

**SEWER CONSTRUCTION NOTES**

- INSTALL 10 LF. 4" SEWER AT 2% MIN. SLOPE TO BUILDING CONNECTION. COORDINATE SIZE AND LOCATION WITH BUILDING PLANS.
- CONSTRUCT 4" PVC SEWER (DISTANCES & SLOPES SHOWN).
- INSTALL 4" SEWER (DISTANCES SHOWN) AT 2% MIN. SLOPE TO BUILDING CONNECTION. COORDINATE SIZE AND LOCATION WITH BUILDING PLANS.
- CONSTRUCT 6" SEWER CLEANOUT PER DETAIL ON THIS SHEET. 100' MAXIMUM SPACING.
- TIE INTO EXISTING SEWER. CONTRACTOR SHALL VERIFY SIZE AND LOCATION IN FIELD PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

**WATER CONSTRUCTION NOTES**

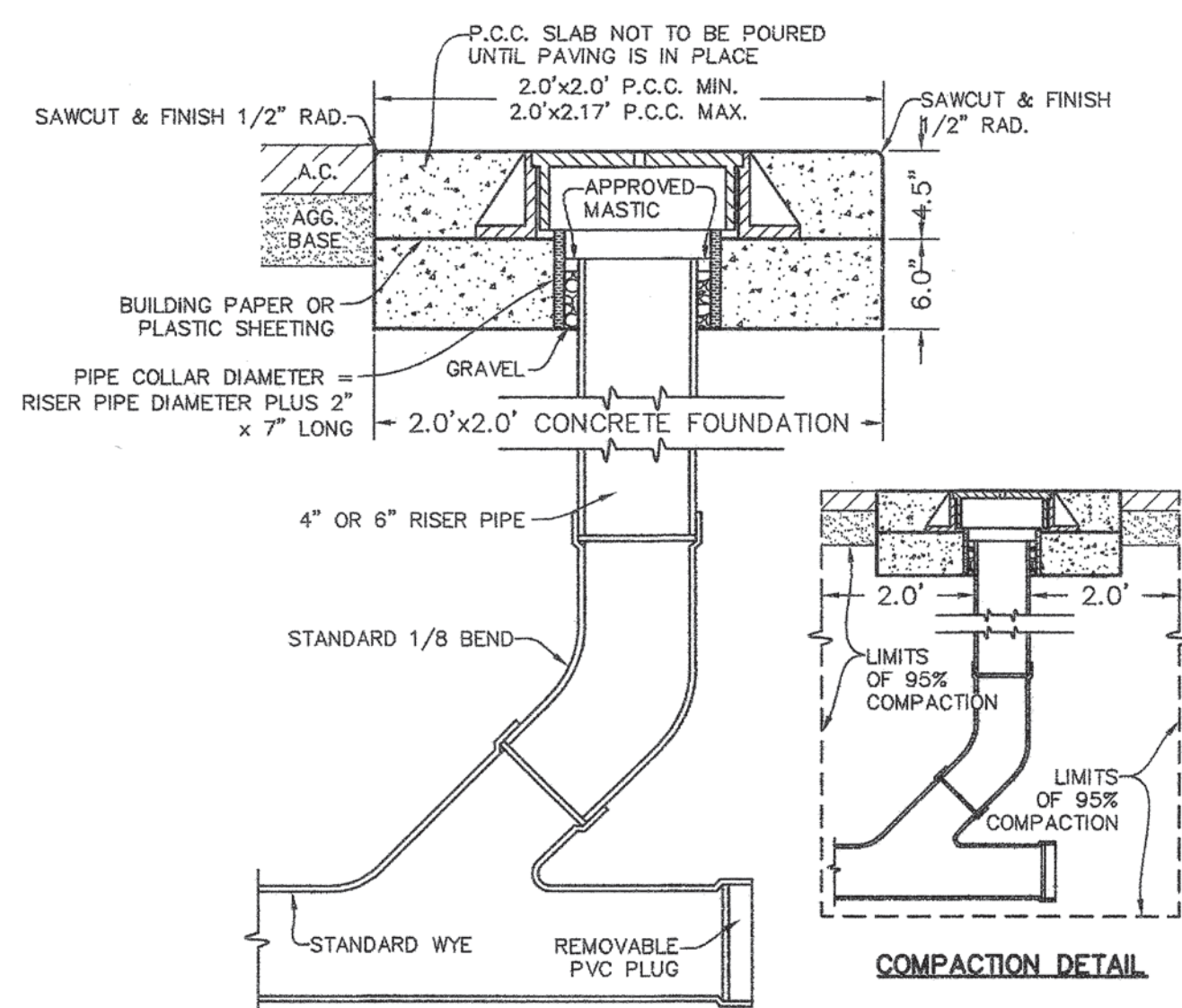
- INSTALL 4" PVC WATER LINE (DISTANCES SHOWN). INSTALL THRUST BLOCKS PER DETAIL ON THIS SHEET.
- INSTALL 12 LF. 1 1/4" PVC WATER LINE TO BUILDING. COORDINATE SIZE AND LOCATION WITH BUILDING PLANS.
- INSTALL 12 LF. 1 1/2" PVC WATER LINE TO BUILDING. COORDINATE SIZE AND LOCATION WITH BUILDING PLANS.
- TIE INTO EXISTING WATER. CONTRACTOR SHALL VERIFY SIZE AND LOCATION IN FIELD PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

**NOTES:**

- SEE ARCHITECT'S PLANS FOR ALL DIMENSIONS NOT SHOWN.
- SEWER AND WATER LINES PER THIS PLAN SHALL BE STUBBED TO 5' FROM BUILDING.
- BUILDING PLUMBER SHALL INSTALL SEWER CLEANOUTS AT BUILDING.
- BUILDING PLUMBER SHALL INSTALL WATER VALVE AT BUILDING.
- CONTRACTOR SHALL INSTALL ALL ELBOWS, TEES & APPURTENANCES AS NECESSARY TO FURNISH A COMPLETE PROJECT.
- CONTRACTOR SHALL ENSURE POSITIVE FLOW ON ALL SEWER PIPE PRIOR TO BACKFILLING.
- EXISTING UNDERGROUND UTILITIES HAVE BEEN SHOWN BASED ON AVAILABLE RECORDS PROVIDED BY THE OWNER. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF UTILITIES PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES.
- ADD 400' TO ALL SEWER DESIGN ELEVATIONS.

**LEGEND**

- STREET CENTERLINE
- STREET RIGHT-OF-WAY
- DESIGN GRADE
- DESIGN SLOPE
- ± MATCH EXISTING ELEVATION
- ⊕ EXISTING WATER VALVE
- ⊕ EXISTING UTILITY BOX (SIZE VARIES)
- ⊕ EXISTING SEWER CLEANOUT
- ⊕ EXISTING SIGN
- ⊕ EXISTING UTILITY POLE
- ⊕ EXISTING LIGHT POLE
- ⊕ EXISTING FIRE HYDRANT
- OHE EXISTING OVERHEAD ELECTRIC
- EX W EXISTING WATER LINE
- EX GAS EXISTING GAS LINE
- S PROPOSED STORM DRAIN
- W PROPOSED SEWER (PER THIS SUBMITTAL SEE SHEET 10)
- W PROPOSED WATER (PER THIS SUBMITTAL SEE SHEET 10)
- W PROPOSED SEWER (PER SEPARATE SUBMITTAL)
- W PROPOSED WATER (PER SEPARATE SUBMITTAL)
- ⊕ PROPOSED SEWER CLEANOUT
- ⊕ PROPOSED STORM DRAIN MANHOLE



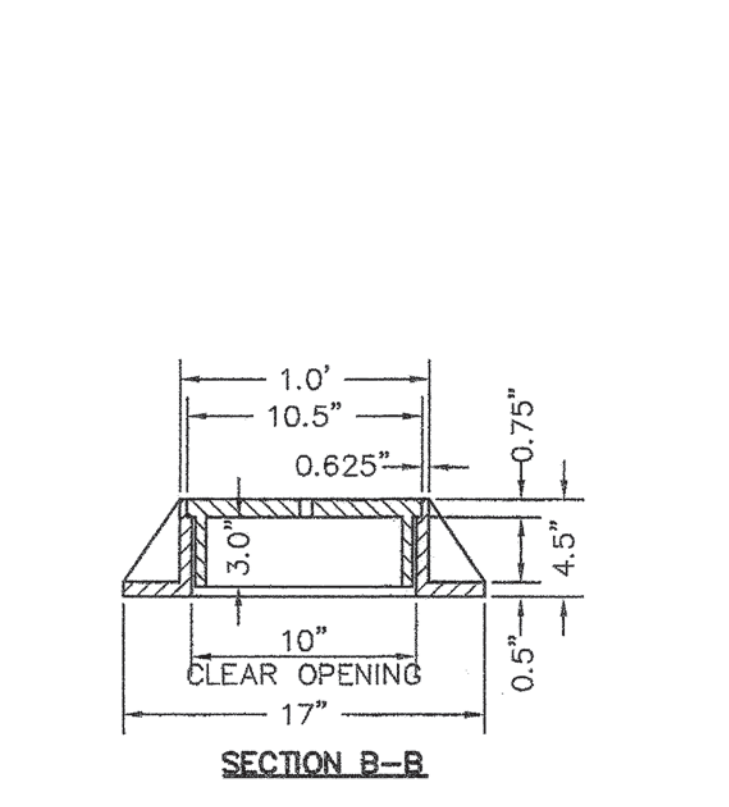
**CLEANOUT SECTION**  
N.T.S.

- CLEANOUT NOTES:**
- ALL WORK SHALL CONFORM TO THE APPLICABLE SECTIONS OF THE SPECIFICATIONS ENTITLED "STANDARD SPECIFICATIONS, STATE OF CALIFORNIA, BUSINESS AND TRANSPORTATION AGENCY, DEPARTMENT OF TRANSPORTATION", APPROVED CURRENT EDITION.
  - ALL CONCRETE SHALL BE CLASS "A".
  - CONCRETE SHALL HAVE NO ADDITIVES UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER.
  - CONCRETE SHALL BE CURED WITH A WHITE PIGMENTED CURING COMPOUND PER SEC. 90-7.01B OF THE STANDARD SPECS.
  - TOP OF SLAB SHALL BE TROWELED SMOOTH AND GIVEN A LIGHT BROOM FINISH.
  - 95% RELATIVE COMPACTION IS REQUIRED FOR ALL BACKFILL WITHIN 24" OF THE RISER PIPE.
  - BUILDING PAPER OR PLASTIC SHALL BE PLACED BETWEEN THE 6" CONCRETE FOUNDATION AND 4.5" SLAB.
  - FILL CAVITY BETWEEN PIPE AND COLLAR WITH GRAVEL TO WITHIN 1/2" OF TOP OF PIPE. CALK REMAINING 1/2" WITH APPROVED MASTIC TO TOP OF PIPE FOR WATER TIGHT SEAL.
  - COLLAR SHALL BE VCP, ABS, OR PVC PIPE.
  - FINISHED PCC SLAB TO BE 1/8" MIN. AND 1/4" MAX. BELOW FINISHED PAVING SURFACE.

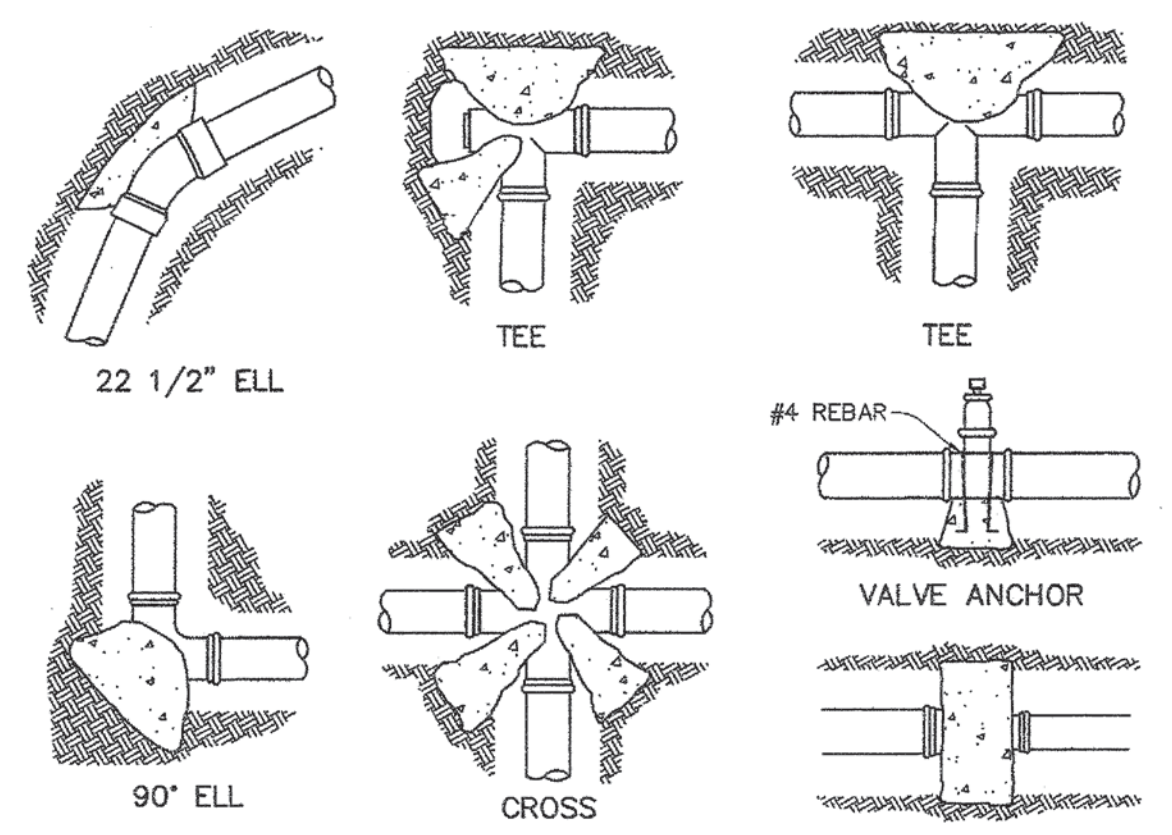
**CLEANOUT COVER NOTES:**

- ALL FRAMES AND COVERS SHALL BE TESTED FOR ACCURACY OF FIT AND SHALL BE MARKED IN SETS PRIOR TO DELIVERY.
- THE SEATS OF FRAMES AND BEARING FACES OF THE COVERS SHALL BE MACHINED FOR A SMOOTH NON-ROCKING FIT BETWEEN THE TWO CASTINGS.
- CASTINGS SHALL BE THOROUGHLY CLEANED AND DIPPED TWICE IN A QUICK-DRYING, BIT-BLACK ASPHALTIC COMPOUND TO PROVIDE A PROTECTIVE COATING.
- ALL FRAMES AND COVERS SHALL BE GRAY CAST IRON, FREE FROM WARPS, CRACKS, HOLES, SWELLS AND COLD-SHOT, AND SHALL HAVE A WORKMANLIKE FINISH. HIGHWAY LOADING SHOULD BE HS 20-44.
- CASTING SHALL CONFORM TO THE PROVISIONS OF THE SPECIFICATIONS FOR GRAY-IRON CASTINGS, SERIAL DESIGNATION ASTM: A-49 (LATEST REVISION), CLASS NO. 30B.
- THE NAME OF THE MANUFACTURING COMPANY SHALL BE ON THE UNDERSIDE OF THE COVER.
- ASSEMBLY SHALL BE DESIGNED FOR HIGHWAY LOADING OF HS 20-44.
- 2.0"x1.0" DIAMOND MAT 0.125" DEEP.

**SEWER CLEANOUT DETAIL**  
N.T.S.



**CLEANOUT FRAME & COVER**  
N.T.S.

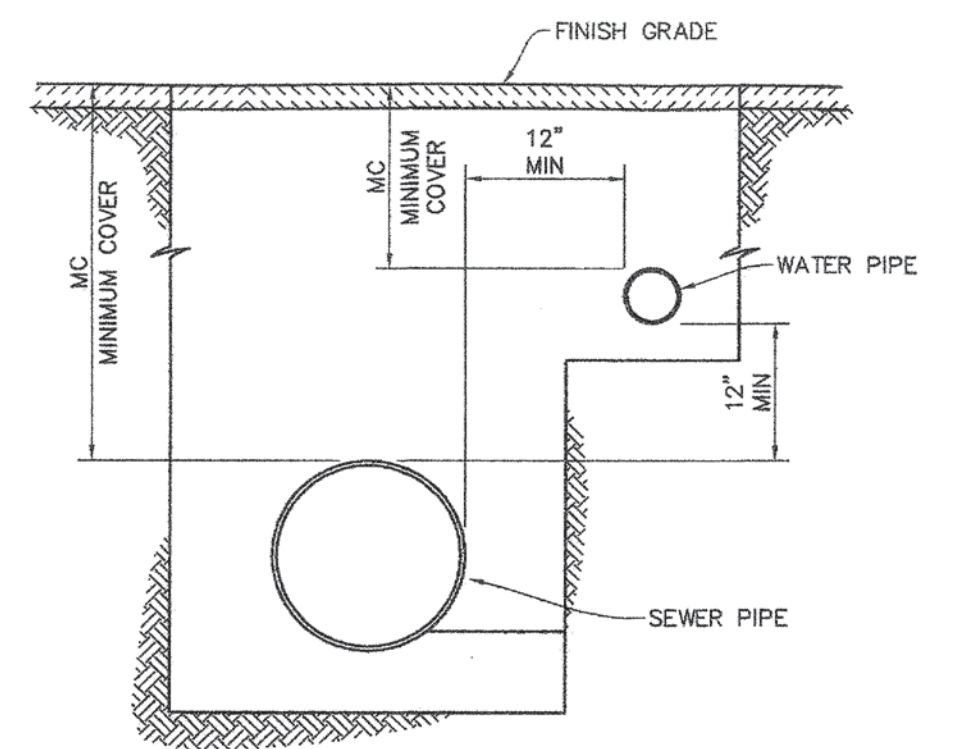


**THRUST BLOCK SCHEDULE**  
BEARING AREA IN SQUARE FEET

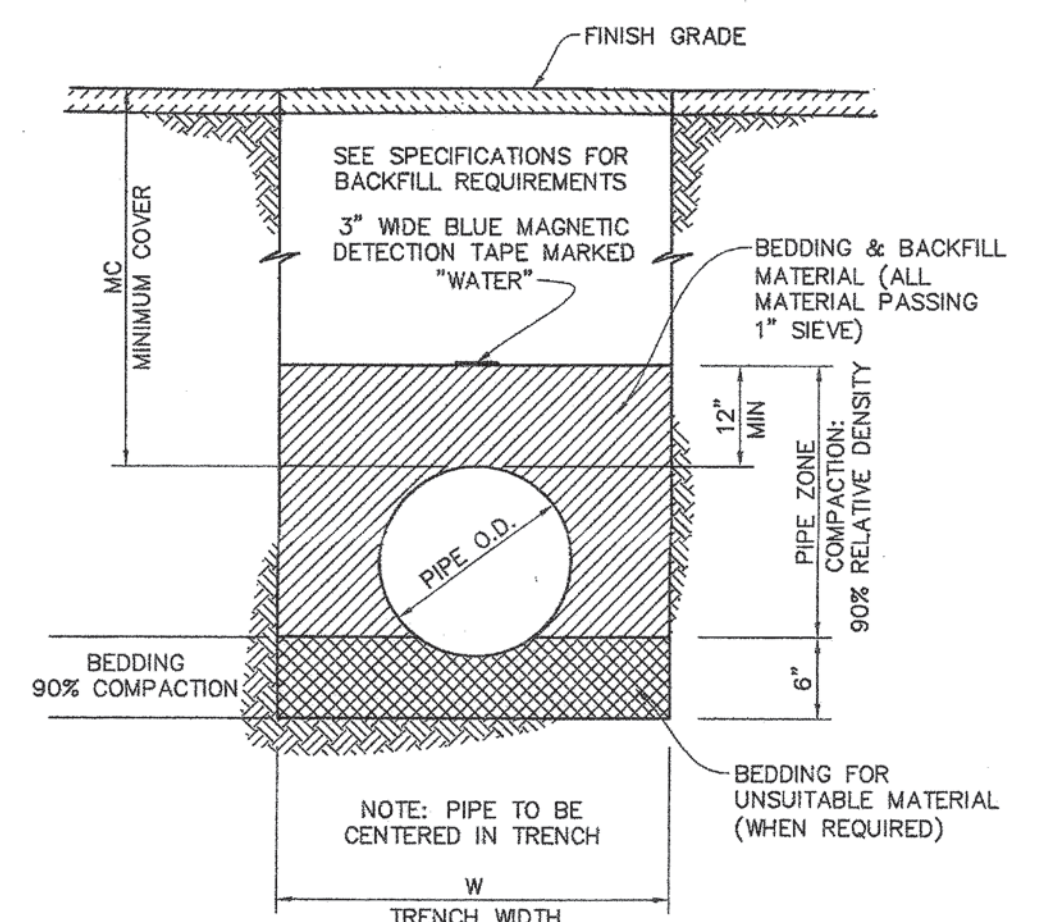
PIPE SIZE	TEE OR PLUG	90° ELL	45° ELL	22 1/2" ELL	CROSS	VALVE
4"	2	2	2	1	-	-
6"	3	4	2	2	1.5 EA.	3.0
8"	5	7	4	2	3.0 EA.	5.5
10"	8	11	6	3	4.5 EA.	9.0
12"	11	16	8	4	6.5 EA.	13.0
16"	16	23	13	7	8.0 EA.	16.0

- NOTES:**
- ALL VALVES, FITTINGS AND DIRECTIONAL CHANGES ARE TO BE HELD IN PLACE BY CONCRETE THRUST BLOCKS.
  - BEARING AREAS INDICATED ARE BASED ON ALLOWABLE SOIL PRESSURE OF 1500 PSF.
  - CONCRETE IS NOT TO BEAR AGAINST PIPE. THRUST BLOCK TO ONLY BE IN CONTACT WITH FITTING.
  - THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED SOIL.
  - JOINT SHALL BE KEPT CLEAR OF CONCRETE.
  - CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI AT 28 DAYS.

**TYPICAL THRUST BLOCK DETAILS**  
N.T.S.



**TYPICAL SEWER/WATER JOINT TRENCH SPACING**  
N.T.S.

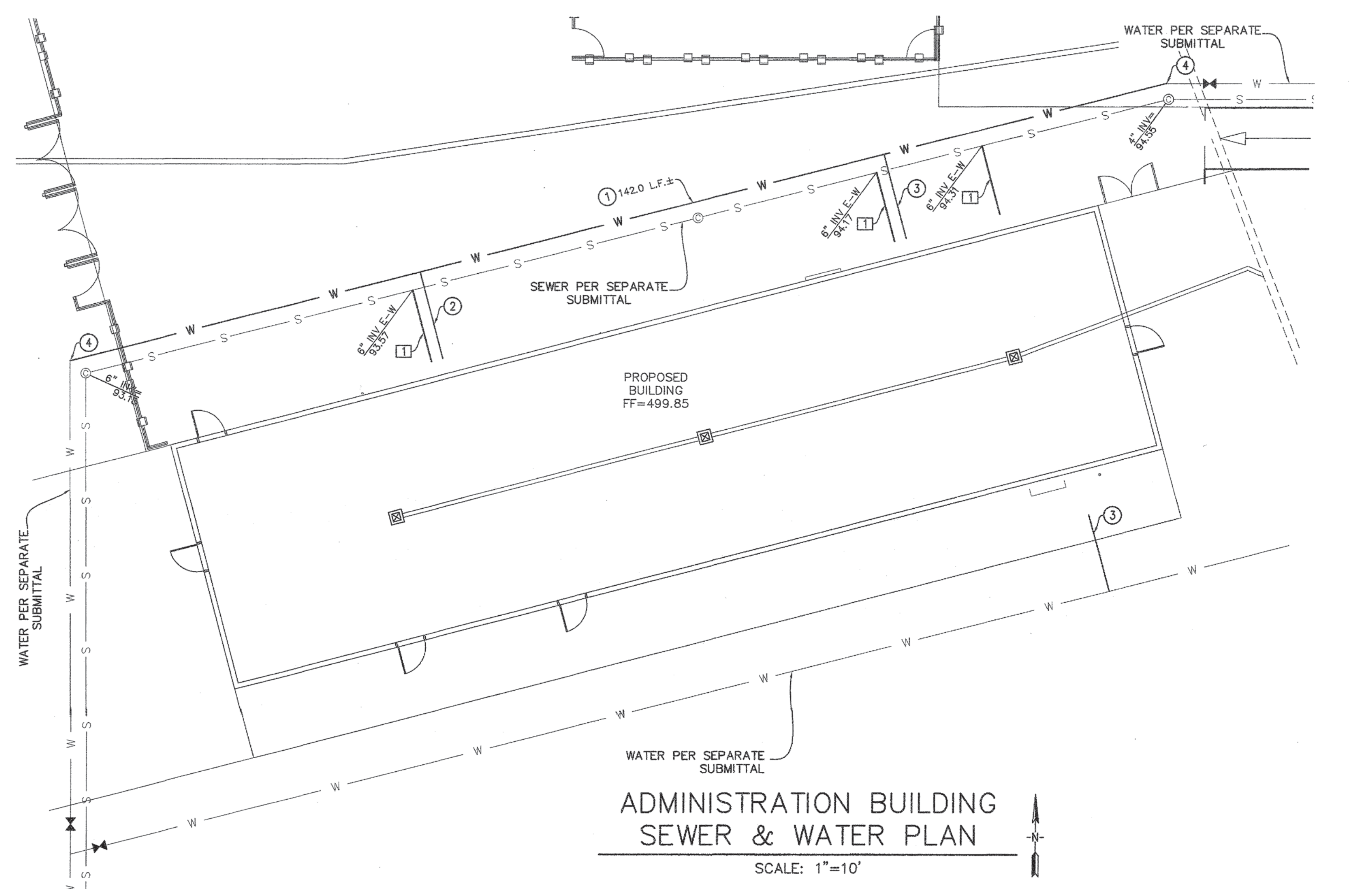


**TRENCH DIMENSIONS**

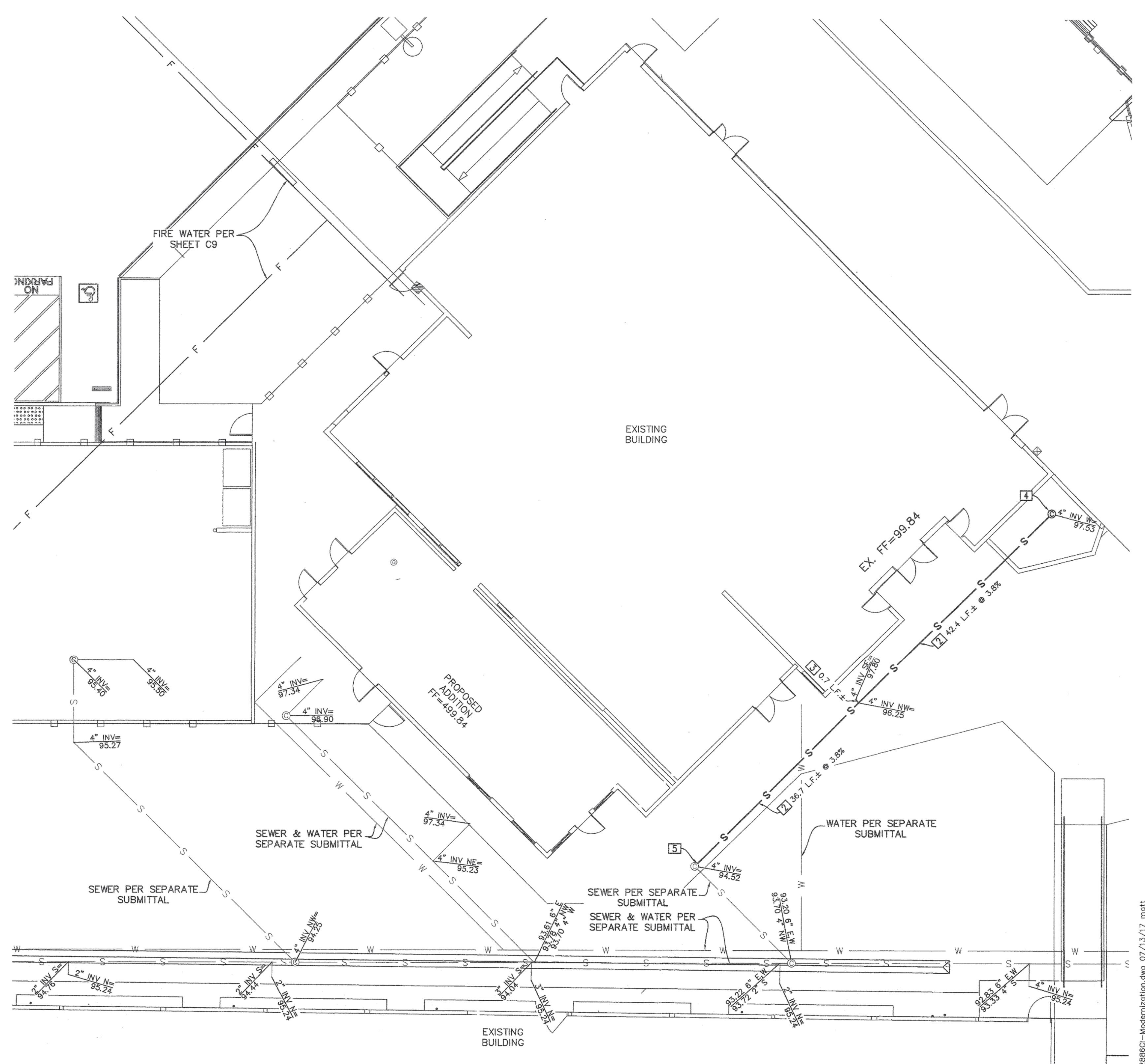
PIPE SIZE	W	MC
4"	22"	30"
6"	24"	30"
8"	30"	30"
10"-12"	36"	36"

NOTE: EMBEDMENT MATERIALS SHALL BE CLASS 1 OR II PER A.S.T.M. D3321  
MAX SIZE=1"

**TYPICAL PVC PIPE TRENCH SECTION**  
N.T.S.



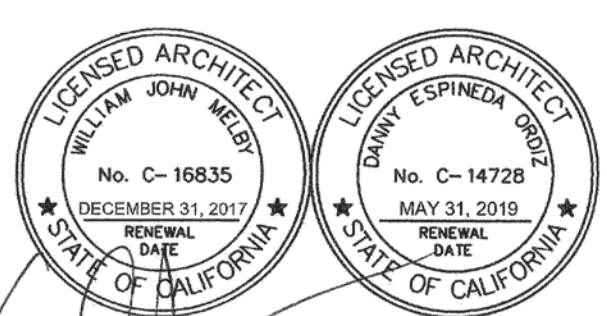
**ADMINISTRATION BUILDING SEWER & WATER PLAN**  
SCALE: 1"=10'



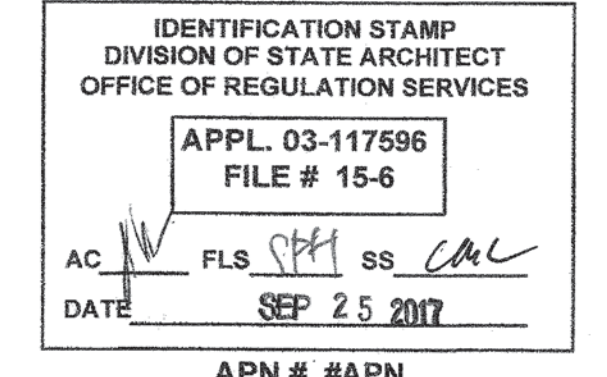
**MULTI-PURPOSE BUILDING SEWER & WATER PLAN**  
SCALE: 1"=10'



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**MODERNIZATION AT MARSA VOORHIES ELEMENTARY SCHOOL**  
6001 PIONEER DRIVE  
BAKERSFIELD, CA 93307  
FOR:

**BAKERSFIELD CITY SCHOOL DISTRICT**  
1300 BAKER STREET  
BAKERSFIELD CA 93305

PTN: 63321-186  
KEY PLAN

MARK	DATE	DESCRIPTION
△	12-09-15	DSA SUBMITTAL
△		
△		
△		

2015-1663  
CAD DRAWING FILE  
1663 VOORHIES MOD-Site Plan - CD18.pln

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**SEWER & WATER PLAN**

SHEET IDENTIFICATION NUMBER

**C-8**  
SHEET 8 OF 9

