



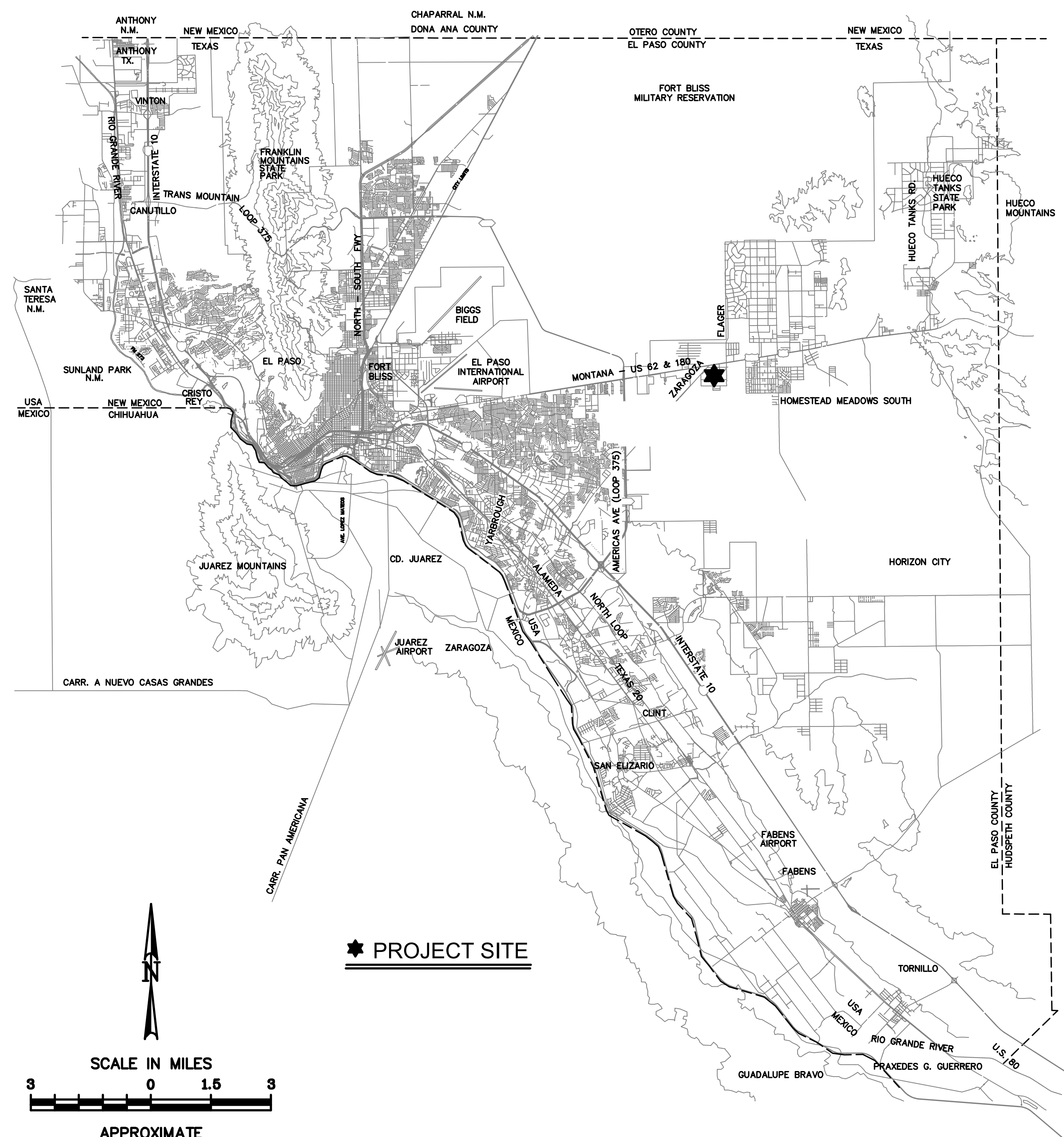
EL PASO COUNTY HILLCREST CENTER WATER IMPROVEMENTS PROJECT (PHASE I)

BID NUMBER: 22 - 025

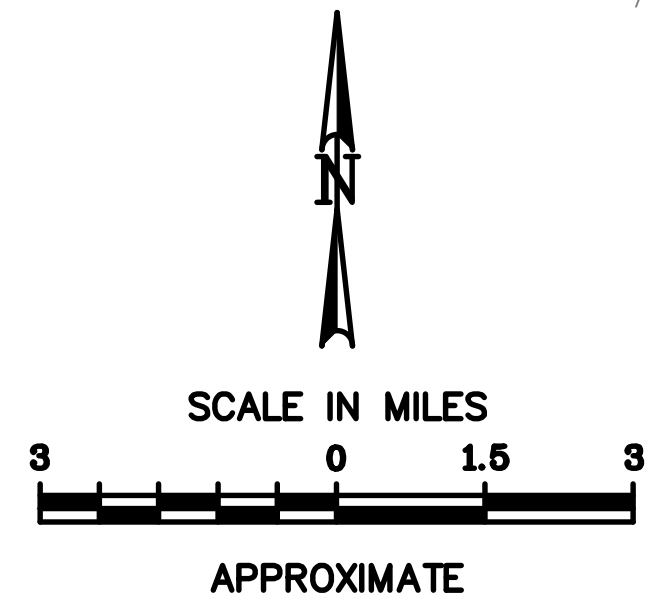
MAY 26, 2022

EL PASO COMMISSIONER'S COURT

RICARDO A. SAMANIEGO..... COUNTY JUDGE
 CARLOS LEON..... COMMISSIONER PRECINCT 1
 DAVID STOUT..... COMMISSIONER PRECINCT 2
 LILIANA HOLGUIN..... COMMISSIONER PRECINCT 3
 CARL L. ROBINSON..... COMMISSIONER PRECINCT 4



★ PROJECT SITE



UTILITY OWNER



800 E. OVERLAND AVE. #407
 EL PASO, TX. 79901
 PH (915) 546-2015

FUNDING AGENT



FEDERAL BUILDING #102
 101 SOUTH MAIN,
 TEMPLE, TX 76501
 PH (254) 742-9700

FUNDING AGENT



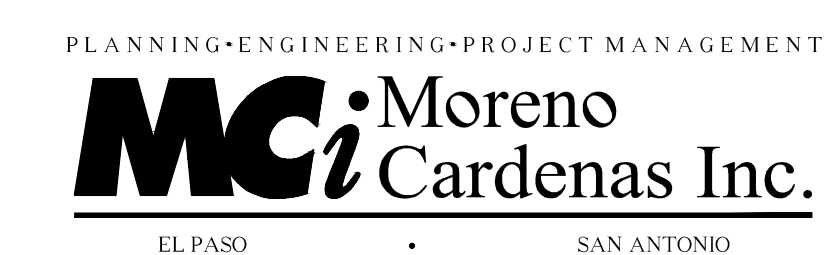
4050 RIO BRAVO ST. #100,
 EL PASO, TX 79902
 PH (915) 533-7273

PROJECT PARTNER



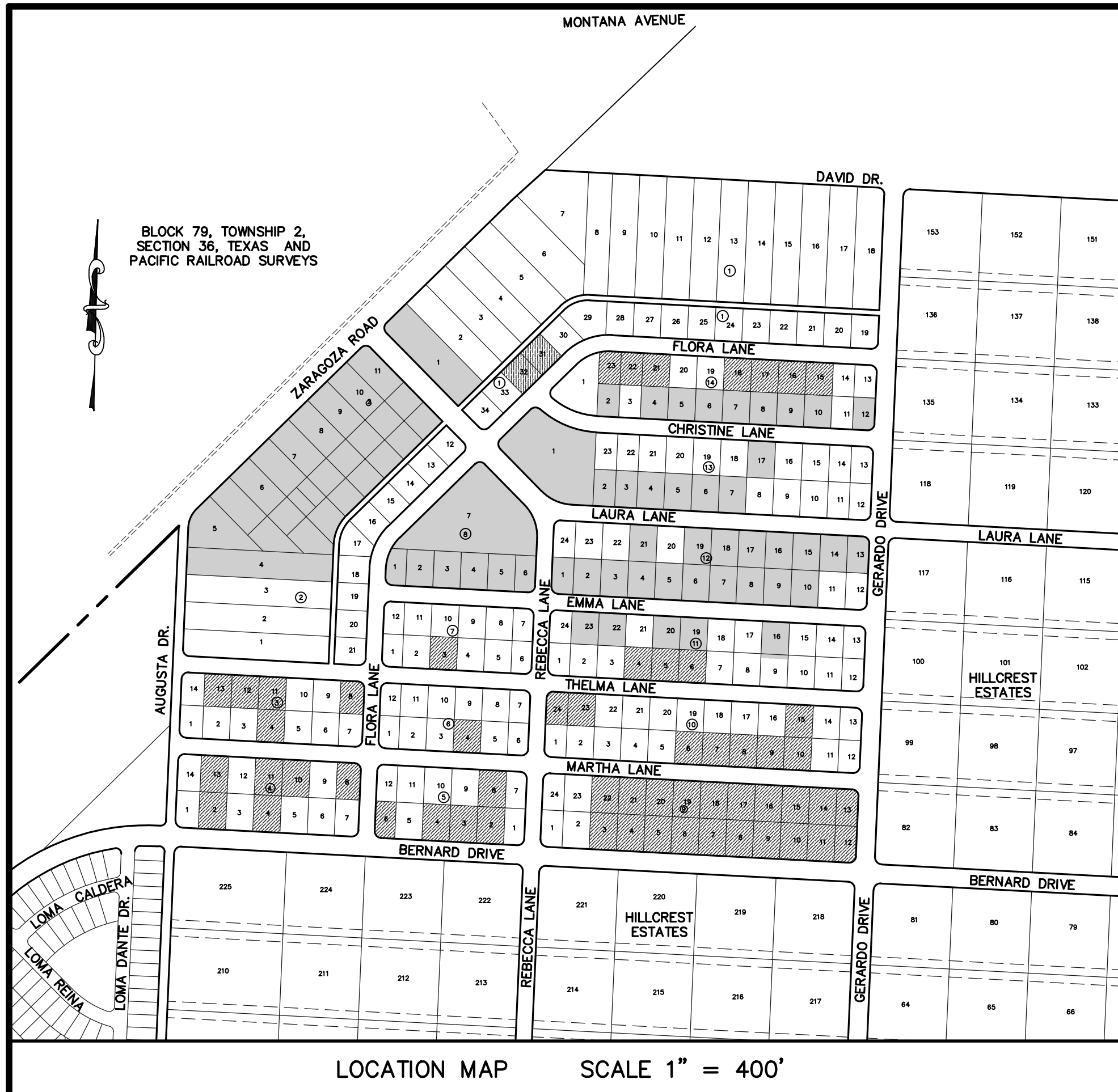
1154 HAWKINS BLVD.
 EL PASO, TEXAS 79925
 PH (915) 594-5500

ENGINEER



2505 E. Missouri Ave. El Paso, TX 79903 (915) 532-3091
 9601 McAllister Freeway #207, San Antonio TX 78216 (210) 314-3553
 Texas Board of Professional Engineers Registration No. F-000554





LEGEND:

	USDA PROPERTY SERVICE LIMITS
	EPA/NADB PROPERTY SERVICE LIMITS

SURVEY NOTES

- BEARINGS SHOWN ARE GRID BEARINGS DERIVED FROM RTK OBSERVATIONS TO THE RTK NETWORK OF EL PASO APPLICATION AND ARE REFERRED TO THE TEXAS COORDINATE SYSTEM OF 1983 (AND 83 STATE PLANE COORDINATES 1993 ADJUSTMENT) CENTRAL ZONE (4203) OF TEXAS.
- ALL DISTANCES ARE GROUND (UNLESS OTHERWISE SHOWN) AND MAY BE CONVERTED TO GRID BY DIVIDING BY THE SCALE FACTOR OF 1.000231.
- THIS PROPERTY MAY BE SUBJECT TO EASEMENTS WHETHER OF RECORD OR NOT. NO ADDITIONAL RESEARCH WAS PERFORMED BY B&A INC. FOR ANY RESERVATION, BUILDING LINE, AND OR EASEMENTS WHICH MAY OR MAY NOT AFFECT SUBJECT PARCEL.
- SUBJECT PROPERTY SHOWN HEREON APPEARS TO BE LOCATED IN ZONE "X", PER F.I.R.M. PANEL NUMBER 480212 0175 B. LAST REVISION DATE 09-04-91. THIS SURVEYOR MAKES NO GUARANTEES AS TO THE ACCURACY OF THE ABOVE INFORMATION. THE LOCAL F.E.M.A. AGENT SHOULD BE CONTACTED FOR VERIFICATION.
- THIS PLAT DOES NOT INTEND TO BE A SUBDIVISION PROCESS WHICH MAY BE REQUIRED BY THE COUNTY OF EL PASO ORDINANCE, AND IT IS THE CLIENT'S/OWNER'S RESPONSIBILITY TO COMPLY WITH THIS ORDINANCE IF IT IS REQUIRED.
- DISTANCES AND BEARINGS SHOWN ARE BASED ON FIELD DATA.
- HILLCREST CENTER FILED FOR RECORD IN VOLUME 1, PAGE 56, PLAT RECORDS OF EL PASO COUNTY, TEXAS.

GENERAL NOTES:

- THE CONTRACTOR SHALL VISIT AND FAMILIARIZE HIMSELF / HERSELF WITH THE PROJECT SITE PRIOR TO SUBMITTING BIDS.
- IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE AUTOMOBILE AND PEDESTRIAN ACCESS AT ALL TIMES, INCLUDING SATURDAY, SUNDAYS AND HOLIDAYS TO AREA RESIDENTS AND FACILITY USERS. THIS INCLUDES, BUT IS NOT LIMITED TO DRIVEWAYS, STREETS AND ALLEYS. THIS REQUIREMENT IS SUBSIDIARY TO THE VARIOUS BID ITEMS. CONTRACTOR SHALL MAINTAIN DUST CONTROL PREVENTATIVE MEASURES THROUGHOUT CONSTRUCTION.
- ALL EXISTING WATER AND SEWER INFRASTRUCTURE, IF DISTURBED, SHALL BE REPLACED FROM PROPERTY LINE TO MAIN AT NO EXTRA CHARGE TO THE COUNTY OF EL PASO. MATERIAL AND CONSTRUCTION PROCEDURES SHALL CONFORM WITH LOCAL CODES. BUILDING RESIDENT WILL BE NOTIFIED 7 DAYS PRIOR TO ANY SERVICE OUTAGE. SERVICE WILL BE RESTORED WITHIN 1 HOUR OR AS COORDINATED.
- IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SCHEDULE AND PERFORM HIS/HER WORK SO AS TO PROVIDE PROPER PASSAGE OF ANY STORM WATER DURING THE COURSE OF HIS/HER OPERATIONS. ALL LABOR, TOOLS, EQUIPMENT AND SUPERVISION REQUIRED TO ASSURE SUCH PROPER PASSAGE OF RUNOFF WATER AND ANY REMOVAL OR HANDLING OF WATER IN ORDER TO MAINTAIN DRY CONDITIONS SHALL BE CONSIDERED AS INCIDENTAL TO THE REMAINDER OF THE WORK AND SHALL BE AT THE EXPENSE OF THE CONTRACTOR. CONTRACTOR IS RESPONSIBLE FOR THE FULL PROJECT SITE ONCE THE NOTICE TO PROCEED IS ISSUED. CONTRACTOR IS RESPONSIBLE FOR THE PROPER PASSAGE RUNOFF FOR THE FULL PROJECT SITE. A SWAPP PLAN NEEDS BE FORMALLY DEVELOPED AND APPROVED BY THE OWNER AND ENGINEER.
- THE CONTRACTOR SHALL COORDINATE THE CONSTRUCTION SCHEDULE WITH ALL UTILITIES AND ALL OTHER AFFECTED AGENCIES.
- THE CONTRACTOR SHALL COMPLY WITH ALL THE STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, PERTAINING TO THE LOCATION OF UTILITY FACILITIES. THE LOCATION, DEPTH, AND SIZE OF THE UNDERGROUND/OVERHEAD FACILITIES SHOWN ARE FOR INFORMATION PURPOSES ONLY AND THE CONTRACTOR SHALL BE RESPONSIBLE TO THE DETERMINE THE FACILITY'S EXACT DEPTH AND LOCATION BY SAFE ACCEPTABLE MEANS WITHIN THE MARKED FACILITY AREA. OTHER UTILITY FACILITIES MAY EXIST WHICH ARE NOT SHOWN ON THE DRAWINGS AND IS THE CONTRACTOR'S RESPONSIBILITY TO INFORM THE COUNTY OF EL PASO INSPECTOR OF ANY POTENTIAL CONFLICT. THE COUNTY OF EL PASO MAKES NO REPRESENTATION PERTAINING THERE TO AND ASSUMES NO RESPONSIBILITY OF LIABILITY. THEREFORE, IF THE UTILITY FACILITIES ARE DAMAGED DURING CONSTRUCTION ALL PAVEMENT, ADJACENT UTILITIES, STRUCTURES, ETC. DISTURBED OR DAMAGED AS A RESULT OF CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE COUNTY OF EL PASO TO ORIGINAL OR BETTER CONDITION.
- THE CONTRACTOR/EXCAVATOR IS CAUTIONED THAT EQUIPMENT MAY DISTURB/DAMAGE FACILITIES BY ITS WEIGHT AND/OR OTHER CHARACTERISTICS. CONTRACTOR IS EXPECTED TO MAINTAIN A MINIMUM CLEARANCE OF TWO FEET PLUS THE WIDTH OF THE LINE BETWEEN MARKED AND UNEXPOSED FACILITIES AND THE CUTTING EDGE OR POINT OF ANY POWER-OPERATED EXCAVATING OR EARTH-MOVING EQUIPMENT. EXCAVATION SHOULD BE PERFORMED VERY CAREFULLY WITH HAND TOOLS WITHOUT DAMAGE AND SHALL BE DONE AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR MUST VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH THE WORK.
- ALL CONCRETE SHALL COMPLY WITH THE STRENGTH SPECIFIED.
- VIBRATORY ROLLERS SHALL NOT BE PERMITTED ON ANY PHASE OF THIS PROJECT.
- THE CONTRACTOR SHALL CONTACT A NOTIFICATION CENTER OR THE PROPER UTILITY COMPANY 48 HRS. PRIOR TO PERFORMING ANY EXCAVATION, UTILITY DEPTH ELEVATIONS ARE APPROXIMATE FOR GAS, WATER, OIL, AND COMMUNICATION LINES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING PERMITS FROM THE COUNTY OF EL PASO PRIOR TO DEMOLITION AND NEW CONSTRUCTION. THE COST OF THE PERMIT WILL BE AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ITS WORK AREAS TO PREVENT ANY UNAUTHORIZED ACCESS.
- CONTRACTOR SHALL ADJUST ALL WATER VALVES, ETC. TO MATCH SITE ELEVATIONS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED ACTIVITIES TO KEEP THE TOTAL PROJECT LIMITS IN A CLEAN AND SAFE CONDITION. SEQUENCING OF WORK DOES NOT RELIEVE THE CONTRACTOR OF HOUSE KEEPING THROUGHOUT THE COMPLETE PROJECT LIMITS, TO INCLUDE, BUT NOT LIMITED TO WATER EXTRACTION, STREET SWEEPING, DEBRIS, REMOVAL, ETC.
- ALL PIPE REMOVED SHALL BE PROPERLY DISPOSED.
- THE FOLLOWING LOCAL UTILITY AND AGENCY CONTACTS TABLE IS PROVIDED FOR CONTRACTOR'S INFORMATION:

UTILITY AND AGENCY CONTACTS		
COMPANY NAME	CONTACT	PHONE NUMBER
EL PASO ELECTRIC CO. (DISTRI. DEPT.)	FRANK VEJIL	(915) 543-2075
EL PASO WATER (WATER & WASTEWATER)	AMY CASTNER	(915) 594-5526
EL PASO WATER (STORMWATER)	YESENIA CASTRO	(915) 594-5515
TEXAS GAS SERVICE	FRANCISCO CAMPA	(915) 680-7275
TIME WARNER CABLE	RAUL ROJAS	(915) 373-6326
AT&T	FRANK GONZALEZ	(915) 595-5118
EL PASO STREET AND MAINTENANCE DEPT.	HAROLD KUTZ	(915) 212-0151
EP SAM (SIGN & STRIPING)	RUBEN GONZALEZ	(915) 212-0151
EP SAM (TRAFFIC CONTROL PERMITS)	KEITH BENNETT	(915) 212-0151
EP SAM (ILLUMINATION)	ISRAEL TORO	(915) 212-0151
EP SAM (LANDSCAPE & IRRIGATION)	BRENT PEARSON	(915) 212-0151
EMERGENCIES AND HAZMAT	-	911
DIG TESS	-	(800) 344-8377
ONE-CALL BOARD OF TEXAS	-	1-800-545-8005
LONE STAR NOTIFICATION	-	1-800-669-8344
TEXAS ONE-CALL	-	1-800-245-4545

TCEQ WATER DISTRIBUTION SYSTEM GENERAL CONSTRUCTION NOTES

- THIS WATER DISTRIBUTION SYSTEM MUST BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS 30 TEXAS ADMINISTRATIVE CODE (TAC) CHAPTER 290 SUBCHAPTER D. WHEN CONFLICTS ARE NOTED WITH LOCAL STANDARDS, THE MORE STRINGENT REQUIREMENT SHALL BE APPLIED. AT A MINIMUM, CONSTRUCTION FOR PUBLIC WATER SYSTEMS MUST ALWAYS MEET TCEQ'S "RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS."
 - ALL NEWLY INSTALLED PIPES AND RELATED PRODUCTS MUST CONFORM TO AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)/NSF INTERNATIONAL STANDARD 61 AND MUST BE CERTIFIED BY AN ORGANIZATION ACCREDITED BY ANSI [§290.44(A)(1)].
 - PLASTIC PIPE FOR USE IN PUBLIC WATER SYSTEMS MUST BEAR THE NSF INTERNATIONAL SEAL OF APPROVAL (NSF-PW) AND HAVE AN ASTM DESIGN PRESSURE RATING OF AT LEAST 150 PSI OR A STANDARD DIMENSION RATIO OF DR18 OR LESS [§290.44(A)(2)].
 - NO PIPE WHICH HAS BEEN USED FOR ANY PURPOSE OTHER THAN THE CONVEYANCE OF DRINKING WATER SHALL BE ACCEPTED OR RELOCATED FOR USE IN ANY PUBLIC DRINKING WATER SUPPLY [§290.44(A)(3)].
 - ALL WATER LINE CROSSINGS OF WASTEWATER MAINS SHALL BE PERPENDICULAR [§290.44(E)(4)(B)].
 - WATER TRANSMISSION AND DISTRIBUTION LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. HOWEVER, THE TOP OF THE WATER LINE MUST BE LOCATED BELOW THE FROST LINE AND IN NO CASE SHALL THE TOP OF THE WATER LINE BE LESS THAN 24 INCHES BELOW GROUND SURFACE [§290.44(A)(4)].
 - THE MAXIMUM ALLOWABLE LEAD CONTENT OF PIPES, PIPE FITTINGS, PLUMBING FITTINGS, AND FIXTURES IS 0.25 PERCENT [§290.44(B)].
 - THE CONTRACTOR SHALL INSTALL APPROPRIATE AIR RELEASE DEVICES WITH VENT OPENINGS TO THE ATMOSPHERE COVERED WITH 16-MESH OR FINER, CORROSION RESISTANT SCREENING MATERIAL OR AN ACCEPTABLE EQUIVALENT [§290.44(D)(1)].
 - THE CONTRACTOR SHALL NOT PLACE THE PIPE IN WATER OR WHERE IT CAN BE FLOODED WITH WATER OR SEWAGE DURING ITS STORAGE OR INSTALLATION [§290.44(D)(1)].
 - WHEN WATERLINES ARE LAID UNDER ANY FLOWING OR INTERMITTENT STREAM OR SEMI-PERMANENT BODY OF WATER THE WATERLINE SHALL BE INSTALLED IN A SEPARATE WATERRIGHT PIPE ENCASUREMENT. VALVES MUST BE PROVIDED ON EACH SIDE OF THE CROSSING WITH FACILITIES TO ALLOW THE UNDERWATER PORTION OF THE SYSTEM TO BE ISOLATED AND TESTED [§290.44(F)(2)].
 - PURSUANT TO 30 TAC §290.44(A)(5), THE HYDROSTATIC LEAKAGE RATE SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY THE MOST CURRENT AWWA FORMULAS FOR PVC PIPE, CAST IRON AND DUCTILE IRON PIPE. INCLUDE THE FORMULAS IN THE NOTES ON THE PLANS.
 - THE HYDROSTATIC LEAKAGE RATE FOR POLYVINYL CHLORIDE (PVC) PIPE AND APPURTENANCES SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY FORMULAS IN AMERICA WATER WORKS ASSOCIATION (AWWA) C-605 AS REQUIRED IN 30 TAC §290.44(A)(5). PLEASE ENSURE THAT THE FORMULA FOR THIS CALCULATION IS CORRECT AND MOST CURRENT FORMULA IS IN USE.
- QQ=LLLL-PPP148,000
- WHERE:
- Q = THE QUANTITY OF MAKEUP WATER IN GALLONS PER HOUR,
 - L = THE LENGTH OF THE PIPE SECTION BEING TESTED, IN FEET,
 - D = THE NOMINAL DIAMETER OF THE PIPE IN INCHES, AND
 - P = THE AVERAGE TEST PRESSURE DURING THE HYDROSTATIC TEST IN POUNDS PER SQUARE INCH (PSI).
- THE HYDROSTATIC LEAKAGE RATE FOR DUCTILE IRON (DI) PIPE AND APPURTENANCES SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY FORMULAS IN AMERICA WATER WORKS ASSOCIATION (AWWA) C-600 AS REQUIRED IN 30 TAC §290.44(A)(5). PLEASE ENSURE THAT THE FORMULA FOR THIS CALCULATION IS CORRECT AND MOST CURRENT FORMULA IS IN USE.
- LL=SSSS-PP148,000
- WHERE:
- L = THE QUANTITY OF MAKEUP WATER IN GALLONS PER HOUR,
 - S = THE LENGTH OF THE PIPE SECTION BEING TESTED, IN FEET,
 - D = THE NOMINAL DIAMETER OF THE PIPE IN INCHES, AND
 - P = THE AVERAGE TEST PRESSURE DURING THE HYDROSTATIC TEST IN POUNDS PER SQUARE INCH (PSI).
- CONTRACTOR SHALL MAINTAIN A MINIMUM SEPARATION DISTANCE IN ALL DIRECTIONS OF NINE FEET BETWEEN THE PROPOSED WATERLINE AND WASTEWATER COLLECTION FACILITIES INCLUDING MANHOLES. IF THIS DISTANCE CANNOT BE MAINTAINED, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE PROJECT ENGINEER FOR FURTHER DIRECTION. SEPARATION DISTANCES, INSTALLATION METHODS, AND MATERIALS UTILIZED MUST MEET §290.44(E)(1)-(4).
 - THE SEPARATION DISTANCE FROM A POTABLE WATERLINE TO A WASTEWATER MAIN OR LATERAL MANHOLE OR CLEANOUT SHALL BE A MINIMUM OF NINE FEET. WHERE THE NINE-FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, THE POTABLE WATERLINE SHALL BE ENCASED IN A JOINT OF AT LEAST 150 PSI PRESSURE CLASS PIPE AT LEAST 18 FEET LONG AND TWO NOMINAL SIZES LARGER THAN THE NEW CONVEYANCE. THE SPACE AROUND THE CARRIER PIPE SHALL BE SUPPORTED AT FIVE-FOOT INTERVALS WITH SPACERS OR BE FILLED TO THE SPRINGLINE WITH WASHED SAND. THE ENCASEMENT PIPE SHALL BE CENTERED ON THE CROSSING AND BOTH ENDS SEALED WITH CEMENT GROUT OR MANUFACTURED SEALANT [§290.44(E)(5)].
 - FIRE HYDRANTS SHALL NOT BE INSTALLED WITHIN NINE FEET VERTICALLY OR HORIZONTALLY OF ANY WASTEWATER LINE, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE REGARDLESS OF CONSTRUCTION [§290.44(E)(6)].
 - SUCTION MAINS TO PUMPING EQUIPMENT SHALL NOT CROSS WASTEWATER MAINS, WASTEWATER LATERALS, OR WASTEWATER SERVICE LINES. RAW WATER SUPPLY LINES SHALL NOT BE INSTALLED WITHIN FIVE FEET OF ANY TILE OR CONCRETE WASTEWATER MAIN, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE [§290.44(E)(7)].
 - WATERLINES SHALL NOT BE INSTALLED CLOSER THAN TEN FEET TO SEPTIC TANK DRAINFIELDS [§290.44(E)(8)].
 - THE CONTRACTOR SHALL DISINFECT THE NEW WATERLINES IN ACCORDANCE WITH AWWA STANDARD C655-09. THEN FLUSH AND SAMPLE THE LINES BEFORE BEING PLACED INTO SERVICE. SAMPLES SHALL BE COLLECTED FOR MICROBIOLOGICAL ANALYSIS TO CHECK THE EFFECTIVENESS OF THE DISINFECTION PROCEDURE WHICH SHALL BE REPEATED IF CONTAMINATION PERSISTS. A MINIMUM OF ONE SAMPLE FOR EACH 1,000 FEET OF COMPLETED WATERLINE WILL BE REQUIRED OR AT THE NEXT AVAILABLE SAMPLING POINT BEYOND 1,000 FEET AS DESIGNATED BY THE DESIGN ENGINEER [§290.44(F)(3)].
 - DECHLORINATION OF DISINFECTING WATER SHALL BE IN STRICT ACCORDANCE WITH CURRENT AWWA STANDARD C655-09 OR MOST RECENT.

SHEET INDEX

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Plot Date: 6/7/2022 8:21:11 AM By: alicia Barragan

REV.	DATE	BY	DESCRIPTION

WARNING ! BEFORE YOU DIG

CALL
1-800-DIG-TESS
1-800-344-8377
FOR FIELD LOCATING EXISTING UTILITIES

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY
TROY A. SVEDÉ P.E. 142584
ON MAY 26, 2022

ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT

DESIGNED B.J.K.
DRAWN A.B.
CHECKED B.J.K.
DATE 05/26/2022

UTILITY OWNER: THE COUNTY OF EL PASO TEXAS

FUNDING AGENT: USDA

FUNDING AGENT: UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

PROJECT PARTNER: el paso WATER
1154 HAWKINS BLVD.
EL PASO, TEXAS 79925
(915) 594-5500

ENGINEER: MGI Moreno Cardenas Inc.
EL PASO SAN ANTONIO
2601 E. Missouri Ave. El Paso, TX 79903 (915) 552-2091
9601 McMillan Avenue, Suite 207, San Antonio, TX 78216 (210) 314-3553
Texas Board of Professional Engineers Registration No. F-000554

HILLCREST CENTER WATER IMPROVEMENTS PROJECT (PHASE I)

AREA MAPS, ABBREVIATIONS, SHEET INDEX, UTILITIES, BENCHMARK REFERENCING, LEGEND AND GENERAL NOTES, TCEQ NOTES

THESE CONTRACT DOCUMENTS HAVE BEEN PREPARED SPECIFICALLY AND EXCLUSIVELY FOR THE DESIGN OF "HILLCREST CENTER WATER IMPROVEMENTS PROJECT (PHASE I)". MORENO CARDENAS INC. IS NOT RESPONSIBLE FOR THEIR USE ON ANY OTHER PROJECT OR APPLICATION.

JOB NO. 16-125
SHEET 2 OF 24
SHEET NO. C2.1

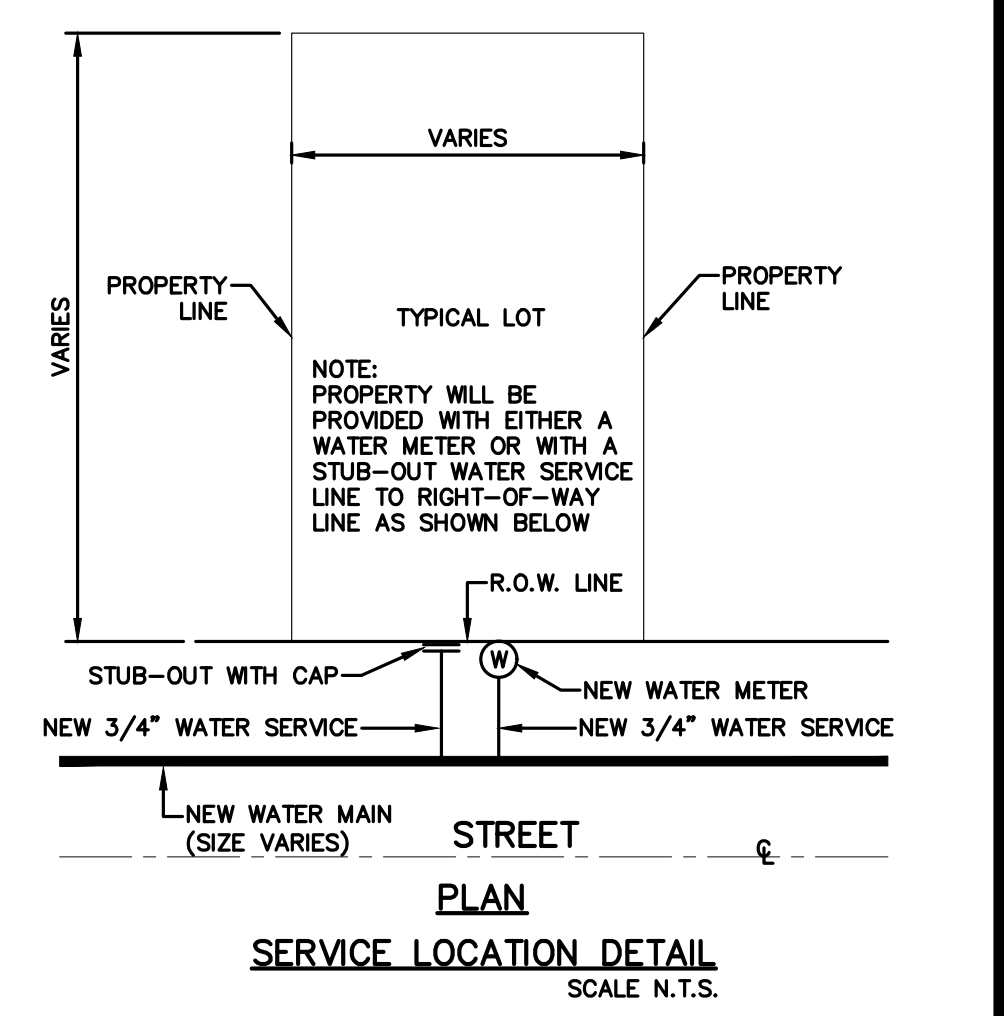
CONTRACTOR SHALL VERIFY DEPTH AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION OR ORDERING FITTINGS AS APPLICABLE TO TIE-IN POINTS BACK TO EXISTING.

- NOTES:**
- LOTS SHALL BE PROVIDED WITH ONE SERVICE CONNECTION PER LEGALLY SUBDIVIDED PROPERTY AND TO BE INSTALLED AS PER COORDINATION WITH EACH PROPERTY OWNER.
 - CONTRACTOR TO BE RESPONSIBLE TO COORDINATE WITH EACH PROPERTY OWNER AND OBTAIN WRITTEN AGREEMENT AND LOCATION FOR EACH WATER SERVICE.

LEGEND

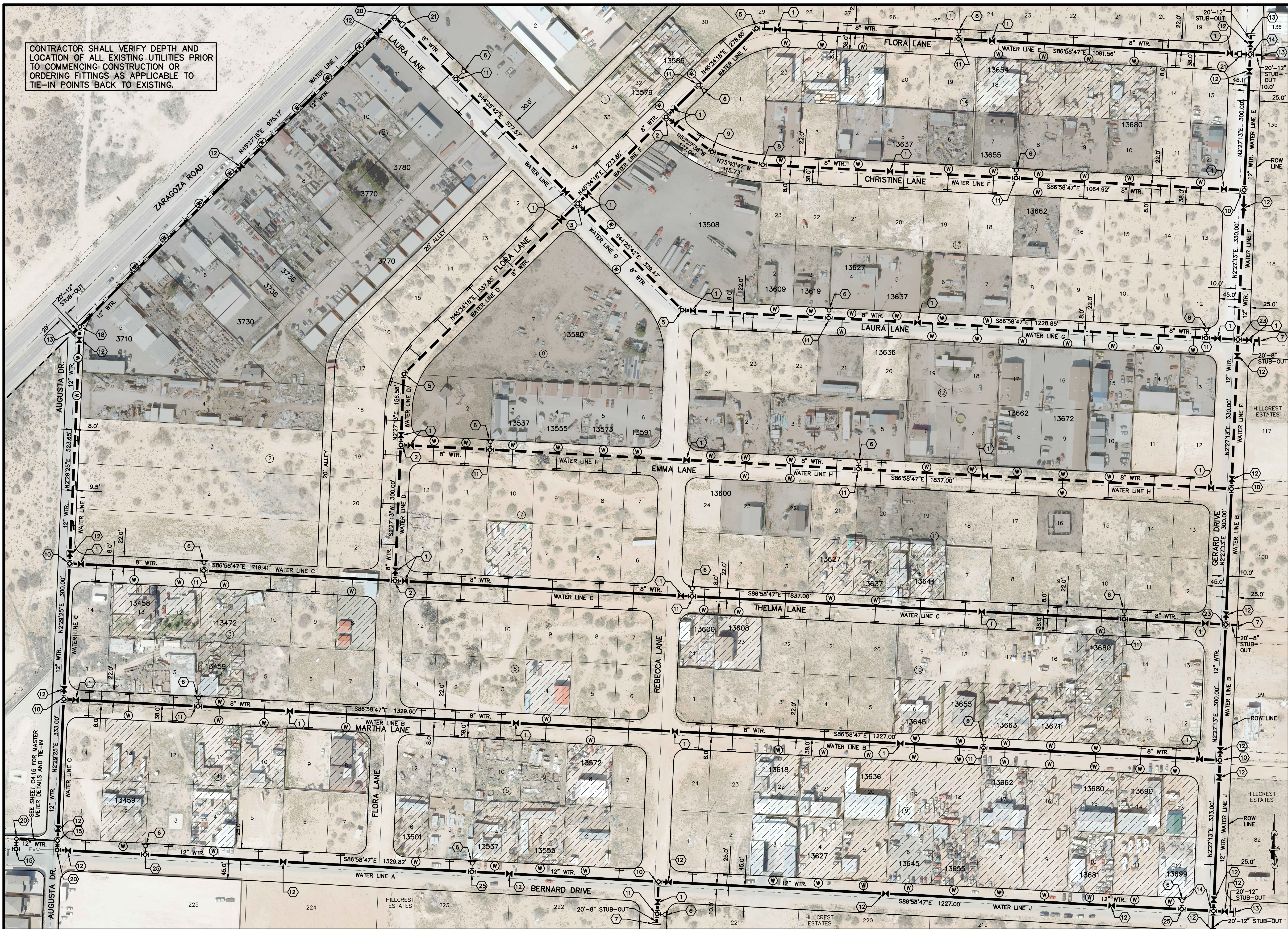
SYMBOL	DESCRIPTION
	NEW WATER MAIN (BASE BID A) NEW WATER LINE C-900 P.V.C. DR 18 (USDA PROPERTY SERVICE LIMITS)
	NEW WATER MAIN (BASE BID B) NEW WATER LINE C-900 P.V.C. DR 18 (EPA/NADB PROPERTY SERVICE LIMITS)
	USDA PROPERTY SERVICE LIMITS
	EPA/NADB PROPERTY SERVICE LIMITS
	NEW 3/4" SERVICE CONNECTION/W METER (PLAN VIEW)
	NEW 3/4" WATER STUB-OUT/W CAP (PLAN VIEW)
	NEW FIRE HYDRANT, KENNEDY OR MULLER MODEL
	NEW PLUG
	NEW GATE VALVE
	NEW TEE
	NEW CROSS
	NEW 90° BEND
	NEW 45° BEND
	NEW 11.25° BEND
	NEW 22.5° BEND
	REDUCER
	EXISTING WATERLINE (SIZES VARY)
	RIGHT-OF-WAY LINE
	PROPERTY LINE
	STREET CENTERLINE

WATER KEYED NOTES		WATER KEYED NOTES	
1	8" GATE VALVE	14	12"x12"x12"x12" CROSS
2	8"x8"x8" TEE	15	12"x12"x12" TEE
3	8"x8"x8"x8" CROSS	16	16"x8"x8" TEE
4	8" 90° BEND	17	16" GATE VALVE
5	8" 45° BEND	18	12"x12" 45° BEND
6	FIRE HYDRANT	19	16"x8" 90° BEND
7	8" CAP/PLUG	20	12"x12" 90° BEND
8	8" 11.25° BEND	21	12"x8" REDUCER
9	8" 22 1/2° BEND	22	12"x12"x12"x8" CROSS
10	12"x12"x8" TEE	23	12"x12"x8"x8" CROSS
11	8"x8"x8" TEE	24	16" CAP/PLUG
12	12" GATE VALVE	25	12"x12"x6" TEE
13	12" CAP/PLUG		



PLAN
SERVICE LOCATION DETAIL
SCALE: N.T.S.

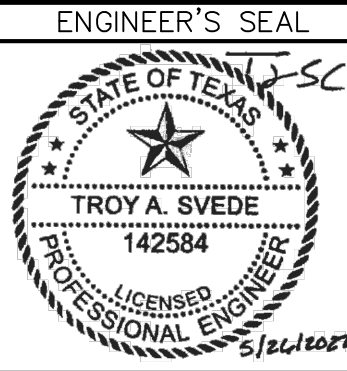
WATER INDEX MAP
SCALE: 1" = 100'



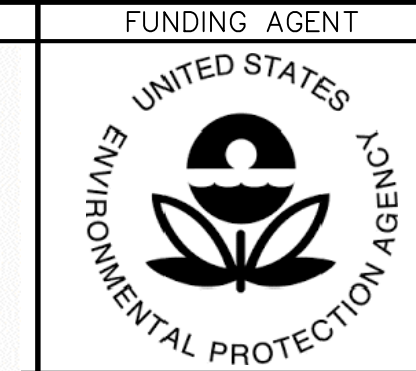
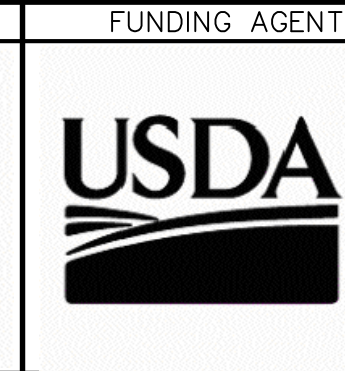
REV.	DATE	BY	DESCRIPTION

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ENGINEER'S SEAL
DESIGNED S.T.
DRAWN A.B.
CHECKED B.J.K.
DATE 05/26/2022



HILLCREST CENTER WATER IMPROVEMENTS PROJECT (PHASE I)
GENERAL INFORMATION AND WATER LOCATION SHEET

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JOB NO. 16-125
SHEET 3 OF 24
SHEET NO. C3.1



DESCRIPTION:	SHEET NO.
WATER LINE "A"	- C4.1
WATER LINE "B"	- C4.2
WATER LINE "B"	- C4.3
WATER LINE "C"	- C4.4
WATER LINE "C"	- C4.5
WATER LINE "D"	- C4.6
WATER LINE "E"	- C4.7
WATER LINE "F"	- C4.8
WATER LINE "F"	- C4.9
WATER LINE "G"	- C4.9
WATER LINE "G"	- C4.10
WATER LINE "H"	- C4.11
WATER LINE "I"	- C4.12
WATER LINE "J"	- C4.13
WATER LINE "K"	- C4.14

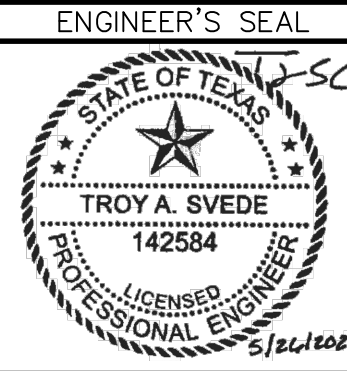
LEGEND	
SYMBOL	DESCRIPTION
	NEW WATER MAIN (BASE BID A) NEW WATER LINE C-900 P.V.C. DR 18 (USDA PROPERTY SERVICE LIMITS)
	NEW WATER MAIN (BASE BID B) NEW WATER LINE C-900 P.V.C. DR 18 (EPA/NADB PROPERTY SERVICE LIMITS)
	USDA PROPERTY SERVICE LIMITS
	EPA/NADB PROPERTY SERVICE LIMITS

CONTRACTOR SHALL VERIFY DEPTH AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION OR ORDERING FITTINGS AS APPLICABLE TO TIE-IN POINTS BACK TO EXISTING.

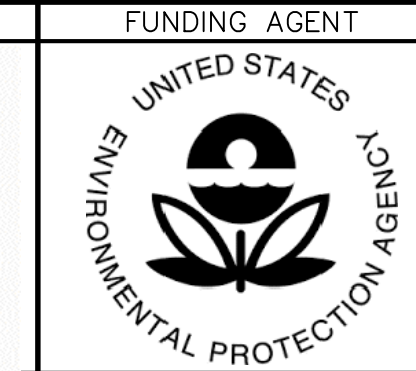
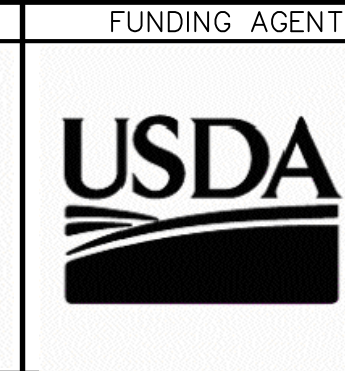
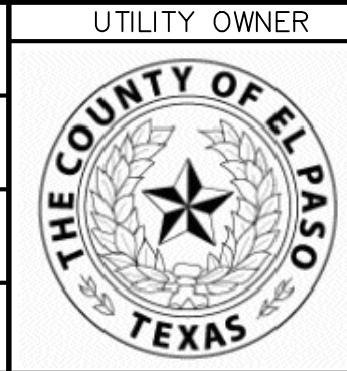
REV.	DATE	BY	DESCRIPTION

WARNING!
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CALL
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1-800-344-8377
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EXISTING UTILITIES

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ENGINEER'S SEAL
DESIGNED
B.J.K.
DRAWN
A.B.
CHECKED
B.J.K.
DATE
05/26/2022

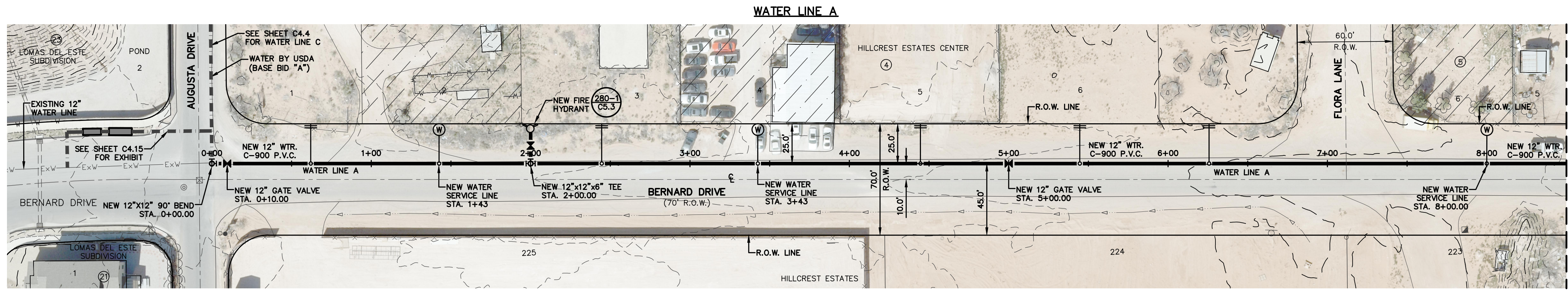


HILLCREST CENTER WATER IMPROVEMENTS PROJECT (PHASE I)
SHEET INDEX MAP

THESE CONTRACT DOCUMENTS HAVE BEEN PREPARED SPECIFICALLY AND EXCLUSIVELY FOR THE DESIGN OF "HILLCREST CENTER WATER IMPROVEMENTS PROJECT (PHASE I)". MORENO CARDENAS INC. IS NOT RESPONSIBLE FOR THEIR USE ON ANY OTHER PROJECT OR APPLICATION.

JOB NO.
16-125
SHEET
4 OF 24
SHEET NO.
C3.2

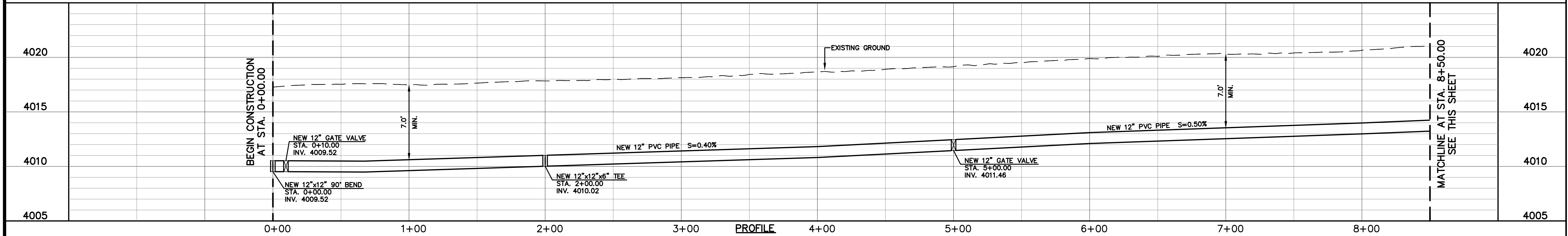
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 Plot Date: 6/7/2022 8:29:43 AM By: Arturo Barragan



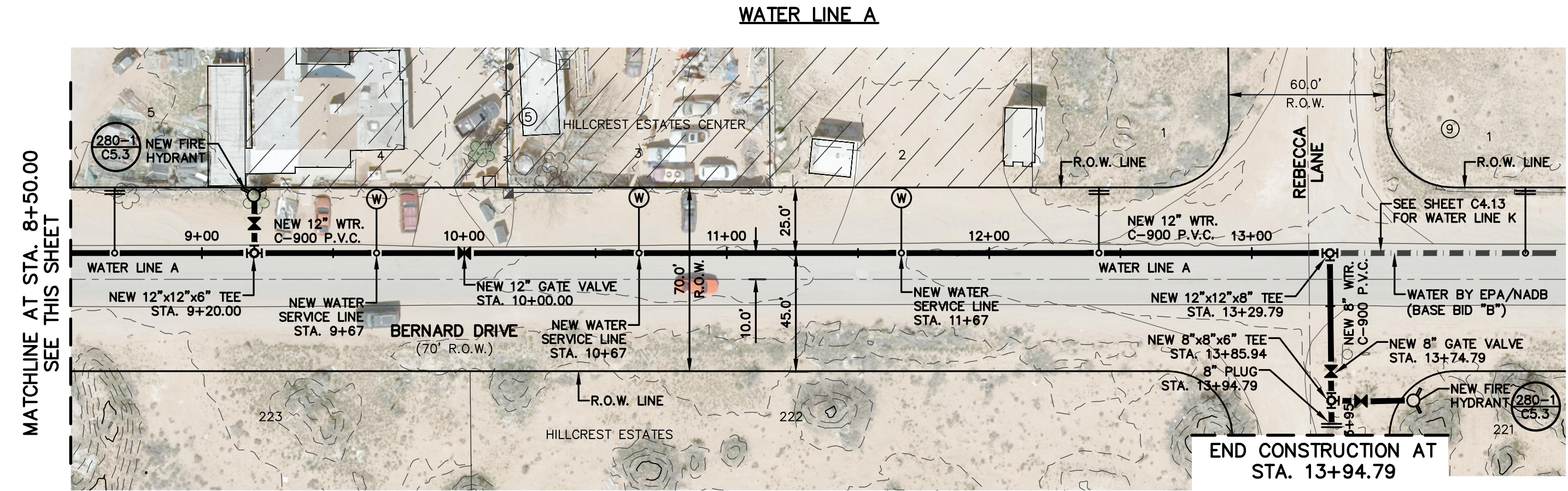
PLAN

LEGEND

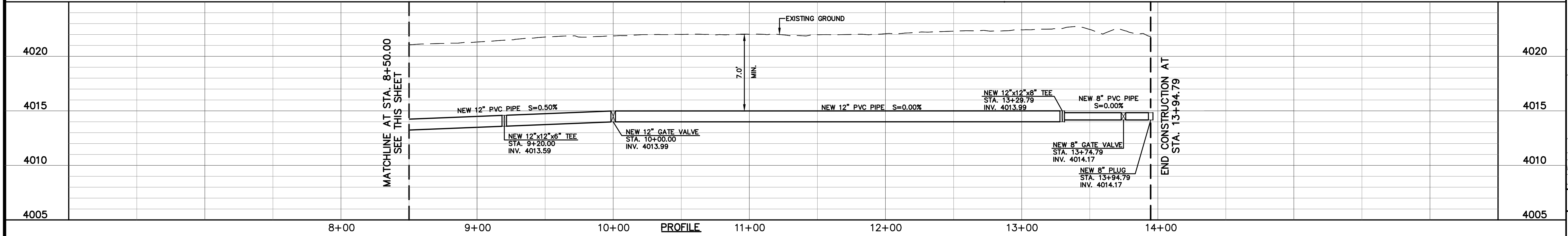
SYMBOL	DESCRIPTION
	NEW WTR. C-900 P.V.C. DR 18 (USDA PROPERTY SERVICE LIMITS)
	NEW WTR. C-900 P.V.C. DR 18 (EPA/NADB PROPERTY SERVICE LIMITS)
	WATER LINE ON ANOTHER SHEET (PLAN VIEW)
	USDA PROPERTY SERVICE LIMITS
	EPA/NADB PROPERTY SERVICE LIMITS
	NEW 3/4" SERVICE CONNECTION/W METER (PLAN VIEW)
	NEW 3/4" WATER STUB-OUT/W CAP (PLAN VIEW)
	NEW FIRE HYDRANT, KENNEDY OR MULLER MODEL
	NEW PLUG
	NEW GATE VALVE
	NEW TEE
	NEW CROSS
	NEW 90° BEND
	NEW 45° BEND
	NEW 11.25° BEND
	NEW 22.5° BEND
	NEW REDUCER
	EXISTING WATERLINE (SIZES VARY)
	RIGHT-OF-WAY LINE
	PROPERTY LINE
	STREET CENTERLINE



PROFILE



PLAN

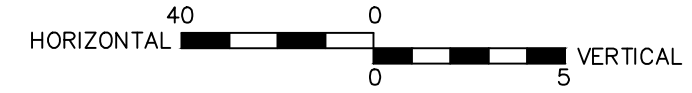


PROFILE



KEYMAP

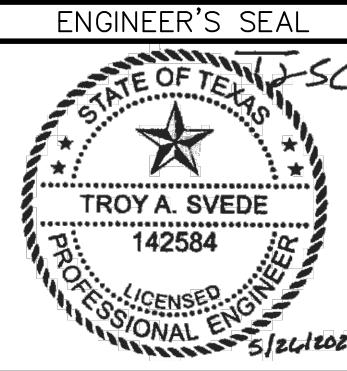
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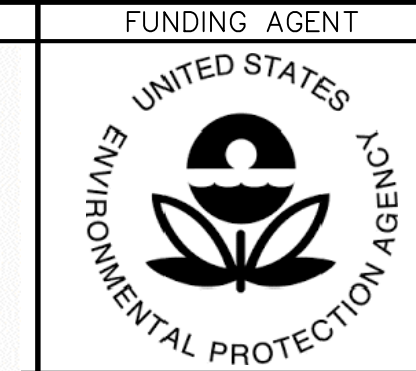
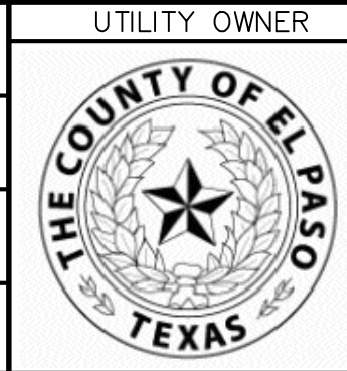
REV.	DATE	BY	DESCRIPTION

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ENGINEER'S SEAL
DESIGNED B.J.K.
DRAWN A.B.
CHECKED B.J.K.
DATE 05/26/2022



HILLCREST CENTER WATER IMPROVEMENTS PROJECT (PHASE I)

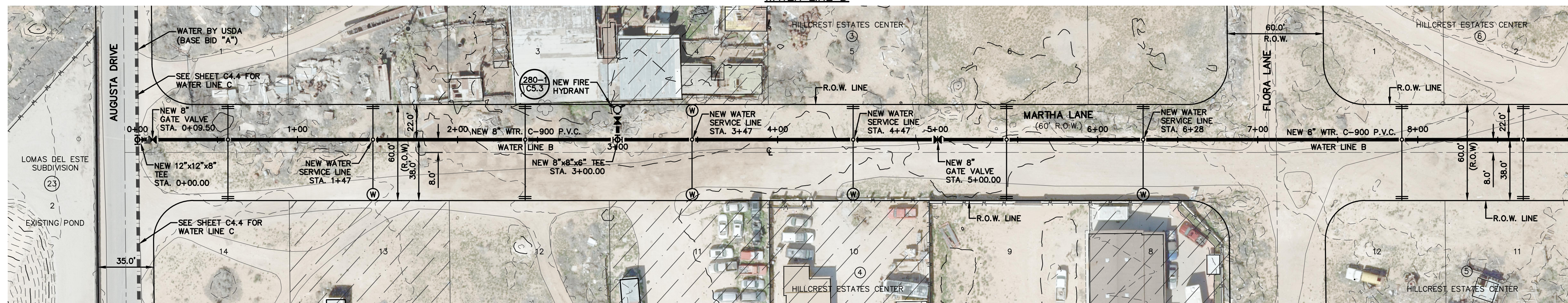
WATER LINE A
STA. 0+00.00 TO STA. 13+94.79
(BASE BID A)

THESE CONTRACT DOCUMENTS HAVE BEEN PREPARED SPECIFICALLY AND EXCLUSIVELY FOR THE DESIGN OF "HILLCREST CENTER WATER IMPROVEMENTS PROJECT (PHASE I)". MORENO CARDENAS INC. IS NOT RESPONSIBLE FOR THEIR USE ON ANY OTHER PROJECT OR APPLICATION.

JOB NO. 16-125
SHEET 5 OF 24
SHEET NO. C4.1

Filename: F:\0125\16-125 PLAN SET\DWG\CONSTRUCTION SET\5-C4.1 WATER LINE A.DWG
Plot Date: 6/7/2022 8:33:12 AM By: Arturo Barragan

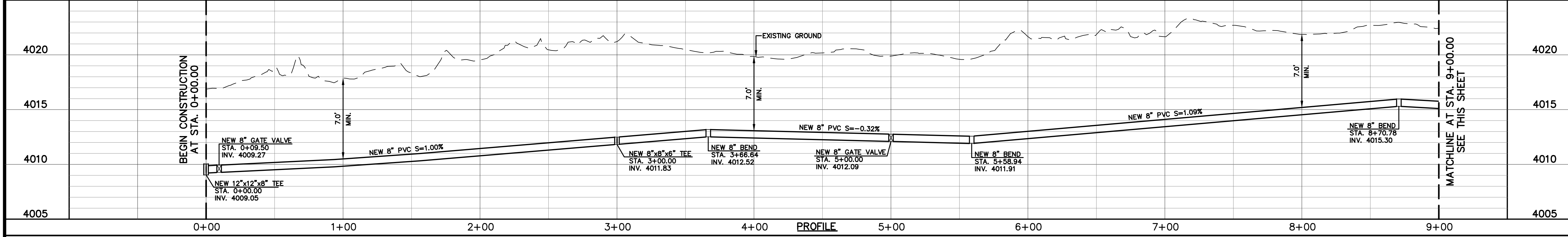
WATER LINE B



PLAN

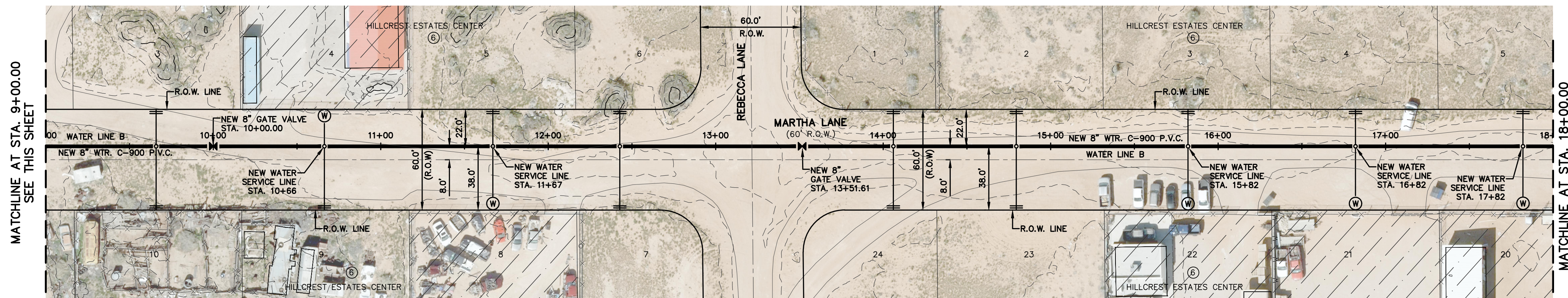
LEGEND

SYMBOL	DESCRIPTION
	NEW WTR. C-900 P.V.C. DR 18 (USDA PROPERTY SERVICE LIMITS)
	NEW WTR. C-900 P.V.C. DR 18 (EPA/NADB PROPERTY SERVICE LIMITS)
	WATER LINE ON ANOTHER SHEET (PLAN VIEW)
	USDA PROPERTY SERVICE LIMITS
	EPA/NADB PROPERTY SERVICE LIMITS
	NEW 3/4" SERVICE CONNECTION/W METER (PLAN VIEW)
	NEW 3/4" WATER STUB-OUT/W CAP (PLAN VIEW)
	NEW FIRE HYDRANT, KENNEDY OR MULLER MODEL
	NEW PLUG
	NEW GATE VALVE
	NEW TEE
	NEW CROSS
	NEW 45° BEND
	NEW 11.25° BEND
	NEW 22.5° BEND
	NEW REDUCER
	EXISTING WATERLINE (SIZES VARY)
	RIGHT-OF-WAY LINE
	PROPERTY LINE
	STREET CENTERLINE

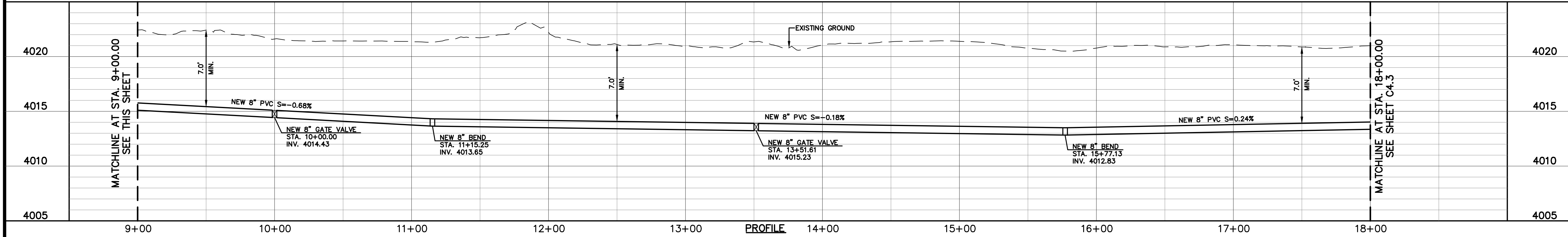


PROFILE

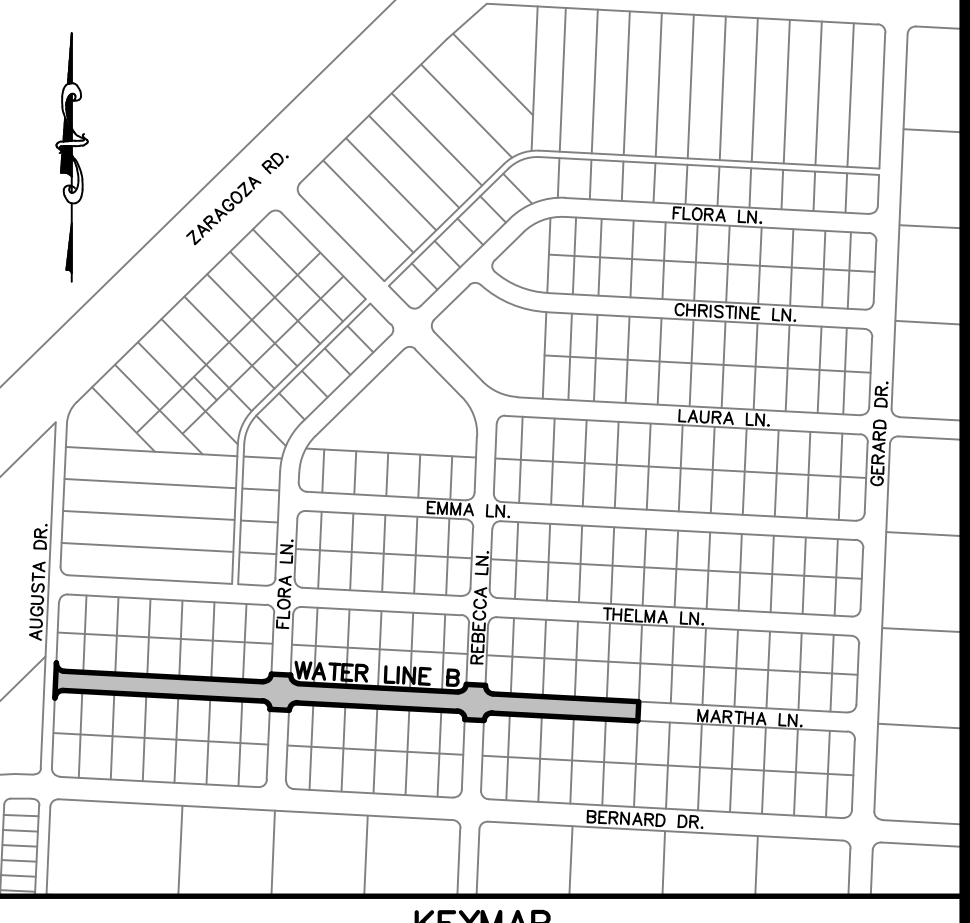
WATER LINE B



PLAN



PROFILE



KEYMAP

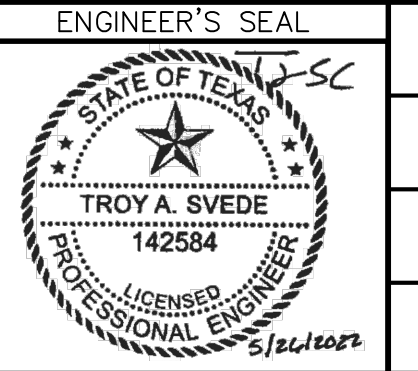
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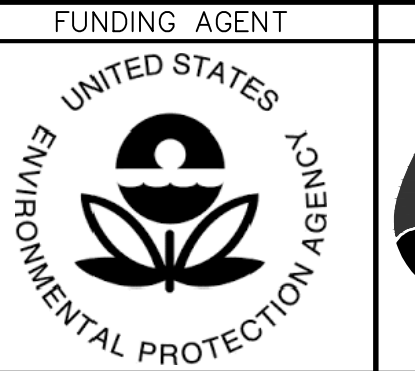
REV.	DATE	BY	DESCRIPTION

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1-800-344-8377
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DESIGNED B.J.K.
DRAWN A.B.
CHECKED B.J.K.
DATE 05/26/2022



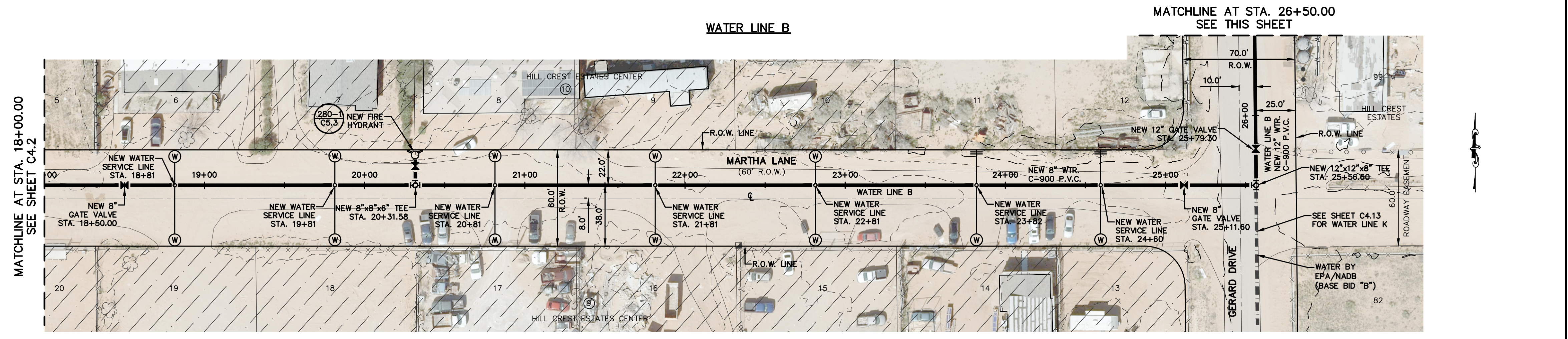
HILLCREST CENTER WATER IMPROVEMENTS PROJECT (PHASE I)

WATER LINE B
STA. 0+00.00 TO STA. 18+00.00
(BASE BID A)

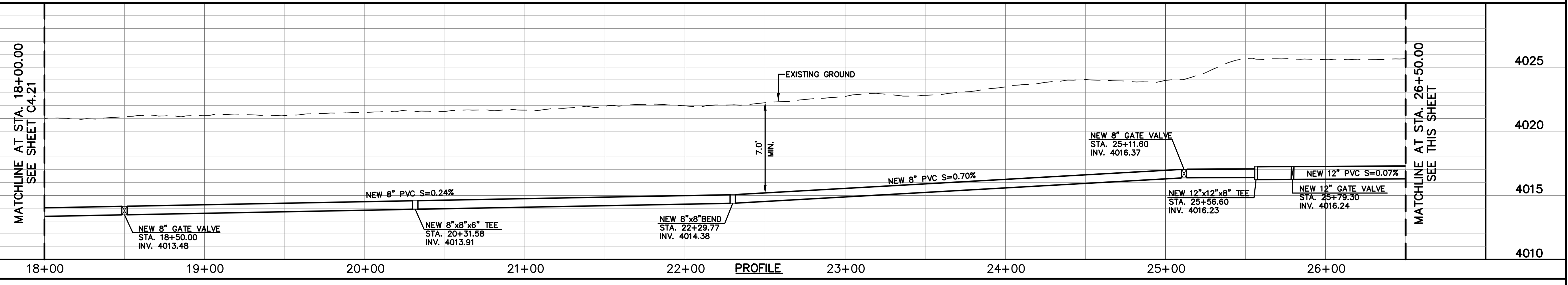
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JOB NO.
16-125
SHEET
6 OF 24
SHEET NO.
C4.2

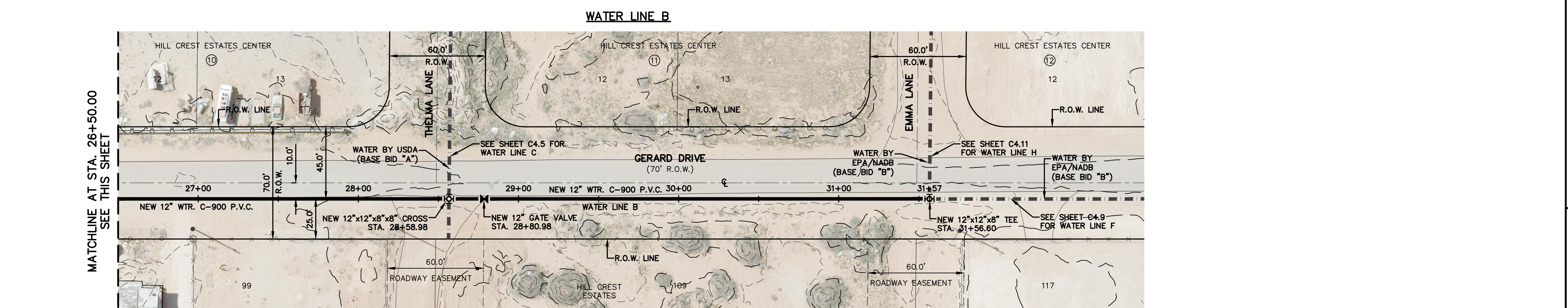
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Plot Date: 6/7/2022 8:34:37 AM By: Arturo Barragan



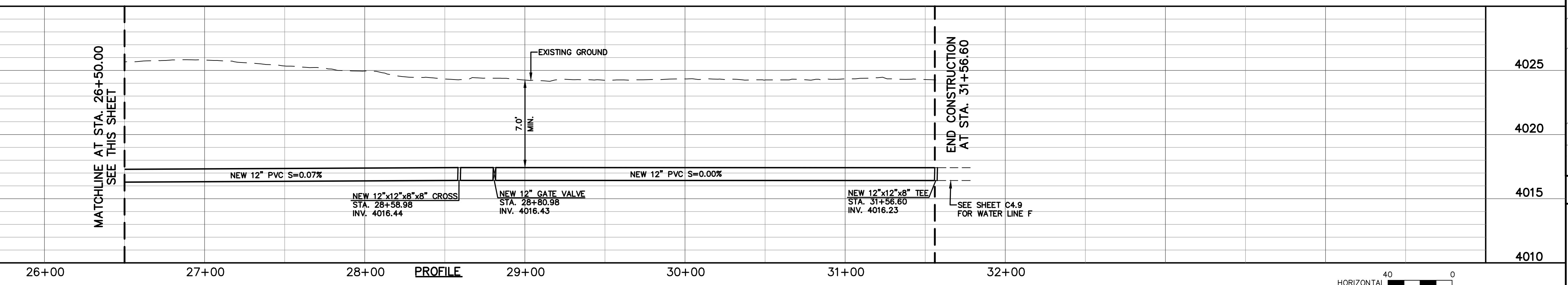
PLAN



PROFILE



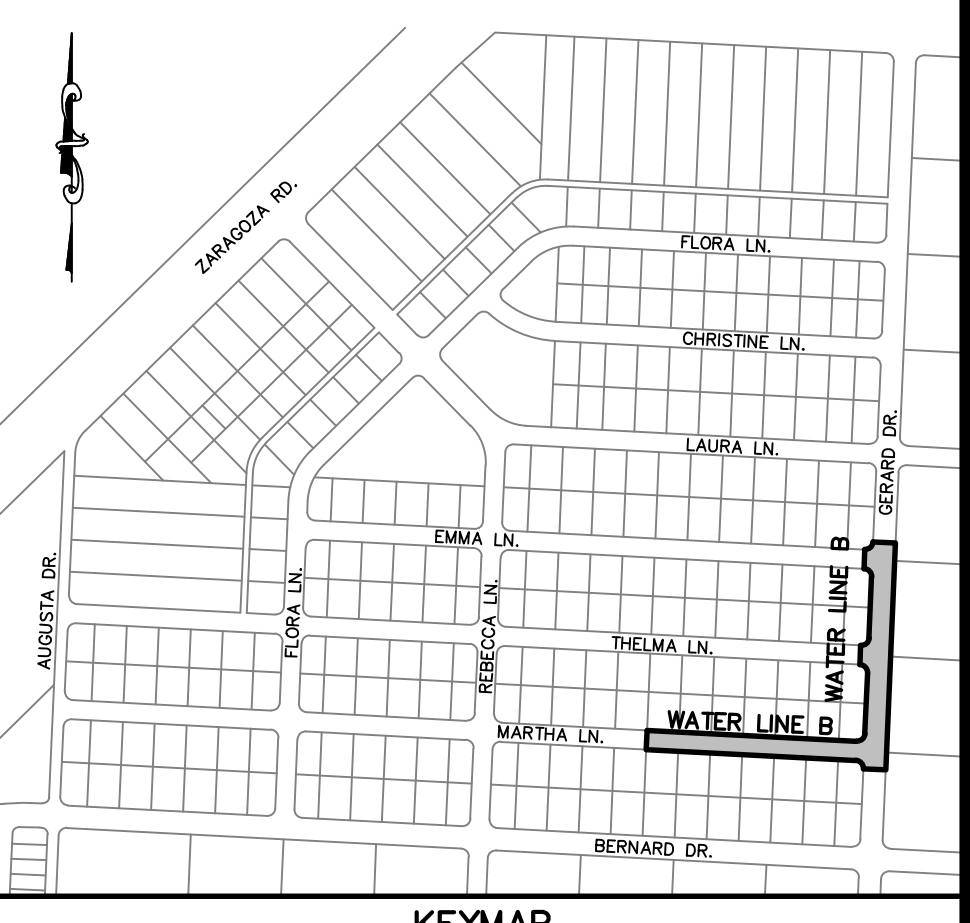
PLAN



PROFILE

LEGEND

SYMBOL	DESCRIPTION
	NEW WTR. C-900 P.V.C. DR 18 (USDA PROPERTY SERVICE LIMITS)
	NEW WTR. C-900 P.V.C. DR 18 (EPA/NADB PROPERTY SERVICE LIMITS)
	WATER LINE ON ANOTHER SHEET (PLAN VIEW)
	USDA PROPERTY SERVICE LIMITS
	EPA/NADB PROPERTY SERVICE LIMITS
	NEW 3/4" SERVICE CONNECTION/W METER (PLAN VIEW)
	NEW 3/4" WATER STUB-OUT/W CAP (PLAN VIEW)
	NEW FIRE HYDRANT, KENNEDY OR MULLER MODEL
	NEW PLUG
	NEW GATE VALVE
	NEW TEE
	NEW CROSS
	NEW 90° BEND
	NEW 45° BEND
	NEW 11.25° BEND
	NEW 22.5° BEND
	NEW REDUCER
	EXISTING WATERLINE (SIZES VARY)
	RIGHT-OF-WAY LINE
	PROPERTY LINE
	STREET CENTERLINE



KEYMAP
SCALE: 1"=600'

CONTRACTOR SHALL VERIFY DEPTH AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION OR ORDERING FITTINGS AS APPLICABLE TO TIE-IN POINTS BACK TO EXISTING.

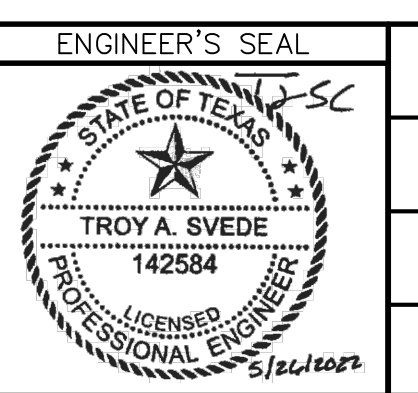
REV.	DATE	BY	DESCRIPTION

WARNING!
BEFORE YOU DIG

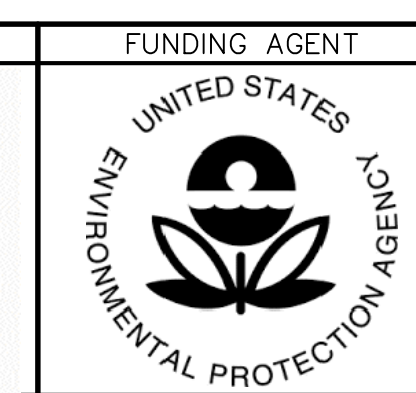
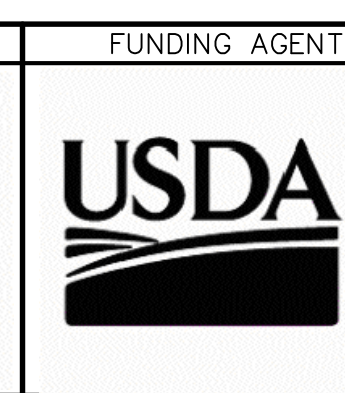
CALL
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DESIGNED
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DRAWN
A.B.
CHECKED
B.J.K.
DATE
05/26/2022



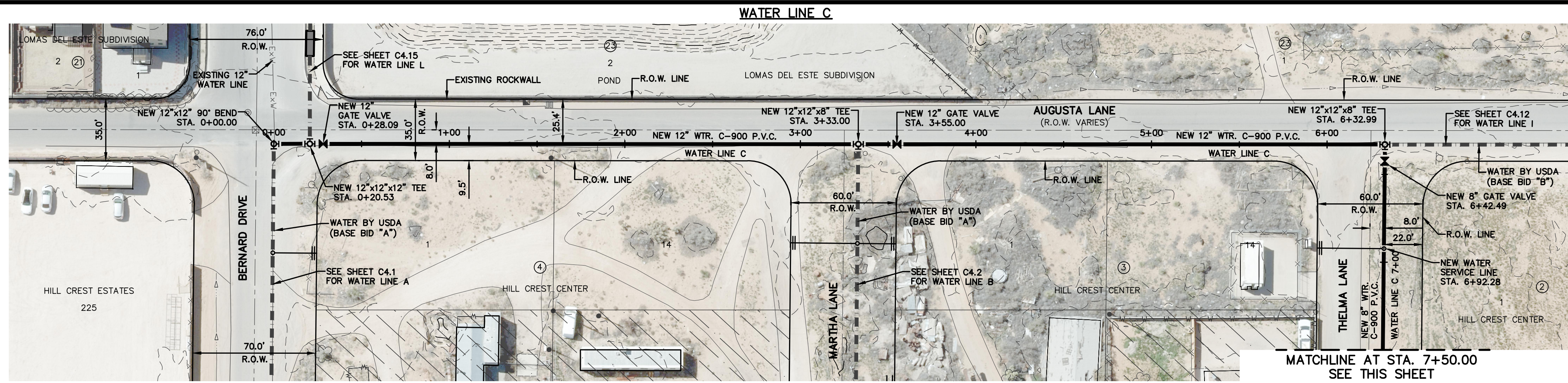
HILLCREST CENTER WATER IMPROVEMENTS PROJECT (PHASE I)

WATER LINE B
STA. 18+00.00 TO STA. 31+56.60
(BASE BID A)

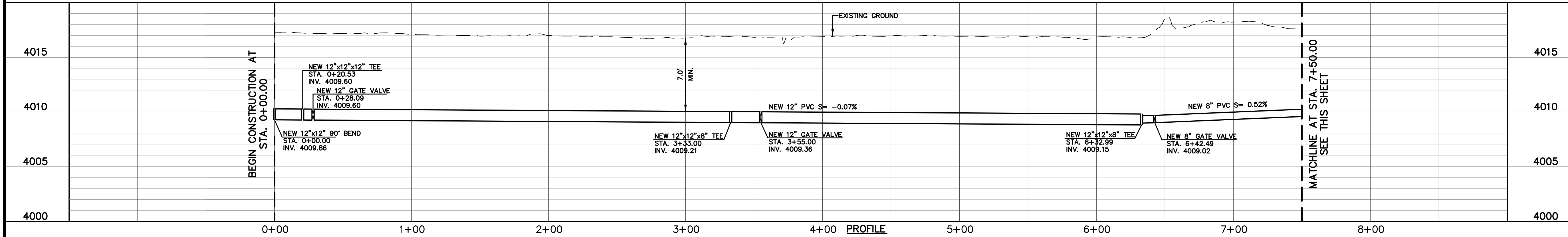
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JOB NO.
16-125
SHEET
7 OF 24
SHEET NO.
C4.3

Filename: F:\0225\16-125-PLAN SET\DWG\CONSTRUCTION_SET\TY-C4.3 WATER LINE B.DWG
Plot Date: 6/7/2022 8:38:22 AM By: Arturo Barragan

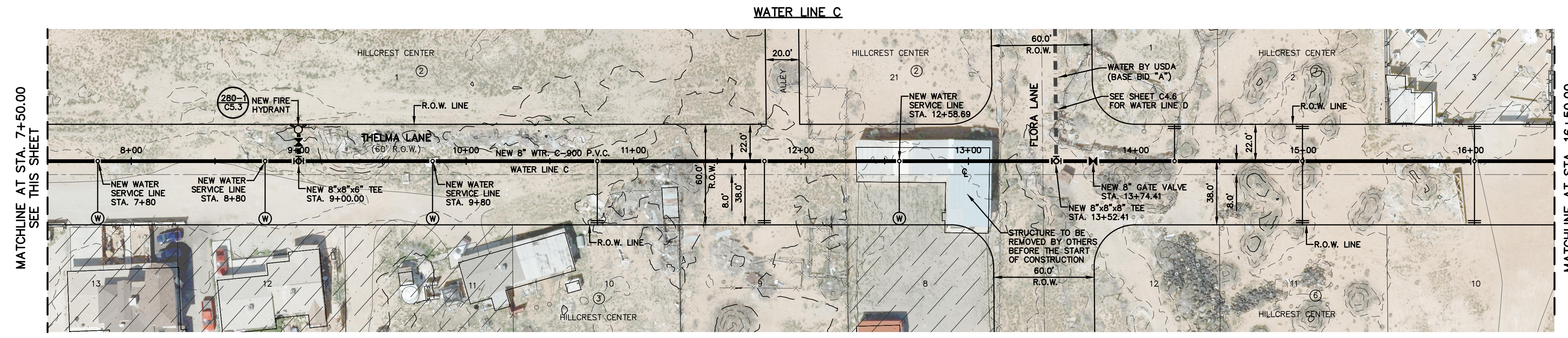


PLAN

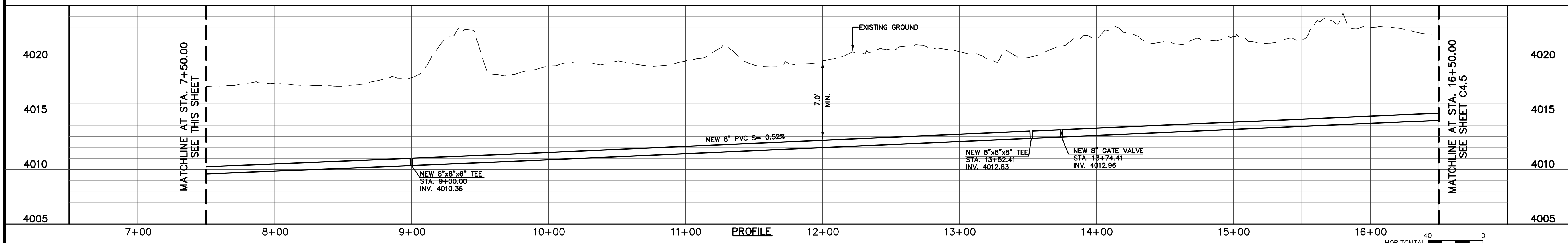


PROFILE

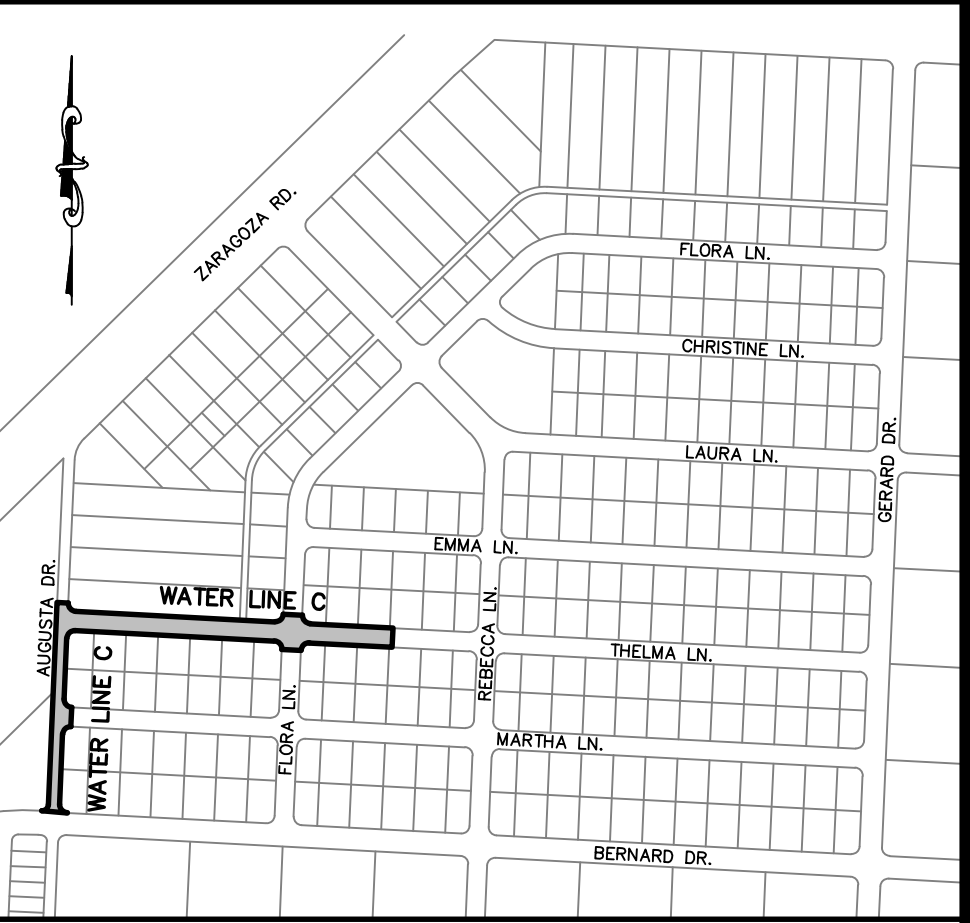
LEGEND	
SYMBOL	DESCRIPTION
	NEW WTR. C-900 P.V.C. DR 18 (USDA PROPERTY SERVICE LIMITS)
	NEW WTR. C-900 P.V.C. DR 18 (EPA/NADB PROPERTY SERVICE LIMITS)
	WATER LINE ON ANOTHER SHEET (PLAN VIEW)
	USDA PROPERTY SERVICE LIMITS
	EPA/NADB PROPERTY SERVICE LIMITS
	NEW 3/4" SERVICE CONNECTION/W METER (PLAN VIEW)
	NEW 3/4" WATER STUB-OUT/W CAP (PLAN VIEW)
	NEW FIRE HYDRANT, KENNEDY OR MULLER MODEL
	NEW PLUG
	NEW GATE VALVE
	NEW TEE
	NEW CROSS
	NEW 90° BEND
	NEW 45° BEND
	NEW 11.25° BEND
	NEW 22.5° BEND
	NEW REDUCER
	EXISTING WATERLINE (SIZES VARY)
	RIGHT-OF-WAY LINE
	PROPERTY LINE
	STREET CENTERLINE



PLAN



PROFILE



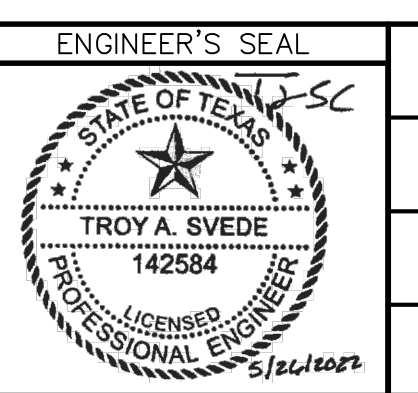
KEYMAP
SCALE: 1"=600'

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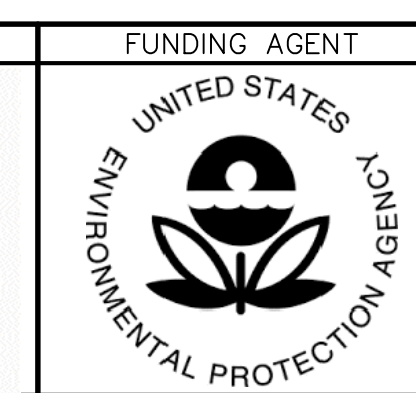
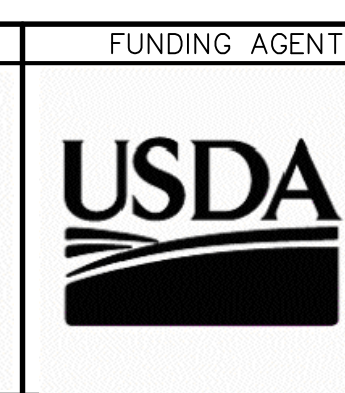
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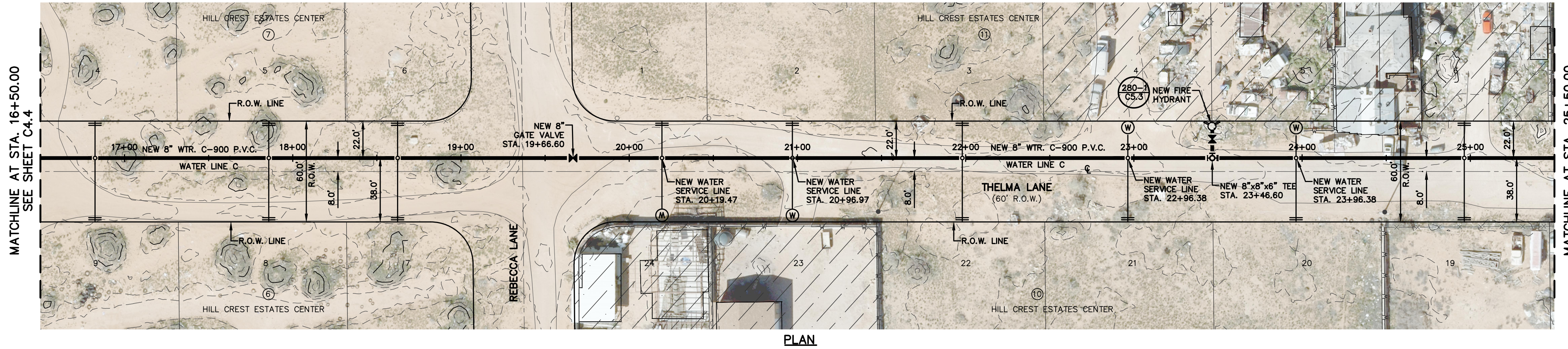
DESIGNED
B.J.K.
DRAWN
A.B.
CHECKED
B.J.K.
DATE
05/26/2022



HILLCREST CENTER WATER IMPROVEMENTS PROJECT (PHASE I)
WATER LINE C
STA. 0+00.00 TO STA. 16+50.00
(BASE BID A)

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JOB NO.
16-125
SHEET
8 OF 24
SHEET NO.
C4.4

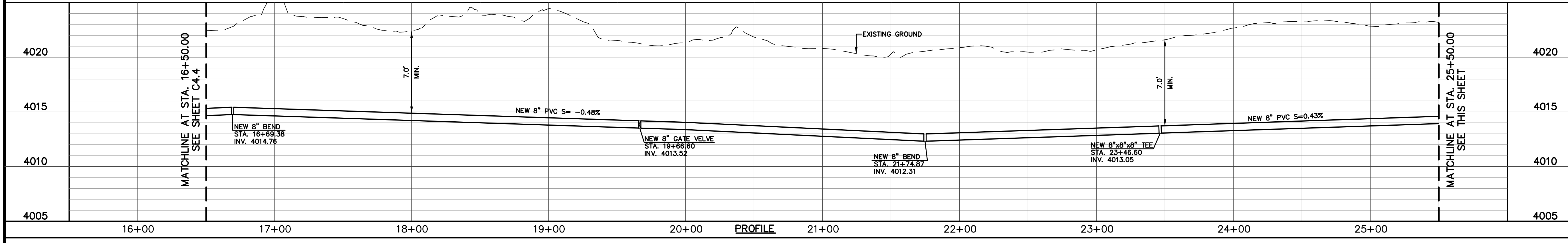
WATER LINE C



PLAN

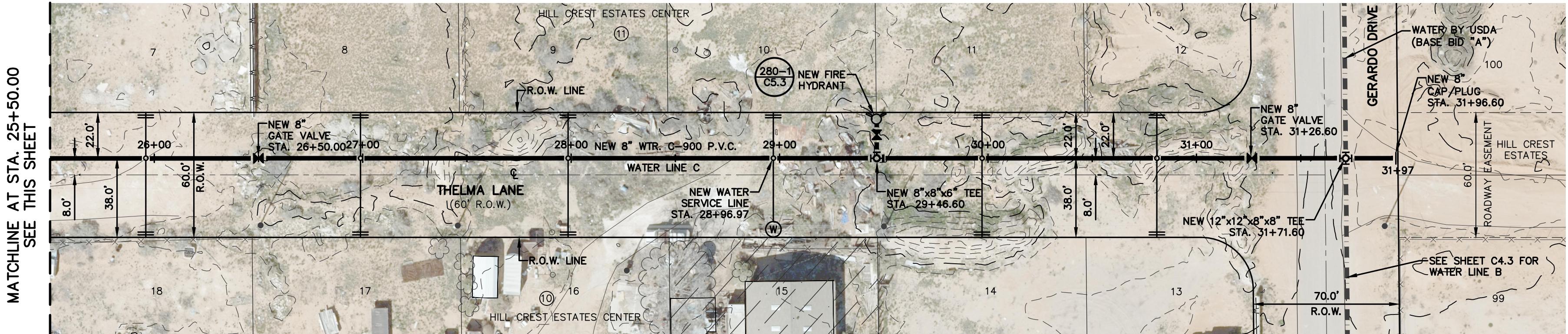
LEGEND

SYMBOL	DESCRIPTION
	NEW WTR. C-900 P.V.C. DR 18 (USDA PROPERTY SERVICE LIMITS)
	NEW WTR. C-900 P.V.C. DR 18 (EPA/NADB PROPERTY SERVICE LIMITS)
	WATER LINE ON ANOTHER SHEET (PLAN VIEW)
	USDA PROPERTY SERVICE LIMITS
	EPA/NADB PROPERTY SERVICE LIMITS
	NEW 3/4" SERVICE CONNECTION/W METER (PLAN VIEW)
	NEW 3/4" WATER STUB-OUT/W CAP (PLAN VIEW)
	NEW FIRE HYDRANT, KENNEDY OR MULLER MODEL
	NEW PLUG
	NEW GATE VALVE
	NEW TEE
	NEW CROSS
	NEW 90° BEND
	NEW 45° BEND
	NEW 11.25° BEND
	NEW 22.5° BEND
	NEW REDUCER
	EXISTING WATERLINE (SIZES VARY)
	RIGHT-OF-WAY LINE
	PROPERTY LINE
	STREET CENTERLINE

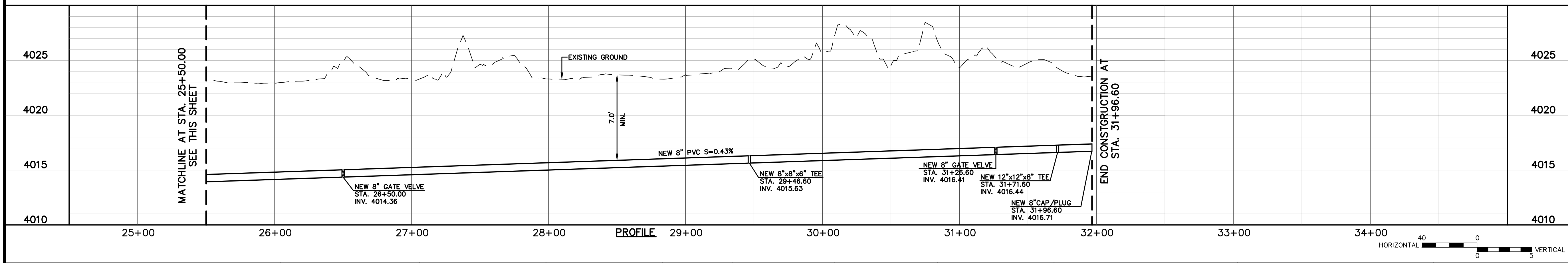


PROFILE

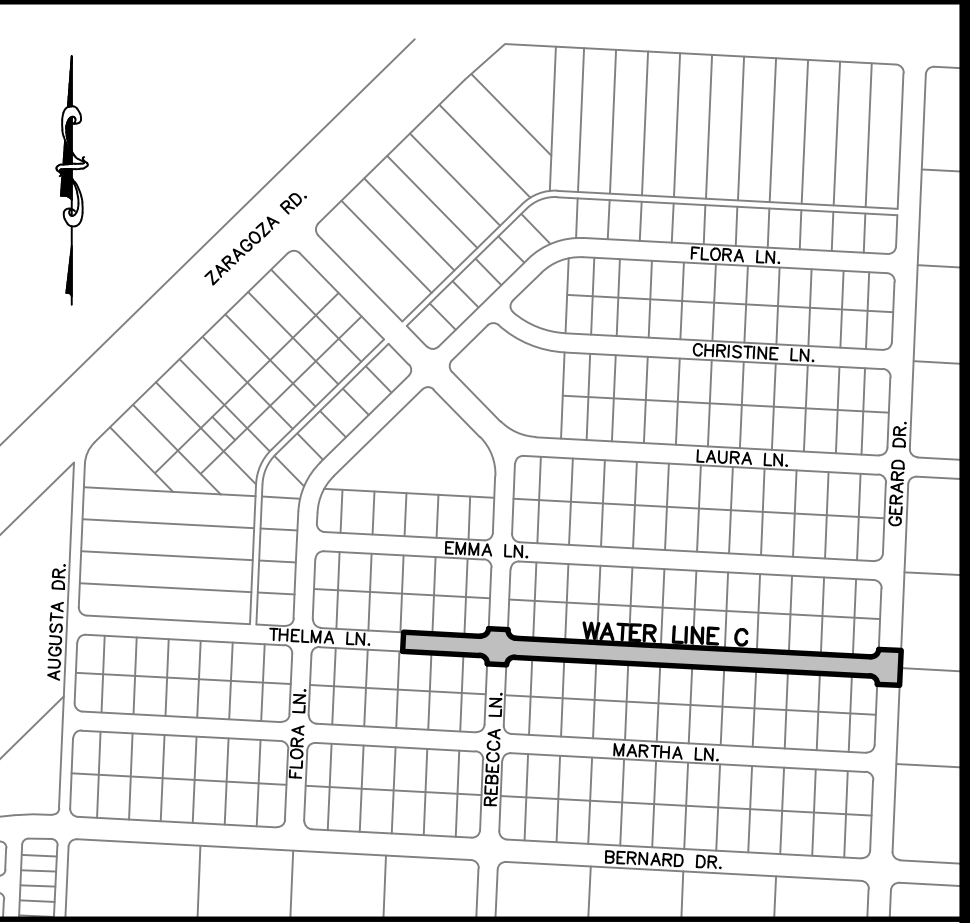
WATER LINE C



PLAN



PROFILE

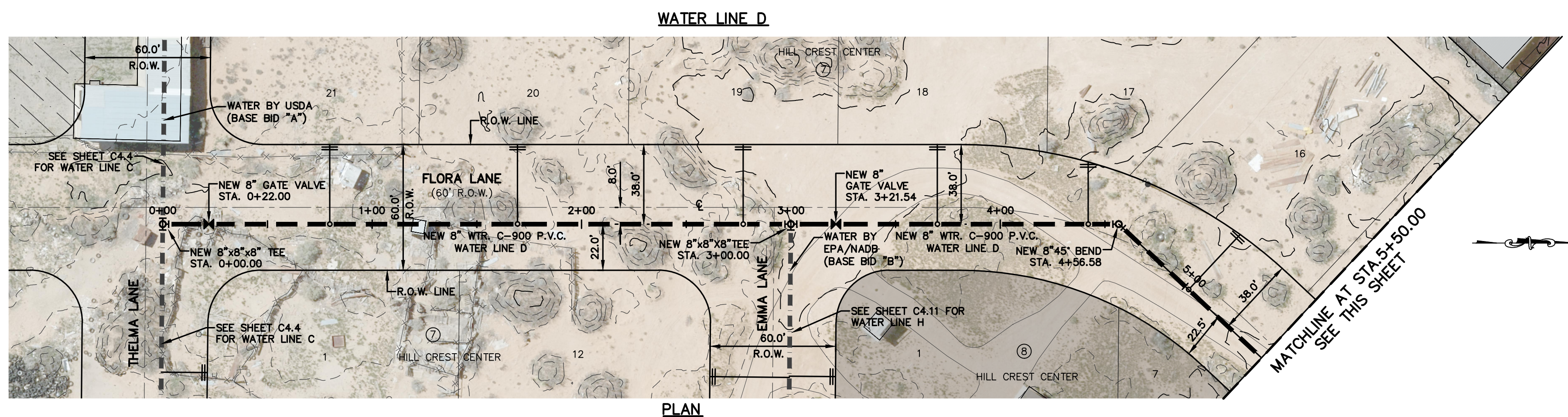


KEYMAP
SCALE: 1"=600'

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<p>WARNING! BEFORE YOU DIG</p> <p>CALL 1-800-DIG-TESS 1-800-344-8377 FOR FIELD LOCATING EXISTING UTILITIES</p>	<p>THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY TROY A. SVEDÉ P.E. 142584 ON MAY 26, 2022</p> <p>ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT</p>	<p>ENGINEER'S SEAL TROY A. SVEDÉ 142584 PROFESSIONAL ENGINEER</p>	<p>DESIGNED B.J.K. DRAWN A.B. CHECKED B.J.K. DATE 05/26/2022</p>	<p>UTILITY OWNER THE COUNTY OF EL PASO TEXAS</p>	<p>FUNDING AGENT USDA</p>	<p>FUNDING AGENT UNITED STATES ENVIRONMENTAL PROTECTION AGENCY</p>	<p>PROJECT PARTNER el paso WATER 1154 HAWKINS BLVD. EL PASO, TEXAS 79925 (915) 594-5500</p>	<p>ENGINEER PLANNING-ENGINEERING-PROJECT MANAGEMENT MCI Moreno Cardenas Inc. EL PASO SAN ANTONIO 2901 E. Missouri Ave. El Paso, TX 79903 (915) 552-2091 9601 McAllister Freeway #207, San Antonio TX 78216 (210) 314-3553 Texas Board of Professional Engineers Registration No. F-000554</p>	<p>HILLCREST CENTER WATER IMPROVEMENTS PROJECT (PHASE I)</p> <p>WATER LINE C STA. 16+50.00 TO STA. 31+91.60 (BASE BID A)</p>	<p>THESE CONTRACT DOCUMENTS HAVE BEEN PREPARED SPECIFICALLY AND EXCLUSIVELY FOR THE DESIGN OF "HILLCREST CENTER WATER IMPROVEMENTS PROJECT (PHASE I)". MORENO CARDENAS INC. IS NOT RESPONSIBLE FOR THEIR USE ON ANY OTHER PROJECT OR APPLICATION.</p>	<p>JOB NO. 16-125</p> <p>SHEET 9 OF 24</p> <p>SHEET NO. C4.5</p>							
	<table border="1"> <thead> <tr> <th>REV.</th> <th>DATE</th> <th>BY</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REV.	DATE	BY	DESCRIPTION													
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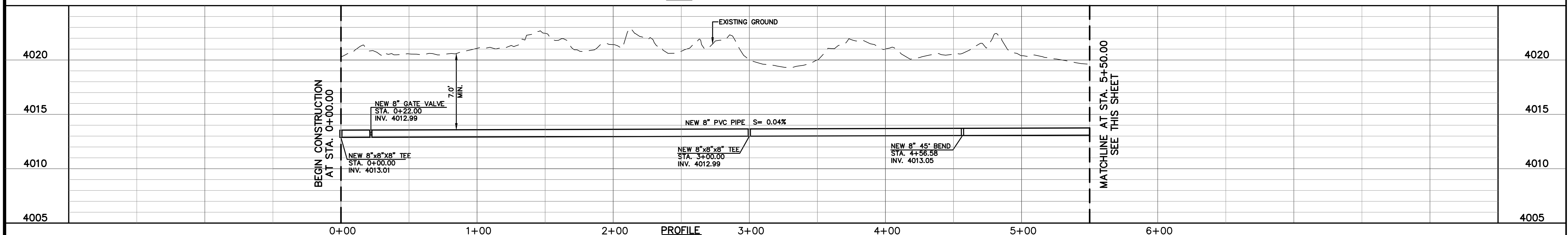
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WATER LINE D

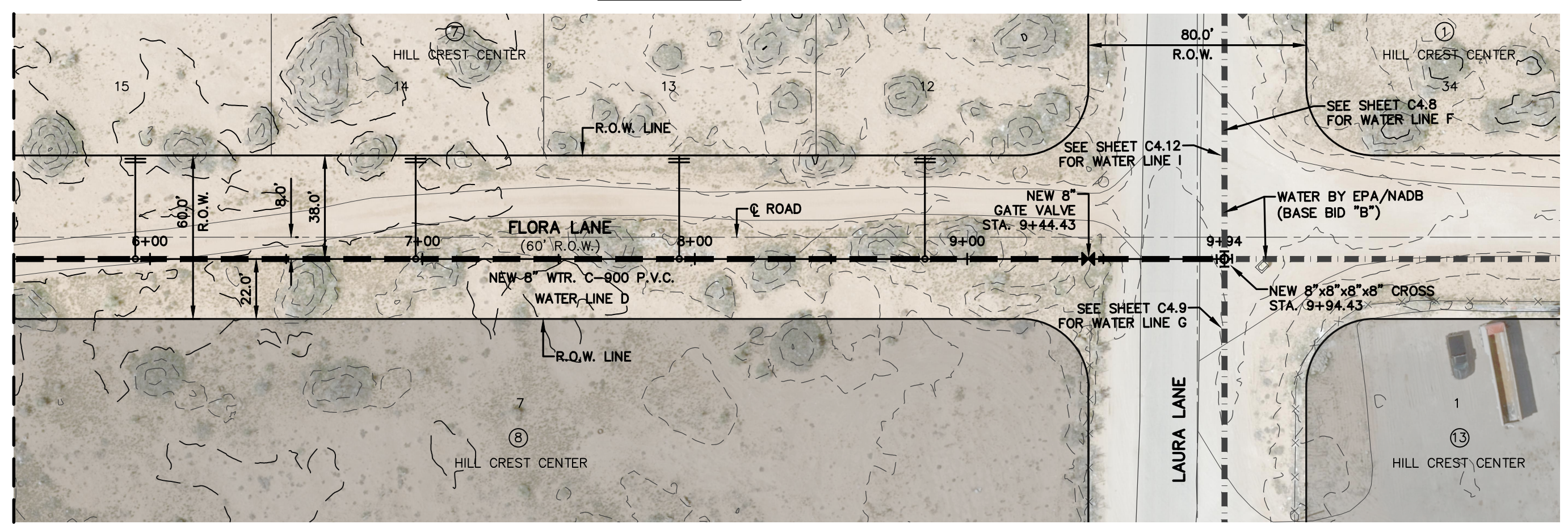
PLAN

LEGEND	
SYMBOL	DESCRIPTION
	NEW WTR. C-900 P.V.C. DR 18 (USDA PROPERTY SERVICE LIMITS)
	NEW WTR. C-900 P.V.C. DR 18 (EPA/NADB PROPERTY SERVICE LIMITS)
	WATER LINE ON ANOTHER SHEET (PLAN VIEW)
	USDA PROPERTY SERVICE LIMITS
	EPA/NADB PROPERTY SERVICE LIMITS
	NEW 3/4" SERVICE CONNECTION/W METER (PLAN VIEW)
	NEW 3/4" WATER STUB-OUT/W CAP (PLAN VIEW)
	NEW FIRE HYDRANT, KENNEDY OR MULLER MODEL
	NEW PLUG
	NEW GATE VALVE
	NEW TEE
	NEW CROSS
	NEW 90° BEND
	NEW 45° BEND
	NEW 11.25° BEND
	NEW 22.5° BEND
	NEW REDUCER
	EXISTING WATERLINE (SIZES VARY)
	RIGHT-OF-WAY LINE
	PROPERTY LINE
	STREET CENTERLINE



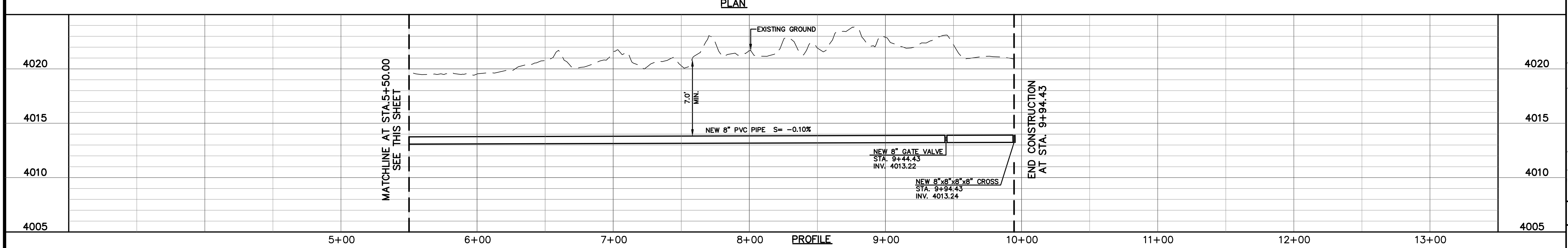
WATER LINE D

PROFILE



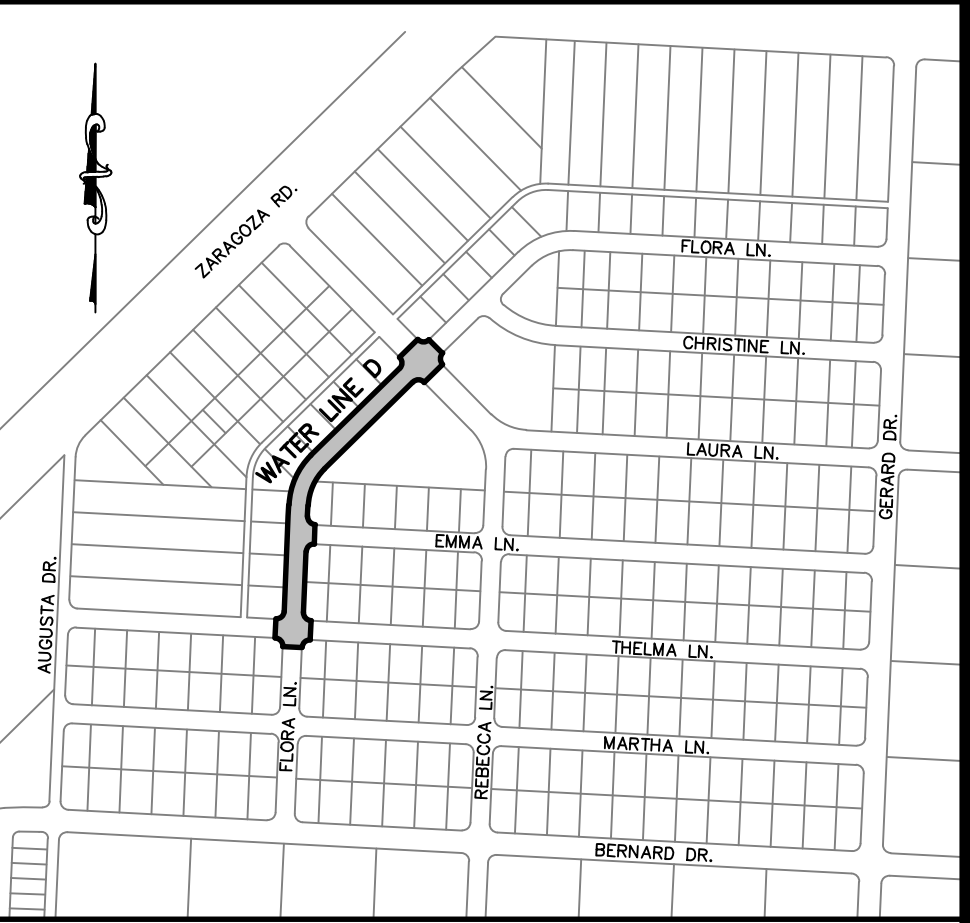
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PLAN



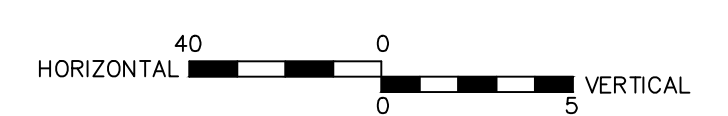
WATER LINE D

PROFILE



KEYMAP
SCALE: 1"=600'

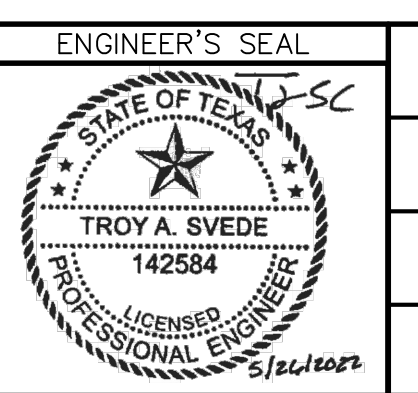
CONTRACTOR SHALL VERIFY DEPTH AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION OR ORDERING FITTINGS AS APPLICABLE TO TIE-IN POINTS BACK TO EXISTING.



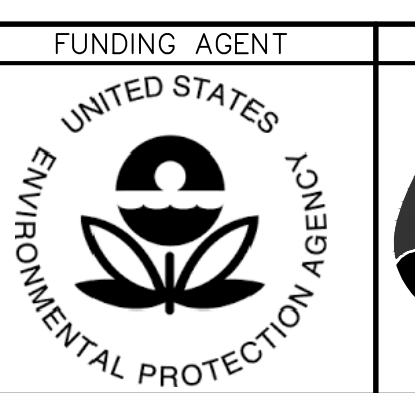
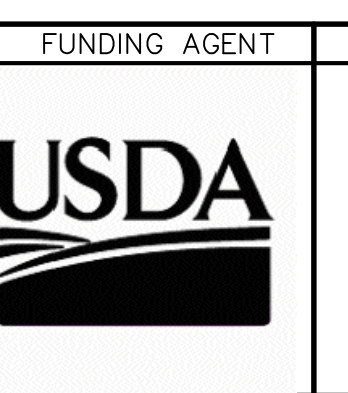
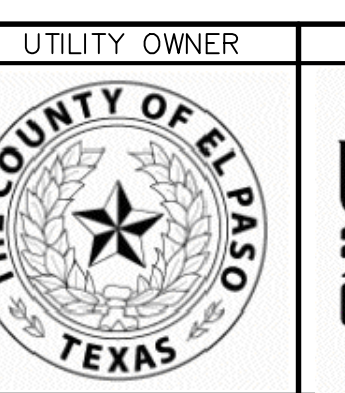
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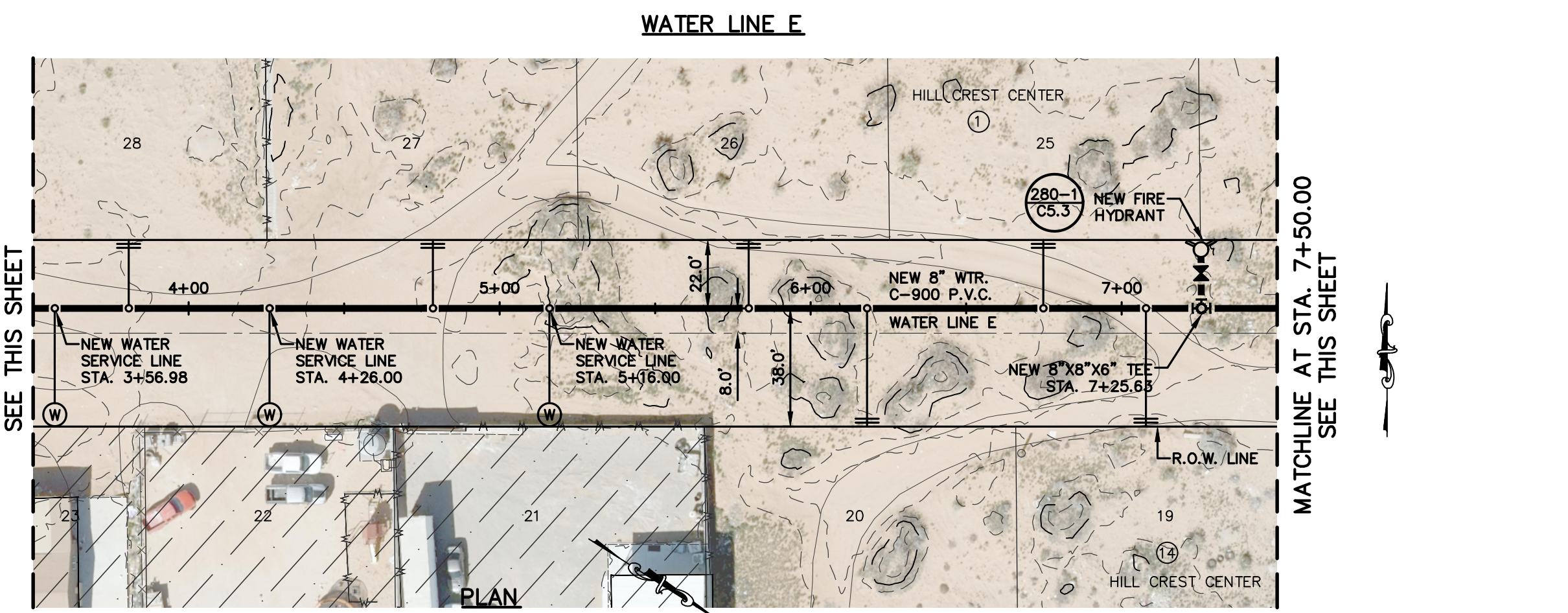
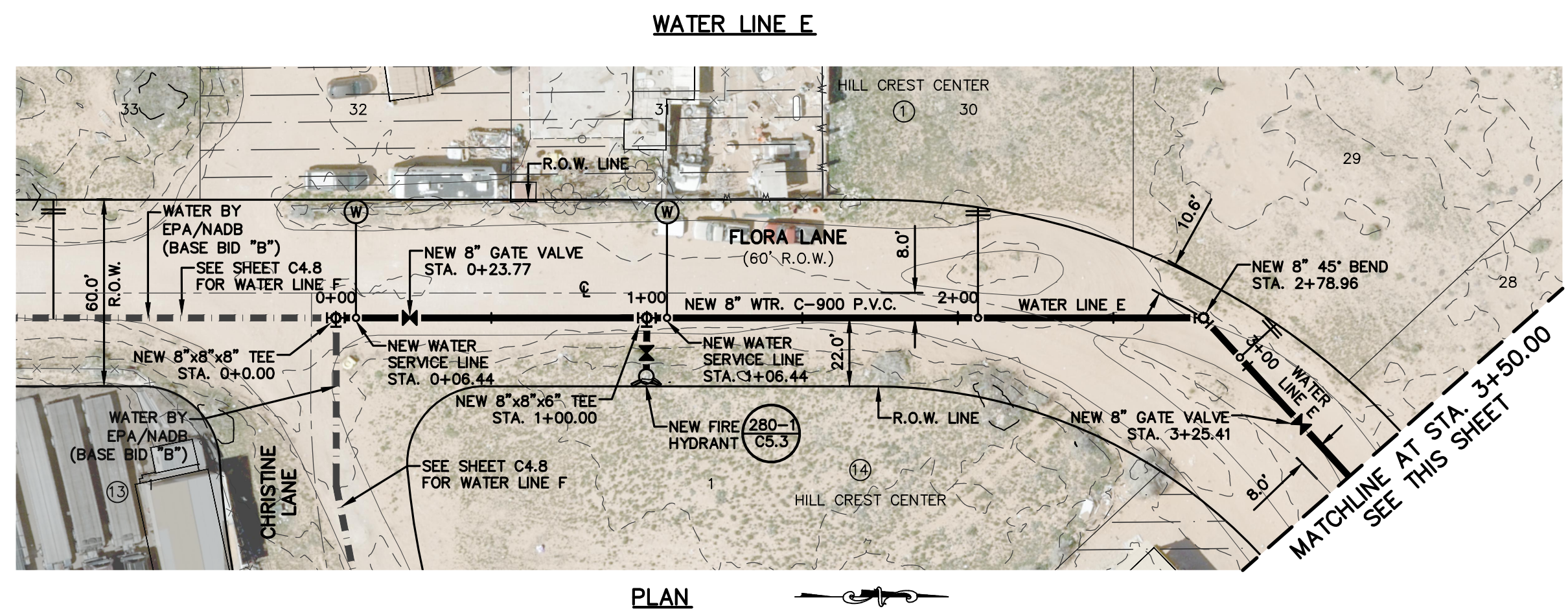
DESIGNED
B.J.K.
DRAWN
A.B.
CHECKED
B.J.K.
DATE
05/26/2022



HILLCREST CENTER WATER IMPROVEMENTS PROJECT (PHASE I)
WATER LINE D
STA. 0+00.00 TO STA. 9+94.43

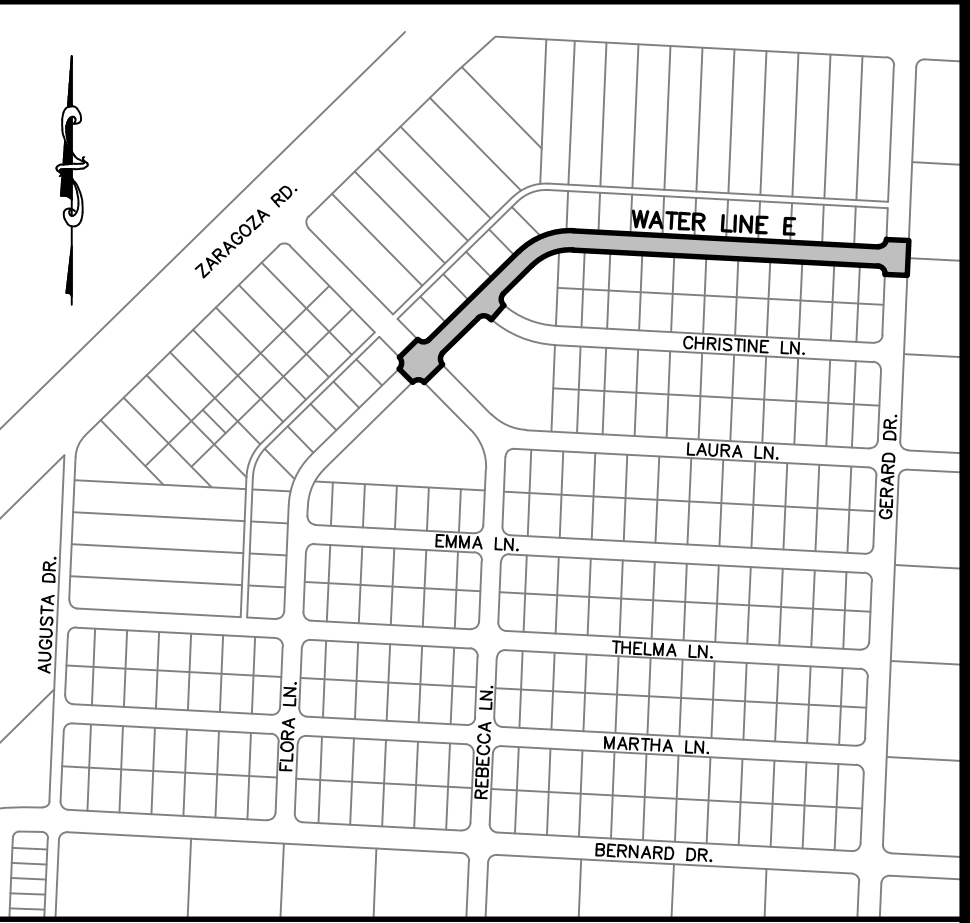
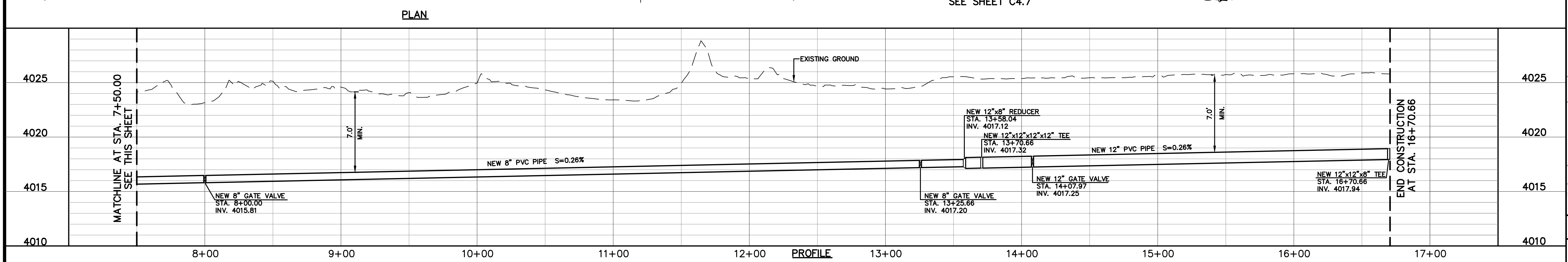
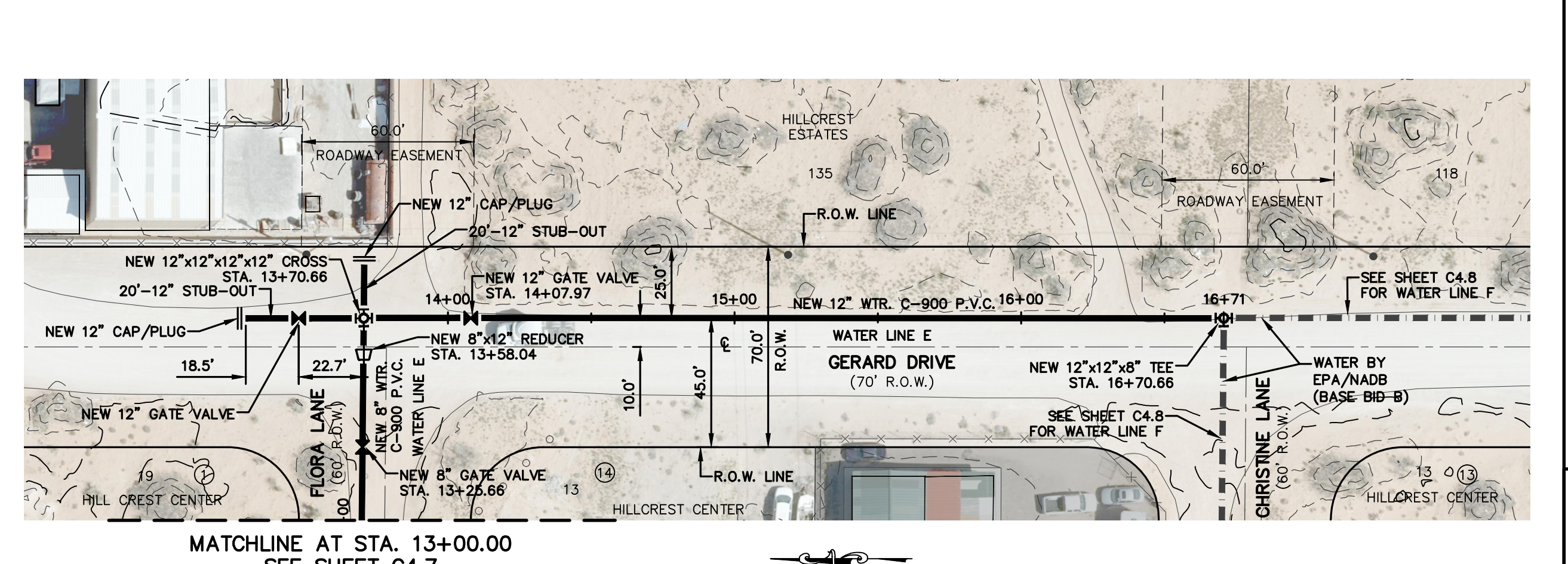
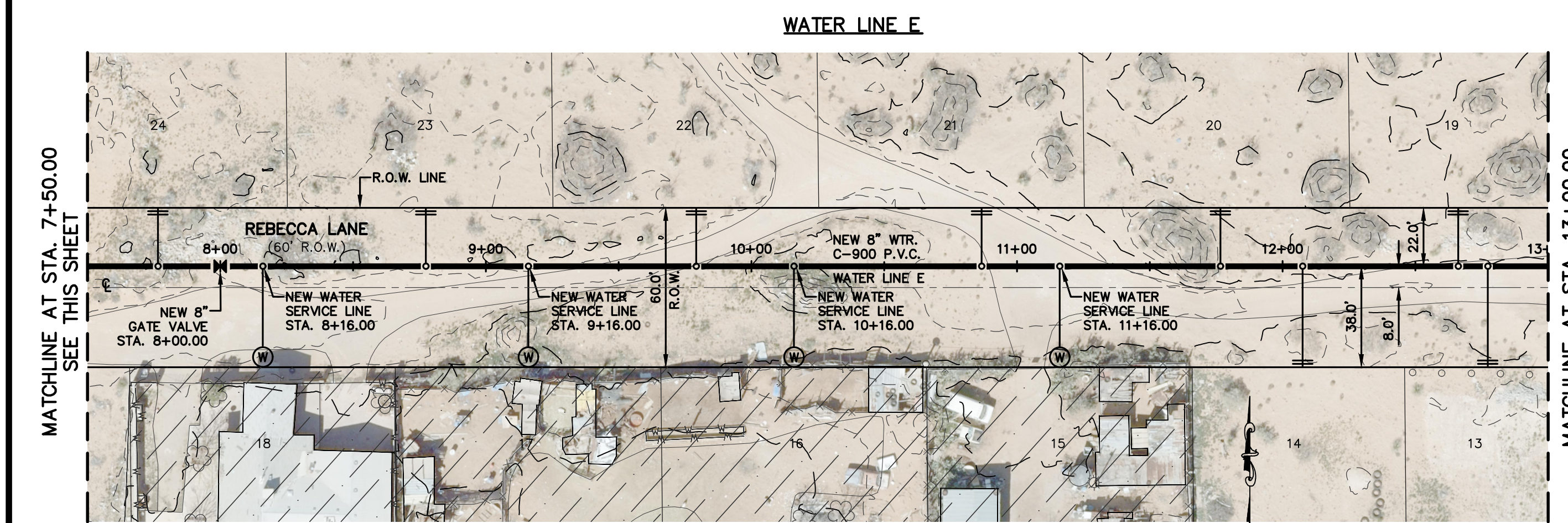
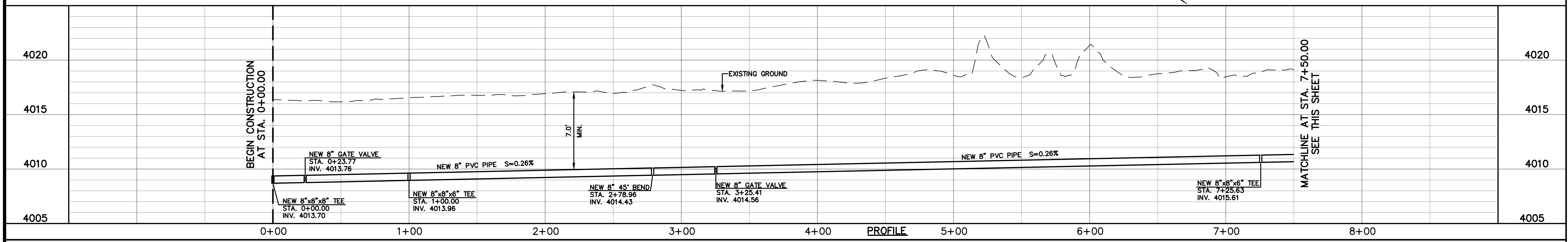
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JOB NO.
16-125
SHEET
10 OF 24
SHEET NO.
C4.6



LEGEND

SYMBOL	DESCRIPTION
	NEW WTR. C-900 P.V.C. DR 18 (USDA PROPERTY SERVICE LIMITS)
	NEW WTR. C-900 P.V.C. DR 18 (EPA/NADB PROPERTY SERVICE LIMITS)
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	USDA PROPERTY SERVICE LIMITS
	EPA/NADB PROPERTY SERVICE LIMITS
	NEW 3/4" SERVICE CONNECTION/W METER (PLAN VIEW)
	NEW 3/4" WATER STUB-OUT/W CAP (PLAN VIEW)
	NEW FIRE HYDRANT, KENNEDY OR MULLER MODEL
	NEW PLUG
	NEW GATE VALVE
	NEW TEE
	NEW CROSS
	NEW 90° BEND
	NEW 45° BEND
	NEW 11.25° BEND
	NEW 22.5° BEND
	NEW REDUCER
	EXISTING WATERLINE (SIZES VARY)
	RIGHT-OF-WAY LINE
	PROPERTY LINE
	STREET CENTERLINE



KEYMAP
SCALE: 1"=600'

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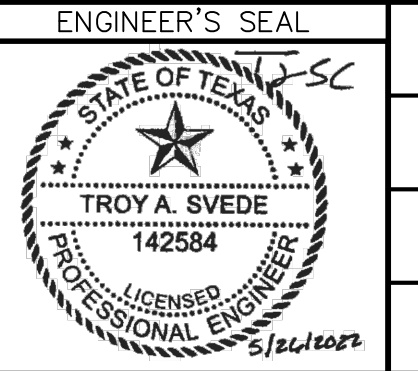
REV.	DATE	BY	DESCRIPTION

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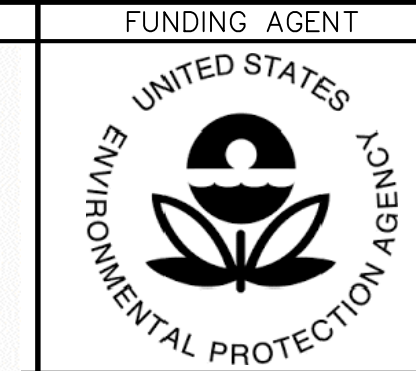
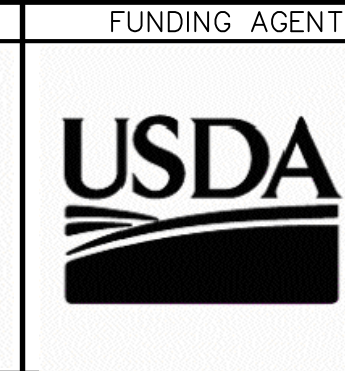


DESIGNED
B.J.K.

DRAWN
A.B.

CHECKED
B.J.K.

DATE
05/26/2022



HILLCREST CENTER WATER IMPROVEMENTS PROJECT (PHASE I)

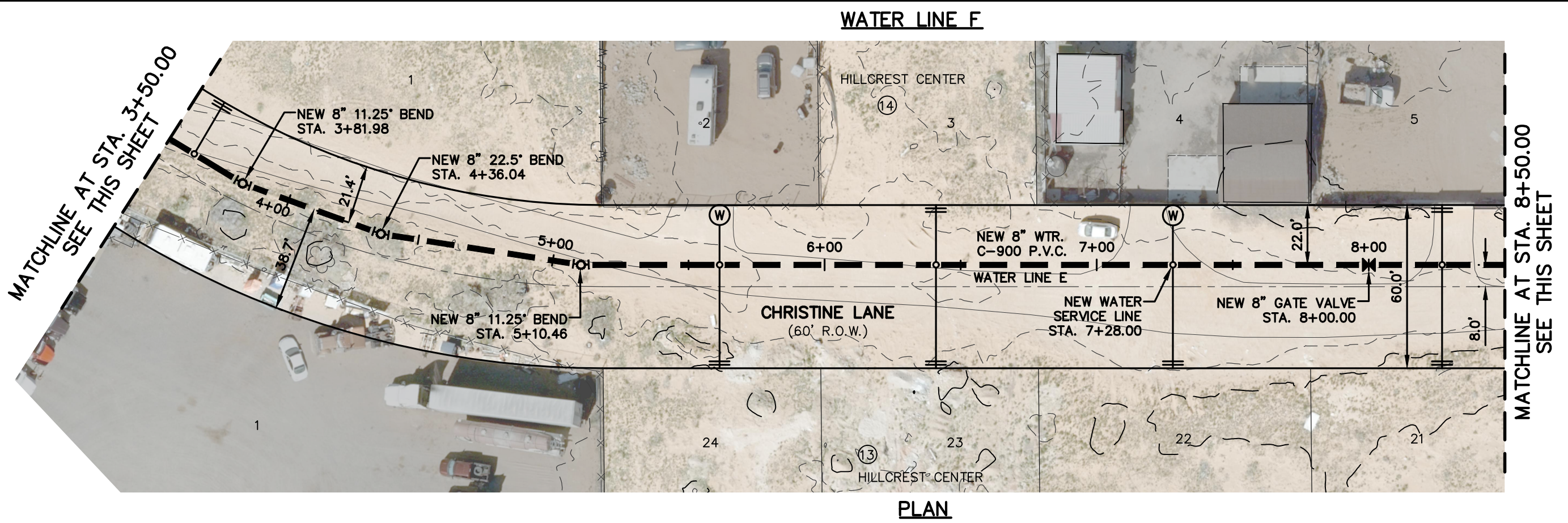
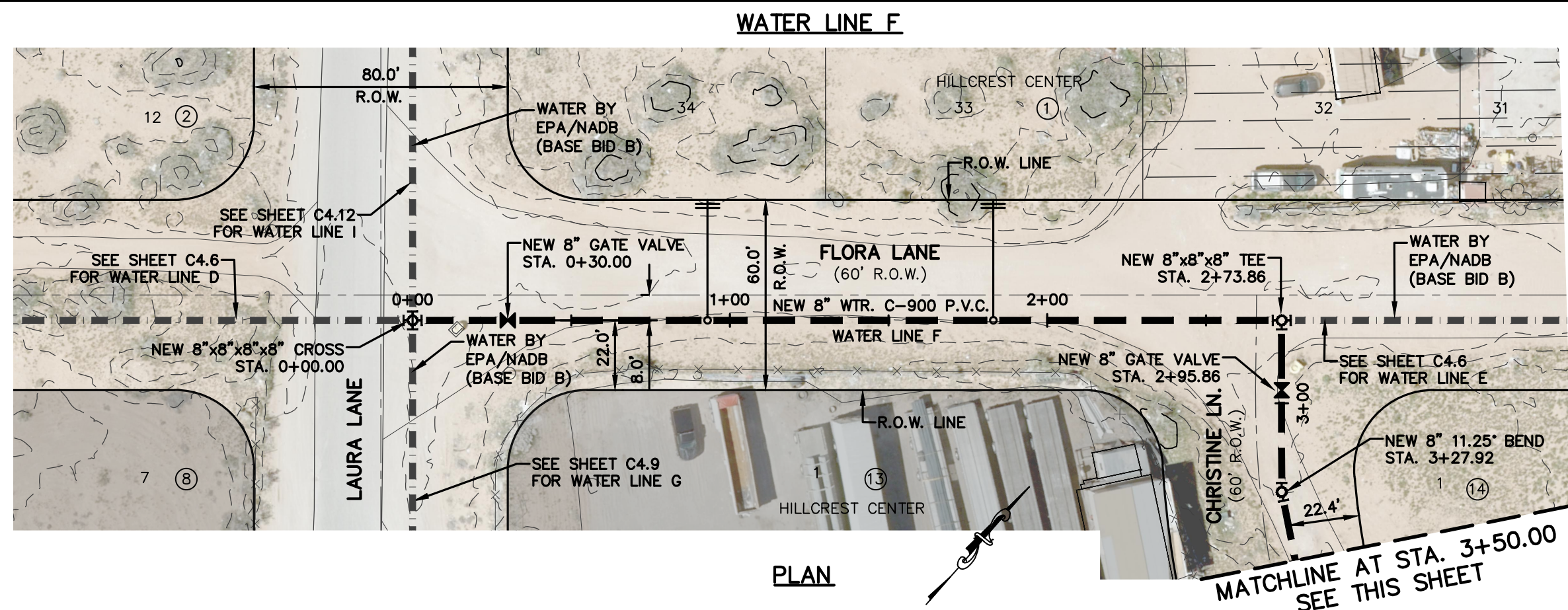
WATER LINE E
STA. 0+00.00 TO STA. 16+70.66
(BASE BID A)

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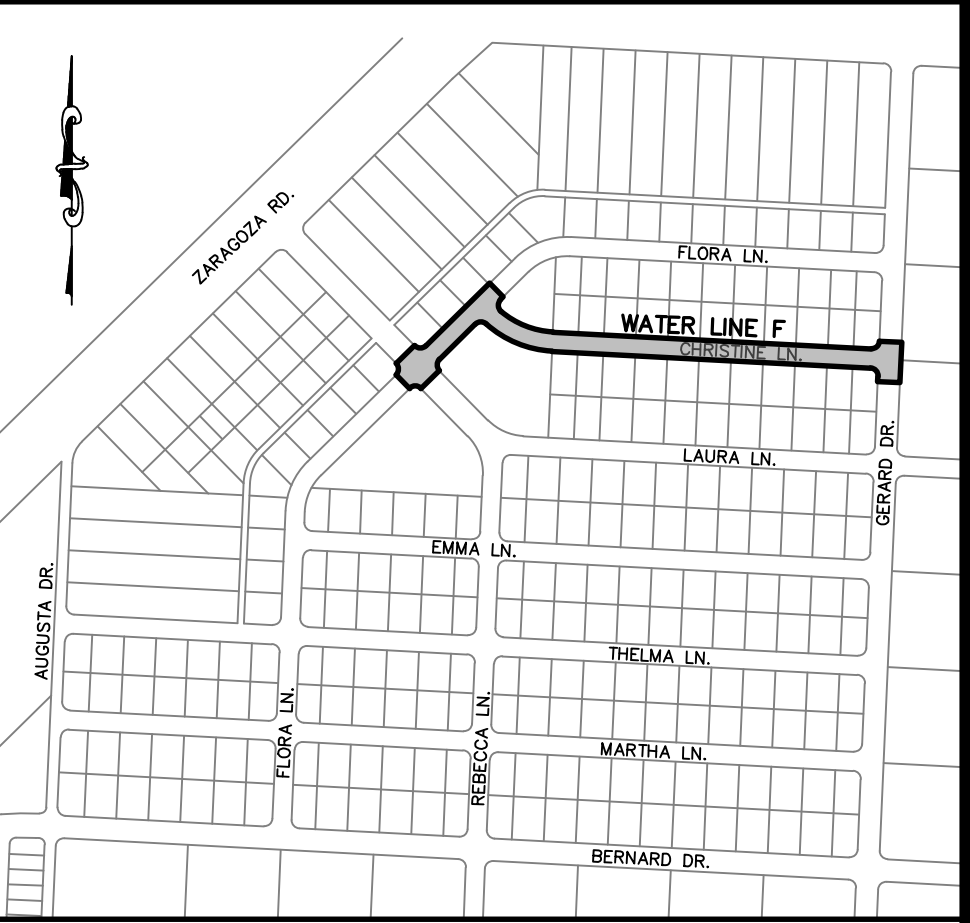
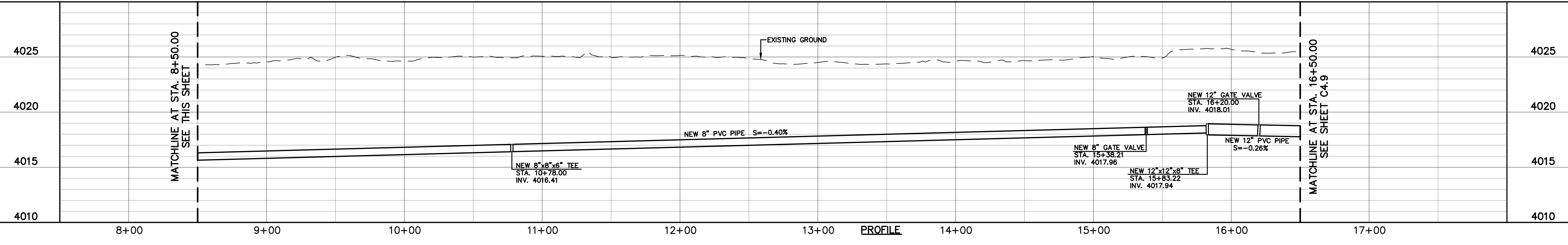
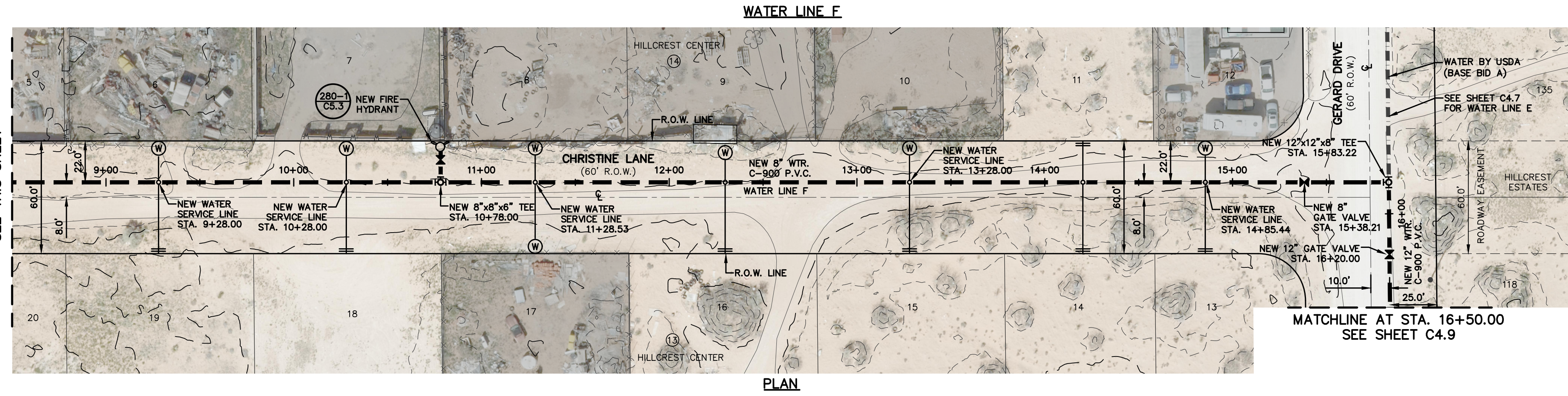
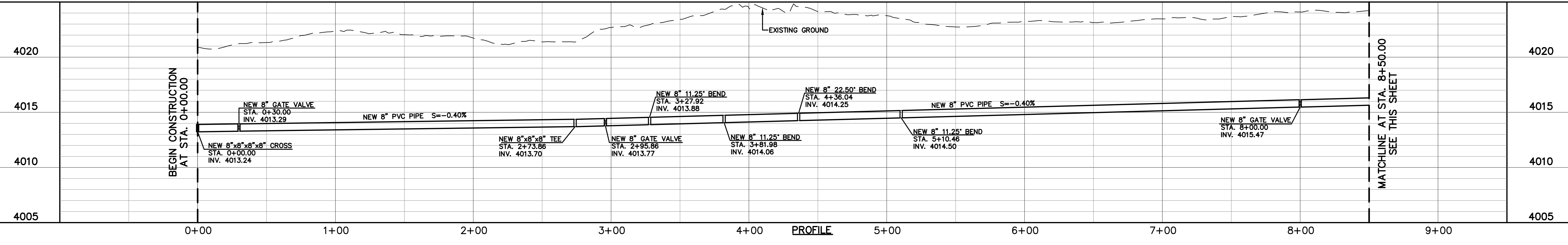
JOB NO.
16-125

SHEET
11 OF 24

SHEET NO.
C4.7

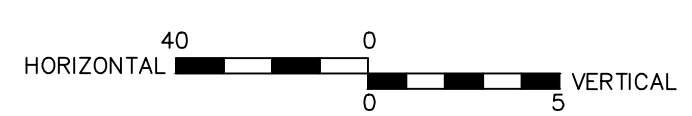


LEGEND	
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	NEW WTR. C-900 P.V.C. DR 18 (USDA PROPERTY SERVICE LIMITS)
	NEW WTR. C-900 P.V.C. DR 18 (EPA/NADB PROPERTY SERVICE LIMITS)
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	EPA/NADB PROPERTY SERVICE LIMITS
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	NEW 3/4" WATER STUB-OUT/W CAP (PLAN VIEW)
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	NEW PLUG
	NEW GATE VALVE
	NEW TEE
	NEW CROSS
	NEW 90° BEND
	NEW 45° BEND
	NEW 11.25° BEND
	NEW 22.5° BEND
	NEW REDUCER
	EXISTING WATERLINE (SIZES VARY)
	RIGHT-OF-WAY LINE
	PROPERTY LINE
	STREET CENTERLINE



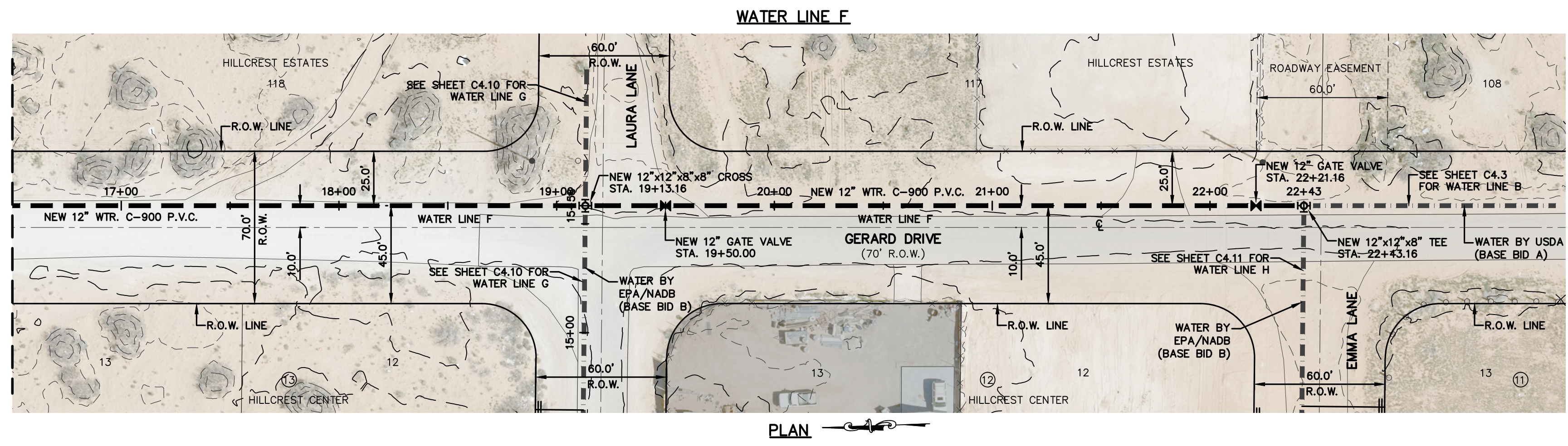
KEYMAP
SCALE: 1"=600'

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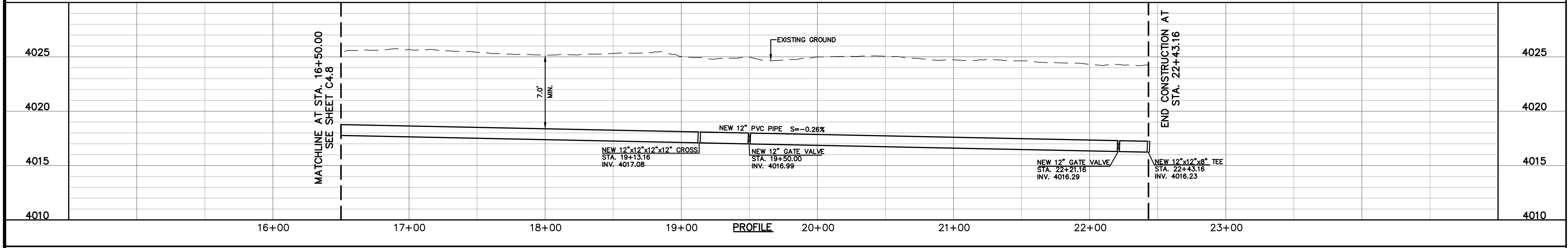


REV.	DATE	BY	DESCRIPTION	<p>WARNING! BEFORE YOU DIG</p> <p>CALL 1-800-DIG-TESS 1-800-344-8377 FOR FIELD LOCATING EXISTING UTILITIES</p>	<p>THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY TROY A. SVEDÉ P.E. 142584 ON MAY 26, 2022</p> <p>ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT</p>	<p>ENGINEER'S SEAL TROY A. SVEDÉ 142584 LICENSED PROFESSIONAL ENGINEER</p>	DESIGNED B.J.K.	UTILITY OWNER 	FUNDING AGENT 	FUNDING AGENT 	PROJECT PARTNER 	ENGINEER PLANNING-ENGINEERING-PROJECT MANAGEMENT 	<p>HILLCREST CENTER WATER IMPROVEMENTS PROJECT (PHASE I)</p> <p>WATER LINE F STA. 0+00.00 TO STA. 16+50.00 (BASE BID B)</p>	<p>THESE CONTRACT DOCUMENTS HAVE BEEN PREPARED SPECIFICALLY AND EXCLUSIVELY FOR THE DESIGN OF "HILLCREST CENTER WATER IMPROVEMENTS PROJECT (PHASE I)". MORENO CARDENAS INC. IS NOT RESPONSIBLE FOR THEIR USE ON ANY OTHER PROJECT OR APPLICATION.</p>	JOB NO. 16-125
							DRAWN A.B.	CHECKED B.J.K.	DATE 05/26/2022	1154 HAWKINS BLVD. EL PASO, TEXAS 79925 (915) 594-5500	2501 E. Missouri Ave. El Paso, TX 79903 (915) 552-2091 9601 McAllister Freeway #307, San Antonio, TX 78216 (210) 314-3553 Texas Board of Professional Engineers Registration No. F-000554	SHEET 12 OF 24			

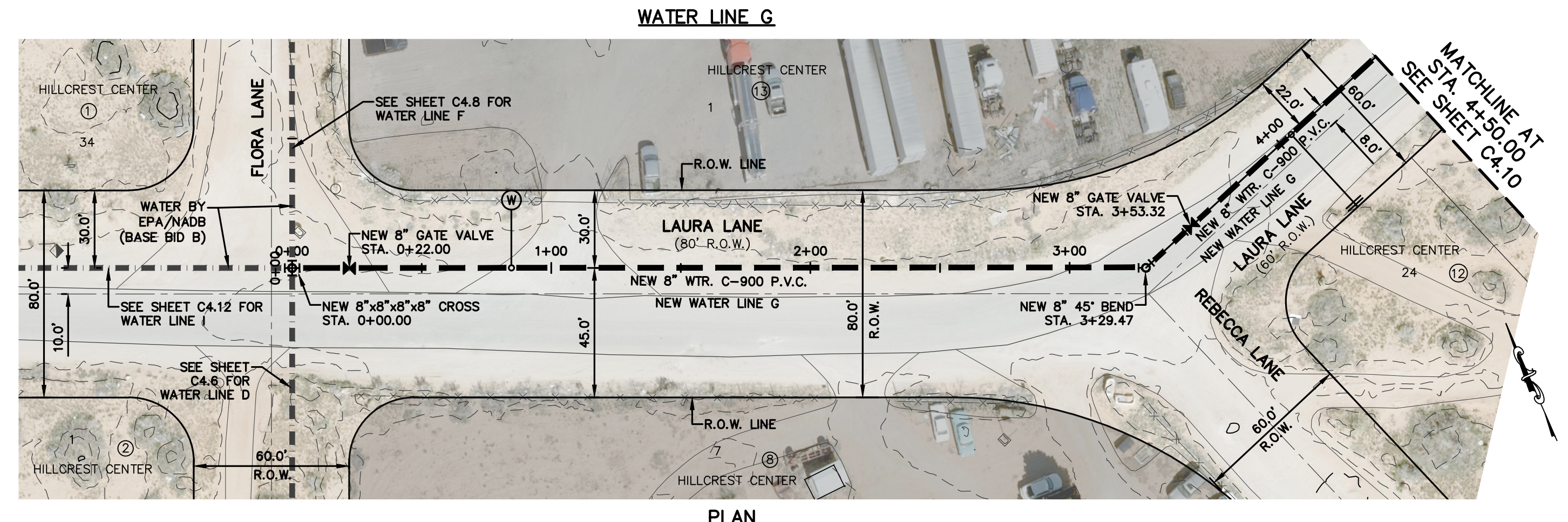
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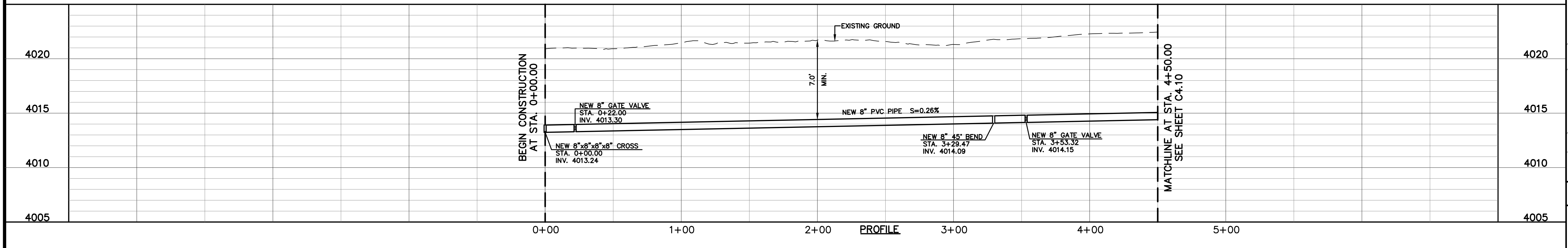
PLAN



PROFILE



PLAN



PROFILE

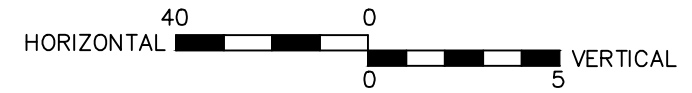
LEGEND	
SYMBOL	DESCRIPTION
	NEW WTR. C-900 P.V.C. DR 18 (USDA PROPERTY SERVICE LIMITS)
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	NEW REDUCER
	EXISTING WATERLINE (SIZES VARY)
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	PROPERTY LINE
	STREET CENTERLINE



KEYMAP

SCALE: 1"=600'

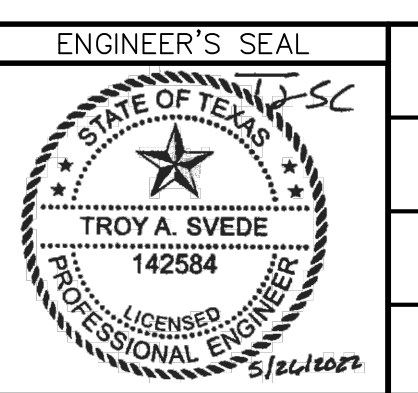
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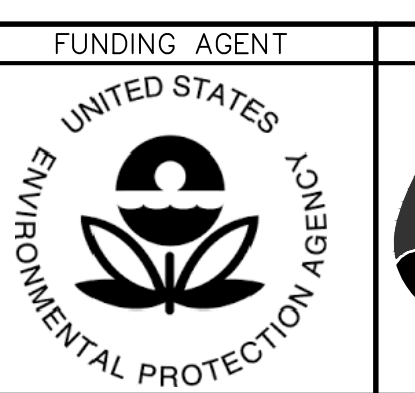
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ENGINEER'S SEAL
DESIGNED B.J.K.
DRAWN A.B.
CHECKED B.J.K.
DATE 05/26/2022



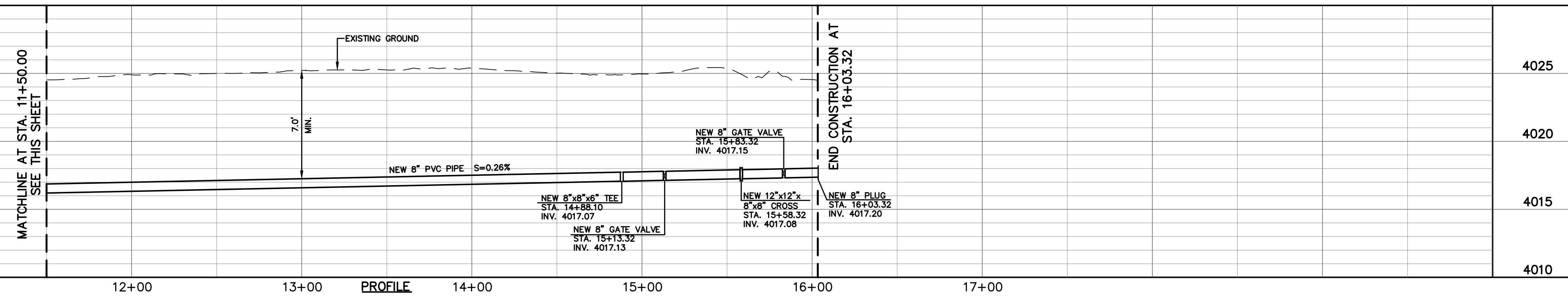
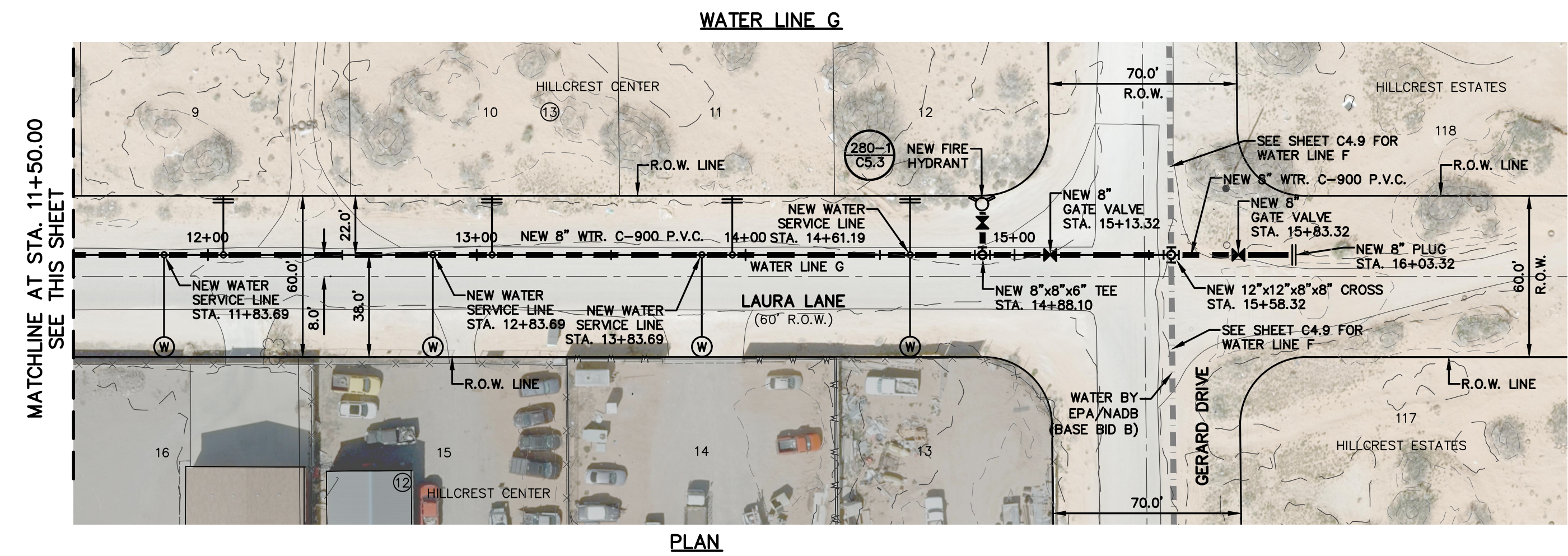
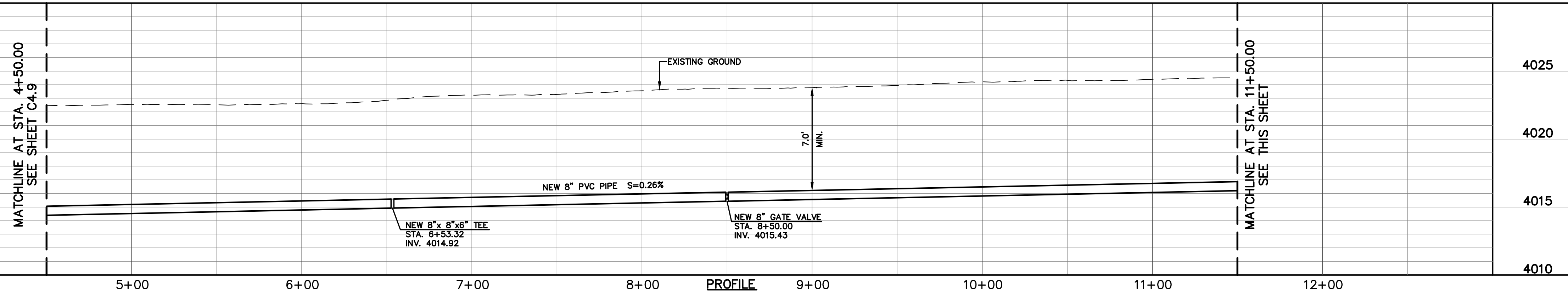
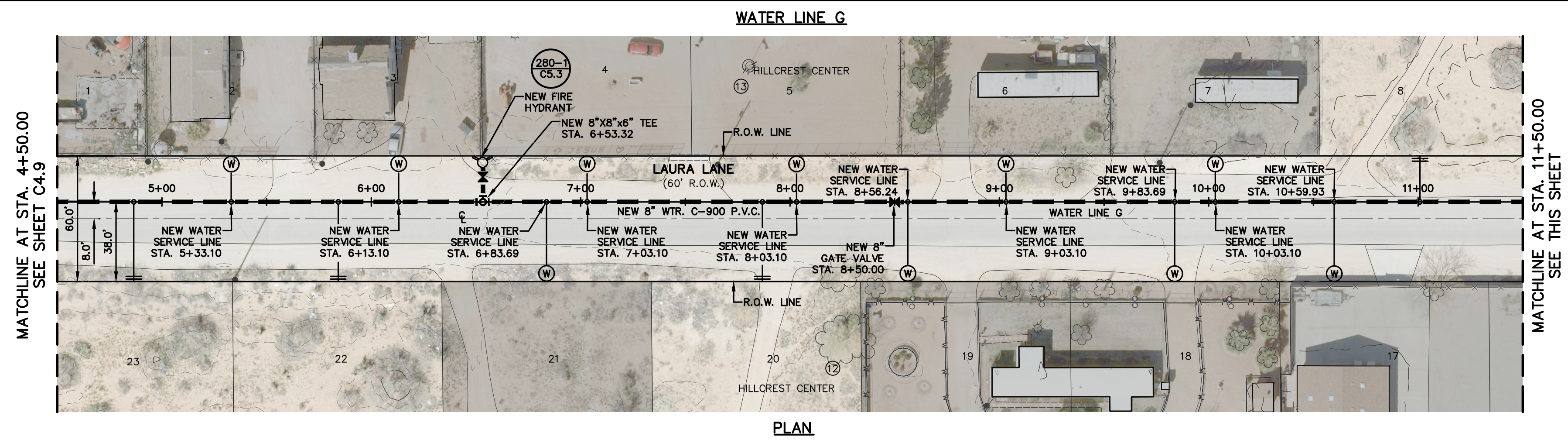
PROJECT PARTNER
el paso WATER
1154 HAWKINS BLVD.
EL PASO, TEXAS 79925
(915) 594-5500

ENGINEER
PLANNING-ENGINEERING-PROJECT MANAGEMENT
MCI Moreno Cardenas Inc.
EL PASO SAN ANTONIO
2501 E. Missouri Ave., El Paso, TX 79903 (915) 552-2091
9601 McAllister Freeway #307, San Antonio TX 78216 (210) 314-3553
Texas Board of Professional Engineers Registration No. F-000554

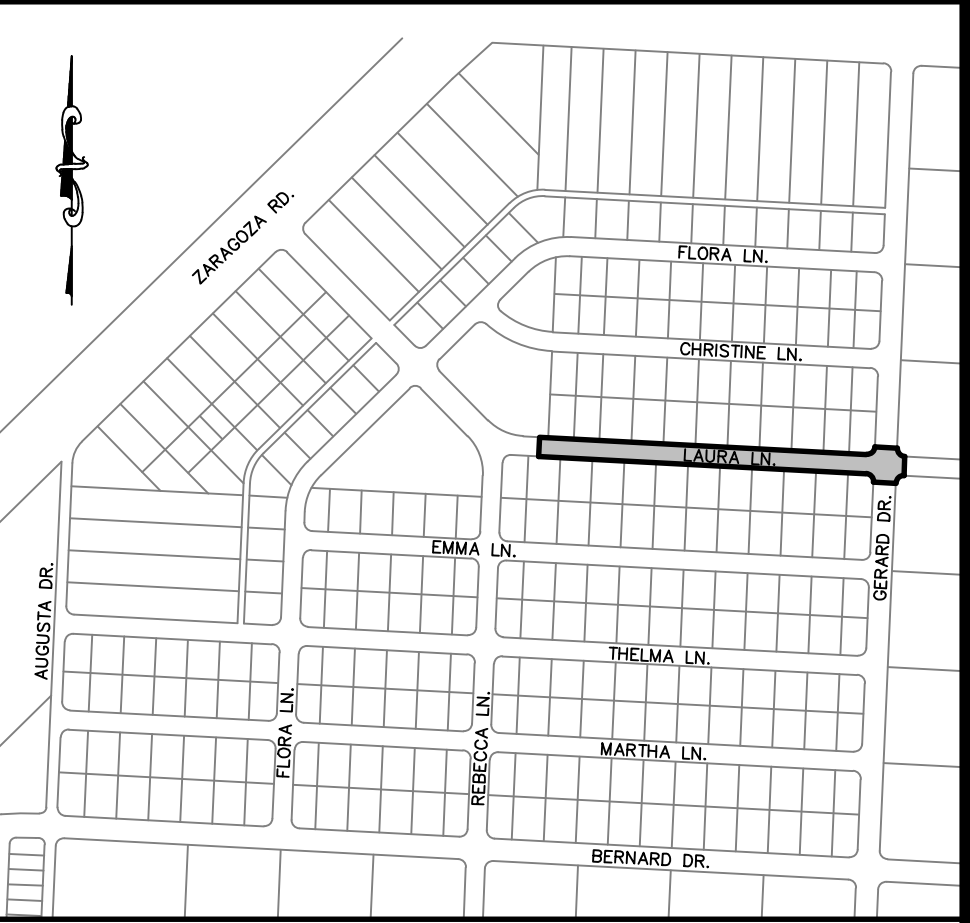
HILLCREST CENTER WATER IMPROVEMENTS PROJECT (PHASE I)
WATER LINE F
STA. 16+50.00 TO STA. 22+43.16
WATER LINE G
STA. 0+00.00 TO STA. 4+50.00 (BASE BID B)

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JOB NO.
16-125
SHEET
13 OF 24
SHEET NO.
C4.9

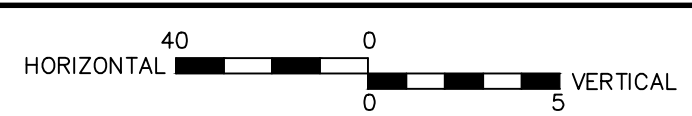


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	NEW WTR. C-900 P.V.C. DR 18 (USDA PROPERTY SERVICE LIMITS)
	NEW WTR. C-900 P.V.C. DR 18 (EPA/NADB PROPERTY SERVICE LIMITS)
	WATER LINE ON ANOTHER SHEET (PLAN VIEW)
	USDA PROPERTY SERVICE LIMITS
	EPA/NADB PROPERTY SERVICE LIMITS
	NEW 3/4\"/>



KEYMAP
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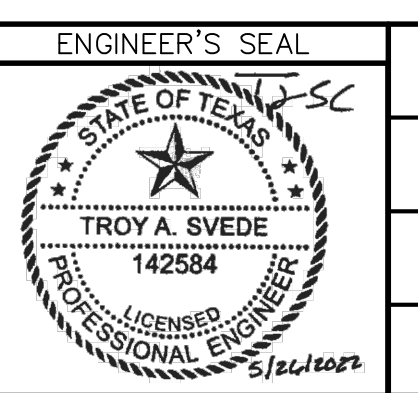
REV.	DATE	BY	DESCRIPTION

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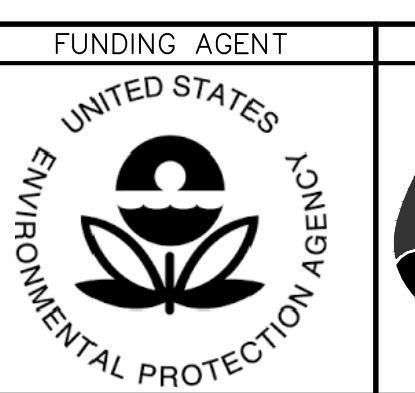
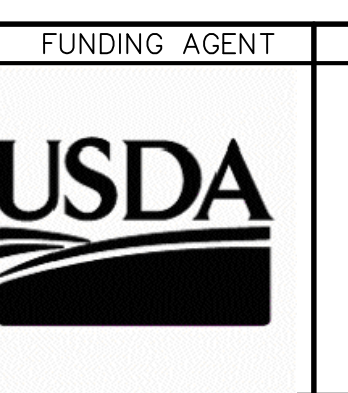
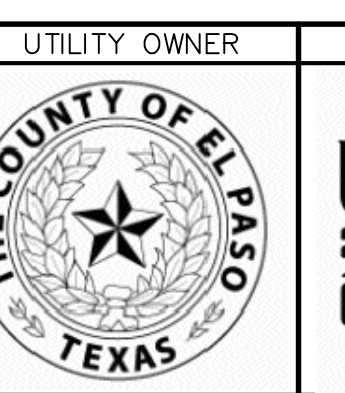
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A.B.
CHECKED
B.J.K.
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05/26/2022



HILLCREST CENTER WATER IMPROVEMENTS PROJECT (PHASE I)

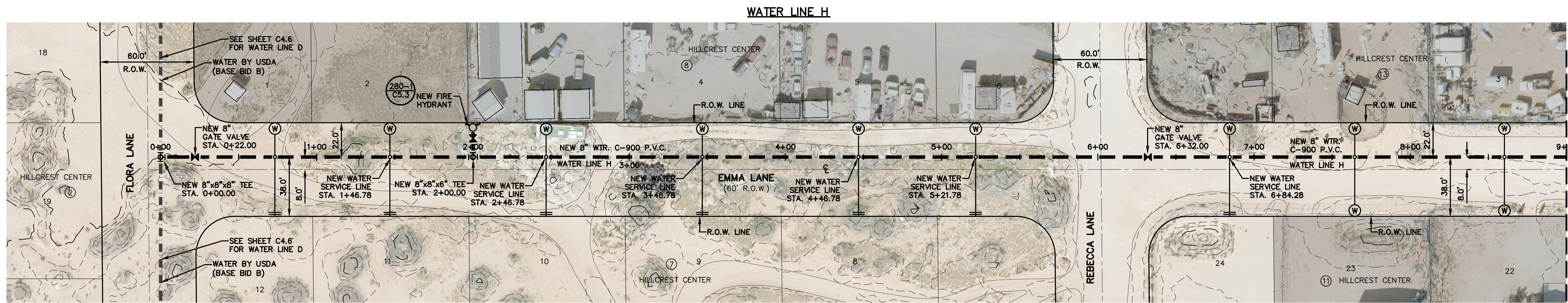
WATER LINE G
STA. 4+50.00 TO STA. 15+58.32
(BASE BID B)

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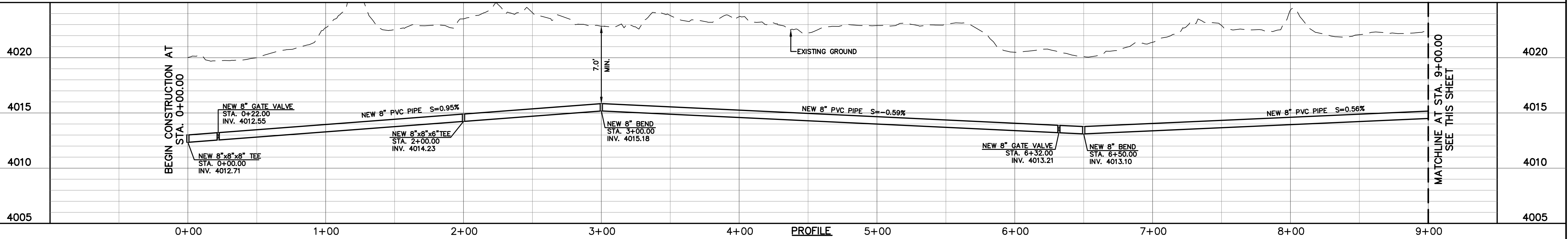
JOB NO.
16-125

SHEET
14 OF 24

SHEET NO.
C4.10

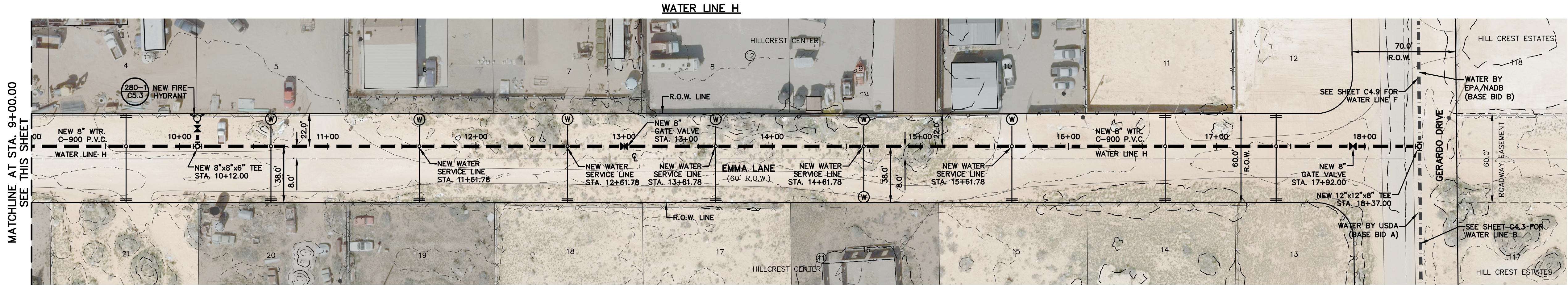


PLAN

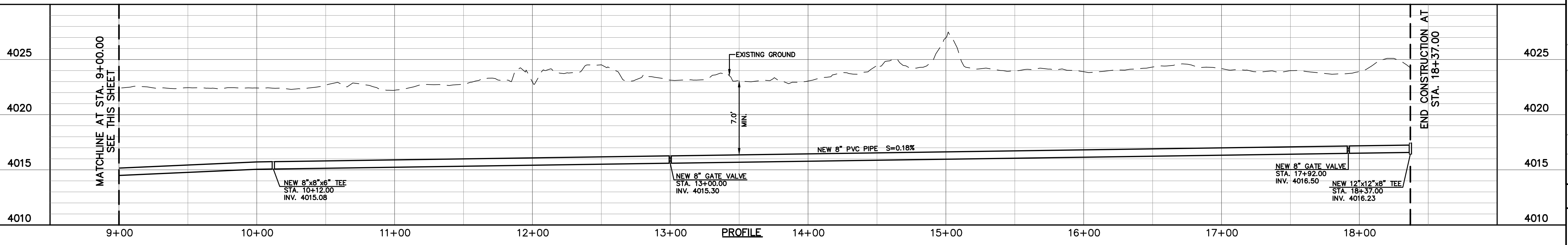


PROFILE

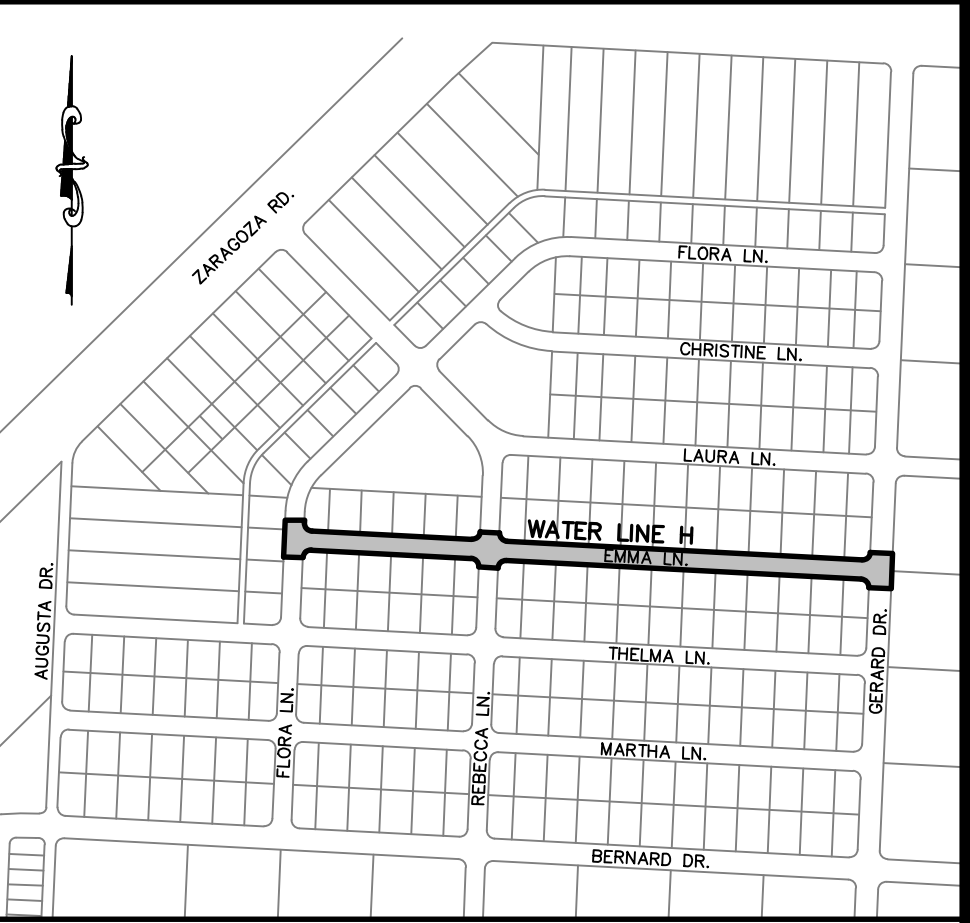
LEGEND	
SYMBOL	DESCRIPTION
	NEW WTR. C-900 P.V.C. DR 18 (USDA PROPERTY SERVICE LIMITS)
	NEW WTR. C-900 P.V.C. DR 18 (EPA/NADB PROPERTY SERVICE LIMITS)
	WATER LINE ON ANOTHER SHEET (PLAN VIEW)
	USDA PROPERTY SERVICE LIMITS
	EPA/NADB PROPERTY SERVICE LIMITS
	NEW 3/4" SERVICE CONNECTION/W METER (PLAN VIEW)
	NEW 3/4" WATER STUB-OUT/W CAP (PLAN VIEW)
	NEW FIRE HYDRANT, KENNEDY OR MULLER MODEL
	NEW PLUG
	NEW GATE VALVE
	NEW TEE
	NEW CROSS
	NEW 90° BEND
	NEW 45° BEND
	NEW 11.25° BEND
	NEW 22.5° BEND
	NEW REDUCER
	EXISTING WATERLINE (SIZES VARY)
	RIGHT-OF-WAY LINE
	PROPERTY LINE
	STREET CENTERLINE



PLAN

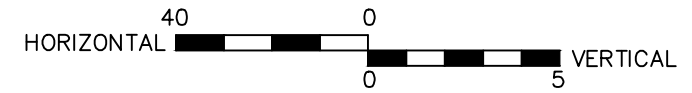


PROFILE



KEYMAP

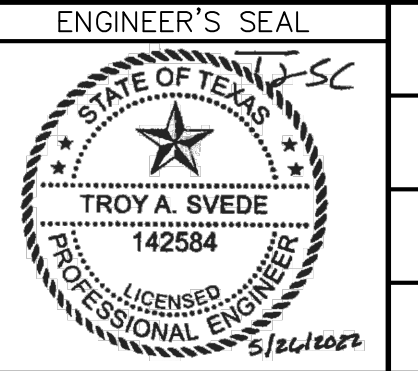
CONTRACTOR SHALL VERIFY DEPTH AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION OR ORDERING FITTINGS AS APPLICABLE TO TIE-IN POINTS BACK TO EXISTING.



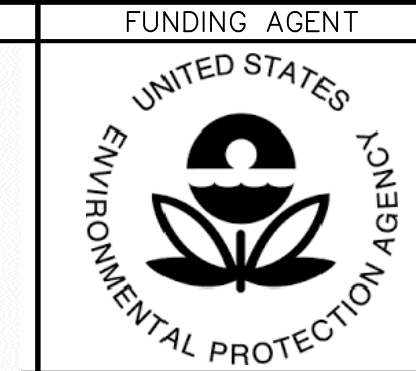
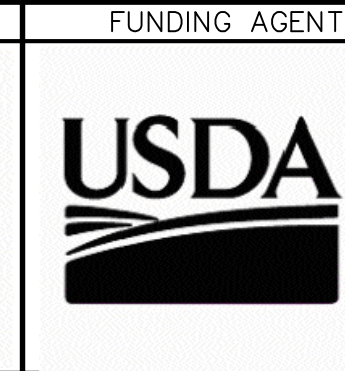
REV.	DATE	BY	DESCRIPTION

WARNING!
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CALL
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1-800-344-8377
FOR FIELD LOCATING
EXISTING UTILITIES

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY
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ON MAY 26, 2022
ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT



DESIGNED
B.J.K.
DRAWN
A.B.
CHECKED
B.J.K.
DATE
05/26/2022



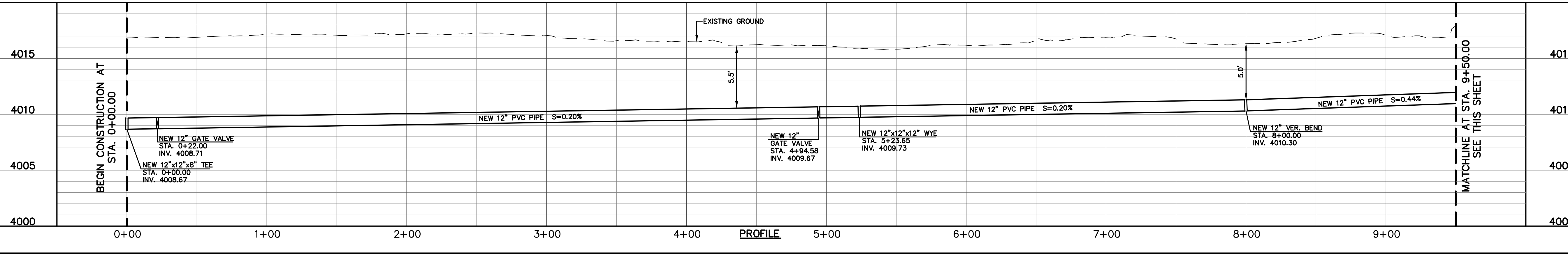
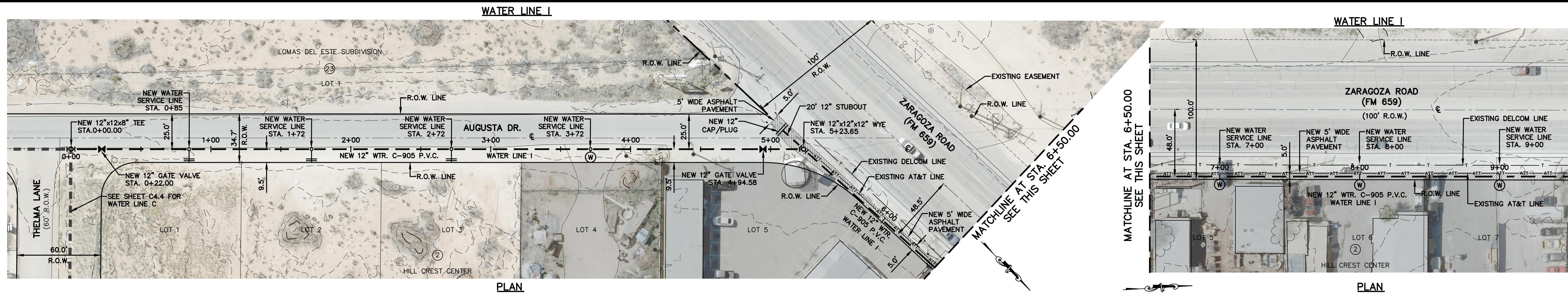
HILLCREST CENTER WATER IMPROVEMENTS PROJECT (PHASE I)

WATER LINE H
STA. 0+00.00 TO STA. 18+37.00
(BASE BID B)

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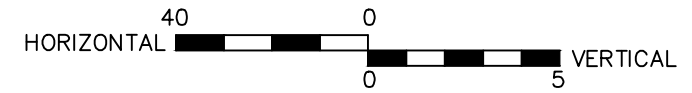
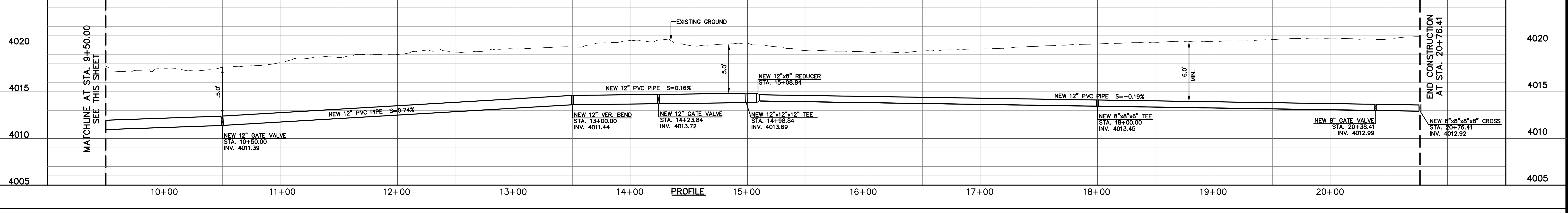
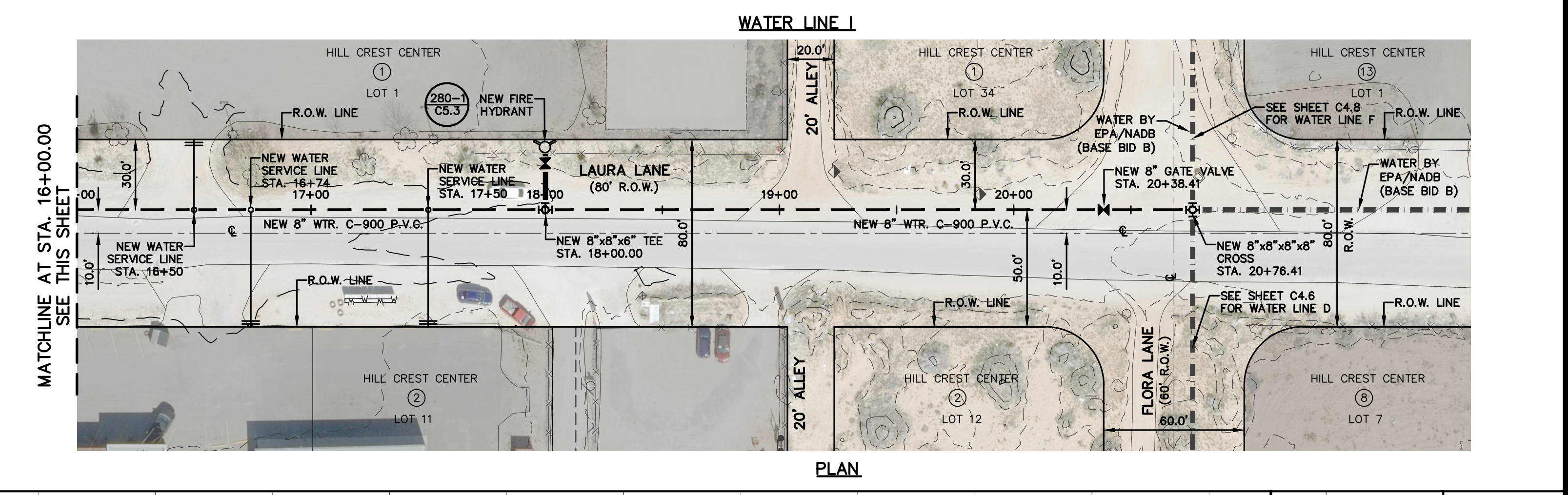
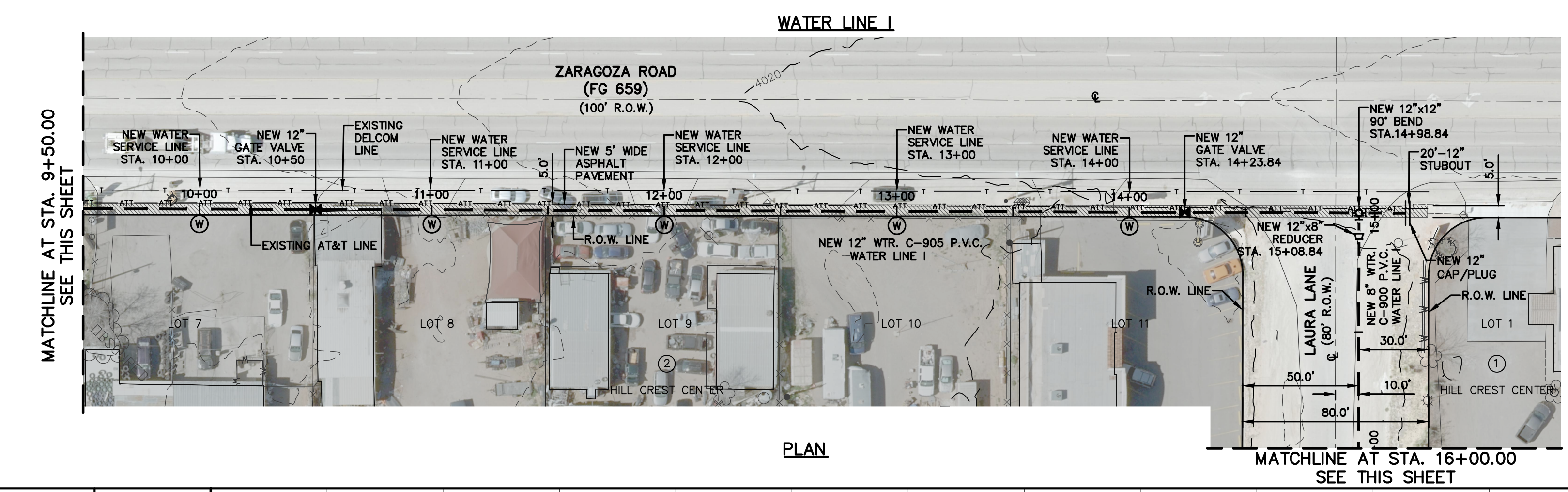
JOB NO.
16-125
SHEET
15 OF 24
SHEET NO.
C4.11

Filename: F:\0125\16-125\PLAN SET\DWG\CONSTRUCTION SET\15-C4.11 WATER LINE H.DWG
Plot Date: 6/7/2022 9:18:00 AM By: Arturo Barragan



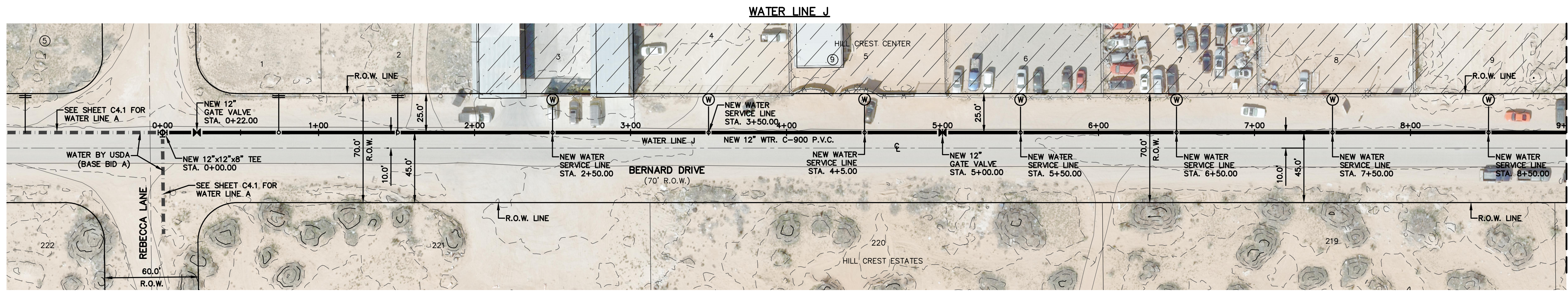
LEGEND	
SYMBOL	DESCRIPTION
	NEW WTR. C-900 P.V.C. DR 18 (EPA/NADB PROPERTY SERVICE LIMITS)
	WATER LINE ON ANOTHER SHEET (PLAN VIEW)
	USDA PROPERTY SERVICE LIMITS
	EPA/NADB PROPERTY SERVICE LIMITS
	NEW 3/4" SERVICE CONNECTION/W METER (PLAN VIEW)
	NEW 3/4" WATER STUB-OUT/W CAP (PLAN VIEW)
	NEW FIRE HYDRANT, KENNEDY OR MULLER MODEL
	NEW PLUG
	NEW GATE VALVE
	NEW TEE
	NEW CROSS
	NEW 90° BEND
	NEW 45° BEND
	NEW 11.25° BEND
	NEW 22.5° BEND
	NEW REDUCER
	EXISTING WATERLINE (SIZES VARY)
	RIGHT-OF-WAY LINE
	PROPERTY LINE
	STREET CENTERLINE
	REMOVE AND REPLACE ASPHALT PAVEMENT ON ZARAGOZA RD.

CONTRACTOR SHALL VERIFY DEPTH AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION OR ORDERING FITTINGS AS APPLICABLE TO TIE-IN POINTS BACK TO EXISTING.



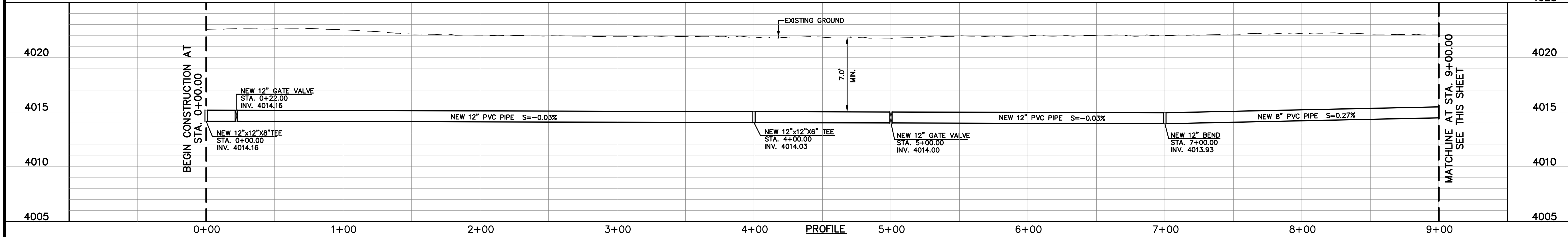
<p>WARNING I BEFORE YOU DIG</p> <p>CALL 1-800-DIG-TESS 1-800-344-8377 FOR FIELD LOCATING EXISTING UTILITIES</p>		<p>THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY</p> <p>TROY A. SVEDJE P.E. 142584 ON MAY 26, 2022</p> <p>ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT</p>	<p>ENGINEER'S SEAL</p>	<p>DESIGNED B.J.K.</p> <p>DRAWN A.B.</p> <p>CHECKED B.J.K.</p> <p>DATE 05/26/2022</p>	<p>UTILITY OWNER</p>	<p>FUNDING AGENT</p>	<p>FUNDING AGENT</p>	<p>PROJECT PARTNER</p> <p>1154 HAWKINS BLVD. EL PASO, TEXAS 79925 (915) 594-5500</p>	<p>ENGINEER</p> <p>PLANNING-ENGINEERING-PROJECT MANAGEMENT</p> <p>EL PASO SAN ANTONIO</p> <p>2501 E. Missouri Ave. El Paso, TX 79903 (915) 532-2091 9601 McMiller Freeway #307, San Antonio, TX 78216 (210) 314-3553 Texas Board of Professional Engineers Registration No. F-000554</p>	<p>HILLCREST CENTER WATER IMPROVEMENTS PROJECT (PHASE I)</p> <p>WATER LINE I STA. 0+00.00 TO STA. 20+76.41 (BASE BID B)</p>	<p>THESE CONTRACT DOCUMENTS HAVE BEEN PREPARED SPECIFICALLY AND EXCLUSIVELY FOR THE DESIGN OF "HILLCREST CENTER WATER IMPROVEMENTS PROJECT (PHASE I)".</p> <p>MORENO CARDENAS INC. IS NOT RESPONSIBLE FOR THEIR USE ON ANY OTHER PROJECT OR APPLICATION.</p>	<p>JOB NO. 16-125</p> <p>SHEET 16 OF 24</p> <p>SHEET NO. C4.12</p>
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Filename: F:\0225\16-125 PLAN SET\DWG\CONSTRUCTION SET\16-C4.12 WATER LINE.DWG
 Plot Date: 6/7/2022 9:20:27 AM By: Arturo Barragan

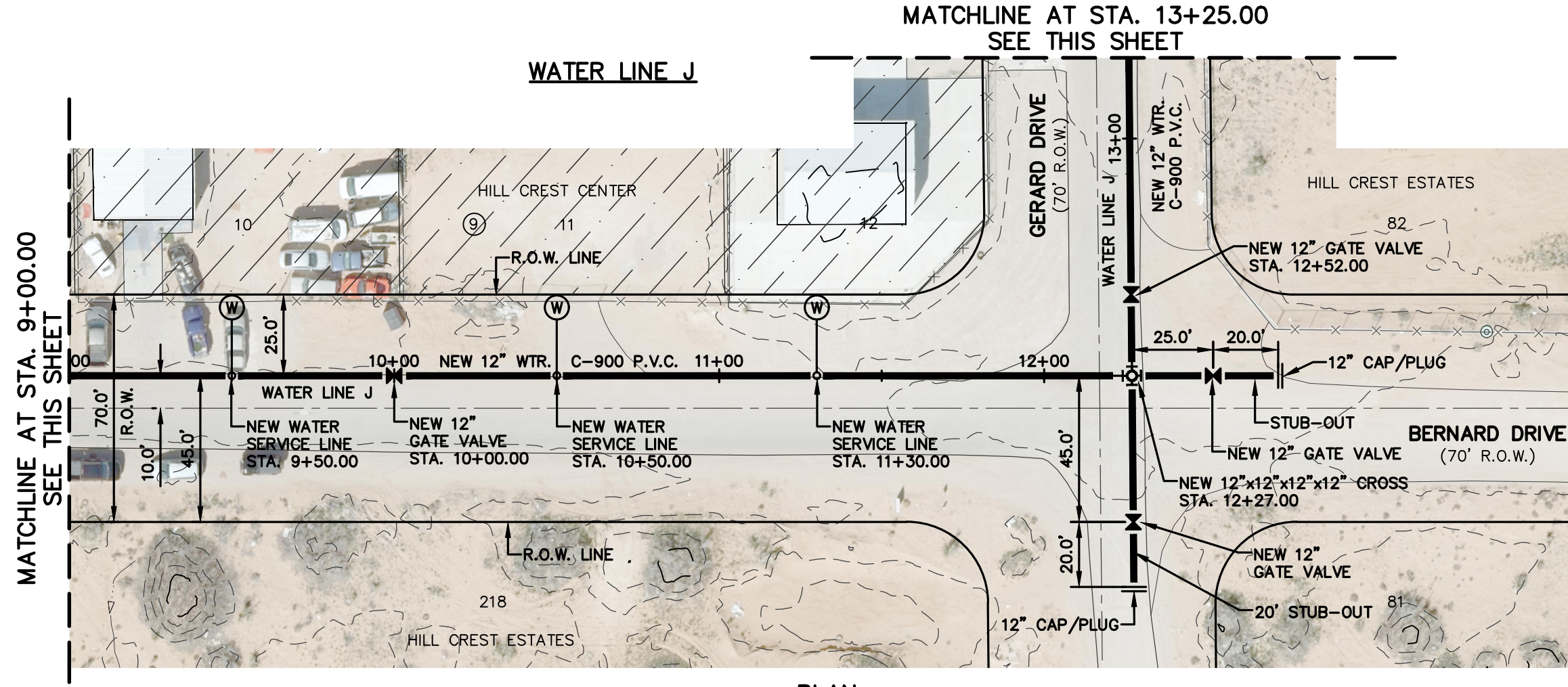


PLAN

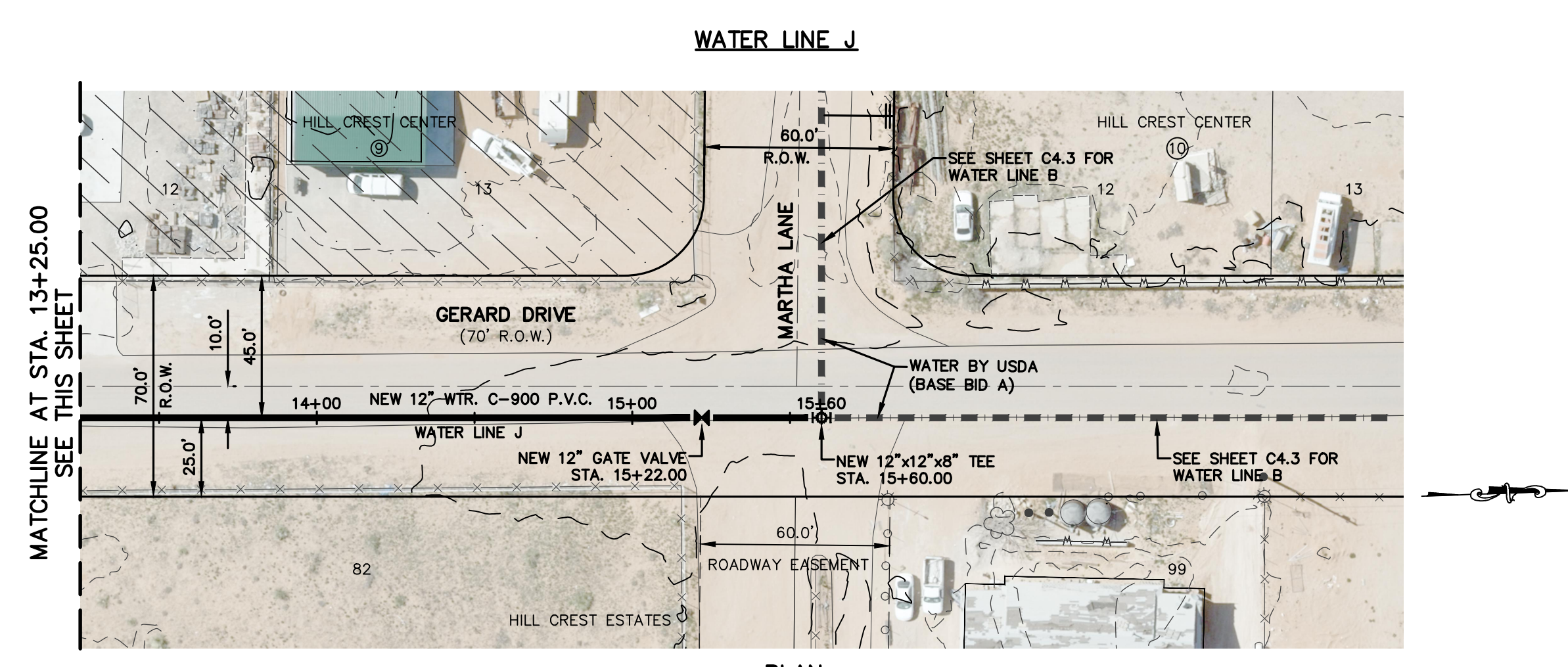
LEGEND	
SYMBOL	DESCRIPTION
	NEW WTR. C-900 P.V.C. DR 18 (USDA PROPERTY SERVICE LIMITS)
	NEW WTR. C-900 P.V.C. DR 18 (EPA/NADB PROPERTY SERVICE LIMITS)
	WATER LINE ON ANOTHER SHEET (PLAN VIEW)
	USDA PROPERTY SERVICE LIMITS
	EPA/NADB PROPERTY SERVICE LIMITS
	NEW 3/4" SERVICE CONNECTION/W METER (PLAN VIEW)
	NEW 3/4" WATER STUB-OUT/W CAP (PLAN VIEW)
	NEW FIRE HYDRANT, KENNEDY OR MULLER MODEL
	NEW PLUG
	NEW GATE VALVE
	NEW TEE
	NEW 90° BEND
	NEW 45° BEND
	NEW 11.25° BEND
	NEW 22.5° BEND
	NEW REDUCER
	EXISTING WATERLINE (SIZES VARY)
	RIGHT-OF-WAY LINE
	PROPERTY LINE
	STREET CENTERLINE



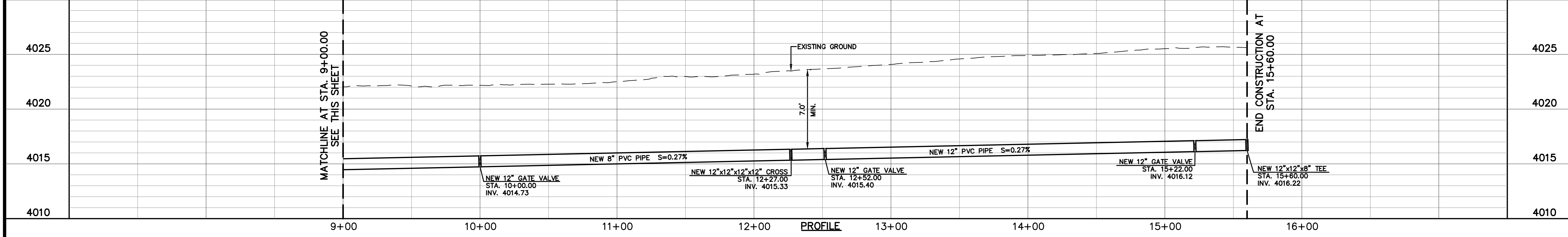
PROFILE



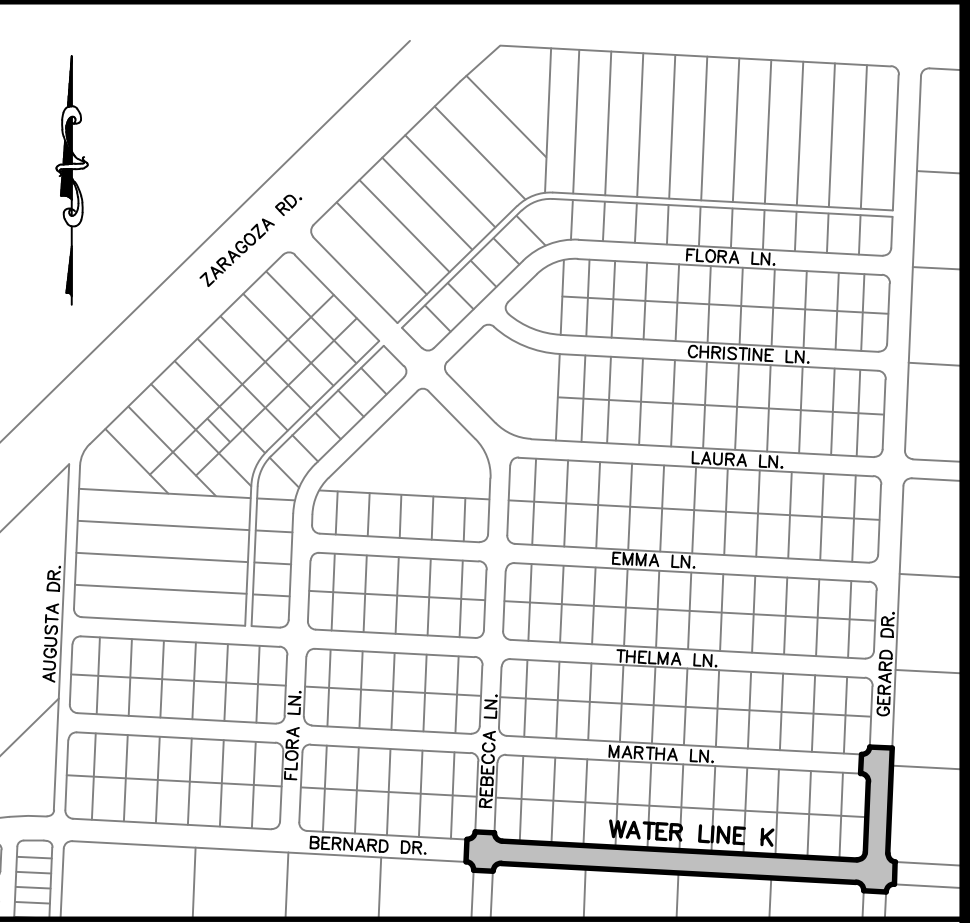
PLAN



PLAN

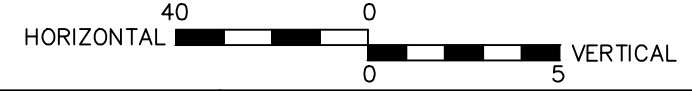


PROFILE



KEYMAP

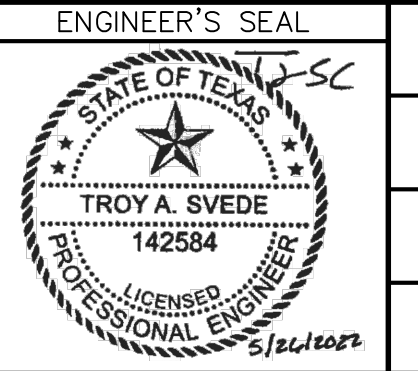
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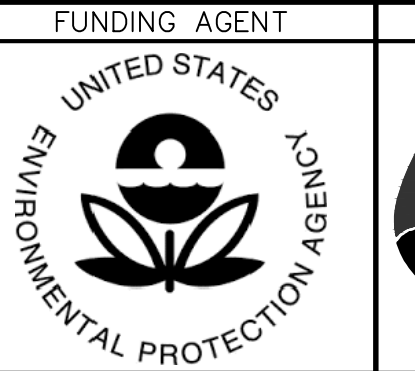
REV.	DATE	BY	DESCRIPTION

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A.B.
CHECKED
B.J.K.
DATE
05/26/2022

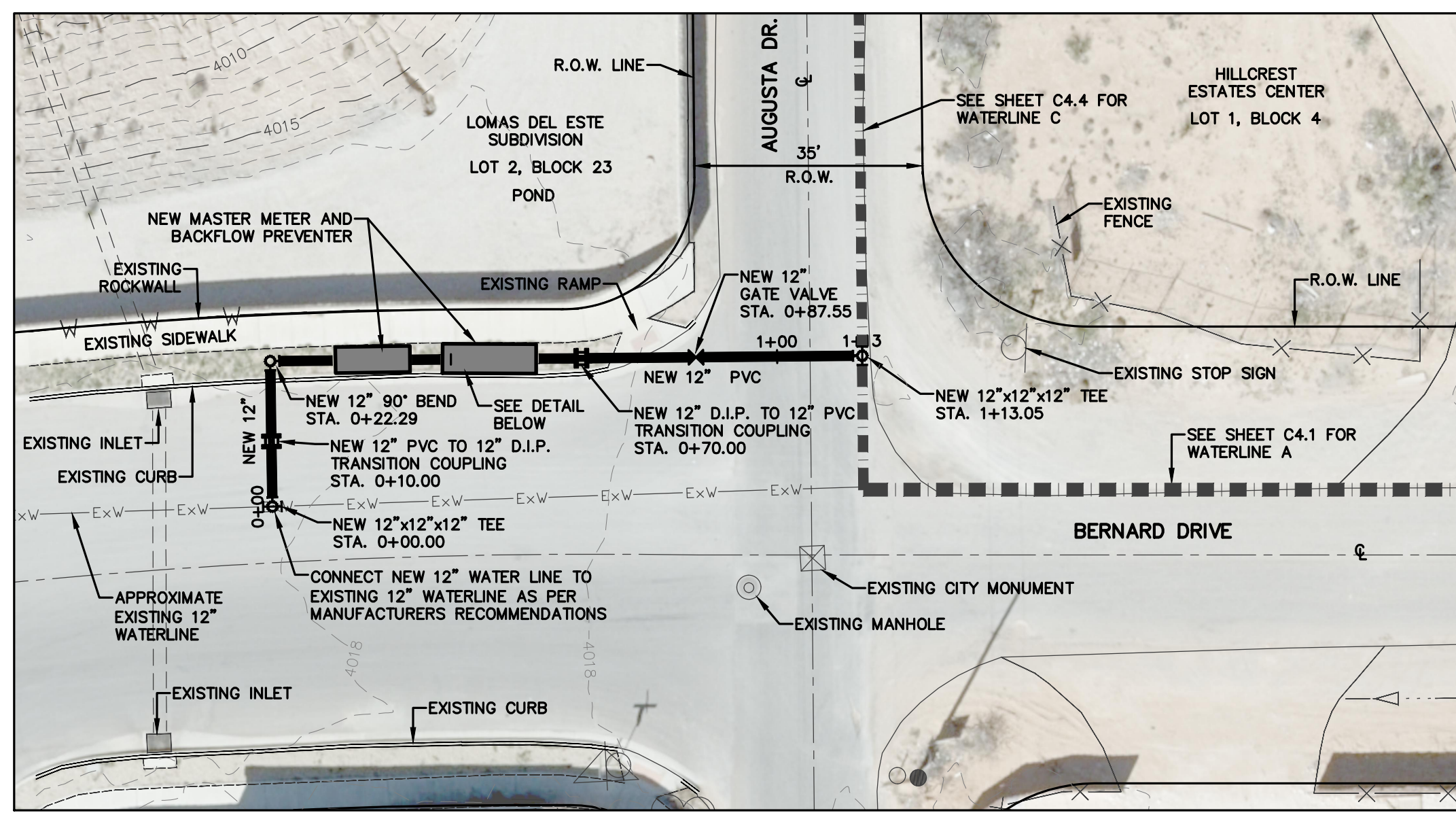


HILLCREST CENTER WATER IMPROVEMENTS PROJECT (PHASE I)
WATER LINE J
STA. 0+00.00 TO STA. 15+60.00
(BASE BID B)

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JOB NO.
16-125
SHEET
17 OF 24
SHEET NO.
C4.13

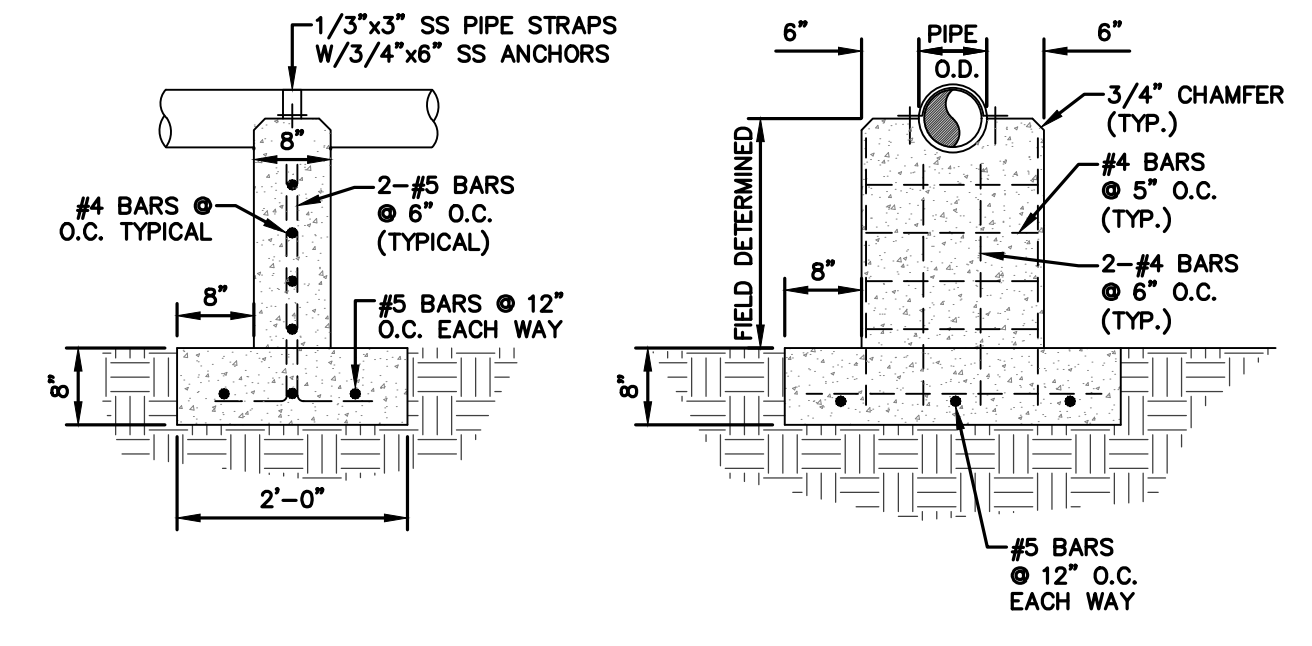
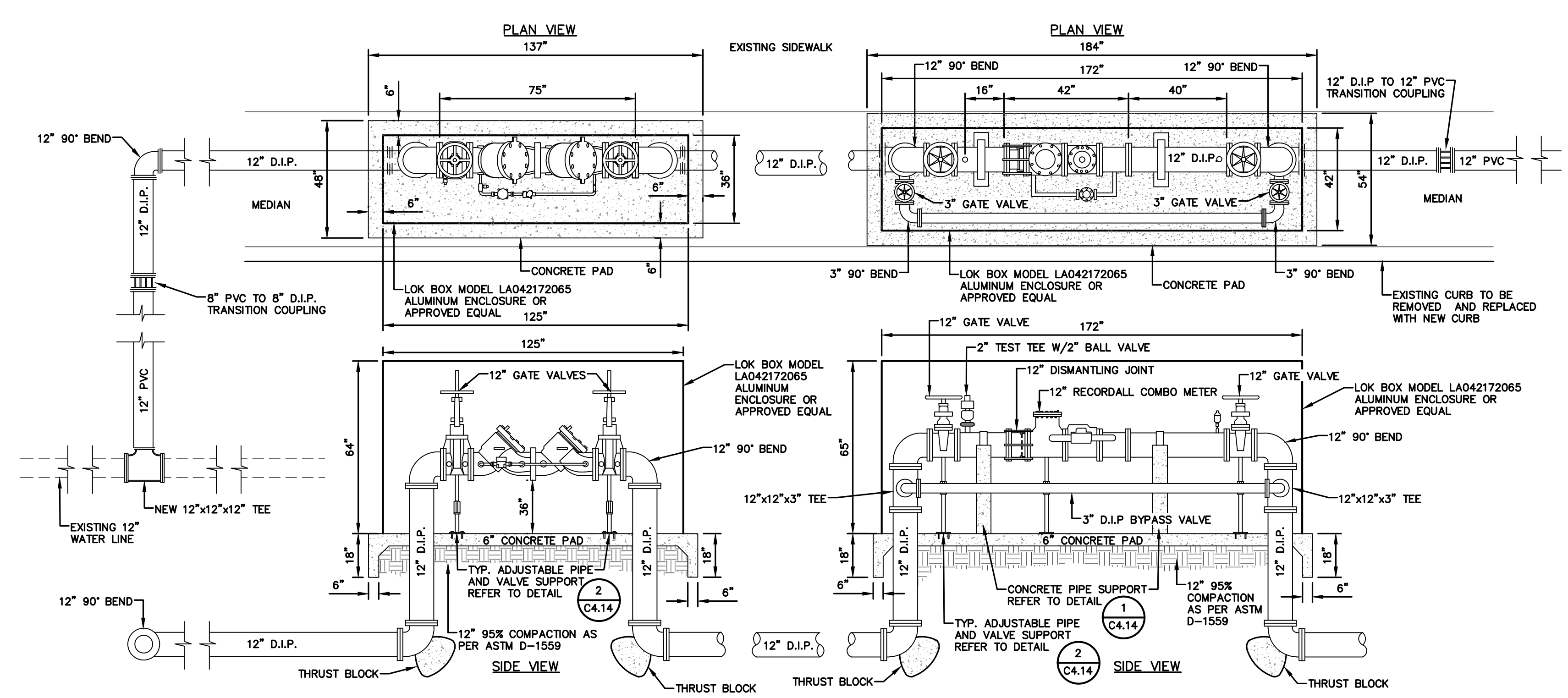
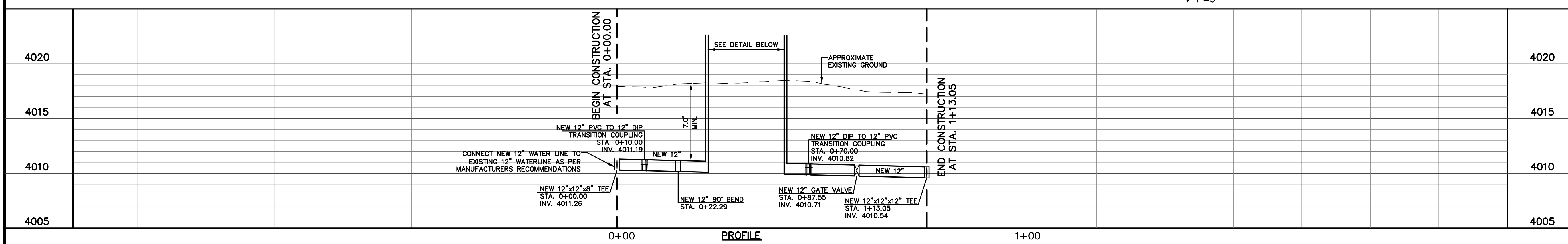
WATER LINE K



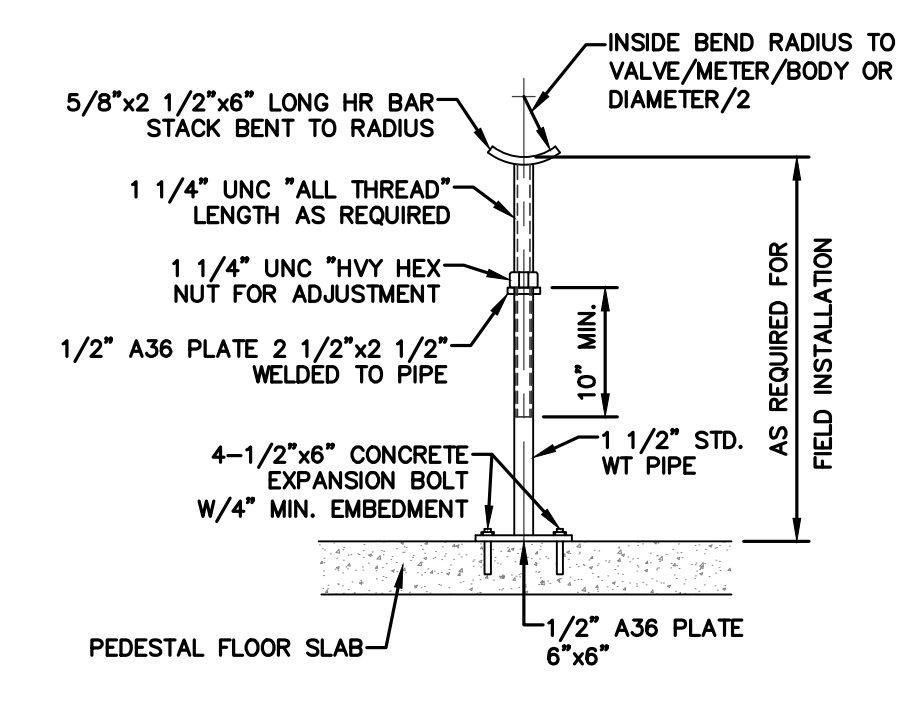
MASTER METER
SCALE: H 1"=20'
V 1"=5'

LEGEND

- | SYMBOL | DESCRIPTION |
|--------|--|
| | NEW WTR. C-900 P.V.C. DR 18 (USDA PROPERTY SERVICE LIMITS) |
| | NEW WTR. C-900 P.V.C. DR 18 (EPA/NADB PROPERTY SERVICE LIMITS) |
| | WATER LINE ON ANOTHER SHEET (PLAN VIEW) |
| | USDA PROPERTY SERVICE LIMITS |
| | EPA/NADB PROPERTY SERVICE LIMITS |
| | NEW 3/4" SERVICE CONNECTION/W METER (PLAN VIEW) |
| | NEW 3/4" WATER STUB-OUT/W CAP (PLAN VIEW) |
| | NEW FIRE HYDRANT, KENNEDY OR MULLER MODEL |
| | NEW PLUG |
| | NEW GATE VALVE |
| | NEW TEE |
| | NEW CROSS |
| | NEW 90° BEND |
| | NEW 45° BEND |
| | NEW 11.25° BEND |
| | NEW 22.5° BEND |
| | NEW REDUCER |
| | EXISTING WATERLINE (SIZES VARY) |
| | RIGHT-OF-WAY LINE |
| | PROPERTY LINE |
| | STREET CENTERLINE |



1 CONCRETE PIPE SUPPORT DETAIL
SCALE: N.T.S.



2 ADJUSTABLE PIPE AND VALVE SUPPORT
SCALE: N.T.S.



KEYMAP
SCALE: 1"=600'

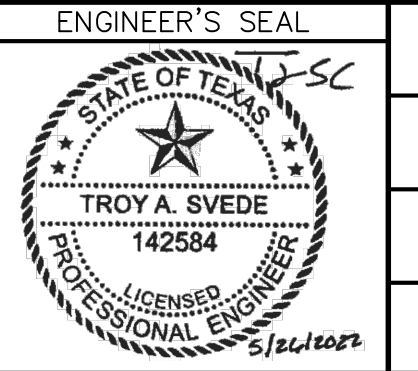
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Filename: P:\0225\14-125-PLAN SET\DWG\CONSTRUCTION SET\WB-C4.14 WATER LINE K - MASTER METER DETAILS.DWG
Plot Date: 6/7/2022 9:25:31 AM By: Arturo Barragan

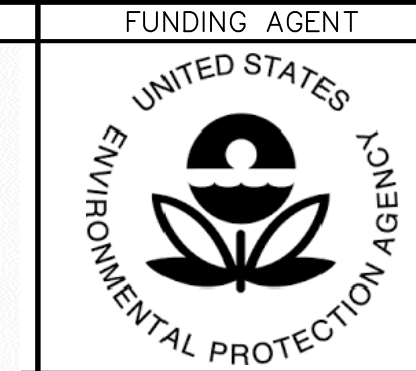
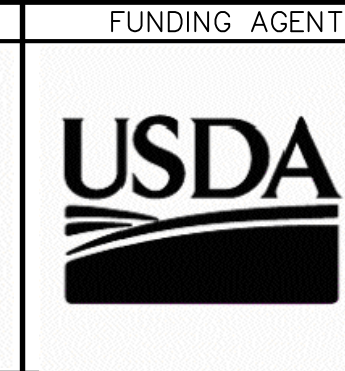
REV.	DATE	BY	DESCRIPTION

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ENGINEER'S SEAL
DESIGNED B.J.K.
DRAWN A.B.
CHECKED B.J.K.
DATE 05/26/2022

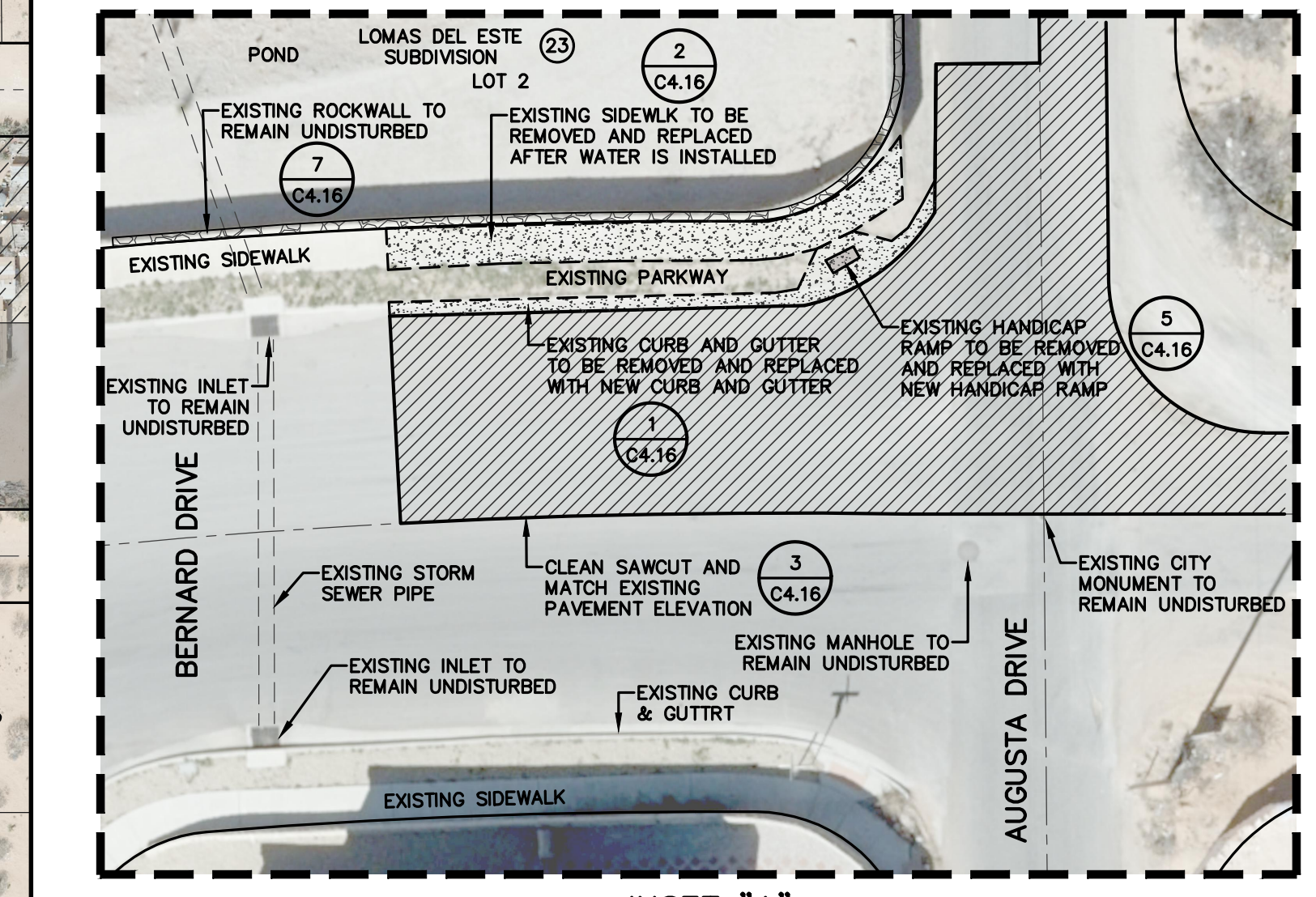


HILLCREST CENTER WATER IMPROVEMENTS PROJECT (PHASE I)
WATER LINE K (MASTER METER)
STA. 0+00.00 TO STA. 1+13.05
(BASE BID A),
MASTER METER & BACKFLOW DETAILS

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JOB NO.
16-125
SHEET
18 OF 24
SHEET NO.
C4.14

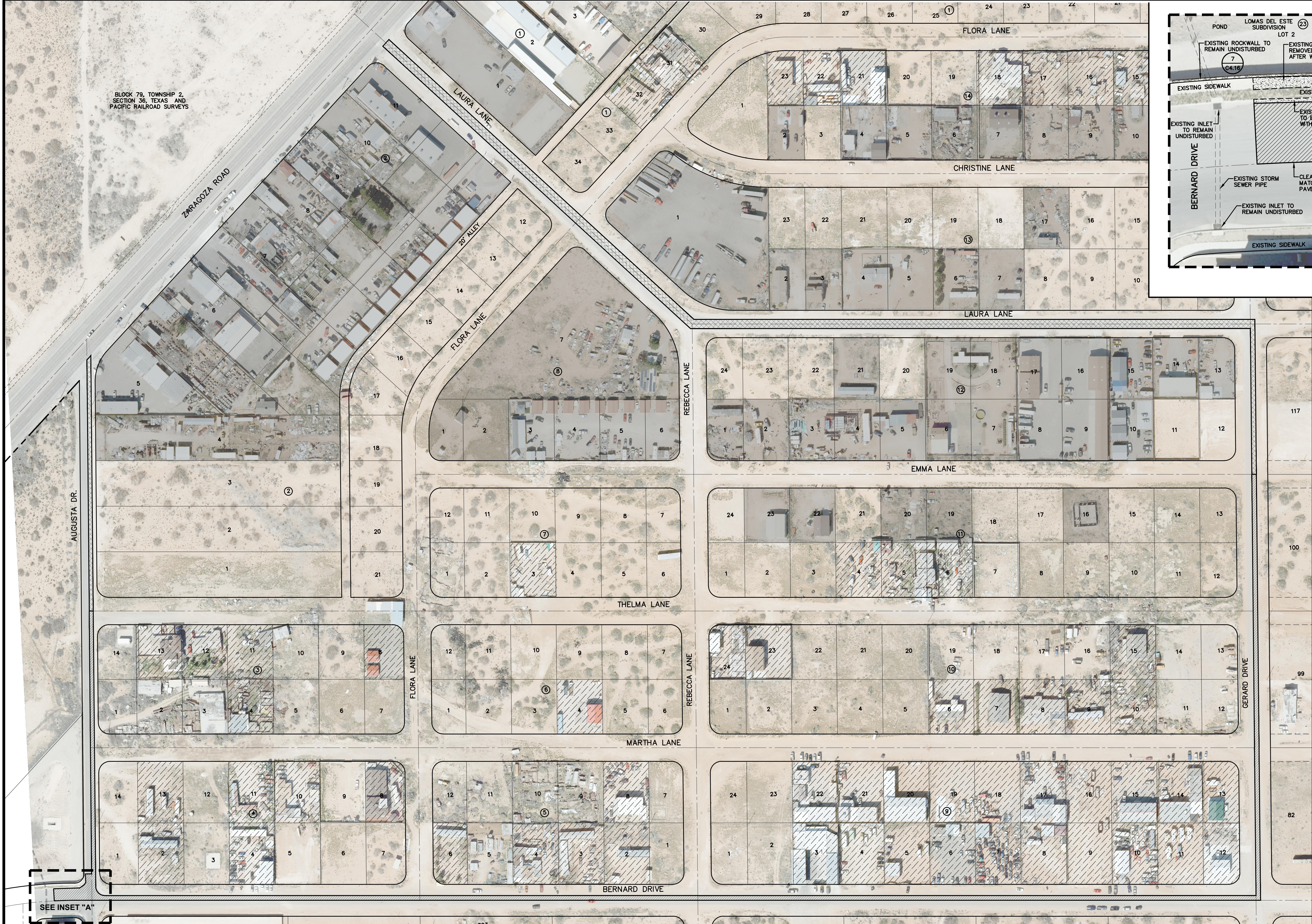
BLOCK 79, TOWNSHIP 2,
SECTION 36, TEXAS AND
PACIFIC RAILROAD SURVEYS



INSET "A"
SCALE: 1"=20'

LEGEND	
SYMBOL	DESCRIPTION
	NEW ASPHALT PAVEMENT LIMITS
	NEW USDA ASPHALT PAVEMENT LIMITS (AREA = 5,000 SY)
	NEW EPA/NADB ASPHALT PAVEMENT LIMITS (AREA = 5,700 SY.)
	USDA PROPERTY SERVICE LIMITS
	EPA/NADB PROPERTY SERVICE LIMITS

SCALE: 1"=100'

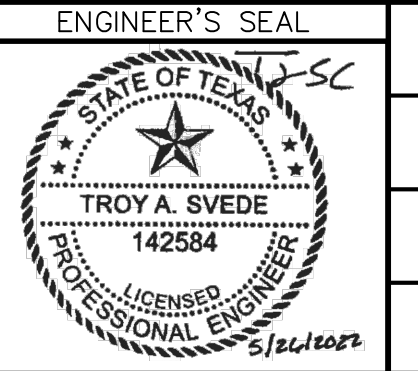


SEE INSET "A"

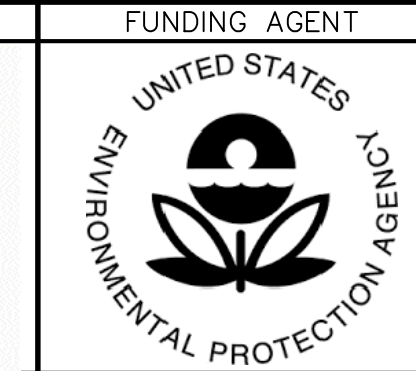
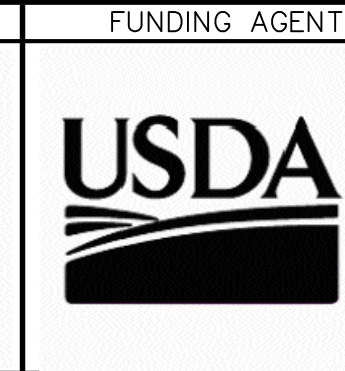
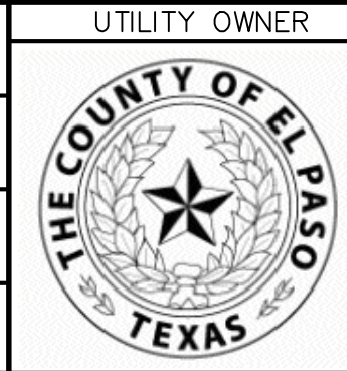
REV.	DATE	BY	DESCRIPTION

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DESIGNED
B.J.K.
DRAWN
A.B.
CHECKED
B.J.K.
DATE
05/26/2022



HILLCREST CENTER WATER IMPROVEMENTS PROJECT (PHASE I)
ASPHALT PAVEMENT REPLACEMENT PLAN

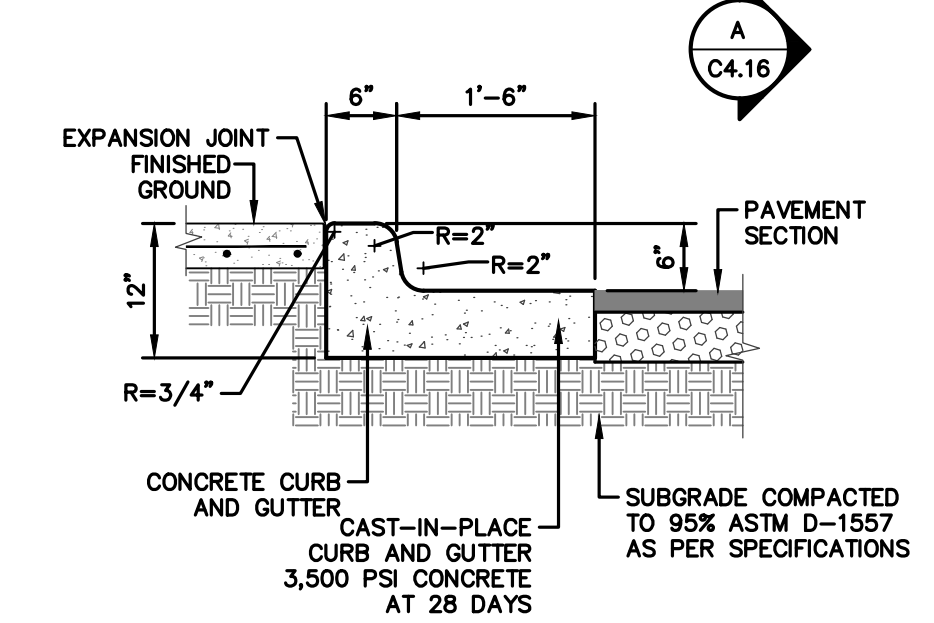
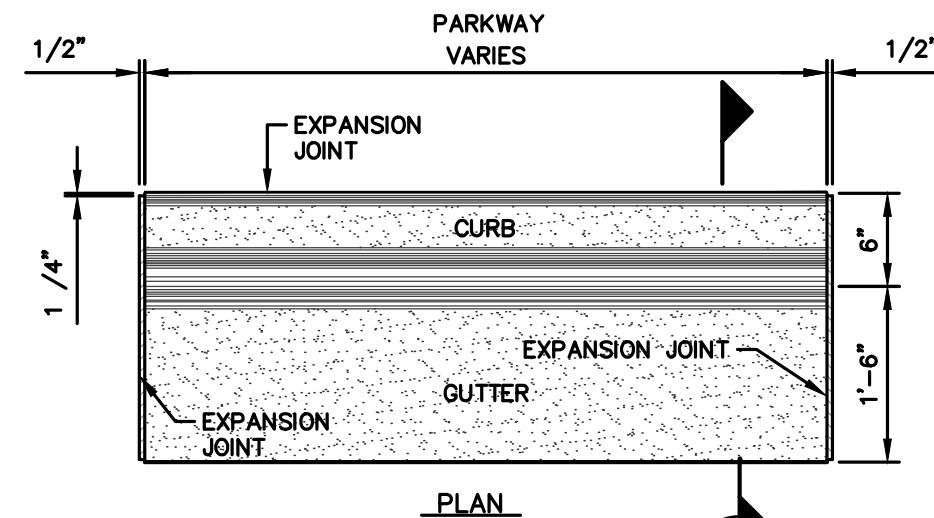
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JOB NO.
16-125
SHEET
19 OF 24
SHEET NO.
C4.15

Filename: V:\0225\16-125 PLAN SET\DWG\CONSTRUCTION SET\19-C4.15 ASPHALT PAVEMENT REPLACEMENT SHEET.DWG
Plot Date: 6/7/2022 9:27:53 AM By: Arturo Barragan

CONCRETE CURB GENERAL NOTES:

1. CONCRETE TO BE 3,500 PSI MIN. AT 28 DAYS.
2. DUMMY JOINT REQUIRED AT 10' O.C. FOR CURB AND 5' O.C. FOR SIDEWALK.
3. EXPANSION MATERIAL REQUIRED AT CURB RETURNS, AND AT 20' O.C. FOR SIDEWALKS WITH 1/2" PREMOLDED ASPHALT IMPREGNATED EXPANSION MATERIAL.
4. SUBGRADE UNDER CURB MUST BE FORMED AND COMPACTED TO 95% ASTM D-1557.
5. EXPANSION JOINTS REQUIRED AT 50' O.C. WHEN FORMING FOR CURBS.
6. PROVIDE EXPANSION JOINT MATERIAL WHERE SIDEWALK MEETS CURB, AND AT ALL SIDES WHERE CONCRETE PARKWAY MEETS SIDEWALK AND CURB.

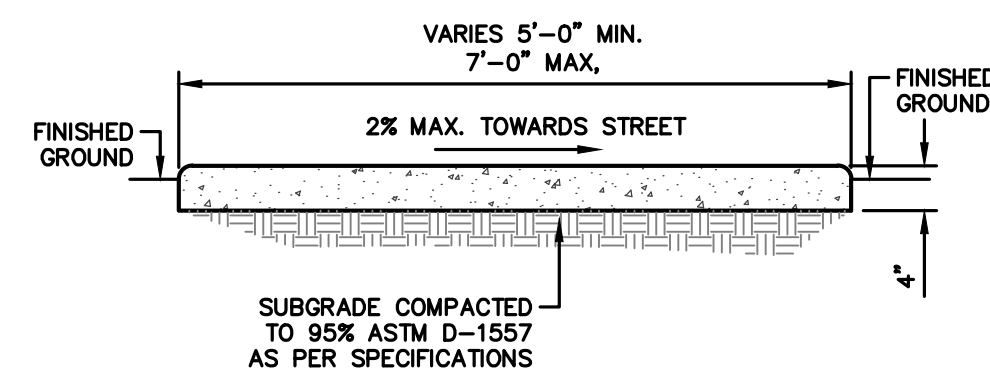
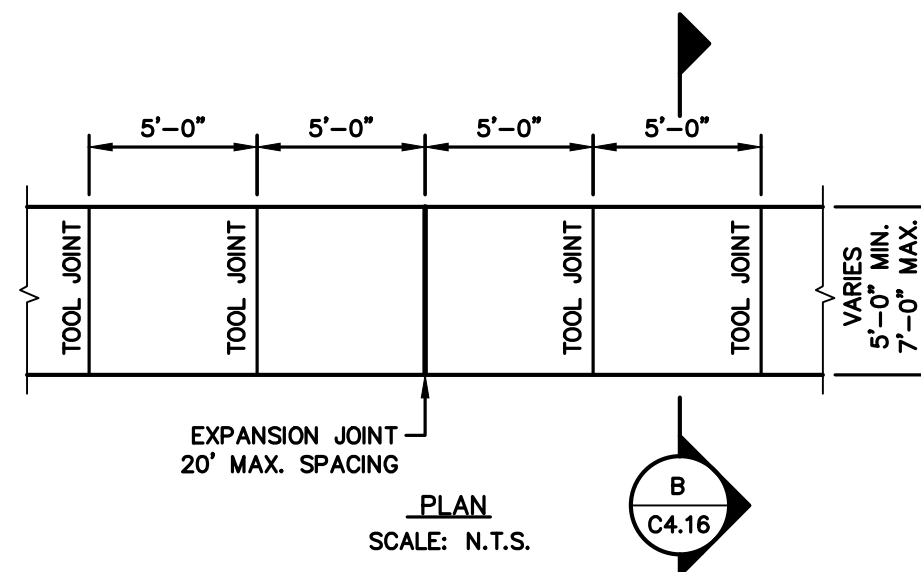


A SECTION
C4.16 SCALE: N.T.S.

1 CURB AND GUTTER DETAIL
C4.16 SCALE: N.T.S.

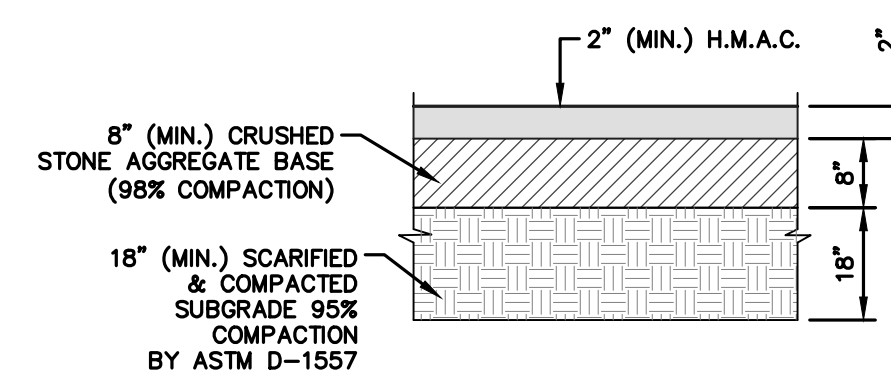
GENERAL NOTES:

1. CONCRETE SHALL BE 3,500 PSI MINIMUM.
2. CONTROL JOINT REQUIRED AT 5' O.C. FOR SIDEWALKS OR AS SHOWN ON THE PLANS.
3. CONTROL JOINTS SHALL BE 1/8" THICK AND 1" DEEP.
4. EXPANSION JOINT MATERIAL (1 / 2" PREMOLDED ASPHALT IMPREGNATED) REQUIRED AT 20' O.C. FOR SIDEWALKS OR AS SHOWN ON PLANS.
5. DO NOT CROSS REINFORCEMENT THRU EXPANSION MATERIAL.
6. PROVIDE EXPANSION JOINT MATERIAL WHERE SIDEWALKS MEET, EXISTING SIDEWALKS AND CURBS.
7. ADJUST ALL MANHOLES, WATER VALVES, AND APPURTENANCES TO NEW SIDEWALK ELEVATIONS AND RELOCATE SERVICE CONNECTIONS IN CONFLICT.
8. SIDEWALK LONGITUDINAL SLOPE SHALL BE LESS THAN 5%.



B SECTION
C4.16 SCALE: N.T.S.

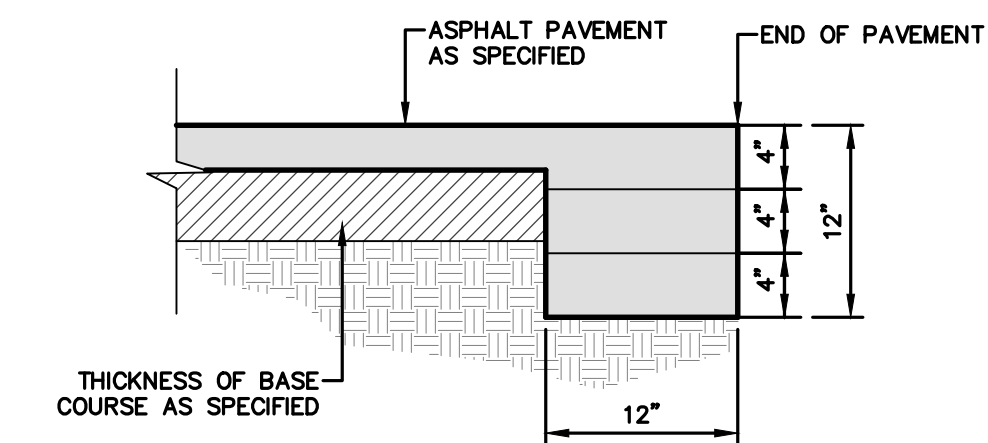
2 TYPICAL CONCRETE SIDEWALK DETAIL
C4.16 SCALE: N.T.S.



PAVEMENT SECTION NOTES:

1. SUBGRADE TO BE COMPACTED TO 95% OF MAXIMUM DENSITY AS PER ASTM D-1557.
2. MINIMUM PAVEMENT DESIGN DETAILS ARE AS SHOWN, ACTUAL PAVEMENT DESIGN WILL BE DETERMINED BY CBR.

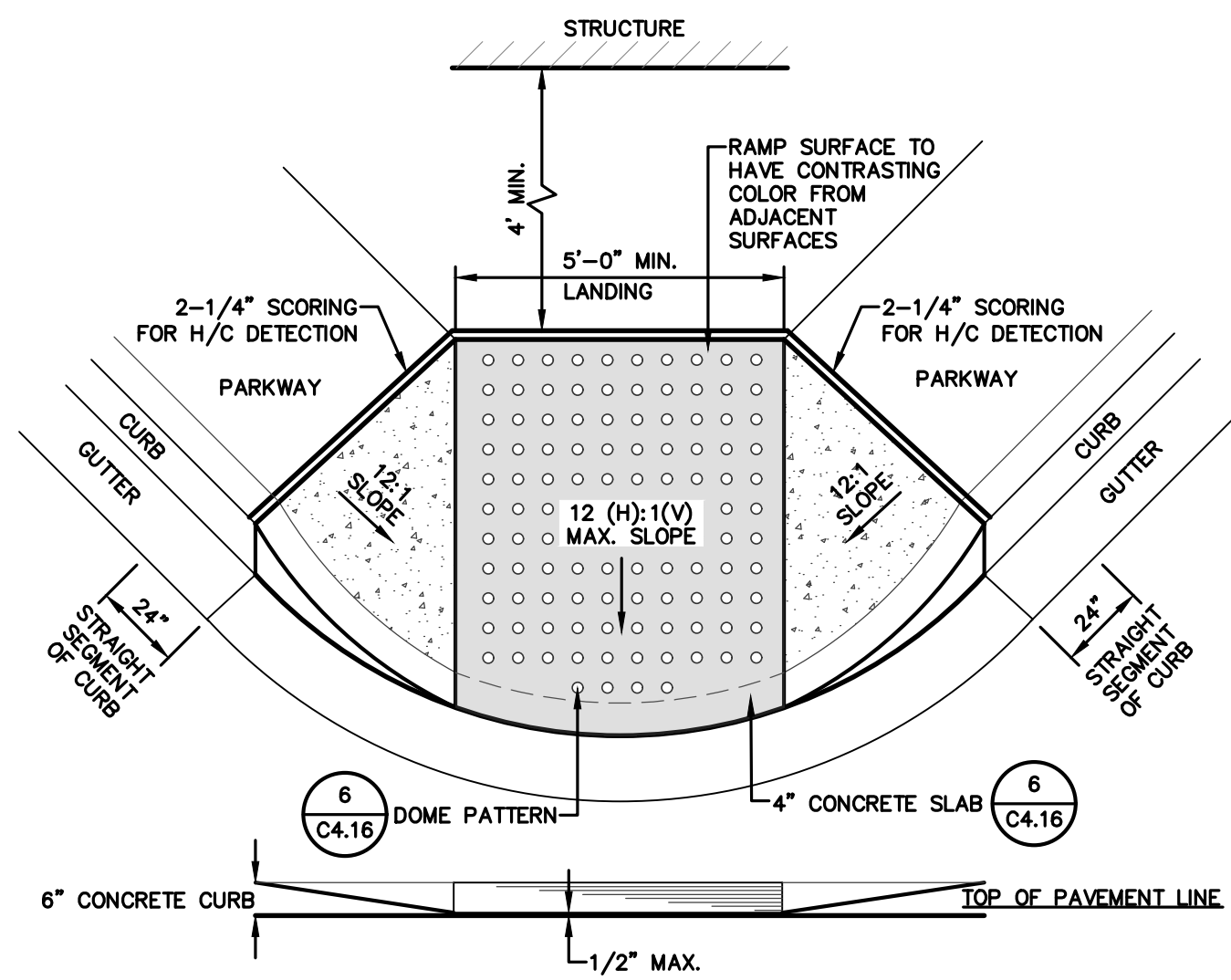
3 TYPICAL PAVEMENT SECTION DETAIL
C4.16 SCALE: N.T.S.



NOTE:

1. TERMINUS MUST BE CONSTRUCTED IN 4" LIFTS. FINAL LIFT MUST BE PLACED WITH FINAL PAVEMENT COURSE.

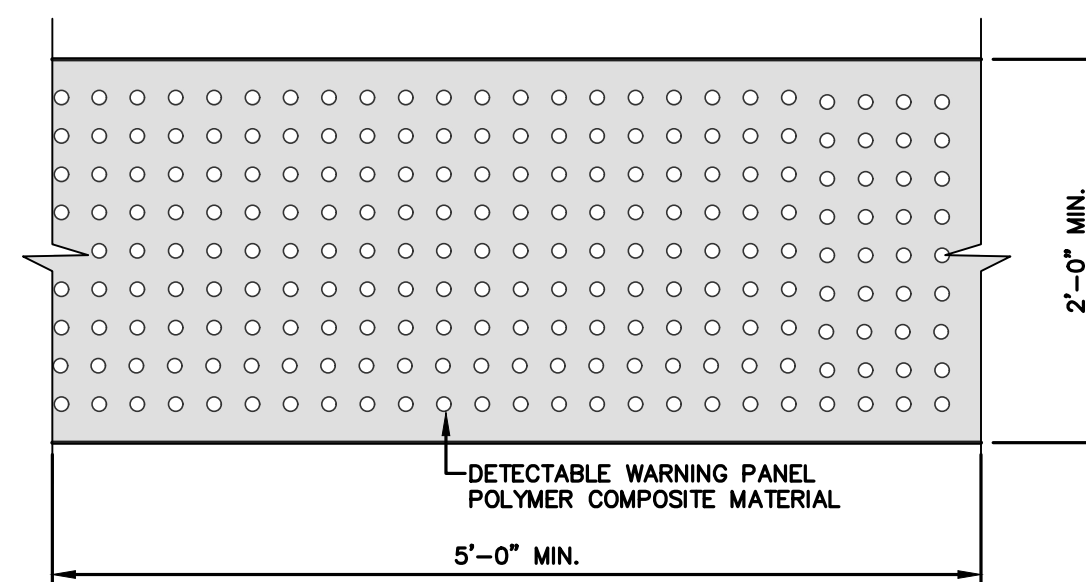
4 TERMINUS OF STREET
C4.16 SCALE: N.T.S.



NOTE:

1. ALL COVERS SHALL HAVE A "TEXTURED" FINISH TO PROVIDE A NON-SLIP SURFACE COURSE.

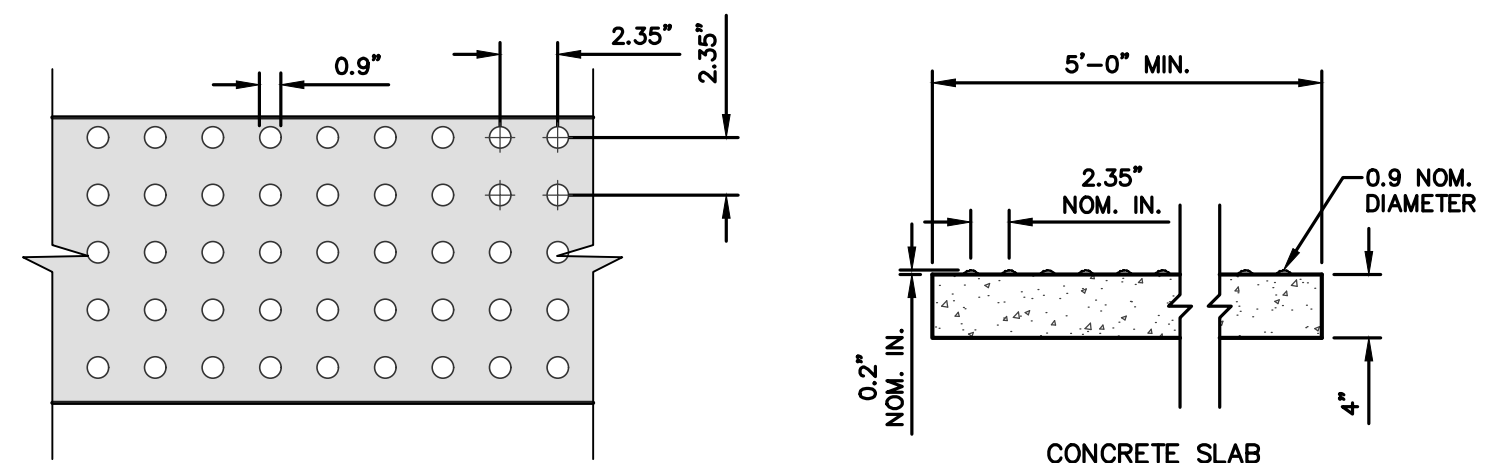
5 WHEELCHAIR RAMP TYPE 1 DETAIL
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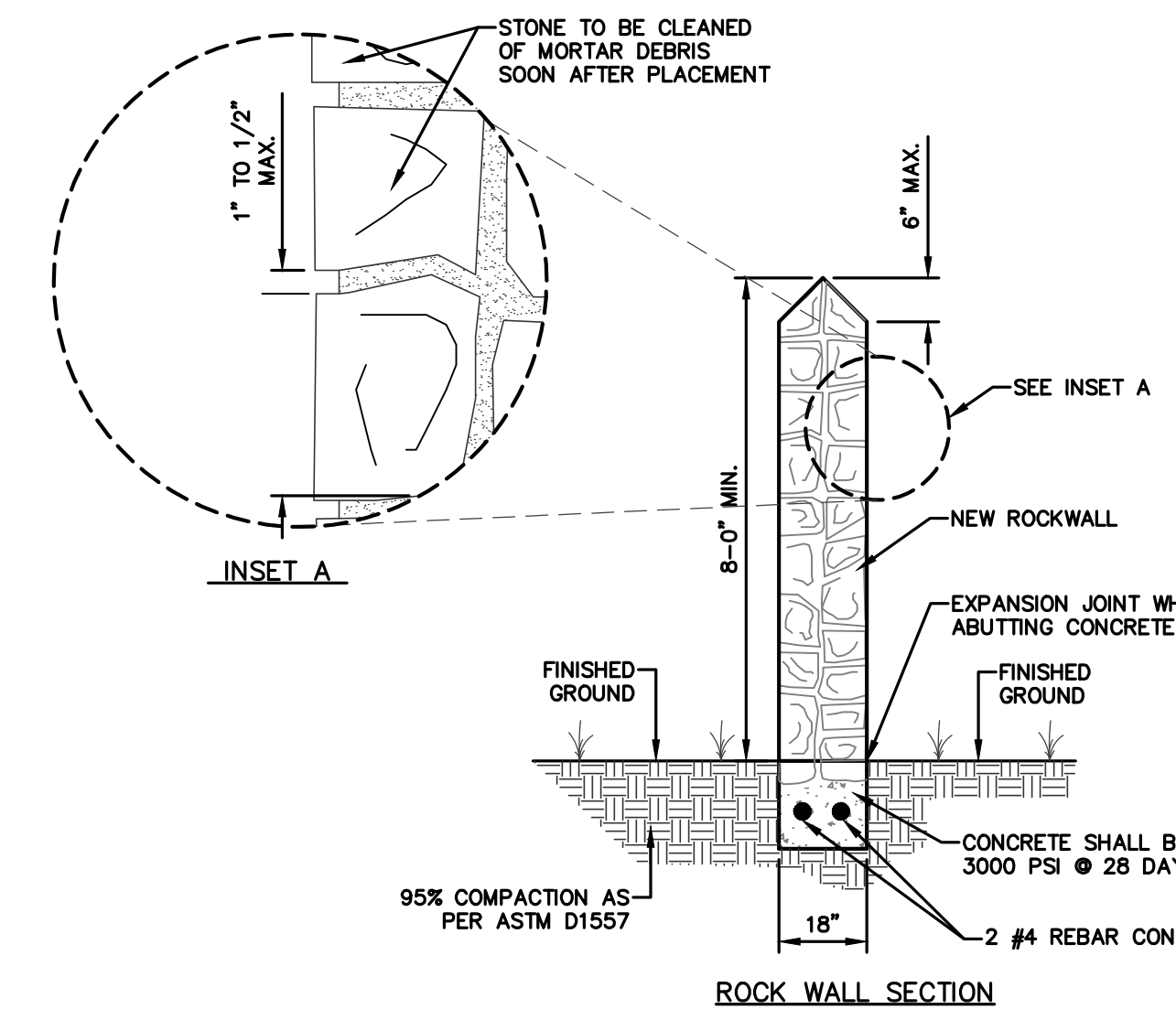
DOME SIZE AND SPACING. TRUNCATED DOMES SHALL HAVE A DIAMETER OF NOMINAL 0.9 INCHES (23 MM) AT THE BOTTOM, A DIAMETER OF 0.4 INCH (10MM) AT THE TOP, A HEIGHT OF NOMINAL 0.2 INCHES (5 MM), AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.35 INCHES (60 MM) MEASURED ALONG ONE SIDE OF A SQUARE ARRANGEMENT.

DOME ALIGNMENT. DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES. DETECTABLE WARNING SURFACES SHALL EXTEND 24 INCHES (610 MM) MINIMUM IN THE DIRECTION OF TRAVEL AND THE FULL WIDTH OF THE CURB RAMP, LANDING, OR BLENDED TRANSITION.

CONTRAST. THERE SHALL BE A MINIMUM OF 70 PERCENT CONTRAST IN LIGHT REFLECTANCE BETWEEN THE DETECTABLE WARNING AND AN ADJOINING SURFACE, OR THE DETECTABLE WARNING SURFACE SHALL BE "RED BRICK" COLOR, UNLESS OTHERWISE DIRECTED BY THE OWNER. THE MATERIAL USED TO PROVIDE VISUAL CONTRAST SHALL BE AN INTEGRAL PART OF THE DETECTABLE WARNING SURFACE. CONTRAST SHALL BE PROVIDED BY PLACING AND MIXING TINT IN THE PLASTIC CONCRETE USED FOR THE DETECTABLE WARNING SURFACE. NO PAINTING SURFACE SHALL BE PERMITTED.



6 DOME SIZE AND SPACING
C4.16 SCALE: N.T.S.



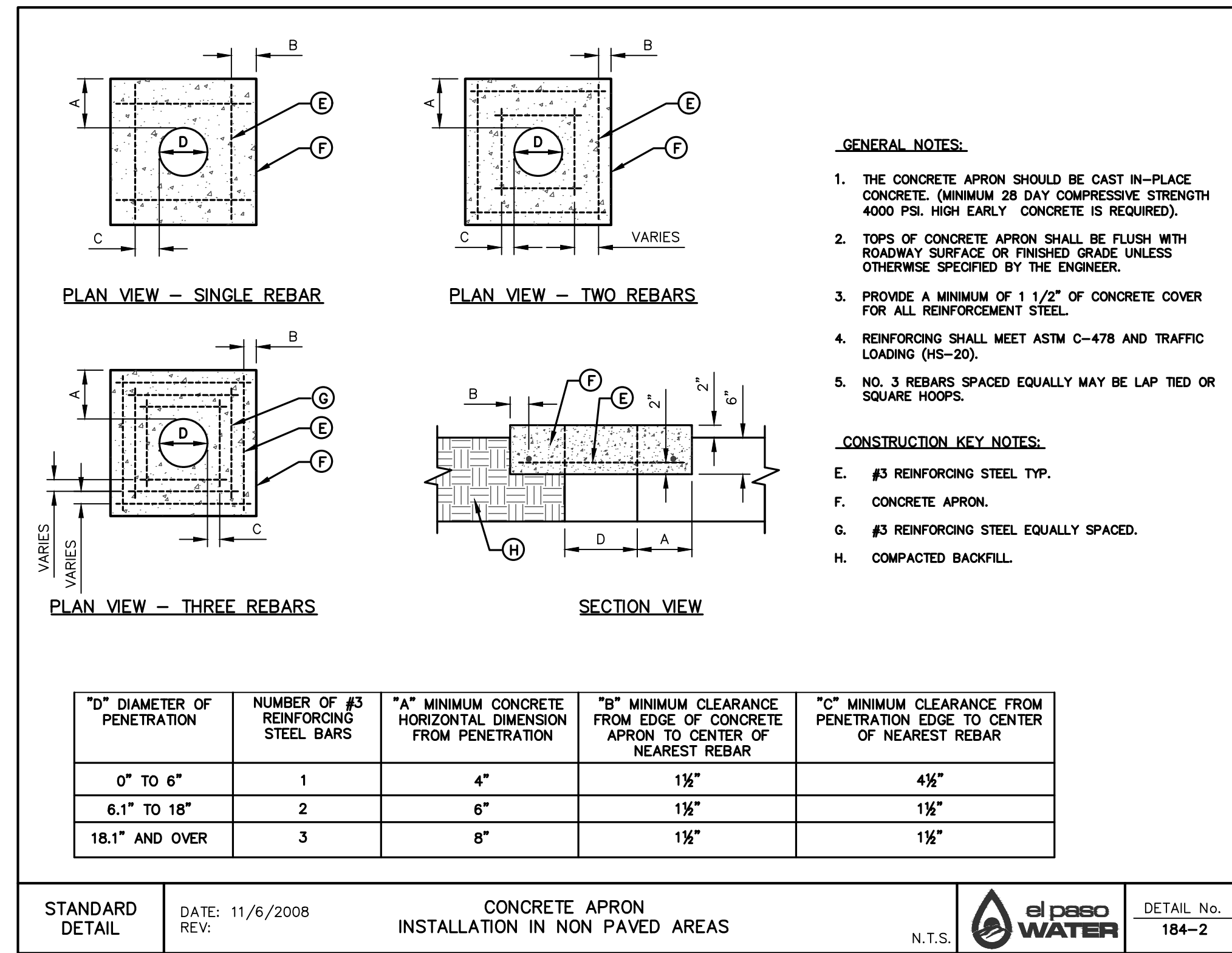
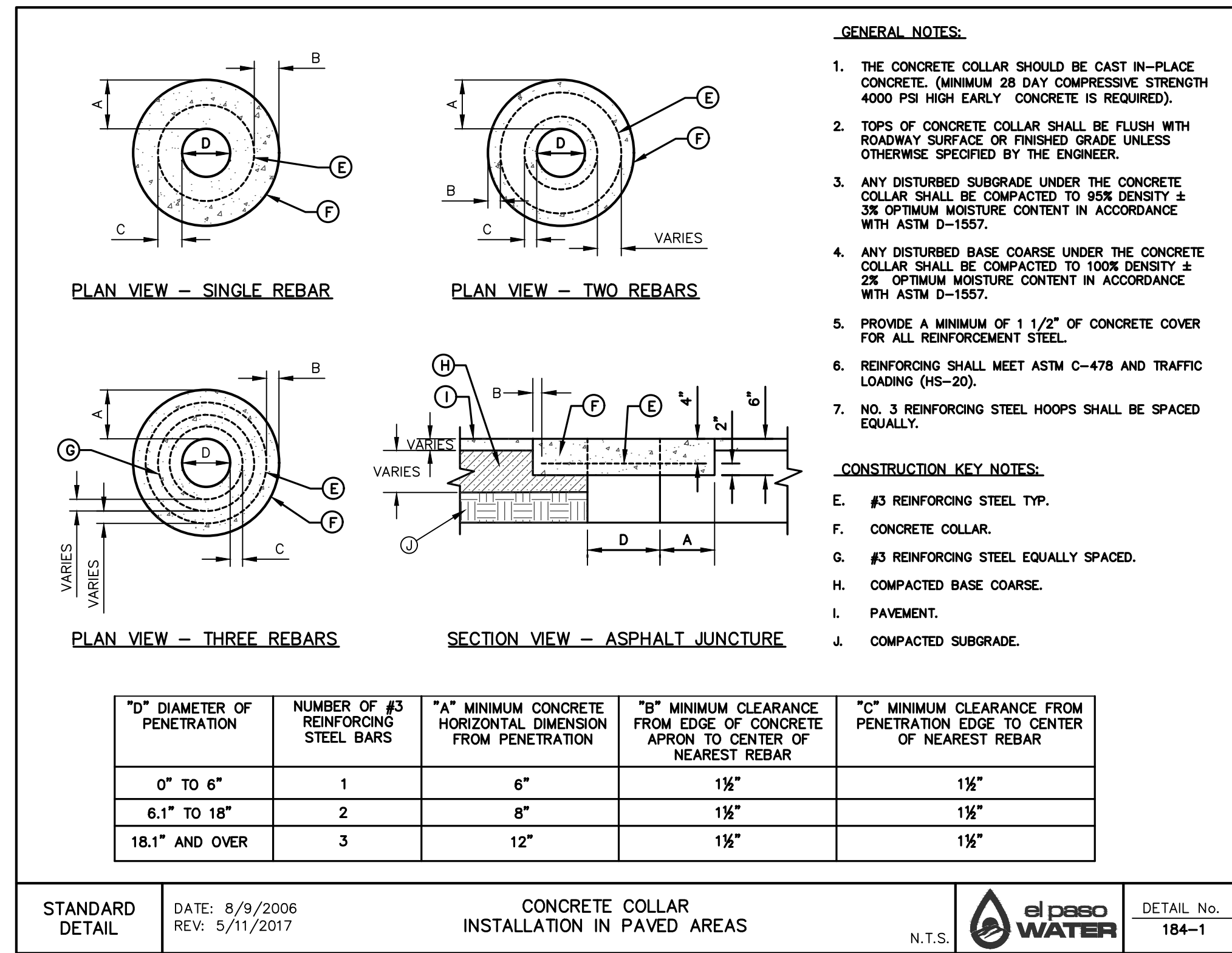
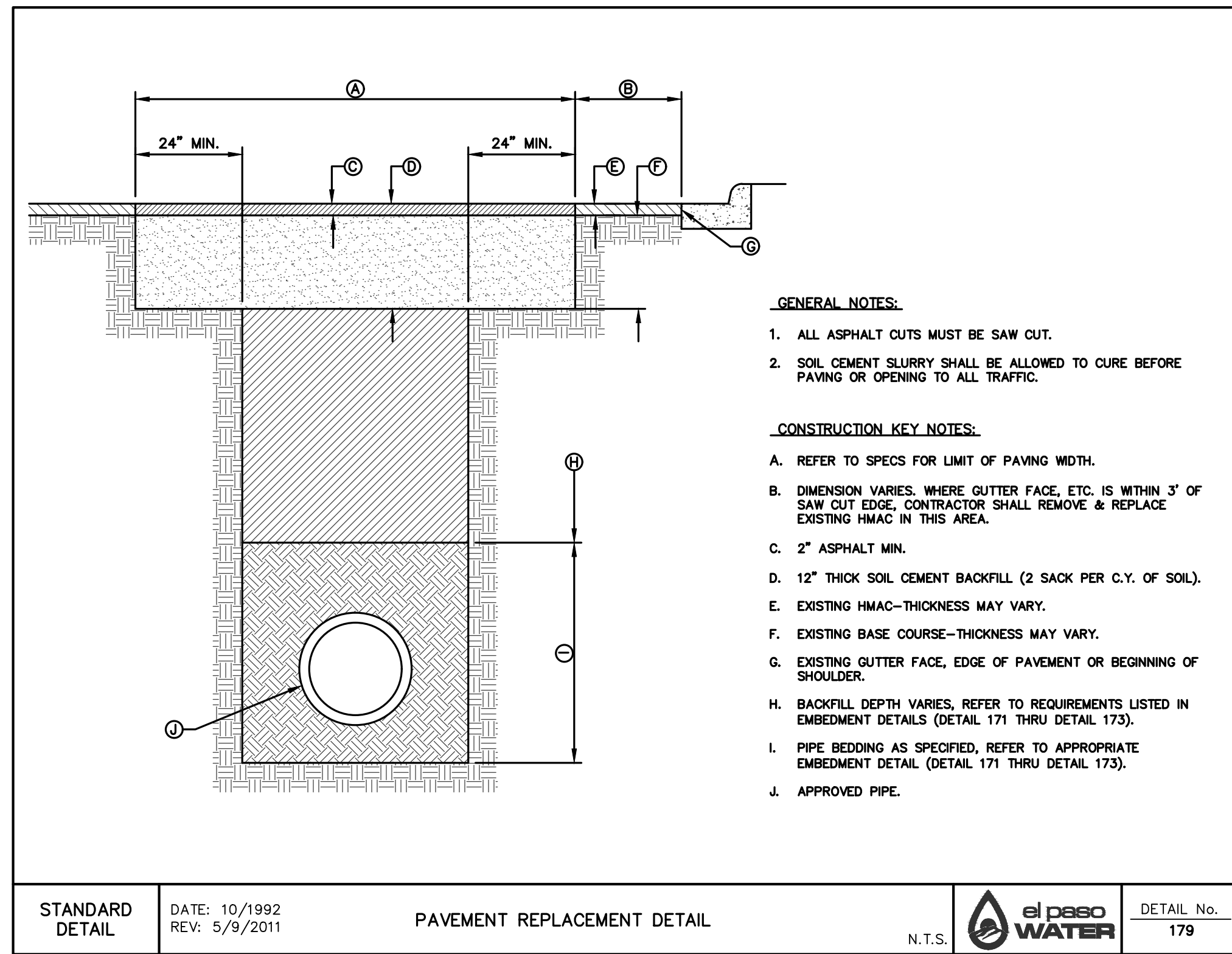
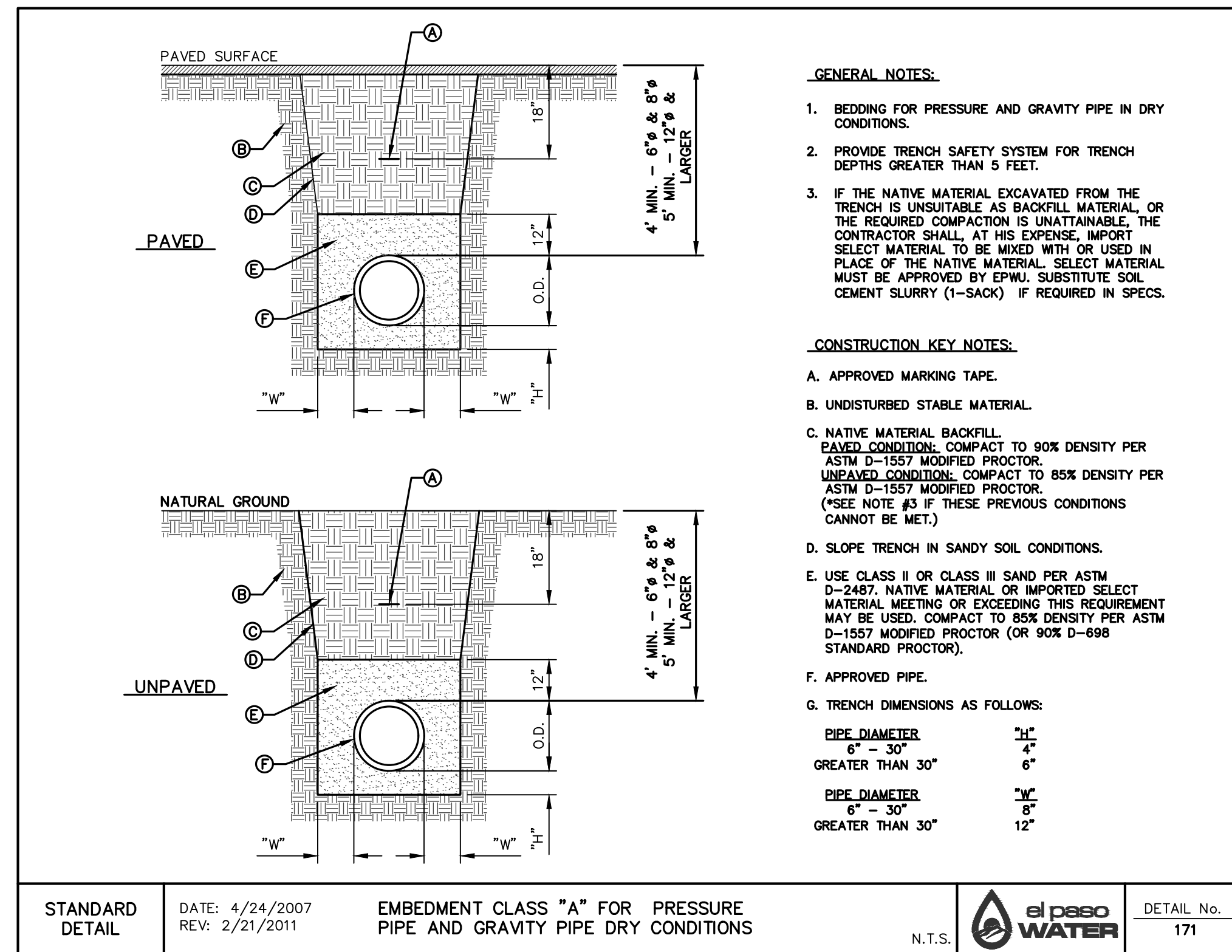
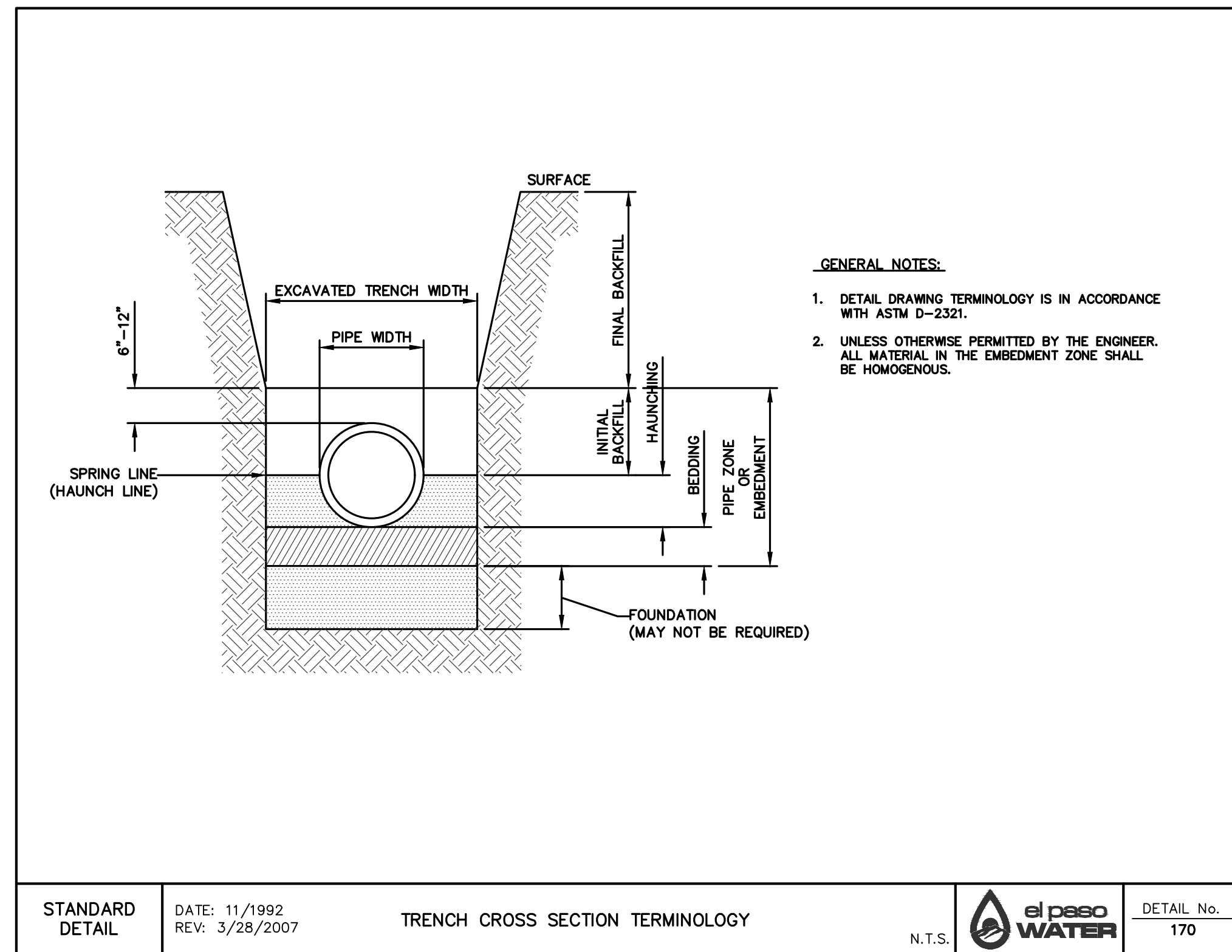
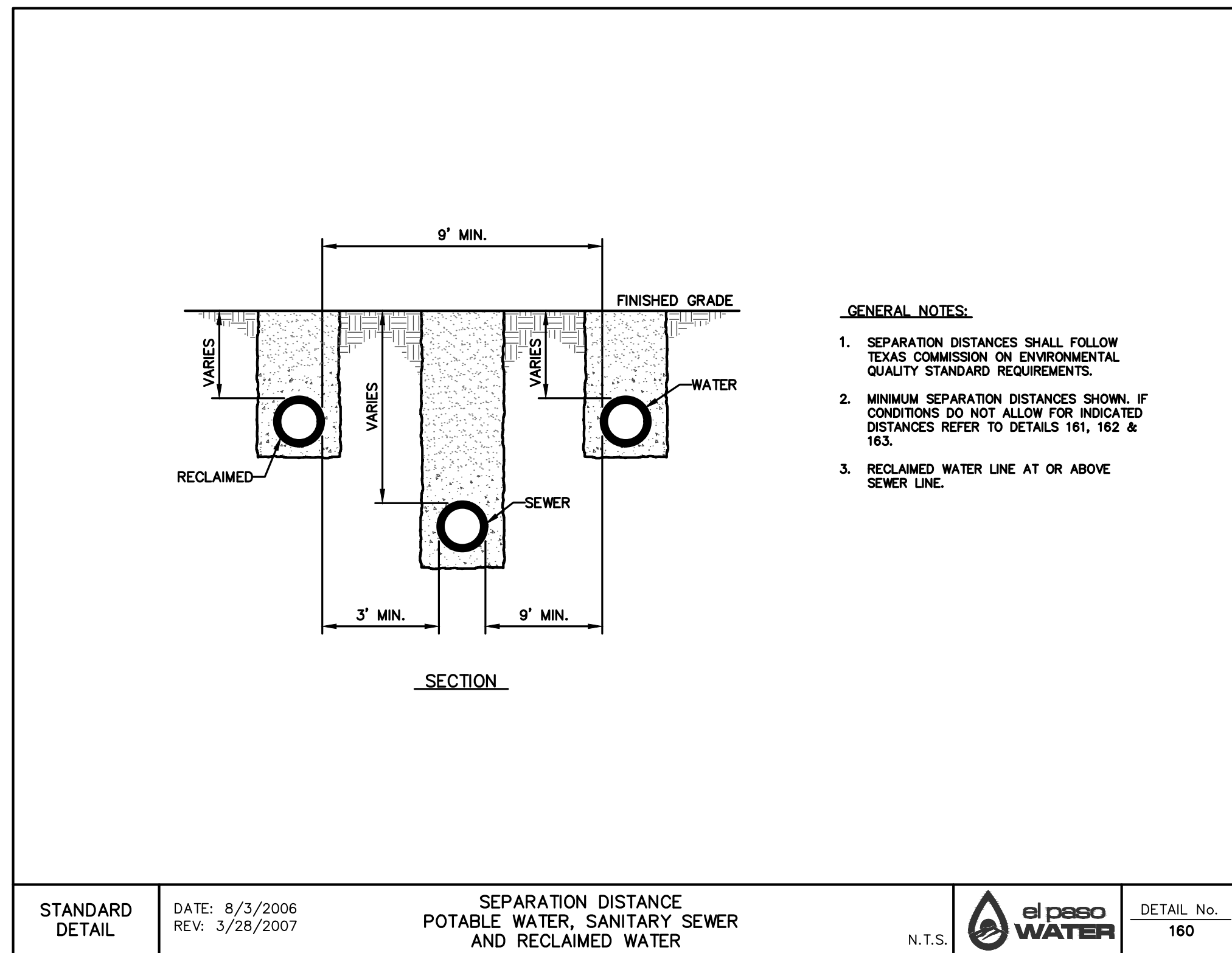
ROCK WALL NOTES:

1. STONE FOR ROCKWALL SHALL BE AS NEARLY UNIFORM IN SECTIONS AS IN PRACTICABLE THE STONE SHALL BE DENSE AND RESISTANT OF AIR AND WATER.
2. MORTAR MUST BE TYPE "S" 1800 P.S.I. AS PER ASTM C270.
3. ROCKWALL MORTAR JOINTS MUST NOT EXCEED TWO (2) INCHES.
4. PROVIDE ONE (1) INCH EXPANSION JOINTS AT EVERY 100 FEET.
5. ALL STONE SHALL BE THOROUGHLY SOAKED BEFORE BEING PLACED.
6. ALL STONE FOR ROCKWALLS SHALL BE FRACTURED QUARRIED ROCK, NO RIVER ROCK SHALL BE ALLOWED. ROCKS SHALL BE BETWEEN 6" AND 12" IN SIZE.
7. IF REQUIRED, PROVIDE 4" PVC WEEP HOLE @ 20 FT. O.C. AT BOTTOM OF ROCKWALL, FOR DRAINAGE PURPOSES.
8. STONE TO BE CLEANED OF MORTAR DEBRIS SOON AFTER PLACEMENT.

7 TYPICAL ROCKWALL DETAIL
C4.16 SCALE: N.T.S.

Filename: V:\0225\11-125-PLAN SET\DWG\CONSTRUCTION SET\03-C4.16 TYPICAL DETAILS.DWG
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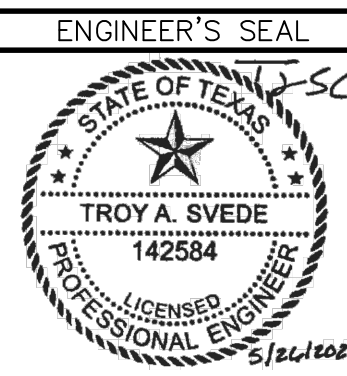


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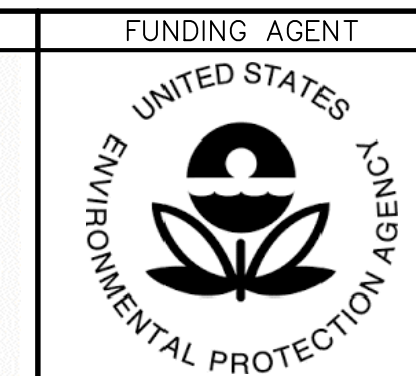
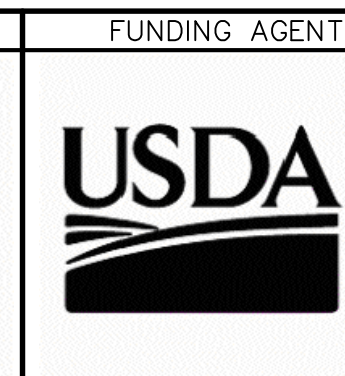
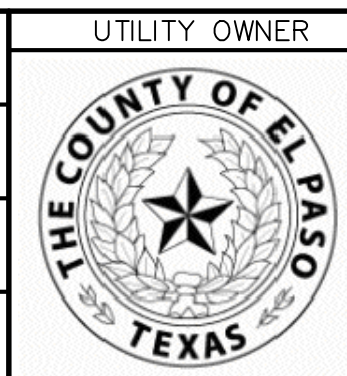
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DRAWN A.B.
CHECKED B.J.K.
DATE 05/26/2022



HILLCREST CENTER WATER IMPROVEMENTS PROJECT (PHASE I)
TYPICAL WATER DETAILS (SHEET 1 OF 4)

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JOB NO. 16-125
SHEET 21 OF 24
SHEET NO. C5.1

GENERAL NOTES:

- REFER TO UTILITY DETAIL FOR PAVEMENT REPLACEMENT AND BACKFILL REQUIREMENTS.
- TRENCH SAFETY SYSTEMS SHALL BE USED WHEN TRENCH DEPTH EXCEEDS 5 FEET.

CONSTRUCTION KEY NOTES:

A. COVER FOR WATER MAINS SHALL DEPEND ON THE PIPE SIZE AND THE FOLLOWING INSTALLATION CONDITIONS.

CONDITION A - NORMAL LINE INSTALLATION, STREET AND DRAINAGE PROJECTS, WATERLINE RELOCATION

CONDITION B - NEW SUBDIVISIONS, NON-PAVED AREA AND SHALL BE AS FOLLOWS.

PIPE SIZE	CONDITIONS	DIMENSIONS
6", 8"	A	D=4"
6", 8"	B	D1=4"
12" & LARGER	A OR B	D1=5"

STANDARD DETAIL DATE: 1994 REV: 8/3/2006 COVER FOR WATER MAINS N.T.S. **el paso WATER** DETAIL No. 250

GENERAL NOTES:

- VALVE TYPE AND VALVE ENDS SHALL BE AS SHOWN ON THE PLANS.
- ALL BURIED VALVES 5' AND DEEPER SHALL BE PROVIDED WITH SOLID STEEL EXTENSION STEM OPERATOR WITH 2" SQUARE AWWA NUT WITHIN 36" OF VALVE BOX COVER. NUT IS TO INDICATE DIRECTION OF ROTATION TO OPEN VALVE.
- 8" DIA. MINIMUM VITRIFIED CLAY OR SDR 35 P.V.C. PIPE, PIPE SHALL NOT REST ON VALVE BODY.
- 1/4" THICK STEEL TRASH RING VALVE BOX INSIDE DIAMETER MINUS 1/4".
- MINIMUM 2 1/2" CONCRETE OR BRICK ALL AROUND.
- CLEAN BONNET BOX OF ALL DEBRIS AND SOIL.
- COAT BURIED PIPE AND BONNET BOX PER SPECIFICATIONS. VALVE SHALL BE WRAPPED IN POLYETHYLENE IN ACCORDANCE WITH SPECIFICATIONS.

CONSTRUCTION KEY NOTES:

A. BONNET BOX (SEE DETAIL 268).

B. BONNET BOX COVER (SEE DETAILS 269-1 & 269-2).

C. FINAL EXTENSION TO BONNET BOX SHALL BE WITH BELL AND SPIGOT ENDS (CLAY OR SDR 35 P.V.C. SPOOL).

D. CONCRETE VALVE ANCHOR (SEE DETAIL 271).

E. CONCRETE COLLAR (SEE DET 184-1) FLUSH WITH TOP OF H.M.A.C.

F. BONNET BOX FLUSH WITH TOP OF CONCRETE, CONCRETE COLLAR NOT NEEDED.

G. CONCRETE APRON (SEE DETAIL 184-2) FLUSH WITH BONNET BOX AND 2" ABOVE NATURAL GROUND.

STANDARD DETAIL DATE: 5/1994 REV: 6/22/2009 GATE VALVE INSTALLATION N.T.S. **el paso WATER** DETAIL No. 260

GENERAL NOTES:

- CASTING TO BE SMOOTH AND VOID OF AIR HOLES.
- WEIGHT OF BONNET BOX IS 95 POUNDS.

CONSTRUCTION KEY NOTES:

A. TO BE ROUGH GROUND OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.

STANDARD DETAIL DATE: 2/1994 REV: 7/8/2006 BONNET BOX N.T.S. **el paso WATER** DETAIL No. 268

GENERAL NOTES:

- CASTINGS TO BE SMOOTH AND VOID OF AIR HOLES.
- WEIGHT OF COVER IS 18 POUNDS.

CONSTRUCTION KEY NOTES:

A. TO BE ROUGH GROUND OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.

STANDARD DETAIL DATE: 2/16/2006 REV: 12/14/2007 BONNET BOX COVER (FLIP RESISTANT) N.T.S. **el paso WATER** DETAIL No. 269-2

GENERAL NOTES:

- TABLE IS BASED ON 2000#/SQ. FT. SOIL. IF CONDITIONS ARE FOUND TO INDICATE SOIL BEARING IS LESS, THE AREAS SHALL BE INCREASED ACCORDINGLY.
- AREAS FOR PIPE LARGER THAN 18" SHALL BE CALCULATED.
- CONCRETE SHALL HAVE A MINIMUM COMPRESSION STRENGTH OF 2500 PSI.
- THRUST BLOCK IS TO EXTEND TO UNDISTURBED SOIL.
- SIZE MAY BE DECREASED FOR LESSER DEGREE BENDS AS DETERMINED BY ENGINEER.
- KEEP CONCRETE CLEAR OF M.J. OR BELL AND SPIGOT JOINTS.
- BLOCK IN A SIMILAR MANNER AT TEES, HYDRANTS, PLUG OR OTHER LOCATIONS AS REQUIRED.
- WHEN NECESSARY ADDITIONAL THRUST RESTRAINT METHODS MAY BE USED, SUCH AS MECHANICAL JOINT RESTRAINTS, TIE-RODS (INSTALLED PER MANUFACTURERS' RECOMMENDATIONS) OR OTHER APPROVED METHODS.

CONSTRUCTION KEY NOTES:

A. LENGTH "Y" & "W" AS REQUIRED TO OBTAIN BEARING AREA AGAINST UNDISTURBED SOIL.

B. ADDITIONAL EXCAVATION IF NECESSARY TO OBTAIN REQUIRED BEARING AREA.

C. MINIMUM THRUST BLOCK AREA REQUIREMENTS FOR (Y & W) AS FOLLOWS:

PIPE SIZE	WATER PIPE	
	TEE, DEAD END 90° BEND	45° AND 22 1/2° BENDS
4" & LESS	3 SQ. FEET	3 SQ. FEET
6"	4 SQ. FEET	3 SQ. FEET
8"	6 SQ. FEET	3 SQ. FEET
10"	9 SQ. FEET	5 SQ. FEET
12" N.T.S.	13 SQ. FEET	7 SQ. FEET
16"	23 SQ. FEET	12 SQ. FEET
18"	29 SQ. FEET	15 SQ. FEET

STANDARD DETAIL DATE: 2/1994 REV: 8/7/2006 CONCRETE THRUST BLOCKING N.T.S. **el paso WATER** DETAIL No. 270

GENERAL NOTES:

- THE ENGINEER SHALL PROVIDE DESIGN FOR ALL VALVES GREATER THAN 12".
- COMPLY WITH REQUIREMENTS OF AWWA C-550, PROTECTIVE EPOXY INTERIOR COATINGS FOR VALVES.

CONSTRUCTION KEY NOTES:

A. TWO NO. 5 REBAR HAIR PINS. PAINT UNEMBEDDED PORTION OF REBARS WITH TWO COATS OF COAL TAR EPOXY.

B. CONCRETE VALVE SUPPORT, 2500 PSI. CONCRETE.

C. APPROVED PIPE.

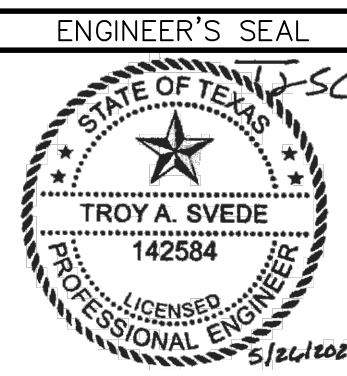
STANDARD DETAIL DATE: 2/1994 REV: 12/12/2011 VALVE ANCHOR N.T.S. **el paso WATER** DETAIL No. 271

Filename: P:\0125\14-125-PLAN SET\DWG\CONSTRUCTION SET\22-05.2 WATER DETAILS 2.DWG
Plot Date: 6/7/2022 9:31:12 AM By: Arturo Barragan

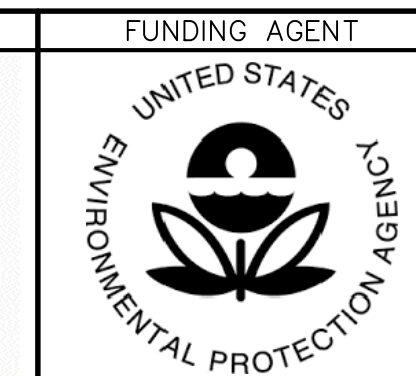
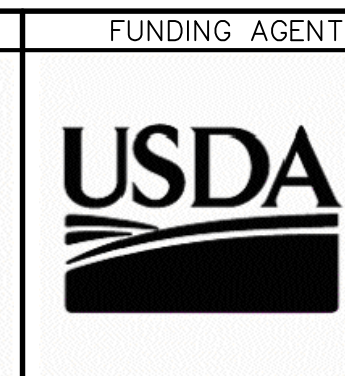
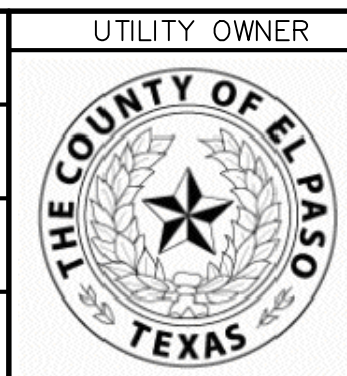
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DATE
05/26/2022



PROJECT PARTNER

1154 HAWKINS BLVD.
EL PASO, TEXAS 79925
(915) 594-5500

ENGINEER

PLANNING-ENGINEERING-PROJECT MANAGEMENT

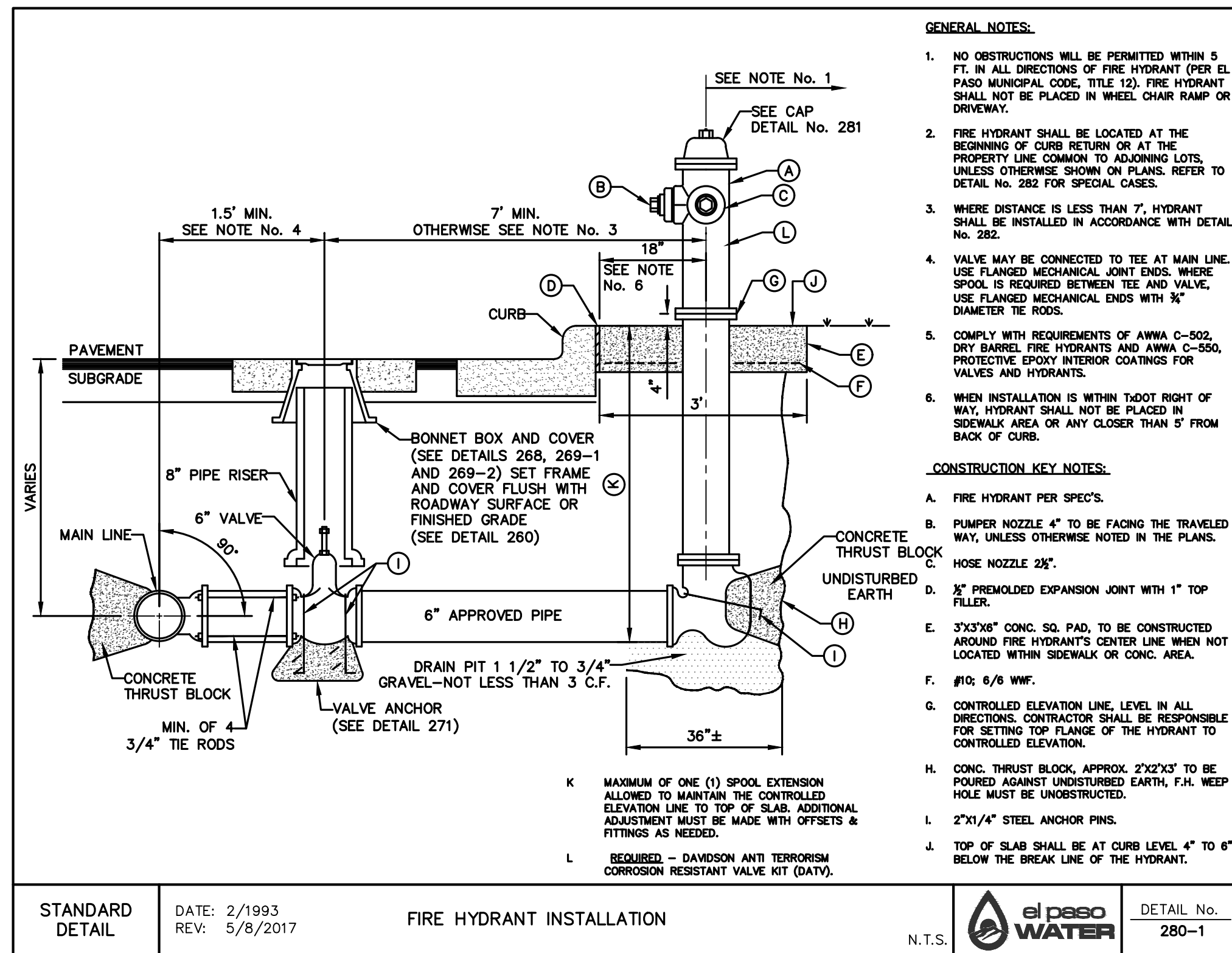
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HILLCREST CENTER WATER IMPROVEMENTS PROJECT (PHASE I)

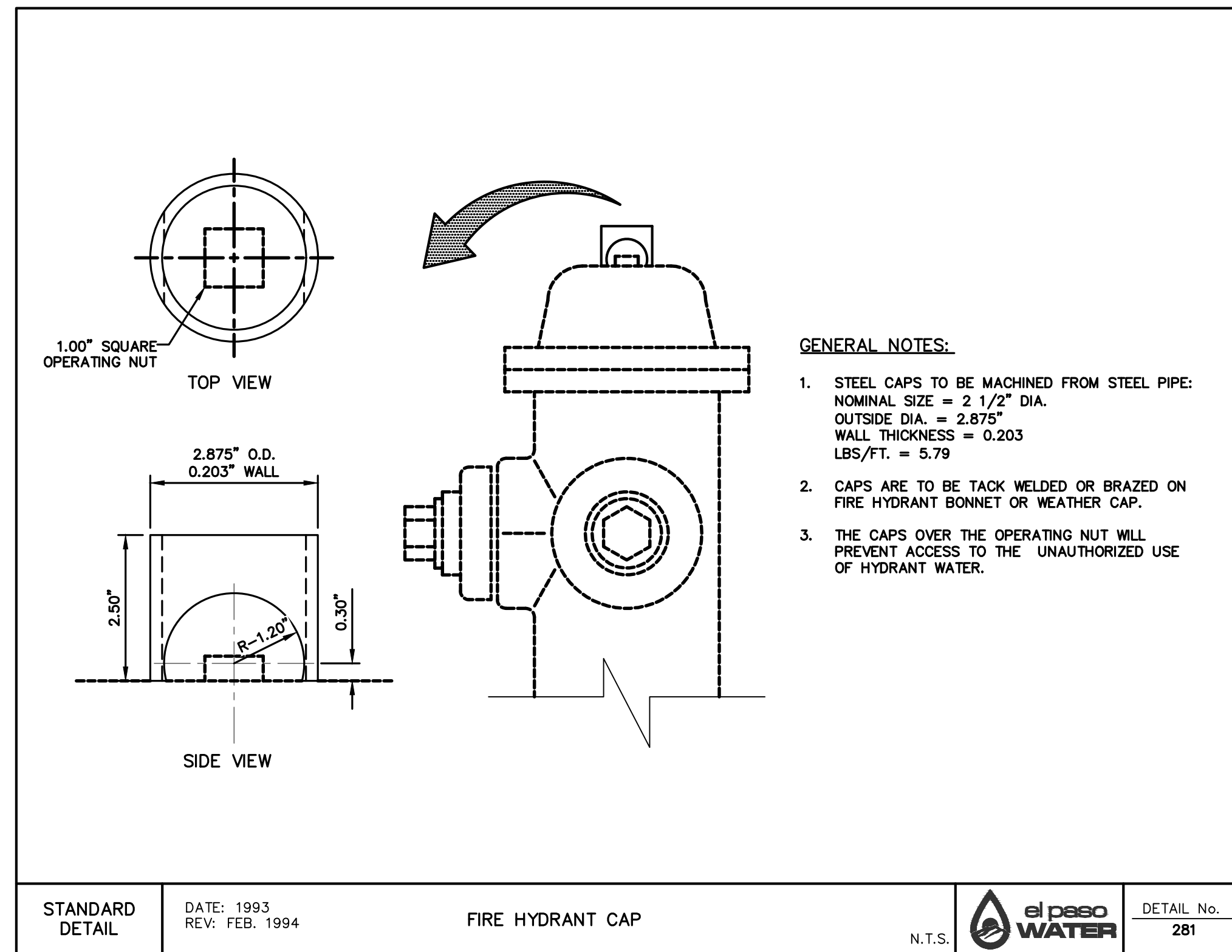
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(SHEET 2 OF 4)

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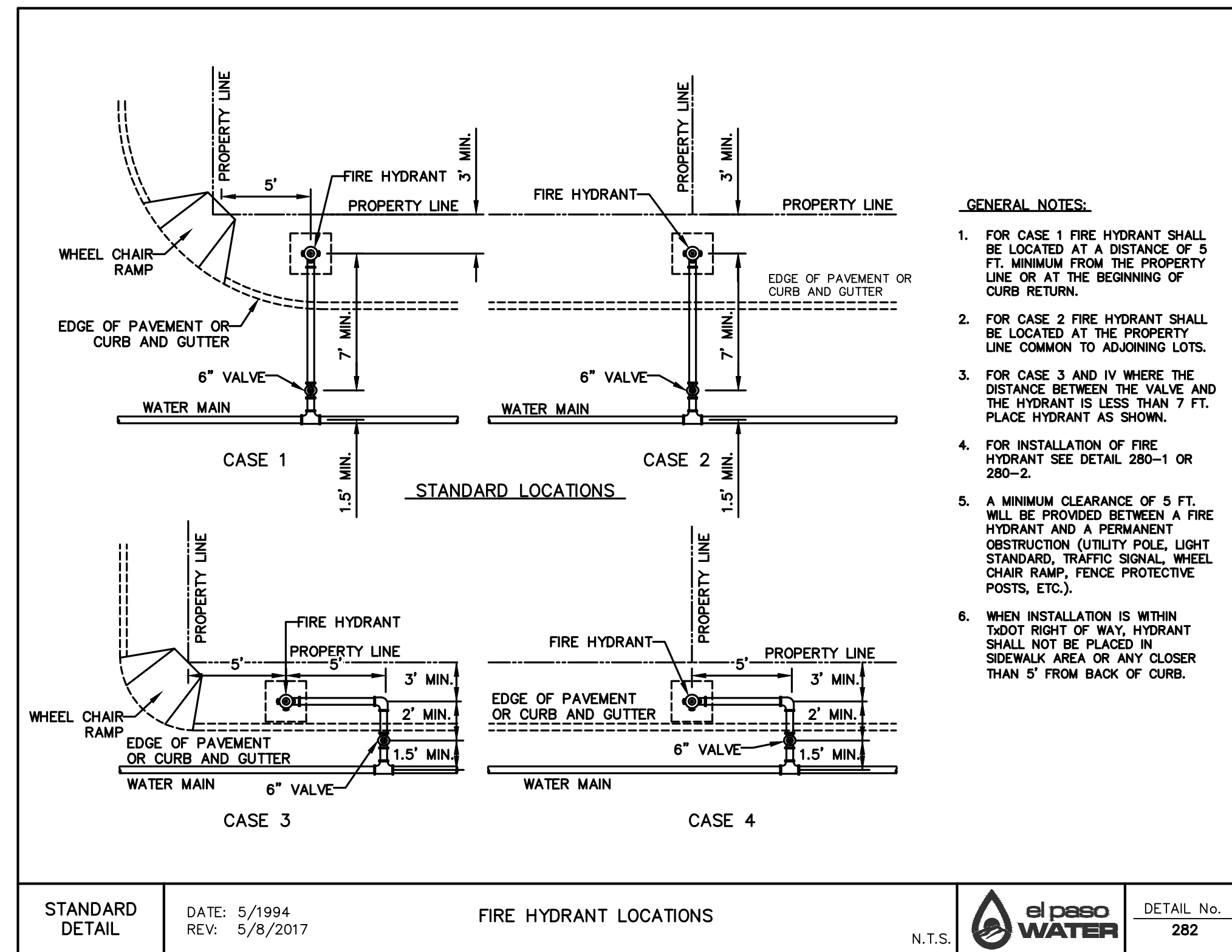
JOB NO.
16-125
SHEET
22 OF 24
SHEET NO.
C5.2



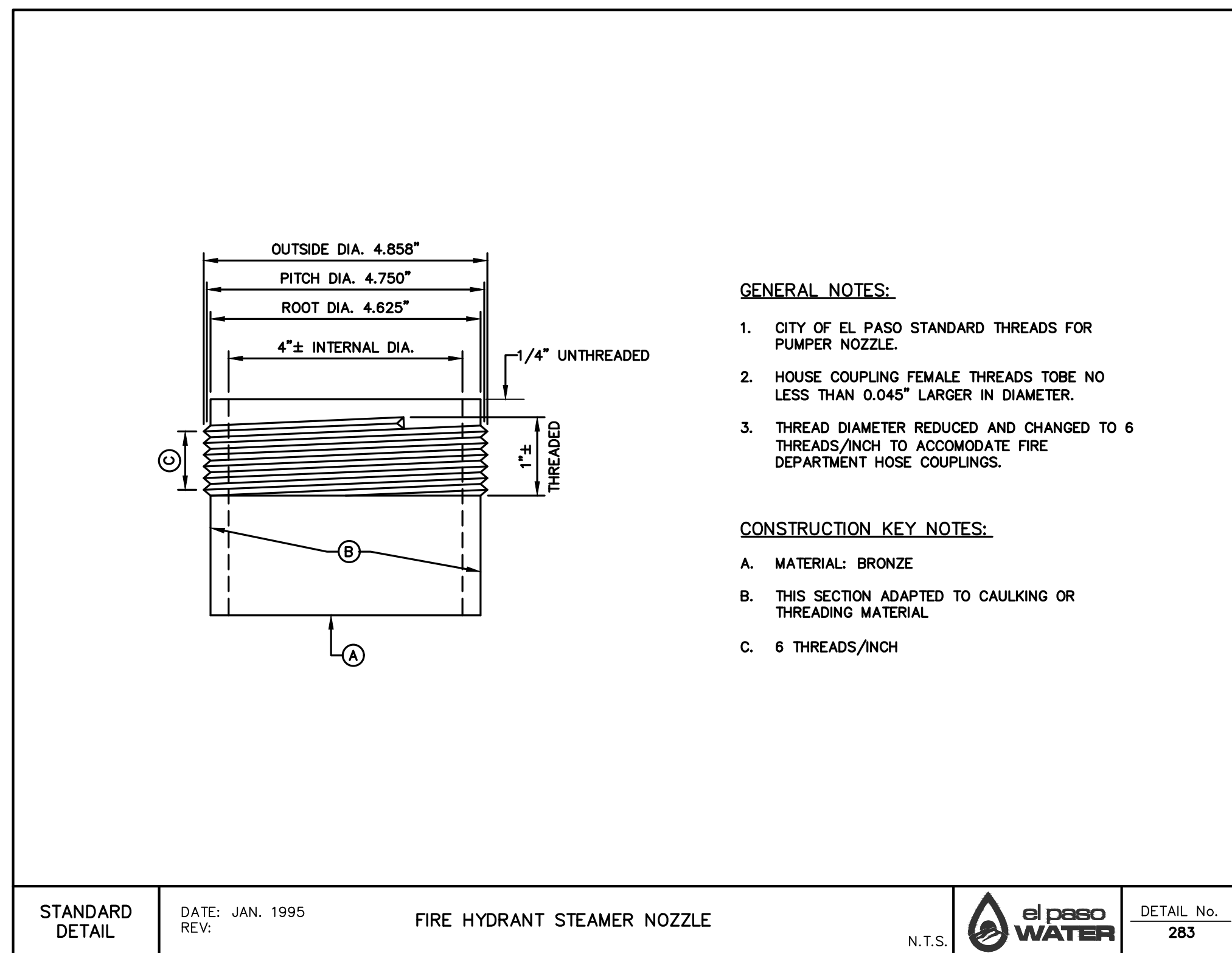
STANDARD DETAIL DATE: 2/1993 REV: 5/8/2017 FIRE HYDRANT INSTALLATION N.T.S. el paso WATER DETAIL No. 280-1



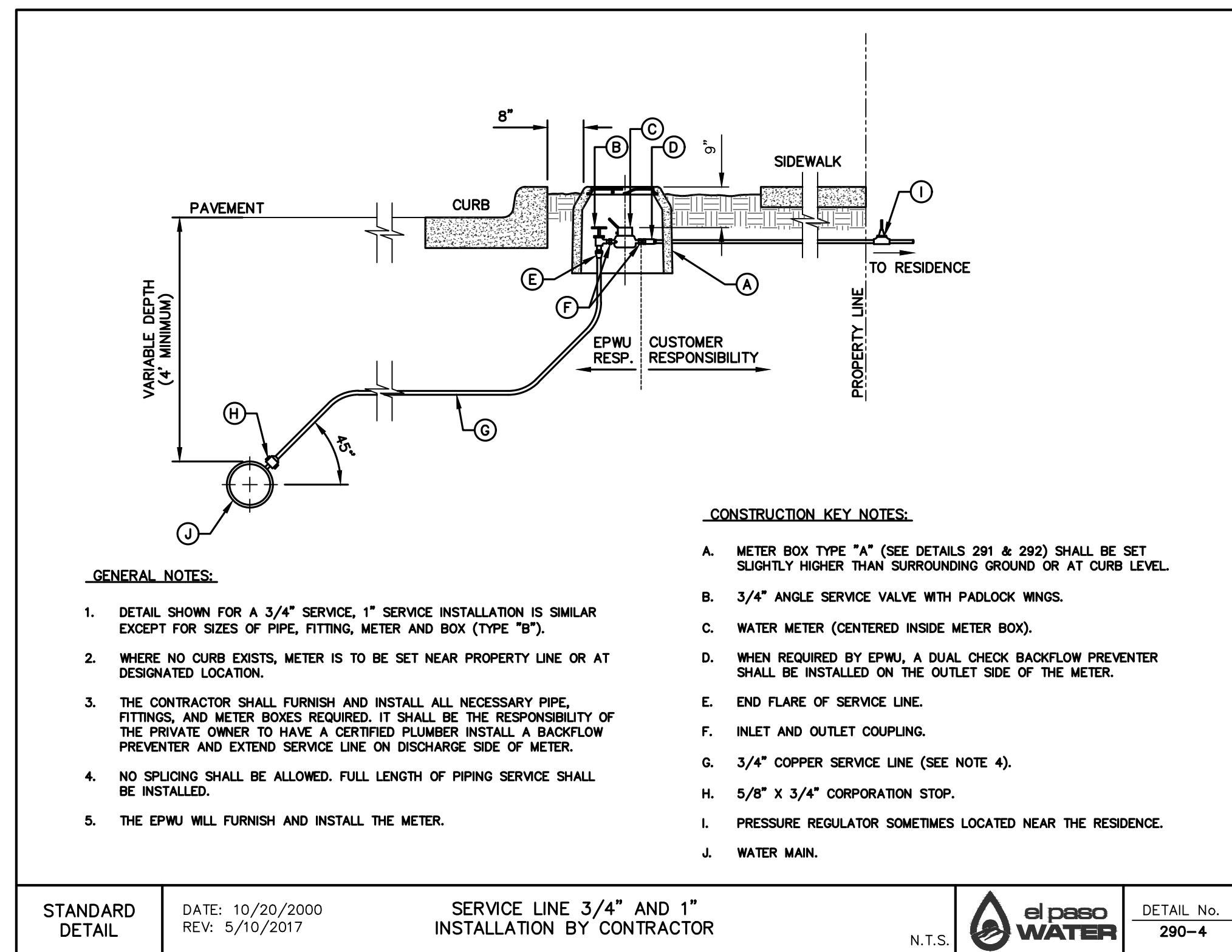
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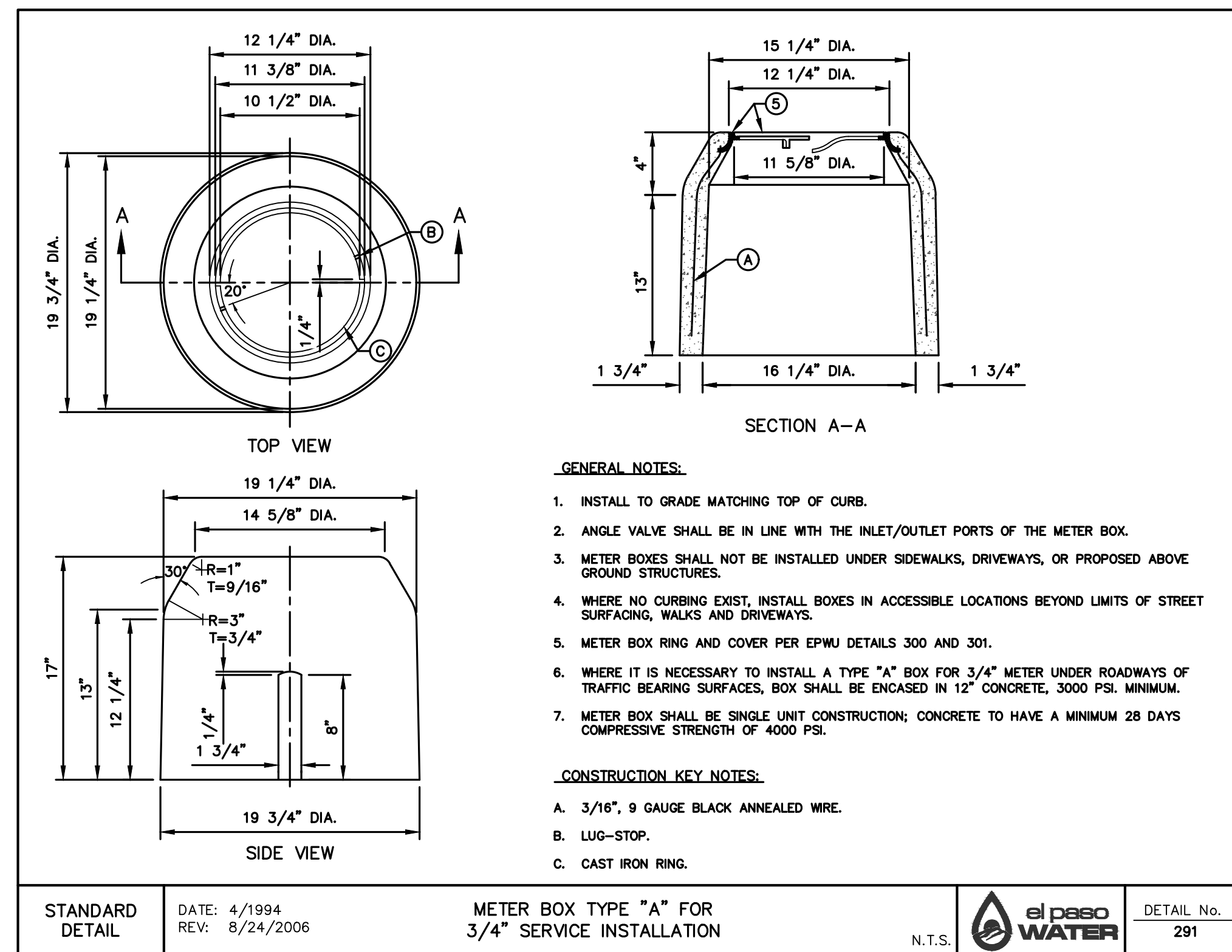
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STANDARD DETAIL DATE: JAN. 1995 REV. FIRE HYDRANT STEAMER NOZZLE N.T.S. el paso WATER DETAIL No. 283



STANDARD DETAIL DATE: 10/20/2000 REV: 5/10/2017 SERVICE LINE 3/4\"/>



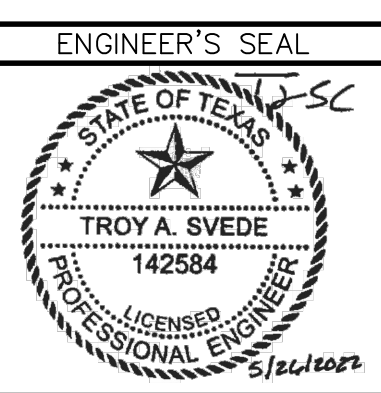
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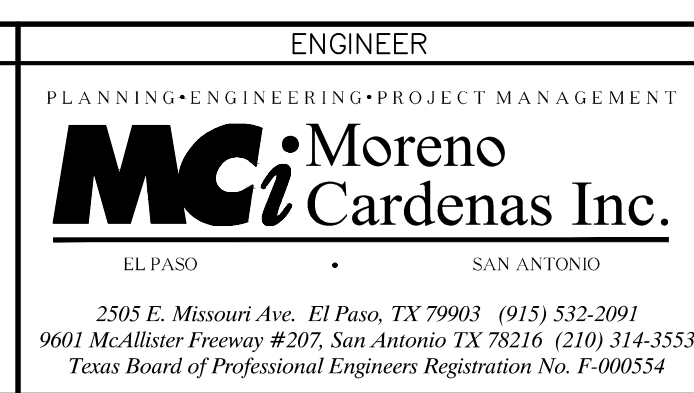
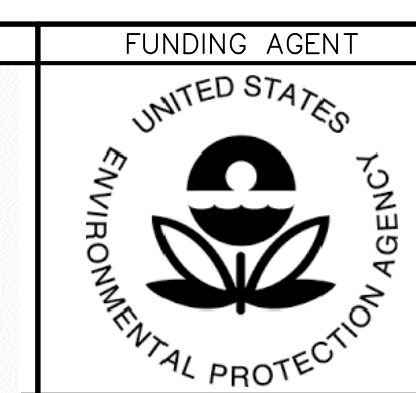
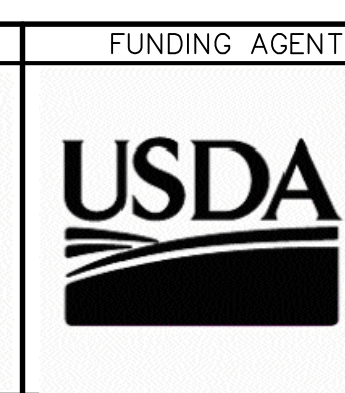
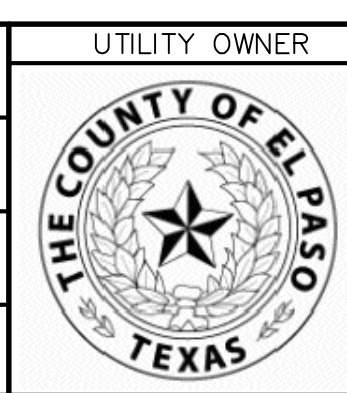
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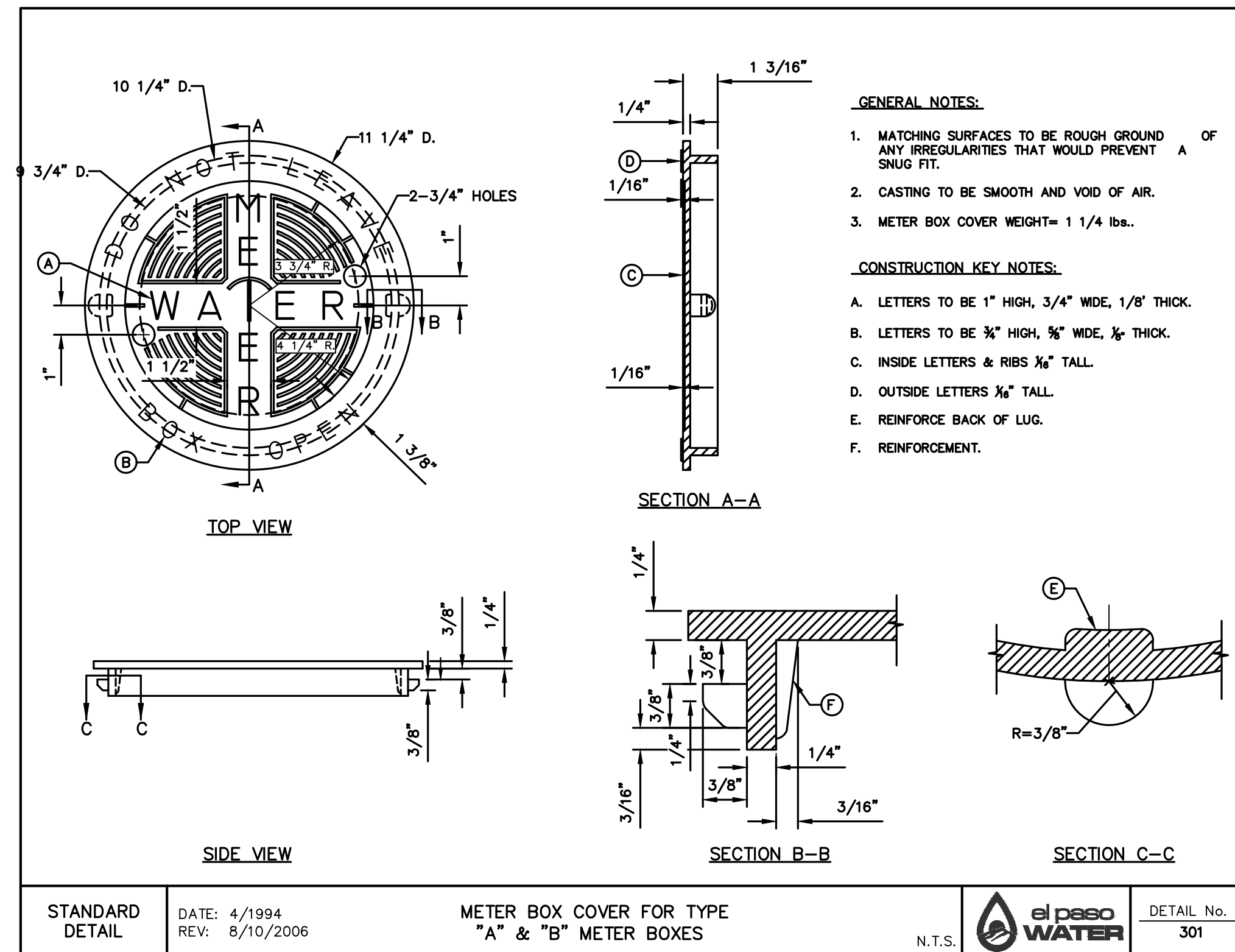
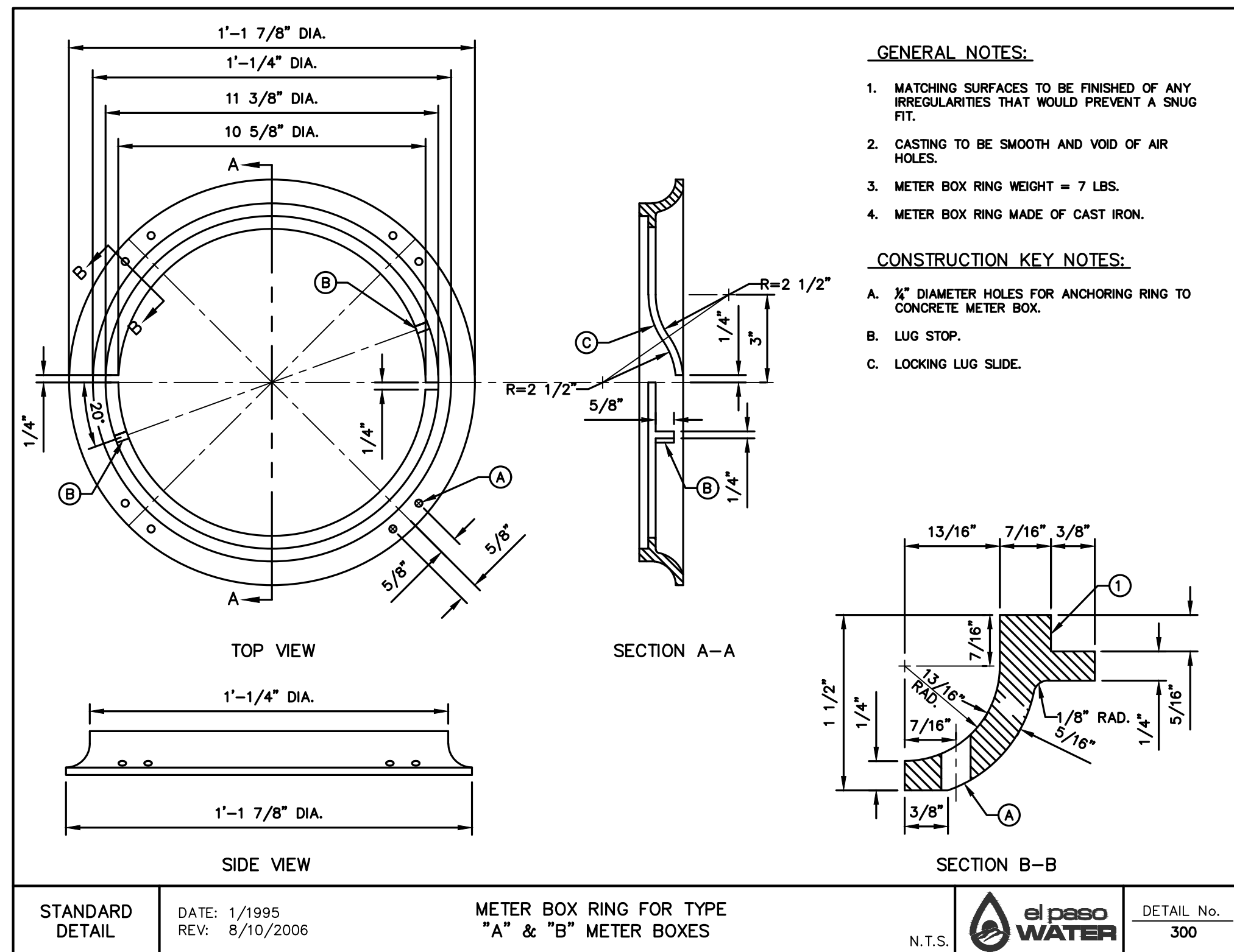


HILLCREST CENTER WATER IMPROVEMENTS PROJECT (PHASE I)

TYPICAL WATER DETAILS (SHEET 3 OF 4)

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SHEET 23 OF 24
SHEET NO. C5.3

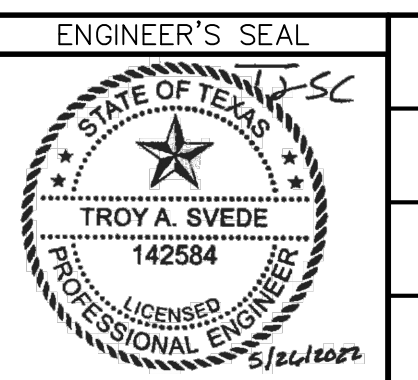


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Plot Date: 6/7/2022 9:35:34 AM By: Arturo Barragan

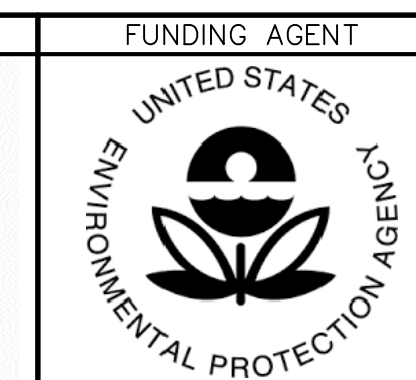
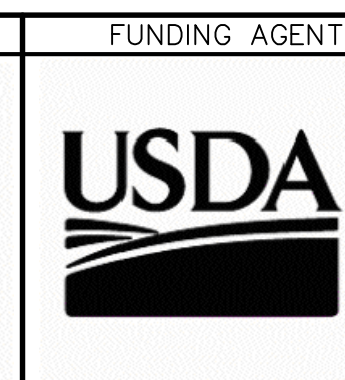
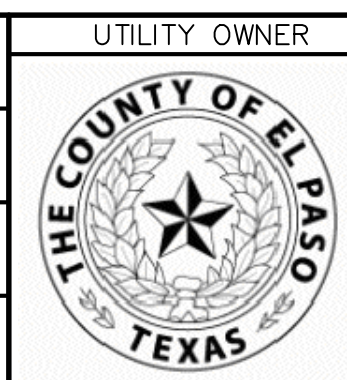
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CALL
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DRAWN
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CHECKED
B.J.K.
DATE
05/26/2022



HILLCREST CENTER WATER IMPROVEMENTS PROJECT (PHASE I)

TYPICAL WATER DETAILS (SHEET 4 OF 4)

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JOB NO.
16-125
SHEET
24 OF 24
SHEET NO.
C5.4