

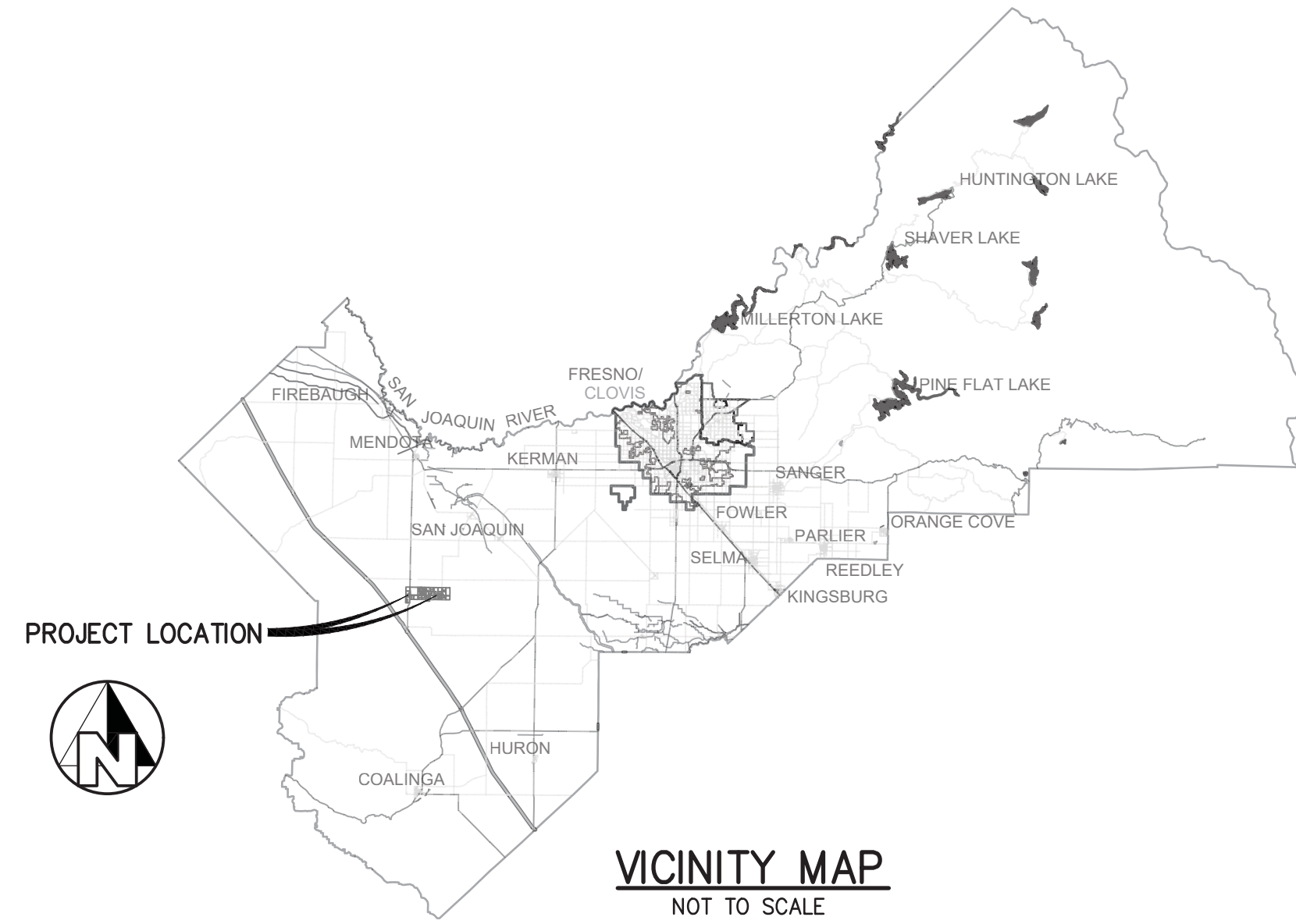
# PLANS FOR CONSTRUCTION

## COUNTY SERVICE AREAS 30 & 32

### EL PORVENIR & CANTUA CREEK

STATE OF CALIFORNIA DEPARTMENT OF WATER RESOURCES

## WATER SYSTEM IMPROVEMENTS



#### UTILITY/AGENCY CONTACT LIST

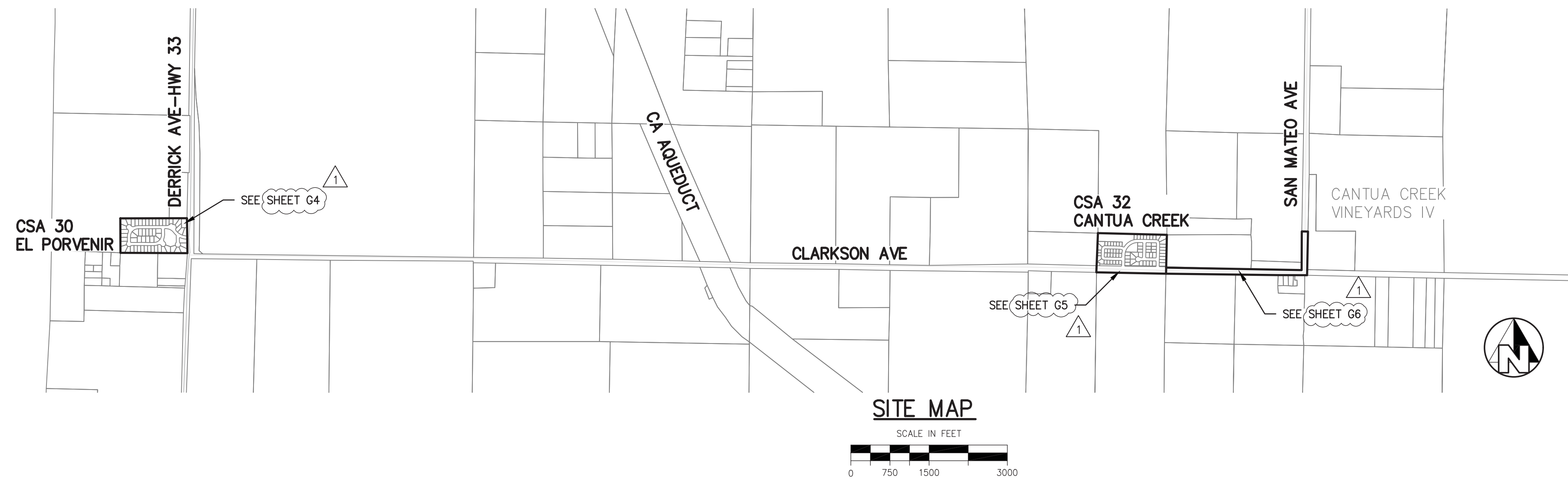
PG&E	CALL CENTER	800-743-5000
WESTLANDS WATER DISTRICT	ALEX YOUNG	559-884-2523
FRESNO COUNTY	MITCH WRIGHT	559-994-4744
CALTRANS	JOE ESPINOSA	559-349-0450

#### County of Fresno Board of Supervisors

Ernest Buddy Mendes	Chairman	4th District
Steve Brandau	Vice Chairman	2nd District
Brian Pacheco		1st District
Sal Quintero		3rd District
Nathan Magsig		5th District

Jean M. Rousseau  
County Administrative Officer

APPROVED \_\_\_\_\_  
APPROVED \_\_\_\_\_  
Steven E. White, Director  
Department of Public Works and Planning  
Department of Public Works and Planning



CALIFORNIA CONTRACTOR'S LICENSES REQUIRED FOR THIS PROJECT					
CLASS A, GENERAL ENGINEERING; CLASS C34, PIPELINE					
DRAWING NO.	ROAD NO.	BRIDGE NO.	FISCAL YR.	SHEET NO.	TOTAL
11305		N/A		G1	33
CONTRACT NO. 20-10-C					

RECORD DRAWING	
NAME	
ADDRESS	
CITY	
PHONE	
DATE AWARDED	
DATE STARTED	
DATE COMPLETED	
NAME	RESIDENT ENGINEER
STATE	
NAME	



SHEET INDEX		
SHEET NO.	SHEET NO.	DESCRIPTION
GENERAL		
1	G1	COVER SHEET
2	G2	SHEET INDEX & GENERAL NOTES
3	G3	CIVIL LEGEND
4	G4	EL PORVENIR INDEX SHEET
5	G5	CANTUA CREEK INDEX SHEET 1
6	G6	CANTUA CREEK INDEX SHEET 2
7	G7	HORIZONTAL CONTROL PLAN
PLAN & PROFILE: CSA 30 EL PORVENIR		
8	C1-1	W EL PROGRESSO AVE STA 10+00 TO 18+99
9	C1-2	W EL PROGRESSO AVE STA 20+00 TO END
10	C1-3	W HIDALGO AVE STA 30+00 TO END
11	C1-4	TANK SITE STA 40+00 JUAREZ AVE STA 50+00
PLAN & PROFILE: CSA 32 CANTUA CREEK		
12	C2-1	W LATTA AVE STA 60+00 TO 64+17
13	C2-2	W LATTA AVE STA 65+00 TO END
14	C2-3	W HIDALGO AVE STA 73+00 TO END
15	C2-4	DOMENGINE & TERRADO AVE
16	C2-5	S CHAPPO AVE STA 90+00 TO END
17	C2-6	S SANTA CLARA AVE STA 94+00 TO END
18	C2-7	W CLARKSON AVE STA 100+00 TO STA 107+50
19	C2-8	W CLARKSON AVE STA 107+50 TO 112+84
20	C2-9	W CLARKSON AVE STA 125+50 TO 135+00
21	C2-10	CLARKSON & SAN MATEO AVE STA 135+00 TO END
22	C2-11	PUMP CONNECTION AT TANK SITE
23	C2-12	W CLARKSON AVE SOUTH STA 234+03 TO 236+71
DETAILS		
24	CD-1	CONSTRUCTION DETAILS
25	CD-2	CONSTRUCTION DETAILS
26	CD-3	CONSTRUCTION DETAILS
27	CD-4	CONNECTION & MISC DETAILS
28	CD-5	CONNECTION & MISC DETAILS
29	CD-6	CONNECTION & MISC DETAILS
30	CD-7	ABANDONMENT DETAILS
31	CD-8	CSA 30 EL PORVENIR WATER MAIN ABANDONMENT
32	CD-9	CSA 32 CANTUA CREEK WATER MAIN ABANDONMENT
33	CD-10	CSA 32 CLARKSON AVENUE WATER MAIN ABANDONMENT

**CONSTRUCTION NOTES**

**BASIS OF BEARINGS**

THE NORTH LINE OF THE NORTHWEST QUARTER OF SECTION 34, TOWNSHIP 16 SOUTH, RANGE 15 EAST, M.D.B. & M., IS TAKEN TO BEAR N 89° 59' 26" W PER MAP OF TRACT NO. 3456, CANTUA CREEK SUBDIVISION NO. 1, RECORDED IN VOLUME 39, PAGES 23 & 24 OF PLATS, FRESNO COUNTY RECORDS.

**BASIS OF COORDINATES**

THE NORTH QUARTER CORNER OF SECTION 34, TOWNSHIP 16 SOUTH, RANGE 15 EAST, M.D.B. & M., IS ASSUMED TO BE AT COORDINATES:

N = 9,938.331 E = 28,757.155

**BASIS OF ELEVATIONS**

FRESNO COUNTY BENCH MARK MF 127 1/2, A USC&G BRASS CAP MONUMENT STAMPED "128.48L" LOCATED 1.0' WEST OF THE EAST END OF THE NORTH CONCRETE CURB ON THE CLARKSON AVE. BRIDGE OVER THE CALIFORNIA AQUEDUCT. ELEVATION IS ASSUMED TO BE 339.51 US SURVEY FEET TO APPROXIMATE THE DATUM USED FOR USBR PLANS.

**TOPOGRAPHY NOTE**

TOPOGRAPHY SHOWN IS FIELD SURVEY DATA PROVIDED BY THE COUNTY OF FRESNO DATED OCTOBER 16, 2016, AND SUPPLEMENTED BY FIELD SURVEYS CONDUCTED UNDER THE DIRECTION OF TIM ODOM, PLS 8468.

**BOUNDARY NOTE**

THE BOUNDARY/EASEMENT INFORMATION SHOWN ON THESE PLANS IS BASED UPON RECORD INFORMATION TIED TO PHYSICAL MONUMENTS, AND WAS PREPARED UNDER THE DIRECTION OF TIM ODOM, PLS 8468.

- SEWER, RAW WATER, GAS AND STORM DRAIN UTILITY CROSSINGS:

- THE CONTRACTOR SHALL VERIFY THE DEPTH OF THE EXISTING UTILITY PIPES AS THE FIRST ORDER OF WORK AND SHALL NOTIFY THE ENGINEER OF ANY OBSERVED CONFLICTS WITH THE PROPOSED WATER MAIN PROFILES. IN NO CASE WILL LESS THAN 4" CLEARANCE BE ALLOWED BETWEEN EXISTING UTILITIES AND NEW WATER MAINS.
  - IF THE NEW WATER MAIN IN CSA 30 IS ABOVE THE EXISTING UTILITY PIPE AND CLEARANCE IS LESS THAN 12", THE CONTRACTOR SHALL INSTALL A MINIMUM LENGTH OF 20' OF CLASS 350 DR XTREME OR DR FLEX DIP PIPE WITHOUT JOINTS, CENTERED ON THE EXISTING UTILITY PIPE.
  - IF THE NEW WATER MAIN IN CSA 32 IS ABOVE THE EXISTING UTILITY PIPE AND CLEARANCE IS LESS THAN 12", THE CONTRACTOR SHALL INSTALL A MINIMUM LENGTH OF 20' OF AWWA C-900 CLASS 305 (DR14) PVC WITHOUT JOINTS, CENTERED ON THE EXISTING UTILITY PIPE.
  - FOR BOTH CONDITION B AND C ABOVE, IF THE NEW WATER MAIN IS INSTALLED BELOW THE EXISTING UTILITY PIPE AND CLEARANCE IS LESS THAN 12", A CEMENT SLURRY BACKFILL SHALL BE REQUIRED PER DETAIL 1 ON DRAWING NO. CD-1 IN ADDITION TO THE REQUIREMENTS LISTED ABOVE.
- SEWER LATERAL CROSSINGS:
    - NEW WATER MAINS SHALL BE INSTALLED ABOVE EXISTING SEWER HOUSE BRANCH LATERALS WITH A MINIMUM CLEARANCE OF 4".
    - WHEREVER NECESSARY, EXISTING SEWER HOUSE BRANCH LATERALS IN CONFLICT WITH THE NEW WATER MAIN PROFILE SHALL BE REMOVED AND REINSTALLED AS SHOWN PER DETAIL 3 ON DRAWING NO. CD-6.
  - THE NEW WATER MAIN PROFILES SHOWN HEREON INCLUDE VERTICAL GRADE BREAKS THAT SHOULD THEORETICALLY BE POSSIBLE TO MAKE BY MINOR DEFLECTIONS AT PIPE JOINTS. IF CHANGES NEED TO BE MADE TO THE PROFILES DUE TO EXISTING UTILITY CONFLICTS, ADDITIONAL VERTICAL BEND FITTINGS MAY NEED TO BE INSTALLED. HOWEVER, NO CHANGES SHALL BE MADE TO THE PROFILES WITHOUT APPROVAL BY THE ENGINEER.
  - COMBINATION AIR VALVES SHALL BE INSTALLED AT ALL HIGH POINTS IN THE PIPE PROFILE, AT THE LOCATIONS SHOWN ON THE PLANS. IF ADDITIONAL HIGH POINTS ARE CREATED DUE TO DEVIATIONS FROM THE DESIGN PROFILES, ADDITIONAL COMBINATION AIR VALVES MAY BE REQUIRED AS DETERMINED BY THE ENGINEER.
  - MINIMUM DEPTH OF COVER OVER THE NEW WATER MAINS SHALL BE MAINTAINED AS SPECIFIED ON THE PLANS. ANYWHERE MINIMUM COVER CANNOT BE ACHIEVED, IMPROVED PIPE BEDDING, INCLUDING CONCRETE SLURRY CRADLES MAY BE REQUIRED, AS DIRECTED BY THE ENGINEER.

**SPECIAL NOTE**

WHERE UNDERGROUND AND SURFACE STRUCTURES ARE SHOWN ON THE PLANS, THE LOCATIONS, DEPTH AND DIMENSIONS OF STRUCTURES ARE BELIEVED TO BE REASONABLY CORRECT, BUT ARE NOT GUARANTEED. SUCH STRUCTURES ARE SHOWN FOR THE INFORMATION OF THE CONTRACTOR, BUT INFORMATION SO GIVEN IS NOT TO BE CONSTRUED AS A REPRESENTATION THAT SUCH STRUCTURES WILL, IN ALL CASES, BE FOUND WHERE SHOWN, OR THAT THEY REPRESENT ALL OF THE STRUCTURES WHICH MAY BE ENCOUNTERED.

**SITE SAFETY AND PROTECTION NOTES**

THE DUTY OF THE ENGINEER, OWNER OR ITS AGENTS TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE AND THE UNDERTAKING OF INSPECTIONS OR THE GIVING OF INSTRUCTIONS AS AUTHORIZED HEREIN IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES IN, ON, OR NEAR THE CONSTRUCTION SITE AND SHALL NOT BE CONSTRUED AS SUPERVISION OF THE ACTUAL CONSTRUCTION NOR MAKE THE ENGINEER, OWNER OR ITS AGENTS RESPONSIBLE FOR PROVIDING A SAFE PLACE FOR THE PERFORMANCE OF WORK BY THE CONTRACTOR, SUBCONTRACTORS, OR SUPPLIERS, OR FOR ACCESS, VISITS, USE, WORK, TRAVEL OR OCCUPANCY BY ANY PERSON.

THE CONTRACTOR SHALL HAVE AT THE WORK SITE, COPIES OR SUITABLE EXTRACTS OF CONSTRUCTION SAFETY ORDERS, ISSUED BY CAL-OSHA. CONTRACTOR SHALL COMPLY WITH PROVISIONS OF THESE AND ALL OTHER APPLICABLE LAWS, ORDINANCES AND REGULATIONS. THE CONTRACTOR MUST COMPLY WITH PROVISIONS OF THE SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION, PROMULGATED BY THE SECRETARY OF LABOR UNDER SECTION 107 OF THE CONTRACT WORK HOURS AND SAFETY STANDARDS ACT, AS SET FORTH IN TITLE 29 C.F.R.

TO PROTECT THE LIVES AND HEALTH OF CONTRACTOR'S EMPLOYEES UNDER THE CONTRACT, THE CONTRACTOR SHALL COMPLY WITH ALL PERTINENT PROVISIONS OF THE "MANUAL OF ACCIDENT PREVENTION IN CONSTRUCTION" ISSUED BY THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA, INC., AND SHALL MAINTAIN AN ACCURATE RECORD OF ALL CASES OF DEATH, OCCUPATIONAL DISEASE, AND INJURY REQUIRING MEDICAL ATTENTION OR CAUSING LOSS OF TIME FROM WORK, ARISING OUT OF AND IN THE COURSE OF EMPLOYMENT OR WORK UNDER THE CONTRACT.

THE CONTRACTOR ALONE SHALL BE RESPONSIBLE FOR THE SAFETY, EFFICIENCY, AND ADEQUACY OF CONTRACTOR'S FACILITIES, APPLIANCES, AND METHODS AND FOR ANY DAMAGE, WHICH MAY RESULT FROM THEIR FAILURE OR THEIR IMPROPER CONSTRUCTION, MAINTENANCE OR OPERATION.

THE CONTRACTOR AGREES THAT IT SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER, PROVOST & PRITCHARD CONSULTING GROUP, AND THEIR RESPECTIVE AGENTS HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF OWNER, ENGINEER, OR THEIR RESPECTIVE AGENTS.

THE OWNER AND ITS AGENTS' SITE RESPONSIBILITIES ARE LIMITED SOLELY TO THE ACTIVITIES OF THEIR EMPLOYEES ON SITE. THESE RESPONSIBILITIES SHALL NOT BE INFERRED BY ANY PARTY TO MEAN THAT THE OWNER OR ITS AGENTS HAVE RESPONSIBILITY FOR SITE SAFETY, SAFETY IN, ON, OR ABOUT THE SITE IS THE SOLE AND EXCLUSIVE RESPONSIBILITY OF THE CONTRACTOR ALONE. THE CONTRACTOR'S METHODS OF WORK PERFORMANCE, SUPERINTENDENCE AND THE CONTRACTOR'S EMPLOYEES, AND SEQUENCING OF CONSTRUCTION ARE ALSO THE SOLE AND EXCLUSIVE RESPONSIBILITIES OF THE CONTRACTOR ALONE.

EXCESS MATERIAL AND DEBRIS SHALL BE REMOVED FROM THE ROAD RIGHT-OF-WAY AND DISPOSED OF BY THE CONTRACTOR AT THE END OF CONSTRUCTION OPERATIONS, NIGHTLY.

**WATER FACILITY NOTES**

- THE WORK CONTAINED HEREIN SHALL COMPLY WITH TITLE 22 SECTION 64572 OF THE CALIFORNIA CODE OF REGULATIONS.
- USED MATERIAL, REJECTS, MISFITS, OR SECONDS, ETC. ARE NOT ACCEPTABLE FOR USE ON COUNTY OF FRESNO FACILITIES.
- TYPICAL MINIMUM PIPE COVER FOR ALL DIP PIPE SHALL BE 3.0 FEET (2.5 FEET ALLOWED WHERE APPROVED BY THE ENGINEER.)
- MINIMUM PIPE COVER FOR ALL PVC PIPE LOCATED IN PAVEMENT SHALL BE 3.0 FEET.
- MINIMUM PIPE COVER FOR ALL PVC PIPE NOT LOCATED IN PAVEMENT SHALL BE 3.5 FEET.
- WATER MAIN SHALL BE INSTALLED WITH BEDDING, PIPE ZONE BACKFILL, MARKER TAPE, AND TRACER WIRE PER DETAIL 2 ON DRAWING (CD-1). TRENCH BACKFILL SHALL BE COMPACTED IN ACCORDANCE WITH THE SPECIFICATIONS AND THE GEOTECHNICAL REPORT CONTAINED IN THE SPECIFICATIONS.
- PERMANENT TRENCH RESURFACING SHALL BE IN ACCORDANCE WITH DETAIL 8 ON DRAWING (CD-3)
- FIRE HYDRANTS SHALL BE INSTALLED PER DETAIL 1 ON DRAWING (CD-2)
- WATER SERVICES SHALL BE INSTALLED BY TRENCH INSTALLATION OR BORED INTO PLACE AS DETERMINED BY THE CONTRACTOR.
- RESTRAINED JOINTS ARE TO BE USED EVERYWHERE ON THE PROJECT EXCEPT AT LOCATIONS SPECIFIED ON THE PLANS AND DETAILS OR SPECIALLY APPROVED BY THE ENGINEER. RESTRAINED JOINTS ARE TO BE INSTALLED PER DETAILS ON DRAWING (CD-3) THRUST BLOCK DESIGN AND SIZE ARE ARE TO BE INSTALLED PER DETAIL 1 ON SHEET (CD-3)
- PERMANENT BLOW-OFF DEVICES SHALL BE INSTALLED PER DETAIL 4 ON DRAWING (CD-2)
- GATE VALVES SHALL BE INSTALLED PER PROJECT SPECIFICATIONS AND DETAIL 3 ON DRAWING (CD-2)
- WATER METERS SHALL BE BADGER PER SPECIFICATION SECTION 33 10 00. NO SUBSTITUTIONS SHALL BE ALLOWED.
- NEW WATER FACILITIES SHALL BE TESTED AND DISINFECTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
- AFTER THE WATER SYSTEM HAS BEEN TESTED AND ACCEPTED, CONNECTIONS TO THE WATER SERVICES AT THE METER WILL BE COMPLETED.
- PLACE FIRE HYDRANT MINIMUM 5' CLEAR OF DRIVE APPROACHES AND OBSTRUCTIONS AS DIRECTED BY ENGINEER.
- ALL BURIED WATER MAIN SHALL BE OF THE TYPE AND CLASS SPECIFIED ON THE PLANS. ALL BURIED DUCTILE IRON PIPE SHALL BE WRAPPED IN POLYETHYLENE ENCASMENT.
- ALL ABOVE GROUND PIPE 4" OR LARGER IN DIAMETER SHALL BE DUCTILE IRON PIPE WITH FLANGED CONNECTIONS PER THE SPECIFICATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
- AT LOCATIONS WHERE NEW WATER MAIN CONFLICTS WITH EXISTING WATER MAIN, EXISTING ASBESTOS CONCRETE WATER MAINS SHALL BE REMOVED AND DISPOSED OF AS NOTED ON THE PLANS AND PER ALL APPLICABLE REQUIREMENTS.
- ANY EXISTING WATER SERVICES THAT CONFLICT WITH THE NEW PIPELINE ALIGNMENT SHALL BE REMOVED AND TEMPORARILY REPLACED.
- ANY EXISTING SEWER SERVICES CONFLICTING WITH NEW WATER LINE SHALL BE RELAI D PER DETAIL 3 ON SHEET (CD-6)

**UTILITY POLE SPECIAL NOTES**

- POLES SHALL BE SUPPORTED AT ALL TIMES WHERE OUTSIDE EDGE OF TRENCH IS WITHIN 5' OF OUTSIDE EDGE OF POLE UNTIL SUCH TIME THAT TRENCH IS BACKFILLED AND COMPACTED. THE CONTRACTOR SHALL SUPPORT EXISTING POLES IN A MANNER APPROVED IN ADVANCE BY UTILITY COMPANY.
- THE CONTRACTOR SHALL NOTIFY UTILITY IN ADVANCE OF STARTING CONSTRUCTION ACTIVITIES REQUIRING POLE HOLDING AND OBTAIN A POLE HOLDING PERMIT.

**GENERAL NOTES**

- ALL CONSTRUCTION SHALL BE IN CONFORMANCE WITH THESE PLANS, PROJECT SPECIFICATIONS, AND ALL OTHER STANDARDS REFERENCED.
- THE CONTRACTOR SHALL FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING FACILITIES PRIOR TO COMMENCING WORK. CALL UNDERGROUND SERVICE ALERT (USA) AT 8-1-1. CONTRACTOR SHALL MAKE ENGINEER AWARE OF ANY DISCREPANCIES.
- THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE COUNTY OF FRESNO AND OBTAIN APPROVAL PRIOR TO THE PRE-CONSTRUCTION MEETING. TRAFFIC CONTROL MEASURES SHALL BE IN CONFORMANCE WITH THE CALIFORNIA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST REVISION.
- THE CONTRACTOR SHALL OBTAIN AN ENCROACHMENT PERMIT FROM CALTRANS FOR ANY TRAFFIC CONTROL OR OTHER INCIDENTAL WORK REQUIRED WITHIN THE STATE HIGHWAY 33 RIGHT OF WAY.
- THE CONTRACTOR SHALL REPLACE ANY DISTURBED WARNING MARKERS, SIGNS, STRIPING, CROSS BARS AND STOP BARS AS NECESSARY AND AS DIRECTED BY THE COUNTY.
- WORK WITHIN WESTLANDS WATER IRRIGATION DISTRICT EASEMENT (SEE SHEET C2-10) SHALL BE COMPLETED IN ACCORDANCE WITH CONSTRUCTION NOTES SHOWN ON THIS SHEET AND INCLUDED IN THE PROJECT DETAILS.
- THE CONTRACTOR SHALL COMPLY WITH THE ENVIRONMENTAL PROTECTION MEASURES SPECIFIED IN SECTION 01 35 43.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE DUST CONTROL AT ALL TIMES AND COMPLYING WITH ALL REQUIREMENTS OF THE SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT. REFER TO THE PROJECT SPECIFICATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING AND IMPLEMENTING A STORM WATER POLLUTION PREVENTION PLAN (SWPPP). REFER TO THE PROJECT SPECIFICATIONS.
- ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE HEALTH AND SAFETY LAWS OF THE STATE OF CALIFORNIA AND CAL/OSHA STANDARDS.
- ALL EXCESS MATERIAL AND/OR DEBRIS SHALL BE REMOVED UPON PROJECT COMPLETION.
- A PRE-CONSTRUCTION MEETING BETWEEN ALL PARTIES INVOLVED IN THE CONSTRUCTION AND INSPECTION OF IMPROVEMENTS SHALL BE ARRANGED BY THE OWNER.
- THE CONTRACTOR SHALL CONDUCT A VIDEO OF THE ENTIRE PROJECT LIMITS TO RECORD PRE-EXISTING CONDITIONS OF THE COUNTY ROAD AND PROPERTY FRONTAGE IMPROVEMENTS PRIOR TO THE START OF CONSTRUCTION.
- THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS INCLUDING BUT NOT LIMITED TO: FENCES, GATES, MAILBOXES, CONCRETE, AND LANDSCAPING. ANY EXISTING IMPROVEMENTS DAMAGED SHALL BE REPLACED "IN KIND" AND RESTORED TO THEIR ORIGINAL CONDITION.

**EXISTING UTILITY NOTES**

- THE CONTRACTOR SHALL POTHOLE ALL EXISTING FACILITIES IDENTIFIED PRIOR TO THE START OF CONSTRUCTION AS FIRST ORDER OF WORK. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY CONFLICTS PRIOR TO CONSTRUCTION TO ALLOW ADVANCE DECISIONS TO BE MADE ON NECESSARY RELOCATIONS OR GRADE CHANGES TO PROPOSED FACILITIES. THE COUNTY RESIDENT ENGINEER SHALL APPROVE FIELD CHANGES THAT INCLUDE ANY RELOCATIONS AND GRADE CHANGES ASSOCIATED WITH EXISTING FACILITY CONFLICTS.
- POTHOLING SHALL EXPOSE THOSE FACILITIES THAT MAY AFFECT THE LOCATION OR DEPTH OF THE WATER MAIN OR THOSE UTILITIES AS SPECIFICALLY NOTED HEREIN.
- THE EXISTING CSA 30 AND CSA 32 WATER DISTRIBUTION SYSTEMS AND SEWER COLLECTION SYSTEMS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS BASED ON INFORMATION PROVIDED BY THE COUNTY OF FRESNO. THE CONTRACTOR SHALL COORDINATE WITH THE COUNTY'S REPRESENTATIVE TO IDENTIFY LOCATION OF EXISTING WATER AND SEWER FACILITIES IN THE FIELD. THE CONTRACTOR IS RESPONSIBLE FOR POTHOLING AND PHYSICALLY VERIFYING THE LOCATION AND DEPTH OF WATER AND SEWER FACILITIES.
- THE DEPTH OF SEWER MAINS SHOWN ARE APPROXIMATE BASED ON FIELD MEASUREMENTS AND FLOW LINES ARE SHOWN ON THE PLANS FOR REFERENCE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE DEPTH OF EXISTING SEWER MAINS AT WATER MAIN CROSSINGS.
- THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL SEWER SERVICES AND VERIFY ADEQUATE SEPARATION FROM NEW WATER SERVICES (SEE CONSTRUCTION NOTES ON THIS SHEET).

**WESTLAND'S WATER DISTRICT NOTES**

- SEE SPECIFICATION APPENDIX FOR WESTLANDS WATER DISTRICT STANDARD SPECIFICATIONS AND DRAWINGS .
- THE CONTRACTOR SHALL FOLLOW ALL WESTLANDS WATER DISTRICT STANDARDS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL NOTIFY WESTLANDS WATER DISTRICT SEVEN (7) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- CONTRACTOR SHALL POTHOLE WESTLANDS WATER DISTRICT UNDERGROUND FACILITIES PRIOR TO CONSTRUCTION TO VERIFY MATERIAL, LOCATION AND DEPTH OF FACILITY.
- THE CONTRACTOR SHALL PROVIDE ALL SUBMITTALS FOR MATERIALS THAT ARE USED FOR CONSTRUCTION THAT INVOLVES DISTRICT FACILITIES FOR REVIEW AND APPROVAL.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE OR LEAKS CAUSED BY CONSTRUCTION EFFORTS ON OR AROUND EXISTING WESTLANDS WATER DISTRICT FACILITIES.

**SPECIAL PLAN & PROFILE PLAN NOTES**

- ALL STATIONING AND STATION & OFFSETS SHOWN ON THE PLANS ARE BASED ON THE PROPOSED CENTERLINE ALIGNMENTS OF THE NEW WATER MAINS.
- SOME OF THE DESIGNED ANCILLARY FACILITIES SUCH AS COMBINATION AIR VALVES, BLOW-OFFS, AND BACTERIOLOGICAL SAMPLING STATIONS ARE NOT DESIGNED TO BE PLACED AT THE SAME STATION AS THEIR POINT OF CONNECTION TO THE WATER MAIN. THE STATION & OFFSETS LISTED FOR THESE FACILITIES IN THE PLAN VIEW REPRESENT THE INTENDED ACTUAL INSTALLED LOCATIONS OF THESE FACILITIES. THE STATIONS LISTED FOR THESE FACILITIES IN THE PROFILE VIEW REPRESENTS THE INTENDED LOCATION OF THEIR POINT OF CONNECTION TO THE WATER MAIN.

ADDENDUM NO. 1 - SHEET REFERENCES 09/10/2020

*John L. Lander*

06/30/2020



**PROJECT**

CSA 30 & 32 WATER SYSTEM IMPROVEMENTS  
COUNTY OF FRESNO

BRIDGE NO. N/A



**DEPARTMENT OF PUBLIC WORKS AND PLANNING**

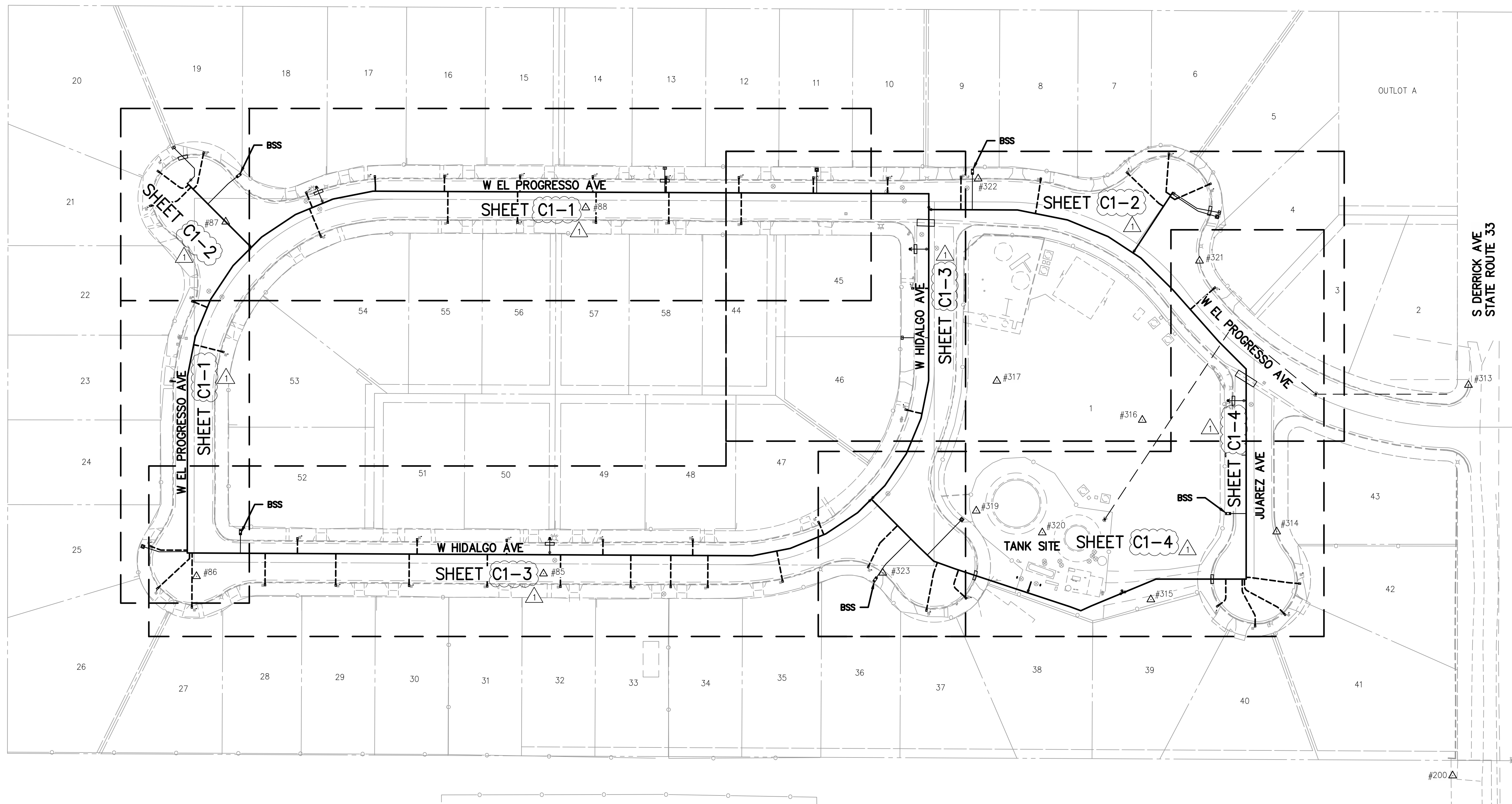
**SHEET INDEX & GENERAL NOTES**  
GENERAL

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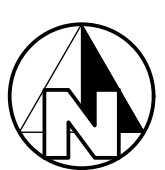
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TOTAL 33



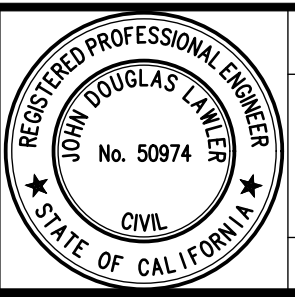


SURVEY CONTROL POINTS				
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87	AC NAIL IN PAVEMENT	423.28	10,439.835	8,860.110
88	AC NAIL IN PAVEMENT	418.66	10,452.336	9,178.751
200	COTTON SPINDLE	414.13	9,949.876	9,946.054
313	CHISLED "X" ON TC	414.56	10,295.388	9,960.082
314	CHISLED "X" ON TC	413.14	10,165.705	9,790.321
315	COTTON SPINDLE	415.15	10,105.652	9,678.956
316	COTTON SPINDLE	413.76	10,264.474	9,671.399
317	COTTON SPINDLE	415.13	10,299.011	9,542.625
319	COTTON SPINDLE	417.11	10,184.162	9,524.433
320	COTTON SPINDLE	416.30	10,164.842	9,582.865
321	CHISLED "X" ON TC	413.59	10,405.285	9,722.022
322	CHISLED "X" ON TC	416.13	10,477.924	9,526.072
323	CHISLED "X" ON TC	419.49	10,129.261	9,441.646



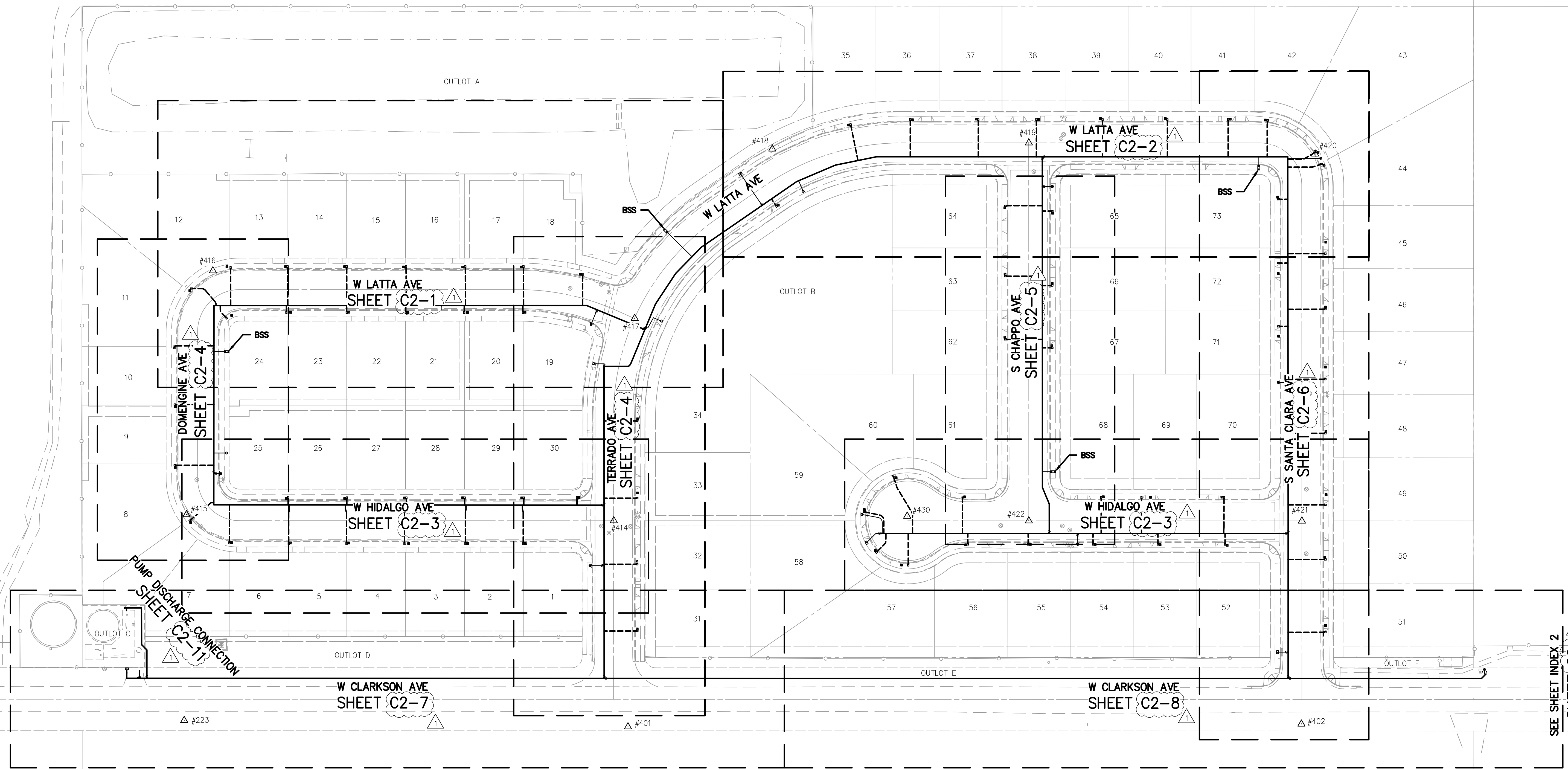
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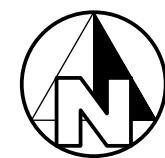


FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

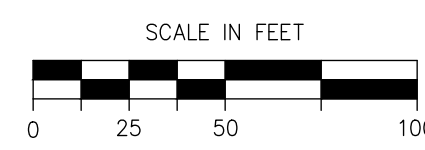
△ SEE SHEET G6 FOR SURVEY CONTROL POINT DATA



SEE SHEET INDEX 2  
SHEET C6

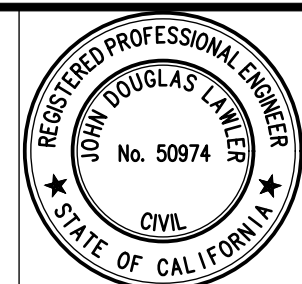


1 ADDENDUM NO. 1 - SHEET REFERENCES 09/10/2020



*John Paul*

06/30/2020



PROJECT  
CSA 30 & 32 WATER SYSTEM IMPROVEMENTS  
COUNTY OF FRESNO

BRIDGE NO. N/A



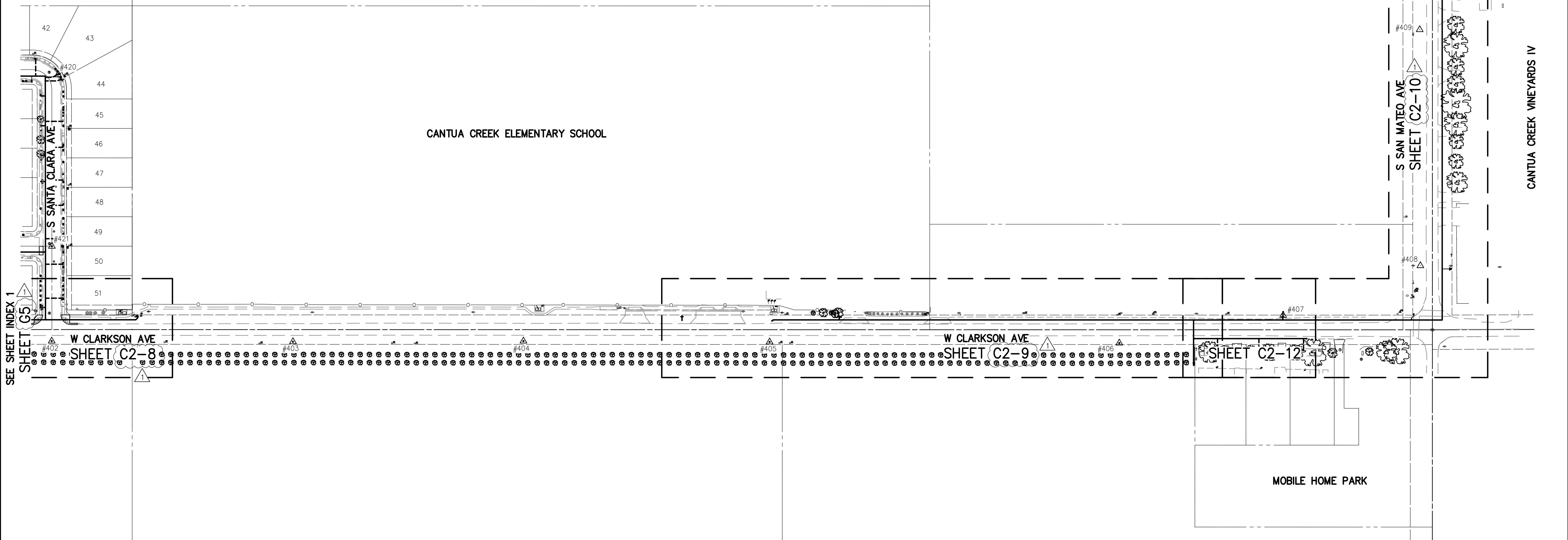
DEPARTMENT OF PUBLIC WORKS AND PLANNING  
CANTUA CREEK INDEX SHEET 1  
GENERAL

DRAWING NO. 11305

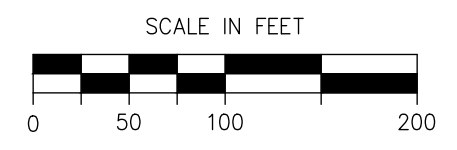
SHEET NO. G5

TOTAL 33

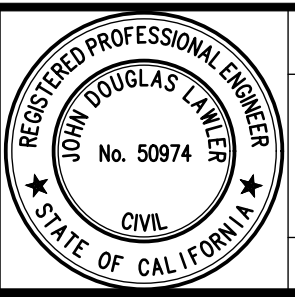
SURVEY CONTROL POINTS				
PT #	DESCRIPTION	ELEV	NORTHING	EASTING
223	REBAR WITH CAP	300.29	9,918.325	27,529.225
401	REBAR WITH CAP	298.47	9,912.254	27,951.762
402	REBAR WITH CAP	297.45	9,914.942	28,592.982
403	REBAR WITH CAP	296.01	9,913.535	29,084.755
404	REBAR WITH CAP	295.33	9,914.904	29,554.457
405	REBAR WITH CAP	294.48	9,913.071	30,056.224
406	REBAR WITH CAP	293.38	9,910.884	30,768.968
407	REBAR WITH CAP	292.45	9,967.180	31,102.859
408	REBAR WITH CAP	290.69	10,068.539	31,382.593
409	REBAR WITH CAP	289.64	10,549.608	31,381.252
410	REBAR WITH CAP	288.52	11,133.741	31,383.175
414	BRASS CAP C MON.	299.85	10,108.457	27,938.291
415	CHISLED "X" ON TC	300.35	10,114.307	27,531.474
416	CHISLED "X" ON TC	299.69	10,346.372	27,556.561
417	BRASS CAP C MON.	299.00	10,301.131	27,958.187
418	CHISLED "X" ON TC	298.09	10,462.364	28,089.211
419	BRASS CAP C MON.	298.22	10,468.153	28,333.454
420	CHISLED "X" ON TC	298.66	10,457.639	28,606.017
421	BRASS CAP C MON.	298.84	10,108.184	28,593.435
422	BRASS CAP C MON.	299.21	10,108.322	28,333.433
430	CHISLED "X" ON MH RIM	299.37	10,112.792	28,217.618



1 ADDENDUM NO. 1 - SHEET REFERENCES 09/10/2020



*John L. Lander*  
06/30/2020



PROJECT  
CSA 30 & 32 WATER SYSTEM IMPROVEMENTS  
COUNTY OF FRESNO  
BRIDGE NO. N/A



DEPARTMENT OF PUBLIC WORKS AND PLANNING  
CANTUA CREEK INDEX SHEET 2  
GENERAL  
DRAWING NO. 11305 SHEET NO. G6 TOTAL 33

CSA 30 - El Porvenir Subdivision  
Water Distribution System

Pipeline Station	Description	Coordinates	
		North	East
<b>El Progreso Avenue (West)</b>			
10+00.00	6" 90' Bend (Hidalgo)	10,146.86	8,826.09
N 00' 03' 46" E 156.28'			
11+56.28	6" 11 1/4' Bend	10,303.14	8,826.26
N 11' 09' 17" E 35.75'			
11+92.03	6" 11 1/4' Bend	10,338.21	8,833.18
N 22' 24' 17" E 35.75'			
12+27.78	6" 11 1/4' Bend	10,371.26	8,846.80
N 33' 39' 17" E 35.75'			
12+63.53	6" 11 1/4' Bend	10,401.02	8,866.62
N 45' 00' 19" E 22.85'			
12+86.38	6"x4" Tee (West Knuckle)	10,417.18	8,882.77
N 45' 00' 19" E 12.90'			
12+99.28	6" 11 1/4' Bend	10,426.30	8,891.90
N 56' 21' 18" E 35.96'			
13+35.24	6" 11 1/4' Bend	10,446.22	8,921.83
N 67' 36' 21" E 36.00'			
13+71.24	6" 11 1/4' Bend	10,459.94	8,955.12
N 78' 51' 21" E 36.00'			
14+07.24	6" 11 1/4' Bend	10,466.89	8,990.44
S 89' 44' 14" E 492.00'			
18+99.24	6" 90' Bend (Hidalgo)	10,464.64	9,482.44
<b>Westerly Knuckle</b>			
1+00.00	6"x6"x4" Tee (El Progreso)	10,417.18	8,882.77
N 44' 59' 41" W 80.00'			
1+80.00	End (B.O.)	10,473.75	8,826.21

**El Progreso Avenue (East)**

20+00.00	6"x6"x6" Tee (Hidalgo)	10,450.64	9,482.42
S 89' 44' 14" E 78.50'			
20+78.50	6" 11 1/4' Bend	10,450.28	9,560.92
S 78' 44' 14" E 45.10'			
21+23.60	6" 11 1/4' Bend	10,441.47	9,605.15
S 67' 44' 14" E 38.90'			
21+62.50	6" 11 1/4' Bend	10,426.73	9,641.15
S 56' 44' 14" E 26.30'			
21+88.80	6"x4" Tee (East Knuckle)	10,412.31	9,663.14
S 56' 44' 14" E 8.30'			
21+97.10	6" 11 1/4' Bend	10,407.76	9,670.08
S 45' 14' 14" E 40.00'			
22+37.10	Angle Point	10,379.59	9,698.48
S 41' 36' 18" E 61.43'			
22+98.53	Angle Point	10,333.66	9,739.27
S 45' 00' 14" E 34.00'			
23+32.53	6" 45' Bend (Juarez)	10,309.62	9,763.32

**Easterly Knuckle**

2+00.00	6"x6"x4" Tee (El Progreso)	10,412.31	9,663.14
N 33' 15' 46" E 64.00'			
2+64.00	End (B.O.)	10,465.82	9,698.25

CSA 30 - El Porvenir Subdivision  
Water Distribution System

Pipeline Station	Description	Coordinates	
		North	East
<b>Hidalgo Avenue</b>			
30+00.00	6" 90' Bend (El Progreso)	10,146.86	8,826.09
S 89' 43' 14" E 500.30'			
35+00.30	6" 11 1/4' Bend	10,144.42	9,326.38
N 79' 00' 08" E 34.00'			
35+34.30	6" 11 1/4' Bend	10,150.90	9,359.76
N 67' 43' 31" E 34.00'			
35+68.30	6" 11 1/4' Bend	10,163.79	9,391.22
N 56' 26' 53" E 33.90'			
36+02.20	6" 11 1/4' Bend	10,182.53	9,419.47
N 45' 10' 16" E 17.00'			
36+19.20	6"x6" Tee (to Tank Site)	10,194.51	9,431.53
N 45' 10' 16" E 17.00'			
36+36.20	6" 11 1/4' Bend	10,206.50	9,443.59
N 33' 56' 40" E 33.95'			
36+70.15	6" 11 1/4' Bend	10,234.66	9,462.54
N 22' 33' 49" E 33.95'			
37+04.10	6" 11 1/4' Bend	10,266.01	9,475.57
N 11' 20' 23" E 33.99'			
37+38.09	6" 11 1/4' Bend	10,299.34	9,482.26
N 00' 03' 46" E 151.30'			
38+89.39	6"x6" Tee (El Progreso)	10,450.64	9,482.42
N 00' 03' 46" E 14.00'			
39+03.39	6" 90' Bend (El Progreso)	10,464.64	9,482.44

CSA 30 - El Porvenir Subdivision  
Water Distribution System

Pipeline Station	Description	Coordinates	
		North	East
<b>Hidalgo Avenue Knuckle to Juarez Avenue Cul-de-Sac</b>			
40+00.00	6"x6" Tee (Hidalgo)	10,194.51	9,431.53
S 44' 49' 44" E 58.00'			
40+58.00	Angle Point	10,153.38	9,472.42
S 46' 10' 59" E 19.85'			
40+77.85	6" 22 1/2' Bend	10,139.63	9,486.74
S 70' 14' 28" E 19.85'			
40+97.70	Angle Point	10,132.92	9,505.42
S 71' 45' 55" E 67.80'			
41+65.50	6"x6" Tee (Tank Con.)	10,111.71	9,569.82
S 71' 45' 55" E 39.59'			
42+05.09	Angle Point	10,099.32	9,607.42
S 69' 48' 17" E 10.16'			
42+15.25	6" 45' Bend	10,095.81	9,616.96
N 65' 33' 12" E 10.26'			
42+25.51	Angle Point	10,100.06	9,626.30
N 67' 30' 00" E 30.15'			
42+55.66	6"x6" Tee (Future Con.)	10,111.60	9,654.15
N 67' 30' 00" E 31.77'			
42+87.43	6" 22 1/2' Bend	10,123.75	9,683.50
N 90' 00' 00" E 79.83'			
43+67.26	6" 90' Bend (Juarez)	10,123.75	9,763.33

CSA 30 - El Porvenir Subdivision  
Water Distribution System

Pipeline Station	Description	Coordinates	
		North	East
<b>Juarez Avenue</b>			
49+90.02	6" 90' Bend (to Tank Site)	10,123.75	9,763.33
N 00' 00' 14" W 185.86'			
51+75.88	6" 45' Bend (El Progreso)	10,309.62	9,763.32

CSA 32 - Cantua Creek  
Water Distribution System

Pipeline Station	Description	Coordinates	
		North	East
<b>Latta Avenue (West)</b>			
60+00.00	6" 90' Bend (Domengine)	10,313.34	27,557.56
N 89' 59' 19" E 354.81'			
63+54.81	6" 22.5' Bend	10,313.41	27,912.37
S 67' 29' 25" E 60.06'			
64+14.87	6"x6" Tee (Terrado)	10,290.41	27,967.86

CSA 32 - Cantua Creek  
Water Distribution System

Pipeline Station	Description	Coordinates	
		North	East
<b>Latta Avenue (East)</b>			
64+88.05	6"x6" Tee (Terrado)	10,290.41	27,967.86
N 22' 29' 19" E 26.35'			
65+14.40	6" 11 1/4' Bend	10,314.77	27,977.94
N 33' 29' 00" E 35.00'			
65+49.40	6" 11 1/4' Bend	10,343.96	27,997.25
N 44' 27' 57" E 35.00'			
65+84.40	6" 11 1/4' Bend	10,368.94	28,021.77
N 55' 27' 57" E 110.08'			
66+94.48	6" 11 1/4' Bend	10,431.34	28,112.45
N 66' 57' 57" E 40.00'			
67+34.48	6" 11 1/4' Bend	10,446.99	28,149.26
N 78' 30' 18" E 40.00'			
67+74.48	6" 11 1/4' Bend	10,454.96	28,188.46
S 89' 59' 42" E 157.84'			
69+32.32	6"x6" Tee (Chappo)	10,454.95	28,346.30
S 89' 59' 42" E 233.66'			
71+65.98	6" 90' Bend (Santa Clara)	10,454.92	28,579.96

CSA 302 - Cantua Creek  
Water Distribution System

Pipeline Station	Description	Coordinates	
		North	East
<b>Hidalgo Avenue (West)</b>			
73+00.00	6" 90' Bend (Domengine)	10,123.65	27,557.41
S 89' 56' 40" E 371.63'			
76+71.63	8"x6" Tee (Terrado)	10,123.29	27,929.04

**Hidalgo Avenue (East)**

78+00.00	End (B.O.)	10,096.42	28,192.86
S 89' 59' 26" E 160.05'			
79+60.05	6"x6" Tee (Chappo)	10,096.40	28,352.91
S 89' 59' 26" E 227.45'			
81+87.50	8"x6" Tee (Santa Clara)	10,096.36	28,580.38

CSA 32 - Cantua Creek  
Water Distribution System

Pipeline Station	Description	Coordinates	
		North	East
<b>Domengine Avenue</b>			
83+00.00	6" 90' Bend (Hidalgo)	10,123.65	27,557.41
N 00' 02' 46" W 189.69'			
84+89.69	6" 90' Bend (Latta)	10,313.34	27,557.56

CSA 32 - Cantua Creek  
Water Distribution System

Pipeline Station	Description	Coordinates	
		North	East
<b>Terrado Avenue</b>			
86+00.00	8"x8" Tee (Clarkson)	9,958.47	27,929.09
N 00' 01' 00" W 164.82'			
87+64.82	8"x6" Tee (Hidalgo)	10,123.29	27,929.04
N 00' 01' 00" W 132.10'			
88+96.92	6"x6" Tee (B.O.)	10,255.39	27,929.00
N 89' 59' 00" E 23.28'			
89+20.20	6" 45' Bend	10,255.39	27,952.29
N 44' 59' 00" E 2.62'			
89+22.82	6" 22.5' Bend	10,257.25	27,954.14
N 22' 28' 46" E 35.90'			
89+58.72	6"x6" Tee (Latta)	10,290.41	27,967.86

CSA 32 - Cantua Creek  
Water Distribution System

Pipeline Station	Description	Coordinates	
		North	East
<b>Chappo Avenue</b>			
90+00.00	6"x6" Tee (Hidalgo)	10,096.40	28,352.91
N 00' 01' 00" W 28.00'			
90+28.00	6" 22 1/2' Bend	10,124.40	28,352.90
N 22' 31' 00" W 17.00'			
90+45.00	6" 22 1/2' Bend	10,140.10	28,346.39
N 00' 01' 00" W 314.84'			
93+59.84	6"x6" Tee (Latta)	10,454.95	28,346.30

CSA 32 - Cantua Creek  
Water Distribution System

Pipeline Station	Description	Coordinates	
		North	East
<b>Santa Clara Avenue</b>			
94+00.00	8"x8" Tee (Clarkson)	9,958.36	28,580.34
N 00' 00' 33" E 138.00'			
95+38.00	8"x6" Tee (Hidalgo)	10,096.36	28,580.36
N 00' 00' 33" E 17.11'			
95+55.11	Angle Point	10,113.47	28,580.36
N 00' 04' 06" W 341.45'			
98+96.56	6" 90' Bend (Latta)	10,454.92	28,579.96

CSA 32 - Cantua Creek  
Water Distribution System

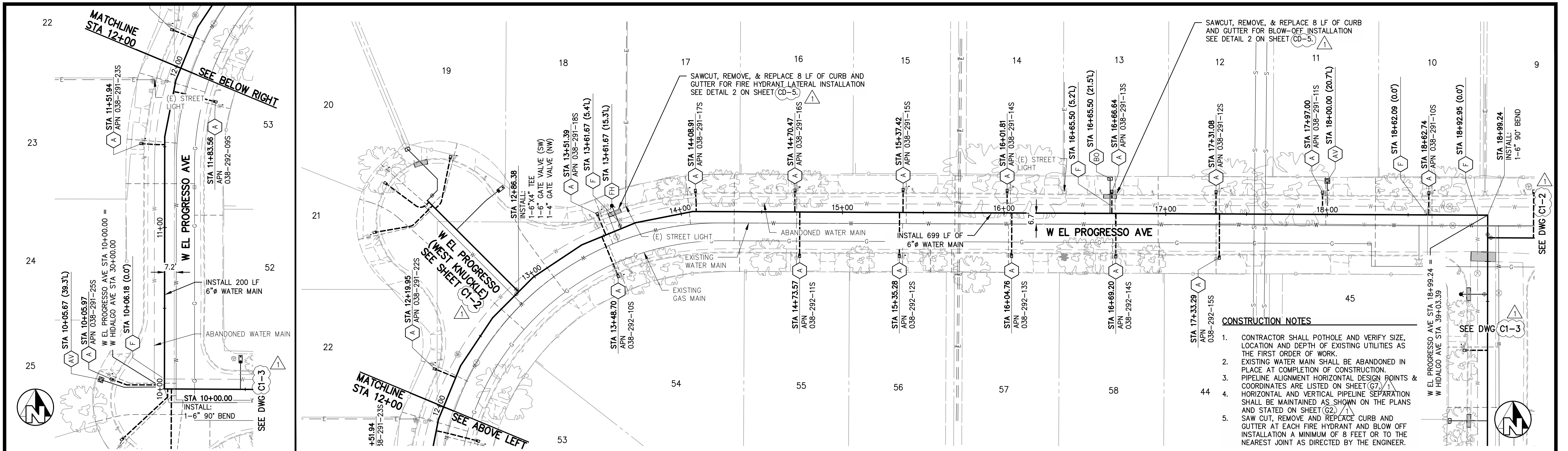
Pipeline Station	Description	Coordinates	
		North	East
<b>Clarkson Avenue</b>			
100+00.00	8"x8" Tee (Tank Site)	9,958.54	27,486.69
S 89' 59' 26" E 7.00'			
100+07.00	8"x8" Tee (Pump Connect)	9,958.54	27,493.69
S 89' 59' 26" E 435.40'			
104+42.40	8"x8" Tee (Terrado)	9,958.47	27,929.09
S 89' 59' 26" E 651.25'			
110+93.65	8"x8" Tee (Santa Clara)	9,958.36	28,580.34
S 89' 59' 26" E 184.11'			
112+77.76	8" 45' Bend	9,958.33	28,764.45
N 45' 00' 29" E 6.00'			
112+83.76	Connect to (E) 8" Water	9,962.57	28,768.69
123+98.79	(E) 8"x6" Tee - Install FH	9,956.13	29,877.66
125+80.41	Connect to (E) 8" Water	9,956.10	30,060.47
S 89' 59' 23" E 1.75'			
125+82.16	8" 45' Bend	9,956.10	30,062.22
N 45' 00' 37" E 2.83'			
125+84.99	8" 45' Bend	9,958.10	30,064.22
S 89' 59' 23" E 856.11'			
134+41.10	8"x4" Tee (Clarkson-South)	9,957.94	30,920.33
S 89' 59' 23" E 506.77'			
139+47.87	8" 90' Bend (San Mateo)	9,957.85	31,427.10
<b>Clarkson Avenue (South)</b>			
234+03.10	8"x4" Tee (Clarkson)	9,957.94	30,920.33
S 00' 00' 37" W 38.00'			
234+41.10	4"x4" Tee	9,919.94	30,920.33
S 89' 59' 23" E 230.00'			
236+71.10	End (B.O.)	9,919.90	31,150.33

CSA 32 - Cantua Creek  
Water Distribution System

Pipeline Station	Description	Coordinates	
		North	East
<b>San Mateo Avenue</b>			
139+47.87	8" 90' Bend (Clarkson)	9,957.85	31,427.10
N 00' 00' 03" E 687.88'			
146+35.75	End (Blind Flange)	10,645.73	31,427.11

CSA 32 - Cantua Creek  
Water Distribution System

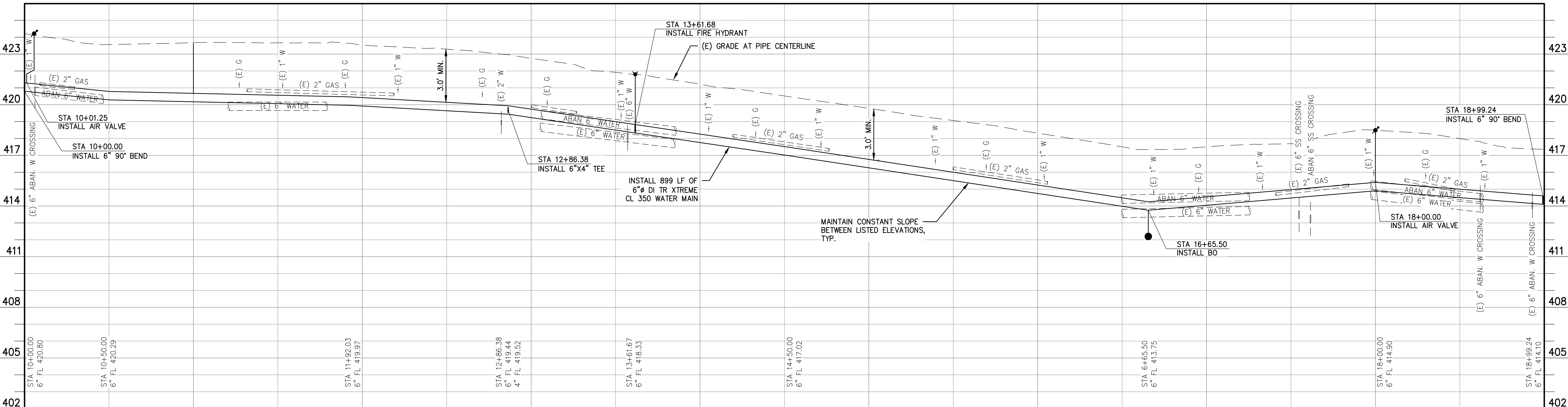
Pipeline Station	Description	Coordinates</	
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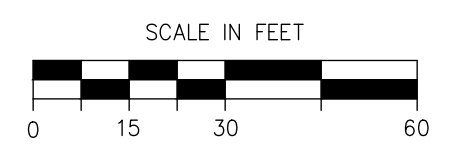
- CONSTRUCTION NOTES**
1. CONTRACTOR SHALL POTHOLE AND VERIFY SIZE, LOCATION AND DEPTH OF EXISTING UTILITIES AS THE FIRST ORDER OF WORK.
  2. EXISTING WATER MAIN SHALL BE ABANDONED IN PLACE AT COMPLETION OF CONSTRUCTION.
  3. PIPELINE ALIGNMENT HORIZONTAL DESIGN POINTS & COORDINATES ARE LISTED ON SHEET (G7).
  4. HORIZONTAL AND VERTICAL PIPELINE SEPARATION SHALL BE MAINTAINED AS SHOWN ON THE PLANS AND STATED ON SHEET (G2).
  5. SAW CUT, REMOVE AND REPLACE CURB AND GUTTER AT EACH FIRE HYDRANT AND BLOW OFF INSTALLATION A MINIMUM OF 8 FEET OR TO THE NEAREST JOINT AS DIRECTED BY THE ENGINEER.

**W EL PROGRESSO AVE**

SCALE: HORZ: 1"=30' VERT: 1"=3'

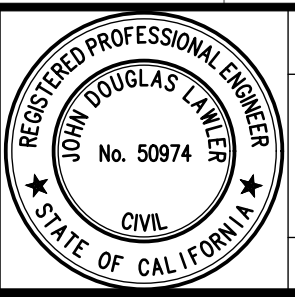


1 ADDENDUM NO. 1 - SHEET REFERENCES 09/10/2020



*John D. Lander*

06/30/2020



**PROJECT**  
 CSA 30 & 32 WATER SYSTEM IMPROVEMENTS  
 COUNTY OF FRESNO



**DEPARTMENT OF PUBLIC WORKS AND PLANNING**  
 W EL PROGRESSO AVE STA 10+00 TO 18+99  
 CSA 30 EL PORVENIR

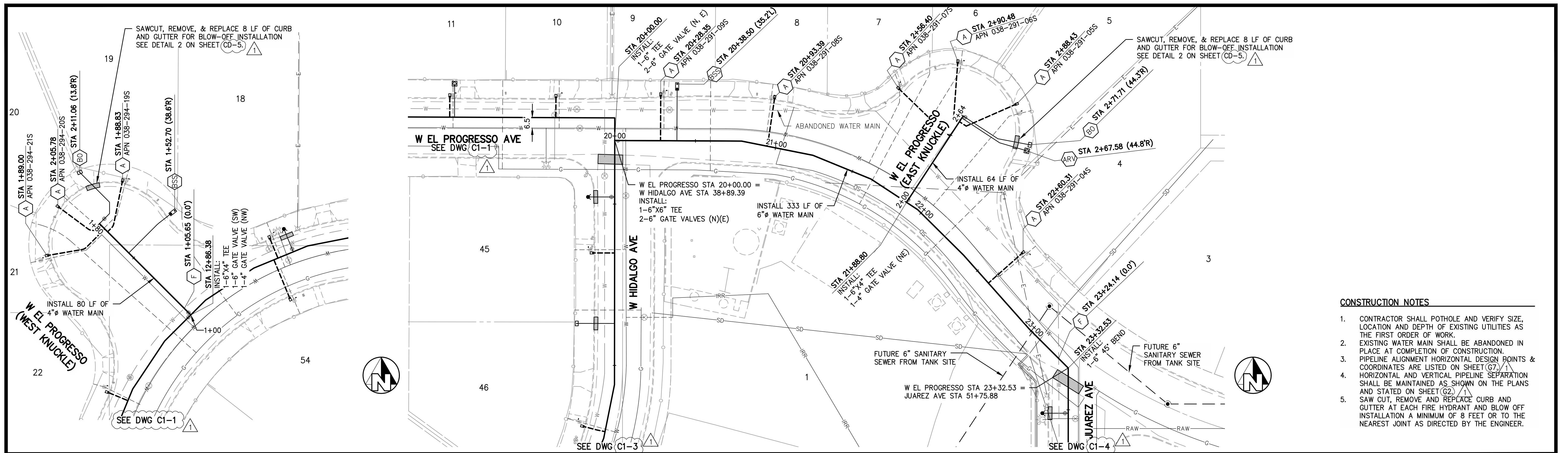
BRIDGE NO. N/A

DRAWING NO. 11305

SHEET NO. C1-1

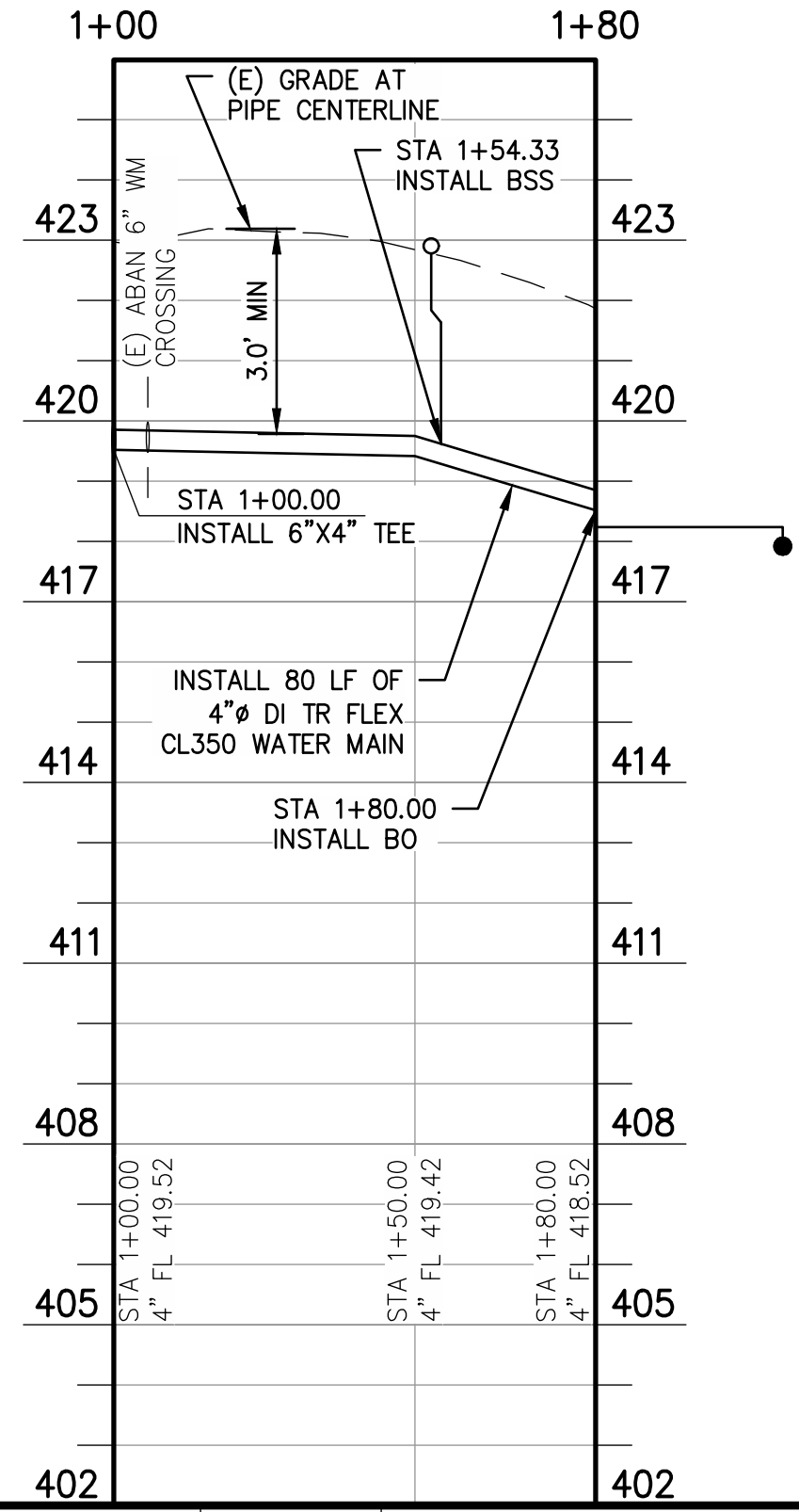
TOTAL 33



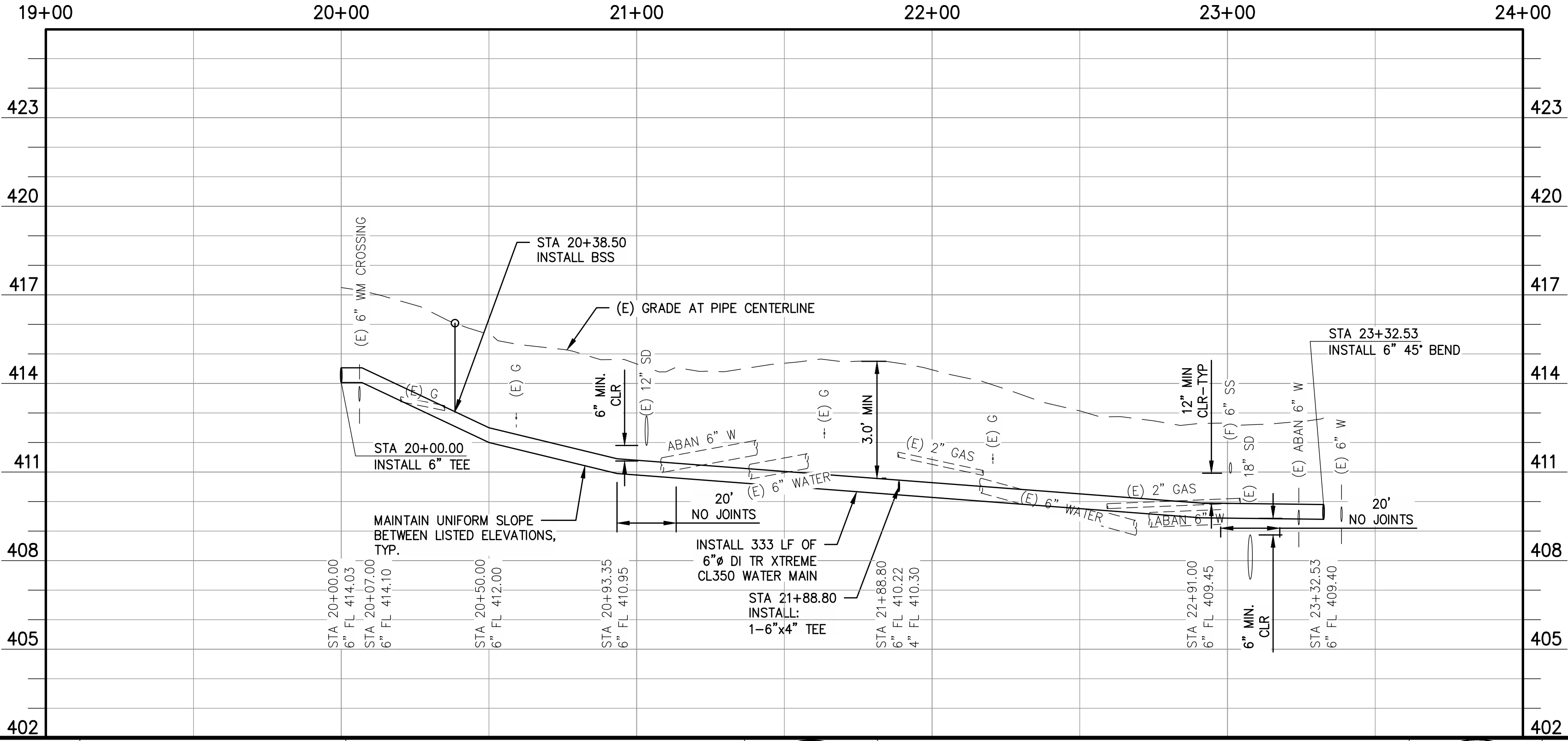


- CONSTRUCTION NOTES**
1. CONTRACTOR SHALL POTHOLE AND VERIFY SIZE, LOCATION AND DEPTH OF EXISTING UTILITIES AS THE FIRST ORDER OF WORK.
  2. EXISTING WATER MAIN SHALL BE ABANDONED IN PLACE AT COMPLETION OF CONSTRUCTION.
  3. PIPELINE ALIGNMENT HORIZONTAL DESIGN POINTS & COORDINATES ARE LISTED ON SHEET (G7).
  4. HORIZONTAL AND VERTICAL PIPELINE SEPARATION SHALL BE MAINTAINED AS SHOWN ON THE PLANS AND STATED ON SHEET (G2).
  5. SAW CUT, REMOVE AND REPLACE CURB AND GUTTER AT EACH FIRE HYDRANT AND BLOW OFF INSTALLATION A MINIMUM OF 8 FEET OR TO THE NEAREST JOINT AS DIRECTED BY THE ENGINEER.

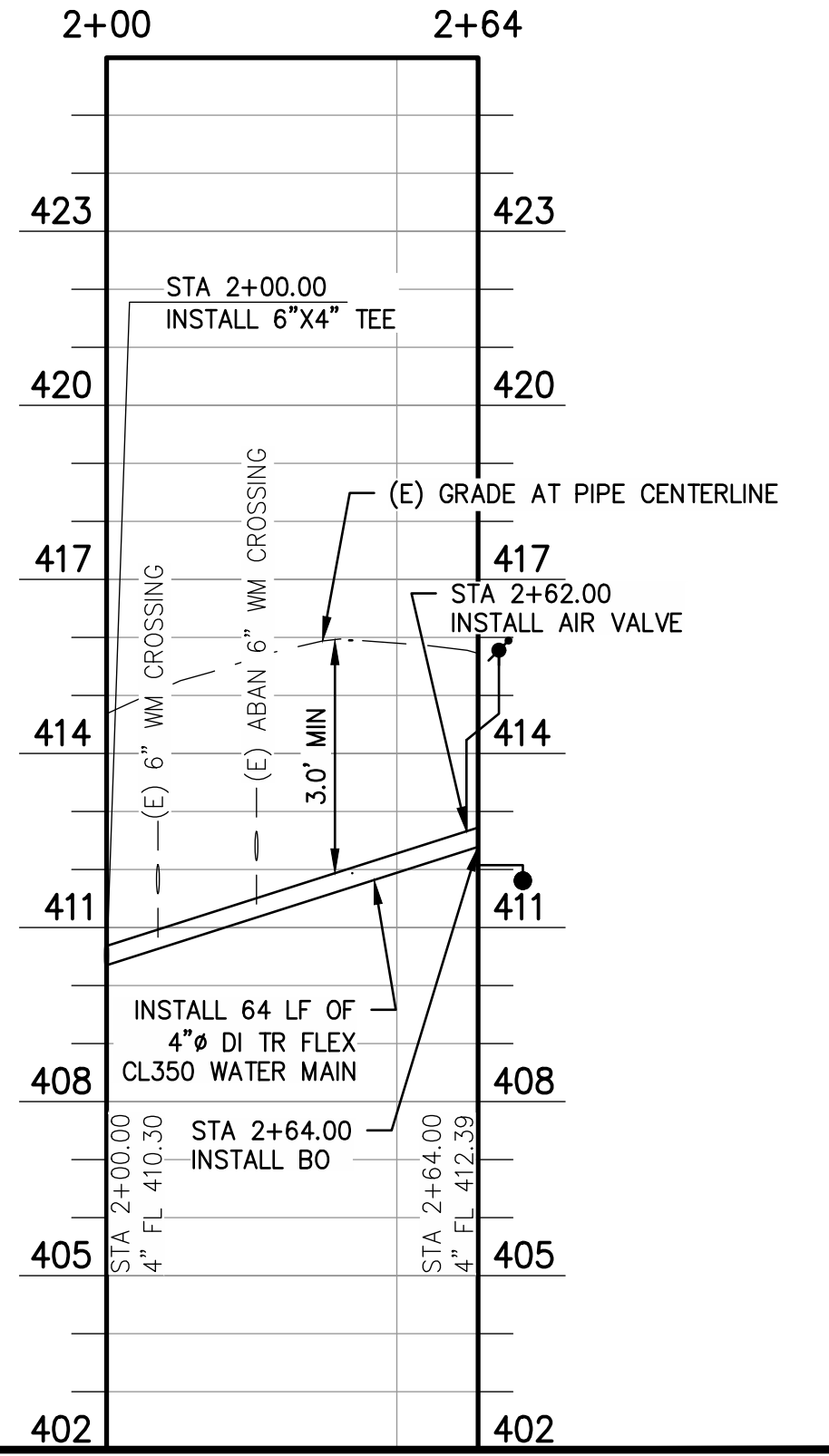
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**EL PROGRESSO—WEST KNUCKLE**



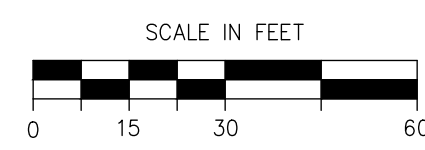
**W EL PROGRESSO**



SCALE: HORZ: 1"=30' VERT: 1"=3'  
**EL PROGRESSO—EAST KNUCKLE**

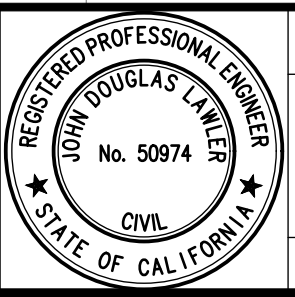


1 ADDENDUM NO. 1 - SHEET REFERENCES 09/10/2020



*John Paul*

06/30/2020



PROJECT  
 CSA 30 & 32 WATER SYSTEM IMPROVEMENTS  
 COUNTY OF FRESNO



DEPARTMENT OF PUBLIC WORKS AND PLANNING  
 W EL PROGRESSO AVE STA 20+00 TO END  
 CSA 30 EL PORVENIR

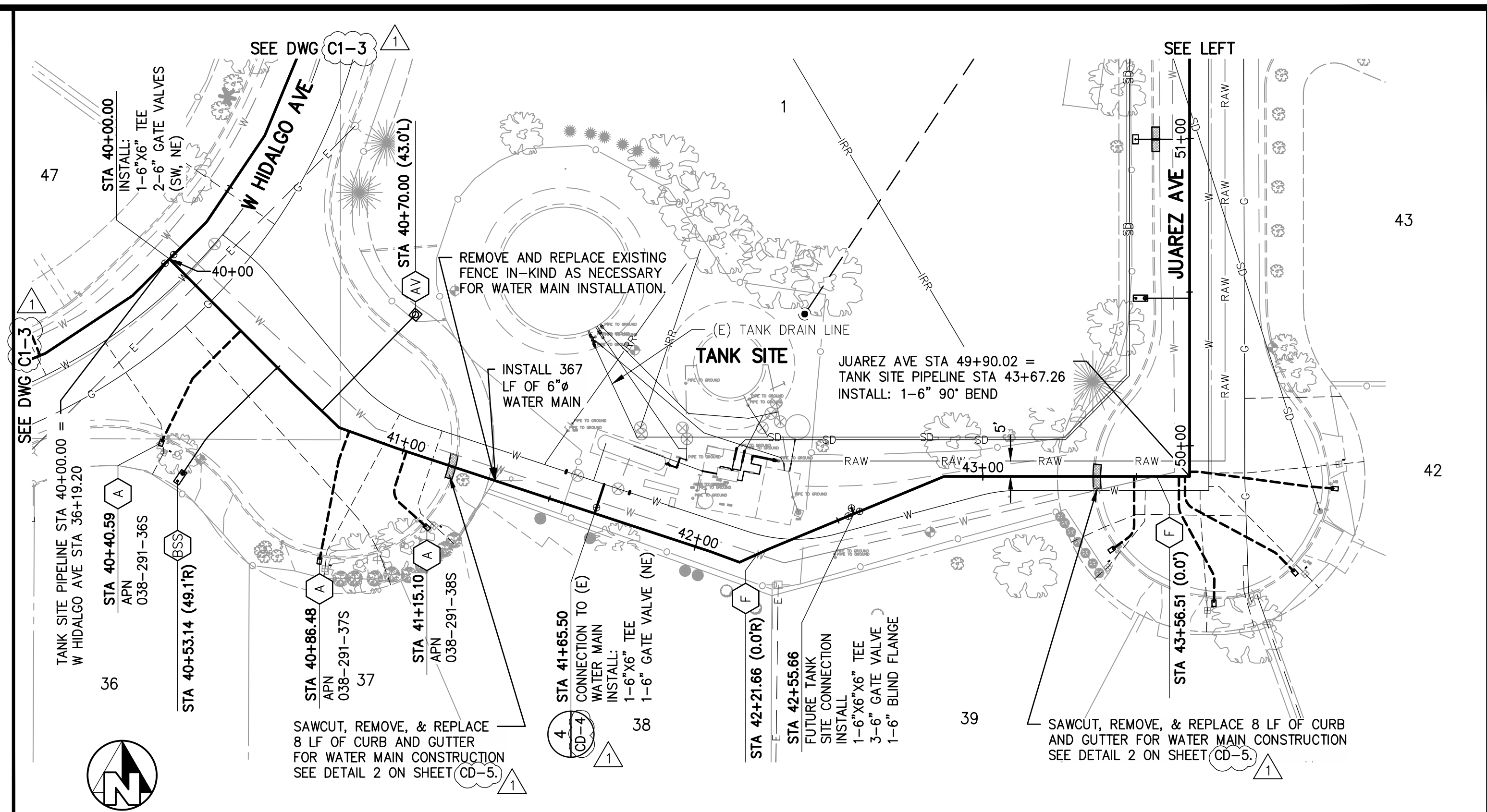
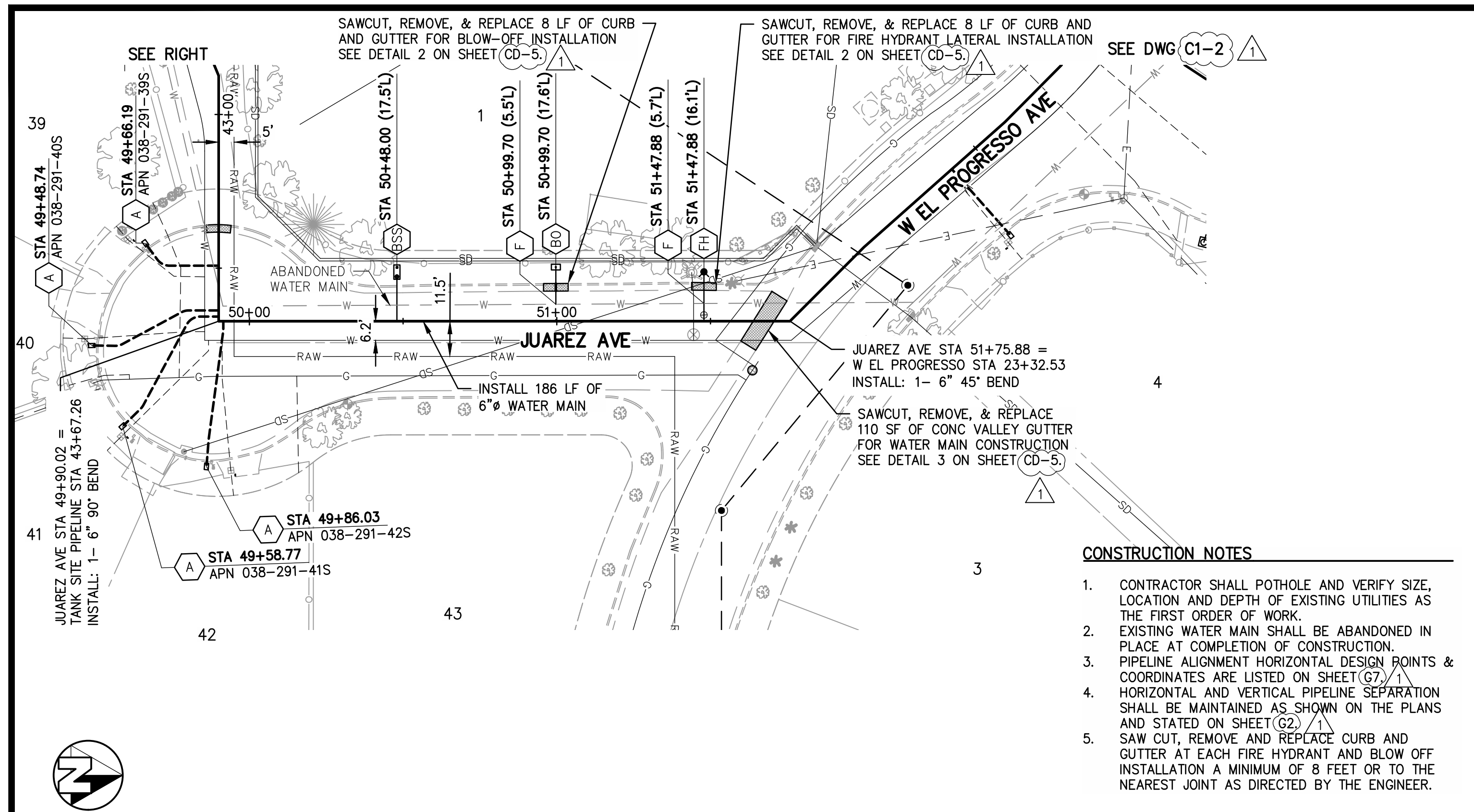
BRIDGE NO. N/A

DRAWING NO. 11305

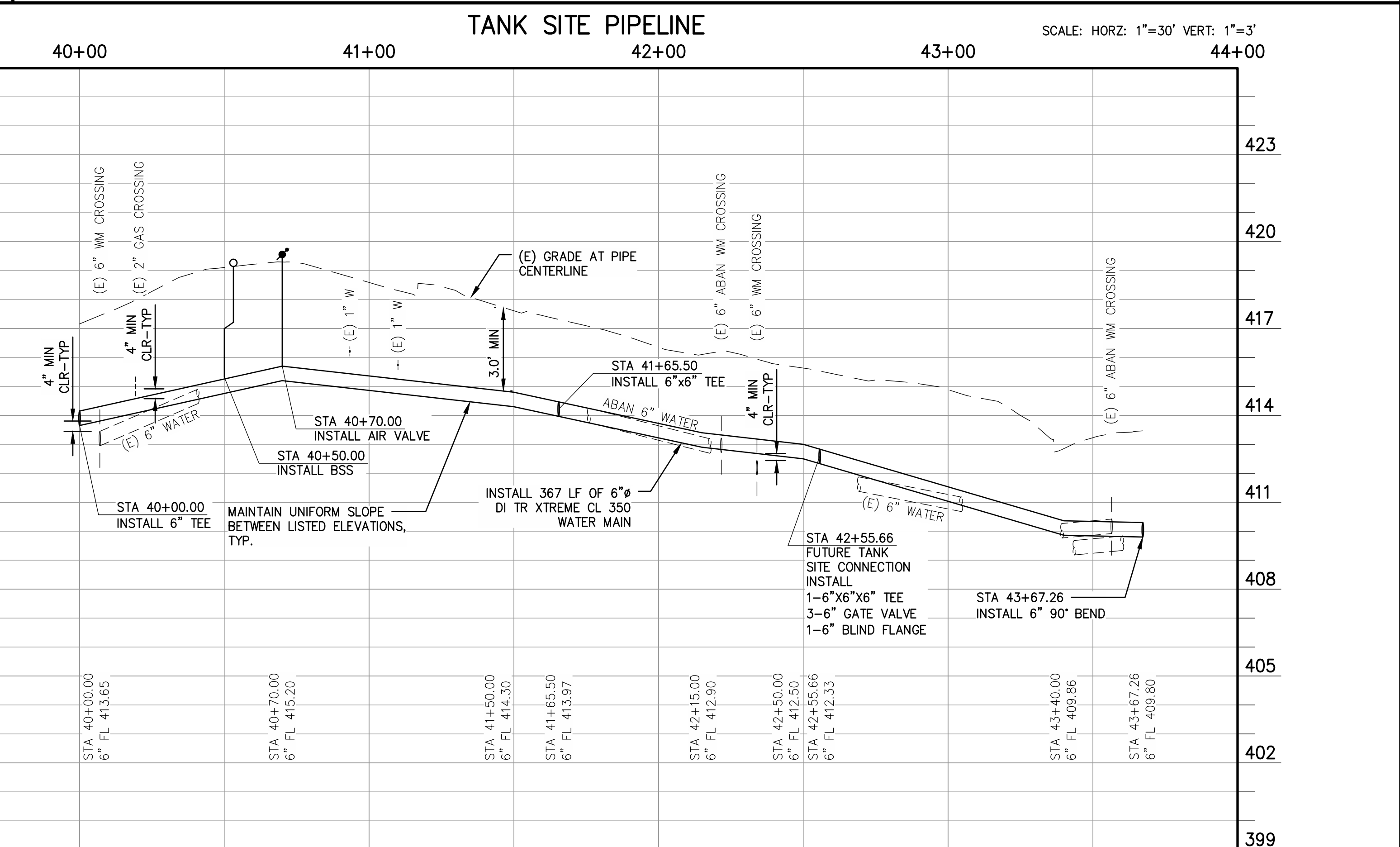
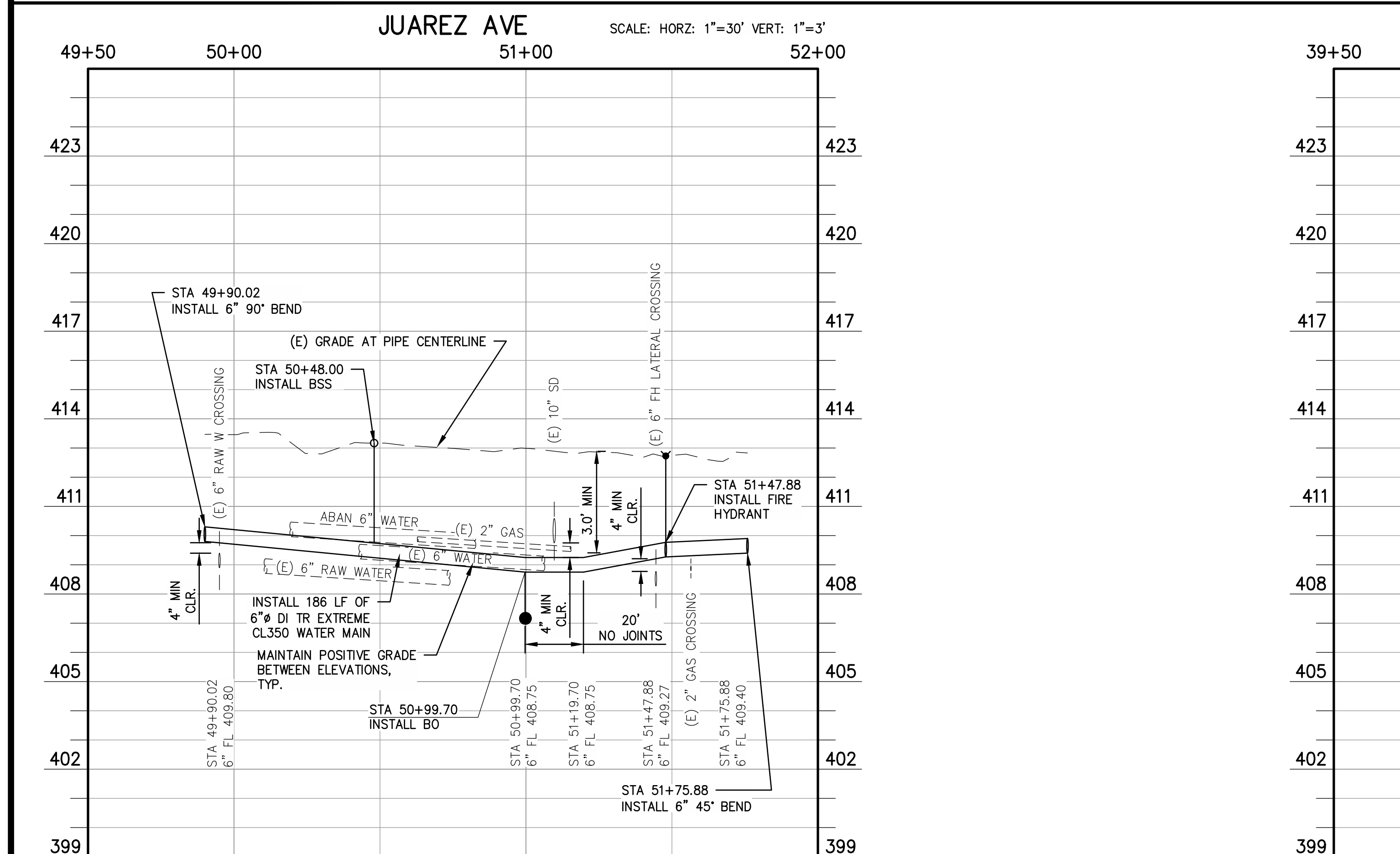
SHEET NO. C1-2

TOTAL 33

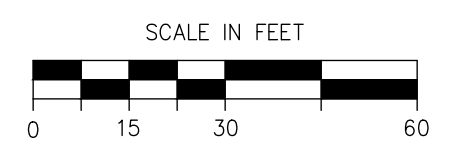




- CONSTRUCTION NOTES**
1. CONTRACTOR SHALL POTHOLE AND VERIFY SIZE, LOCATION AND DEPTH OF EXISTING UTILITIES AS THE FIRST ORDER OF WORK.
  2. EXISTING WATER MAIN SHALL BE ABANDONED IN PLACE AT COMPLETION OF CONSTRUCTION.
  3. PIPELINE ALIGNMENT HORIZONTAL DESIGN POINTS & COORDINATES ARE LISTED ON SHEET (G7).
  4. HORIZONTAL AND VERTICAL SEPARATION SHALL BE MAINTAINED AS SHOWN ON THE PLANS AND STATED ON SHEET (G2).
  5. SAW CUT, REMOVE AND REPLACE CURB AND GUTTER AT EACH FIRE HYDRANT AND BLOW OFF INSTALLATION A MINIMUM OF 8 FEET OR TO THE NEAREST JOINT AS DIRECTED BY THE ENGINEER.

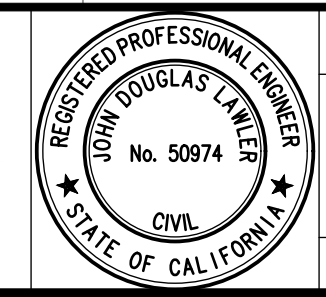


1 ADDENDUM NO. 1 - SHEET REFERENCES 09/10/2020



*John Paul*

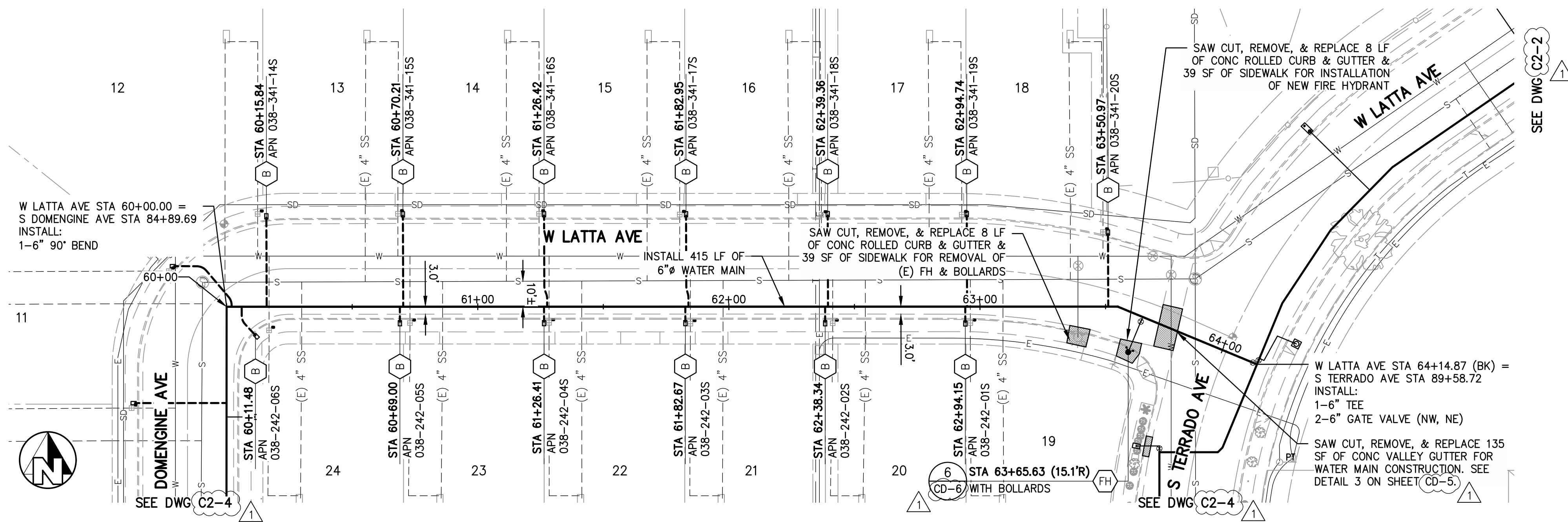
06/30/2020



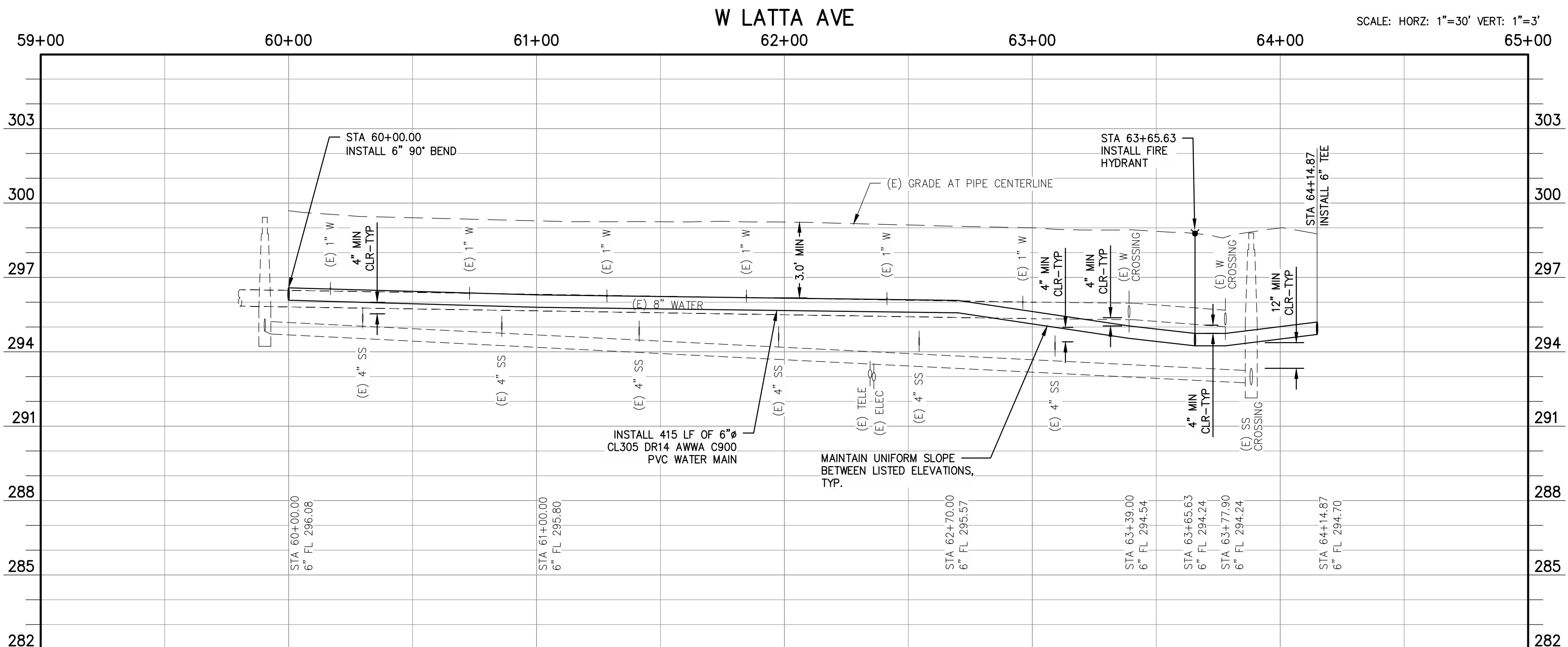
**PROJECT**  
 CSA 30 & 32 WATER SYSTEM IMPROVEMENTS  
 COUNTY OF FRESNO  
 BRIDGE NO. N/A



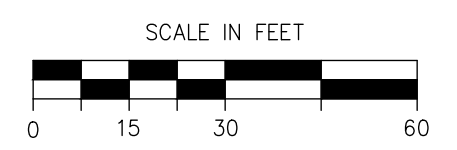
**DEPARTMENT OF PUBLIC WORKS AND PLANNING**  
**TANK SITE STA 40+00 JUAREZ AVE STA 50+00**  
 CSA 30 EL PORVENIR  
 DRAWING NO. 11305 SHEET NO. C1-4 TOTAL 33



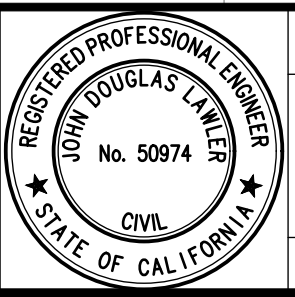
- CONSTRUCTION NOTES**
- CONTRACTOR SHALL POTHOLE AND VERIFY SIZE, LOCATION AND DEPTH OF EXISTING UTILITIES AS THE FIRST ORDER OF WORK.
  - EXISTING WATER MAIN SHALL BE ABANDONED IN PLACE AT COMPLETION OF CONSTRUCTION.
  - PIPELINE ALIGNMENT HORIZONTAL DESIGN POINTS & COORDINATES ARE LISTED ON SHEET (G7).
  - HORIZONTAL AND VERTICAL PIPELINE SEPARATION SHALL BE MAINTAINED AS SHOWN ON THE PLANS AND STATED ON SHEET (C2).
  - SAW CUT, REMOVE, AND REPLACE CURB AND GUTTER AT EACH FIRE HYDRANT AND BLOW OFF INSTALLATION A MINIMUM OF 8 FEET OR TO THE NEAREST JOINT AS DIRECTED BY THE ENGINEER.



ADDENDUM NO. 1 - SHEET REFERENCES 09/10/2020



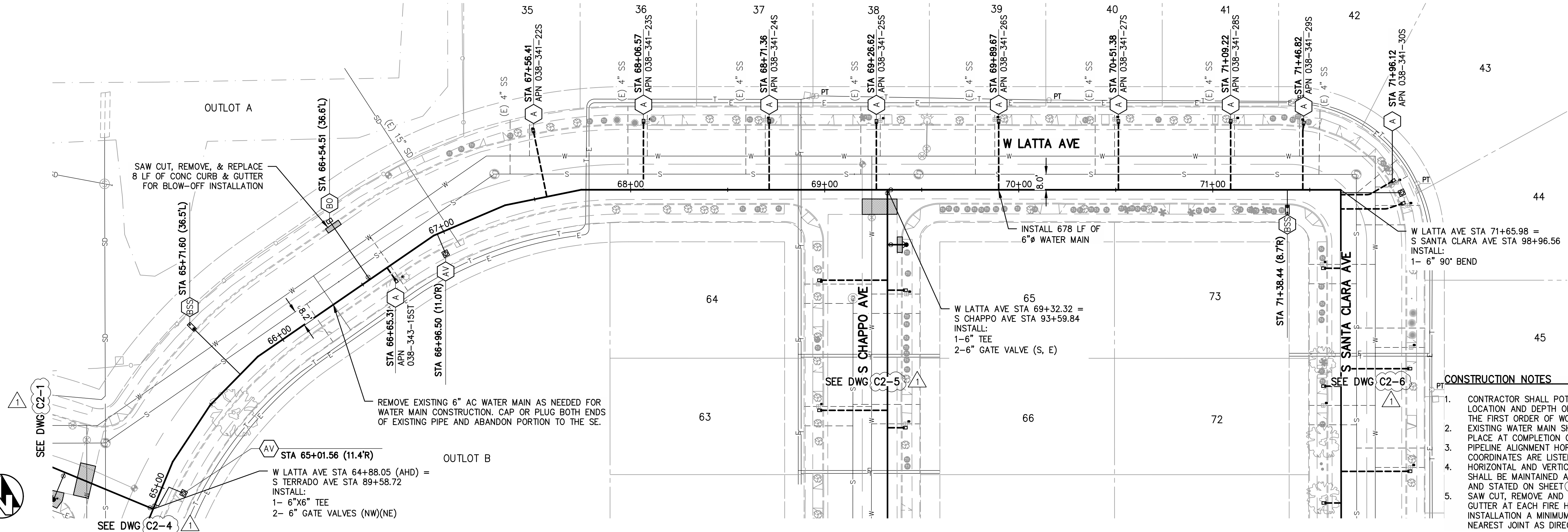
06/30/2020



**PROJECT**  
 CSA 30 & 32 WATER SYSTEM IMPROVEMENTS  
 COUNTY OF FRESNO



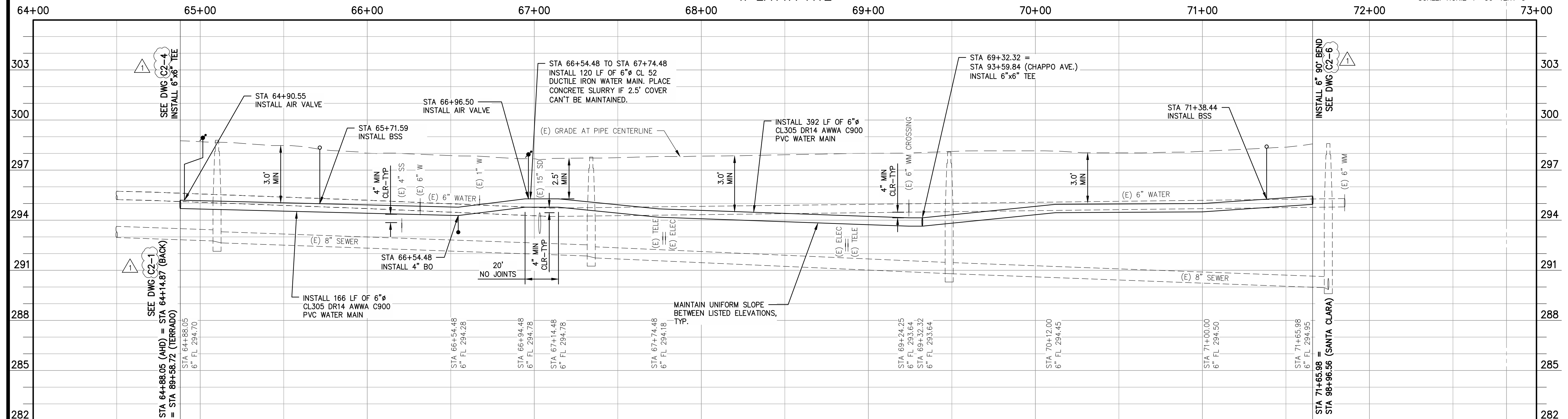
**DEPARTMENT OF PUBLIC WORKS AND PLANNING**  
 W LATTA AVE STA 60+00 TO 64+17  
 CSA 32 CANTUA CREEK



- CONSTRUCTION NOTES**
1. CONTRACTOR SHALL POTHOLE AND VERIFY SIZE, LOCATION AND DEPTH OF EXISTING UTILITIES AS THE FIRST ORDER OF WORK.
  2. EXISTING WATER MAIN SHALL BE ABANDONED IN PLACE AT COMPLETION OF CONSTRUCTION.
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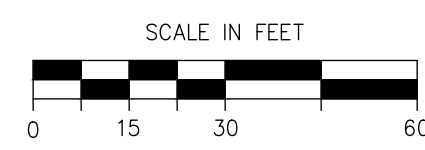
**W LATTA AVE**

SCALE: HORIZ=1"=30' VERT=3"



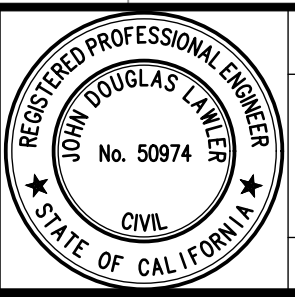
SEE DWG (C2-1)  
 STA 64+88.05 (AHD) = STA 64+14.87 (BACK)  
 = STA 89+58.72 (TERRADO)

1 ADDENDUM NO. 1 - SHEET REFERENCES 09/10/2020



*John Paul*

06/30/2020



PROJECT  
 CSA 30 & 32 WATER SYSTEM IMPROVEMENTS  
 COUNTY OF FRESNO



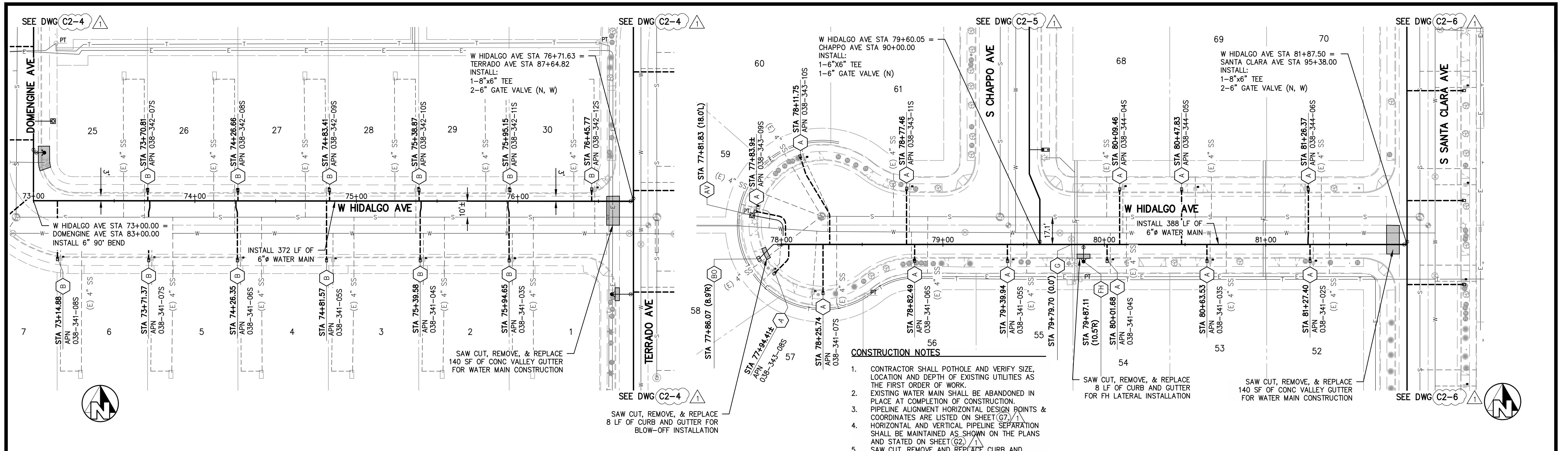
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 CSA 32 CANTUA CREEK

BRIDGE NO. N/A

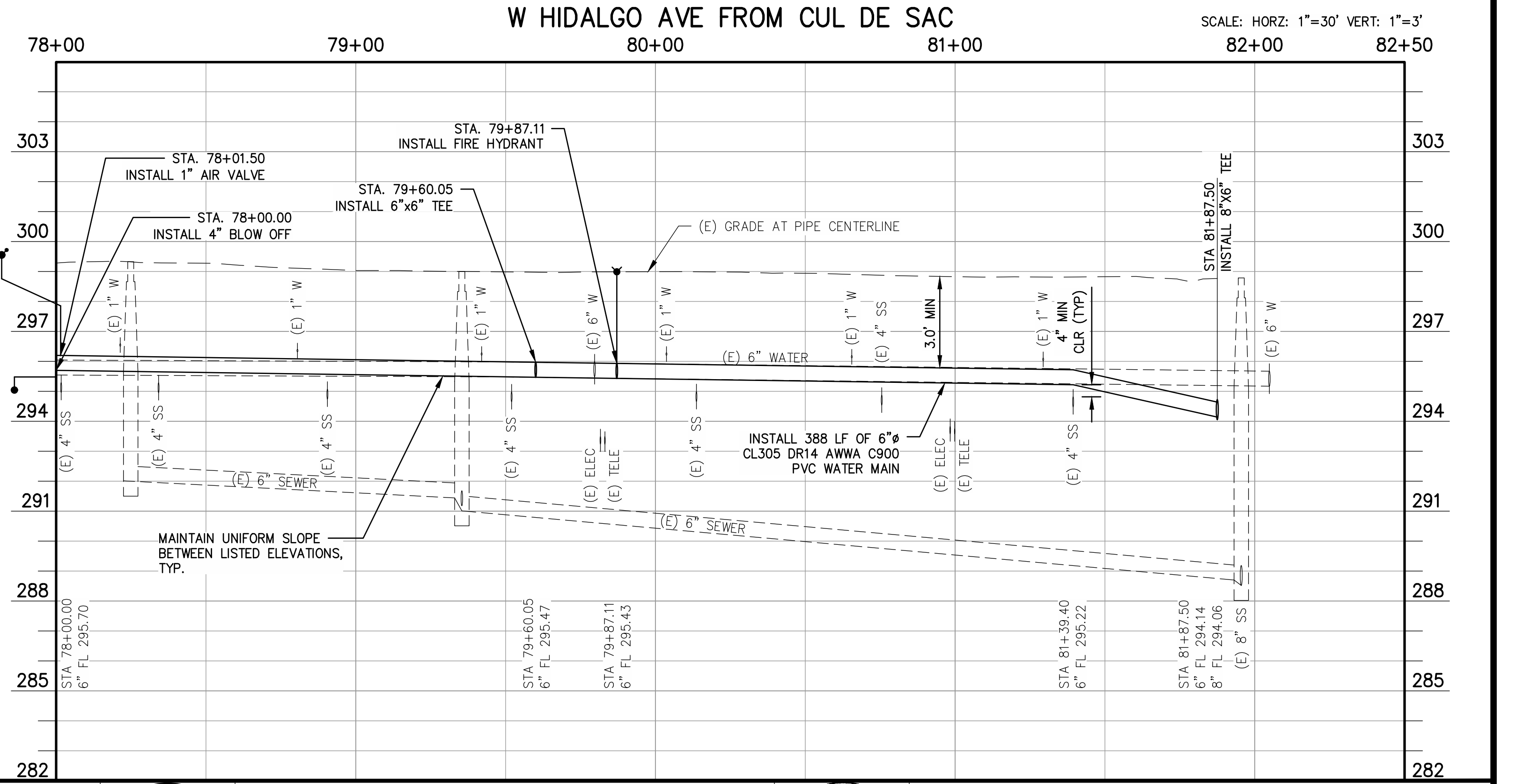
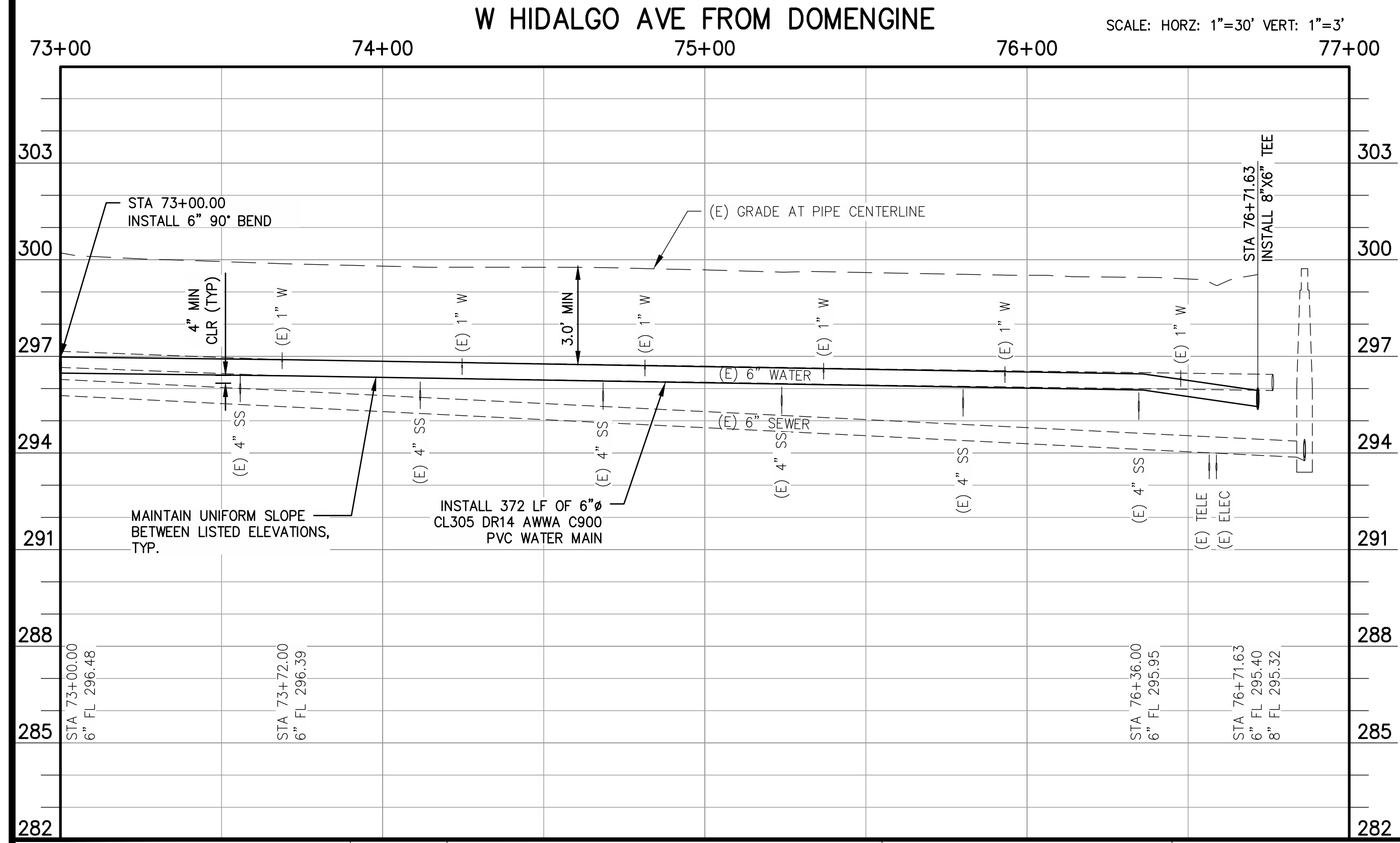
DRAWING NO. 11305

SHEET NO. C2-2

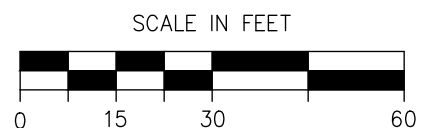
TOTAL 33



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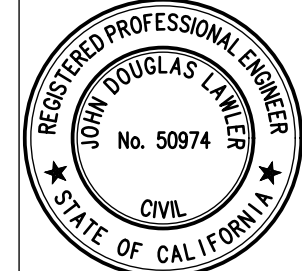


ADDENDUM NO. 1 - SHEET REFERENCES 09/10/2020



*John Paul*

06/30/2020



**PROJECT**  
 CSA 30 & 32 WATER SYSTEM IMPROVEMENTS  
 COUNTY OF FRESNO



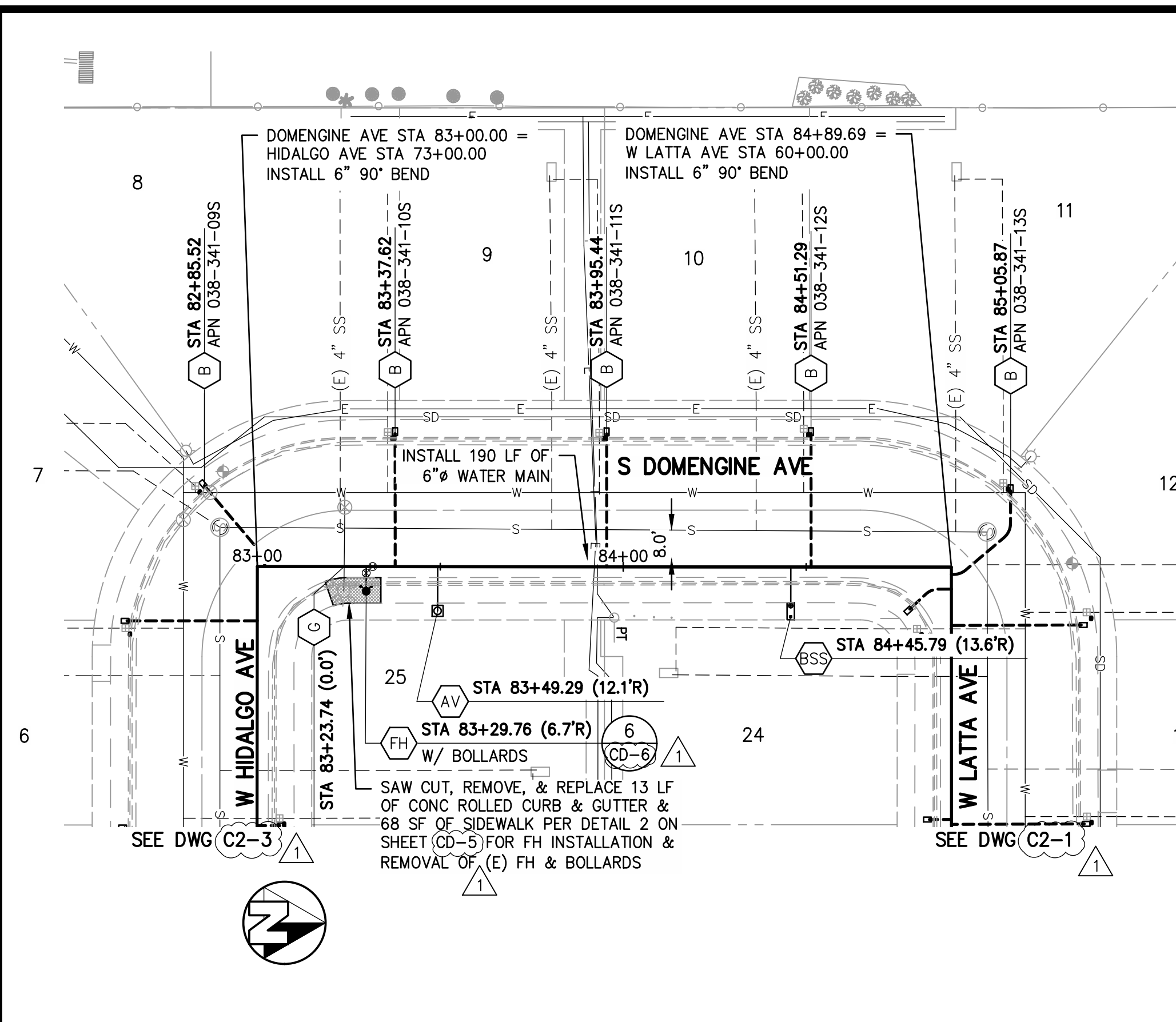
**DEPARTMENT OF PUBLIC WORKS AND PLANNING**  
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 CSA 32 CANTUA CREEK

BRIDGE NO. N/A

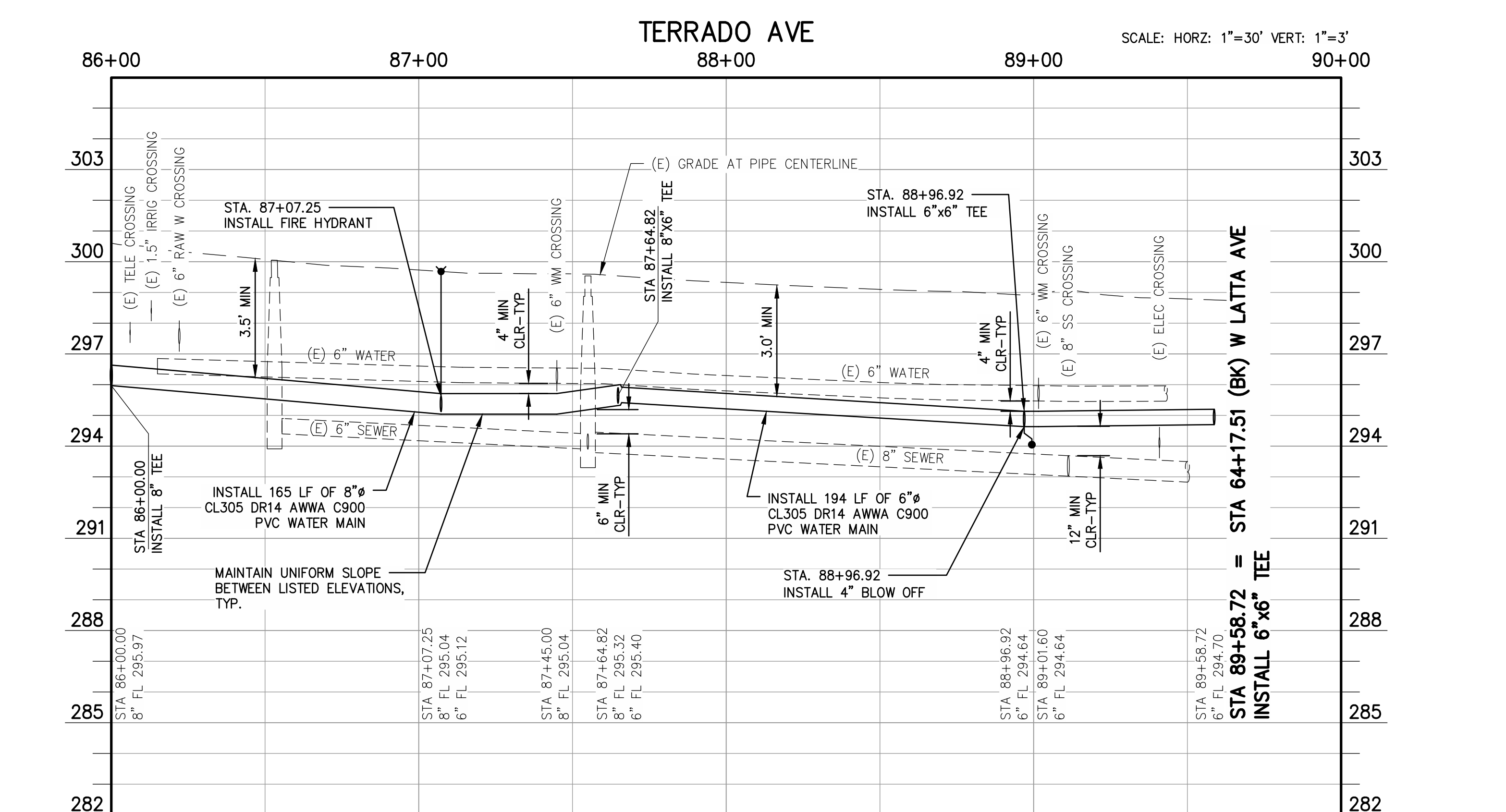
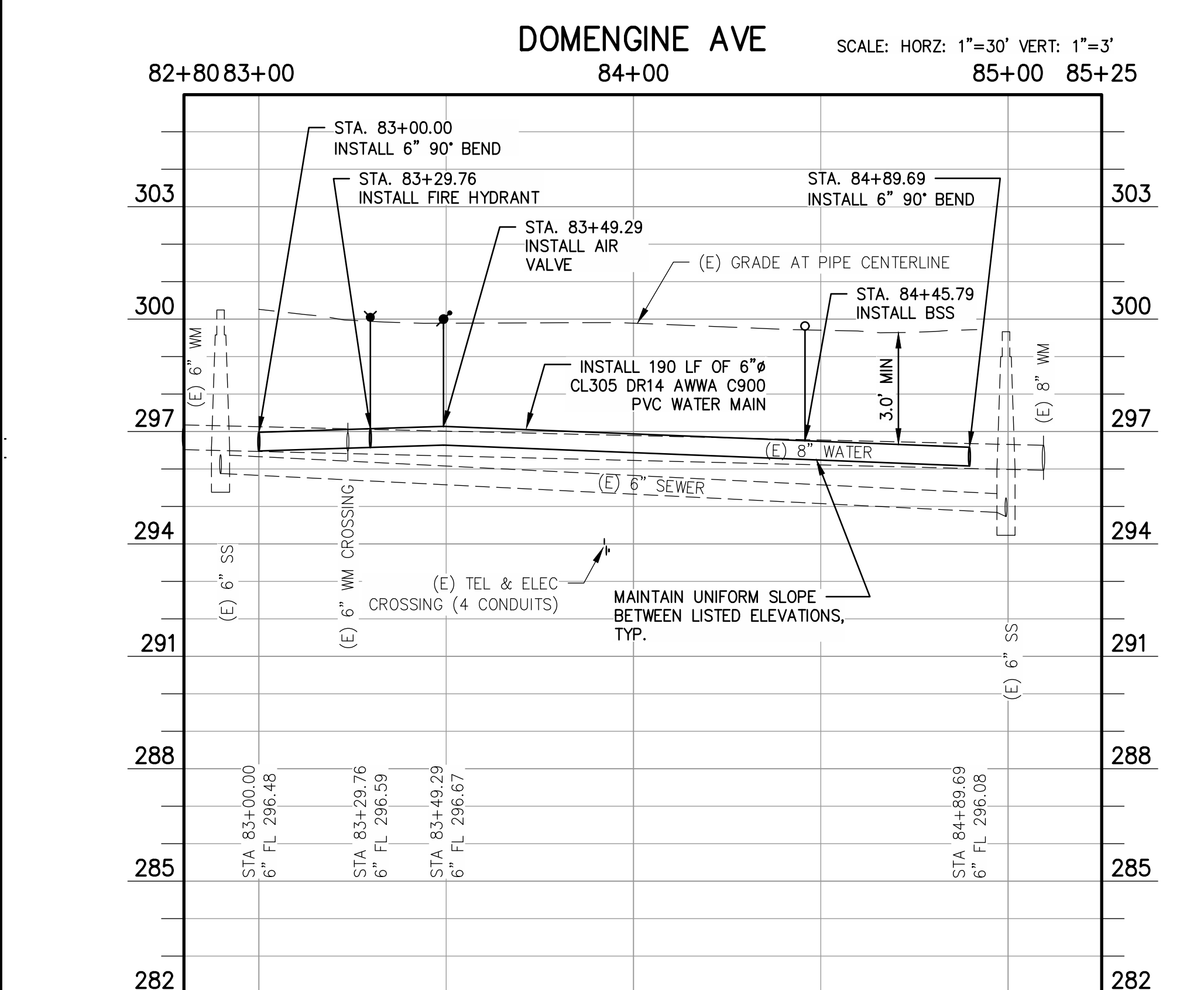
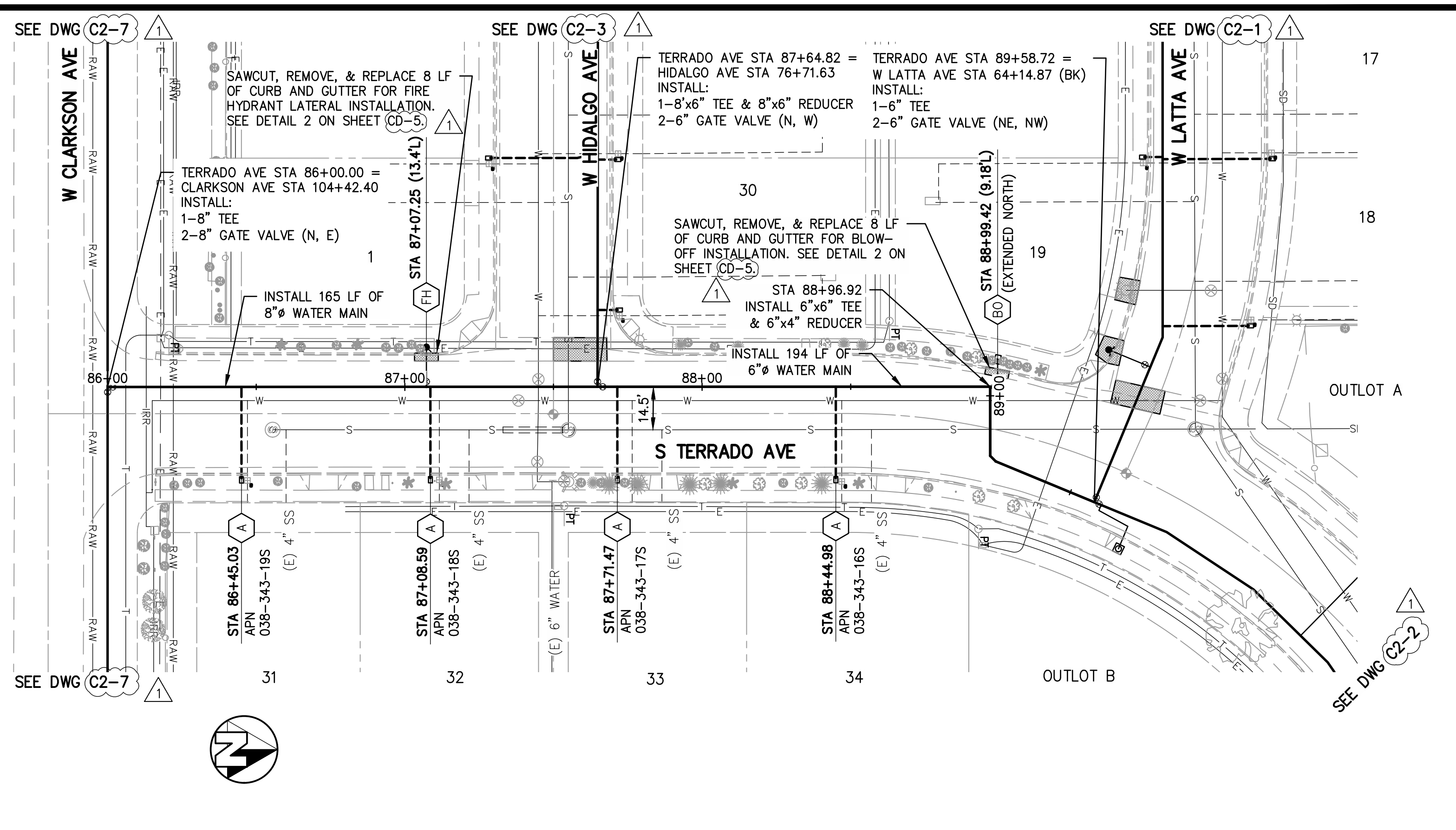
DRAWING NO. 11305

SHEET NO. C2-3

TOTAL 33



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1. CONTRACTOR SHALL POTHOLE AND VERIFY SIZE, LOCATION AND DEPTH OF EXISTING UTILITIES AS THE FIRST ORDER OF WORK.
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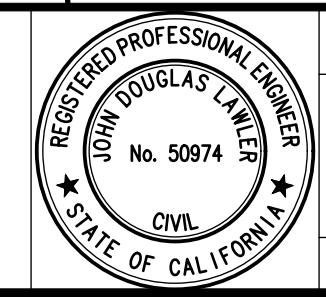


1	ADDENDUM NO. 1 - SHEET REFERENCES	09/10/2020
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*John Paul*

06/30/2020



**PROJECT**  
 CSA 30 & 32 WATER SYSTEM IMPROVEMENTS  
 COUNTY OF FRESNO



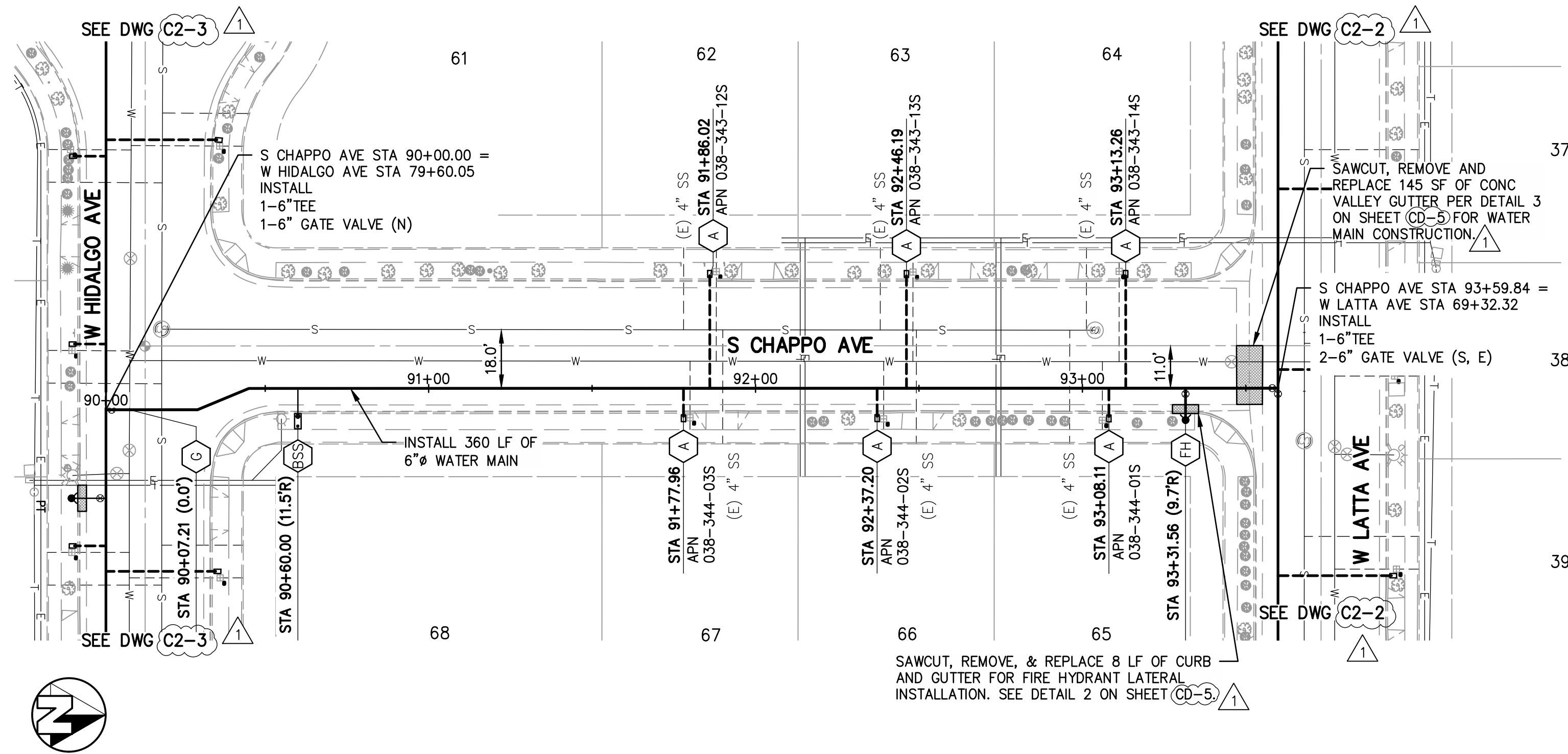
**DEPARTMENT OF PUBLIC WORKS AND PLANNING**  
 DOMENGINE & TERRADO AVE  
 CSA 32 CANTUA CREEK

BRIDGE NO. N/A

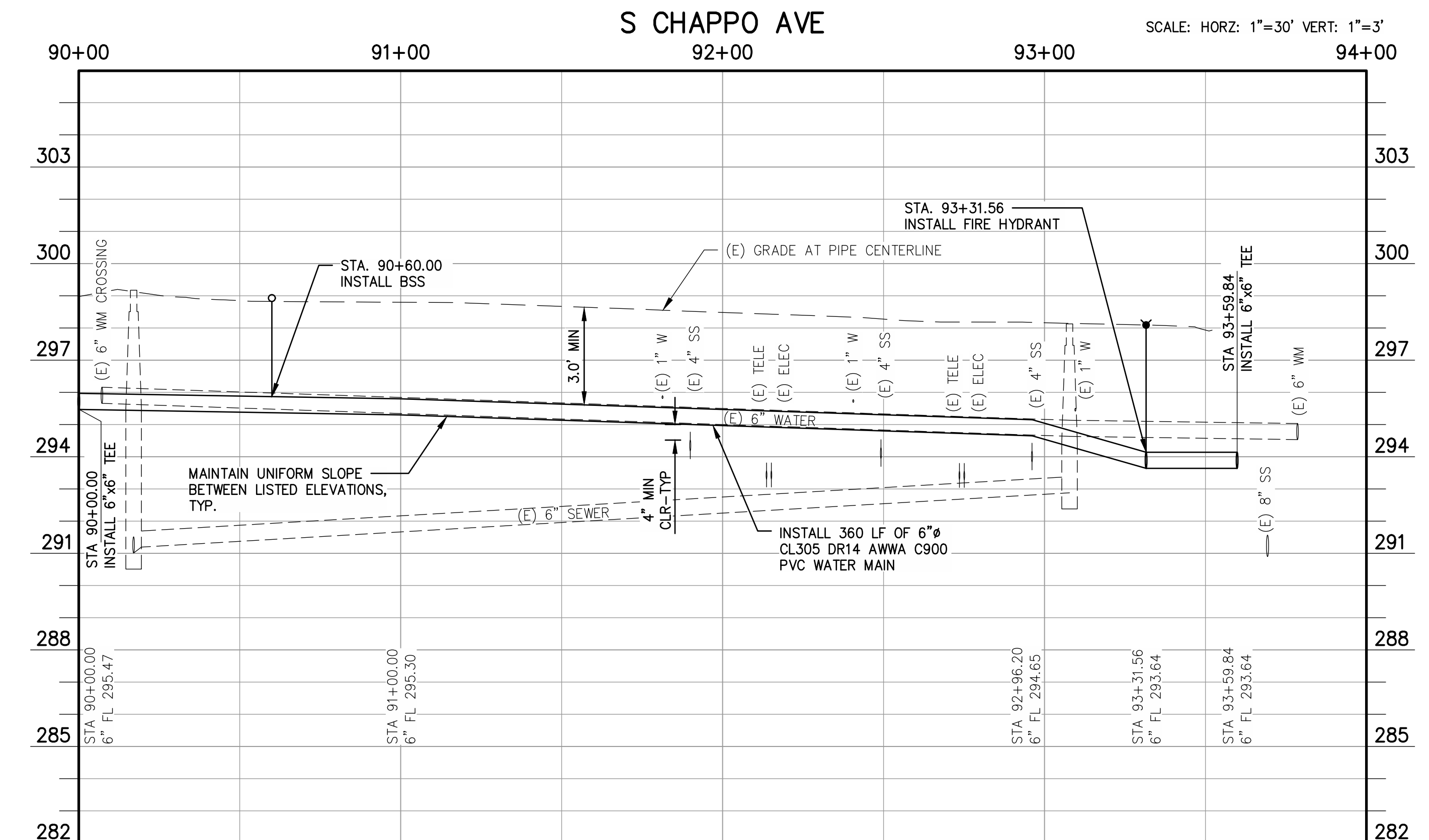
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SHEET NO. C2-4

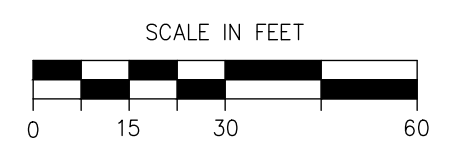
TOTAL 33



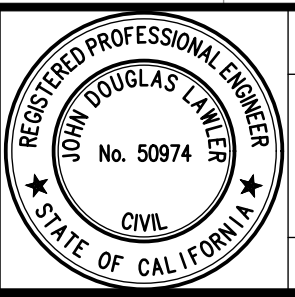
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1 ADDENDUM NO. 1 - SHEET REFERENCES 09/10/2020



*John D. Lander*  
06/30/2020

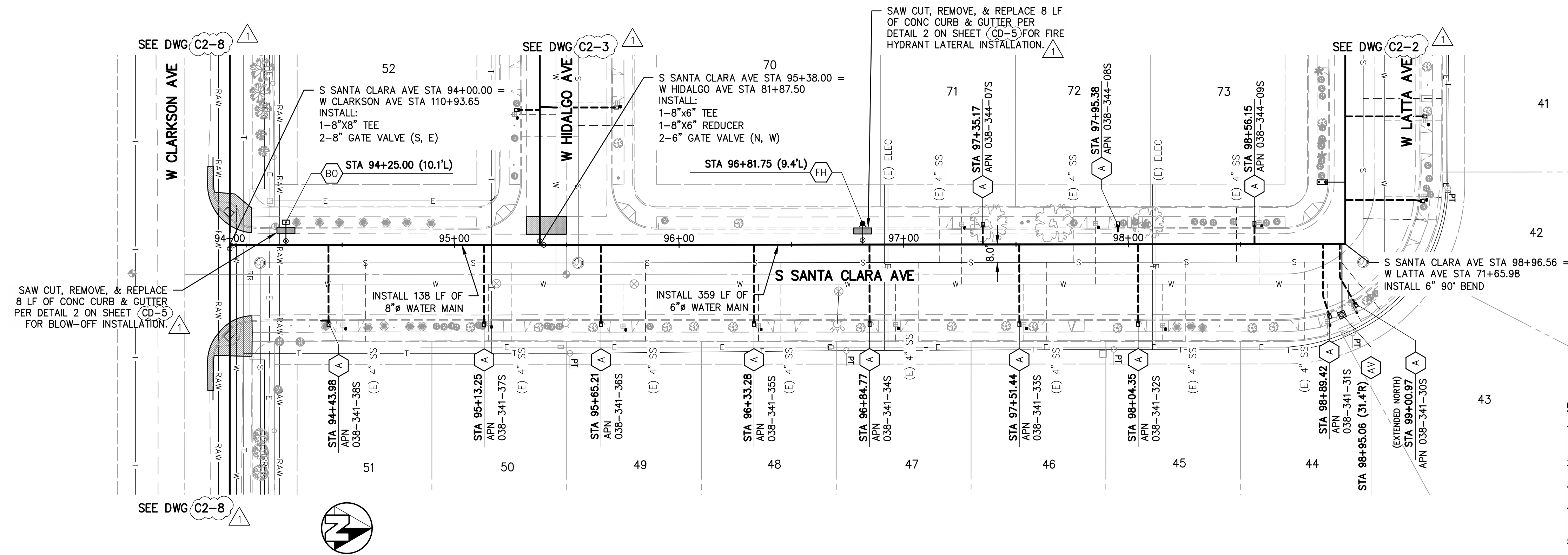


PROJECT  
CSA 30 & 32 WATER SYSTEM IMPROVEMENTS  
COUNTY OF FRESNO  
BRIDGE NO. N/A

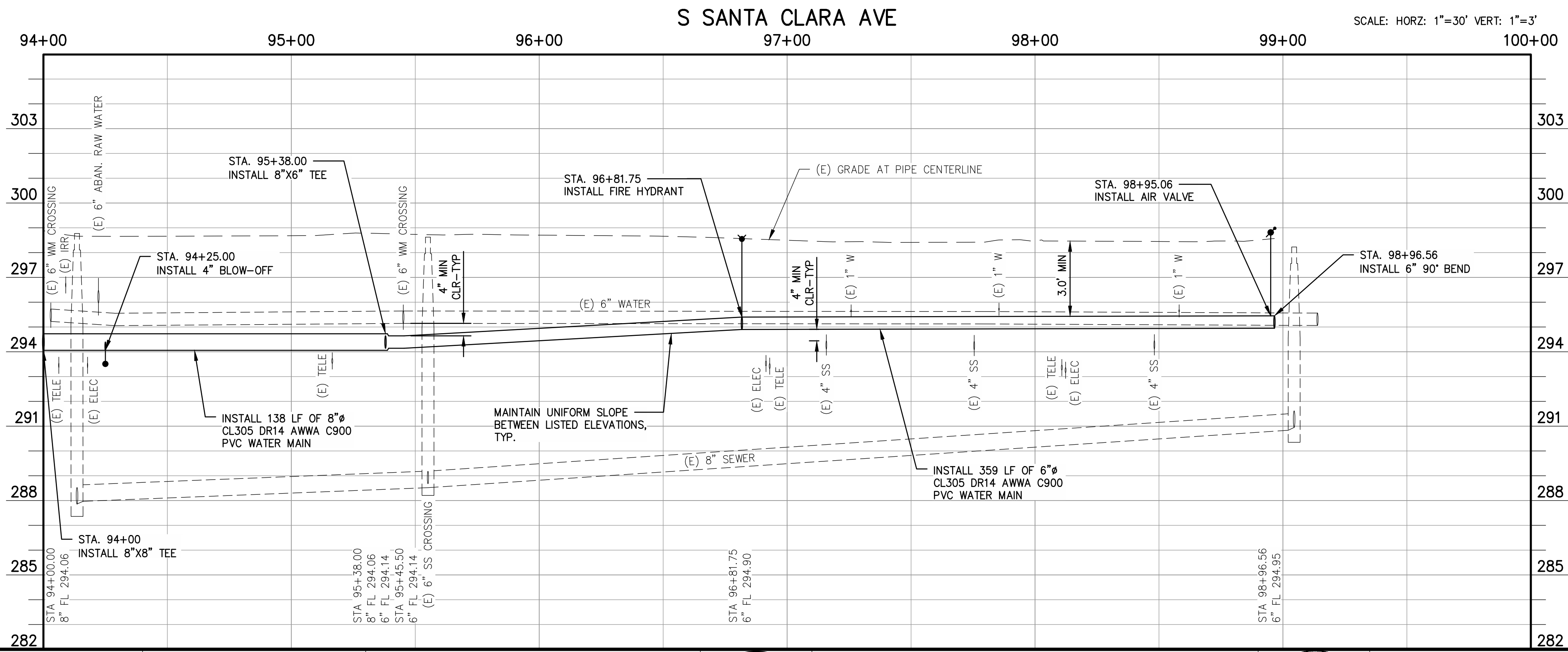


DEPARTMENT OF PUBLIC WORKS AND PLANNING  
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CSA 32 CANTUA CREEK  
DRAWING NO. 11305 SHEET NO. C2-5 TOTAL 33

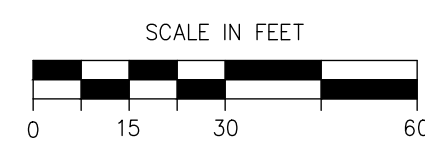




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1	ADDENDUM NO. 1 - SHEET REFERENCES	09/10/2020
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*John Paul*

06/30/2020



**PROJECT**  
 CSA 30 & 32 WATER SYSTEM IMPROVEMENTS  
 COUNTY OF FRESNO



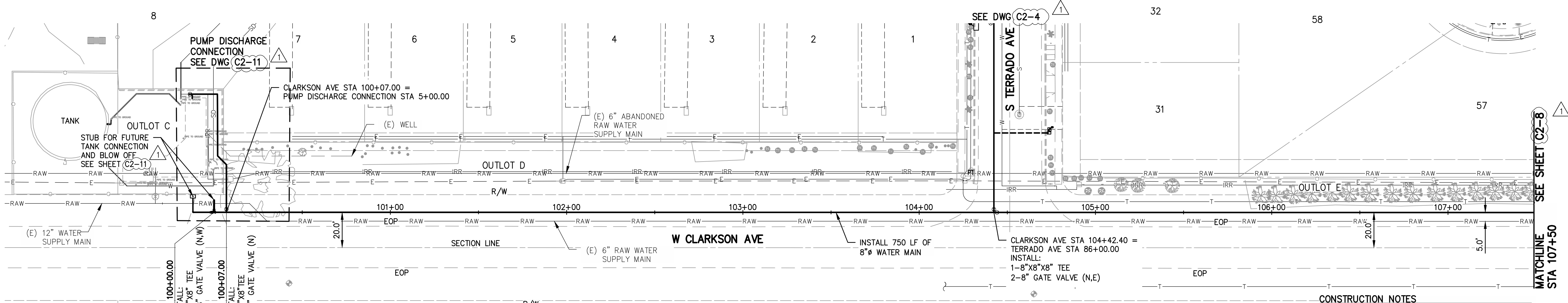
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 CSA 32 CANTUA CREEK

BRIDGE NO. N/A

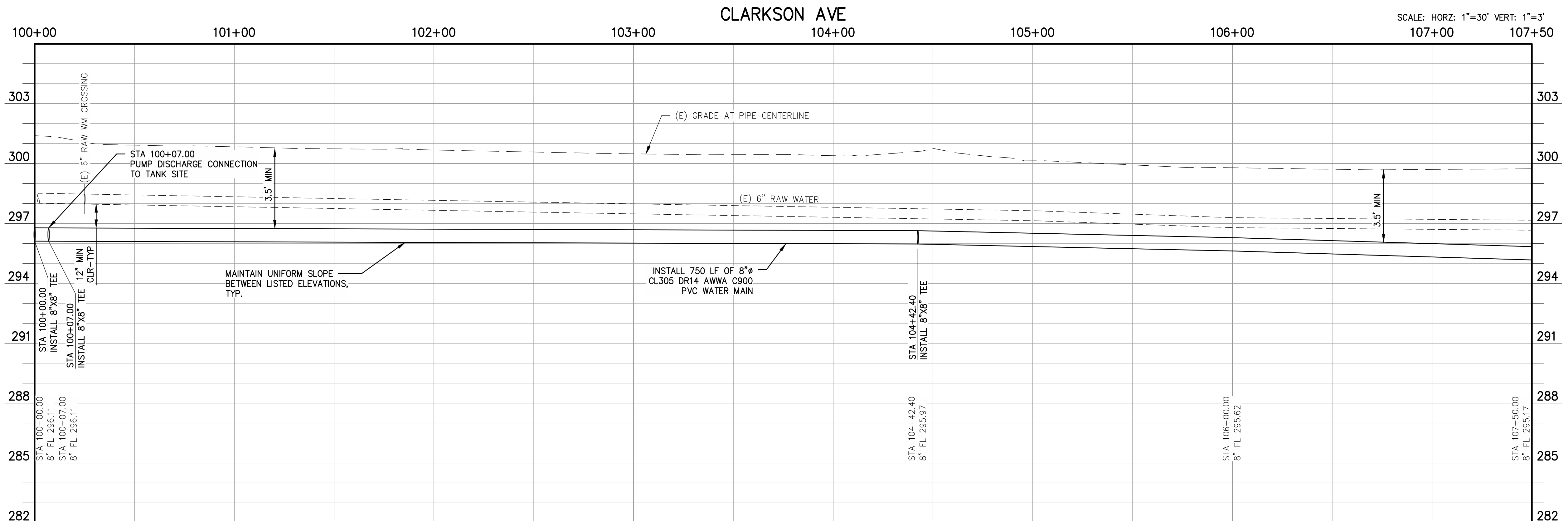
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SHEET NO. C2-6

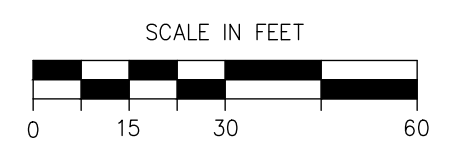
TOTAL 33



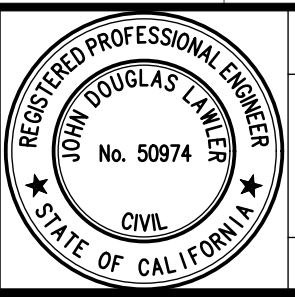
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1 ADDENDUM NO. 1 - SHEET REFERENCES 09/10/2020



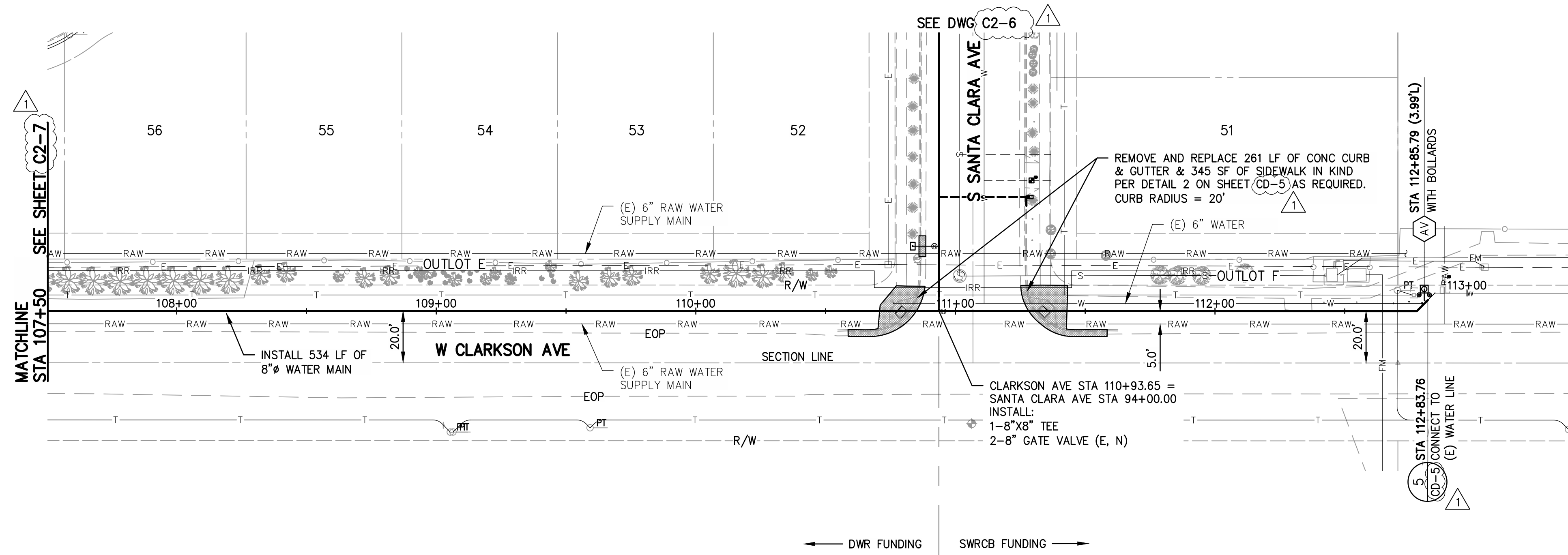
*John D. Lanier*  
06/30/2020



**PROJECT**  
CSA 30 & 32 WATER SYSTEM IMPROVEMENTS  
COUNTY OF FRESNO  
BRIDGE NO. N/A

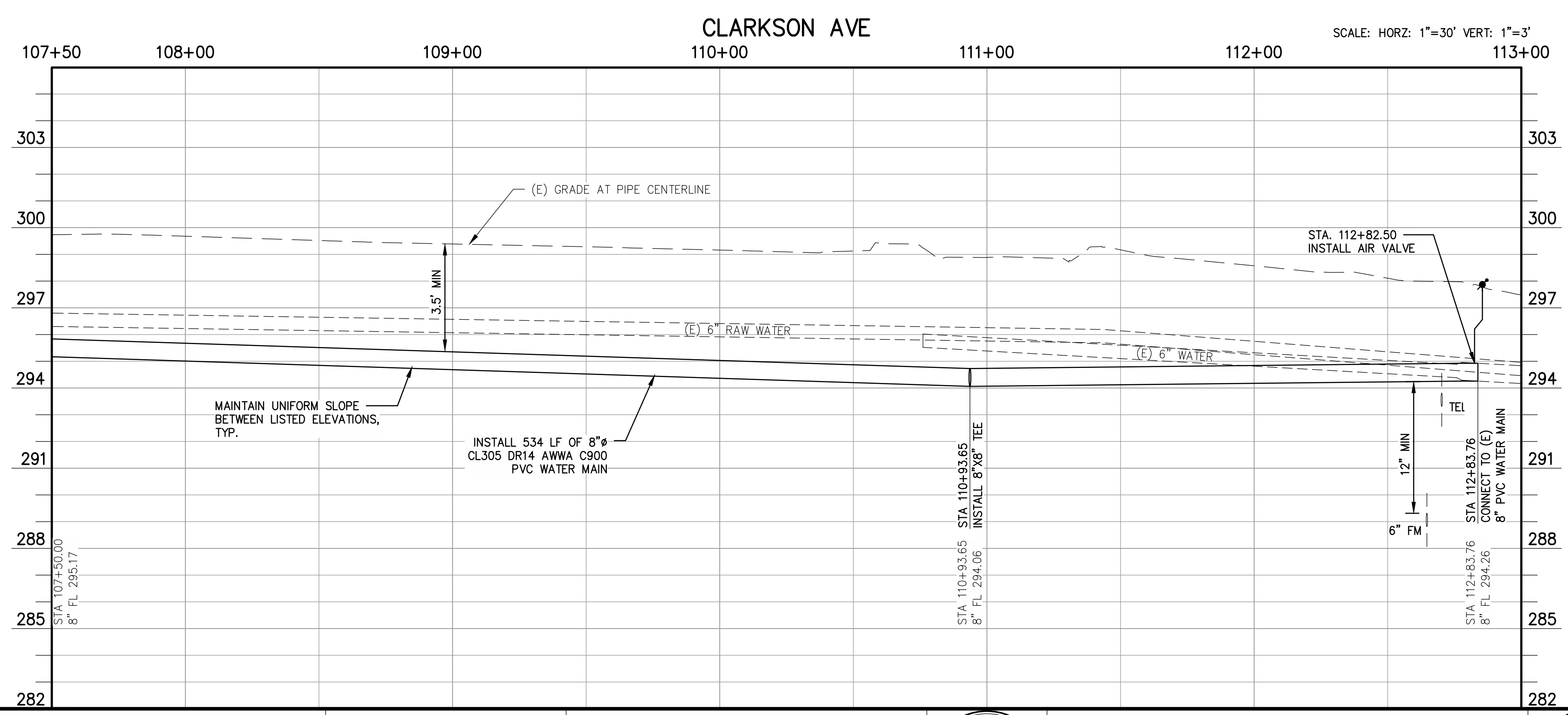
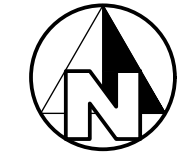


**DEPARTMENT OF PUBLIC WORKS AND PLANNING**  
W CLARKSON AVE STA 100+00 TO STA 107+50  
CSA 32 CANTUA CREEK

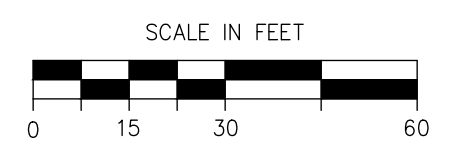


SEE SHEET C2-9

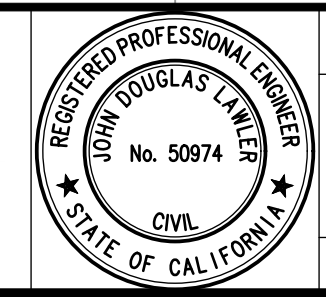
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1	ADDENDUM NO. 1 - SHEET REFERENCES	09/10/2020
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*John D. Lanier*  
06/30/2020



PROJECT  
CSA 30 & 32 WATER SYSTEM IMPROVEMENTS  
COUNTY OF FRESNO  
BRIDGE NO. N/A



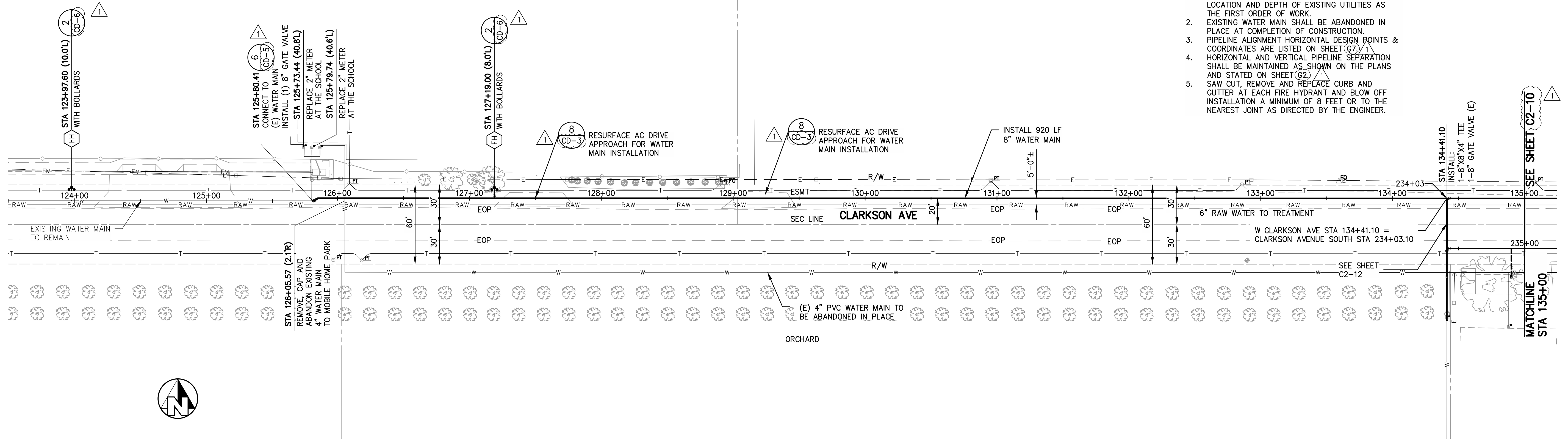
DEPARTMENT OF PUBLIC WORKS AND PLANNING  
W CLARKSON AVE STA 107+50 TO 112+84  
CSA 32 CANTUA CREEK  
DRAWING NO. 11305 SHEET NO. C2-8 TOTAL 33

CANTUA CREEK ELEMENTARY SCHOOL

SCHOOL HOUSING

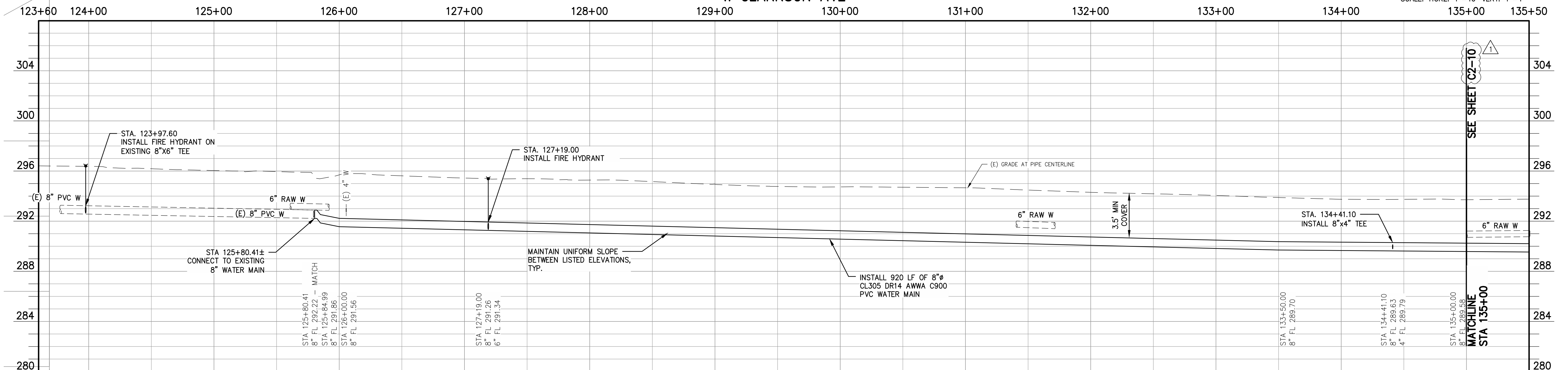
CONSTRUCTION NOTES

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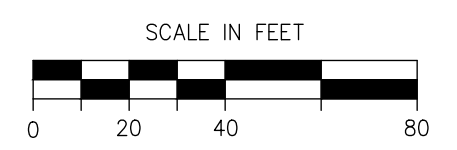


W CLARKSON AVE

SCALE: HORIZ: 1"=40' VERT: 1"=4'

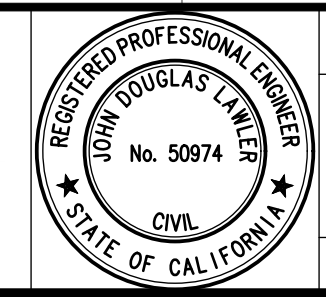


1 ADDENDUM NO. 1 - SHEET REFERENCES 09/10/2020



*John D. Lander*

06/30/2020



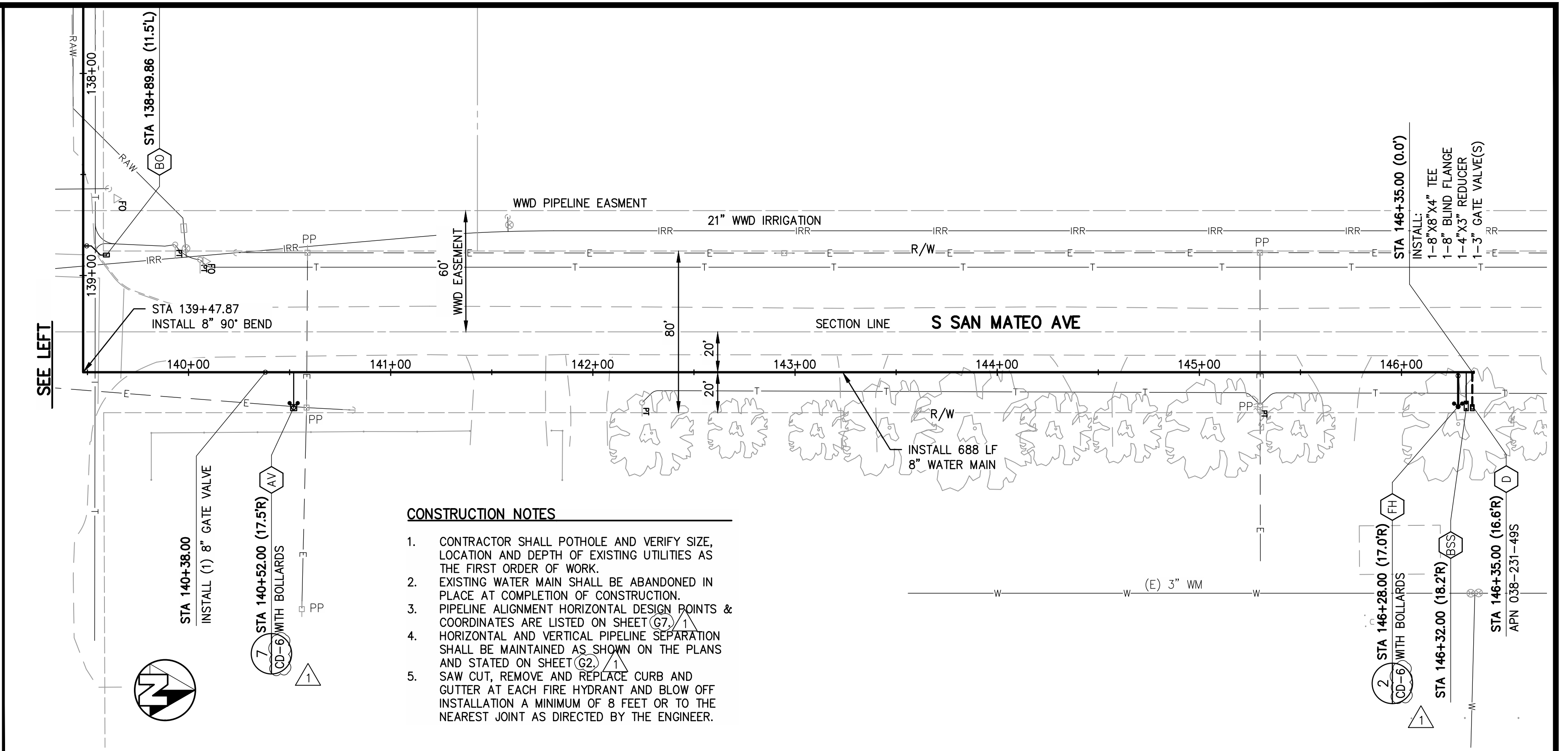
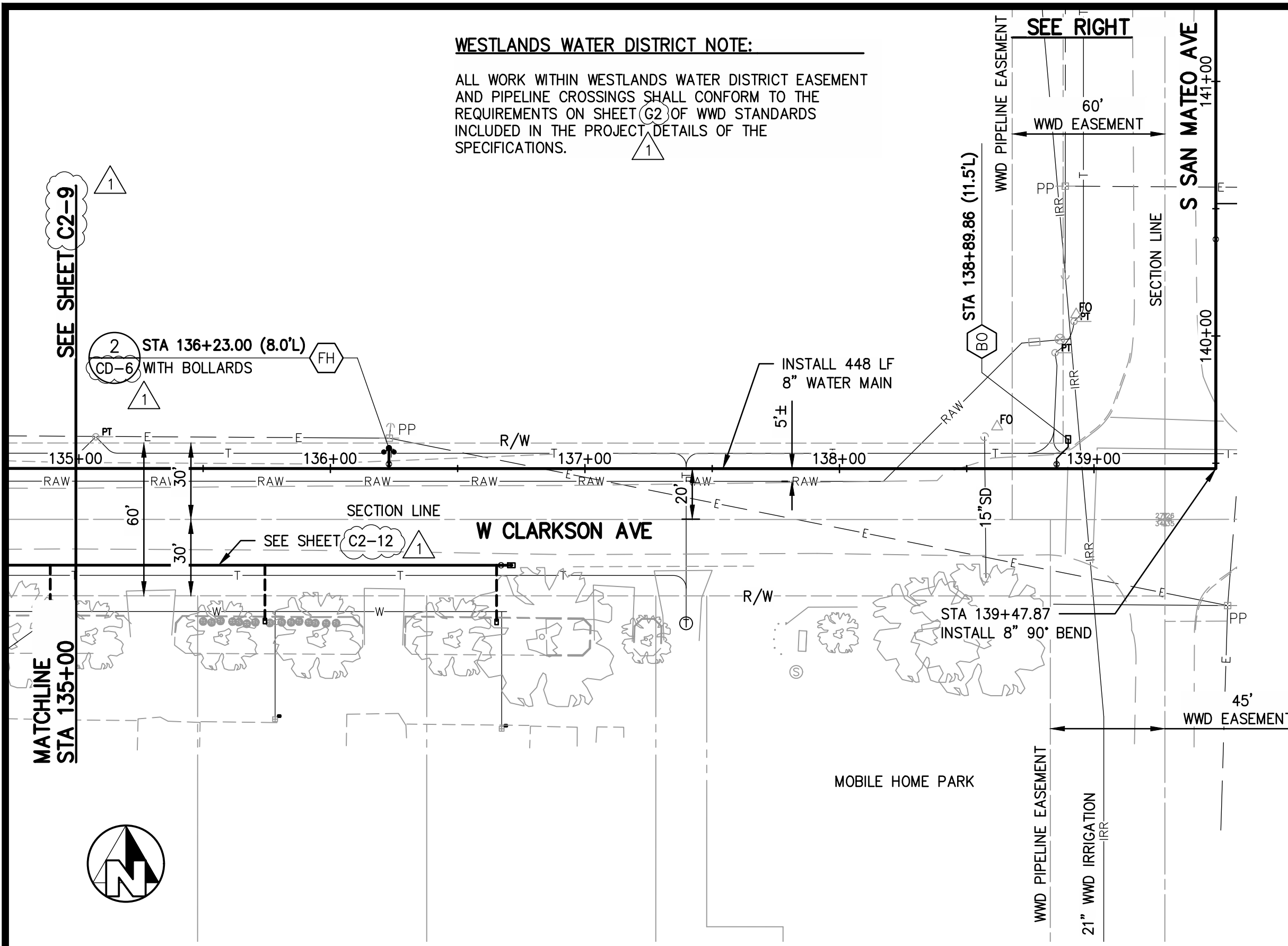
PROJECT  
 CSA 30 & 32 WATER SYSTEM IMPROVEMENTS  
 COUNTY OF FRESNO  
 BRIDGE NO. N/A



DEPARTMENT OF PUBLIC WORKS AND PLANNING  
 W CLARKSON AVE STA 125+50 TO 135+00  
 CSA 32 CANTUA CREEK  
 DRAWING NO. 11305 SHEET NO. C2-9 TOTAL 33

**WESTLANDS WATER DISTRICT NOTE:**

ALL WORK WITHIN WESTLANDS WATER DISTRICT EASEMENT AND PIPELINE CROSSINGS SHALL CONFORM TO THE REQUIREMENTS ON SHEET (G2) OF WWD STANDARDS INCLUDED IN THE PROJECT DETAILS OF THE SPECIFICATIONS.



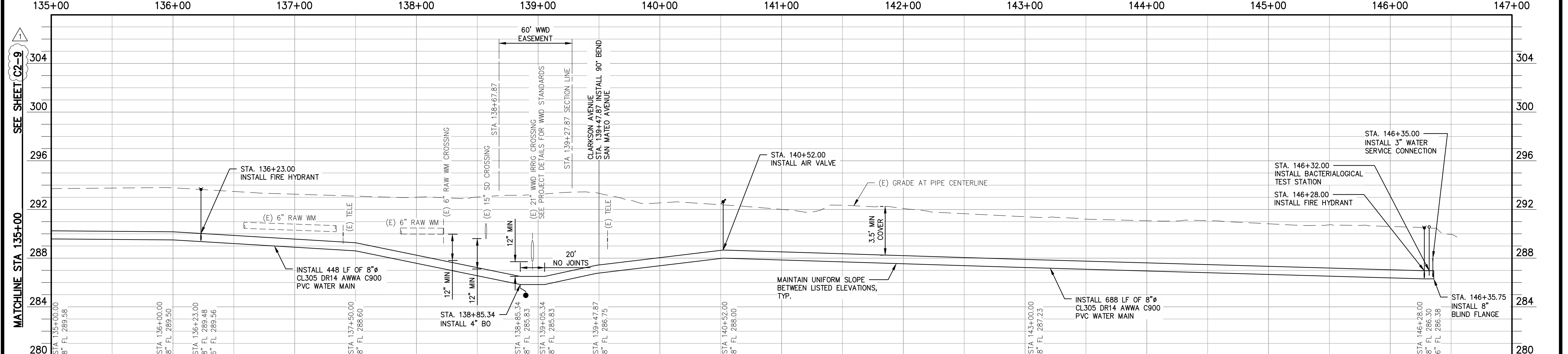
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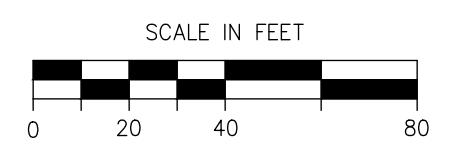
**W CLARKSON AVE**

**SAN MATEO AVE**

SCALE: HORIZ: 1"=40' VERT: 1"=4'

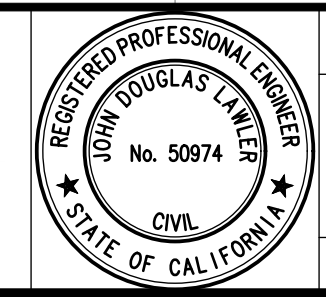


ADDENDUM NO. 1 - SHEET REFERENCES 09/10/2020



*John Paul*

06/30/2020

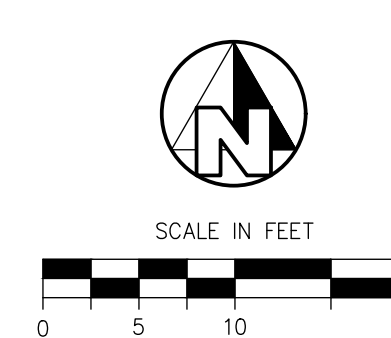
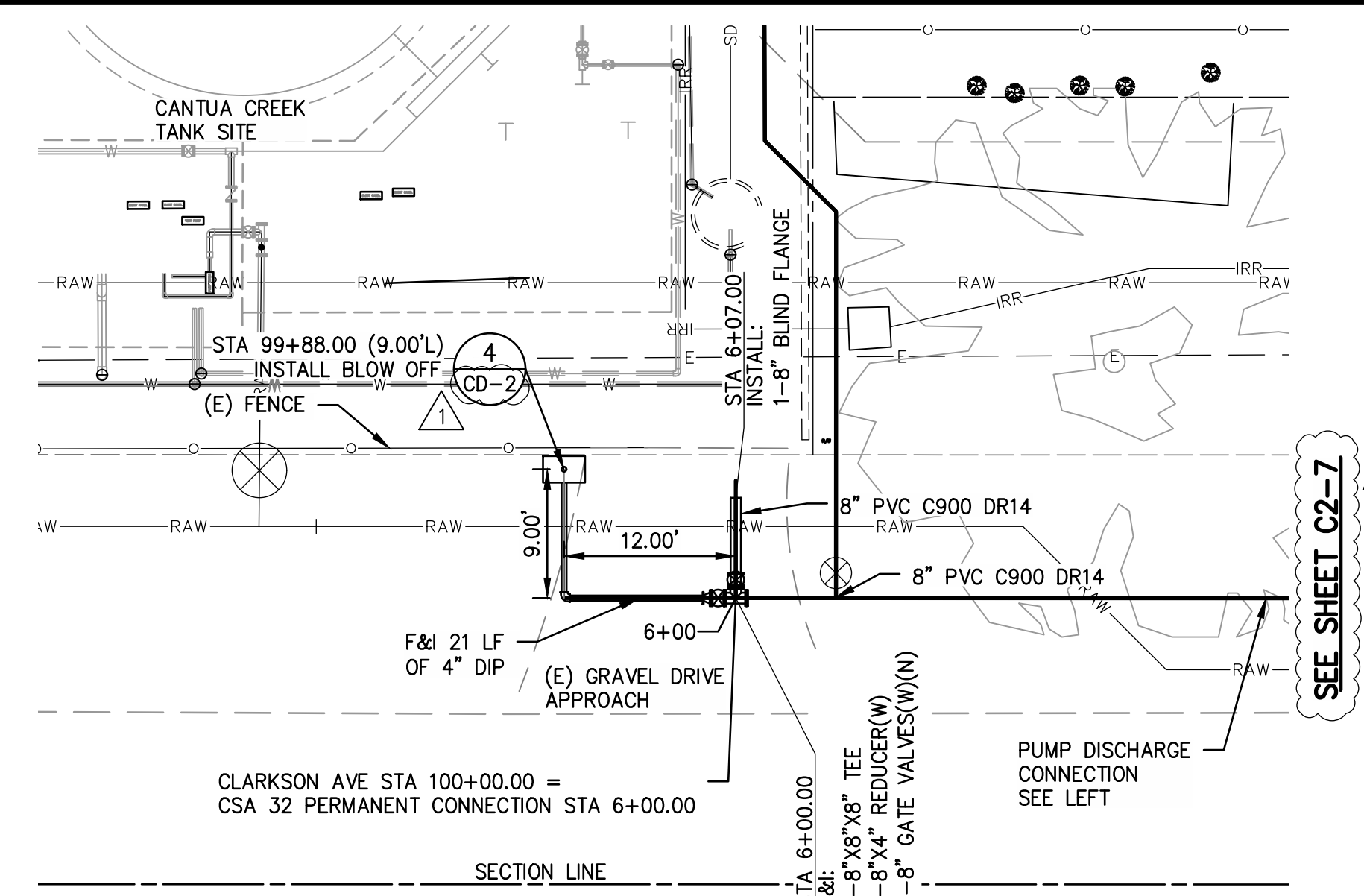
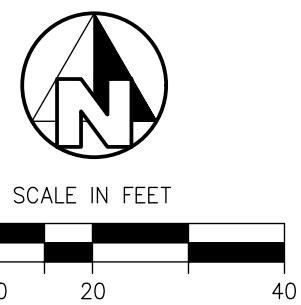
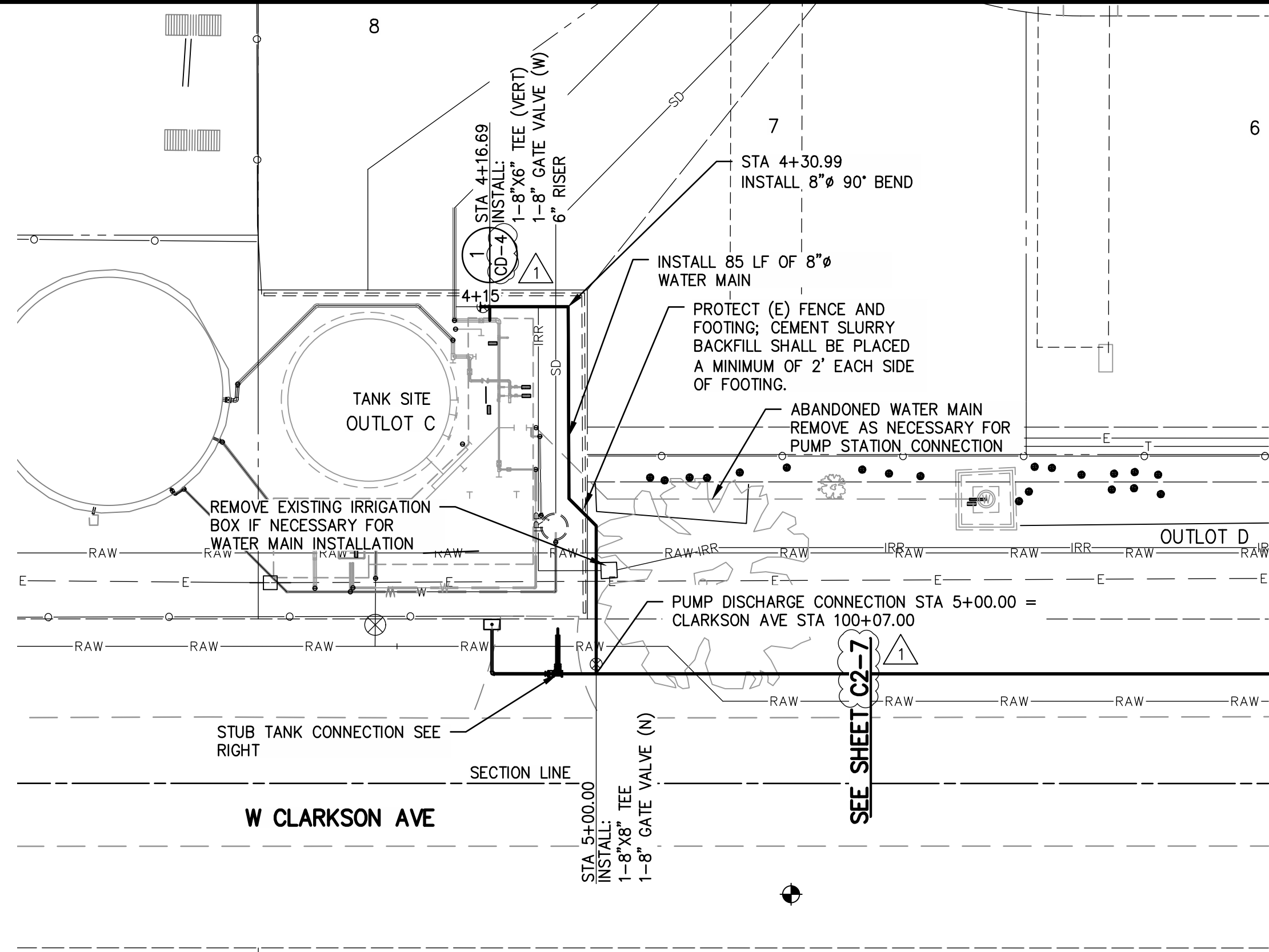


**PROJECT**  
CSA 30 & 32 WATER SYSTEM IMPROVEMENTS  
COUNTY OF FRESNO  
BRIDGE NO. N/A

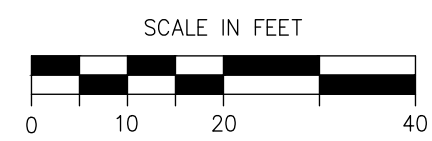
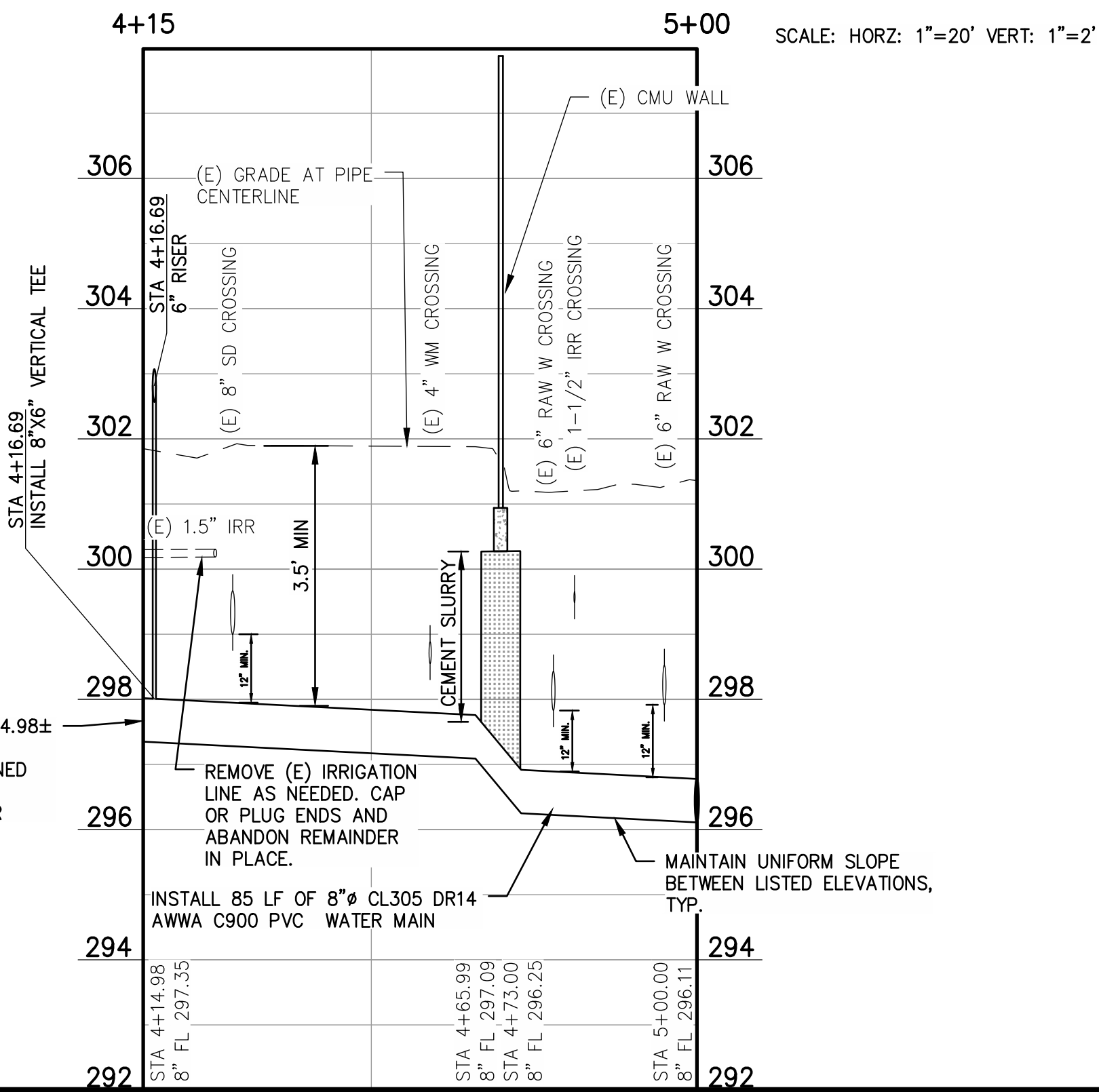


**DEPARTMENT OF PUBLIC WORKS AND PLANNING**  
**CLARKSON & SAN MATEO AVE STA 135+00 TO END**  
CSA 32 CANTUA CREEK

DRAWING NO. 11305 SHEET NO. C2-10 TOTAL 33

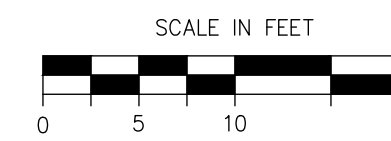
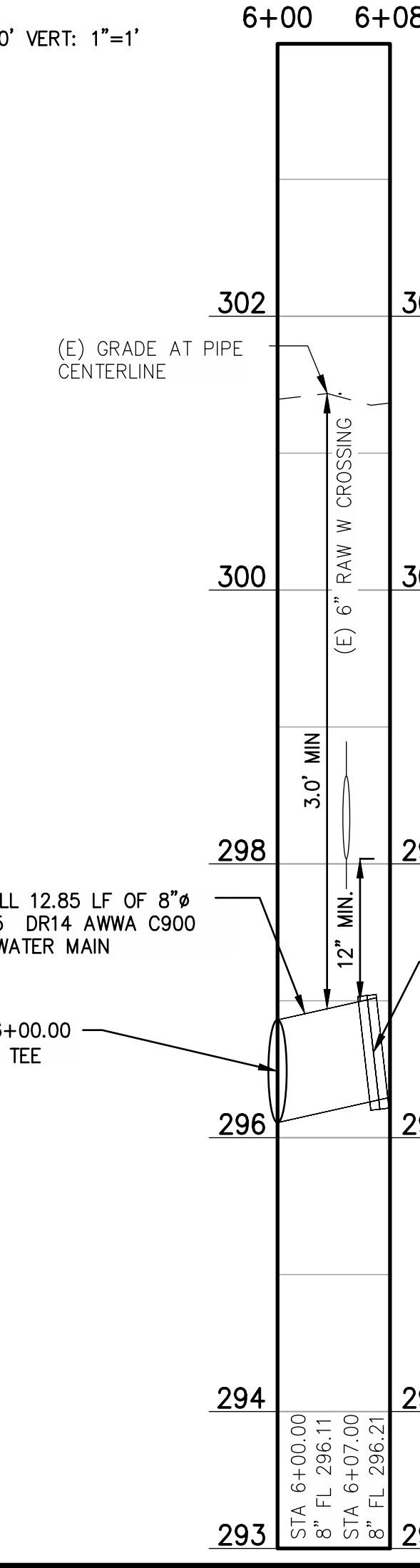


**PUMP DISCHARGE CONNECTION AT TANK SITE**



**STUB CONNECTION AT TANK SITE**

SCALE: HORZ: 1"=10' VERT: 1"=1'



**CONSTRUCTION NOTES**

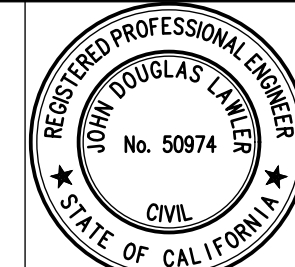
1. CONTRACTOR SHALL POTHOLE AND VERIFY SIZE, LOCATION AND DEPTH OF EXISTING UTILITIES AS THE FIRST ORDER OF WORK.
2. EXISTING WATER MAIN SHALL BE ABANDONED IN PLACE AT COMPLETION OF CONSTRUCTION.
3. PIPELINE ALIGNMENT HORIZONTAL DESIGN POINTS & COORDINATES ARE LISTED ON SHEET (G7).
4. HORIZONTAL AND VERTICAL PIPELINE SEPARATION SHALL BE MAINTAINED AS SHOWN ON THE PLANS AND STATED ON SHEET (G2).
5. SAW CUT, REMOVE AND REPLACE CURB AND GUTTER AT EACH FIRE HYDRANT AND BLOW OFF INSTALLATION A MINIMUM OF 8 FEET OR TO THE NEAREST JOINT AS DIRECTED BY THE ENGINEER.

1 ADDENDUM NO. 1 - SHEET REFERENCES 09/10/2020

SEE ABOVE FOR SCALE

*John D. Lander*

06/30/2020



PROJECT  
CSA 30 & 32 WATER SYSTEM IMPROVEMENTS  
COUNTY OF FRESNO

BRIDGE NO. N/A



DEPARTMENT OF PUBLIC WORKS AND PLANNING  
PUMP CONNECTION AT TANK SITE  
CSA 32 CANTUA CREEK

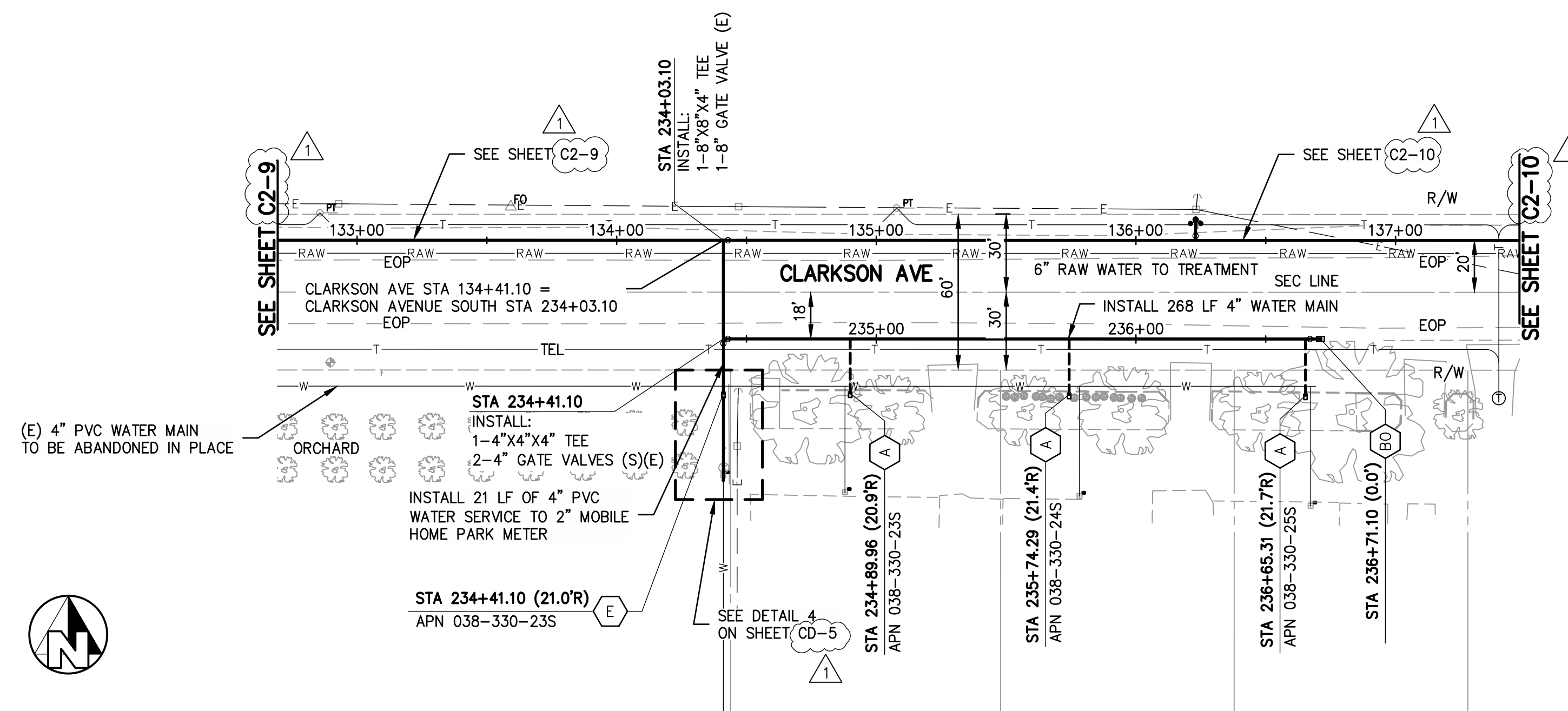
DRAWING NO. 11305

SHEET NO. C2-11

TOTAL 33

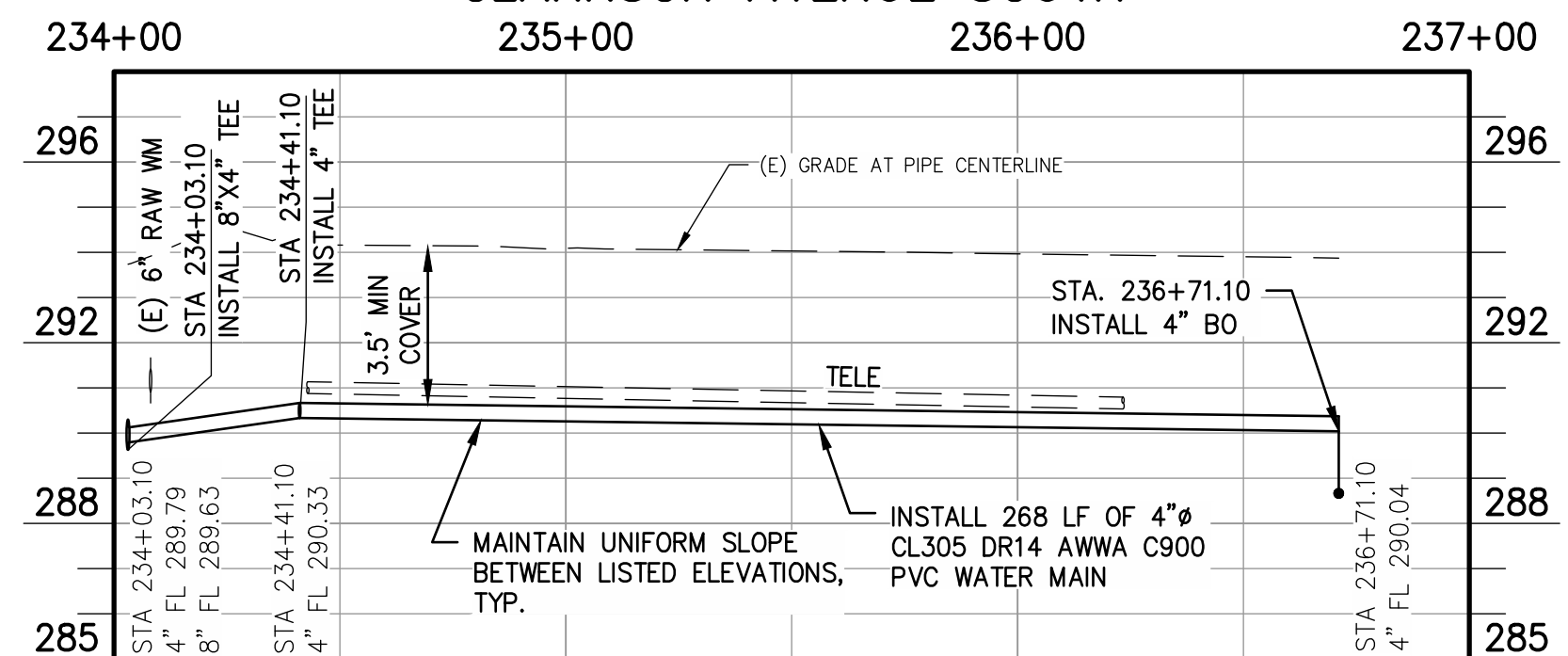
**CONSTRUCTION NOTES**

1. CONTRACTOR SHALL POTHOLE AND VERIFY SIZE, LOCATION AND DEPTH OF EXISTING UTILITIES AS THE FIRST ORDER OF WORK.
2. EXISTING WATER MAIN SHALL BE ABANDONED IN PLACE AT COMPLETION OF CONSTRUCTION.
3. PIPELINE ALIGNMENT HORIZONTAL DESIGN POINTS & COORDINATES ARE LISTED ON SHEET (G7) / 1
4. HORIZONTAL AND VERTICAL PIPELINE SEPARATION SHALL BE MAINTAINED AS SHOWN ON THE PLANS AND STATED ON SHEET (G2) / 1
5. SAW CUT, REMOVE AND REPLACE CURB AND GUTTER AT EACH FIRE HYDRANT AND BLOW OFF INSTALLATION A MINIMUM OF 8 FEET OR TO THE NEAREST JOINT AS DIRECTED BY THE ENGINEER.

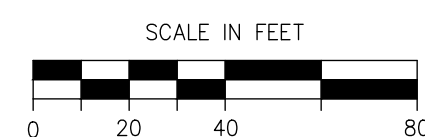


**CLARKSON AVENUE SOUTH**

SCALE: HORZ: 1"=40' VERT: 1"=4'

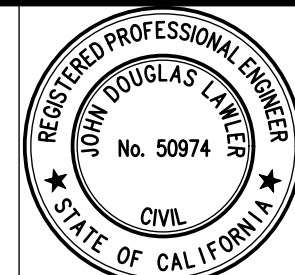


1 ADDENDUM NO. 1 - SHEET REFERENCES 09/10/2020



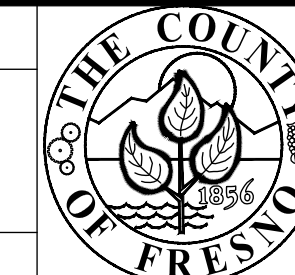
*John D. Lander*

06/30/2020



PROJECT  
CSA 30 & 32 WATER SYSTEM IMPROVEMENTS  
COUNTY OF FRESNO

BRIDGE NO. N/A

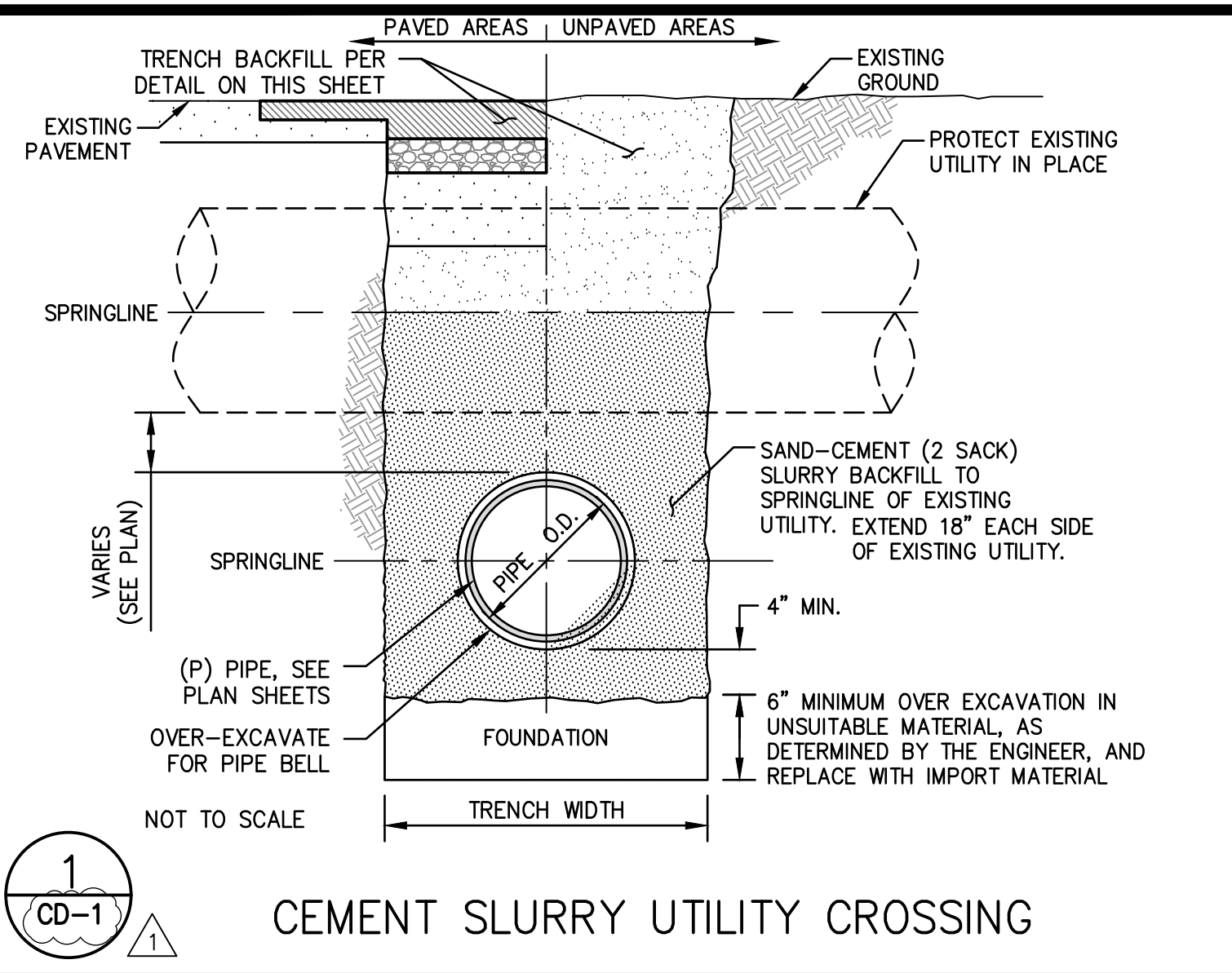


DEPARTMENT OF PUBLIC WORKS AND PLANNING  
W CLARKSON AVE SOUTH STA 234+03 TO 236+71  
CSA 32 CANTUA CREEK

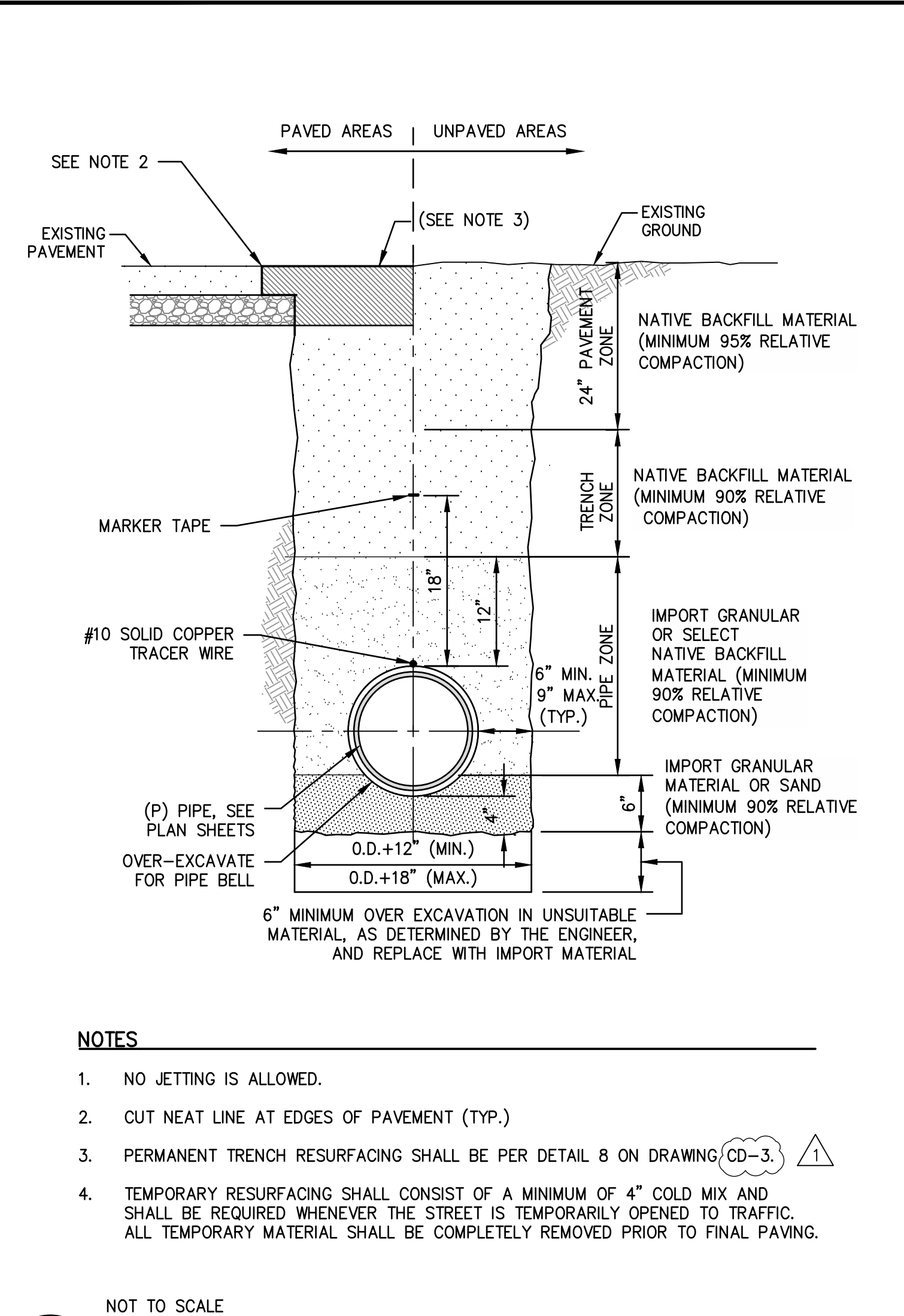
DRAWING NO. 11305

SHEET NO. C2-12

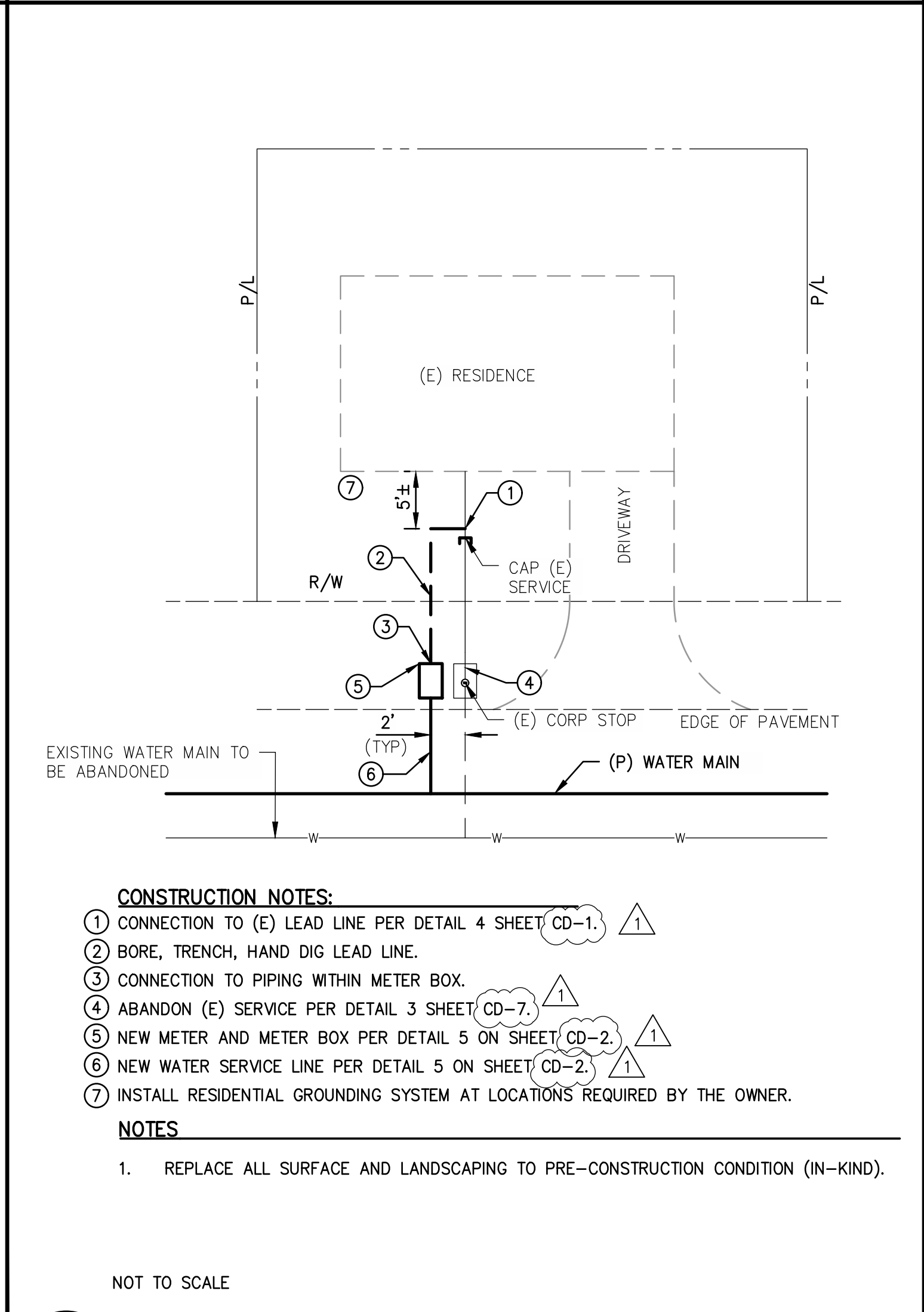
TOTAL 33



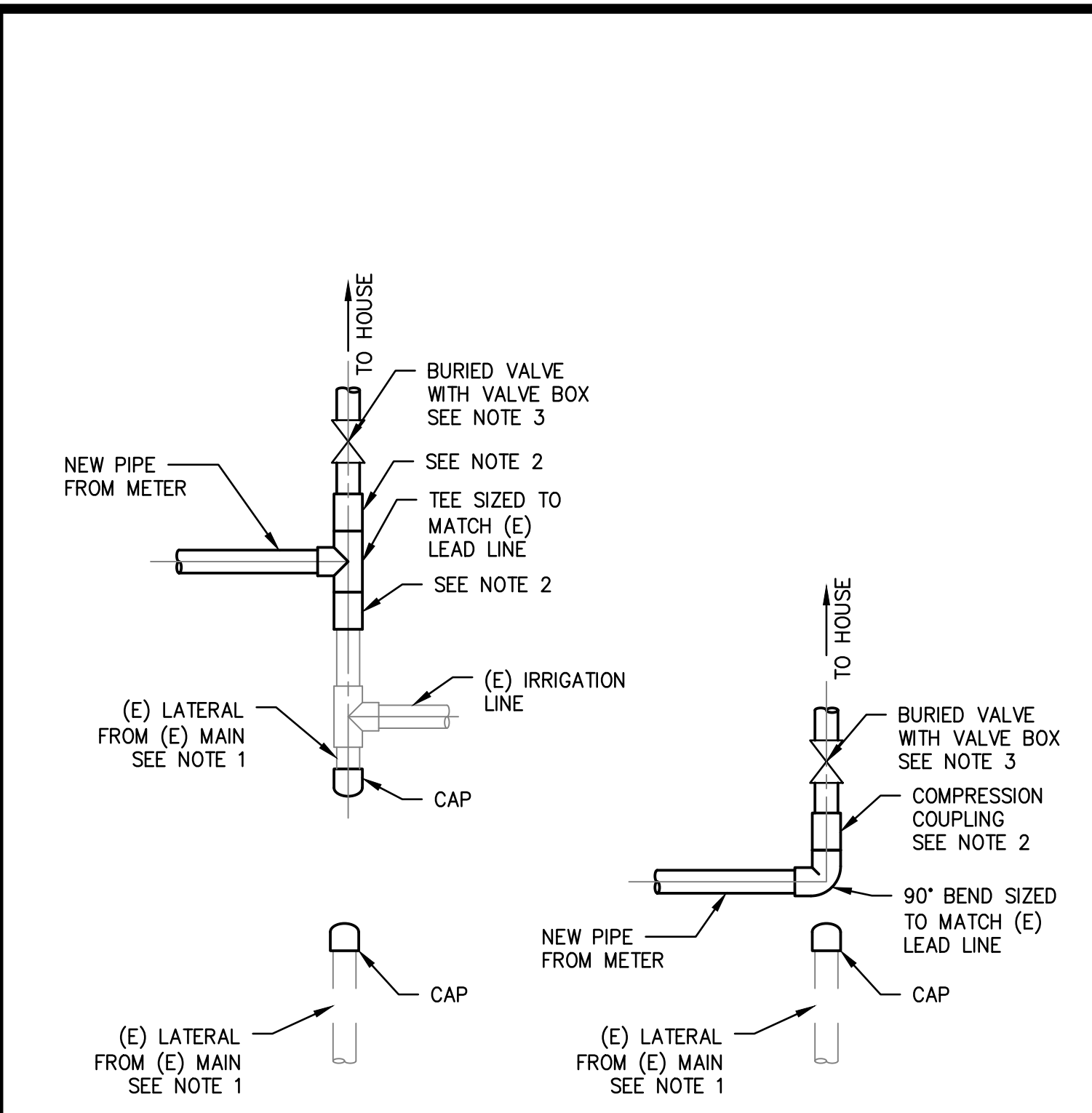
**1**  
CD-1  
**CEMENT SLURRY UTILITY CROSSING**



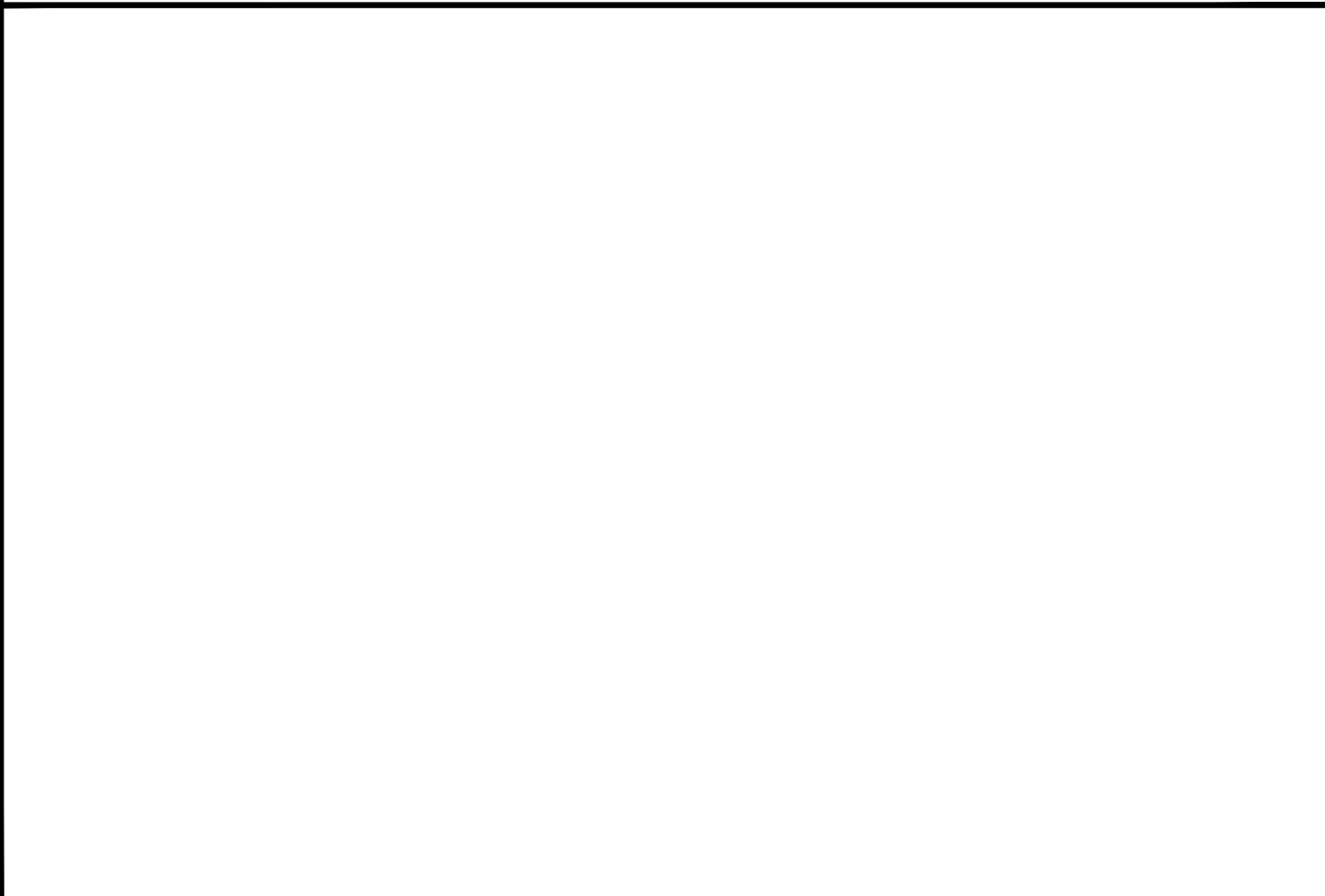
**2**  
CD-1  
**PIPE BEDDING AND TRENCH BACKFILL**



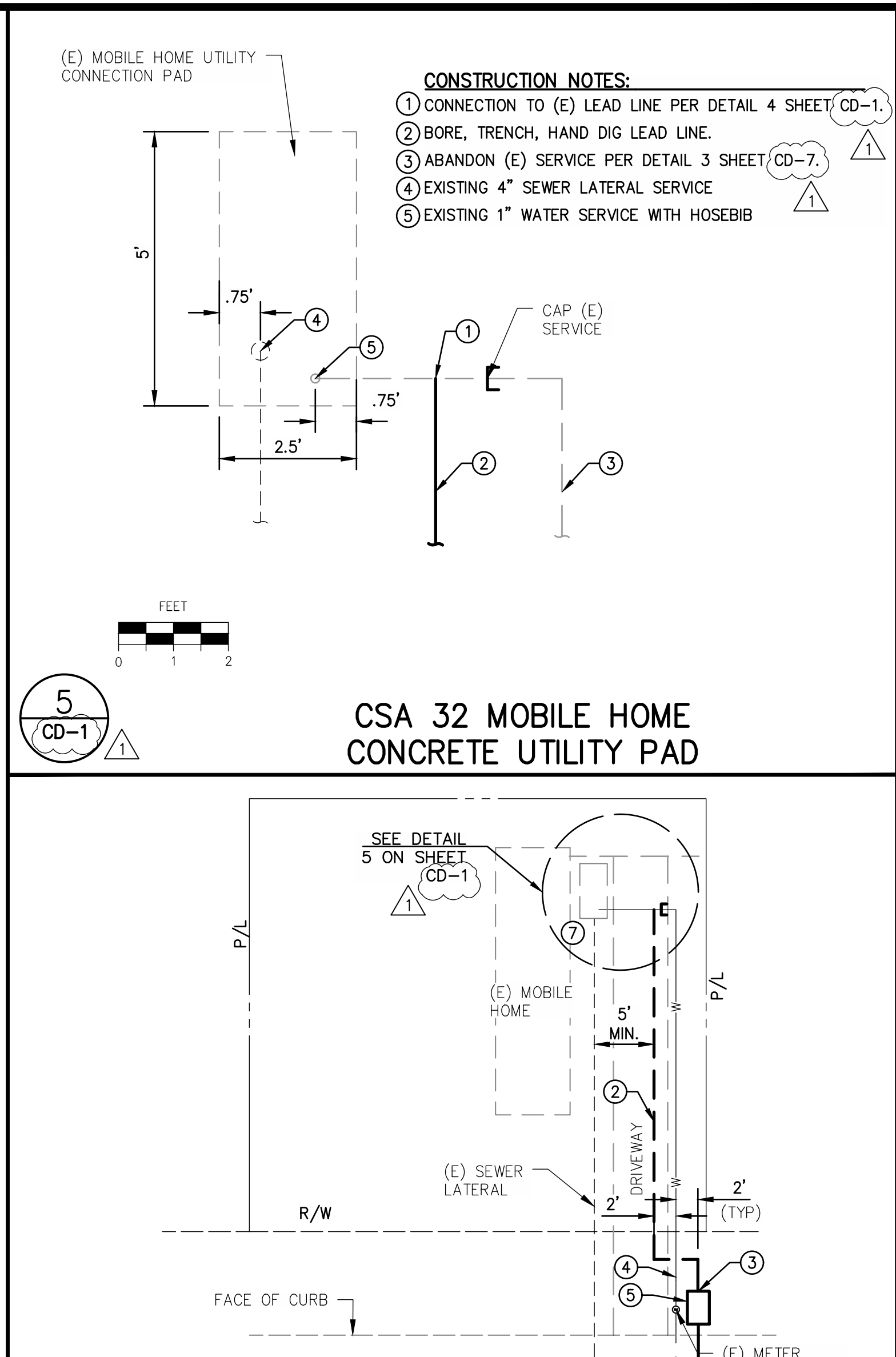
**3**  
CD-1  
**1\"/>**



**4**  
CD-1  
**LEAD LINE CONNECTION (SIDE BY SIDE SERVICE)**



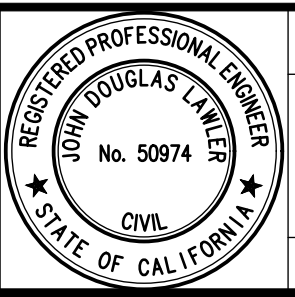
**5**  
CD-1  
**CSA 32 MOBILE HOME CONCRETE UTILITY PAD**



**6**  
CD-1  
**CSA 32 1\"/>**

1 ADDENDUM NO. 1 - SHEET REFERENCES 09/10/2020

*John Paul* 06/30/2020



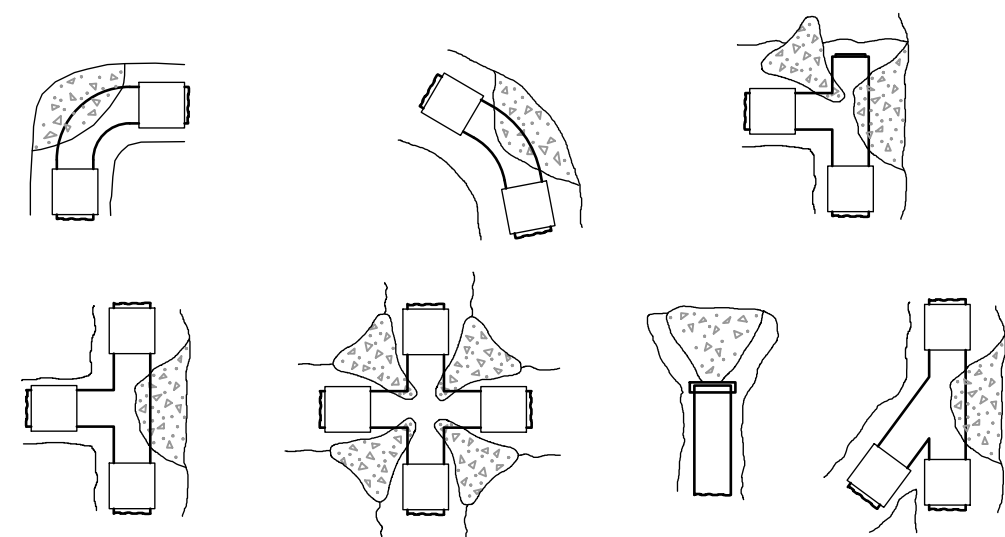
PROJECT  
CSA 30 & 32 WATER SYSTEM IMPROVEMENTS  
COUNTY OF FRESNO  
BRIDGE NO. N/A



DEPARTMENT OF PUBLIC WORKS AND PLANNING  
CONSTRUCTION DETAILS 1  
DETAILS  
DRAWING NO. 11305 SHEET NO. CD-1 TOTAL 33







ALL FITTINGS TO BE WRAPPED IN 4 MIL VISQUEEN

AREA OF CONCRETE BEARING AGAINST UNDISTURBED SOIL SQUARE FEET

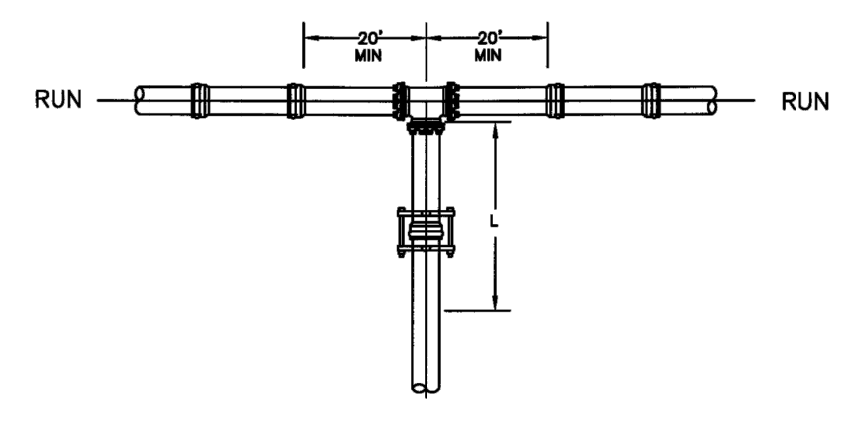
PIPE SIZE	DEAD END OR TEE	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND
6	1.8	2.5	1.4	0.7	0.3
8	3.1	4.4	2.4	1.2	0.6
10	4.9	6.9	3.8	1.9	1.0
12	7.0	10.0	5.4	2.8	1.4
14	9.5	13.6	7.4	3.8	1.9

BASED ON 2000 P.S.F. SOIL BEARING CAPACITY AND 125 P.S.I. STATIC PRESSURE - SPECIAL DESIGN REQUIRED FOR SOIL LESS THAN 2000 P.S.F. CONCRETE TO HAVE ULTIMATE STRENGTH OF 2500 P.S.I. @ 28 DAYS.

\*TABLE MUST BE RECALCULATED FOR EACH PROJECT BASED ON ASAE STANDARD S376-1\*  
NOT TO SCALE

1  
CD-3

THRUST BLOCKS



BRANCH SIZE	RUN SIZE										
	4	6	8	10	12	14	16	18	20	24	
4	*	*	*	*	*	*	*	*	*	*	*
6	*	*	*	*	*	*	*	*	*	*	*
8	*	*	*	*	*	*	*	*	*	*	*
10	*	*	*	*	*	*	*	*	*	*	*
12	*	*	*	*	*	*	*	*	*	*	*
14	*	*	*	*	*	*	*	*	*	*	*
16	*	*	*	*	*	*	*	*	*	*	*
18	*	*	*	*	*	*	*	*	*	*	*
20	*	*	*	*	*	*	*	*	*	*	*
24	*	*	*	*	*	*	*	*	*	*	*

\* -FOR THIS CONDITION NEED ONLY RESTRAIN THE BRANCH OUTLET OF THE TEE.

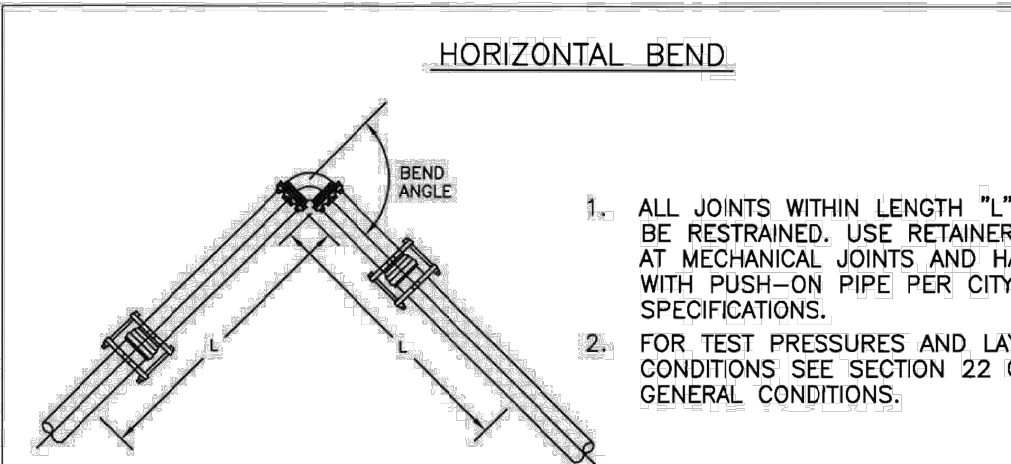
RESTRAINED LENGTHS, "L" (IN FEET)

- RESTRAIN THE TWO MECHANICAL JOINTS ON THE RUN SIDES OF THE TEE. WHEN LESS THAN A FULL 20' LENGTH OF PIPE IS INSTALLED ON EACH SIDE OF THE RUN.
- ALL JOINTS WITHIN THE LENGTH "L" ON THE BRANCH MUST BE RESTRAINED. USE RETAINER GLAND AT MECHANICAL JOINTS AND HARNESS ON PUSH-ON PIPE PER CITY SPECIFICATION.
- FOR TEST PRESSURES AND LAYING CONDITIONS SEE SECTION 22 OF GENERAL CONDITIONS.

2  
CD-3

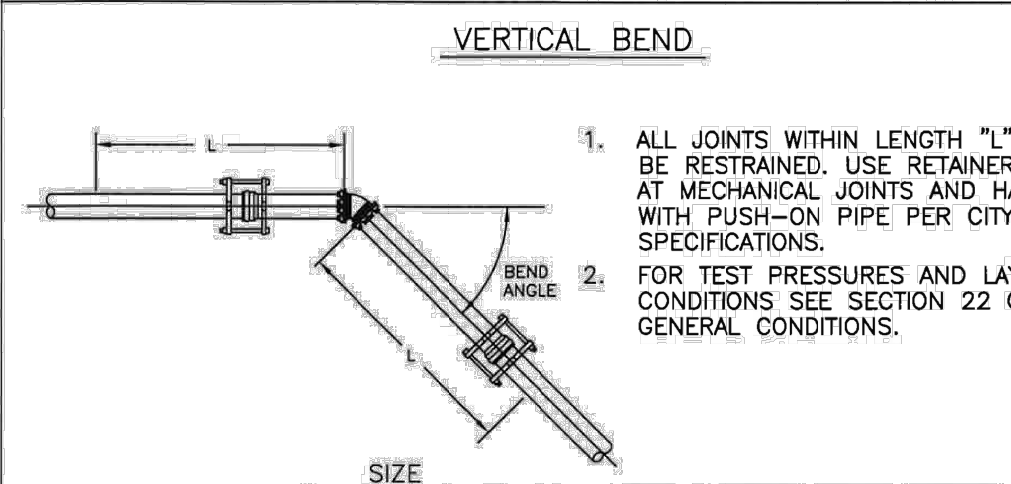
PVC TEE RESTRAINTS

REF. & REV. MAR. 2006 CITY OF FRESNO W-31



BEND ANGLE	SIZE						
	4	6	8	10	12	14	16
11.25	3	3	3	4	4	5	5
22.5	3	5	7	7	9	10	11
45	7	11	13	15	18	20	23
90	17	24	31	37	43	49	55

RESTRAINED LENGTHS, "L" (IN FEET)



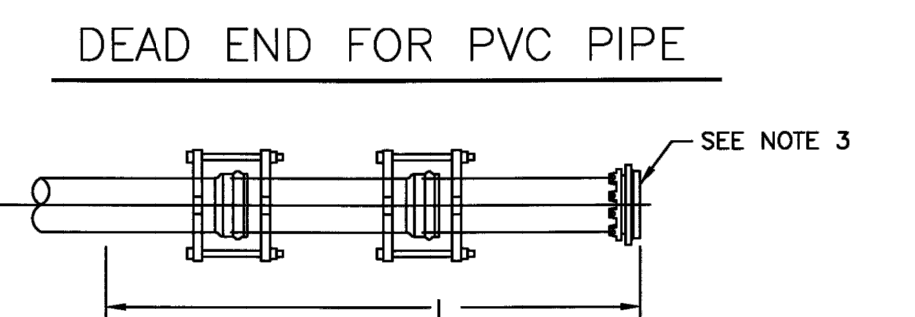
BEND ANGLE	SIZE						
	4	6	8	10	12	14	16
11.25	5	7	9	11	13	15	17
22.5	11	15	19	23	27	31	35
45	23	31	40	48	56	64	72

RESTRAINED LENGTHS, "L" (IN FEET)

3  
CD-3

PVC BEND RESTRAINTS

REF. & REV. MAR. 2006 CITY OF FRESNO W-32



- ALL JOINTS WITHIN LENGTH "L" MUST BE RESTRAINED. USE RETAINER GLAND AT MECHANICAL JOINTS AND HARNESS WITH PUSH-ON PIPE PER CITY STANDARD SPECIFICATIONS.
- FOR TEST PRESSURES AND LAYING CONDITIONS, SEE SECTION 22 OF GENERAL CONDITIONS.
- WHEN APPROVED, CONCRETE THRUST BLOCK MAY BE USED AS SHOWN ON STANDARD DRAWING W-6.

PIPE SIZE						
4	6	8	10	12	14	16
52	73	96	115	136	155	174

RESTRAINED LENGTHS, "L" (IN FEET)

GENERAL NOTES ON USE OF RESTRAINED JOINT LENGTHS  
THESE RESTRAINED LENGTH CALCULATIONS ARE BASED ON THE FOLLOWING DESIGN CRITERIA

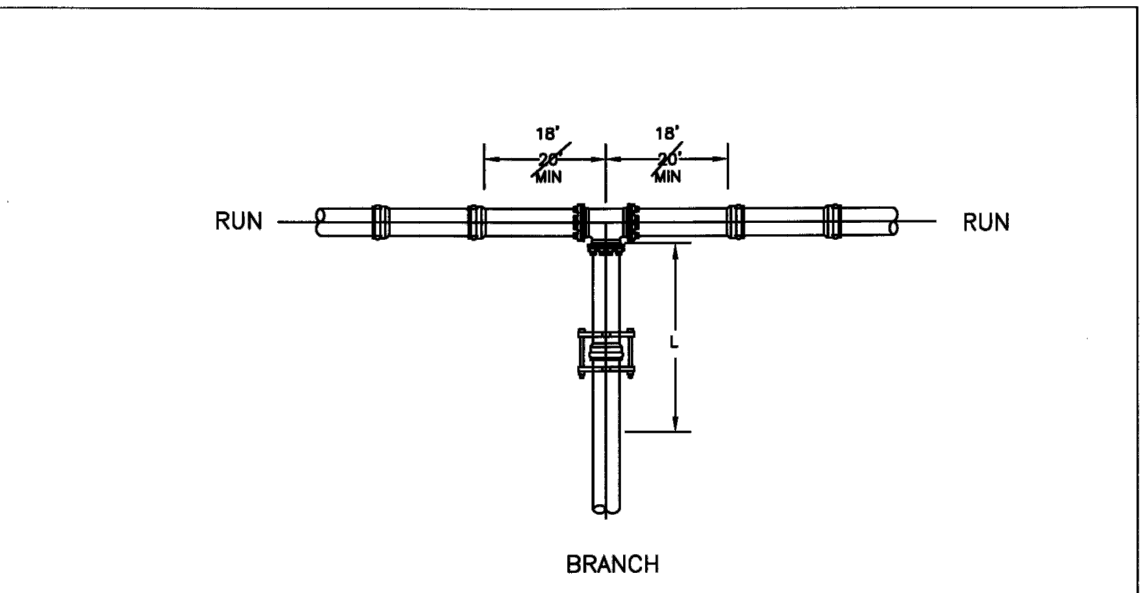
- THREE (3) FEET MINIMUM DEPTH OF COVER
- A SAFETY FACTOR OF 1.5
- SOIL TYPE OF SM--SILTY GRAVEL AND SILTY SANDS AS DEFINED BY ASTM D-2487
- TRENCH COMPACTION OF TYPE 5 - PIPE BEDDED IN COMPACTED GRANULAR MATERIAL TO THE CENTER LINE OF PIPE, 4 INCHES MINIMUM UNDER PIPE. COMPACTED GRANULAR MATERIAL OR SELECT MATERIAL TO TOP OF THE PIPE. (APPROXIMATELY 90 PERCENT STANDARD PROCTOR DENSITY, AASHTO T-99)
- TEST PRESSURES OF 200 PSI FOR THE 4 THROUGH 16 INCH SIZES

IF ACTUAL CONDITIONS DIFFER FROM THOSE LISTED ABOVE OR THE REQUIRED RESTRAINED LENGTH CANNOT BE MET, CONSULT THE DESIGN ENGINEER FOR MODIFICATIONS TO THE RESTRAINED LENGTHS OR DESIGN.

4  
CD-3

PVC PIPE RESTRAINTS

REF. & REV. MAR. 2006 CITY OF FRESNO W-33



BRANCH SIZE	RUN SIZE										
	4	6	8	10	12	14	16	18	20	24	
4	*	*	*	*	*	*	*	*	*	*	*
6	*	*	*	*	*	*	*	*	*	*	*
8	*	*	*	*	*	*	*	*	*	*	*
10	*	*	*	*	*	*	*	*	*	*	*
12	*	*	*	*	*	*	*	*	*	*	*
14	*	*	*	*	*	*	*	*	*	*	*
16	*	*	*	*	*	*	*	*	*	*	*
18	*	*	*	*	*	*	*	*	*	*	*
20	*	*	*	*	*	*	*	*	*	*	*
24	*	*	*	*	*	*	*	*	*	*	*

\* -FOR THIS CONDITION NEED ONLY RESTRAIN THE BRANCH OUTLET OF THE TEE.

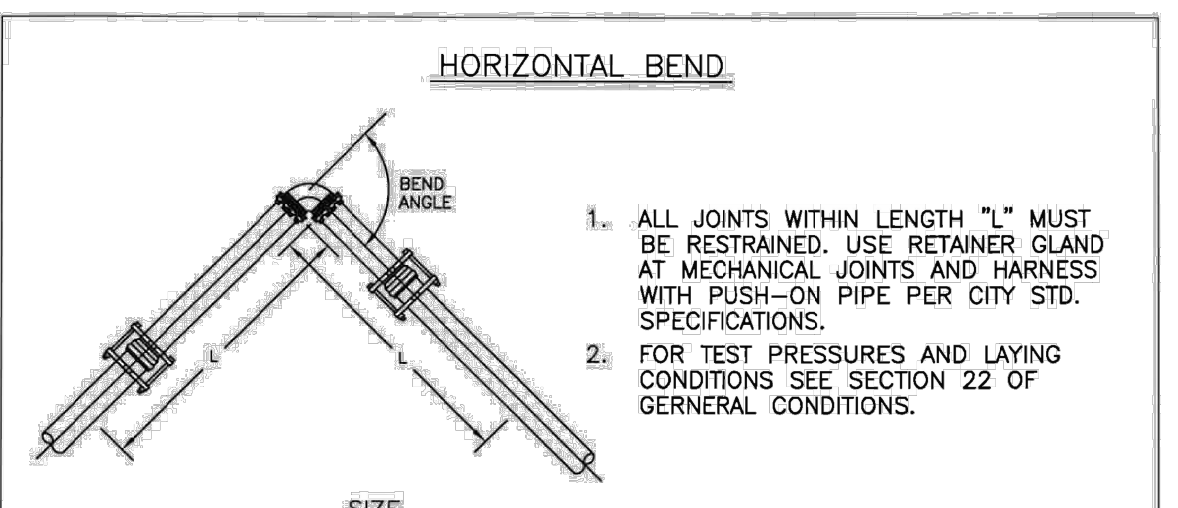
RESTRAINED LENGTHS, "L" (IN FEET)

- RESTRAIN THE TWO MECHANICAL JOINTS ON THE RUN SIDES OF THE TEE WHEN LESS THAN A FULL 18' LENGTH OF PIPE IS INSTALLED ON EACH SIDE OF THE RUN.
- ALL JOINTS WITHIN THE LENGTH "L" ON THE BRANCH MUST BE RESTRAINED. USE RETAINER GLAND AT MECHANICAL JOINTS AND HARNESS ON PUSH-ON PIPE PER CITY SPECIFICATION.
- FOR TEST PRESSURES AND LAYING CONDITIONS SEE SECTION 22 OF GENERAL CONDITIONS.

5  
CD-3

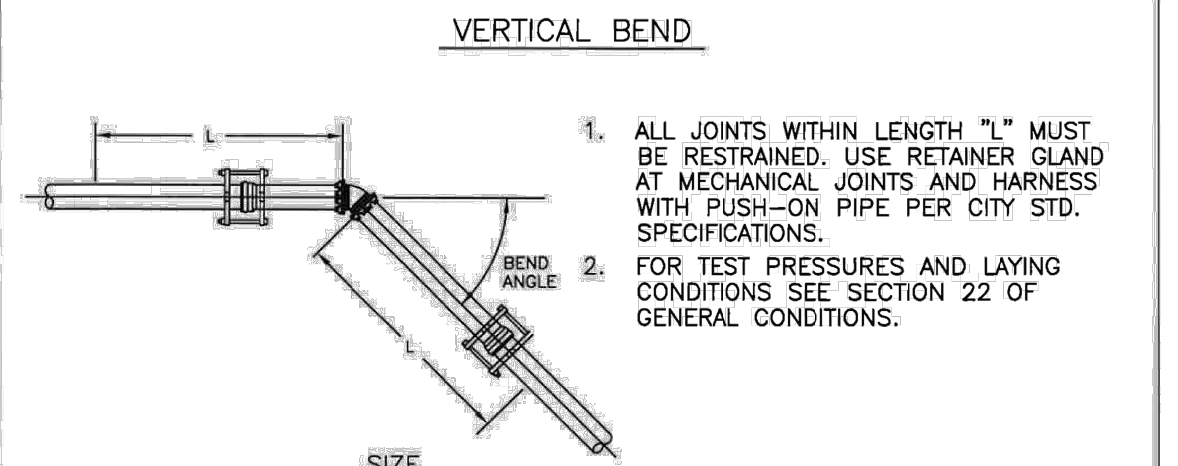
DUCTILE IRON TEE RESTRAINTS

REF. & REV. MAR. 2006 CITY OF FRESNO W-34



BEND ANGLE	SIZE						
	4	6	8	10	12	14	16
11.25	3	3	3	4	4	4	5
22.5	3	4	7	7	8	9	10
45	7	9	12	15	17	19	21
90	16	23	29	35	40	45	51

RESTRAINED LENGTHS, "L" (IN FEET)



BEND ANGLE	SIZE						
	4	6	8	10	12	14	16
11.25	3	5	7	8	8	10	11
22.5	7	11	12	15	17	20	22
45	15	19	25	31	36	41	46

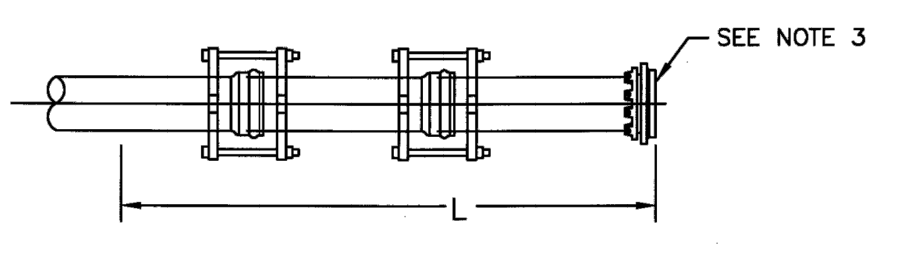
RESTRAINED LENGTHS, "L" (IN FEET)

6  
CD-3

DUCTILE IRON BEND RESTRAINTS

REF. & REV. MAR. 2006 CITY OF FRESNO W-35

DEAD END FOR DUCTILE IRON PIPE



- ALL JOINTS WITHIN LENGTH "L" MUST BE RESTRAINED. USE RETAINER GLAND AT MECHANICAL JOINTS AND HARNESS WITH PUSH-ON PIPE PER CITY STANDARD SPECIFICATIONS.
- FOR TEST PRESSURES AND LAYING CONDITIONS, SEE SECTION 22 OF GENERAL CONDITIONS.
- WHEN APPROVED, CONCRETE THRUST BLOCK MAY BE USED AS SHOWN ON STANDARD DRAWING W-6.

PIPE SIZE						
4	6	8	10	12	14	16
33	47	61	73	86	98	111

RESTRAINED LENGTHS, "L" (IN FEET)

GENERAL NOTES ON USE OF RESTRAINED JOINT LENGTHS  
THESE RESTRAINED LENGTH CALCULATIONS ARE BASED ON THE FOLLOWING DESIGN CRITERIA

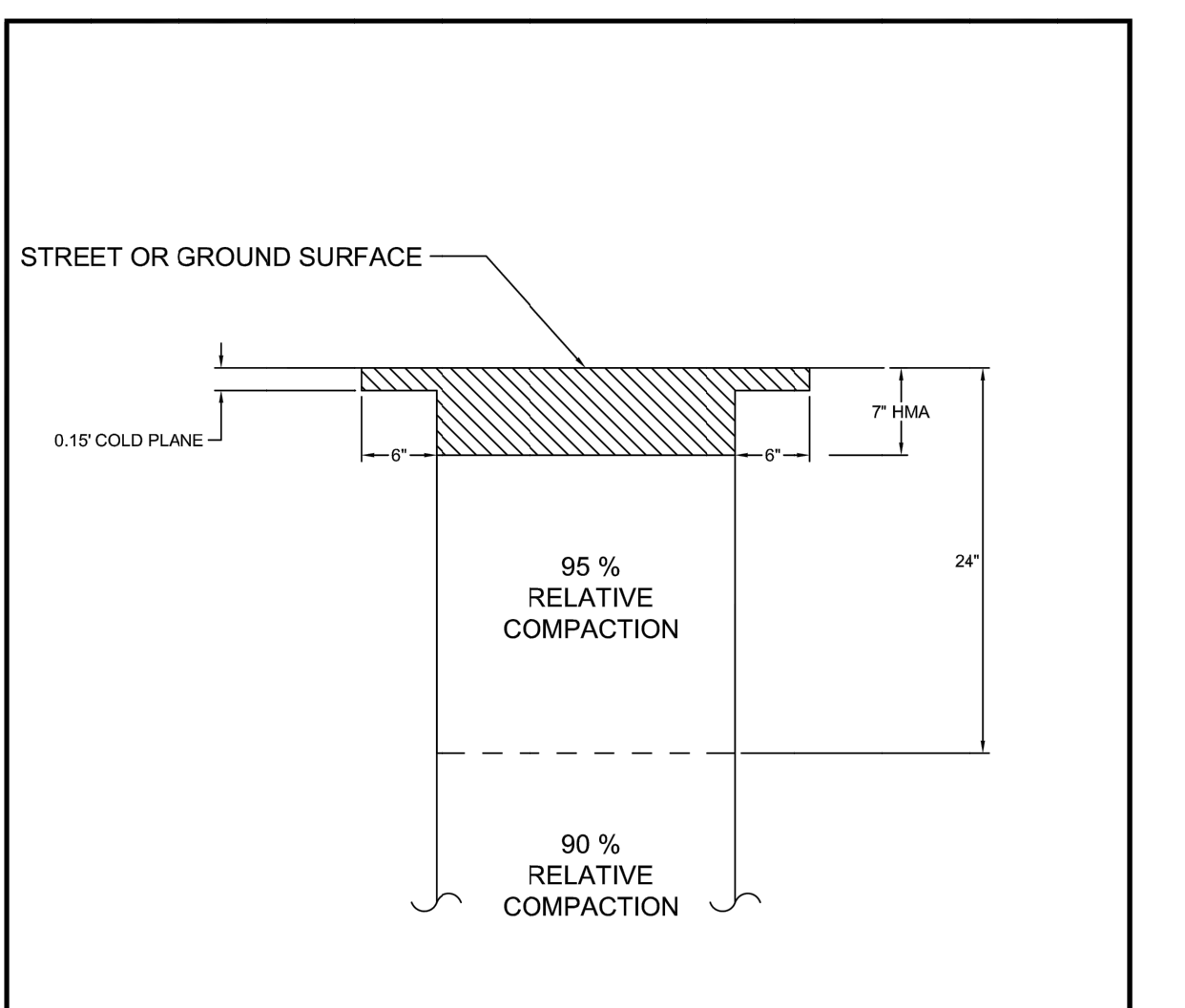
- THREE (3) FEET MINIMUM DEPTH OF COVER
- A SAFETY FACTOR OF 1.5
- SOIL TYPE OF SM--SILTY GRAVEL AND SILTY SANDS AS DEFINED BY ASTM D-2487
- TRENCH COMPACTION OF TYPE 5 - PIPE BEDDED IN COMPACTED GRANULAR MATERIAL TO THE CENTER LINE OF PIPE, 4 INCHES MINIMUM UNDER PIPE. COMPACTED GRANULAR MATERIAL OR SELECT MATERIAL TO TOP OF THE PIPE. (APPROXIMATELY 90 PERCENT STANDARD PROCTOR DENSITY, AASHTO T-99)
- TEST PRESSURES OF 200 PSI FOR THE 4 THROUGH 16 INCH SIZES

IF ACTUAL CONDITIONS DIFFER FROM THOSE LISTED ABOVE OR THE REQUIRED RESTRAINED LENGTH CANNOT BE MET, CONSULT THE DESIGN ENGINEER FOR MODIFICATIONS TO THE RESTRAINED LENGTHS OR DESIGN.

7  
CD-3

DUCTILE IRON PIPE RESTRAINTS

REF. & REV. MAR. 2006 CITY OF FRESNO W-36



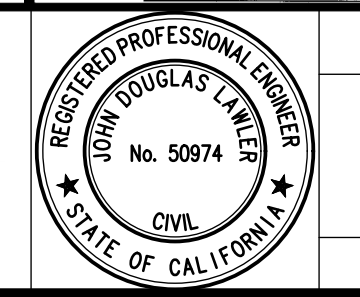
- NOTES:
- HMA = HOT MIX ASPHALT CONCRETE PG 64-10
  - IF THERE IS LESS THAN 2 FEET BETWEEN THE EDGE OF A TRENCH CUT AND A CONCRETE IMPROVEMENT, OR EDGE OF PAVING, THEN REMOVE AND REPLACE THE ASPHALT CONCRETE PAVEMENT FROM THE EDGE OF THE TRENCH CUT TO THE CONCRETE IMPROVEMENT, OR EDGE OF PAVING.
  - RELATIVE COMPACTION SHALL BE PREPARED PER APPLICABLE COUNTY STANDARDS AND TESTING PERFORMED BY CALIFORNIA TEST METHOD 216 AND 231 AS DETERMINED BY THE COUNTY.
  - NO JETTING IS ALLOWED.

8  
CD-3

DESIGNED: \_\_\_\_\_ DATE: \_\_\_\_\_ REVISED DATE: 7/11/2010  
DRAWN: \_\_\_\_\_  
CHECKED: \_\_\_\_\_  
THE COUNTY OF FRESNO DEPARTMENT OF PUBLIC WORKS AND PLANNING  
**TRENCH BACKFILL AND RESURFACING**

1 ADDENDUM NO. 1 - SHEET REFERENCES 09/10/2020

*John Paul* 06/30/2020

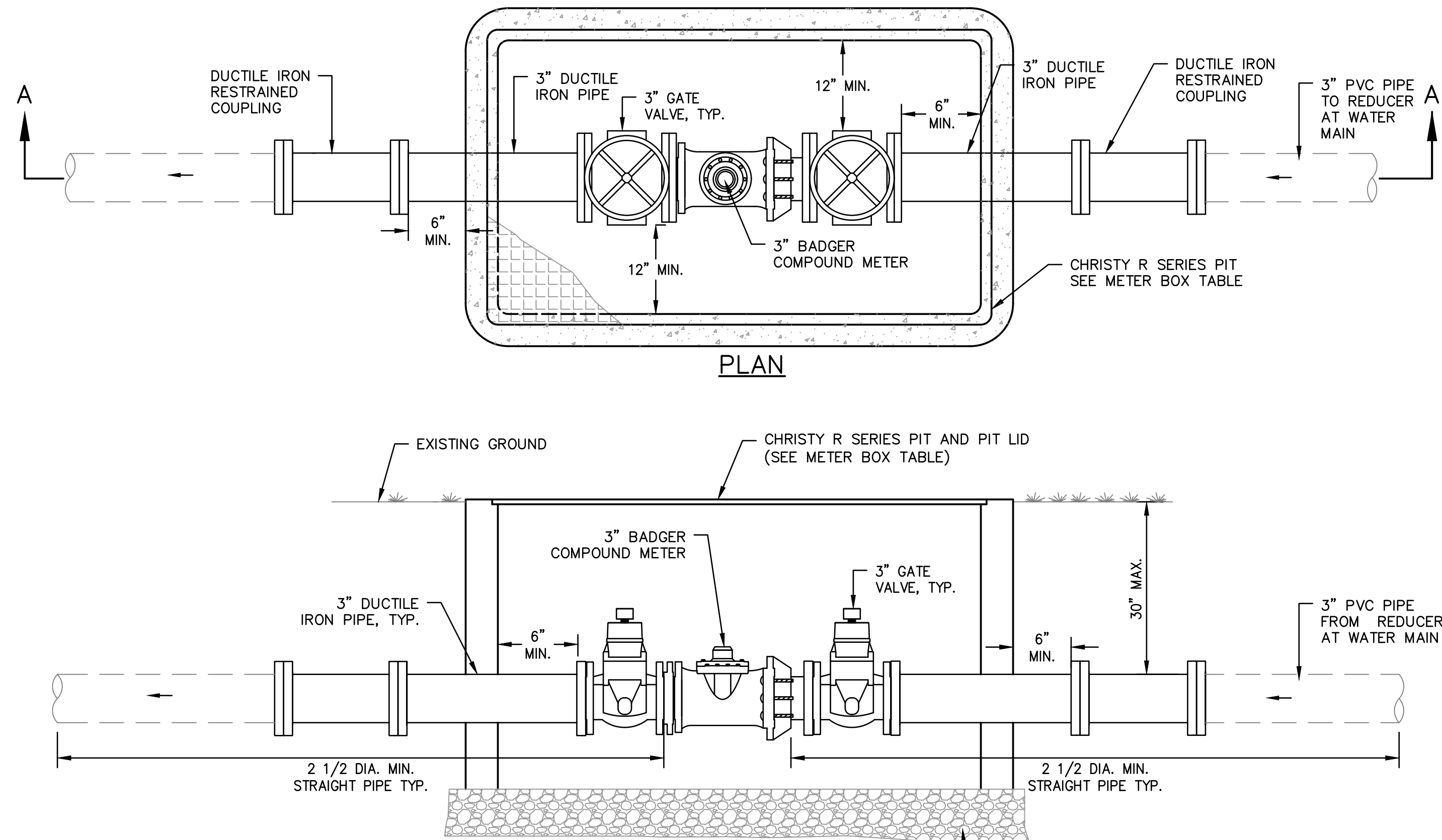


PROJECT  
CSA 30 & 32 WATER SYSTEM IMPROVEMENTS  
COUNTY OF FRESNO  
BRIDGE NO. N/A



DEPARTMENT OF PUBLIC WORKS AND PLANNING  
CONSTRUCTION DETAILS 3  
DETAILS  
DRAWING NO. 11305 SHEET NO. CD-3 TOTAL 33





**NOTES**

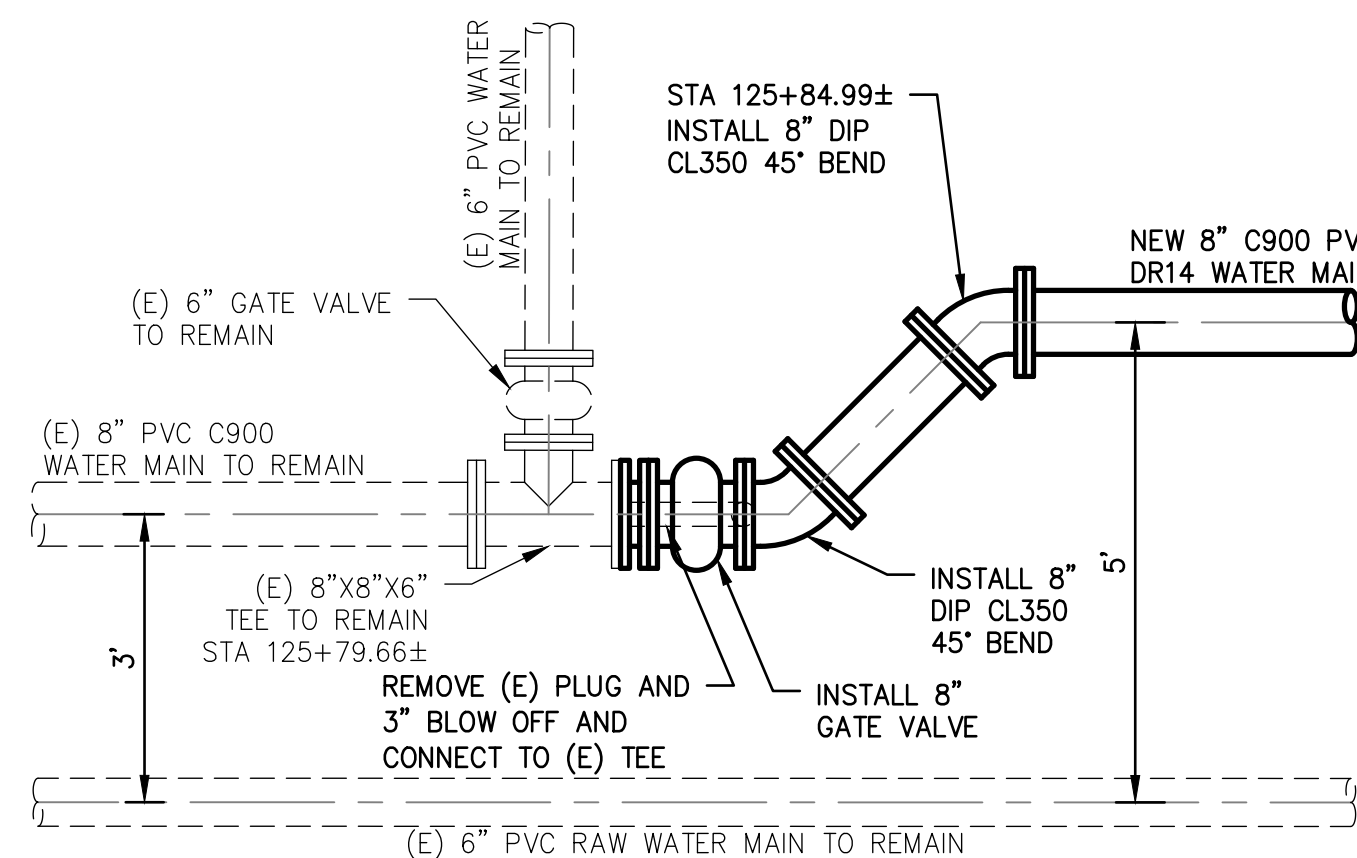
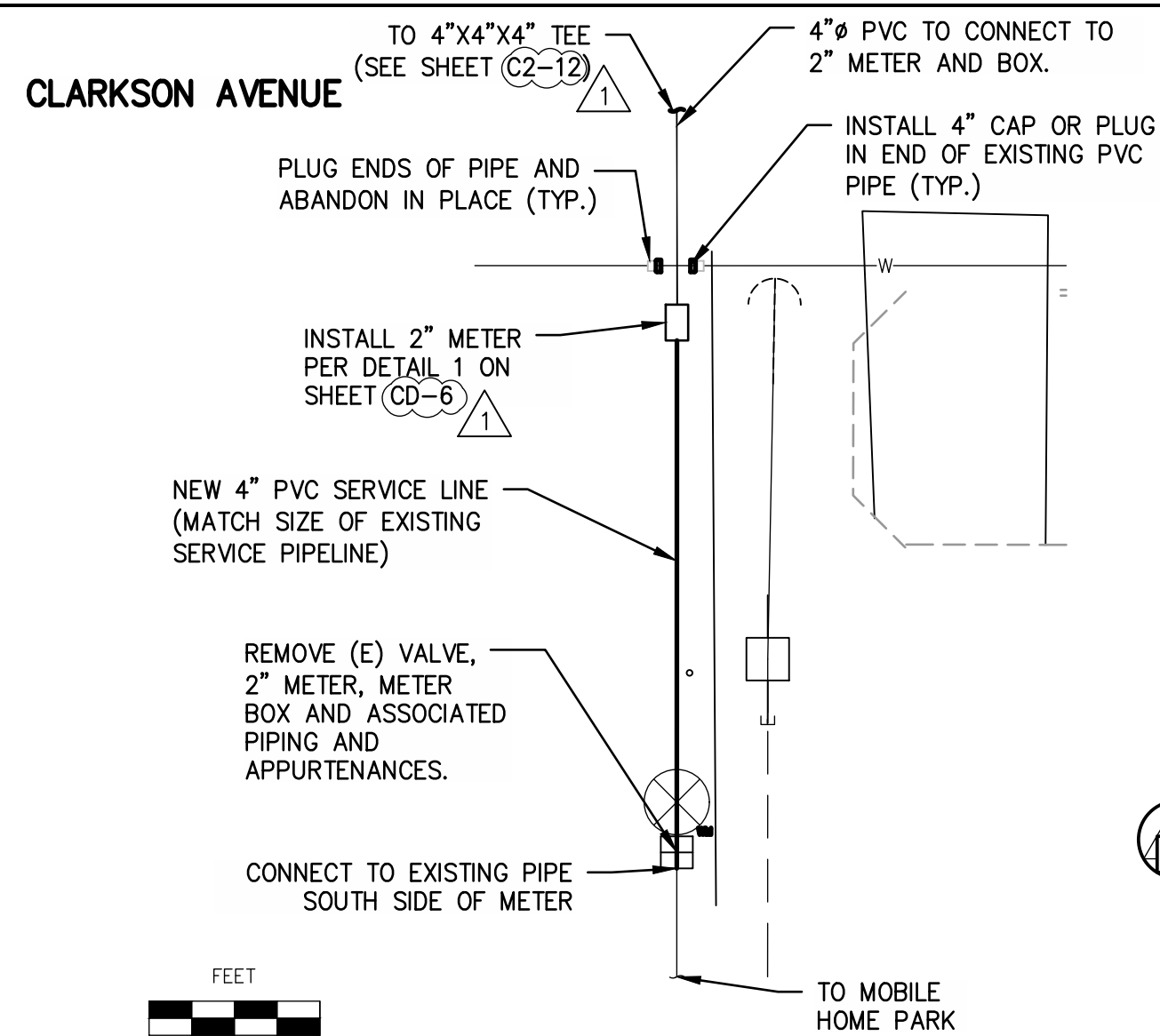
- PIPE AND FITTING SIZES SHALL MATCH METER SIZES IDENTIFIED IN TABLE.
- SMITH-BLAIR FLANGE COUPLING ADAPTOR WITH ANCHOR STUDS OR APPROVED EQUAL MAY BE USED WITH ENGINEER'S APPROVAL TO CONNECT NEW PIPING TO EXISTING SERVICE PIPE.
- METER VAULTS IN TRAFFIC AREA TO UTILIZE H2O RATE LID AS SHOWN ON THE PLANS.
- ALL VAULTS SHALL INCLUDE 8" ROUND SELF-CLOSING READING LID.
- METER BOX SHALL BE PLACED WHERE SHOWN ON THE PLANS.
- ALL BURIED FITTINGS SHALL HAVE MECHANICAL JOINTS.

METER BOX TABLE		
METER SIZE	BOX TYPE	LID TYPE
3"	R17P36	R17-52J OR R17-52HT*

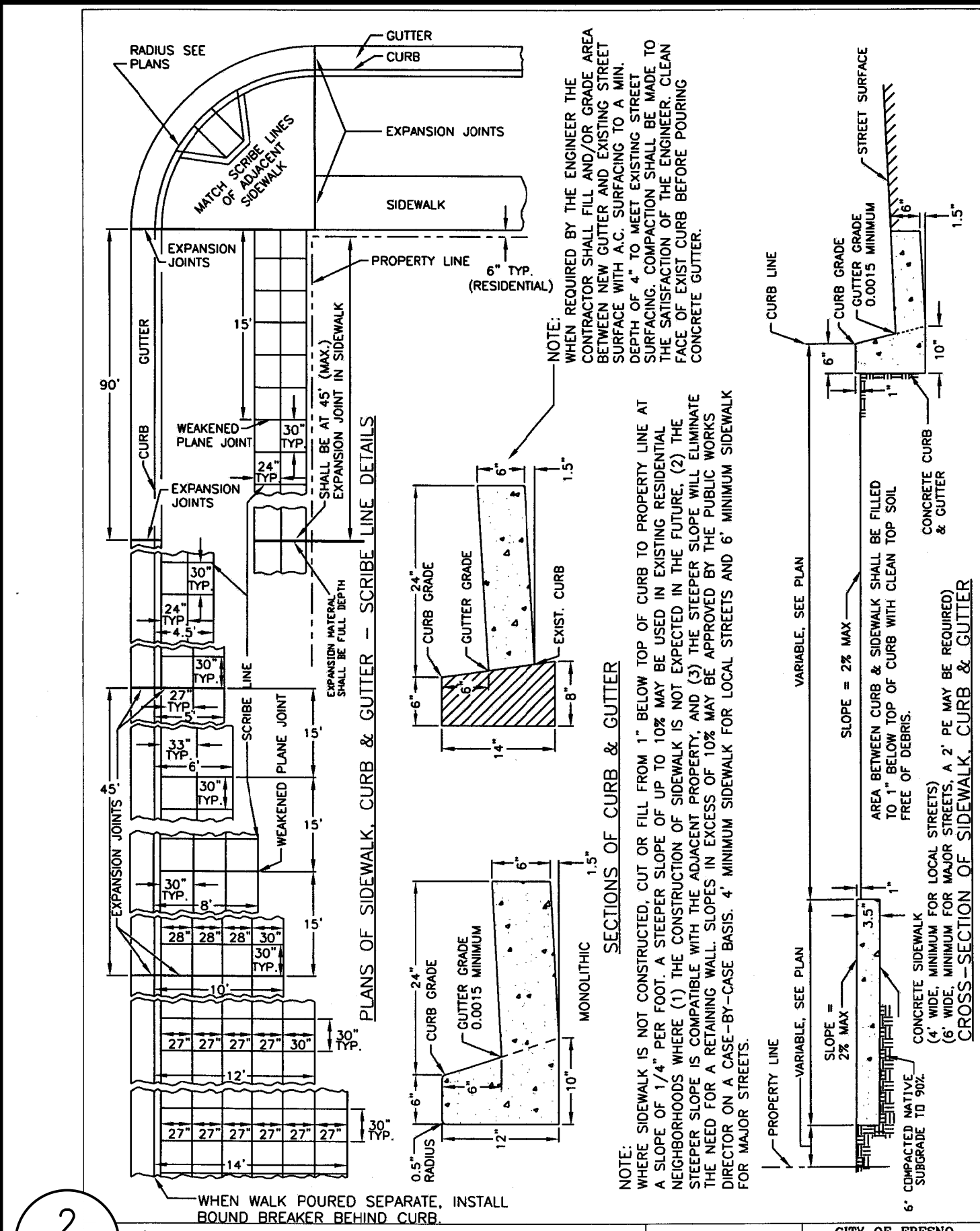
\* SEE NOTES 5 AND 6.

**3" METER INSTALLATION**

NOT TO SCALE



- NOTES:**
- CONNECTION TO BE MADE AFTER EXISTING SYSTEM IS OUT OF SERVICE PER SPECIFICATIONS.



**2**  
CD-5

**CONSTRUCTION DETAILS FOR CONCRETE SIDEWALK, CURB & GUTTER**

REF. & REV. JUNE 2015

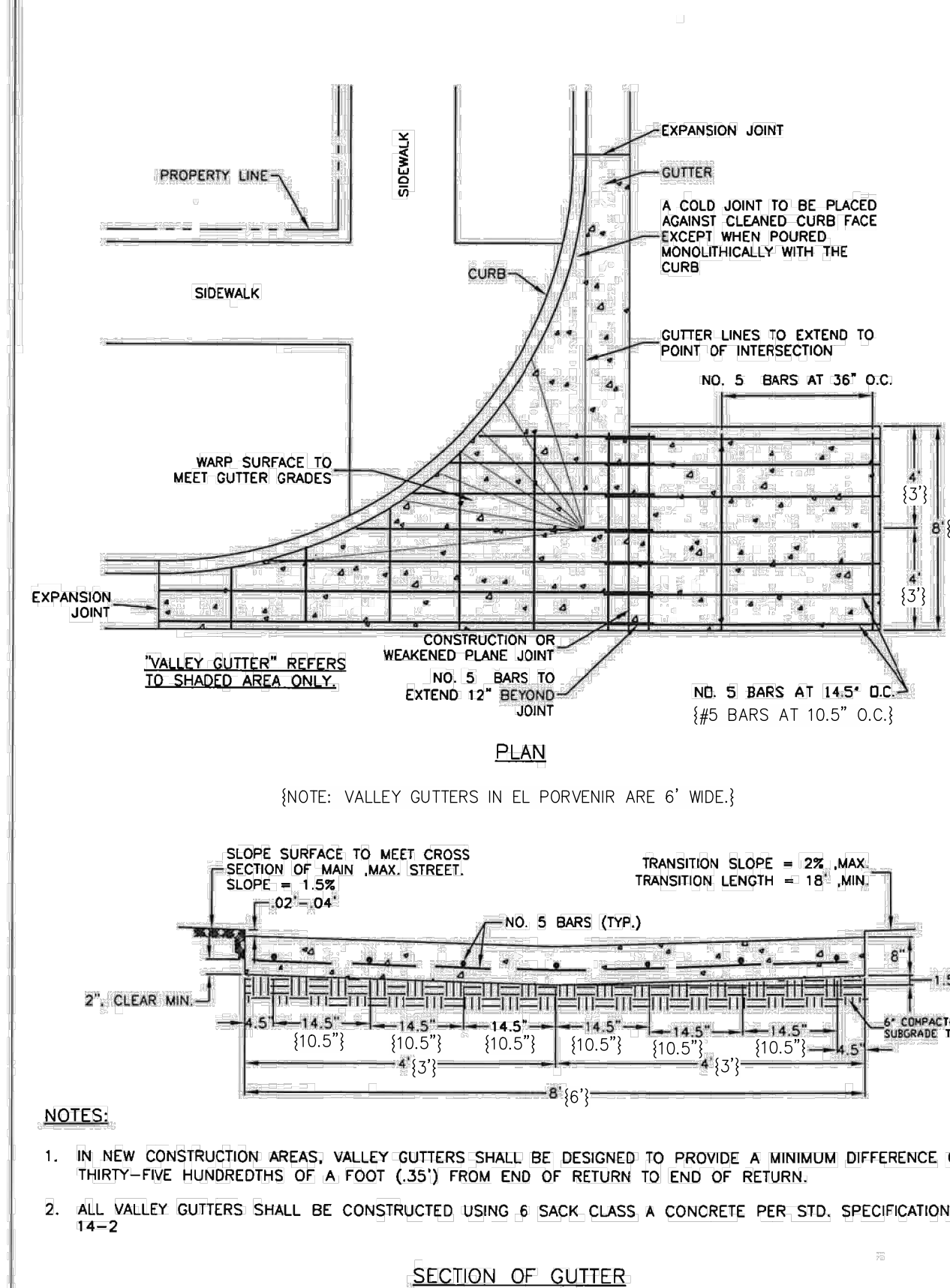
CITY OF FRESNO P-5

**3**  
CD-5

**CONCRETE VALLEY GUTTER**

REF. & REV. JUNE 2015

CITY OF FRESNO P-10



**NOTES:**

- IN NEW CONSTRUCTION AREAS, VALLEY GUTTERS SHALL BE DESIGNED TO PROVIDE A MINIMUM DIFFERENCE OF THIRTY-FIVE HUNDRETHS OF A FOOT (.35') FROM END OF RETURN TO END OF RETURN.
- ALL VALLEY GUTTERS SHALL BE CONSTRUCTED USING 6 SACK CLASS A CONCRETE PER STD. SPECIFICATIONS 14-2

**4**  
CD-5  
**TYPE E MOBILE HOME PARK 4" SERVICE 2" METER AND METER BOX**

**6**  
CD-5  
**CLARKSON AVENUE CONNECTION 1**

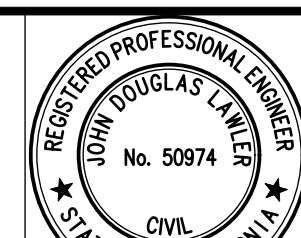
**5**  
CD-5  
**CLARKSON AVENUE CONNECTION 2**

**7**  
CD-5  
**3" WATER SERVICE, 2" METER AND METER BOX**

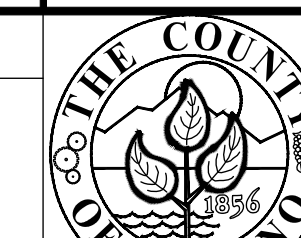
1 ADDENDUM NO. 1 - SHEET REFERENCES 09/10/2020

*John Paul*

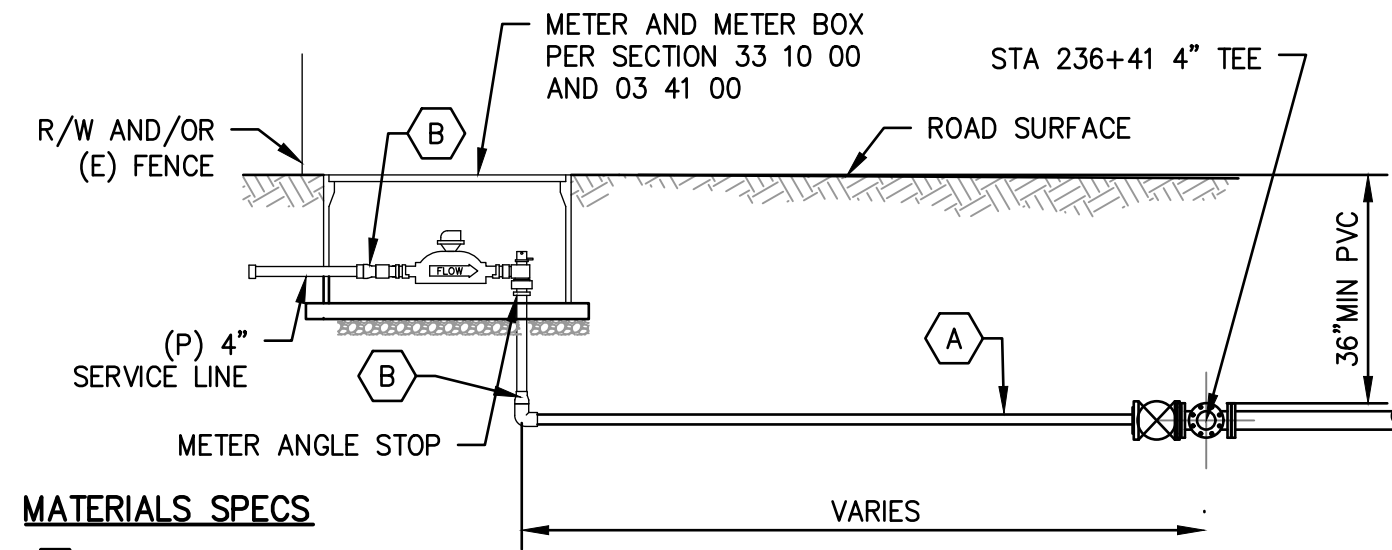
06/30/2020



**PROJECT**  
CSA 30 & 32 WATER SYSTEM IMPROVEMENTS  
COUNTY OF FRESNO  
BRIDGE NO. N/A



**DEPARTMENT OF PUBLIC WORKS AND PLANNING**  
**CONNECTION & MISC DETAILS 2**  
**DETAILS**  
DRAWING NO. 11305 SHEET NO. CD-5 TOTAL 33



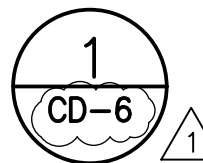
**MATERIALS SPECS**

- (A) 4" PVC DR 18
- (B) 4"x2" REDUCER

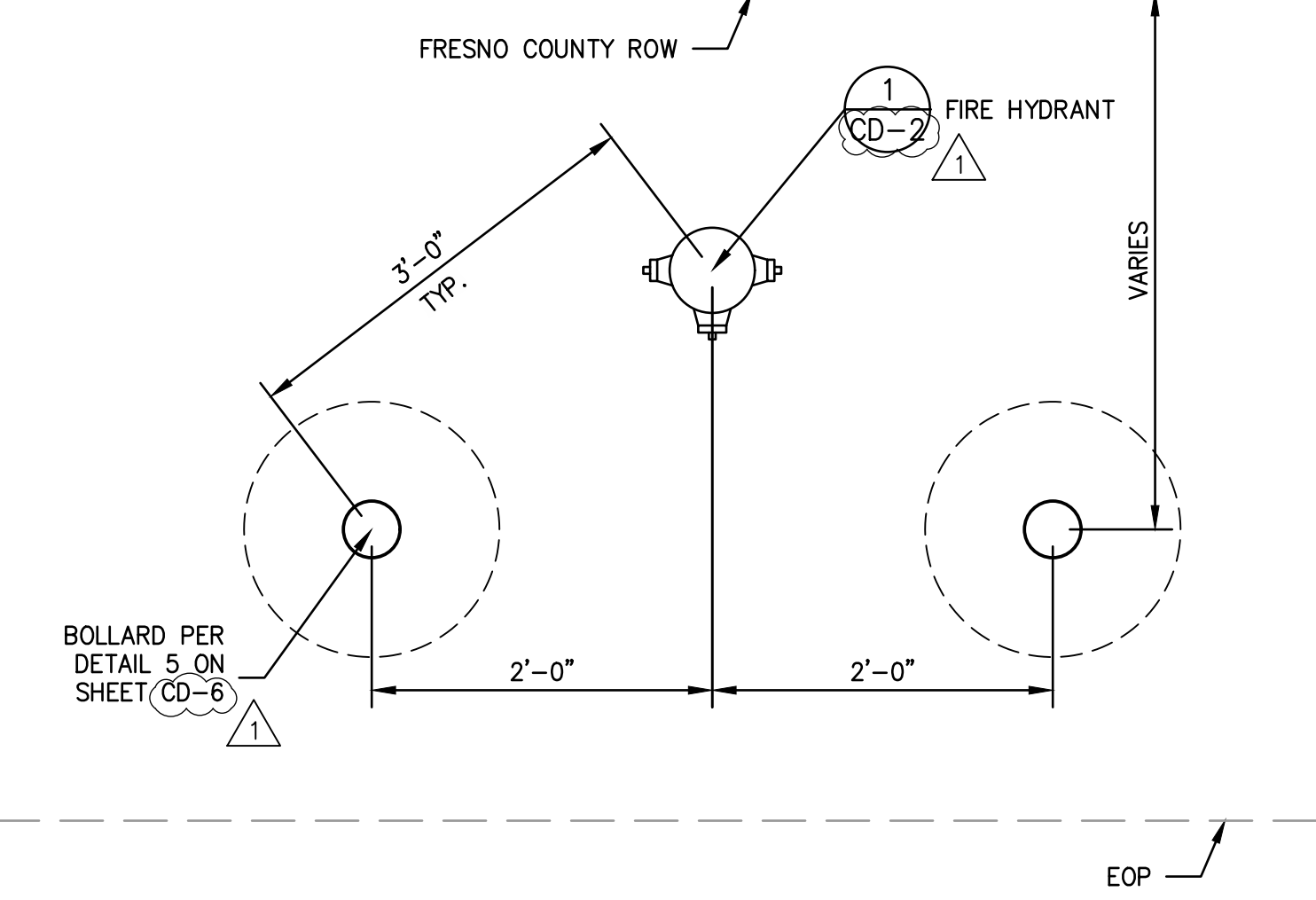
**NOTES**

1. WATER SERVICES SHALL NOT BE ALLOWED IN DRIVEWAY APPROACH AREAS.

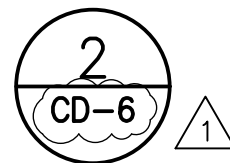
NOT TO SCALE



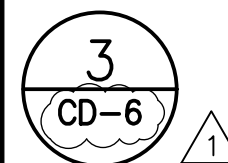
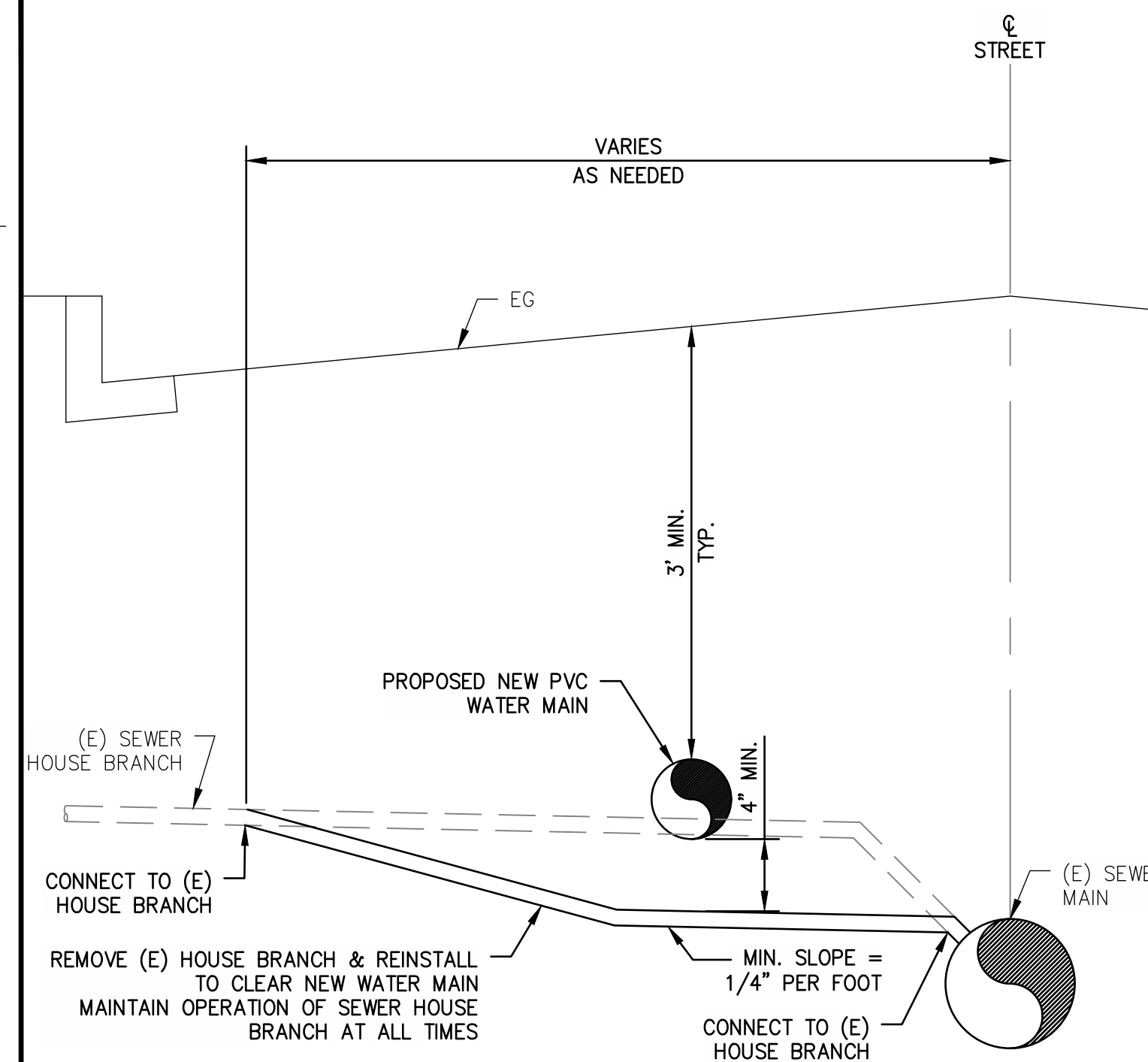
**4" WATER SERVICE, 2" METER AND METER BOX FOR MOBILE HOME PARK**



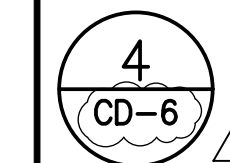
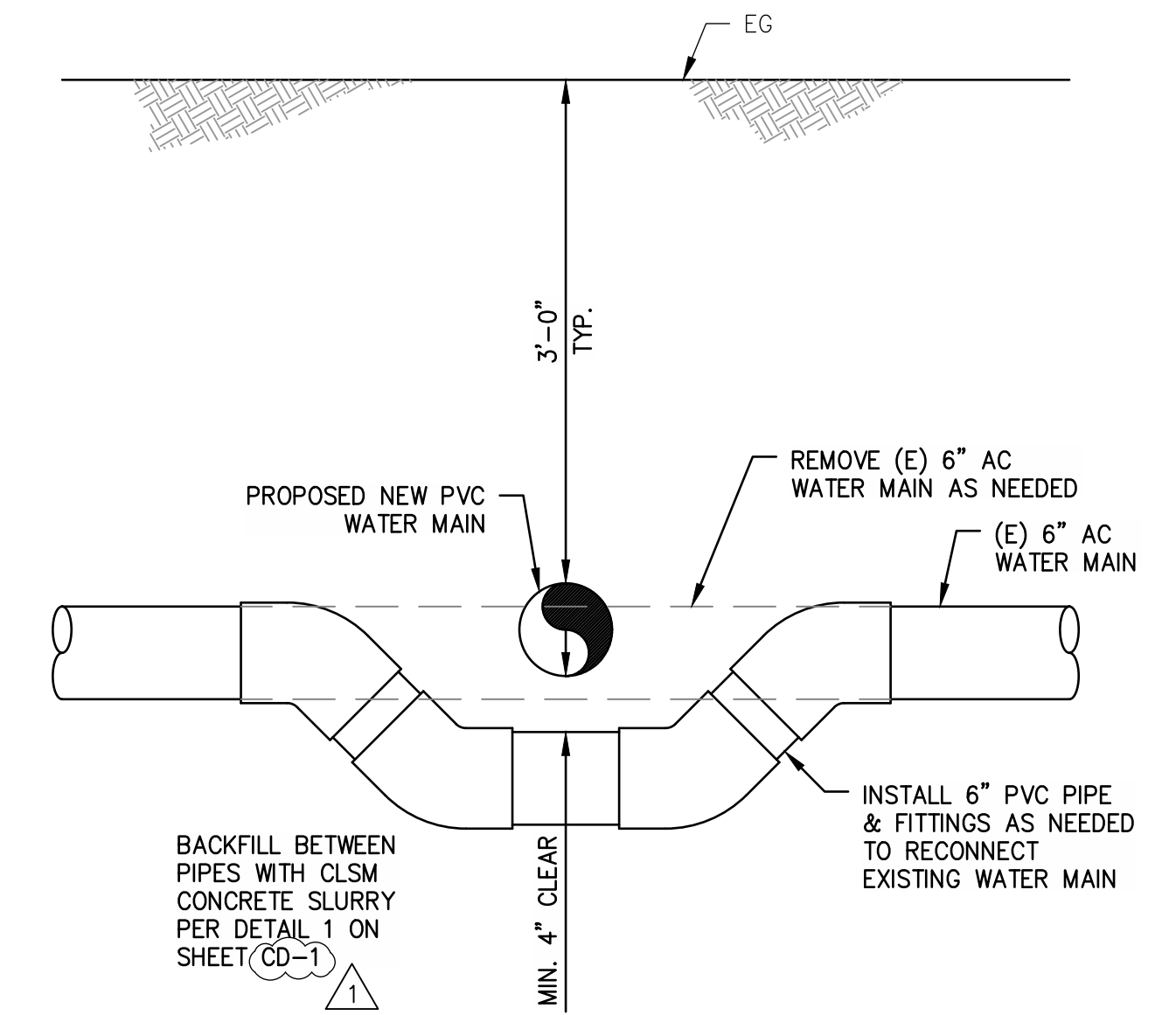
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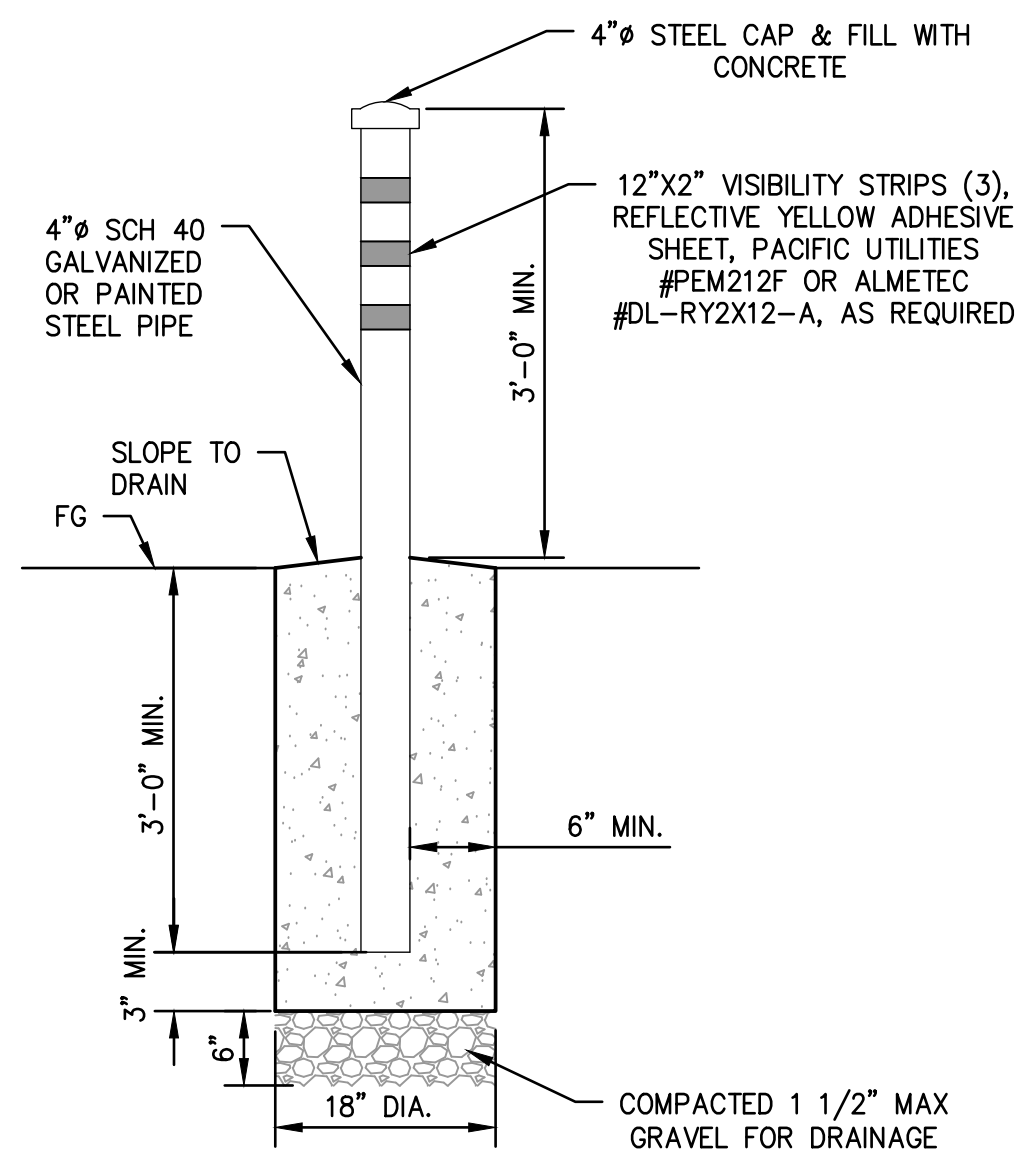
**FIRE HYDRANT BOLLARD LAYOUT**



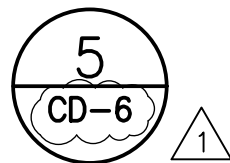
**SEWER SERVICE BYPASS CSA 32**



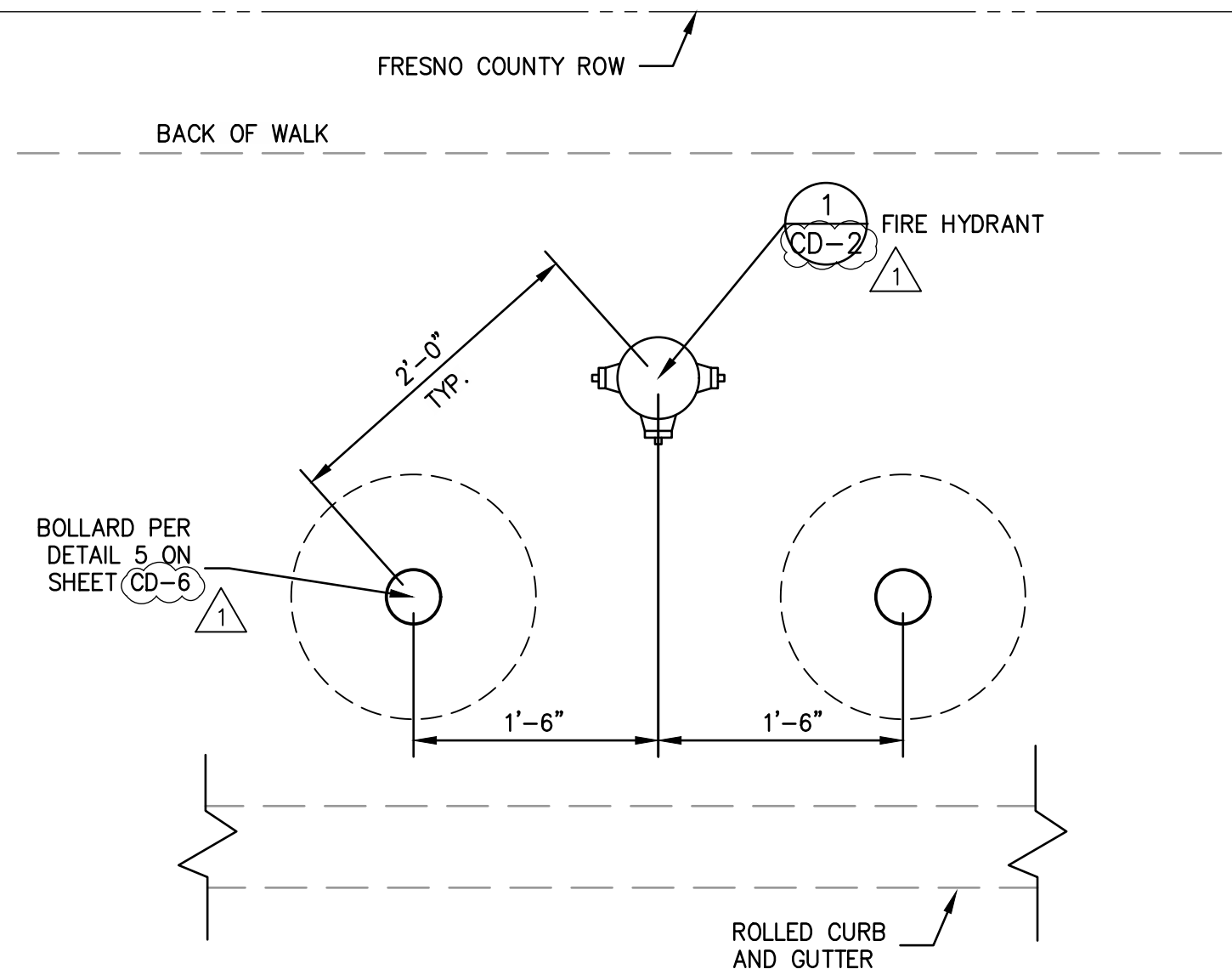
**TEMPORARY RELOCATION OF EXISTING WATER MAIN**



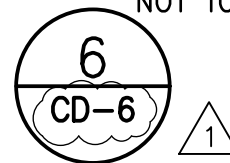
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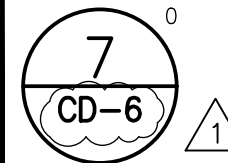
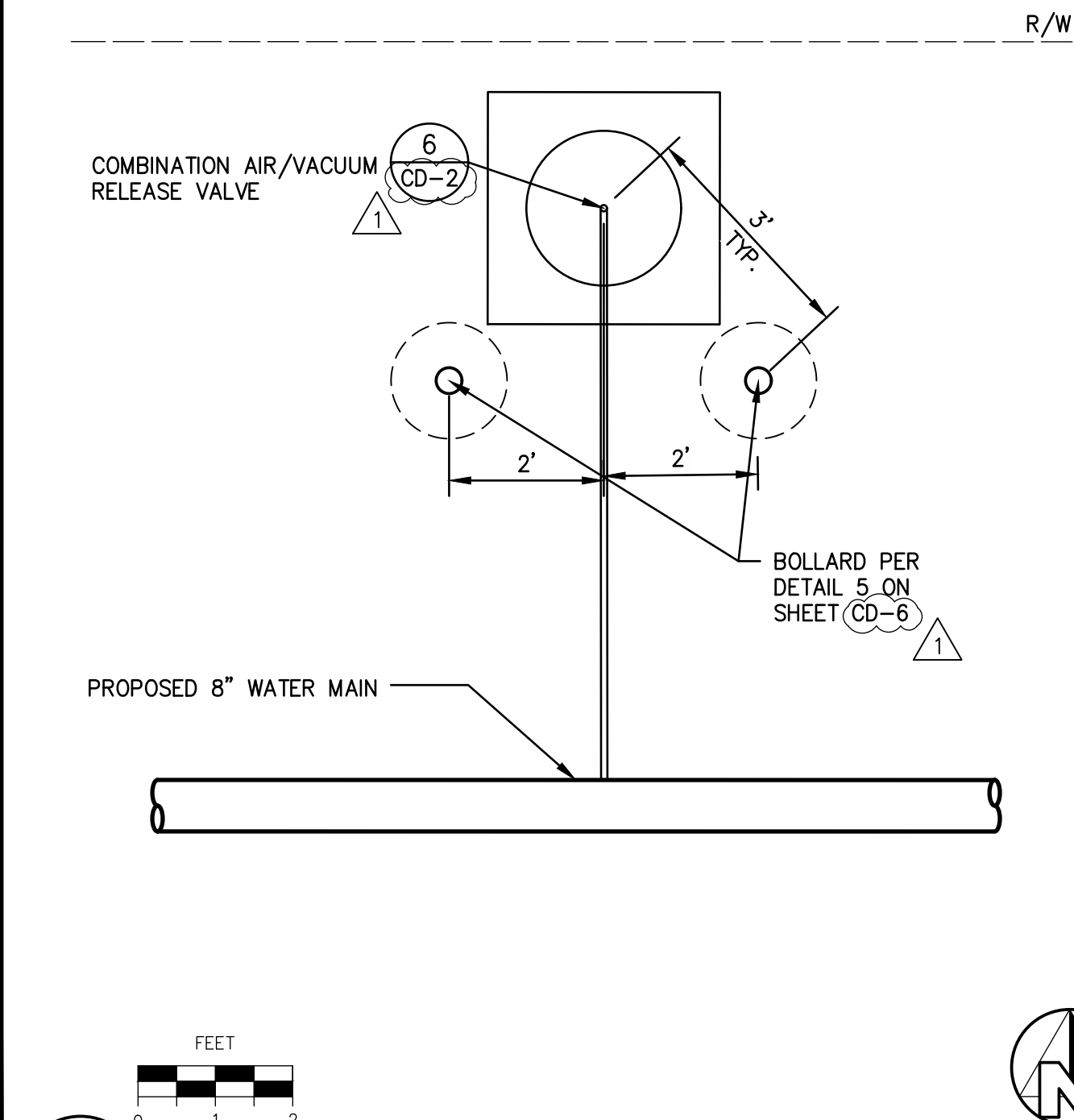
**BOLLARD**



NOT TO SCALE



**FIRE HYDRANT BOLLARD LAYOUT WITH ROLLED CURB AND GUTTER**



**AIR VALVE BOLLARD LAYOUT**

1 ADDENDUM NO. 1 - SHEET REFERENCES 09/10/2020

*John D. Lander*

06/30/2020



PROJECT  
CSA 30 & 32 WATER SYSTEM IMPROVEMENTS  
COUNTY OF FRESNO

BRIDGE NO. N/A

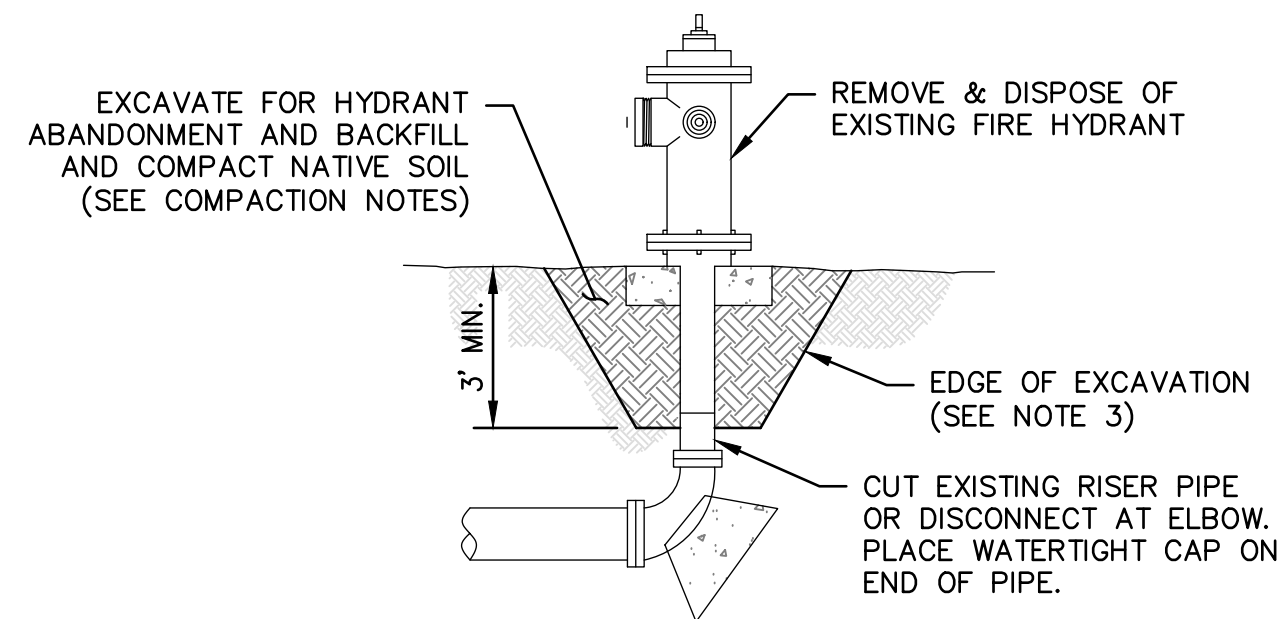


DEPARTMENT OF PUBLIC WORKS AND PLANNING  
CONNECTION & MISC DETAILS 3  
DETAILS

DRAWING NO. 11305

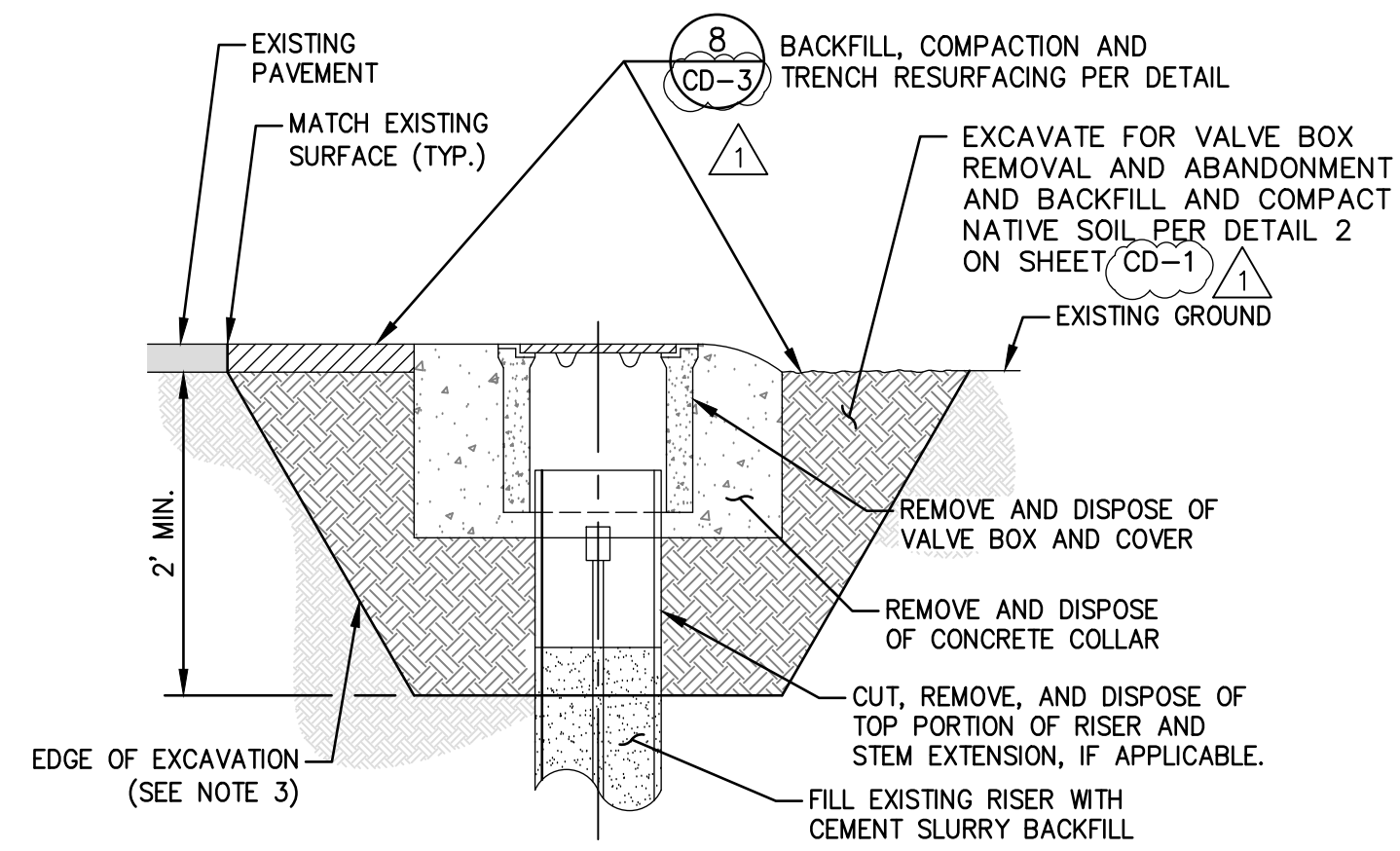
SHEET NO. CD-6

TOTAL 33



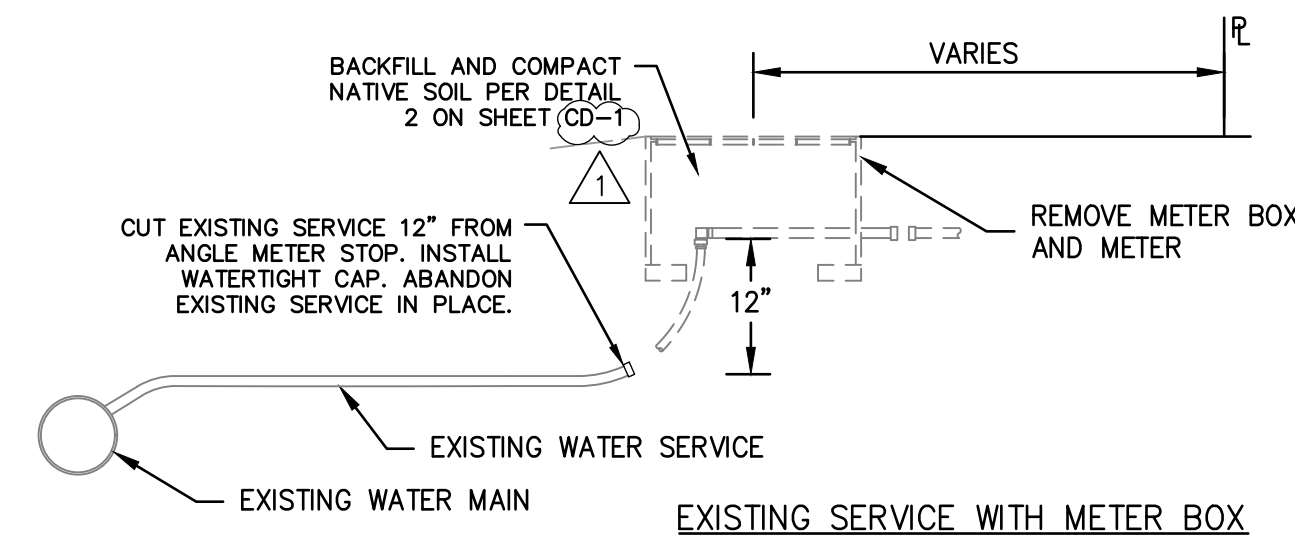
**NOTES:**

1. EDGE OF EXCAVATION SHOWN FOR ILLUSTRATION PURPOSES ONLY, TRENCH WIDTH MAY VARY.
2. IF THE FIRE HYDRANT HAS PROTECTIVE BOLLARDS THEY ARE TO BE REMOVED AS WELL INCLUDING CONCRETE FOOTING, AND BACKFILLED.



**NOTES:**

1. CONCRETE PLUG SHALL BE PER SPECIFICATIONS.
2. PLUG THICKNESS SHALL BE MINIMUM 2X DIAMETER OF ABANDONED PIPE.
3. EDGE OF EXCAVATION SHOWN FOR ILLUSTRATION PURPOSES ONLY, TRENCH WIDTH MAY VARY.



**NOTES:**

1. CONCRETE SHALL BE SAWCUT, REMOVED AND REPLACED TO ALL ADJACENT CONTROL JOINTS IN SIDEWALK AND/OR DRIVE APPROACH.

**WATER SYSTEM ABANDONMENT NOTES**

1. THE CONTRACTOR SHALL CONSTRUCT NEW WATER SYSTEM IMPROVEMENTS. AFTER THE NEW WATER SYSTEM HAS BEEN TESTED AND ACCEPTED BY THE COUNTY OF FRESNO, THE CONTRACTOR SHALL MAKE CONNECTIONS TO TANK SITES AND SCHOOL FIRST, AND THEN TO EXISTING WATER SERVICES.
2. THE CONTRACTOR SHALL CONNECT ALL NEW WATER SERVICES TO EXISTING LEAD LINES PER PLANS AND SPECS.
3. THE CONTRACTOR SHALL ABANDON ALL EXISTING WATER SERVICES PER DETAIL 3 ON DRAWING CD-7 AT THE TIME CONNECTION IS MADE TO THE NEW WATER SYSTEM.

1  
CD-7

**FIRE HYDRANT ABANDONMENT**

2  
CD-7

**WATER VALVE BOX ABANDONMENT & REMOVAL**

3  
CD-7

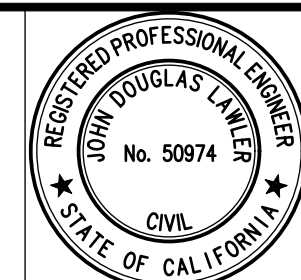
**WATER SERVICE ABANDONMENT DETAIL**

4  
CD-7

1 ADDENDUM NO. 1 - SHEET REFERENCES 09/10/2020

*John L. Lankford*

06/30/2020



PROJECT  
CSA 30 & 32 WATER SYSTEM IMPROVEMENTS  
COUNTY OF FRESNO

BRIDGE NO. N/A

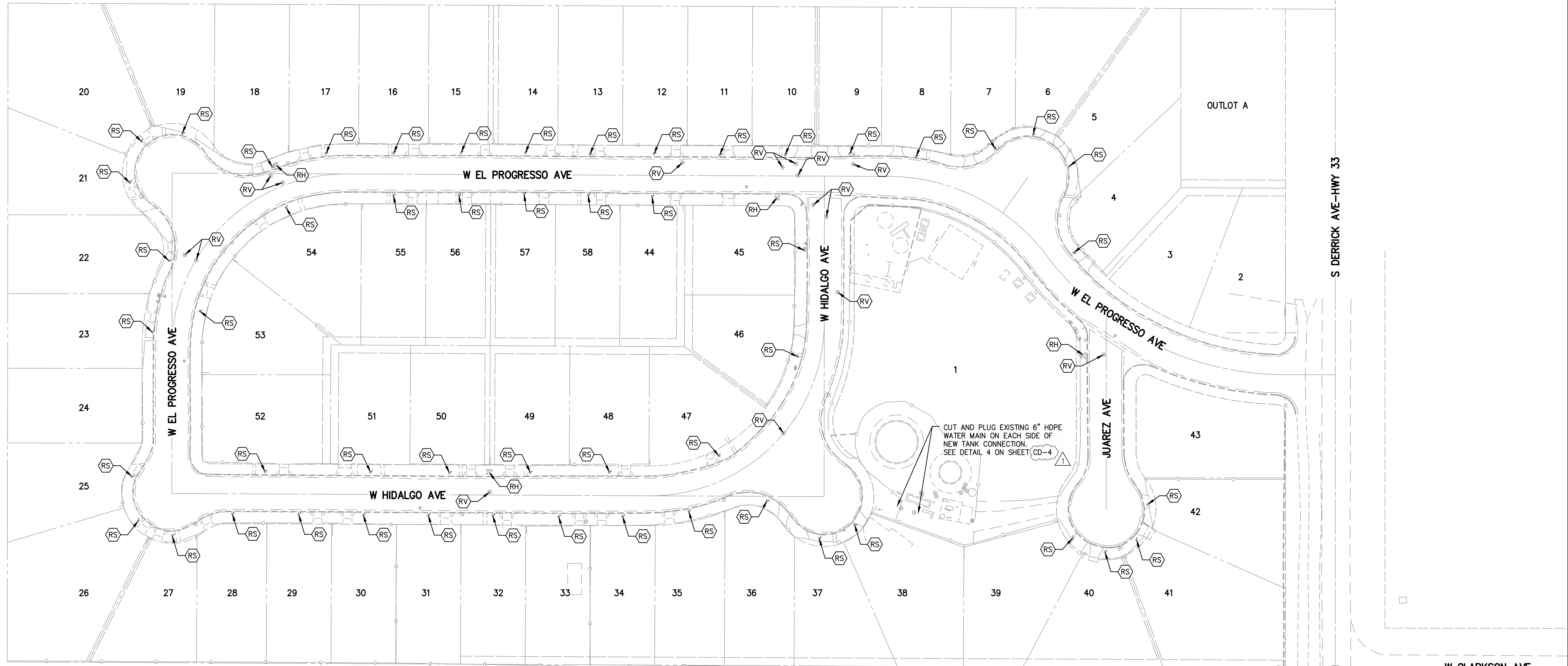


DEPARTMENT OF PUBLIC WORKS AND PLANNING  
ABANDONMENT DETAILS  
DETAILS

DRAWING NO. 11305

SHEET NO. CD-7

TOTAL 33



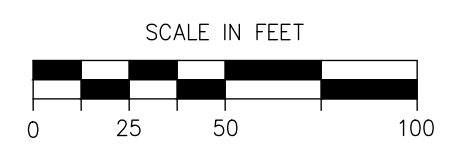
**WATER DISTRIBUTION SYSTEM ABANDONMENT LEGEND**

ITEM	DESCRIPTION
(RH)	REMOVE EXISTING FIRE HYDRANT PER DETAIL
(RS)	REMOVE EXISTING WATER METER AND ABANDON WATER SERVICE PER DETAIL
(RV)	REMOVE EXISTING WATER VALVE BOX PER DETAIL

1  
CD-7  
3  
CD-7  
2  
CD-7

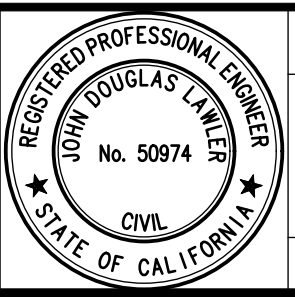
SEE NOTES IN DETAIL 4 ON DRAWING CD-7

EXISTING WATER MAINS WILL BE ABANDONED IN-PLACE AFTER COMPLETION OF THE NEW DISTRIBUTION SYSTEM.



1 ADDENDUM NO. 1 - SHEET REFERENCES 09/10/2020

*John D. Lander* 06/30/2020



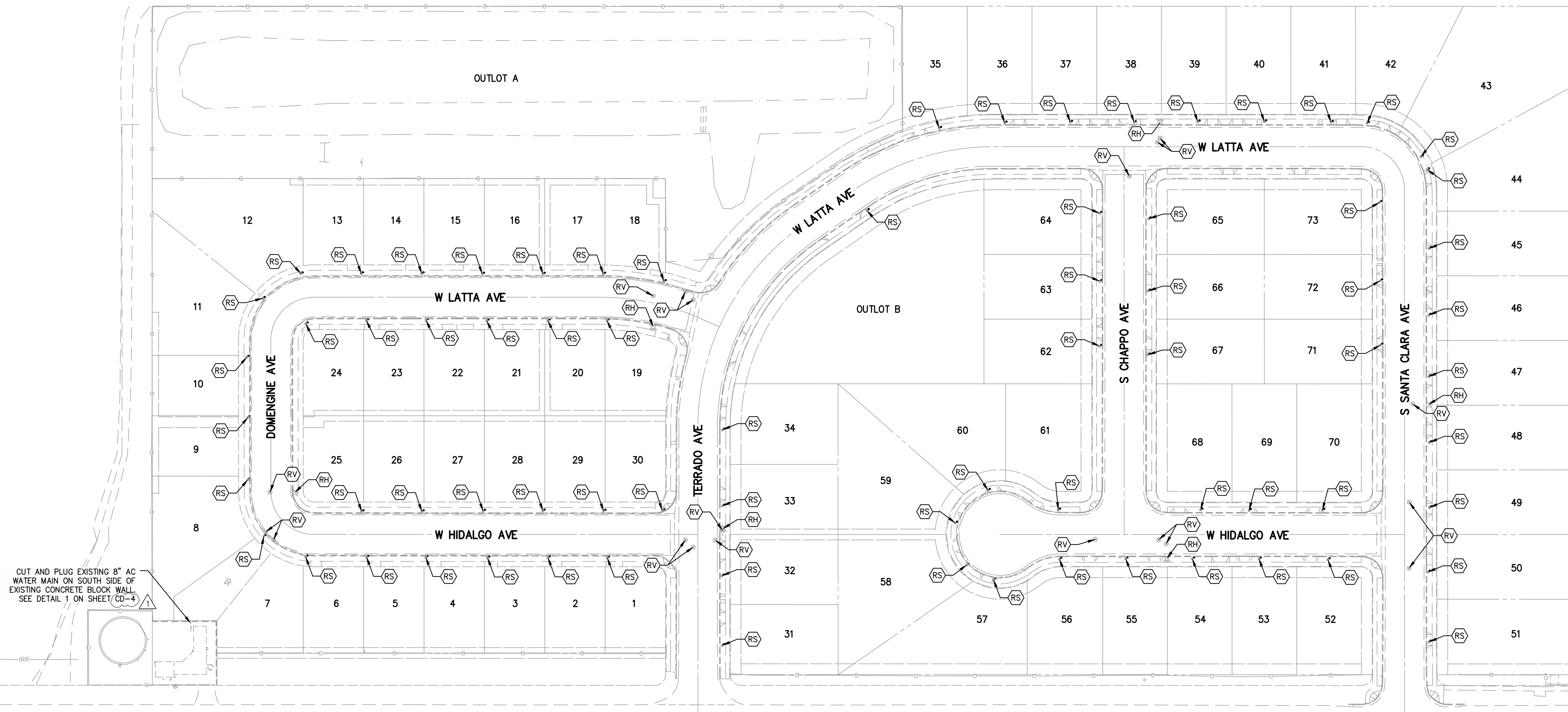
PROJECT  
CSA 30 & 32 WATER SYSTEM IMPROVEMENTS  
COUNTY OF FRESNO



DEPARTMENT OF PUBLIC WORKS AND PLANNING  
CSA 30 EL PORVENIR WATER MAIN ABANDONMENT  
DETAILS

BRIDGE NO. N/A

DRAWING NO. 11305 SHEET NO. CD-8 TOTAL 33



CUT AND PLUG EXISTING 8" AC WATER MAIN ON SOUTH SIDE OF EXISTING CONCRETE BLOCK WALL. SEE DETAIL 1 ON SHEET CD-4

SEE SHEET CD-10

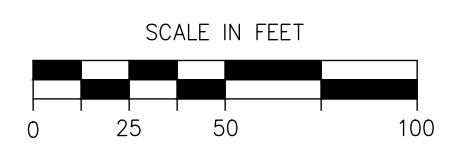
EXISTING WATER MAINS WILL BE ABANDONED IN-PLACE AFTER COMPLETION OF THE NEW DISTRIBUTION SYSTEM.

WATER DISTRIBUTION SYSTEM ABANDONMENT LEGEND	
ITEM	DESCRIPTION
(RH)	REMOVE EXISTING FIRE HYDRANT PER DETAIL
(RS)	REMOVE EXISTING WATER METER AND ABANDON WATER SERVICE PER DETAIL
(RV)	REMOVE EXISTING WATER VALVE BOX PER DETAIL

1  
CD-7  
3  
CD-7  
2  
CD-7  
SEE NOTES IN DETAIL 4 ON DRAWING CD-7

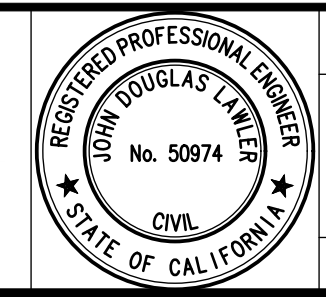


1 ADDENDUM NO. 1 - SHEET REFERENCES 09/10/2020



*John D. Lander*

06/30/2020



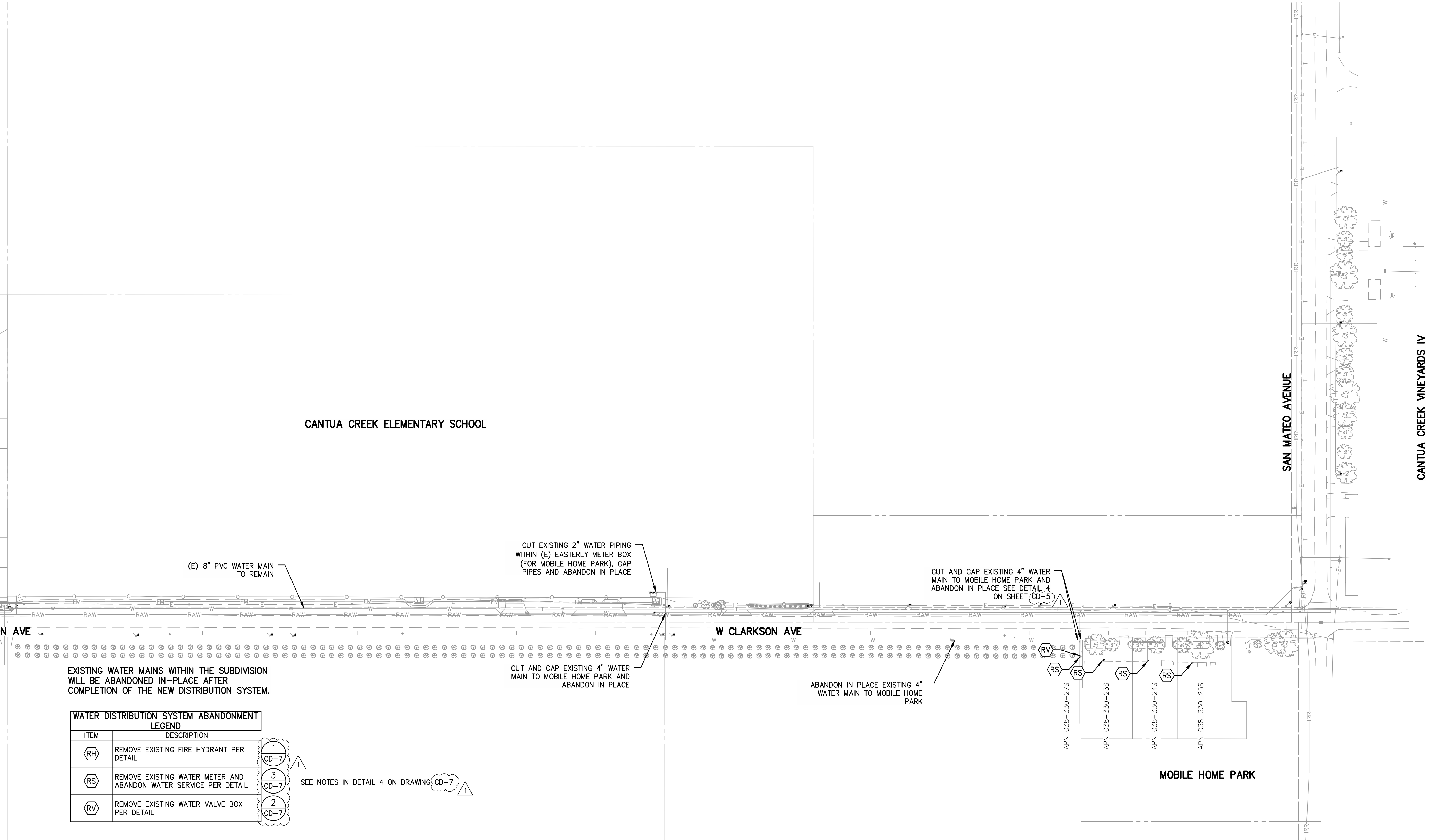
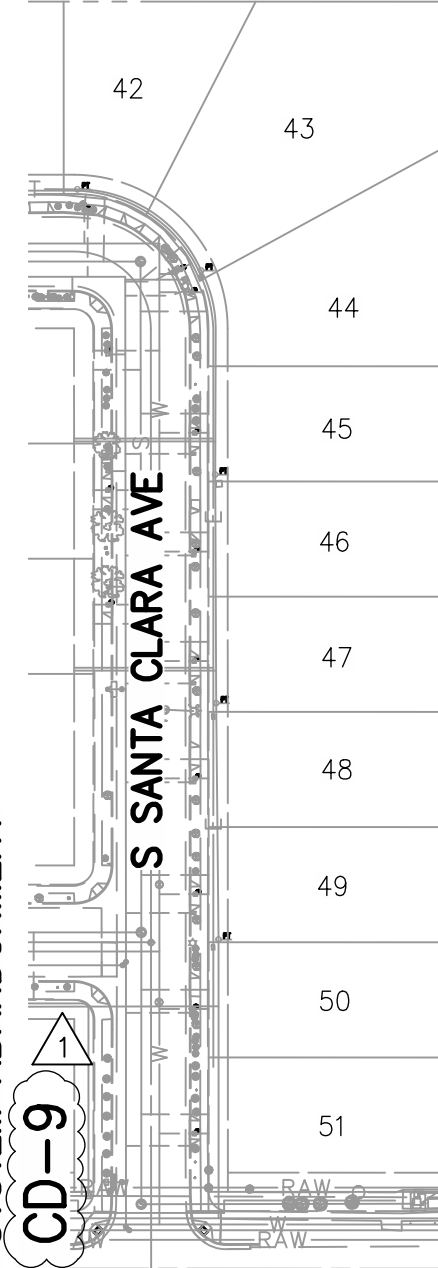
PROJECT  
CSA 30 & 32 WATER SYSTEM IMPROVEMENTS  
COUNTY OF FRESNO  
BRIDGE NO. N/A



DEPARTMENT OF PUBLIC WORKS AND PLANNING  
CSA 32 CANTUA CREEK WATER MAIN ABANDONMENT  
DETAILS  
DRAWING NO. 11305 SHEET NO. CD-9 TOTAL 33

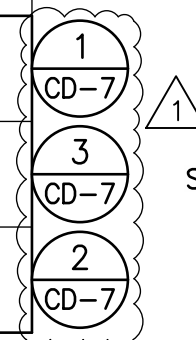


SEE CSA 32 WATER SYSTEM ABANDONMENT SHEET CD-9

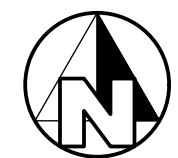


EXISTING WATER MAINS WITHIN THE SUBDIVISION WILL BE ABANDONED IN-PLACE AFTER COMPLETION OF THE NEW DISTRIBUTION SYSTEM.

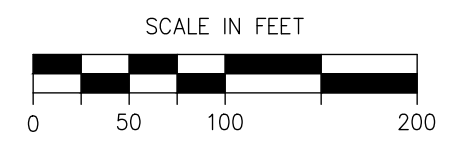
WATER DISTRIBUTION SYSTEM ABANDONMENT LEGEND	
ITEM	DESCRIPTION
(RH)	REMOVE EXISTING FIRE HYDRANT PER DETAIL
(RS)	REMOVE EXISTING WATER METER AND ABANDON WATER SERVICE PER DETAIL
(RV)	REMOVE EXISTING WATER VALVE BOX PER DETAIL



SEE NOTES IN DETAIL 4 ON DRAWING CD-7

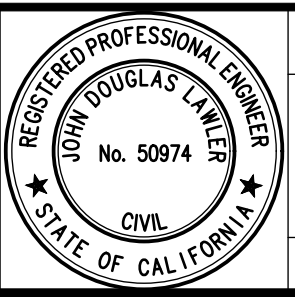


1	ADDENDUM NO. 1 - SHEET REFERENCES	09/10/2020
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*John D. Lander*

06/30/2020



PROJECT  
 CSA 30 & 32 WATER SYSTEM IMPROVEMENTS  
 COUNTY OF FRESNO



DEPARTMENT OF PUBLIC WORKS AND PLANNING  
 CSA 32 CLARKSON AVENUE WATER MAIN  
 ABANDONMENT  
 DETAILS

BRIDGE NO. N/A

DRAWING NO. 11305 SHEET NO. CD-10 TOTAL 33