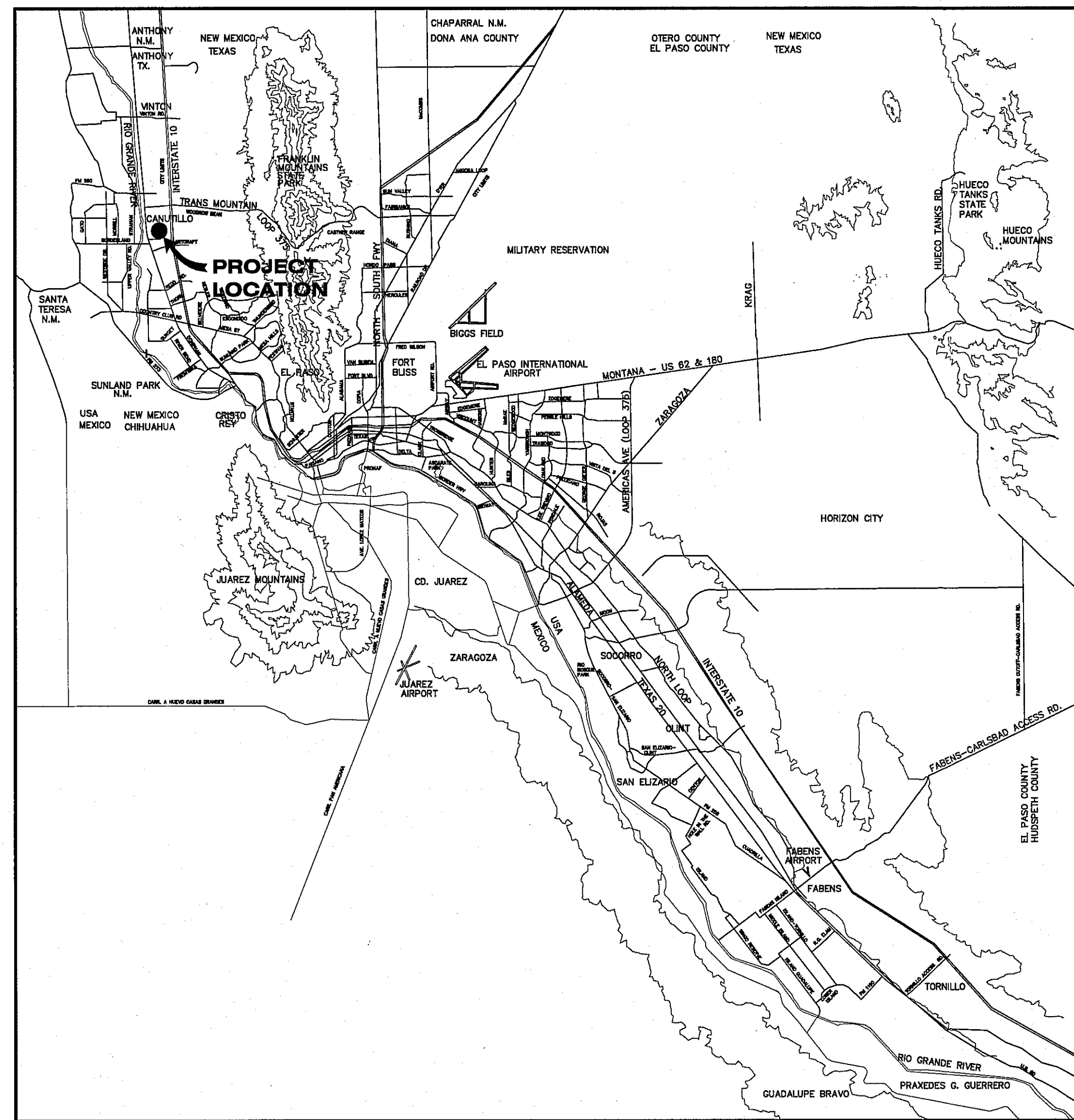


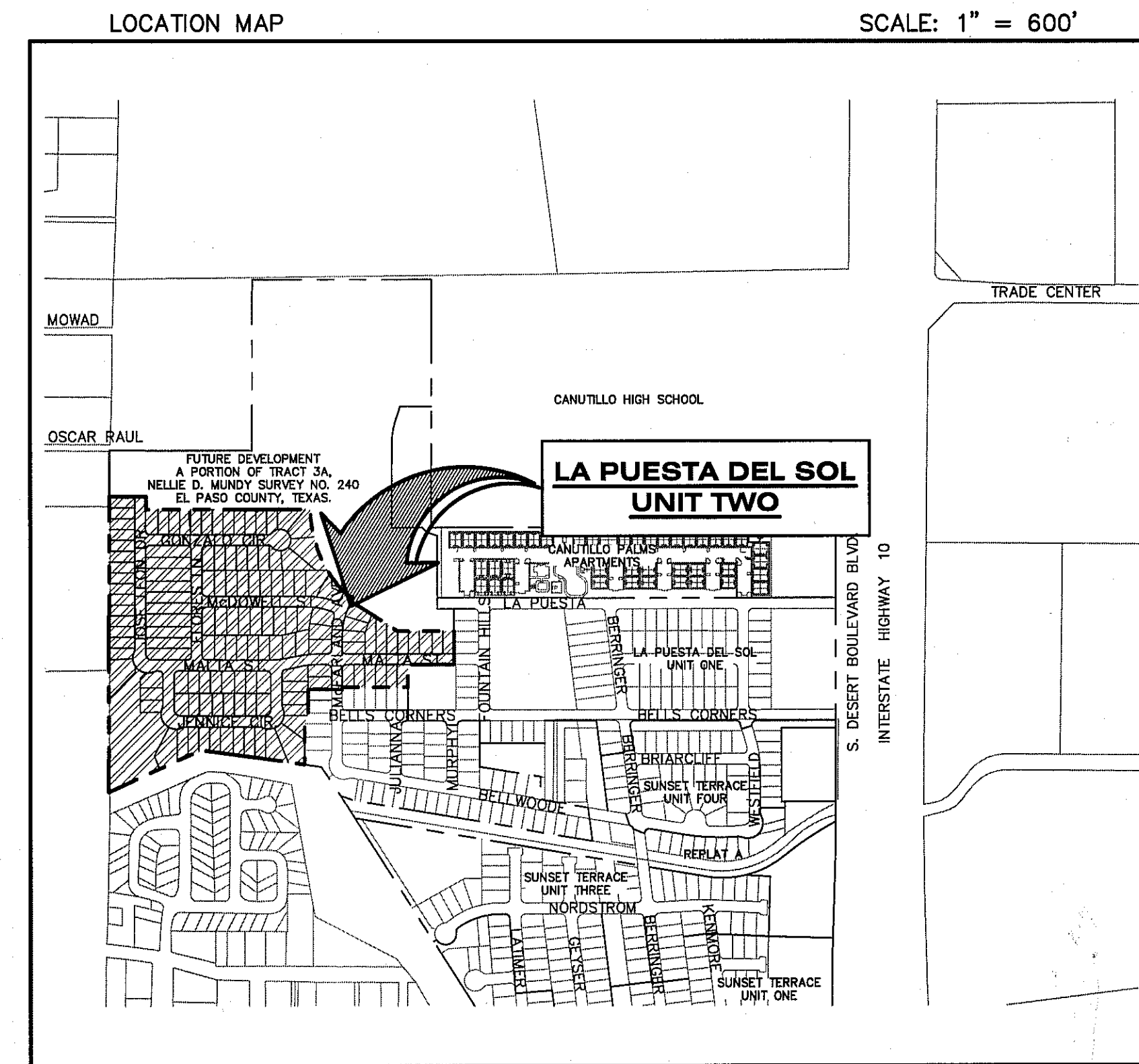
LA PUESTA DEL SOL UNIT TWO SUBDIVISION IMPROVEMENTS

A PORTION OF TRACT 1A AND 1B, NELLIE D. MUNDY SURVEY NO. 241, AND A PORTION OF TRACT 3A, NELLIE D. MUNDY SURVEY NO. 240, CITY OF EL PASO, EL PASO COUNTY, TEXAS CONTAINING 30.66+ ACRES

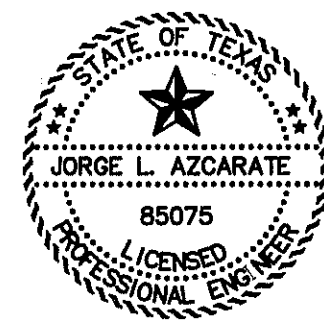


VICINITY MAP
APPROXIMATE SCALE:
1" = 2 MILES

SHEET NUMBER	SHEET TITLE
CVR	COVER SHEET
C1.1	GENERAL INFORMATION
C2.1	FINAL PLAT
C3.1	GRADING PLAN
C4.1	DRAINAGE PLAN
C5.1-C5.2	GRADING SECTIONS
C6.1-C6.8	STREET PLAN & PROFILES
C7.1-C7.2	STORM SEWER PLAN & PROFILES
C8.1	POND DESIGN PLAN
C9.1-C9.2	STANDARD DETAILS
C10.1-C10.3	DRAINAGE DETAILS
C11.1	ILLUMINATION PLAN
C12.1-C12.2	WATER INDEX / GENERAL INFORMATION
C12.3-C12.6	WATER DETAILS
C13.1	SANITARY SEWER INDEX / GENERAL INFORMATION
C13.2-C13.4	SANITARY SEWER PLAN & PROFILES
C13.5-C13.7	SANITARY SEWER DETAILS
C14.1-C14.3	STORM WATER POLLUTION PREVENTION PLAN



LOCATION MAP
APPROXIMATE SCALE: 1" = 600'



Jorge L. Azcarate
9-5-17
JORGE L. AZCARATE, P.E. PROJECT MANAGER



PRINCIPAL CONTACTS:

	NAME	ADDRESS	CITY & ZIP	PHONE	FAX
OWNER:	TROPICANA DEVELOPMENT INC.	4712 WOODROW BEAN, STE. A	EL PASO, TX 79924	(915) 821-3550	(915) 821-3556
ENGINEER:	CEA GROUP	4712 WOODROW BEAN DR. STE. F	EL PASO, TX 79924	(915) 544-5232	(915) 544-5233
SURVEYOR:	BARRAGAN & ASSOCIATES	10950 PELLICANO DR. BUILDING F	EL PASO, TX 79936	(915) 591-5709	(915) 591-5706

CITY DEVELOPMENT DEPARTMENT
Reviewed For Conformance For Condition Related To:

- Sidewalks
- Grading & Drainage
- Whisker/Ramps
- On Site Parking Layout
- Easements
- Retaining Back Walls
- On Site Paving of Storm Water

Contractor Must Call 24 Hours Prior To Construction For Inspections
[Signature] 9/11/2017

GENERAL NOTES

1. THE CONTRACTOR SHALL VISIT AND FAMILIARIZE HIMSELF WITH THE PROJECT SITE PRIOR TO SUBMITTING BIDS.
2. CONTRACTOR SHALL WATER CONSTRUCTION AREA A MINIMUM OF TWICE A DAY TO KEEP DUST TO A MINIMUM - ONCE IN THE MORNING AND BEFORE QUITTING TIME. THIS SHALL ALSO BE DONE DURING WEEKENDS AND HOLIDAYS.
3. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE, PROTECT, AND REPLACE ALL UNDERGROUND UTILITY LINES AT NO EXTRA COST TO THE OWNER WHEN LINES ARE DISTURBED AS A RESULT OF THE WORK.
4. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SCHEDULE AND PERFORM HIS WORK SO AS TO ASSURE PROPER PASSAGE OF STORM RUNOFF DURING THE COURSE OF HIS 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 INCIDENTAL TO THE WORK, AND SHALL BE AT THE EXPENSE OF THE CONTRACTOR.
5. THE CONTRACTOR SHALL COORDINATE THE CONSTRUCTION SCHEDULE WITH THE USER, ALL UTILITIES, AND ALL OTHER AGENCIES WITH JURISDICTION OVER THE PROJECT.
6. ALL EXISTING PAVEMENT, ADJACENT UTILITIES, STRUCTURES, ETC., DISTURBED AS A RESULT OF THE NEW CONSTRUCTION, SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
7. THE OWNER WILL FURNISH HORIZONTAL AND VERTICAL CONTROL REFERENCED POINTS ONLY. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND GRADES BEFORE PROCEEDING WITH THE WORK. ANY DISCREPANCIES FOUND SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER, OTHERWISE THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR THEIR CORRECTNESS.
8. SEE REFERENCED BENCHMARK ON TITLE BLOCK FOR DATUM ELEVATIONS.
9. VIBRATORY ROLLERS WILL NOT BE PERMITTED ON ANY PHASE OF THIS PROJECT, UNLESS APPROVED IN WRITING BY THE CITY ENGINEER.
10. ALL WORK REQUIRED BY THESE PLANS SHALL BE CONDUCTED IN CONFORMANCE WITH CURRENT SAFETY CODES AND STANDARDS WITH JURISDICTION OVER THE PROJECT.
11. THE LOCATION OF THE INLETS SHALL BE AT THE FIELD LOW POINT AND APPROVED BY THE ENGINEER.

LEGEND

- SUBDIVISION BOUNDARY
- _____ ROW LINE
- _____ CURB LINE
- _____ PROPERTY LINE
- STREET CENTERLINE
- EASEMENT LINE
- MATCH LINE
- STORM SEWER LINE
- HIGH WATER MARK
- CURB AND GUTTER DROP INLET
- ⊙ STORM SEWER MANHOLE
- 4000 FINISHED GROUND CONTOUR ELEVATION (INDEX)
- FINISHED GROUND CONTOUR ELEVATION (INTERMEDIATE)
- 4000--- EXISTING GROUND CONTOUR ELEVATION (INDEX)
- EXISTING GROUND CONTOUR ELEVATION (INTERMEDIATE)
- NEW RETAINING ROCKWALL (2'-3" IN HEIGHT)
- NEW RETAINING ROCKWALL (3'-9" IN HEIGHT)
- ⊗ STANDARD DETAIL/SECTION NUMBER
- ⊗ SHEET NUMBER WHERE STANDARD/SECTION DETAIL IS LOCATED
- 4000.00 FINISHED SPOT ELEVATION
- FG 4000.00 LOT FINISHED GROUND ELEVATION
- TC 4000.00 TOP OF CURB ELEVATION
- TP 4000.00 TOP OF PAVEMENT ELEVATION
- 1 (2) SUBDIVISION LOT AND BLOCK NUMBER
- DRAINAGE FLOW
- ▲ HIGH POINT
- ▼ LOW POINT
- ◁ ▷ EXISTING HIGH POINT
- ▷ ◁ EXISTING LOW POINT
- ▣ HEADWALL WITH WINGWALLS
- DA-1 DRAINAGE AREA
- 3:1 SLOPE HORIZONTAL:VERTICAL SLOPE RATIO
- ↔ WHEELCHAIR RAMP

GRADING SPECIFICATIONS

1. CLEARING AND GRUBBING: CLEAR SITE OF TREES, SHRUBS AND OTHER VEGETATION; COMPLETELY REMOVE STUMPS, ROOTS AND OTHER DEBRIS PROTRUDING THROUGH GROUND SURFACE; FILL DEPRESSIONS CAUSED BY CLEARING AND GRUBBING OPERATIONS WITH SATISFACTORY FILL MATERIAL, UNLESS FURTHER EXCAVATION OF EARTHWORK IS INDICATED; REMOVE EXISTING ABOVE-GRADE AND BELOW-GRADE IMPROVEMENTS AS INDICATED AND AS NECESSARY TO FACILITATE NEW CONSTRUCTION. BURNING IS NOT PERMITTED ON OWNER'S PROPERTY. REMOVE WASTE MATERIALS FROM OWNER'S PROPERTY.
2. SATISFACTORY FILL MATERIALS: FILL MATERIALS SHALL BE FREE OF ANY ORGANIC OR DELETERIOUS SUBSTANCE AND SHALL NOT CONTAIN ROCKS OR LUMPS OVER 3 INCHES IN GREATEST DIMENSION AND SHALL BE DEFINED AS THOSE COMPLYING WITH ASTM D2487 SOIL CLASSIFICATION GROUPS GW, GP, GM, GC, SM, SP, SM, AND SC.
3. UNSATISFACTORY FILL MATERIAL: ARE DEFINED AS THOSE COMPLYING WITH ASTM D2487 SOIL CLASSIFICATION GROUPS ML, MH, CL, CH, OL, OH, AND PT, OR WHERE THE PLASTICITY INDEX EXCEEDS 12, UNLESS OTHERWISE APPROVED BY ENGINEER, OR CITY ENGINEER.
4. EXCAVATION: IS UNCLASSIFIED AND INCLUDES EXCAVATION TO ELEVATIONS INDICATED, REGARDLESS OF CHARACTER OF MATERIAL AND OBSTRUCTIONS ENCOUNTERED.
5. GROUND SURFACE PREPARATION FOR FILL: REMOVE VEGETATION, DEBRIS, UNSATISFACTORY SOIL MATERIAL, OBSTRUCTIONS, AND DELETERIOUS MATERIAL FROM GROUND SURFACE UPON WHICH THE FILL IS TO BE PLACED. THE SURFACE SHALL THEN BE SCARIFIED TO A DEPTH OF AT LEAST 6-INCHES, AND UNTIL THE SURFACE IS FREE FROM RUTS, HUMMOCKS OR OTHER UNEVEN FEATURES WHICH WOULD PREVENT UNIFORM COMPACTION. PLOW STRIP, OR BREAK UP SLOPED SURFACES STEEPER THAN 1 VERTICAL TO 4 HORIZONTAL SO THAT FILL MATERIAL WILL BOND WITH EXISTING SURFACE. AFTER PLOWING AND SCARIFYING FILL AREA, IT SHALL THEN BE DISCED OR BLADED UNTIL IT IS UNIFORM AND FREE FROM LARGE CLODS, BROUGHT TO OPTIMUM MOISTURE, AND COMPACTED TO 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D-1557.
6. PLACEMENT OF FILL: PLACE BACKFILL AND FILL MATERIALS IN LAYERS NOT MORE THAN 8 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HEAVY COMPACTION EQUIPMENT, AND NOT MORE THAN 4 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HAND-OPERATED TAMPERS. BEFORE COMPACTION, MOISTEN OR AERATE EACH LAYER AS NECESSARY TO PROVIDE OPTIMUM MOISTURE CONTENT. PLACE FILL MATERIALS EVENLY ADJACENT TO SITE APPURTENANCES, PIPING, OR CONDUIT TO REQUIRED ELEVATIONS. PREVENT WEDGING ACTION OF BACKFILL AGAINST SITE APPURTENANCES OR DISPLACEMENT OF PIPING OR CONDUIT BY CARRYING MATERIAL UNIFORMLY AROUND SITE APPURTENANCES, PIPING, OR CONDUIT TO APPROXIMATELY SAME ELEVATION IN EACH LIFT. COMPACT SOIL TO NOT LESS THAN 95% OF MAXIMUM DENSITY, IN ACCORDANCE WITH ASTM D-1557.
7. MOISTURE CONTROL: WHERE SUBGRADE OR LAYER OF SOIL MATERIAL MUST BE CONDITIONED FOR OPTIMUM MOISTURE BEFORE COMPACTION, UNIFORMLY APPLY WATER TO SURFACE OF SUBGRADE OR LAYER OF SOIL MATERIAL. APPLY WATER IN MINIMUM QUANTITY AS NECESSARY TO PREVENT FREE WATER FROM APPEARING ON SURFACE DURING OR SUBSEQUENT TO COMPACTION OPERATIONS. WATER CONTENT SHALL BE WITHIN 2 PERCENTAGE POINTS OF OPTIMUM MOISTURE CONTENT. REMOVE AND REPLACE, OR SCARIFY AND AIR DRY SOIL MATERIAL THAT IS TOO WET TO PERMIT COMPACTION TO SPECIFIED DENSITY.
8. QUALITY CONTROL: THE OWNER SHALL PROVIDE A GEOTECHNICAL ENGINEER TO PERFORM FIELD DENSITY TEST OF THE COMPACTION OF EACH LAYER OF FILL. DENSITY TESTS SHALL BE TAKEN IN THE COMPACTED MATERIAL BELOW THE DISTURBED SURFACE. WHEN THESE TESTS INDICATE THAT THE DENSITY OF ANY LAYER OF FILL OR PORTION THEREOF IS BELOW THE REQUIRED DENSITY, THE PARTICULAR LAYER OR PORTION SHALL BE REWORKED UNTIL THE REQUIRED DENSITY HAS BEEN OBTAINED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ADDITIONAL TESTING AND WHEN REQUIRED DENSITIES ARE NOT MET, SUPERVISION BY THE GEOTECHNICAL ENGINEER DURING THE GRADING OPERATIONS TO ENSURE GRADING WORK IN ACCORDANCE WITH THIS PLAN AND SPECIFICATIONS.

ABBREVIATIONS

- LP LOW POINT
- HP HIGH POINT
- ELEV ELEVATION
- STA STATION
- VCS VERTICAL CURVE STATION
- VCE VERTICAL CURVE ELEVATION
- TC TOP OF CURB
- TM TOP OF MEDIAN
- TP TOP OF PAVEMENT
- TYP TYPICAL
- PVC POINT OF VERTICAL CURVE
- PVI POINT OF VERTICAL INTERSECTION
- PVT POINT OF VERTICAL TANGENT
- AD ALGEBRAIC DIFFERENCE
- CR CURVE RETURN
- ROW RIGHT OF WAY
- CL CENTER LINE
- PL PROPERTY LINE
- FG FINISH GRADE
- FF FINISH FLOOR
- EG EXISTING GRADE
- MIN. MINIMUM
- MAX. MAXIMUM
- RCP REINFORCED CONCRETE PIPE
- Q QUANTITY
- CAP CAPACITY
- EXP EXPECTED
- INV INVERT
- CFS CUBIC FEET PER SECOND
- A AREA
- DA DRAINAGE AREA
- LF LINEAR FEET
- STD STANDARD
- CONC CONCRETE
- PC POINT OF CURVATURE
- PI POINT OF INTERSECTION
- PT POINT OF TANGENT
- L LENGTH
- R RADIUS
- T TANGENT
- Δ DELTA ANGLE
- S SLOPE
- TEMP TEMPORARY
- V VELOCITY IN FEET PER SECOND
- HGL HYDRAULIC GRADE LINE
- HWE HIGH WATER ELEVATION

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SEC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

WARNING!
BEFORE YOU DIG
CALL 811
FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY

REFERENCES - BENCHMARKS
CITY MONUMENT AT THE INTERSECTION OF PASEO DEL NORTE & NORTHWESTERN. ELEVATION = 3887.39 (CITY DATUM). THIS IS BASED ON NGS MONUMENT "CHINO" ELEVATION = 3935.48 (CITY DATUM)

osasa
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM #484
4712 Woodrow Bean, Ste. F, El Paso, TX 79904
Office: 915.544.5252 Fax: 915.544.5233 www.osasgp.com

ENGINEER'S SEAL

SCALE: Horizontal: N/A Vertical: N/A Contour Interval: N/A DATE: JUNE 2017 DESIGN BY: R.O. DRAWN BY: R.O./J.A.M. CHKD. BY: J.L.A. APPVD. BY: J.L.A. JOB No.: 2000-192LD

PROJECT TITLE

LA PUESTA DEL SOL UNIT TWO SUBDIVISION IMPROVEMENTS

SHEET TITLE

GENERAL INFORMATION

SHEET NO.

C1.1

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GRADING PLAN.....	C3.1
DRAINAGE PLAN.....	C4.1
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GRADING SECTIONS (SHEET 2 OF 2).....	C5.2
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JOSE LEON DR. PLAN & PROFILE FROM STA.17+00.00 TO STA. 23+61.19.....	C6.3
JENNICE CIR. PLAN & PROFILE FROM STA. 0+00.00 TO STA. 7+32.70.....	C6.4
JENNICE CIR. PLAN & PROFILE FROM STA. 7+32.70 TO STA. 9+77.81 McFARLAND AVE. PLAN & PROFILE FROM STA. 28+49.83 TO STA. 33+00.89.....	C6.5
McDOWELL ST. PLAN & PROFILE FROM STA. 0+00.00 TO STA. 6+79.84.....	C6.6
GONZALO CIR. PLAN & PROFILE FROM STA. 0+00.00 TO STA. 6+49.82.....	C6.7
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LINE A PLAN & PROFILE FROM STA. 0+00.00 TO STA. 7+00.00.....	C7.1
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LA PUESTA DEL SOL UNIT TWO

A PORTION OF TRACT 1A,
NELLIE D. MUNDY SURVEY NO. 241,
ALL OF TRACT 3B AND A PORTION OF TRACT 3A2,
NELLIE D. MUNDY SURVEY NO. 240,
CITY OF EL PASO, EL PASO COUNTY, TEXAS.
CONTAINING 30.66 ACRES ±
SHEET 1 OF 2

DEDICATION

Tropicana Development Inc., the owners of this land, do hereby present this map and dedicate their respective portions of property to the use of the public, the streets, ponding area, and utility easements as hereon laid down and designated, including easements for overhead of service wires for pole type utilities and the right for installation of service poles alongside lot lines as may be required, easements for buried service wires, conduits and pipes for underground utilities, and the right to ingress and egress for service and construction, and the right to trim interfering trees and shrubs.

Witness my signature this 5th day of October 2017.

Greg Bowling
Greg Bowling, Vice President

ACKNOWLEDGEMENT

STATE OF TEXAS
COUNTY OF EL PASO

Before me, the undersigned authority, on this day personally appeared Greg Bowling, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same as the act and deed for the purpose and consideration herein expressed.

Given under my hand and seal of office this 12th day of October 2017.

David R. Conner
Notary Public in and for El Paso County
My Commission Expires 8-31-19

CITY PLANNING COMMISSION

This subdivision is hereby approved as to the platting and as to the condition of the dedication in accordance with Chapter 212 of the Local Government Code of Texas this 4 day of May 2017.

Chaperson
Chaperson
Executive Secretary

Approved for filing this 19 day of October 2017.

Planning and Inspections Director
Planning and Inspections Director

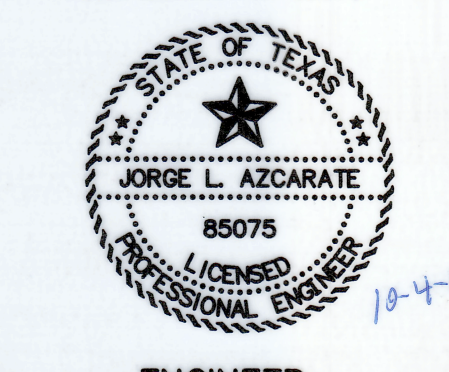
FILING

Filed and recorded in the office of the County Clerk of El Paso County, Texas, this 26th day of October 2017, in File No. 20170080502 of the Plat Records.

County Clerk
County Clerk
by Deputy

Subdivision improvement plans prepared by and under the supervision of CEA Group.
This plat represents a survey made on the ground by me or under my supervision and complies with the current Texas Board of Professional Land Survey Professional and Technical Standards.

Jorge L. Azcarate, P.E.
Licensed Professional Engineer
Texas License No. 65075



ceagroup
TEXAS REGISTERED ENGINEERING FIRM F-4564
4712 Woodrow Bean, Ste. F El Paso, TX 79924
915.544.5232 | www.ceagroup.net

CONTACT: JORGE L. AZCARATE, P.E.

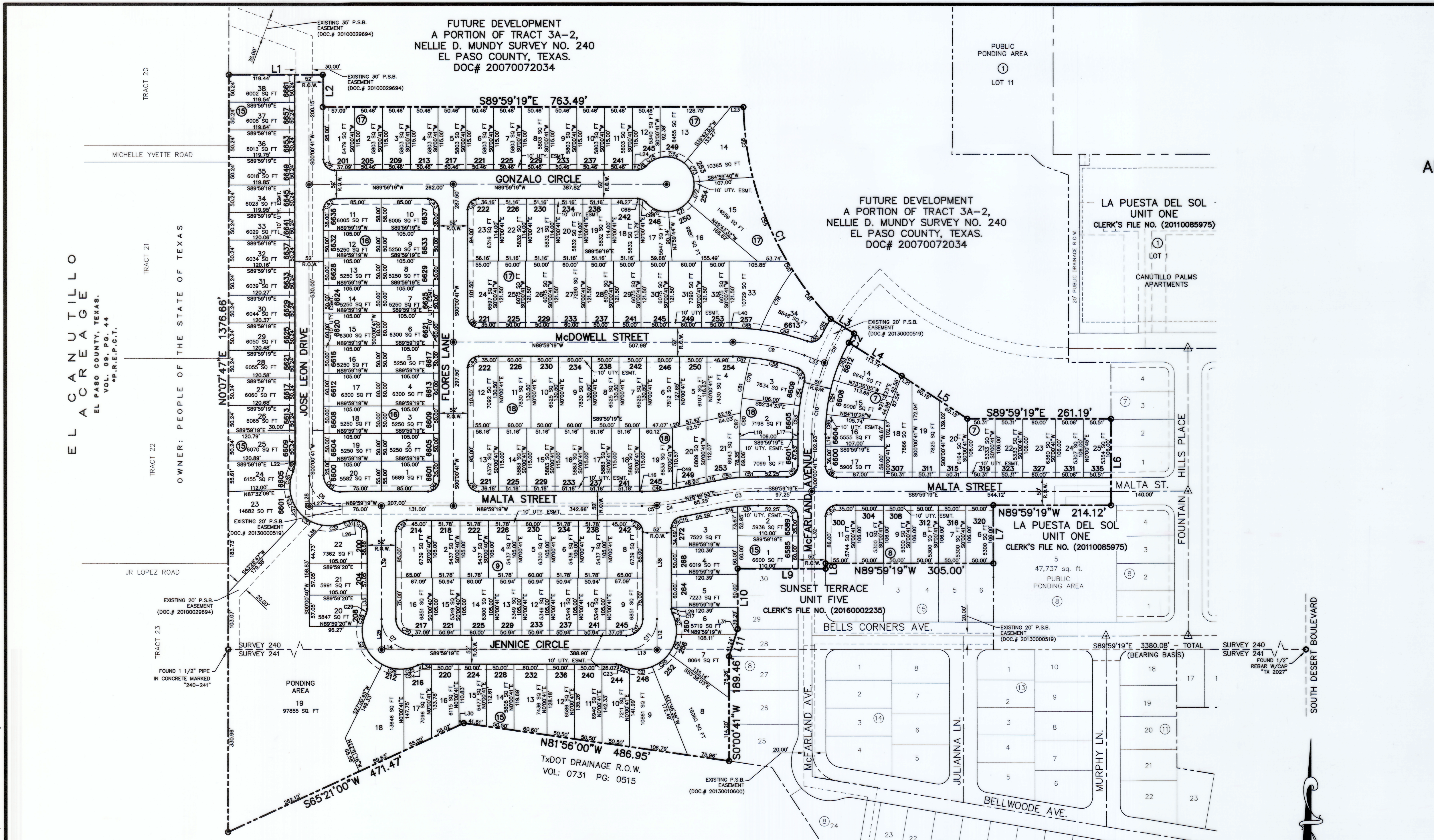
Benito Barragan TX, R.P.L.S. No. 5615



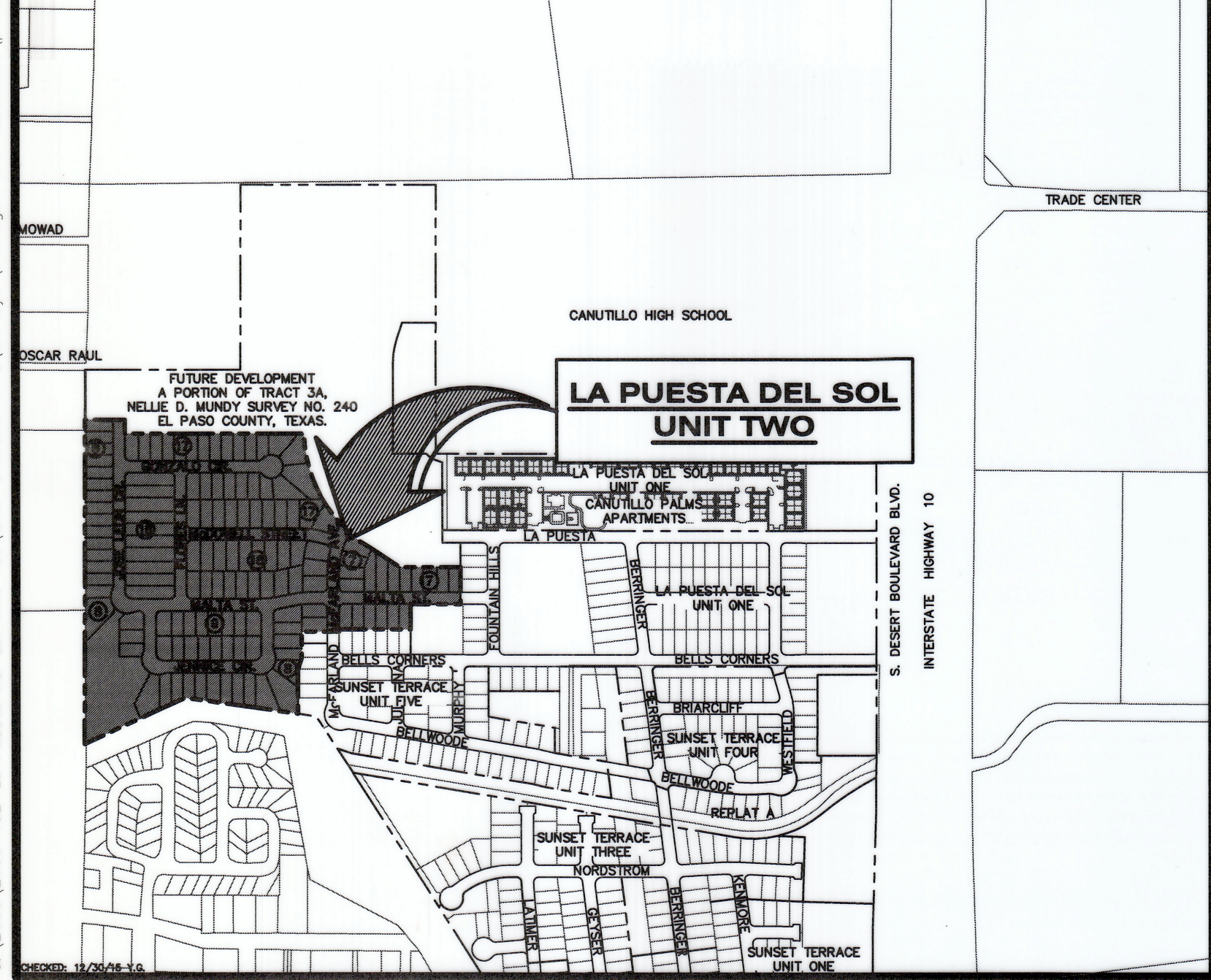
Barragan & Associates Inc.
LAND PLANNING & LAND SURVEYING
TBPLS FIRM # 10151200
10950 Pellicano Dr. Bldg. F - El Paso TX 79935
Phone (915) 591-5709 Fax (915) 591-5706

CONTACT: BENITO BARRAGAN, R.P.L.S.

DATE OF PREPARATION: JUNE 2017



LOCATION MAP SCALE: 1" = 600'



SURVEY NOTES:

1. DEED REFERENCE NELLIE D. MUNDY SURVEY NO. 240, EL PASO COUNTY, TEXAS IN DOC# 20070072034, REAL PROPERTY RECORDS OF EL PASO COUNTY TEXAS.
2. DEED REFERENCE NELLIE D. MUNDY SURVEY NO. 241, EL PASO COUNTY, TEXAS IN DOC# 20060039241, REAL PROPERTY RECORDS OF EL PASO COUNTY TEXAS.
3. THIS SURVEY WAS DONE WITHOUT THE BENEFIT OF A TITLE COMMITMENT, AN INDEPENDENT TITLE RESEARCH WAS NOT PERFORMED BY BARRAGAN AND ASSOCIATES INC.
4. BEARINGS SHOWN ARE BASED ON THE DEED FILED IN DOC# 20060039241, REAL PROPERTY RECORDS OF EL PASO COUNTY TEXAS.

PLAT NOTES AND RESTRICTIONS:

1. THIS IS TO CERTIFY THAT WATER AND SEWER SERVICES WILL BE PROVIDED TO LA PUESTA DEL SOL UNIT TWO SUBDIVISION BY THE EL PASO WATER UTILITIES/PUBLIC SERVICE BOARD IN ACCORDANCE WITH THEIR RULES AND REGULATIONS AND WITH SECTION 16.343 OF THE TEXAS WATER CODE. WATER AND SEWER SERVICES WILL BE EXTENDED TO THE SUBDIVISION FROM EXISTING FACILITIES LOCATED ON McFARLAND AVENUE, MALTA STREET, AND THE MOVED INTERCEPTOR LINE AND WILL BE CONSTRUCTED TO SERVE THE SUBDIVISION.
2. TAX CERTIFICATE(S) FOR THIS SUBDIVISION ARE FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION, INSTRUMENT NO. 20170080502-65 DATE 10/26/2017
3. RESTRICTIVE COVENANTS FOR THIS SUBDIVISION ARE FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION, INSTRUMENT NO. 20170080502 DATE 10/26/2017
4. SUBDIVISION IMPROVEMENTS AGREEMENT & GUARANTEE FOR THIS SUBDIVISION IS FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION, INSTRUMENT NO. 20170080502 DATE 10/26/2017
5. INTERIOR LOT CORNERS WILL BE SET UP ON COMPLETION OF CONSTRUCTION OF ROADWAYS AND UTILITIES. (BY OTHERS) SET 1/2" REBAR WITH CAP STAMPED "B&A INC" AT ALL EXTERIOR BOUNDARY CORNERS UNLESS OTHERWISE SHOWN.
6. "U.S. POSTAL SERVICE DELIVERY WILL BE PROVIDED THROUGH NEIGHBORHOOD DELIVERY AND COLLECTION BOX UNITS."
7. THIS SUBDIVISION LIES WITHIN ZONE "X" AND REVISED TO REFLECT LOMR EFFECTIVE: JANUARY 21, 2015, AS DESIGNATED IN PANEL NO. 480212-0125B.
8. Ⓞ DENOTES PROPOSED CITY MONUMENT. (MAY BE SUBJECT TO RELOCATION AT TIME OF CONSTRUCTION. FOR EXACT LOCATION PLEASE CONTACT THE CITY OF EL PASO)
9. ⓐ DENOTES EXISTING MONUMENT.

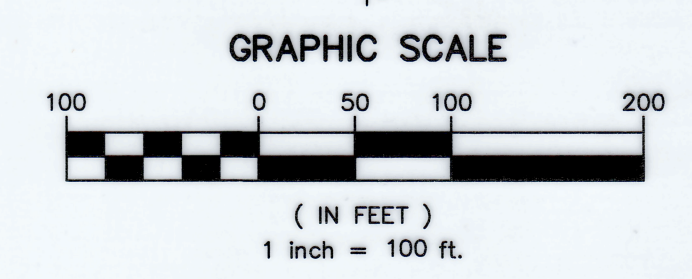
LA PUESTA DEL SOL UNIT TWO NOTES:

La Puesta Del Sol Unit Two Subdivision is subject to impact fees and they shall be calculated based on the table below.

Chapter 395 of the Texas Local Government Code authorizes the City of El Paso to adopt and impose water and wastewater impact fees. This plat note fulfills an obligation mandated by Chapter 395 and sets the assessment of the impact fees in accordance with the impact fee schedule adopted by City Council as set forth below. The collection of the impact fee for this subdivision shall be prior to the time a building permit is issued if development is within the city limits or at the time of the meter connection if development is outside the city limits.

Meter Size	Meter Capacity Ratio	*Water (\$)	Wastewater (\$)
Less Than 1"	1.00	659.00	927.00
1"	1.67	1,101.00	1,548.00
1 1/2"	3.33	2,195.00	3,087.00
2"	5.33	3,514.00	4,941.00
3"	10.00	6,593.00	9,270.00
4"	16.67	10,990.00	15,453.00
6"	33.33	21,973.00	30,897.00
8"	53.33	35,158.00	49,437.00
10"	76.67	50,545.00	71,073.00
12"	143.33	94,490.00	132,867.00

* Fees do not apply to water meter or connections made for standby fire protection service.



SCHOOL DISTRICT
CANUTILLO INDEPENDENT SCHOOL DISTRICT
7965 ARTCRAFT RD, EL PASO, TX 79932

BENCHMARK:
CITY MONUMENT AT THE INTERSECTION OF PASEO DEL NORTE & NORTHWESTERN. ELEVATION = 3887.39 (CITY DATUM). THIS IS BASED ON NGS MONUMENT "CHINO" ELEVATION = 3935.48 (CITY DATUM)

FLOOD ZONE:
THIS SUBDIVISION LIES WITHIN ZONE "X" AND REVISED TO REFLECT LOMR EFFECTIVE: JANUARY 21, 2015, AS DESIGNATED IN PANEL NO. 480212-0125B.

LA PUESTA DEL SOL UNIT TWO

A PORTION OF TRACT 1A,
NELLIE D. MUNDY SURVEY NO. 241,
ALL OF TRACT 3B AND A PORTION OF TRACT 3A2,
NELLIE D. MUNDY SURVEY NO. 240,
CITY OF EL PASO, EL PASO COUNTY, TEXAS.
CONTAINING 30.66 ACRES ±
SHEET 2 OF 2

CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	576.00'	426.65'	223.64'	416.96'	S22°17'50"E	042°26'23"
C2	350.00'	19.32'	9.66'	19.32'	S30°04'39"W	003°09'48"
C3	375.00'	74.15'	37.20'	74.03'	S84°20'47"W	011°19'48"
C4	375.00'	46.90'	23.48'	46.87'	N82°15'50"E	007°09'55"
C5	375.00'	27.26'	13.63'	27.25'	N87°55'44"E	004°09'53"
C6	55.00'	86.39'	55.00'	77.78'	S44°59'19"E	090°00'00"
C7	56.00'	87.96'	56.00'	79.20'	S44°59'20"E	089°59'59"
C8	375.00'	133.07'	67.24'	132.37'	N79°49'23"W	020°19'54"
C9	375.00'	74.07'	37.15'	73.95'	S26°00'04"W	011°18'59"
C10	375.00'	133.07'	67.24'	132.37'	S10°10'37"W	020°19'54"
C11	56.00'	87.96'	56.00'	79.20'	N45°00'41"E	090°00'00"
C12	20.00'	31.42'	20.00'	28.28'	N44°59'19"W	090°00'00"
C13	349.00'	37.82'	18.93'	37.80'	S86°54'24"W	006°12'32"
C14	349.00'	31.19'	15.61'	31.18'	S81°14'31"W	005°07'15"
C15	401.00'	9.18'	4.59'	9.18'	S79°20'15"W	001°18'44"
C16	20.00'	27.92'	16.78'	25.71'	S40°00'09"W	079°58'57"
C17	20.00'	9.13'	4.65'	9.05'	S13°03'52"E	028°09'06"
C18	70.00'	39.02'	20.03'	38.52'	S10°10'17"E	031°56'17"
C19	70.00'	37.35'	19.13'	36.90'	S21°04'54"W	030°34'05"
C20	70.00'	38.92'	19.98'	38.42'	S52°17'39"W	031°51'25"

CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C21	70.00'	42.49'	21.92'	41.84'	S85°36'43"W	034°46'42"
C22	70.00'	16.08'	8.08'	16.04'	N70°25'05"W	013°09'43"
C23	20.00'	9.13'	4.65'	9.05'	N76°54'47"W	028°09'06"
C24	20.00'	9.13'	4.65'	9.05'	S76°56'08"W	028°09'06"
C25	70.00'	26.36'	13.34'	26.20'	S74°38'47"W	021°34'24"
C26	70.00'	40.58'	20.88'	40.02'	N77°57'31"W	033°13'00"
C27	70.00'	83.22'	47.32'	78.40'	N27°17'34"W	068°06'55"
C28	70.00'	23.70'	11.96'	23.59'	S16°27'50"W	019°23'52"
C29	20.00'	9.13'	4.65'	9.05'	S13°05'13"W	028°09'06"
C30	20.00'	31.42'	20.00'	28.28'	S44°59'20"E	089°59'59"
C31	40.00'	16.49'	8.36'	16.37'	N78°12'10"E	023°37'01"
C32	70.00'	39.30'	20.18'	38.79'	N82°28'44"E	032°10'10"
C33	70.00'	59.29'	31.56'	57.54'	N57°10'15"W	048°31'51"
C34	70.00'	36.51'	18.68'	36.10'	S17°57'41"E	029°53'16"
C35	70.00'	32.55'	16.58'	32.26'	S10°18'19"W	028°38'45"
C36	40.00'	16.49'	8.36'	16.37'	S11°49'11"W	023°37'01"
C37	30.00'	47.12'	30.00'	42.43'	N45°00'41"E	090°00'00"
C38	20.00'	31.42'	20.00'	28.28'	N44°59'19"W	090°00'00"
C39	20.00'	31.42'	20.00'	28.28'	S45°00'40"W	090°00'01"
C40	30.00'	47.12'	30.00'	42.43'	S44°59'20"E	089°59'59"

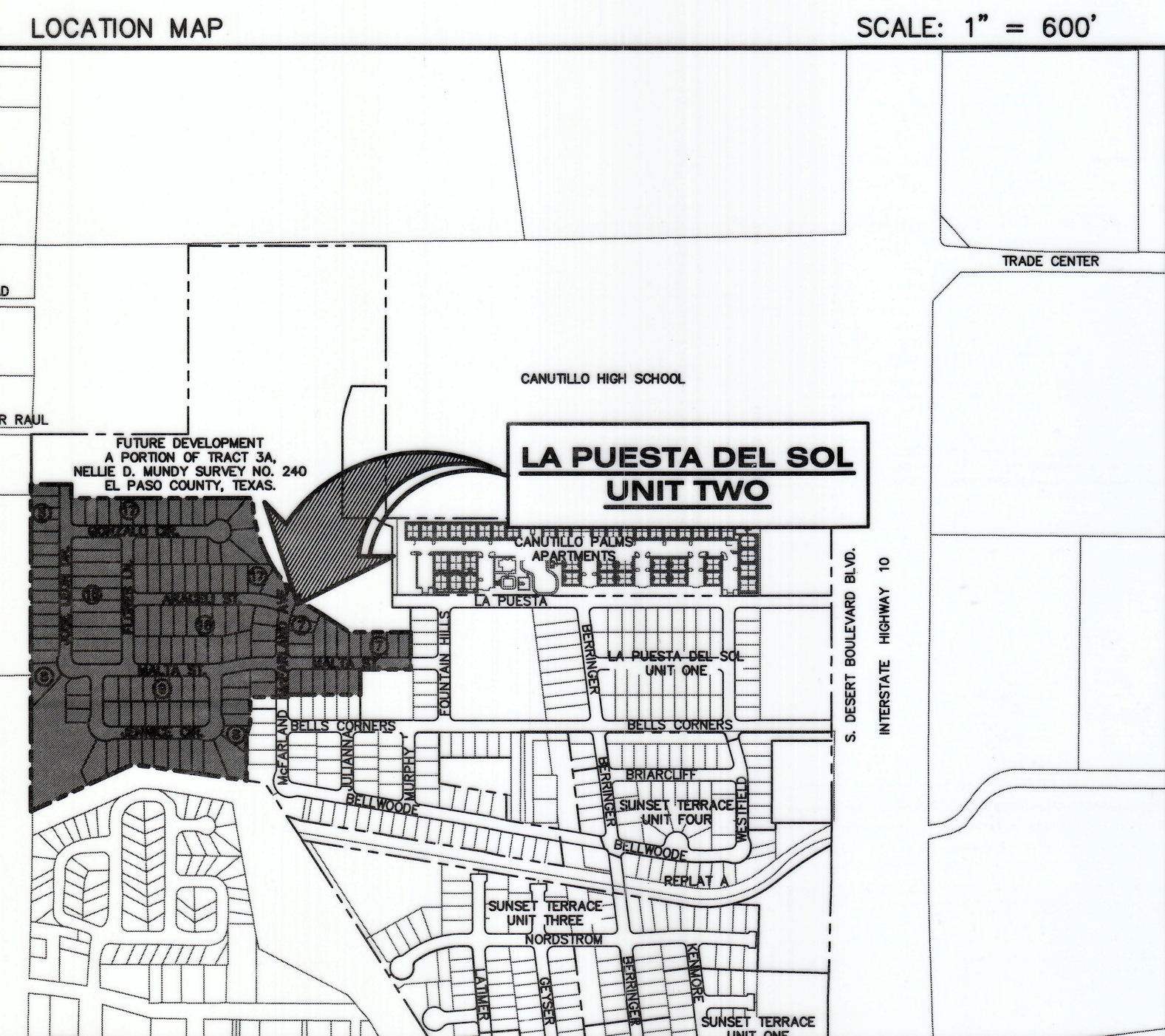
CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C42	20.00'	31.42'	20.00'	28.28'	S45°00'41"W	090°00'00"
C43	20.00'	31.42'	20.00'	28.28'	N44°59'19"W	090°00'00"
C44	20.00'	31.42'	20.00'	28.28'	N45°00'41"E	090°00'00"
C45	30.00'	47.12'	30.00'	42.43'	S44°59'19"E	090°00'00"
C46	20.00'	31.42'	20.00'	28.28'	S45°00'41"W	090°00'00"
C47	20.00'	31.42'	20.00'	28.28'	S44°59'19"E	090°00'00"
C48	349.00'	55.64'	27.88'	55.58'	N85°26'38"E	009°08'05"
C49	349.00'	13.37'	6.69'	13.37'	N79°46'44"E	002°11'43"
C50	401.00'	45.51'	22.78'	45.49'	S81°55'57"W	006°30'09"
C51	401.00'	33.79'	16.90'	33.78'	S87°35'51"W	004°49'39"
C52	20.00'	31.42'	20.00'	28.28'	N45°00'41"E	090°00'00"
C53	400.00'	51.75'	25.91'	51.72'	S03°43'04"W	007°24'47"
C54	400.00'	46.27'	23.16'	46.25'	S10°44'18"W	006°37'41"
C55	20.00'	29.44'	18.12'	28.86'	N28°07'24"W	084°21'04"
C56	349.00'	87.93'	44.20'	87.70'	N77°31'01"W	014°26'09"
C57	349.00'	32.00'	16.01'	31.99'	N87°21'42"W	005°15'14"
C58	576.00'	128.63'	64.58'	128.37'	S07°28'30"E	012°47'43"
C59	576.00'	166.58'	83.88'	166.00'	S22°09'27"E	016°34'12"
C60	576.00'	19.78'	9.89'	19.78'	S31°25'34"E	001°58'02"
C61	576.00'	111.66'	56.01'	111.49'	S37°57'48"E	011°06'25"

CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C62	400.00'	35.12'	17.57'	35.11'	S29°08'38"W	005°01'51"
C63	20.00'	29.05'	17.76'	26.56'	S68°14'05"W	083°12'44"
C64	401.00'	89.29'	44.83'	89.11'	N76°32'19"W	012°45'31"
C65	401.00'	49.49'	24.77'	49.46'	N86°27'12"W	007°04'15"
C66	20.00'	31.42'	20.00'	28.28'	N44°59'19"W	090°00'00"
C67	20.00'	31.42'	20.00'	28.28'	N45°00'41"E	090°00'00"
C68	20.00'	2.90'	1.45'	2.90'	S85°50'09"E	008°18'20"
C69	20.00'	14.18'	7.40'	13.88'	S61°22'38"E	040°36'43"
C70	50.00'	46.19'	24.89'	44.56'	S67°32'00"E	052°55'28"
C71	50.00'	39.91'	21.08'	38.86'	N63°08'22"E	045°43'48"
C72	50.00'	39.51'	20.85'	38.49'	N17°38'04"E	045°16'48"
C73	50.00'	39.51'	20.85'	38.49'	N27°38'43"W	045°16'48"
C74	50.00'	46.43'	25.04'	44.78'	N76°53'14"W	053°12'14"
C75	50.00'	30.91'	15.97'	30.42'	S58°48'08"W	035°25'01"
C76	20.00'	17.08'	9.10'	16.56'	S65°33'09"W	048°55'04"
C77	20.00'	31.42'	20.00'	28.28'	N44°59'19"W	090°00'00"
C78	506.00'	123.49'	62.05'	123.18'	S29°04'04"W	013°58'58"
C79	506.00'	76.04'	38.09'	75.97'	S11°43'45"W	008°36'36"
C80	506.00'	65.47'	32.78'	65.42'	S03°43'04"W	007°24'47"
C81	506.00'	103.58'	51.97'	103.40'	S10°10'12"W	011°43'43"

CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C82	20.00'	31.42'	20.00'	28.28'	N45°00'41"E	090°00'00"
C83	350.00'	73.90'	37.09'	73.76'	S22°26'50"W	012°05'51"
C84	350.00'	64.59'	32.39'	64.49'	S11°06'43"W	010°34'22"
C85	350.00'	35.52'	17.77'	35.50'	S02°55'06"W	005°48'51"
C86	20.00'	31.42'	20.00'	28.28'	S44°59'19"E	090°00'00"
C87	506.00'	20.76'	10.38'	20.76'	S01°11'33"W	002°21'04"

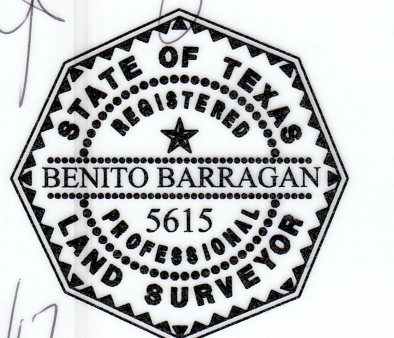
LINE TABLE		
LINE	BEARING	LENGTH
L1	S89°59'19"E	171.44'
L2	S00°00'41"W	59.15'
L3	S58°20'27"E	50.00'
L4	S57°49'05"E	113.74'
L5	S56°42'43"E	142.68'
L6	S00°00'48"W	156.00'
L7	S00°00'41"W	106.00'
L8	S00°00'41"W	10.00'
L9	N89°59'19"W	160.00'
L10	S00°00'41"W	110.00'
L11	S17°42'50"W	52.48'
L12	N00°00'41"E	56.00'
L13	S89°59'19"E	56.00'
L14	S89°59'19"E	56.00'
L15	N78°40'53"E	16.39'
L16	S89°59'19"E	4.72'
L17	N00°00'41"E	9.29'
L18	N00°00'41"E	9.29'
L19	N00°00'41"E	21.93'
L20	N77°34'38"E	13.24'
L21	N56°42'43"W	22.32'

LINE TABLE		
LINE	BEARING	LENGTH
L22	S00°00'41"W	3.01'
L23	S89°59'19"E	22.60'
L24	N89°59'19"W	9.37'
L25	S00°00'40"W	56.00'
L26	S89°59'19"E	6.15'
L27	N89°59'19"W	55.00'
L28	S00°00'41"W	55.00'
L29	S00°00'41"W	3.28'
L30	N65°21'00"E	9.69'
L31	N17°42'50"E	11.25'
L32	N00°00'41"E	141.00'
L33	N69°39'26"W	38.79'
L34	N89°59'19"W	15.92'
L35	S00°00'40"W	25.62'
L36	N43°28'47"E	35.43'
L37	S00°01'48"W	24.04'
L38	N00°00'41"E	206.99'
L39	S00°00'40"W	206.00'
L40	N89°59'19"W	6.98'

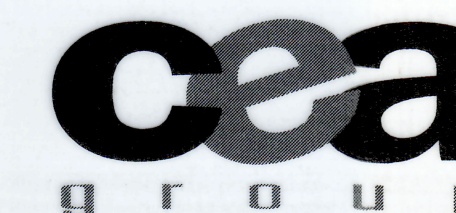


This plat represents a survey made on the ground by me or under my supervision and complies with the current Texas Board of Professional Land Survey Professional and Technical Standards.

Benito Barragan TX, R.P.L.S. No. 5615



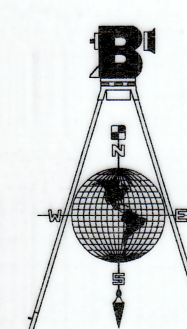
ENGINEER



TEXAS REGISTERED ENGINEERING FIRM F-4564
4712 Woodrow Bean, Ste. F El Paso, TX 79924
915.544.5232 | www.ceagroup.net

CONTACT: JORGE L. AZCARATE, P.E.

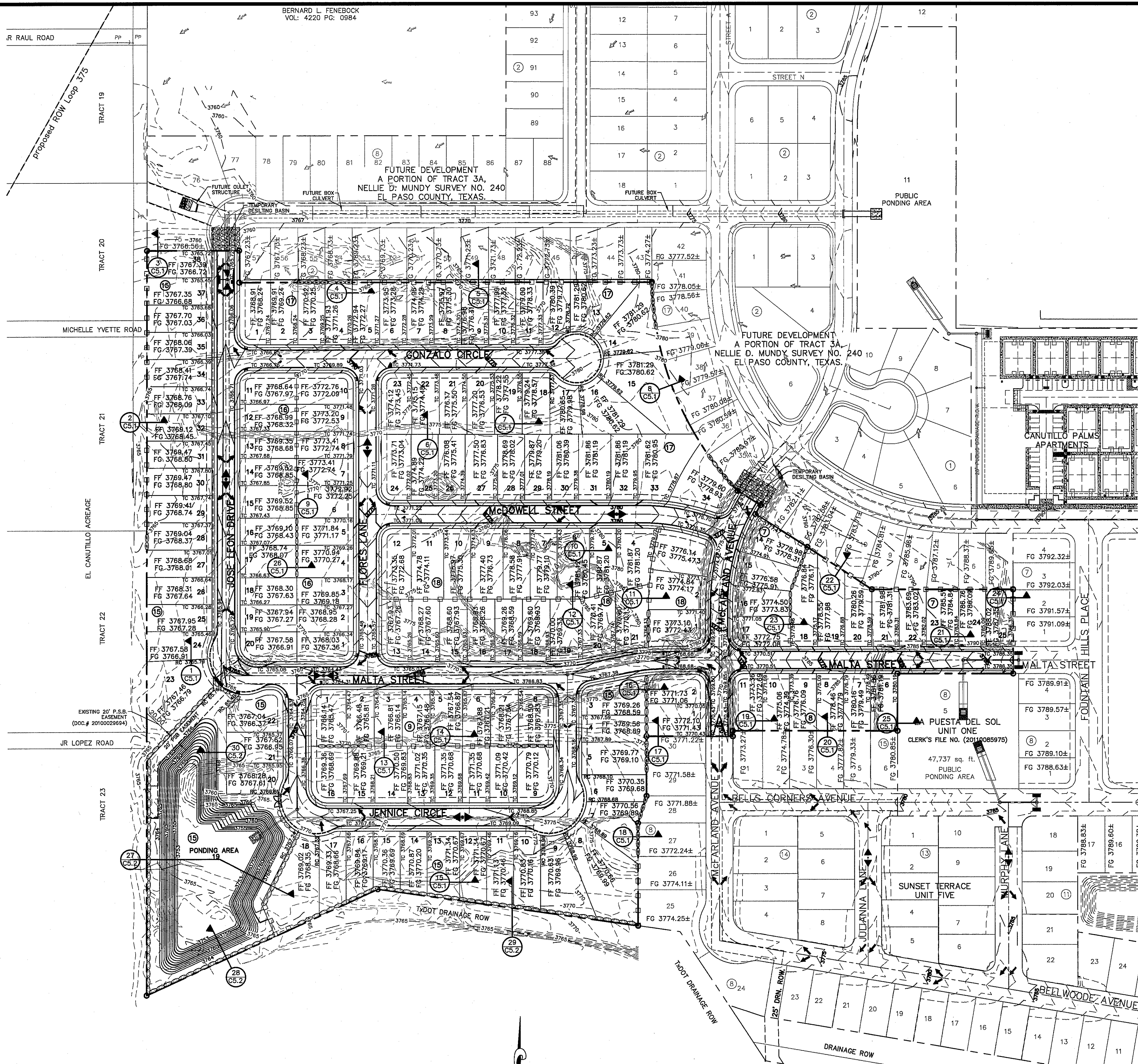
SURVEYOR



Barragan & Associates Inc.

LAND PLANNING & LAND SURVEYING
TBPLS FIRM # 10151200
10950 Pellicano Dr., Bldg. F - El Paso, TX 79935
Phone (915) 591-5709 Fax (915) 591-5706
CONTACT: BENITO BARRAGAN, R.P.L.S.

DATE OF PREPARATION: JUNE 2017



GRADING PLAN
SCALE: 1" = 100'

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

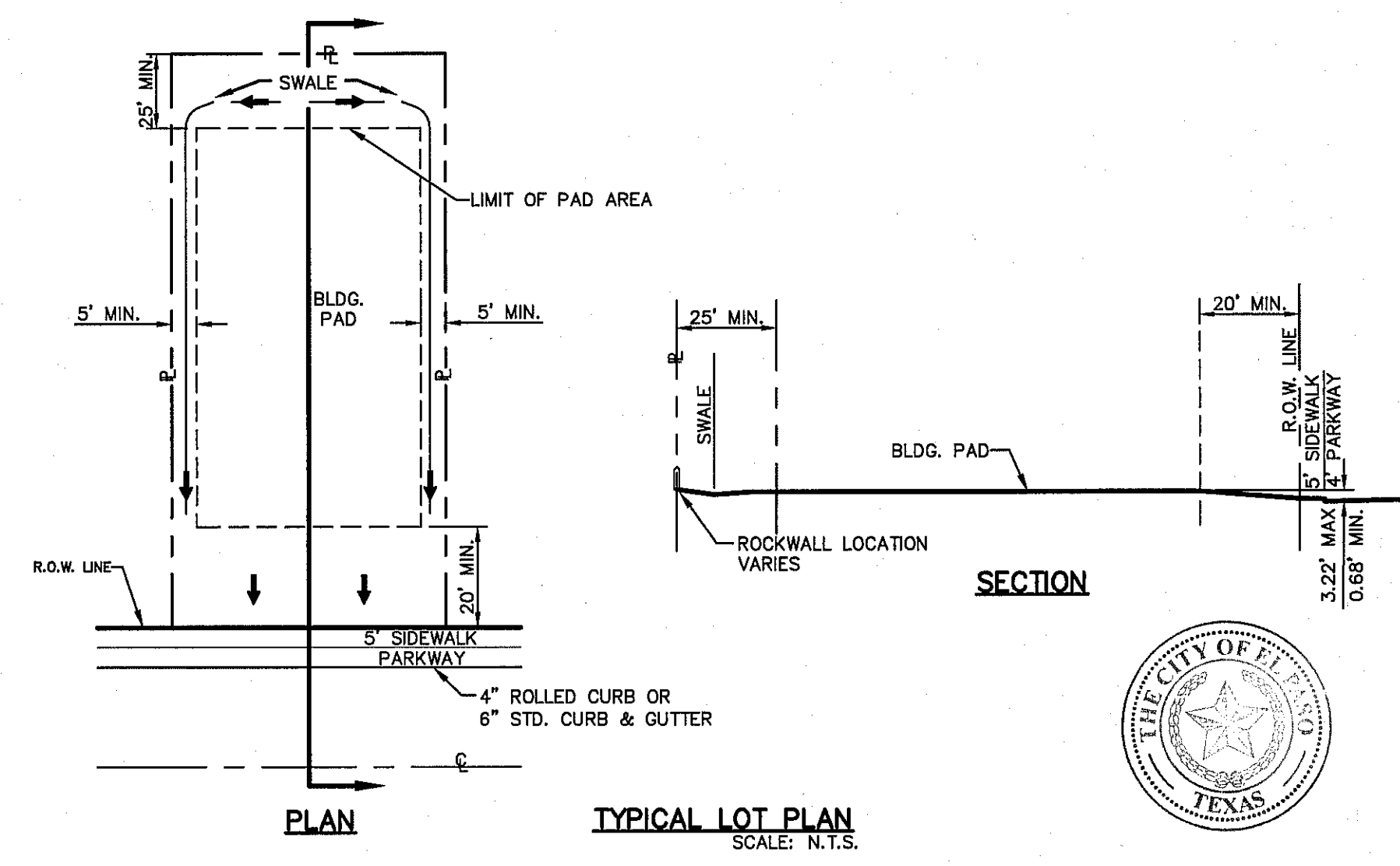
WARNING!
BEFORE YOU DIG
CALL 811
FOR FIELD LOCATING EXISTING UTILITIES

- NOTES:**
- RETAINING WALLS SHALL BE CONSTRUCTED FOR VERTICAL GRADES GREATER THAN 2- FEET.
 - SLOPED AREAS SHALL BE MAINTAINED BY THE PROPERTY OWNERS.
 - ALL RETAINING WALLS NOT SPECIFIED TO BE CONSTRUCTED BY DEVELOPER, SHALL BE BUILT BY BUILDER.
 - RETAINING ROCKWALLS (RETAINING PORTIONS ONLY) IN EXCESS OF 4' HIGH TO BE BUILT BY DEVELOPER.
 - DEVELOPER SHALL COMPLY WITH SECTION 13.08.170 (EXCESSIVE PAVING CUTS) OF THE EL PASO MUNICIPAL CODE.
 - IMPROVEMENTS SHALL NOT BE PLACED ON SIDEWALK (NDBCU'S, SIGNS, POLES, FIRE HYDRANTS, ETC.) REFER TO STANDARD DETAIL SHEETS.
 - IMPROVEMENTS SHALL COMPLY WITH T.A.S./A.D.A.
 - WHEELCHAIR RAMP SHALL BE CONSTRUCTED BY DEVELOPER AS PART OF SUBDIVISION IMPROVEMENTS.
 - 6' HIGH ROCKWALL ABUTTING TxDOT DRAINAGE R.O.W. AND PONDING AREA IS REQUIRED.

BENCHMARK
CITY MONUMENT AT THE INTERSECTION OF PASEO DEL NORTE & NORTHWESTERN. ELEVATION = 3887.39 (CITY DATUM). THIS IS BASED ON NGS MONUMENT "CHINO" ELEVATION = 3935.48 (CITY DATUM).

FLOOD ZONE:
THIS SUBDIVISION LIES WITHIN ZONE "X" AND REVISED TO REFLECT LOMR 14-06-0855P EFFECTIVE: JANUARY 21, 2015. AS DESIGNATED IN PANEL NO. 480212-0125B.

- LEGEND:**
- NEW 6' HIGH ROCKWALL/RETAINING ROCKWALL (2'-2.99' RETAINING HEIGHT)
 - NEW 6' HIGH RETAINING ROCKWALL (3'-12' RETAINING HEIGHT)
 - PROPOSED MAJOR CONTOURS
 - PROPOSED MINOR CONTOURS
 - EXISTING MAJOR CONTOURS
 - EXISTING MINOR CONTOURS
 - PROPOSED TEMPORARY DESILTING BASIN



TYPICAL LOT PLAN
SCALE: N.T.S.

DATE	REVISIONS	BY

REFERENCES - BENCHMARKS
CITY MONUMENT AT THE INTERSECTION OF PASEO DEL NORTE & NORTHWESTERN. ELEVATION = 3887.39 (CITY DATUM). THIS IS BASED ON NGS MONUMENT "CHINO" ELEVATION = 3935.48 (CITY DATUM).

ENGINEER'S SEAL

 Jose L. Azcarate
 License No. 68075
 State of Texas

ENGINEERS • ARCHITECTS • PLANNERS
osa
 TEXAS REGISTERED ENGINEERING FIRM #494
 4712 Woodrow Bean, Ste. F, El Paso, TX 79924
 Office: 915.544.5232 Fax: 915.544.5233 www.osaeng.com

SCALE

Horizontal:	N/A
Vertical:	N/A
Contour Interval:	N/A
DATE:	JUNE 2017
DESIGN BY:	R.O.
DRAWN BY:	R.O./R.J.M.
CHKD. BY:	J.L.A.
APPVD. BY:	J.L.A.
JOB NO.:	2000-192LD

PROJECT TITLE
LA PUESTA DEL SOL
UNIT TWO
SUBDIVISION IMPROVEMENTS

SHEET TITLE
GRADING PLAN
SHEET NO.
C3.1



WARNING!
BEFORE YOU DIG
CALL 811
FOR FIELD LOCATING EXISTING UTILITIES

UTILITY LOCATOR SERVICES

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SBC	(800) 545-6005
AT&T	(800) 852-3788
U.S. SPRINT TELECOMM	(800) 521-0579

- LEGEND:**
- DRAINAGE AREA BOUNDARY
 - DRAINAGE FLOW
 - ▲ HIGH POINT
 - ▼ LOW POINT
 - DROP INLET
 - STORM SEWER MANHOLE
 - RCP
 - THRUST BLOCK STRUCTURE
 - DA-10 DRAINAGE AREA

NEW POND CALCULATIONS

$QT = (ARC)/12$ SILT VOLUME = 0.360
 $QT = 5.897 \text{ AC-FIT}$ 0.012 AC-FIT/AC
 $A = 30.036$ 7.371 + 0.360 = 7.731 AC-FIT
 $R = 4'$
 $Cw = 0.589$ **TOTALreq = 7.731 AC-FIT**
 $QT \times 25\% = 1.474$
 $5.897 + 1.474 = 7.371$

NEW POND

BASIN NO.	REQUIRED CAPACITY (AC.-FT.)	AVAILABLE CAPACITY (AC.-FT.)	PEAK INFLOW (CFS)	OUTLET TOWER FLOW (CFS)	HIGH WATER SURFACE ELEV. (FT.)	BOTTOM ELEVATION (FT.)	FREE BOARD (FT.)	TOP ELEVATION
1	7.731	11.546	70.252	0	3761.21	3753.00	2.780	3764.00

NOTE:
THE HGL REFLECTS THE ELEVATION AS REQUIRED BY THE CITY OF EL PASO. THE HGL DOES NOT INCLUDE 25% FREEBOARD. HOWEVER, THE TOTAL POND CAPACITY SHALL HOLD TOTAL REQUIRED STORM WATER RUNOFF.

HGL = QT
HGL = 5.897 AC-FIT HWSE = 5.897+0.360+1.474=7.731 AC-FIT
CONTOUR 3760, ACCUMULATED VOLUME=6.265 AC-FIT CONTOUR 3762, ACCUMULATED VOLUME=8.738 AC-FIT
CONTOUR 3759, ACCUMULATED VOLUME=5.148 AC-FIT CONTOUR 3761, ACCUMULATED VOLUME=7.461 AC-FIT
HYDRAULIC GRADE LINE ELEVATION=3759.67 HIGH WATER SURFACE ELEVATION=3761.21

50 YEAR STORM CALCULATIONS FOR WATERSHED AREAS

DRAINAGE AREA NO. (1)	DRAINAGE AREA (2)	DESIGN STORM INTENSITY (50) (3)	TIME OF CONCENTRATION (4)	RUNOFF COEFF. (C) (5)	Q50 (6)
DA-1	1.535	4.475	16.07	0.60	4.121
DA-2	3.857	4.413	16.51	0.60	10.213
DA-3	7.235	3.727	22.39	0.60	16.179
DA-4	8.736	3.645	23.26	0.60	19.106
DA-5	7.442	4.087	19.05	0.60	18.249
DA-6	6.015	3.490	25.00	0.60	12.596
DA-7	2.246	5.573	10.00	0.50	6.258
*WS-1	1.650	4.419	16.47	0.60	4.375
*WS-2	5.885	3.732	22.35	0.60	13.177

NEW POND AREAS

CONTOUR	AREA (AC.)	ACCUMULATED VOLUME (AC.-FT.)
3764	1.480	11.546
3763	1.403	10.099
3762	1.319	8.738
3761	1.236	7.461
3760	1.156	6.265
3759	1.078	5.148
3758	1.001	4.108
3757	0.927	3.144
3756	0.855	2.253
3755	0.785	1.433
3754	0.716	0.683
3753	0.649	0.000

- *WS-FUTURE WATERSHED CONTRIBUTIONS (OFF-SITE) NOT PART OF SUBDIVISION IMPROVEMENT PLANS
- REFERENCE: CITY OF EL PASO SUBDIVISION STANDARDS (3-11-97)
- (1) WATERSHED AREA IDENTIFICATION
 - (2) AREA FROM DRAINAGE PLAN
 - (3) RAINFALL INTENSITY, 50 YEAR STORM => PLATE NO. 2-14
 - (4) TIME OF CONCENTRATION: $TC = T(\text{OVERLAND}) + T(\text{GUTTER})$
 - (5) RUNOFF COEFFICIENT => PLATE NO. 2-10, TABLE A RESIDENTIAL AREA = 0.60
 - (6) $Q_{50} = C \times A \times I_{50}$

DROP INLETS

NO.	REQ. FLOW CAPACITY (CFS)	AVAIL. FLOW CAPACITY (CFS)	ADDITIONAL FLOW BYPASS (CFS)	# OF GRATES	TYPE OF INLET	LOCATION	
1	4.12	17.695	10.234	4	I	ON GRADE	
2	10.213	17.695	4.375	4	I	ON GRADE	
3	19.106	29.141	0	1,484	3	I	ON SUMP
4	16.179	29.141	1,464	0	3	I	ON SUMP
5	12.596	29.141	2,826	0	3	I	ON SUMP
6	18.249	29.141	0	2,826	3	I	ON SUMP

THESE CAPACITIES CORRESPOND TO A CLOGGING FACTOR OF 0.5 AVAILABLE FLOW CAPACITIES SHOWN AT ON-GRADE INLETS REFLECTS CAPACITIES WITH INLET GRATE EFFICIENCIES.

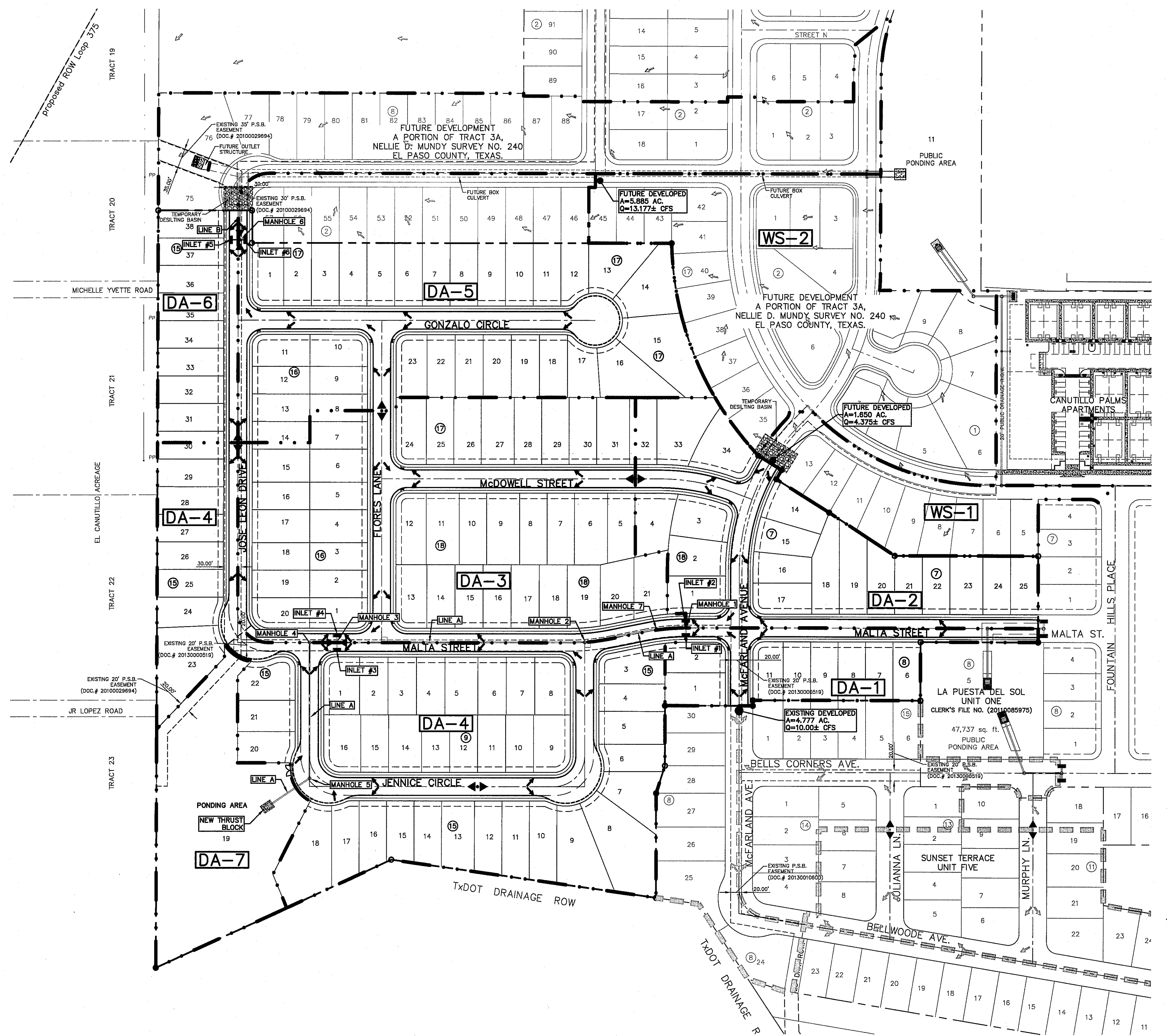
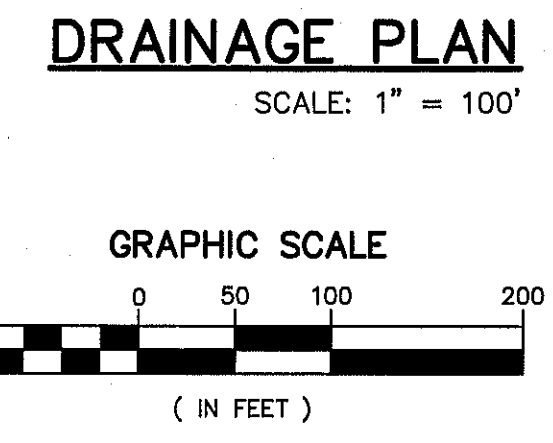
MOMENTUM COMPUTATION

LOCATION # INLET (1)	DEPTH (2)	VELOCITY (3)	PRODUCT NUMBER (4)
1	0.393	3.072	1.207
2	0.393	3.072	1.207
3	0.424	3.234	1.371
4	0.424	3.234	1.371
5	0.398	3.215	1.280
6	0.398	3.215	1.280

- (1) LOCATION
- (2) DEPTH
- (3) VELOCITY
- (4) PRODUCT NUMBER = DEPTH X VELOCITY

STREET CAPACITIES

STREET NAME	AT INLET(S)	CAPACITY (CFS)
MALTA ST.	1 & 2	34.82
MALTA ST.	3 & 4	36.90
JOSE LEON DR.	5 & 6	36.13



REFERENCES - BENCHMARKS
CITY MONUMENT AT THE INTERSECTION OF BASED DEL NORTE & NORTHWESTERN. ELEVATION = 3897.39 (CITY DATUM). THIS IS BASED ON NGS MONUMENT "CHINO" ELEVATION = 3935.48 (CITY DATUM)

DATE: _____ REVISIONS: _____ BY: _____

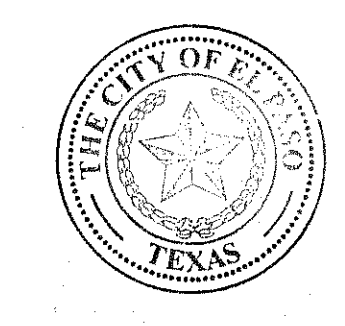
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4712 Woodrow Beard, Ste. F, El Paso, TX 79924
Office: 915.544.5232 Fax: 915.544.5233 www.osaeng.com

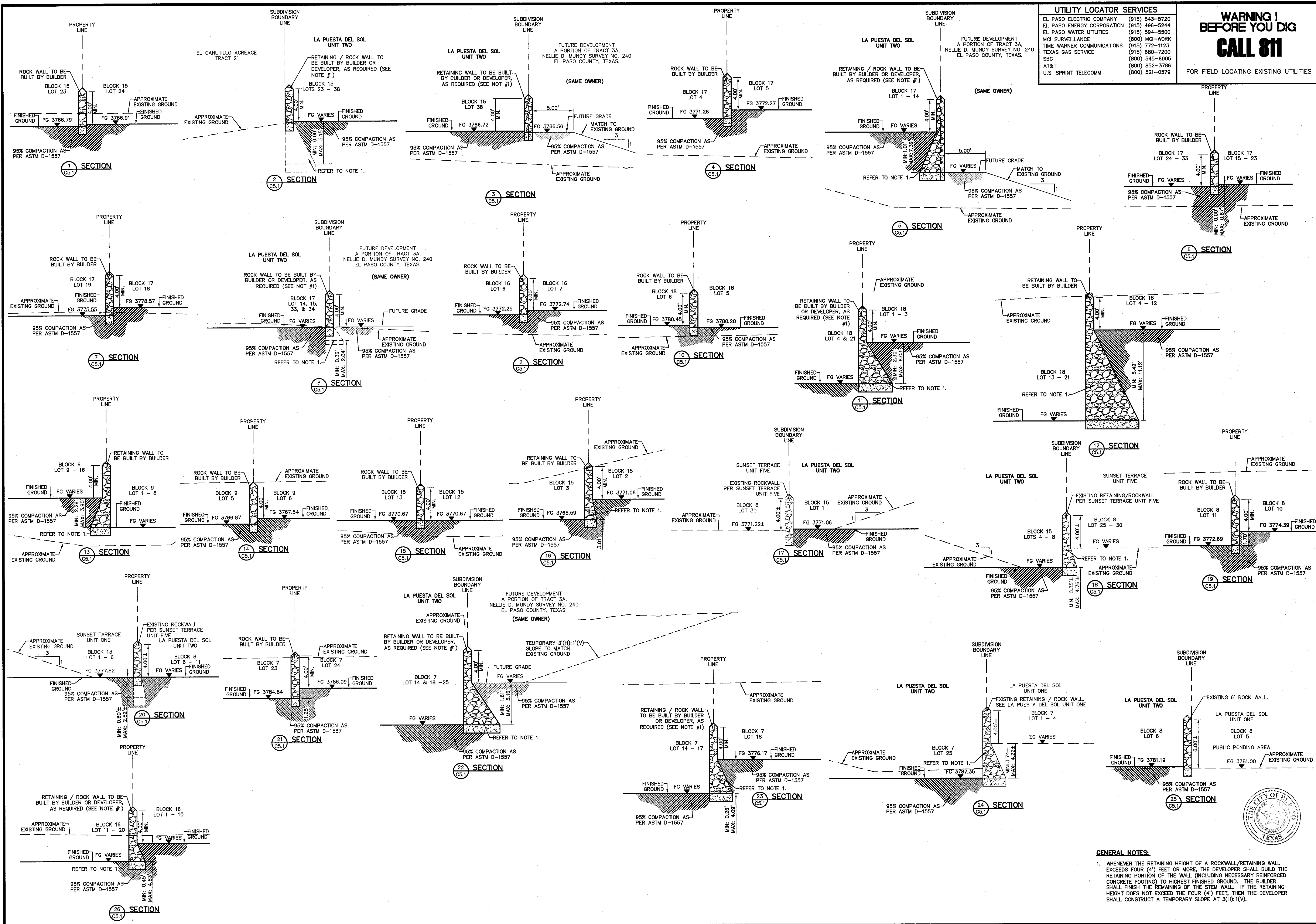
ENGINEER'S SEAL
SCALE: N/A
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: JUNE 2017
DESIGN BY: R.O.
DRAWN BY: R.O./R.J.M.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-1921D

PROJECT TITLE
LA PUESTA DEL SOL UNIT TWO SUBDIVISION IMPROVEMENTS

SHEET TITLE
DRAINAGE PLAN

SHEET NO.
C4.1





UTILITY LOCATOR SERVICES

EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

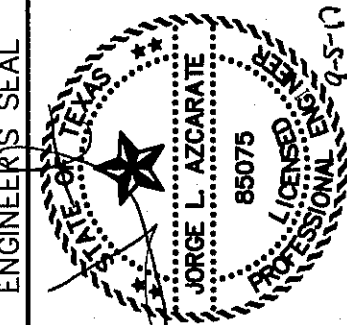
WARNING!
BEFORE YOU DIG
CALL 811
FOR FIELD LOCATING EXISTING UTILITIES

REFERENCES - BENCHMARKS

CITY MONUMENT AT THE INTERSECTION OF PASEO DEL NORTE & NORTHWESTERN. ELEVATION = 3887.39 (CITY DATUM). THIS IS BASED ON NGS MONUMENT "CHINO" ELEVATION = 3935.48 (CITY DATUM)

DATE	REVISIONS

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4712 Woodrow Bean, Ste. F, El Paso, TX 79904
Office: 915.544.5202 Fax: 915.544.5233 www.osaeng.com



SCALE 1"=5'
Horizontal: 1"=5'
Vertical: 1"=5'
Contour Interval: N/A

DATE: JUNE 2017
DESIGN BY: R.O.
DRAWN BY: R.O./R.J.M.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB NO. 20000-1921D

PROJECT TITLE
LA PUESTA DEL SOL UNIT TWO SUBDIVISION IMPROVEMENTS

SHEET TITLE
GRADING SECTIONS
(SHEET 1 OF 2)
SHEET NO.

C5.1

GENERAL NOTES:

- WHENEVER THE RETAINING HEIGHT OF A ROCKWALL/RETAINING WALL EXCEEDS FOUR (4) FEET OR MORE, THE DEVELOPER SHALL BUILD THE RETAINING PORTION OF THE WALL (INCLUDING NECESSARY REINFORCED CONCRETE FOOTING) TO HIGHEST FINISHED GROUND. THE BUILDER SHALL FINISH THE REMAINING OF THE STEM WALL IF THE RETAINING HEIGHT DOES NOT EXCEED THE FOUR (4) FEET, THEN THE DEVELOPER SHALL CONSTRUCT A TEMPORARY SLOPE AT 3(H):1(V).



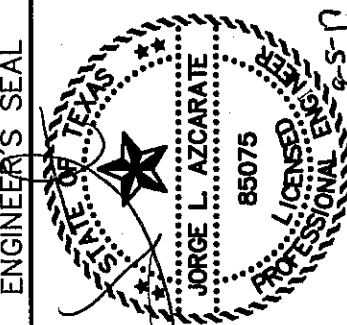
UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

WARNING!
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CALL 811
FOR FIELD LOCATING EXISTING UTILITIES

GENERAL NOTES:
1. WHENEVER THE RETAINING HEIGHT OF A ROCKWALL/RETAINING WALL EXCEEDS FOUR (4) FEET OR MORE, THE DEVELOPER SHALL BUILD THE RETAINING PORTION OF THE WALL (INCLUDING NECESSARY REINFORCED CONCRETE FOOTING) TO HIGHEST FINISHED GROUND. THE BUILDER SHALL FINISH THE REMAINING OF THE STEM WALL. IF THE RETAINING HEIGHT DOES NOT EXCEED THE FOUR (4) FEET, THEN THE DEVELOPER SHALL CONSTRUCT A TEMPORARY SLOPE AT 3(H):1(V).

DATE	REVISIONS	BY

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4712 Woodrow Bean, Ste. F, El Paso, TX 79924
Office: 915.544.5242 Fax: 915.544.5233 www.osaengr.com



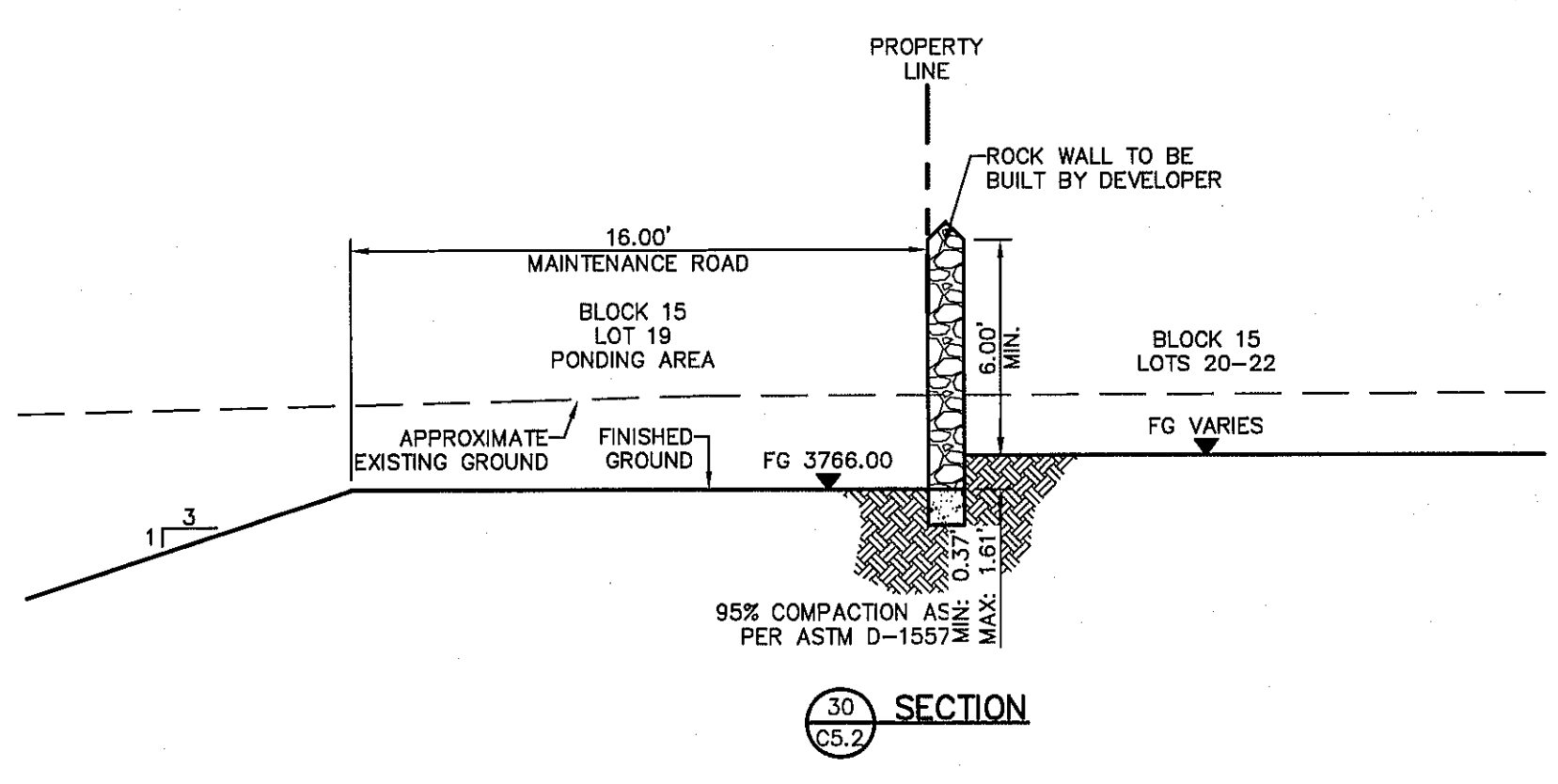
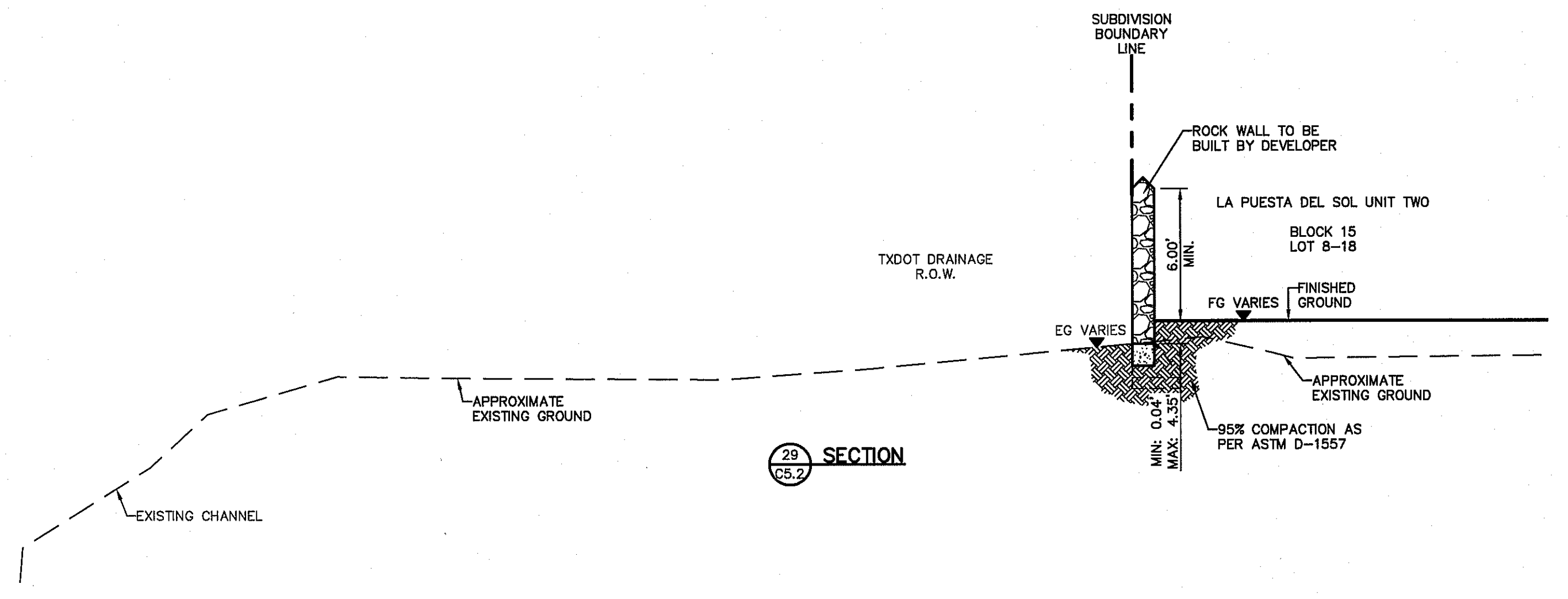
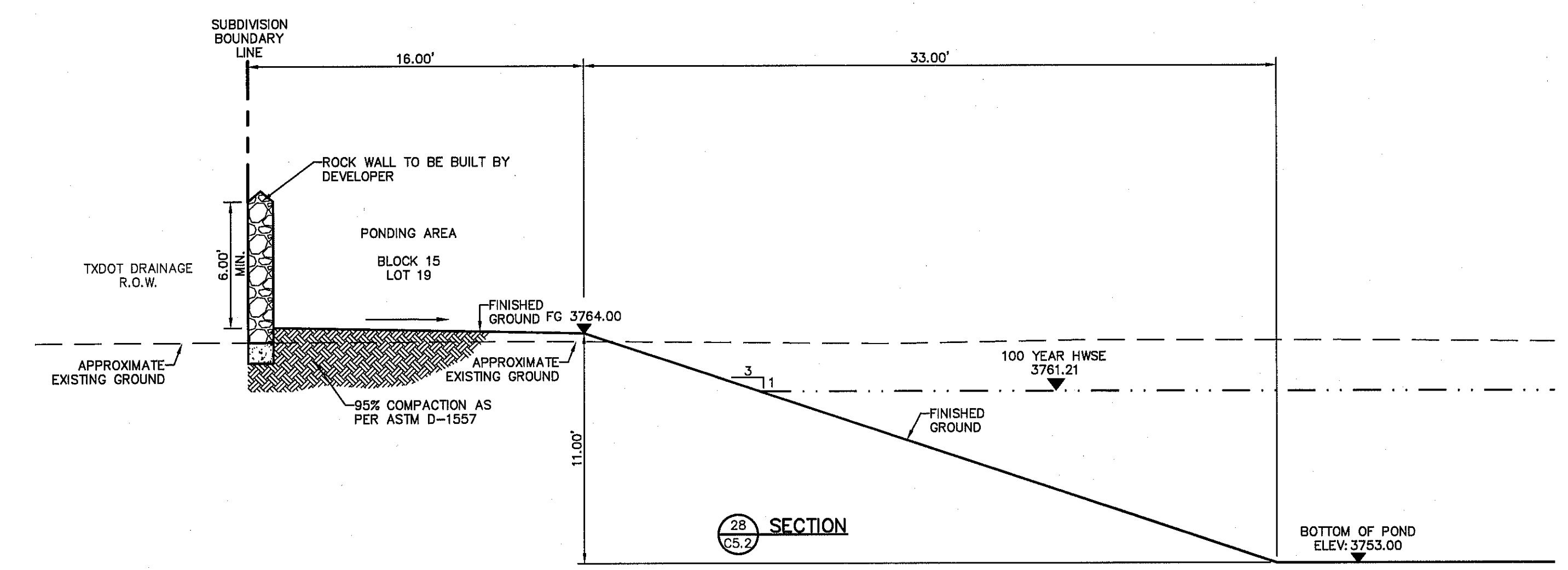
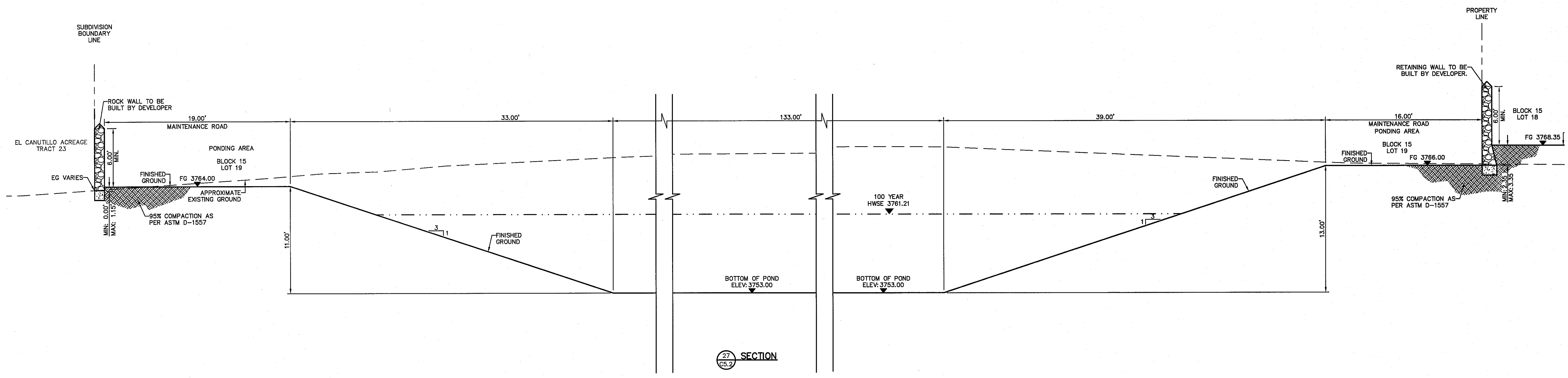
SCALE: 1"=5'
Horizontal: 1"=50'
Vertical: 1"=5'
Contour Interval: N/A
DATE: JUNE 2017
DESIGN BY: R.O.
DRAWN BY: R.G./R.J.M.
CHKD BY: J.L.A.
APP'D BY: J.L.A.
JOB No.: 2000-1921.D

PROJECT TITLE
**LA PUESTA DEL SOL
UNIT TWO
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
GRADING SECTIONS
(SHEET 2 OF 2)
SHEET NO.



C5.2



CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	375.00'	74.15'	37.20'	74.03'	S84°20'47"W	011°19'48"

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 662-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOM	(800) 521-0579

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FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY

ENGINEER'S SEAL

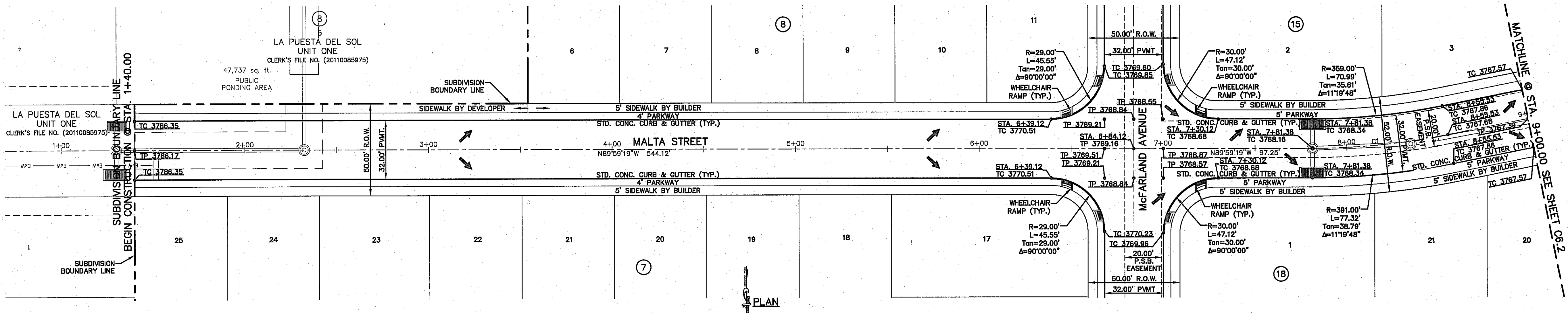
CS&A

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TEXAS REGISTERED ENGINEERING FIRM #484

4712 Woodrow Bean, Ste. F El Paso, TX 79924

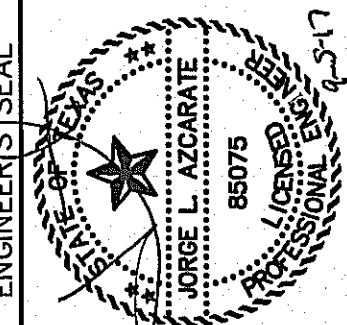
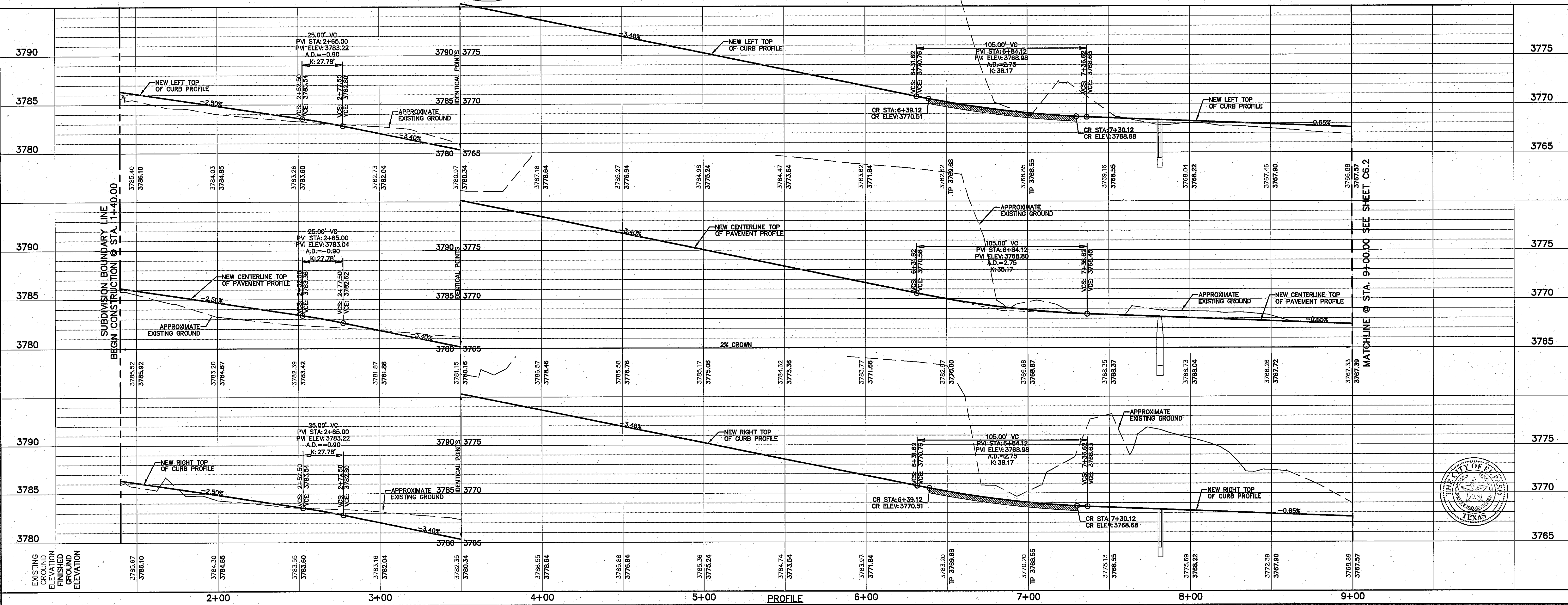
Office: 915.544.3292 Fax: 915.544.3233 www.csandap.com



LEGEND

WHEELCHAIR RAMP BY DEVELOPER (TYP.)

PVI ELEVATIONS ARE SHOWN AT TOP OF CURB. REFER TO PLAN VIEW FOR TOP OF PAVEMENT ELEVATIONS.



SCALE

Horizontal: 1" = 30'

Vertical: 1" = 5'

Contour Interval: N/A

DATE: JUNE 2017

DESIGN BY: R.O.

DRAWN BY: R.O./R.L.M.

CHKD. BY: J.L.A.

APPVD. BY: J.L.A.

JOB No. 2000-192LD

PROJECT TITLE

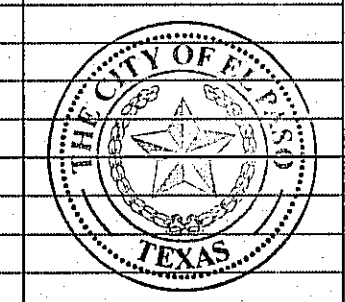
LA PUESTA DEL SOL
UNIT TWO
SUBDIVISION IMPROVEMENTS

SHEET TITLE

MALTA ST.
PLAN & PROFILE
FROM STA.
1+40.00
TO STA. 9+00.00

SHEET NO.

C6.1



S:\2000\2000-192-Ln Puesta Del Sol Unit Two\DWGS\Construction Drawings\Improvement Plans\C6.1-C6.3-STREET P&P SHEET MALTA & JOSE LEON-REVISED.dwg

LINE	BEARING	LENGTH
L1	N89°59'19"W	56.00'
L2	N00°00'41"E	56.00'

CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C2	375.00'	74.15'	37.20'	74.03'	N84°20'47"E	011°19'48"
C3	56.00'	87.96'	56.00'	79.20'	S44°59'19"E	090°00'00"

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SEC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

WARNING!
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FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY

REFERENCES - BENCHMARKS
CITY MONUMENT AT THE INTERSECTION OF PASO DEL NORTE & NORTHWESTERN. ELEVATION = 3687.39 (CITY DATUM). THIS IS BASED ON NGS MONUMENT "CHINO" ELEVATION = 3635.48 (CITY DATUM)

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4712 Woodrow Bean, Ste. F, El Paso, TX 79924
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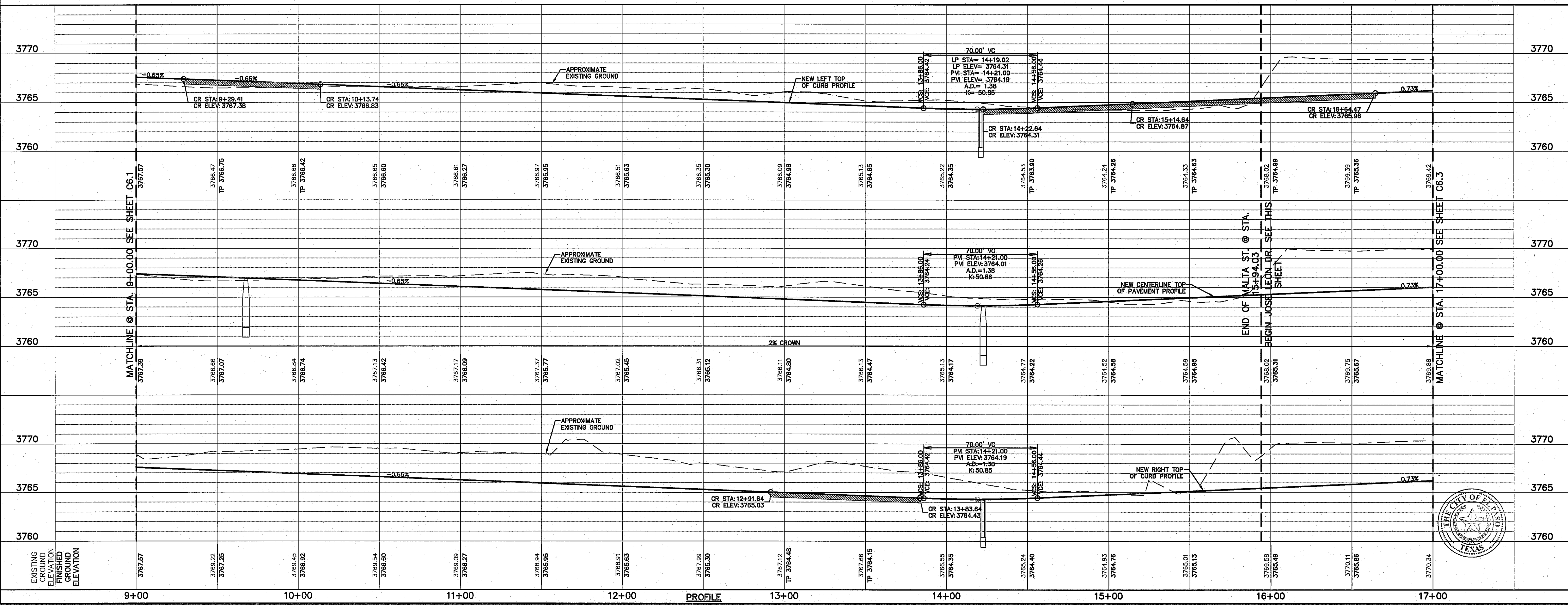
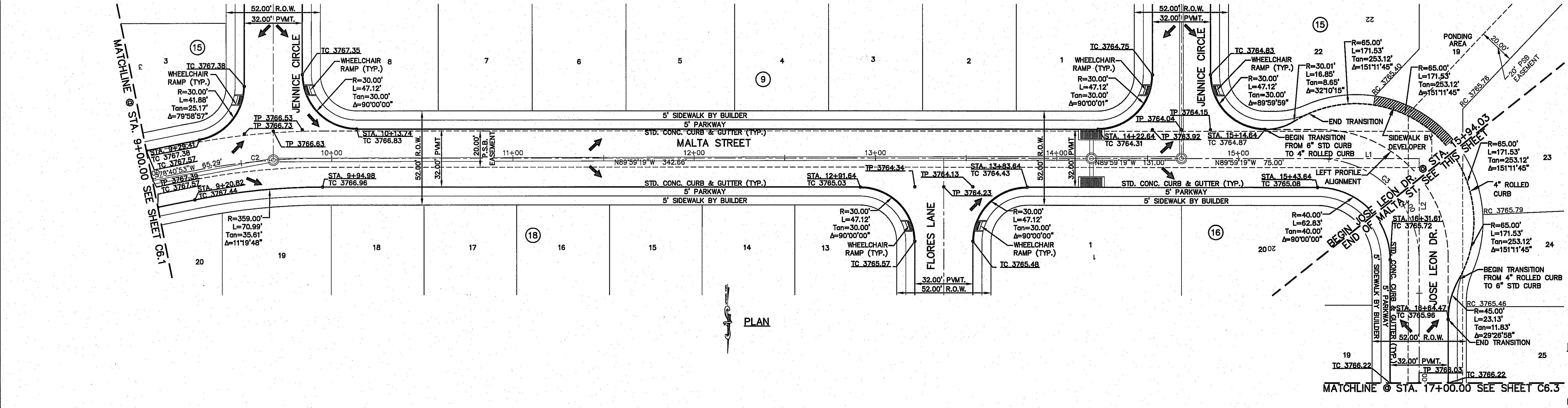
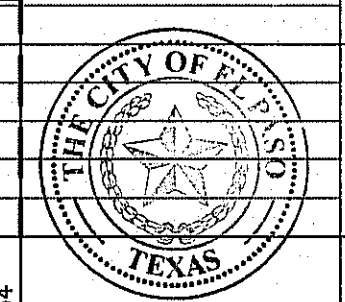
ENGINEER'S SEAL
JOSÉ L. AZARVAT
68075
Professional Engineer
No. 1921D

SCALE: Horizontal 1" = 30'
Vertical 1" = 5'
Contour Interval: 1/4'
DATE: JUNE 2017
DESIGN BY: R.O./R.J.M.
DRAWN BY: J.L.A.
APPROV. BY: J.L.A.
JOB No.: 2000-1921D

PROJECT TITLE
**LA PUESTA DEL SOL
UNIT TWO
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
**MALTA ST.
PLAN & PROFILE
FROM STA. 9+00.00
TO STA. 15+94.03
JOSE LEON DR.
PLAN & PROFILE
FROM STA. 15+94.00
TO STA. 17+00.00**

SHEET NO.
C6.2

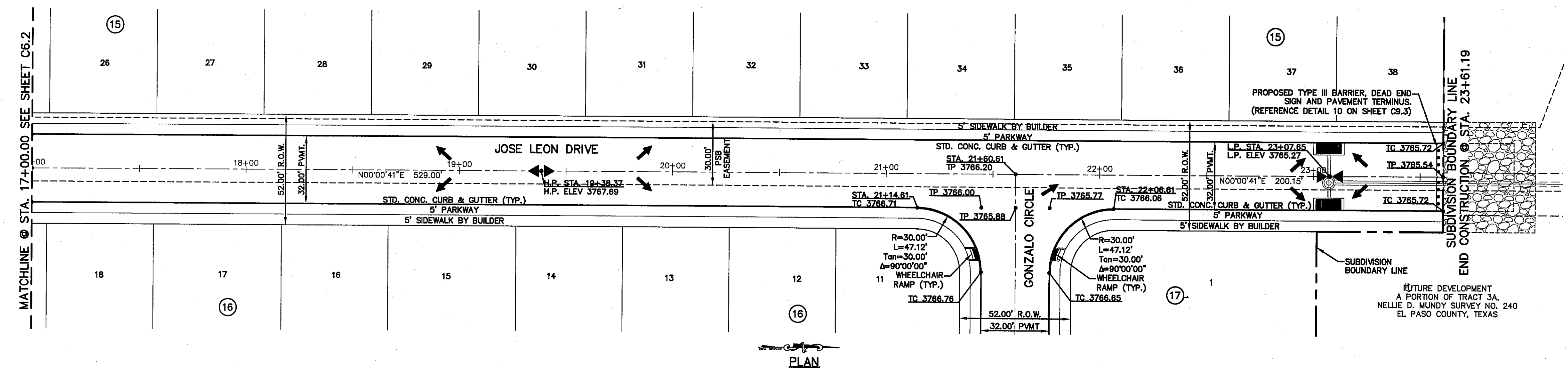


UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SPC	(800) 545-6005
A1&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

**WARNING I
BEFORE YOU DIG
CALL 811**

FOR FIELD LOCATING EXISTING UTILITIES

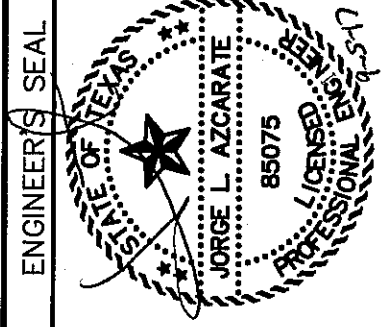
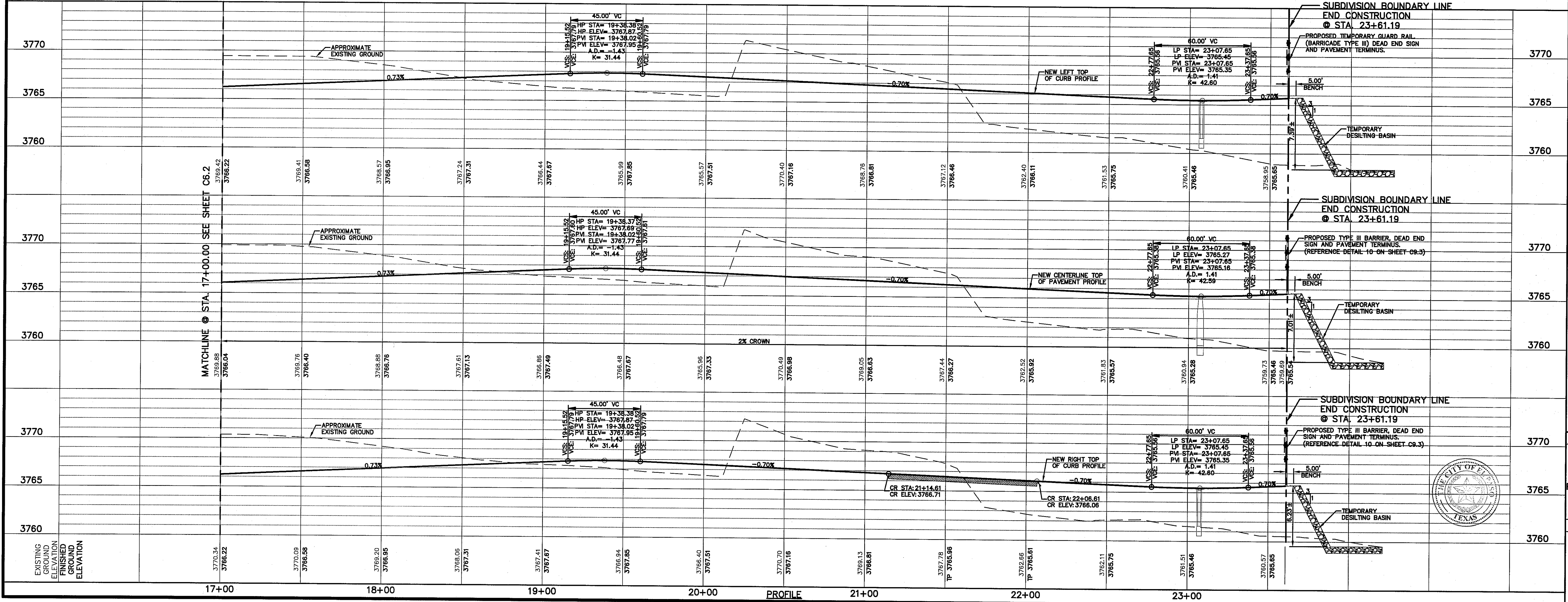
DATE	REVISIONS	BY



LEGEND

WHEELCHAIR RAMP BY DEVELOPER (TYP.)

PVI ELEVATIONS ARE SHOWN AT TOP OF CURB. REFER TO PLAN VIEW FOR TOP OF PAVEMENT ELEVATIONS.



SCALE: 1" = 30'
 Horizontal: 1" = 50'
 Vertical: 1" = 5'
 Contour Interval: 1/4"
 DATE: JUNE 2017
 DESIGN BY: R.O.
 DRAWN BY: R.O./R.J.M.
 CHKD. BY: J.L.A.
 APP'D. BY: J.L.A.
 JOB NO. 2000-1921D

PROJECT TITLE

**LA PUESTA DEL SOL
UNIT TWO
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

**JOSE LEON DR.
PLAN & PROFILE
FROM STA. 17+00.00
TO STA. 23+61.19**

SHEET NO.

C6.3

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	CHORD
C4	56.00'	87.96'	56.00'	79.20'

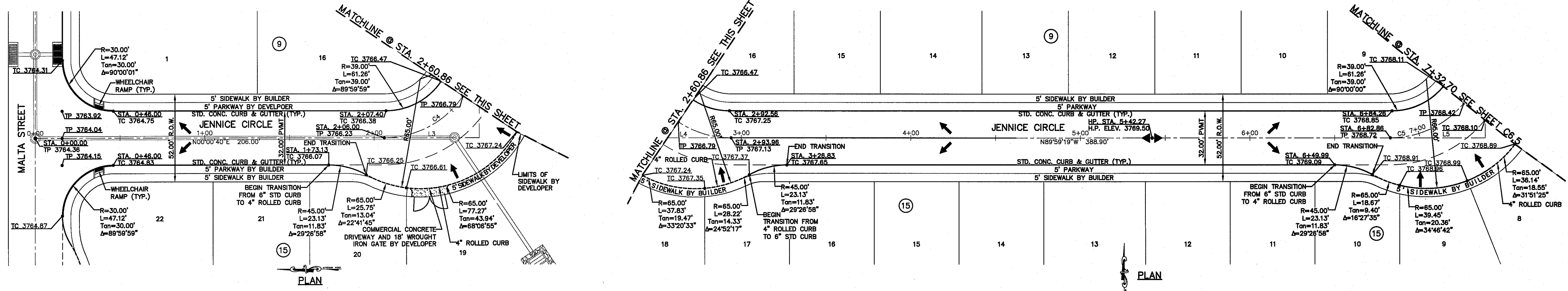
CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C4	56.00'	87.96'	56.00'	79.20'	S44°59'20"E	089°59'59"
C5	56.00'	87.96'	56.00'	79.20'	N45°00'41"E	090°00'00"

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

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FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY



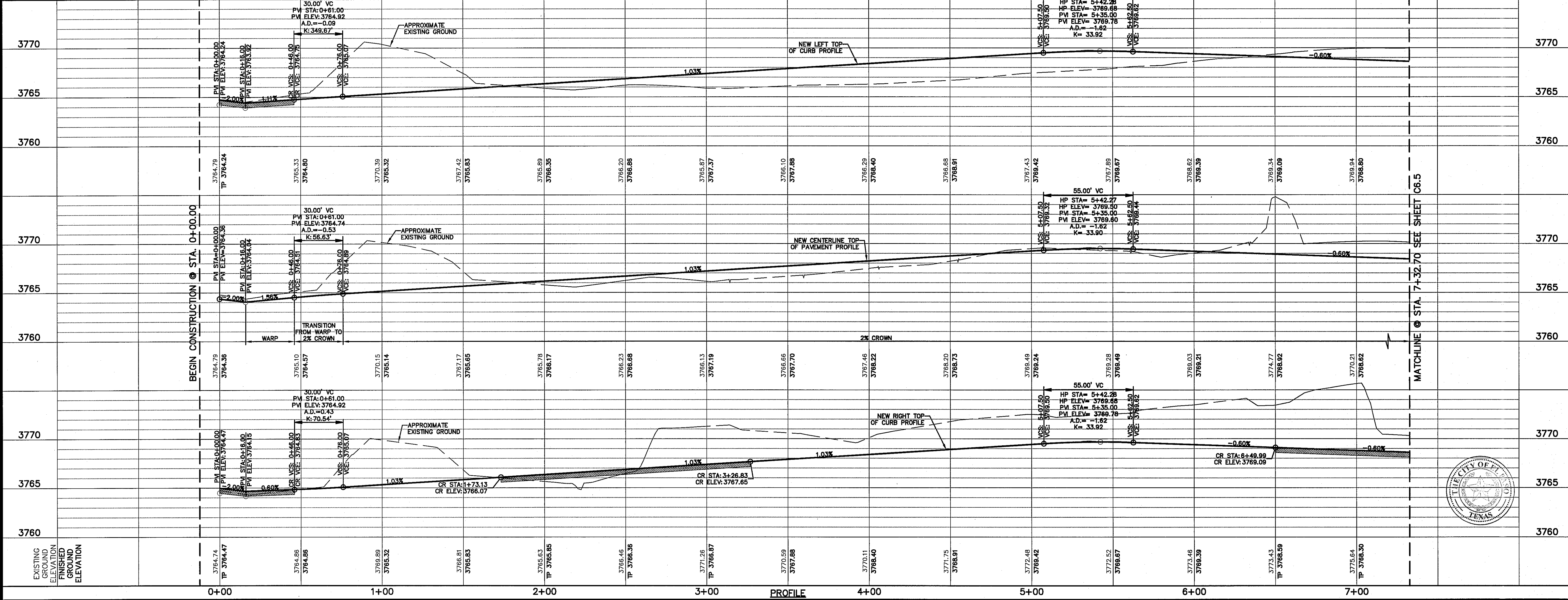
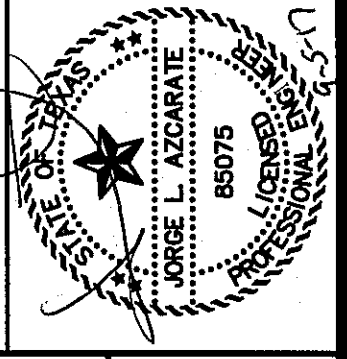
LEGEND

WHEELCHAIR RAMP BY DEVELOPER (TYP.)

PAV. ELEVATIONS ARE SHOWN AT TOP OF CURB. REFER TO PLAN VIEW FOR TOP OF PAVEMENT ELEVATIONS.

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Office: 915.544.5292 Fax: 915.544.5233 www.osaeng.com



SCALE

Horizontal: 1"=30'
Vertical: 1"=5'
Contour Interval: N/A

DATE: JUNE 2017
DESIGN BY: R.O.
DRAWN BY: R.O./J.L.A.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No.: 2000-1921D

PROJECT TITLE

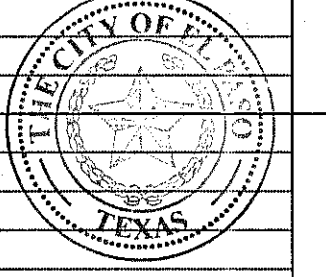
LA PUESTA DEL SOL
UNIT TWO
SUBDIVISION IMPROVEMENTS

SHEET TITLE

JENNICE CIR.
PLAN & PROFILE
FROM STA. 0+00.00
TO STA. 7+32.70

SHEET NO.

C6.4



SA:2000-192-1-6_Puesta Del Sol Unit Two\Drawings\Construction\Drawings\Improvement\Plan\C6.4-C6.5-STREET P&P SHEET - ELEVANCE.dwg

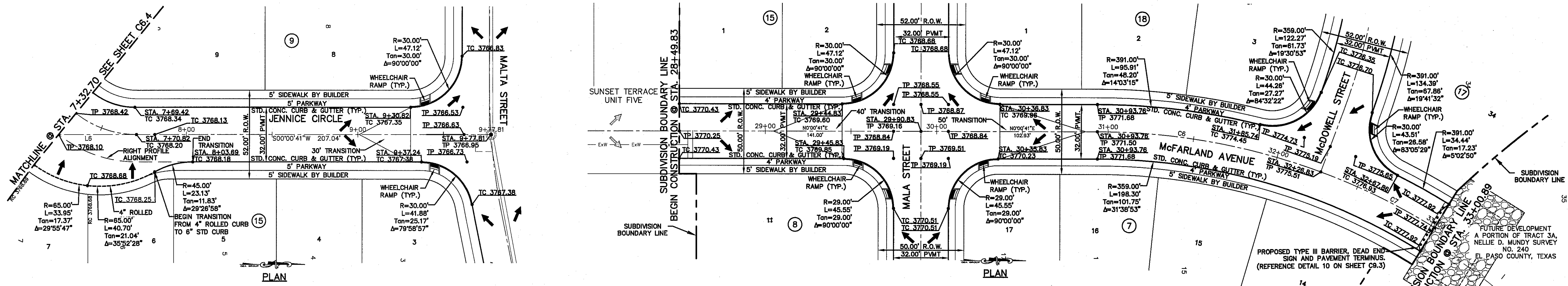
LINE	BEARING	LENGTH
L6	N00°00'41"E	56.00'

CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C6	375.00'	133.07'	67.24'	132.37'	S10°10'37"W	020°19'54"
C7	375.00'	74.07'	37.15'	73.95'	S26°00'04"W	011°18'59"

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3789
U.S. SPRINT TELECOMM	(800) 521-0579

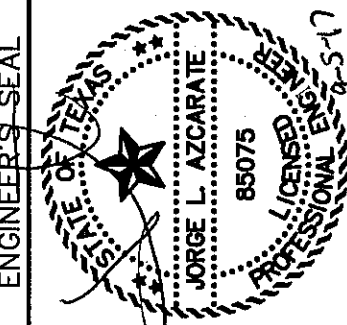
**WARNING I
BEFORE YOU DIG
CALL 811**
FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY



STATION	EXISTING GROUND ELEVATION	PROPOSED PAVEMENT ELEVATION	PROPOSED CURB ELEVATION	PROPOSED BENCH ELEVATION	PROPOSED DESILTING BASIN ELEVATION	PROPOSED GUARD RAIL ELEVATION
8+00	3770.14	3768.50	3770.22	3768.20		
9+00	3770.75	3767.90	3770.75	3767.90		
29+00	3770.74	3770.43	3770.92	3770.43		
30+00	3771.92	3770.11	3771.43	3770.00		
31+00	3771.95	3770.36	3771.24	3771.87		
32+00	3773.24	3773.38	3773.59	3774.38		
33+00	3775.09	3775.89	3775.16	3774.38		
3775	3775.09	3775.89	3775.16	3774.38		
3770	3775.09	3775.89	3775.16	3774.38		
3765	3775.09	3775.89	3775.16	3774.38		

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4712 Woodrow Road, Ste. F El Paso, TX 79924
Office: 915.544.5202 Fax: 915.544.5203 www.oandae.com



SCALE: 1"=30'
Horizontal: 1"=50'
Vertical: 1"=5'
DATE: JUNE 2017
DESIGN BY: R.O.
DRAWN BY: R.O./J.L.M.
CHKD. BY: J.L.A.
APPD. BY: J.L.A.
JOB No.: 2000-192LD

PROJECT TITLE
**LA PUESTA DEL SOL
UNIT TWO
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
**JENNICE CIR.
PLAN & PROFILE
FROM STA. 0+00.00
TO STA. 9+77.81
McFARLAND AVE.
PLAN & PROFILE
FROM STA. 28+49.83
TO STA. 33+00.89**

SHEET NO.
C6.5

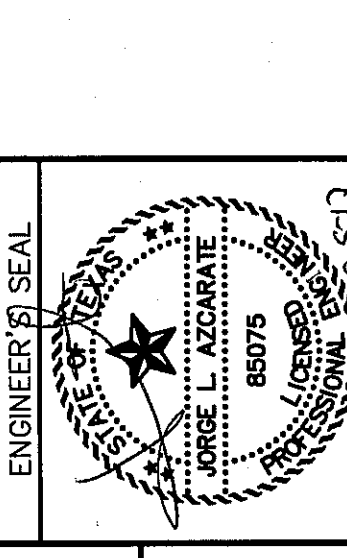
CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C8	375.00'	133.07'	67.24'	132.37'	N79°49'23"W	02°01'54"

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

WARNING I BEFORE YOU DIG CALL 811
FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY

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7775 Woodrow Bean, Suite F, El Paso, TX 79924
Office: 915.835.4222 Fax: 915.835.4223 www.oandae.com

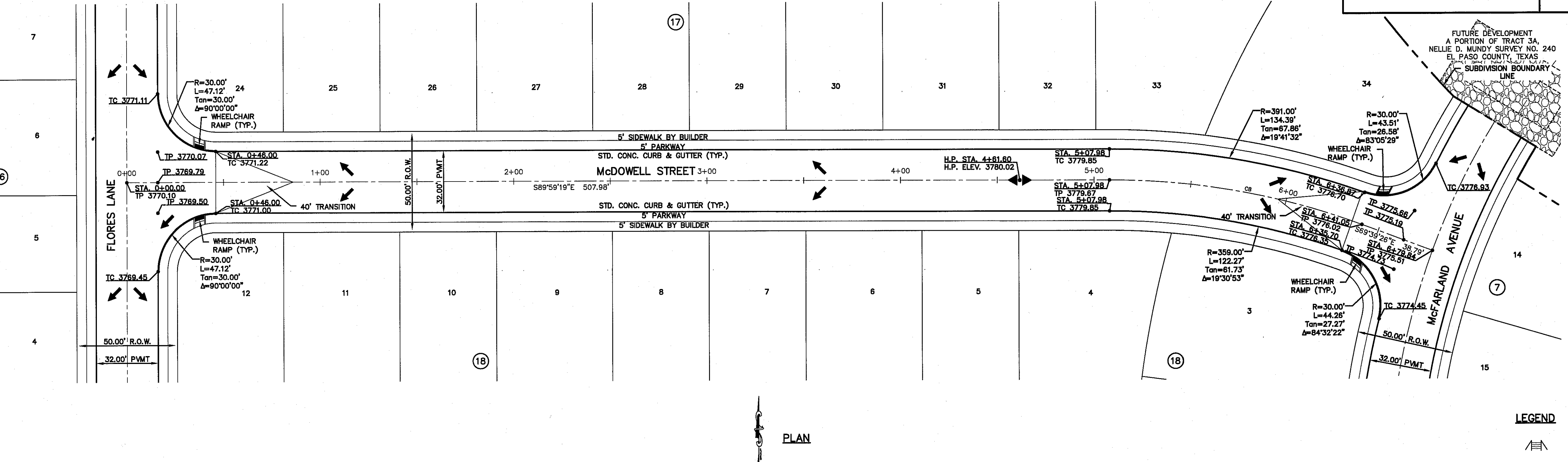
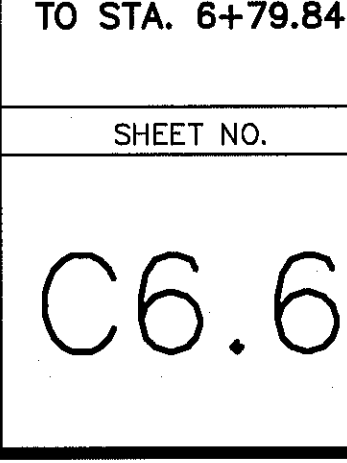


SCALE: 1"=30'
Horizontal: 1"=50'
Vertical: 1"=5'
Contour Interval: N/A
DATE: JUNE 2017
DESIGN BY: R.O./R.J.M.
DRAWN BY: J.L.A.
APP'D. BY: J.L.A.
JOB No. 2000-192LD

PROJECT TITLE
LA PUESTA DEL SOL UNIT TWO SUBDIVISION IMPROVEMENTS

SHEET TITLE
McDOWELL ST. PLAN & PROFILE FROM STA. 0+00.00 TO STA. 6+79.84

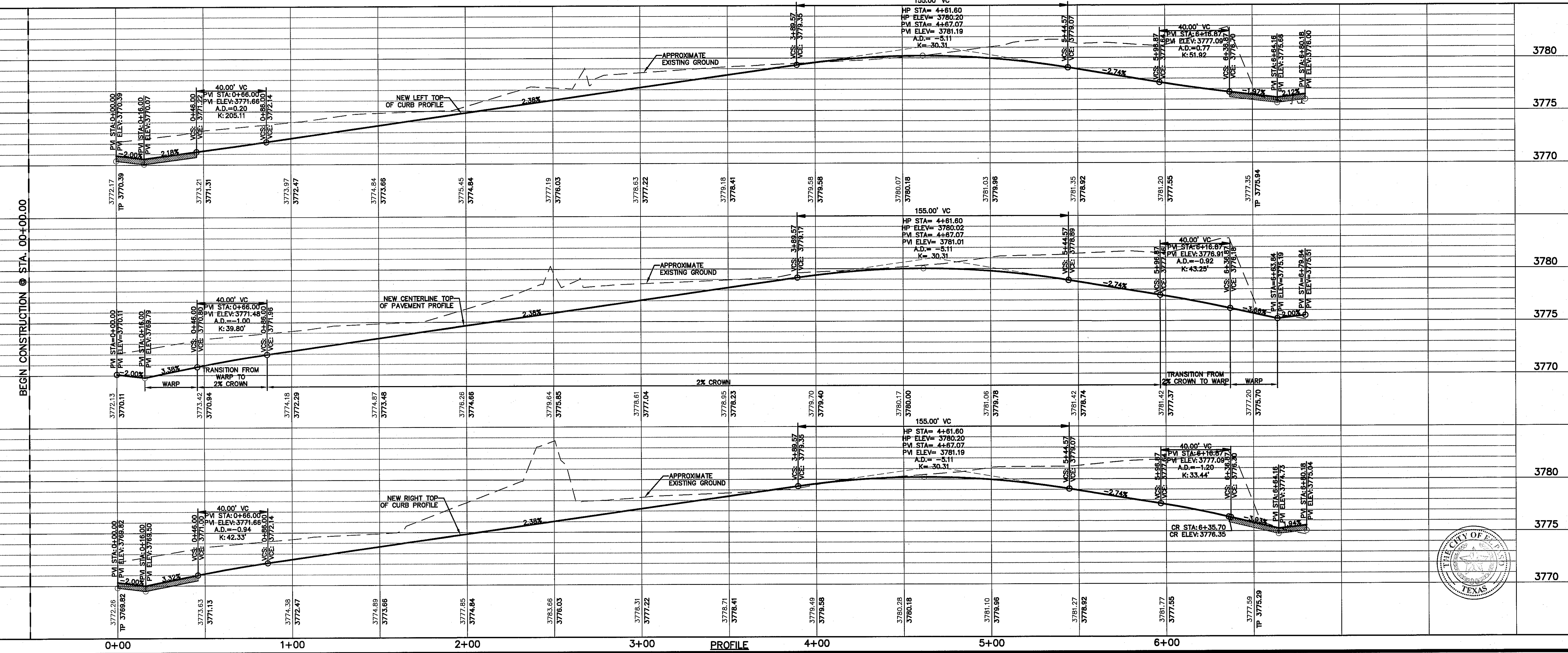
SHEET NO.
C6.6



PLAN

LEGEND

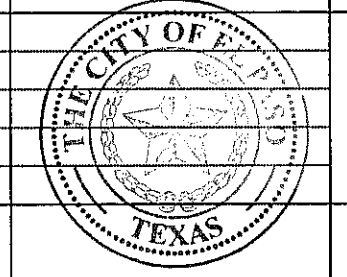
- WHEELCHAIR RAMP BY DEVELOPER (TYP.)
- PVI ELEVATIONS ARE SHOWN AT TOP OF CURB. REFER TO PLAN VIEW FOR TOP OF PAVEMENT ELEVATIONS.



BEGIN CONSTRUCTION @ STA. 00+00.00

EXISTING GROUND ELEVATION
FINISHED GROUND ELEVATION

0+00 1+00 2+00 3+00 4+00 5+00 6+00 PROFILE

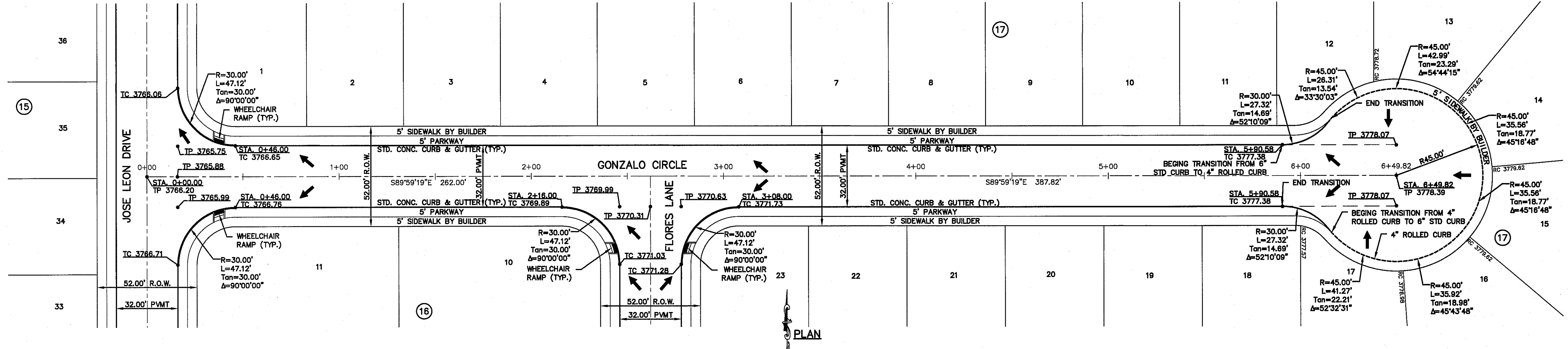
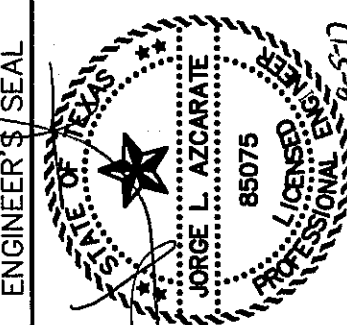


UTILITY LOCATOR SERVICES		
EL PASO ELECTRIC COMPANY	(915) 543-5720	
EL PASO ENERGY CORPORATION	(915) 496-5244	
EL PASO WATER UTILITIES	(915) 594-5500	
MCI SURVEILLANCE	(800) MCI-WORK	
TIME WARNER COMMUNICATIONS	(915) 773-1123	
TEXAS GAS SERVICE	(915) 680-7200	
SBC	(800) 545-6005	
AT&T	(800) 852-3786	
U.S. SPRINT TELECOMM	(800) 521-0579	

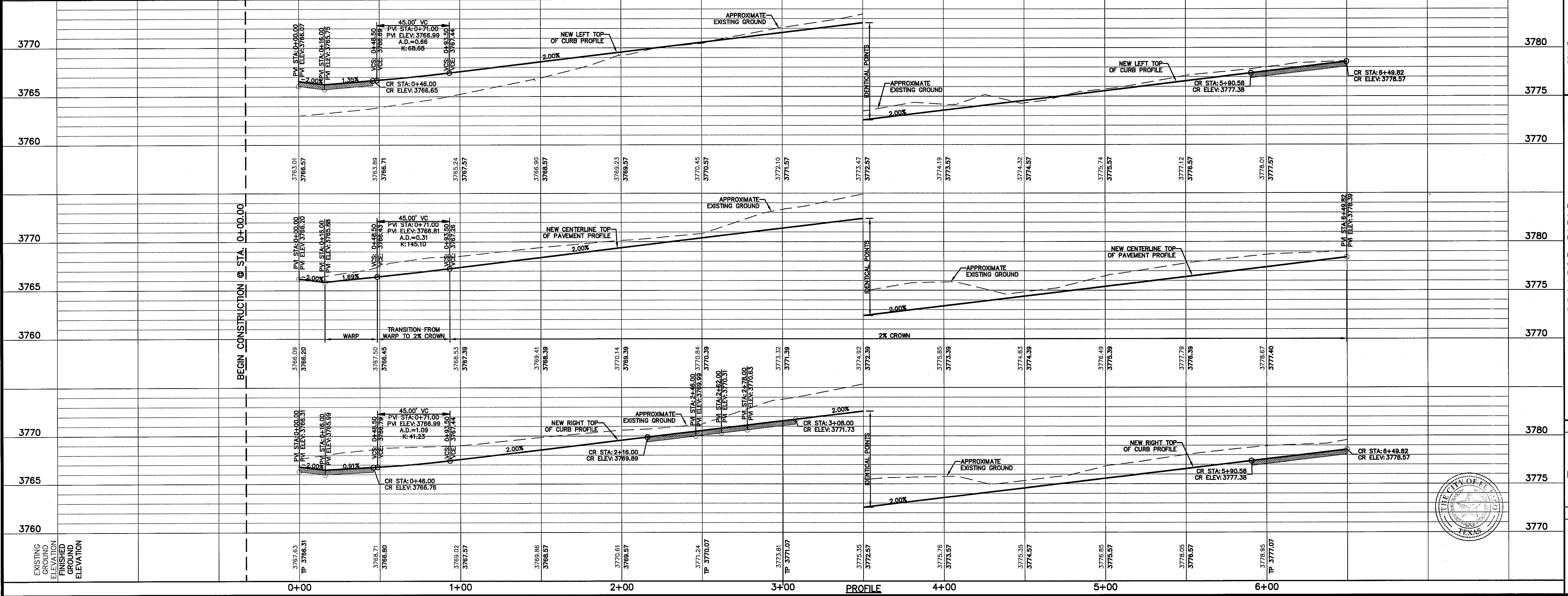
WARNING!
BEFORE YOU DIG
CALL 811
FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY

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4713 Woodrow Bess, Ste. F, El Paso, TX 79924
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LEGEND
 WHEELCHAIR RAMP BY DEVELOPER (TYP.)
 PVI ELEVATIONS ARE SHOWN AT TOP OF CURB. REFER TO PLAN VIEW FOR TOP OF PAVEMENT ELEVATIONS.

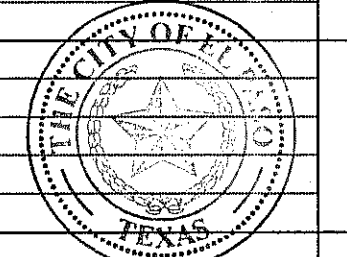


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 DATE: JUNE 2017
 DESIGN BY: R.O.
 DRAWN BY: R.O./R.L.M.
 CHECKED BY: J.L.A.
 APP'D BY: J.L.A.
 JOB No. 20100-192LD

PROJECT TITLE
**LA PUESTA DEL SOL
 UNIT TWO
 SUBDIVISION IMPROVEMENTS**

SHEET TITLE
**GONZALO CIR.
 PLAN & PROFILE
 FROM STA. 0+00.00
 TO STA. 6+49.82**

SHEET NO.
C6.7



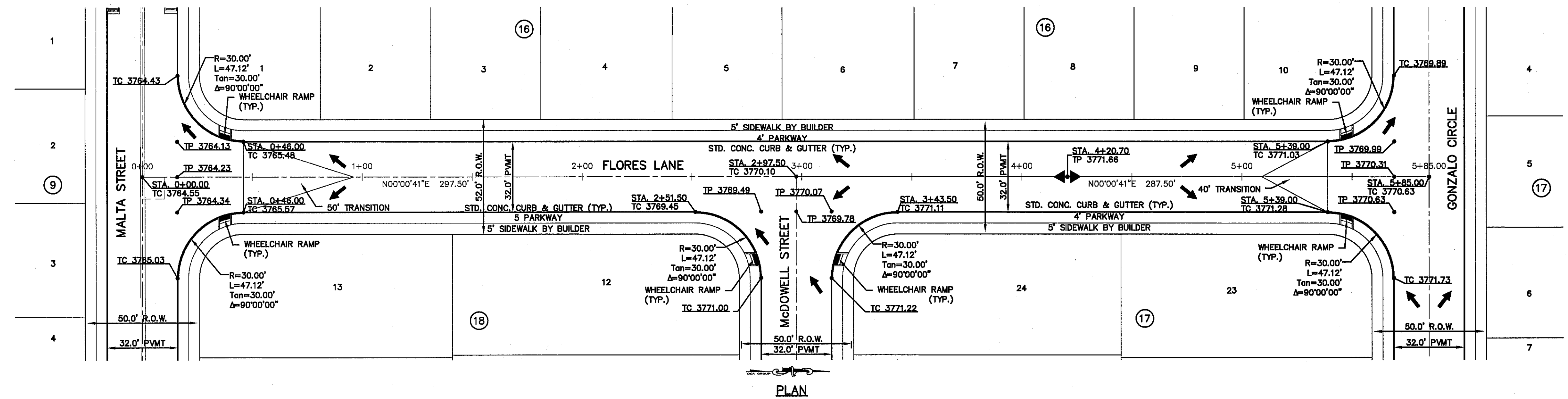
UTILITY LOCATOR SERVICES		
EL PASO ELECTRIC COMPANY	(915) 543-5720	
EL PASO ENERGY CORPORATION	(915) 496-5244	
EL PASO WATER UTILITIES	(915) 594-5500	
MCI SURVEILLANCE	(800) MCI-WORK	
TIME WARNER COMMUNICATIONS	(915) 772-1123	
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FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY

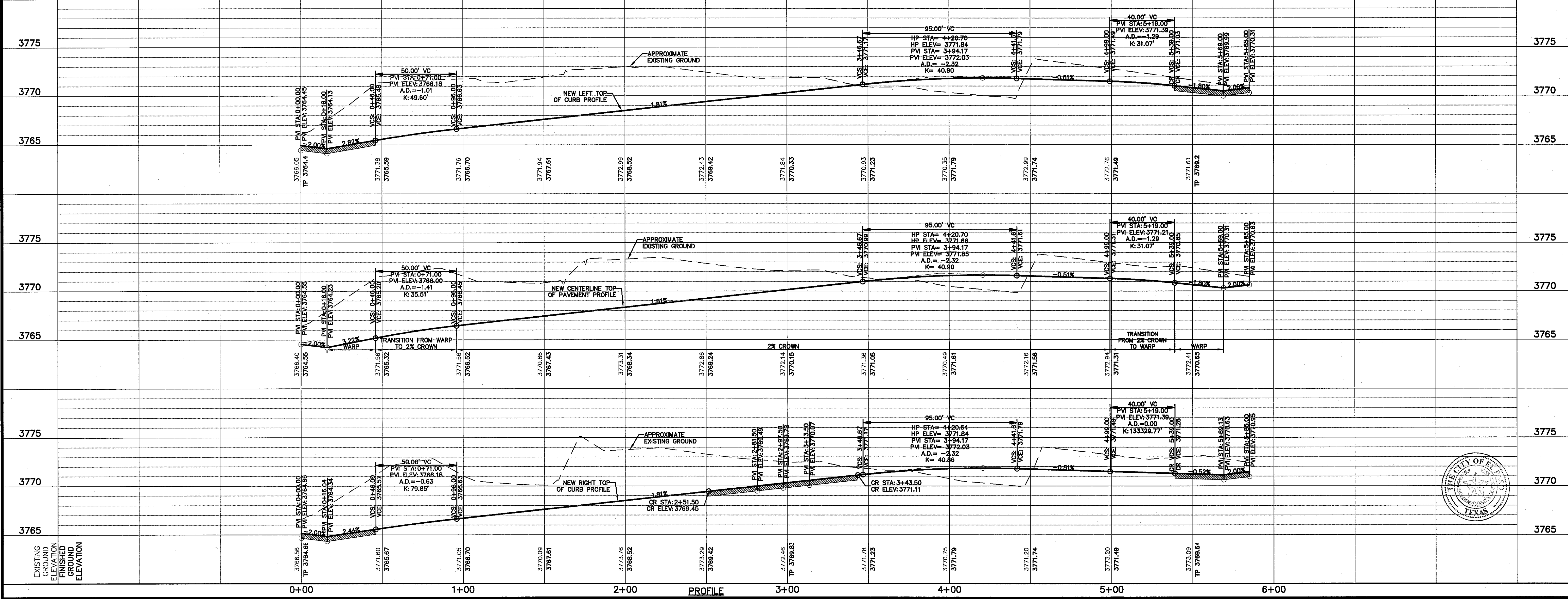
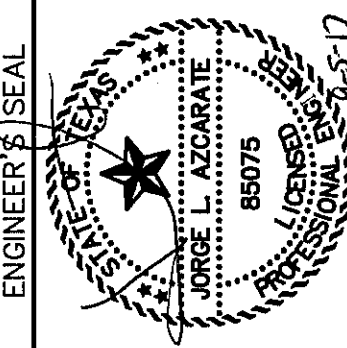
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LEGEND

WHEELCHAIR RAMP BY DEVELOPER (TYP.)

P.V. ELEVATIONS ARE SHOWN AT TOP OF CURB. REFER TO PLAN VIEW FOR TOP OF PAVEMENT ELEVATIONS.



SCALE: 1"=30'
Horizontal: 1"=5'
Vertical: 1"=5'
Contour Interval: N/A

DATE: JUNE 2017
DESIGN BY: R.O.
DRAWN BY: R.O./R.L.M.
CHECKED BY: J.L.A.
APPROVED BY: J.L.A.
JOB No.: 20000-1921D

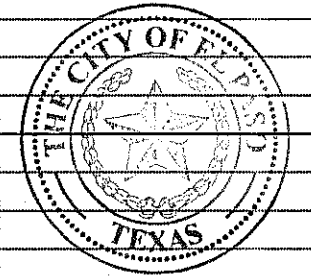
PROJECT TITLE

**LA PUESTA DEL SOL
UNIT TWO
SUBDIVISION IMPROVEMENTS**

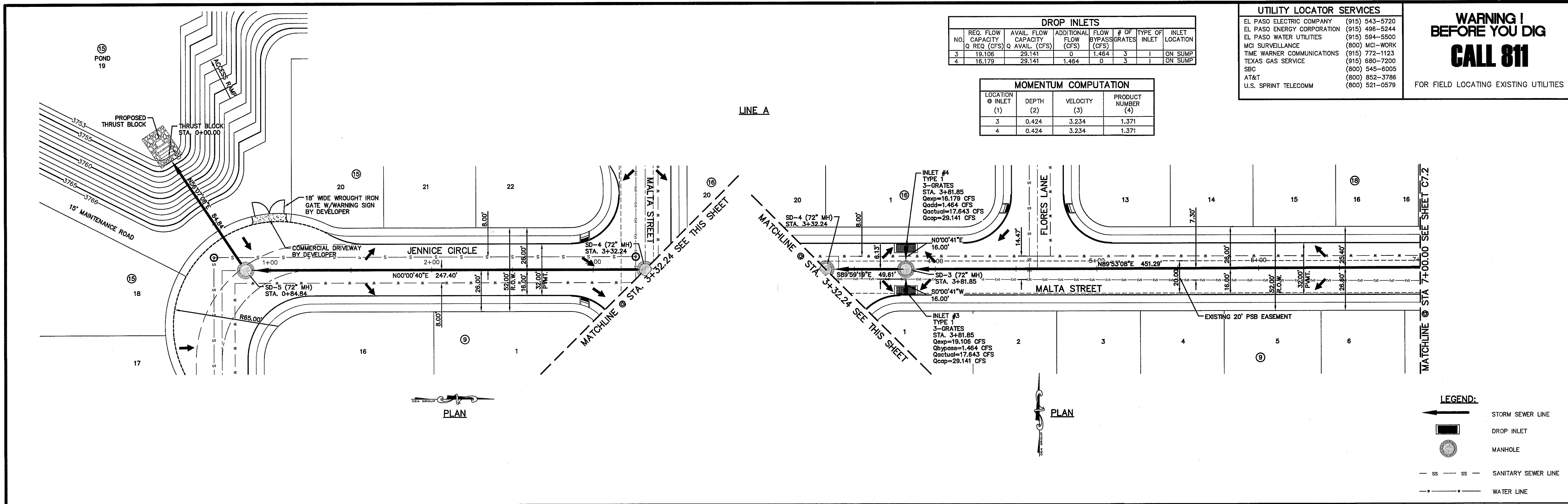
SHEET TITLE

**FLORES LN.
PLAN & PROFILE
FROM STA. 0+00.00
TO STA. 5+85.00**

SHEET NO.



C6.8



EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

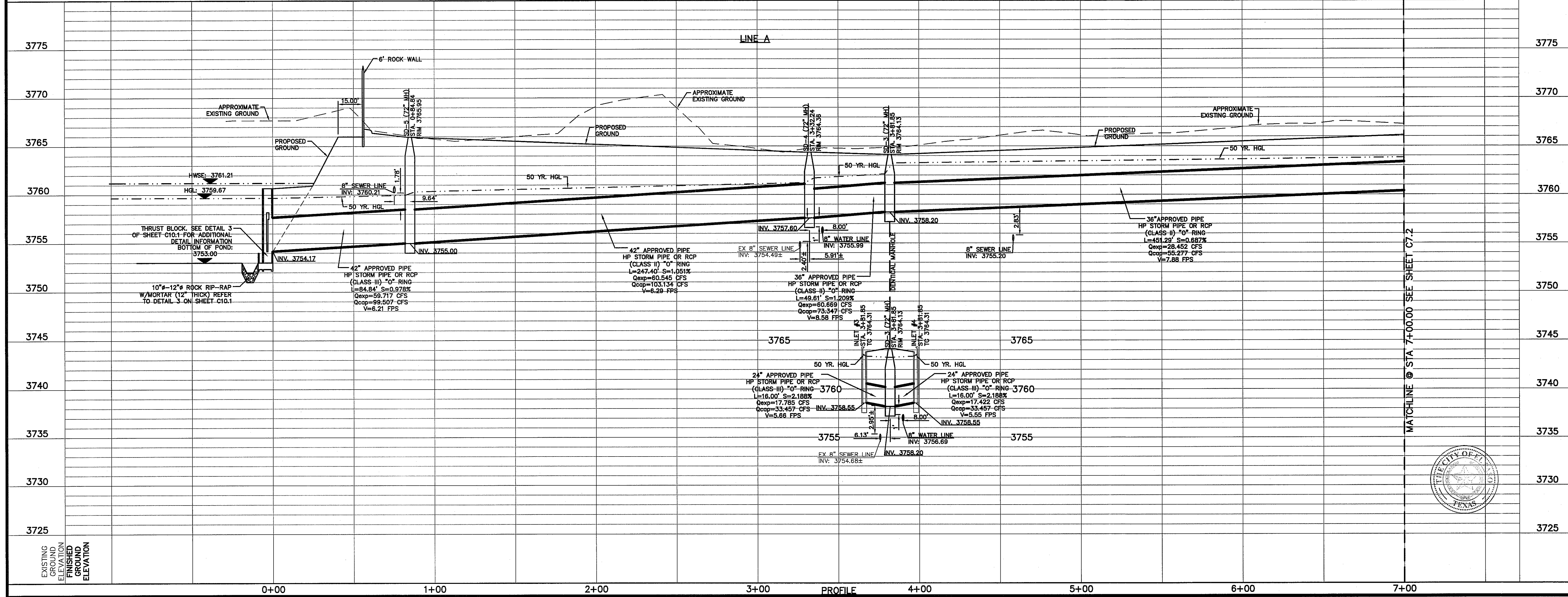
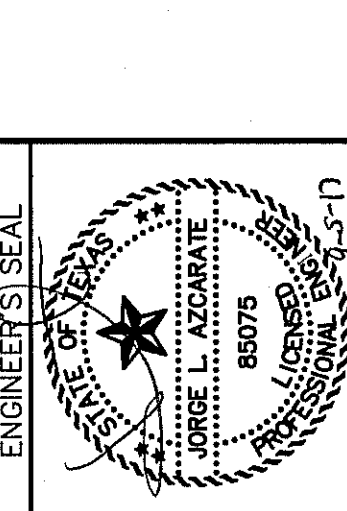
WARNING!
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FOR FIELD LOCATING EXISTING UTILITIES

CITY MONUMENT AT THE INTERSECTION OF PASO DEL NORTE & NORTHWESTERN. ELEVATION = 3987.39 (CITY DATUM). THIS IS BASED ON NGS MONUMENT "CHINO" ELEVATION = 3935.48 (CITY DATUM)
--

DATE	BY	REVISIONS

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4712 Woodrow Bean, Ste. F, El Paso, TX 79904
Office: 915.544.5242 Fax: 915.544.5233 www.csaengr.com

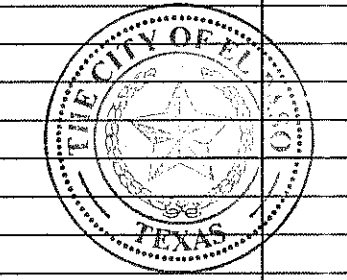


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Contour Interval: N/A
DATE: JUNE 2017
DESIGN BY: R.O.
DRAWN BY: R.C./R.J.M.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-1921.D

PROJECT TITLE
**LA PUESTA DEL SOL
UNIT TWO
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
**STORM DRAIN
PLAN & PROFILE
LINE A
FROM STA. 0+00.00
TO STA. 7+00.00**

SHEET NO.
C7.1



DROP INLETS						
NO.	REQ. FLOW CAPACITY Q REQ. (CFS)	AVAIL. FLOW CAPACITY Q AVAIL. (CFS)	ADDITIONAL FLOW (CFS)	FLOW BYPASS (CFS)	# OF GRATES	TYPE OF INLET LOCATION
1	4.127	17.695	10.234	0	4	ON GRADE
2	10.213	17.695	4.375	0.234	4	ON GRADE
5	12.596	29.141	2.826	0	3	ON SUMP
6	18.249	29.141	0	2.826	3	ON SUMP

MOMENTUM COMPUTATION			
LOCATION @ INLET (1)	DEPTH (2)	VELOCITY (3)	PRODUCT NUMBER (4)
1	0.393	3.072	1.207
2	0.393	3.072	1.207
5	0.398	3.215	1.280
6	0.398	3.215	1.280

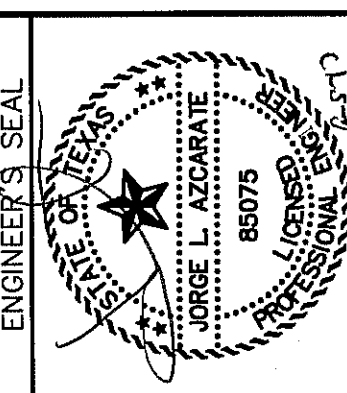
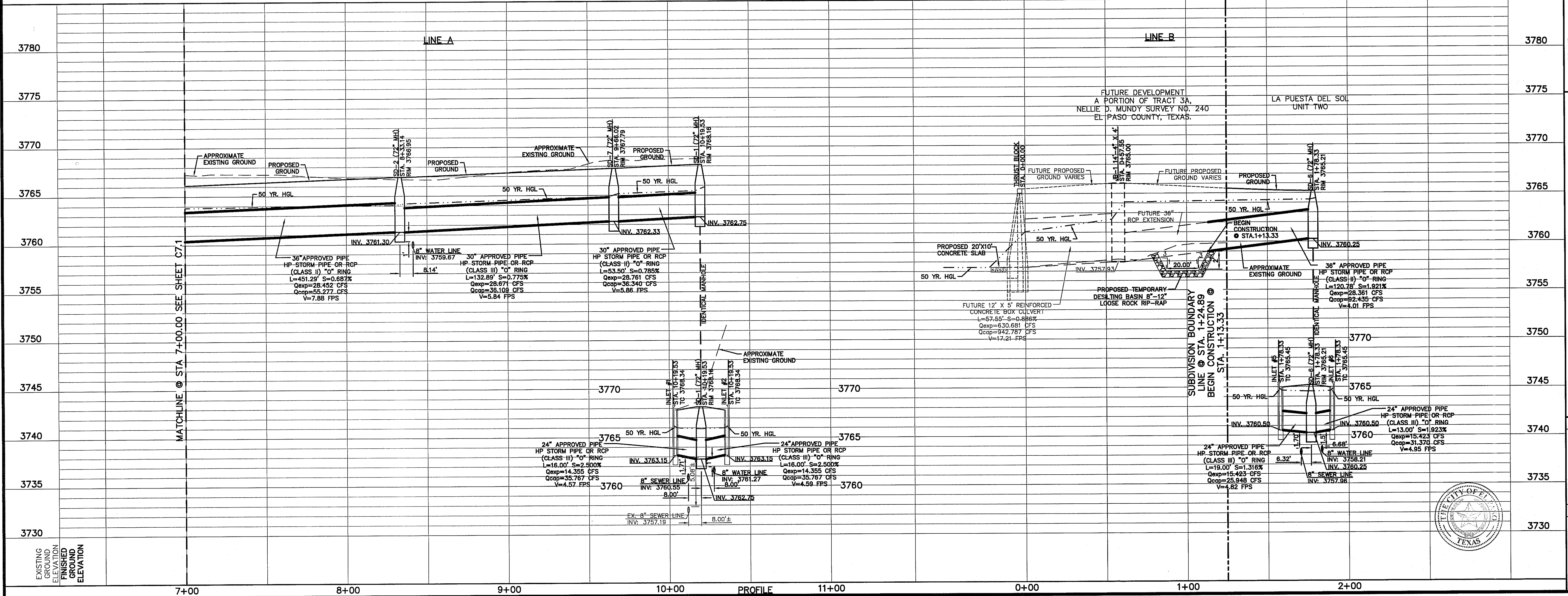
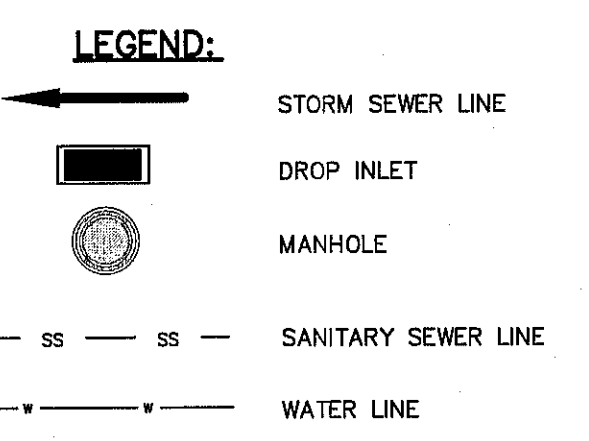
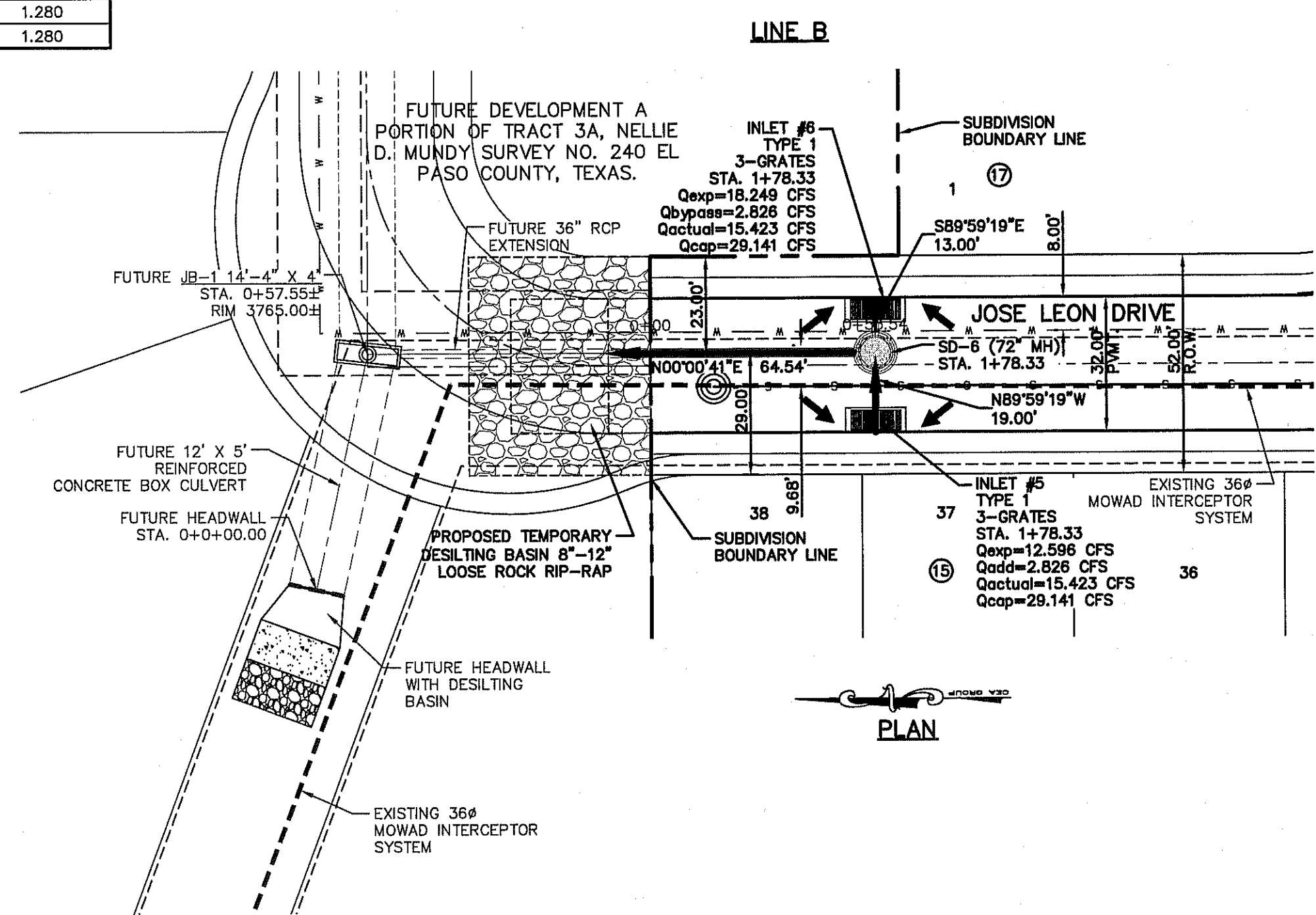
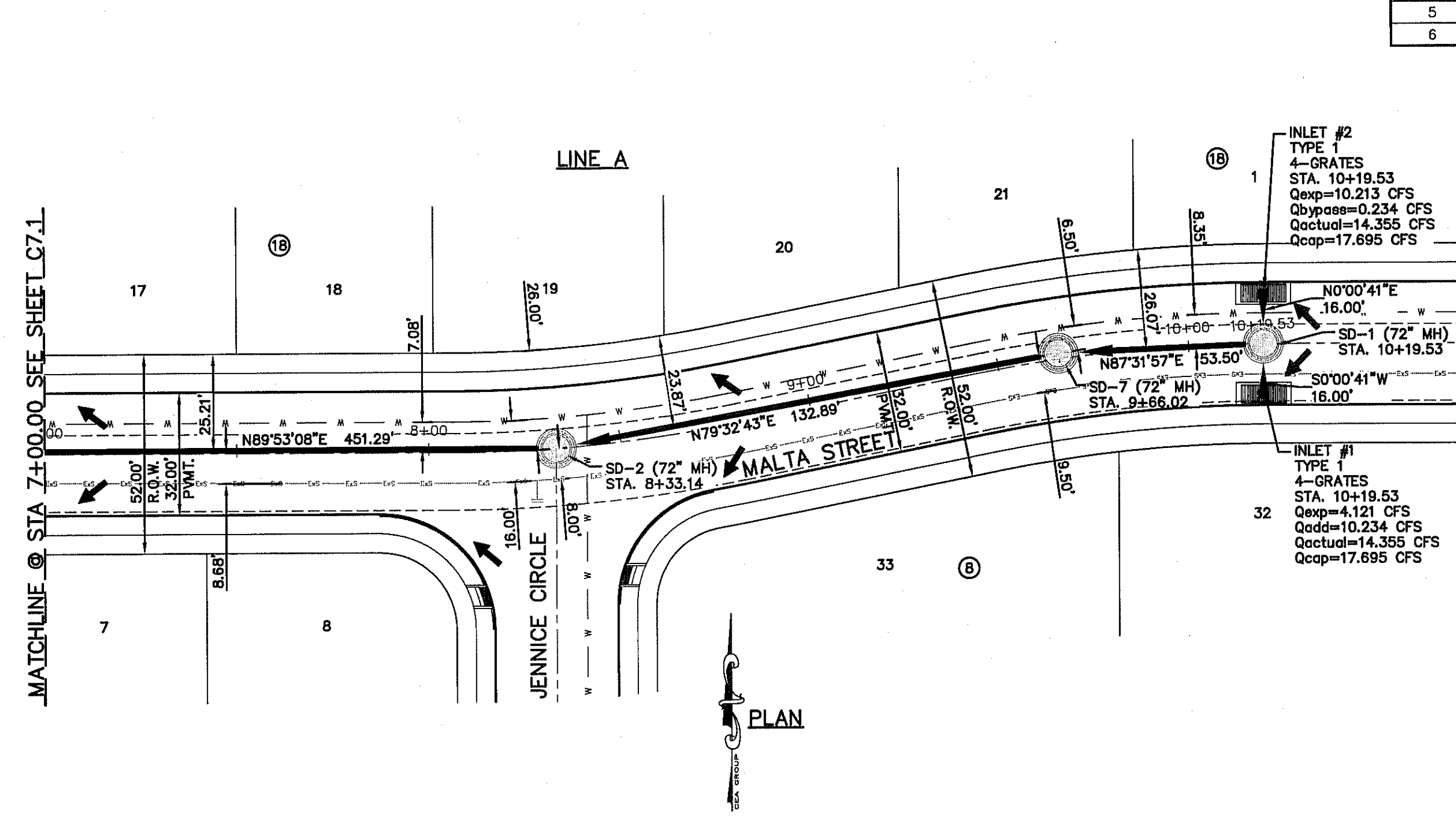
UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 498-5244
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U.S. SPRINT TELECOMM	(800) 521-0579

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DATE	REVISIONS	BY

REFERENCES - BENCHMARKS
CITY MONUMENT AT THE INTERSECTION OF PASO DEL NORTE & NORTHWESTERN. ELEVATION = 3887.39 (CITY DATUM). THIS IS BASED ON NGS MONUMENT "CHINO" ELEVATION = 3935.48 (CITY DATUM)

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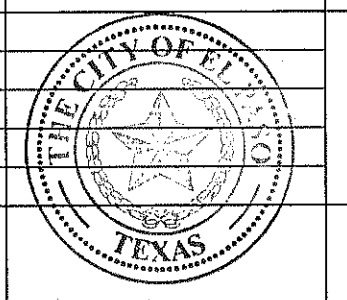


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Horizontal: 1"=5'
Vertical: 1"=5'
Contour Interval: N/A
DATE: JUNE 2017
DESIGN BY: R.O.
CHECK BY: J.L.A.
APPROV. BY: J.L.A.
JOB No.: 2000-192LD

PROJECT TITLE
LA PUESTA DEL SOL UNIT TWO SUBDIVISION IMPROVEMENTS

SHEET TITLE
STORM DRAIN PLAN & PROFILE LINE A FROM STA. 7+00.00 TO STA. 10+19.53 LINE B FROM STA. 0+00.00 TO STA. 1+78.33

SHEET NO.
C7.2



NEW POND CALCULATIONS			
QT = (ARC)/12	SILT VOLUME = 0.360		
QT = 5.897 AC-FT	0.012 AC-FT/AC		
A = 30.036	7.371 + 0.360 = 7.731 AC-FT		
R = 4'			
Cw = 0.589	TOTAL _{req} = 7.731 AC-FT		
QT X 25% = 1.474			
5.897 + 1.474 = 7.371			

NEW POND						
BASIN NO.	REQUIRED CAPACITY (AC.-FT.)	AVAILABLE CAPACITY (AC.-FT.)	PEAK INFLOW (CFS)	OUTLET TOWER FLOW (CFS)	HIGH WATER SURFACE ELEV. (FT.)	BOTTOM ELEVATION (FT.)
1	7.731	11.546	70.252	0	3761.21	3753.00
					FREE BOARD (FT.)	TOP ELEVATION
					2.790	3764.00

NEW POND AREAS		
CONTOUR	AREA (AC.)	ACCUMULATED VOLUME (AC.-FT.)
3764	1.490	11.546
3763	1.403	10.099
3762	1.319	8.739
3761	1.236	7.481
3760	1.156	6.265
3759	1.078	5.148
3758	1.001	4.108
3757	0.927	3.144
3756	0.855	2.253
3755	0.785	1.433
3754	0.716	0.683
3753	0.649	0.000

COORDINATE TABLE		
Point #	Northing	Easting
1	20066.9214	17003.1964
2	20053.5007	17009.8959
3	20053.4869	17080.6535
4	20048.6843	17089.1948
5	20045.1474	17091.4285
6	20035.1252	17091.9730
7	19925.5226	17036.0977
8	19917.0968	17035.7919
9	19889.9002	17047.2547
10	19876.9276	17042.2105
11	19836.0930	16953.2254
12	19845.2045	16939.0547
13	20076.5974	16939.5802
14	20136.5904	16942.7165
15	20155.4874	16942.7594
16	20162.3457	16945.5032
17	20175.4744	16957.9531
18	20168.5915	16975.2093
19	20076.9268	16975.1915
20	20066.9249	16985.1896

COORDINATE TABLE		
Point #	Northing	Easting
21	20099.9086	17069.2776
22	20086.4878	17075.9771
23	20086.4843	17094.4057
24	20074.9070	17112.5417
25	20054.6936	17125.3601
26	20032.7930	17127.8249
27	19928.3442	17074.5770
28	19911.4927	17073.9653
29	19882.1768	17086.3214
30	19856.2315	17076.2330
31	19791.1063	16934.3146
32	19809.3291	16905.9732
33	20077.4968	16906.5822
34	20137.4898	16909.7184
35	20164.7034	16909.7803
36	20178.4200	16915.2679
37	20240.0467	16973.7082
38	20226.2808	17008.2205
39	20119.9204	17008.1999
40	20099.9166	17028.1960

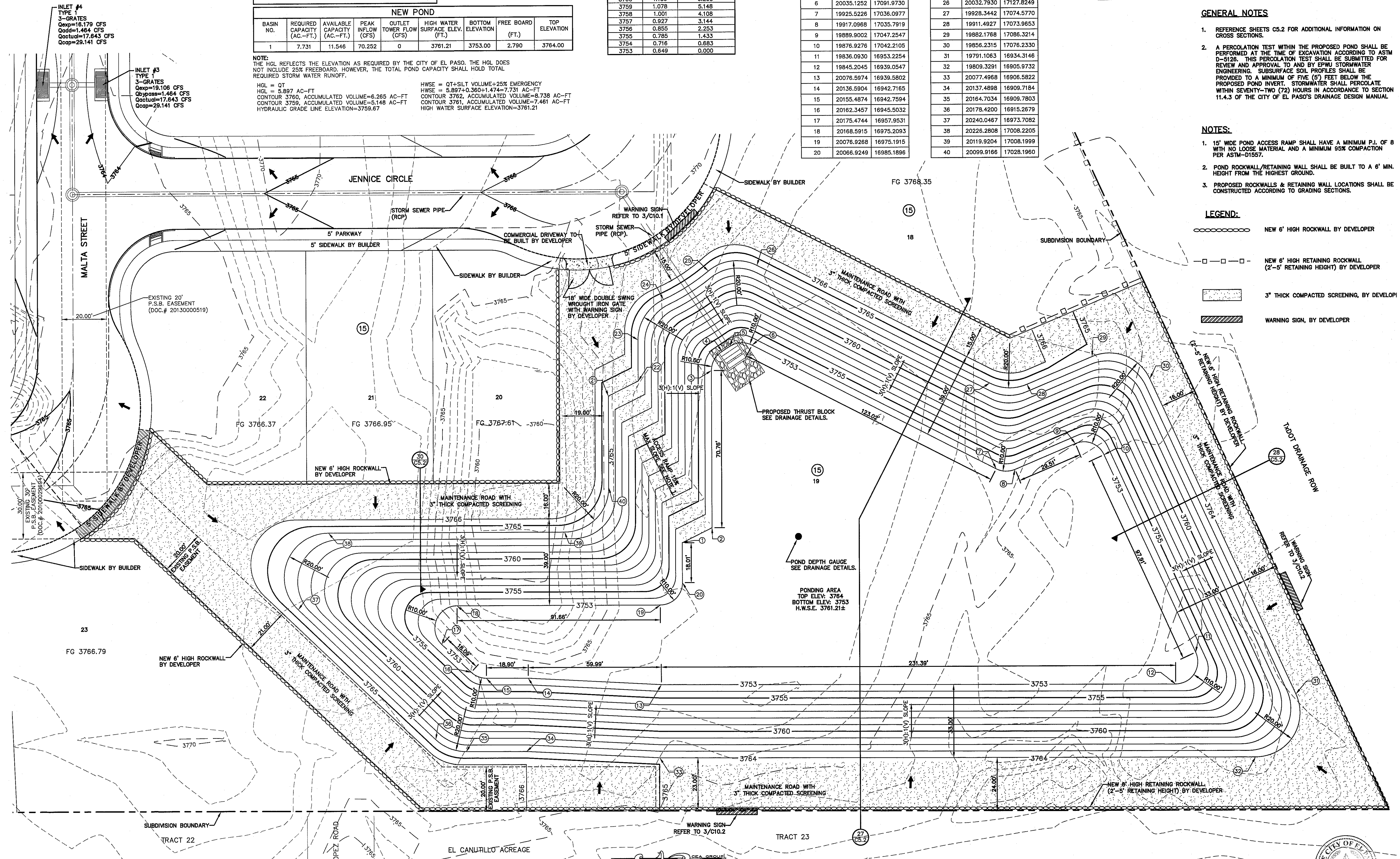
UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 498-5244
EL PASO WATER UTILITIES	(915) 594-5500
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SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

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- GENERAL NOTES**
- REFERENCE SHEETS C5.2 FOR ADDITIONAL INFORMATION ON CROSS SECTIONS.
 - A PERCOLATION TEST WITHIN THE PROPOSED POND SHALL BE PERFORMED AT THE TIME OF EXCAVATION ACCORDING TO ASTM D-5128. THIS PERCOLATION TEST SHALL BE SUBMITTED FOR REVIEW AND APPROVAL TO AND BY EPWU STORMWATER ENGINEERING. SUBSURFACE SOIL PROFILES SHALL BE PROVIDED TO A MINIMUM OF FIVE (5) FEET BELOW THE PROPOSED POND INVERT. STORMWATER SHALL PERCOLATE WITHIN SEVENTY-TWO (72) HOURS IN ACCORDANCE TO SECTION 11.4.3 OF THE CITY OF EL PASO'S DRAINAGE DESIGN MANUAL.

- NOTES:**
- 15' WIDE POND ACCESS RAMP SHALL HAVE A MINIMUM P.I. OF 8 WITH NO LOOSE MATERIAL AND A MINIMUM 95% COMPACTION PER ASTM-D1557.
 - POND ROCKWALL/RETAINING WALL SHALL BE BUILT TO A 6' MIN. HEIGHT FROM THE HIGHEST GROUND.
 - PROPOSED ROCKWALLS & RETAINING WALL LOCATIONS SHALL BE CONSTRUCTED ACCORDING TO GRADING SECTIONS.

- LEGEND:**
- NEW 6' HIGH ROCKWALL BY DEVELOPER
 - NEW 6' HIGH RETAINING ROCKWALL (2'-5' RETAINING HEIGHT) BY DEVELOPER
 - 3" THICK COMPACTED SCREENING, BY DEVELOPER
 - WARNING SIGN, BY DEVELOPER



NOTE:
THE HGL REFLECTS THE ELEVATION AS REQUIRED BY THE CITY OF EL PASO. THE HGL DOES NOT INCLUDE 25% FREEBOARD. HOWEVER, THE TOTAL POND CAPACITY SHALL HOLD TOTAL REQUIRED STORM WATER RUNOFF.

HGL = QT
HGL = 5.897 AC-FT
CONTOUR 3760, ACCUMULATED VOLUME=6.265 AC-FT
CONTOUR 3759, ACCUMULATED VOLUME=5.148 AC-FT
HYDRAULIC GRADE LINE ELEVATION=3759.67

HWSE = QT+SILT VOLUME+25% EMERGENCY
HWSE = 5.897+0.360+1.474=7.731 AC-FT
CONTOUR 3762, ACCUMULATED VOLUME=8.739 AC-FT
CONTOUR 3761, ACCUMULATED VOLUME=7.481 AC-FT
HIGH WATER SURFACE ELEVATION=3761.21

DATE	REVISIONS	BY

ENGINEER'S SEAL

CSA GROUP
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TEXAS REGISTERED ENGINEERING FIRM #4984
4119 Woodrow Bean, Ste. F, El Paso, TX 79904
Office: 915.544.5232 Fax: 915.544.5233 www.csa-group.com

SCALE
Horizontal: 1" = 20'
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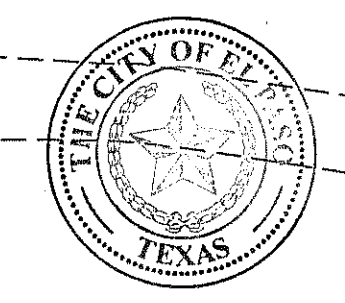
DATE: JUNE 2017
DESIGN BY: R.O./R.L.M.
CHECKED BY: R.O./E.S.
APP'D BY: J.L.A.
JOB No.: 20000-192LD

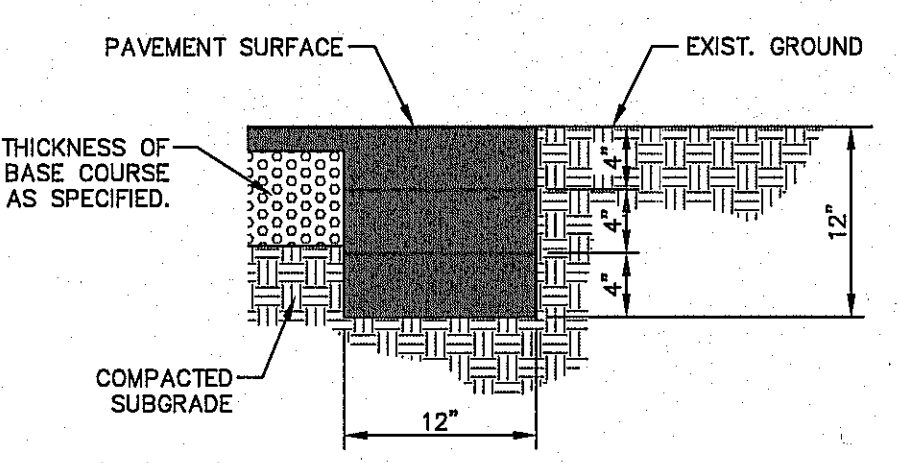
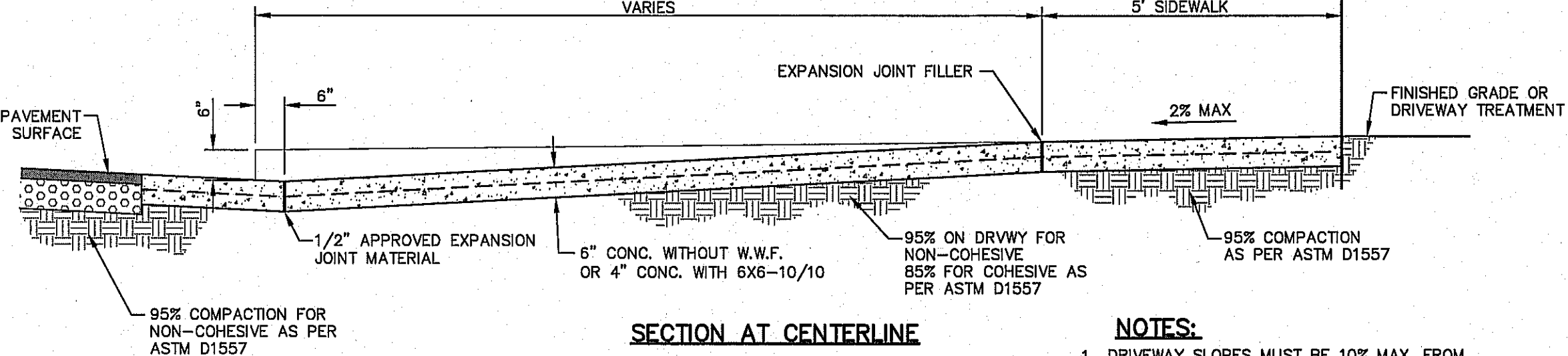
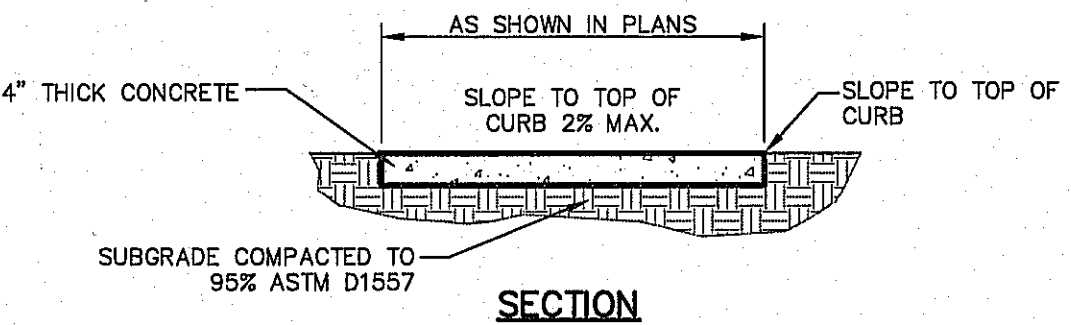
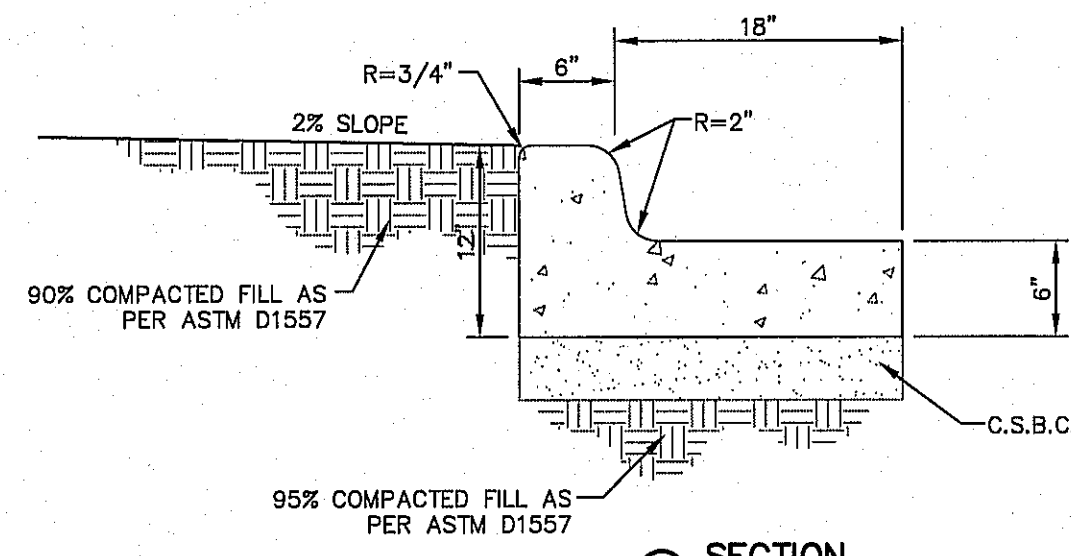
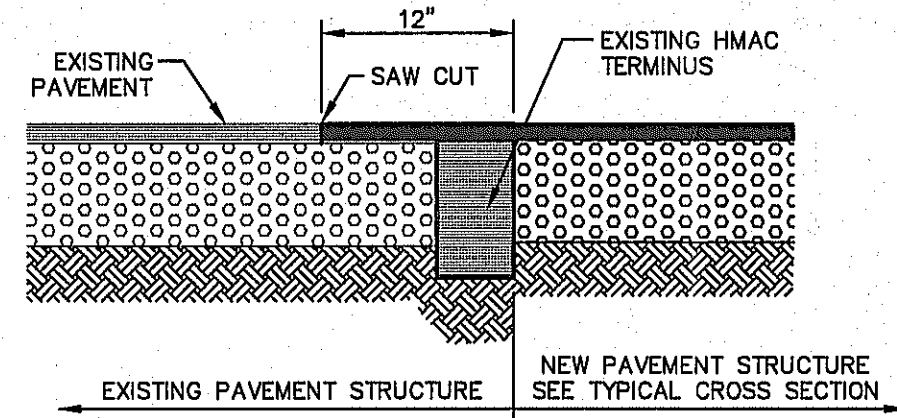
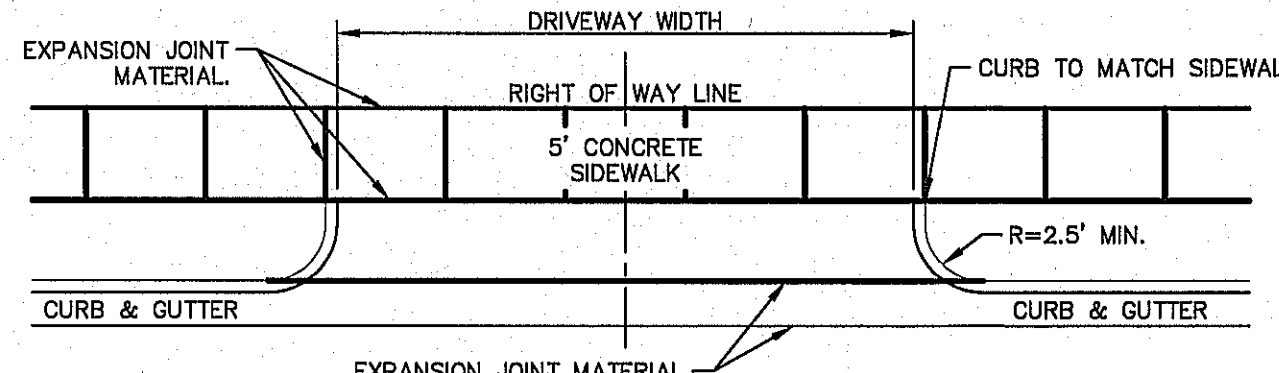
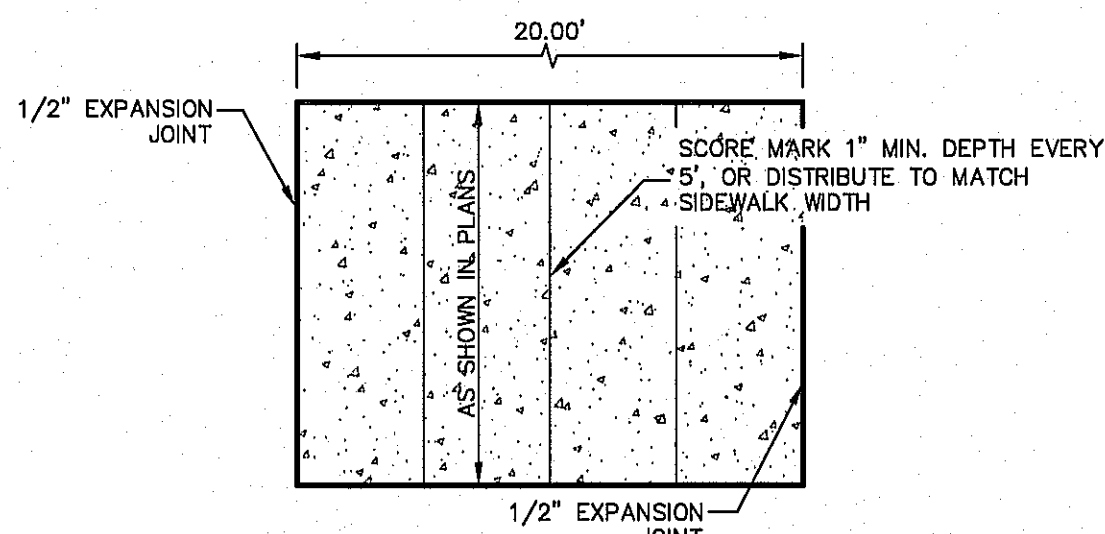
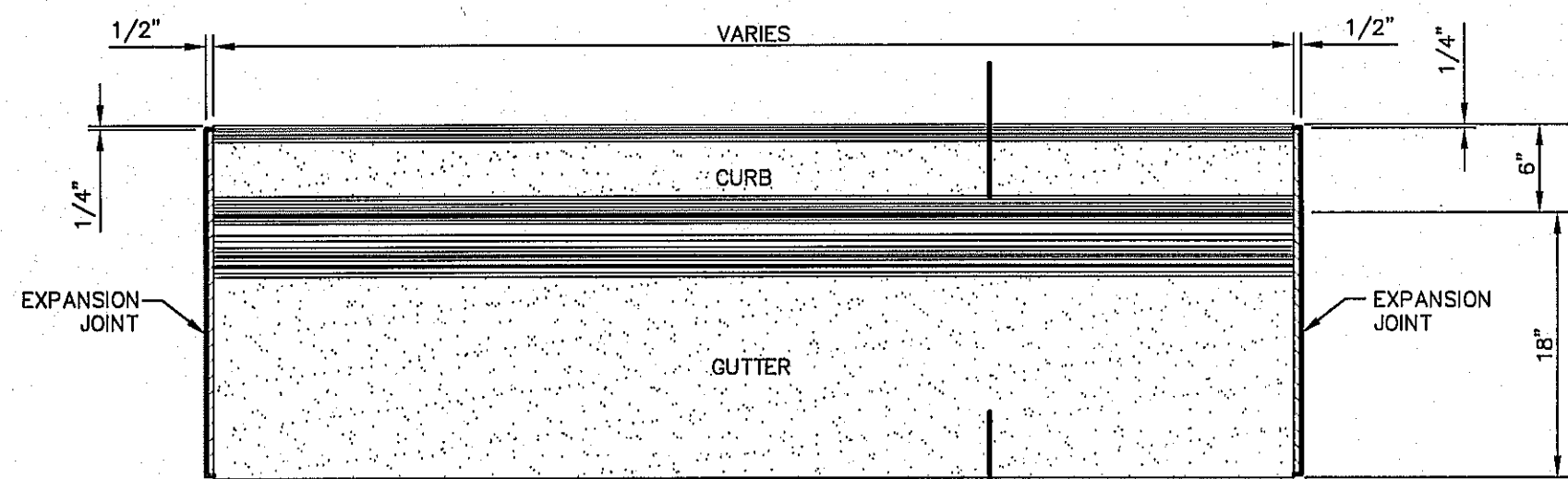
PROJECT TITLE
LA PUESTA DEL SOL
UNIT TWO
SUBDIVISION IMPROVEMENTS

SHEET TITLE
POND DESIGN PLAN

SHEET NO.
C8.1

POND DESIGN PLAN
SCALE: 1" = 20'



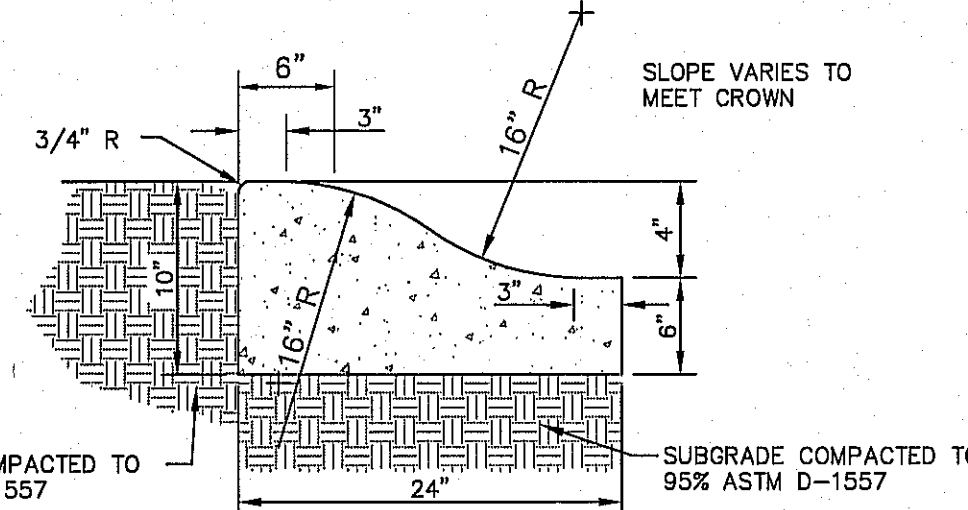


- NOTES:**
- CONCRETE SHALL BE 3,000 P.S.I. MIN.
 - DUMMY JOINT REQUIRED AT 10' O.C. FOR CURB & GUTTER, AND 5' O.C. FOR SIDEWALK
 - EXPANSION MATERIAL REQUIRED AT CURB RETURNS AND AT 20' ON CENTER FOR SIDEWALKS WITH 1/2" PREMOLDED ASPHALT IMPREGNATED EXPANSION MATERIAL OR EQUAL.
 - EXPANSION JOINTS REQUIRED AT 50' O.C. WHEN FORMING FOR CURBS.

- SIDEWALK NOTES:**
- CONCRETE SIDEWALK SHALL BE 3,000 P.S.I.
 - DUMMY JOINTS REQUIRED AT 5' O.C.
 - EXPANSION JOINTS SHALL BE AT 20' O.C. MAXIMUM. USE 1/2" PREMOLDED BITUMINOUS EXPANSION JOINTS (AASTHO M-33).
 - EXPANSION JOINT FILLER SHALL BE PLACED WHEREVER SIDEWALK ABUTS ROCK OR MASONRY STRUCTURES SUCH AS CURBS OR BUILDINGS.
 - SUBGRADE TO BE COMPACTED TO 95% ASTM D1557.

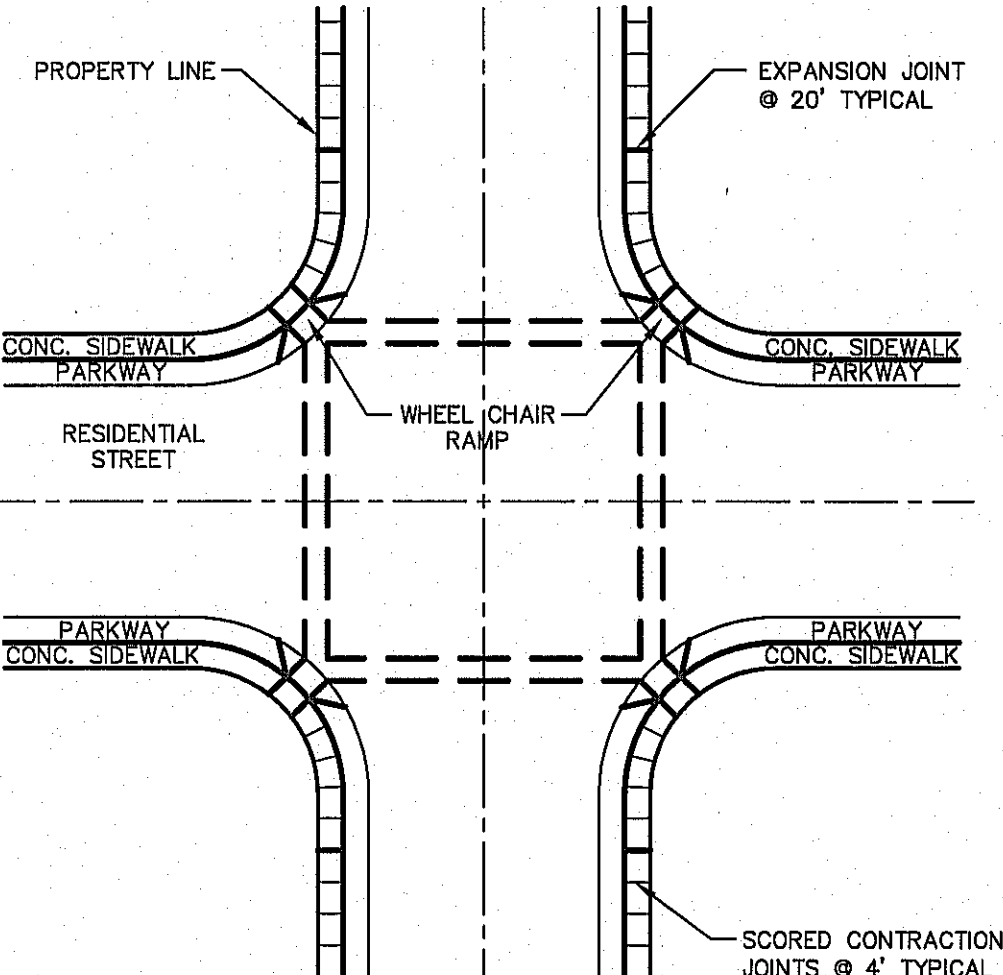
- NOTES:**
- DRIVEWAY SLOPES MUST BE 10% MAX. FROM GUTTER FOR FIRST 12 FEET AND 14% MAX. THEREAFTER (DRIVEWAY SHALL BE LOCATED @ HIGH SIDE OF LOT UNLESS OTHERWISE COORDINATED WITH CITY OF EL PASO)
 - RESIDENTIAL
6" CONC. WITHOUT W.W.F.
4" CONC. WITH 6X6-10/10
 - COMMERCIAL
6" CONC. WITH 6X6-6/6 W.W.F.

1 CURB & GUTTER DETAIL
SCALE: 1" = 1'-0"



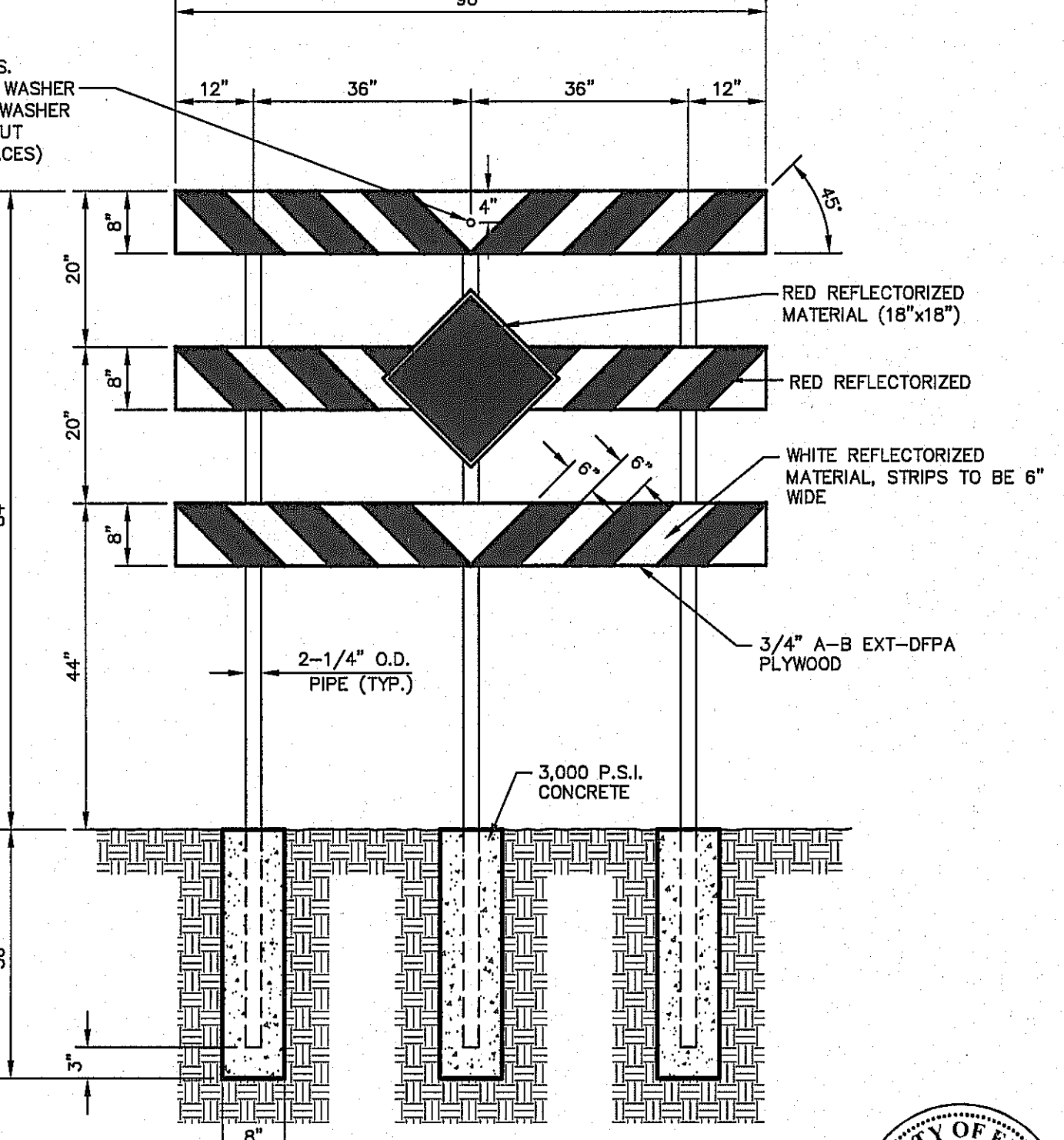
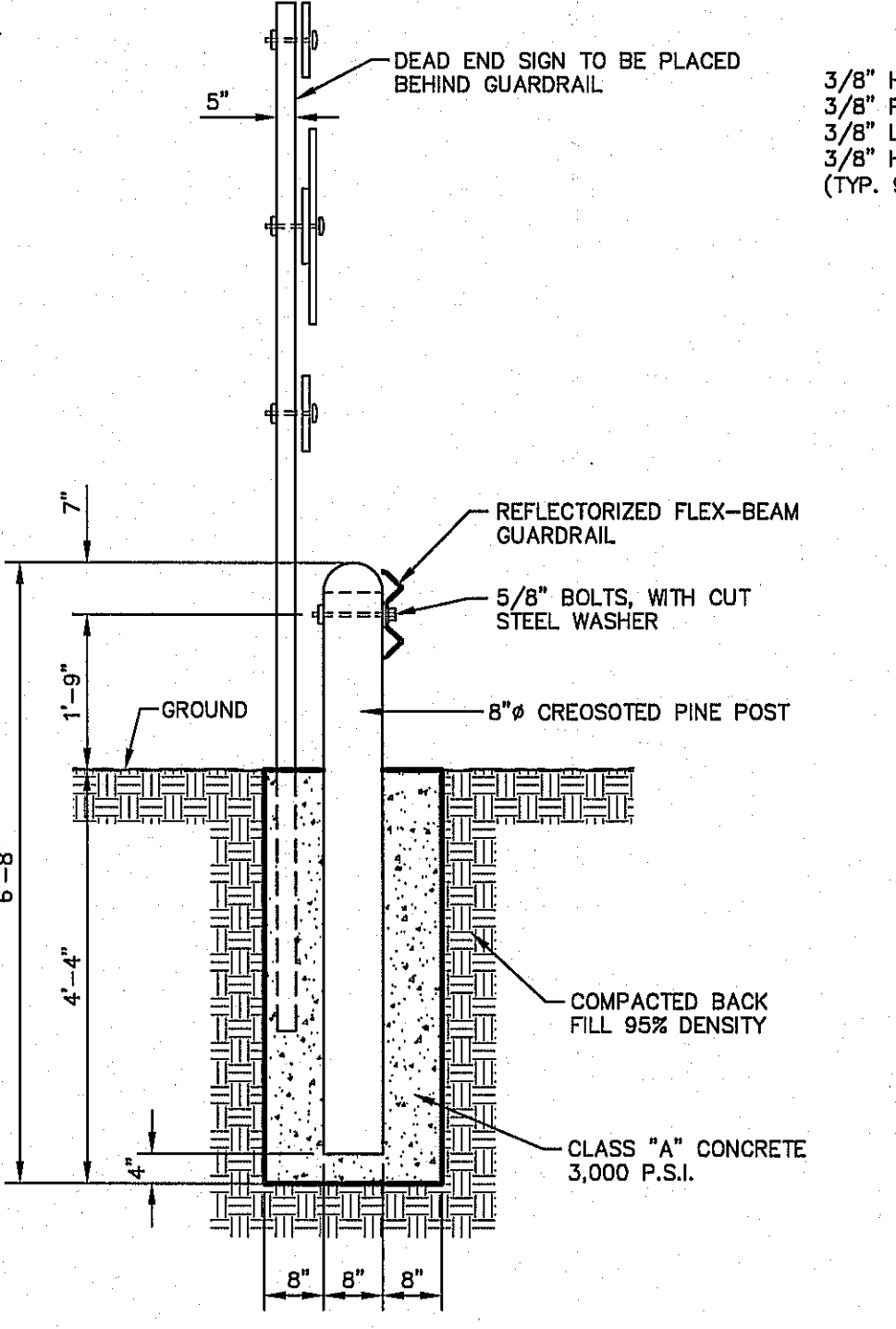
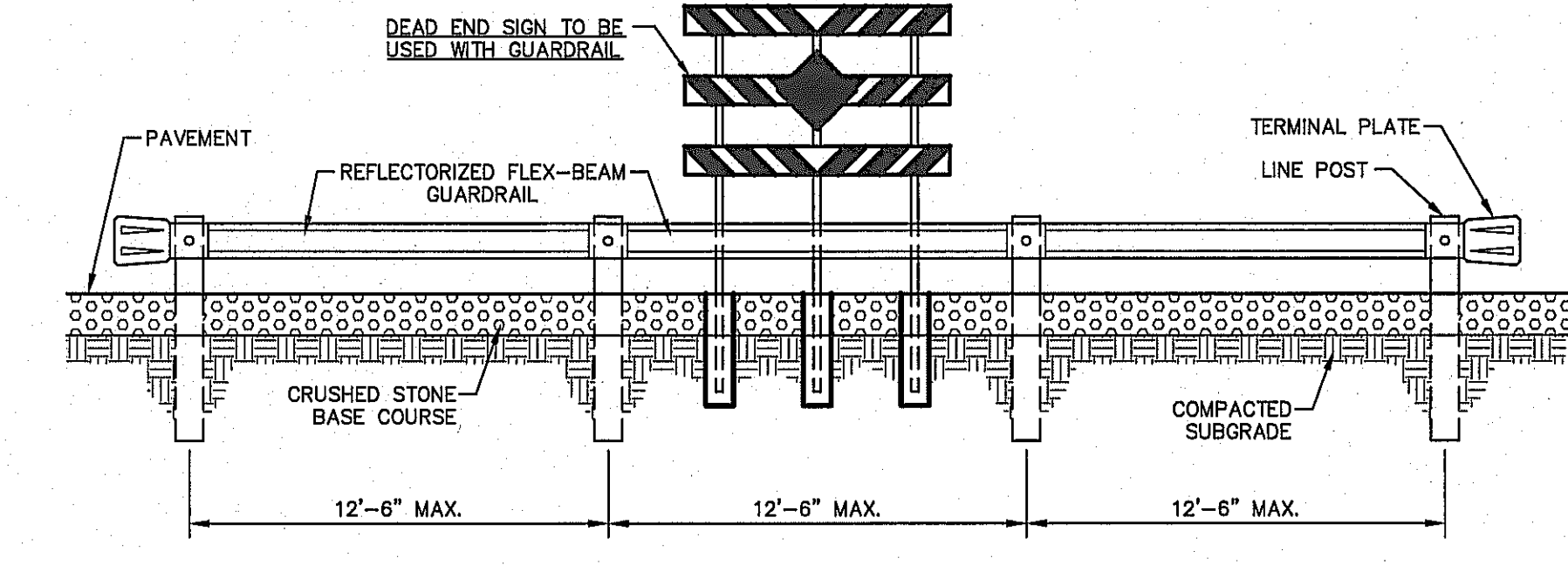
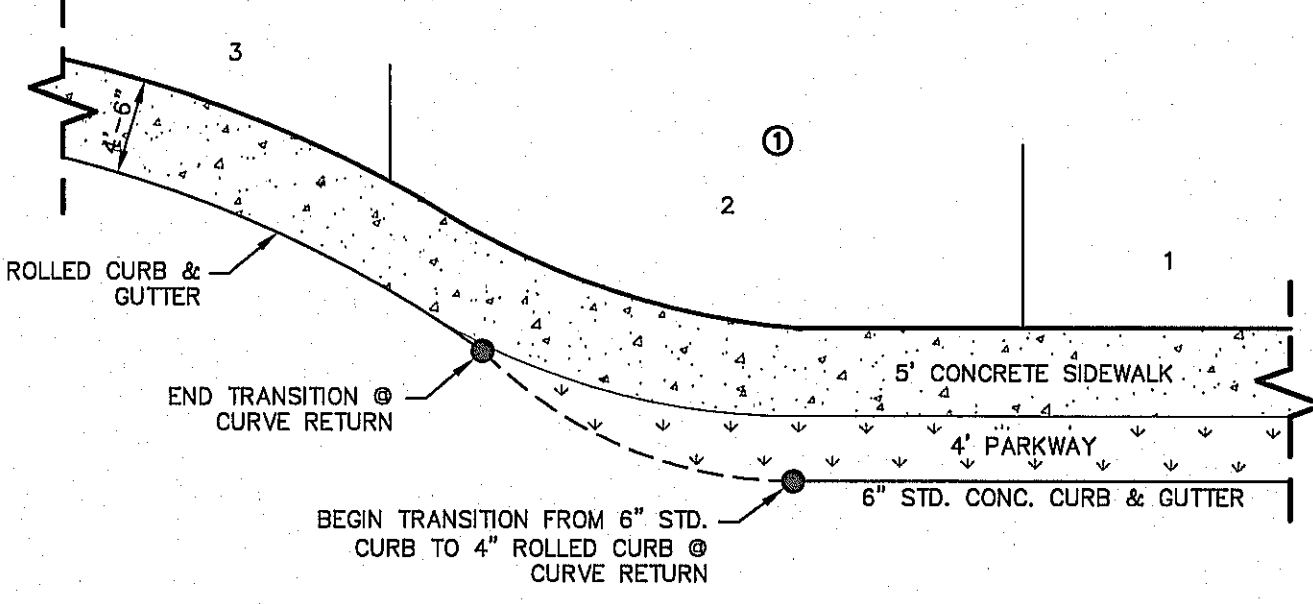
- NOTES:**
- CONCRETE TO BE 3000 PSI MIN.
 - DUMMY JOINTS REQUIRED AT 10' O.C. FOR HEADERS AND 5' O.C. FOR SIDEWALK.
 - EXPANSION MATERIAL REQUIRED AT CURB RETURNS WITH 1/2" PREMOLDED ASPHALT IMPREGNATED EXPANSION MATERIAL OR EQUAL.
 - EXPANSION JOINTS REQUIRED AT 50' O.C. WHEN FORMING FOR HEADERS.
 - EXPANSION JOINTS REQUIRED FOR SIDEWALK AT 20' O.C.
 - * FOR CUL-DE-SAC AND HEEL ONLY.

2 SECTION-SIDEWALK/SLAB
SCALE: N.T.S.



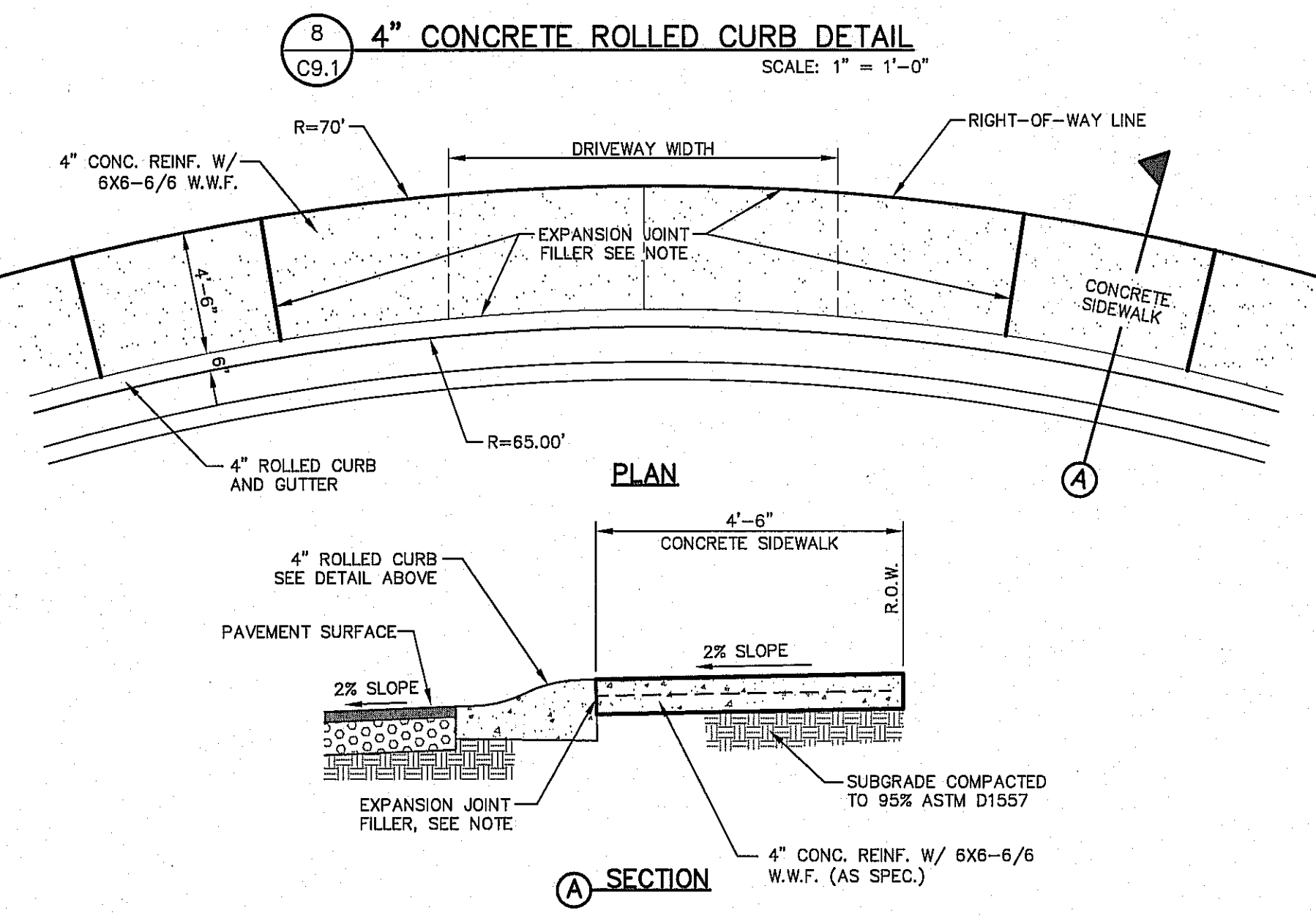
- NOTES:**
- RAMPS MAY BE PLACED AS SUGGESTED, HOWEVER EXISTING LIGHT POLES, FIREHYDRANTS, DROP INLETS, ETC., MAY AFFECT PLACEMENT.
 - THE CONCRETE SURFACE SHALL HAVE A ROUGH, NONSKID TYPE FINISH.
 - CONSTRUCTION METHODS SHALL CONFORM WITH THE CITY OF EL PASO SPECIFICATIONS.
 - ALL PARKING AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH CURRENT CITY OF EL PASO STANDARDS.

7 WHEELCHAIR RAMP STREET PLAN
SCALE: N.T.S.



10 GUARD RAIL/SIGN ASSEMBLY AT DEAD END STREET DETAIL
SCALE: AS SHOWN

8 HEEL (70' R) DRIVEWAY DETAIL
SCALE: N.T.S.



- NOTE:**
EXPANSION MATERIAL SHALL BE 1/2" PREMOLDED ASPHALT IMPREGNATED EXPANSION MATERIAL OR EQUAL.

REFERENCES - BENCHMARKS

CITY MONUMENT AT THE INTERSECTION OF PASSED DEL NORTE & NORTHWESTERN. ELEVATION = 3887.39 (CITY DATUM). THIS IS BASED ON NGS MONUMENT "CHINO" ELEVATION = 3935.48 (CITY DATUM)

DATE	REVISIONS	BY

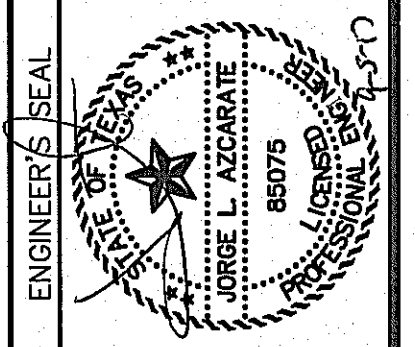
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SCALE	N/A
Horizontal:	N/A
Vertical:	N/A
Contour Interval:	N/A
DATE:	JUNE 2017
DESIGN BY:	R.O.
DRAWN BY:	R.O./R.J.M.
CHKD. BY:	J.L.A.
APP'D. BY:	J.L.A.
JOB No.	2000-1192LD

PROJECT TITLE

LA PUESTA DEL SOL

UNIT TWO

SUBDIVISION IMPROVEMENTS

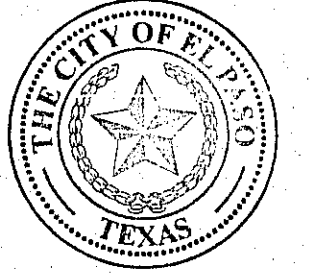
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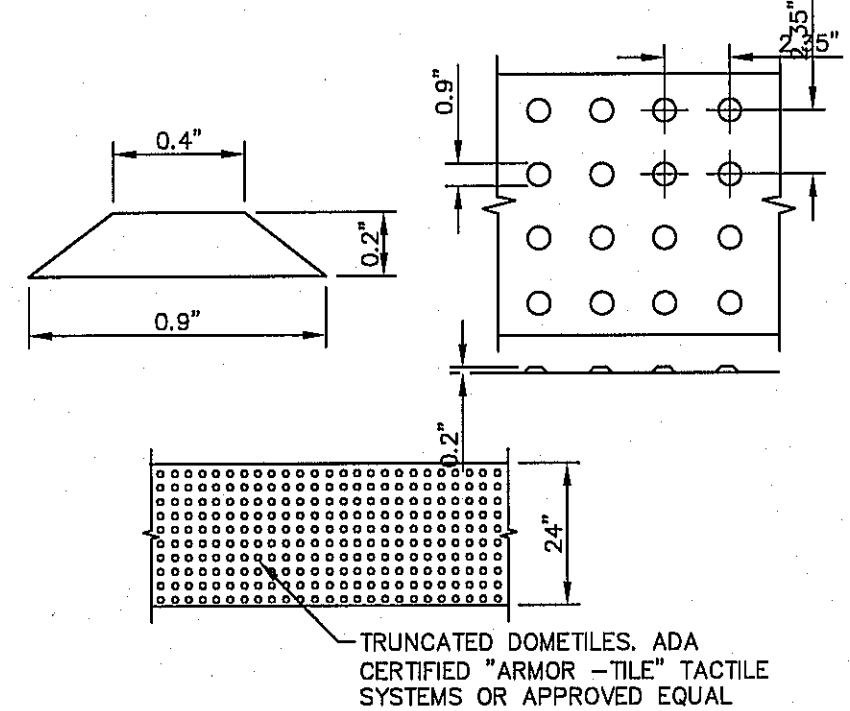
STANDARD DETAILS

(SHEET 1 OF 2)

SHEET NO.

C9.1





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 (10 mm) 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 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 OF SURFACE SHALL BE PERMITTED.

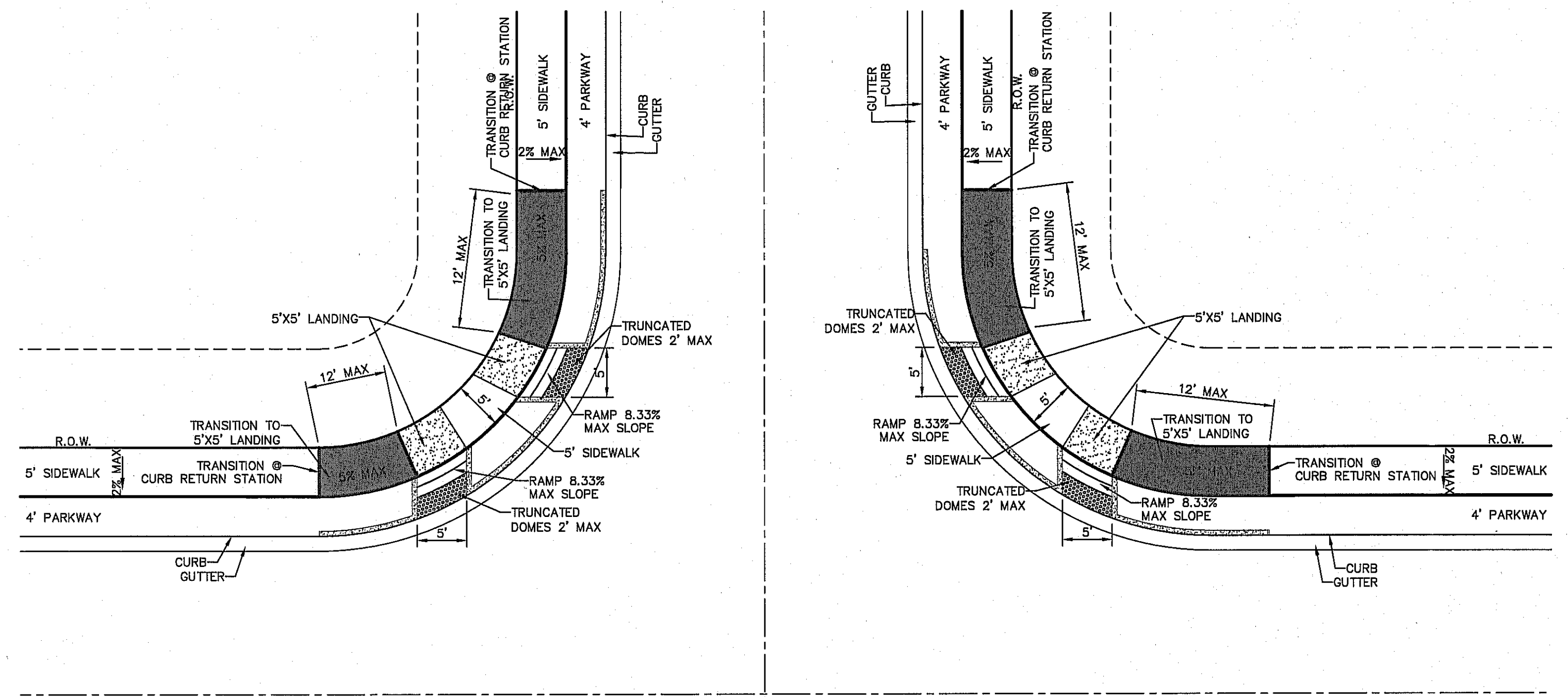
1 TRUNCATED DOME SIZE AND SPACING
SCALE: N.T.S.

LEGEND

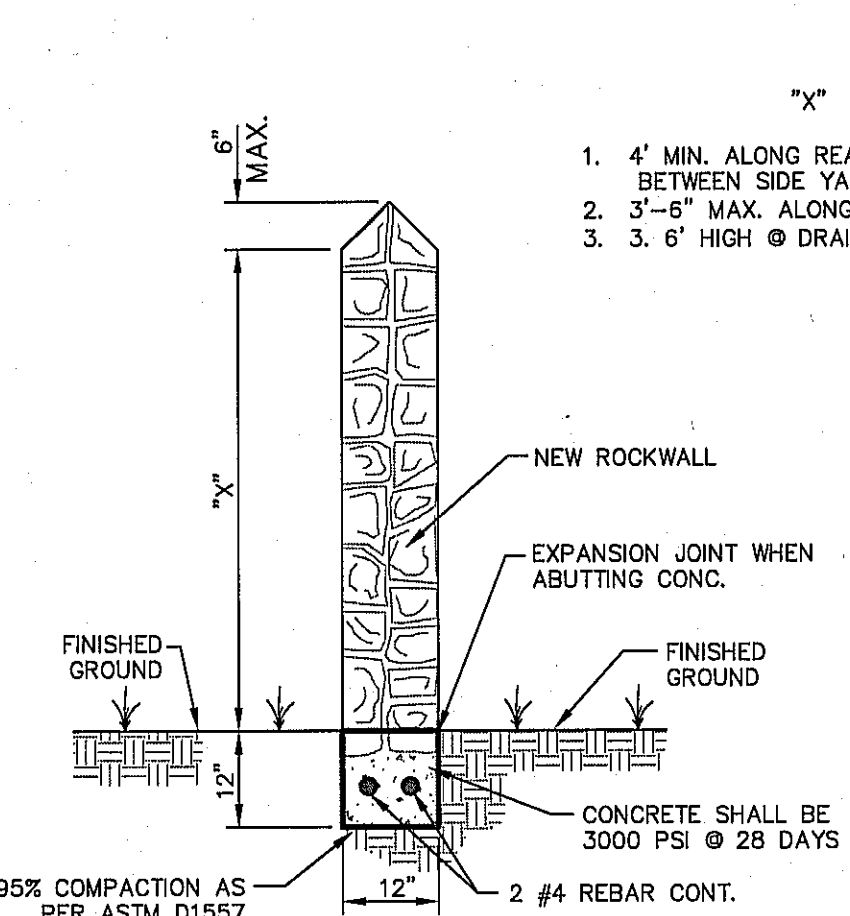
DETECTABLE WARNING SURFACE SHALL CONSIST OF RAISED TRUNCATED DOMES WITH A NOMINAL DIAMETER OF 0.9 IN., A NOMINAL HEIGHT OF 0.2 IN. AND A CENTER TO CENTER NOMINAL SPACING OF 2.35 IN., AND SHALL NOT BE STAGGERED. THE SURFACE SHALL HAVE A COLOR CONTRAST VISUALLY WITH ADJOINING SURFACES.

GENERAL NOTES:

- ALL SLOPES ARE MAXIMUM ALLOWABLE. THE LEAST POSSIBLE SLOPE THAT WILL STILL DRAIN PROPERLY SHOULD BE USED. RAMP LENGTH OR GRADE OF APPROACH.
- THE MINIMUM SIDEWALK WIDTH IS 5', WHERE A 5' SIDEWALK CAN NOT BE PROVIDED DUE TO SITE CONSTRAINTS, A MINIMUM 3' SIDEWALK WITH 5' X 5' PASSING AREAS AT INTERVALS NOT TO EXCEED 200 FT IS REQUIRED.
- LANDINGS SHALL BE 5' X 5' MINIMUM WITH A MAXIMUM 2% SLOPE IN ANY DIRECTION.
- MANEUVERING SPACE AT THE BOTTOM OF CURB RAMPS SHALL BE A MINIMUM OF 4' X 4' WHOLLY CONTAINED WITHIN THE CROSSWALK AND WHOLLY OUTSIDE THE PARALLEL VEHICULAR TRAVEL PATH.
- CURB RAMPS WITH RETURNED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP. OTHERWISE, FLARED SIDES SHALL BE PROVIDED.
- ALL CONCRETE SIDEWALK SURFACES SHALL RECEIVE A LIGHT BROOM FINISH UNLESS NOTED OTHERWISE IN THE PLANS.
- RAMP TEXTURES MUST CONSIST OF TRUNCATED DOME SURFACES. TEXTURES ARE REQUIRED TO BE DETECTABLE UNDERFOOT. SURFACES THAT WOULD ALLOW WATER TO ACCUMULATE ARE PROHIBITED. REFER TO TRUNCATED DOME DETAIL.
- CROSSWALK DIMENSIONS, CROSSWALK MARKINGS AND STOP BAR LOCATIONS SHALL BE AS SHOWN ELSEWHERE IN THE PLANS. AT INTERSECTIONS WHERE CROSSWALK MARKINGS ARE NOT REQUIRED, RAMPS SHALL BE ALIGNED WITH THEORETICAL CROSSWALKS, OR AS DIRECTED BY THE ENGINEER.
- MAXIMUM ALLOWABLE CROSS SLOPE ON SIDEWALK AND RAMP SURFACES IS 2%.
- ADDITIONAL INFORMATION ON CURB RAMP LOCATION, DESIGN, LIGHT REFLECTIVE VALUE AND TEXTURE MAY BE FOUND IN THE CURRENT EDITION OF THE TEXAS ACCESSIBILITY STANDARDS (TAS) PREPARED AND ADMINISTERED BY THE TEXAS DEPARTMENT OF LICENSING AND REGULATION (TDLR).

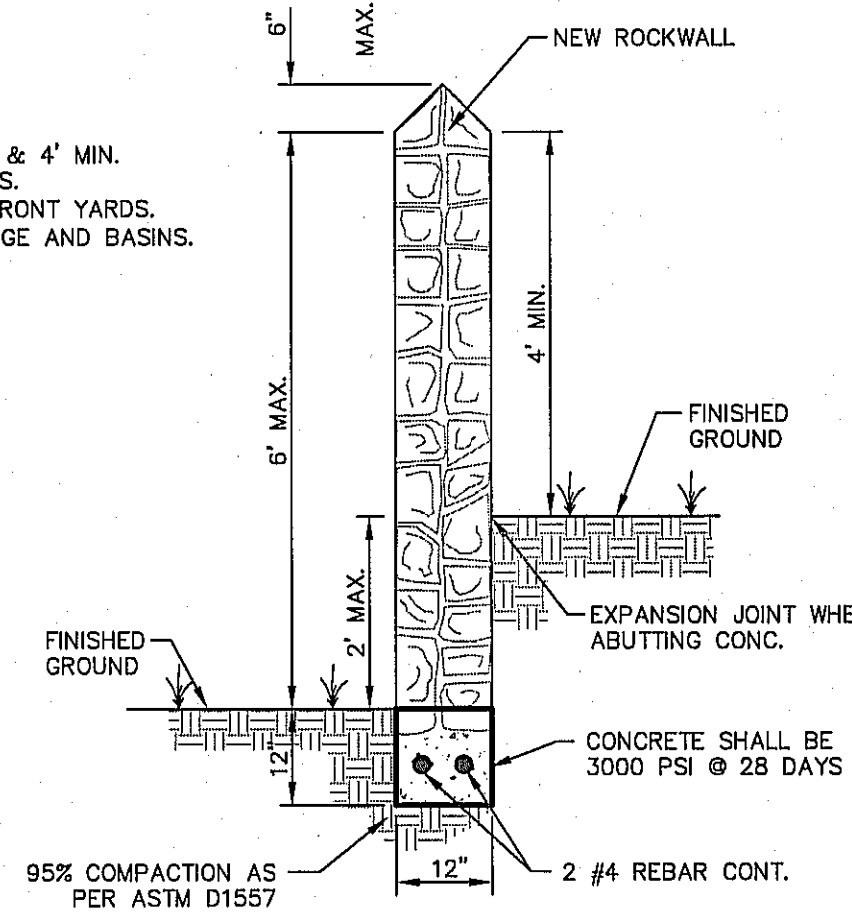


2 TYPICAL DIRECTIONAL RAMP @ INTERSECTION
SCALE: 1" = 10'



- 4' MIN. ALONG REAR & 4' MIN. BETWEEN SIDE YARDS.
- 3'-6" MAX. ALONG FRONT YARDS.
- 3' 6" HIGH @ DRAINAGE AND BASINS.

GARDEN WALL SECTION

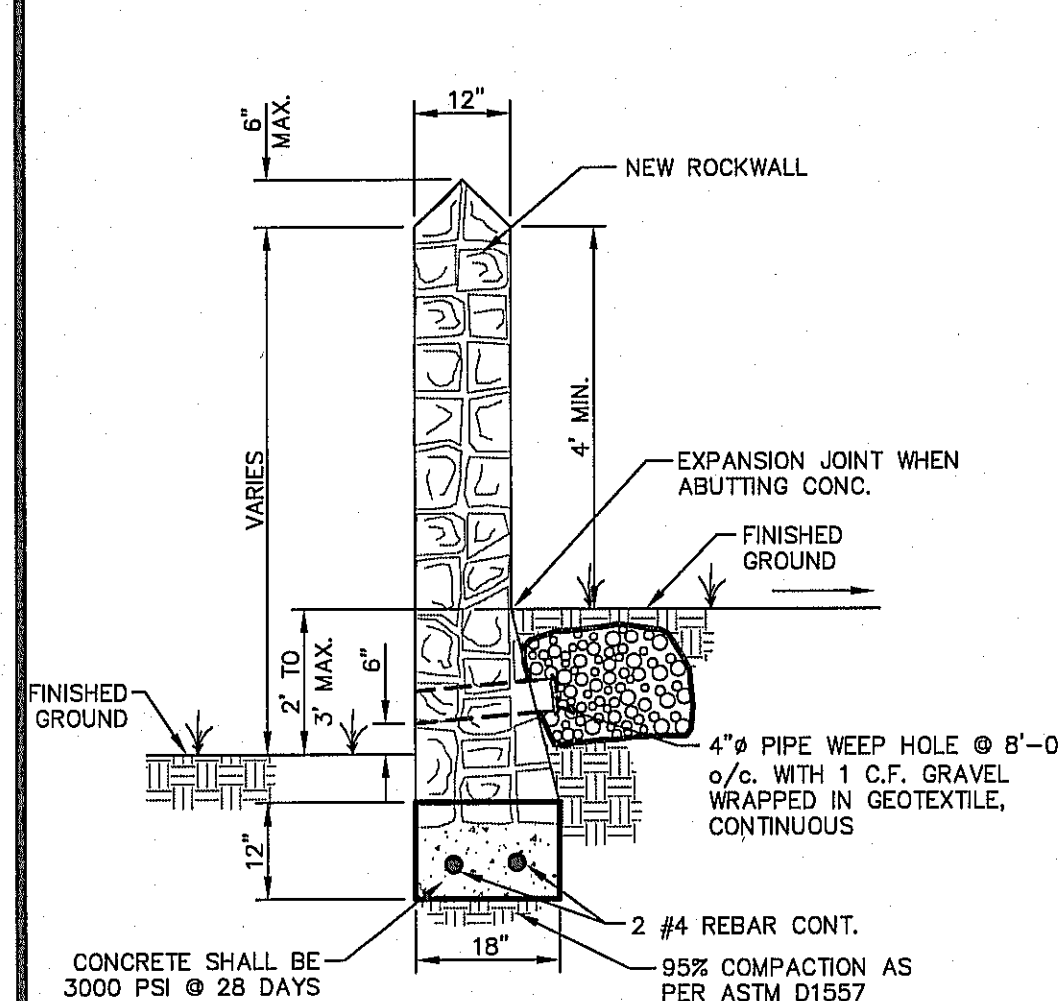


GARDEN WALL SECTION (2' MAX.)

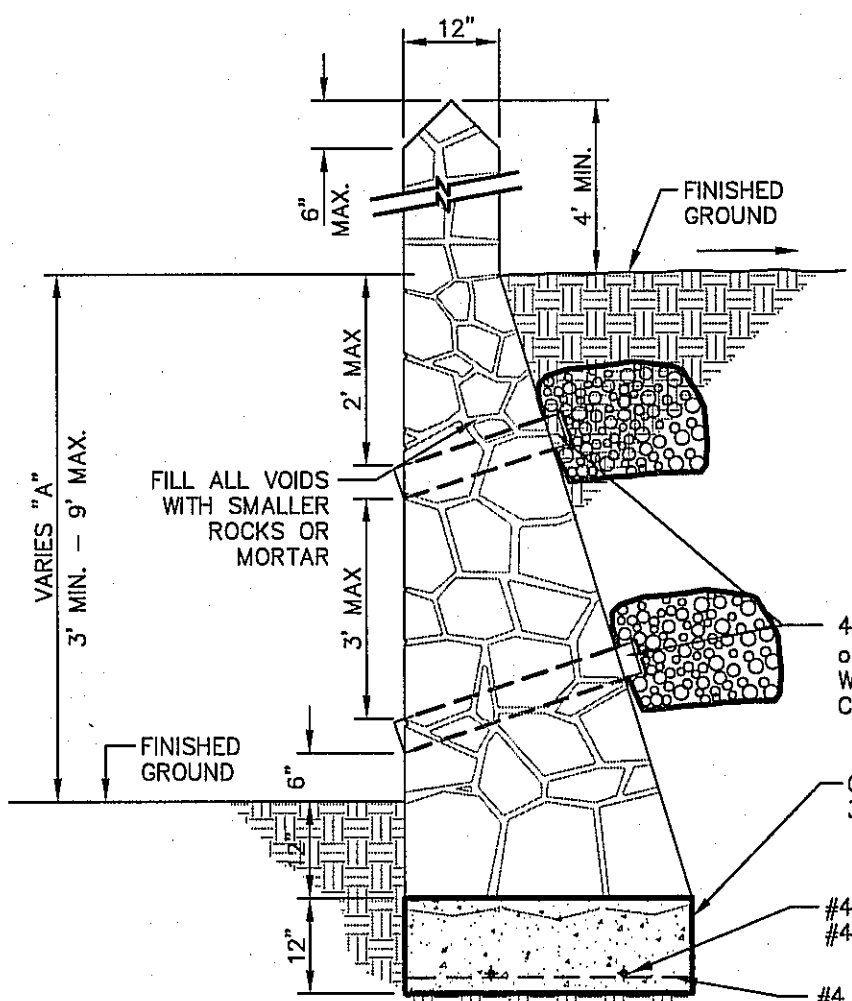
ROCK WALL NOTES

- STONE FOR ROCKWALL SHALL BE AS NEARLY UNIFORM IN SECTIONS AS IN PRACTICABLE THE STONE SHALL BE DENSE AND RESISTANT OF AIR AND WATER.
- MORTAR MUST BE TYPE "S" 1800 P.S.I. AS PER ASTM C270.
- MASONRY WALL OVER SIX (6) FEET IN HEIGHT AND THOSE USED FOR EARTH RETENTION OVER TWO (2) FEET MUST BE DESIGNED AS STRUCTURAL WALLS.
- WALLS ADJACENT TO PONDING AREAS OR DRAINAGE DITCHES MAY BE CONSTRUCTED OF BRICK, ROCK, STONE, OR CINDER BLOCK AND SHALL NOT BE LESS THAN SIX (6) FEET HIGH.
- ROCKWALL MORTAR JOINTS MUST NOT EXCEED TWO (2) INCHES.
- PROVIDE ONE (1) INCH EXPANSION JOINTS AT EVERY 100 FEET.
- ALL STONE SHALL BE THOROUGHLY SOAKED BEFORE BEING PLACED.
- ALL STONE FOR ROCKWALLS SHALL BE FRACTURED QUARRIED ROCK OR ROUND ROCK, NO RIVER ROCK SHALL BE ALLOWED.
- REINFORCING STEEL SHALL BE ASTM A615 GRADE 40.
- ALLOWABLE SOIL BEARING PRESSURE = 2,500 PSI (MINIMUM).
- BACKFILL MATERIALS SHALL CONSIST OF COARSE GRAINED, WELL-DRAINED SOILS (WITH NO CLAY CONTENT).

RETAINING ROCK WALL	
"A"	"B"
3.01'	2'-6"
4'	2'-10"
5'	3'-3"
6'	3'-6"
7'	4'-0"
8'	4'-5"
9'	4'-10"
10'	5'-7"
11'	6'-1"
12'	6'-6"

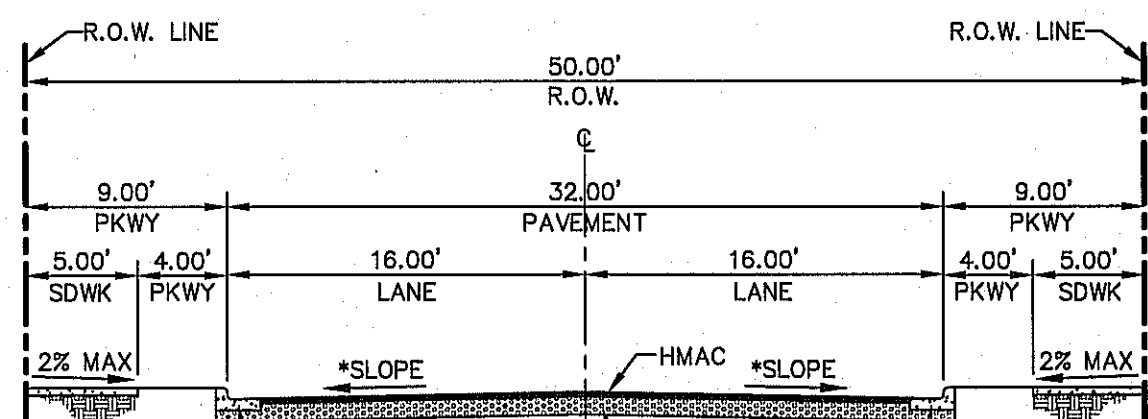


RETAINING WALL SECTION (2' PLUS TO 3' MAX.)

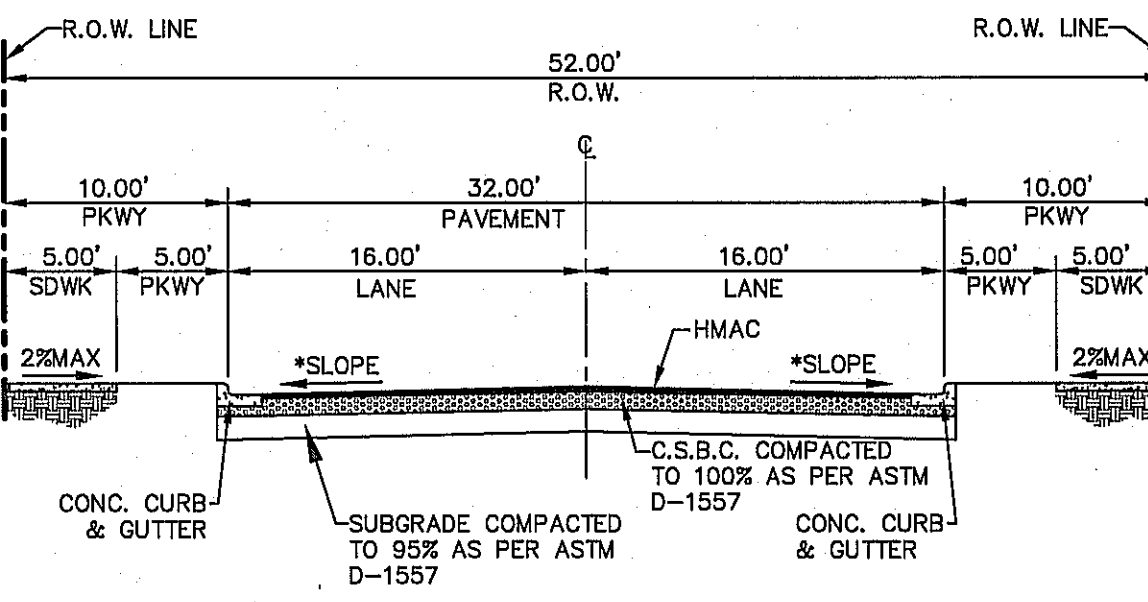


RETAINING WALL SECTION (3' MIN. TO 9' MAX.)

3 TYPICAL ROCKWALL DETAILS
SCALE: 1" = 2'-0"



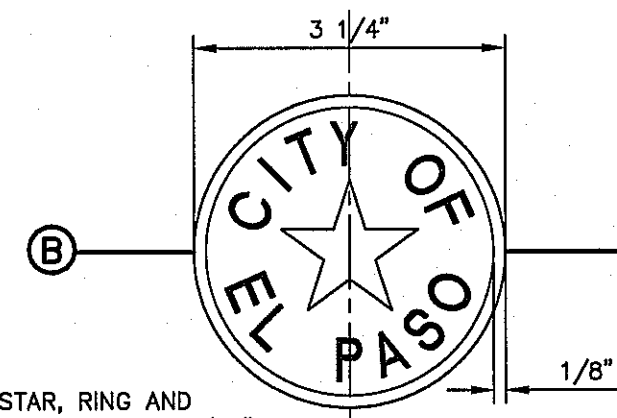
4 TYPICAL 50' ROW STREET SECTION DETAIL
SCALE: N.T.S.



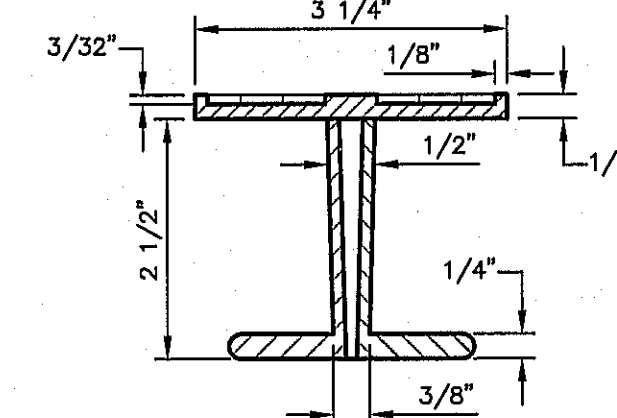
5 TYPICAL 52' ROW STREET SECTIONS DETAIL
SCALE: N.T.S.

STREETS NOTES:

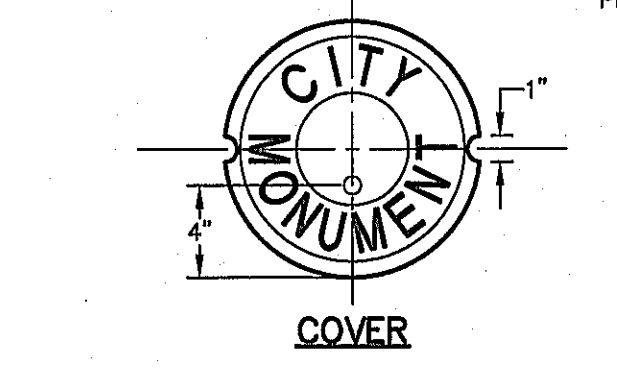
- (*) STREET TRANSVERSE SLOPE AS SHOWN IN PLANS.
- SIDEWALK WIDTH IS REQUIRED TO COMPLY WITH ADA/TAS REGULATIONS.
- STREET IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT CITY OF EL PASO PAVING CONSTRUCTION DETAILS AND STANDARD SPECIFICATIONS: CBR @ EVERY 500' RESULTS TO BE SUBMITTED TO THE CITY OF EL PASO FOR REVIEW AND APPROVAL PRIOR TO PLACEMENT OF PAVEMENT.



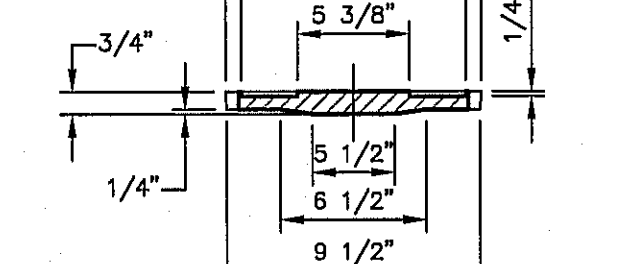
BRONZE MONUMENT CAP



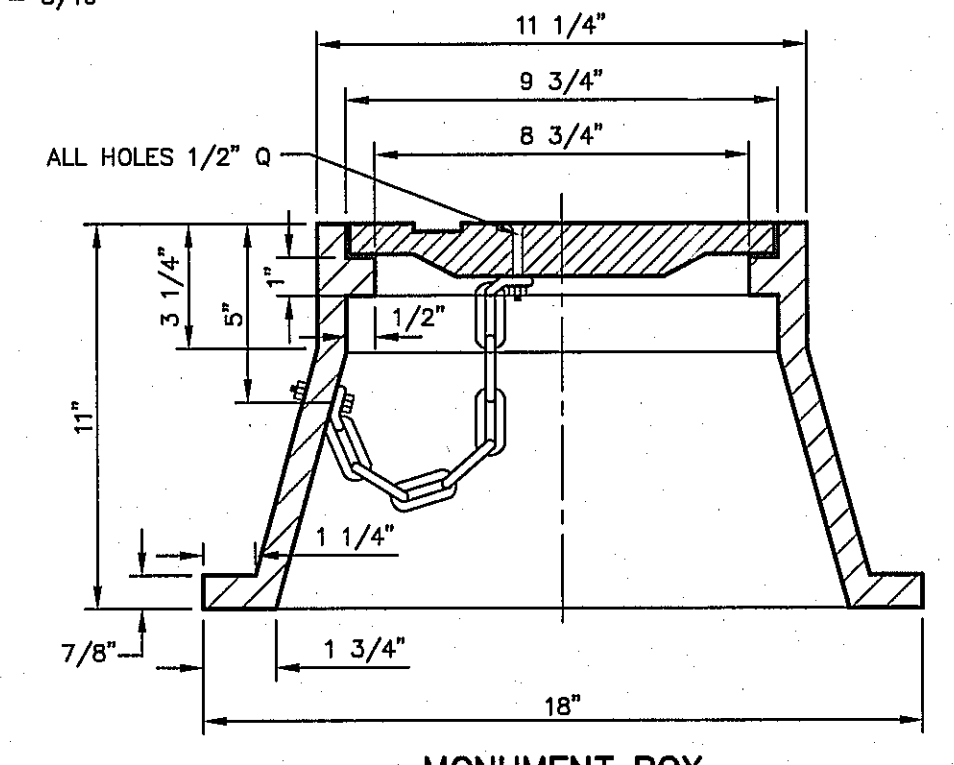
B SECTION



COVER

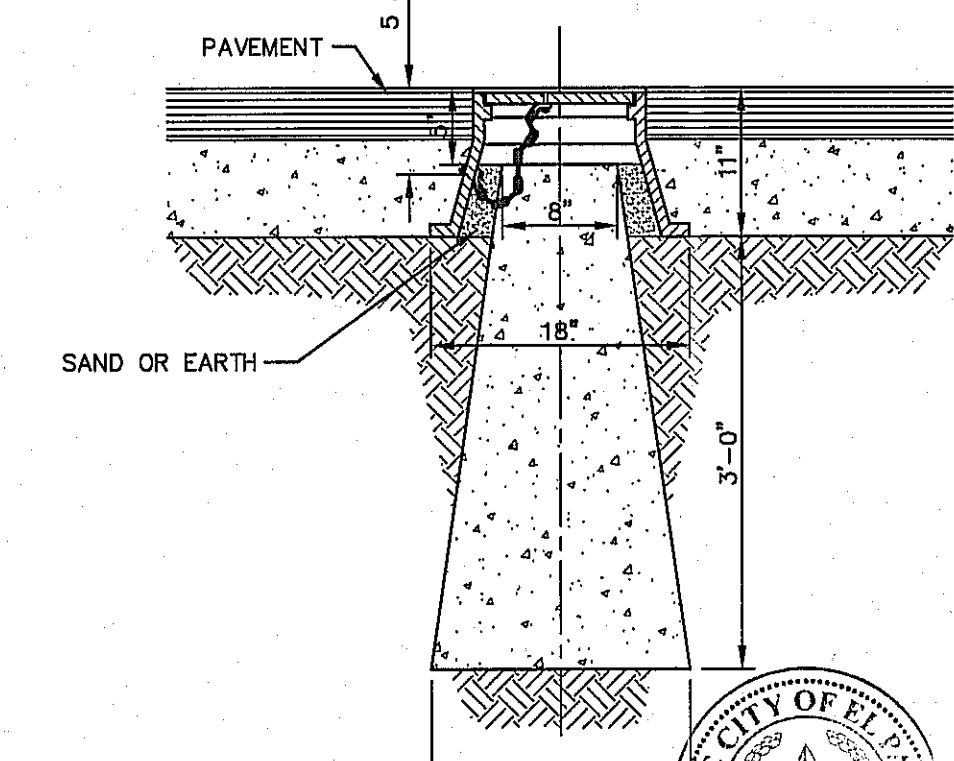


6 CITY SURVEY MONUMENT DETAILS
SCALE: N.T.S.



MONUMENT BOX

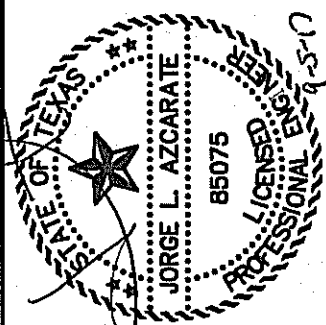
NO FORMS REQUIRED. CONCRETE TO BE POURED IN PLACE. 3000 P.S.I. CONC.



REFERENCES - BENCHMARKS
CITY MONUMENT AT THE INTERSECTION OF PASEO DEL NORTE & NORTHWESTERN. ELEVATION = 3887.39 (CITY DATUM). THIS IS BASED ON NGS MONUMENT "CHINO" ELEVATION = 3935.48 (CITY DATUM)

DATE	REVISIONS	BY

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SCALE: N/A
Horizontal: N/A
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Contour Interval: N/A
DATE: JUNE 2017
DESIGN BY: R.O.
DRAWN BY: R.O./R.J.M.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB NO.: 2000-192LD

**LA PUESTA DEL SOL
UNIT TWO
SUBDIVISION IMPROVEMENTS**

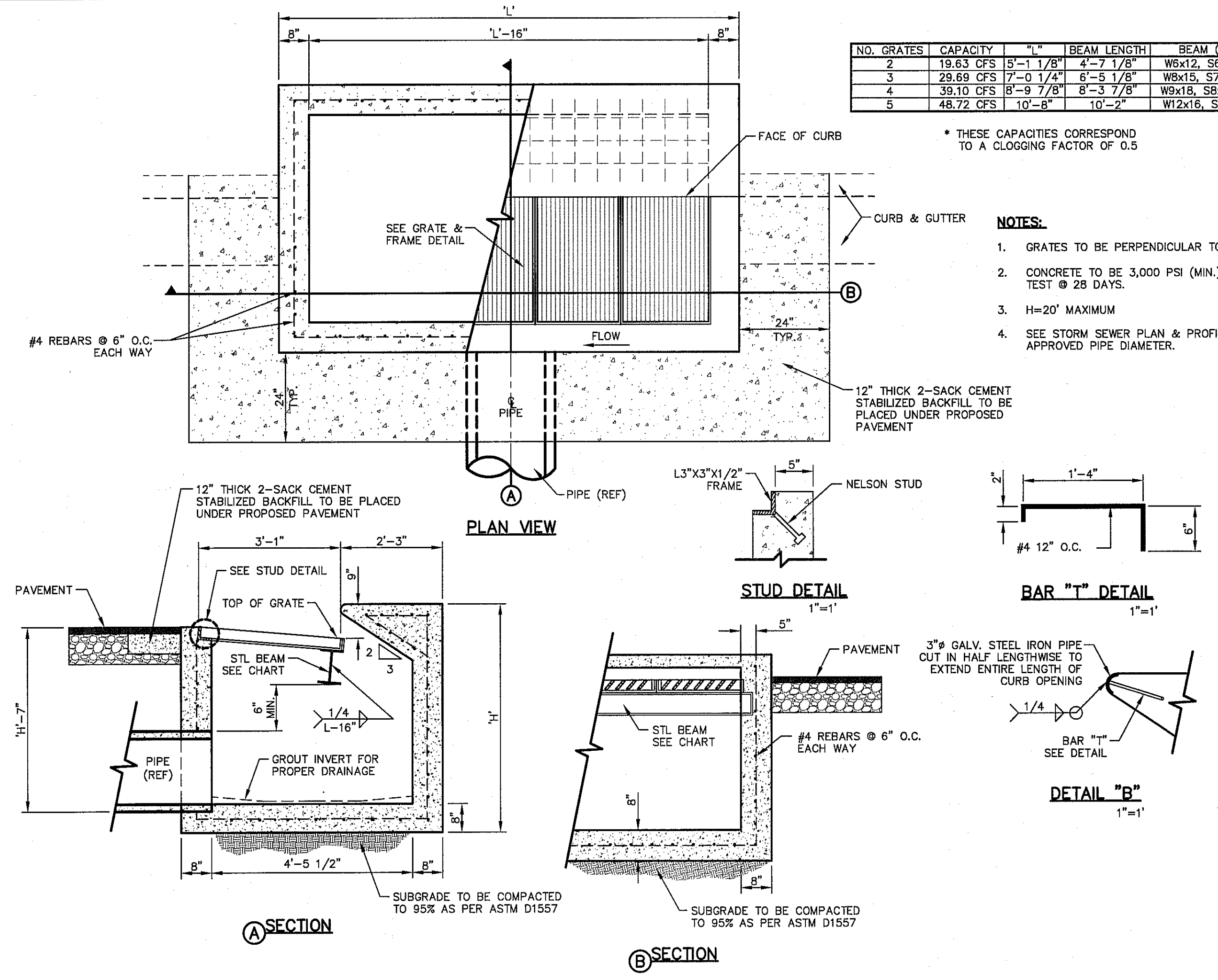
SHEET TITLE
STANDARD
DETAILS
(SHEET 2 OF 2)
SHEET NO.

C9.2

NO. GRATES	CAPACITY	"I" BEAM LENGTH	BEAM (MIN. SIZES)
2	19.63 CFS	5'-1 1/8"	4'-7 1/8" W8x12, S6x12.5, MC6x15.1
3	29.69 CFS	7'-0 1/4"	6'-5 1/8" W8x15, S7x15.3, MC7x17.6
4	39.10 CFS	8'-9 7/8"	8'-3 7/8" W9x18, S8x18.4, MC10x21.9
5	48.72 CFS	10'-8"	10'-2" W12x16, S8x21, MC10x21.9

* THESE CAPACITIES CORRESPOND TO A CLOGGING FACTOR OF 0.5

- NOTES:**
- GRATES TO BE PERPENDICULAR TO TRAFFIC
 - CONCRETE TO BE 3,000 PSI (MIN.) CORE TEST @ 28 DAYS.
 - H=20" MAXIMUM
 - SEE STORM SEWER PLAN & PROFILES FOR APPROVED PIPE DIAMETER.

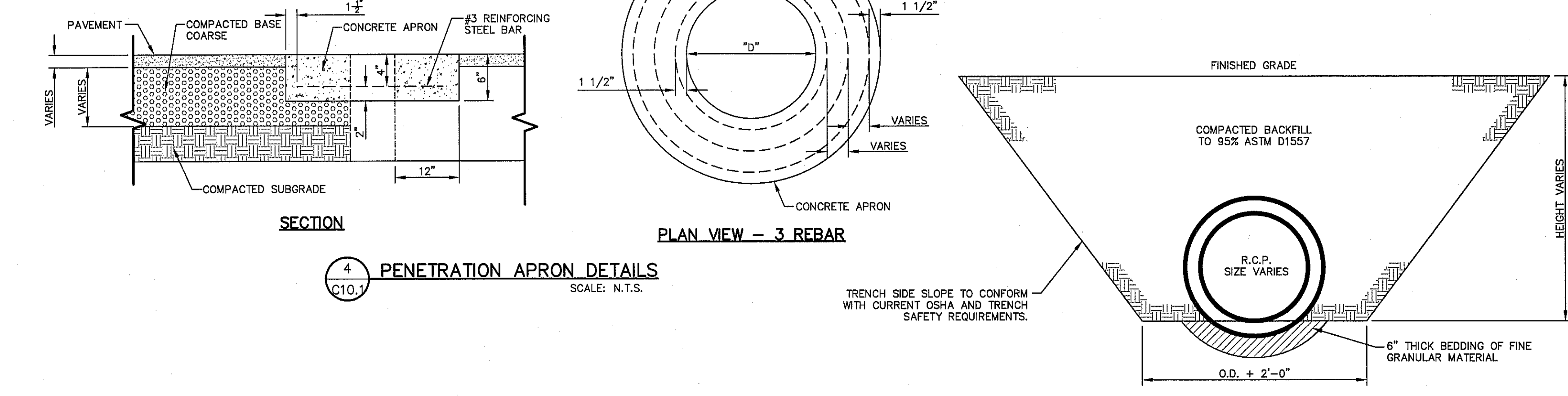


1 DROP INLET (TYPE I) DETAILS
SCALE: 1" = 2'-0"

"D" DIAMETER OF PENETRATION (INCHES)	"A" CONCRETE HORIZONTAL DIMENSION FROM PENETRATION (INCHES)	"B" NUMBER OF NO. 3 REINFORCING STEEL BARS (QUANTITY)	"C" MINIMUM CLEARANCE FROM EDGE OF CONCRETE APRON TO CENTER OF NEAREST REBAR (INCHES)	"D" MINIMUM CLEARANCE FROM PENETRATION EDGE TO CENTER OF NEAREST REBAR (INCHES)
0 TO 6.01	6	1	1 1/2	1 1/2
6.01 TO 18.01	8	2	1 1/2	1 1/2
18.01 AND OVER	12	3	1 1/2	1 1/2

- CONSTRUCTION NOTES:**
- ANY DISTURBED SUBGRADE UNDER THE CONCRETE APRON SHALL BE COMPACTED TO 95% DENSITY ±3% OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D-1557.
 - ANY DISTURBED COARSE UNDER THE CONCRETE APRON SHALL BE COMPACTED TO 100% DENSITY ±2% OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D-1557.
 - PROVIDE A MINIMUM OF 1 1/2" OF CONCRETE COVER FOR ALL REINFORCEMENT STEEL.
 - REINFORCING SHALL MEET ASTM C-478 AND TRAFFIC LOADING (HS-20).
 - NO. 3 REINFORCING STEEL HOOPS SHALL BE SPACED EQUALLY.

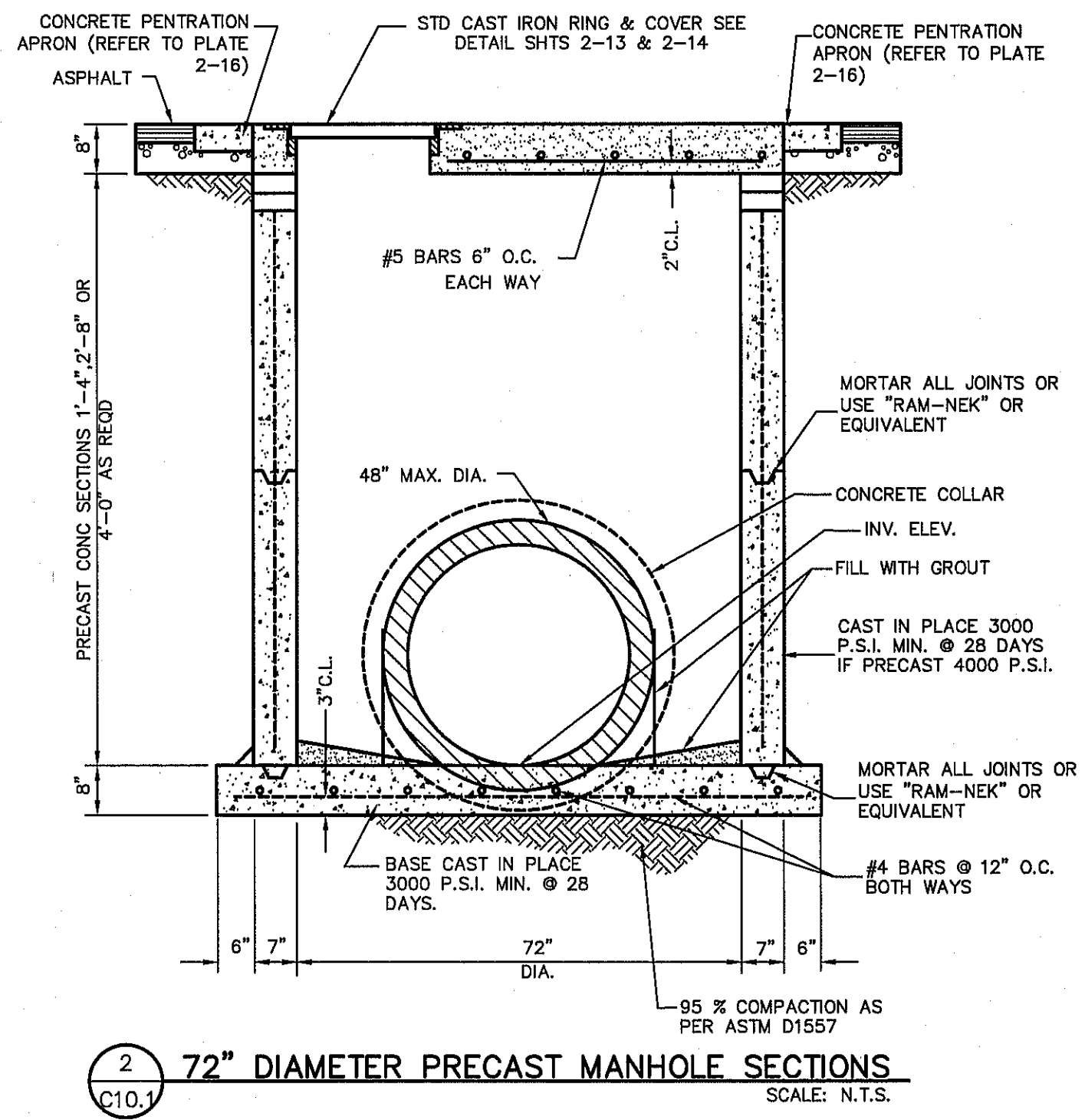
- GENERAL NOTES:**
- THE PENETRATION APRON SHOULD BE CAST IN-PLACE CONCRETE. (MINIMUM 28 DAY COMPRESSIVE STRENGTH 4000 PSI. HIGH EARLY CONCRETE IS REQUIRED).
 - TOPS OF PENETRATION APRON SHALL BE FLUSH WITH ROADWAY SURFACE OR FINISHED GRADE UNLESS OTHERWISE SPECIFIED BY THE CITY ENGINEER.



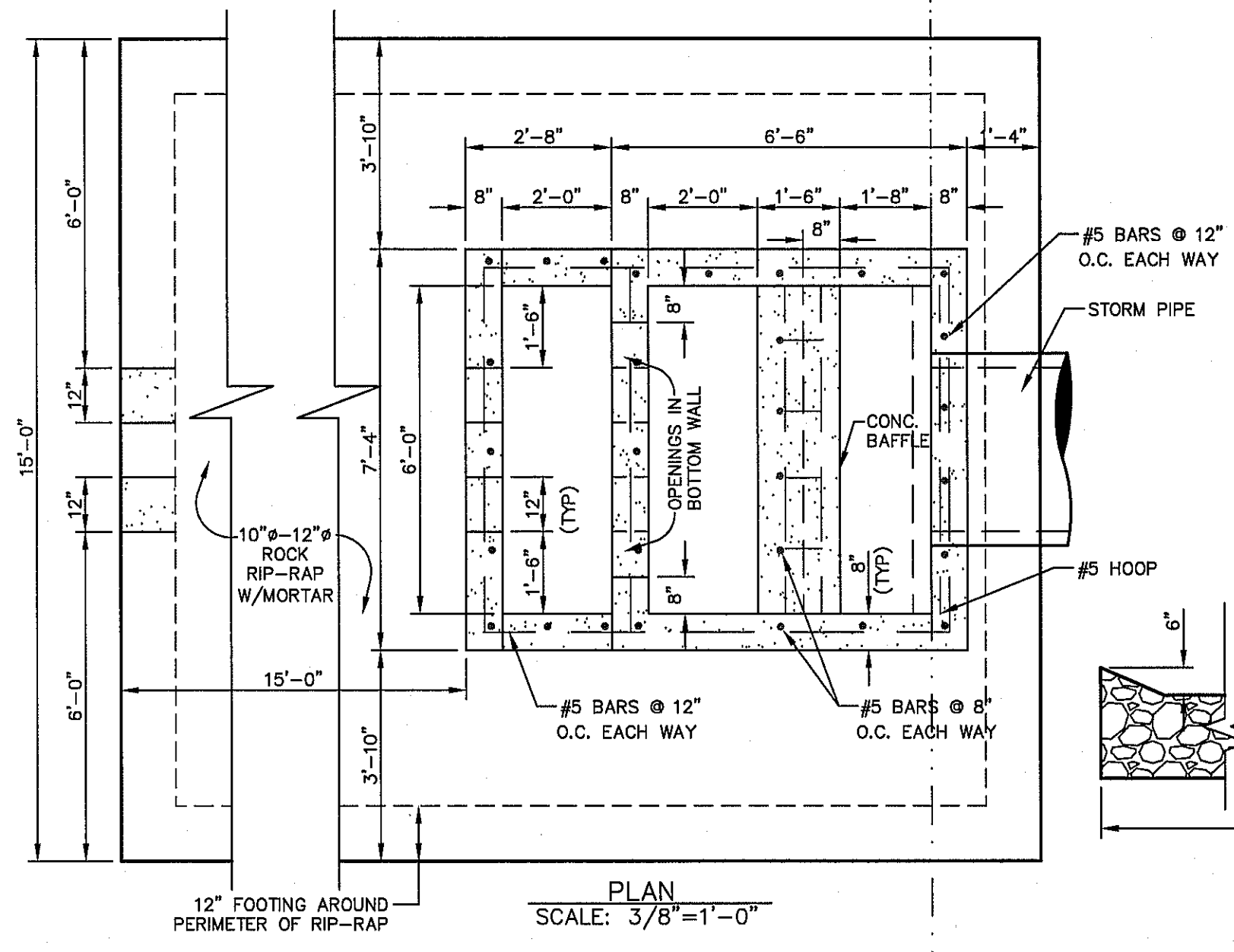
4 PENETRATION APRON DETAILS
SCALE: N.T.S.



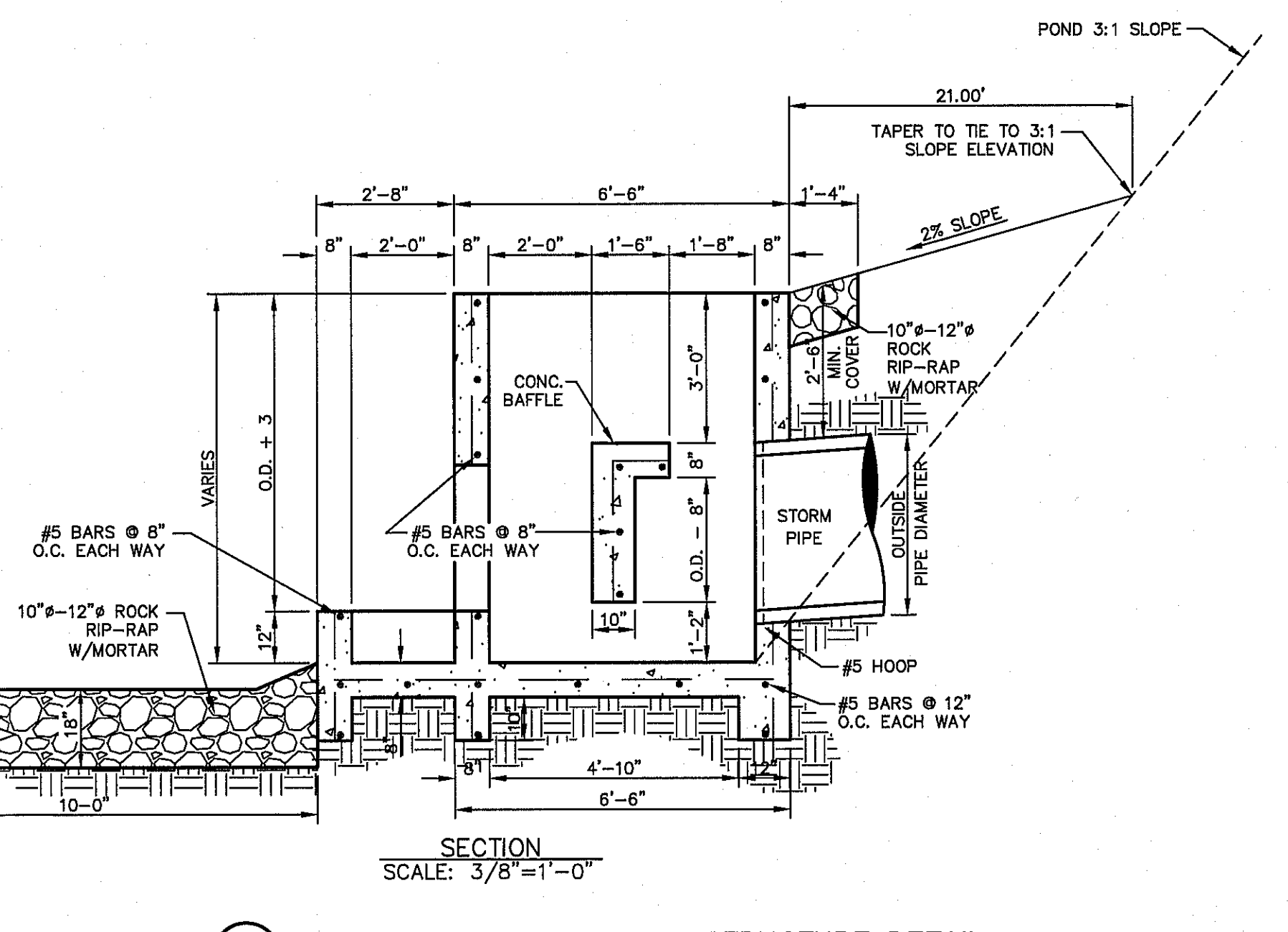
5 STORM SEWER BEDDING DETAIL
SCALE: 1/2" = 1'-0"



2 72" DIAMETER PRECAST MANHOLE SECTIONS
SCALE: N.T.S.



3 CONCRETE THRUST BLOCK STRUCTURE DETAIL
SCALE: 3/8" = 1'-0"



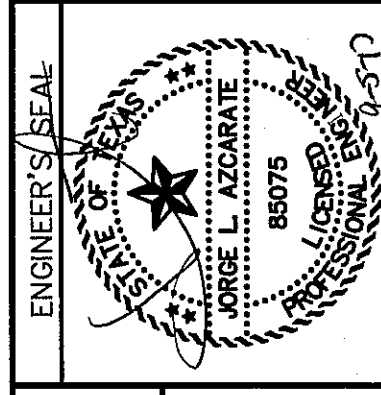
6 GRATE AND FRAME DETAILS
SCALE: 1" = 1'-0"

DROP INLET GENERAL NOTES:

- WELDED STEEL OR CAST GRATES AS DETAILED ARE ALL ACCEPTABLE GRATES. MIXING OF ALTERNATE TYPES OF GRATES ON THE SAME PROJECT WILL BE PERMITTED WITH THE APPROVAL OF THE CITY ENGINEER.
- ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS.
- SHARP EDGES RESULTING FROM FABRICATION SHALL BE DULLED BY ANY ACCEPTABLE METHOD FOR SAFETY IN HANDLING.
- GRATES SHALL BE INSTALLED IN FRAME WITH FLOW ARROW POINTING DOWNSTREAM OR TOWARD THE LOW POINT IN A SUMP.
- WELDED GRATES SHALL BE STRUCTURAL STEEL CONFORMING TO THE REQUIREMENTS OF AASHTO M-183 OR OF CORROSION RESISTANT STRUCTURAL STEEL CONFORMING TO THE REQUIREMENTS OF AASHTO M-161 OR M-222 OR BE MADE OF OTHER APPROVED STEELS OF EQUAL QUALITY. MIXING GRADES OF STEEL ON THE SAME GRATE WILL NOT BE PERMITTED.
- GRATES MADE OF M-183 STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M-111 SPECIFICATIONS OR SHALL BE PAINTED WITH INORGANIC ZINC PAINTS, MEETING THE REQUIREMENTS OF CURRENT STANDARD SPECIFICATIONS.
- ALL WELDS SHALL HAVE A MINIMUM OF 1/4" FILLET AND SHALL CONFORM TO THE SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND TO THE AWS STRUCTURAL WELDING CODE. ELECTRODES SHALL BE COMPATIBLE TO THE DIFFERENT GRADES OF STEEL THAT COMPRISE THE GRATE MEMBERS.
- CAST GRATES SHALL BE CAST STEEL CONFORMING TO THE REQUIREMENTS OF AASHTO M-103, GRADE 65-35 OR OF DUCTILE IRON CONFORMING TO THE REQUIREMENTS OF ASTM A-536, SPECIAL GRADE 60-45, OR OF GRAY IRON CONFORMING TO THE REQUIREMENTS OF AASHTO M-105, CLASS 35B OR ASTM A-48 CLASS 35B. THE SPECIFICATIONS OF GENERAL APPLICATION FOR CAST STEEL GRATES SHALL BE AASHTO M-103 SCOPE 1.2.1, GRADE N-1.
- FERROUS CASTINGS SHALL BE OF UNIFORM QUALITY, FREE OF BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTION OR OTHER DEFECTS. THEY SHALL BE SMOOTH AND WELL CLEANED BY SHOT BLASTING OR OTHER APPROVED CLEANING METHOD. AFTER CLEANING THEY SHALL BE COATED WITH ASPHALT BASE PAINT RESULTING IN A SMOOTH COATING, TOUGH AND TENACIOUS WHEN COLD, NOT TACKY OR BRITTLE.
- ALL CASTING SHALL BE MANUFACTURED TRUE TO PATTERN. COMPONENT PARTS SHALL FIT TOGETHER IN A SATISFACTORY MANNER.
- ALL CONCRETE TO BE 3000 P.S.I. CHAMFER ALL EXPOSED EDGES 3/4". ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS.
- MINIMUM CONCRETE COVER SHALL BE 1 1/2" FOR STEEL REINFORCING.
- EXPANSION MATERIAL TO BE 1/2" BITUMINOUS FIBER AND PLACED WHERE PROPOSED CONCRETE COMES IN CONTACT WITH ANY EXISTING OR PROPOSED CONCRETE OR MASONRY STRUCTURE.
- STRUCTURAL STEEL SHALL BE SHOP PAINTED IN ACCORDANCE WITH TxDOT ITEM 446 "PAINT AND PAINTING"
- SURFACE OF ALL EXPOSED CONCRETE SHALL CONFORM TO SLOPE AND GRADE TO EXISTING OR PROPOSED CURB AND WALK ADJACENT TO INLETS.
- GRATES WILL BE DEPRESSED 1" BELOW PROPOSED OR EXISTING GRADE.
- ALL REINFORCING BARS TO BE #4 BARS AT 6" O.C. GRADE 60. BEND BARS AROUND PIPE OPENINGS.
- INLETS TO BE DESIGNATED IN PLANS BY NUMBER OF GRATES REQUIRED.
- LOCATION OF SEWER PIPES SHOWN ELSEWHERE IN PLANS.
- TWO 3/8"x4" LONG CONCRETE ANCHOR STUDS REQUIRED FOR EACH SIDE OF FRAME, WHERE RESTING ON CONCRETE. USE NELSON STUDS OR EQUAL.
- THE GRATES & INLETS WITHIN THE STREET PAVEMENT MUST BE CONSTRUCTED WITH THE GRATE BARS PERPENDICULAR TO THE CURB.

DATE	REVISIONS	BY

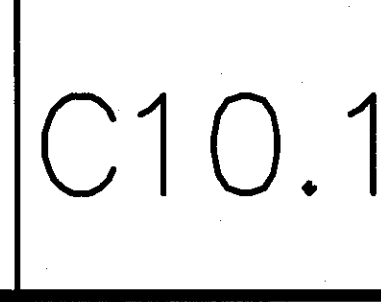
REFERENCES - BENCHMARKS
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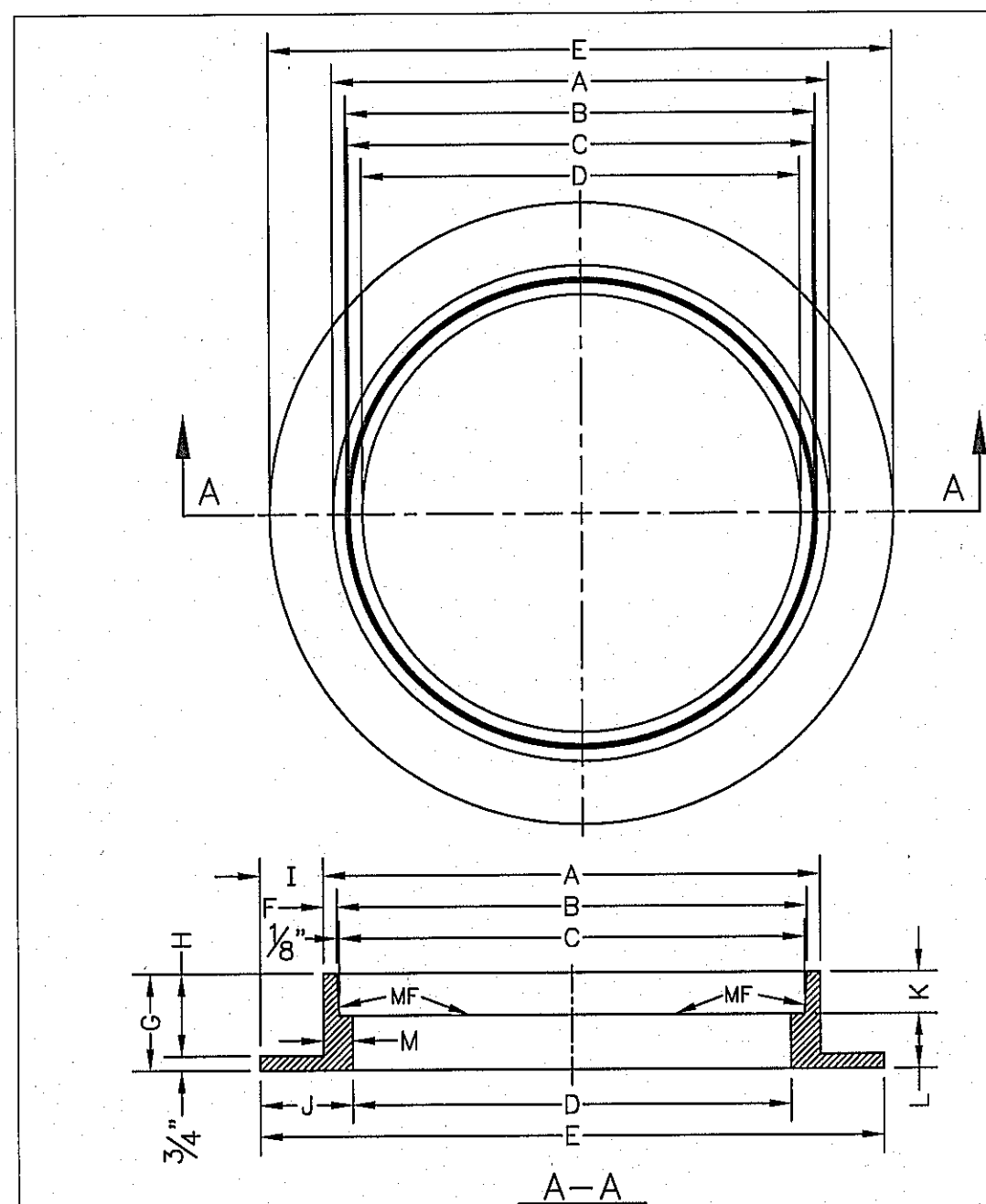
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Contour Interval: N/A
DATE: JUNE 2017
DESIGN BY: R.O.
DRAWN BY: R.O./R.J.M.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-192LD

PROJECT TITLE
**LA PUESTA DEL SOL
UNIT TWO
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
**DRAINAGE
DETAILS**
(SHEET 1 OF 3)
SHEET NO.



C10.1

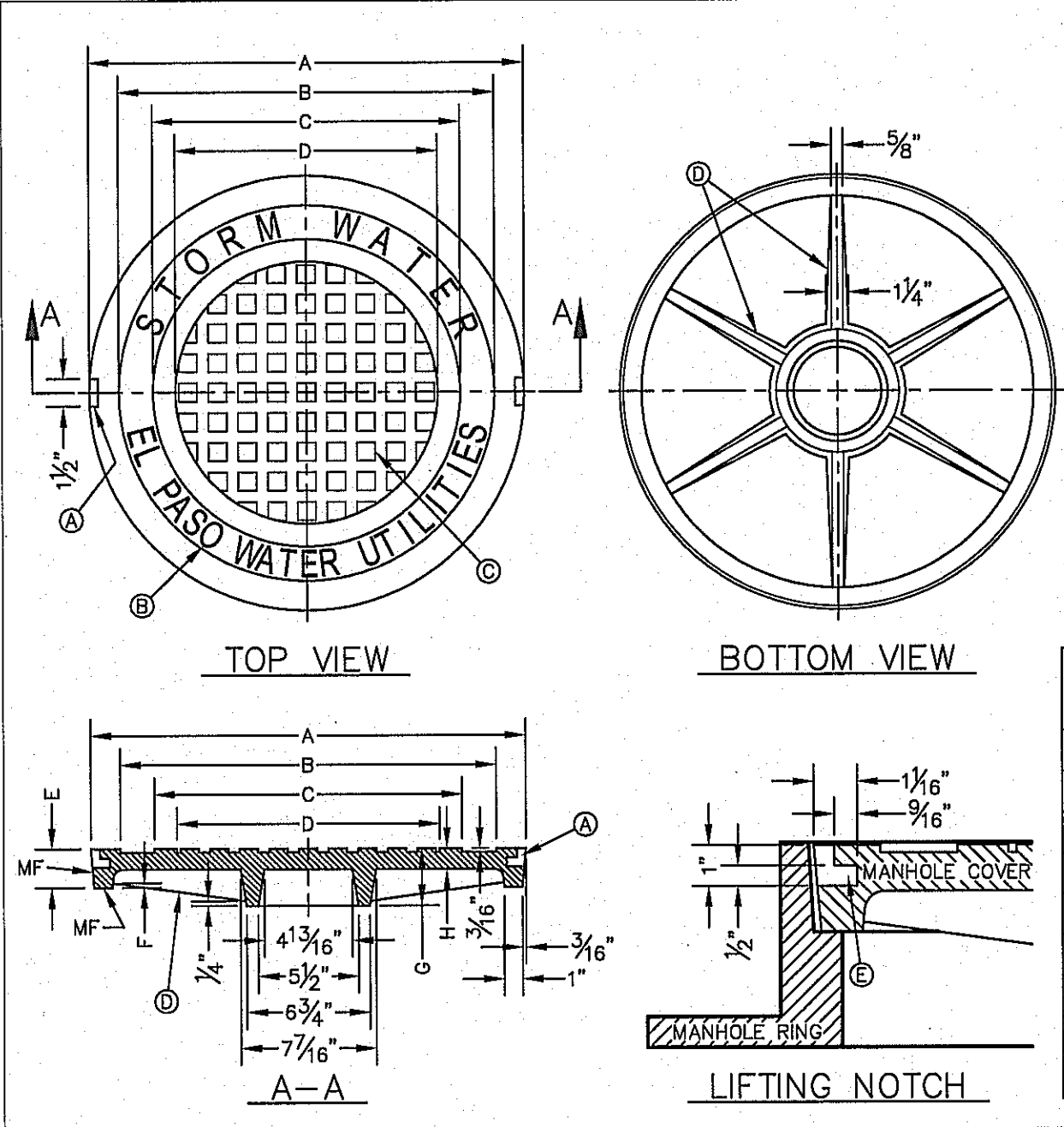


- GENERAL NOTES:**
1. MATCHING SURFACES MARKED "MF" TO BE FINISHED OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.
 2. CASTING TO BE SMOOTH & VOID OF AIR HOLES.
 3. CASTING MUST MEET REQUIREMENTS OF AASHTO M306-07.
 4. AS-CAST DIMENSIONS MAY VARY $\frac{1}{16}$ " PER FOOT (AASHTO M306-07).
 5. WEIGHT MAY VARY 5% (AASHTO M306-07).
 6. SHADED DIMENSIONS IN TABLE FOR REFERENCE ONLY. SOURCE: COUNTY OF EL PASO DESIGN STANDARDS FOR CONSTRUCTION, DETAIL 2-16.

MANHOLE RING	MANHOLE - ALL TYPES	SEE NOTE 6	
		MANHOLE TYPE #8	MANHOLE TYPE #2
A	33"	25 1/2"	22 3/4"
B	31 3/4"	23 3/4"	21 3/4"
C	31 1/2"	23 3/8"	21 3/8"
D	30"	22 1/2"	20"
E	30 1/2"	22 1/2"	20 1/2"
F	28"	20 1/2"	18 1/2"
G	26"	18 1/2"	16 1/2"
H	24"	16 1/2"	14 1/2"
I	21 3/4"	14 1/4"	12 1/4"
J	21 1/4"	13 1/4"	11 1/4"
K	20 1/4"	12 1/4"	10 1/4"
L	19 1/4"	11 1/4"	9 1/4"
M	18 1/4"	10 1/4"	8 1/4"
WEIGHT	220 lbs.	165 lbs.	125 lbs.

STANDARD DETAIL DATE: 8/19/2009 REV: STORMWATER MANHOLE RING N.T.S. EL PASO WATER UTILITIES PUBLIC SERVICE BOARD DETAIL No. 916

1 STORMWATER MANHOLE RING SCALE: N.T.S.



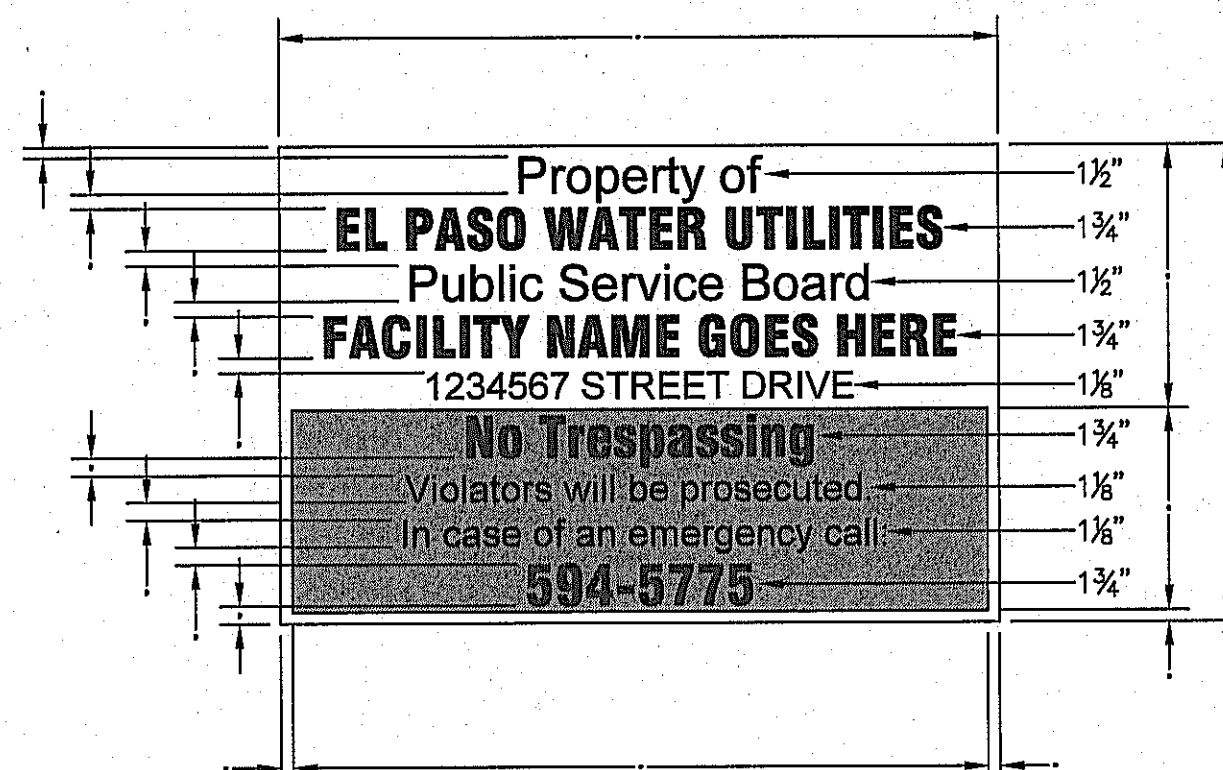
- GENERAL NOTES:**
1. MATCHING SURFACES MARKED "MF" TO BE FINISHED OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.
 2. CASTING TO BE SMOOTH & VOID OF AIR HOLES.
 3. CASTING MUST MEET REQUIREMENTS OF AASHTO M306-07.
 4. AS-CAST DIMENSIONS MAY VARY $\frac{1}{16}$ " PER FOOT (AASHTO M306-07).
 5. WEIGHT MAY VARY 5% (AASHTO M306-07).
 6. SHADED DIMENSIONS IN TABLE FOR REFERENCE ONLY. SOURCE: COUNTY OF EL PASO DESIGN STANDARDS FOR CONSTRUCTION, DETAIL 2-17.

SEE NOTE 6

MANHOLE COVER	MANHOLE - ALL TYPES	SEE NOTE 6	
		MANHOLE TYPE #8	MANHOLE TYPE #2
A	31 3/8"	23 3/8"	21 3/8"
B	28 3/8"	20 3/8"	18 3/8"
C	24 3/8"	16 3/8"	14 3/8"
D	21 3/8"	14 3/8"	12 3/8"
E	21 1/8"	13 1/8"	11 1/8"
F	19 1/8"	11 1/8"	9 1/8"
G	17 1/8"	9 1/8"	7 1/8"
H	15 1/8"	7 1/8"	5 1/8"
WEIGHT	265 lbs.	175 lbs.	110 lbs.

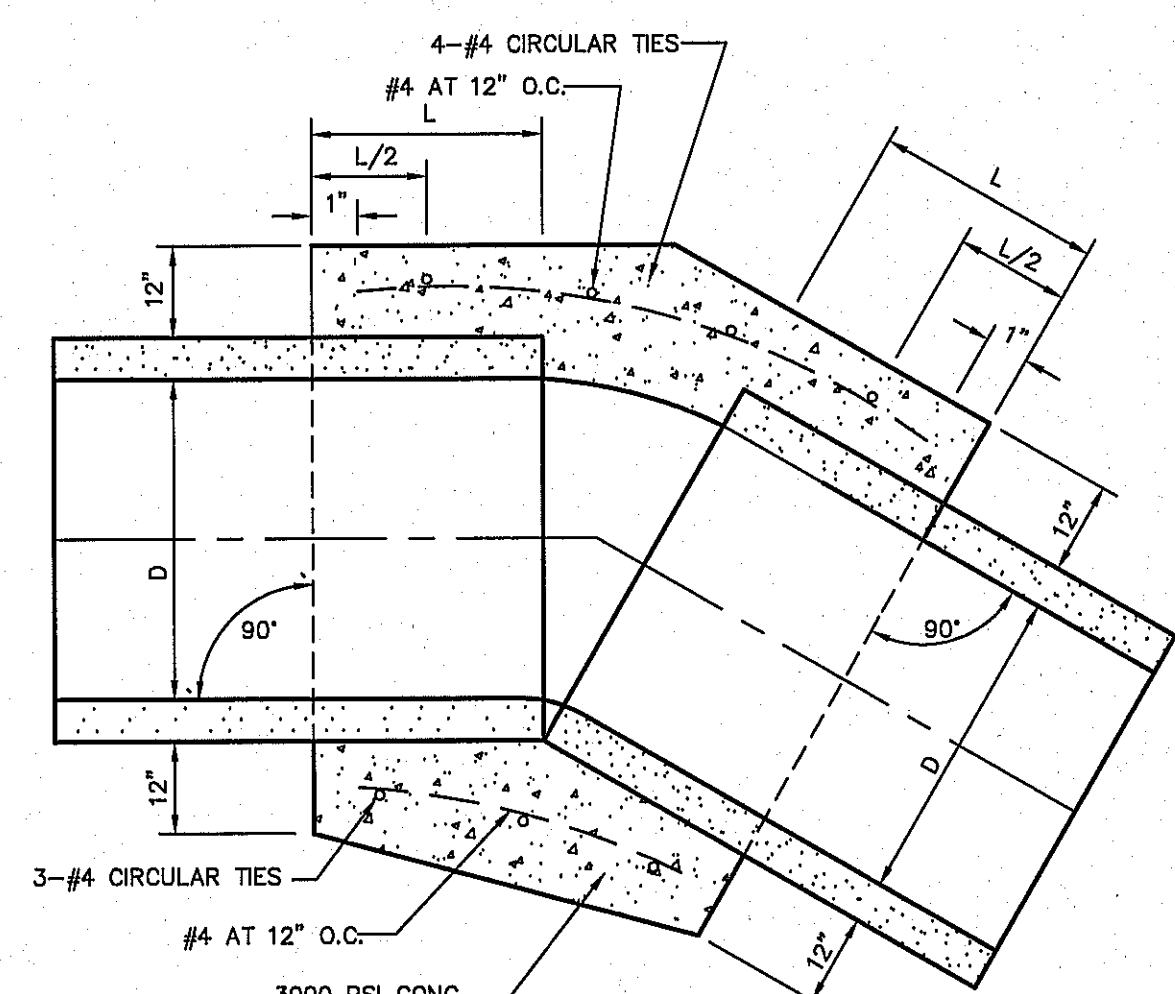
STANDARD DETAIL DATE: 8/19/2009 REV: STORMWATER MANHOLE COVER N.T.S. EL PASO WATER UTILITIES PUBLIC SERVICE BOARD DETAIL No. 917

2 STORMWATER MANHOLE COVER SCALE: N.T.S.



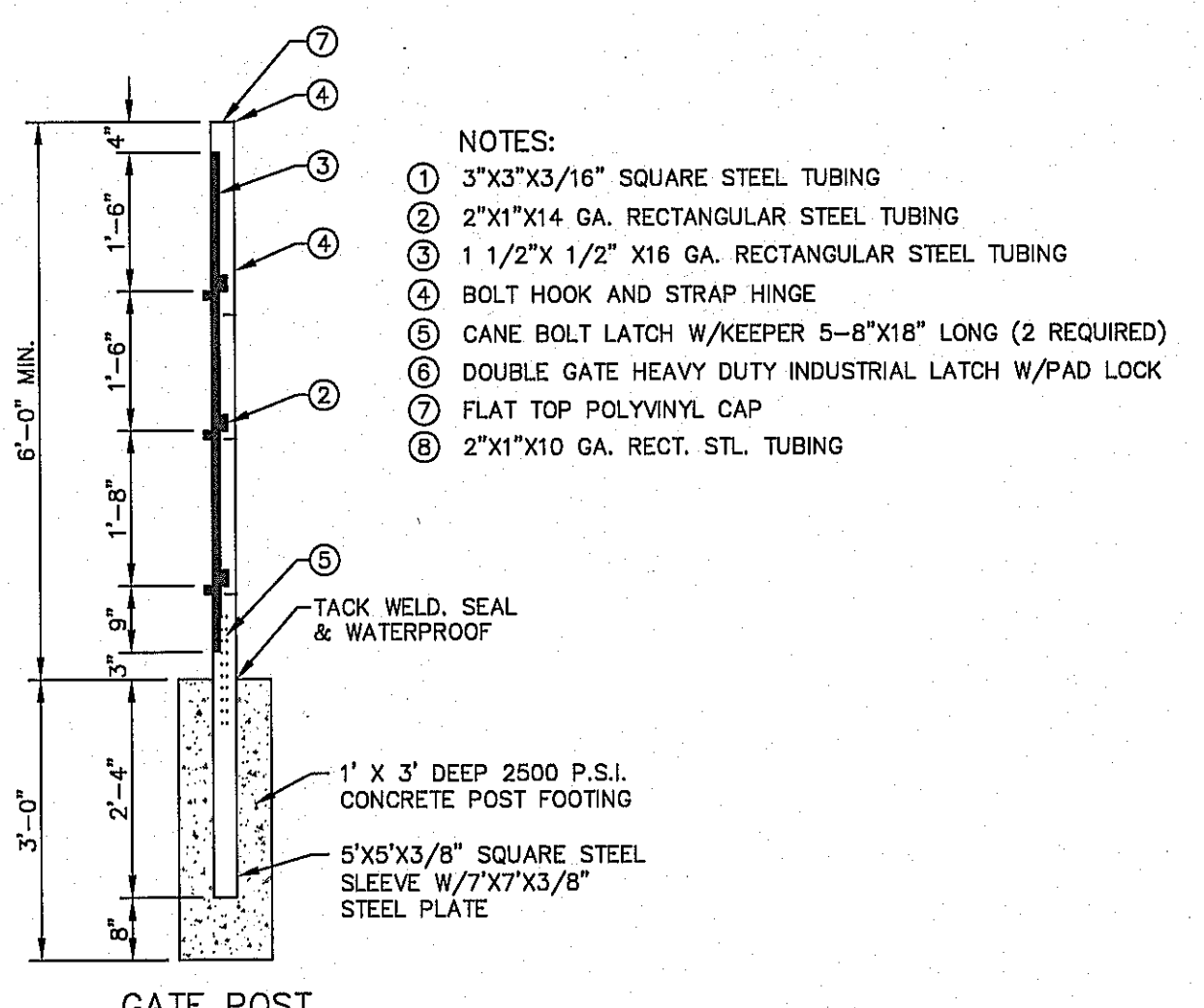
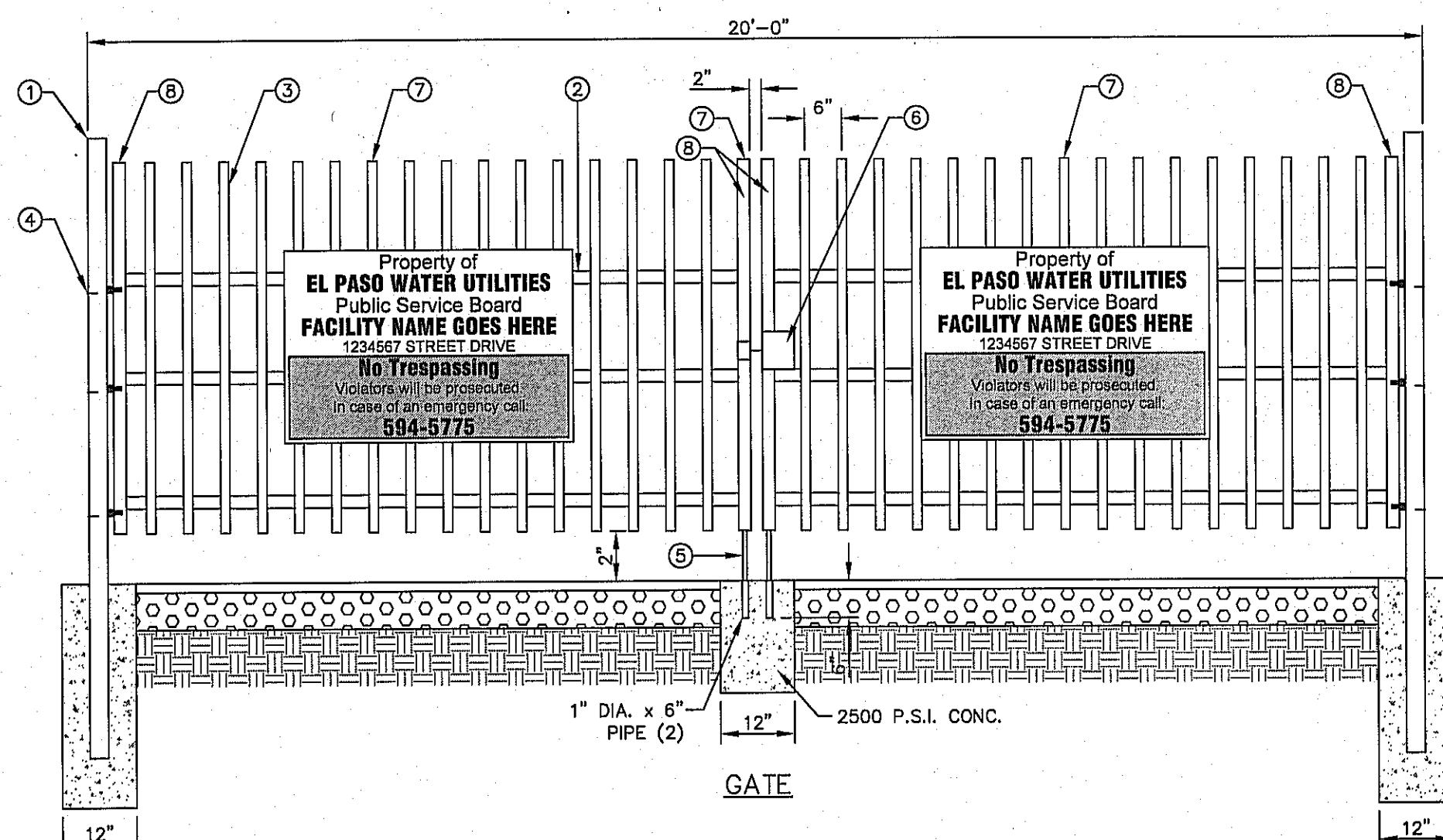
- GENERAL NOTES:**
1. SIGN MATERIAL TO BE 16 GAUGE GALVANIZED SHEET METAL.
 2. TOP PART OF SIGN SHALL SHOW BLACK LETTERS ON A WHITE BACKGROUND.
 3. BOTTOM PART OF SIGN SHALL SHOW WHITE LETTERS ON A BLACK BACKGROUND.

3 NO TRESPASSING WARNING SIGN SCALE: N.T.S.



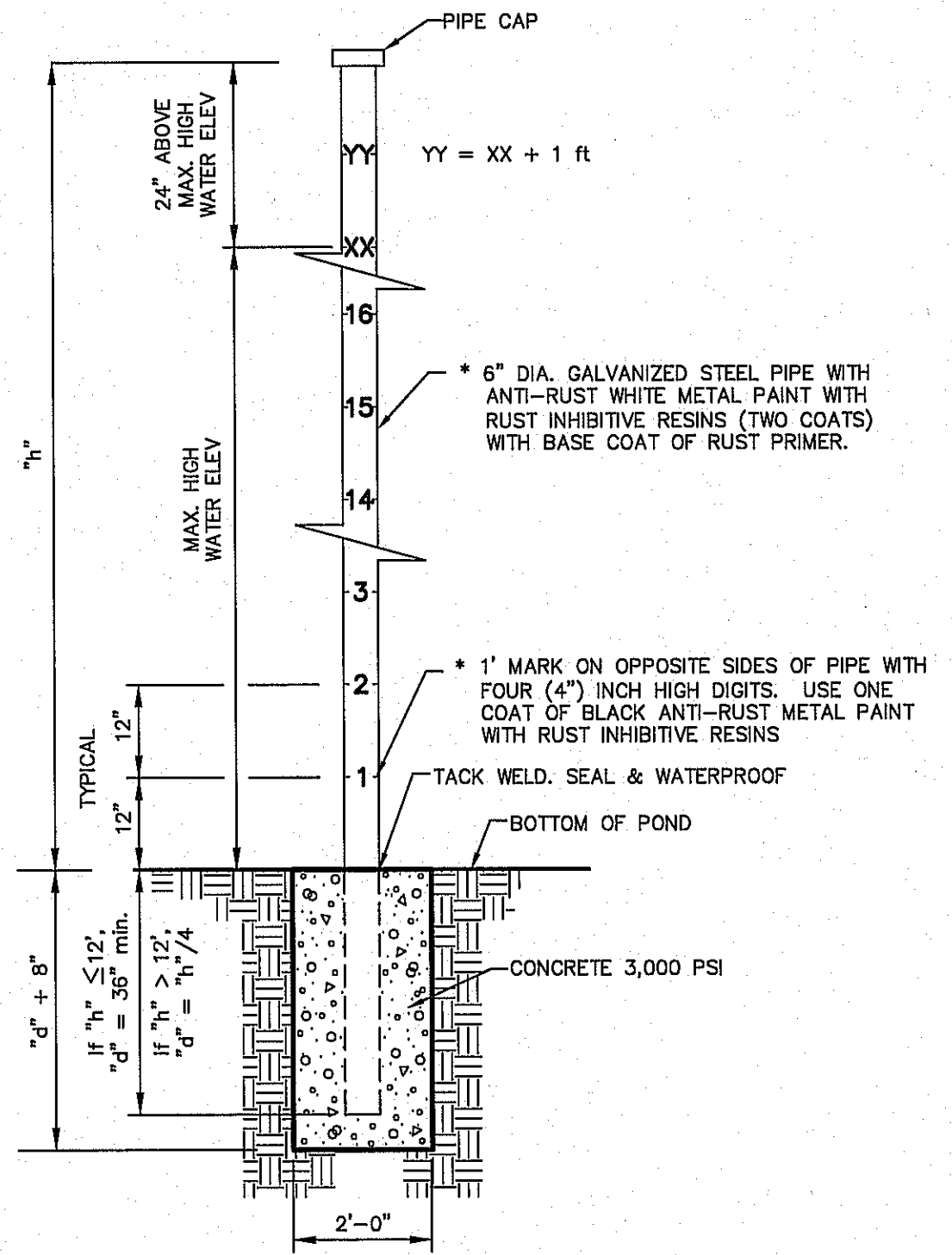
- NOTES:**
1. A CONCRETE COLLAR IS REQUIRED WHERE PIPES CHANGE IN HORIZONTAL OR VERTICAL ALIGNMENT.
 2. FOR PIPES 24" OR LESS IN DIAMETER REINFORCE WITH W.W.M.

4 CONCRETE PIPE COLLAR SCALE: N.T.S.



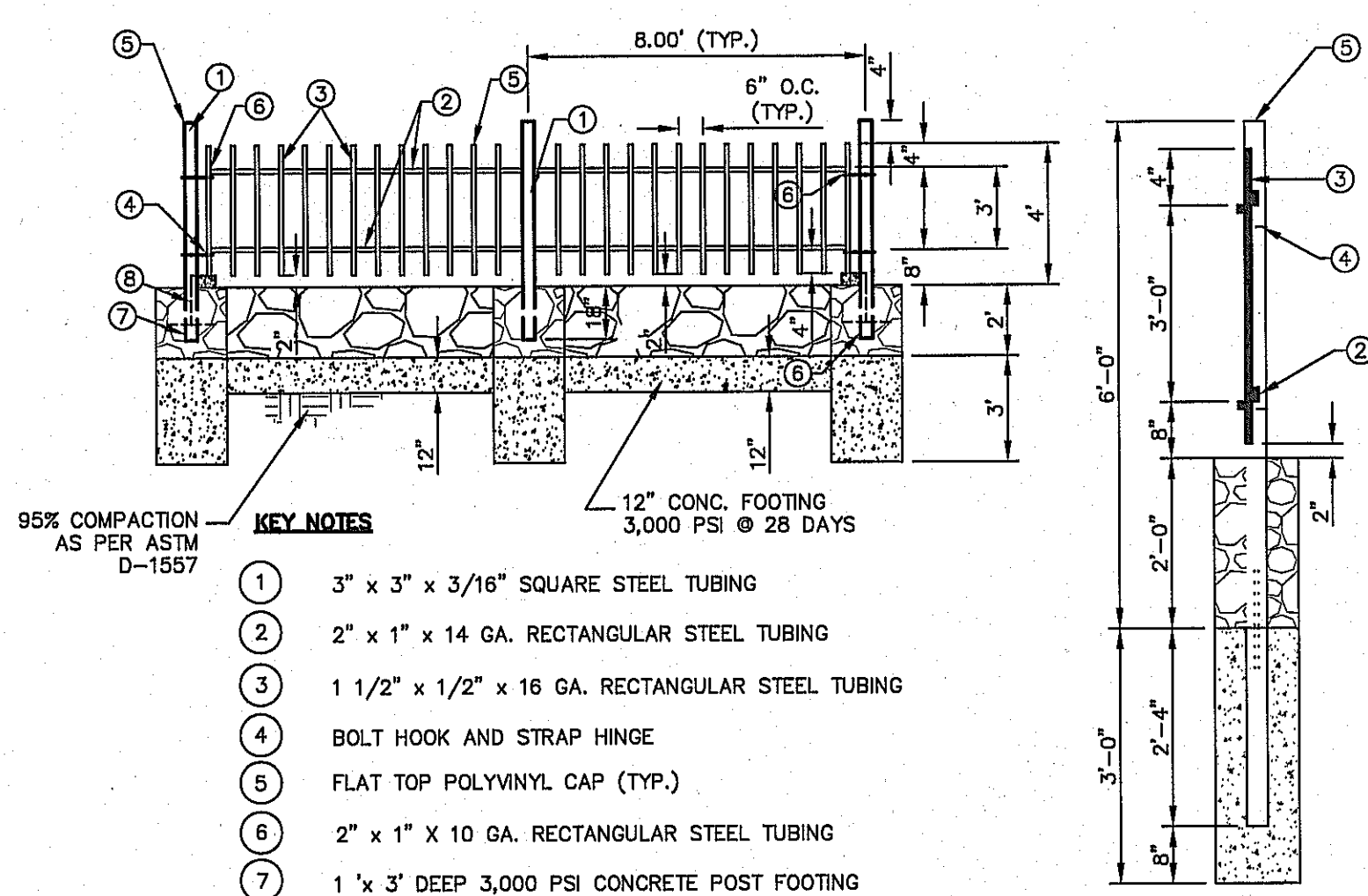
- NOTES:**
1. 3"x3"x3/16" SQUARE STEEL TUBING
 2. 2"x1"x1/4 GA. RECTANGULAR STEEL TUBING
 3. 1 1/2"x 1/2" X 16 GA. RECTANGULAR STEEL TUBING
 4. BOLT HOOK AND STRAP HINGE
 5. CANE BOLT LATCH W/KEEPER 5-8"x18" LONG (2 REQUIRED)
 6. DOUBLE GATE HEAVY DUTY INDUSTRIAL LATCH W/PAD LOCK
 7. FLAT TOP POLYVINYL CAP
 8. 2"x1"x10 GA. RECT. STL. TUBING

5 WROUGHT IRON GATE SCALE: N.T.S.



- NOTE:**
1. CONSULT WITH PAINT MANUFACTURER FOR PRODUCTS THAT CAN SUSTAIN LONG PERIODS OF MOISTURE.
 2. GAUGE REQUIRED IN PONDS OF GREATER THAN FIVE (5') FOOT DEPTH ONLY.
 3. "H" = HEIGHT
 4. XX = MAXIMUM HIGH WATER ELEVATION BASED ON A 100-YR STORM EVENT ROUNDED TO NEAREST WHOLE NUMBER.
 5. ALTERNATES WILL BE ALLOWED WITH THE PRIOR REVIEW AND APPROVAL OF THE COUNTY ENGINEER.

6 WATER DEPTH POLE DETAIL SCALE: N.T.S.



- KEY NOTES:**
1. 3" x 3" x 3/16" SQUARE STEEL TUBING
 2. 2" x 1" x 14 GA. RECTANGULAR STEEL TUBING
 3. 1 1/2" x 1/2" x 16 GA. RECTANGULAR STEEL TUBING
 4. BOLT HOOK AND STRAP HINGE
 5. FLAT TOP POLYVINYL CAP (TYP.)
 6. 2" x 1" X 10 GA. RECTANGULAR STEEL TUBING
 7. 1' x 3' DEEP 3,000 PSI CONCRETE POST FOOTING
 8. 5" x 5" x 3/8" SQUARE STEEL SLEEVE W/7" x 7" x 3/8" BASE PLATE

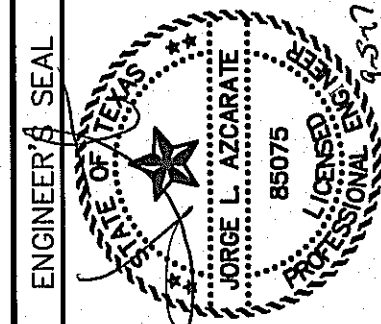
7 TYPICAL ROCKWALL W/ WROUGHT IRON FENCE DETAILS SCALE: N.T.S.

REFERENCES - BENCHMARKS

CITY MONUMENT AT THE INTERSECTION OF PASO DEL NORTE & NORTHWESTERN. ELEVATION = 3887.39 (CITY DATUM). THIS IS BASED ON NGS MONUMENT "CHINO" ELEVATION = 3935.48 (CITY DATUM)

DATE	REVISIONS	BY

esa
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM #4864
4712 Woodrow Bean, Ste. F, El Paso, TX 79924
Office: 915.544.5232 Fax: 915.544.5233 www.esaengineers.com



SCALE: N/A
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A

DATE: JUNE 2017
DESIGN BY: R.O.
DRAWN BY: R.O./R.J.M.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-192LD

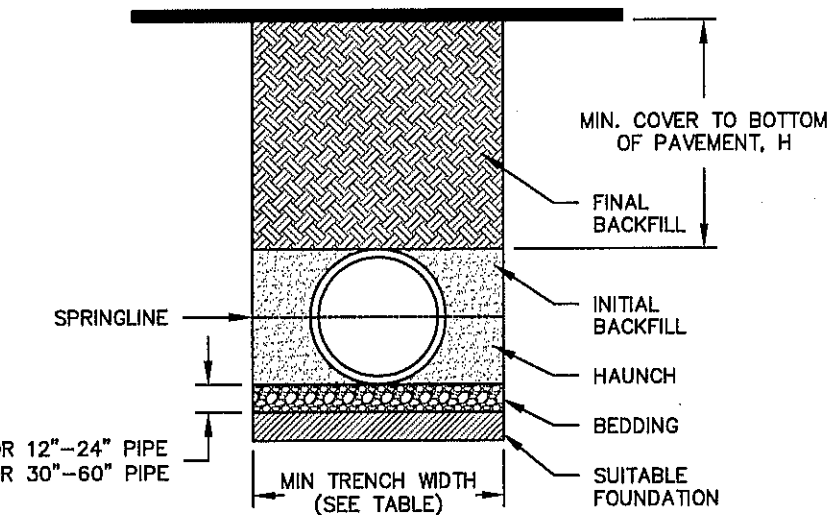
PROJECT TITLE
**LA PUESTA DEL SOL
UNIT TWO
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
**DRAINAGE
DETAILS**
(SHEET 2 OF 3)
SHEET NO.



C10.2

PP TRENCH INSTALLATION DETAIL FOR STORM APPLICATIONS



PIPE DIAM.	CLASS I		CLASS II		CLASS III	
	COMPACTED	95%	95%	95%	95%	95%
12" (300mm)	39 (11.9)	27 (8.2)	20 (6.1)	21 (6.4)	12 (3.7)	12 (3.7)
15" (375mm)	42 (12.8)	29 (8.6)	21 (6.4)	22 (6.7)	12 (3.7)	12 (3.7)
18" (450mm)	36 (11.0)	25 (7.6)	16 (4.9)	19 (5.6)	12 (3.7)	12 (3.7)
24" (600mm)	31 (8.5)	22 (6.7)	16 (4.9)	16 (4.9)	11 (3.3)	11 (3.3)
30" (750mm)	30 (8.1)	22 (6.7)	16 (4.9)	16 (4.9)	11 (3.3)	11 (3.3)
36" (900mm)	31 (8.5)	22 (6.7)	16 (4.9)	16 (4.9)	11 (3.3)	11 (3.3)
42" (1050mm)	34 (10.4)	23 (7.0)	17 (5.2)	17 (5.2)	11 (3.3)	11 (3.3)
48" (1200mm)	34 (10.4)	24 (7.3)	17 (5.2)	19 (5.6)	11 (3.3)	11 (3.3)
60" (1500mm)	32 (8.8)	22 (6.7)	16 (4.9)	18 (4.9)	11 (3.3)	11 (3.3)

FILL HEIGHT TABLE GENERATED USING AASHTO SECTION 12. LOAD RESISTANCE FACTOR DESIGN (LRF) PROCEDURE WITH THE FOLLOWING ASSUMPTIONS:
NO HYDROSTATIC PRESSURE, UNIT WEIGHT OF SOIL (γ) = 120 PCF

TABLE 1. RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN TRENCH WIDTH
12" (300mm)	30" (750mm)
15" (375mm)	34" (850mm)
18" (450mm)	39" (990mm)
24" (600mm)	48" (1200mm)
30" (750mm)	56" (1420mm)
36" (900mm)	64" (1620mm)
42" (1050mm)	72" (1830mm)
48" (1200mm)	80" (2030mm)
60" (1500mm)	96" (2440mm)

TABLE 2. MINIMUM RECOMMENDED COVER BASED ON VEHICLE LOADING CONDITIONS

PIPE DIAM.	SURFACE LIVE LOADING CONDITION	
	H-20	HEAVY CONSTRUCTION (75 KIP AXLE LOAD)
12" - 48" (300mm - 1200mm)	12" (300mm)	48" (1200mm)
60" (1500mm)	24" (600mm)	60" (1500mm)

*VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER

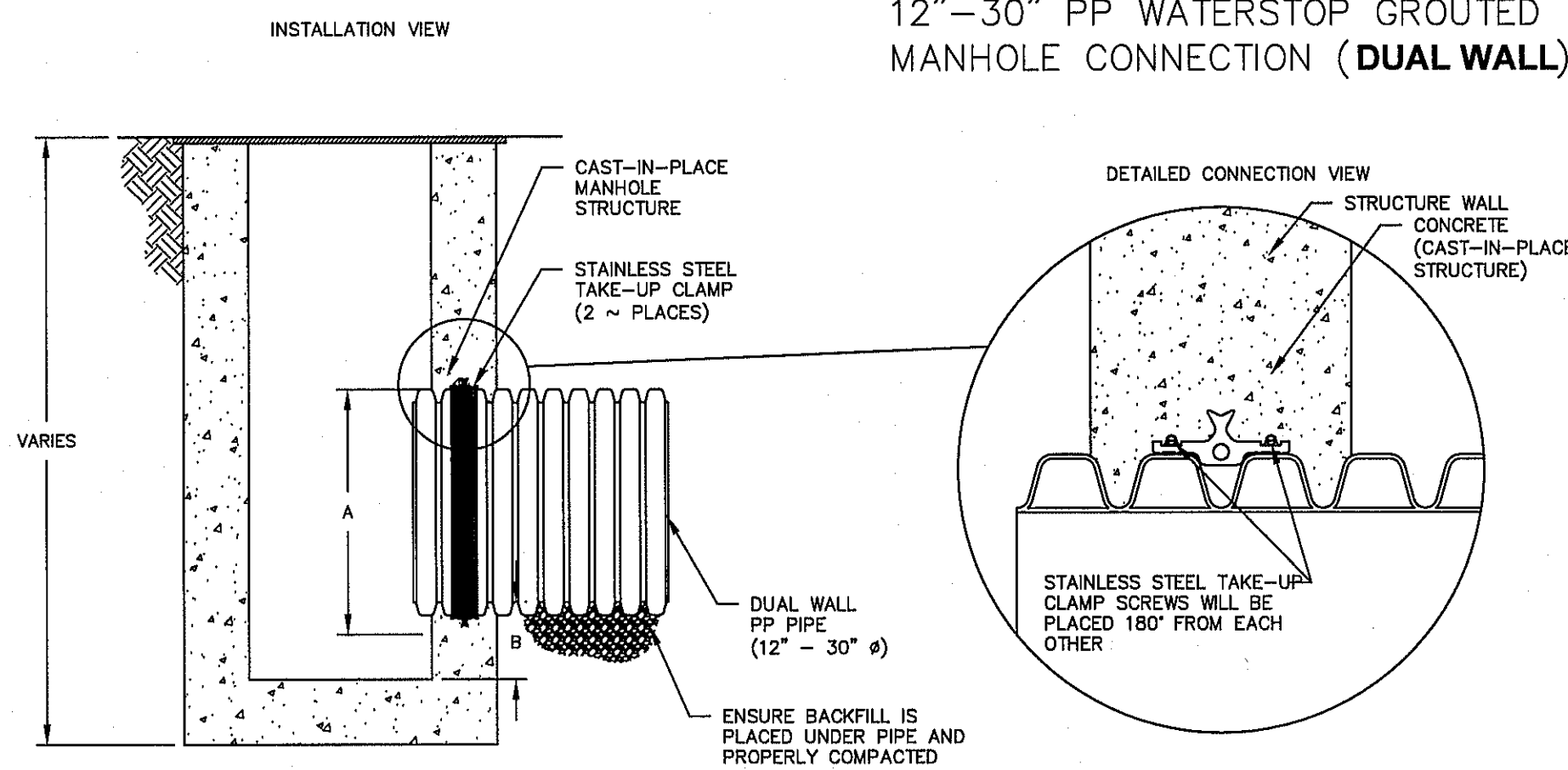
- NOTES:**
- ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS". LATEST ADDITION WITH THE EXCEPTION THAT THE INITIAL BACKFILL MAY EXTEND TO THE CROWN OF THE PIPE. SOIL CLASSIFICATIONS ARE PER THE LATEST VERSION OF ASTM D2321.
 - MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
 - FOUNDATION:** WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER, AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
 - BEDDING:** SUITABLE MATERIAL SHALL BE CLASS I, II, OR III IN THE PIPE ZONE EXTENDING TO THE CROWN OF THE PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. COMPACTION SHALL BE 90% OF MAXIMUM DENSITY PER ASTM D-1557 OR AS SHOWN ON THE PLANS. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 12"-24" (300mm-600mm) DIAMETER PIPE, 6" (150mm) FOR 30"-60" (750mm-1500mm) DIAMETER PIPE. THE MIDDLE 10' BENEATH THE PIPE INVERT SHALL BE LOOSELY PLACED.
 - INITIAL BACKFILL:** SUITABLE MATERIAL SHALL BE CLASS I, II, OR III IN THE PIPE ZONE EXTENDING TO THE CROWN OF THE PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION, FOR TRAFFIC APPLICATIONS. CLASS II, OR III MATERIAL SHALL BE COMPACTED TO A DENSITY OF NOT LESS THAN 90% PER THE CITY STANDARDS FOR BOTH COHESIVE AND COHESION LESS SOILS.
 - MINIMUM COVER:** MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" (300mm) FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOTATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" (300mm) UP TO 48" (1200mm) DIAMETER PIPE AND 24" (600mm) OF COVER FOR 60" (1500mm) DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF PAVEMENT OR TO TOP OF RIGID PAVEMENT.

THE INSTALLATION DETAILS PROVIDED HEREIN ARE GENERAL RECOMMENDATIONS AND ARE NOT SPECIFIC FOR THIS PROJECT. THE DESIGN ENGINEER SHALL REVIEW THESE DETAILS PRIOR TO CONSTRUCTION. IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN MEET OR EXCEED THE APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

#1 - POLYPROPYLENE PIPE DETAIL FOR STORM SEWER APPLICATIONS (INSTALLATION DETAIL)

1
C10.3
#1 - POLYPROPYLENE PIPE DETAIL FOR STORM SEWER APPLICATIONS (INSTALLATION DETAIL)
SCALE: N.T.S.

12"-30" PP WATERSTOP GROUDED MANHOLE CONNECTION (DUAL WALL)

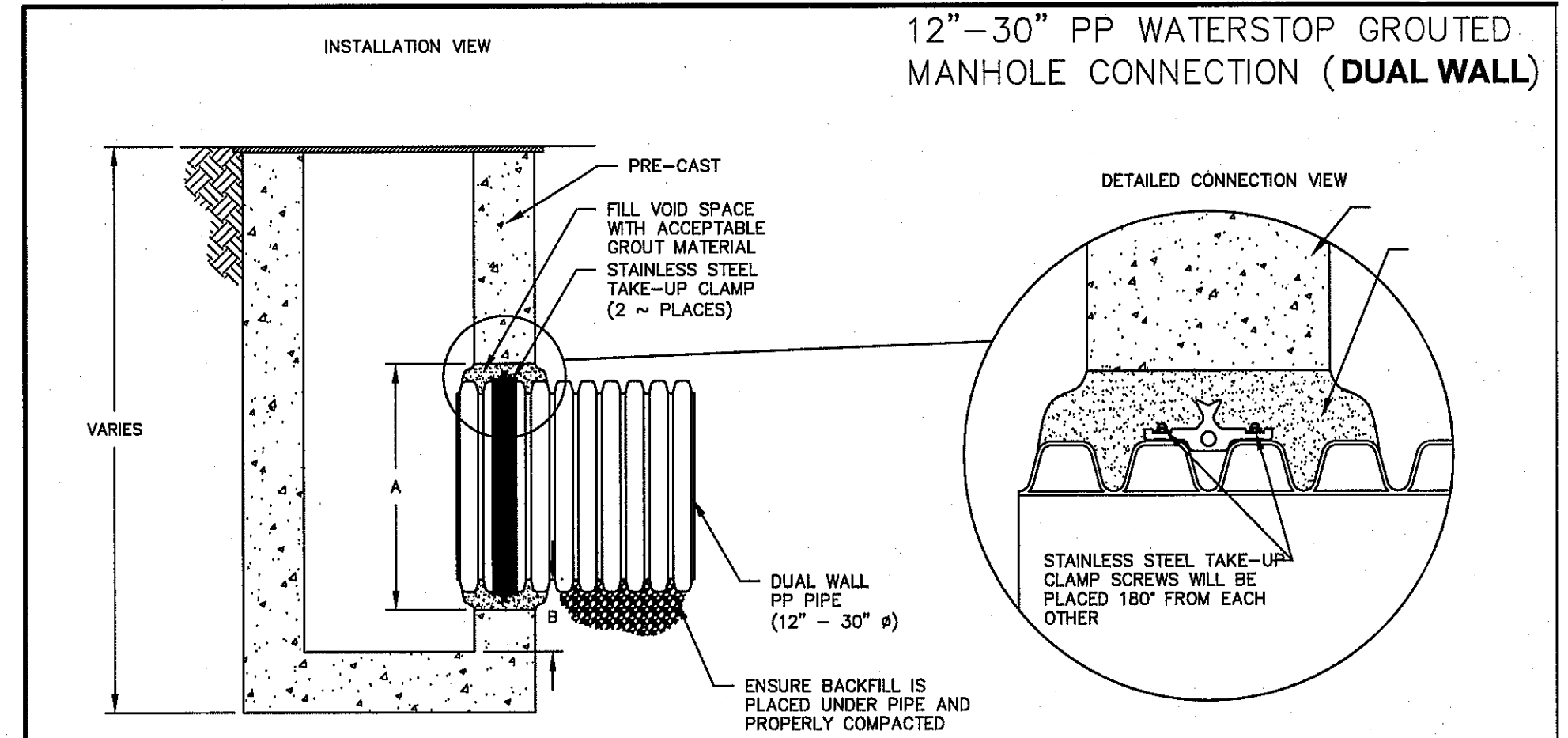


PIPE SIZE (IN)	PIPE OD (IN)	"A" MIN. HOLE Ø (IN)	"B" MIN. DISTANCE PIPE INVERT TO STRUCTURE INVERT (IN)
12	14.5	19.50	3.7
15	17.6	23.00	4.0
18	21.2	26.50	4.2
24	27.8	33.25	4.5
30	35.1	40.50	5.2
36	41.1	47.00	5.5
42	47.7	53.00	5.7
48	53.6	59.00	5.7
60	66.3	72.00	6.4

#4 - WATERSTOP 12"-30" DUAL WALL POLYPROPYLENE STORM DETAIL (WATERSTOP GROUDED CONNECTION DETAIL FOR CAST-IN-PLACE STRUCTURES)

2
C10.3
#4 - WATERSTOP 12"-30" DUAL WALL POLYPROPYLENE STORM DETAIL (WATERSTOP GROUDED CONNECTION DETAIL FOR CAST-IN-PLACE STRUCTURES)
SCALE: N.T.S.

12"-30" PP WATERSTOP GROUDED MANHOLE CONNECTION (DUAL WALL)

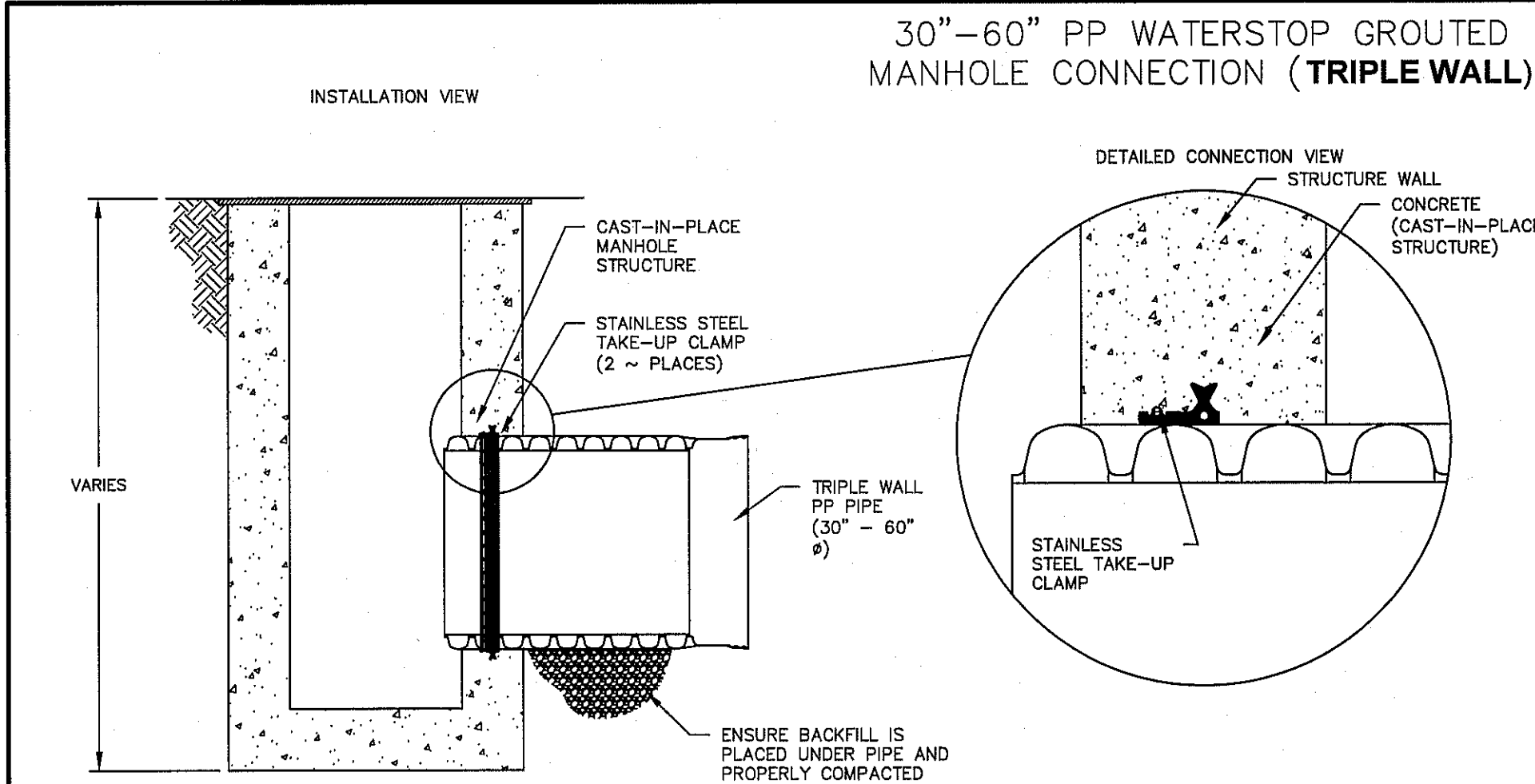


PIPE SIZE (IN)	PIPE OD (IN)	"A" MIN. HOLE Ø (IN)	"B" MIN. DISTANCE PIPE INVERT TO STRUCTURE INVERT (IN)
12	14.5	19.50	3.7
15	17.6	23.00	4.0
18	21.2	26.50	4.2
24	27.8	33.25	4.5
30	35.1	40.50	5.2
36	41.1	47.00	5.5
42	47.7	53.00	5.7
48	53.6	59.00	5.7
60	66.3	72.00	6.4

#2 - WATERSTOP 12"-30" DUAL WALL POLYPROPYLENE STORM DETAIL (WATERSTOP GROUDED CONNECTION DETAIL FOR PRECAST STRUCTURES)

3
C10.3
#2 - WATERSTOP 12"-30" DUAL WALL POLYPROPYLENE STORM DETAIL (WATERSTOP GROUDED CONNECTION DETAIL FOR PRECAST STRUCTURES)
SCALE: N.T.S.

30"-60" PP WATERSTOP GROUDED MANHOLE CONNECTION (TRIPLE WALL)

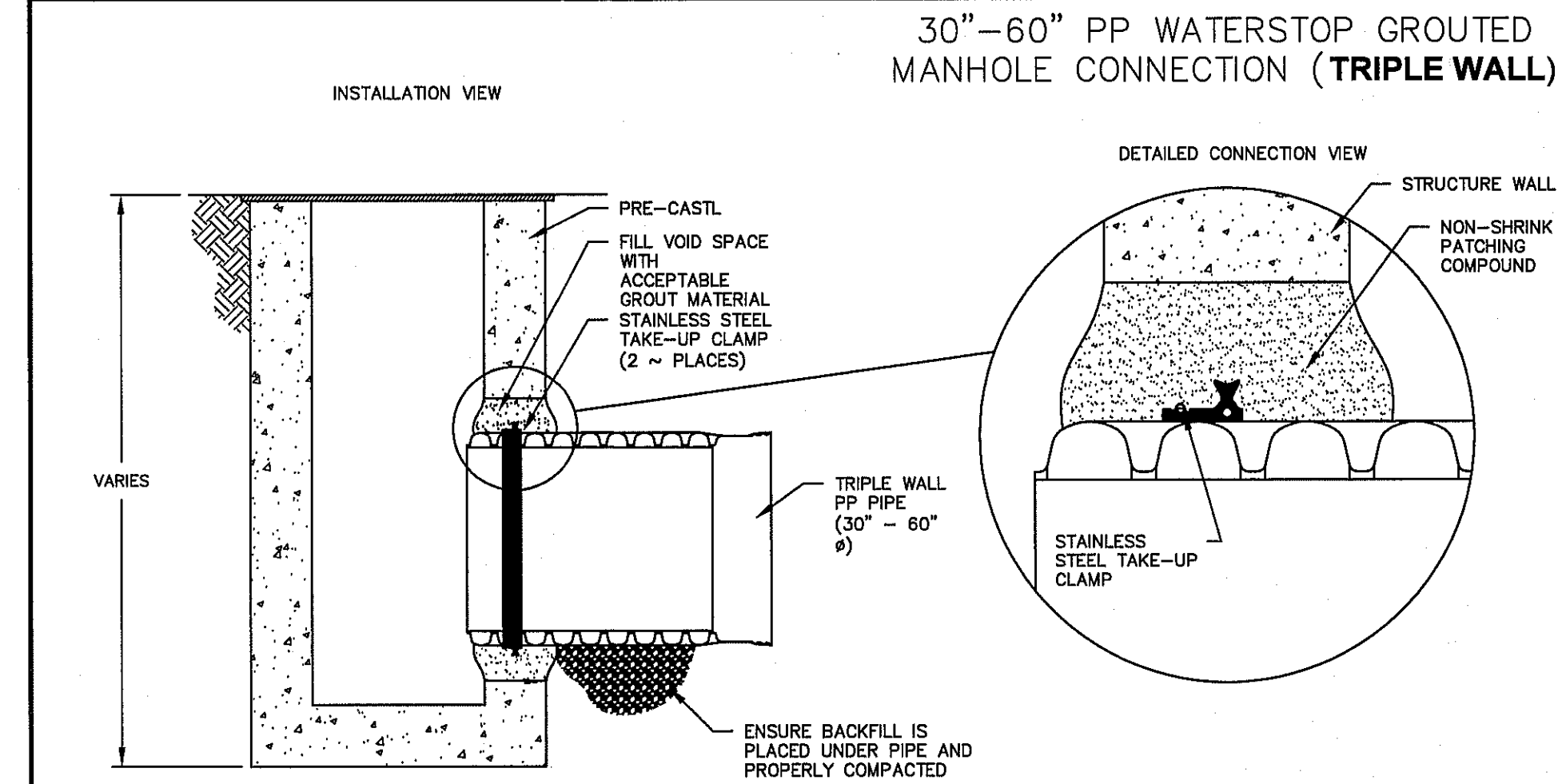


PIPE SIZE (IN)	PIPE OD (IN)	"A" MIN. HOLE Ø (IN)
30	35.4	41.5
36	41.1	46.0
42	47.2	52.5
48	53.6	60.0
60	66.5	72.5

#3 - WATERSTOP TRIPLE WALL 30"-60" POLYPROPYLENE STORM DETAIL (WATERSTOP GROUDED CONNECTION DETAIL FOR CAST-IN-PLACE STRUCTURES)

4
C10.3
#3 - WATERSTOP TRIPLE WALL 30"-60" POLYPROPYLENE STORM DETAIL (WATERSTOP GROUDED CONNECTION DETAIL FOR CAST-IN-PLACE STRUCTURES)
SCALE: N.T.S.

30"-60" PP WATERSTOP GROUDED MANHOLE CONNECTION (TRIPLE WALL)



PIPE SIZE (IN)	PIPE OD (IN)	"A" MIN. HOLE Ø (IN)
30	35.4	41.5
36	41.1	46.0
42	47.2	52.5
48	53.6	60.0
60	66.5	72.5

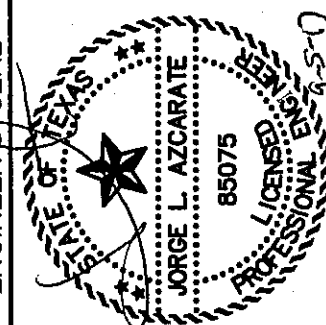
#5 - WATERSTOP TRIPLE WALL 30"-60" POLYPROPYLENE STORM DETAIL (WATERSTOP GROUDED CONNECTION DETAIL FOR PRECAST STRUCTURES)

5
C10.3
#5 - WATERSTOP TRIPLE WALL 30"-60" POLYPROPYLENE STORM DETAIL (WATERSTOP GROUDED CONNECTION DETAIL FOR PRECAST STRUCTURES)
SCALE: N.T.S.

REFERENCES - BENCHMARKS

CITY MONUMENT AT THE INTERSECTION OF PASEO DEL NORTE & NORTHWESTERN ELEVATION = 3887.39 (CITY DATUM)	BY
"CHINO" ELEVATION = 3935.48 (CITY DATUM)	DATE
REVISIONS	

osa
engineers • architects • planners
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Office: 915.544.2322 Fax: 915.544.2323 www.osaeng.com



SCALE: N.T.S.

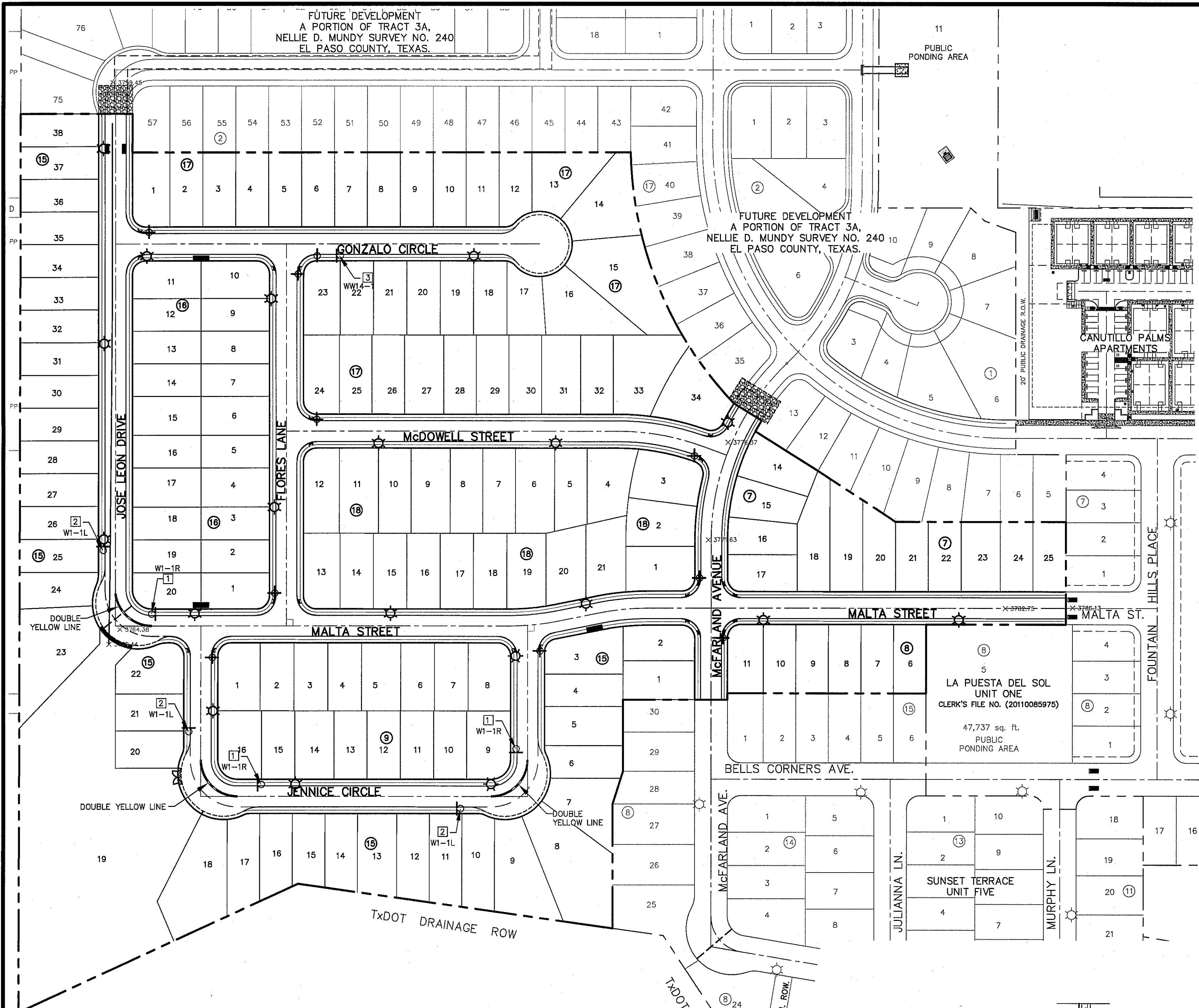
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Contour Interval: N/A	DATE: JUNE 2017
DESIGN BY: R.O.	DRAWN BY: R.O./J.M.
CHECK BY: J.L.A.	APP'D BY: J.L.A.
JOB No.: 20100-1821.D	

PROJECT TITLE
LA PUESTA DEL SOL UNIT TWO SUBDIVISION IMPROVEMENTS

SHEET TITLE
DRAINAGE DETAILS
(SHEET 3 OF 3)
SHEET NO.



C10.3



UTILITY LOCATOR SERVICES

EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

WARNING!
BEFORE YOU DIG
CALL 811
FOR FIELD LOCATING EXISTING UTILITIES

LEGEND:

- ☉ PROPOSED RESIDENTIAL STREET LIGHT
- ☉ EXISTING RESIDENTIAL STREET LIGHT
- ➔ PROPOSED STREET NAME (TWO SIGNS) AND 30" STOP SIGN
- ➔ PROPOSED TRAFFIC SIGN
- ⊕ NO OUTLET SIGN
- ☐ PROPOSED N.D.B.C.U. MAIL BOX

- NOTE:**
- POSTS MUST BE BREAK-AWAY TYPE AS SHOWN ON THIS SHEET.
 - TRAFFIC STREET SIGNS MUST BE OF HIGH INTENSITY REFLECTIVE SHEETING.

19 RESIDENTIAL STREET LIGHTS

COMPONENTS OF THE POZITUBE® TRAFFIC POST

POZITUBE® Traffic Posts may be ordered with pre-punched 13-hole pattern or with hot-dipped galvanized mounting brackets including nuts and bolts.

PRODUCT	OUTSIDE DIAMETER	NOMINAL PIPE SIZE	WALL THICKNESS	WEIGHT PER FOOT
Traffic Post	2.375"	2"	.065	1.66 lb
POSTS ARE AVAILABLE IN 8'-14", IN 1' INCREMENTS			.065	2.313 lb

POZ-LOC™ SIGN POST SOCKET SYSTEM
Northwest Pipe Company also manufactures the POZ-LOC™ Sign Post Socket System which offers the simplest, most cost effective breakaway sign post system available today. It is installed flush with the ground, which prevents damage to the socket system and the vehicle upon impact. The POZ-LOC™ Socket System is easiest to install and simplest to reuse after impact.

POZITUBE® TRAFFIC POST

GALVANIZED TRAFFIC POSTS
COLOR COATINGS AVAILABLE
• High Visibility Yellow • Clear Coat • Green • Black • Brown

- POZITUBE® Traffic Posts have the following characteristics and properties:
- Galvanized (inside and out).
 - Electrostatically powder coated for years of additional life.
 - Electric resistance welded from hot-dipped galvanized steel sheet conforming to ASTM specifications A-525-690 commercial weight.
 - Tubing is produced to ASTM A-513, Specification For Welded Mechanical Tubing.
 - Excellent resistance to urban environments where air pollution causes accelerated corrosion.
 - Resistant to damage by impact, abrasion, scratches, temperature variations. Provides superb protection against rust and chemicals such as salt, fertilizers, insecticides, fungicides and solvents such as motor oils, gasoline and other normally damaging substances.
 - May be ordered with sign mounting brackets (listed under components), our standard 13-hole pre-punched pattern or punched to your specifications.

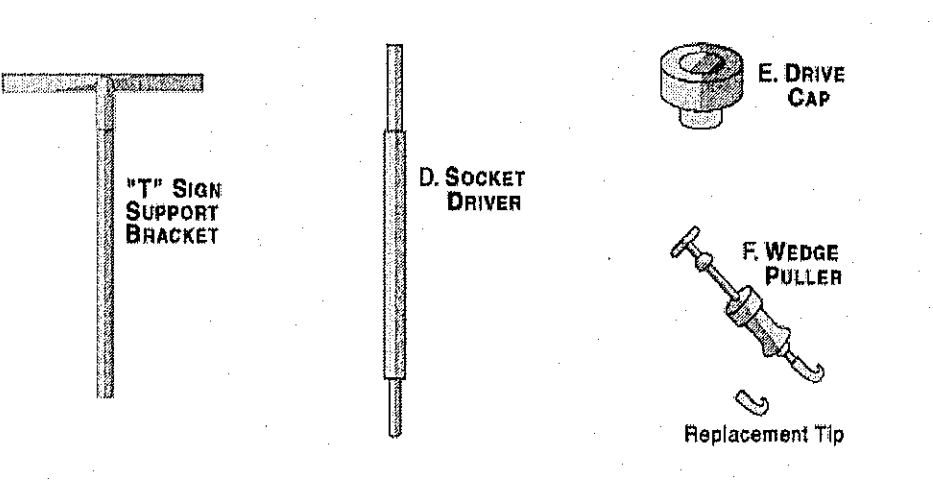
POZ-LOC™ SOCKET SYSTEM ORDERING INFORMATION

POZ-LOC SOCKET SYSTEM ASSEMBLY		POZ-LOC TOOLS	
DESCRIPTION	PART No.	DESCRIPTION	PART No.
Socket 2 7/8" x 27"	2804	2 7/8" Drive Cap	2700
Wedge	2813	Wedge Puller	2718
Sign Post 2 3/8"	206	Puller Replacement Tip	2719
Sign Brackets 2"	206	Socket Driver	2712

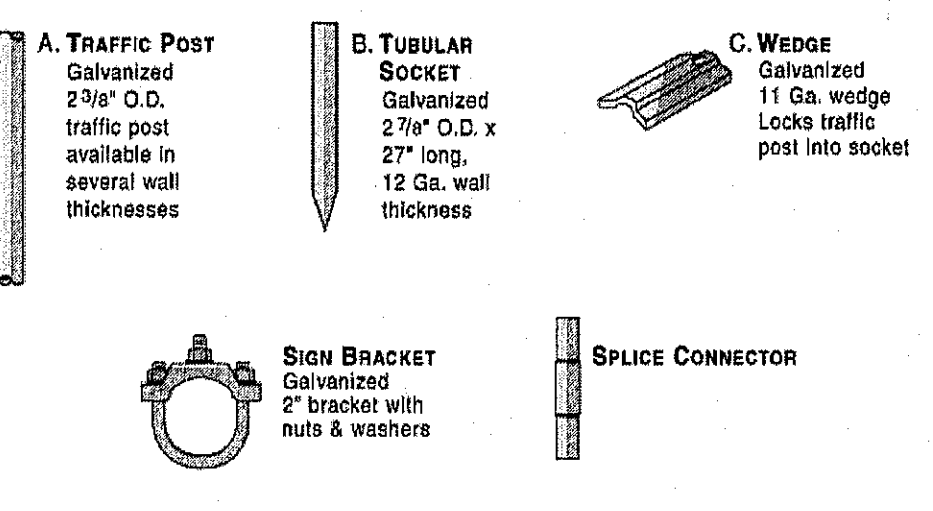
COMPLETE POZ-LOC POST & SOCKET ASSEMBLIES
(Posts Are Available In 8'-14", In 1' Increments)

PART No.	OUTSIDE DIAMETER	NOMINAL PIPE SIZE	POST WALL THICKNESS	POST WEIGHT PER FOOT	Plus weight of one socket and wedge per post 8.3 lbs.
238065	2.375"	2"	.065	1.60 lb.	
238060	2.375"	2"	.080	1.96 lb.	
238095	2.375"	2"	.095	2.313 lb.	

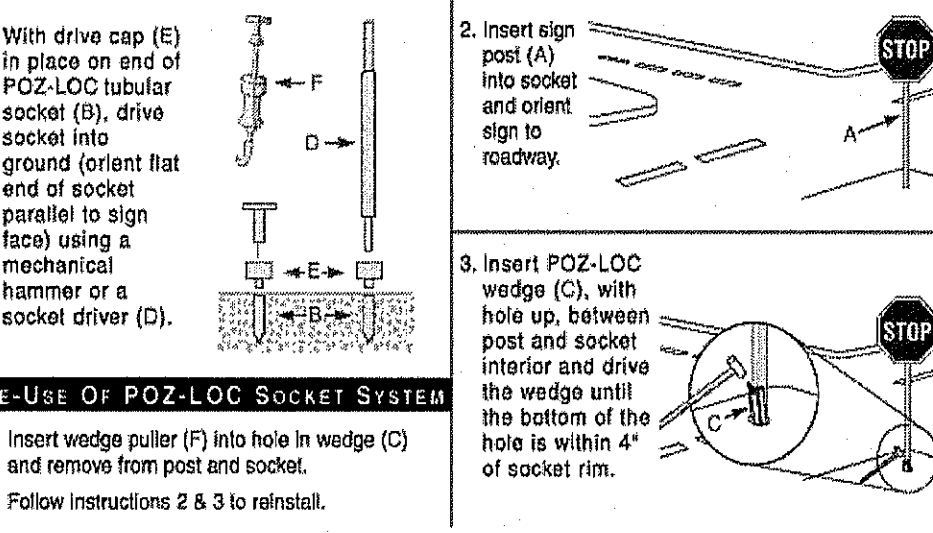
ATTACHMENTS AND TOOLS FOR POZ-LOC™ SOCKET SYSTEM



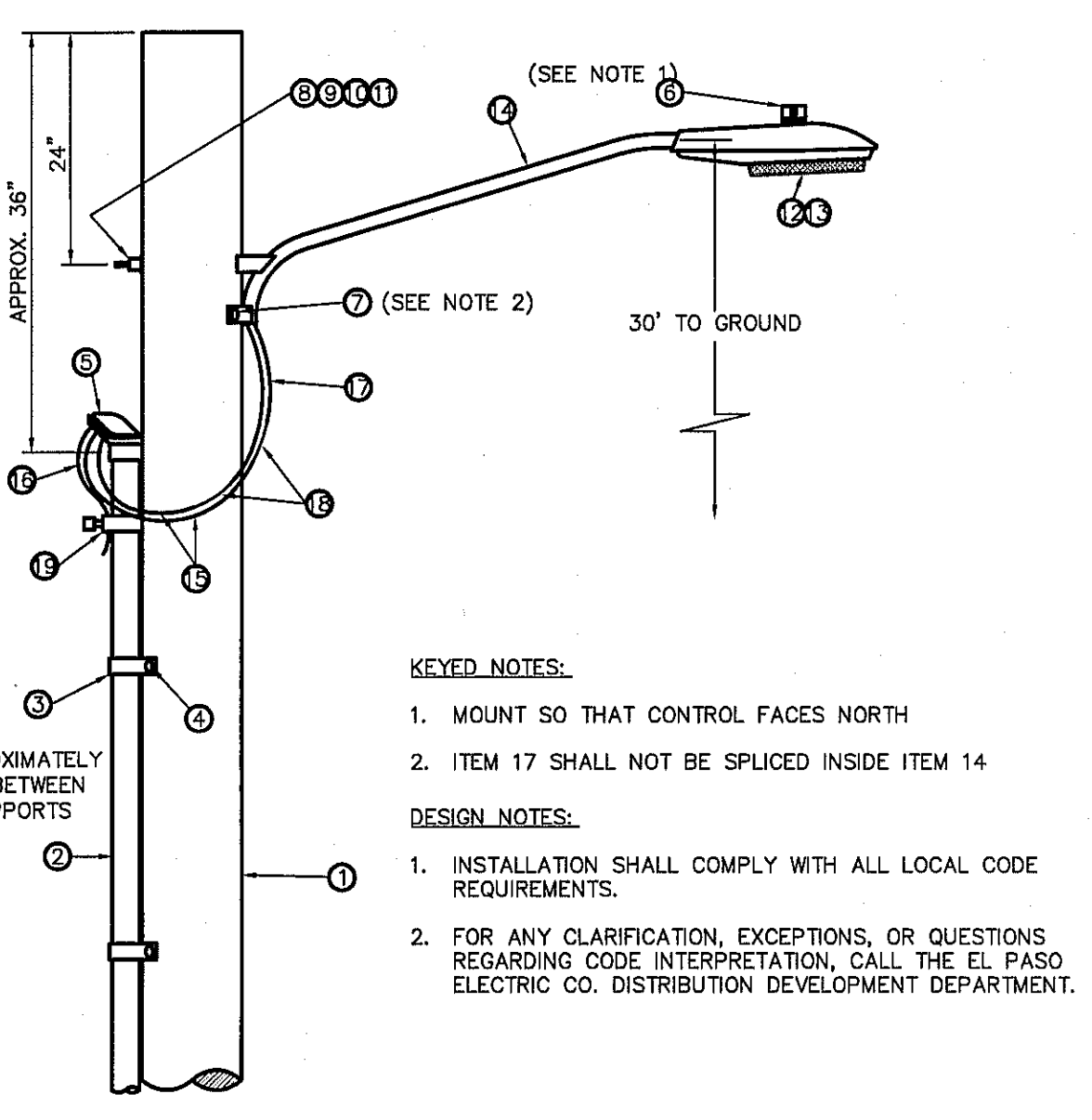
COMPONENTS OF THE POZ-LOC™ SIGN POST SOCKET SYSTEM



INSTALLATION OF POZ-LOC™ SOCKET SYSTEM



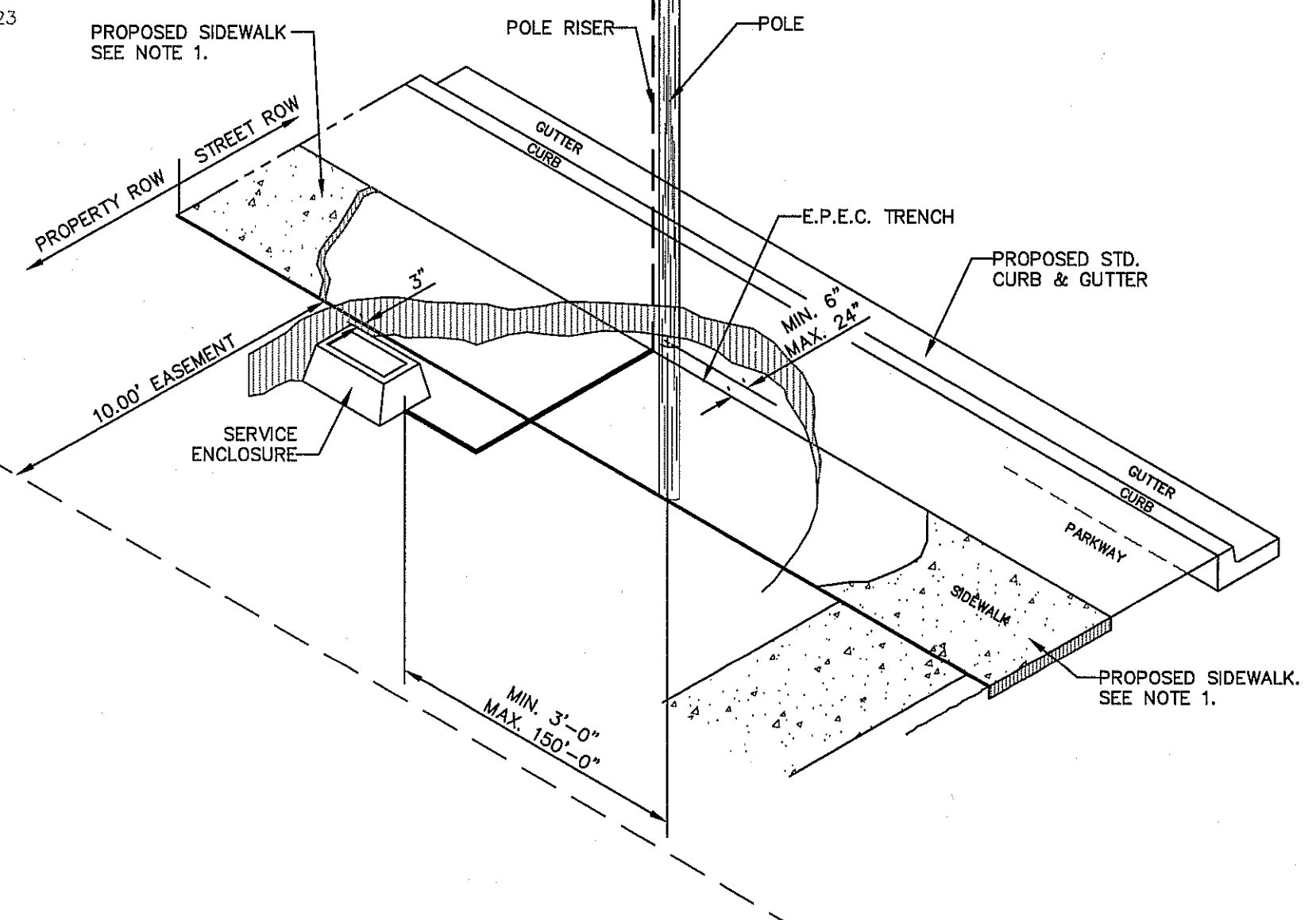
- RE-USE OF POZ-LOC SOCKET SYSTEM**
- Insert wedge puller (F) into hole in wedge (C) and remove from post and socket.
 - Follow instructions 2 & 3 to reinstall.



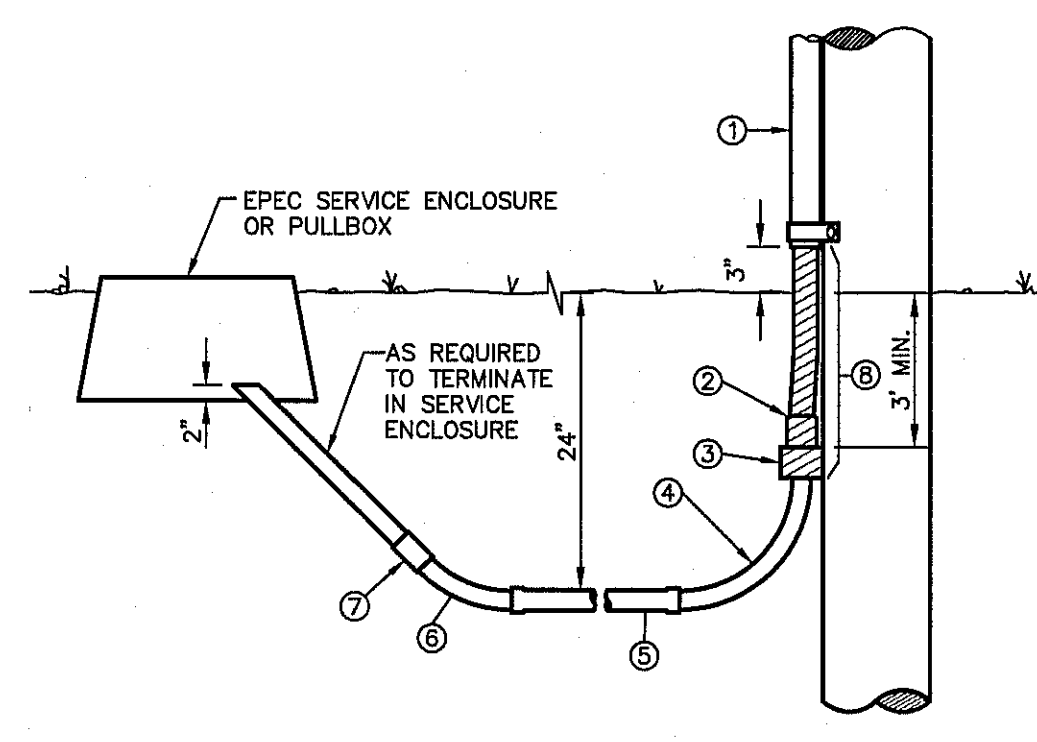
RESIDENTIAL STREET LIGHT WOOD POLE
SCALE: N.T.S.

ITEM No.	DESCRIPTION	STOCK No.	QTY.
1	POLE, 35 FT.-CLASS IV	ITEM NO. 1	1
2	GALVANIZED RIGID 1/2" CONDUIT	ITEM NO. 1	1
3	PIPE STRAP FOR 1/2" CONDUIT, 2-HOLE	ITEM NO. 1	1
4	LAG BOLT, 1/4" x 2"	ITEM NO. 1	1
5	WEATHERHEAD, 1/2" CONDUIT	ITEM NO. 1	1
6	PHOTOCCELL, 240V-SEE NOTE 1	ITEM NO. 1	1
7	LAG BOLT, 1/2" x 4"	ITEM NO. 1	1
8	MACHINE BOLT, 5/8" x 8"	ITEM NO. 1	1
9	SQUARE GALV. WASHER, 2-1/4"x2"-1/4"	ITEM NO. 1	1
10	COIL-SPRING WASHER, 5/8"	ITEM NO. 1	1
11	LOCKNUT, 5/8"	ITEM NO. 1	1
12	LUMINAIRE, 100W H. P. S.	ITEM NO. 1	1
13	HPS LAMP, 100W	ITEM NO. 1	1
14	MAST ARM, 6' x 1-1/4"	ITEM NO. 1	1
15	COPPER CABLE, #12, 19 STRAND, 600 V GREEN	ITEM NO. 1	1
16	COPPER CABLE, #12, SOLID, 600 V, UF	ITEM NO. 1	1
17	CABLE #10, 2 CONDUCTOR, 600 V, UF	ITEM NO. 1	1
18	SLEEVES, #12-10	ITEM NO. 1	1
19	GROUNDING CLAMP	ITEM NO. 1	1

- KEYED NOTES:**
- MOUNT SO THAT CONTROL FACES NORTH
 - ITEM 17 SHALL NOT BE SPLUCED INSIDE ITEM 14
- DESIGN NOTES:**
- INSTALLATION SHALL COMPLY WITH ALL LOCAL CODE REQUIREMENTS.
 - FOR ANY CLARIFICATION, EXCEPTIONS, OR QUESTIONS REGARDING CODE INTERPRETATION, CALL THE EL PASO ELECTRIC CO. DISTRIBUTION DEVELOPMENT DEPARTMENT.

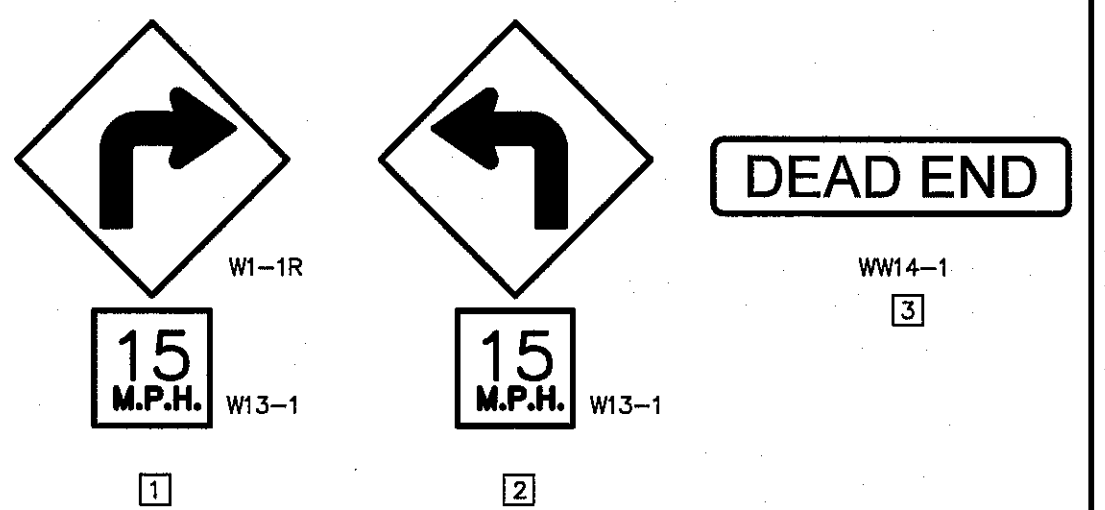


POLE LOCATION DETAIL
SCALE: 1" = 5'-0"



- KEY NOTES:**
- 1/2" GALVANIZED RIGID CONDUIT
 - REDUCER 1" TO 1/2" BUSHING
 - 1" PVC FEMALE ADAPTER
 - 1" PVC 90° ELBOW
 - 1" PVC CONDUIT
 - 1" PVC 45° ELBOW
 - 1" PVC COUPLING
 - TAPE 1/2" RIGID CONDUIT (6")

RESIDENTIAL STREET LIGHT WOOD POLE
SCALE: N.T.S.



NOTE:
SIGNS SHOULD COMPLY WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

SIGNS DETAIL
SCALE: N.T.S.

ILLUMINATION PLAN
SCALE: 1" = 100'

REFERENCES - BENCHMARKS
CITY MONUMENT AT THE INTERSECTION OF PASEO DEL CITY DATUM). THIS IS BASED ON NGS MONUMENT "CHINO" ELEVATION = 3935.48 (CITY DATUM)

DATE: _____ BY: _____
REVISIONS: _____

SCALE: 1" = 100'
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A

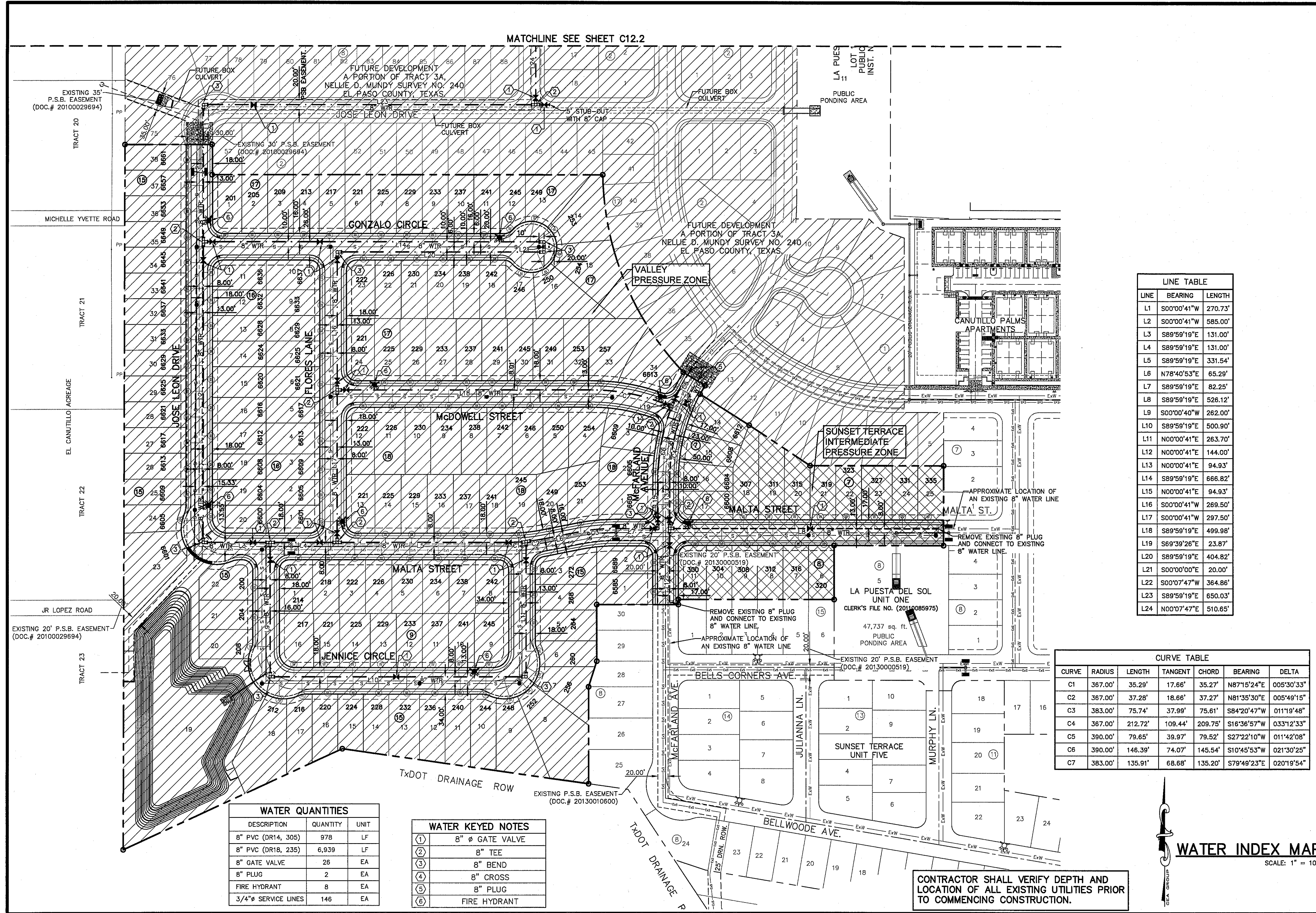
DATE: JUNE 2017
DESIGN BY: E.D./R.M.M.
DRAWN BY: J.L.A.
APP. NO.: B.V.
JOB NO.: 2000-1921.D

PROJECT TITLE
LA PUESTA DEL SOL UNIT TWO SUBDIVISION IMPROVEMENTS

SHEET TITLE
ILLUMINATION SITE PLAN

SHEET NO.
C11.1

CSA
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-4684
4712 Woodrow Bean, Ste. F, El Paso, TX 79924
Office: 915-834-4422 Fax: 915-834-4523 www.csa.com



WATER QUANTITIES

DESCRIPTION	QUANTITY	UNIT
8" PVC (DR14, 305)	978	LF
8" PVC (DR18, 235)	6,939	LF
8" GATE VALVE	26	EA
8" PLUG	2	EA
FIRE HYDRANT	8	EA
3/4" SERVICE LINES	146	EA

WATER KEYED NOTES

(1)	8" GATE VALVE
(2)	8" TEE
(3)	8" BEND
(4)	8" CROSS
(5)	8" PLUG
(6)	FIRE HYDRANT

LINE TABLE

LINE	BEARING	LENGTH
L1	S00°00'41"W	270.73'
L2	S00°00'41"W	585.00'
L3	S89°59'19"E	131.00'
L4	S89°59'19"E	131.00'
L5	S89°59'19"E	331.54'
L6	N78°40'53"E	65.29'
L7	S89°59'19"E	82.25'
L8	S89°59'19"E	526.12'
L9	S00°00'40"W	262.00'
L10	S89°59'19"E	500.90'
L11	N00°00'41"E	263.70'
L12	N00°00'41"E	144.00'
L13	N00°00'41"E	94.93'
L14	S89°59'19"E	666.82'
L15	N00°00'41"E	94.93'
L16	S00°00'41"W	269.50'
L17	S00°00'41"W	297.50'
L18	S89°59'19"E	499.98'
L19	S89°59'26"E	23.87'
L20	S89°59'19"E	404.82'
L21	S00°00'00"E	20.00'
L22	S00°07'47"W	364.86'
L23	S89°59'19"E	650.03'
L24	N00°07'47"E	510.65'

CURVE TABLE

CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	367.00'	35.29'	17.66'	35.27'	N87°15'24"E	005°30'33"
C2	367.00'	37.28'	18.66'	37.27'	N81°35'30"E	005°49'15"
C3	383.00'	75.74'	37.99'	75.61'	S84°20'47"W	011°19'48"
C4	367.00'	212.72'	109.44'	209.75'	S16°36'57"W	033°12'33"
C5	390.00'	79.65'	39.97'	79.52'	S27°22'10"W	011°42'08"
C6	390.00'	146.39'	74.07'	145.54'	S10°45'53"W	021°30'25"
C7	383.00'	135.91'	68.68'	135.20'	S79°49'23"E	020°19'54"

INDEX

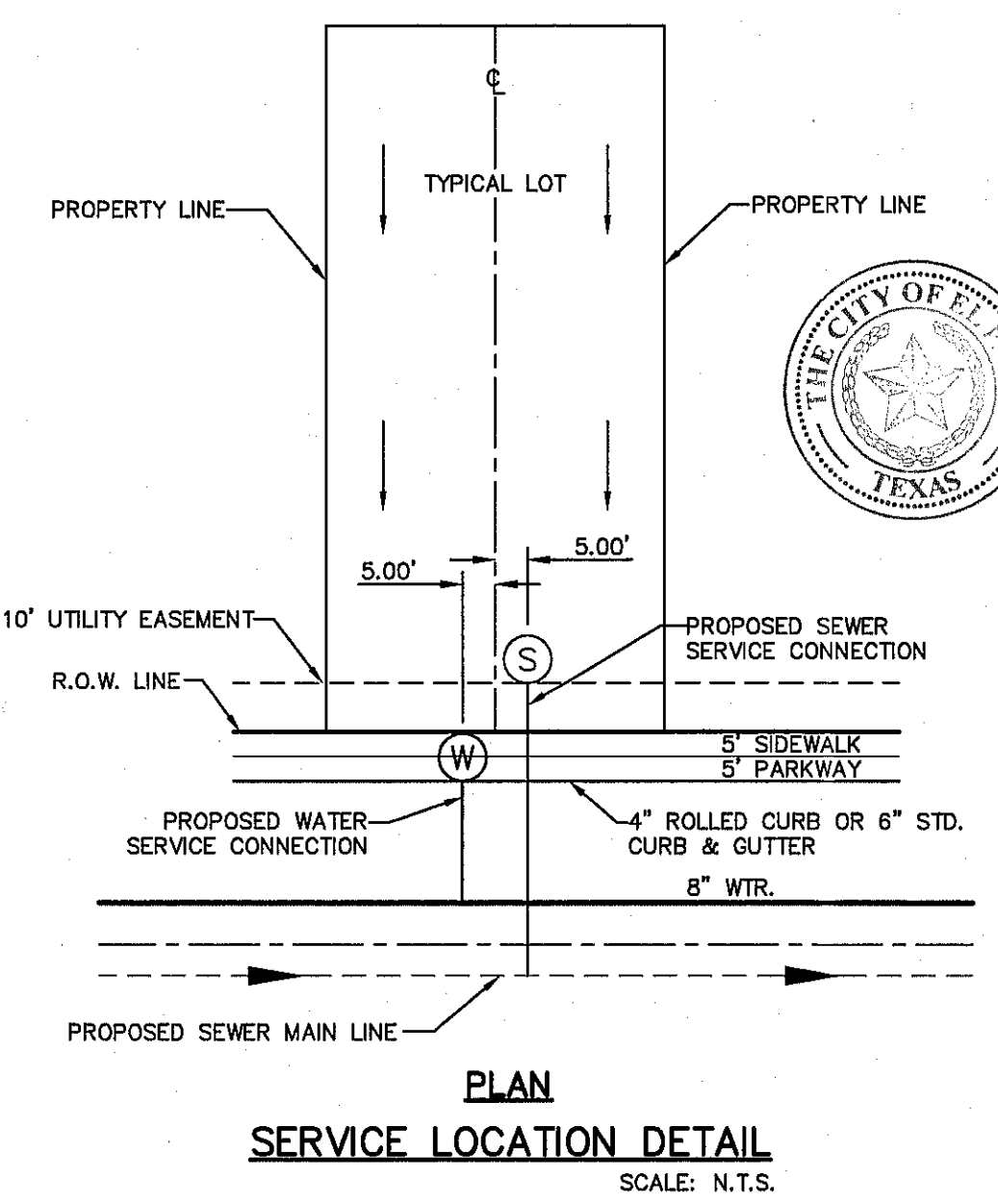
SHEET NO.	DESCRIPTION
C12.1	LA PUESTA DEL SOL UNIT TWO WATER INDEX (SHEET 1 OF 2)
C12.2	LA PUESTA DEL SOL UNIT TWO WATER INDEX (SHEET 2 OF 2)
C12.3	WATER DETAILS
C12.4	WATER DETAILS
C12.5	WATER DETAILS
C12.6	WATER DETAILS

NOTES:

- ALL LOTS SHALL BE PROVIDED WITH ONE SERVICE CONNECTION TO BE INSTALLED AT THE LOCATION AS SHOWN ON THE SERVICE LOCATION DETAIL.
- WATER PIPE PVC C900 DR18 FOR VALLEY PRESSURE ZONE AND WATER PIPE PVC C900 DR14 FOR SUNSET TERRACE INTERMEDIATE PRESSURE ZONE.
- REFERENCE WATER DETAILS FOR TYPICAL VALVE AND WATER LOCATIONS AT STREET INTERSECTIONS.
- REFERENCE WATER DETAILS FOR WATER LINE CROSSING STORM SEWER.

LEGEND

SYMBOL	DESCRIPTION
[Hatched Box]	VALLEY PRESSURE ZONE (DR18, 235)
[Cross-hatched Box]	SUNSET TERRACE INTERMEDIATE PRESSURE ZONE (DR14, 305)
[Dashed Line]	PROPOSED 8" C-900, CLASS 150 P.V.C. PIPE (DR18, 235)
[Dashed Line]	PROPOSED 8" C-900, CLASS 150 P.V.C. PIPE (DR14, 305)
[Solid Line]	SUBDIVISION BOUNDARY LINE
[Dashed Line]	PROPERTY LINE
[Dashed Line]	STREET CENTER LINE
[Line with 'S']	PROPOSED SEWER LINE (PLAN VIEW)
[Line with 'W']	PROPOSED STORM SEWER
[Symbol]	PROPOSED WATER CROSS CONNECTION
[Symbol]	PROPOSED WATER TEE CONNECTION
[Symbol]	PROPOSED WATER BEND CONNECTION
[Symbol]	PROPOSED SERVICE CONNECTION (PLAN VIEW)
[Symbol]	PROPOSED FIRE HYDRANT, KENNEDY OR MUELLER MODEL
[Symbol]	PROPOSED 8" PLUG
[Symbol]	PROPOSED GATE VALVE
[Symbol]	POINT OF TANGENCY
[Symbol]	REDUCER
[Symbol]	EXISTING GATE VALVE
[Symbol]	EXISTING FIRE HYDRANT
[Symbol]	EXISTING PLUG
[Symbol]	EXISTING SEWER LINE
[Symbol]	EXISTING WATER LINE



- GENERAL NOTES**
- UNLESS OTHERWISE SHOWN ON THE DRAWINGS, THE PROPOSED WATER MAINS SHALL BE INSTALLED NO LESS THAN TEN (10') FEET AWAY FROM EXISTING SEWER LINE. SEPARATIONS DISTANCES SHALL FOLLOW TCEQ STANDARD REQUIREMENTS (§290.44).
 - THE INTENT OF THE OWNER IS TO HAVE THE WATER MAINS INSTALLED TO SUCH A DEPTH THAT THEY WILL HAVE AT LEAST SIXTY (60") INCHES FROM INVERT OF PIPELINE TO PROPOSED ELEVATIONS AT ALL LOCATIONS. THE PIPELINES SHALL HAVE NO DIPS, ELEVATIONS AT ALL LOCATIONS. THE PIPELINES SHALL HAVE NO DIPS, SAGS OR HUMPS OR OTHER IRREGULARITIES IN VERTICAL ALIGNMENT. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES PRIOR TO INSTALLING THE WATER PIPELINE SO THAT AN ACCEPTABLE PROFILE CAN BE ESTABLISHED PRIOR TO INSTALLATION OF THE PIPELINE.
 - IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD LOCATE ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN IN THE PLANS, AND COORDINATE WORK WITH ALL UTILITY COMPANIES, EL PASO WATER UTILITIES AND CITY OF EL PASO.
 - TRENCH SAFETY REQUIREMENTS SHALL BE AS REQUIRED BY OSHA.
 - AS-BUILT STATIONING, OFFSET FROM R.O.W. AND INVERT ELEVATIONS SHALL BE ACCURATELY RECORDED BY THE CONTRACTOR ON A CLEAN SET OF PLANS FOR EACH VALVE, FIRE HYDRANT, ELBOW, SERVICE CONNECTION AND/OR STUB-OUT, WITH RESPECT TO THE APPROPRIATE PROJECT CONTROL POINT.
 - THE EL PASO WATER UTILITIES AND CITY OF EL PASO MUST BE NOTIFIED FORTY-EIGHT (48) HOURS PRIOR TO COMMENCING ANY WORK IN AREAS WITHIN THEIR JURISDICTION.
 - EXISTING STREETS, DRIVEWAYS, PARKING LOTS, MAILBOXES, SIGNS, CHAIN-LINK FENCES, AND ALL OTHER MISCELLANEOUS STRUCTURES DAMAGE OR REMOVED BY CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO ORIGINAL OR BETTER THAN ORIGINAL CONDITION AT NO COST TO OWNER.
 - TRAFFIC CONTROL SHALL BE IN PLACE PRIOR TO INITIATING WORK.
 - ALL TIE-INS SHALL BE CLOSELY COORDINATED WITH THE EL PASO WATER UTILITIES AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO ACTUAL CONSTRUCTION.
 - CONTRACTOR SHALL PROVIDE THE REQUIRED COUPLINGS, ELBOWS AND NECESSARY PIPING APPURTENANCES FOR A COMPLETE AND OPERATIONAL WATER SYSTEM.
 - ALL NEW VALVES SHALL BE ALIGNED PERPENDICULAR TO PROPERTY LINES.
 - CONSTRUCTION OF THE PUBLIC WATER AND SEWER SYSTEM INCLUDING MATERIALS AND TESTING SHALL CONFORM EPWU-PSB SPECIFICATIONS FOR THE INSTALLATION OF WATER MAINS, SEWER MAINS AND RELATED APPURTENANCES.
 - FIRE HYDRANTS SHALL BE INSTALLED IN THE PARKWAY AREA.
 - THE WATER METERS FOR THE PROPOSED WATER SERVICE CONNECTIONS SHALL BE INSTALLED ON THE PARKWAYS. SYMBOLS ARE ONLY SHOWN FOR DEPICTION PURPOSES ONLY.

CONTRACTOR SHALL VERIFY DEPTH AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION.

GENERAL UTILITIES:
TEXAS EXCAVATION SAFETY SERVICE
11884 GREENVILLE AVENUE.
DALLAS, TX. 75243
(800) 344-6377

ENGINEER:
CEA GROUP
CASTNER CENTER @ TRANSMOUNTAIN
4712 WOODROW BEAN, STE. F
EL PASO, TX. 79924
(915) 544-8232
MR. JORGE L. AZCARATE, P.E.

FIBER OPTICS:
U.S. SPRINT
151 N. BOONE ST.
EL PASO, TX. 79905
(915) 534-7910

FIBER OPTICS:
MCI TELECOMMUNICATIONS CORP.
4045 DONIPHAN PARK CIRCLE
EL PASO, TX. 79922
(915) 542-2770 EXT. 201

WATER & SEWER:
EL PASO WATER UTILITIES
1154 HAWKINS BOULEVARD
EL PASO, TX. 79961
(915) 595-5530

ELECTRIC:
EL PASO ELECTRIC CO.
501 W. SAN ANTONIO ST.
EL PASO, TX. 79902
(915) 543-2076

EL PASO STREETS
CITY OF EL PASO
STREET & MAINTENANCE DEPT.
7969 SAN PAULO DRIVE
EL PASO, TX. 79907
(915) 621-6750

CABLE TELEVISION:
TIME WARNER COMMUNICATIONS
7010 AIRPORT ROAD
EL PASO, TX. 79906
(915) 772-1123

TELEPHONE:
SBC
11200 PELICANO
EL PASO, TX. 79935
(915) 595-5151

FIBER OPTICS:
AT&T
P.O. BOX 1650
EL PASO, TX. 79949
1(800) 852-3786

RESIDENTIAL GAS LINES:
TEXAS GAS SERVICE
4700 POLLARD ST.
EL PASO, TX. 79930
(915) 680-7218

WARNING!
BEFORE YOU DIG
CALL 811
FOR FIELD LOCATING EXISTING UTILITIES

PROJECT TITLE
LA PUESTA DEL SOL UNIT TWO SUBDIVISION IMPROVEMENTS

SHEET TITLE
WATER INDEX (SHEET 1 OF 2)

SHEET NO.
C12.1

REFERENCES - BENCHMARKS
CITY MONUMENT AT THE INTERSECTION OF PASO DEL NORTE & NORTHWESTERN. ELEVATION = 3887.39 (CITY DATUM). THIS IS BASED ON NGS MONUMENT "CHINO" ELEVATION = 9935.48 (CITY DATUM)

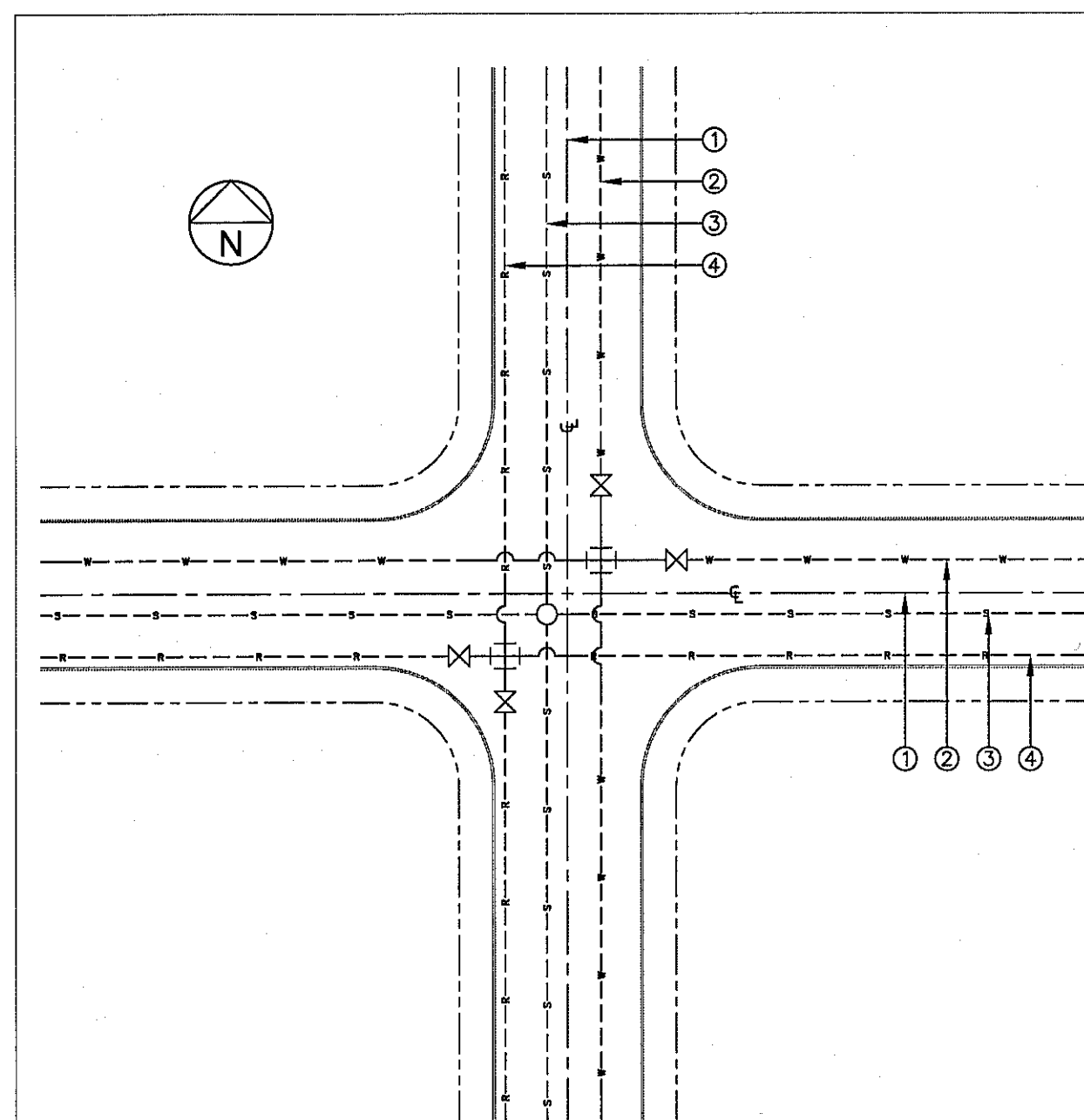
REVISIONS

DATE	REVISIONS

ENGINEER'S SEAL
JORGE L. AZCARATE
80075
REGISTERED PROFESSIONAL ENGINEER
TEXAS REGISTERED ENGINEERING FIRM #454
engineers • architects • planners
CSA GROUP
4712 Woodrow Bean, Ste. F El Paso, TX 79924
Office: 915.544.8232 Fax: 915.544.5233 www.csaengineers.com

SCALE
Horizontal: 1" = 100'
Vertical: N/A
Contour Interval: N/A

DATE: JUNE 2017
DESIGN BY: R.O.
DRAWN BY: R.O./J.M.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB NO.: 2000-1921LD



- GENERAL NOTES:**
- REFERENCE CENTERLINE SHALL BE CENTERLINE OF RIGHT OF WAY.
 - WATER LINES SHALL BE LOCATED ON NORTH OR EAST SIDES OF DEDICATED STREETS OR ALLEYS.
 - SEWER LINES SHALL BE LOCATED ON SOUTH OR WEST SIDES OF DEDICATED STREETS OR ALLEYS.
 - RECLAIMED LINES SHALL BE LOCATED ON SOUTH OR WEST SIDES OF DEDICATED STREETS OR ALLEYS.

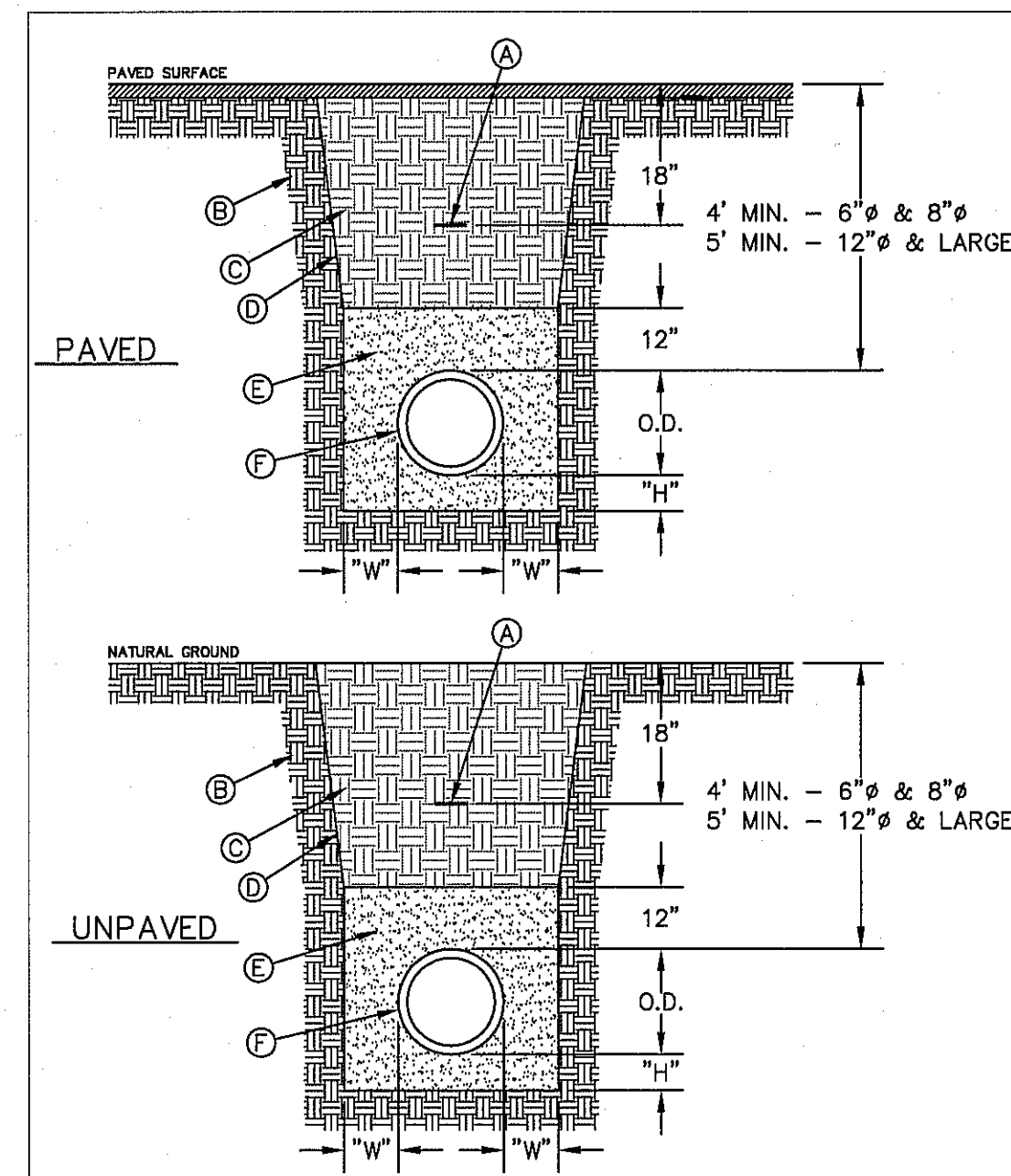
CONSTRUCTION KEY NOTES:
A. DISTANCES FROM CENTERLINE VARY AND SHALL BE ACCORDING TO THE FOLLOWING:

RIGHT-OF-WAY WIDTH*	PIPELINE LOCATION WITHIN NEW RIGHT-OF-WAY**		
	WATER	SEWER	RECLAIMED
36 FT.	9 FT.	1 FT.	6 FT.
44 FT.	8 FT.	3 FT.	8 FT.
52 FT.	8 FT.	5 FT.	10 FT.
64 FT.	10 FT.	5 FT.	10 FT.
72 FT.	10 FT.	5 FT.	10 FT.
76 FT.	10 FT.	5 FT.	10 FT.
84 FT.	20 FT.	5 FT.	10 FT.
110 FT.	25 FT.	15 FT.	20 FT.

*RIGHT OF WAY WIDTH SUBJECT TO CHANGE. VERIFY WITH CITY SUBDIVISION ORDINANCE.
**DISTANCES MAY BE MODIFIED AS NEEDED TO MEET TCEQ SEPARATION REQUIREMENTS. REFER TO DETAILS 160 THRU 163 FOR ADDITIONAL INFORMATION.

STANDARD DETAIL DATE: 03/1994 REV: 3/28/2007 LOCATION FOR UTILITY LINES N.T.S. (EL PASO UTILITY PUBLIC UTILITIES BOARD) DETAIL No. 140

1 LOCATION FOR UTILITY LINES SCALE: N.T.S.



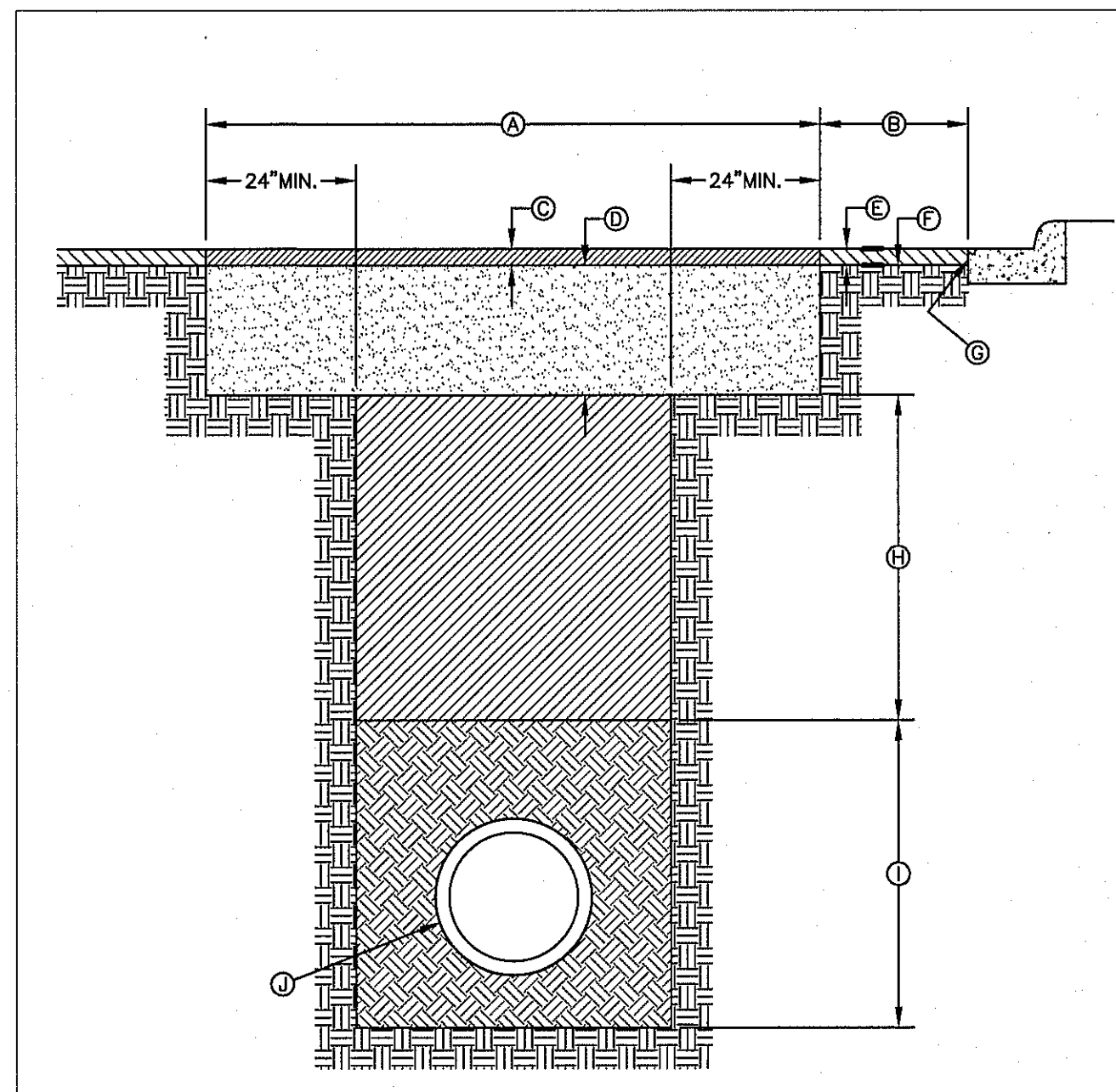
- GENERAL NOTES:**
- BEDDING FOR PRESSURE AND GRAVITY PIPE IN DRY CONDITIONS.
 - PROVIDE TRENCH SAFETY SYSTEM FOR TRENCH DEPTHS GREATER THAN 5 FEET.
 - IF THE NATIVE MATERIAL EXCAVATED FROM THE TRENCH IS UNSUITABLE AS BACKFILL MATERIAL, OR THE REQUIRED COMPACTION IS UNATTAINABLE, THE CONTRACTOR SHALL, AT HIS EXPENSE, IMPORT SELECT MATERIAL TO BE MIXED WITH OR USED IN PLACE OF THE NATIVE MATERIAL. SELECT MATERIAL MUST BE APPROVED BY EPWU. SUBSTITUTE SOIL CEMENT SLURRY (1-SACK) IF REQUIRED IN SPECS.

CONSTRUCTION KEY NOTES:
A. APPROVED MARKING TAPE.
B. UNDISTURBED STABLE MATERIAL.
C. NATIVE MATERIAL BACKFILL. PAVED CONDITION: COMPACT TO 90% DENSITY PER ASTM D-1557 MODIFIED PROCTOR. UNPAVED CONDITION: COMPACT TO 85% DENSITY PER ASTM D-1557 MODIFIED PROCTOR. (SEE NOTE #3 IF THESE PREVIOUS CONDITIONS CANNOT BE MET).
D. SLOPE TRENCH IN SANDY SOIL CONDITIONS. USE CLASS II OR CLASS III SAND PER ASTM D-2487. NATIVE MATERIAL OR IMPORTED SELECT MATERIAL MEETING OR EXCEEDING THIS REQUIREMENT MAY BE USED. COMPACT TO 85% DENSITY PER ASTM D-1557 MODIFIED PROCTOR (OR 90% D-698 STANDARD PROCTOR).
F. APPROVED PIPE.
G. TRENCH DIMENSIONS AS FOLLOWS:

PIPE DIAMETER	"H"
6" - 30"	4"
GREATER THAN 30"	6"
PIPE DIAMETER	"W"
6" - 30"	8"
GREATER THAN 30"	12"

STANDARD DETAIL DATE: 4/24/2007 REV: 2/21/2011 EMBEDMENT CLASS "A" FOR PRESSURE PIPE AND GRAVITY PIPE DRY CONDITIONS N.T.S. (EL PASO UTILITY PUBLIC UTILITIES BOARD) DETAIL No. 171

2 BEDDING CLASS DETAILS FOR P.V.C. PRESSURE PIPE SCALE: N.T.S.

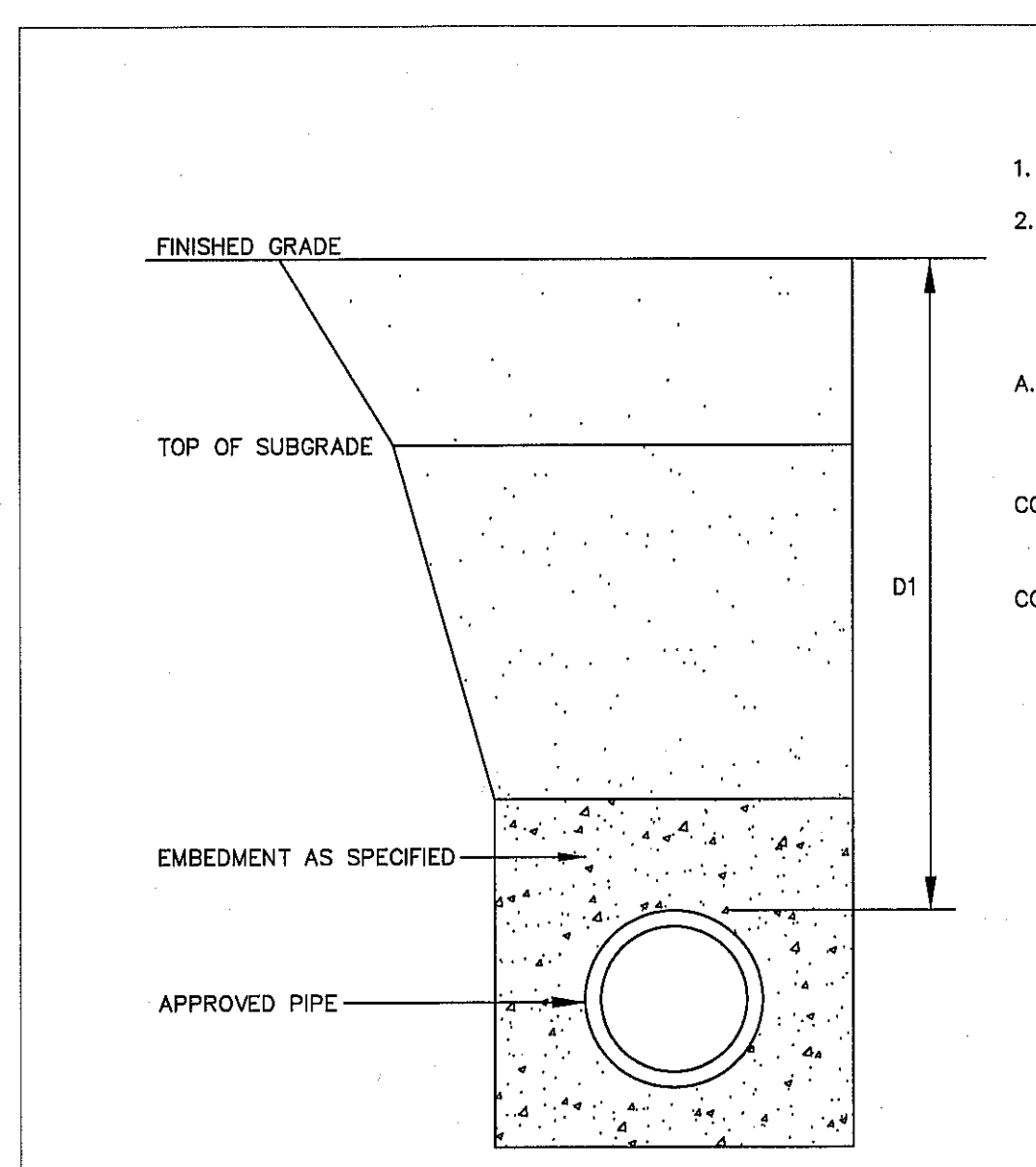


- GENERAL NOTES:**
- ALL ASPHALT CUTS MUST BE SAW CUT.
 - SOIL CEMENT SLURRY SHALL BE ALLOWED TO CURE BEFORE PAVING OR OPENING TO ALL TRAFFIC.

CONSTRUCTION KEY NOTES:
A. REFER TO SPECS FOR LIMIT OF PAVING WIDTH.
B. DIMENSION VARIES, WHERE GUTTER FACE, ETC. IS WITHIN 3' OF SAW CUT EDGE, CONTRACTOR SHALL REMOVE & REPLACE EXISTING HMA/C IN THIS AREA.
C. 2" ASPHALT MIN.
D. 12" THICK SOIL CEMENT BACKFILL (2 SACK PER C.Y. OF SOIL).
E. EXISTING HMA/C - THICKNESS MAY VARY.
F. EXISTING BASE COURSE - THICKNESS MAY VARY.
G. EXISTING GUTTER FACE, EDGE OF PAVEMENT OR BEGINNING OF SHOULDER.
H. BACKFILL DEPTH VARIES, REFER TO REQUIREMENTS LISTED IN EMBEDMENT DETAILS (DETAIL 171 THRU DETAIL 173).
I. PIPE BEDDING AS SPECIFIED, REFER TO APPROPRIATE EMBEDMENT DETAIL (DETAIL 171 THRU DETAIL 173).
J. APPROVED PIPE.

STANDARD DETAIL DATE: 10/1992 REV: 5/9/2011 PAVEMENT REPLACEMENT N.T.S. (EL PASO UTILITY PUBLIC UTILITIES BOARD) DETAIL No. 179

3 PAVEMENT REPLACEMENT SCALE: N.T.S.



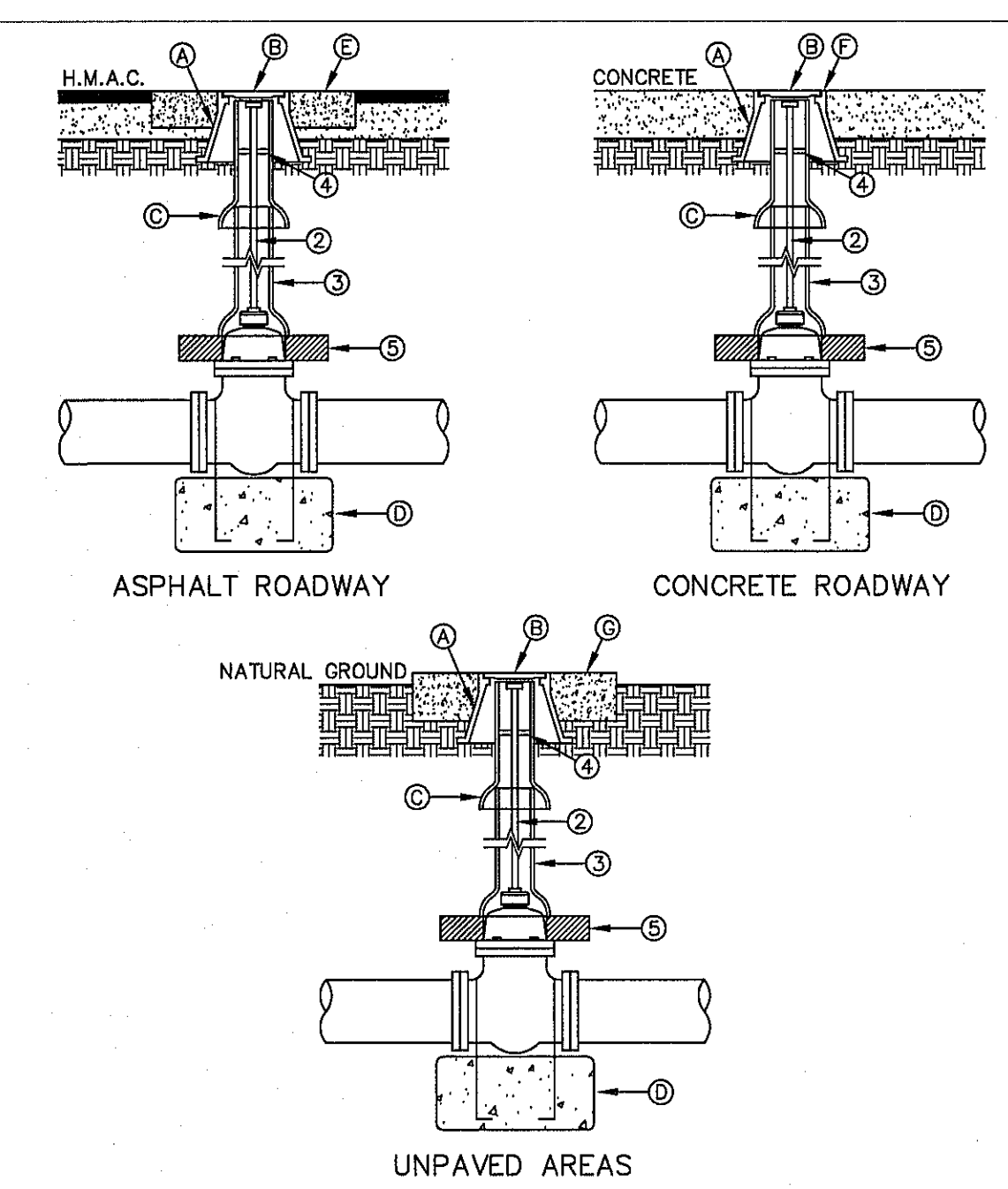
- GENERAL NOTES:**
- REFER TO UTILITY DETAIL FOR PAVEMENT REPLACEMENT AND BACKFILL REQUIREMENTS.
 - TRENCH SAFETY SYSTEMS SHALL BE USED WHEN TRENCH DEPTH EXCEEDS 5 FEET.

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	CONDITION	DIMENSION
6", 8"	A	D1 = 4'
6", 8"	B	D1 = 4'
12" & LARGER	A OR B	D1 = 5'

STANDARD DETAIL FEB. 1994 REV: 8/3/2006 COVER FOR WATER MAINS N.T.S. (EL PASO UTILITY PUBLIC UTILITIES BOARD) DETAIL No. 250

4 COVER FOR WATER MAINS SCALE: N.T.S.

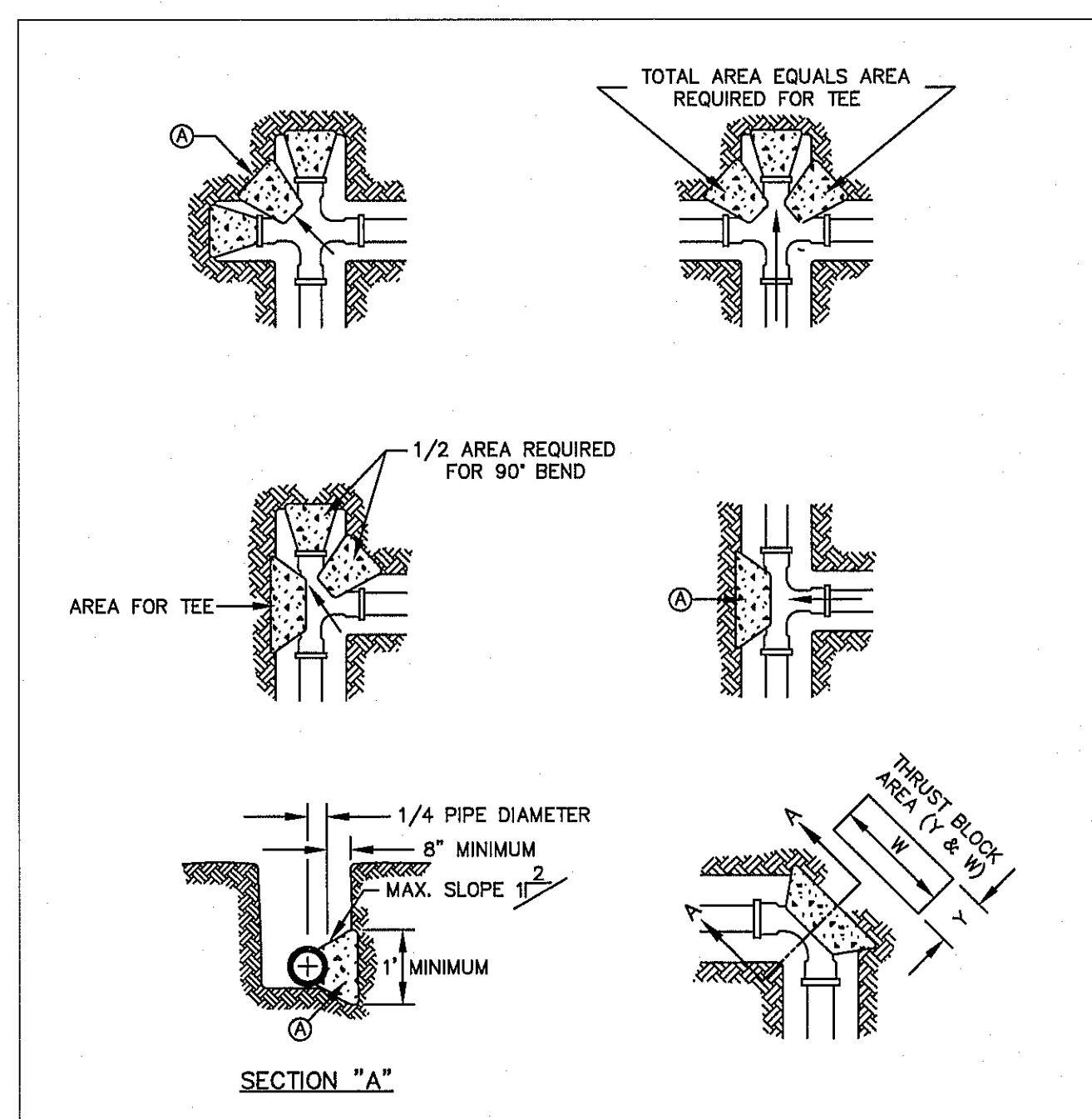


- GENERAL NOTES:**
- VALVE TYPE AND VALVE ENDS SHALL BE AS SHOWN ON THE PLANS.
 - ALL BURIED VALVES 5' AND DEEPER SHALL BE PROVIDED WITH SOLID STEEL EXTENSION STEM OPERATOR WITH 2" SQUARE AWWA NUT WITHIN 36" OF VALVE BOX COVER. NUT IS TO INDICATE DIRECTION OF ROTATION TO OPEN VALVE.
 - 8" DIA. MINIMUM VITRIFIED CLAY OR SDR 35 P.V.C. PIPE, PIPE SHALL NOT REST ON VALVE BODY.
 - 1/2" THICK STEEL TRASH RING VALVE BOX INSIDE DIAMETER MINUS 1/8".
 - MINIMUM 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 266).
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 UTILITY PUBLIC UTILITIES BOARD) DETAIL No. 260

5 GATE VALVE INSTALLATION SCALE: N.T.S.



- 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	45° AND 90° 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"	13 SQ. FEET	7 SQ. FEET
16"	23 SQ. FEET	12 SQ. FEET
18"	29 SQ. FEET	15 SQ. FEET

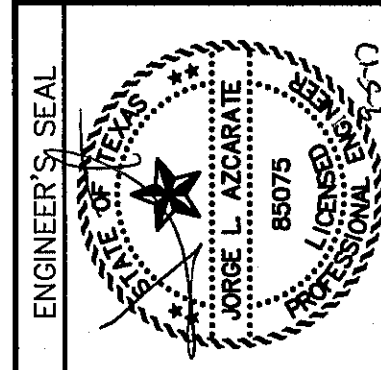
STANDARD DETAIL DATE: 2/1994 REV: 8/7/2006 CONCRETE THRUST BLOCKING N.T.S. (EL PASO UTILITY PUBLIC UTILITIES BOARD) DETAIL No. 270

6 CONCRETE THRUST BLOCKING SCALE: N.T.S.

REFERENCES - BENCHMARKS
CITY MONUMENT AT THE INTERSECTION OF PASEO DEL NORTE & NORTHWESTERN. ELEVATION = 3887.39 (CITY DATUM). THIS IS BASED ON NGS MONUMENT "CHINO" ELEVATION = 3935.48 (CITY DATUM)

DATE	REVISIONS	BY

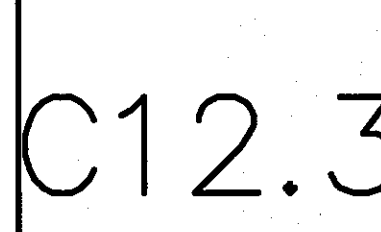
osa engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM #484
4712 Woodrow Bean, Ste. F, El Paso, TX 79924
Office: 915.544.5232 Fax: 915.544.5233 www.osainc.com



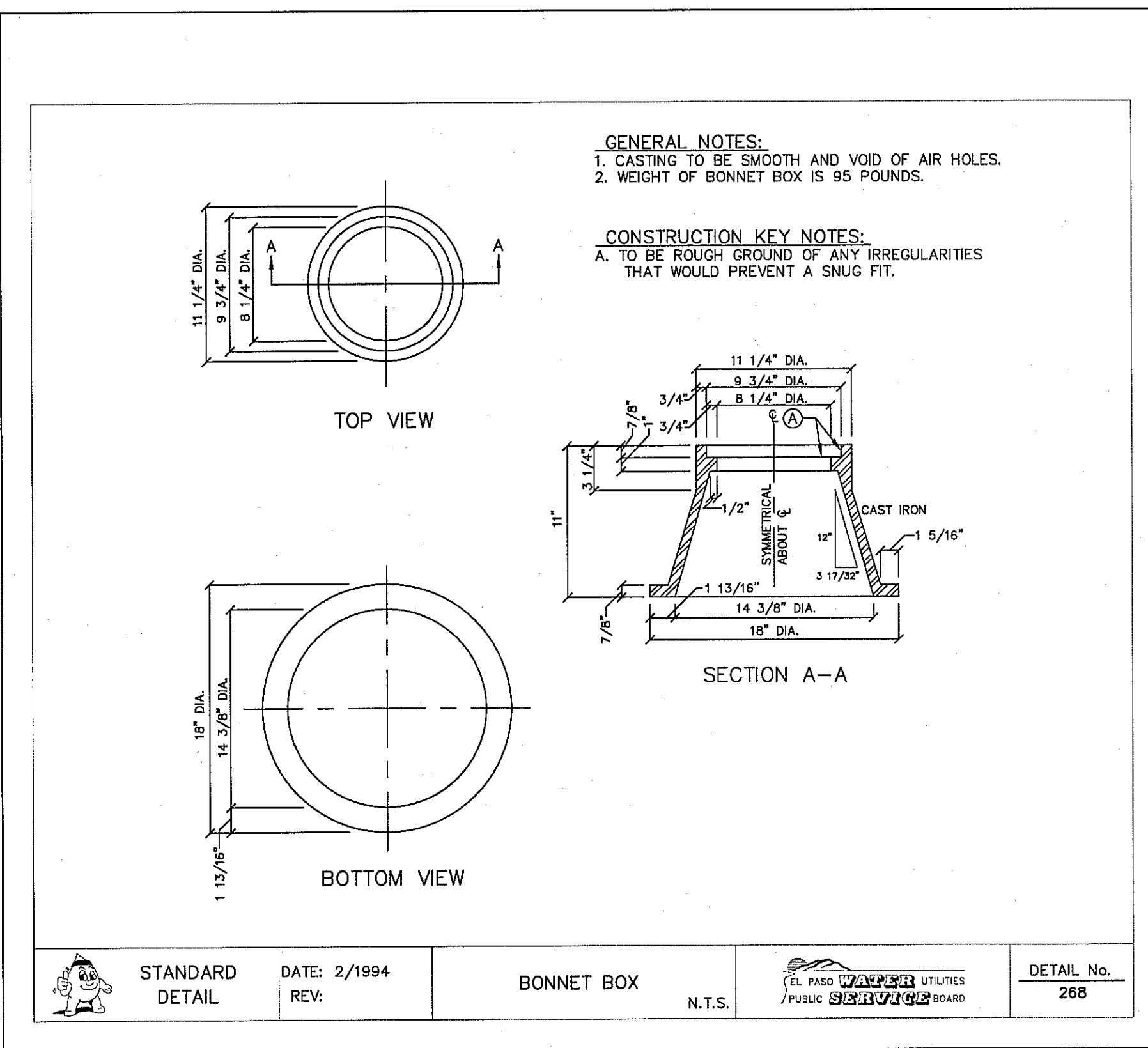
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Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: JUNE 2017
DESIGN BY: R.O.
DRAWN BY: R.C./R.M.
CHKD. BY: J.L.A.
APP'D. BY: J.L.A.
JOB No. 2000-1921.D

PROJECT TITLE
LA PUESTA DEL SOL
UNIT TWO
SUBDIVISION IMPROVEMENTS

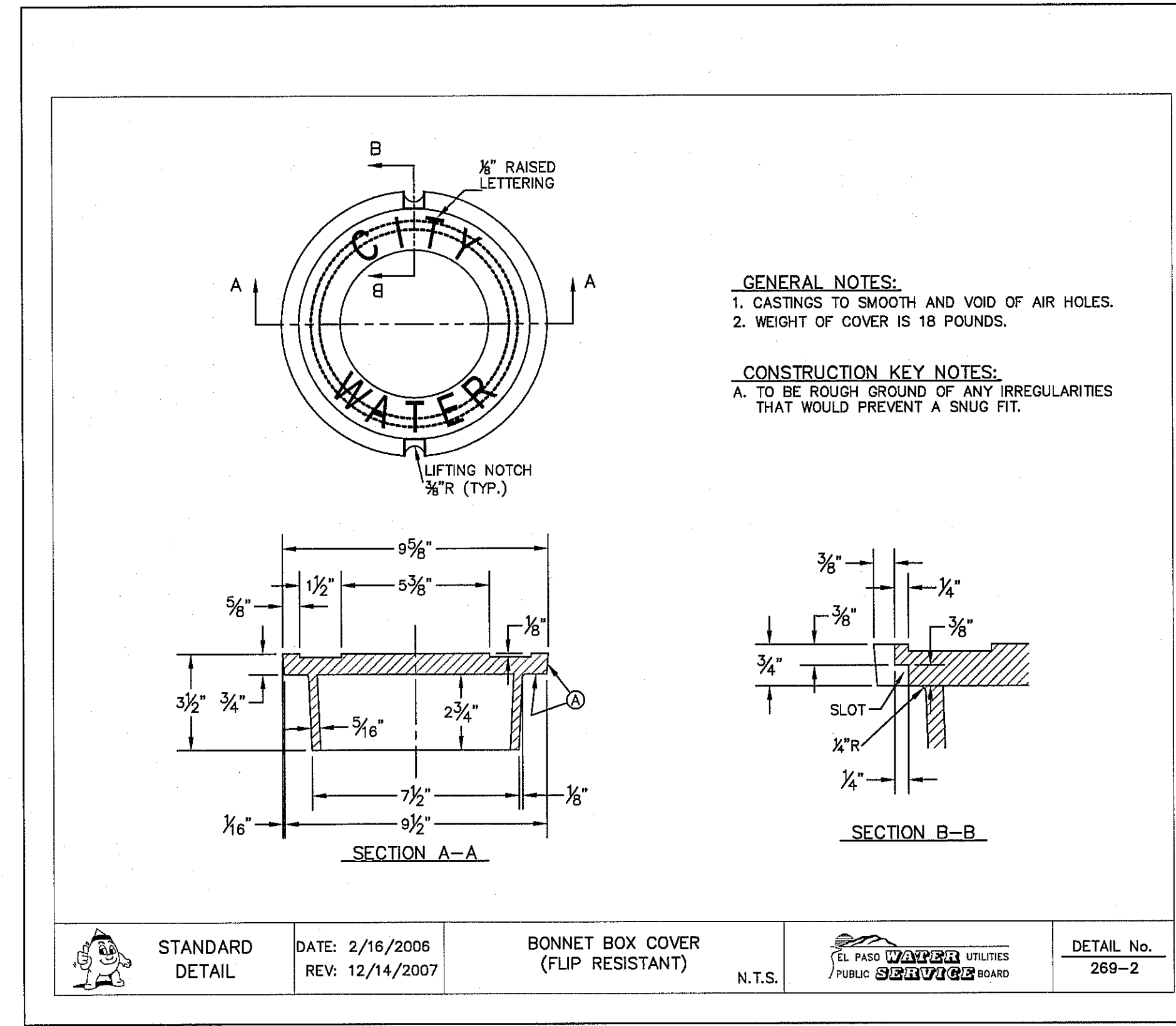
SHEET TITLE
WATER DETAILS
(SHEET 1 OF 4)
SHEET NO.



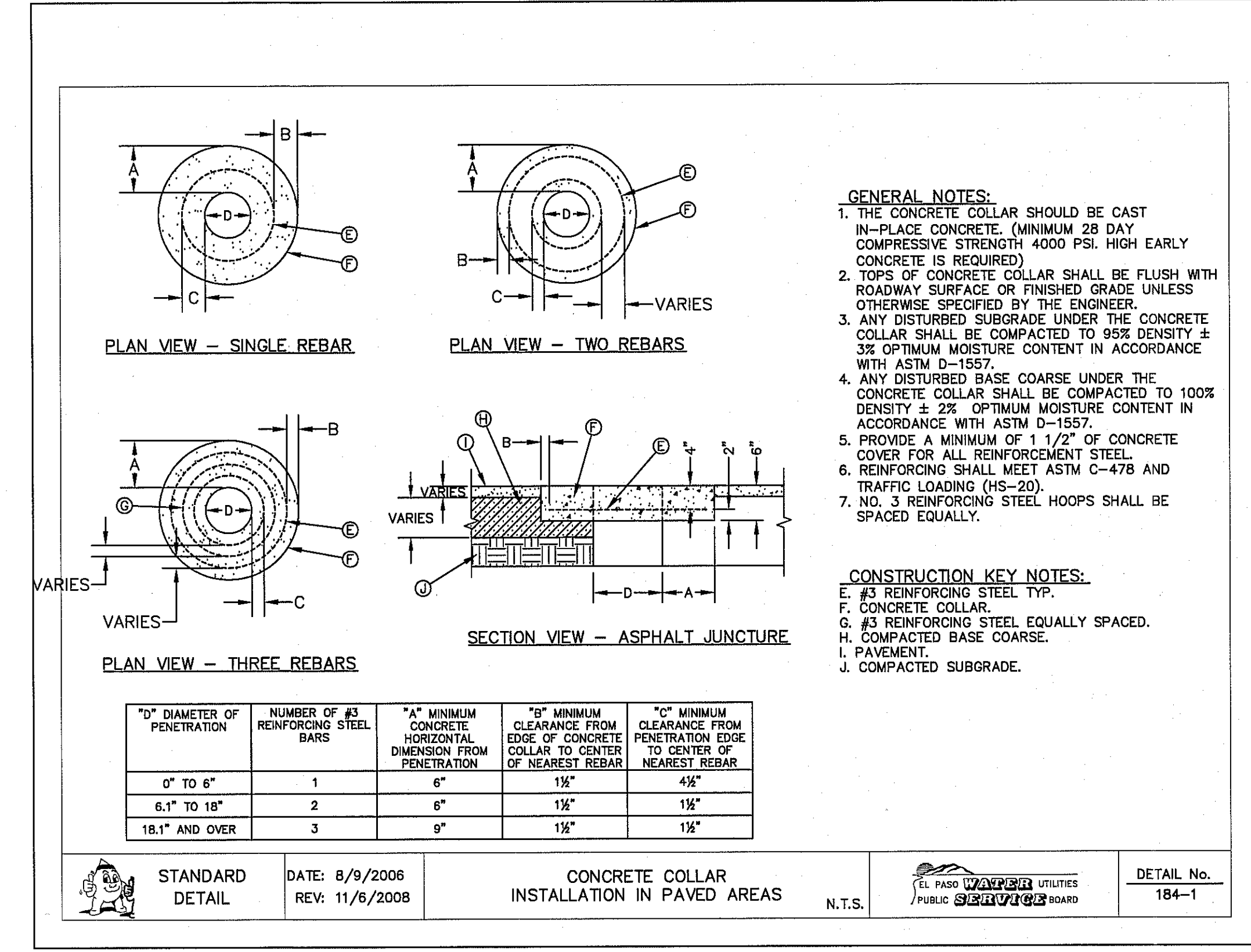
C12.3



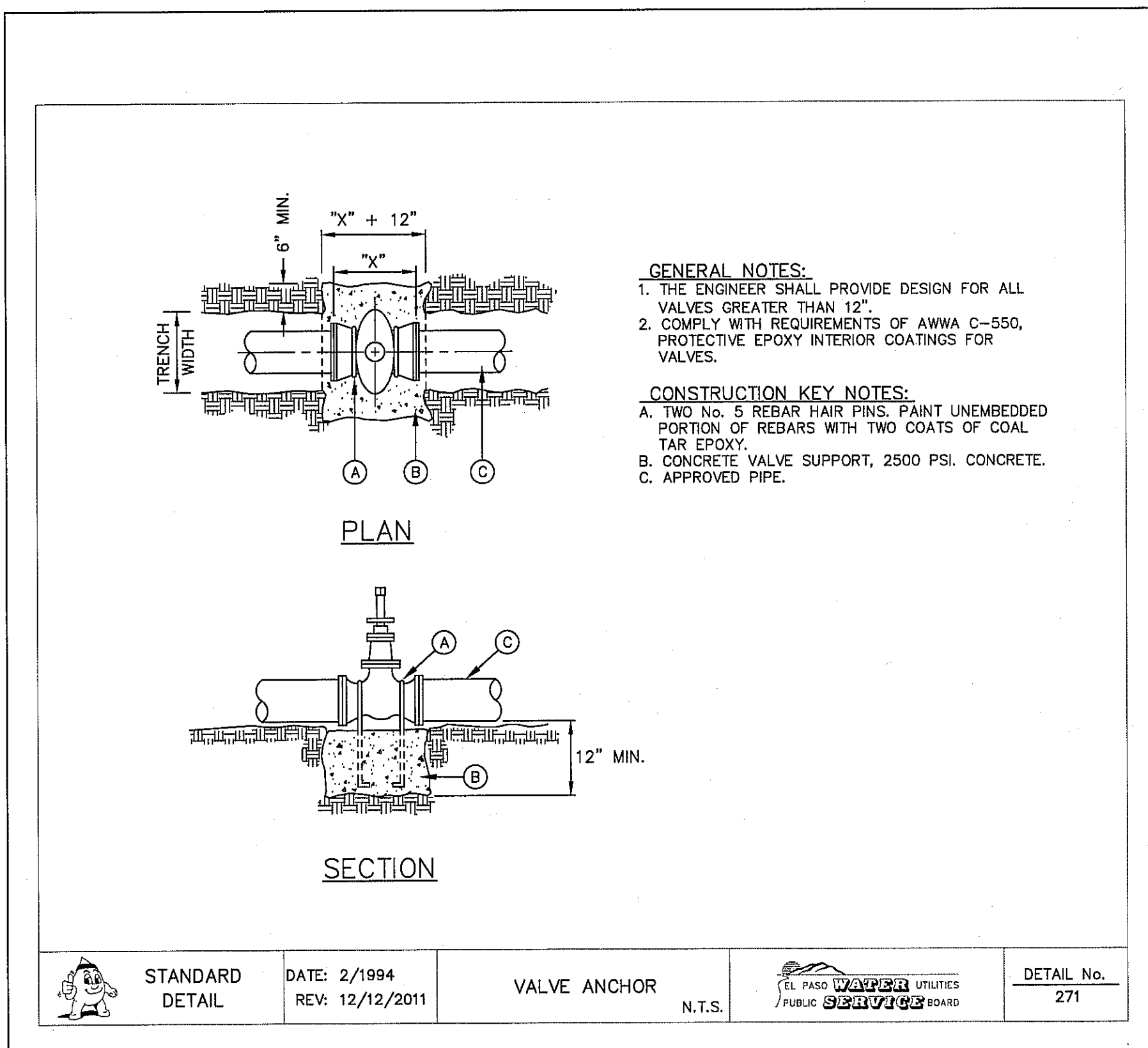
1 **BONNET BOX**
 SCALE: N.T.S.



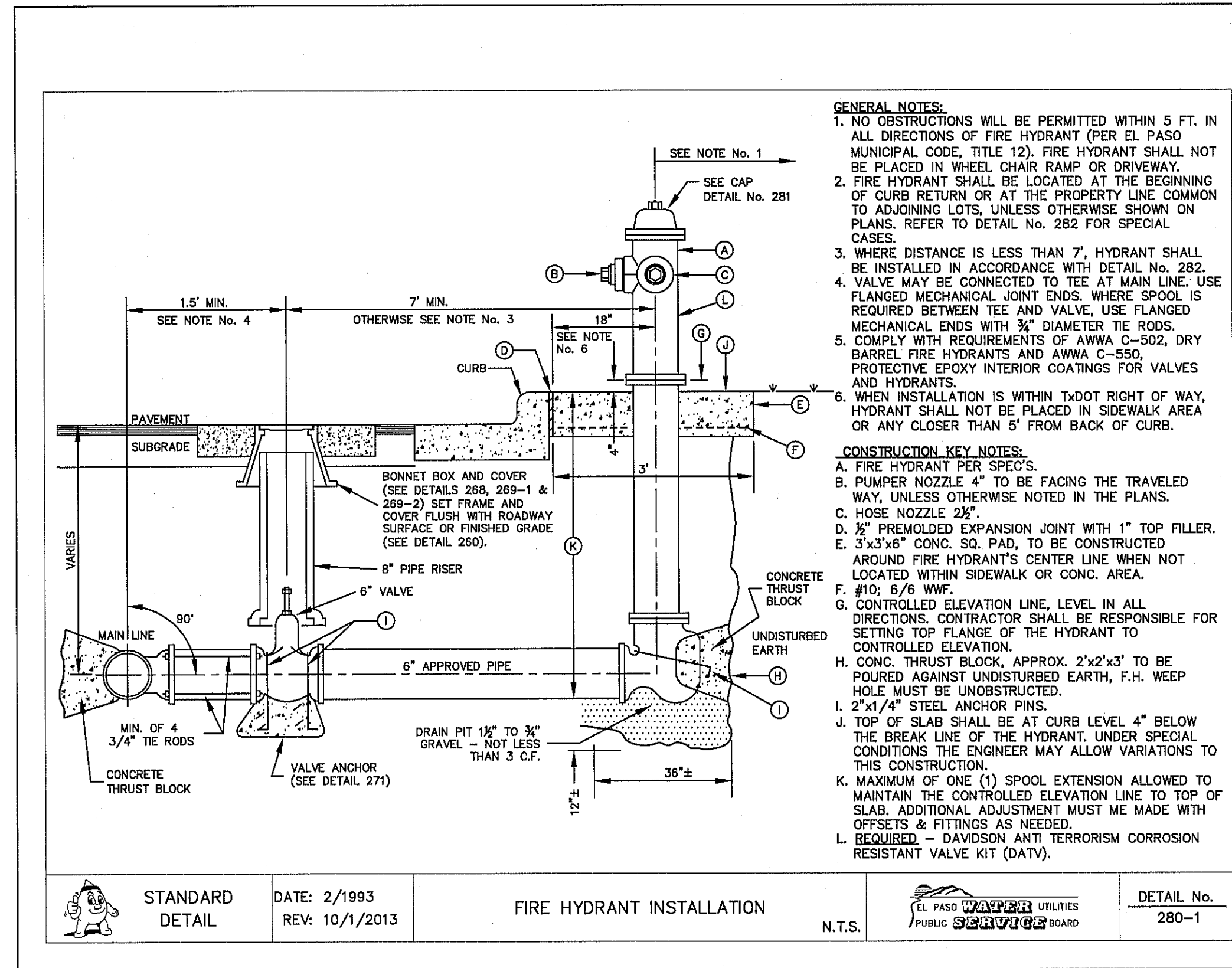
2 **BONNET BOX COVER**
 SCALE: N.T.S.



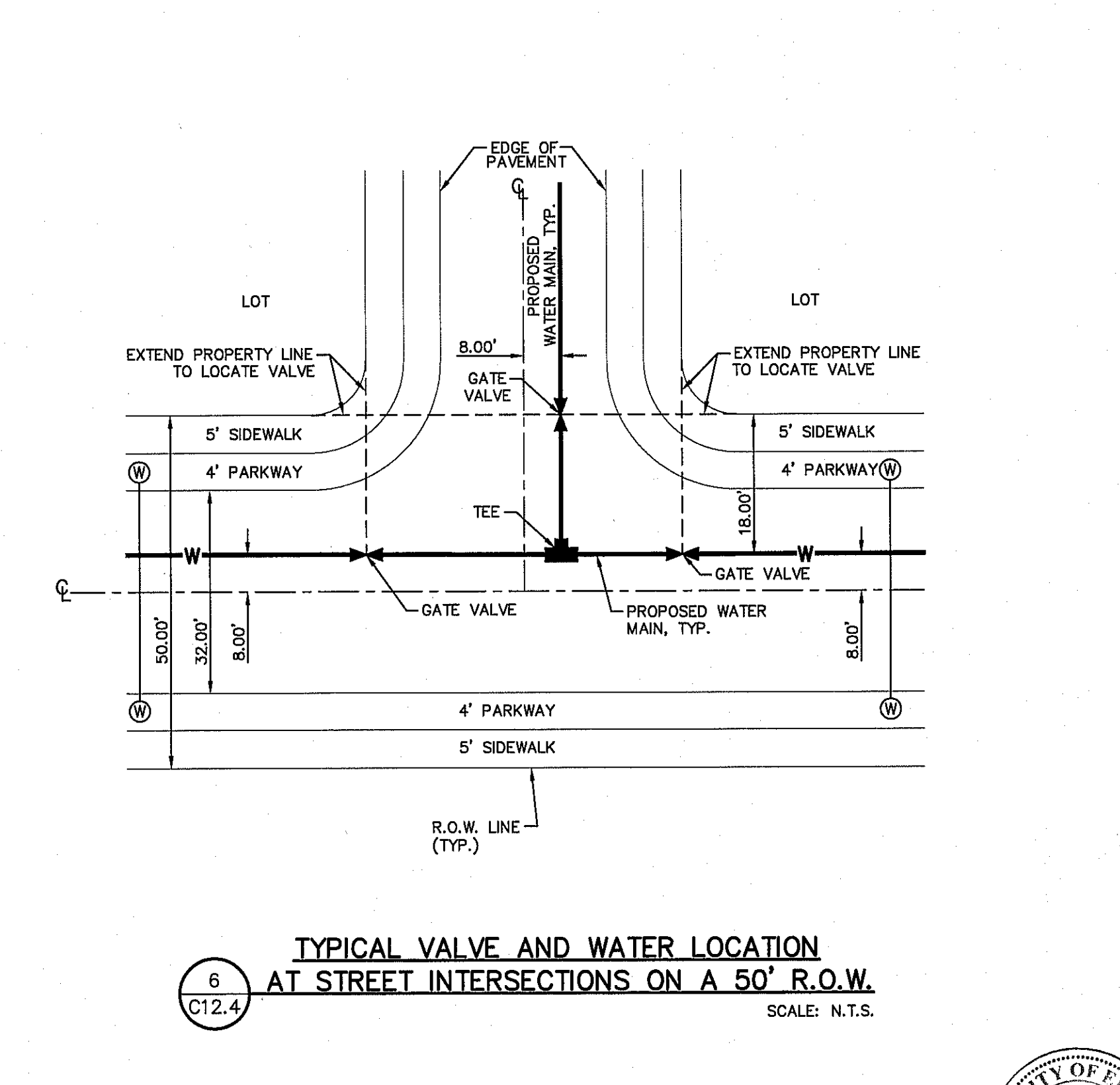
3 **CONCRETE COLLAR INSTALLATION IN PAVED AREAS**
 SCALE: N.T.S.



4 **VALVE ANCHOR**
 SCALE: N.T.S.



5 **FIRE HYDRANT INSTALLATION**
 SCALE: N.T.S.



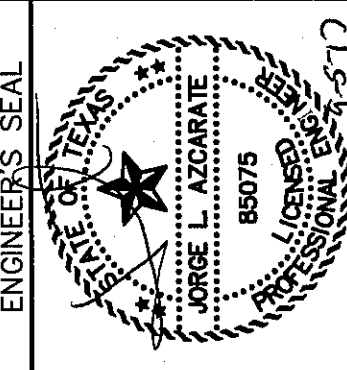
6 **TYPICAL VALVE AND WATER LOCATION AT STREET INTERSECTIONS ON A 50' R.O.W.**
 SCALE: N.T.S.

REFERENCES - BENCHMARKS

CITY MONUMENT AT THE INTERSECTION OF PASEO DEL NORTE & NORTHWESTERN. ELEVATION = 3887.39 (CITY DATUM). THIS IS BASED ON NGS MONUMENT "CHINO" ELEVATION = 3935.48 (CITY DATUM)

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 Office 915.544.5282 Fax 915.544.5233 www.osaplanet.com



SCALE: N/A

Horizontal: N/A

Vertical: N/A

Contour Interval: N/A

DATE: JUNE 2017

DESIGN BY: R.O. J.A.M.

DRAWN BY: R.O. J.A.M.

CHECKED BY: J.L.A.

APP'D BY: J.L.A.

JOB No. 20000-1921D

PROJECT TITLE

LA PUESTA DEL SOL UNIT TWO SUBDIVISION IMPROVEMENTS

SHEET TITLE

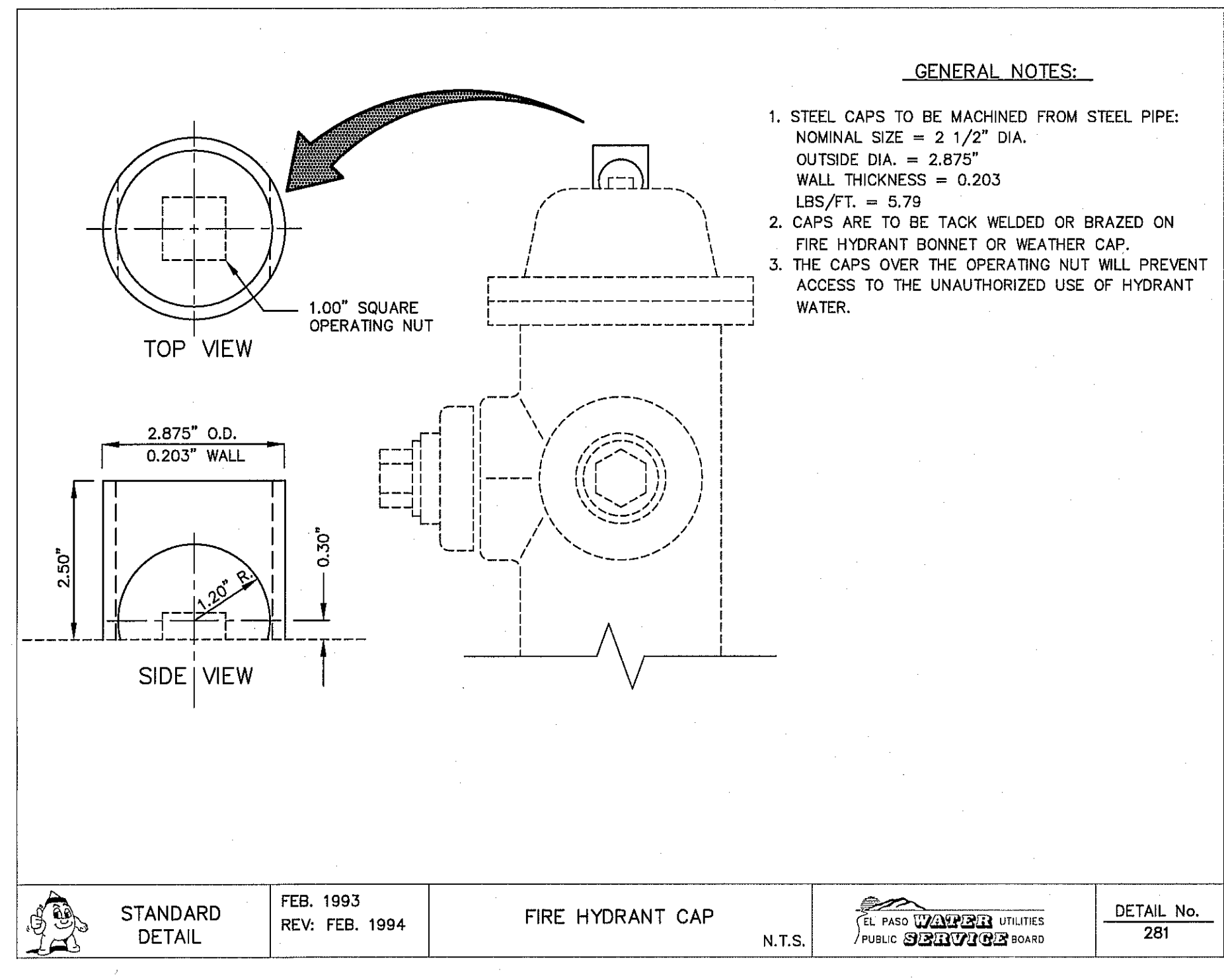
WATER DETAILS

(SHEET 2 OF 4)

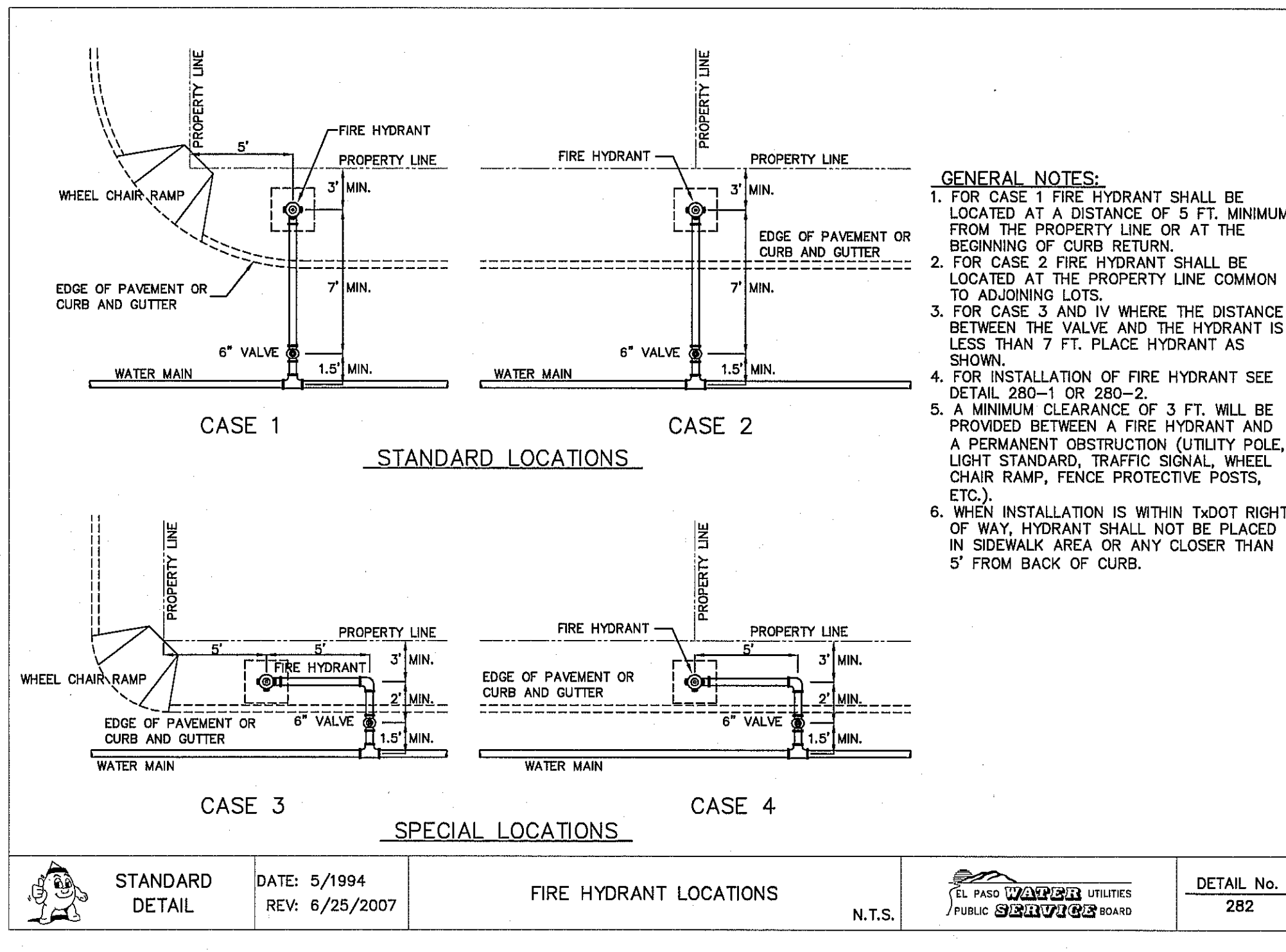
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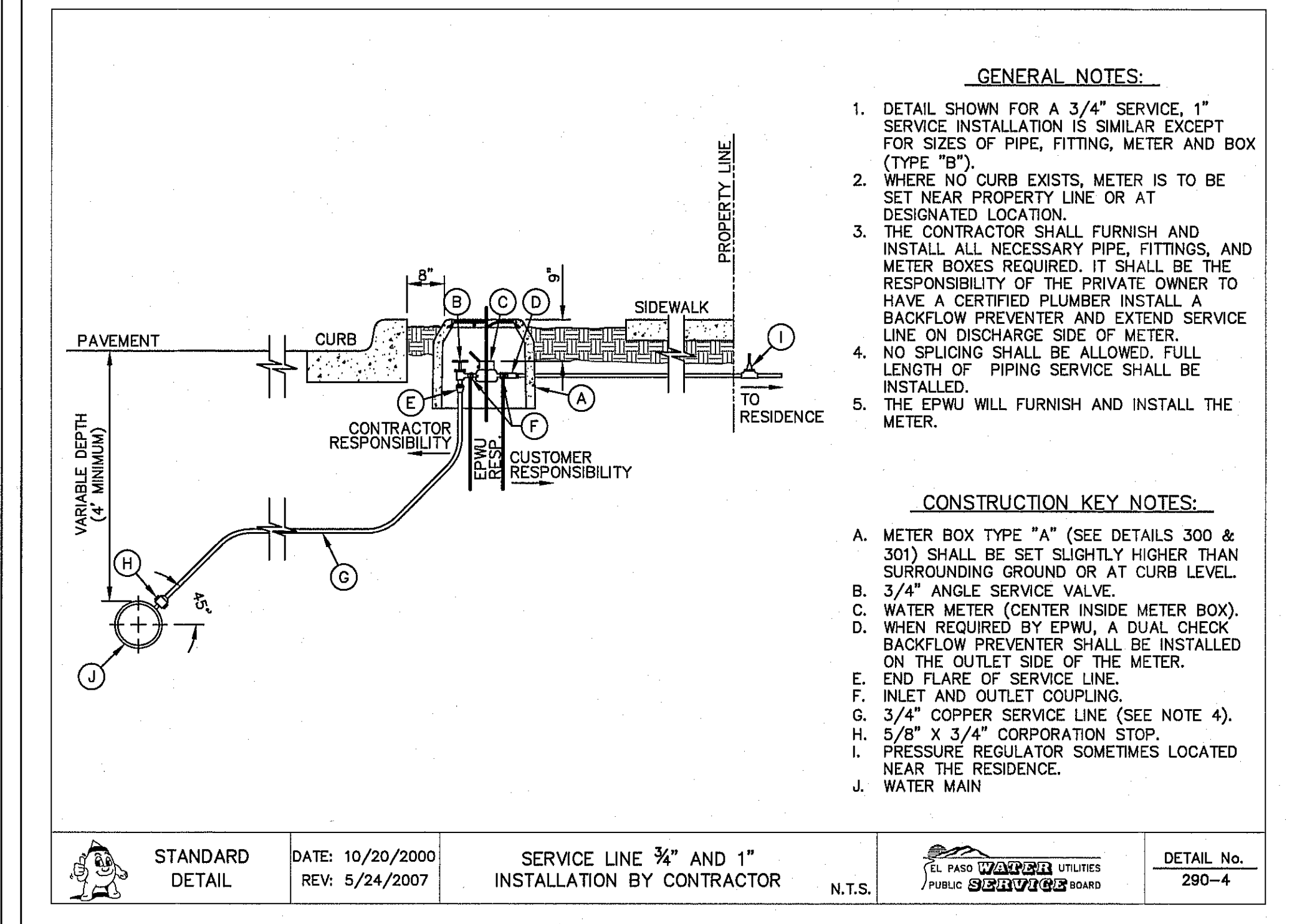




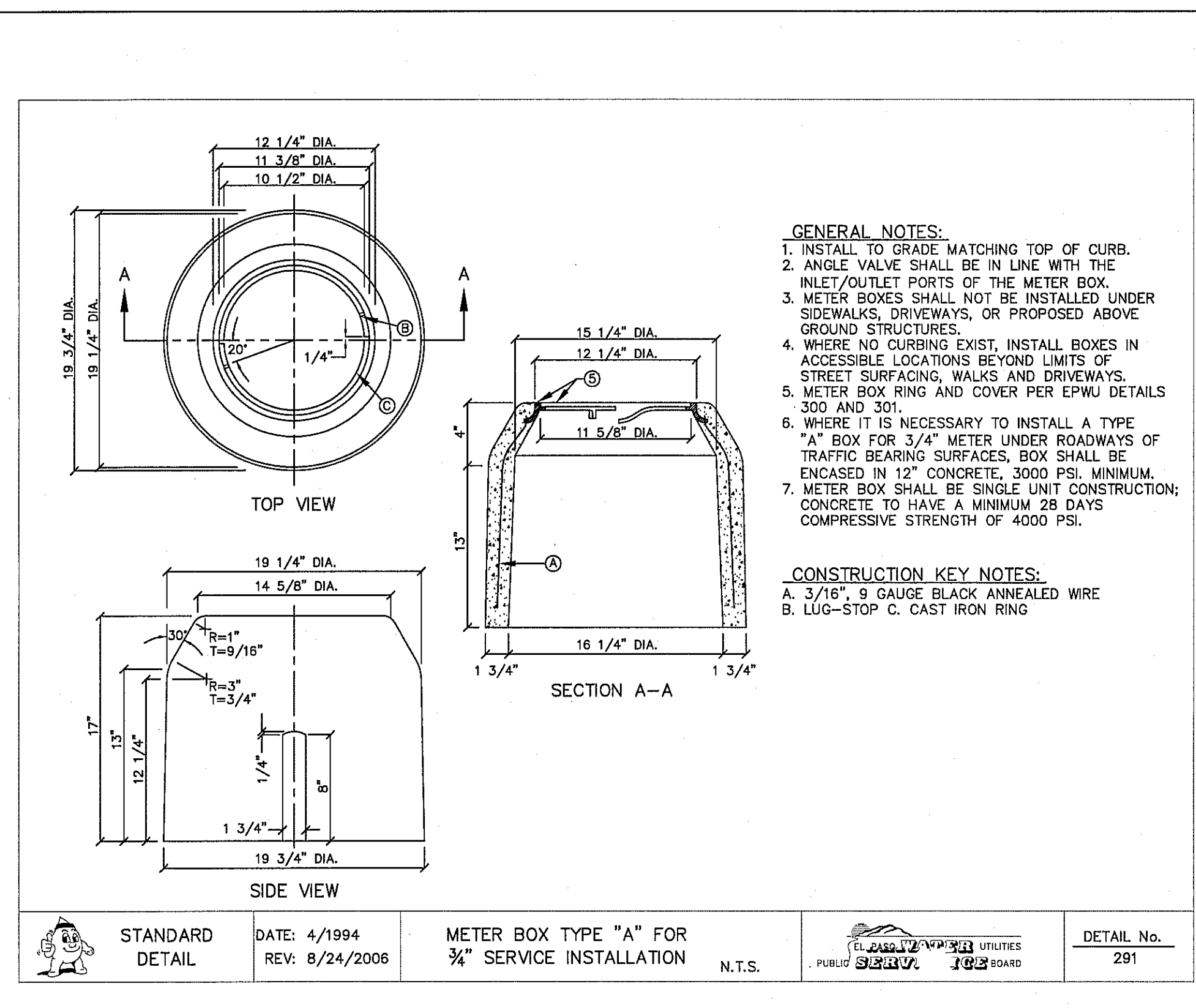
1 FIRE HYDRANT CAP SCALE: N.T.S.



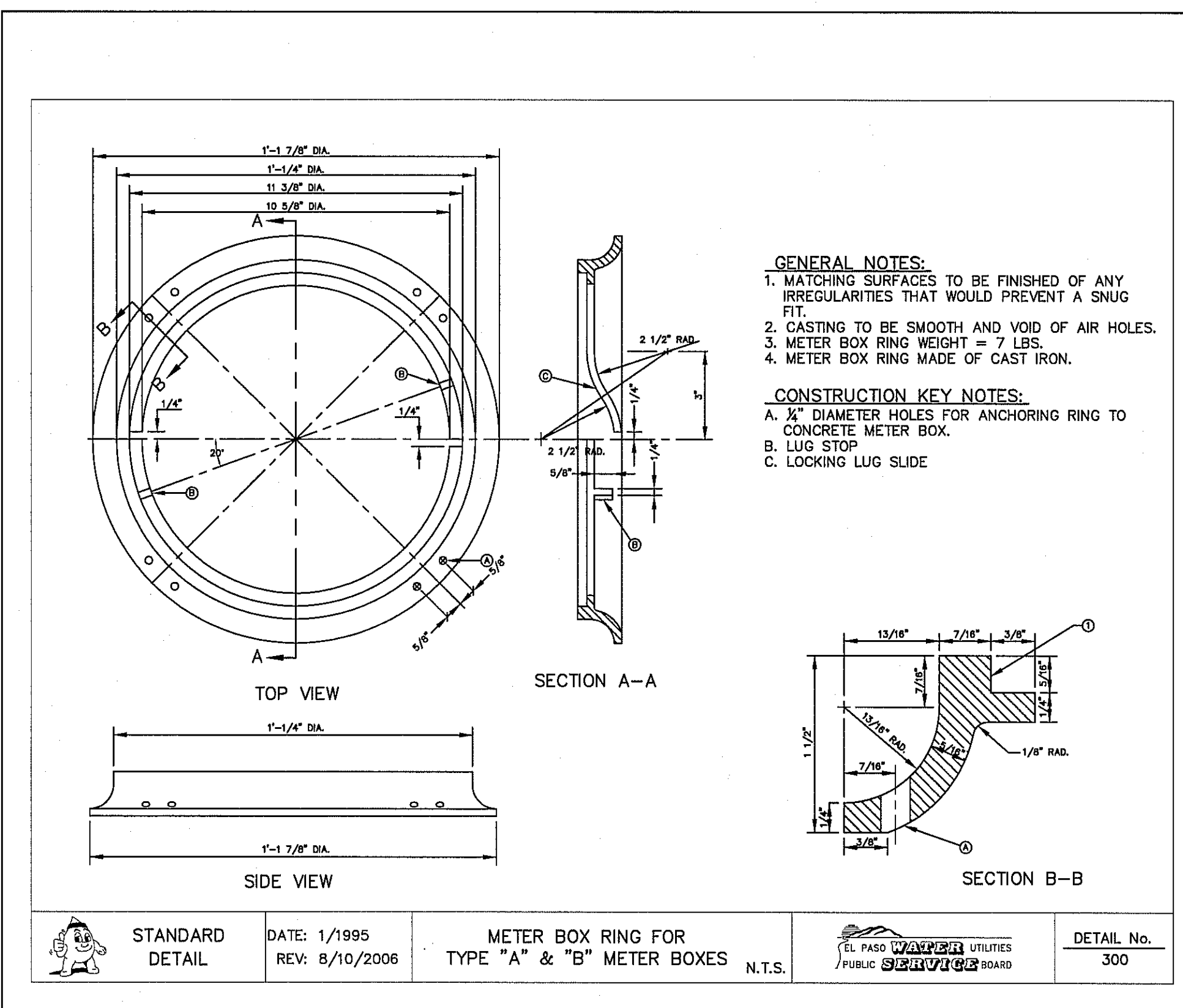
2 FIRE HYDRANT LOCATIONS SCALE: N.T.S.



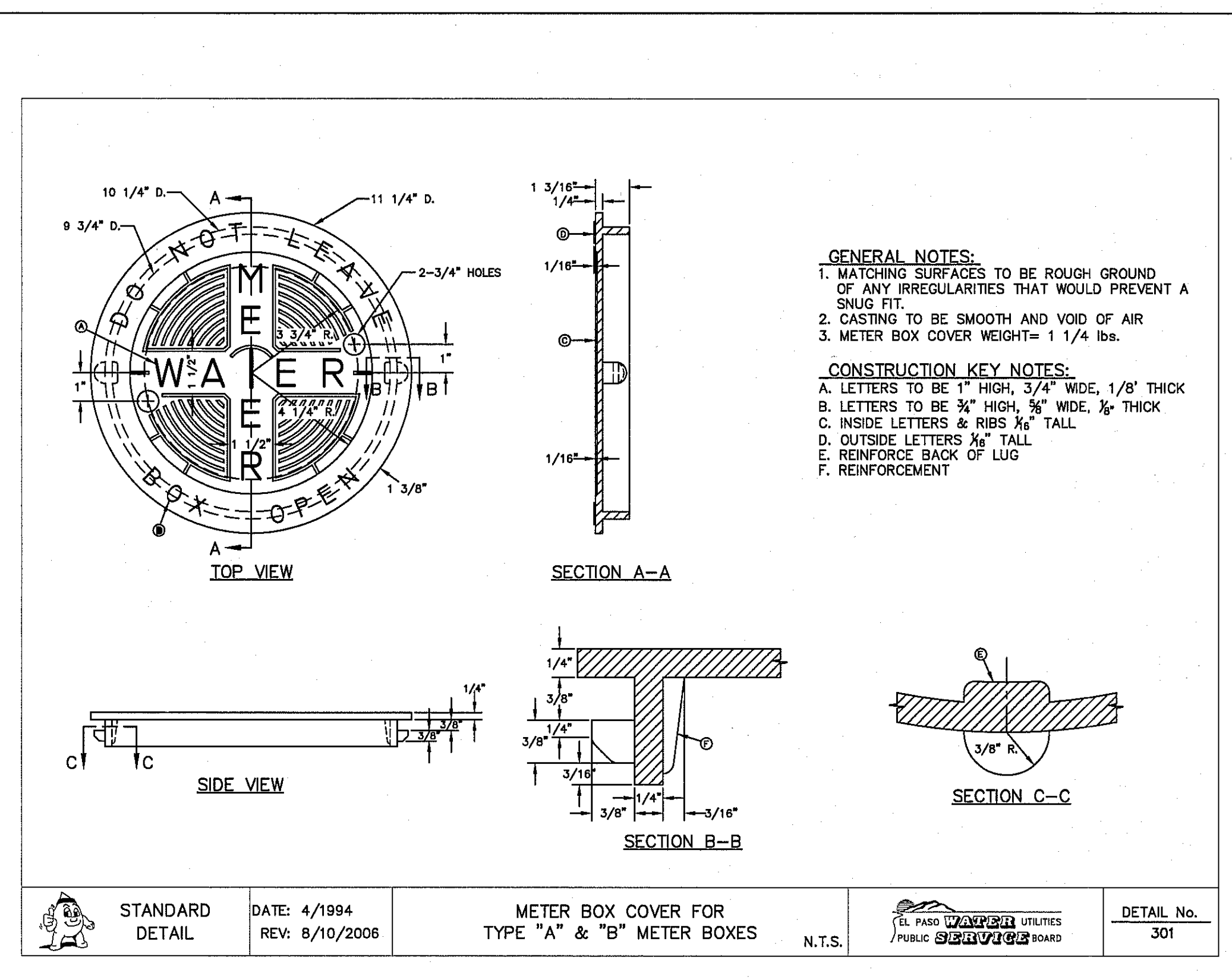
3 SERVICE LINE 3/4" AND 1" INSTALLATION SCALE: N.T.S.



4 METER BOX TYPE "A" FOR 3/4" SERVICE INSTALLATION SCALE: N.T.S.



5 METER BOX RING FOR TYPE "A" & "B" METER BOXES SCALE: N.T.S.



6 METER BOX COVER FOR TYPE "A" & "B" METER BOXES SCALE: N.T.S.

REFERENCES - BENCHMARKS

CITY MONUMENT AT THE INTERSECTION OF PASCO DEL NORTE & NORTHWESTERN. ELEVATION = 3987.39 (CITY DATUM). THIS IS BASED ON NGS MONUMENT "CHINO" ELEVATION = 3935.48 (CITY DATUM)

DATE	REVISIONS	BY

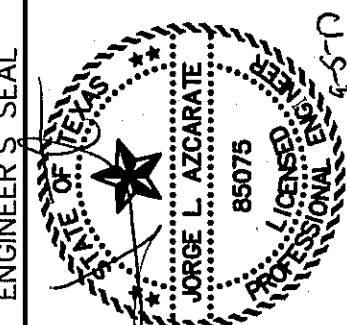
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4712 Woodrow Beam, Ste. F El Paso, TX 79924

Office: 915.544.5232 Fax: 915.544.5233 www.osaeng.com



SCALE	N/A	N/A
Horizontal:	N/A	N/A
Vertical:	N/A	N/A
Contour Interval:	N/A	N/A
DATE:	JUNE 2017	
DESIGN BY:	R.O.	
DRAWN BY:	R.O./R.J.M.	
CHKD. BY:	J.L.A.	
APPVD. BY:	J.L.A.	
JOB No.	2000-192LD	

PROJECT TITLE

LA PUESTA DEL SOL

UNIT TWO

SUBDIVISION IMPROVEMENTS

SHEET TITLE

WATER

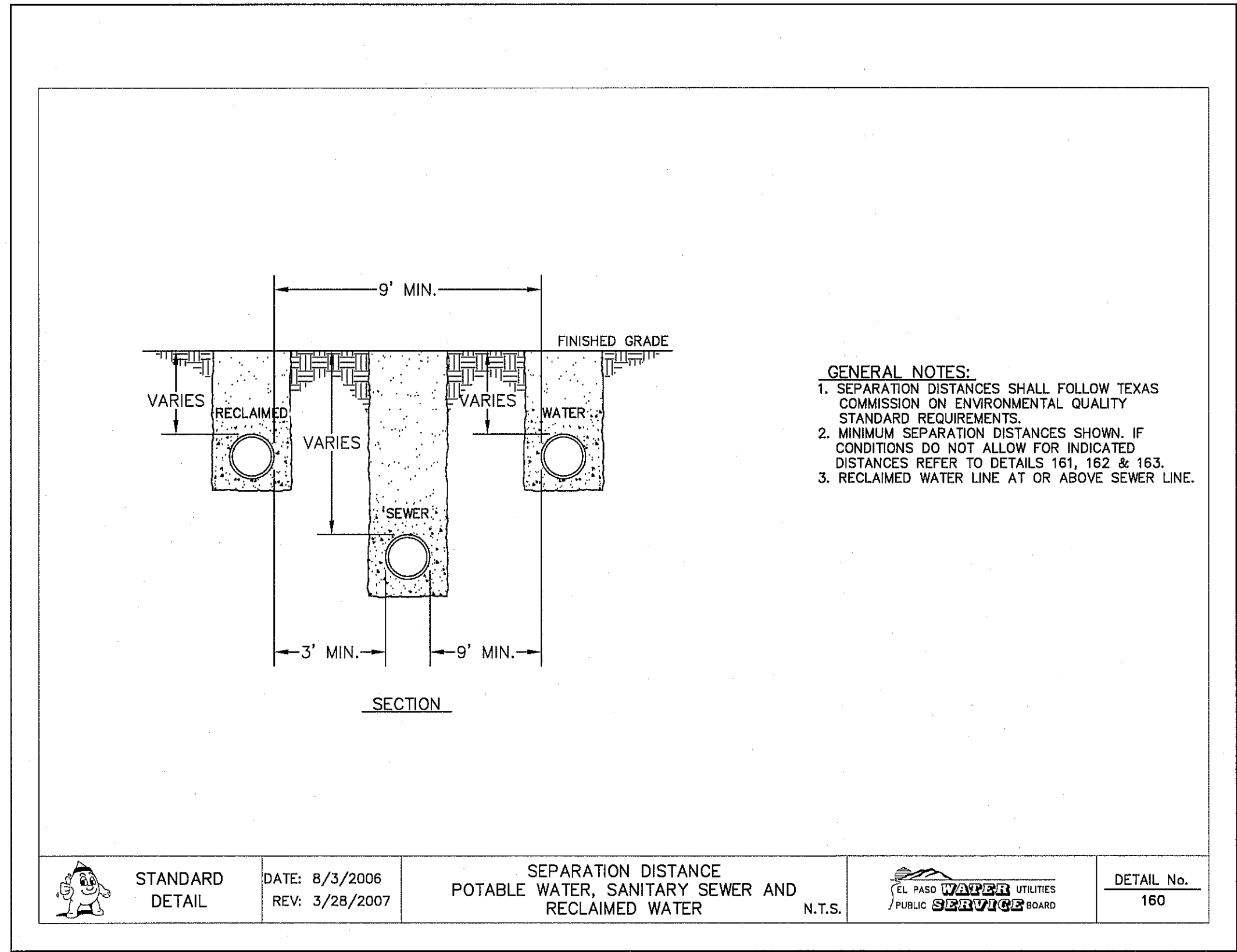
DETAILS

(SHEET 3 OF 4)

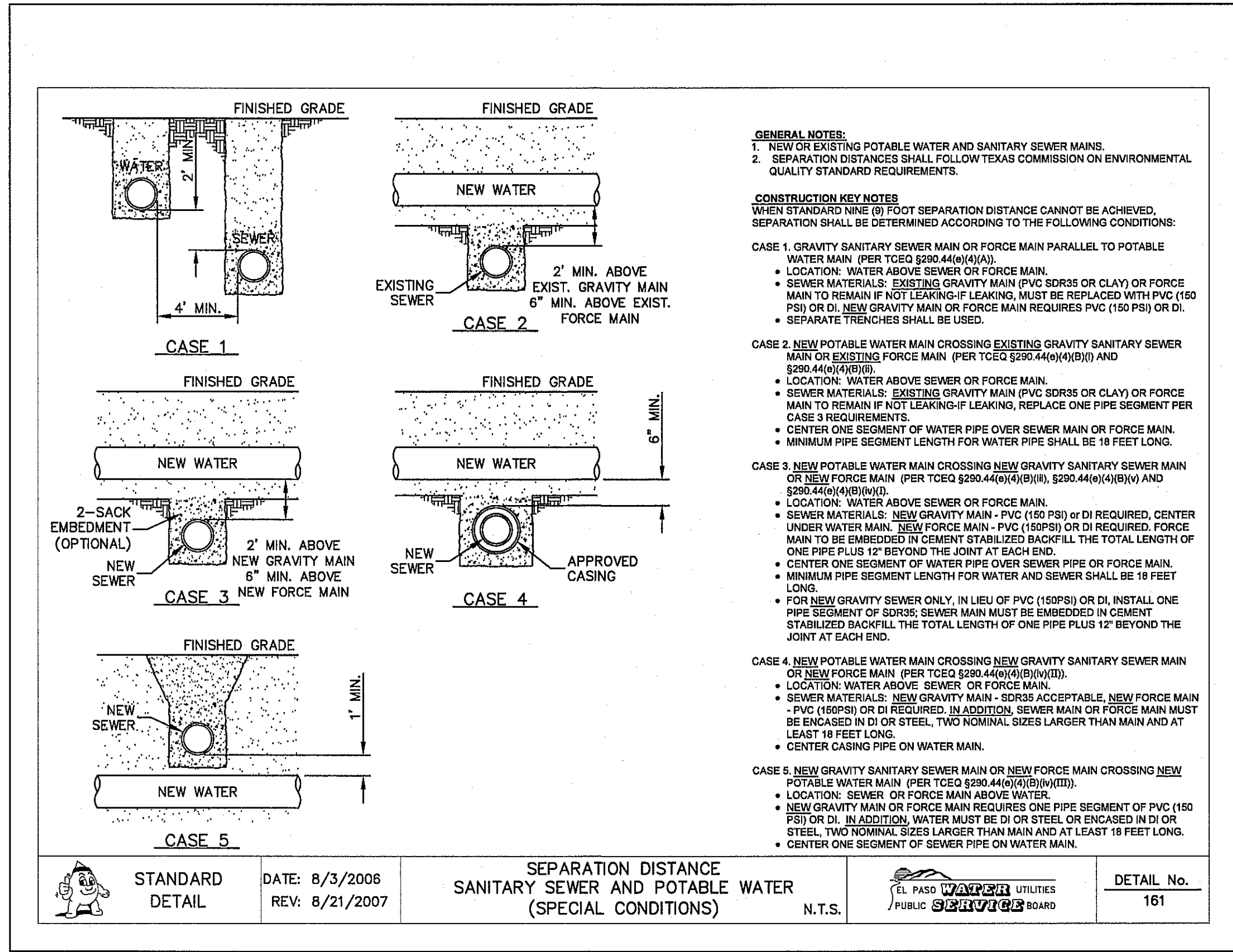
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C12.5

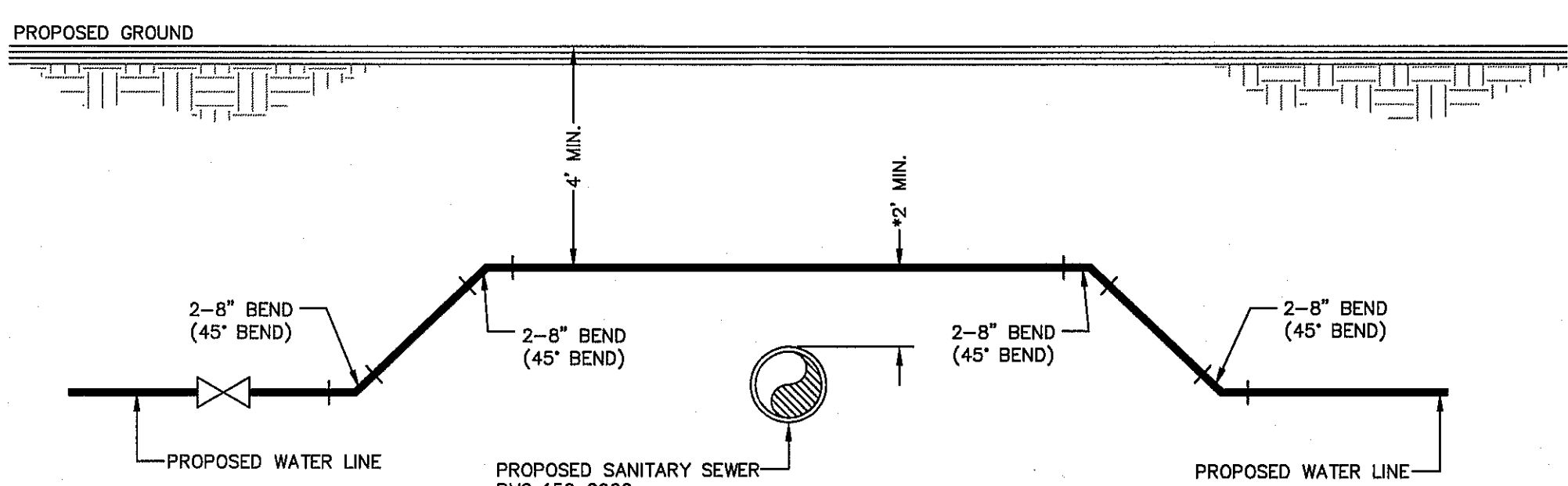
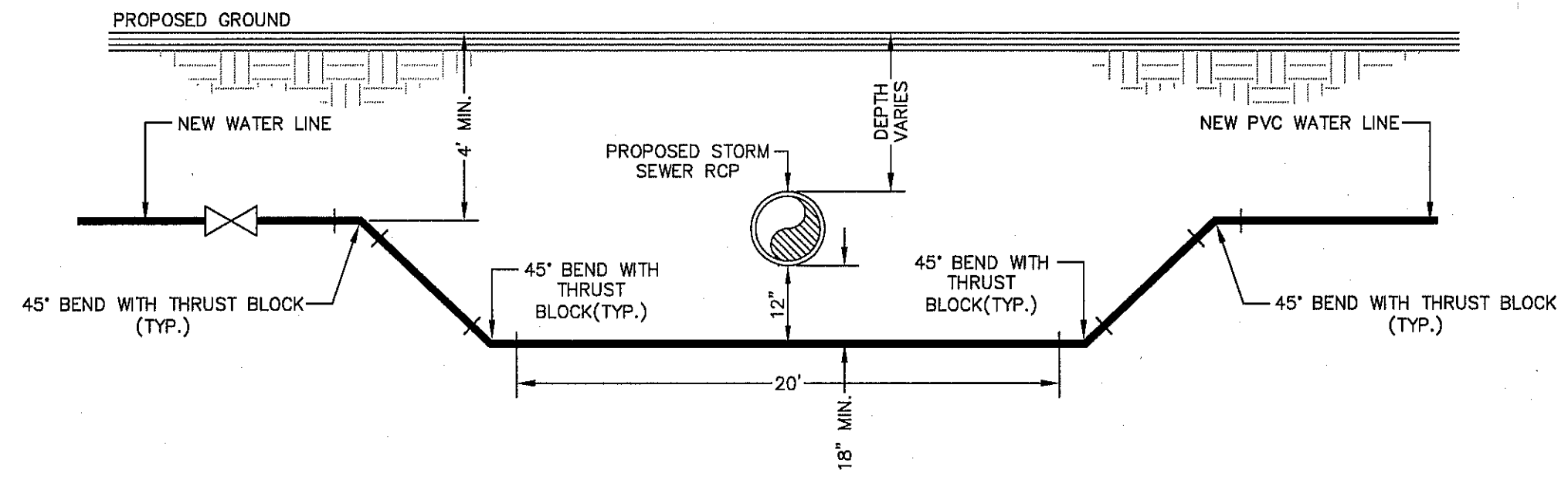




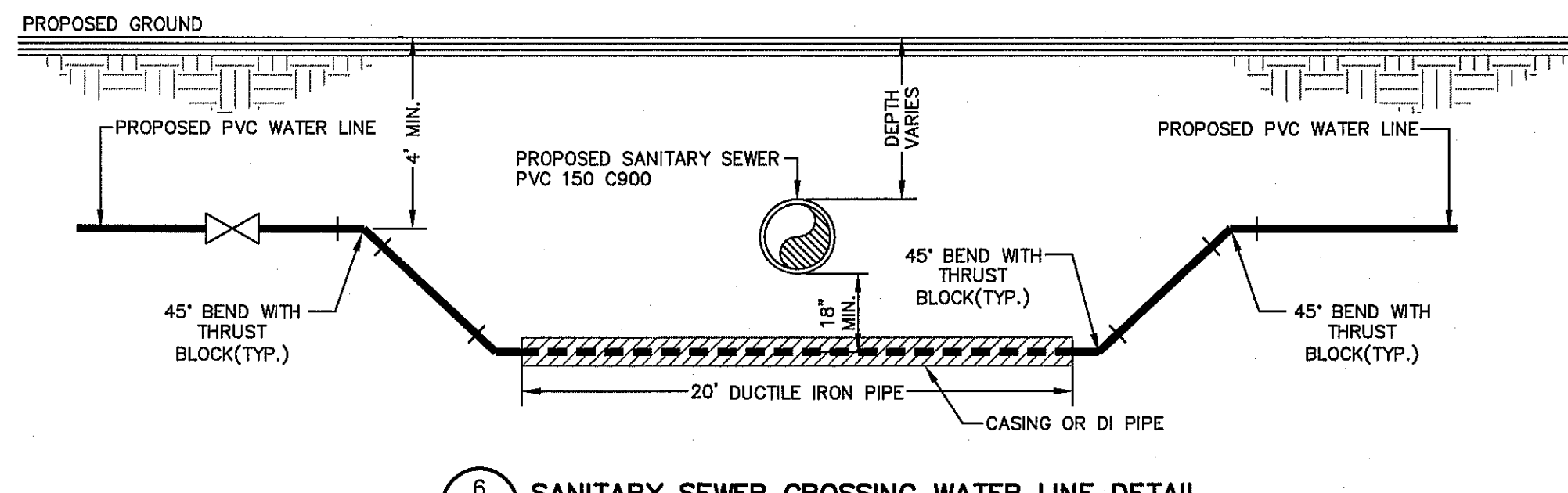
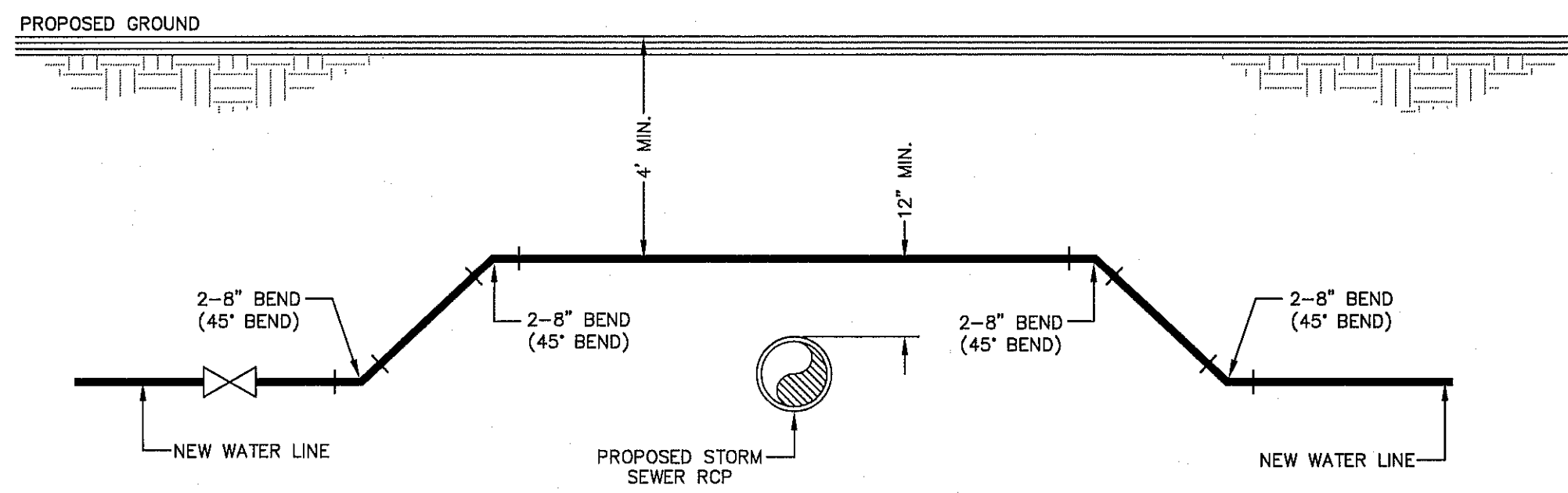
1 SEPARATION DISTANCE POTABLE WATER, SANITARY SEWER AND RECLAIMED WATER SCALE: N.T.S.



2 SEPARATION DISTANCE SANITARY SEWER AND POTABLE WATER (SPECIAL CONDITIONS) SCALE: N.T.S.



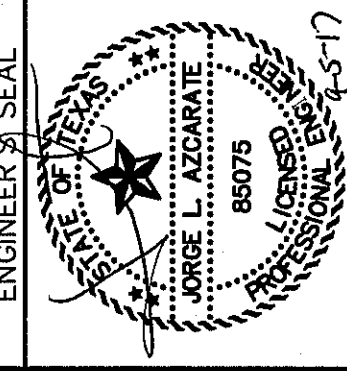
***NOTE:**
 IF DISTANCE BETWEEN PROPOSED SANITARY SEWER AND PROPOSED WATER LINE IS BETWEEN 6"(MIN.)-2'(MAX.), SANITARY SEWER MUST BE ENCASED IN DUCTILE IRON PIPE AS PER SEPARATION DISTANCE (SPECIAL CONDITION) DETAIL.



REFERENCES - BENCHMARKS
 CITY MONUMENT AT THE INTERSECTION OF PASEO DEL NORTE & NORTHWESTERN. ELEVATION = 3887.39 (CITY DATUM). THIS IS BASED ON NGS MONUMENT "CHINO" ELEVATION = 3935.48 (CITY DATUM)

DATE	REVISIONS	BY

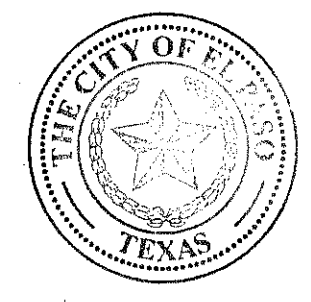
CSA
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 TEXAS REGISTERED ENGINEERING FIRM F-454
 4712 Woodrow Bean, Ste. F, El Paso, TX 79924
 Office: 915.544.5232 Fax: 915.544.5233 www.csaengineers.com



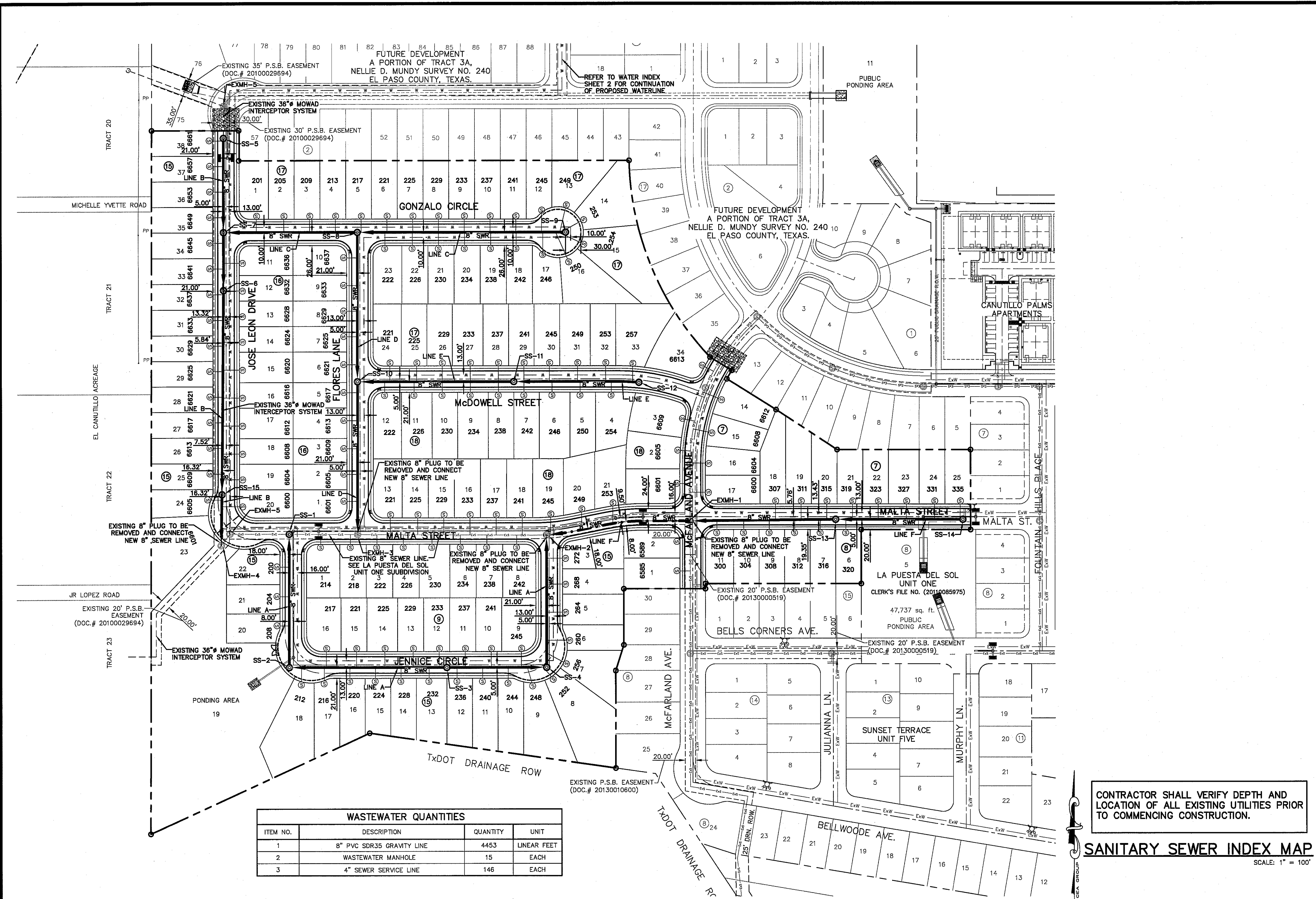
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Vertical:	N/A
Contour Interval:	N/A
DATE:	JUNE 2017
DESIGN BY:	R.O.
DRAWN BY:	R.O./R.J.M.
CHKD. BY:	J.L.A.
APPVD. BY:	J.L.A.
JOB No.	2000-192LD

PROJECT TITLE
 LA PUESTA DEL SOL
 UNIT TWO
 SUBDIVISION IMPROVEMENTS

SHEET TITLE
 WATER DETAILS
 (SHEET 4 OF 4)
 SHEET NO.



C12.6



WASTEWATER QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
1	8" PVC SDR35 GRAVITY LINE	4453	LINEAR FEET
2	WASTEWATER MANHOLE	15	EACH
3	4" SEWER SERVICE LINE	146	EACH

GENERAL NOTES

- UNLESS OTHERWISE SHOWN ON THE DRAWINGS, THE PROPOSED SEWER MAINS AND SEWER MANHOLES SHALL BE INSTALLED NO LESS THAN TEN (10') FEET AWAY FROM EXISTING WATER LINE. SEPARATIONS DISTANCES SHALL FOLLOW TCEQ STANDARD REQUIREMENTS (§290.44)
- THE INTENT OF THE OWNER IS TO HAVE THE SANITARY SEWER PIPELINES INSTALLED TO SUCH A DEPTH THAT THEY WILL HAVE AT LEAST FORTY-EIGHT (48") INCHES OF COVER BELOW PROPOSED GROUND AT ALL LOCATIONS. THE PIPELINES SHALL HAVE NO DIPS, SAGS OR HUMPS OR OTHER IRREGULARITIES IN VERTICAL ALIGNMENT. CONSIDERING UTILITIES AND OTHER CONDITIONS, VARIANCE FROM GRADE PROFILE IS NOT RECOMMENDED IF OTHER EXISTING UTILITIES OR OBSTRUCTIONS ARE ENCOUNTERED DURING THE WORK. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES PRIOR TO INSTALLING THE SEWER PIPELINE SO THAT AN ACCEPTABLE PROFILE CAN BE ESTABLISHED PRIOR TO INSTALLATION OF THE PIPELINE.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD LOCATE ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN IN THE PLANS, AND COORDINATE HIS WORK WITH ALL UTILITY COMPANIES, EL PASO WATER UTILITIES AND CITY OF EL PASO PRIOR TO CONSTRUCTION. ALL EXISTING UTILITY DEPTHS ARE UNKNOWN. THE CONTRACTOR SHALL BE ULTIMATELY RESPONSIBLE FOR ACQUIRING FIELD DEPTHS OF ALL UTILITIES WITH THE PROJECT AREAS.
- TRENCH SAFETY REQUIREMENTS SHALL COMPLY WITH CURRENT OSHA REGULATIONS.
- AS-BUILT STATIONING, OFFSET FROM R.O.W. AND INVERT ELEVATIONS SHALL BE ACCURATELY RECORDED BY THE CONTRACTOR ON A CLEAN SET OF PLANS FOR EACH MANHOLE, SERVICE CONNECTION AND/OR STUB-OUT, WITH RESPECT TO THE APPROPRIATE PROJECT CONTROL POINT.
- THE EL PASO WATER UTILITIES AND CITY OF EL PASO MUST BE NOTIFIED FORTY-EIGHT (48) HOURS PRIOR TO COMMENCING ANY WORK IN AREAS WITHIN THEIR JURISDICTION. A COPY OF ALL FIELD SOIL DENSITY TESTS WITHIN THEIR RESPECTIVE R.O.W. SHALL BE FORWARDED TO THE DEVELOPER'S ENGINEER AND THE DEVELOPER BY THE CONTRACTOR.
- EXISTING STREETS, DRIVEWAYS AND ALL OTHER MISCELLANEOUS STRUCTURES DAMAGE OR REMOVED BY CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO ORIGINAL OR BETTER THAN ORIGINAL CONDITION.
- CONSTRUCTION OF THE PUBLIC WATER AND SEWER SYSTEM INCLUDING MATERIALS AND TESTING SHALL CONFIRM TO EPWU-PSB STANDARD SPECIFICATIONS FOR THE INSTALLATION OF WATER MAINS, SEWER MAINS AND RELATED APPURTENANCES.

GENERAL UTILITIES:
 TEXAS EXCAVATION SAFETY SERVICE
 11884 GREENVILLE AVENUE
 DALLAS, TX. 75243
 (800) 344-8377

WATER & SEWER:
 EL PASO WATER UTILITIES
 1154 HAWKINS BOULEVARD
 EL PASO, TX. 79901
 (915) 594-5530

TELEPHONE:
 SBC
 11200 PELICANO
 EL PASO, TX. 79935
 (915) 595-5151

ENGINEER:
 CEA GROUP
 CASTNER CENTER @ TRANSMOUNTAIN
 4712 WOODROW BEAN, STE. F
 EL PASO, TX. 79924
 (915) 544-5232
 MR. JORGE L. AZCARATE, P.E.

ELECTRIC:
 EL PASO ELECTRIC CO.
 501 W. SAN ANTONIO ST.
 EL PASO, TX. 79902
 (915) 543-2076

FIBER OPTICS:
 AT&T
 P.O. BOX 1650
 EL PASO, TX. 79949
 (800) 852-3786

FIBER OPTICS:
 U.S. SPRINT
 151 N. BOONE ST.
 EL PASO, TX. 79905
 (915) 534-7910

EL PASO STREETS
 CITY OF EL PASO
 STREET & MAINTENANCE DEPT.
 7969 SAN PAULINO DRIVE
 EL PASO, TX. 79907
 (915) 821-6750

RESIDENTIAL GAS LINES:
 TEXAS GAS SERVICE
 4700 POLLARD ST.
 EL PASO, TX. 79930
 (915) 680-7218

FIBER OPTICS:
 MCI TELECOMMUNICATIONS CORP.
 4045 DONIPHAN PARK CIRCLE
 EL PASO, TX. 79922
 (915) 542-2770 EXT. 201

CABLE TELEVISION:
 TIME WARNER COMMUNICATIONS
 7010 AIRPORT ROAD
 EL PASO, TX. 79906
 (915) 772-1123

WARNING!
BEFORE YOU DIG
CALL 811
 FOR FIELD LOCATING EXISTING UTILITIES

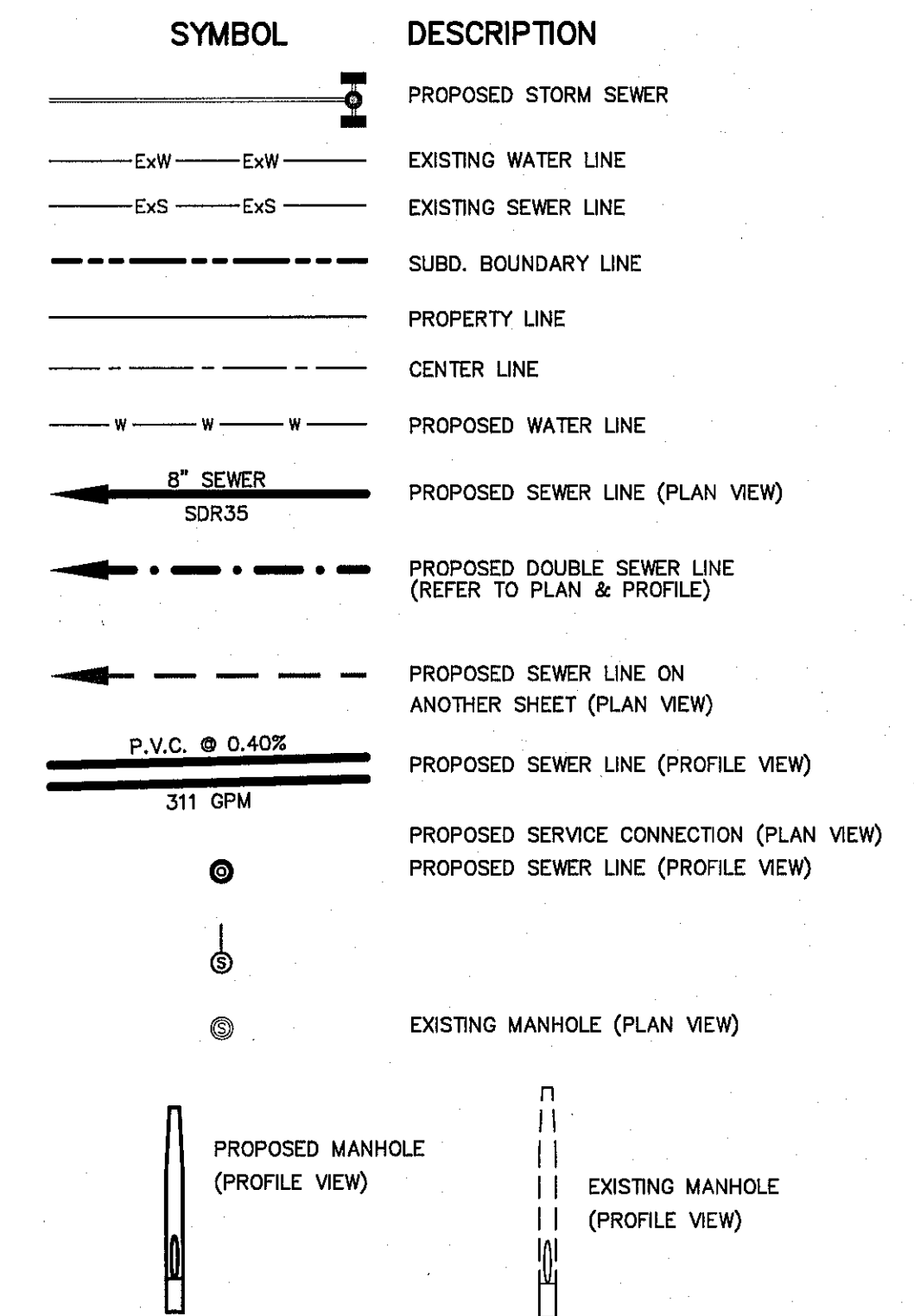
INDEX

SHEET NO.	DESCRIPTION
C13.1	LA PUESTA DEL SOL UNIT TWO LEGEND INDEX / GENERAL INFORMATION
C13.2	LINE C & D
C13.3	LINE E & F
C13.4	SANITARY SEWER DETAILS
C13.5	SANITARY SEWER DETAILS
C13.6	SANITARY SEWER DETAILS
C13.7	SANITARY SEWER DETAILS

NOTES:

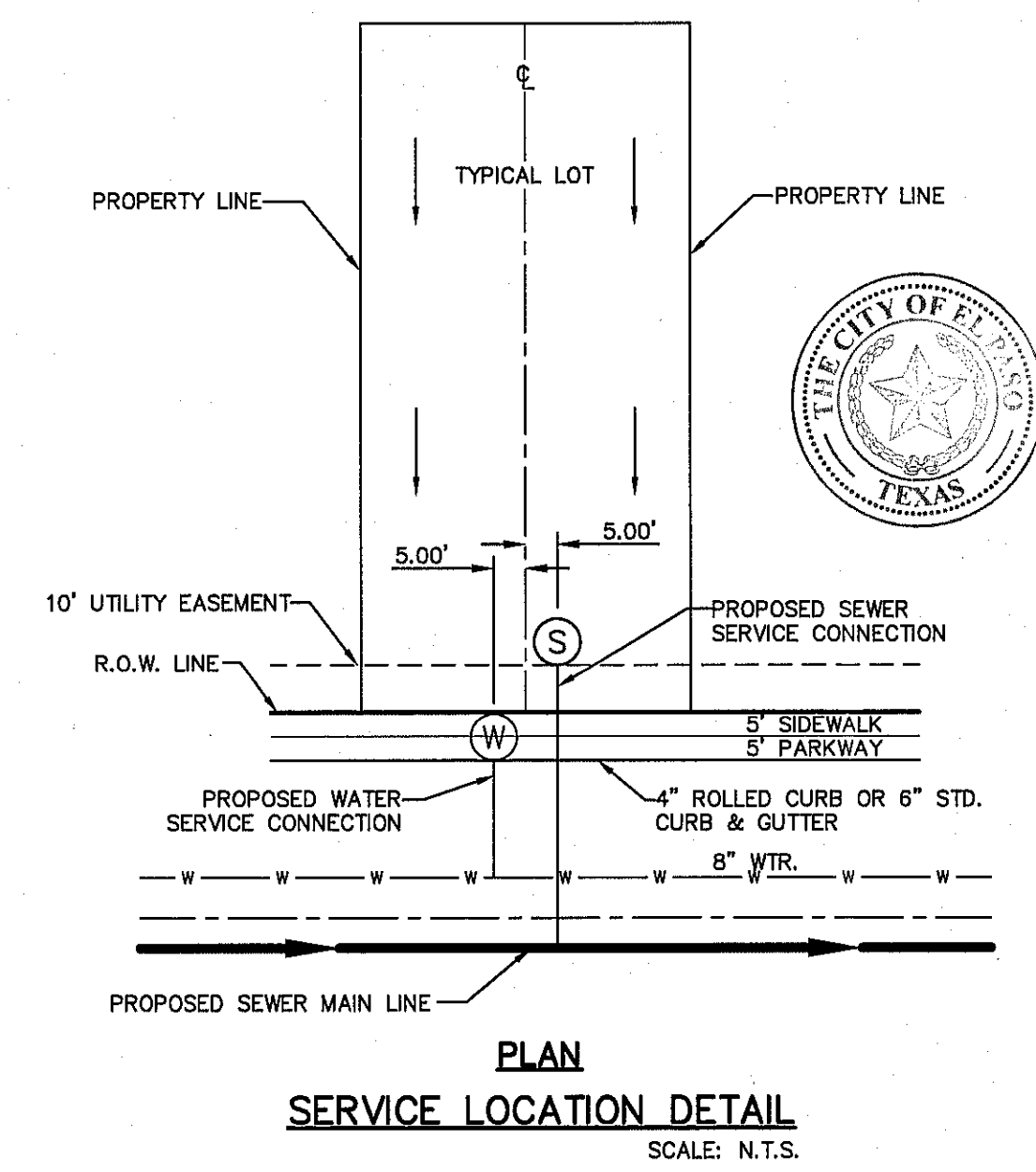
- ALL LOTS SHALL BE PROVIDED WITH ONE SERVICE CONNECTION TO BE INSTALLED AT THE LOCATION AS SHOWN ON THE SERVICE LOCATION DETAIL.
- ALL SANITARY SEWER PIPES SHALL BE PVC, SDR 35, (D 3034), UNLESS OTHERWISE SHOWN, AS REQUIRED BY THE EPWU/PSB RULES AND REGULATIONS AND DESIGN STANDARDS.
- REFERENCE SANITARY SEWER DETAILS FOR SEWER CROSSINGS AT STORM SEWER.

LEGEND



CONTRACTOR SHALL VERIFY DEPTH AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION.

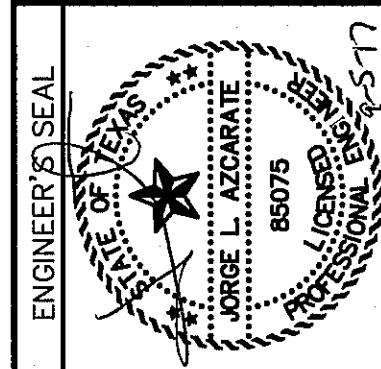
SANITARY SEWER INDEX MAP
 SCALE: 1" = 100'



REFERENCES - BENCHMARKS
 CITY MONUMENT AT THE INTERSECTION OF PASSED DEL NORTE & NORTHEASTERN. ELEVATION = 3987.39 (CITY DATUM). THIS IS BASED ON NGS MONUMENT "CHINO" ELEVATION = 3935.48 (CITY DATUM)

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 4712 Woodrow Bean, Ste. F, El Paso, TX 79924
 Office: 915-544-5232 Fax: 915-544-5233 www.osainc.net



SCALE:
 Horizontal: N/A
 Vertical: N/A
 Contour Interval: N/A
 DATE: JUNE 2017
 DESIGN BY: R.O.
 DRAWN BY: R.O./R.L.M.
 CHECKED BY: J.L.A.
 APP'D BY: J.L.A.
 JOB No. 2000-1921D

PROJECT TITLE
LA PUESTA DEL SOL UNIT TWO SUBDIVISION IMPROVEMENTS



SHEET TITLE

SEWER INDEX

SHEET NO.

C13.1

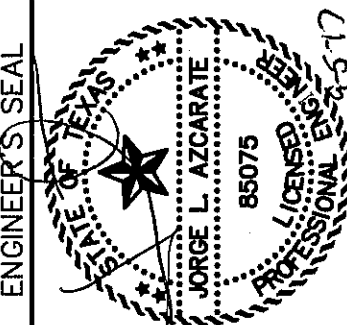
PLAN
SERVICE LOCATION DETAIL
 SCALE: N.T.S.

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

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4713 Woodrow Bean, Ste. F, El Paso, TX 79924
Office: 915-544-5252 Fax: 915-544-5233 www.osaengr.com

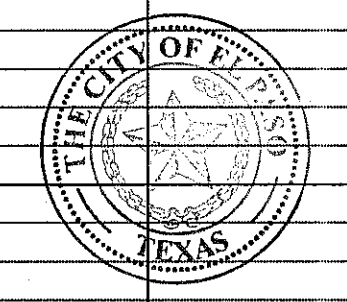
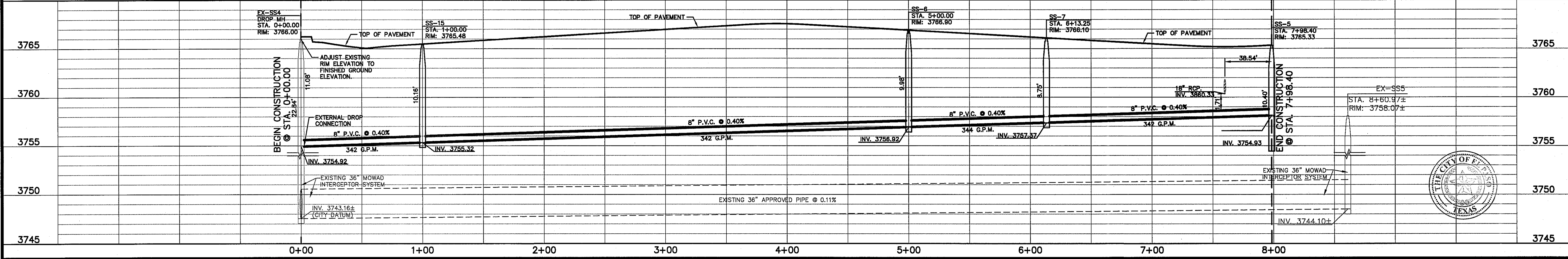
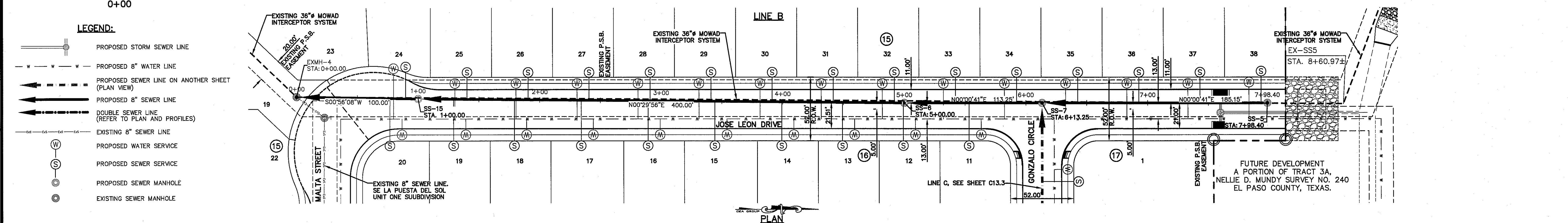
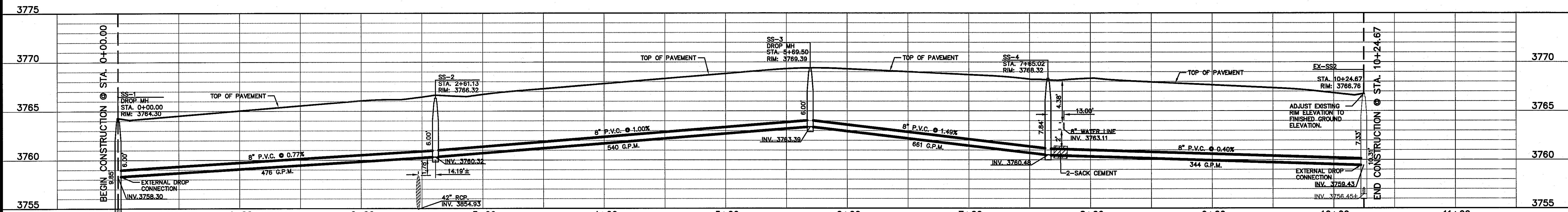
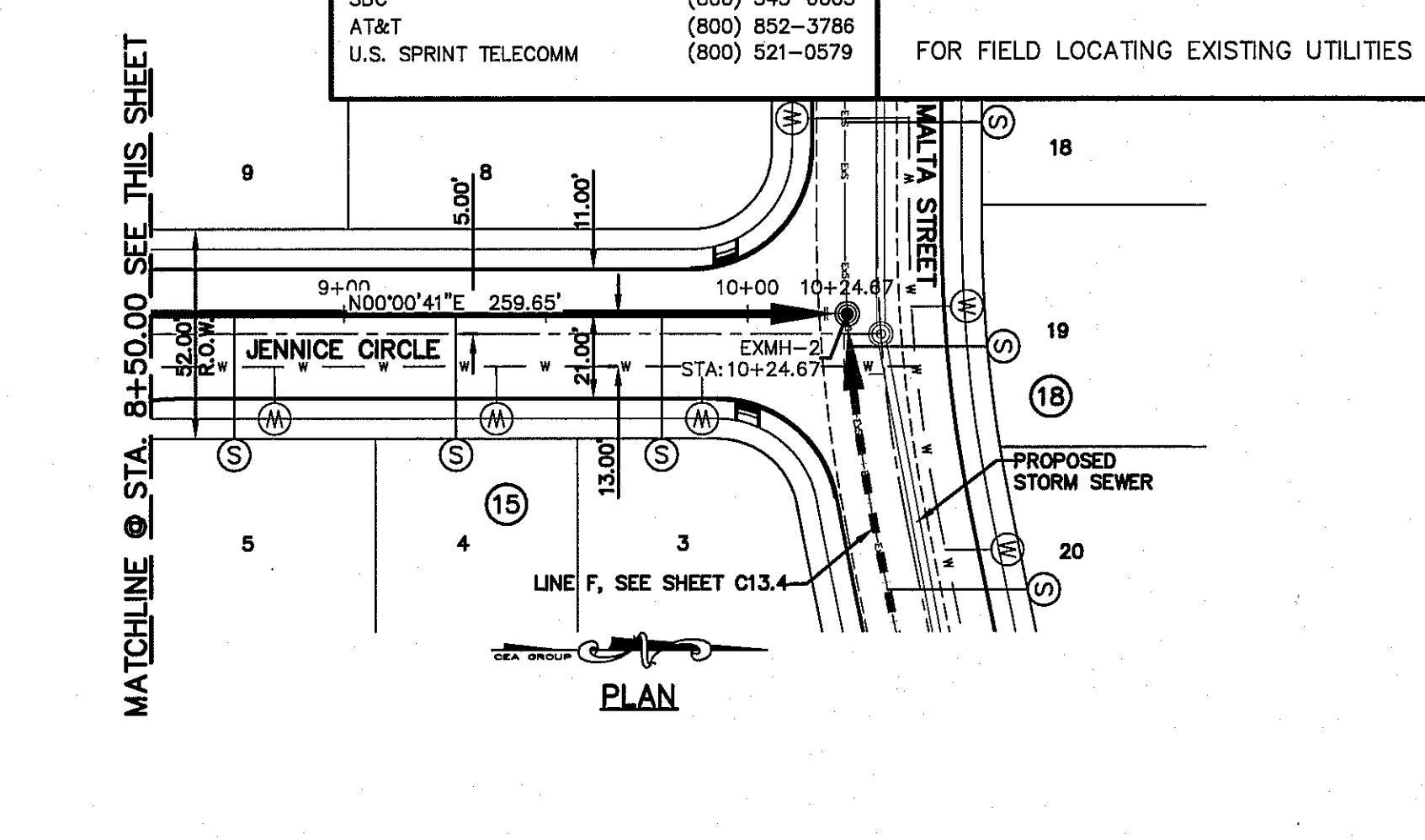
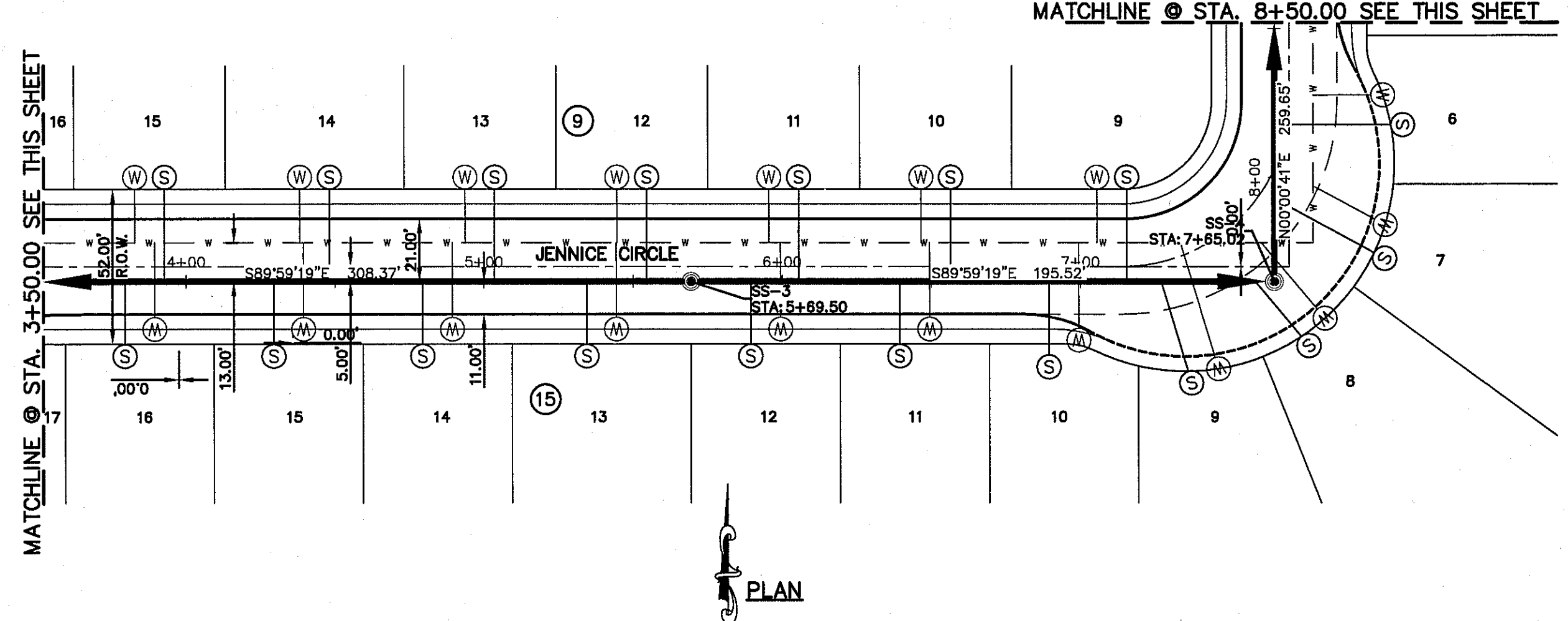
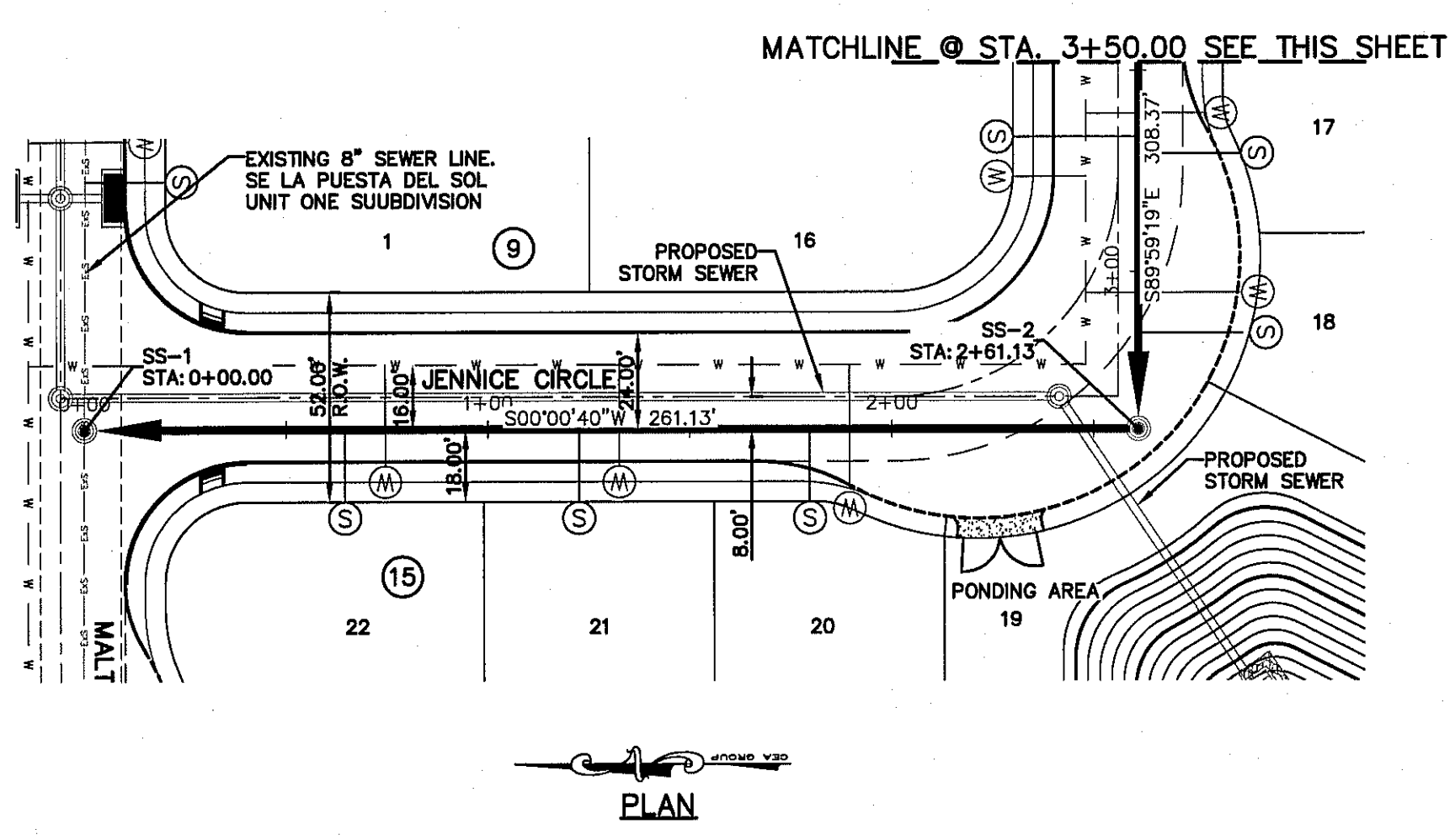


SCALE: 1"=40'
Horizontal: 1"=5'
Vertical: 1"=5'
Contour Interval: N/A
DATE: JUNE 2017
DESIGN BY: R.O.
DRAWN BY: R.O./R.L.M.
CHKD BY: J.L.A.
APPVD BY: J.L.A.
JOB No.: 2000-192LD

PROJECT TITLE
**LA PUESTA DEL SOL
UNIT TWO
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
**SANITARY SEWER
PLAN & PROFILE
LINE "A" & "B"**

SHEET NO.
C13.2

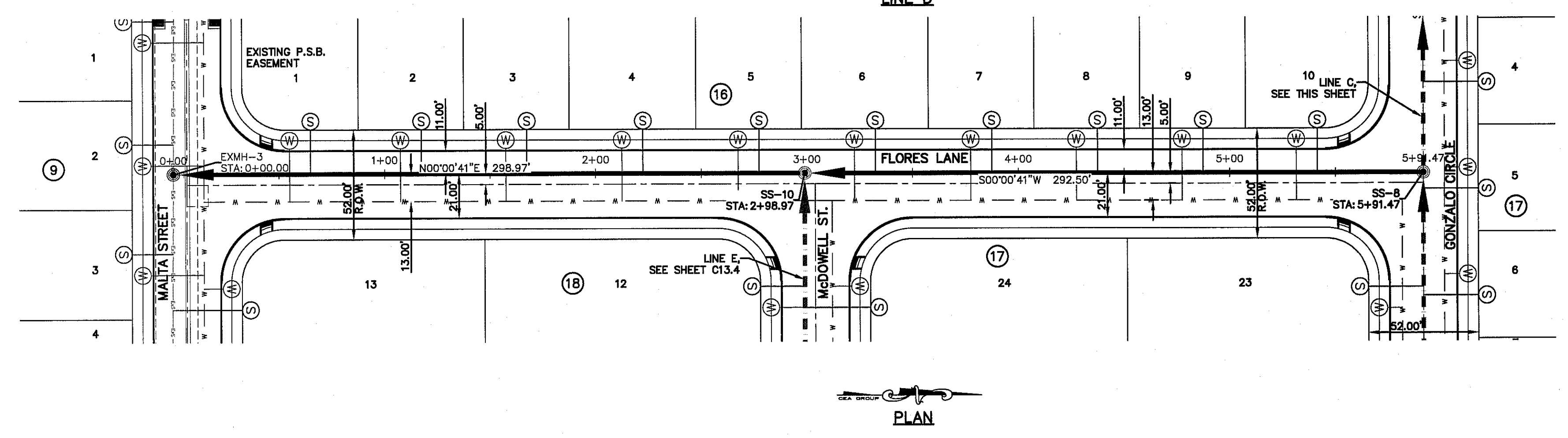
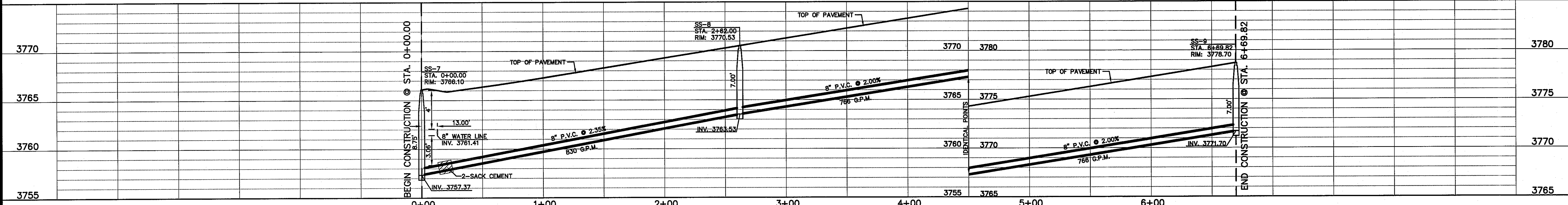
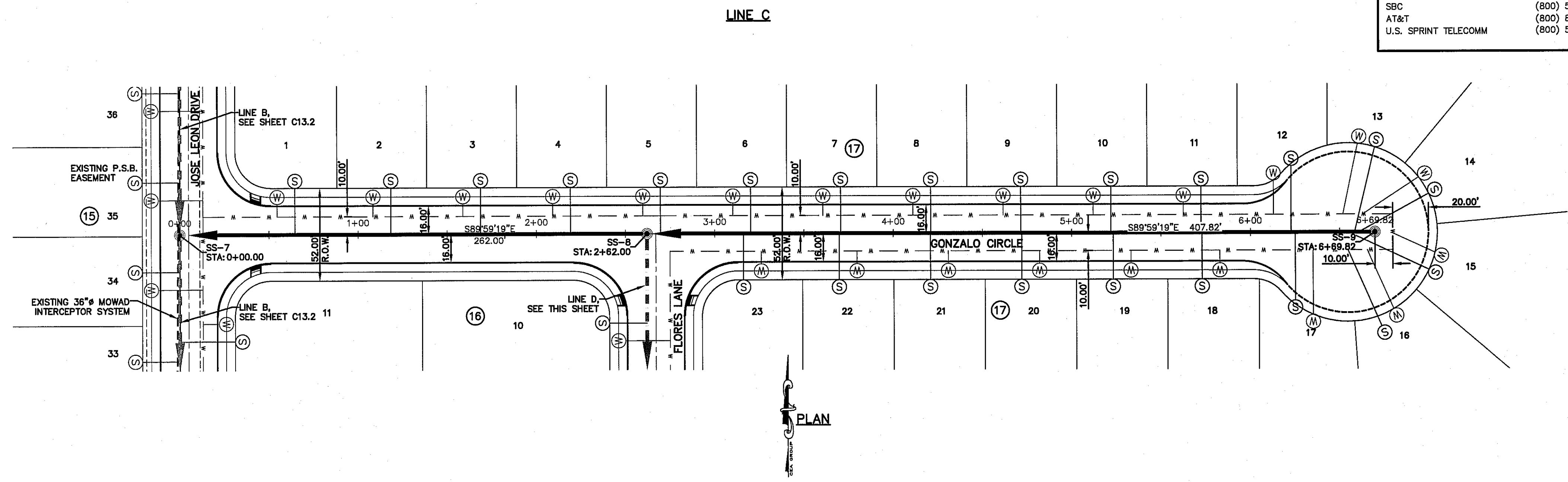


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U.S. SPRINT TELECOMM	(800) 521-0579

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CALL 811
FOR FIELD LOCATING EXISTING UTILITIES

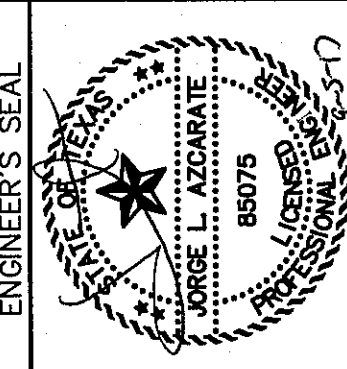
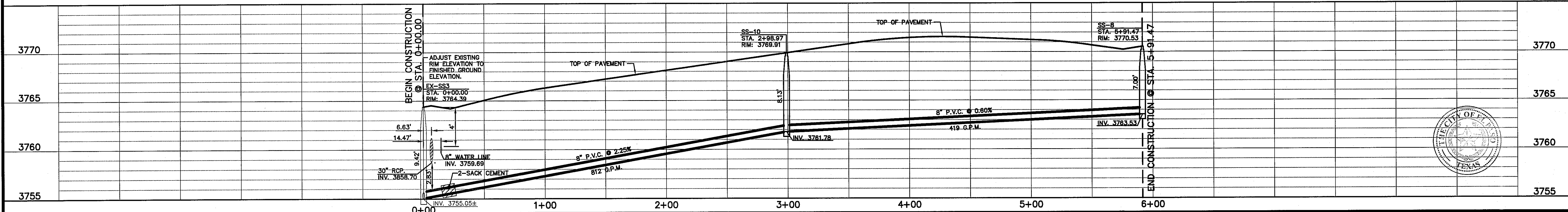
DATE	REVISIONS

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Office: 915.544.5232 Fax: 915.544.5233 www.csaep.com



LEGEND:

- PROPOSED STORM SEWER LINE
- PROPOSED 8" WATER LINE
- PROPOSED SEWER LINE ON ANOTHER SHEET (PLAN VIEW)
- PROPOSED 8" SEWER LINE
- DOUBLE SEWER LINE (REFER TO PLAN AND PROFILES)
- EXISTING 8" SEWER LINE
- PROPOSED WATER SERVICE
- PROPOSED SEWER SERVICE
- PROPOSED SEWER MANHOLE
- EXISTING SEWER MANHOLE



SCALE: Horizontal: 1"=40'
Vertical: 1"=5'
Contour Interval: N/A
DATE: JUNE 2017
DESIGN BY: R.O.
DRAWN BY: R.O./R.J.M.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-1921.D

PROJECT TITLE
**LA PUESTA DEL SOL
UNIT TWO
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
**SANITARY SEWER
PLAN & PROFILE
LINE "C" & "D"**

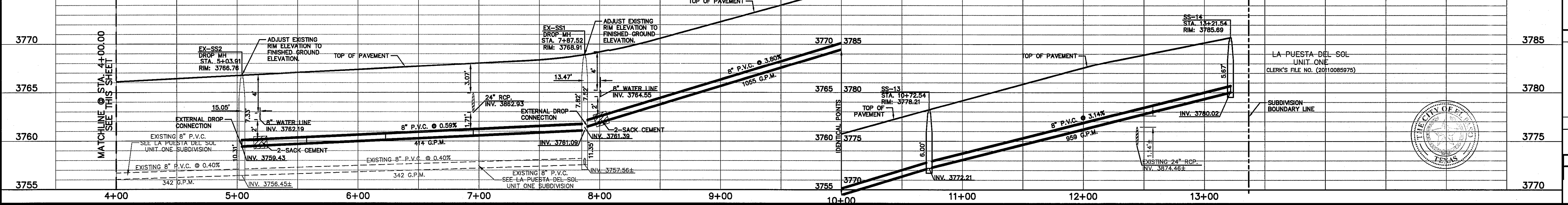
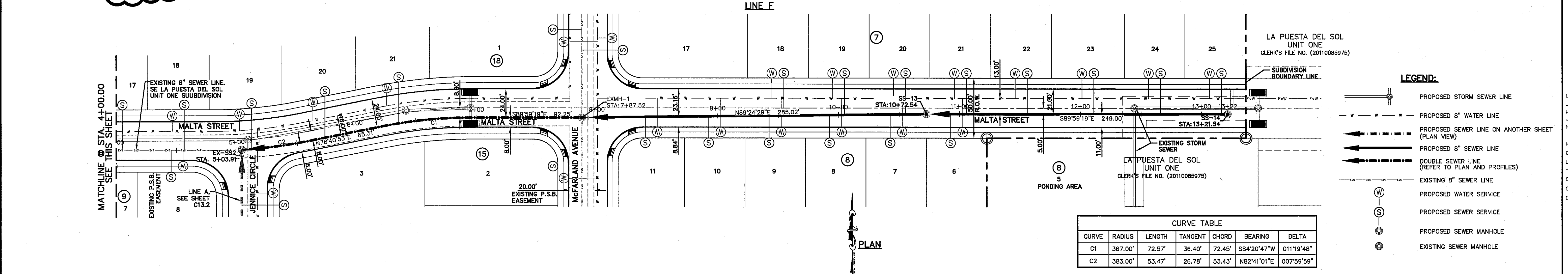
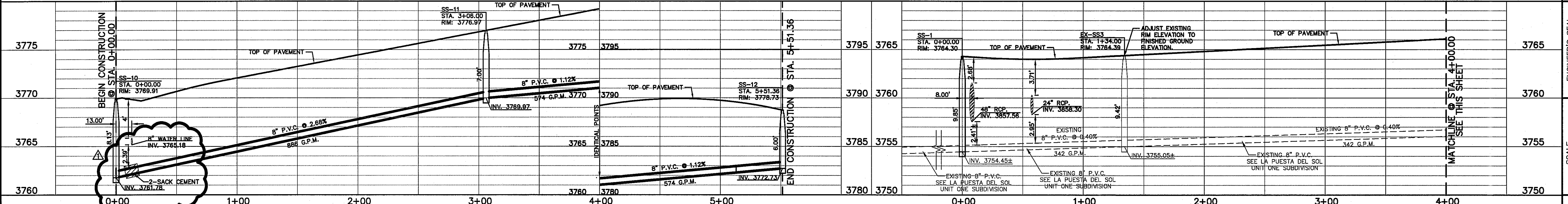
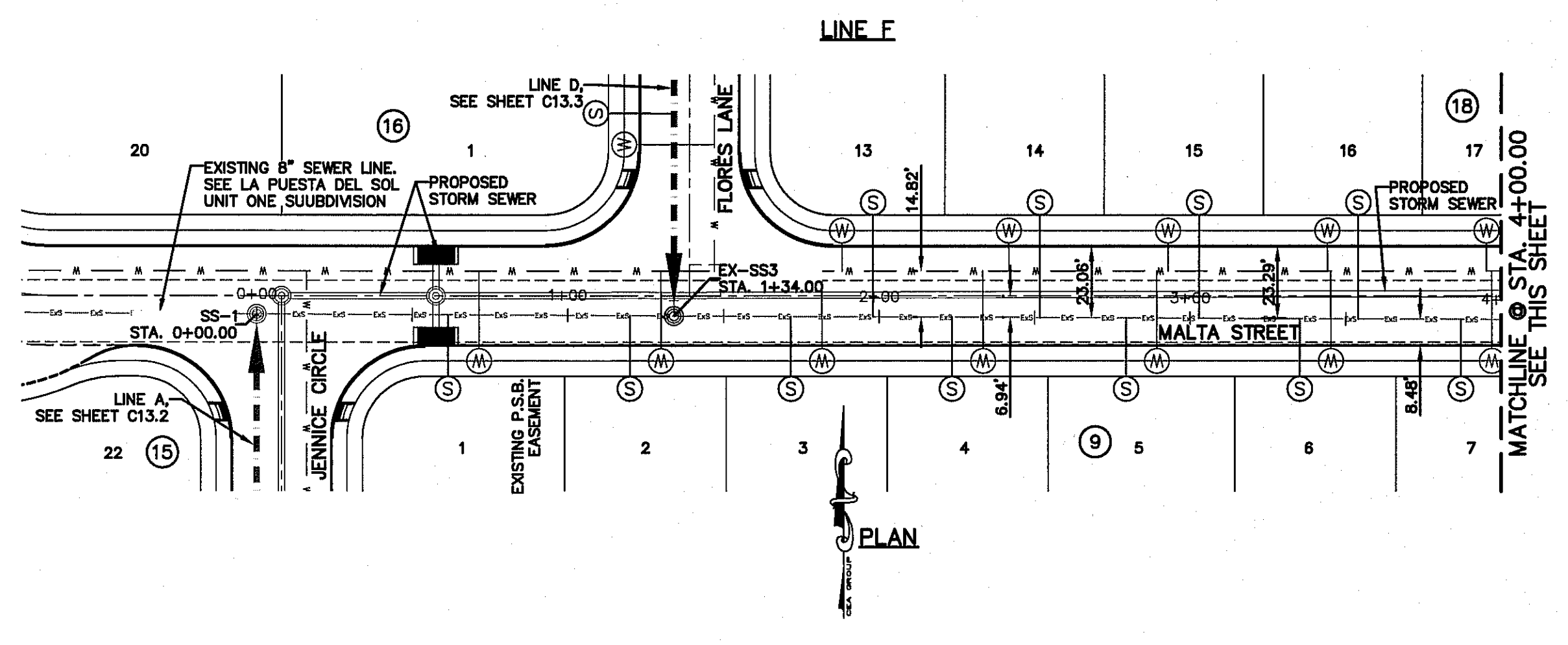
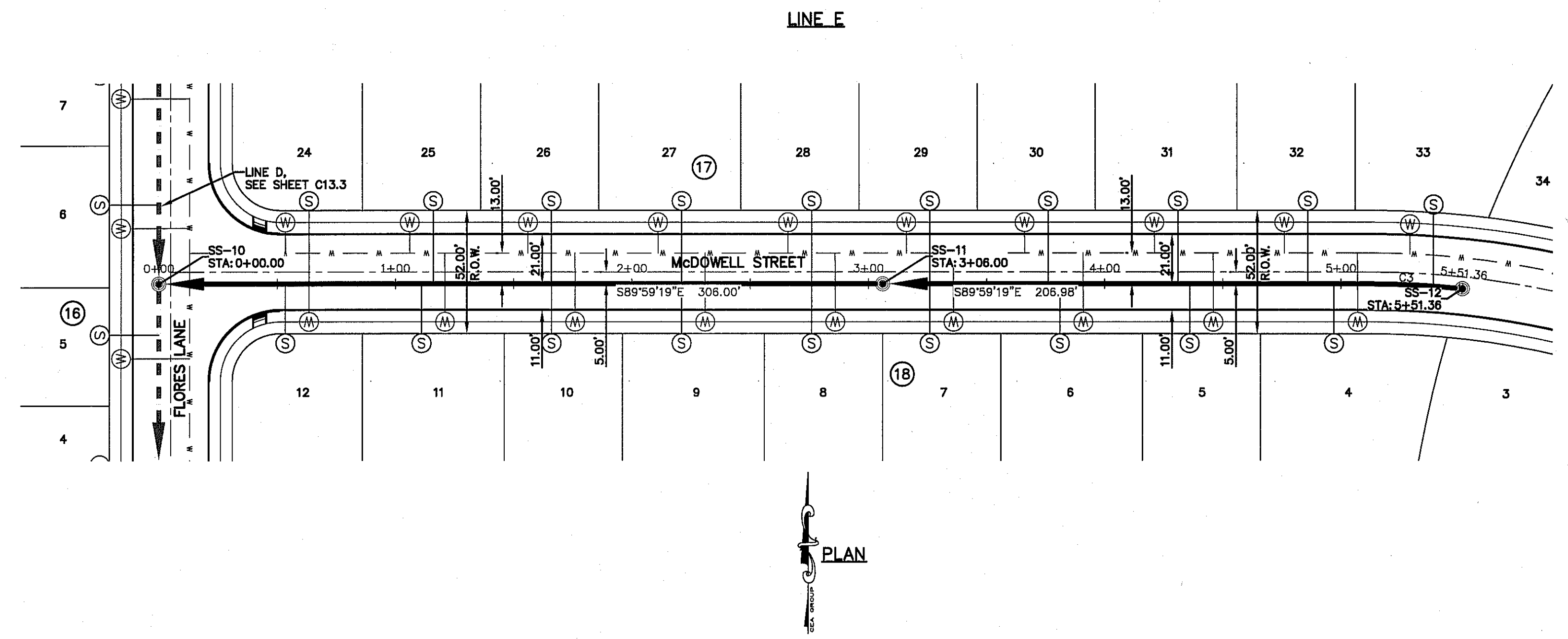
SHEET NO.
C13.3

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SEC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

WARNING!
BEFORE YOU DIG
CALL 811

FOR FIELD LOCATING EXISTING UTILITIES

CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C3	370.00'	38.38'	19.21'	38.36'	N87°01'01"W	005°56'34"



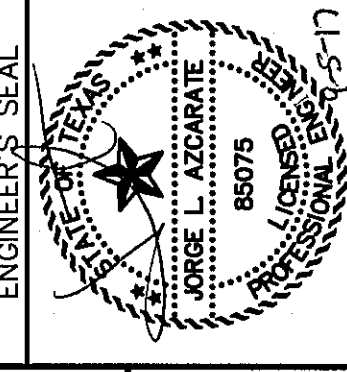
CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	367.00'	72.57'	36.40'	72.45'	S84°20'47"W	011°19'48"
C2	383.00'	53.47'	26.78'	53.43'	N82°41'01"E	007°59'59"

- LEGEND:**
- PROPOSED STORM SEWER LINE
 - w—w—w— PROPOSED 8" WATER LINE
 - s—s—s— PROPOSED SEWER LINE ON ANOTHER SHEET (PLAN VIEW)
 - s—s—s— PROPOSED 8" SEWER LINE
 - s—s—s— DOUBLE SEWER LINE (REFER TO PLAN AND PROFILES)
 - s—s—s— EXISTING 8" SEWER LINE
 - PROPOSED WATER SERVICE
 - PROPOSED SEWER SERVICE
 - PROPOSED SEWER MANHOLE
 - EXISTING SEWER MANHOLE

REFERENCES — BENCHMARKS
CITY MONUMENT AT THE INTERSECTION OF PASO DEL NORTE & NORTHWESTERN. ELEVATION = 3887.39 (CITY DATUM). THIS IS BASED ON NGS MONUMENT "CHINO" ELEVATION = 3935.48 (CITY DATUM)

DATE: 8/10/17
REVISIONS: ADDED 2" SACK CEMENT NOTE R.O. ON LINE E @ STA. 0+13.00

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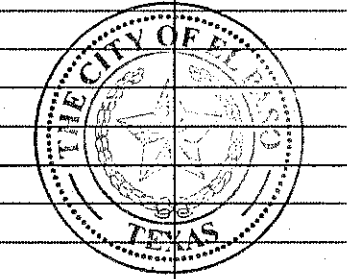
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Horizontal
Vertical: 1"=5'
Contour Interval: N/A

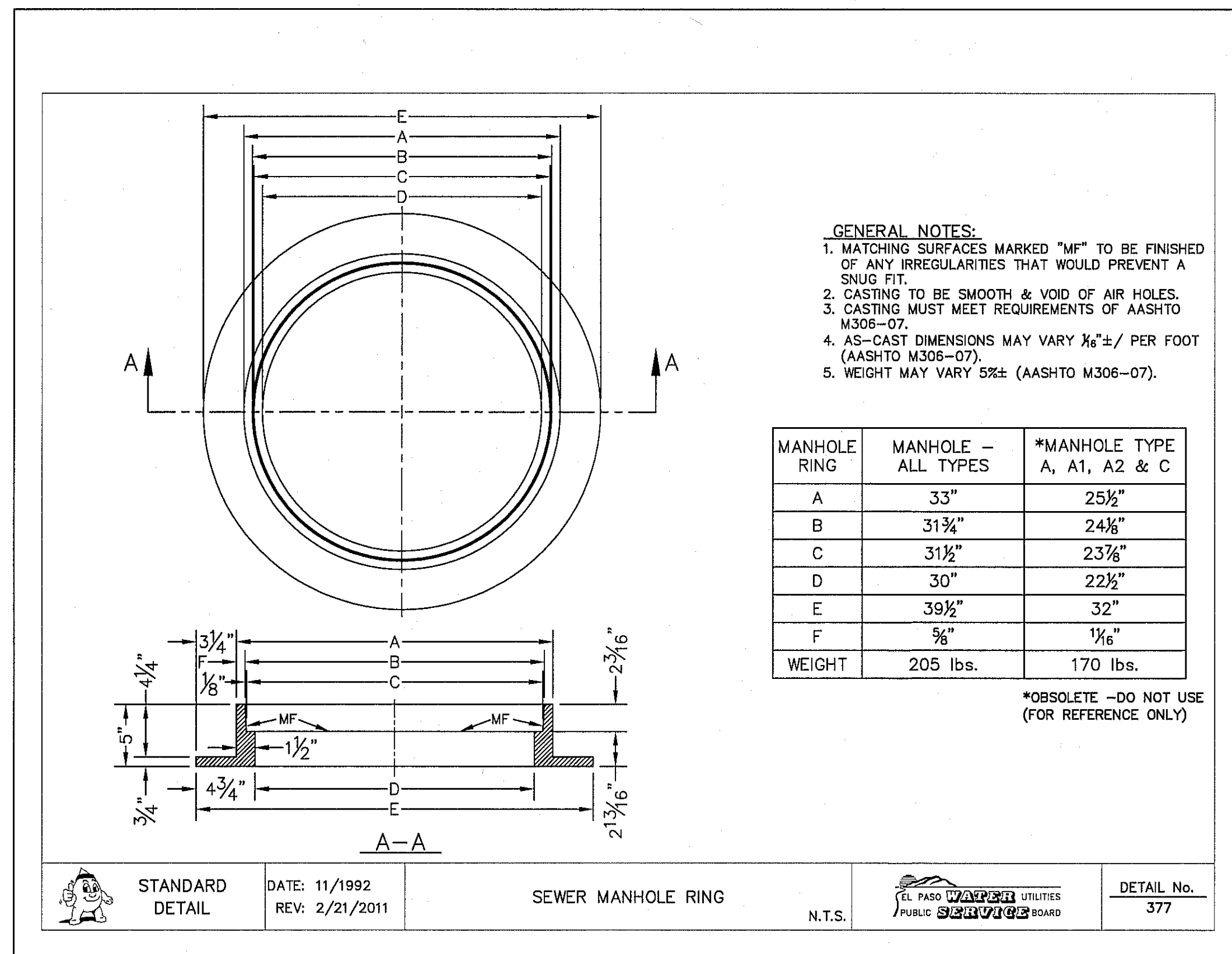
DATE: JUNE 2017
DESIGN BY: R.O.
DRAWN BY: R.O./J.A.M.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-1921D

PROJECT TITLE
**LA PUESTA DEL SOL
UNIT TWO
SUBDIVISION IMPROVEMENTS**

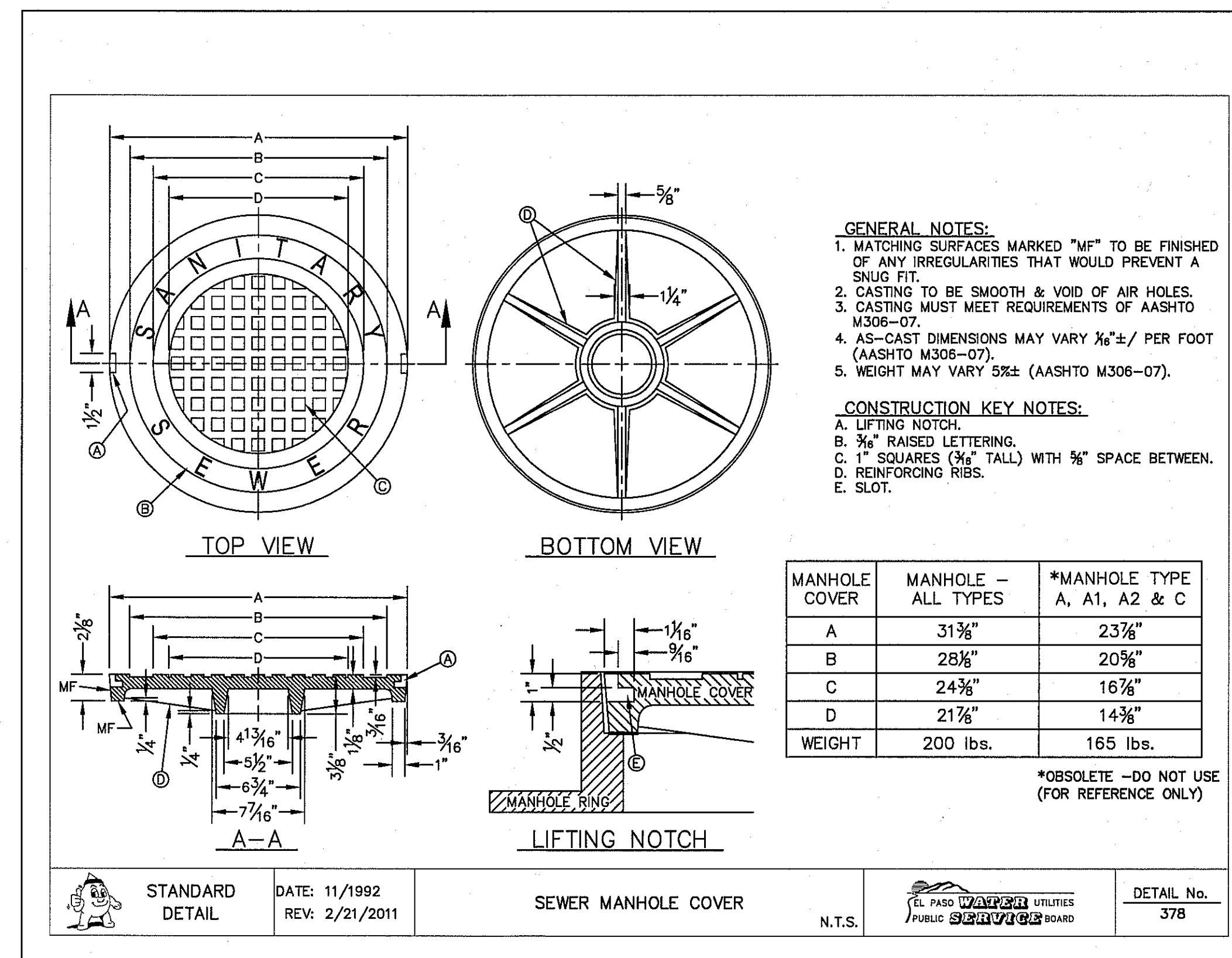
SHEET TITLE
**SANITARY SEWER
PLAN & PROFILE
LINE "E" & "F"**

SHEET NO.
RC13.4

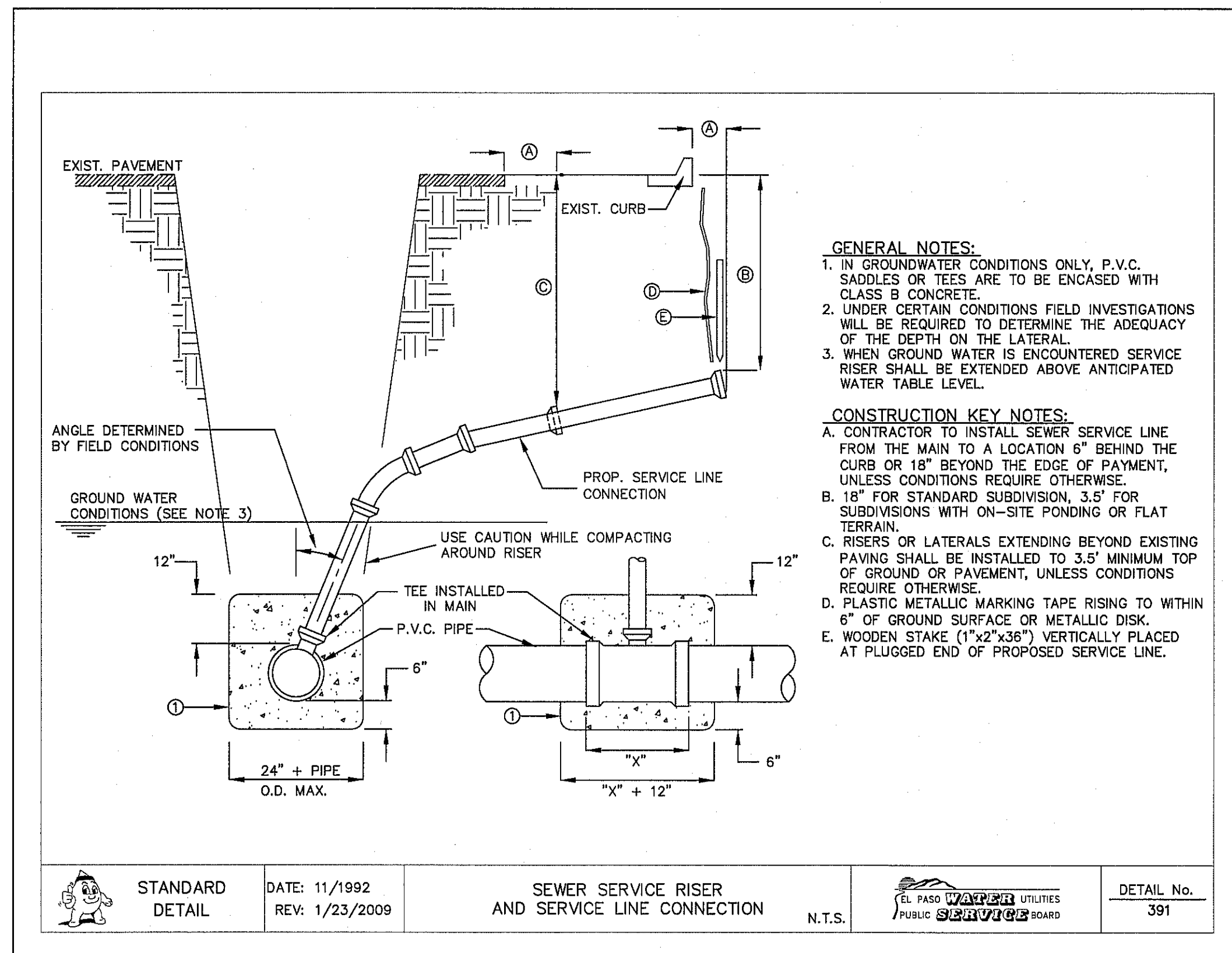




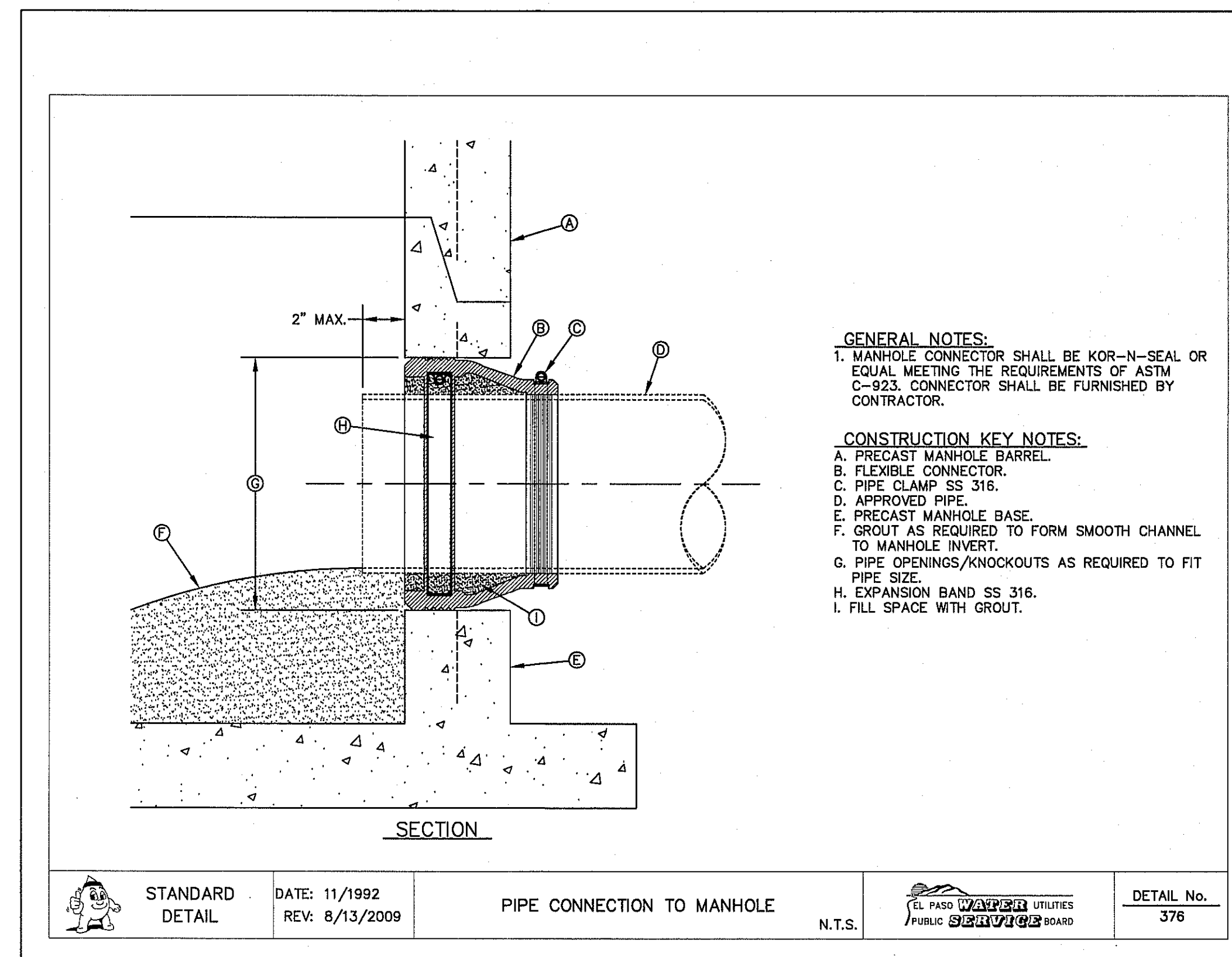
1 STANDARD MANHOLE RING
SCALE: N.T.S.



2 STANDARD COVER DETAIL
SCALE: N.T.S.



3 SEWER SERVICE RISER AND SERVICE LINE CONNECTION
SCALE: N.T.S.



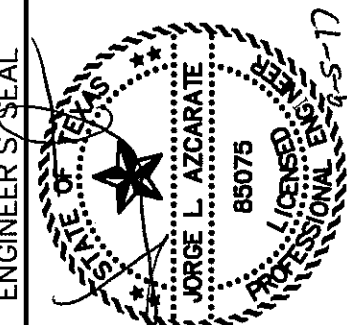
4 PIPE CONNECTION TO MANHOLE
SCALE: N.T.S.

REFERENCES - BENCHMARKS

CITY MONUMENT AT THE INTERSECTION OF PASO DEL NORTE & NORTHWESTERN. ELEVATION = 3987.39 (CITY DATUM). THIS IS BASED ON NGS MONUMENT "CHINO" ELEVATION = 3935.48 (CITY DATUM)

DATE	REVISIONS	BY

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Office: 915.544.5232 Fax: 915.544.5233 www.osaeng.com



SCALE

Horizontal:	N/A
Vertical:	N/A
Contour Interval:	N/A
DATE:	JUNE 2017
DESIGN BY:	R.O.
DRAWN BY:	R.O./R.J.M.
CHKD. BY:	J.L.A.
APPROV. BY:	J.L.A.
JOB No.	2000-192LD

PROJECT TITLE

LA PUESTA DEL SOL
UNIT TWO
SUBDIVISION IMPROVEMENTS

SHEET TITLE

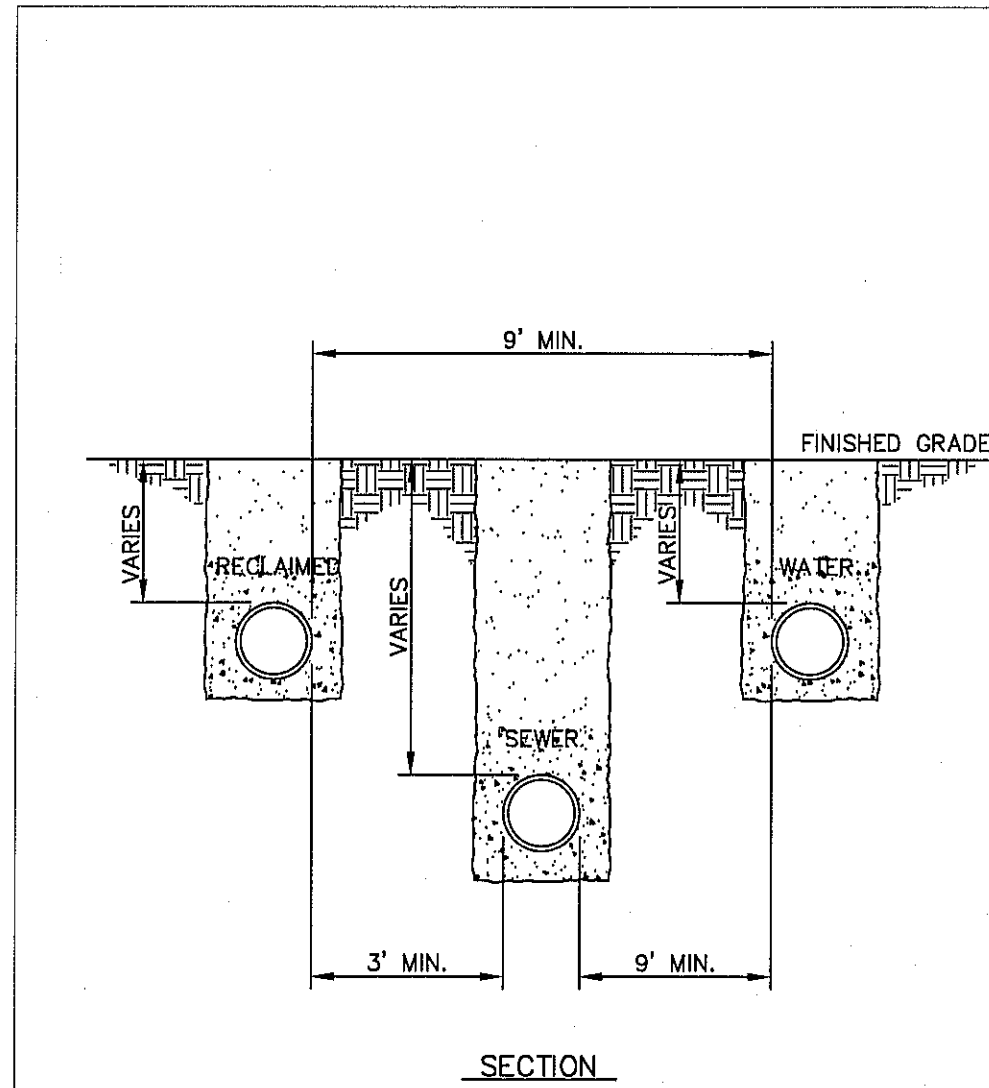
SANITARY SEWER DETAILS

(SHEET 1 OF 3)

SHEET NO.



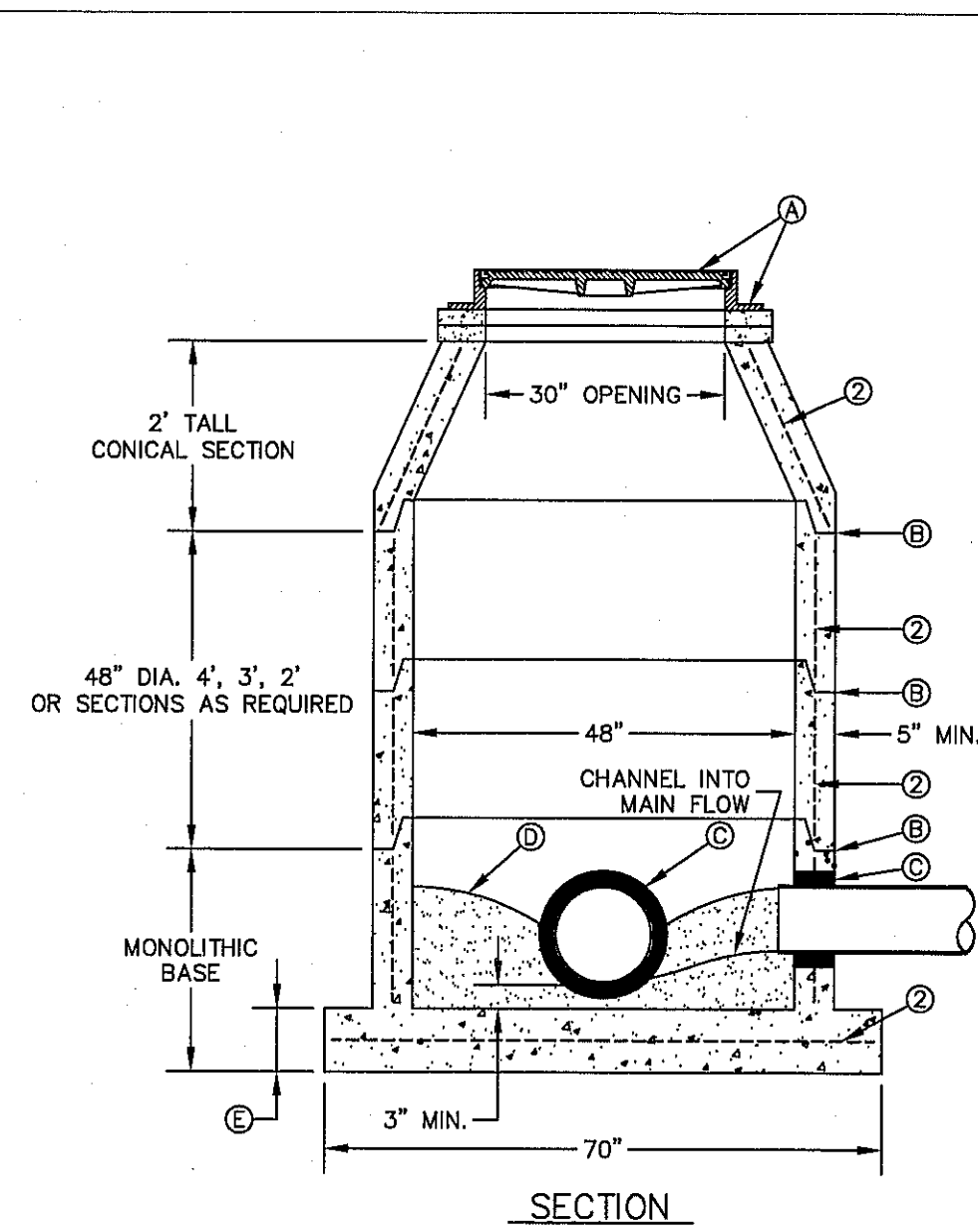
C13.5



GENERAL NOTES:
 1. SEPARATION DISTANCES SHALL FOLLOW TEXAS COMMISSION ON ENVIRONMENTAL QUALITY STANDARD REQUIREMENTS.
 2. MINIMUM SEPARATION DISTANCES SHOWN, IF CONDITIONS DO NOT ALLOW FOR INDICATED DISTANCES REFER TO DETAILS 161, 162 & 163.
 3. RECLAIMED WATER LINE AT OR ABOVE SEWER LINE.

STANDARD DETAIL	DATE: 8/3/2006 REV: 3/28/2007	SEPARATION DISTANCE POTABLE WATER, SANITARY SEWER AND RECLAIMED WATER	EL PASO WATER UTILITIES PUBLIC UTILITIES BOARD	DETAIL No. 160
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1 SEPARATION DISTANCE—POTABLE WATER, SANITARY SEWER AND RECLAIMED WATER
 C13.6 SCALE: N.T.S.

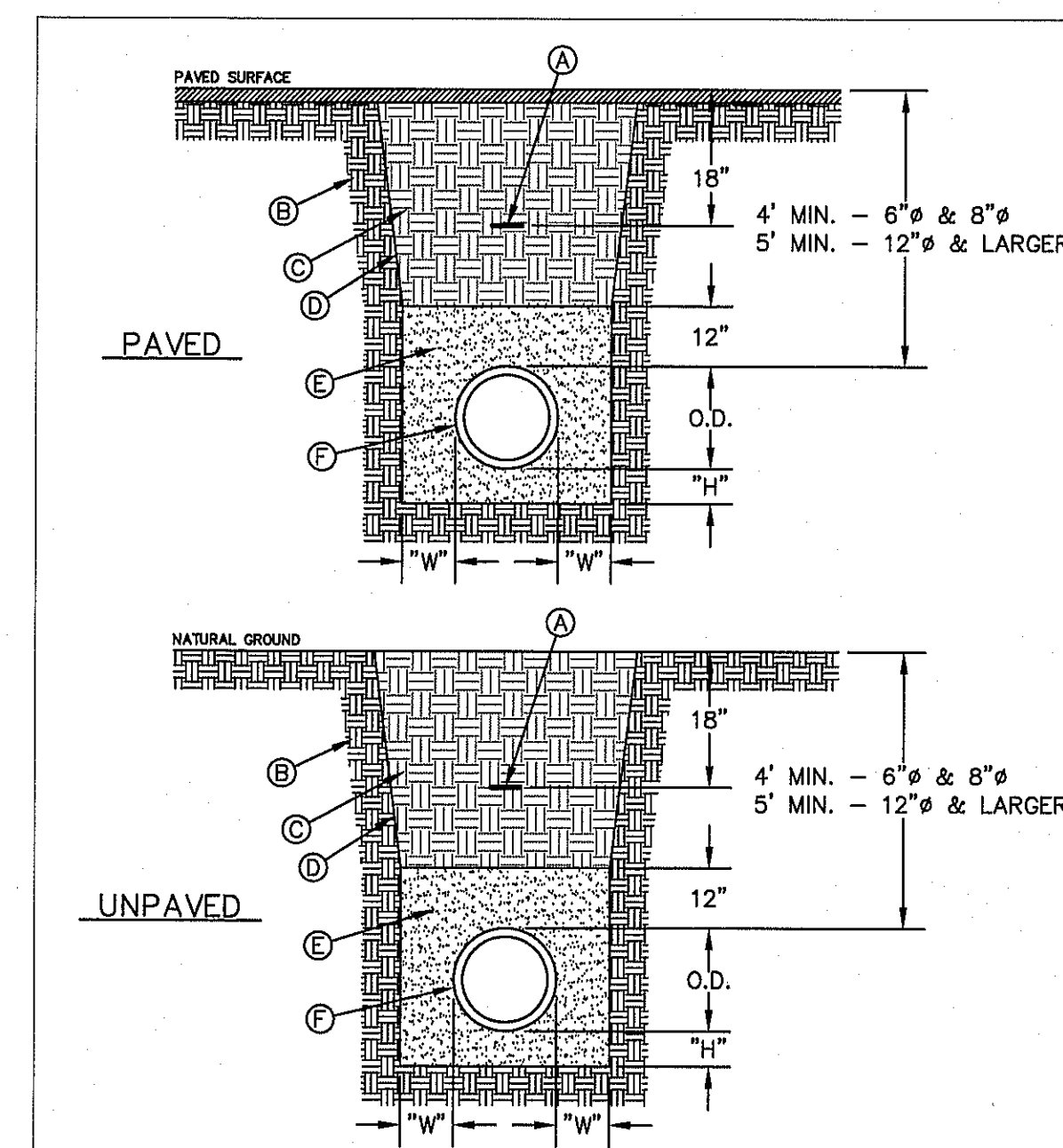


GENERAL NOTES:
 1. MANHOLE TYPE "A" SHALL BE USED FOR LINES 21" AND SMALLER.
 2. PRE-CAST MANHOLE SECTIONS SHALL BE OF REINFORCED CONCRETE CONFORMING TO ASTM C-478 AND SHALL MEET HS-20 LOADING. PROVIDE REINFORCEMENT WITHIN 3" @ OPENINGS OR KNOCKOUTS. OPENINGS (UP TO 8") MADE IN FIELD SHALL BE CORE DRILLED.
 3. CEMENT SHALL BE TYPE I-II, PER ASTM C-150, AND MUST CONTAIN A MINIMUM OF 4% FLY ASH OF THE TOTAL MANHOLE WEIGHT.
 4. THE BASE & RISER SHALL BE INTEGRALLY CAST. CONCRETE SHALL BE MIN. 28 DAY COMPRESSIVE STRENGTH 4000psi.
 5. MANUFACTURER TO PROVIDE LIFTERS OF ADEQUATE SIZE AS NEEDED.
 6. THE SUBGRADE UNDER THE BASE SHALL BE COMPACTED TO 95% DENSITY IN ACCORDANCE WITH ASTM D-1557.
 7. MANHOLES BELOW GROUNDWATER TO BE EXTERNALLY AND INTERNALLY COATED WITH BITUMINOUS COATING.

CONSTRUCTION KEY NOTES:
 A. MANHOLE RING AND COVER (SEE DETAILS 377 & 378). SET FRAME AND COVER FLUSH WITH ROADWAY SURFACE OR FINISHED GRADE (SEE DETAIL 185).
 B. ALL JOINTS TO BE TONGUE, GROOVE AND SEALED WITH RAM-NEK OR APPROVED EQUAL.
 C. PIPE OPENINGS/KNOCKOUTS AS REQUIRED TO FIT PIPE SIZE AND SHALL HAVE FLEXIBLE PIPE TO MANHOLE CONNECTORS (COMPRESSION TYPE ASTM-923), "KOR-N-SEAL" OR APPROVED EQUAL. D. GROUT AS REQUIRED.
 E. CONCRETE BASE SHALL BE 8" FOR MH'S UP TO 12' DEEP AND 12" FOR DEPTHS GREATER THAN 12'.

STANDARD DETAIL	DATE: 11/1992 REV: 2/8/2013	MANHOLE TYPE "A"	EL PASO WATER UTILITIES PUBLIC UTILITIES BOARD	DETAIL No. 370-1
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2 STANDARD MANHOLE TYPE "A"
 C13.6 SCALE: N.T.S.



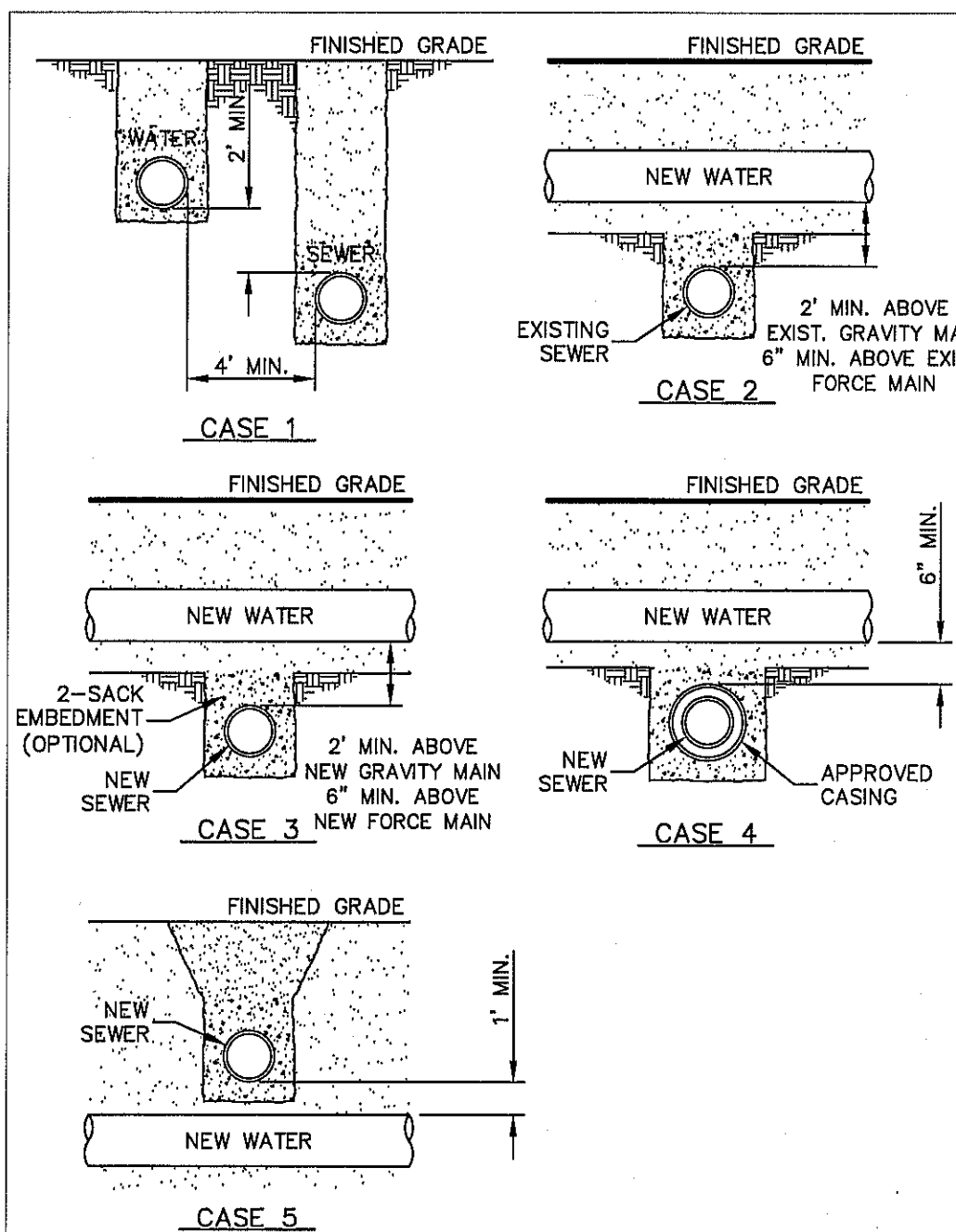
GENERAL NOTES:
 1. BEDDING FOR PRESSURE AND GRAVITY PIPE IN DRY CONDITIONS.
 2. PROVIDE TRENCH SAFETY SYSTEM FOR TRENCH DEPTHS GREATER THAN 5 FEET.
 3. IF THE NATIVE MATERIAL EXCAVATED FROM THE TRENCH IS UNSUITABLE AS BACKFILL MATERIAL, OR THE REQUIRED COMPACTION IS UNATTAINABLE, THE CONTRACTOR SHALL, AT HIS EXPENSE, IMPORT SELECT MATERIAL TO BE MIXED WITH OR USED IN PLACE OF THE NATIVE MATERIAL. SELECT MATERIAL MUST BE APPROVED BY EPWU. SUBSTITUTE SOIL CEMENT SLURRY (1-SACK) IF REQUIRED IN SPECS.

CONSTRUCTION KEY NOTES:
 A. APPROVED MARKING TAPE.
 B. UNDISTURBED STABLE MATERIAL.
 C. NATIVE MATERIAL BACKFILL. PAVED CONDITION: COMPACT TO 90% DENSITY PER ASTM D-1557 MODIFIED PROCTOR. UNPAVED CONDITION: COMPACT TO 85% DENSITY PER ASTM D-1557 MODIFIED PROCTOR. (*SEE NOTE #3 IF THESE PREVIOUS CONDITIONS CANNOT BE MET.)
 D. SLOPE TRENCH IN SANDY SOIL CONDITIONS. E. USE CLASS II OR CLASS III SAND PER ASTM D-2487. NATIVE MATERIAL OR IMPORTED SELECT MATERIAL MEETING OR EXCEEDING THIS REQUIREMENT MAY BE USED. COMPACT TO 85% DENSITY PER ASTM D-1557 MODIFIED PROCTOR (OR 90% D-698 STANDARD PROCTOR).
 F. APPROVED EQUAL.
 G. TRENCH DIMENSIONS AS FOLLOWS:

PIPE DIAMETER	"H"
6" - 30"	4'-1"
GREATER THAN 30"	6'
PIPE DIAMETER	"W"
6" - 30"	8'
GREATER THAN 30"	12'

STANDARD DETAIL	DATE: 4/24/2007 REV: 2/21/2011	EMBEDMENT CLASS "A" FOR PRESSURE PIPE AND GRAVITY PIPE DRY CONDITIONS	EL PASO WATER UTILITIES PUBLIC UTILITIES BOARD	DETAIL No. 171
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3 BEDDING CLASS "A" FOR P.V.C. PRESSURE PIPE
 C13.6 SCALE: N.T.S.



GENERAL NOTES:
 1. NEW OR EXISTING POTABLE WATER AND SANITARY SEWER MAINS.
 2. SEPARATION DISTANCES SHALL FOLLOW TEXAS COMMISSION ON ENVIRONMENTAL QUALITY STANDARD REQUIREMENTS.

CONSTRUCTION KEY NOTES:
 WHEN STANDARD NINE (9) FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, SEPARATION SHALL BE DETERMINED ACCORDING TO THE FOLLOWING CONDITIONS:

CASE 1: GRAVITY SANITARY SEWER MAIN OR FORCE MAIN PARALLEL TO POTABLE WATER MAIN (PER TCEQ §290.44(a)(4)(B)(i) AND §290.44(a)(4)(B)(ii)).
 • LOCATION: WATER ABOVE SEWER OR FORCE MAIN.
 • SEWER MATERIALS: EXISTING GRAVITY MAIN (PVC SDR35 OR CLAY) OR FORCE MAIN TO REMAIN IF NOT LEAKING-IF LEAKING, MUST BE REPLACED WITH PVC (150 PSI) OR DI. NEW GRAVITY MAIN OR FORCE MAIN REQUIRES PVC (150 PSI) OR DI.
 • SEPARATE TRENCHES SHALL BE USED.

CASE 2: NEW POTABLE WATER MAIN CROSSING EXISTING GRAVITY SANITARY SEWER MAIN OR EXISTING FORCE MAIN (PER TCEQ §290.44(a)(4)(B)(i) AND §290.44(a)(4)(B)(ii)).
 • LOCATION: WATER ABOVE SEWER OR FORCE MAIN.
 • SEWER MATERIALS: EXISTING GRAVITY MAIN (PVC SDR35 OR CLAY) OR FORCE MAIN TO REMAIN IF NOT LEAKING-IF LEAKING, REPLACE ONE PIPE SEGMENT PER CASE 3 REQUIREMENTS.
 • CENTER ONE SEGMENT OF WATER PIPE OVER SEWER MAIN OR FORCE MAIN.
 • MINIMUM PIPE SEGMENT LENGTH FOR WATER PIPE SHALL BE 18 FEET LONG.

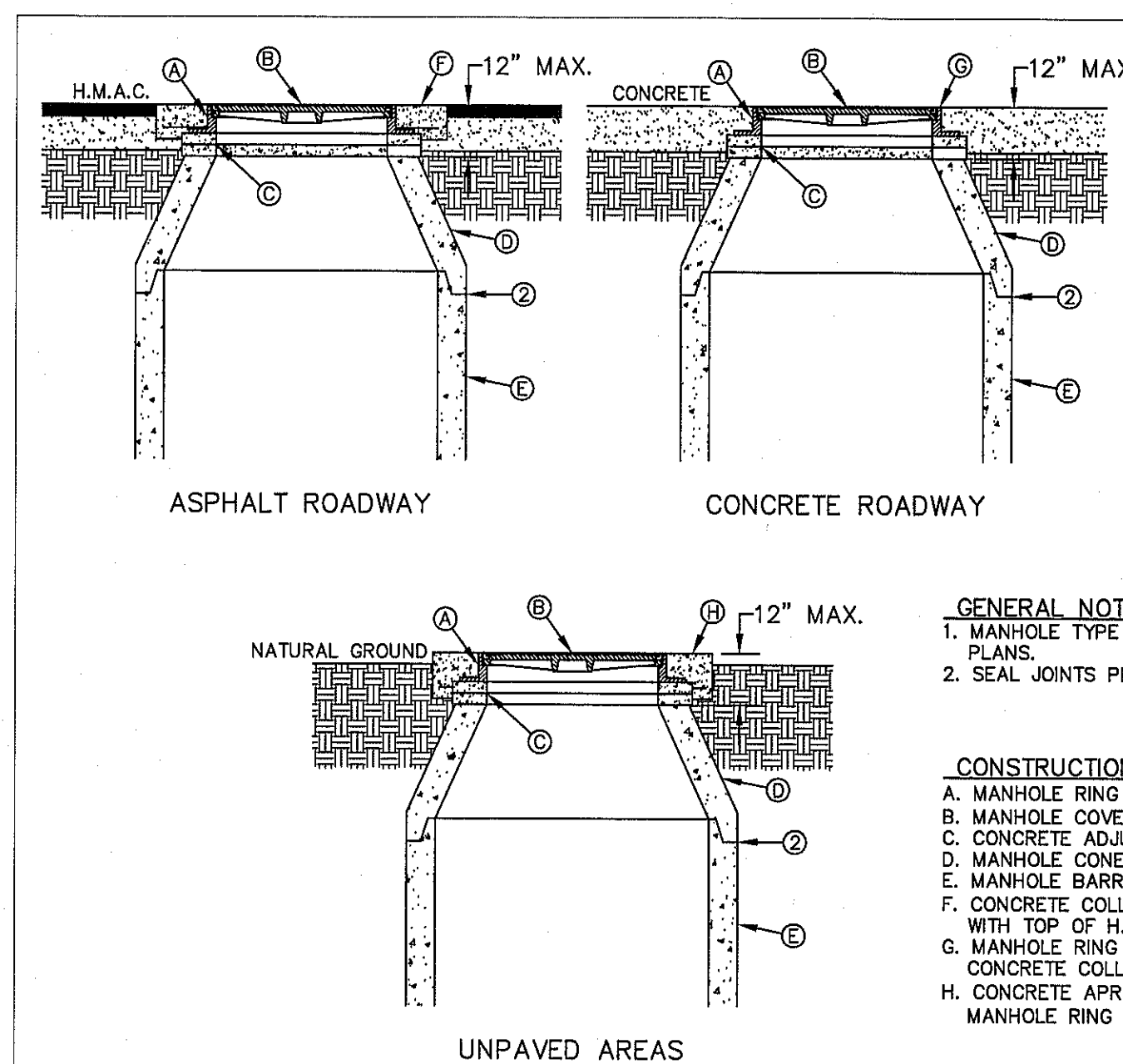
CASE 3: NEW POTABLE WATER MAIN CROSSING NEW GRAVITY SANITARY SEWER MAIN OR NEW FORCE MAIN (PER TCEQ §290.44(a)(4)(B)(i), §290.44(a)(4)(B)(ii) AND §290.44(a)(4)(B)(iii)).
 • LOCATION: WATER ABOVE SEWER OR FORCE MAIN.
 • SEWER MATERIALS: NEW GRAVITY MAIN - PVC (150 PSI) OR DI REQUIRED. CENTER UNDER WATER MAIN. NEW FORCE MAIN - PVC (150 PSI) OR DI REQUIRED. FORCE MAIN TO BE EMBEDDED IN CEMENT STABILIZED BACKFILL THE TOTAL LENGTH OF ONE PIPE PLUS 12" BEYOND THE JOINT AT EACH END.
 • CENTER ONE SEGMENT OF WATER PIPE OVER SEWER PIPE OR FORCE MAIN.
 • MINIMUM PIPE SEGMENT LENGTH FOR WATER AND SEWER SHALL BE 18 FEET LONG.
 • FOR NEW GRAVITY SEWER ONLY, IN LIEU OF PVC (150 PSI) OR DI, INSTALL ONE PIPE SEGMENT OF SDR35 SEWER MAIN MUST BE EMBEDDED IN CEMENT STABILIZED BACKFILL THE TOTAL LENGTH OF ONE PIPE PLUS 12" BEYOND THE JOINT AT EACH END.

CASE 4: NEW POTABLE WATER MAIN CROSSING NEW GRAVITY SANITARY SEWER MAIN OR NEW FORCE MAIN (PER TCEQ §290.44(a)(4)(B)(i), §290.44(a)(4)(B)(ii) AND §290.44(a)(4)(B)(iii)).
 • LOCATION: WATER ABOVE SEWER OR FORCE MAIN.
 • SEWER MATERIALS: NEW GRAVITY MAIN - SDR35 ACCEPTABLE. NEW FORCE MAIN - PVC (150 PSI) OR DI REQUIRED. IN ADDITION, SEWER MAIN OR FORCE MAIN MUST BE ENCASED IN DI OR STEEL, TWO NOMINAL SIZES LARGER THAN MAIN AND AT LEAST 18 FEET LONG.
 • CENTER CASING PIPE ON WATER MAIN.

CASE 5: NEW GRAVITY SANITARY SEWER MAIN OR NEW FORCE MAIN CROSSING NEW POTABLE WATER MAIN (PER TCEQ §290.44(a)(4)(B)(i), §290.44(a)(4)(B)(ii) AND §290.44(a)(4)(B)(iii)).
 • LOCATION: SEWER OR FORCE MAIN ABOVE WATER.
 • NEW GRAVITY MAIN OR FORCE MAIN REQUIRES ONE PIPE SEGMENT OF PVC (150 PSI) OR DI. IN ADDITION, WATER MUST BE DI OR STEEL, TWO NOMINAL SIZES LARGER THAN MAIN AND AT LEAST 18 FEET LONG.
 • CENTER ONE SEGMENT OF SEWER PIPE ON WATER MAIN.

STANDARD DETAIL	DATE: 8/3/2006 REV: 8/21/2007	SEPARATION DISTANCE SANITARY SEWER AND POTABLE WATER (SPECIAL CONDITIONS)	EL PASO WATER UTILITIES PUBLIC UTILITIES BOARD	DETAIL No. 161
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4 SEPARATION DISTANCE SANITARY SEWER AND POTABLE WATER (SPECIAL CONDITIONS)
 C13.6 SCALE: N.T.S.

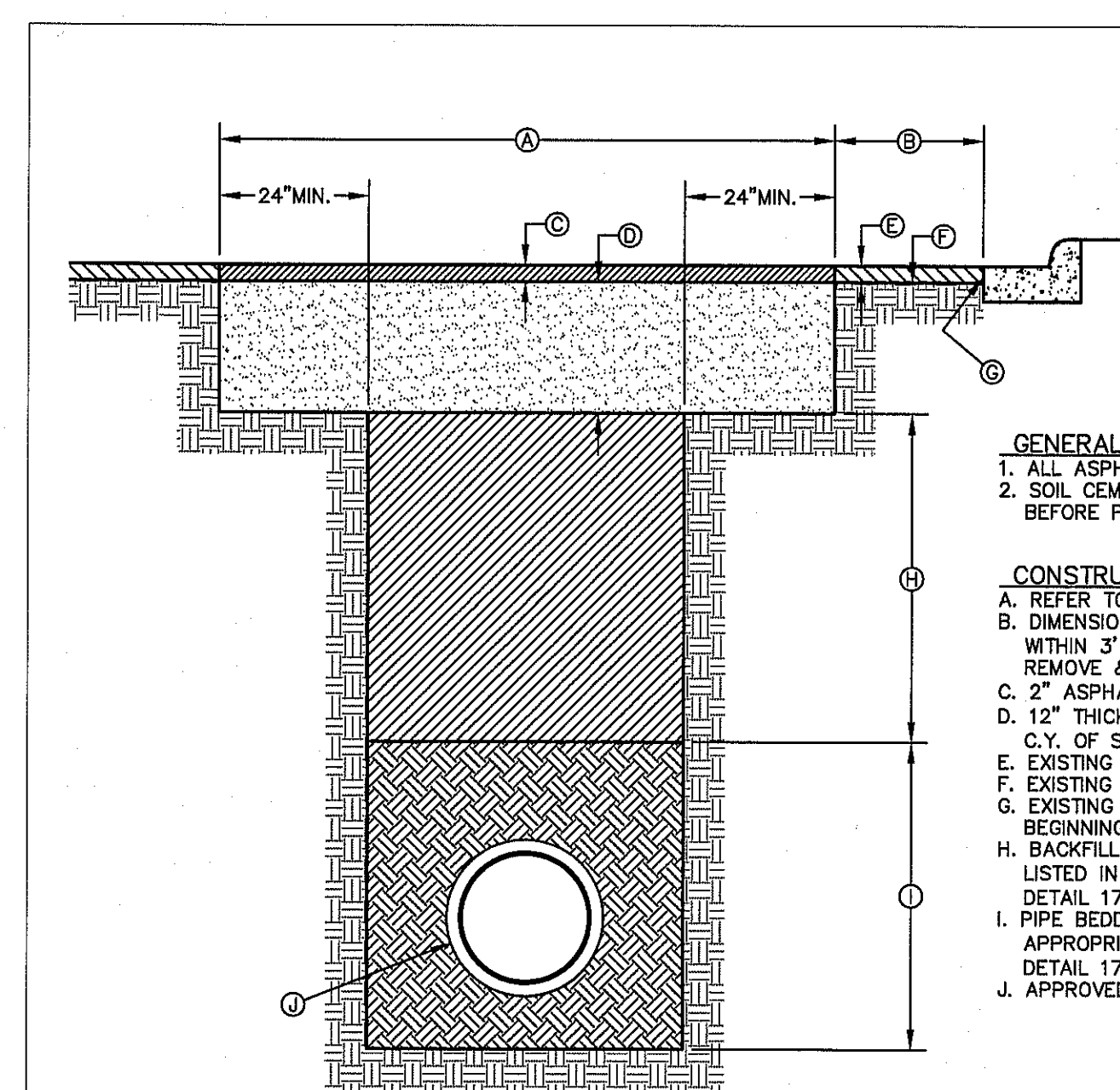


GENERAL NOTES:
 1. MANHOLE TYPE SHALL BE AS SHOWN ON THE PLANS.
 2. SEAL JOINTS PER SPECIFICATIONS.

CONSTRUCTION KEY NOTES:
 A. MANHOLE RING (SEE DETAIL 377).
 B. MANHOLE COVER (SEE DETAIL 378).
 C. CONCRETE ADJUSTMENT RINGS AS REQUIRED.
 D. MANHOLE CONE SECTION.
 E. MANHOLE BARREL SECTION.
 F. CONCRETE COLLAR (SEE DETAIL 184-1) FLUSH WITH TOP OF H.M.A.C.
 G. MANHOLE RING FLUSH WITH TOP OF CONCRETE, CONCRETE COLLAR NOT NEEDED.
 H. CONCRETE APRON (SEE DETAIL 184-2) FLUSH WITH MANHOLE RING AND 2" ABOVE NATURAL GROUND.

STANDARD DETAIL	DATE: 6/22/2009 REV:	MANHOLE RING AND COVER INSTALLATION	EL PASO WATER UTILITIES PUBLIC UTILITIES BOARD	DETAIL No. 185
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5 STANDARD MANHOLE RING AND COVER INSTALLATION DETAIL
 C13.6 SCALE: N.T.S.



GENERAL NOTES:
 1. ALL ASPHALT CUTS MUST BE SAW CUT.
 2. SOIL CEMENT SLURRY SHALL BE ALLOWED TO CURE BEFORE PAVING OR OPENING TO ALL TRAFFIC.

CONSTRUCTION KEY NOTES:
 A. REFER TO SPECS FOR LIMIT OF PAVING WIDTH.
 B. DIMENSION VARIES: WHERE GUTTER FACE, ETC. IS WITHIN 2' OF SAW CUT EDGE, CONTRACTOR SHALL REMOVE & REPLACE EXISTING HMA/C IN THIS AREA.
 C. 2" ASPHALT MIN.
 D. 12" THICK SOIL CEMENT BACKFILL (2 SACK PER C.Y. OF SOIL).
 E. EXISTING HMA/C—THICKNESS MAY VARY.
 F. EXISTING BASE COURSE—THICKNESS MAY VARY.
 G. EXISTING GUTTER FACE, EDGE OF PAVEMENT OR BEGINNING OF SHOULDER.
 H. BACKFILL DEPTH VARIES, REFER TO REQUIREMENTS LISTED IN EMBEDMENT DETAILS (DETAIL 171 THRU DETAIL 173).
 I. PIPE BEDDING AS SPECIFIED, REFER TO APPROPRIATE EMBEDMENT DETAIL (DETAIL 171 THRU DETAIL 173).
 J. APPROVED PIPE.

STANDARD DETAIL	DATE: 10/1992 REV: 5/9/2011	PAVEMENT REPLACEMENT	EL PASO WATER UTILITIES PUBLIC UTILITIES BOARD	DETAIL No. 179
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6 PAVEMENT REPAIR DETAIL
 C13.6 SCALE: N.T.S.

REFERENCES — BENCHMARKS	CITY MONUMENT AT THE INTERSECTION OF BASED DEL NORTE & NORTHWESTERN. ELEVATION = 3867.39 (CITY DATUM). THIS IS BASED ON NGS MONUMENT "CHINO" ELEVATION = 3935.48 (CITY DATUM)
DATE	
REVISIONS	
BY	

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 4712 Woodrow Bawn, Ste. F El Paso, TX 79904
 Office: 915.544.8222 Fax: 915.544.5233 www.osagroup.net

ENGINEER'S SEAL

SCALE	N/A
Horizontal:	N/A
Vertical:	N/A
Contour Interval:	N/A
DATE:	JUNE 2017
DESIGN BY:	R.O.
DRAWN BY:	R.O./R.J.M.
CHKD. BY:	J.L.A.
APPV. BY:	J.L.A.
JOB No.	2000-1921LD

PROJECT TITLE
**LA PUERTA DEL SOL
 UNIT TWO
 SUBDIVISION IMPROVEMENTS**

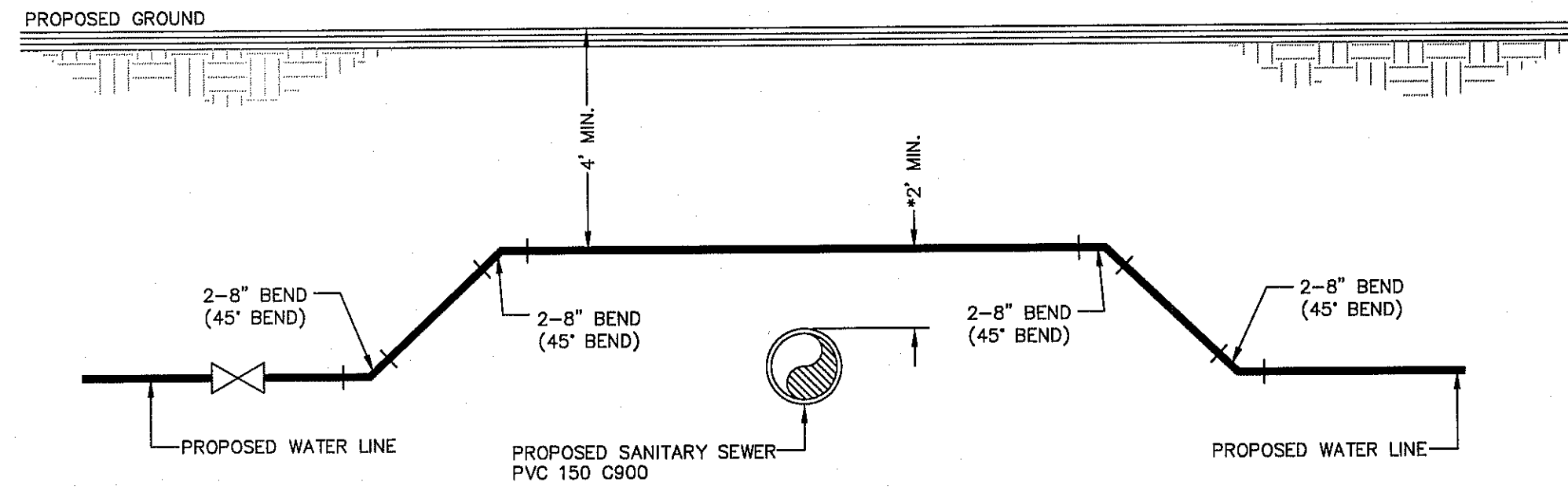
SHEET TITLE
**SANITARY SEWER
 DETAILS**

(SHEET 2 OF 3)
 SHEET NO.

C13.6

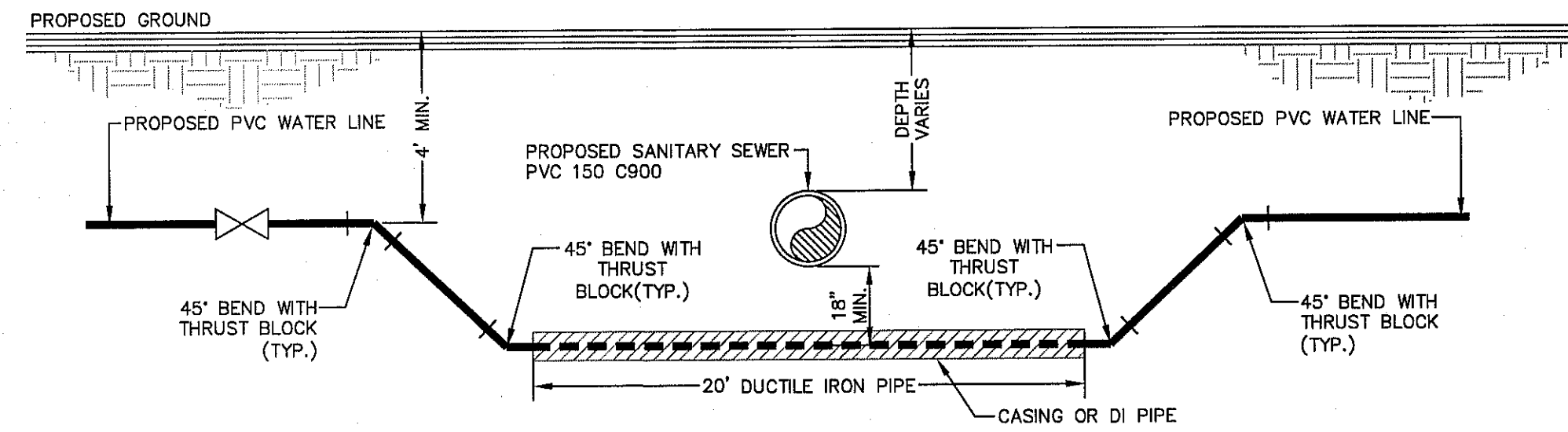


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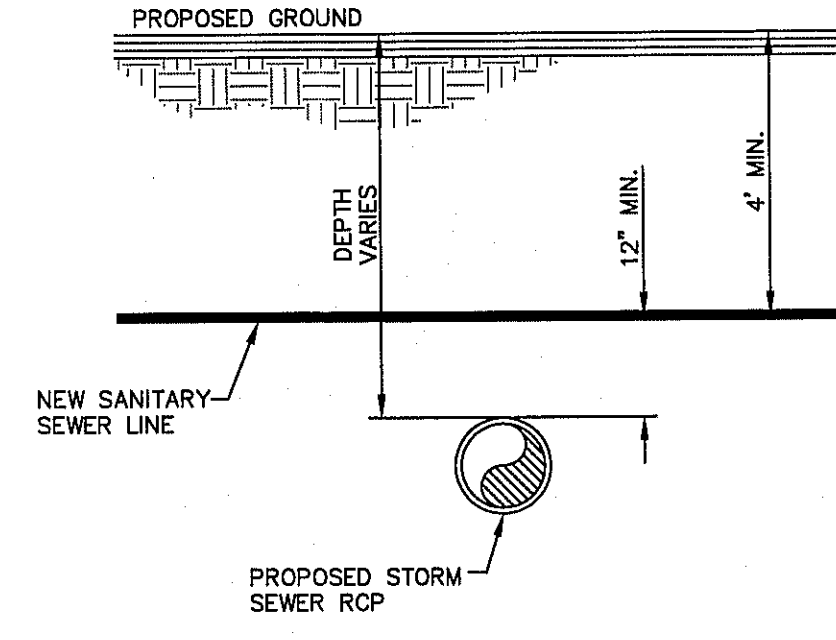


***NOTE:**
IF DISTANCE BETWEEN PROPOSED SANITARY SEWER AND PROPOSED WATER LINE IS BETWEEN 6" (MIN.) - 2' (MAX.), SANITARY SEWER MUST BE ENCASED IN DUCTILE IRON PIPE AS PER SEPARATION DISTANCE (SPECIAL CONDITION) DETAIL.

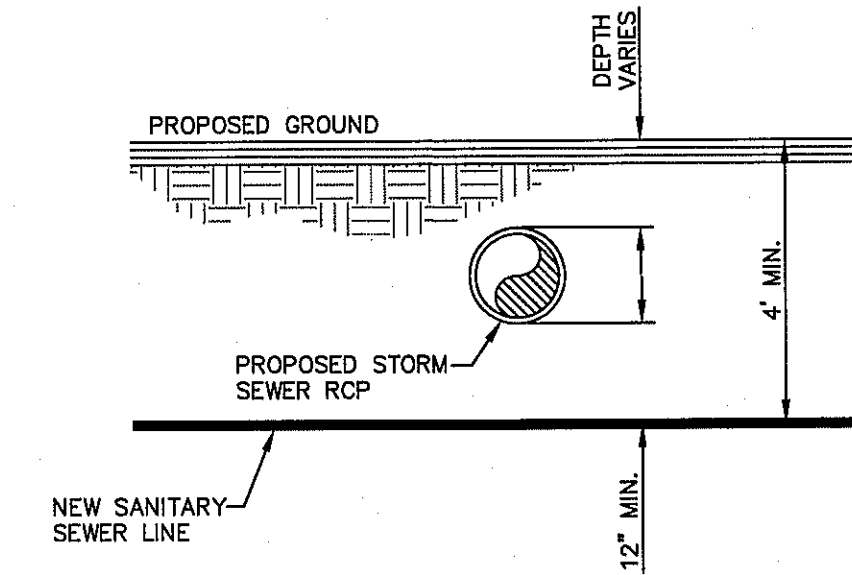
1 SANITARY SEWER CROSSING WATER LINE DETAIL
SCALE: N.T.S.



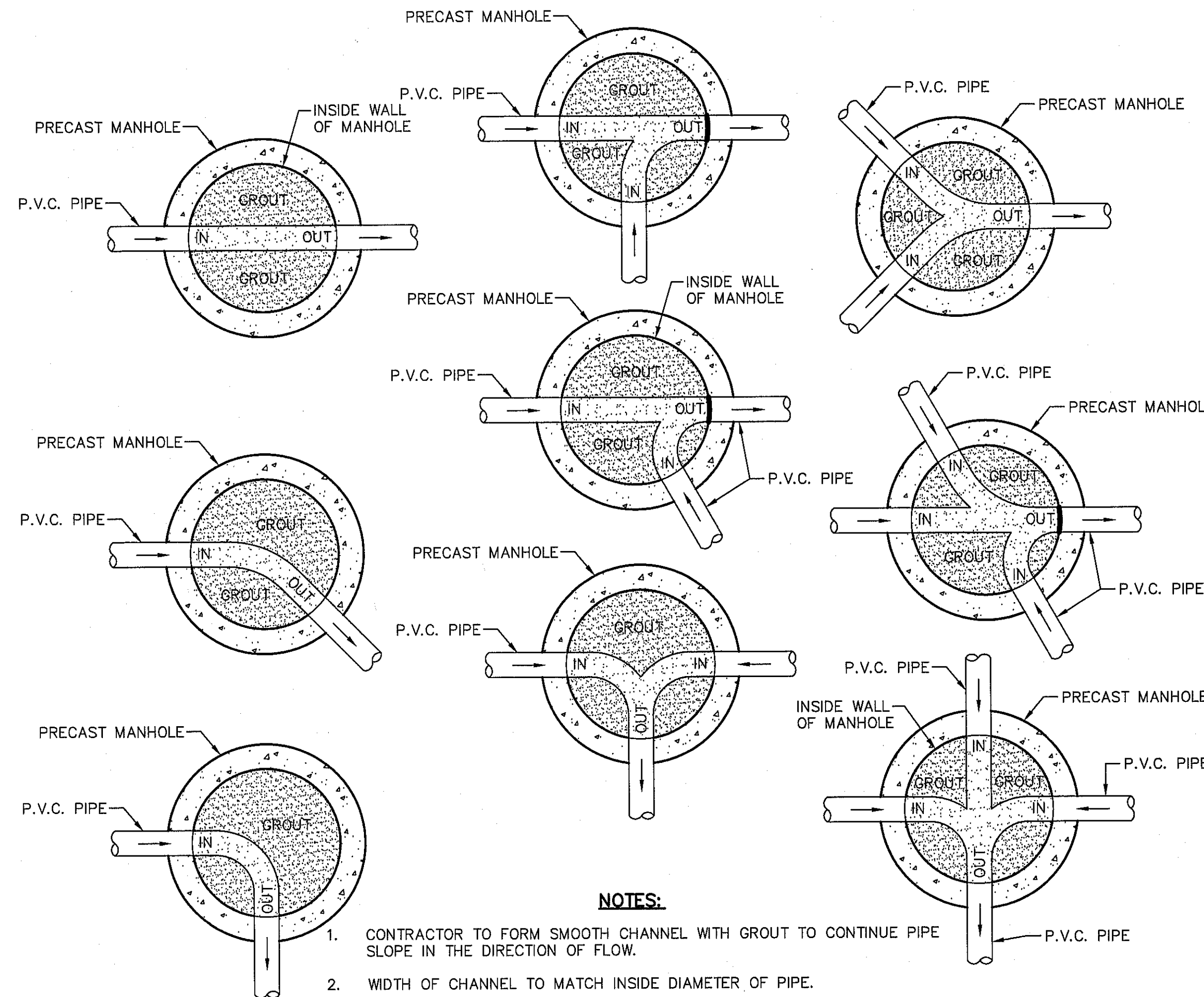
3 SANITARY SEWER CROSSING WATER LINE DETAIL
SCALE: N.T.S.



2 STORM SEWER CROSSING UNDER SANITARY LINE DETAIL
SCALE: N.T.S.



4 STORM SEWER CROSSING OVER SANITARY LINE DETAIL
SCALE: N.T.S.



NOTES:

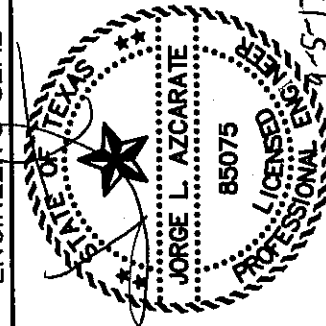
1. CONTRACTOR TO FORM SMOOTH CHANNEL WITH GROUT TO CONTINUE PIPE SLOPE IN THE DIRECTION OF FLOW.
2. WIDTH OF CHANNEL TO MATCH INSIDE DIAMETER OF PIPE.
3. WHEN DIFFERENT SIZES OF PIPE ARE CONNECTING TO MANHOLE, TAPER WIDTH OF CHANNEL TO TOTAL LENGTH OF INSIDE DIAMETER OF MANHOLE.
4. GROUT TO BE USED FOR BOTH MANHOLES AND DROP MANHOLES. NO P.V.C. PIPE SHALL BE INSTALLED IN MANHOLE.
5. REFER TO PLAN & PROFILE SHEETS FOR SIZE OF PIPES AND MANHOLES.

5 TYPICAL MANHOLE INVERT PLANS
SCALE: N.T.S.

REFERENCES - BENCHMARKS

CITY MONUMENT AT THE INTERSECTION OF PASO DEL NORTE & NORTHWESTERN, ELEVATION = 3887.39 (CITY DATUM). THIS IS BASED ON NGS MONUMENT "CHINO" ELEVATION = 3935.49 (CITY DATUM)	DATE	REVISIONS	BY

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SCALE	N/A
Horizontal	N/A
Vertical	N/A
Contour Interval	N/A
DATE	JUNE 2017
DESIGN BY	P.O.
CHECK BY	R.O./R.I.M.
APPROV. BY	J.L.A.
APP'D.	P.Y.
JOB No.	2000-192LD

PROJECT TITLE
**LA PUESTA DEL SOL
UNIT TWO
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
**SANITARY SEWER
DETAILS**
(SHEET 3 OF 3)
SHEET NO.



C13.7

S:\2000\2000-192-LA PUESTA DEL SOL UNIT TWO SUBDIVISION IMPROVEMENTS\Drawings\Improvement Plans\C13.7-C13.7 - Sewer Details.dwg

SITE DESCRIPTION

PROJECT NAME AND LIMITS: LA PUESTA DEL SOL UNIT TWO IS BORDERED BY A PORTION OF NELLIE D. MUNDY SURVEY NO. 240 TO THE NORTH, SUNSET TERRACE UNIT FIVE AND LA PUESTA DEL SOL UNIT ONE TO THE EAST, TxDOT DRAINAGE R.O.W. TO THE SOUTH, AND EL CANUTILLO ACREAGE 173 TO THE WEST

PROJECT DESCRIPTION: THE SITE FOR THE NEW SUBDIVISION WILL ENCOMPASS APPROXIMATELY 30.66± ACRES, AND WILL CONTAIN A TOTAL OF 145 RESIDENTIAL LOTS

EXISTING CONDITIONS: THE SITE IS CLEAR OF SITE IMPROVEMENTS AND IS COVERED WITH ITS NATURAL SURROUNDINGS. EXISTING RUNOFF IS TO THE WEST.

MAJOR SOIL DISTURBING ACTIVITIES: MAJOR SOIL DISTURBING ACTIVITIES WILL CONSIST OF CLEARING AND GRUBBING, GRADING FOR BUILDING PAD ELEVATIONS, CONSTRUCTION OF STREETS AND EXCAVATION FOR UTILITIES.

TOTAL PROJECT AREA: 30.66±

TOTAL AREA TO BE DISTURBED: 30.66±

WEIGHTED RUNOFF COEFFICIENT (AFTER CONSTRUCTION): 0.675

EXISTING CONDITION OF SOIL AND VEGETATIVE COVER AND % OF EXISTING VEGETATIVE COVER: THE PROJECT SITE IS LOCATED IN THE VICINITY OF THE DELNORTE-CANUTIO ASSOCIATION. THE SOIL IS NEARLY LEVEL TO STEEP SOILS THAT ARE SHALLOW OR VERY SHALLOW OVER CALICHE OR THAT ARE DEEP AND GRAVELLY THROUGHOUT; MAINLY ON AND NEAR FOOT SLOPES OF THE FRANKLIN MOUNTAINS.

NAME OF RECEIVING WATERS: LA PUESTA DEL SOL UNIT TWO SUBDIVISION WILL DISCHARGE INTO ON-SITE STORM SEWER INFRASTRUCTURE AND ULTIMATELY DISCHARGE INTO AN ON SITE PONDING AREA AND A OFF-SITE DRAINAGE CHANNEL.

CERTIFICATION

DEVELOPER/OWNER CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGES THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

OPERATOR: _____

SIGNATURE: _____

NAME (PRINT): _____

TITLE: _____

DATE: _____

CONTRACTOR'S CERTIFICATION

GENERAL CONTRACTOR

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGES THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

OPERATOR: _____

SIGNATURE: _____

NAME (PRINT): _____

TITLE: _____

DATE: _____

EROSION AND SEDIMENT CONTROL

SOIL STABILIZATION PRACTICES

- TEMPORARY SEEDING
PERMANENT PLANTING, SODDING, OR SEEDING
MULCHING
SOIL RETENTION BLANKET
BUFFER ZONES
PRESERVATION OF NATURAL RESOURCES

OTHER: _____

STRUCTURAL PRACTICES:

- X SILT FENCES
HAY BALES
ROCK BERMS
DIVERSION, INTERCEPTOR, OR PERIMETER DIKES
DIVERSION, INTERCEPTOR, OR PERIMETER SWALES
DIVERSION DIKE AND SWALE COMBINATION
PIPE SLOPE DRAINS
CONCRETE FLUMES
X ROCK BEDDING AT CONSTRUCTION EXIT
TIMBER MATTING AT CONSTRUCTION EXIT
CHANNEL LINERS
SEDIMENT TRAPS
SEDIMENT BASINS
STORM INLET SEDIMENT TRAP
STONE OUTLET STRUCTURES
X CURBS AND GUTTERS
X STORM DRAINS
VELOCITY CONTROL DEVICES
VEGETATED SWALES & NATURAL DEPRESSIONS

OTHER: _____

NARRATIVE - SEQUENCE OF CONSTRUCTION (STORM WATER MANAGEMENT) ACTIVITIES:

- 1. INSTALL TEMPORARY EROSION AND SEDIMENT CONTROLS (e.g. SILT FENCE AND STABILIZED CONSTRUCTION ENTRANCE);
2. PERFORM CLEARING AND GRUBBING;
3. EXCAVATION FOR UTILITIES;
4. COMPLETE STREET AND LOT GRADING;
5. CONSTRUCTION OF SUBDIVISION IMPROVEMENTS; AND,
6. WHEN ALL CONSTRUCTION ACTIVITY RELATED IN DEVELOPMENT OF THE SITE IS COMPLETE, REMOVE TEMPORARY CONTROLS IN 1. ABOVE.

SWPPP GENERAL NOTES:

- 1. PLACEMENT OF SILT FENCE SHALL BE ADJUSTED AS NECESSARY TO PREVENT THE BLOCKING OF DRIVEWAYS OR DRIVING LANES.
2. THE SWPPP MANUAL IDENTIFIES THE DUTIES AND RESPONSIBILITIES OF THE GENERAL CONTRACTOR IN COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS. THIS ITEM SHALL BE SUBSIDIARY TO THE SWPPP BEST MANAGEMENT PRACTICES (COMPLETE IN PLACE) ITEMS. THE SWPPP PROJECT MANUAL IS AVAILABLE FOR REVIEWING AT THE CITY OF EL PASO-ENGINEERING DEPARTMENT. UPON SELECTION, THE CONTRACTOR WILL BE PROVIDED AN SWPPP MANUAL. THE CONTRACTOR SHALL MAINTAIN THIS MANUAL AT THE CONSTRUCTION SITE AT ALL TIMES THROUGHOUT THE CONSTRUCTION PERIOD.
3. THE CONTRACTOR SHALL COMPLETE AND SUBMIT ALL REGULATORY FORMS AND APPLICATIONS, AS PROVIDED IN THE SWPPP MANUAL, INCLUDING, BUT NOT LIMITED TO: NOI, NOT, SDPCP, AND ANY OTHER FORM REQUIRED BY THE CITY OF EL PASO AND TCEQ.
4. ALLOWABLE STORM WATER AND NON-STORMWATER DISCHARGE SHALL COMPLY WITH 15.20.080 (GENERAL PROHIBITION) AND 15.20.090 (SPECIFIC PROHIBITIONS AND REQUIREMENTS) OF THE CITY OF EL PASO STORM DRAIN POLLUTION CONTROL PLAN ORDINANCE. NON-STORMWATER DISCHARGES MAY CONSIST OF, BUT ARE NOT LIMITED TO, THE DISCHARGE RESULTING FROM FIREFIGHTING, LAWN WATERING, LANDSCAPE IRRIGATION, NATURAL SPRING, AND/OR AGRICULTURAL STORM WATER RUNOFF.
5. REFER TO DRAINAGE PLAN SHEET C4.1, FOR DETAILED INFORMATION ON WATERSHED AREAS AND RUNOFF QUANTITIES (Q).
6. THE FOLLOWING HAVE BEEN IDENTIFIED AS POTENTIAL CONTAMINATION SOURCES: CLEARED AND GRADED AREAS; CONSTRUCTION SITE ENTRANCE AND ASPHALT PARKING AREA CONSTRUCTION; ASPHALT LOADING/UNLOADING AREAS; CONCRETE LOADING/UNLOADING AREAS; AND, ALL UNDISTURBED AREAS.
7. THE FOLLOWING IS A LIST OF POTENTIAL CONSTRUCTION SITE STORM WATER POLLUTANTS: ASPHALT; CONCRETE; GLUE/ADHESIVE; PAINTS; CURING COMPOUNDS; WASTEWATER FROM CONSTRUCTION EQUIPMENT WASHING; HYDRAULIC OIL/FLUIDS; GASOLINE; DIESEL FUEL; KEROSENE; ANTI-FREEZE/COOLANT; AND EROSION.

BEST MANAGEMENT PRACTICES CONTROLS

NOTES:

- 1.-STRUCTURAL MEASURES SHALL BE MAINTAINED THROUGHOUT THE LIFE OF THE PROJECT IN EFFECTIVE OPERATING CONDITION.
2.-DOCUMENTATION OF MAINTENANCE ACTIVITIES INCLUDING FREQUENCY, LOT DESIGNATION, INSPECTION OF STRUCTURAL CONTROLS, MAT'L STORAGE AREAS VEHICLES ENTRANCE AND EXITS: ACTIONS TAKEN AND INSPECTORS NAME.
3.-CONSTRUCTION SITE NOTICE WILL BE MAINTAINED ON SITE.
4.-COPY OF SWPPP SHALL BE KEPT ON SITE.
5.-PERIMETER MUST RETAIN THE SWPS NOI AND INSPECTION LOG FOR A MINIMUM OF 3 YEARS FROM THE TERMINATION AND FINAL STABILIZATION OF PROJECT.

I. WASTE MATERIALS:

ALL WASTE MATERIALS, INCLUDING CONSTRUCTION DEBRIS, SHALL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER. NO CONSTRUCTION WASTE MATERIAL SHALL BE BURIED ON SITE. THE TRANSIT DUMPSTER SHALL COMPLY WITH ORDINANCE 18.52.010 (ENCLOSURE AND REMOVAL OF WASTE MATERIALS DURING CONSTRUCTION). THE DUMPSTER SHALL BE EMPTIED AS NECESSARY OR AS REQUIRED BY ORDINANCE 9.04 (SOLID WASTE MANAGEMENT) AND THE TRASH SHALL BE HAULED TO A LICENSED LANDFILL.

II. HAZARDOUS WASTE:

AT A MINIMUM, ANY PRODUCTS IN THE FOLLOWING CATEGORIES SHALL BE CONSIDERED HAZARDOUS: PAINT, ACIDS FOR CLEANING MASONRY SURFACES, CLEANING SOLVENTS, ASPHALT PRODUCTS, CHEMICAL ADDITIVES FOR SPILL STABILIZATION, CURING COMPOUNDS AND ADDITIVES. IN THE EVENT OF A SPILL WHICH MAY BE HAZARDOUS, THE CONTRACTOR SHALL TAKE IMMEDIATE ACTION AND CONTACT THE FIRE DEPT. AND TNRC.

III. SANITARY WASTE:

ALL SANITARY WASTE SHALL BE COLLECTED FROM THE CONSTRUCTION PORTABLE UNITS AS NECESSARY OR AS REQUIRED, CHAPTER 18.08 (BUILDING CODE), BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR. ALL WASTE MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

IV. SPILL PREVENTION:

THE FOLLOWING PRACTICES SHALL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURES OF MATERIALS TO STORM WATER RUNOFF.

V. GOOD HOUSEKEEPING:

- A. STORE ONLY ENOUGH PRODUCTS REQUIRED TO DO THE JOB
B. NEATLY STORE MATERIALS ON-SITE IN AN ORDERLY MANNER
C. KEEP PRODUCTS IN THEIR ORIGINAL CONTAINER
D. DO NOT MIX SUBSTANCES WITH ONE ANOTHER, UNLESS OTHERWISE RECOMMENDED BY THE MANUFACTURER
E. USE ENTIRE CONTENTS OF A PRODUCT BEFORE DISPOSING THE CONTAINER
F. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL

VI. HAZARDOUS PRODUCTS:

PRACTICES USED TO REDUCE RISKS:

- A. KEEP PRODUCTS IN THEIR ORIGINAL CONTAINER IF AT ALL POSSIBLE
B. RETAIN ORIGINAL LABELS, PRODUCT INFORMATION AND MATERIAL SAFETY DATA SHEETS (MSDS)
C. DISPOSE SURPLUS PRODUCT IN ACCORDANCE WITH MANUFACTURER'S OR LOCAL & STATE RECOMMENDED METHODS

VII. PETROLEUM PRODUCTS:

ALL ON-SITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS SHALL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ON-SITE SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATION.

VIII. SPILL CONTROL PRACTICES:

- A. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP SHALL BE CLEARLY POSTED AND SITE PERSONNEL SHALL BE MADE AWARE OF THE PROCEDURES:
B. MATERIALS AND EQUIPMENT NECESSARY FOR CLEANUP SHALL BE KEPT IN THE MATERIAL STORAGE AREA ON-SITE:
C. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY
D. SPILL AREA SHALL BE WELL VENTILATED AND APPROPRIATE CLOTHING WILL BE WORN:
E. ANY SPILL SHALL BE REPORTED TO THE APPROPRIATE GOVERNMENTAL AGENCY
F. MEASURES SHALL BE TAKEN TO PREVENT A SPILL FROM REOCCURRING

IX. MAINTENANCE AND INSPECTION PROCEDURES:

ALL POLLUTION PREVENTION MEASURES SHALL BE INSPECTED AT LEAST ONCE A MONTH OR WITHIN 24-HOURS PRIOR TO ANTICIPATED STORM EVENT AND FOLLOWING A STORM EVENT OF 0.5 INCHES OR MORE. INSPECTION IN FINAL STABILIZED AREAS OR DURING ARID PERIODS WILL BE CONDUCTED MONTHLY, BEST MANAGEMENT PRACTICES AND POLLUTION CONTROL PROCEDURES SHALL BE INSPECTED FOR ADEQUACY.

X. REMARKS:

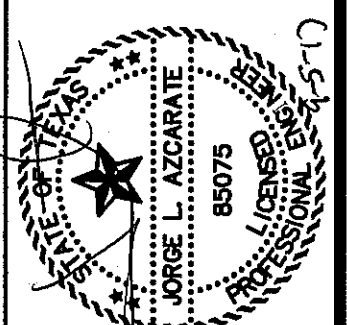
DISPOSAL AREAS, STOCKPILES, AND HAUL ROADS SHALL BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE AND CONTROL THE AMOUNT OF SEDIMENT THAT MAY ENTER RECEIVING WATERS. DISPOSAL AREAS SHALL NOT BE LOCATED IN ANY WETLAND, WATERBODY OR STREAMBED. CONSTRUCTION STAGING AREAS AND VEHICLE MAINTENANCE AREAS SHALL BE CONSTRUCTED BY THE CONTRACTOR IN A MANNER TO MINIMIZE THE RUNOFF OF POLLUTANTS. ALL WATERWAYS SHALL BE CLEANED AS SOON AS PRACTICABLE OF TEMPORARY EMBANKMENT, TEMPORARY BRIDGES, MATTING, FALSEWORK, PILING DEBRIS OR OTHER OBSTRUCTIONS PLACED DURING CONSTRUCTION OPERATIONS THAT ARE NOT A PART OF THE FINISHED WORK.

XI. OFFSITE VEHICLE TRACKING:

IN ADDITION TO THE STABILIZED CONSTRUCTION ENTRANCES, THE FOLLOWING MEASURES SHALL BE OBSERVED DURING CONSTRUCTION:
- HAUL ROADS SHALL BE DAMPENED FOR DUST CONTROL
- LOADED HAUL TRUCKS SHALL BE COVERED WITH TARPULIN
- EXCESS DIRT ON ROAD SHALL BE REMOVED IMMEDIATELY
- STABILIZED CONSTRUCTION ENTRANCE
- OTHER: _____

Table with columns: REFERENCES - BENCHMARKS, CITY MONUMENT AT THE INTERSECTION OF BASED DEL NORTE & NORTHWESTERN, ELEVATION = 3887.39 (CITY DATUM), THIS IS BASED ON NGS MONUMENT "CHINO" ELEVATION = 3935.48 (CITY DATUM), DATE, REVISIONS, BY

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PROJECT TITLE: LA PUESTA DEL SOL UNIT TWO SUBDIVISION IMPROVEMENTS

SHEET TITLE

STORM WATER POLLUTION PREVENTION PLAN GENERAL NOTES

SHEET NO.

C14.1

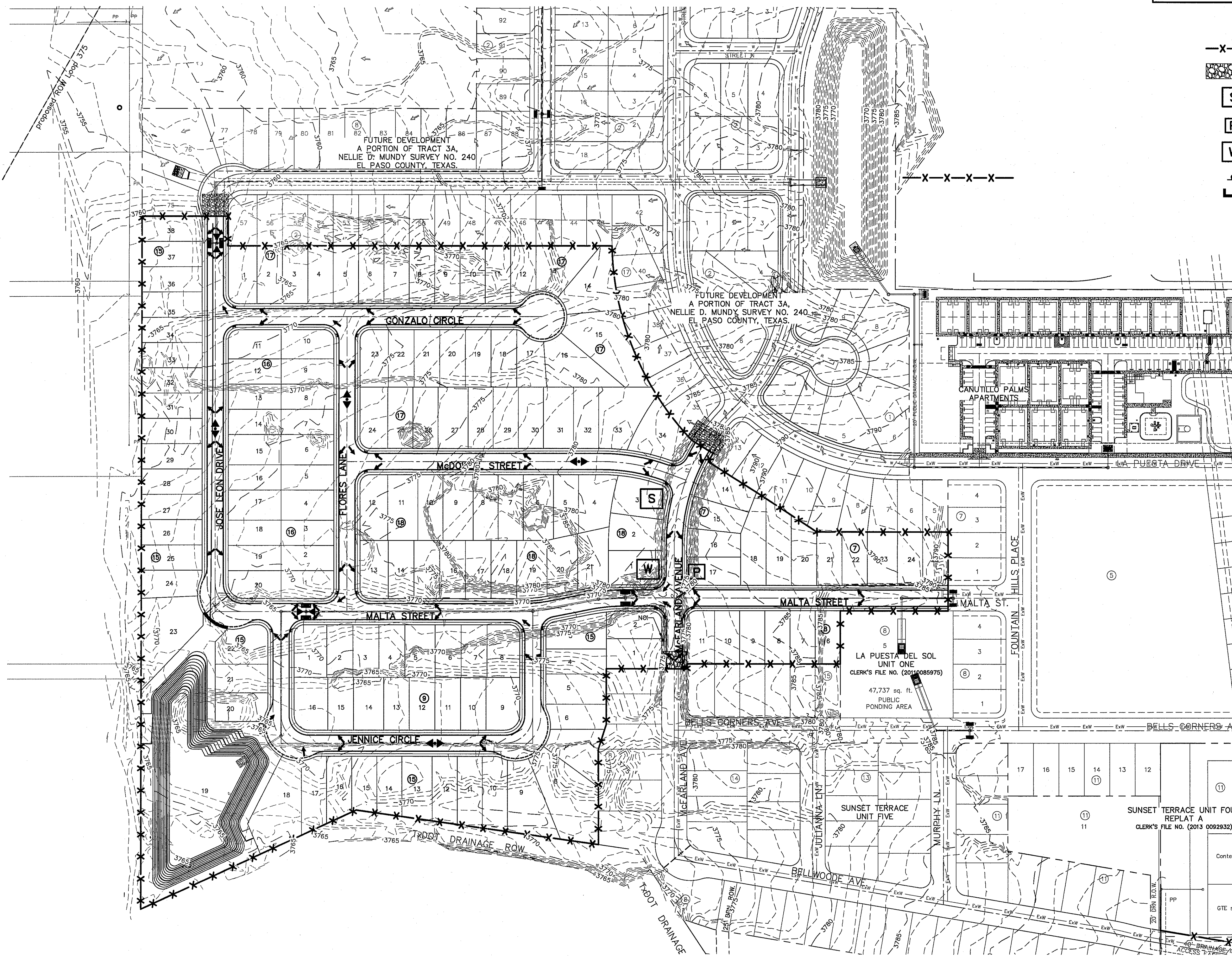


S:\2000\2000-192-Lo Puesta del Sol Unit Two\DWG\Construction Drawings\Improvement Plans\C14.1 - SWPPP Notes.dwg

S:\2000\2000-192-192-C-14.2-Stormwater\Construction Drawings\Improvement Plans\C14.2 - SWPPP Site Plan.dwg

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 699-7200
SDC	(800) 545-8005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

WARNING!
BEFORE YOU DIG
CALL 811
FOR FIELD LOCATING EXISTING UTILITIES



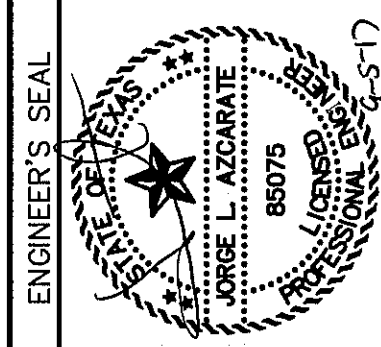
- LEGEND:**
- X-X- SILT FENCE OR EARTHEN BERM
 - [Pattern] STABILIZED CONSTRUCTION ENTRANCE
 - [S] STAGING AREA
 - [P] PORTABLE TOILETS
 - [W] WASH OUT
 - [L] LOCATION OF NOTICE OF INTENT (NOI)
 - [Symbol] INLET PROTECTION

REFERENCES - BENCHMARKS

CITY MONUMENT AT THE INTERSECTION OF BASED DEL NORTE & NORTHWESTERN. ELEVATION = 3857.39 (CITY DATUM). THIS IS BASED ON NGS MONUMENT "CHINO" ELEVATION = 3935.48 (CITY DATUM)

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SCALE 1" = 50'

Horizontal:	N/A
Vertical:	N/A
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DATE:	JUNE 2017
DESIGN BY:	R.O.
DRAWN BY:	R.O./R.J.M.
CHKD. BY:	J.L.A.
APPVD. BY:	J.L.A.
JOB No.:	2000-192LD

PROJECT TITLE
**LA PUESTA DEL SOL
UNIT TWO
SUBDIVISION IMPROVEMENTS**

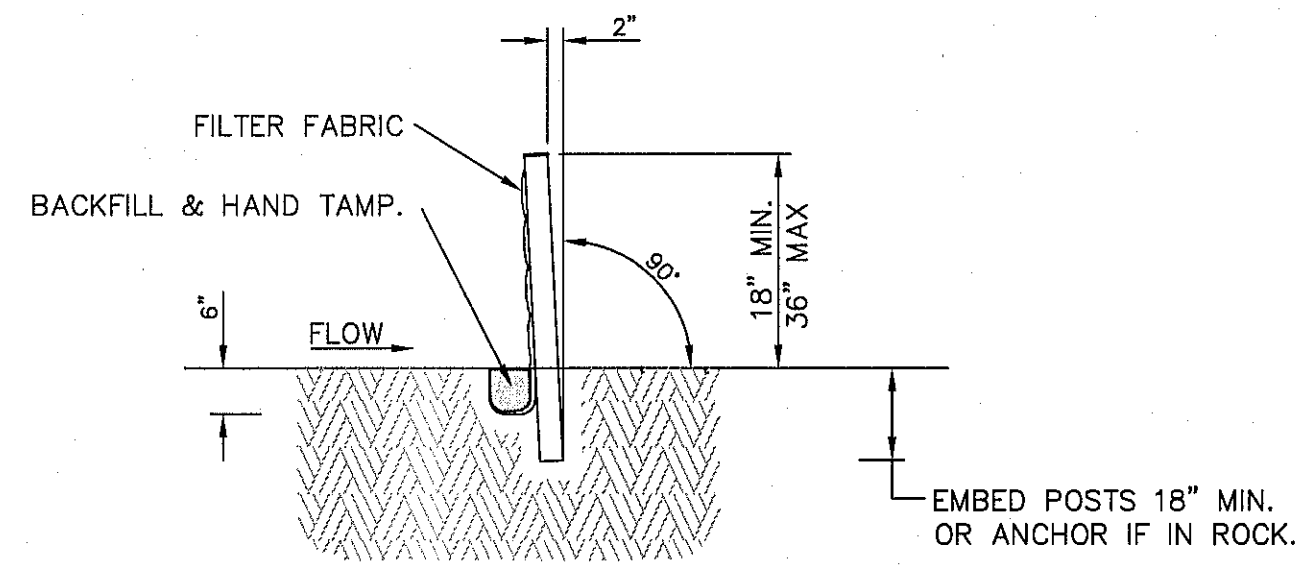
SITE PLAN
SCALE: 1" = 100'



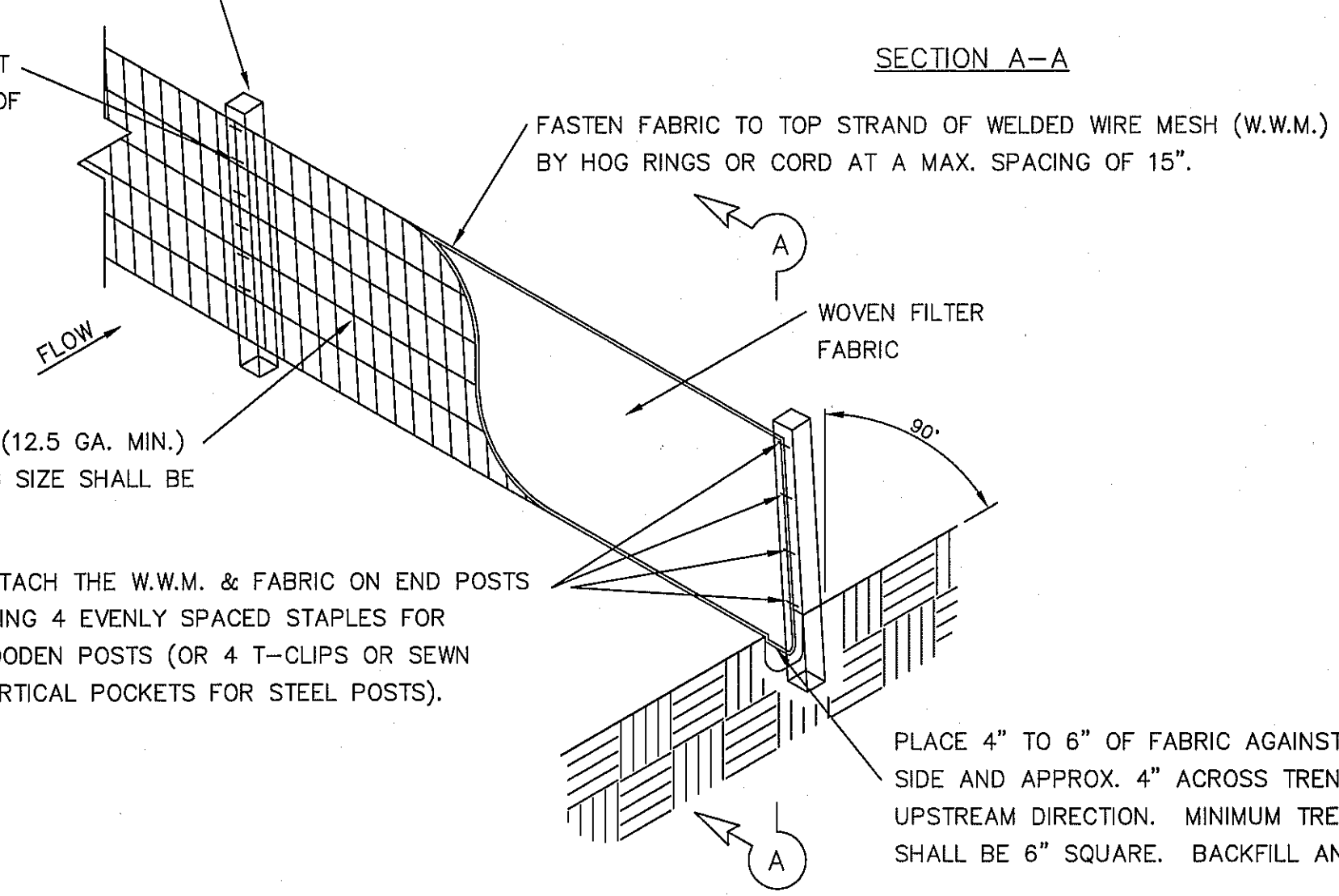
SHEET TITLE
**STORM WATER
POLLUTION
PREVENTION PLAN
SITE PLAN**

SHEET NO.
C14.2

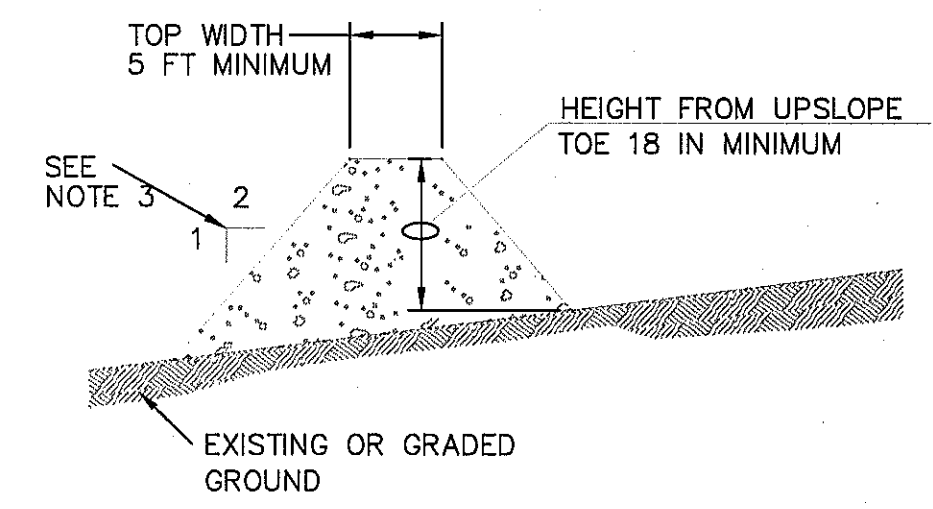
4' MIN. STEEL OR WOOD POSTS SPACED AT 6' TO 8' O.C.
 SOFTWOOD POSTS SHALL BE 3" MIN. DIA. OR NOMINAL 2"x4".
 HARDWOOD POSTS SHALL HAVE A MIN. CROSS SECTION OF 1.5" X 1.5".



CONNECT THE ENDS OF SUCCESSIVE REINFORCEMENT SHEETS OR ROLLS A MIN. OF 6 TIMES WITH HOG RINGS.



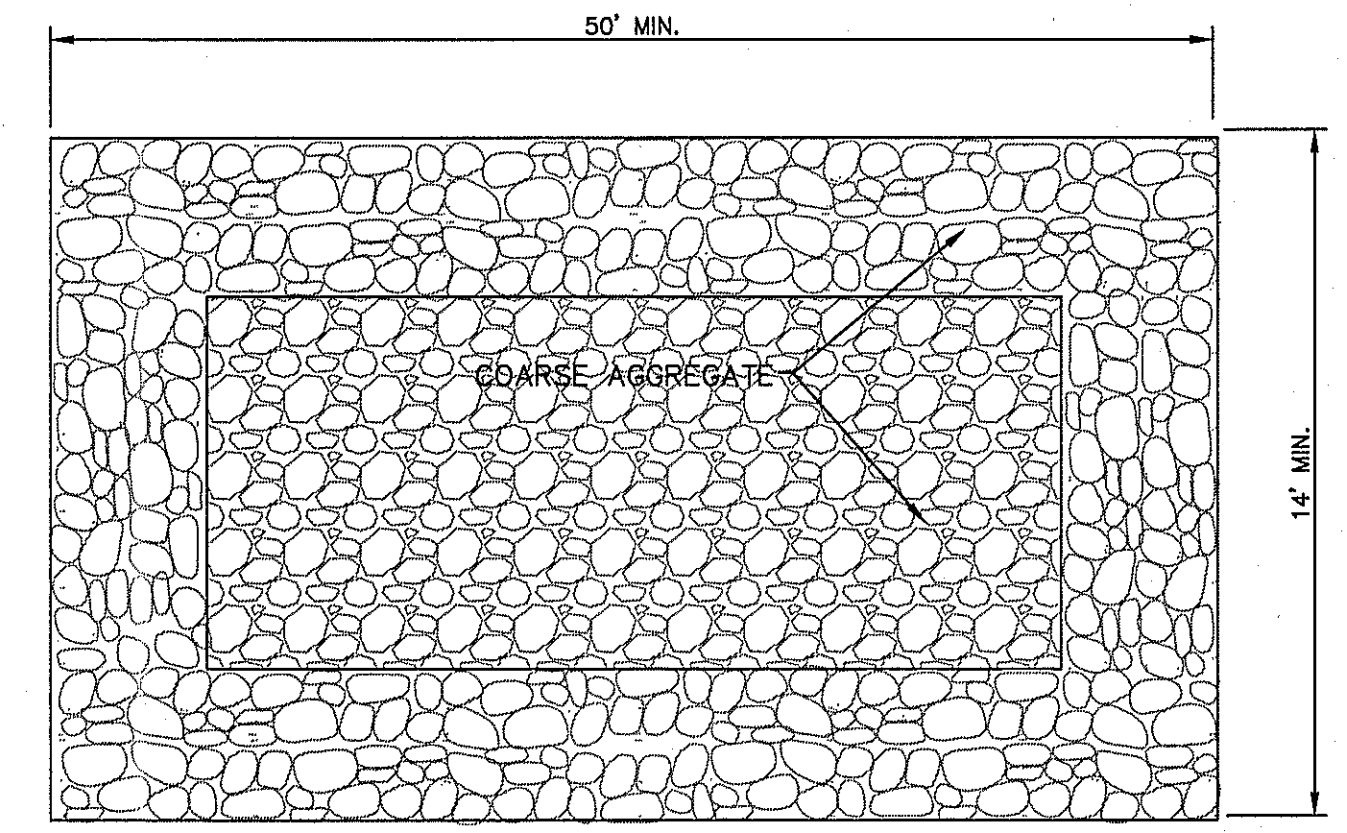
TEMPORARY SEDIMENT CONTROL FENCE



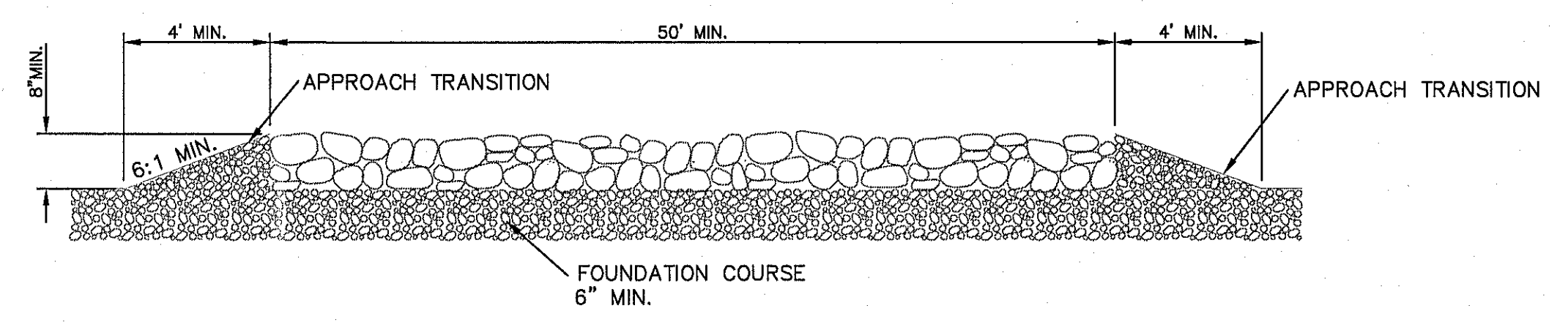
GENERAL NOTES:

1. SOIL USED IN BERM CONSTRUCTION SHALL BE MACHINE COMPACTED.
2. TOP WIDTH AND HEIGHT OF BERM MAY BE MODIFIED WITH PRIOR APPROVAL OF THE ENGINEER.
3. SIDE SLOPES WITHIN THE SAFETY CLEAR ZONE OF A ROADWAY SHALL BE 6:1 OR FLATTER.
4. GRADING SHALL BE SHOWN ELSEWHERE IN THE PLANS OR AS DIRECTED BY THE ENGINEER.
5. THE ENGINEER RESERVES THE RIGHT TO MODIFY THE DIMENSIONS SHOWN FOR THE BERM DEPENDENT ON RUNOFF VOLUME CHARACTERISTICS.
6. BERM THAT ARE IN PLACE FOR MORE THAN 14 CALENDAR DAYS SHOULD BE STABILIZED TO PREVENT SEDIMENT RUNOFF.
7. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

TYPICAL BERM CONFIGURATION



PLAN

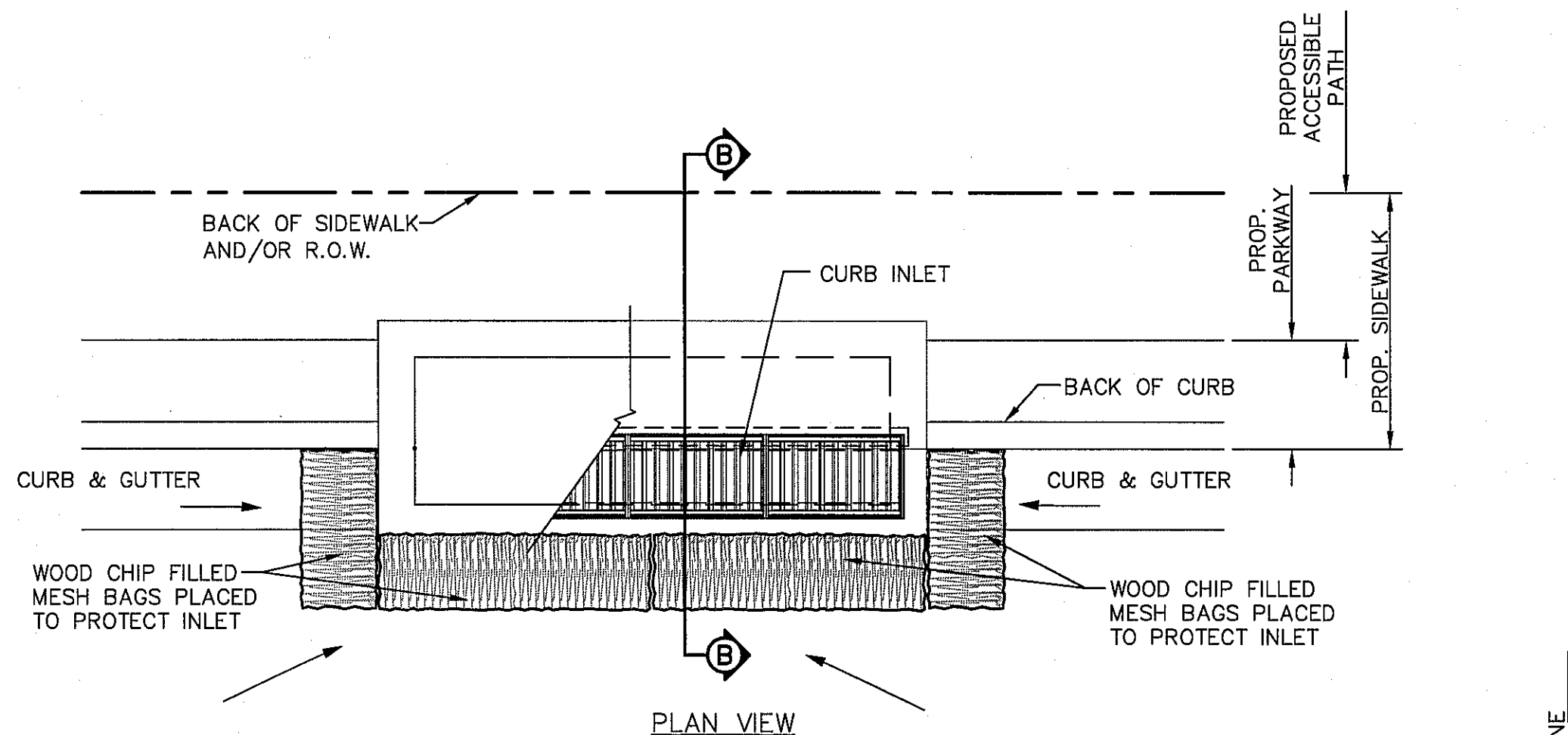


PROFILE

GENERAL NOTES

1. THE LENGTH OF THE TYPE 1 CONSTRUCTION EXIT SHALL BE AS INDICATED ON THE PLANS, BUT NOT LESS THAN 50'.
2. THE COARSE AGGREGATE SHOULD BE OPEN GRADED WITH A SIZE OF 4" TO 8".
3. THE APPROACH TRANSITIONS SHOULD BE NO STEEPER THAN 6:1 AND CONSTRUCTED AS DIRECTED BY THE ENGINEER.
4. THE CONSTRUCTION EXIT FOUNDATION COURSE SHALL BE FLEXIBLE BASE, BITUMINOUS CONCRETE, PORTLAND CEMENT CONCRETE OR OTHER MATERIAL AS APPROVED BY THE ENGINEER.
5. THE CONSTRUCTION EXIT SHALL BE GRADED TO ALLOW DRAINAGE TO A SEDIMENT TRAPPING DEVICE.
6. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

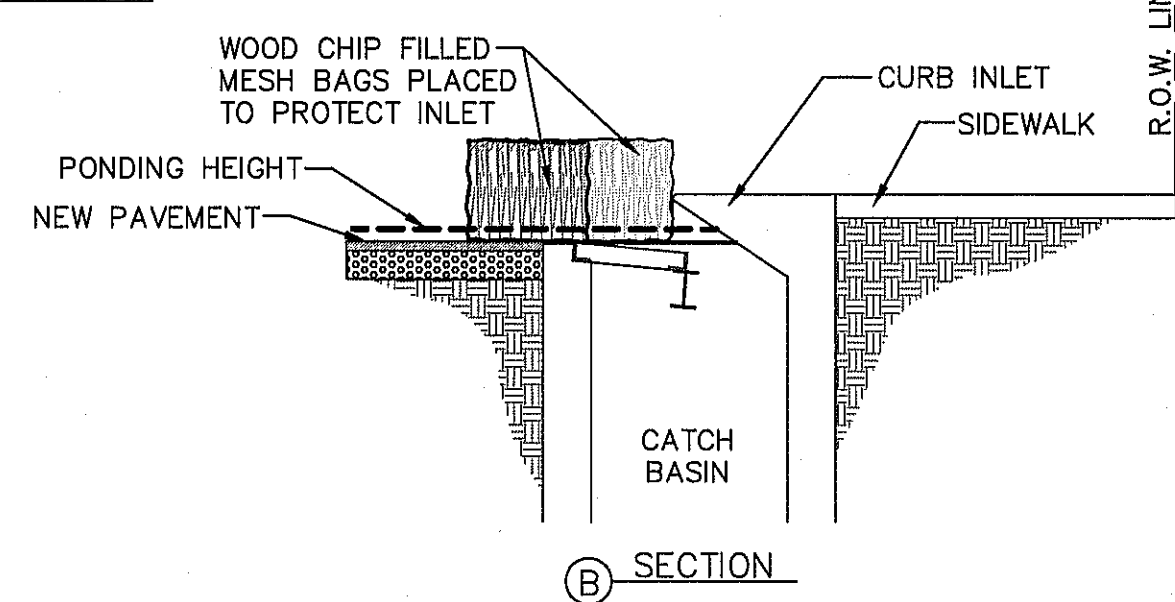
CONSTRUCTION EXIT (TYPE 1)



PLAN VIEW

NOTE:
 WOOD CHIP FILLED MESH BAGS SHALL CONSIST OF 30-40% WEED FREE COMPOST AND 60-70% PARTIALLY DECOMPOSED WOOD CHIPS.

- GENERAL NOTES:**
1. PLACE CURB TYPE SEDIMENT BARRIERS ON GENTLY SLOPING STREET SEGMENTS, WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
 2. INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT. SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.



SECTION

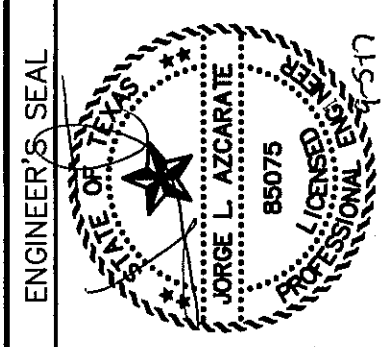
TEMPORARY INLET PROTECTION

REFERENCES — BENCHMARKS

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SCALE

Horizontal:	N/A
Vertical:	N/A
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DATE:	JUNE 2017
DESIGN BY:	R.O.
DRAWN BY:	R.O./J.M.
CHKD. BY:	J.L.A.
APPVD. BY:	J.L.A.
JOB No.	2000-1921D

PROJECT TITLE

**LA PUESTA DEL SOL
 UNIT TWO
 SUBDIVISION IMPROVEMENTS**

SHEET TITLE

**STORM WATER
 POLLUTION
 PREVENTION PLAN
 DETAILS**

SHEET NO.

C14.3

