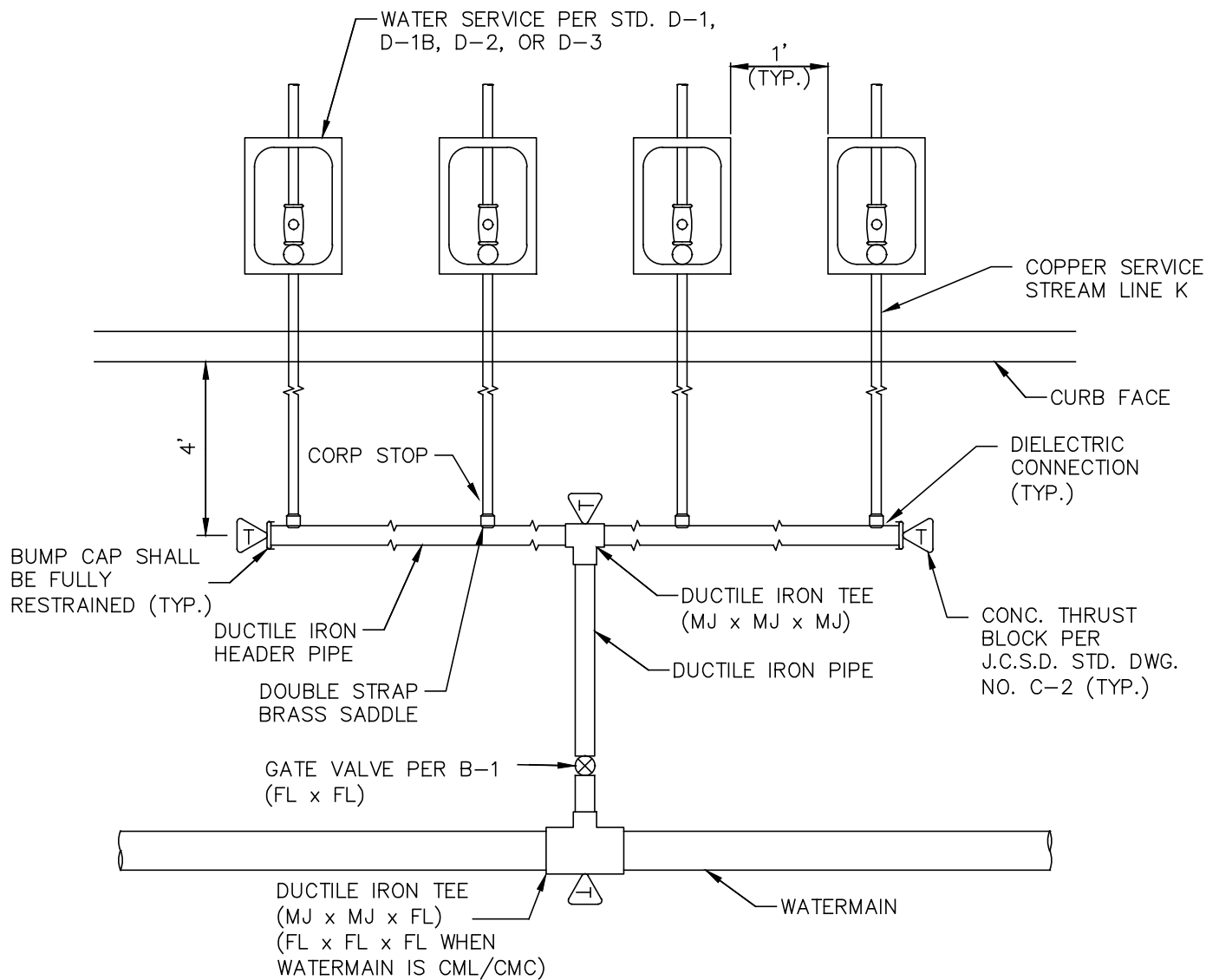
CALIFORNIA

DRAWING NO.

D-7

W.O. 19-0248

REV.



MANIFOLD DESIGN GUIDELINES ¹

| MANIFOLD DIA. | MAXIMUM NO. OF 2" (OR SMALLER) WATER SERVICES |
|---------------|--------------------------------------------------|
| 4" | 4 |
| 6" | 8 |

1. SIZING SHOULD BE VERIFIED BY THE DESIGN ENGINEER BASED UPON THE SPECIFIC AVAILABLE PRESSURES IN THE WATERMAIN AND THE ON-SITE WATER SERVICE PRESSURES REQUIRED.
2. SERVICE MANIFOLD SHALL BE APPROVED BY DISTRICT, AND WILL BE ALLOWED ONLY WHERE MULTIPLE INDIVIDUAL SERVICE LATERALS ARE NOT PHYSICALLY POSSIBLE.
3. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE CEMENT MORTAR LINED.
4. MANIFOLD SHALL NOT BE INSTALLED WITHOUT THE DISTRICT'S WRITTEN AUTHORIZATION.

JURUPA COMMUNITY SERVICES DISTRICT

SERVICE MANIFOLD DETAIL

DRAWING NO.

D-8

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

W.O. 19-0248

REV.

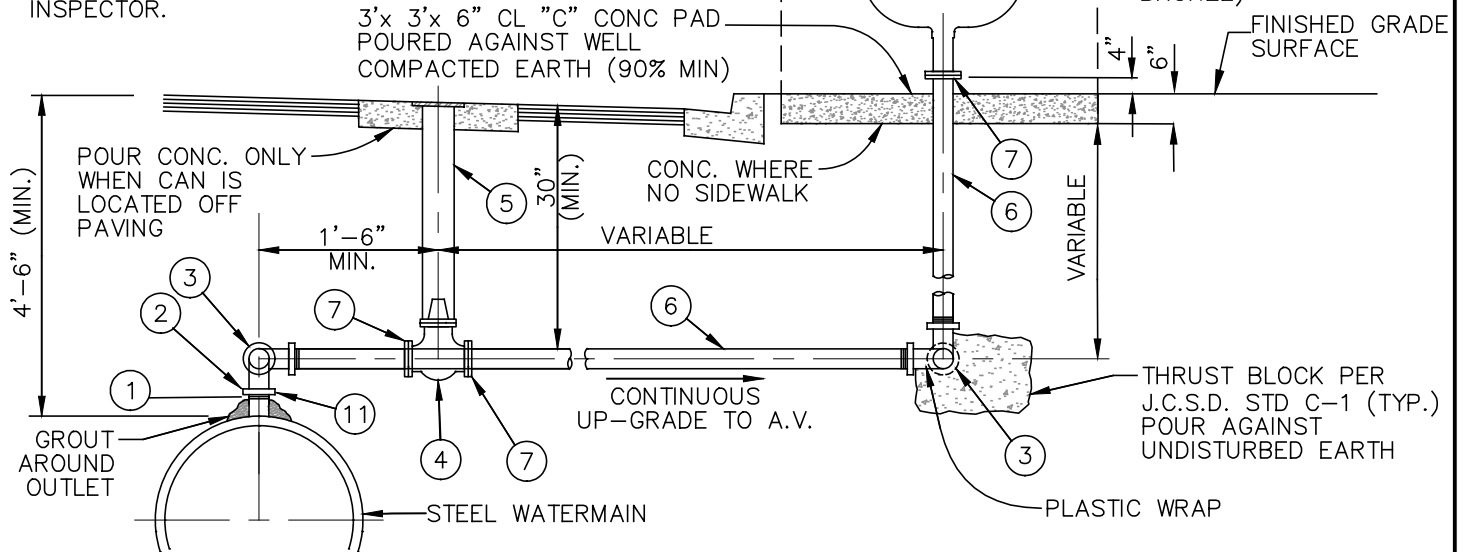
NOTE:

1. AIR VALVE SHALL BE PLACED:
 - A. 2'-6" BEHIND THE CURB FLOWLINE TO THE AV CENTERLINE WHEN THE SIDEWALK IS ADJACENT TO R/W OR MEANDERING
 - B. 7'-6" BEHIND THE CURB FLOWLINE TO AV CENTERLINE WHEN THE WIDTH OF SIDEWALK IS 6' FROM FLOWLINE
 - C. 2'-6" BEHIND THE CURB FLOWLINE TO THE AV CENTERLINE WHEN NO SIDEWALK IS PROPOSED OR EXISTING AND CURB AND GUTTER IS EXISTING
 - D. 2'-0" FROM THE PROPERTY LINE WHEN THERE IS NO CURB.
2. (3) AIR VALVE GUARD POSTS SIZE AND PLACEMENT TO BE DETERMINED BY J.C.S.D. INSPECTOR.

NORTHTOWN 10 MESH BUG SCREEN
OR APPROVED EQUAL

AIR VALVE SHALL BE INSTALLED WITH AN ENCLOSURE BOLTED TO CONCRETE BASE PER MANUFACTURERS INSTRUCTIONS: PIPELINE PRODUCTS VALVE ENCLOSURE GRANITE IN COLOR

AIR VALVE & GUARD POSTS EXTERIOR PAINTED WITH PRIMER AND TWO (2) COATS OF PAINT PER DISTRICT SPECIFICATIONS (NO PRIMER ON BRASS OR BRONZE)



| ITEM | DESCRIPTION |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (1) | 4" DIA. STANDARD WEIGHT MIN. OUTLET WELDED TO PIPE PER STD. C-6 WITH A.S.A. 150 LB. SLIP-ON FLANGE (WELDED FLANGE ON-SITE TO VALVE) |
| (2) | 4" DIA. A.S.A. 150 LB WELD NECK FLANGE. |
| (3) | 4" DIA. 90° FLGD. BEND, STD. WT. CML/CMC DOUBLE 90° JOINT |
| (4) | 4" DIA. A.W.W.A. C-509 FLANGED RESILIENT SEAT GATE VALVE, 200 W.O.G. I.B.B.M., N.R.S., "O" RING SEAL, 2" SQ. OPERATING NUT, PER DISTRICT STD. DWG. NO. B-1. |
| (5) | STANDARD VALVE BOX INSTALLATION PER STD. NO. B-1. |
| (6) | 4" DIA. STEEL PIPE, STANDARD WEIGHT CML/CMC. |
| (7) | 4" DIA. 150 LB. SLIP-ON FLANGE (SHIP LOOSE FOR FIELD WELDING) (PROVIDE FLxFL 3" TO 4" REDUCER FOR 3" AIR VALVE). |
| (8) | NOT USED |
| (9) | AIR RELEASE VALVE AS APPROVED BY DISTRICT (3" OR 4"). |
| (10) | STANDARD WEIGHT BLACK 90° STREET ELBOW (3" OR 4"). |
| (11) | A.S.A. 150 FLANGE INSULATING KIT INCLUDE INSULATING GASKET, SLEEVES AND WASHER AS PER SPECS, P.S.I. PRODUCTS INC. TYPE E G.O.S., ONE PIECE S.W. OR APPROVED EQUAL (4" DIA.). |

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:
Sinnaro Yos, P.E. C68607

3" AND 4" AIR VALVE INSTALLATIONS

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

DRAWING NO.

E-2

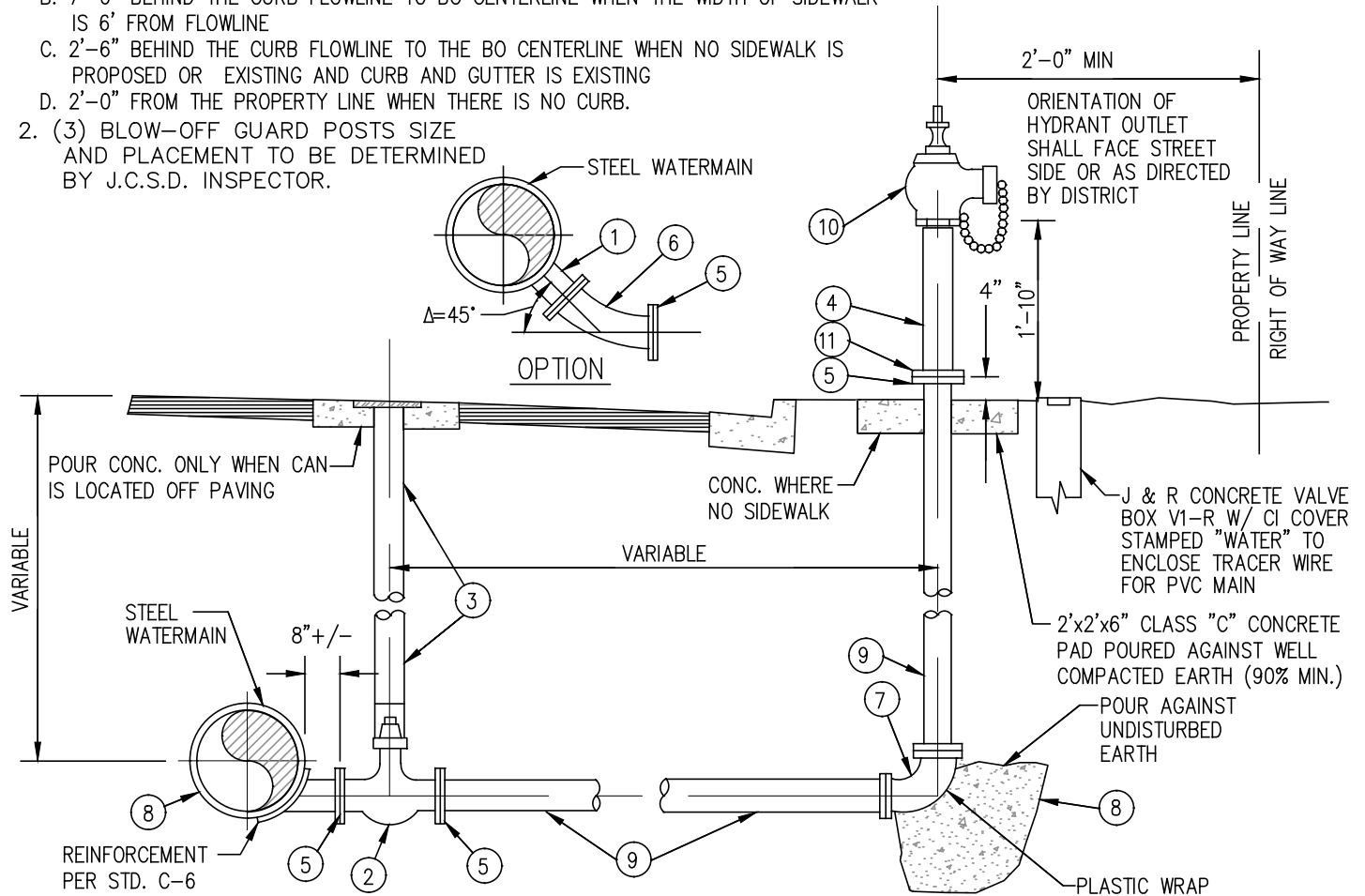
W.O. 19-0248

REV.

NOTE

1. BLOW-OFF SHALL BE PLACED:
 - A. 2'-6" BEHIND THE CURB FLOWLINE TO THE BO CENTERLINE WHEN THE SIDEWALK IS ADJACENT TO R/W OR MEANDERING
 - B. 7'-6" BEHIND THE CURB FLOWLINE TO BO CENTERLINE WHEN THE WIDTH OF SIDEWALK IS 6' FROM FLOWLINE
 - C. 2'-6" BEHIND THE CURB FLOWLINE TO THE BO CENTERLINE WHEN NO SIDEWALK IS PROPOSED OR EXISTING AND CURB AND GUTTER IS EXISTING
 - D. 2'-0" FROM THE PROPERTY LINE WHEN THERE IS NO CURB.
2. (3) BLOW-OFF GUARD POSTS SIZE AND PLACEMENT TO BE DETERMINED BY J.C.S.D. INSPECTOR.

EXTERIOR PAINTED W/PRIMER AND TWO (2) COATS PAINT PER DISTRICT SPECIFICATIONS (NO PRIMER ON BRASS OR BRONZE)



| ITEM | DESCRIPTION |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (1) | 4-1/2" O.D. X 10 GA. CML/CMC PER D-6. |
| (2) | 4" DIA. A.W.W.A. C-509 (LATEST) FLG'D. RESILIENT SEAT GATE VALVE, 200WOG, I.B.B.M., N.R.S., "O" RING SEAL, 2" SQ. OPERATING NUT, PER DISTRICT STD. DWG. B-1. |
| (3) | STANDARD VALVE BOX INSTALLATION PER STD B-1. |
| (4) | 4" DIA STD BLACK NIPPLE, OUTSIDE PAINTED. |
| (5) | 4" DIA. 150 LB. SLIP-ON FLANGE. |
| (6) | 4" DIA. FLGD. 4 PC A.W.W.A. 10 GA., 45° BEND, LINED AND COATED SAME AS MAIN. |
| (7) | 4" DIA. FLG'D. STD. WEIGHT 90° BEND |
| (8) | THRUST BLOCK PER STD. C-2. |
| (9) | 4" DIA. CML/CMC, 10 GA. W.S.P. |
| (10) | 4" x 2-1/2" BRONZE WHARF HYDRANT, JAMES JONES MODEL NO. J-344 H.P. OR APPROVED EQUAL. |
| (11) | A.S.A. 150 LB. SCREWED COMPANION FLANGE. |

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:
 Sinnaro Yos
 Sinnaro Yos, P.E. C68607

4" DIA. BLOW-OFF INSTALLATION

ALBERT A. WEBB ASSOCIATES
 CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

DRAWING NO.

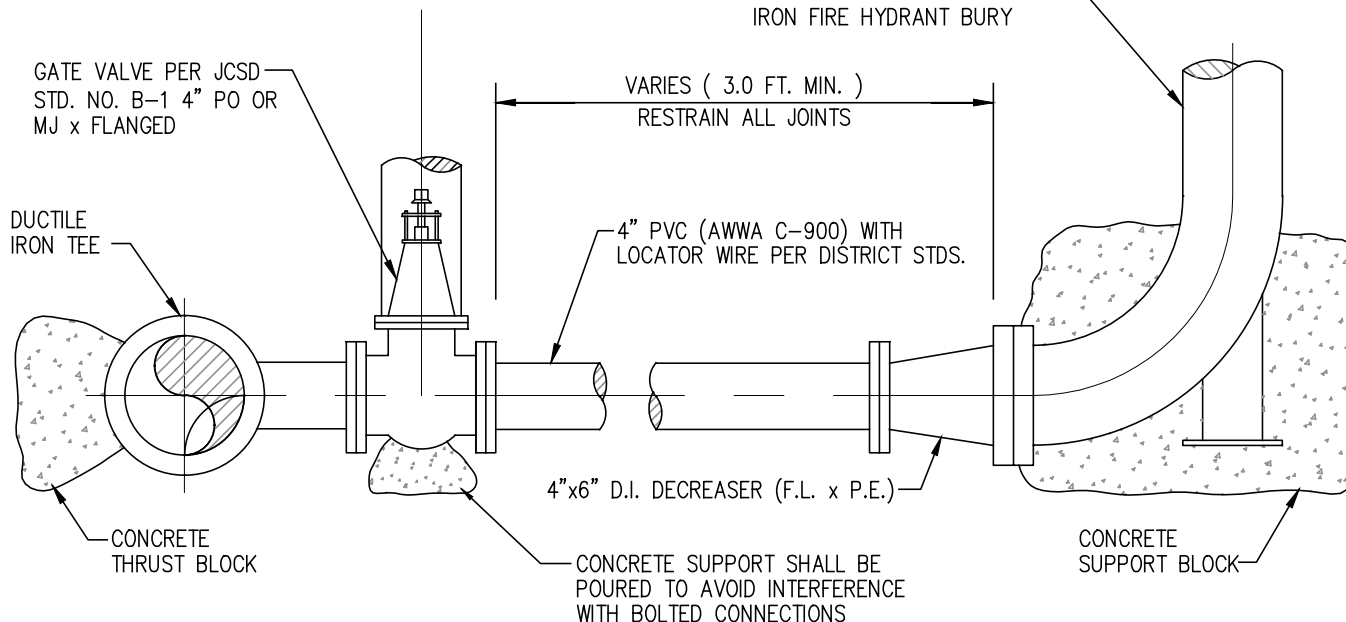
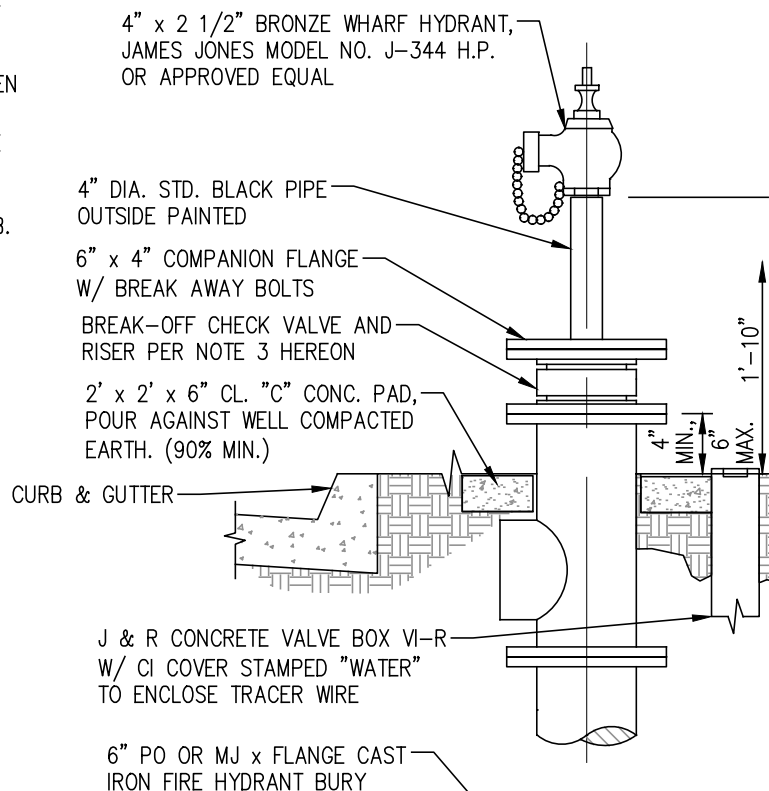
F-1

W.O. 19-0248

REV.

NOTE:

1. BLOW-OFF SHALL BE PLACED:
 - A. 2'-6" BEHIND THE CURB FLOWLINE TO THE FH CENTERLINE WHEN THE SIDEWALK IS ADJACENT TO R/W OR MEANDERING
 - B. 7'-6" BEHIND THE CURB FLOWLINE TO FH CENTERLINE WHEN THE WIDTH OF SIDEWALK IS 6' FROM FLOWLINE
 - C. 2'-6" BEHIND THE CURB FLOWLINE TO THE FH CENTERLINE WHEN NO SIDEWALK IS PROPOSED OR EXISTING AND CURB AND GUTTER IS EXISTING
 - D. 2'-0" FROM THE PROPERTY LINE WHEN THERE IS NO CURB.
2. ALL BLOW-OFFS SHALL HAVE GUARD POSTS, SIZE AND PLACEMENT TO BE DETERMINED BY J.C.S.D. INSPECTOR.
3. 6" DIA. CLOW LBI 400A BREAK-OFF CHECK VALVE AND 6" DIA. C.I. BREAK-OFF EXTENSION RISER, 6" LONG ON END FLG'D TO MATE W/ 6" A.S.A. 150# FLANGE, OTHER END FLG'D TO MATE WITH COMPANION FLANGE.



EXTERIOR PAINTED W/ PRIMER AND TWO (2) COATS OF PAINT PER DISTRICT SPECIFICATIONS (NO PRIMER ON BRASS OR BRONZE).

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos
Sinnaro Yos, P.E. C68607

4" BLOW-OFF ASSEMBLY (PVC PIPE)

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

DRAWING NO.

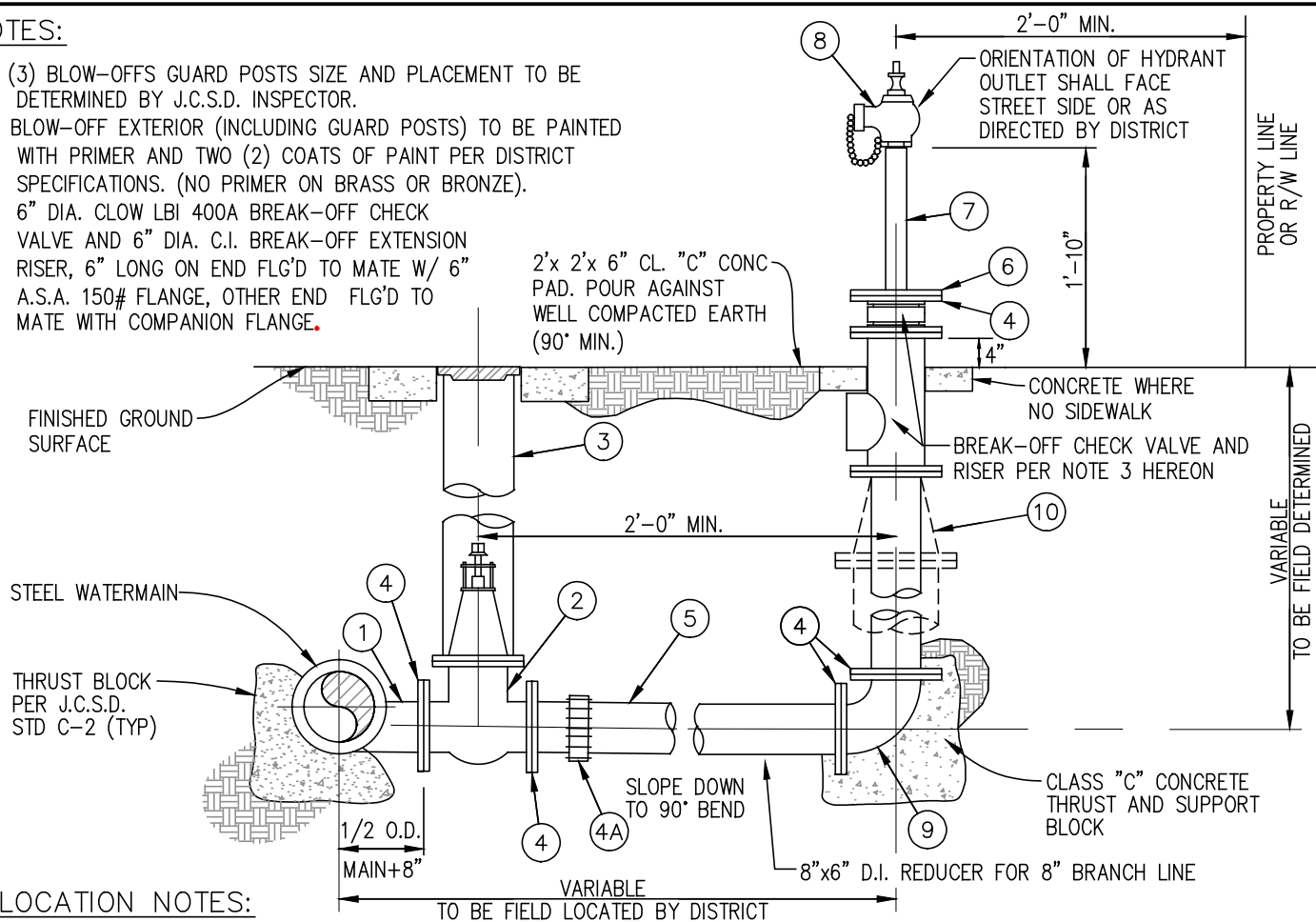
F-1A

W.O. 19-0248

REV.

NOTES:

- (3) BLOW-OFFS GUARD POSTS SIZE AND PLACEMENT TO BE DETERMINED BY J.C.S.D. INSPECTOR.
- BLOW-OFF EXTERIOR (INCLUDING GUARD POSTS) TO BE PAINTED WITH PRIMER AND TWO (2) COATS OF PAINT PER DISTRICT SPECIFICATIONS. (NO PRIMER ON BRASS OR BRONZE).
- 6" DIA. CLOW LBI 400A BREAK-OFF CHECK VALVE AND 6" DIA. C.I. BREAK-OFF EXTENSION RISER, 6" LONG ON END FLG'D TO MATE W/ 6" A.S.A. 150# FLANGE, OTHER END FLG'D TO MATE WITH COMPANION FLANGE.



LOCATION NOTES:

- BLOW-OFF SHALL BE PLACED:
 - 2'-6" BEHIND THE CURB FLOWLINE TO THE BO CENTERLINE WHEN THE SIDEWALK IS ADJACENT TO R/W OR MEANDERING
 - 7'-6" BEHIND THE CURB FLOWLINE TO BO CENTERLINE WHEN THE WIDTH OF SIDEWALK IS 6' FROM FLOWLINE
 - 2'-6" BEHIND THE CURB FLOWLINE TO THE BO CENTERLINE WHEN NO SIDEWALK IS PROPOSED OR EXISTING AND CURB AND GUTTER IS EXISTING
 - 2'-0" FROM THE PROPERTY LINE WHEN THERE IS NO CURB.

| ITEM | DESCRIPTION |
|------|-----------------------------------------------------------------------------------------|
| ① | TANGENTIAL OUTLET, 10 GA. CML/CMC AND REINFORCED PER STD. C-6. |
| ② | 6" OR 8" GATE VALVE PER STD. B-1 (SIZE AS SPECIFIED ON DRAWING). |
| ③ | VALVE BOX INSTALLATION PER STD. B-1. |
| ④ | A.S.A. 150 LB. SLIP-ON FLANGES (SHIP LOOSE FOR FIELD WELDING). |
| ④A | INSTALL FLEX COUPLING PER DISTRICT SPECIFICATIONS WHERE WATERMAIN IS 24" DIA. & LARGER. |
| ⑤ | WELDED STEEL PIPE, 10 GA. CML/CMC. |
| ⑥ | A.S.A. 150 LB. REDUCING SCR. COMPANION FLANGE (4" x 13 1/2"). |
| ⑦ | 4" STD. BLACK PIPE, OUTSIDE PAINTED. |
| ⑧ | 4" x 2 1/2" BRONZE WHARF HYDRANT, J. JONES MODEL NO. J-344 H.P. OR APPROVED EQUAL. |
| ⑨ | 6" OR 8" DIA. STD. WT. LONG RADIUS CML/CMC 90° BEND |
| ⑩ | 6" x 8" STD. WT. CML/CMC REDUCER, IF APPLICABLE |

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

6" & 8" BLOW-OFF INSTALLATION

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

DRAWING NO.

F-2

W.O. 19-0248

REV.

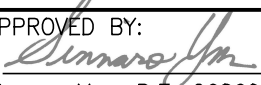
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JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:


Sinnaro Yos, P.E. C68607

TEMPORARY END OF LINE
BLOW-OFF

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

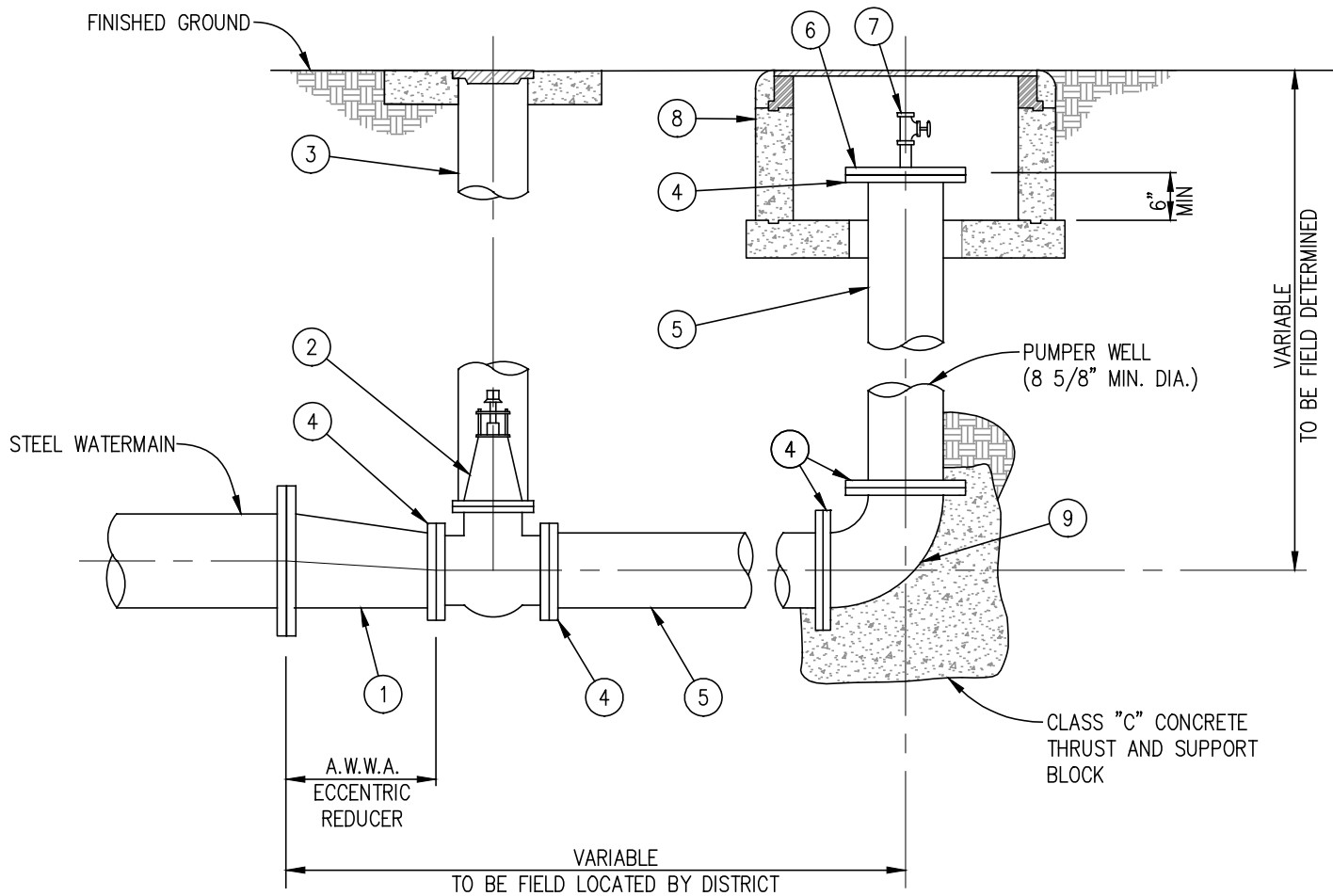
DRAWING NO.

F-3

W.O. 19-0248

REV.

NOTE: DISTRICT DIRECTED USE ONLY



| ITEM | DESCRIPTION |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ① | LINE SIZE x 4" DIA. A.W.W.A. FLGD. REDUCER, 10 GA., CML/CMC |
| ② | 4" GATE VALVE PER STD. B-1 |
| ③ | VALVE BOX INSTALLATION PER STD. B-1 |
| ④ | A.S.A. 150 LB. SLIP-ON FLANGES (SHIP LOOSE FOR FIELD WELDING) |
| ⑤ | WELDED STEEL PIPE, 10 GA. MIN., CML/CMC |
| ⑥ | A.S.A. 150 LB. REDUCING SCR. COMPANION FLANGE (2" x 9") |
| ⑦ | 2-1/2" DIA. SCREWED FIRE PROTECTION G.V. I.P.T. x N.S.T. W/HOSE CAP & SAFETY CHAIN, ALL BRONZE, NRS, W/MAL. IRON HAND WHEEL, 175 PSI MWWP NIBCO MODEL NO T-103-HC OR APPRX. EQ. |
| ⑧ | TYPICAL BLOW-OFF MANHOLE PER STD. I-3 |
| ⑨ | 4" DIA. STD. WT. LONG RADIUS CML/CMC 90° BEND |

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

4" END OF LINE BLOW-OFF INSTALLATION

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

DRAWING NO.

F-4

W.O. 19-0248

REV.

STANDARD DRAWING NO. F-4M DELETED

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

6" BLOW-OFF INSTALLATION

DRAWING NO.

F-4M

APPROVED BY:



Sinnaro Yos, P.E. C68607

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

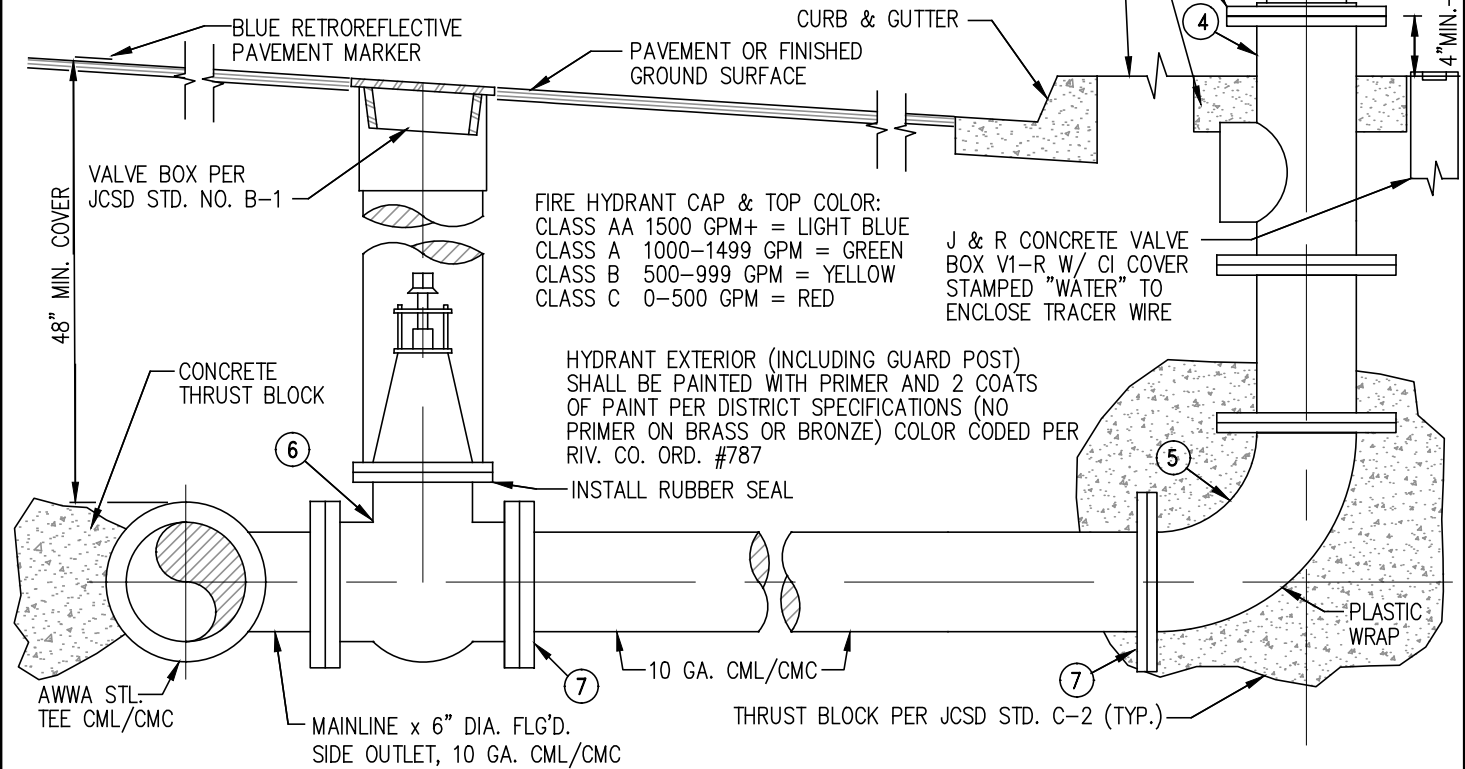
RIVERSIDE

CALIFORNIA

W.O. 19-0248

REV.

1. FIRE HYDRANT SHALL BE PLACED:
 - A. 2'-6" BEHIND THE CURB FLOWLINE TO THE FH CENTERLINE WHEN THE SIDEWALK IS ADJACENT TO R/W OR MEANDERING
 - B. 7'-6" BEHIND THE CURB FLOWLINE TO FH CENTERLINE WHEN THE WIDTH OF SIDEWALK IS 6' FROM FLOWLINE
 - C. 2'-6" BEHIND THE CURB FLOWLINE TO THE FH CENTERLINE WHEN NO SIDEWALK IS PROPOSED OR EXISTING AND CURB AND GUTTER IS EXISTING
 - D. 2'-0" FROM PROPERTY LINE WITH NO CURB.
2. ALL FIRE HYDRANTS SHALL HAVE GUARD POSTS; SIZE AND PLACEMENT BY J.C.S.D. INSPECTOR (LOCATE 3' CLEAR (MIN.) FROM F.H.).
3. FIRE HYDRANT OUTLET ORIENTATION SHALL BE PER RIV. CO. ORD. #787.
4. INSTALL BLUE RETROREFLECTIVE PAVEMENT MARKER ON ALL FIRE HYDRANTS (TWO AT INTERSECTIONS) IN ACCORDANCE WITH RIVERSIDE COUNTY FIRE DEPT. LOCATION RECOMMENDATIONS.



| * ITEM | DESCRIPTION |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (1) | STANDARD FIRE HYDRANT, HEAD & FLUTED SPOOL COMPLETE. 1-4" STEAMER HOSE OUTLET & 1-2 1/2" HOSE OUTLET. 6 HOLE PATTERN, JAMES JONES MODEL J-3700, W/BRONZE OR PLASTIC PLASTIC CAPS & CHAIN. |
| (1A) | SUPER FIRE HYDRANT, COMPLETE; 1-4" STEAMER HOSE OUTLET AND 2-2 1/2" HOSE OUTLET & 2-2 1/2" HOSE OUTLETS, 8 HOLE PATTERN, JAMES JONES MODEL J-3765, W/BRONZE OR PLASTIC CAPS AND CHAIN. |
| (2) | 6" DIA. C.I. BREAK-OFF EXTENSION RISER, 6" LONG, ONE END FLG'D. TO MATE W/6" A.S.A. 150# SLIP-ON FLG., OTHER END FLG'D. TO MATE HYDRANT SPOOL. |
| (3) | 6" A.S.A. 150# SLIP-ON FLG. TO MATE BREAK-OFF SPOOL. SHIP LOOSE FOR FIELD WELDING. |
| (4) | 6" DIA. CLOW LBIW #400A BREAK-OFF CHECK VALVE. |
| (5) | 6" DIA. STD. WT. LONG RADIUS CML/CMC 90° BEND |
| (6) | 6" F x F R.S. GATE VALVE PER STD. NO. B-1. |
| (7) | 6" A.S.A. 150# SLIP-ON FLG. TO MATE GATE VALVE. SHIP LOOSE FOR FIELD WELDING. |

* UNLESS A "SUPER" FIRE HYDRANT IS DESIGNATED ON THE DRAWINGS, FIRE HYDRANT SHALL BE "STANDARD" PER ITEM. (1)
 WHERE A "SUPER" FIRE HYDRANT IS SPECIFIED, HYDRANT SHALL BE PER ITEM. (1A)

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

TYPICAL 6" FIRE HYDRANT INSTALLATION

ALBERT A. WEBB ASSOCIATES
 CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

DRAWING NO.

G-1

G-1A

W.O. 19-0248

REV.

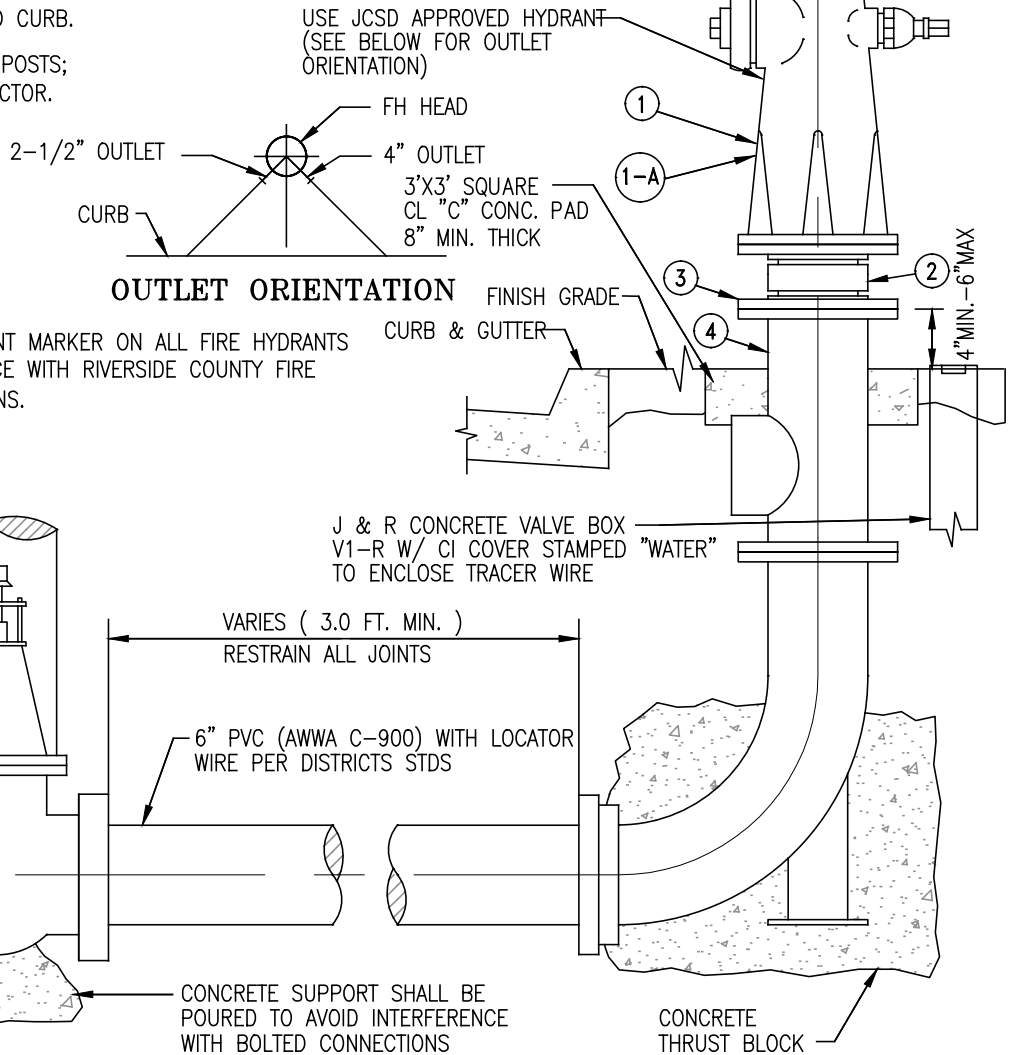
1. FIRE HYDRANT SHALL BE PLACED:
 - A. 2'-6" BEHIND THE CURB FLOWLINE TO THE FH CENTERLINE WHEN THE SIDEWALK IS ADJACENT TO R/W OR MEANDERING
 - B. 7'-6" BEHIND THE CURB FLOWLINE TO FH CENTERLINE WHEN THE WIDTH OF SIDEWALK IS 6' FROM FLOWLINE
 - C. 2'-6" BEHIND THE CURB FLOWLINE TO THE FH CENTERLINE WHEN NO SIDEWALK IS PROPOSED OR EXISTING AND CURB AND GUTTER IS EXISTING
 - D. 2'-0" FROM PROPERTY LINE WITH NO CURB.

2. ALL FIRE HYDRANTS SHALL HAVE GUARD POSTS; SIZE AND PLACEMENT BY J.C.S.D. INSPECTOR. (LOCATE 3' CLEAR (MIN.) FROM F.H.).

3. FIRE HYDRANT CAP AND TOP COLOR;

| | |
|---------------|--------------|
| 1500 GPM + | = LIGHT BLUE |
| 1000-1499 GPM | = GREEN |
| 500-999 GPM | = YELLOW |
| 0-499 GPM | = RED |

4. INSTALL BLUE RETROREFLECTIVE PAVEMENT MARKER ON ALL FIRE HYDRANTS (TWO AT INTERSECTIONS) IN ACCORDANCE WITH RIVERSIDE COUNTY FIRE DEPARTMENT LOCATION RECOMMENDATIONS.




| ITEM | DESCRIPTION |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ① | STANDARD FIRE HYDRANT, HEAD & FLUTED SPOOL COMPLETE. 1-4" STEAMER HOSE OUTLET & 1-2 1/2 HOSE OUTLET, 6 HOLE PATTERN, JAMES JONES MODEL J-3700, W/BRONZE OR PLASTIC CAPS AND CHAIN. |
| * ①-A | SUPER FIRE HYDRANT, COMPLETE; 1-4" STEAMER HOSE OUTLET AND 2-2 1/2 HOSE OUTLETS, 8 HOLE PATTERN, JAMES JONES MODEL J-3765, W/BRONZE OR PLASTIC CAPS AND CHAIN. |
| ② | 6" DIA. C.I. BREAK-OFF SPOOL, 6" LONG, ONE END FLG'D. TO MATE W/6" A.S.A. 150# SLIP-ON FLG., OTHER END FLG'D. TO MATE HYDRANT SPOOL. (SHOP FABRICATED). |
| ③ | 6" A.S.A. 150# SLIP-ON FLG. TO MATE BREAK-OFF SPOOL. SHIP LOOSE FOR FIELD WELDING. |
| ④ | 6" DIA. CLOW LBIW # 400A BREAK-OFF CHECK VALVE. |

* UNLESS A "SUPER" FIRE HYDRANT IS DESIGNATED ON THE DRAWINGS, FIRE HYDRANT SHALL BE "STANDARD" PER ① ITEM WHERE A "SUPER" FIRE HYDRANT IS SPECIFIED, HYDRANT SHALL BE PER ITEM. ①-A

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY: 
Sinnaro Yos, P.E. C68607

TYPICAL 6" FIRE HYDRANT INSTALLATION - PVC, DI PIPE

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

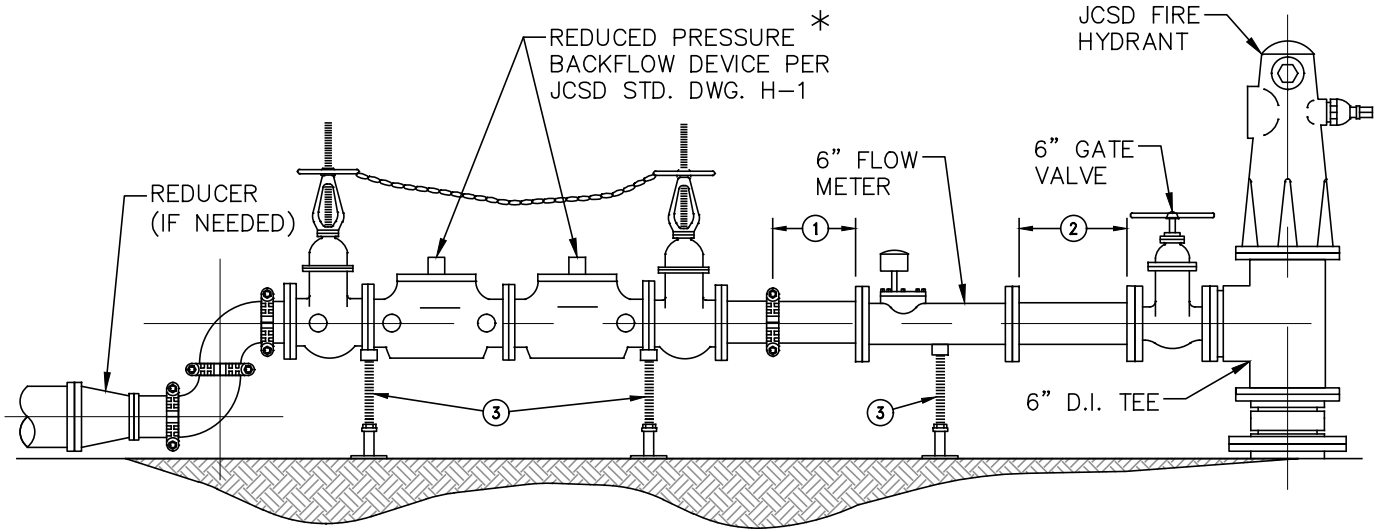
DRAWING NO.

G-2

G-2A

W.O. 19-0248

REV.



NOTE:

OPTIMAL— 10X THE PIPE DIAMETER OF STRAIGHT PIPE BEFORE THE FLOW METER, 5X AFTER
 MINIMUM — 5X THE PIPE DIAMETER OF STRAIGHT PIPE BEFORE THE FLOW METER, 3X AFTER

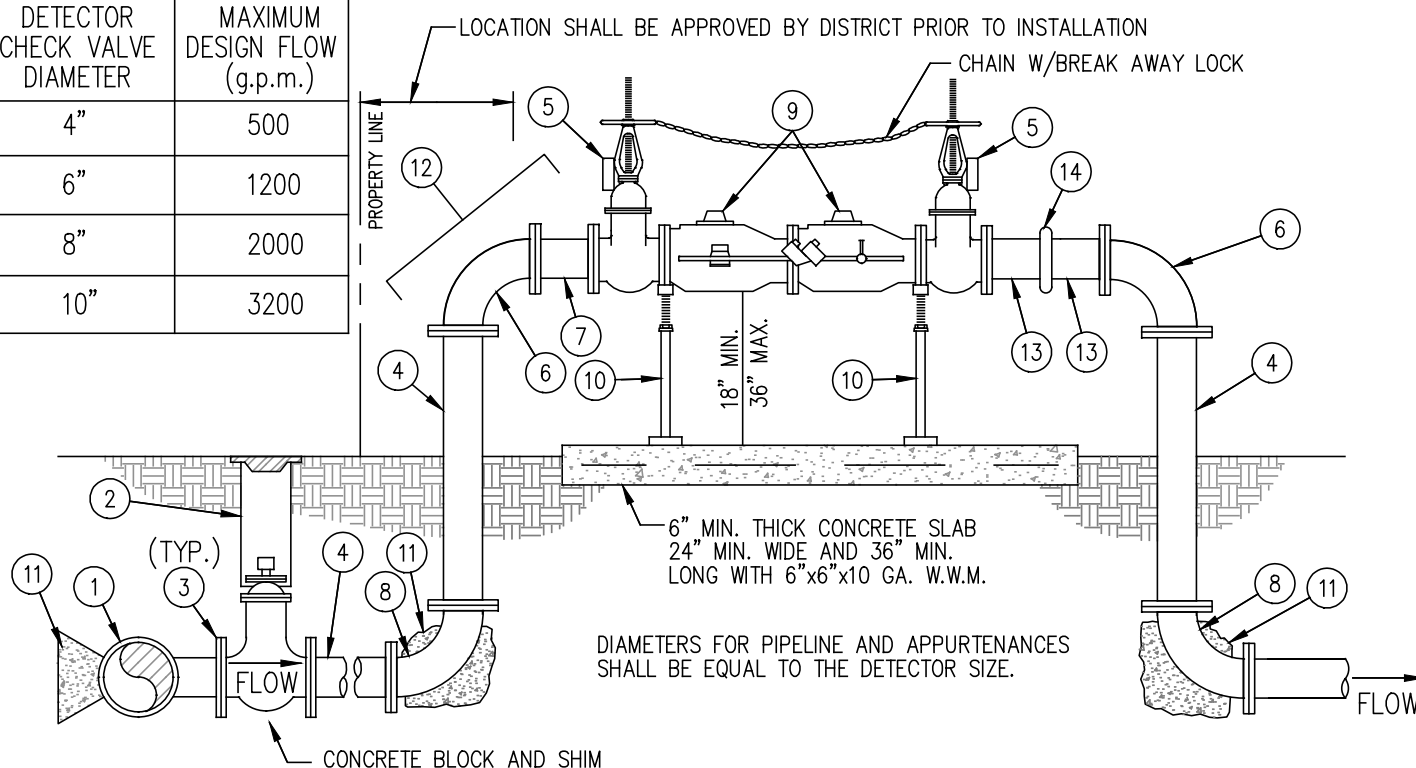
| ITEM | DESCRIPTION |
|------|-----------------------------------------------------------------|
| ① | 5X THE PIPE DIA. OF STRAIGHT PIPE AFTER FLOW METER |
| ② | 10X THE PIPE DIA. OF STRAIGHT PIPE BEFORE FLOW METER |
| ③ | MIN. 3 PIPE SUPPORTS PER JCSD STD. DWG. A-5 WITH TEMP. CONCRETE |

* BACKFLOW SHALL BE RECERTIFIED EVERY TIME THE CONSTRUCTION METER IS RELOCATED.

JURUPA COMMUNITY SERVICES DISTRICT

| | | | |
|------|---------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|--------------|
| REV. | SCALE: NONE | CONSTRUCTION METER INSTALLATION DETAIL | DRAWING NO. |
| | DATE: SEPTEMBER 2020 | | G-3 |
| | APPROVED BY:  Sinnaro Yos, P.E. C68607 | ALBERT A. WEBB ASSOCIATES CONSULTING ENGINEERS RIVERSIDE CALIFORNIA | W.O. 19-0248 |

| DETECTOR CHECK VALVE DIAMETER | MAXIMUM DESIGN FLOW (g.p.m.) |
|-------------------------------------|------------------------------------|
| 4" | 500 |
| 6" | 1200 |
| 8" | 2000 |
| 10" | 3200 |



NOTES:

1. THE "APPROVED" FIRE SERVICE SHALL BE LOCATED AND INSTALLED SUBJECT TO THE APPROVAL OF THE DISTRICT.
2. THE FIRE SERVICE MUST BE INSPECTED AND TESTED IMMEDIATELY AFTER INSTALLATION.
3. ALL FIELD JOINTS SHALL BE FLANGED UNLESS OTHERWISE INDICATED. ALL WELDED JOINTS ON EPOXY LINED STD. WT. PIPE SHALL BE SHOP FABRICATED AND ALL EPOXY LINING SHALL BE SHOP APPLIED.
4. PIPE THREADS SHALL BE CLEAN AND SHARP, AND SEALED WITH APPROVED JOINT COMPOUND.
5. PAINT SHALL BE SAFETY RED.

| ITEM | DESCRIPTION |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ① | MAINLINE DIA. x BRANCH DIA. TEE. |
| ② | VALVE BOX & GATE VALVE INSTALLATION PER STD. NO. B-1. |
| ③ | ASA 150# SLIP-ON FLG. (TYP.) TO MATE VALVES AND FLANGED FITTINGS. |
| ④ | CML & CMC STD. WT. STEEL BELOW GRADE (FLxFL). |
| ⑤ | TAMPER SWITCH CONNECTION SHALL BE TO THE NEAREST BUILDING |
| ⑥ | 90° FLANGED STD. WT. LONG RADIUS (FUSION BONDED EPOXY LINED OUTSIDE PAINTED) ELBOW (FLxFL). |
| ⑦ | FUSION BONDED EPOXY LINED, OUTSIDE PAINTED ABOVE GRADE (FLxFL). |
| ⑧ | 90° FLANGED CML/CMC STD. WT. LONG RADIUS ELBOW. |
| ⑨ | DOUBLE CHECK DETECTOR W/BY-PASS METER, W/RADIOREAD PURCHASED FROM THE DISTRICT, (INCLUDING O.S. & Y. VALVES-EPOXY LINED). BY-PASS METER FLOW RATE INDICATOR TO REGISTER IN G.P.M., METER TOTALIZER TO REGISTER IN 100'S CU. FT. |
| ⑩ | PIPE SUPPORT PER DISTRICT STANDARDS. |
| ⑪ | CONCRETE THRUST BLOCK PER STD. NO. C-2 |
| ⑫ | PAINT EXTERIOR WITH PRIMER AND TWO (2) COATS OF PAINT. COLOR AND MANUFACTURER AS APPROVED BY THE DISTRICT. (NO PRIMER ON BRASS OR BRONZE). |
| ⑬ | FUSION BONDED EPOXY LINED, OUTSIDE PAINTED ABOVE GRADE (FLxGR). |
| ⑭ | GROOVED COUPLING. |

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

4", 6", 8" AND 10" DIA. FIRE SERVICE/ DOUBLE DETECTOR CHECK VALVE INSTALLATION

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

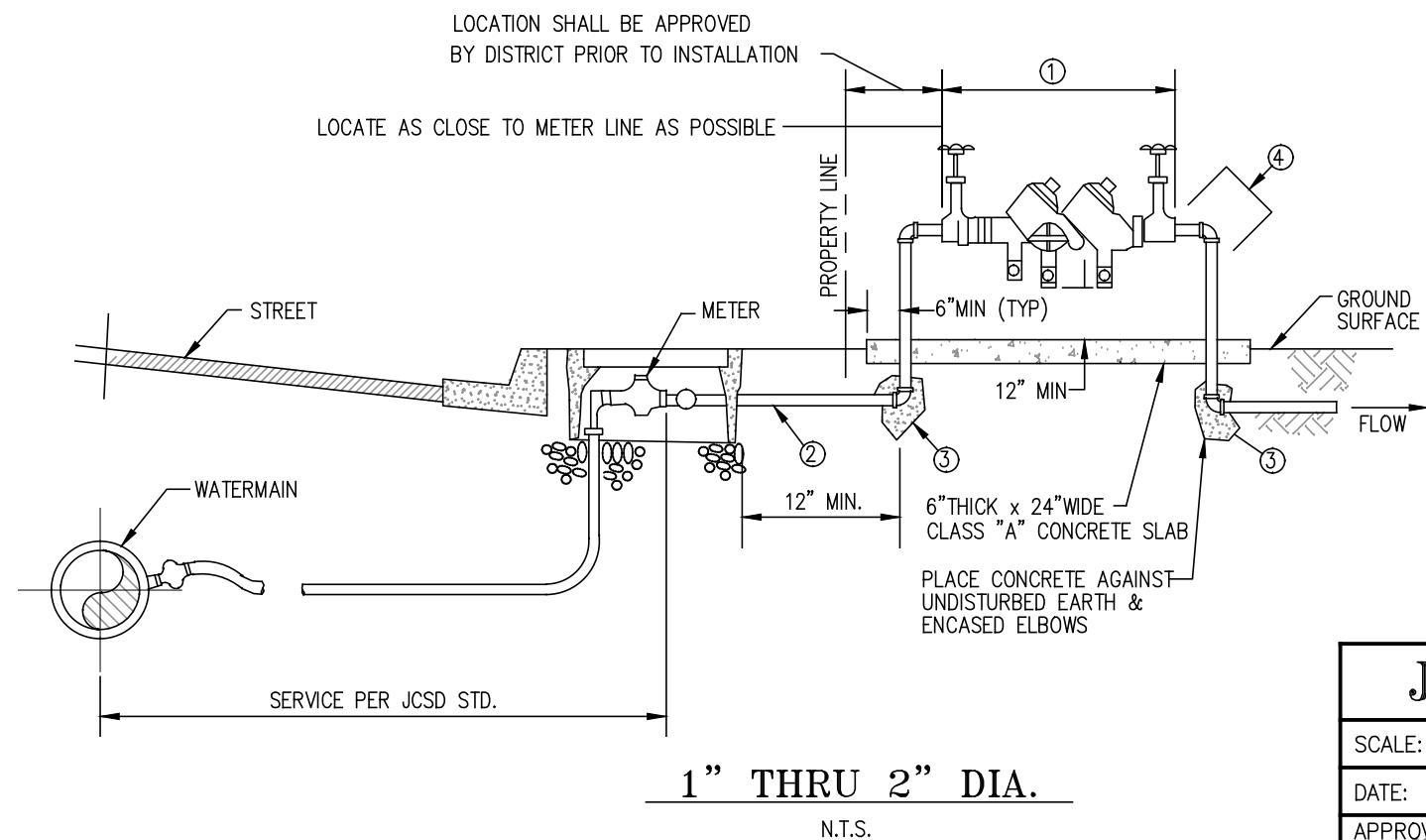
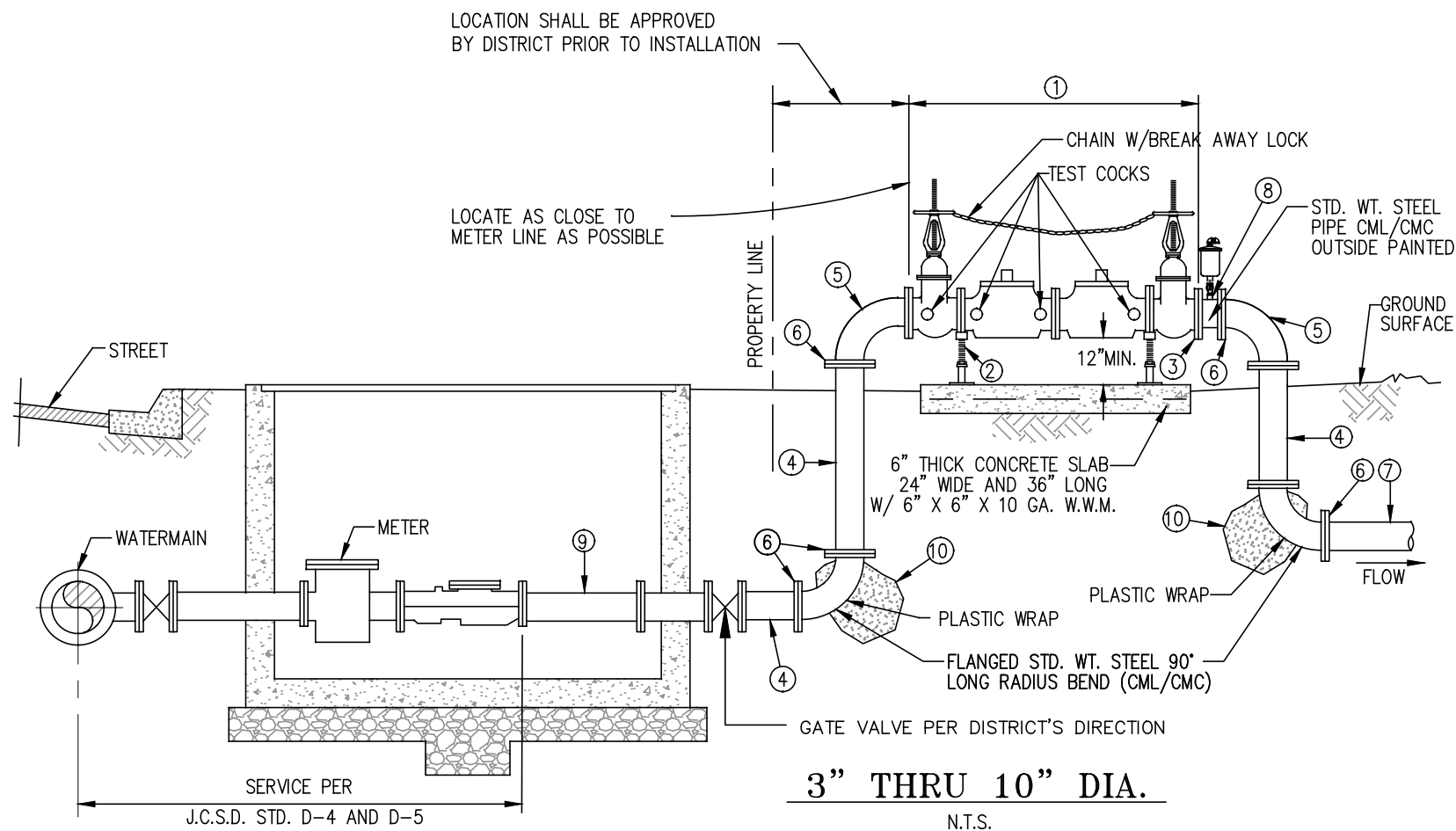
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H-1

W.O. 19-0248

REV.

REV.



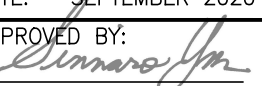
| ITEM | DESCRIPTION |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ① | REDUCED PRESSURE BACKFLOW PREVENTION DEVICE PER A.W.W.A. C-511-(LATEST) SERVICE LINE WITH FLG'D. ENDS. A.B.I.W.P. #150 P.S.I. M.W.W.P., W/GATE VALVES AND TEST COCKS PER DISTRICT APPROVED MANUFACTURERS LIST. |
| ② | PIPE SUPPORTS PER JCSD STANDARD DRAWING NO A-5 (4 MINIMUM) |
| ③ | GROOVE x FLANGE ADAPTOR (VICTAULIC STYLE 741 OR APPR EQ) |
| ④ | STD WT STEEL PIPE, CML/CMC |
| ⑤ | FLANGED STD WT STEEL 90° LONG RADIUS BEND (FBEL/OUTSIDE PAINTED) |
| ⑥ | 150# A.S.A. SLIP-ON FLANGE |
| ⑦ | CUSTOMER SERVICE PIPE |
| ⑧ | 1" DIA 3000# THREADED COUPLING WITH 1"x 1/2" BRASS REDUCER BUSHING; 1/2" CORP STOP; 1/2" AIR RELEASE VALVE (APCO MODEL 50 OR, APPR EQ) W/DBL STREET ELL TOP OUTLET |
| ⑨ | FOR SERVICE LINE 3" DIA. AND ABOVE SERVICE LINE DIA. x REQ'D. LENGTH STD. WT. WELDED STL. PIPE (CML/COAL TAR EPOXY COATING) W/STD. WT. WELDING FITTINGS AND 150# WELD NECK FLG'S. TO MATE REDUCED PRESSURE BACKFLOW PREVENTION DEVICE. |
| ⑩ | 3 CU. FT MIN. OF CLASS "C"(2000 PSI) CONCRETE THRUST AND SUPPORT BLOCK |

NOTES:

- THE "APPROVED" REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION DEVICE SHALL BE LOCATED AND INSTALLED SUBJECT TO THE APPROVAL OF THE DISTRICT.
- THE DEVICE MUST BE INSPECTED AND TESTED IMMEDIATELY AFTER INSTALLATION.
- PIPE THREADS SHALL BE CLEAN AND SHARP, AND SEALED WITH APPROVED JOINT COMPOUND.
- ALL WELDED JOINTS SHALL BE MADE WITH A MINIMUM OF TWO COMPLETE PASSES.
- PAINT BARE METAL WITH PRIMER AND TWO (2) COATS OF PAINT PER DISTRICT SPECIFICATIONS. (NO PRIMER ON BRASS OR BRONZE)
- SERVICE CANNOT BE TURNED ON UNTIL BACKFLOW ASSEMBLY HAS BEEN TESTED BY A CERTIFIED BACKFLOW TESTER.
- JCSD'S "CROSS CONTROL CONNECTION SPECIALIST" TO INSPECT PIPE BETWEEN METER AND BACKFLOW ASSEMBLY.


| ITEM | DESCRIPTION |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ① | REDUCED PRESSURE BACKFLOW PREVENTION DEVICE PER A.W.W.A. C-511(LATEST) SERVICE LINE SIZED W/SCR. ENDS. THRU 2" DIA. WITH A.B.I.W.P. #150 P.S.I. M.W.W.P. W/GATE VALVES & TEST COCKS. |
| ② | FOR SERVICE LINE THROUGH 2" DIA. SERVICE LINE DIA. x REQ'D. LENGTH STD. WT. BRASS PIPE W/STD. WT. SCR. BRASS FITTINGS. |
| ③ | 2 CU. FT. MIN. OF CLASS "C" (2000 PSI) CONCRETE THRUST AND SUPPORT BLOCK |
| ④ | PAINT EXTERIOR WITH PRIMER AND TWO (2) COATS OF PAINT PER DISTRICT SPECIFICATIONS. (NO PRIMER ON BRASS OR BRONZE) |

JURUPA COMMUNITY SERVICES DISTRICT

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|---------------------------|
| SCALE: | REDUCED PRESSURE BACKFLOW DEVICE | DRAWING NO. H-2 |
| DATE: SEPTEMBER 2020 | | |
| APPROVED BY:  Sinnaro Yos, P.E. C68607 | ALBERT A. WEBB ASSOCIATES CONSULTING ENGINEERS RIVERSIDE CALIFORNIA | W.O. 19-0248 |

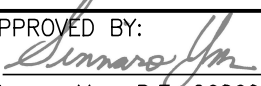
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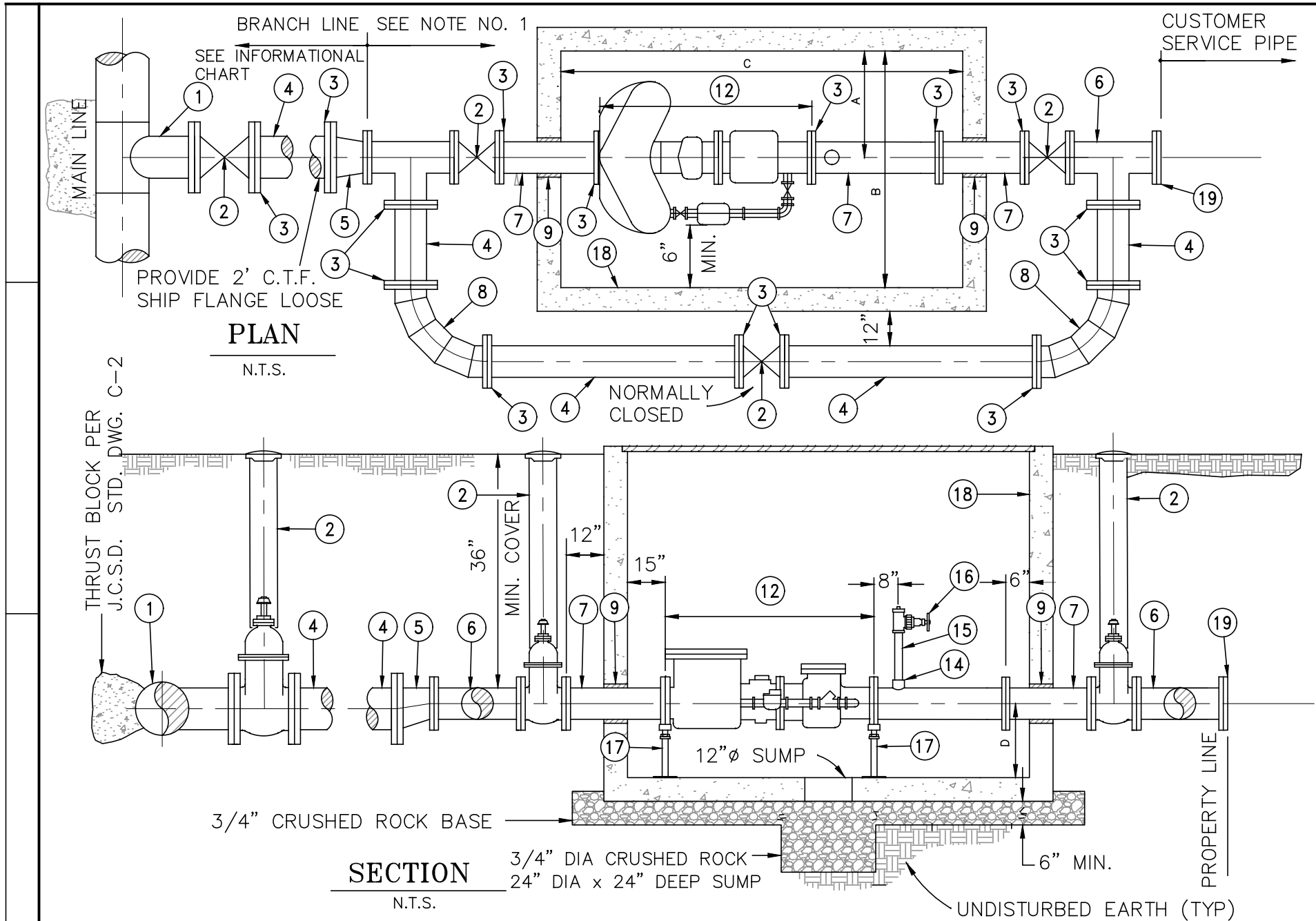
JURUPA COMMUNITY SERVICES DISTRICT

| | | | |
|------|-----------------------------------------------------------------------------------------------------|---------------------------------------------------|--------------|
| REV. | SCALE: NONE | DOUBLE CHECK VALVE ASSEMBLY | DRAWING NO. |
| | DATE: SEPTEMBER 2020 | | H-3 |
| | APPROVED BY:  | ALBERT A. WEBB ASSOCIATES CONSULTING ENGINEERS | W.O. 19-0248 |
| | Sinnaro Yos, P.E. C68607 | | |
| | | RIVERSIDE CALIFORNIA | |

STANDARD DRAWING NO. H-4 DELETED

JURUPA COMMUNITY SERVICES DISTRICT

| | | | |
|------|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|--------------|
| REV. | SCALE: NONE | 4", 6", 8" & 10" FIRE SERVICE INSTALLATION (UN-METERED) | DRAWING NO. |
| | DATE: SEPTEMBER 2020 | | H-4 |
| | APPROVED BY:  | ALBERT A. WEBB ASSOCIATES CONSULTING ENGINEERS RIVERSIDE CALIFORNIA | W.O. 19-0248 |
| | Sinnaro Yos, P.E. C68607 | | |



| ITEM | DESCRIPTION |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | MAINLINE DIA. x BRANCH DIA. (A.W.W.A.) FLANGED OUTLET TEE. |
| 2 | VALVE BOX & GATE VALVE INSTALLATION PER J.C.S.D. STD. DWG. NO. B-1 (USE 14" BFV PER J.C.S.D. STD. B-3 FOR 14" DIA. BRANCH LATERAL). |
| 3 | 150# SLIP ON FLANGE (TYPICAL). |
| 4 | CML/CMC W.S.P. (12 GA. MIN.). |
| 5 | BRANCH x METER SIZE A.W.W.A. "FLAT TOP" FLANGED REDUCER. |
| 6 | CML/CMC A.W.W.A. FLANGED TEE. |
| 7 | STD. WT. STL. PIPE, CML/CMC. |
| 8 | CML/CMC A.W.W.A. FLANGED 90° BEND (CEMENT MORTAR LINED CAST IRON 90° BEND MAY BE SUBSTITUTED UPON APPROVAL BY DISTRICT). |
| 9 | KNOCKOUTS AS REQUIRED (2" LARGER THAN PIPE SIZE O.D. ALL AROUND) DRY PACK ALL AROUND PIPE. |
| 10 | NOT USED |
| 11 | NOT USED |
| 12 | METER WITH ALL BRONZE BY-PASS ASSEMBLY (INCLUDING GATE VALVES, CHECK VALVE & BY-PASS METER FURNISHED BY DISTRICT AT DEVELOPERS EXPENSE) |
| 13 | NOT USED |
| 14 | 2 1/2", 3/16" THICK WALL, COUPLING WELDED TO TOP OF PIPE. |
| 15 | 2 1/2" DIA. x 12" LONG STD. BRASS THREADED NIPPLE. |
| 16 | 2 1/2" DIA. SCREWED FIRE PROTECTION GATE VALVE, IPT x NST, WITH HOSE CAP AND SAFETY CHAIN, ALL BRONZE, NRS, WITH MAL. IRON HAND WHEEL, 175 PSI MWWP; NIBCO MODEL NO. T-103-HC OR APPROVED EQUAL. |
| 17 | PIPE SUPPORT PER J.C.S.D. STD. DWG. NO. A-5. |
| 18 | PRE-CAST CONCRETE VAULT WITH 2 PIECE 6' x 8' TORSION HINGED GALVANIZED OR ALUMINUM COVER W/6" X 6" METER READING LID. QUICKSET OR APPROVED EQUAL. COVER TO BE SPECIFIED FOR TRAFFIC LOADS WHERE REQUIRED. NOTE: DEPENDENT UPON SELECTED METER DIMENSIONS VAULT SIZE MAY NEED TO BE INCREASED TO MAINTAIN MINIMUM INTERNAL CLEARANCE DIMENSIONS SHOWN. |
| 19 | BLIND FLANGE |

NOTES:

- DIAMETERS FOR PIPELINE AND APPURTENANCES SHALL BE EQUAL TO THE METER SIZE.
- THE FIRE SERVICE VAULT SHALL BE LOCATED AND INSTALLED SUBJECT TO APPROVAL OF THE DISTRICT. WHERE VAULT IS INSTALLED IN PARKWAY WITH CURB AND SIDEWALK, THE VAULT SHALL BE PLACED PARALLEL TO THE CURB LINE & PIPING.
- ADJUST VAULT AND COVER TO MEET SIDEWALK AND CURB GRADE.
- VALVE COVER, POST INDICATOR, AND ALL METAL INSIDE VAULT TO BE PAINTED WITH PRIMER AND TWO (2) COATS OF RED ACME PAINT, NO. 2-16012, OR APPROVED EQUAL. NO PRIMER ON BRASS OR BRONZE.
- ALL FIELD JOINTS SHALL BE FLANGED UNLESS OTHERWISE INDICATED. ALL WELDED JOINTS ON EPOXY LINED STD. WT. PIPE SHALL BE SHOP FABRICATED AND ALL EPOXY LINING SHALL BE SHOP APPLIED.
- PIPE THREADS SHALL BE CLEAN AND SHARP, AND SEALED WITH APPROVED JOINT COMPOUND.
- SHOULD THE DEPTH OF THE VAULT EXCEED FOUR (4) FEET, AN OSHA APPROVED LADDER ATTACHED TO AN INSIDE WALL SHALL BE PROVIDED. THE LOCATION OF THE LADDER SHALL BE AS DIRECTED BY THE DISTRICT.

SPECIAL NOTE

WHERE REQUIRED BY DISTRICT: A BACKFLOW PREVENTER PER STD. H-2 SHALL BE INSTALLED.

| I N F O R M A T I O N A L C H A R T | | | | | | | | |
|---------------------------------------|-------------|---------------------|-------|--------|-------|-------|-------|------------------------------------------|
| DETECTOR SIZE | BRANCH SIZE | D I M E N S I O N S | | | | | | NORM. MAX. OPERATING FLOW CAPACITY (GPM) |
| | | A | B | C | D | E | F | |
| 4" | 6" | 3'-0" | 6'-0" | 8'-0" | 1'-6" | 2'-9" | 1'-3" | 1000 |
| 6" | 8" | 3'-0" | 6'-0" | 8'-0" | 1'-8" | 3'-9" | 1'-3" | 2000 |
| 8" | 12" | 3'-0" | 6'-0" | 8'-0" | 2'-0" | 4'-5" | 1'-4" | 3500 |
| 10" | 14" | 3'-0" | 6'-0" | 10'-0" | 2'-0" | 5'-8" | 1'-7" | 5500 |

JURUPA COMMUNITY SERVICES DISTRICT

SCALE:

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

4", 6", 8" & 10" FIRE SERVICE
INSTALLATION (METERED)

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

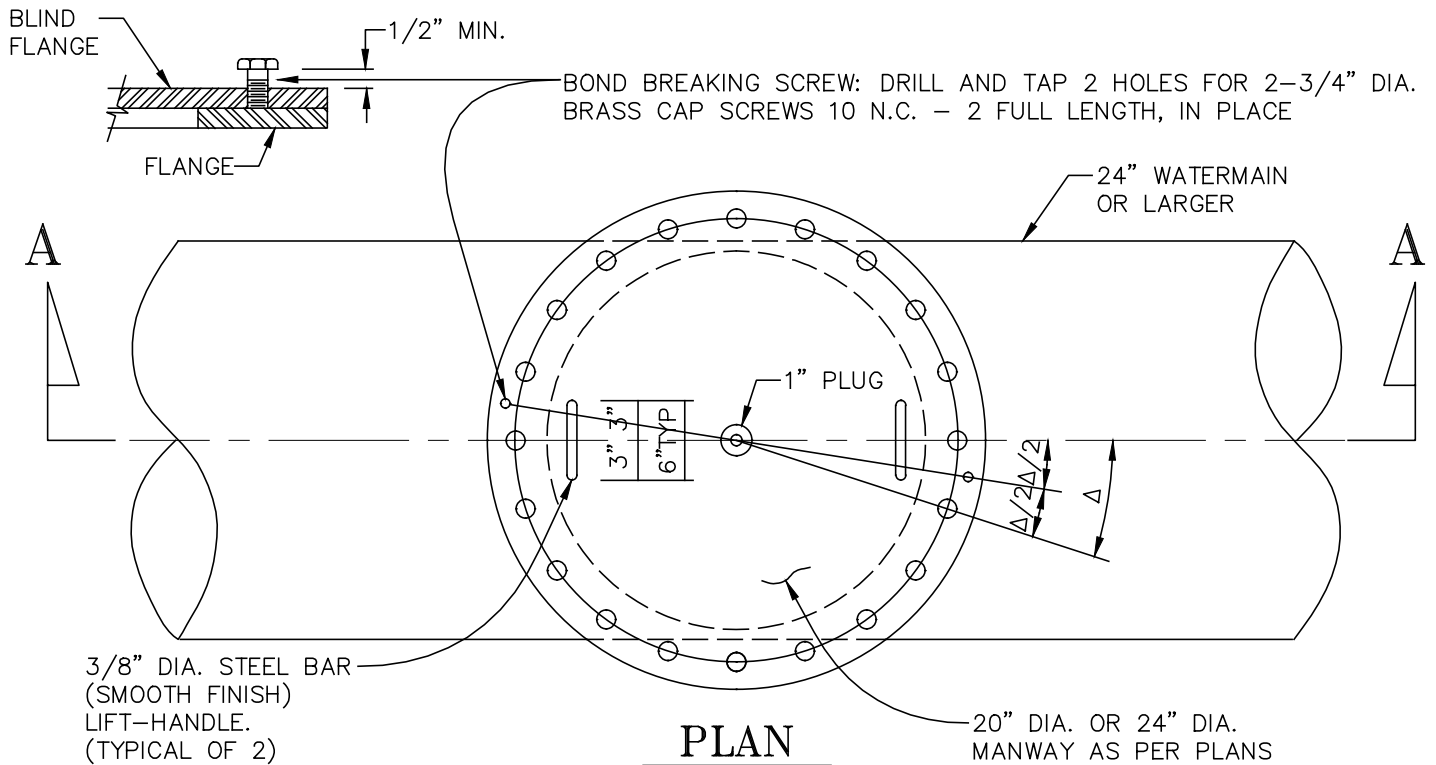
RIVERSIDE

CALIFORNIA

DRAWING NO.

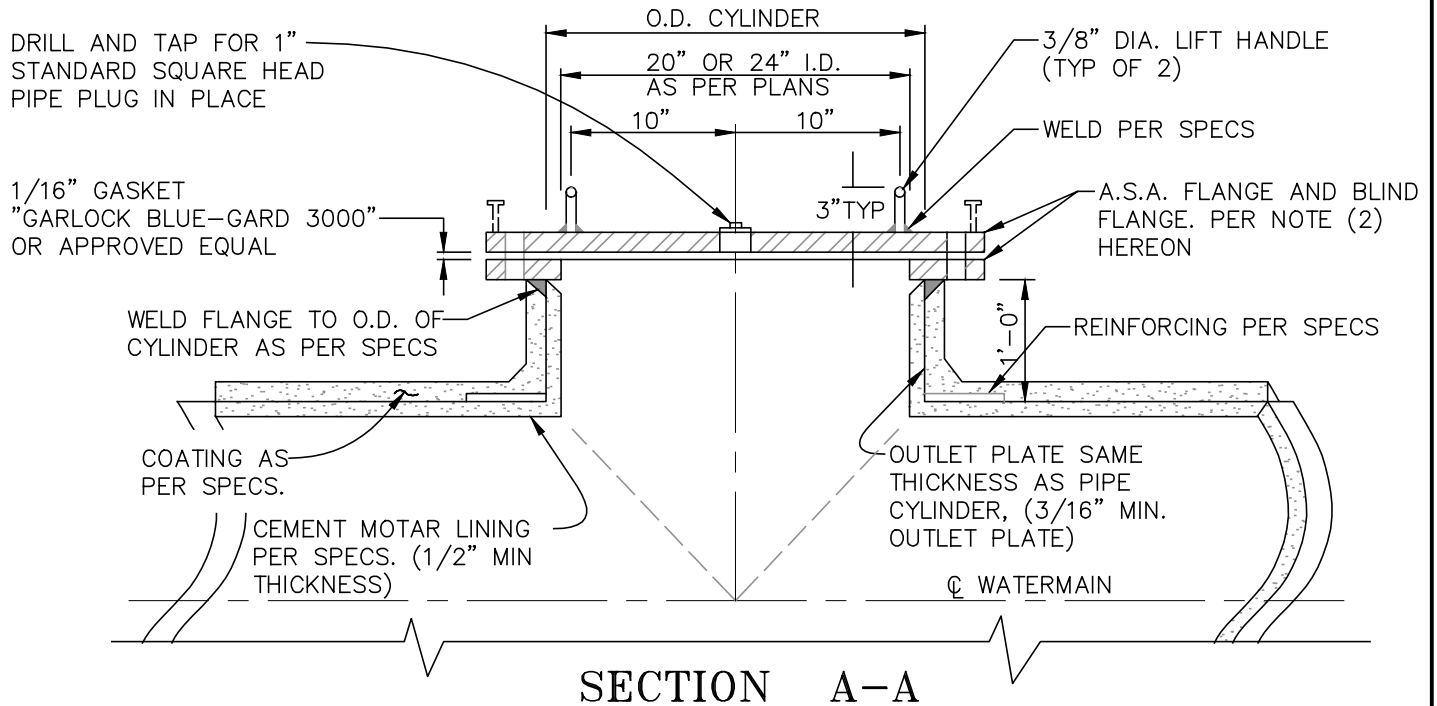
H-4A

W.O. 19-0248



NOTES:

1. PAINT ALL EXPOSED INTERIOR AND EXTERIOR METAL SURFACES OF FLANGES EXCEPT GASKET SURFACES WITH PRIMER.
2. FLANGE AND BLIND FLANGE, SHALL BE A.S.A. 150lb. F.S.S.O. F/F FLANGES.
3. LUBRICATE ALL BOLT THREADS WITH GRAPHITE.



JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

MANWAY INSTALLATION

20" OR 24" DIA.

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

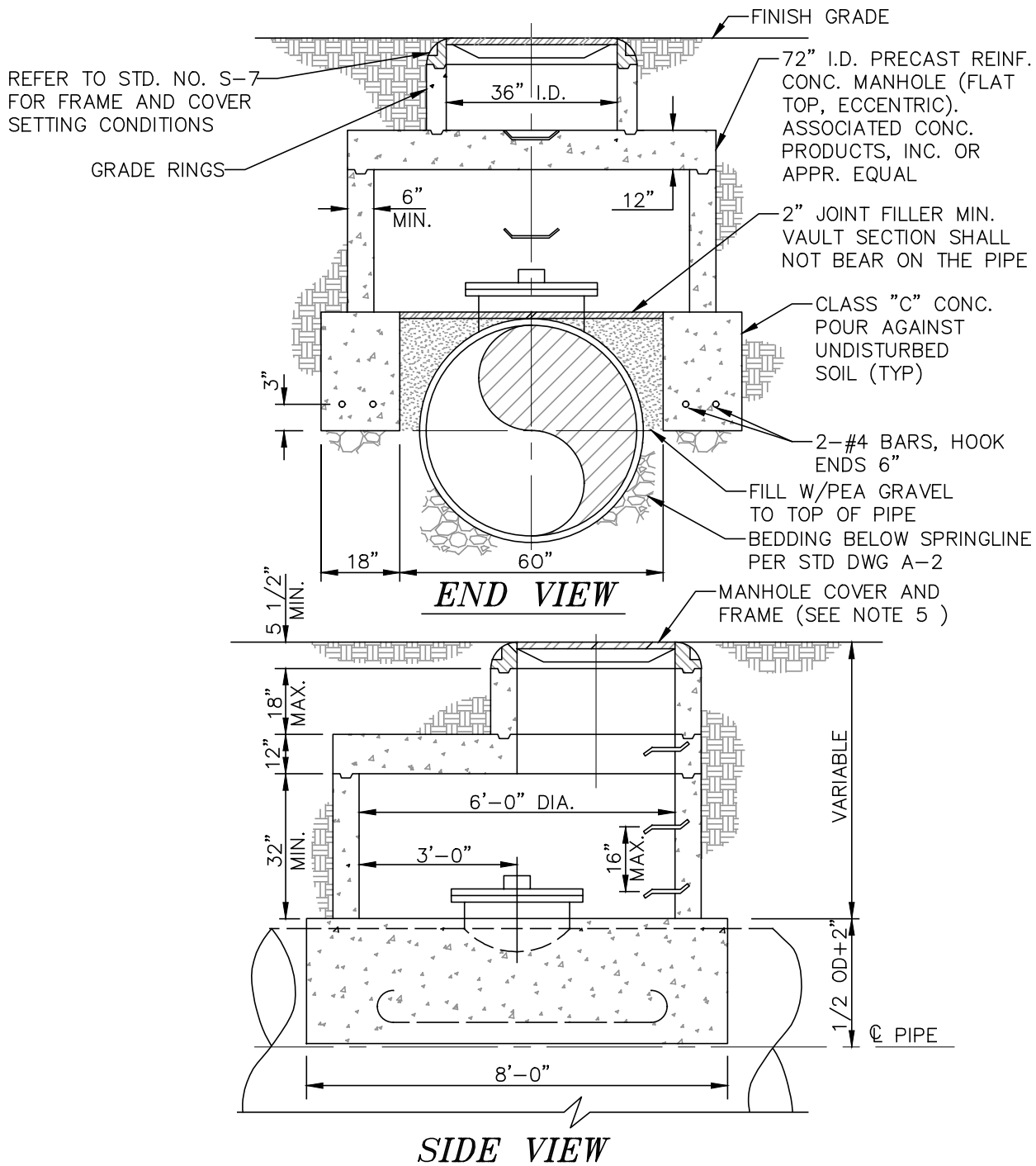
CALIFORNIA

DRAWING NO.

I-1

W.O. 19-0248

REV.



NOTES:

1. WHEN MANHOLE IS IN PAVED AREA, MANHOLE FRAME SHALL BE SET AFTER ADJACENT PAVEMENT HAS BEEN PLACED. TOP SHALL BE FLUSH WITH PAVEMENT.
2. ALL JOINTS SHALL BE SEALED WITH APPROVED JOINT SEALANT.
3. VAULT SHALL BE DESIGNED FOR H-20, S-16 LOADING.
4. ALHAMBRA FOUNDARY TRAFFIC MANHOLE FRAME AND COVER NO. A-1251 OR APPROVED EQUAL. WITH LETTERS J.C.S.D. CAST IN TOP OF COVER AND FRAME PAINTED WITH PRIMER AND TWO (2) COATS OF PAINT PER DISTRICT SPECIFICATIONS

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

MANHOLE DETAIL FOR MANWAYS

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

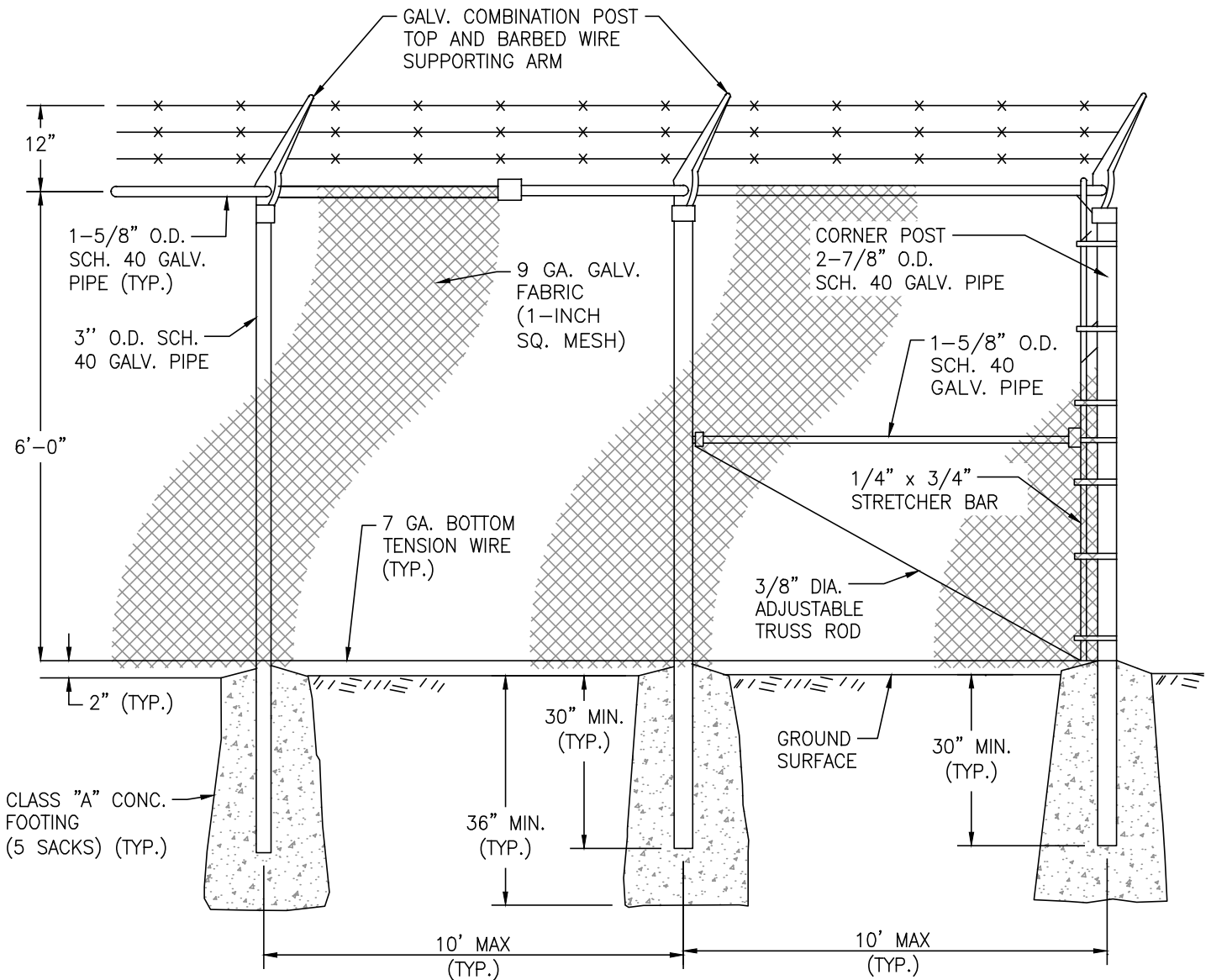
DRAWING NO.

I-2

W.O. 19-0248

REV.

W.O. 19-0248



NOTES:

1. DIAMETER OF CONC. FOOTING SHALL BE 3 TIMES O.D. OF POST; 12" MINIMUM.
2. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND SHALL BE APPROVED BY THE DISTRICT.

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

CHAIN LINK FENCE DETAIL

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

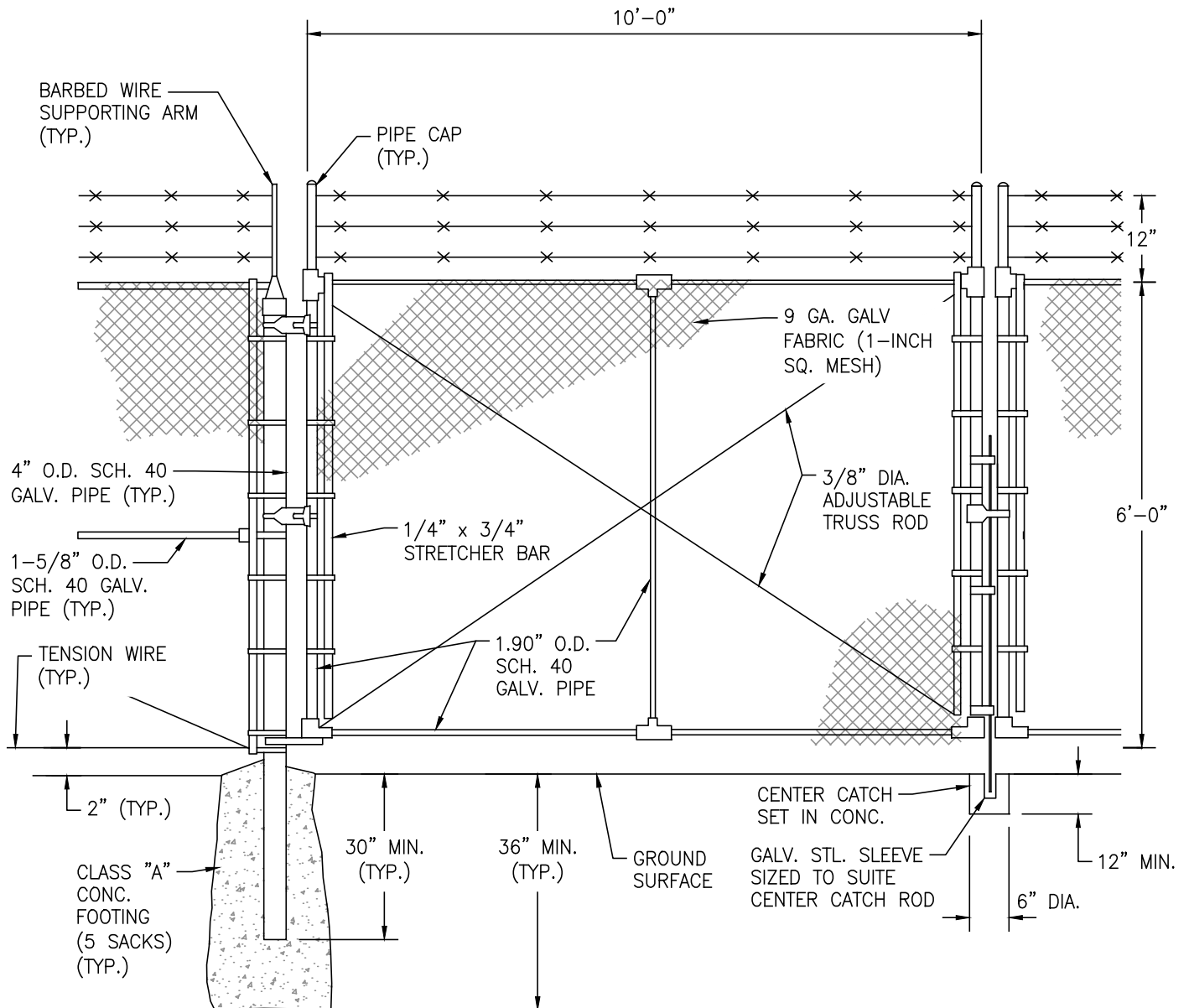
CALIFORNIA

DRAWING NO.

J-1

W.O. 19-0248

REV.



JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

CHAIN LINK FENCE GATE DETAIL

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

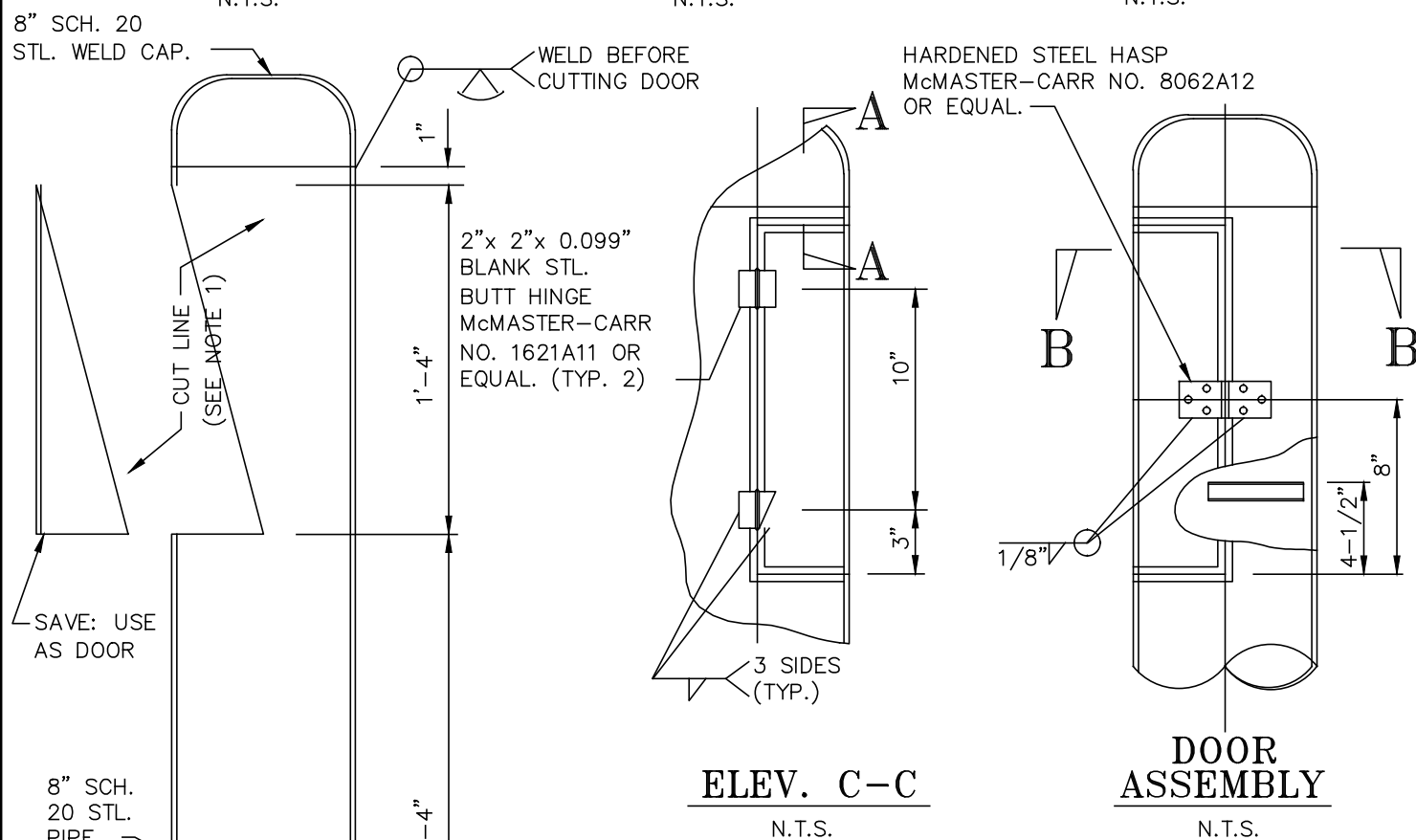
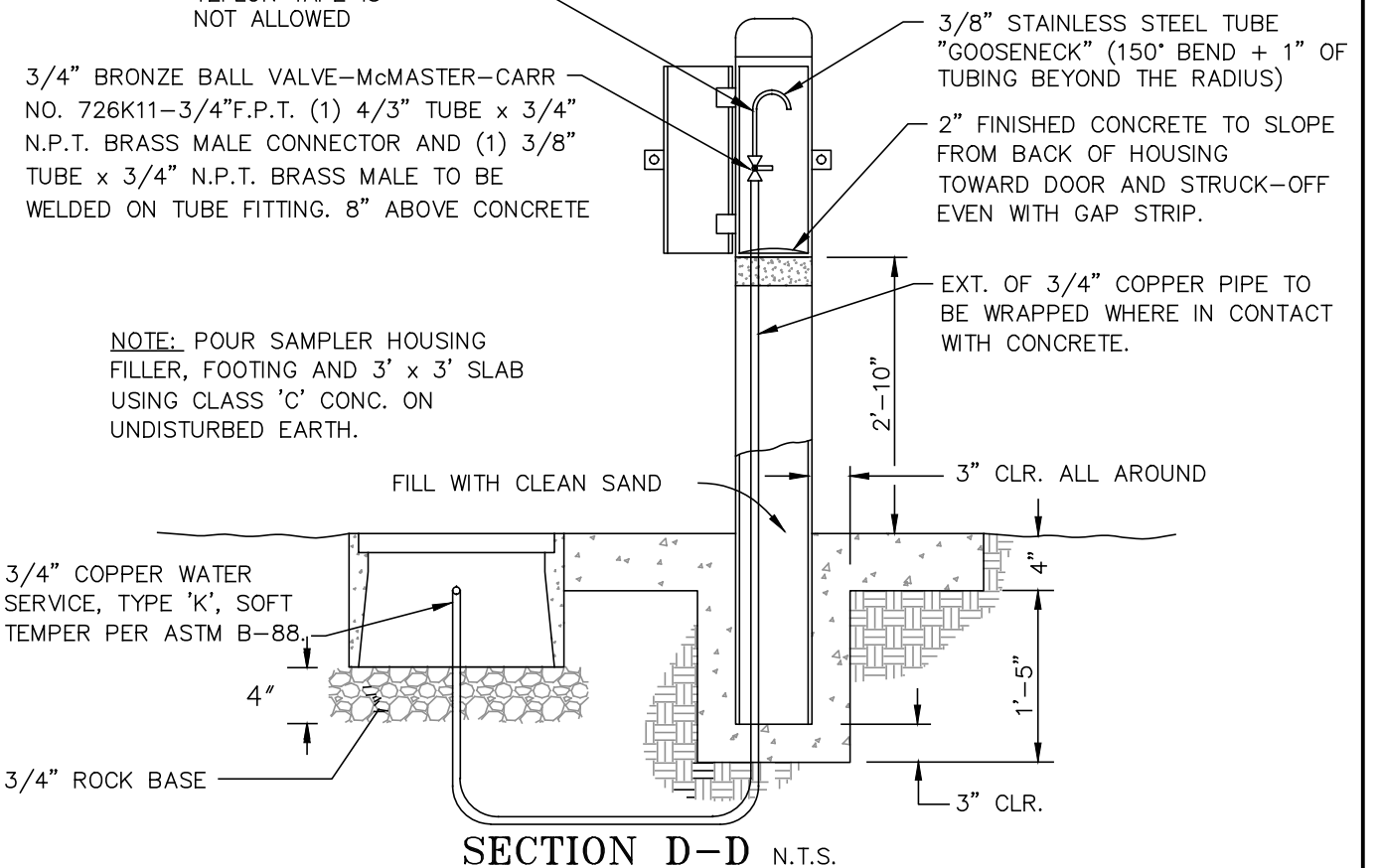
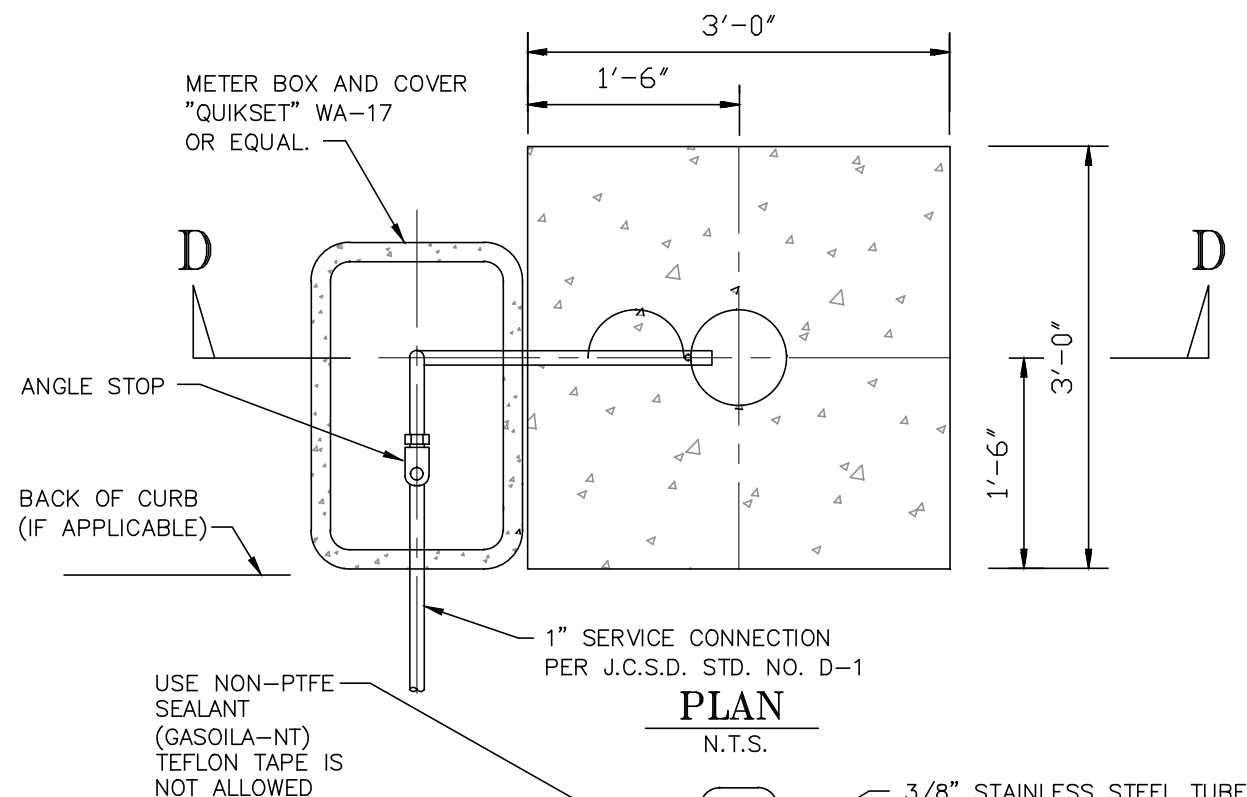
RIVERSIDE

CALIFORNIA

DRAWING NO.

J-2

W.O. 19-0248



- NOTES:

1. SAWCUT IS PREFERRED FOR DOOR OPENING, GRIND CUT SMOOTH AND BREAK ALL SHARP EDGES.
2. HOUSING ASSEMBLY TO BE SANDBLASTED CLEAR AND FREE OF ALL RUST, SCALE AND WELD SPATTER ON ALL SURFACES. HOUSING IS THEN TO BE PAINTED WITH PRIMER AND TWO (2) COATS OF XOP25 LIGHT BLUE PAINT, (COLOR TO BE AS DIRECTED BY DISTRICT.)
3. DISTRICT SHALL DETERMINE EXACT LOCATION OF SAMPLING STATION AND GUARD POSTS WHERE REQUIRED.

HOUSING LAYOUT
N.T.S.

| FABRICATION DETAILS | |
|---------------------|--------|
| | N.T.S. |

JURUPA COMMUNITY SERVICES DISTRICT

SCALE:

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

WATER SAMPLING STATION CONSTRUCTION DETAILS

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

DRAWING NO.

K-1

W.O. 19-0248

REV.

STANDARD DRAWING NO. K-2 DELETED

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

PEDESTAL MOUNTED TERMINAL HOUSING
INSTALLATION FOR DIRECT BURIAL CABLE

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

DRAWING NO.

K-2

W.O. 19-0248

REV.

NOTES:

1. TEST STATIONS TO BE INSTALLED AT LOCATIONS SHOWN ON JOB DRAWINGS.
2. BOX TO BE FIELD LOCATED PER DISTRICT.

LOCATE GUARD POST PER J.C.S.D. STD. NO. A-4 ADJACENT TO TEST BOX AND LABEL C.T.S.

CONCRETE METER BOX W/C-1 FRAME AND HINGED LOCKING COVER MARKED "J.C.S.D. C.P. TEST" (BROOKS NO. 36-H.F.L. OR APPR. EQ.) PROVIDE 9" EXTENSION

LEAVE SUFFICIENT SLACK TO RAISE WIRES 18" ABOVE GRADE

LONG SWEEPS ELECTRICAL STD. 90

24" MIN.

2" PVC CONDUIT SCH. 40 ENTIRE RUN

SECURE WIRE ENDS TO PIPE (SEE STD. DWG. K-4)

HAND BACKFILL IN AREA OF WIRE

- (1) #6 AWG TYPE THWN WIRE (BLACK)
- (1) #12 AWG TYPE THWN WIRE (RED)

- (1) #10 AWG TYPE THWN WIRE (GREEN) ENCASED IN CSE BAG

LOCATE COPPER-COPPER SULFATE REFERENCE ELECTRODE (CSE) AT CROSSING BETWEEN PROPOSED WATERLINES & EXISTING PIPELINES WHERE INDICATED ON THE DRAWINGS. ELECTRODES TO BE LOCATED NO FURTHER THAN 12" FROM WATERLINE IN A VERTICAL DIRECTION. ELECTRODE MODEL NO. IHRP #802 OR STEALTH 2 CU-CU S04, PART NO. SRE-007-CUY AS MANUFACTURED BY BORIN MANUFACTURING, INC.

STEEL CYLINDER PIPE

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

CATHODIC PROTECTION TEST STATION STEEL CYLINDER PIPE

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

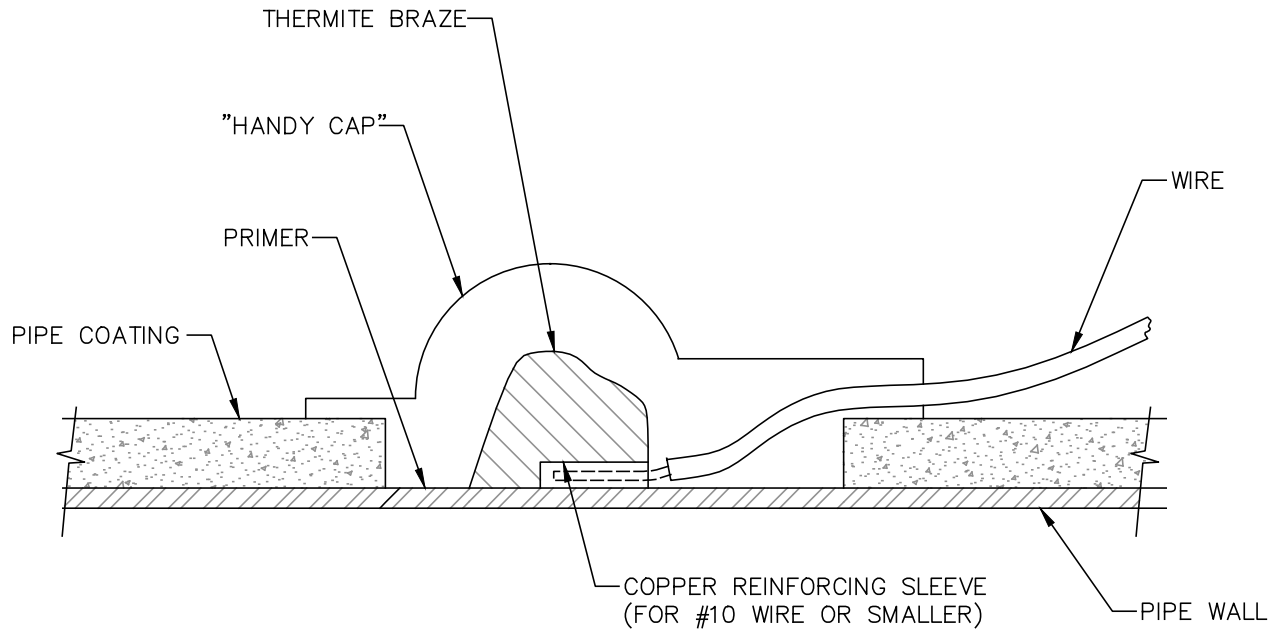
CALIFORNIA

DRAWING NO.

K-3

W.O. 19-0248

REV.



THERMITE BRAZE

NOTES:

1. CLEAN PIPE TO BRIGHT METAL.
2. THERMITE BRAZE TO BE CADWELL BY ERICO PRODUCTS OR EQUAL.
3. USE PROPER BRAZE ALLOY FOR STEEL.
4. TEST BRAZE BY PULLING ON WIRE AND STRIKING BRAZE.
5. COAT BRAZE WITH ROYSTON PRIMER AND "HANDY CAP".

SPECIAL NOTE:

THERMITE BRAZE KIT SUPPLIED BY FARWEST CORROSION CONTROL
GARDENA, CA. (214) 770-6425.

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos
Sinnaro Yos, P.E. C68607

THERMITE BRAZE DETAIL

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

DRAWING NO.

K-4

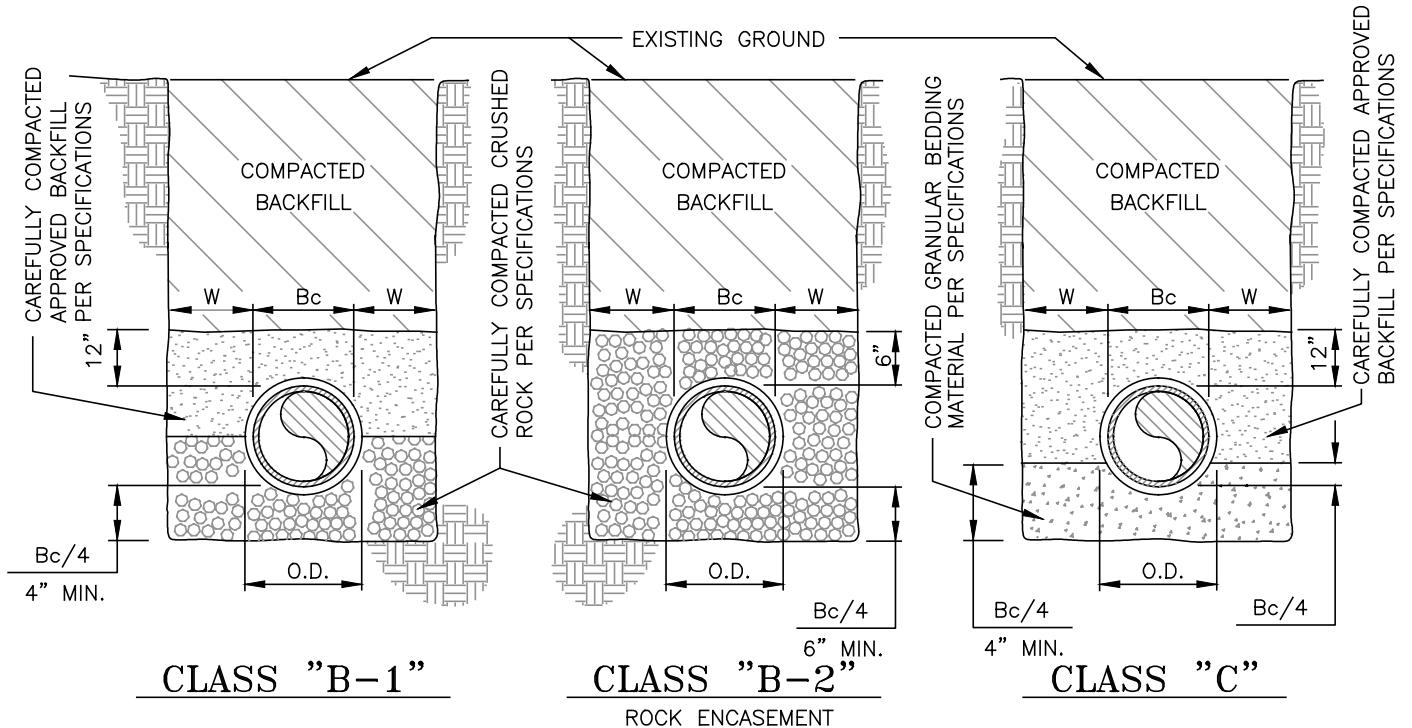
W.O. 19-0248

REV.

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B. SEWER SYSTEM STANDARD DRAWINGS

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NOTES:

1. ALL BACKFILL SHALL BE PLACED IN ACCORDANCE WITH THE SPECIFICATIONS.
2. O.D. = OUTSIDE DIAMETER OF BELL.
3. Bc = OUTSIDE DIAMETER OF PIPE BARREL.
4. W = 10 INCHES MAXIMUM.
5. CONCRETE SHALL BE ALLOWED TO DEVELOP SUFFICIENT STRENGTH BEFORE BACKFILLING.
6. WHEN GROUND WATER ENCOUNTERED, ENCASE THE ROCK BEDDING IN FILTER FABRIC.

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos
Sinnaro Yos, P.E. C68607

GENERAL BEDDING DETAILS

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

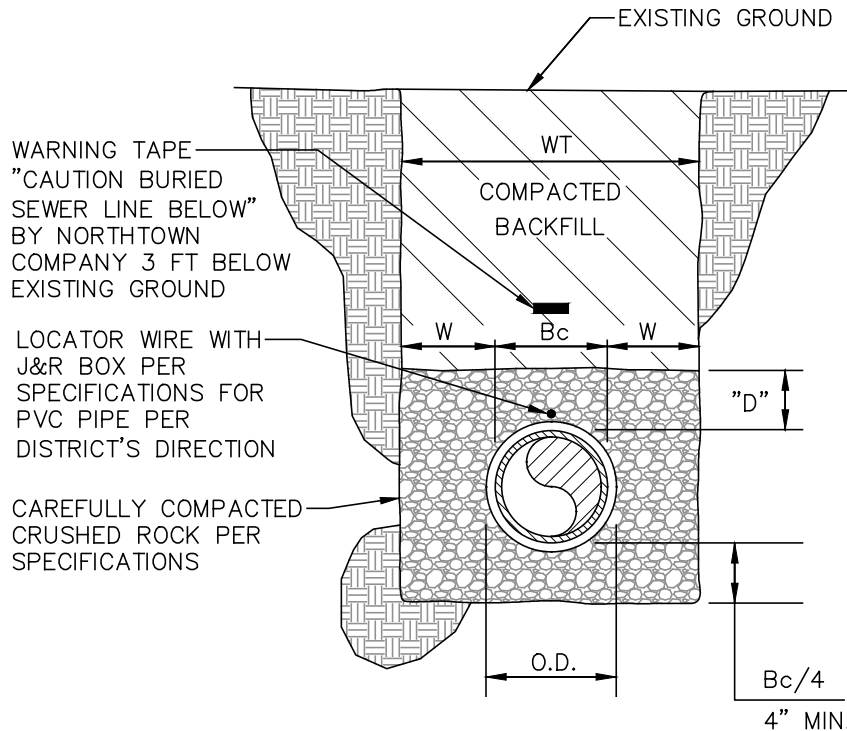
CALIFORNIA

DRAWING NO.

S-1

W.O. 19-0248

REV.



| DEPTH "D" | |
|----------------------|-----------|
| FOR PIPE DEPTH < 14' | "D" = 6" |
| FOR PIPE DEPTH > 14' | "D" = 12" |

CLASS "I"

DEPTH > 14 FEET
PVC SDR 26 ONLY

NOTES:

1. ALL BACKFILL SHALL BE PLACED IN ACCORDANCE WITH THE SPECIFICATIONS.
2. O.D. = OUTSIDE DIAMETER OF BELL.
3. Bc = OUTSIDE DIAMETER OF PIPE BARREL.
4. WT = TRENCH WIDTH MEASURED AT TOP OF PIPE.
5. W = 10" MAXIMUM.
6. FOR PIPES DEEPER THAN 8', LOCATOR WIRE SHALL BE INSTALLED ABOVE THE PIPE, AT AN 8' MAXIMUM DEPTH.
7. ENCASE CRUSHED ROCK WITH DISTRICT APPROVED FILTER FABRIC WHEN ENCOUNTERING GROUNDWATER.

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

GENERAL BEDDING DETAILS FLEXIBLE GRAVITY PIPE

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

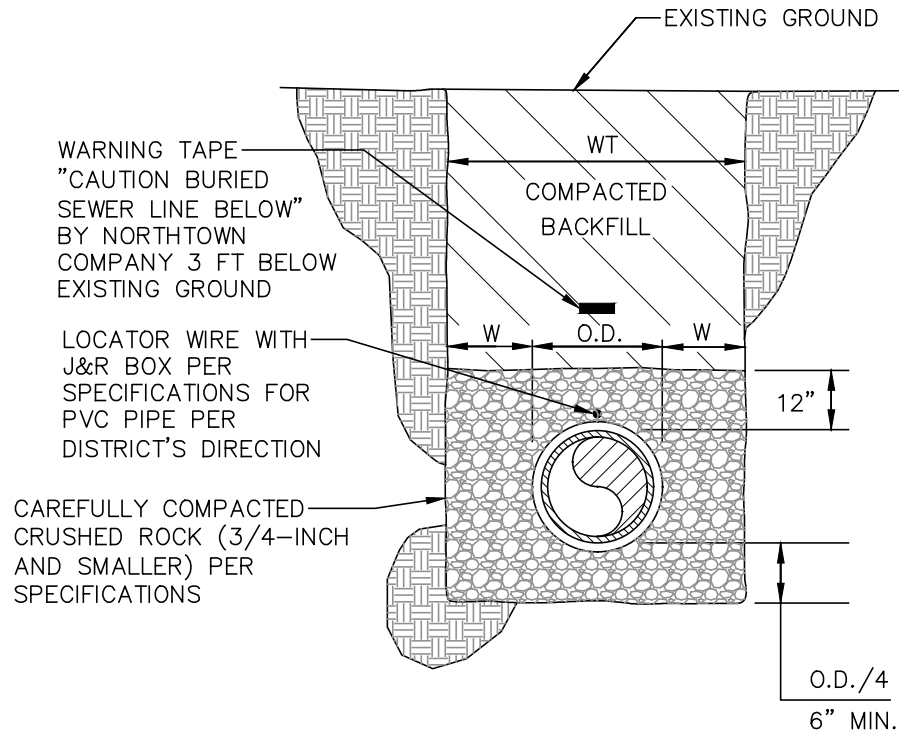
CALIFORNIA

DRAWING NO.

S-2

W.O. 19-0248

REV.



NOTES:

1. ALL BACKFILL SHALL BE PLACED IN ACCORDANCE WITH THE SPECIFICATIONS.
2. O.D. = OUTSIDE DIAMETER OF PIPE.
3. HDPE PIPE SHALL BE MINIMUM OF DR-11.
4. WT = TRENCH WIDTH MEASURED AT TOP OF PIPE.
5. W = 6" MAXIMUM.
6. FOR PIPES DEEPER THAN 8', LOCATOR WIRE SHALL BE INSTALLED ABOVE THE PIPE, AT AN 8' MAXIMUM DEPTH.
7. ENCASE CRUSHED ROCK WITH DISTRICT APPROVED FILTER FABRIC WHEN ENCOUNTERING GROUNDWATER.

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

GENERAL BEDDING DETAIL HDPE GRAVITY PIPE

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

DRAWING NO.

S-2A

W.O. 19-0248

REV.

STANDARD DRAWING NO. S-3 DELETED

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

SPECIAL CRUSHED ROCK BEDDING

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

DRAWING NO.

S-3

W.O. 19-0248

REV.

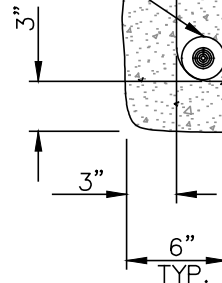
CLASS "A" CONCRETE
(4000 PSI) GREEN
IN COLOR

NO. 4 TIE BAR
24" O.C. MAX.

NO. 4 BAR LONGITUDINAL
(TYP. OF 4)*

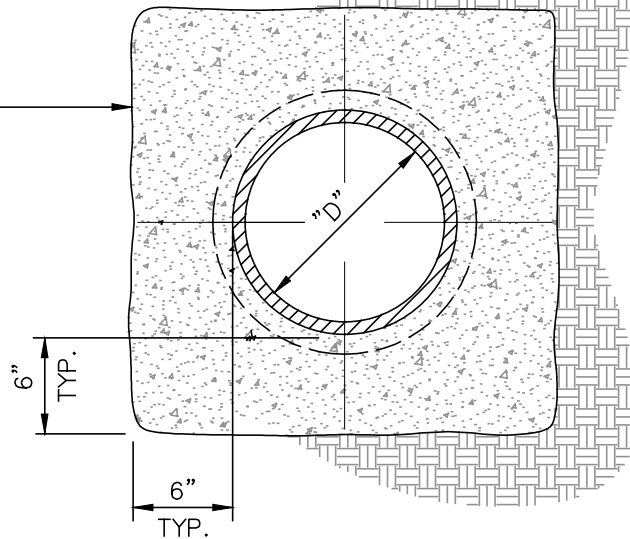
* NOTE:

USE (8) NO. 4 LONGITUDINAL
BARS EQUALLY SPACED FOR
PIPES LARGER THAN 15" DIA.



REINFORCED CONCRETE ENCASEMENT

CLASS "B" CONCRETE
(3500 PSI) GREEN
IN COLOR



CLASS "B" CONCRETE ENCASEMENT

NOTES:

1. ALL REBARS SHALL BE FABRICATED AND PLACED IN POSITION PER A.C.I. SPECIFICATIONS.
2. PROVIDE FLEXIBLE JOINTS AT EACH END OF CONCRETE ENCASEMENT, WITHIN 12" FROM EACH END.
3. EXPANSION JOINTS SHALL BE CONSTRUCTED AT EVERY 50'± INTERVAL FOR THE CONCRETE ENCASEMENT: EACH JOINT SHALL COINCIDE WITH THE BELL AND SPIGOT JOINT OF THE PIPE.
4. CONTRACTOR SHALL TAKE ANY PRECAUTIONARY MEASURES NECESSARY TO PREVENT PIPE FROM FLOTATION.
5. PLACE GREEN DYE ON TOP OF CONCRETE.

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

TYPICAL SEWER CONCRETE ENCASEMENT DETAIL

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

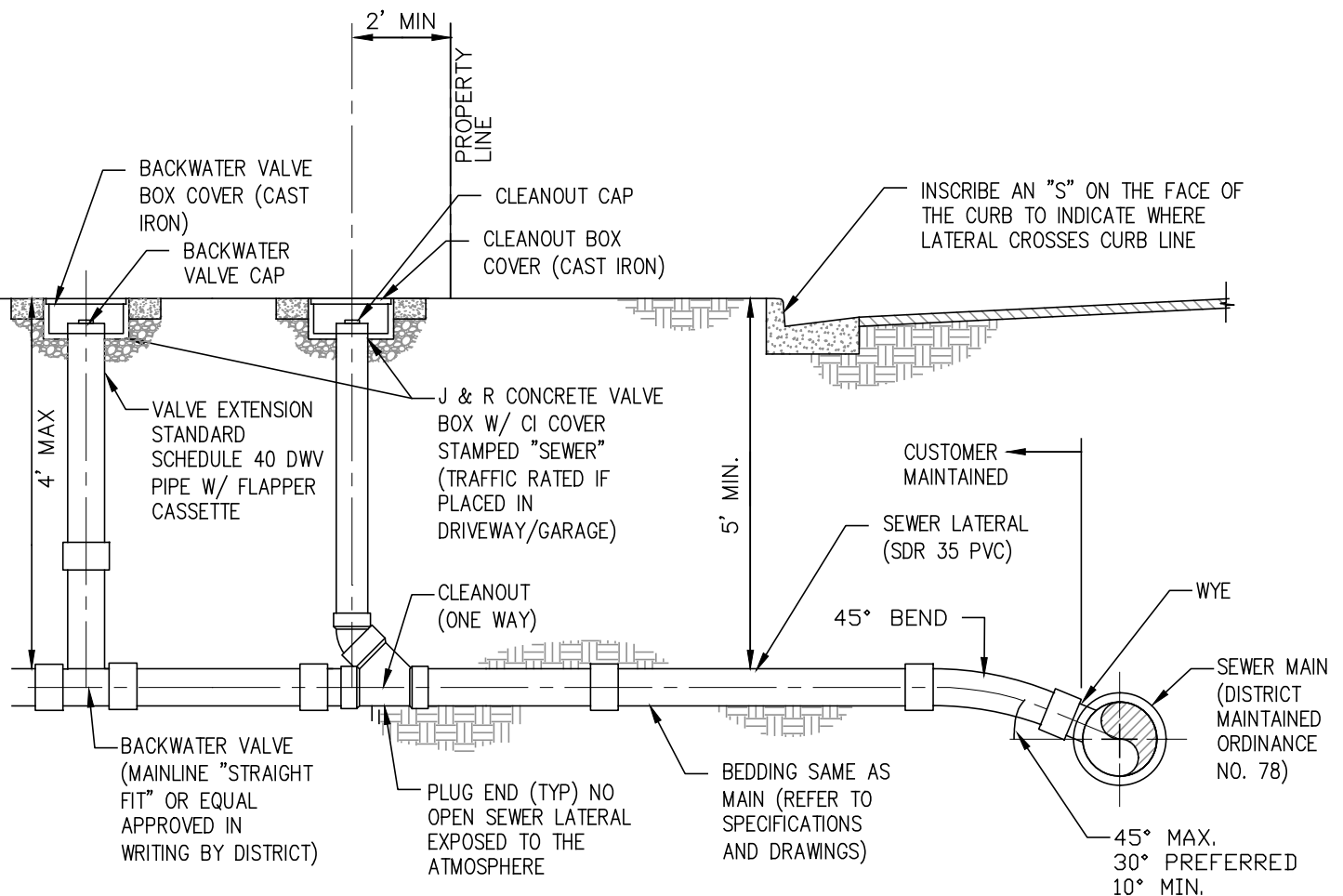
CALIFORNIA

DRAWING NO.

S-4

W.O. 19-0248

REV.



NOTES:

1. 4" PIPE FOR SINGLE DWELLINGS, 6" MIN. FOR ALL OTHER LATERALS.
2. All 8" LATERALS WILL REQUIRE MANHOLE CONNECTION.
3. LATERAL LOCATIONS SHALL BE MEASURED AT RIGHT ANGLES TO STREET CENTERLINE FROM THE CENTERLINE OF THE NEAREST DOWNSTREAM MANHOLE COVER.
4. WHENEVER DEPTH OF COVER OVER LATERAL IS LESS THAN 4'-0", SPECIAL BEDDING OR CONCRETE CRADLE SHALL BE USED.
5. CONTRACTOR SHALL REFERENCE EACH LATERAL IN THE FIELD WITH A SURFACE MARKER. MARKER SHALL BE METAL STAKE PLACED AT TIME OF BACKFILLING. MARKER SHALL BE VERTICAL AND CUT OFF 6" ABOVE GRADE.
6. SEWER LATERALS FOR ALL LOTS WHICH HAVE PAD ELEVATIONS AT OR BELOW STREET GRADE SHALL BE CONSTRUCTED AT 2% SLOPE. IN NO CASE SHALL ANY SEWER LATERAL BE CONSTRUCTED AT LESS THAN 2% SLOPE UNLESS OTHERWISE SHOWN ON DISTRICT APPROVED PLANS.
7. SEWER PLUGS TO BE INSTALLED INTO LATERAL STUBOUTS AND INFLATED WHILE MAKING HOUSE CONNECTIONS TO THE SEWER MAIN. CONNECTIONS TO BE MADE WITH DISTRICT INSPECTOR PRESENT.
8. A MANHOLE PER DISTRICT STANDARD DRAWING NO. S-7 SHALL BE PROVIDED AT THE STREET RIGHT-OF-WAY LINE FOR ALL LATERALS 6" IN DIAMETER AND LARGER UNLESS A WASTEWATER FLOW MONITORING STATION IS PROVIDED OR UNLESS OTHERWISE APPROVED IN WRITING BY THE DISTRICT.
9. A BACKWATER VALVE SHALL BE REMOVABLE TYPE IV WITH INSTRUCTIONS FOR INSTALLATION ON THE REMOVABLE TEE HANDLE.
10. BACKWATER VALVE TO BE INSTALLED AT SHALLOW DEPTH OF THE SEWER LATERAL CLOSE TO THE BUILDING PAD TO PROTECT ALL SEWER FIXTURES DRAINING TO SEWER MAIN.
11. "BACKWATER VALVE DOWNSTREAM" SHALL BE PERMANENTLY MARKED ON THE UPSTREAM CLEANOUTS FROM THE BACKWATER VALVE.

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

TYPICAL SEWER LATERAL

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

DRAWING NO.

S-5

W.O. 19-0248

REV.

STANDARD DRAWING NO. S-6 DELETED

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

DRAWING NO.

S-6

APPROVED BY:



Sinnaro Yos, P.E. C68607

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

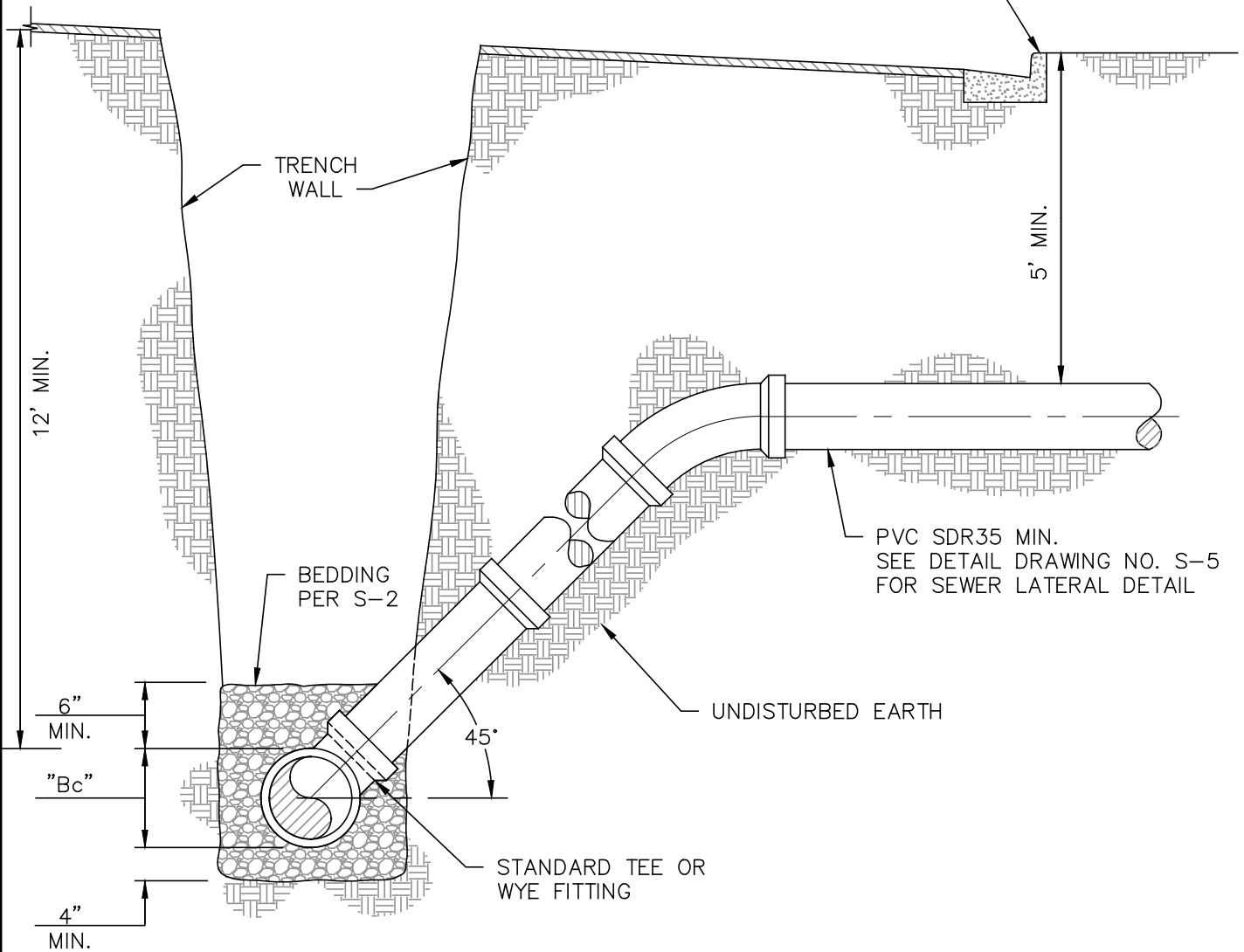
RIVERSIDE

CALIFORNIA

W.O. 19-0248

REV.

INSCRIBE AN "S" ON FACE OF
THE CURB TO INDICATE WHERE
LATERAL CROSSES CURB LINE



Bc = OUTSIDE DIAMETER OF PIPE BARREL.

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos

Sinnaro Yos, P.E. C68607

DEEP LATERAL FLEXIBLE GRAVITY PIPE

ALBERT A. WEBB ASSOCIATES
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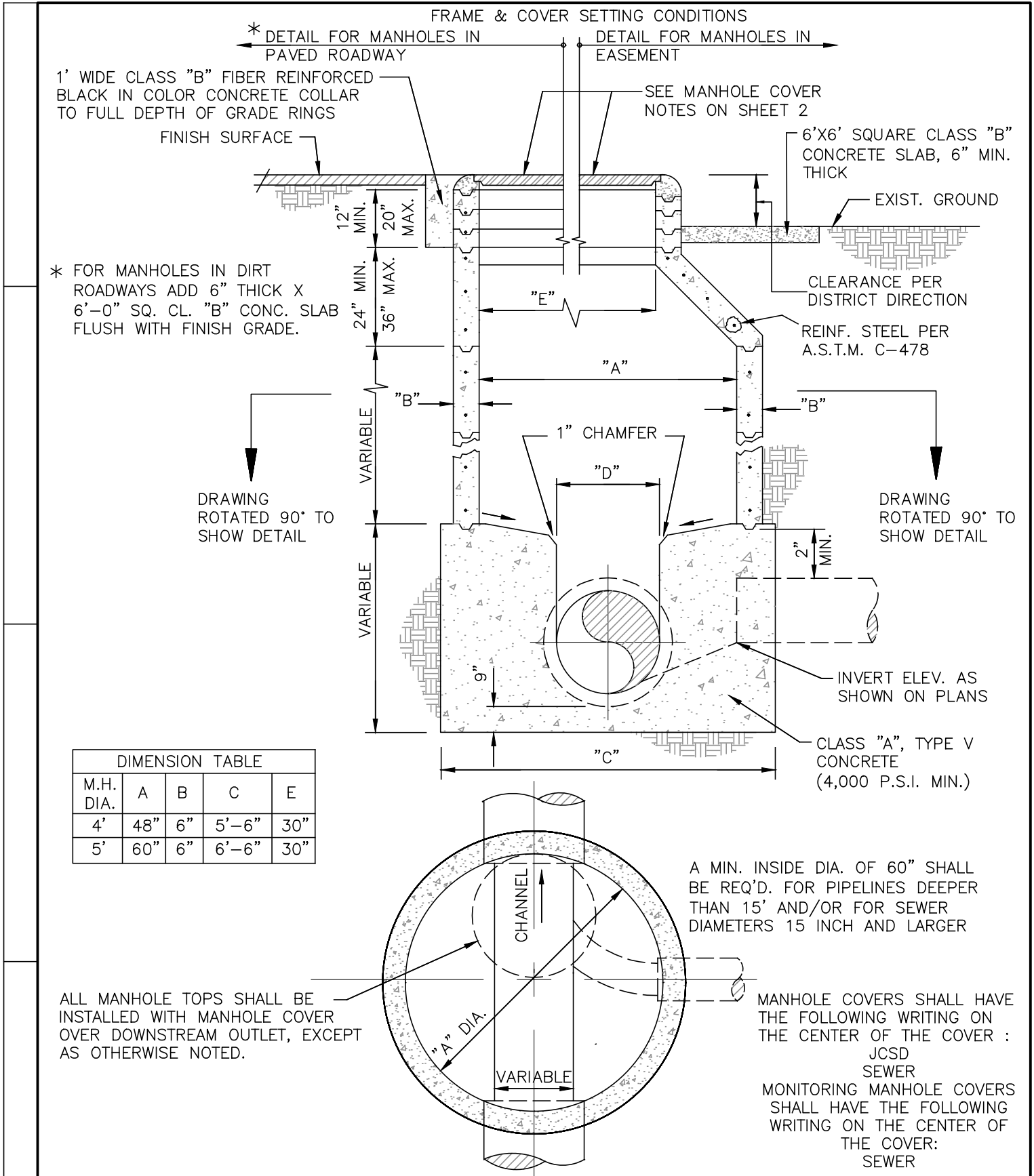
CALIFORNIA

DRAWING NO.

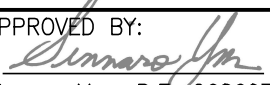
S-6A

W.O. 19-0248

REV.



JURUPA COMMUNITY SERVICES DISTRICT

| | | | |
|------|---------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|------------------------------|
| REV. | SCALE: NONE | PRECAST CONCRETE MANHOLE | DRAWING NO. |
| | DATE: SEPTEMBER 2020 | | S-7 |
| | APPROVED BY:  Sinnaro Yos, P.E. C68607 | ALBERT A. WEBB ASSOCIATES CONSULTING ENGINEERS RIVERSIDE CALIFORNIA | SHEET 1 OF 2 W.O. 19-0248 |

NOTES:

1. ALL SECTIONS TO BE WASHED TO REMOVE ANY LOOSE MATERIAL. PRECAST MANHOLE SECTIONS AND GRADE RINGS SHALL BE SEALED WITH CS-102B BUTYL/BITUMEN BLENDED SEALANT AS MANUFACTURED BY CONSEAL OF NEW CARLISLE, OHIO OR DISTRICT APPROVED EQUAL TO FORM WATERTIGHT JOINTS.
2. CONCRETE FOR MANHOLE SECTIONS SHALL BE 4,000 P.S.I. MIN. USING TYPE V CEMENT.
3. PROVIDE REPAIR BAND COUPLING WITH ADJUSTABLE SHIELDED S.S. SHEAR RING JOINT IN ALL V.C.P. SEWER PIPES OUTSIDE OF MANHOLE BUT WITHIN 12" OF CONCRETE BASE.
4. WHEN INSTALLING REINFORCED CONCRETE GRADE RING(S) 3"-6" THE GRADE RINGS MUST BE CLEAN AND ANCHORED TO BOTH THE FRAME AND GRADE RING(S) OR CONE WITH RAM-NEK JOINT SEALER OR SEALANT AS RECOMMENDED BY MANUFACTURER FOR WATERTIGHT CONNECTION AS APPROVED BY THE DISTRICT. INTERIOR OF GRADE RINGS SHALL BE SMOOTHLY MORTARED.
5. MORTAR AROUND AND UNDER FRAME SHALL BE CURED WITH A PIGMENTED CURING COMPOUND MEETING THE REQUIREMENTS OF SECTION 90-7 OF STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, 2006 EDITION.
6. FOR PVC CONNECTIONS TO EXISTING AND NEW PRECAST REINFORCED CONCRETE MANHOLES. A HOLE SPECIFIC TO THE NEW PIPE'S O.D. DIA. SHALL BE CORED INTO THE CONCRETE MANHOLE WALL TO RECEIVE THE PIPE. A KOR-N-SEAL BOOT OR ENGINEER APPROVED EQUAL SHALL BE CLAMPED INTO THE CORED HOLE AND USED TO MAKE THE CONNECTION.
7. SHELF AND GROOVE SHALL BE FORMED MONOLITHICALLY WITH THE MANHOLE BASE. CHANNELS TO BE SMOOTH FINISH.
8. NO FLY ASH ALLOWED ON CONCRETE COLLAR AS ADDED MIXTURE AGENT.
9. MANHOLE SHALL BE VACUUM TESTED PER DISTRICT SPECIFICATIONS.

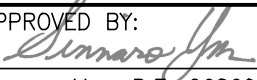
MANHOLE COVER NOTES:

MANHOLE COVER AND FRAME, TO BE COMPOSITE MATERIAL, EJ SERIES, (30") 3200 AND (36") 3800 WITH FOUR (4) TITUS TWISTLIFT STAINLESS STEEL LOCKS, PER COVER. "NOTE" AFTER SETTING A COMPOSITE FRAME IN PLACE AND PRIOR TO POURING THE CONCRETE COLLAR AND/OR CONCRETE SLAB, INSTALL ONE (1) #4 REBAR SHAPED INTO A FULL CIRCLE THREE (3") INCHES LARGER IN O.D. THAN THE COMPOSITE FRAME. AFTER FORMING THE #4 REBAR CIRCLE, IT SHALL THAN BE SET TO THREE (3") INCHES BELOW THE FRAME RIM ELEVATION THEN ENCAPSULATED IN THE CONCRETE COLLAR AND/OR CONCRETE SLAB.

SPECIAL MANHOLE COVER CONDITIONS

1. FOR MANHOLES IN EASEMENTS, UNPAVED AREAS, OR ANY AREA WHERE SECURITY IS A DISTRICT CONCERN BUT WATER INFLOW IS NOT AN ISSUE USE EJ SERIES OR APPROVED EQUAL.
2. FOR MANHOLES IN EASEMENTS, UNPAVED AREAS, STREET OR ANY AREA WHERE WATER INFLOW IS A POTENTIAL ISSUE AND/OR WHERE SECURITY IS A DISTRICT CONCERN AND WHEN DIRECTED AND APPROVED BY DISTRICT, USE DISTRICT STANDARD DRAWING NO. S-23.

JURUPA COMMUNITY SERVICES DISTRICT

| | | | |
|------|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|--------------|
| REV. | SCALE: NONE | PRECAST CONCRETE MANHOLE | DRAWING NO. |
| | DATE: SEPTEMBER 2020 | | S-7 |
| | APPROVED BY:  | ALBERT A. WEBB ASSOCIATES CONSULTING ENGINEERS RIVERSIDE CALIFORNIA | SHEET 2 OF 2 |
| | Sinnaro Yos, P.E. C68607 | | W.O. 19-0248 |

STANDARD DRAWING NO. S-8 DELETED

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

DRAWING NO.

S-8

APPROVED BY:



Sinnaro Yos, P.E. C68607

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

W.O. 19-0248

REV.

STANDARD DRAWING NO. S-9 DELETED

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

DRAWING NO.

S-9

APPROVED BY:



Sinnaro Yos, P.E. C68607

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CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

W.O. 19-0248

REV.

STANDARD DRAWING NO. S-10 DELETED

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

DRAWING NO.

S-10

APPROVED BY:



Sinnaro Yos, P.E. C68607

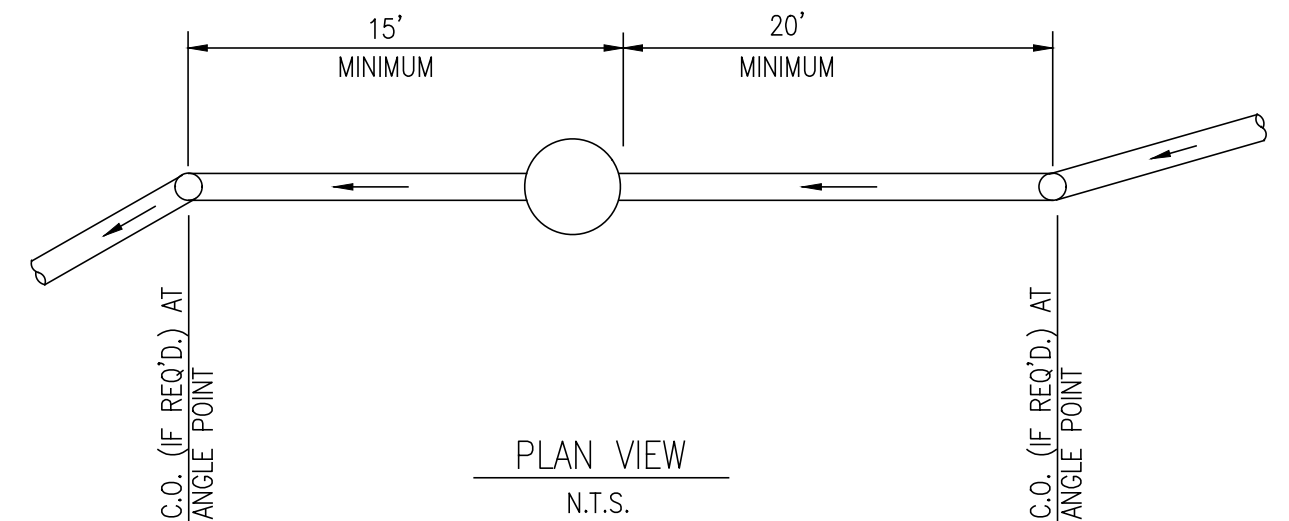
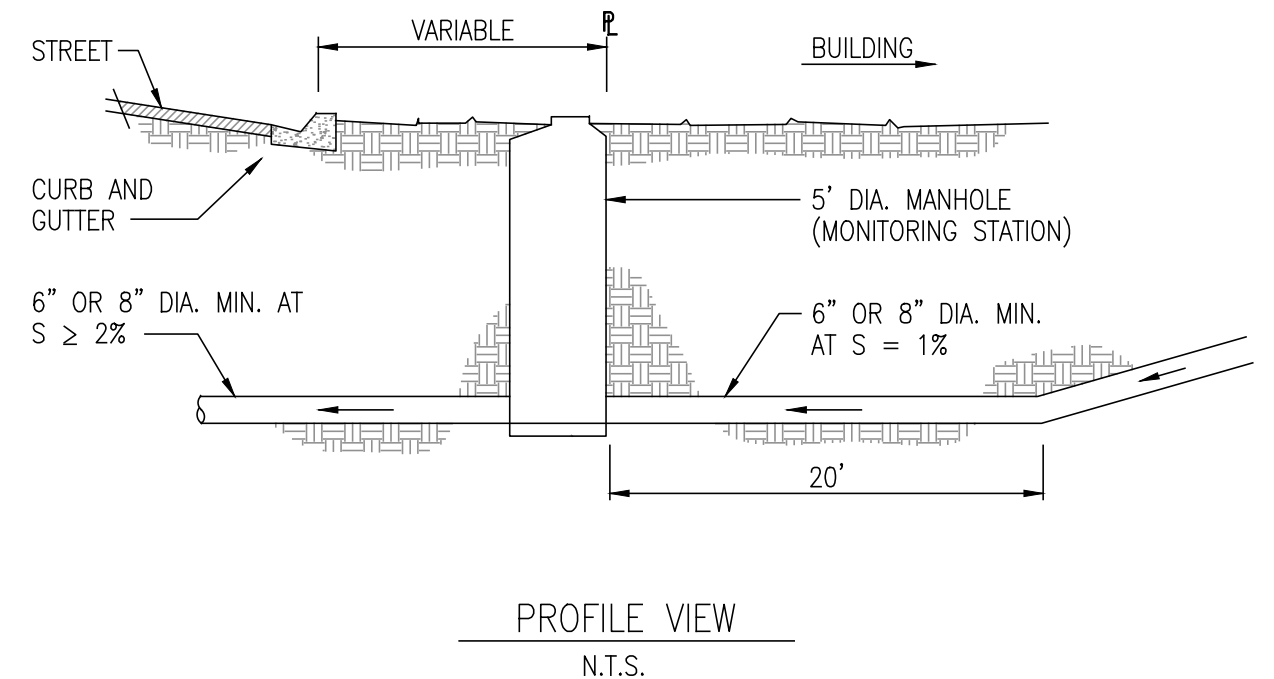
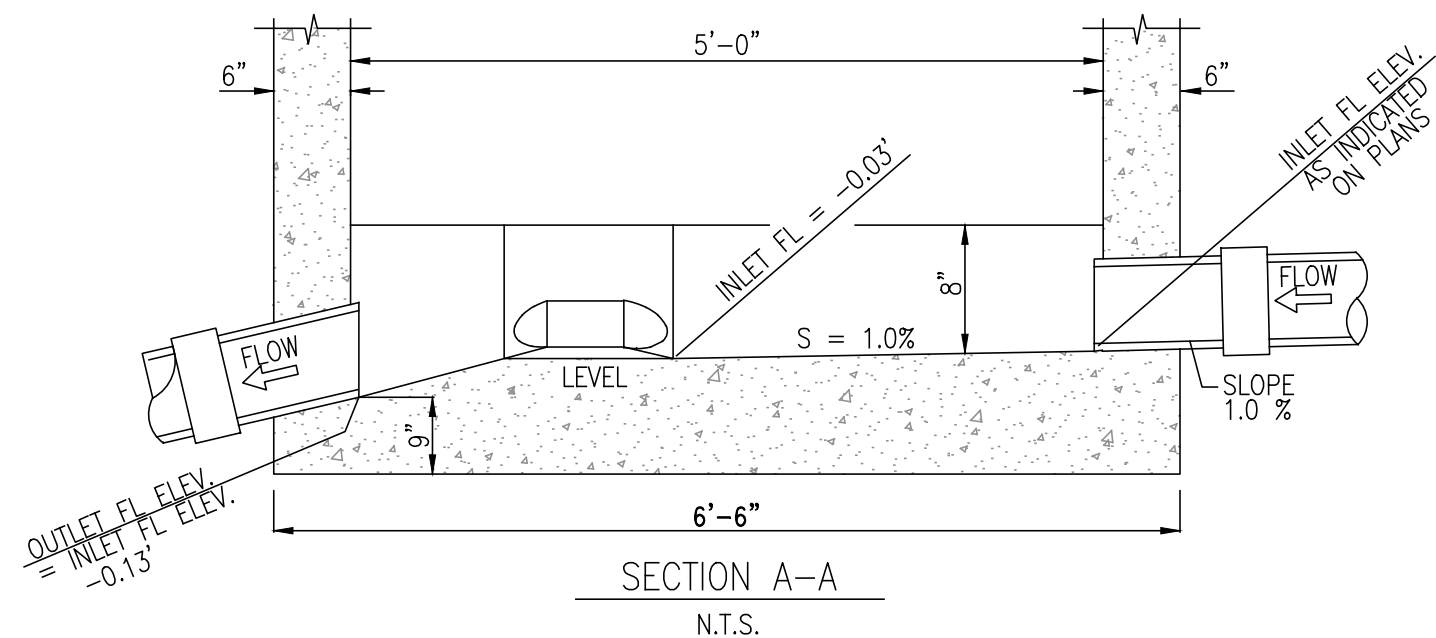
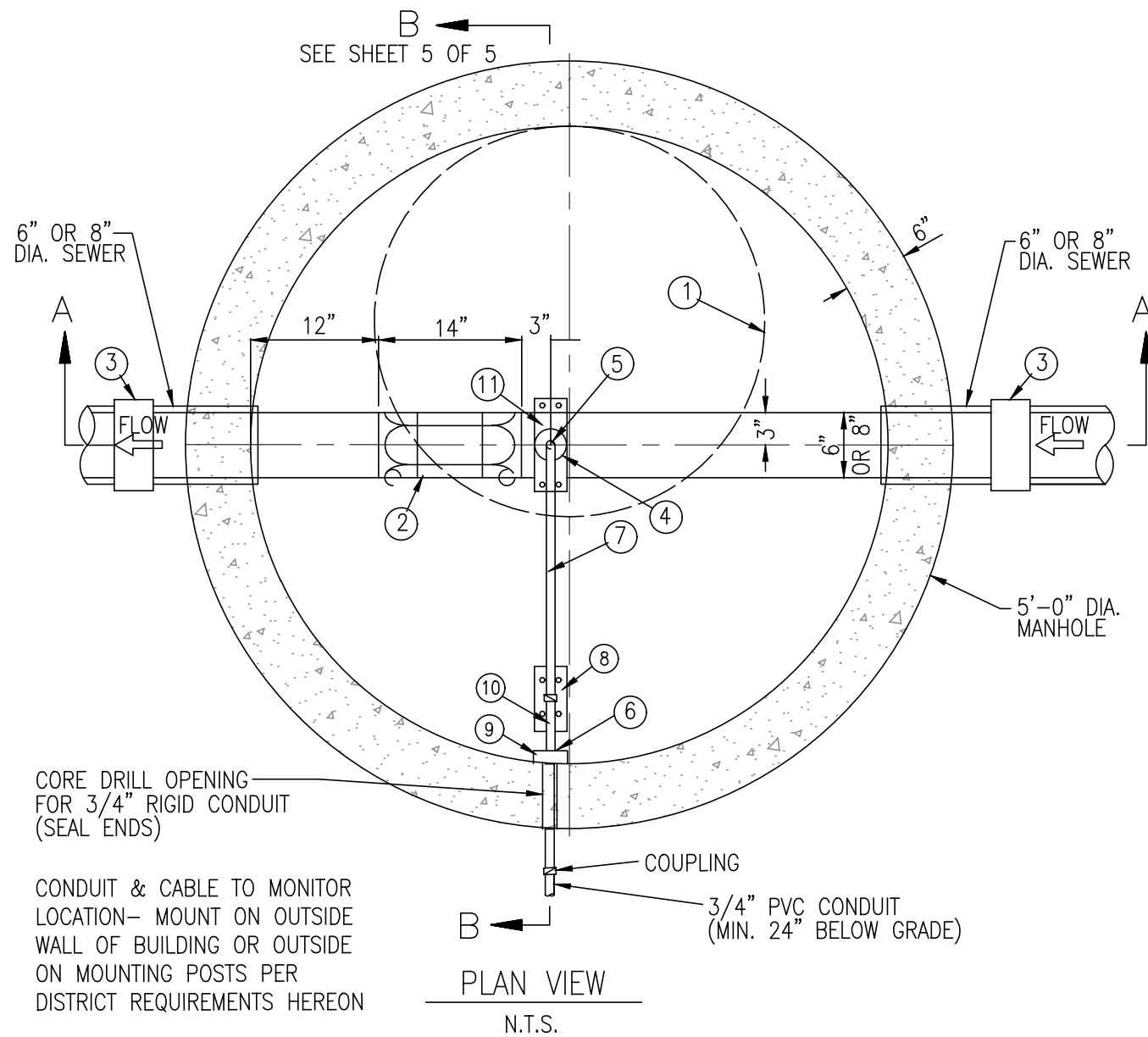
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CONSULTING ENGINEERS

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CALIFORNIA

W.O. 19-0248

REV.



WASTEWATER MONITORING STATION'S MAXIMUM FLOW= 0.2658 mgd
SEE SHEET 2 OF 6 FOR GENERAL AND CONSTRUCTION NOTES.

MANHOLE BASE SHALL BE MONOLITHICALLY POURED.

JURUPA COMMUNITY SERVICES DISTRICT

| | | |
|--------------------------|---------------------------------------------------|--------------|
| SCALE: | WASTEWATER FLOW MONITORING STATION | DRAWING NO. |
| DATE: SEPTEMBER 2020 | | S-11 |
| APPROVED BY: | ALBERT A. WEBB ASSOCIATES CONSULTING ENGINEERS | SHEET 1 OF 6 |
| Sinnaro Yos, P.E. C68607 | RIVERSIDE CALIFORNIA | W.O. 19-0248 |

CONSTRUCTION NOTES:

- ① 36" DIA. FRAME AND COVER PER ALHAMBRA FOUNDRY, NO. A-1325 OR APPROVED EQUAL OR MANHOLE COVER REQUIRED BY SPECIAL MANHOLE CONDITIONS IN DISTRICT STANDARD DRAWING NO. S-7.
- ② 6" OR 8" DIA. (TO MATCH SEWER PIPELINE SIZE) PALMER-BOWLUS FLUME INSTALLED PER MANUFACTURER'S RECOMMENDATIONS PLASTI-FAB, INC., OR APPROVED EQUAL.
- ③ REPAIR BAND COUPLING WITH ADJUSTABLE STAINLESS STEEL SHIELDED SHEAR RING.
- ④ FLOW TRANSCEIVER IN AN E.P. NON-CORROSION ENCLOSURE COMPLETE WITH A NON-CONTACT SENSOR WITH HOUSING EQUIPPED WITH CABLE TO THE TRANSCEIVER AND 500' (MAX) CABLE FROM THE TRANSCEIVER TO THE FLOWMETER PANEL. THIS SET SHALL BE APPROVED FOR CLASS 1, DIVISION 1 LOCATION. GREYLINE OCF 5.0 ULTRASONIC FLOW METER OR DISTRICT APPRV'D. EQUAL.
- ⑤ POINT OF MEASUREMENT.
- ⑥ SECURE TRANSENSOR CABLE CONDUIT (RIGID STEEL PVC COATED) TO WALL OF MANHOLE WITH T316 STAINLESS STEEL STRAPS 48"± O.C.
- ⑦ 3/4" DIA. RIGID STEEL PVC COATED CONDUIT WITH PVC COATED COUPLINGS AS REQUIRED.
- ⑧ STAINLESS STEEL (316) CONDUIT SUPPORTS AS REQUIRED.
- ⑨ EXPLOSION PROOF JUNCTION BOX WITH SEALING COVER PVC COATED.
- ⑩ RIGID STEEL PVC COATED SWEEP WITH PVC COATED COUPLINGS AS REQUIRED.
- ⑪ STAINLESS STEEL (316) FLOOR MOUNTING BRACKET SECURED TO FLOOR WITH STAINLESS STEEL BOLTS.

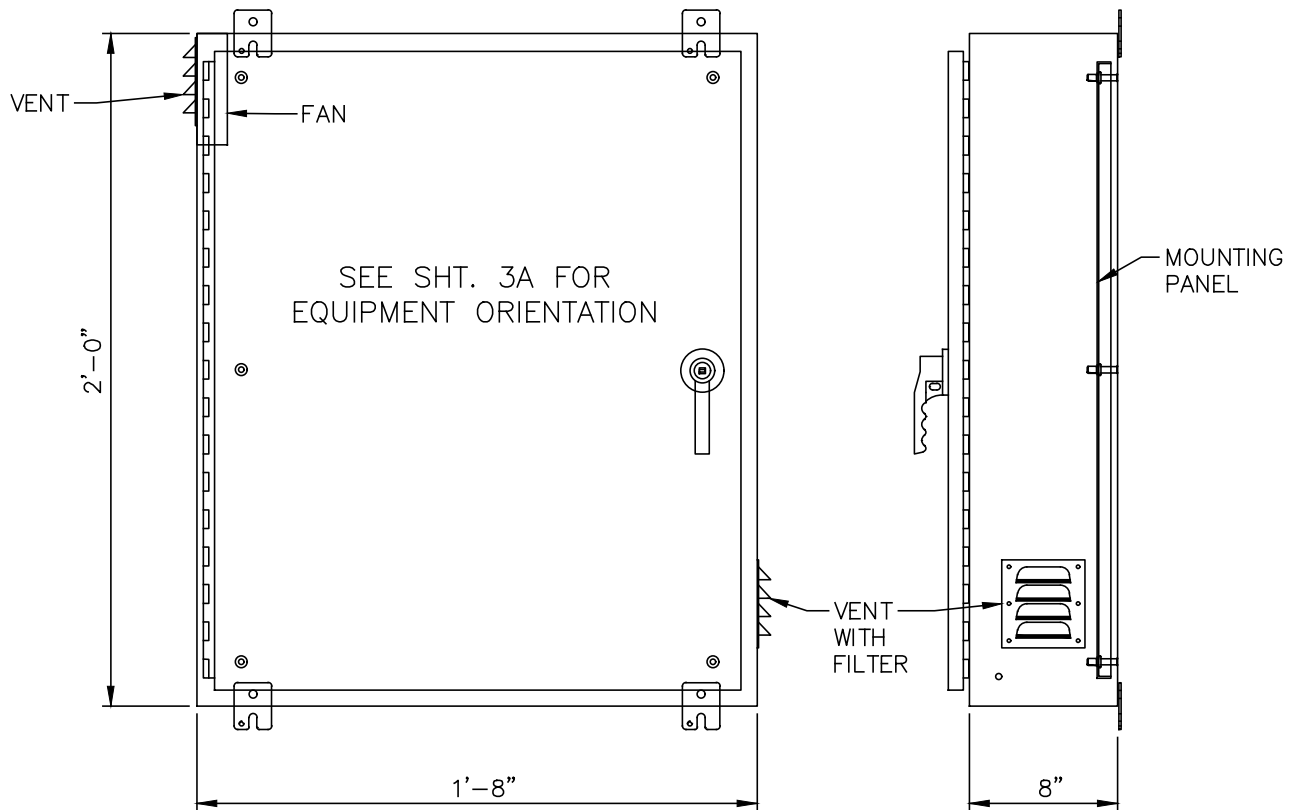
NOTE: FOR MANHOLES IN LANDSCAPED AREAS, ADD 6" THICK x 6'-0" SQ.
CLASS B CONCRETE SLAB, FLUSH W/FINISHED GRADE.

GENERAL NOTES:

1. MANHOLE SHALL BE A PRECAST CONCRETE ECCENTRIC MANHOLE (5'-0" DIA.) WITH A 36" DIA. OPENING.
2. PROVIDE AND INSTALL ALL MATERIALS IN CONFORMANCE WITH THE NATIONAL ELECTRICAL CODE, CALIFORNIA ADMINISTRATION CODE, TITLE 8, AND LOCAL CODES AND REGULATIONS. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH THE REQUIREMENTS OF THE INSPECTING AUTHORITY AND THE MANUFACTURER'S RECOMMENDATIONS.
3. PROVIDE THE SERVICES OF THE INSTRUMENT AND/OR SYSTEM SUPPLIER TO CHECK THE INSTALLATION, CALIBRATE, START UP AND DEBUG THE SYSTEM AND TRAIN THE OWNER'S PERSONNEL. PROVIDE AT LEAST FOUR (4) SETS OF INSTALLATION, OPERATION, AND MAINTENANCE MANUALS OF THE SYSTEM. PROVIDE CALIBRATION REPORT TO DISTRICT AFTER INSTALLATION.
4. THE SEWER METERING STATION BELOW GRADE IS CLASSIFIED AS CLASS 1, DIVISION 1. ALL EQUIPMENT, DEVICES AND WIRING TO BE INSTALLED SHALL BE APPROVED FOR THE CLASS OF LOCATION AND THE PROPERTIES OF THE GASES PRESENT.
5. ALL CONDUITS ORIGINATING FROM THE SEWER VAULT SHALL BE PROVIDED WITH APPROVED SEALING FITTINGS AND SEALING COMPOUND. INSTALL SEALING FITTINGS AT ALL LOCATIONS IN ACCORDANCE WITH THE N.E.C.
6. ALL CONDUITS IN SEWER MANHOLE SHALL BE RIGID STEEL, PVC COATED.

JURUPA COMMUNITY SERVICES DISTRICT

| | | | |
|------|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|--------------|
| REV. | SCALE: NONE | WASTEWATER FLOW MONITORING STATION | DRAWING NO. |
| | DATE: SEPTEMBER 2020 | | S-11 |
| | APPROVED BY:  | ALBERT A. WEBB ASSOCIATES CONSULTING ENGINEERS RIVERSIDE CALIFORNIA | SHEET 2 OF 6 |
| | Sinnaro Yos, P.E. C68607 | | W.O. 19-0248 |



CABINET NOTES:

1. CABINET SHALL BE FROM HOFFMAN ENCLOSURES, INC MODEL NO. A24H2008SS6LP3PT WITH ASSOCIATED MOUNTING PANEL NO. A24P20SS6 OR APPROVED EQUAL.
2. MASTER LOCK PADLOCK SHOULD BE KEYED TO KEY NUMBER 3882 AND TWO KEYS PROVIDED, ONE FOR OWNER, ONE FOR DISTRICT.
3. CABINET SHALL BE VENTED AND FILTERED (STAINLESS STEEL MESH – WASHABLE) IN THE TOP LEFT AND BOTTOM RIGHT CORNERS. LOUVER PLATE KIT AVK34556, FILTER MEDIA AFT34, AXIAL FAN A4AXFNPG POWER CORD ACORD1, AND FAN FILTER AFLTR4LD MOUNTED TOP LEFT.
4. PANEL SHALL INCLUDE AN ISOLATED 120V 20 AMPS CIRCUIT FOR THE ELECTRICAL OUTLET.

LOCATION NOTES:

1. THE BOTTOM OF PANEL SHOULD BE MOUNTED THREE FEET OFF THE GROUND ON THE OPPOSITE SIDE OF THE MONITORING MANHOLE FROM THE STREET (EIGHT FEET FROM CENTER OF MANHOLE, WHERE PRACTICAL) OR IF NECESSARY, ON THE OUTSIDE WALL OF THE BUILDING NEAREST THE FLOW METER.
2. THE PANEL SHALL BE FREE FROM LANDSCAPING (FOUR FEET IN FRONT OF AND TWO FEET ON EACH SIDE OF THE PANEL ON CONCRETE PAD).
3. ACCESS TO THE PANEL SHALL BE UNOBSTRUCTED AND HAVE A LEVEL WALKING PATH.

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

EQUIPMENT ENCLOSURE

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

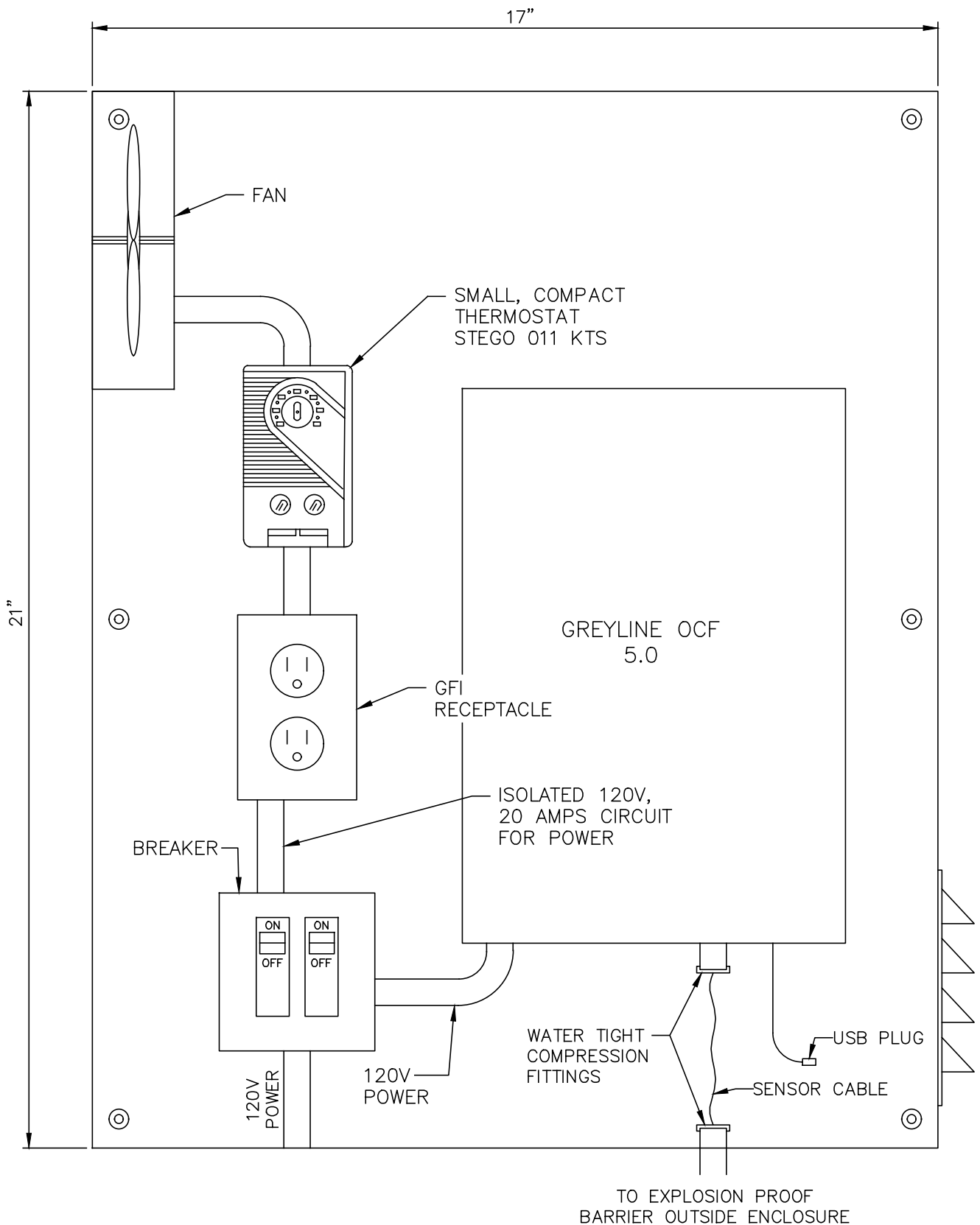
DRAWING NO.

S-11

SHEET 3 OF 6

W.O. 19-0248

REV.



JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY: *Sinnaro Yos*
Sinnaro Yos, P.E. C68607

SEWER FLOW METER PANEL MOUNT

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

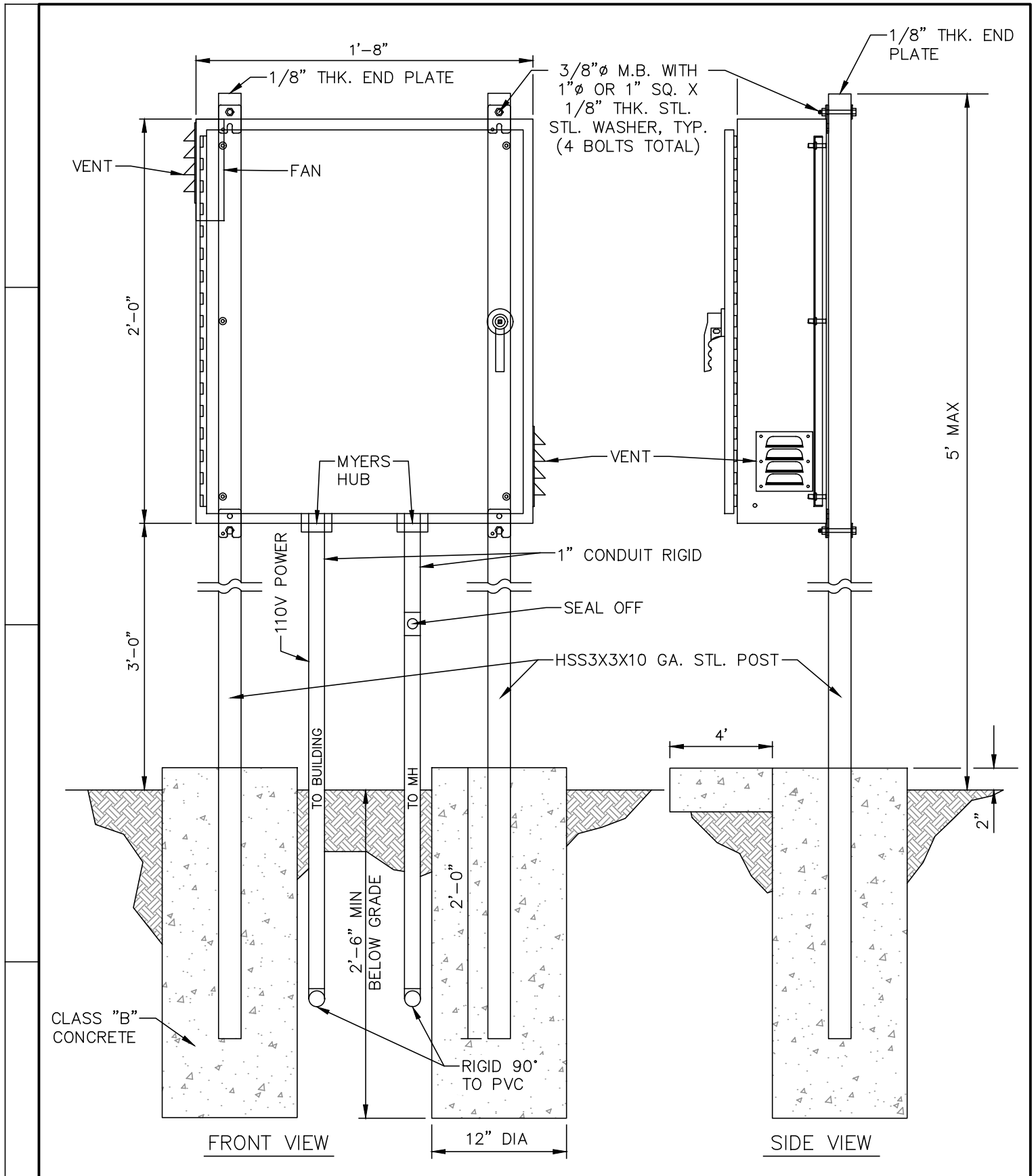
DRAWING NO.

S-11

SHEET 4 OF 6

W.O. 19-0248

REV.



JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

EQUIPMENT ENCLOSURE MOUNTING POSTS

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

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CALIFORNIA

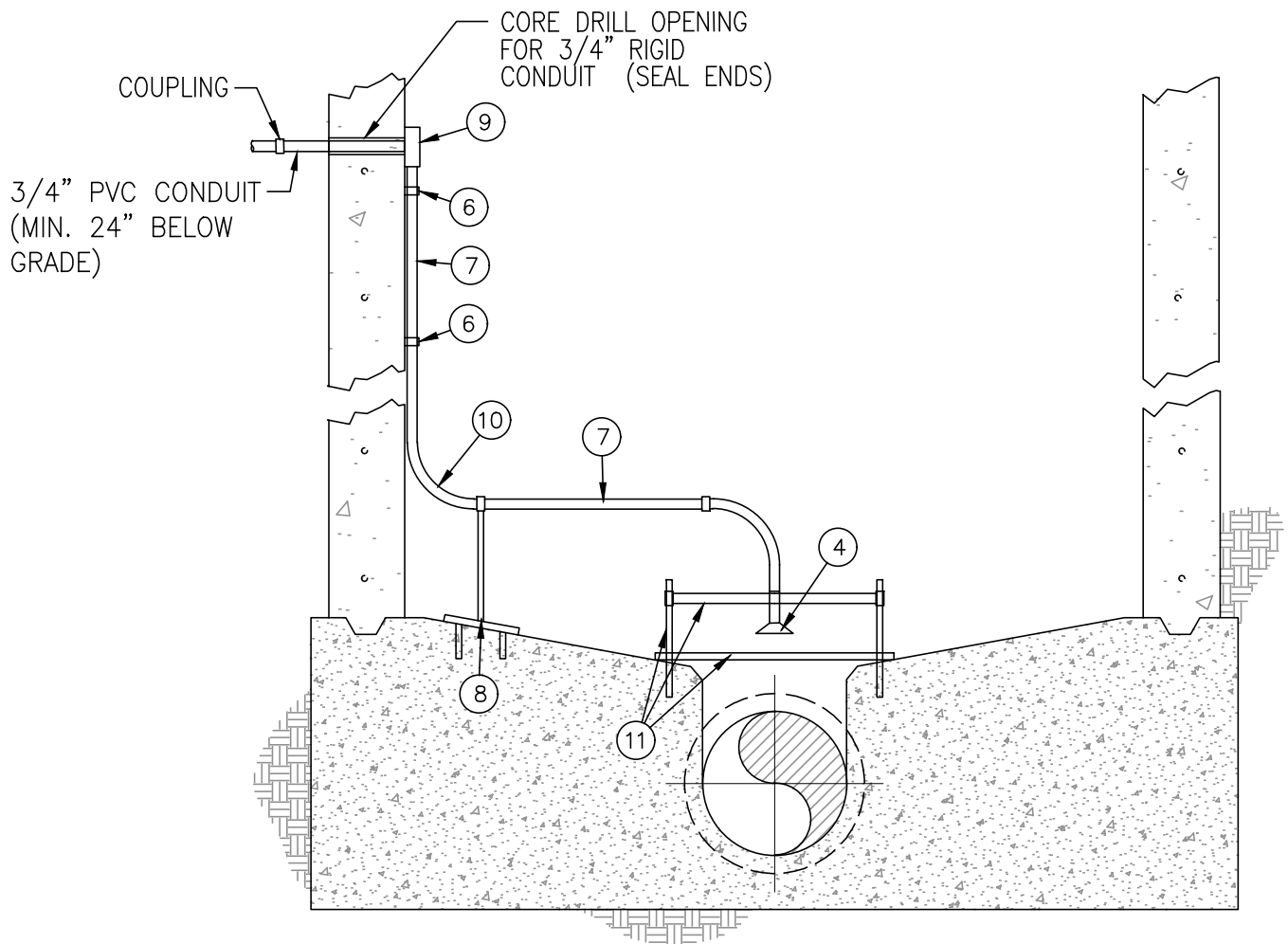
DRAWING NO.

S-11

SHEET 5 OF 6

W.O. 19-0248

REV.



SECTION B-B
N.T.S.

CONSTRUCTION NOTES:

- (4) FLOW TRANSCEIVER IN AN E.P. NON-CORROSION ENCLOSURE COMPLETE WITH A NON-CONTACT SENSOR WITH HOUSING EQUIPPED WITH CABLE TO THE TRANSCEIVER AND 500' (MAX) CABLE FROM THE TRANSCEIVER TO THE FLOWMETER PANEL. THIS SET SHALL BE APPROVED FOR CLASS 1, DIVISION 1 LOCATION.
- (6) SECURE TRANSDUCER CABLE CONDUIT (RIGID STEEL PVC COATED) TO WALL OF MANHOLE WITH T316 STAINLESS STEEL STRAPS 48"± O.C.
- (7) 3/4" DIA. RIGID STEEL PVC COATED CONDUIT WITH PVC COATED COUPLINGS AS REQUIRED.
- (8) STAINLESS STEEL (316) CONDUIT SUPPORTS AS REQUIRED.
- (9) EXPLOSION PROOF JUNCTION BOX WITH SEALING COVER PVC COATED.
- (10) RIGID STEEL PVC COATED SWEEP WITH PVC COATED COUPLINGS AS REQUIRED.
- (11) STAINLESS STEEL (T316) FLOOR MOUNTING BRACKET SECURED TO FLOOR WITH T316 STAINLESS STEEL BOLTS. BRACKETS SHALL BE UNISTRUT CHANNELS AND FITTINGS, TYPICAL PARTS AS FOLLOWS:
 - A. STRUT CHANNEL WALL MOUNT 316 STAINLESS STEEL, 2- FEET LENGTH, NO. 3188T54
 - B. STRUT CHANNEL CONNECTOR ELBOW, 304 STAINLESS STEEL, 5-3/8" LENGTH, NO. 33125T83
 - C. STRUT CHANNEL, SOLID, 316 STAINLESS STEEL, NO. 33085T89
 - D. VIBRATION-DAMPING STRUT-MOUNT ROUTING CLAMP WITHOUT CUSHION, 316 STAINLESS STEEL SCREW AND NUT, 3/4" I.D., NO. 1819T35

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

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SECTION B-B

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

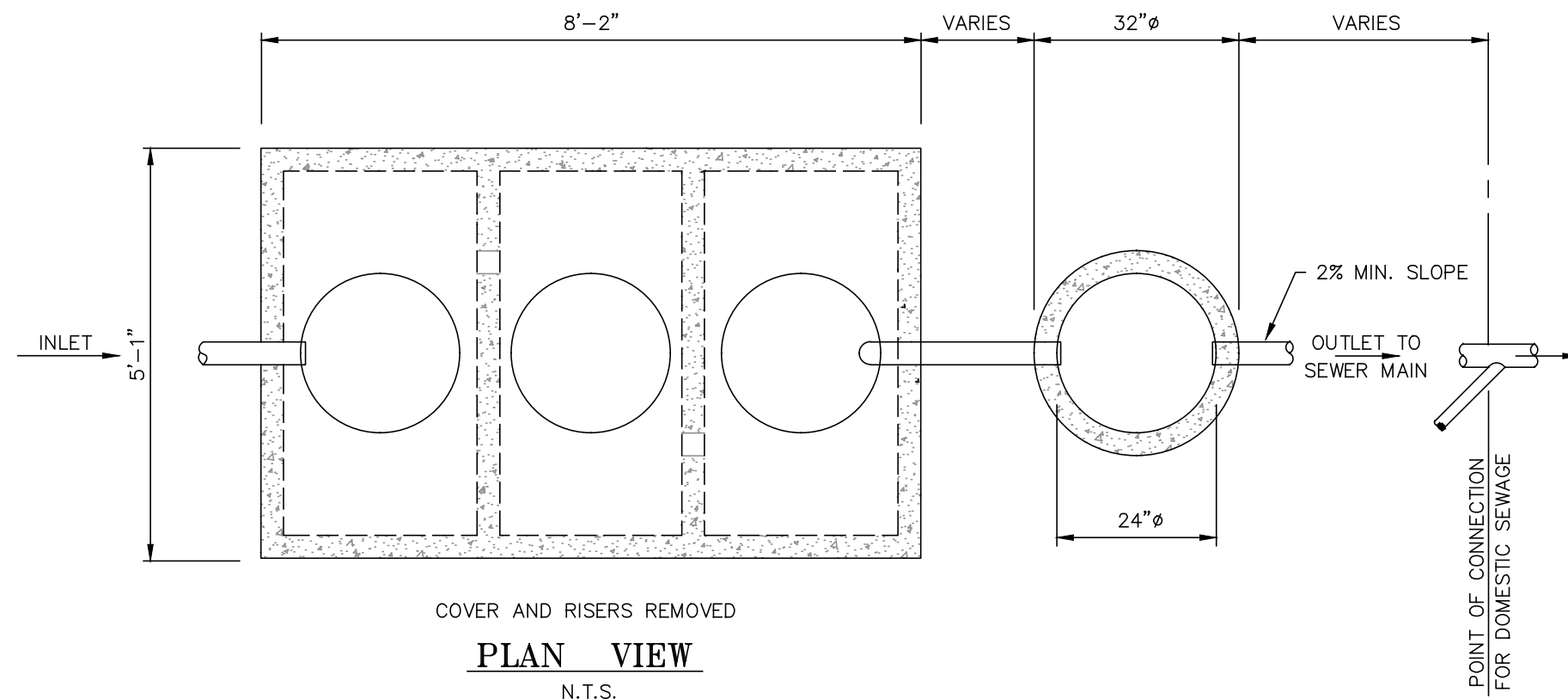
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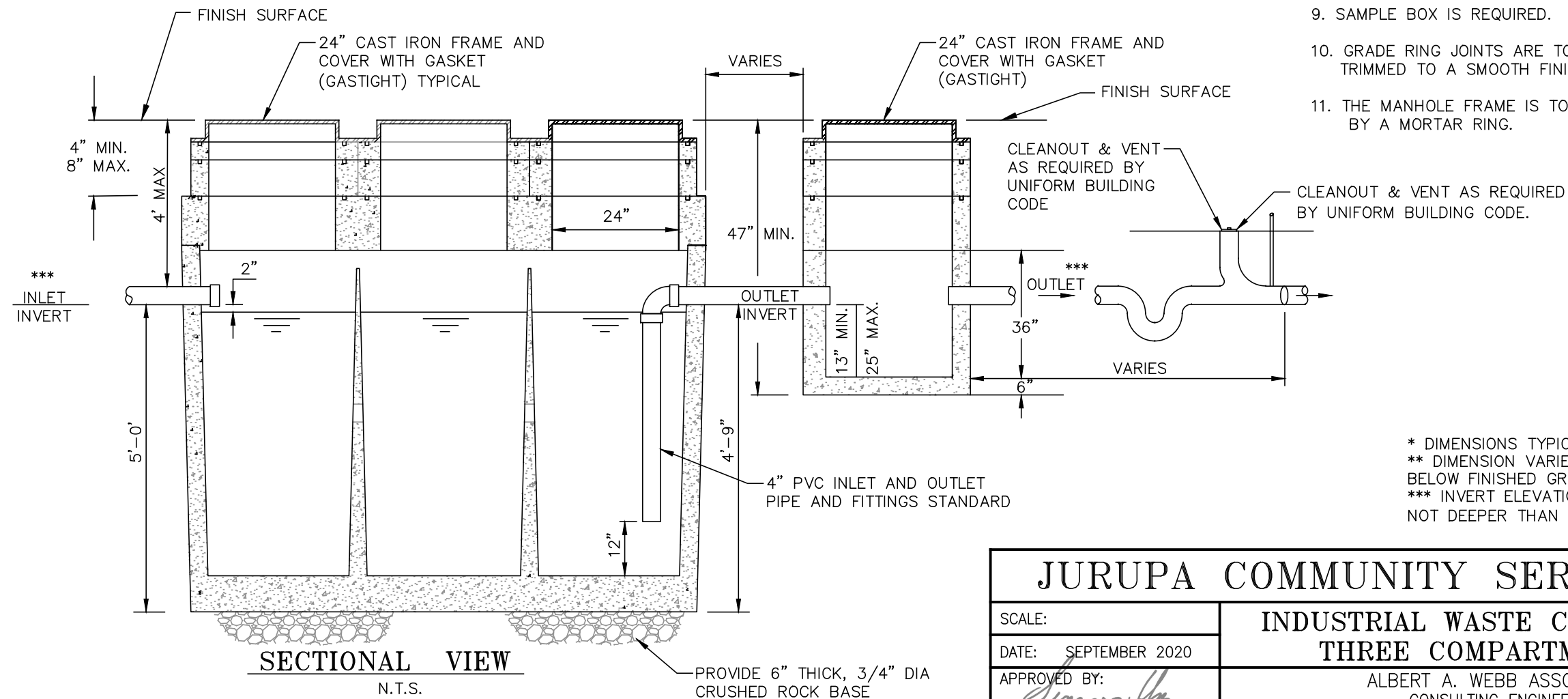
SHEET 6 OF 6

W.O. 19-0248

REV.



- NOTES :



* DIMENSIONS TYPICAL OF 1000 GALLON CAPACITY CLARIFIER.
 ** DIMENSION VARIES DEPENDING ON DEPTH OF EFFLUENT LINE
 BELOW FINISHED GRADE.
 *** INVERT ELEVATION SHALL BE AS SHALLOW AS POSSIBLE,
 NOT DEEPER THAN 4' FROM FINISH SURFACE ELEVATION.

JURUPA COMMUNITY SERVICES DISTRICT

SCALE:

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

INDUSTRIAL WASTE CLARIFIER THREE COMPARTMENT

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

DRAWING NO.

S-12

W.O. 19-0248

REV.

STANDARD DRAWING NO. S-13 DELETED

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

DRAWING NO.

S-13

APPROVED BY:

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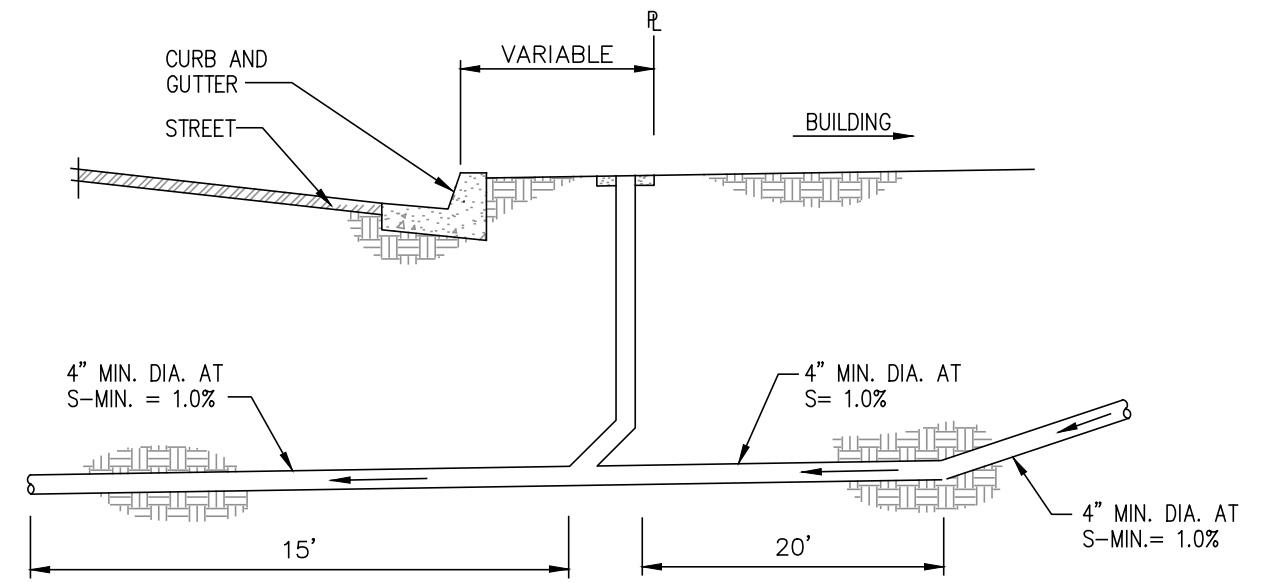
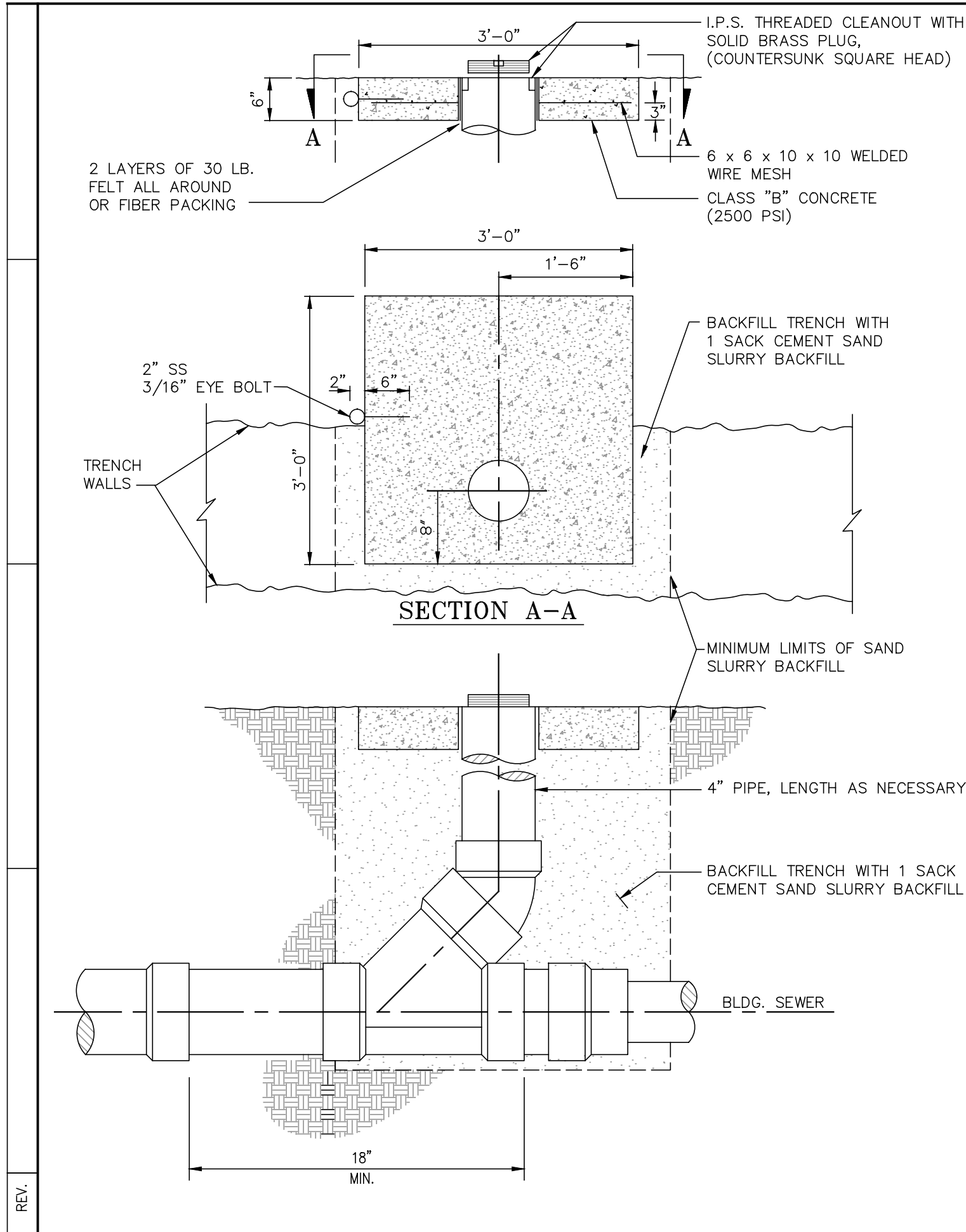
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CONSULTING ENGINEERS

RIVERSIDE

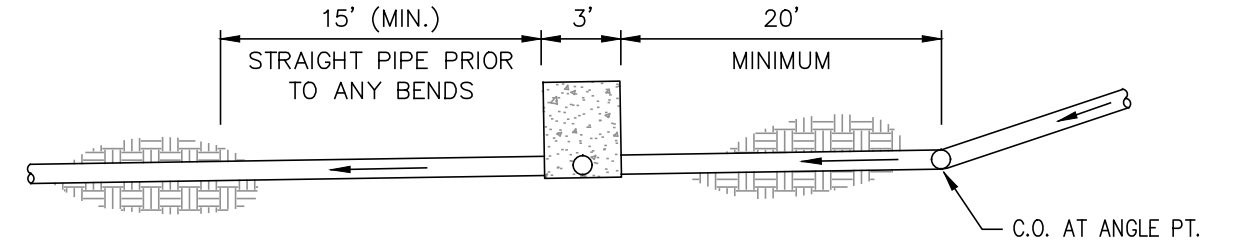
CALIFORNIA

W.O. 19-0248

REV.



PROFILE VIEW



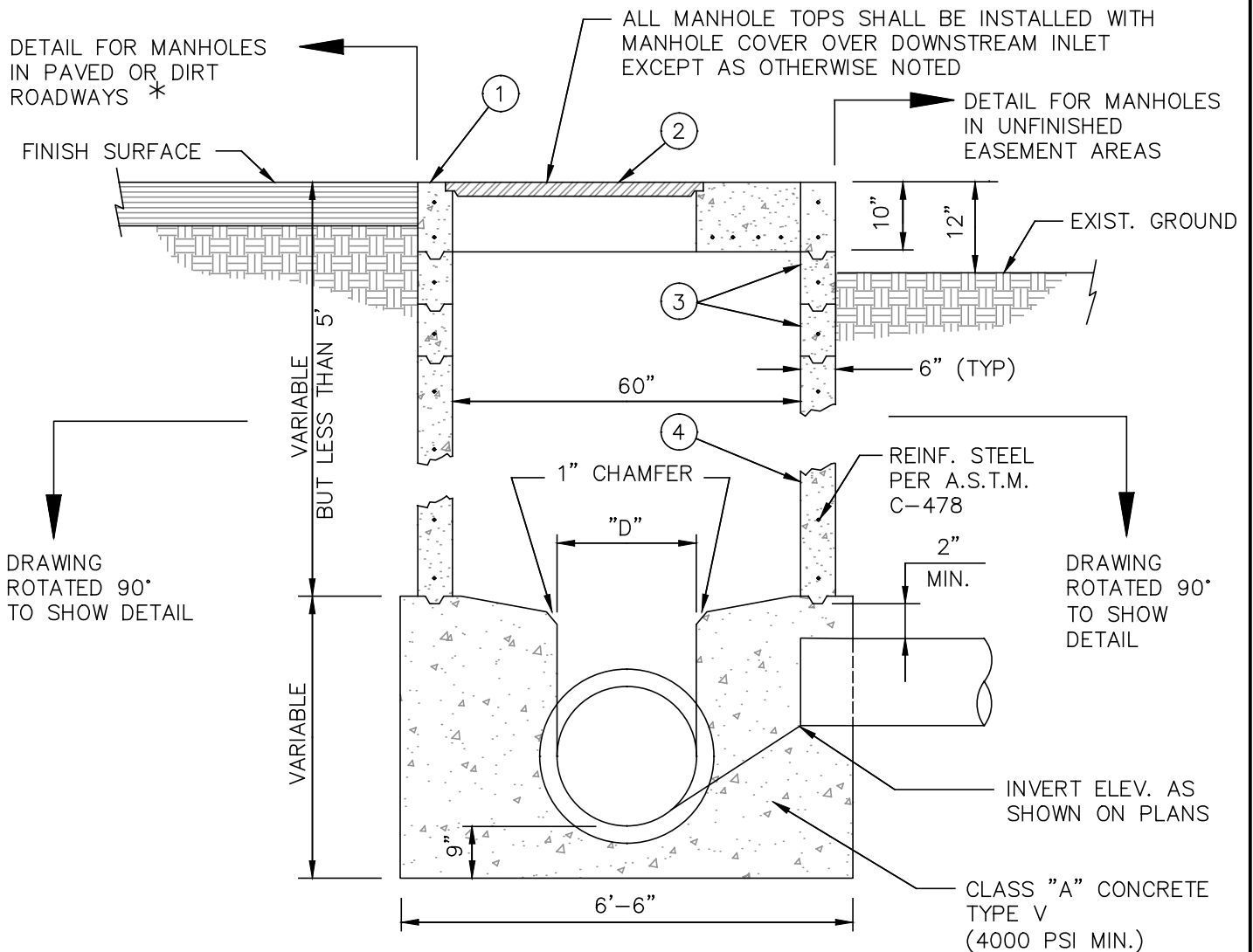
PLAN VIEW

NOTE:

1. BARREL DIAMETER OF SAMPLING WYE SHALL BE A MINIMUM OF 2" LARGER THAN BLDG. DISCHARGE LINE.
2. DIAMETER OF RISER PIPE SHALL BE 4".
3. THE LOCATION OF THE SAMPLING WYE MUST BE ACCESSIBLE AT ALL TIMES TO DISTRICT PERSONNEL.
4. THE SAMPLING WYE SHALL NOT BE LOCATED IN TRAFFIC AREAS.
5. ALL MATERIALS UTILIZED SHALL CONFORM TO DISTRICT STANDARDS.

JURUPA COMMUNITY SERVICES DISTRICT

| | | |
|--------------------------|---------------------------------------------------|--------------|
| SCALE: | BUILDING SEWER SAMPLER DETAIL | DRAWING NO. |
| DATE: SEPTEMBER 2020 | | S-14 |
| APPROVED BY: | ALBERT A. WEBB ASSOCIATES CONSULTING ENGINEERS | W.O. 19-0248 |
| Sinnaro Yos, P.E. C68607 | RIVERSIDE CALIFORNIA | |



NOTES:

- ① PRECAST REINFORCED CONCRETE FLAT TOP BY OLDCASTLE PRECAST OR APPROVED EQUAL.
 - ② 36" DIA. MANHOLE FRAME & COVER PER E.J. COMPOSITE 3800 SERIES WITH 4 TITUS TWIST LOCK OR APPROVED EQUAL.
 - ③ GRADE RINGS.
 - ④ 60" DIA. PRECAST CONCRETE MANHOLE.
- * FOR MANHOLES IN DIRT ROADWAYS, ADD 6" THICK X 8' SQUARE CL "B" CONCRETE SLAB FLUSH W/FINISH GRADE.
1. THIS STANDARD TO BE USED ONLY FOR DEPTHS LESS THAN 5' FROM MANHOLE TOP TO SEWER PIPE SHELF AS APPROVED BY THE DISTRICT.
 2. FLAT TOP SHALL BE DESIGNED FOR H-20 LOADING.
 3. ALL SECTIONS TO BE WASHED TO REMOVE ANY LOOSE MATERIAL.
 4. PRECAST MANHOLE SECTIONS AND GRADE RINGS SHALL BE SEALED WITH CS-102B BUTYL/BITUMEN BLENDED SEALANT AS MANUFACTURED BY CONSEAL OF NEW CARLISLE, OHIO OR DISTRICT APPROVED EQUAL TO FORM WATERTIGHT JOINTS.
 5. CONCRETE FOR MANHOLE SECTIONS 4000 P.S.I. MIN. USING TYPE V CEMENT.
 6. PROVIDE ARC REPAIR COUPLING OR EQUAL JOINT IN VCP SEWER PIPES OUTSIDE OF MANHOLE BUT WITHIN 12" OF CONCRETE BASE.
 7. PROVIDE RUBBER WATERSTOPS FOR PLASTIC PIPE CONNECTIONS. SHELF & GROOVE SHALL BE FORMED MONOLITHICALLY WITH THE MANHOLE BASE. CHANNELS TO BE SMOOTH FINISH.
 8. MANHOLE SHALL BE VACUUM TESTED PER DISTRICT SPECIFICATIONS.

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

PRECAST SHALLOW MANHOLE

ALBERT A. WEBB ASSOCIATES
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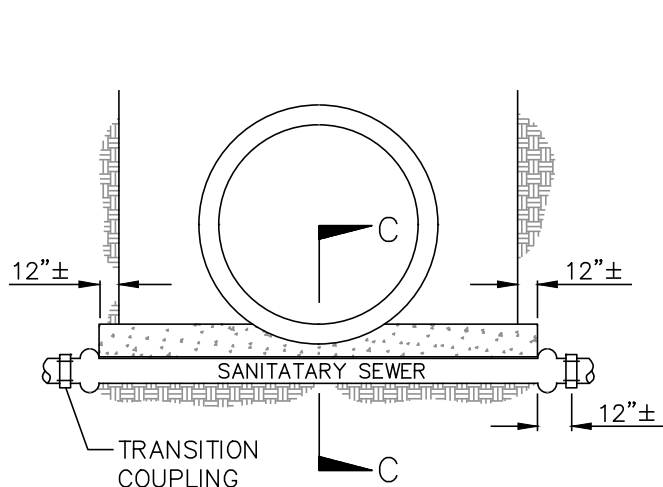
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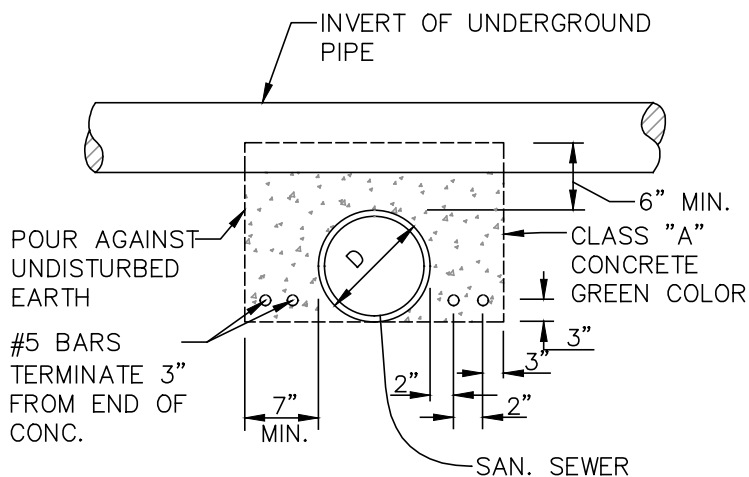
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W.O. 19-0248

REV.



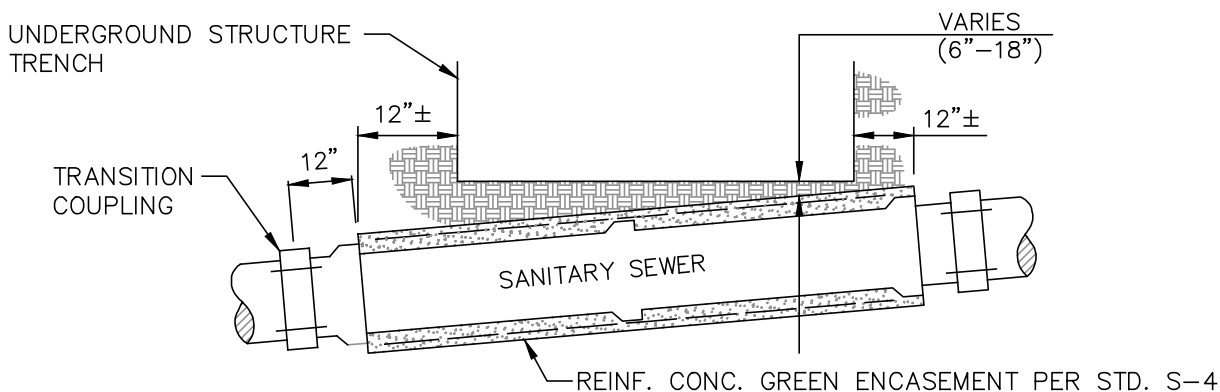
CASE 1



SECTION C-C

CASE 1 NOTES:

1. WHERE CLEARANCE BETWEEN BOTTOM OF UNDERGROUND PIPE OR STRUCTURE AND TOP OF SANITARY SEWER IS LESS THAN 6" CASE 1 APPLIES.
2. SANITARY SEWER SHALL BE IN CONFORMANCE WITH DISTRICT SPECIFICATIONS AS FOLLOWS:
 - A. SDR 35 FOR UP TO 8'FT.
 - B. SDR 26 FOR UP TO 15'FT.
 - C. HDPE WITH EITHER SDR WITH NO JOINTS WITH INNER BEAD REMOVED.



CASE 2

CASE 2 NOTE:

1. WHERE CLEARANCE BETWEEN BOTTOM OF UNDERGROUND PIPE OR STRUCTURE AND TOP OF SEWER IS 6" TO 18", CASE 2 APPLIES.

GENERAL NOTES:

1. THIS STANDARD APPLIES TO LOADING PIPE PROTECTION CASES.
2. NO JOINTS UNDER CROSSINGS AND STRUCTURES.

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos
Sinnaro Yos, P.E. C68607

SEWER PROTECTION DETAIL

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

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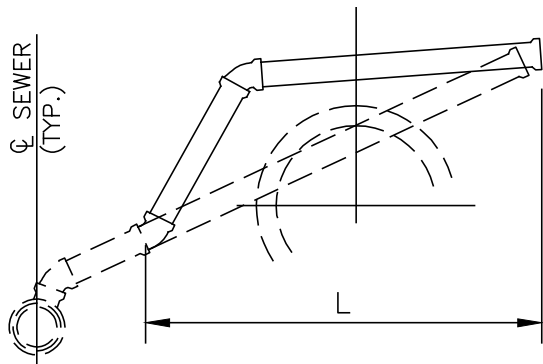
CALIFORNIA

DRAWING NO.

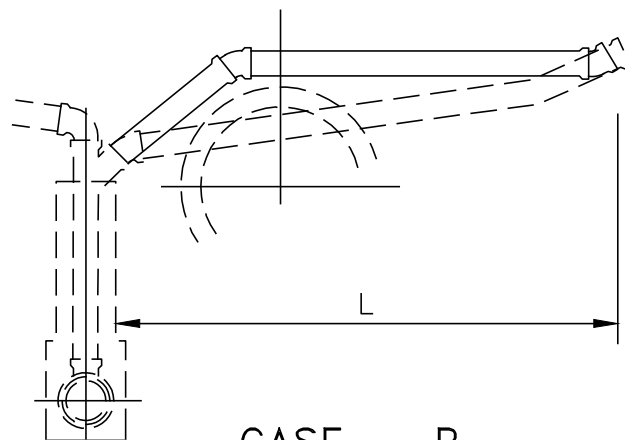
S-16

W.O. 19-0248

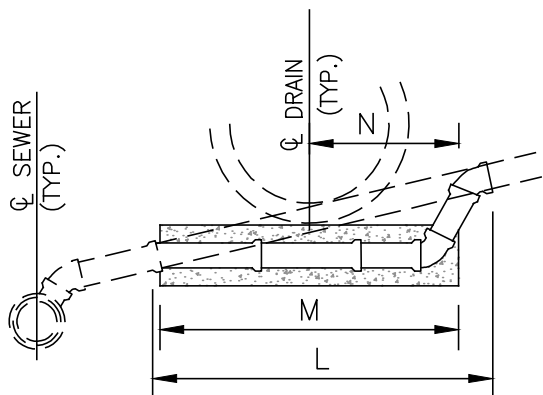
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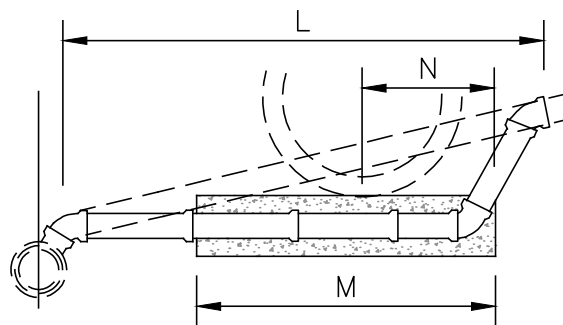
CASE - A



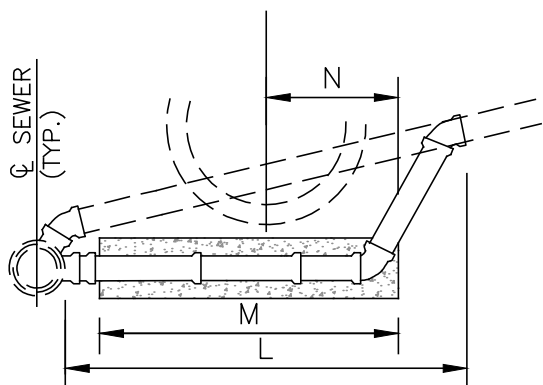
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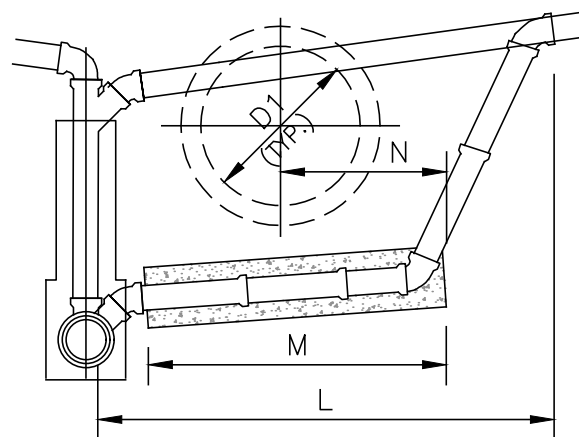
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CASE - D



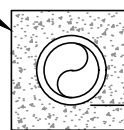
CASE - E



CASE - F

SEE SHEET 2 OF 2 FOR
NOTES AND DESCRIPTION OF
CASES

CLASS "A"
CONC.
(4000 PSI)



CROSS SECTION OF CONCRETE
REINFORCEMENT FOR PIPE,
SEE J.C.S.D. STD. NO. S-4

6" (TYP)

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos

Sinnaro Yos, P.E. C68607

REMODELING DETAILS FOR SEWER LATERALS

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

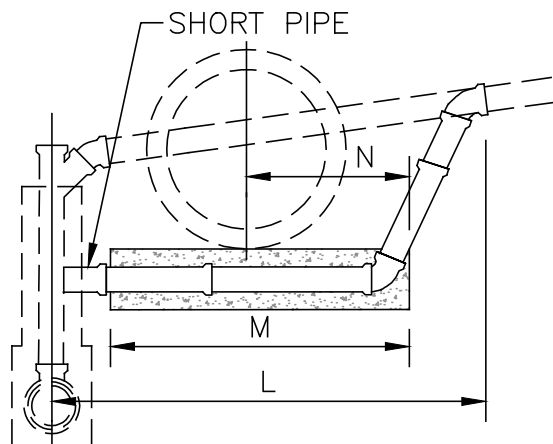
DRAWING NO.

S-17

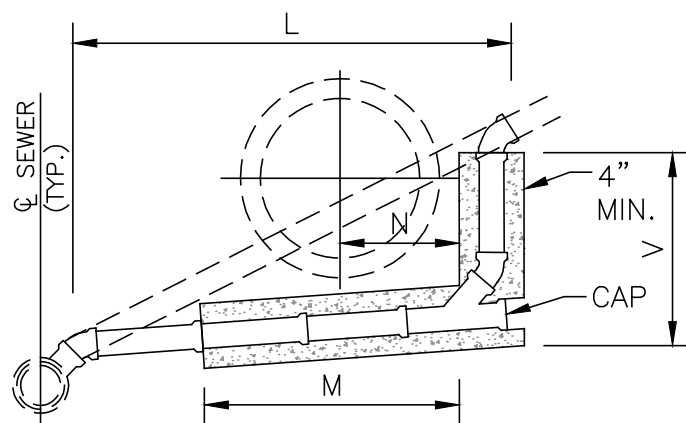
SHEET 1 OF 2

W.O. 19-0248

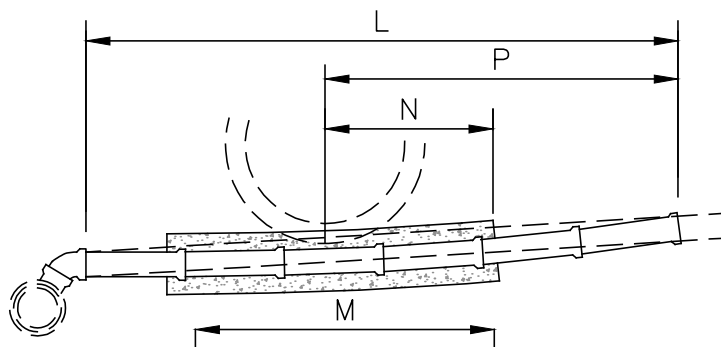
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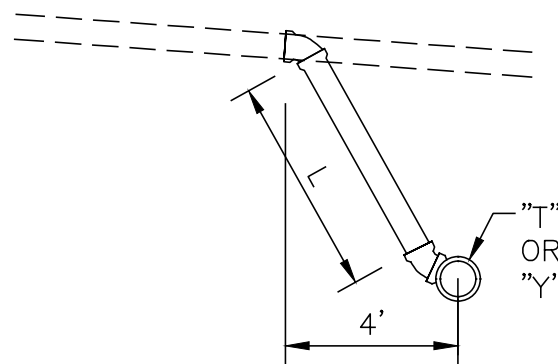
CASE - G



CASE - H



CASE - K



CASE - R

NOTES:

1. THESE DETAILS DO NOT APPLY TO CONFLICTS BETWEEN SEWER LATERALS AND WATERLINES.
2. EXISTING PIPES ARE INDICATED BY BROKEN LINES.
3. PIPES TO BE CONSTRUCTED ARE INDICATED BY SOLID LINES.
4. ALL PIPE DIAMETERS SHALL MATCH EXISTING LATERAL.
5. ALL BENDS SHALL BE 1/8 BENDS UNLESS SPECIFIED OTHERWISE.
6. CONCRETE REINFORCEMENT, CROSS SECTION SHOWN ON SHEET 1, SHALL BE USED ON ALL PIPES TO BE CONSTRUCTED UNDER STORM DRAIN, TOP PORTION WITHIN 1" OF STORM DRAIN TO BE OMITTED.
7. DIMENSIONS:
 L - IS SPECIFIED ON PLAN AS THE AVERAGE TOTAL LENGTH.
 M - (d, + 24") LESS ENOUGH TO AVOID A FRACTION OF A FOOT.
 N - 1/2 M, EXCEPT WHERE SPECIFIED OTHERWISE ON PLAN.
 P - (CASE K) IS SPECIFIED WHERE L DOES NOT EXTEND TO THE BEND.
 V - (CASE H) IS SPECIFIED TO THE NEAREST FOOT AND IN SUMMARY IS ITEMIZED AS CONCRETE REINFORCEMENT FOR 6" PIPE.
8. NEW CONNECTION TO MAIN LINE SHALL CONFORM TO STD. DWG. S-5.

CASES:

- A. ABOVE DRAIN TO HOUSE CONNECTION-SPECIALS REQUIRED: 2 1/8 BENDS.
- B. ABOVE DRAIN TO CHIMNEY - 2 1/8 BENDS.
- C. BELOW DRAIN TO HOUSE CONNECTION-2 1/8 BENDS.
- D. BELOW DRAIN TO "Y" - 3 1/8 BENDS.
- E. BELOW DRAIN TO FLAT SADDLE - 3 1/8 BENDS, 1 SADDLE.
- F. BELOW DRAIN TO SADDLE - 3 1/8 BENDS, 1 SADDLE.
- G. BELOW DRAIN TO CHIMNEY - 2 1/8 BENDS.
- H. BELOW DRAIN TO "Y" - 3 1/8 BENDS, 1 "Y".
- K. BELOW DRAIN TO HOUSE CONNECTION, SLOPE SLIGHTLY MODIFIED.
- R. CONNECTION WITH NEW SEWER - 2 1/8 BENDS WITH "Y" - 14" 1/8 BEND WITH "T".

JURUPA COMMUNITY SERVICES DISTRICT

REMODELING DETAILS FOR SEWER LATERALS

DRAWING NO.

S-17

SHEET 2 OF 2

W.O. 19-0248

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos
Sinnaro Yos, P.E. C68607

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

REV.

STANDARD DRAWING NO. S-18 DELETED

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:



Sinnaro Yos, P.E. C68607

SEWER LATERAL CONNECTION
TO EXISTING MAIN

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

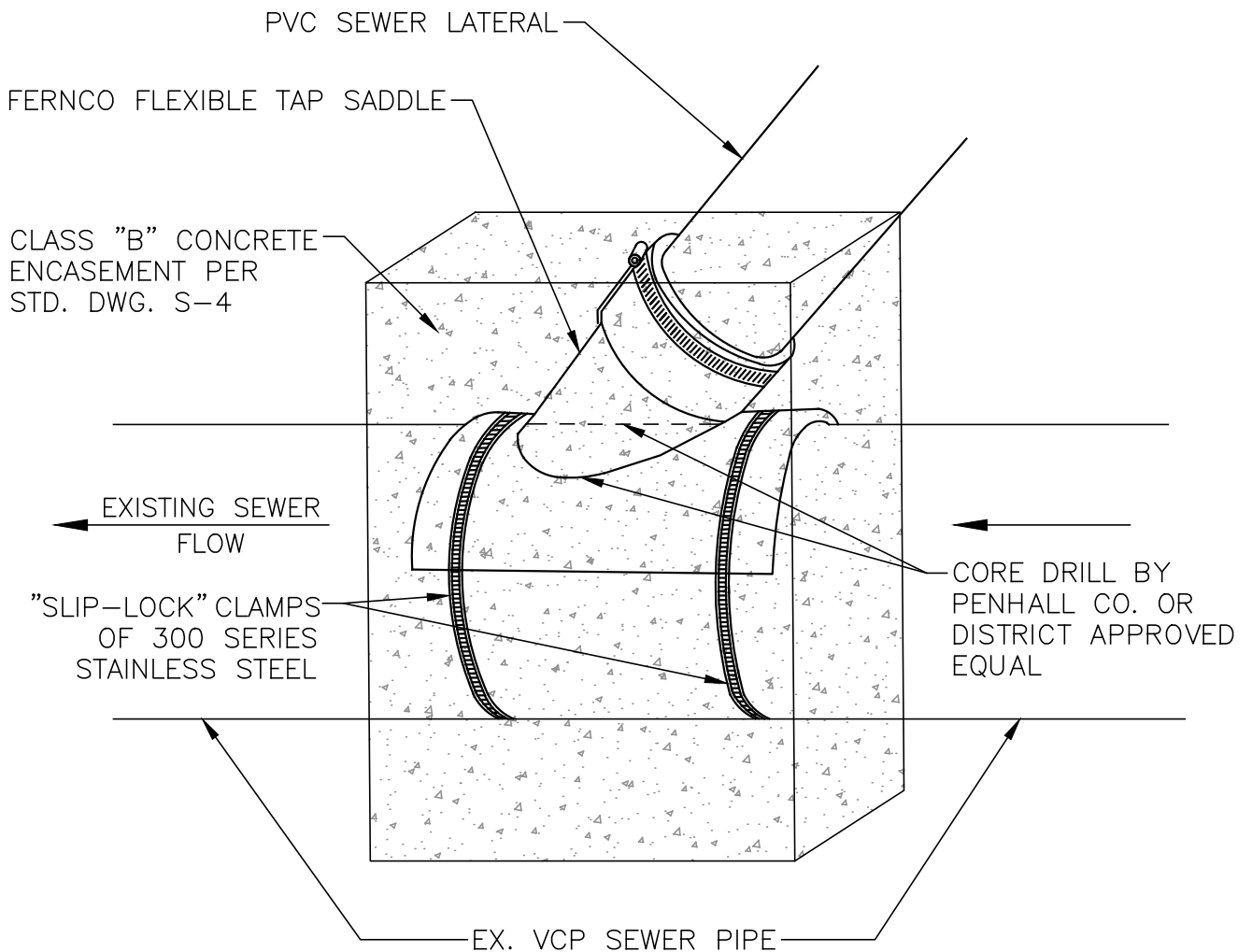
CALIFORNIA

DRAWING NO.

S-18

W.O. 19-0248

REV.



GENERAL NOTES:

1. NO TAPPING OF EXISTING SEWER MAINS WILL BE ALLOWED WITHOUT SPECIFIC APPROVAL BY DISTRICT. IF APPROVAL IS GRANTED, WORK SHALL BE PERFORMED UNDER CONTINUOUS DISTRICT INSPECTION.
2. MAXIMUM SEWER MAIN SIZE FOR TAPPING SHALL BE 15" DIA., UNLESS OTHERWISE APPROVED BY DISTRICT.

JURUPA COMMUNITY SERVICES DISTRICT

SEWER LATERAL TAPPING TO EXISTING VCP MAIN

DRAWING NO.

S-18A

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos

Sinnaro Yos, P.E. C68607

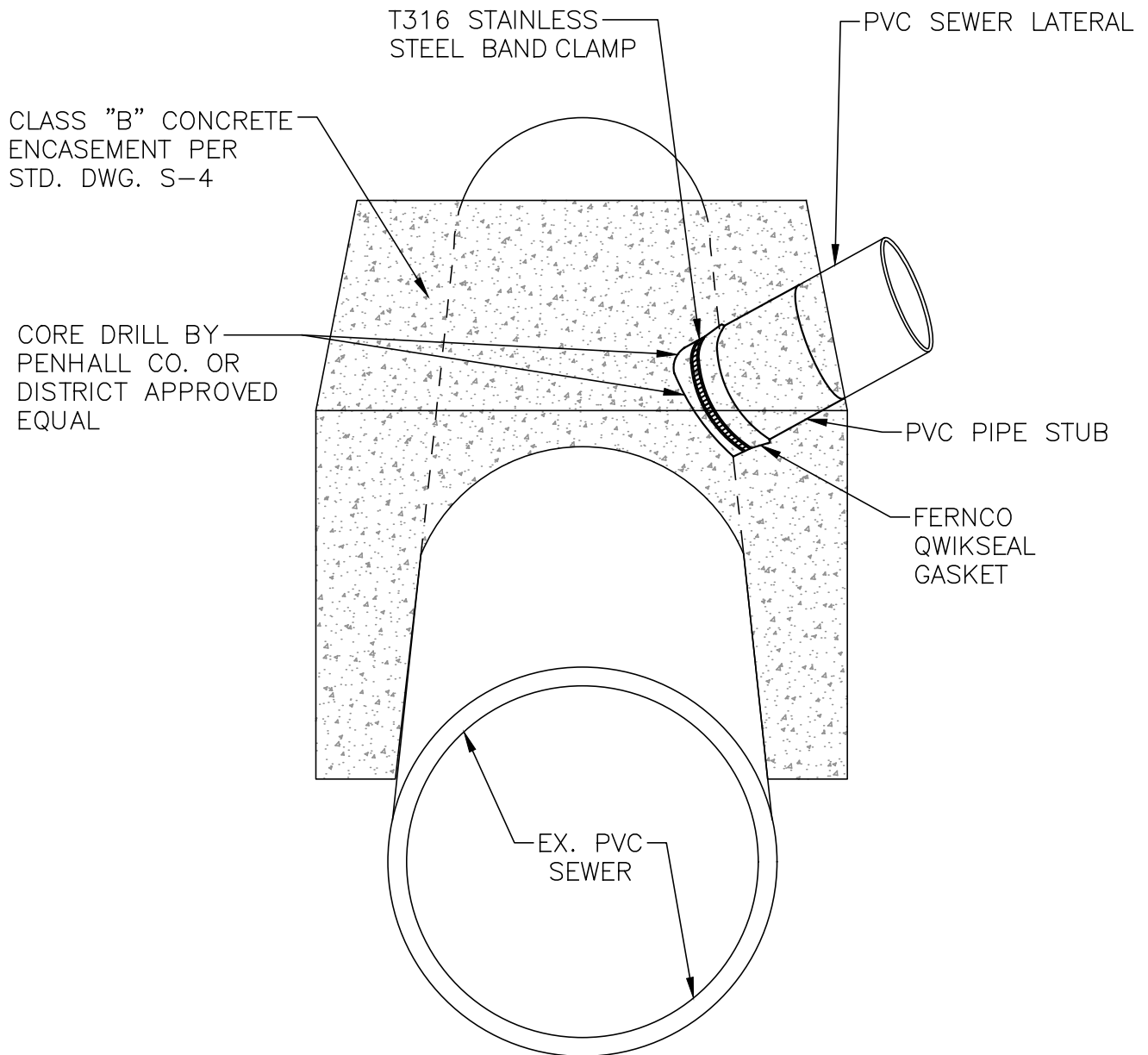
ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

W.O. 19-0248

REV.



GENERAL NOTES:

1. NO TAPPING OF EXISTING SEWER MAINS WILL BE ALLOWED WITHOUT SPECIFIC APPROVAL BY DISTRICT. IF APPROVAL IS GRANTED, WORK SHALL BE PERFORMED UNDER CONTINUOUS DISTRICT INSPECTION.
2. MAXIMUM SEWER MAIN SIZE FOR TAPPING SHALL BE 15" DIA., UNLESS OTHERWISE APPROVED BY DISTRICT.

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

SEWER LATERAL TAPPING TO EXISTING PVC MAIN

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

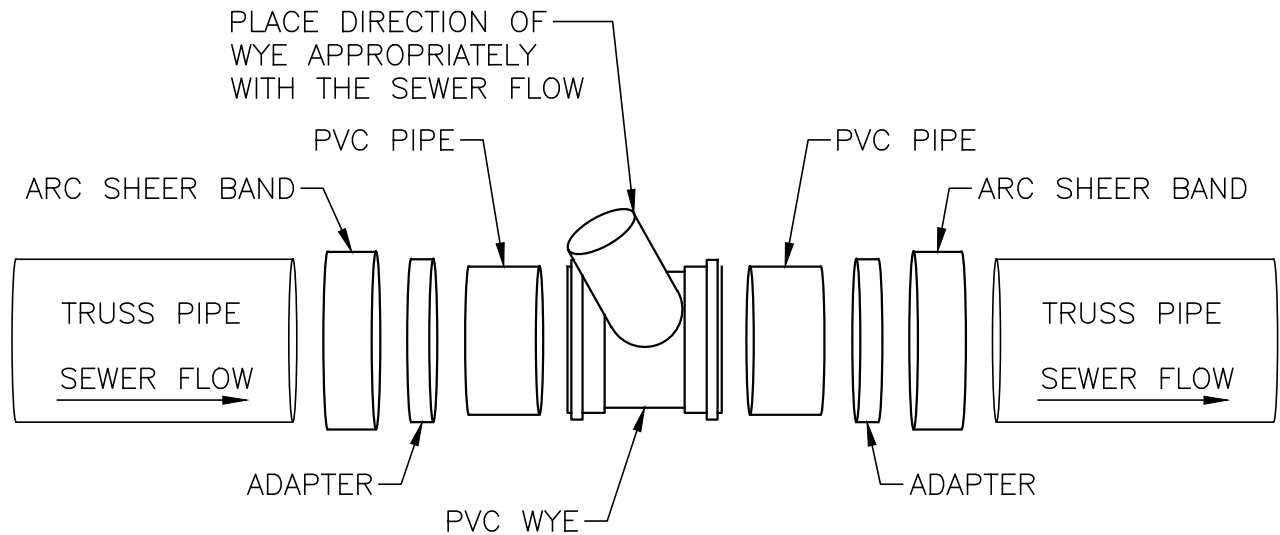
CALIFORNIA

DRAWING NO.

S-18B

W.O. 19-0248

REV.



GENERAL NOTES:

1. NO TAPPING OF EXISTING SEWER MAINS WILL BE ALLOWED WITHOUT SPECIFIC APPROVAL BY DISTRICT. IF APPROVAL IS GRANTED, WORK SHALL BE PERFORMED UNDER CONTINUOUS DISTRICT INSPECTION.
2. MAXIMUM SEWER MAIN SIZE FOR TAPPING SHALL BE 15" DIA., UNLESS OTHERWISE APPROVED BY DISTRICT.
3. WIRE BRUSH 1/4" IN FROM THE END OF PIPE. AFTER WIRE BRUSHING, APPLY A TWO PART EPOXY TO SEAL THE ENDS OF THE PIPES.
4. USE DISTRICT APPROVED TWO PART EPOXY J-B WELD NO. 8280 SPEC. ON EXPOSED HONEYCOMB ENDS AND ALLOW TO SET PRIOR TO ASSEMBLY.

JURUPA COMMUNITY SERVICES DISTRICT

SEWER LATERAL TAPPING TO EXISTING TRUSS MAIN

DRAWING NO.

S-18C

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

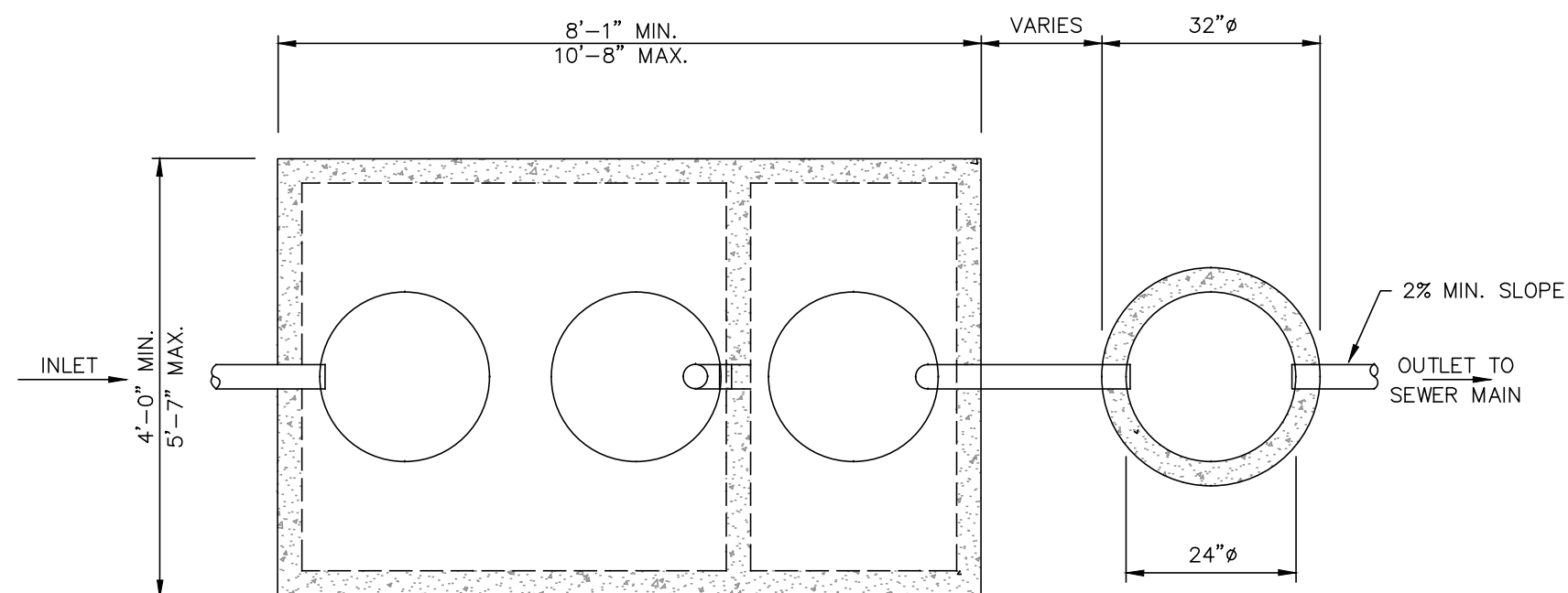
ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

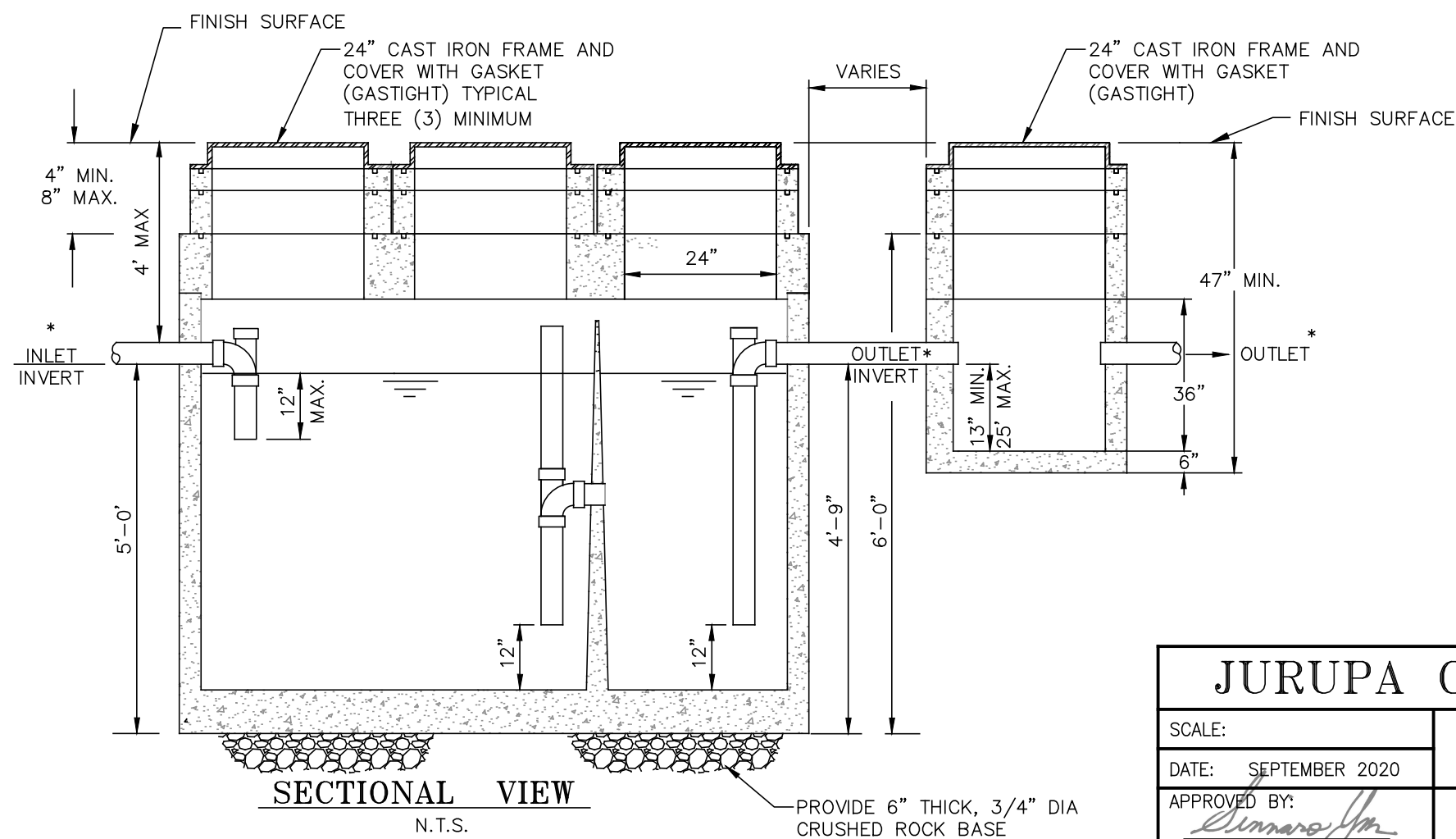
W.O. 19-0248

REV.



PLAN VIEW

N.T.S.



SECTIONAL VIEW

N.T.S.

—PROVIDE 6" THICK, 3/4" DIA
CRUSHED ROCK BASE

- NOTES :
1. DOMESTIC SEWAGE CONNECTION IS TO BE MADE DOWNSTREAM OF GRAVITY SEPARATOR SAMPLE BOX.
 2. PRECAST CONCRETE VAULT INCLUDING TOP AND COVERS TO BE DESIGNED FOR A MINIMUM H-20 TRAFFIC LOADING. SQUARE COVERS ARE NOT ACCEPTABLE.
 3. ALL PIPE AND FITTINGS TO BE CAST IRON OR PVC PIPE.
 4. THE REQUIRED CAPACITY FOR THE GRAVITY SEPARATOR SHALL BE BASED UPON APPENDIX H OF THE UNIFORM PLUMBING CODE.
 5. WASTE DISCHARGE APPLICANT IS RESPONSIBLE FOR THE PURCHASE, INSTALLATION, OPERATION AND MAINTENANCE OF THE GRAVITY SEPARATOR.
 6. APPROVED SUPPLIERS FOR GRAVITY SEPARATOR
 - a. PYRAMID PRECAST CO., INC. RIALTO, CA.
 - b. M.C. NOTTINGHAM CO., PASADENA, CA.
 - c. UTILITY VAULT CO., FONTANA, CA.
 7. LOCATION OF GRAVITY SEPARATOR IS SUBJECT TO APPROVAL BY DISTRICT.
 8. PROVIDE LABEL INDICATING MANUFACTURER OF GRAVITY SEPARATOR AND CONFORMANCE TO U.P.C.
 9. SAMPLE BOX IS REQUIRED.
 10. GRADE RING JOINTS ARE TO BE SEALED WITH 1:2 MORTAR, TRIMMED TO A SMOOTH FINISH INSIDE AND OUT.
 11. THE MANHOLE FRAME IS TO BE SEALED WITH AND SECURED BY A MORTAR RING.
 12. FOR GREASE INTERCEPTOR STRUCTURE, MINIMUM OF 3 MANHOLES REQUIRED, ONE MANHOLE PLACED OVER EACH PIPE (INLET, MIDDLE AND OUTLET PIPE).

* INVERT ELEVATION SHALL BE AS SHALLOW AS POSSIBLE,
NOT DEEPER THAN 4' FROM FINISH SURFACE ELEVATION.

JURUPA COMMUNITY SERVICES DISTRICT

SCALE:

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

GREASE INTERCEPTOR
750 GAL. TO 1500 GAL.

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

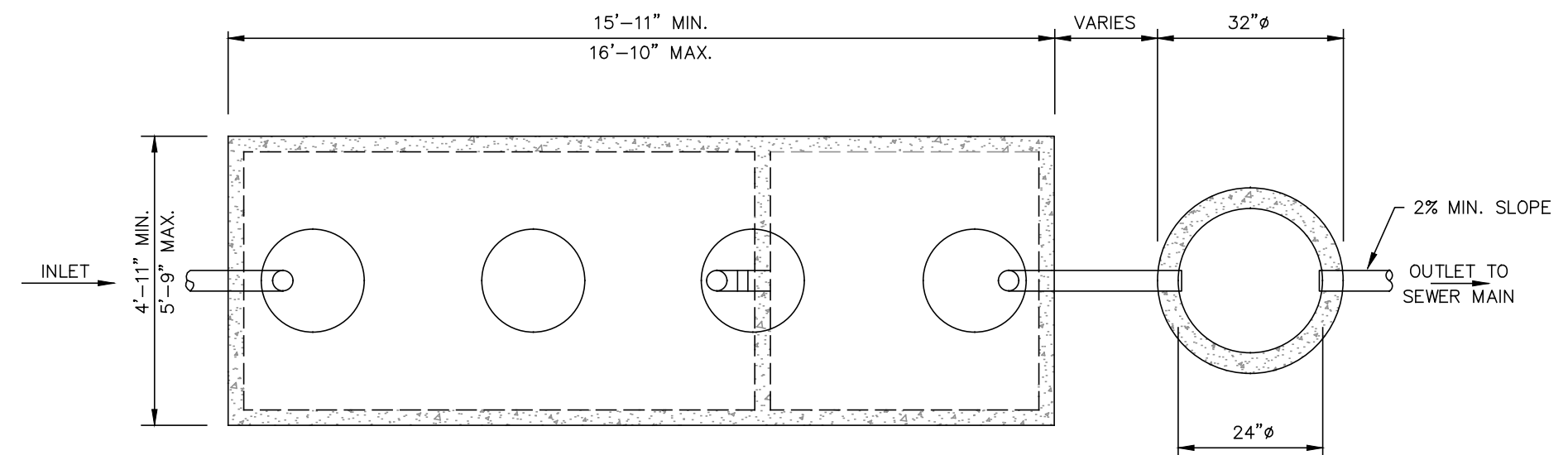
RIVERSIDE

CALIFORNIA

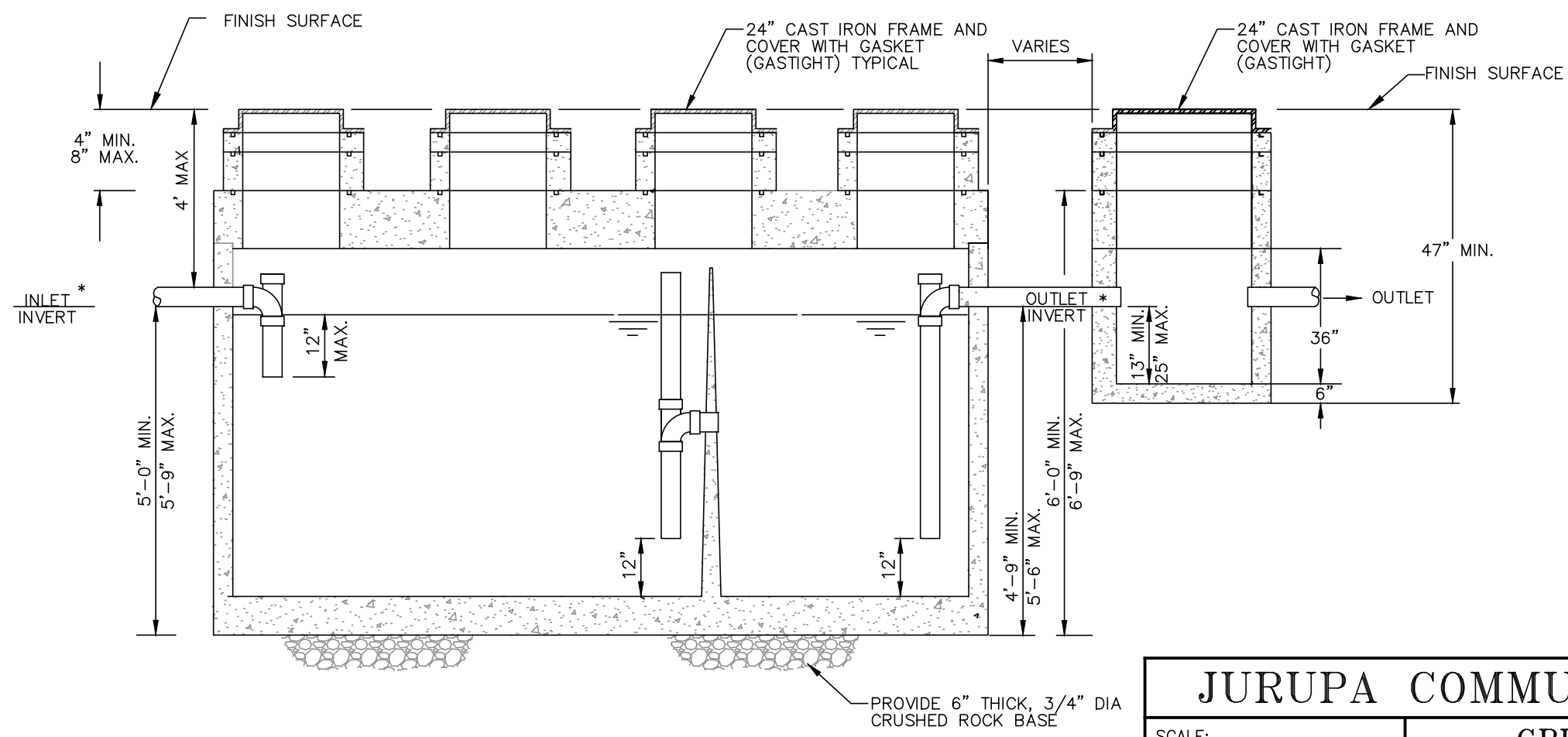
DRAWING NO.

S-19

W.O. 19-0248



PLAN VIEW
N.T.S.



SECTIONAL VIEW
N.T.S.

NOTES:

1. DOMESTIC SEWAGE CONNECTION IS TO BE MADE DOWNSTREAM OF GRAVITY SEPARATOR SAMPLE BOX.
2. PRECAST CONCRETE VAULT INCLUDING TOP AND COVERS TO BE DESIGNED FOR A MINIMUM H-20 TRAFFIC LOADING. SQUARE COVERS ARE NOT ACCEPTABLE.
3. ALL PIPE AND FITTINGS TO BE CAST IRON OR PVC PIPE.
4. THE REQUIRED CAPACITY FOR THE GRAVITY SEPARATOR SHALL BE BASED UPON APPENDIX H OF THE UNIFORM PLUMBING CODE.
5. WASTE DISCHARGE APPLICANT IS RESPONSIBLE FOR THE PURCHASE, INSTALLATION, OPERATION AND MAINTENANCE OF THE GRAVITY SEPARATOR.
6. APPROVED SUPPLIERS FOR GRAVITY SEPARATOR
 - a. PYRAMID PRECAST CO., INC. RIALTO, CA.
 - b. M.C. NOTTINGHAM CO., PASADENA, CA.
 - c. UTILITY VAULT CO., FONTANA, CA.
 - d. JENSEN PRECAST CO., FONTANA, CA.
7. LOCATION OF GRAVITY SEPARATOR IS SUBJECT TO APPROVAL BY DISTRICT.
8. PROVIDE LABEL INDICATING MANUFACTURE OF GRAVITY SEPARATOR AND CONFORMANCE TO U.P.C.
9. SAMPLE BOX IS REQUIRED.
10. GRADE RING JOINTS TO BE SEALED WITH 1:2 MORTAR, TRIMMED TO A SMOOTH FINISH INSIDE AND OUT.
11. THE MANHOLE FRAME IS TO BE SEALED WITH AND SECURED BY A MOTAR RING.

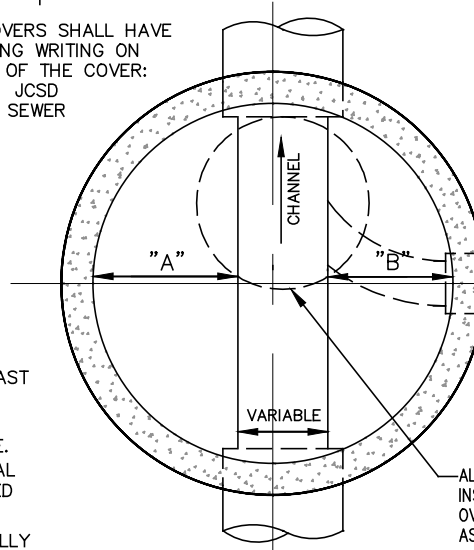
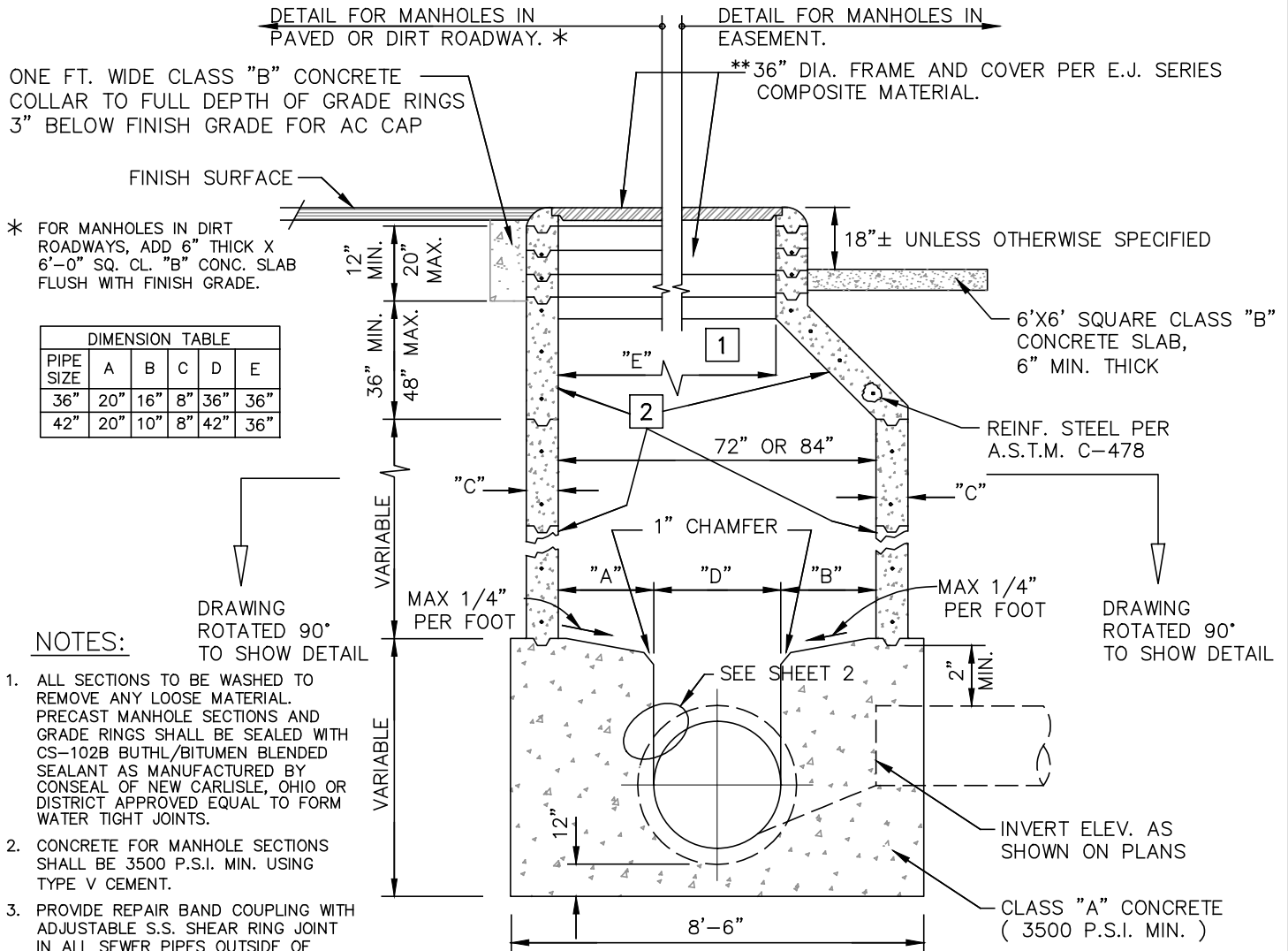
* INVERT ELEVATION SHALL BE AS SHALLOW AS POSSIBLE, NOT DEEPER THAN 4' FROM FINISH SURFACE ELEVATION.

JURUPA COMMUNITY SERVICES DISTRICT

| | | |
|----------------------------------------------------------------|---------------------------------------------------------------------------|----------------------------|
| SCALE: | GREASE INTERCEPTOR 2000 GAL. TO 3000 GAL. | DRAWING NO. S-20 |
| DATE: SEPTEMBER 2020 | | |
| APPROVED BY: <i>Sinnaro Yos</i> Sinnaro Yos, P.E. C68607 | ALBERT A. WEBB ASSOCIATES CONSULTING ENGINEERS RIVERSIDE CALIFORNIA | W.O. 19-0248 |

REV.

FRAME & COVER SETTING CONDITIONS



**E.J. SERIES - COMPOSITE MANHOLE COVER AND FRAME, (36") 3800 WITH FOUR (4) TITUS TWISTLIFT STAINLESS STEEL LOCKS, PER COVER. "NOTE" AFTER SETTING A COMPOSITE FRAME IN PLACE AND PRIOR TO POURING THE CONCRETE COLLAR AND/OR CONCRETE SLAB, INSTALL ONE (1) #4 REBAR SHAPED INTO A FULL CIRCLE THREE (3") INCHES LARGER IN O.D. THAN THE COMPOSITE FRAME. AFTER FORMING THE #4 REBAR CIRCLE, IT SHALL THEN BE SET TO THREE (3") INCHES BELOW THE FRAME RIM ELEVATION THEN ENCAPSULATED IN THE CONCRETE COLLAR AND/OR CONCRETE SLAB. REFER TO DISTRICT STANDARD DRAWING NO. S-7 (SHEET 2 OF 2)

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

72" AND 84" DIA. PRECAST CONCRETE MANHOLE (LINED)

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

DRAWING NO.

S-21

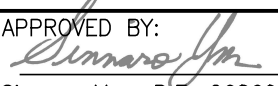
SHEET 1 OF 2

W.O. 19-0248

COATING AND LINING SCHEDULE

- 1 ALL EXPOSED INTERIOR SURFACES OF MANHOLE BASE TO BE COATED WITH KOPPERS 300-M, COAL TAR EPOXY PER MANUFACTURERS RECOMMENDATIONS, OR APPROVED EQUAL.
- 2 ALL EXPOSED INTERIOR SURFACES OF MANHOLE SHAFT, CONE, AND GRADE RINGS TO BE LINED WITH UTILITHANE 1600 POLYURETHANE COATING (WHITE) AS MANUFACTURED BY UTILITHANE POLYURETHANES. MIN 150 MILS THICKNESS.
- 3 PRIMER COAT TO BE UTILITHANE LTE 900 PRIMER FOR CONCRETE SUBSTRATES.
- 4 REFER TO SPECIFICATIONS FOR DETAILS, PREPARATION, AND APPLICATIONS.

JURUPA COMMUNITY SERVICES DISTRICT

| | | | |
|------|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|--------------|
| REV. | SCALE: NONE | 72" AND 84" DIA. PRECAST CONCRETE MANHOLE (LINED) | DRAWING NO. |
| | DATE: SEPTEMBER 2020 | | S-21 |
| | APPROVED BY:  | ALBERT A. WEBB ASSOCIATES CONSULTING ENGINEERS RIVERSIDE CALIFORNIA | SHEET 2 OF 2 |
| | Sinnaro Yos, P.E. C68607 | | W.O. 19-0248 |

STANDARD DRAWING NO. S-22 DELETED

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

2" SEWAGE AIR VALVE DETAIL

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

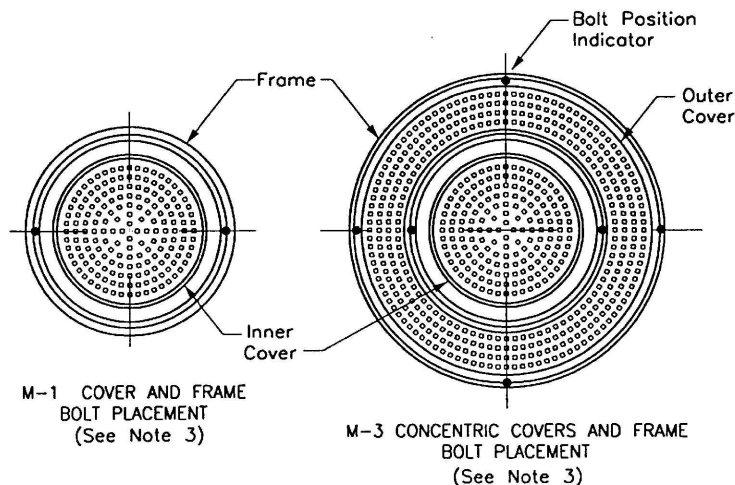
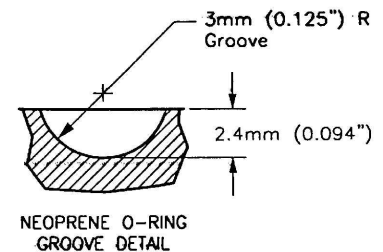
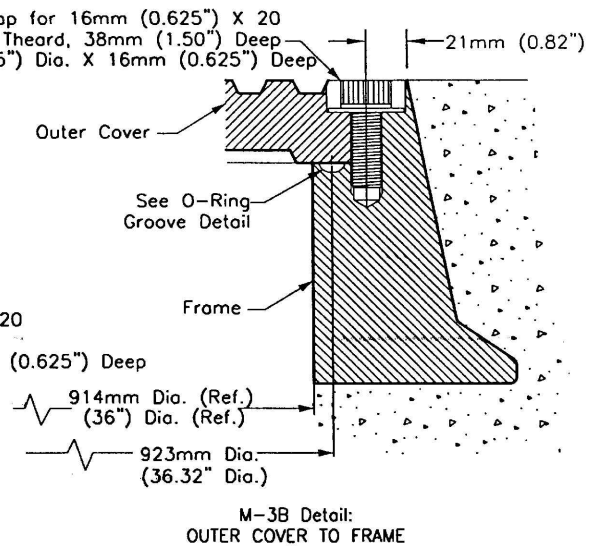
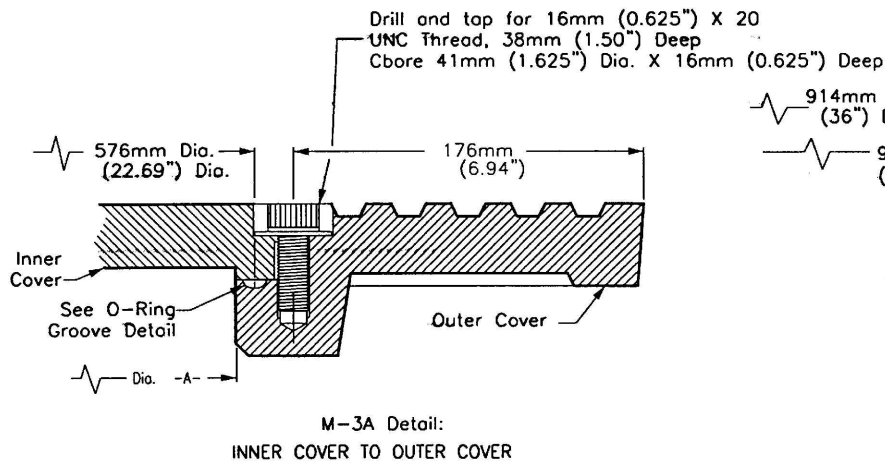
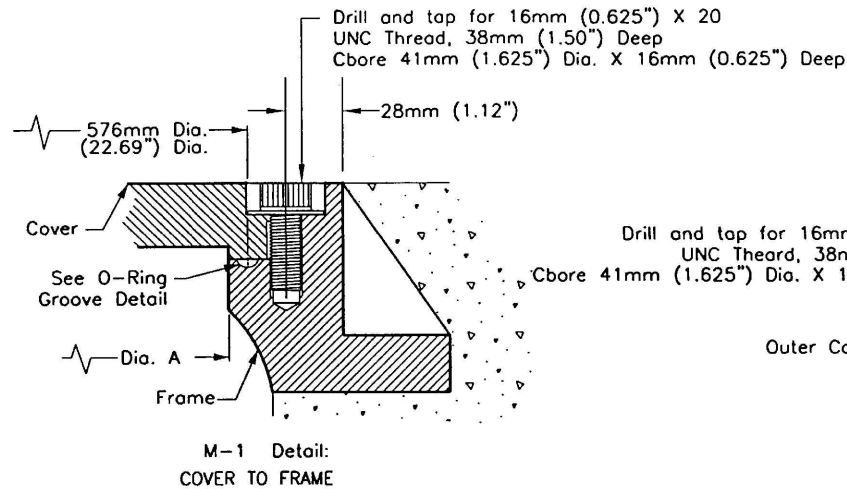
DRAWING NO.

S-22

W.O. 19-0248

REV.

NOTE: DISTRICT DIRECTED USE ONLY



NOTES:

1. 16mm (0.625") X 20 UNC THREAD, 316 STAINLESS STEEL PENTA HEAD SCREW AND 38mm (1.50") O.D. X 17mm (0.687") I.D. X 0.078 THICK 316 STAINLESS STEEL WASHER.
2. 6mm (0.25") NEOPRENE O-RING GASKET SHALL BE GLUED INTO MACHINED GROOVE. GLUE SHALL MEET THE REQUIREMENTS OF MIL-M-81288 (AMEND. 1)
3. BOLTDOWN PATTERNS:
 - M-1 DETAIL (610mm (24") COVER & FRAME): INSTALL TWO (2) BOLTS AT 180 DEGREES.
 - M-3A DETAIL (CONCENTRIC COVERS): BETWEEN INNER AND OUTER COVERS INSTALL TWO (2) BOLTS AT 180 DEGREES.
 - M-3B DETAIL (OUTER COVER & FRAME): BETWEEN OUTER COVER & FRAME INSTALL FOUR (4) BOLTS AT 90 DEGREES.

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos
Sinnaro Yos, P.E. C68607

MANHOLE COVER - LOCKING DEVICE

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

DRAWING NO.

S-23

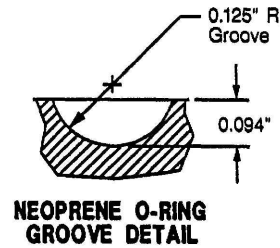
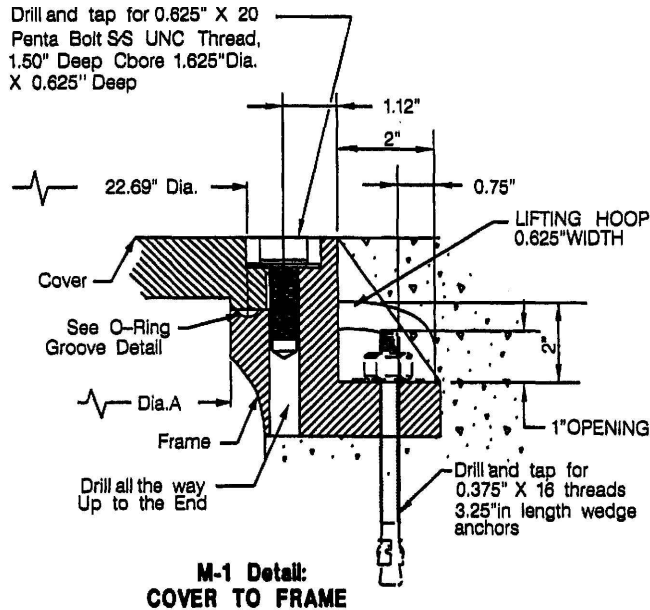
SHEET 1 OF 3

W.O. 19-0248

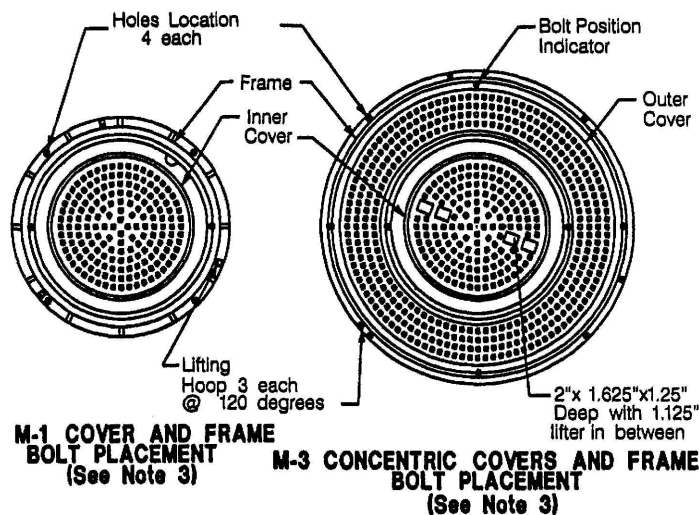
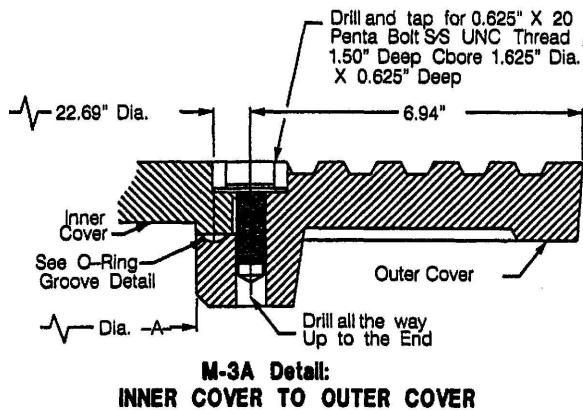
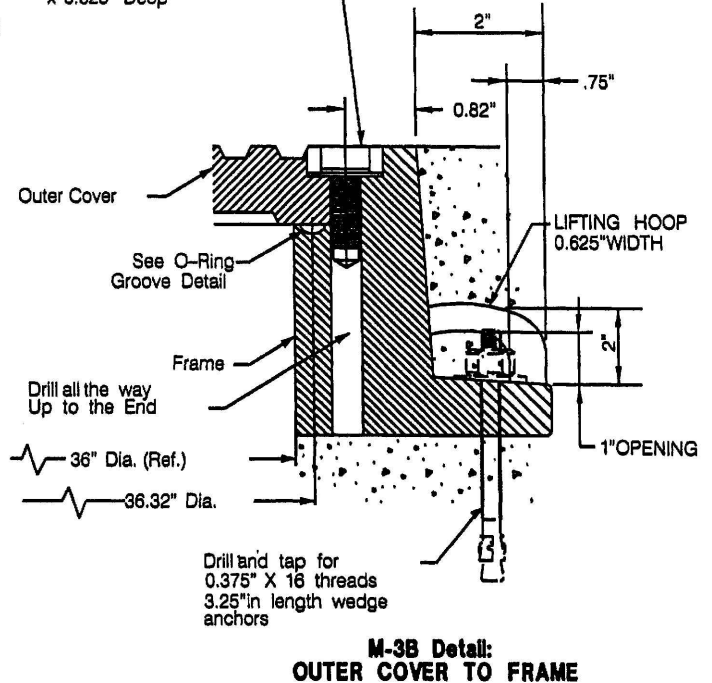
REV.

NOTE: DISTRICT DIRECTED USE ONLY

Drill and tap for 0.625" X 20
Penta Bolt SS UNC Thread,
1.50" Deep Cbore 1.625" Dia.
X 0.625" Deep



Drill and tap for 0.625" x 20
Penta Bolt SS UNC Thread,
1.50" deep Cbore 1.625" Dia.
x 0.625" Deep



NOTES:

- 0.625" X 20 PENTA BOLT SS UNC THREAD, 316 STAINLESS STEEL PENTA HEAD SCREW AND 1.50" O.D. x 0.687" I.D. x 0.078 THICK 316 STAINLESS STEEL WASHER.
 - 0.25" NEOPRENE O-RING GASKET SHALL BE GLUED INTO MACHINED GROOVE. GLUE SHALL MEET THE REQUIREMENTS OF MIL-M-81288
 - BOLTDOWN PATTERNS:
 - M-1 DETAIL (24" COVER & FRAME): INSTALL TWO (2) BOLTS AT 180 DEGREES.
 - M-3A DETAIL (CONCENTRIC COVERS): BETWEEN INNER AND OUTER COVERS INSTALL TWO (2) BOLTS AT 180 DEGREES.
 - M-3B DETAIL (OUTER COVER & FRAME): BETWEEN OUTER COVER & FRAME INSTALL FOUR (4) BOLTS AT 90 DEGREES.
- FOR M-1 AND M-3 OUTER COVER FRAME DRILL 4 HOLES FOR 0.375"x16 STAINLESS STEEL WEDGE ANCHORS 3.75" IN LENGTH AT 90 DEGREES.

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY: *Sinnaro Yos*
Sinnaro Yos, P.E. C68607

MANHOLE COVER - LOCKING DEVICE

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

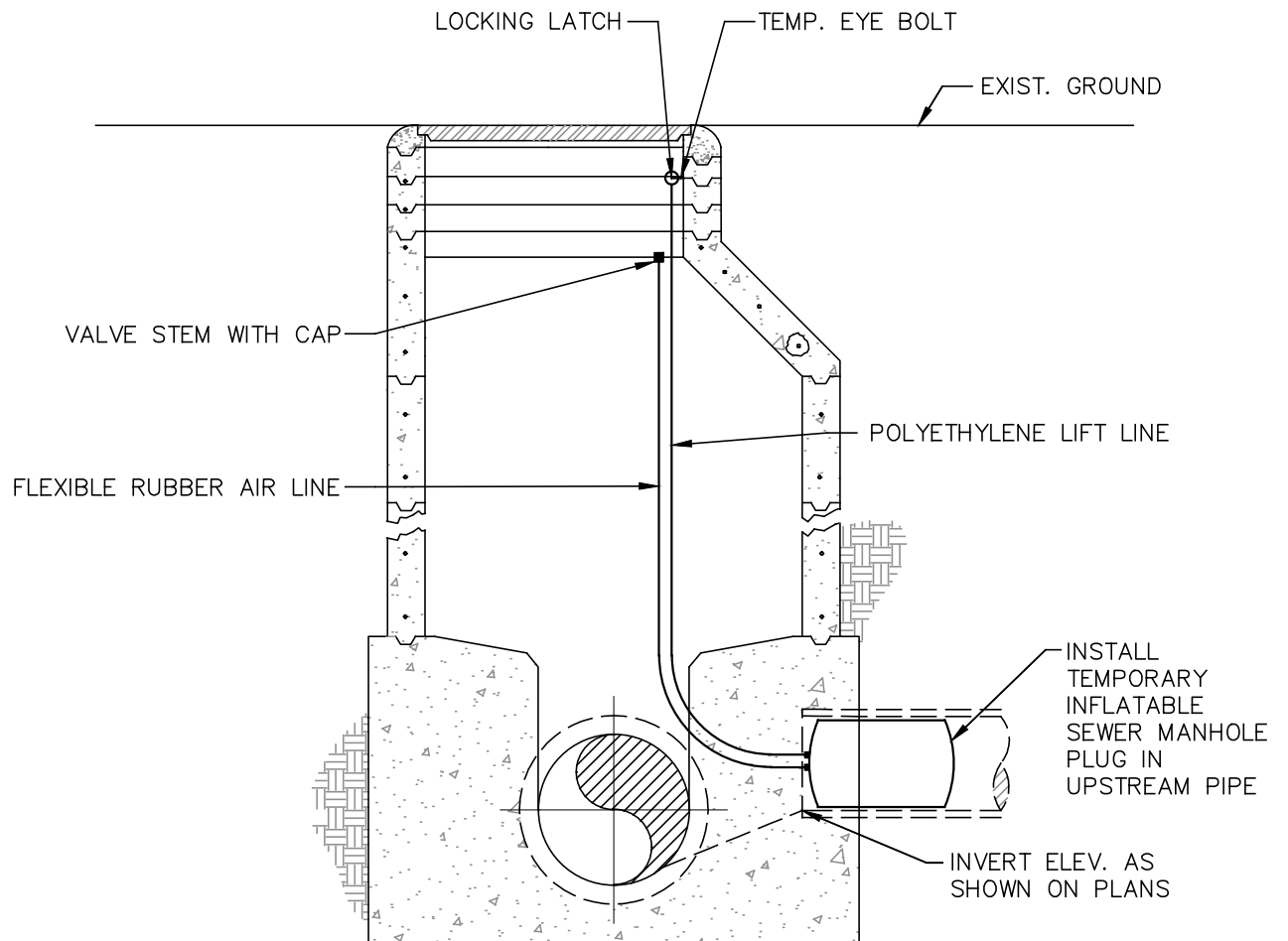
DRAWING NO.

S-23 (M-4)

SHEET 3 OF 3

W.O. 19-0248

REV.



JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

TEMPORARY MANHOLE PLUG

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

DRAWING NO.

S-24

W.O. 19-0248

REV.

SEWER LATERAL



DIMENSION TABLE

| | |
|---|--|
| A | |
| B | |
| C | |
| D | |

BUILDING FOOTPRINT

ADDRESS

PROPERTY LINE

STREET R/W

CURB/GUTTER

CLEAN-OUT PER
STD. DWG. NO. S-5

STREET NAME

GENERAL NOTES:

1. DEVELOPER SHALL PREPARE ONE PLAT FOR EACH PROPERTY.
2. BUILDING FOOTPRINT SHALL REFLECT THE FLOOR PLAN OF THE HOUSE CONSTRUCTED ON THE PROPERTY.

JURUPA COMMUNITY SERVICES DISTRICT

SCALE: NONE

DATE: SEPTEMBER 2020

APPROVED BY:

Sinnaro Yos, P.E. C68607

ONSITE SEWER LOCATION

ALBERT A. WEBB ASSOCIATES
CONSULTING ENGINEERS

RIVERSIDE

CALIFORNIA

DRAWING NO.

S-25

W.O. 19-0248

REV.