

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
	FINISHED GROUND CONTOUR ELEVATION (INDEX)
	FINISHED GROUND CONTOUR ELEVATION (INTERMEDIATE)
	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
	FINISHED SPOT ELEVATION
	LOT FINISHED GROUND ELEVATION
	TOP OF CURB ELEVATION
	TOP OF PAVEMENT ELEVATION
	SUBDIVISION LOT AND BLOCK NUMBER
	DRAINAGE FLOW
	HIGH POINT
	LOW POINT
	EXISTING HIGH POINT
	EXISTING LOW POINT
	HEADWALL WITH WINGWALLS
	DRAINAGE AREA
	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 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



Final Approval

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

INDEX OF DRAWINGS

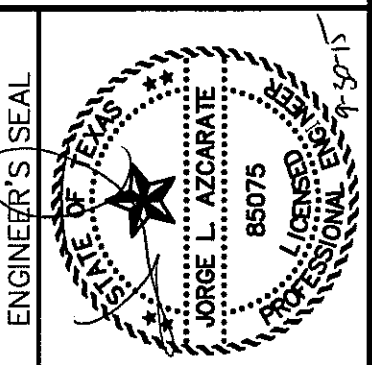
DRAWING NAME	SHEET NO.
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GRADING PLAN	C3.1
DRAINAGE PLAN	C4.1
GRADING SECTIONS	C5.1
BELLWOODE AVENUE PLAN & PROFILE FROM STA. 12+99.76 TO STA. 21+00.00	C6.1
BELLWOODE AVENUE PLAN & PROFILE FROM STA. 21+00.00 TO STA. 24+80.15 McFARLAND AVENUE PLAN & PROFILE FROM STA. 24+80.15 TO STA. 28+49.83	C6.2
BELLS CORNER AVENUE PLAN & PROFILE FROM STA. 20+17.40 TO STA. 23+47.40 MURPHY LANE PLAN & PROFILE FROM STA. 0+00.00 TO STA. 3+00.49	C6.3
JULIANNA LANE PLAN & PROFILE FROM STA. 0+00.00 TO STA. 3+01.80	C6.4
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SPECIAL CONDITIONS

1. CONTRACTOR SHALL HAVE A QUALIFIED PROJECT SUPERINTENDENT AT THE PROJECT SITE AT ALL TIMES DURING THE CONSTRUCTION DURATION.
2. CONTRACTOR SHALL PREPARE CURB GRADES WITHIN 0.10- FEET.
3. CONTRACTOR TO INSTALL AND MAINTAIN SW3P BEST MANAGEMENT PRACTICES AS INDICATED ON THE PLANS. CONTRACTOR SHALL COMPLY WITH THE SW3P SPECIFICATIONS, AND TCEQ RULES AND REGULATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR CONFORMING TO ALL SWP3 REGULATIONS.

REFERENCES - BENCHMARKS	BY
CITY MONUMENT AT THE INTERSECTION OF PASO DEL SOL AND MONUMENT AVENUE (THIS IS BASED ON UGS MONUMENT "CHINO" ELEVATION = 3935.48 (CITY DATUM))	
DATE	REVISIONS

COA
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-4584
4712 Mesquite Bend, Ste. F, El Paso, TX 79924
Office: 915-534-4322 Fax: 915-534-4323 www.coaonline.com



SCALE	N/A
Horizontal:	N/A
Vertical:	N/A
Contour Interval:	N/A
DATE: SEPTEMBER 2015	
DESIGN BY:	R.O.
DRAWN BY:	R.O.
APPROVED BY:	J.L.A.
JOB No.:	2000-190LD

PROJECT TITLE

**SUNSET TERRACE
UNIT FIVE
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

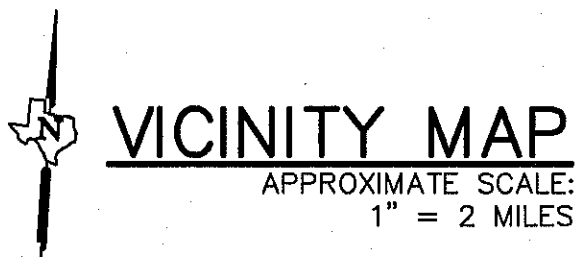
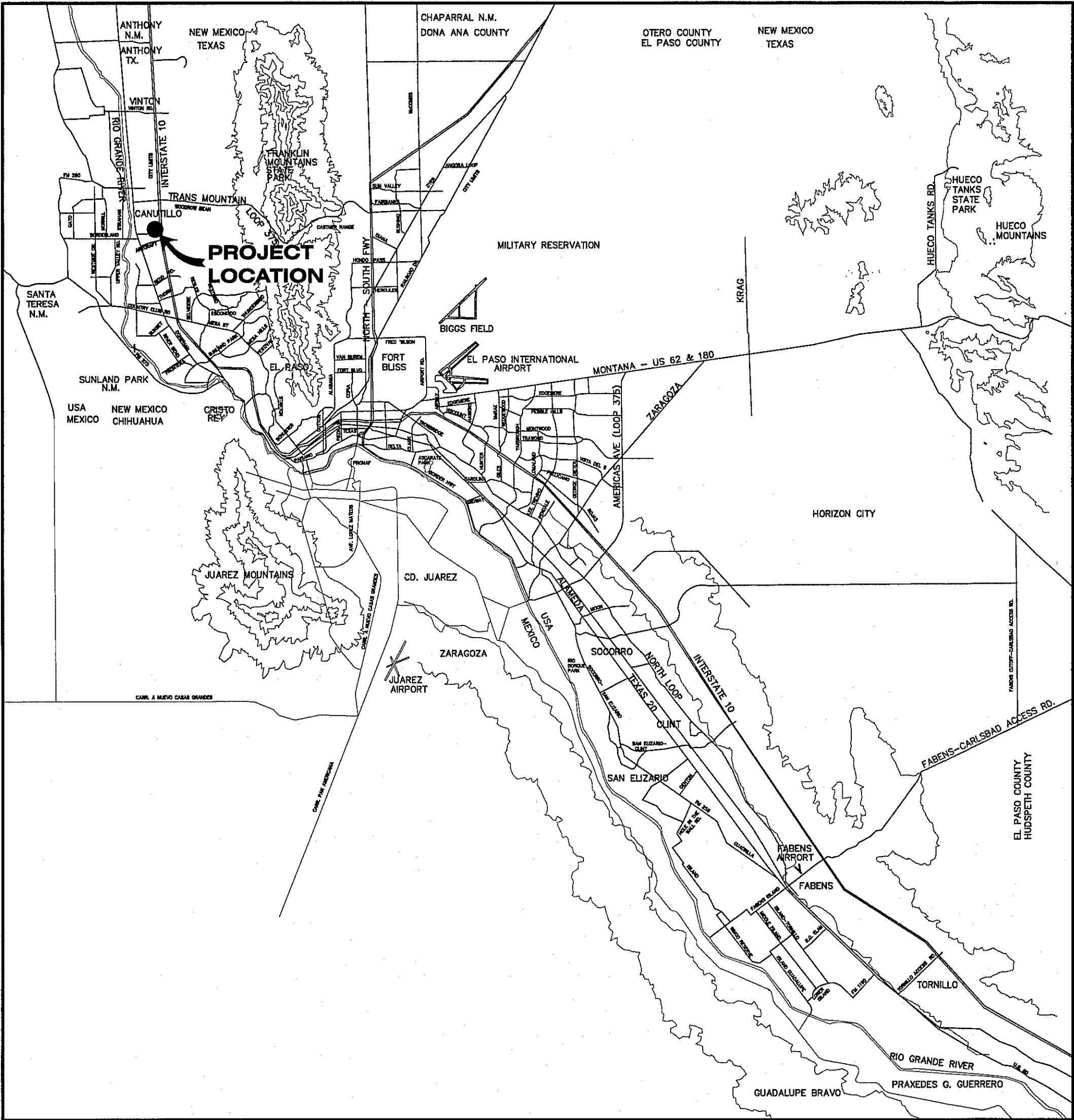
GENERAL
INFORMATION

SHEET NO.

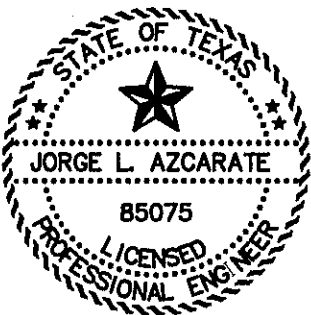
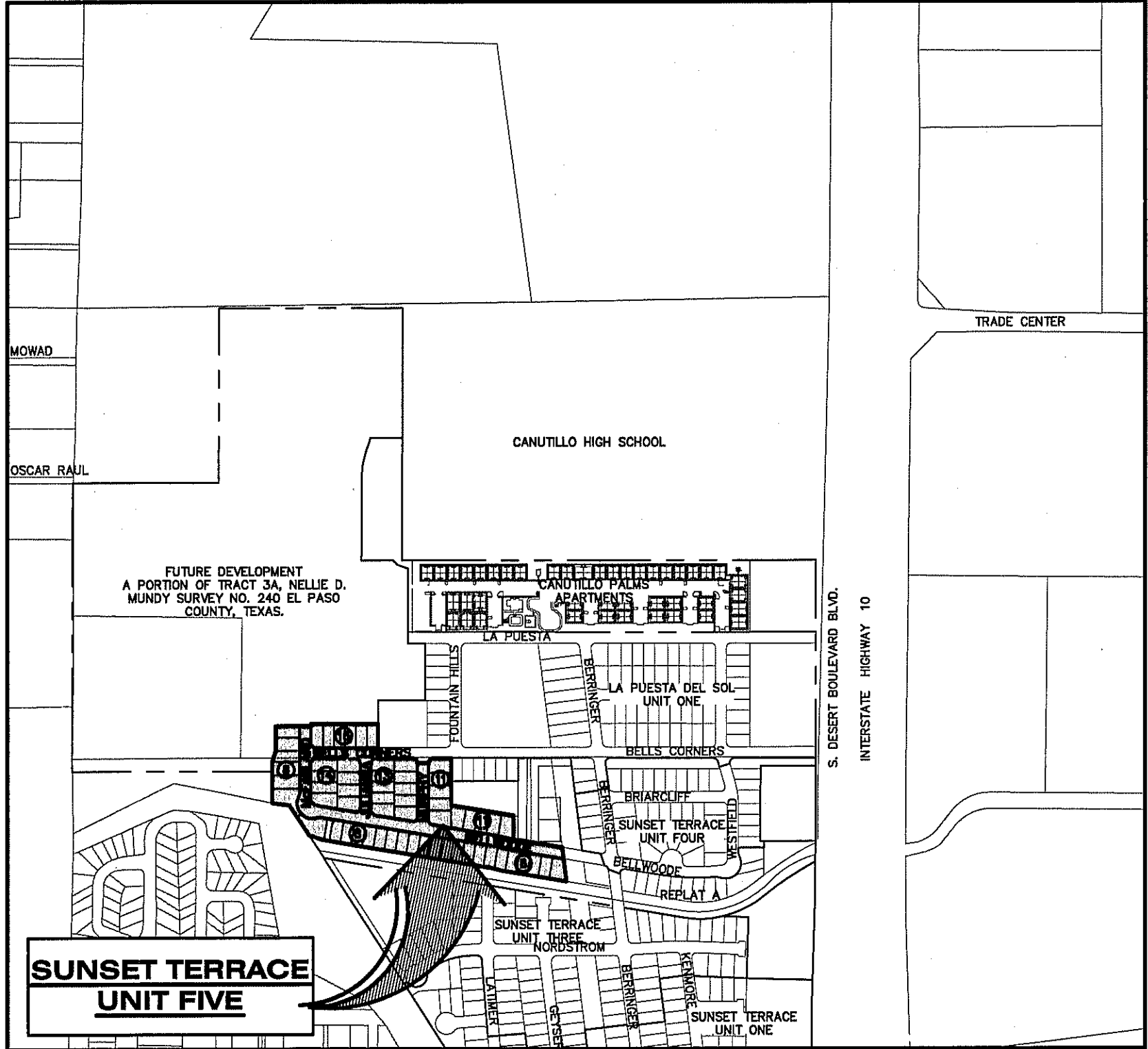
C1.1

SUNSET TERRACE UNIT FIVE 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 11.18± ACRES



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	GRADING SECTIONS
C6.1-C6.4	STREET PLAN & PROFILES
C7.1	STORM SEWER PLAN & PROFILES
C8.1-C8.2	STANDARD DETAILS
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C10.1	ILLUMINATION PLAN
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C13.1	SANITARY SEWER INDEX / GENERAL INFORMATION
C14.1	SANITARY SEWER PLAN & PROFILES
C15.1-C15.3	SANITARY SEWER DETAILS
C16.1-C16.3	STORM WATER POLLUTION PREVENTION PLAN



Jorge L. Azcarate
9-30-15
JORGE L. AZCARATE, P.E. PROJECT MANAGER



Reviewed For Conformance For Condition Related To:

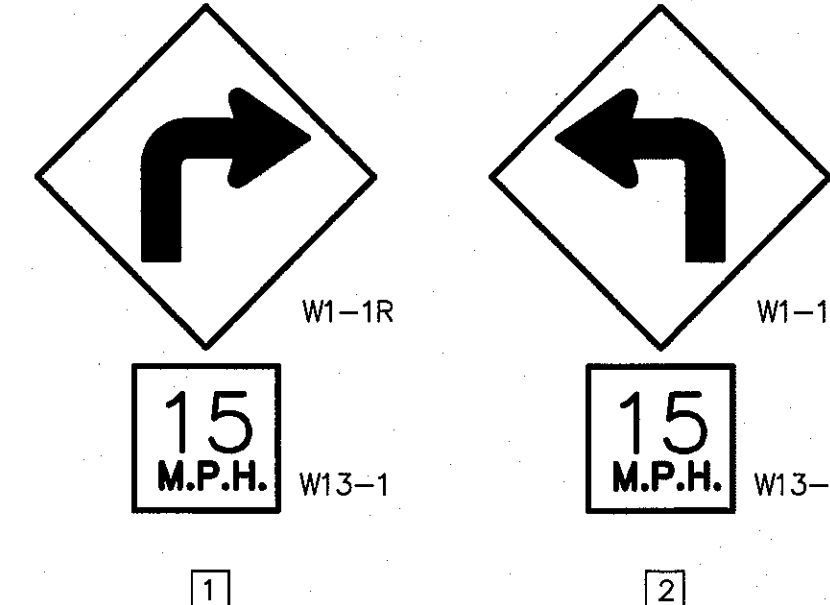
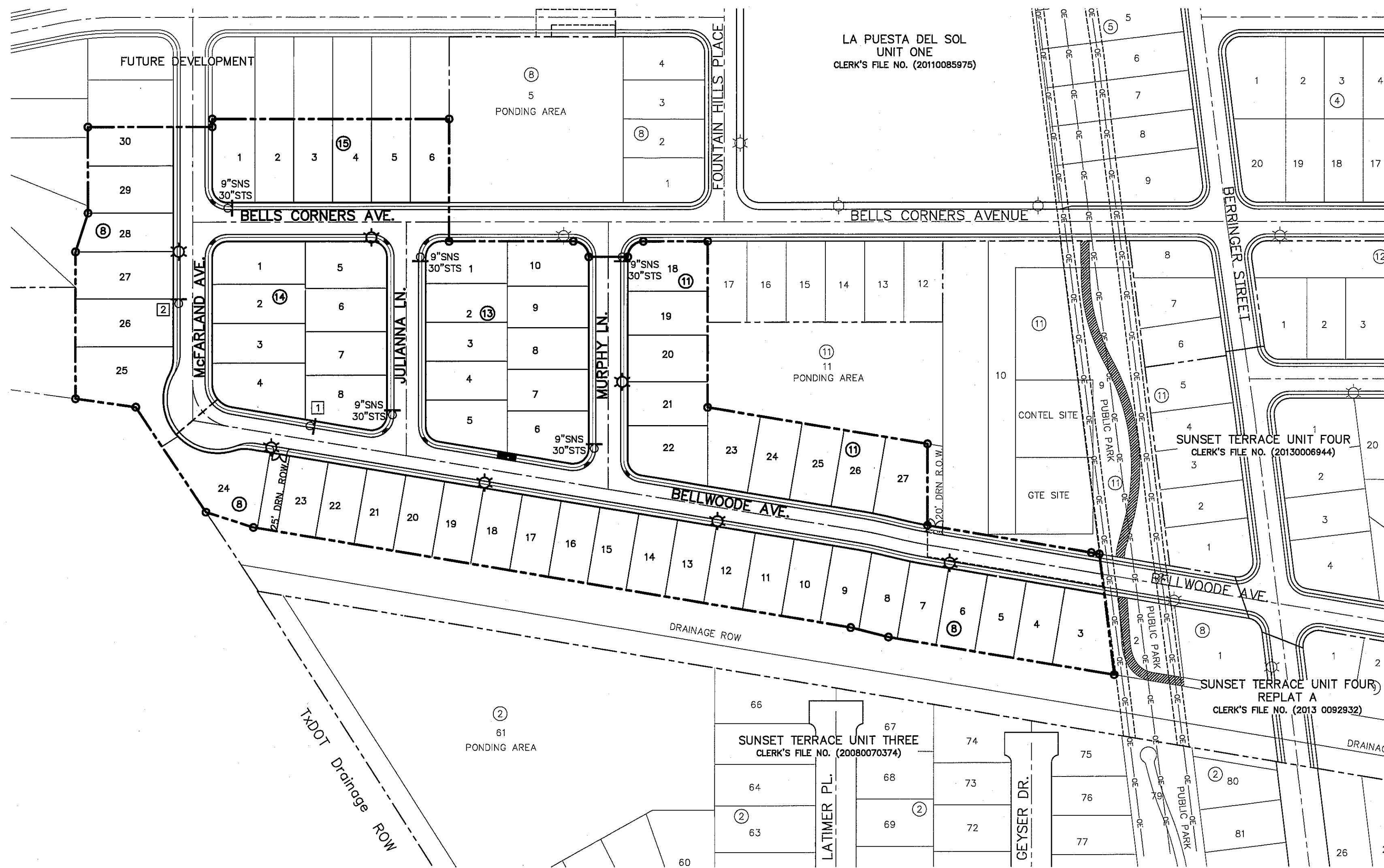
- | | |
|------------------------|--------------------------------|
| Grading & Drainage | Driveways |
| Wheelchair Ramps | Resisting Rock Walls |
| On Site Parking Layout | On Site Funding of Storm Water |

Contractor Must Call 24 Hours Prior To Construction for Inspections

By *Jorge L. Azcarate* Date *10/14/2015*

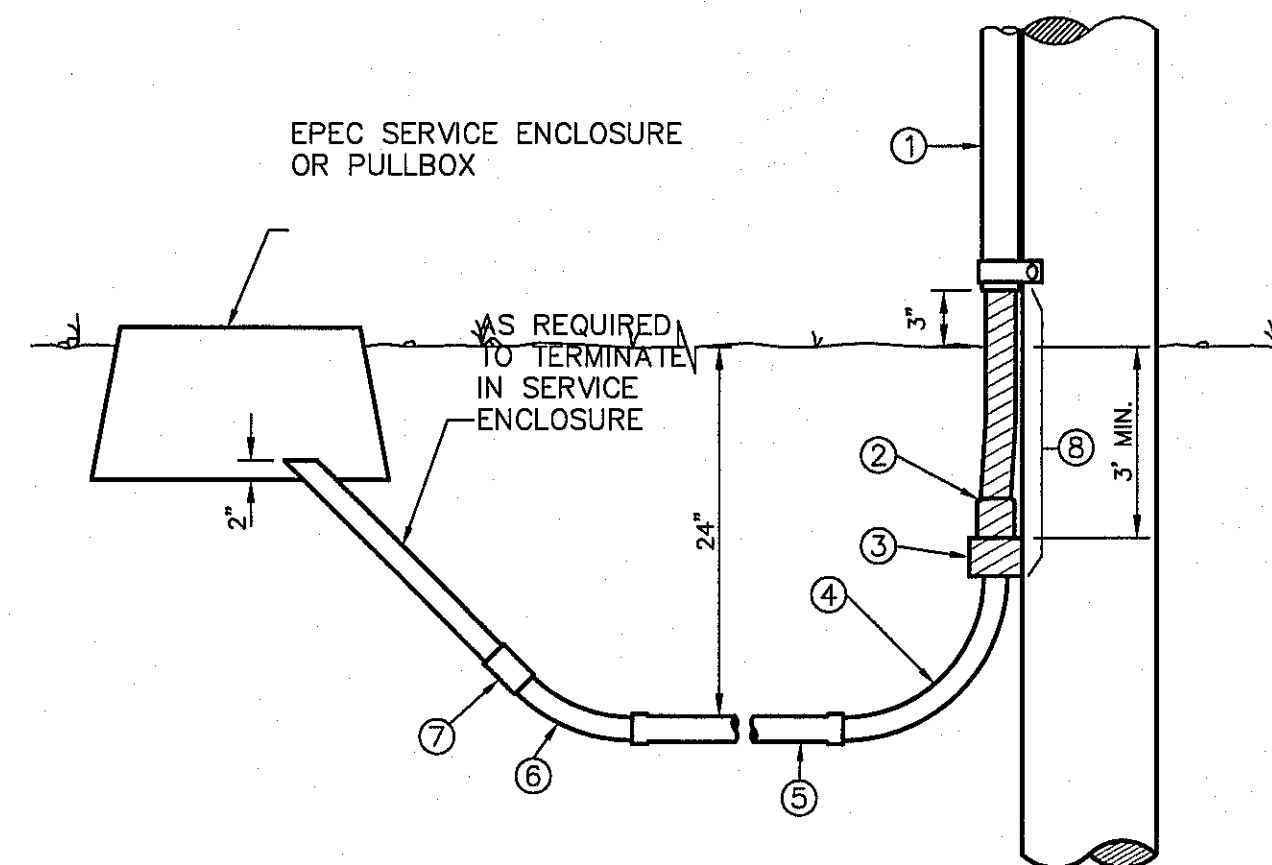
PRINCIPAL CONTACTS:

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



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

SIGNS DETAIL



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

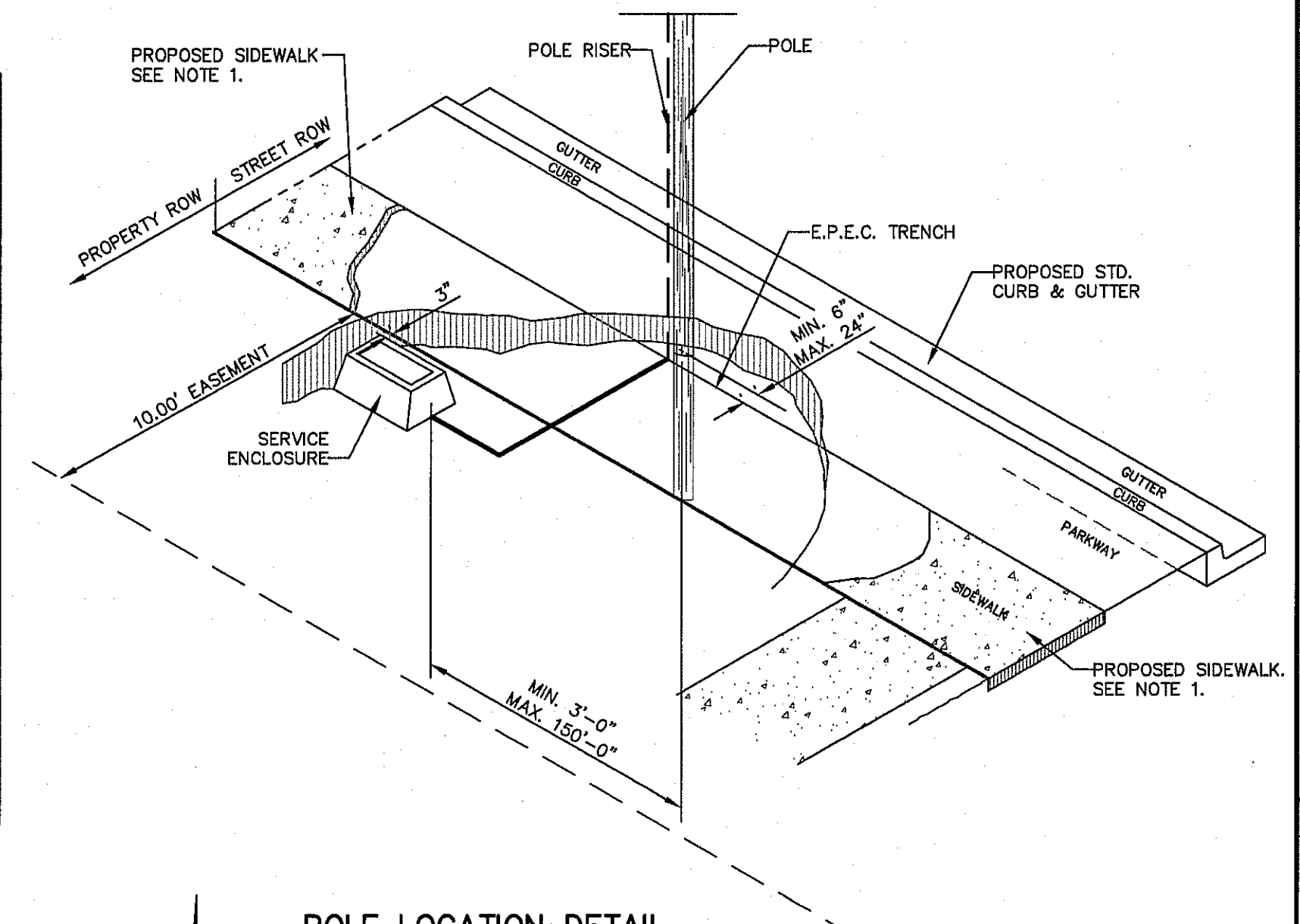
SCALE: N.T.S.

NOTE:

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

7 RESIDENTIAL STREET LIGHTS

POLE LOCATION DETAIL



ILLUMINATION AND SIGNAGE PLAN

SCALE: 1" = 100'

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.

Sign Mounting Brackets 2" x 206, 2.5" x 207 Quantities of 100 nuts and washers

PRODUCT	OUTSIDE DIAMETER	NOMINAL PIPE SIZE	WALL THICKNESS	WEIGHT PER FOOT
Traffic Post	2.375"	2"	.085	1.60 lb.
POSTS ARE AVAILABLE IN 8'-14", IN 1' INCREMENTS			.080	1.96 lb.
			.085	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-G90 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.

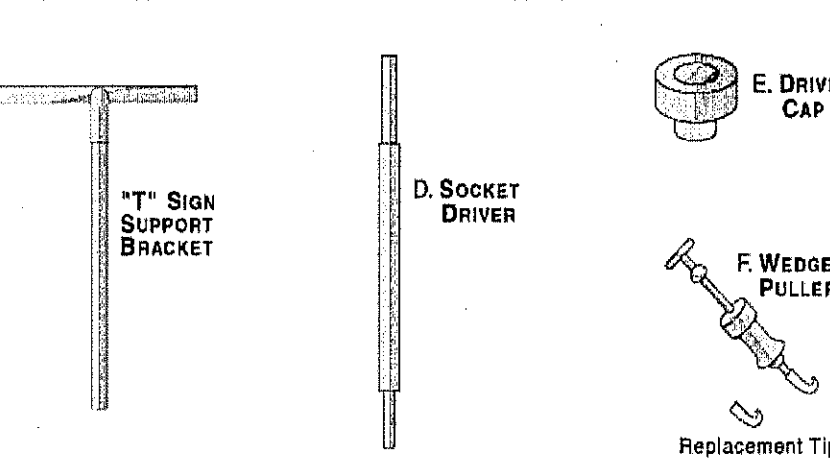
POZ-LOC™ SOCKET SYSTEM ORDERING INFORMATION

DESCRIPTION	PART NO.	WT. (LBS.)	DESCRIPTION	PART NO.	WT. (LBS.)
Socket 27/8" x 27"	2804	7.3	27/8" Drive Cap	2700	11.9
Wedge	2813	1.0	Wedge Puller	2713	6.0
Sign Post 27/8"			Puller Replacement Tip	2719	1.0
Sign Brackets 2"	206	0.39	Socket Driver	2712	45.0

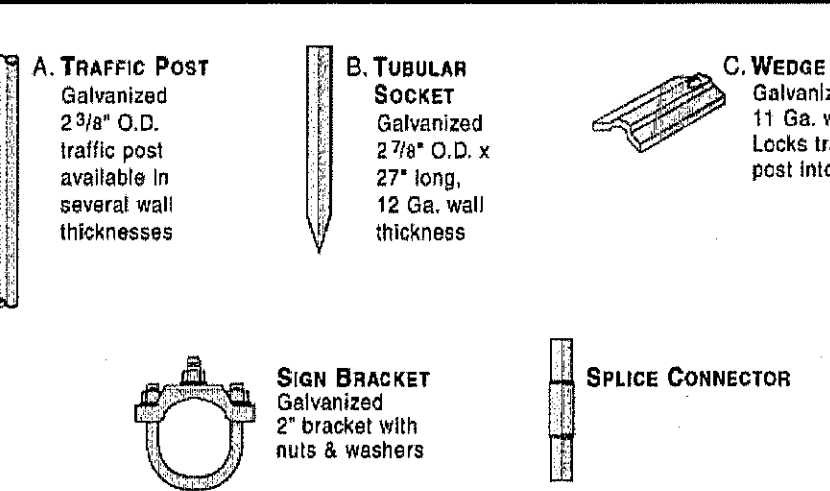
COMPLETE POZ-LOC POST & SOCKET ASSEMBLIES

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.
238055	2.375"	2"	.065	1.60 lb.	
238060	2.375"	2"	.080	1.96 lb.	
238095	2.375"	2"	.085	2.313 lb.	

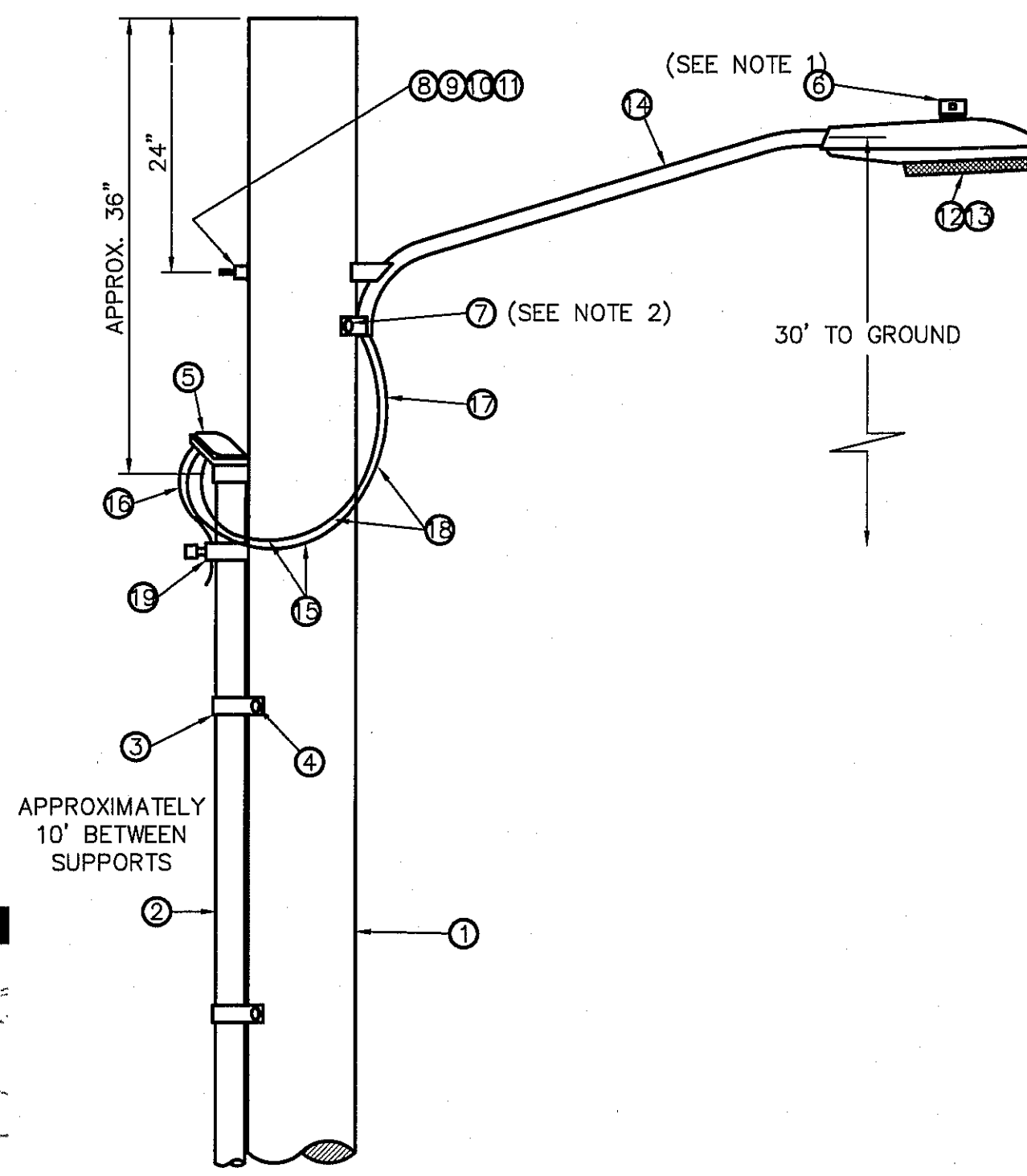
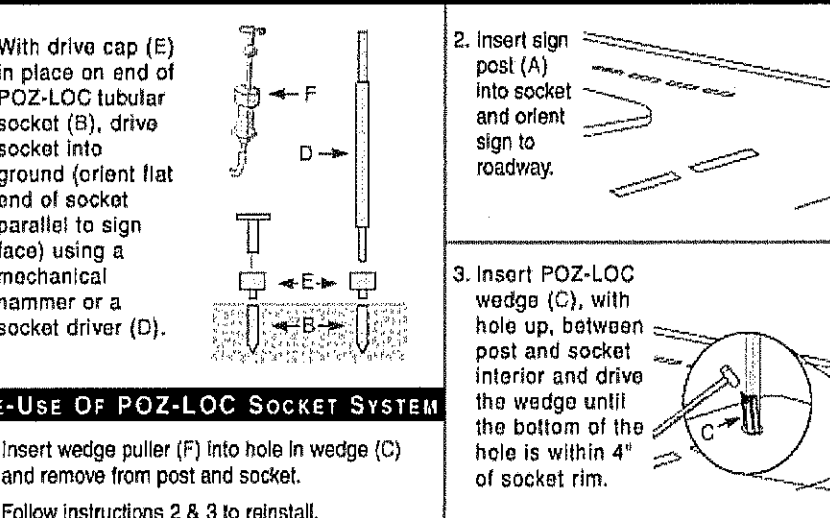
ATTACHMENTS AND TOOLS FOR POZ-LOC™ SOCKET SYSTEM



COMPONENTS OF THE POZ-LOC™ SIGN POST SOCKET SYSTEM



INSTALLATION OF POZ-LOC™ SOCKET SYSTEM



RESIDENTIAL STREET LIGHT WOOD POLE

SCALE: N.T.S.

KEYED NOTES:

- MOUNT SO THAT CONTROL FACES NORTH
- ITEM 17 SHALL NOT BE SPICED 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.

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
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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 6" STREET NAMES AND 30" STOP SIGN
- PROPOSED N.D.B.C.U. MAIL BOX



REVISIONS	DATE	BY

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

ENGINEER'S SEAL

SCALE: 1" = 100'
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: SEPTEMBER 2015
DESIGN BY: R.O.
DRAWN BY: R.O.
CHKD. BY: J.L.A.
APPROV. BY: J.L.A.
JOB NO.: 2000-1901D

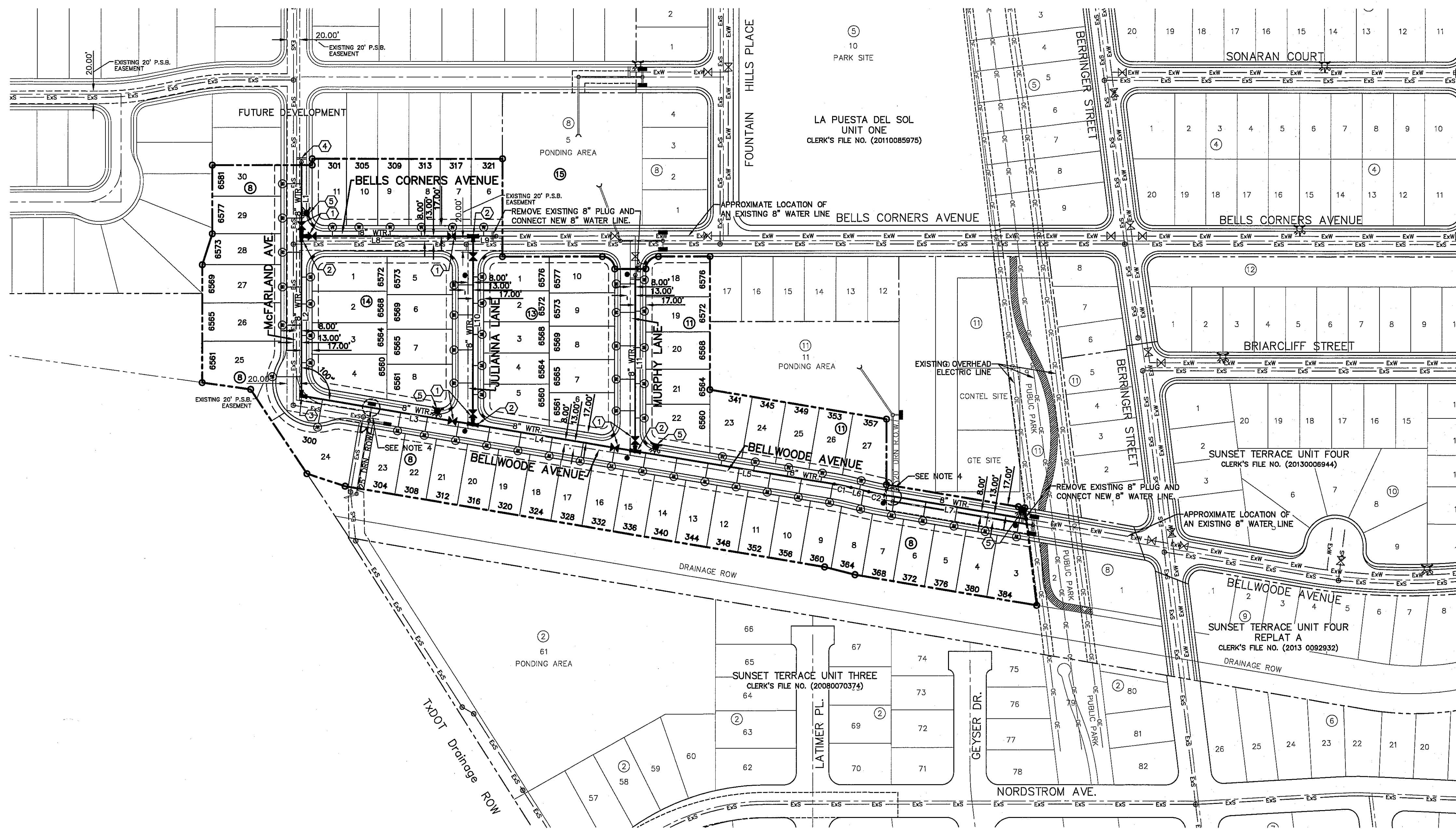
SUNSET TERRACE UNIT FIVE SUBDIVISION IMPROVEMENTS

SHEET TITLE

ILLUMINATION AND SIGNAGE PLAN

SHEET NO.

C10.1



WATER QUANTITIES		
DESCRIPTION	QUANTITY	UNIT
8" WATER LINE	2454	LF
8" GATE VALVE	8	EA
8" PLUG	1	EA
FIRE HYDRANT	4	EA
3/4" SERVICE LINES	62	EA

WATER KEYED NOTES	
①	8" GATE VALVE
②	8" TEE
③	8" BEND
④	8" PLUG
⑤	FIRE HYDRANT

LINE TABLE		
LINE	BEARING	LENGTH
L1	N00°00'41"E	119.00'
L2	N00°00'41"E	256.82'
L3	S80°27'01"E	278.85'
L4	S80°27'01"E	263.64'
L5	S80°27'01"E	324.03'
L6	S76°21'20"E	29.20'
L7	S80°27'01"E	229.81'
L8	S89°59'19"E	275.00'
L9	S89°59'19"E	37.00'
L10	N00°00'41"E	303.03'
L11	N00°00'41"E	283.71'

CURVE TABLE					
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING
C1	383.00'	27.37'	13.69'	27.37'	N78°24'10"W
C2	367.00'	28.23'	13.12'	26.22'	S78°24'10"E

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

WATER INDEX MAP

SCALE: 1" = 100'

- 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 FORTY EIGHT (48") INCHES FROM TOP 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.

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

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

FIBER OPTICS:
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EL PASO, TX 79905
(915) 534-7910

FIBER OPTICS:
MOI 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) 594-5530

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

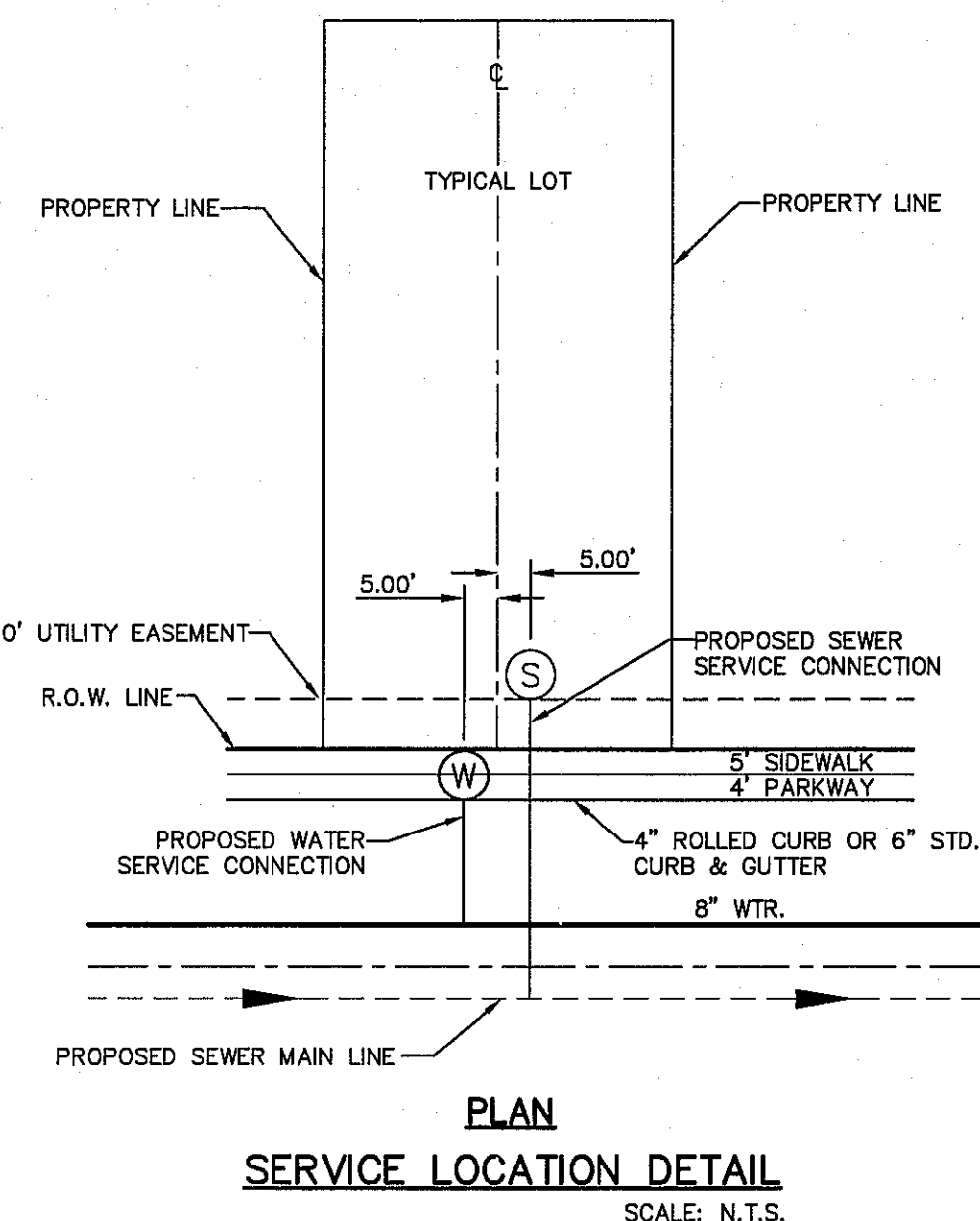
CABLE TELEVISION:
TIME WARNER COMMUNICATIONS
7010 AIRPORT ROAD
EL PASO, TX 79905
(915) 772-1123

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

FIBER OPTICS:
AT&T
P.O. BOX 1650
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(800) 852-3786

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

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FOR FIELD LOCATING EXISTING UTILITIES



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

INDEX

SHEET NO. DESCRIPTION

C11.1	SUNSET TERRACE UNIT FIVE WATER MAIN PIPE LAYOUT
C12.1	WATER DETAILS
C12.2	WATER DETAILS
C12.3	WATER DETAILS
C12.4	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.
- ALL WATER LINES SHALL BE PVC C-900, CLASS 305 DR14.
- REFERENCE WATER DETAILS FOR TYPICAL VALVE AND WATER LOCATIONS AT STREET INTERSECTIONS.
- REFERENCE WATER DETAILS FOR WATER LINE CROSSING STORM SEWER.
- SUBDIVISION IS LOCATED WITHIN AN INTERMEDIATE PRESSURE ZONE. PRIVATE PRESSURE REGULATORS ARE REQUIRED AT THE DISCHARGE SIDE OF ALL WATER METERS.

LEGEND

SYMBOL	DESCRIPTION
8" WTR.	PROPOSED 8" C-900, CLASS 305 P.V.C. PIPE DR14.
12" WTR.	PROPOSED 12" C-900 P.V.C. PIPE, UNLESS OTHERWISE SPECIFIED
---	SUBDIVISION BOUNDARY LINE
---	PROPERTY LINE
---	STREET CENTER LINE
8" SWR	PROPOSED SEWER LINE (PLAN VIEW)
---	PROPOSED STORM SEWER
+	PROPOSED WATER CROSS CONNECTION
+	PROPOSED WATER TEE CONNECTION
+	PROPOSED WATER BEND CONNECTION
+	PROPOSED SERVICE CONNECTION (PLAN VIEW)
+	PROPOSED FIRE HYDRANT, KENNEDY OR MUELLER MODEL
+	PROPOSED 8" PLUG
+	PROPOSED GATE VALVE
+	POINT OF TANGENCY
+	REDUCER
+	EXISTING GATE VALVE
+	EXISTING FIRE HYDRANT
+	EXISTING PLUG
---	EXISTING SEWER LINE
---	EXISTING WATER LINE

REFERENCES - BENCHMARKS	
CITY MONUMENT AT THE INTERSECTION OF PASCO DEL NORTE & NORTHWESTERN. ELEVATION = 3887.39 (CITY DATUM). THIS IS BASED ON NGS MONUMENT "CHINO" ELEVATION = 3935.46 (CITY DATUM)	BY
DATE	REVISIONS

CEA GROUP
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Office: 915.544.5232 Fax: 915.544.5233 www.ceagroup.net



SCALE: 1"=100'
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: SEPTEMBER 2015
DESIGN BY: R.O.
DRAWN BY: J.L.A.
CHKD. BY: J.L.A.
APPROV. BY: J.L.A.
JOB NO. 2000-190LD

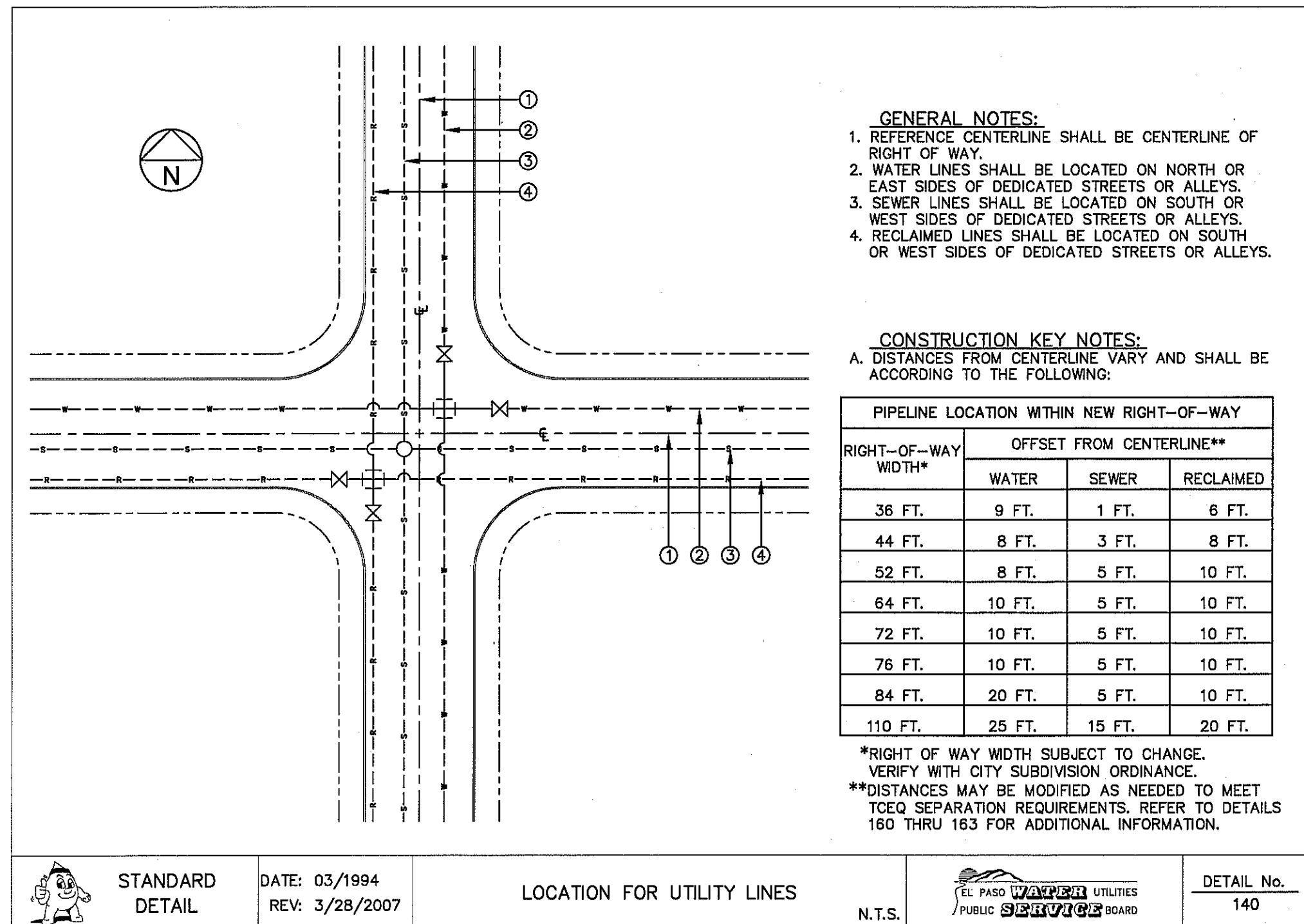
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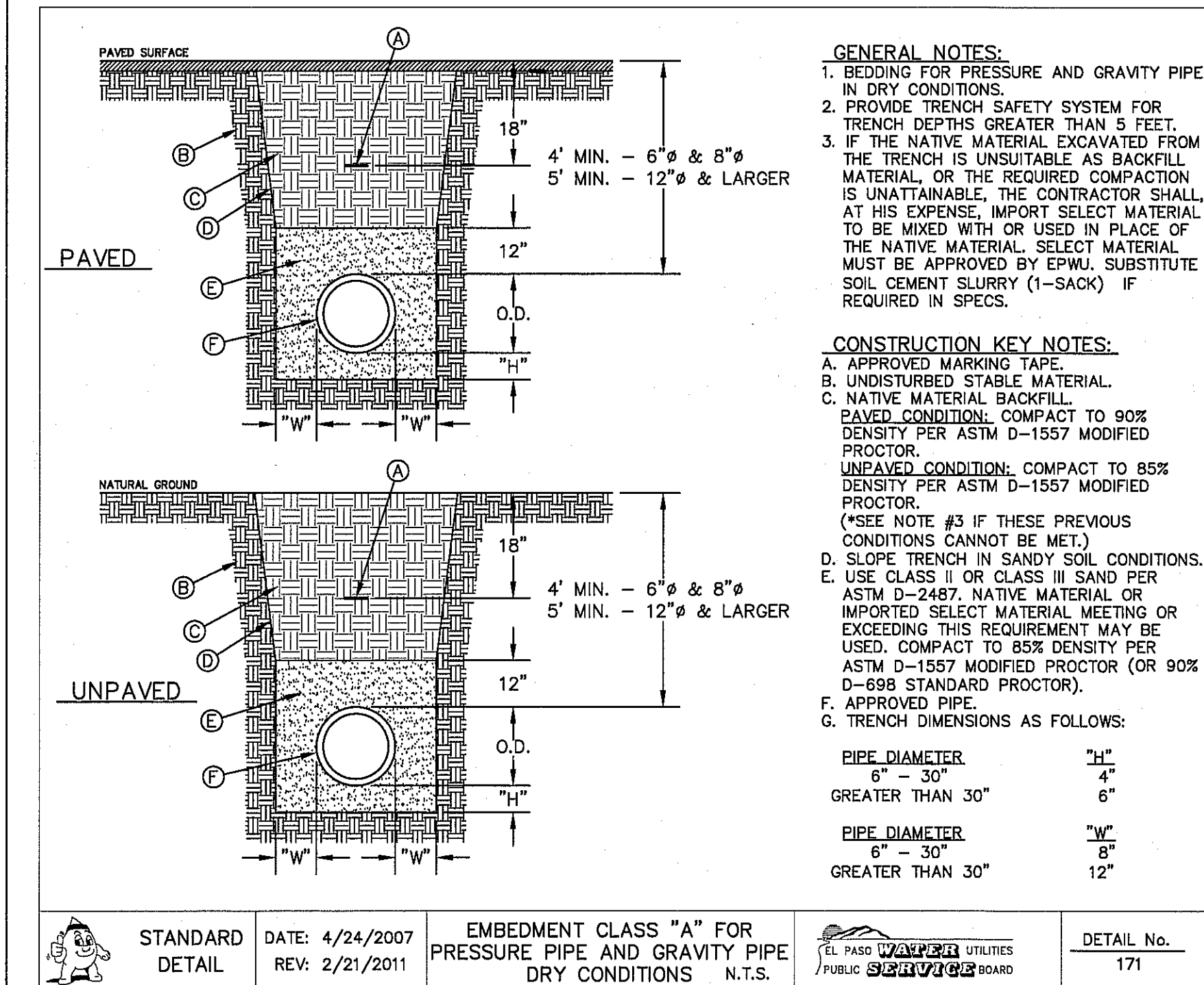
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GENERAL
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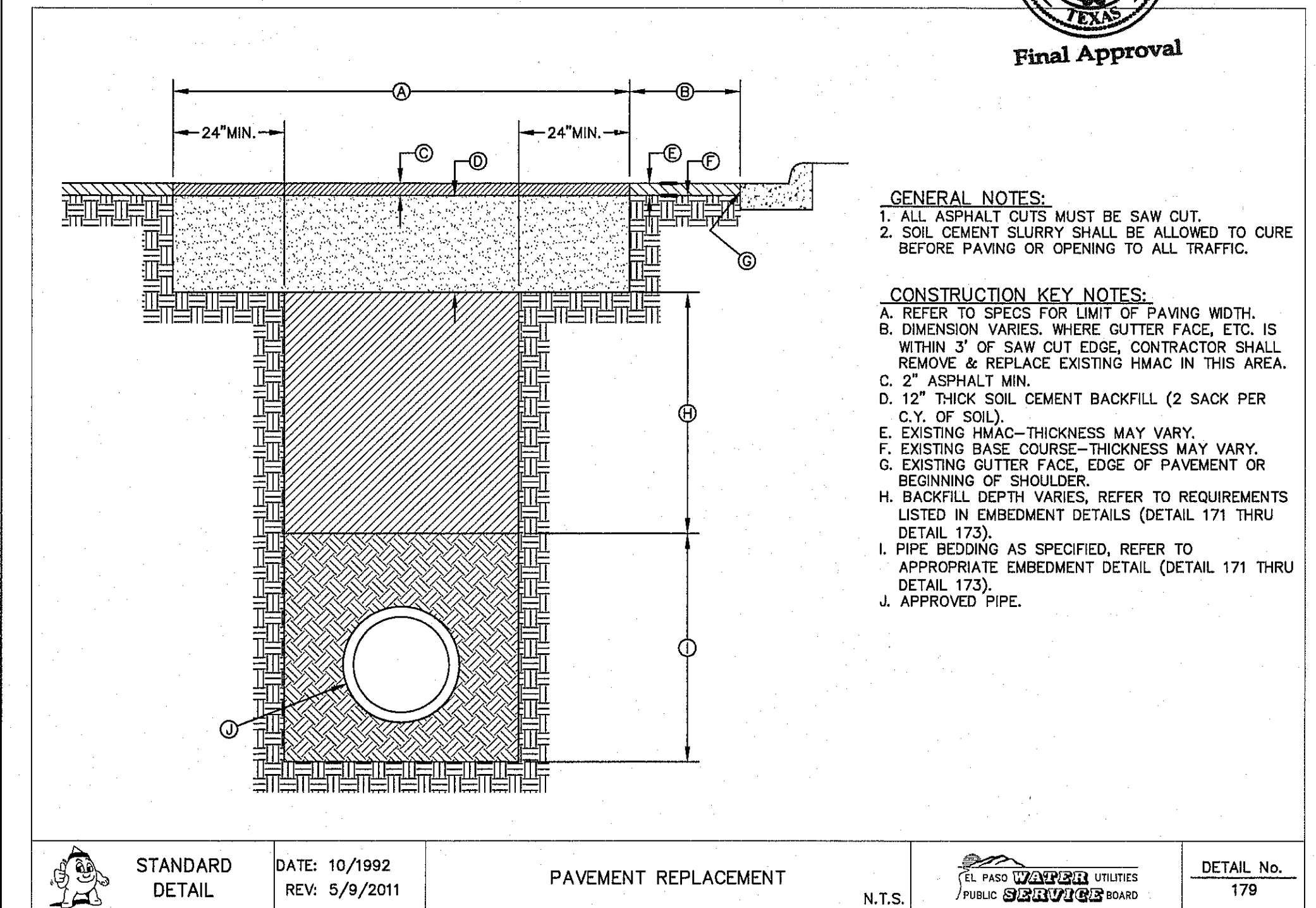
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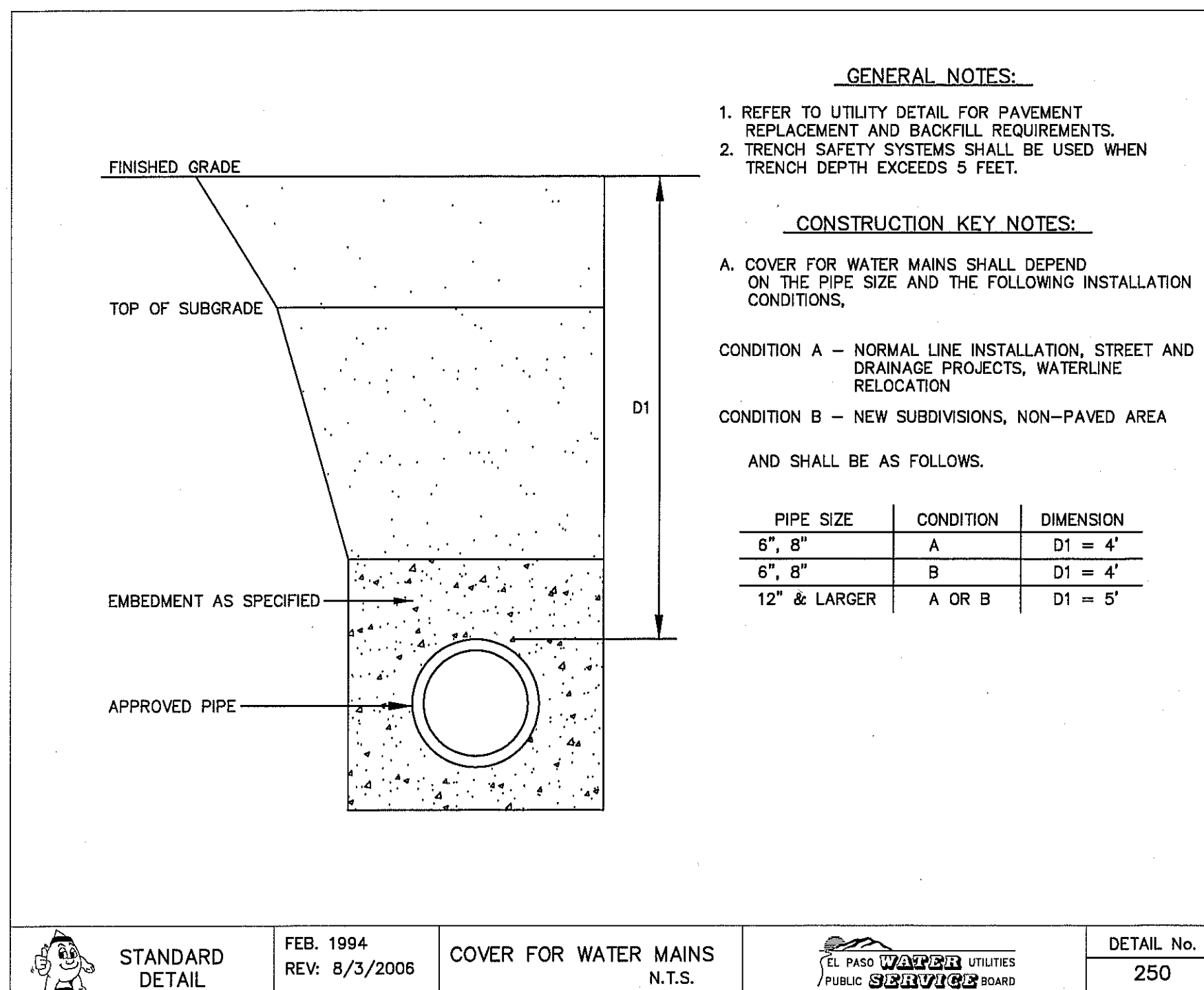
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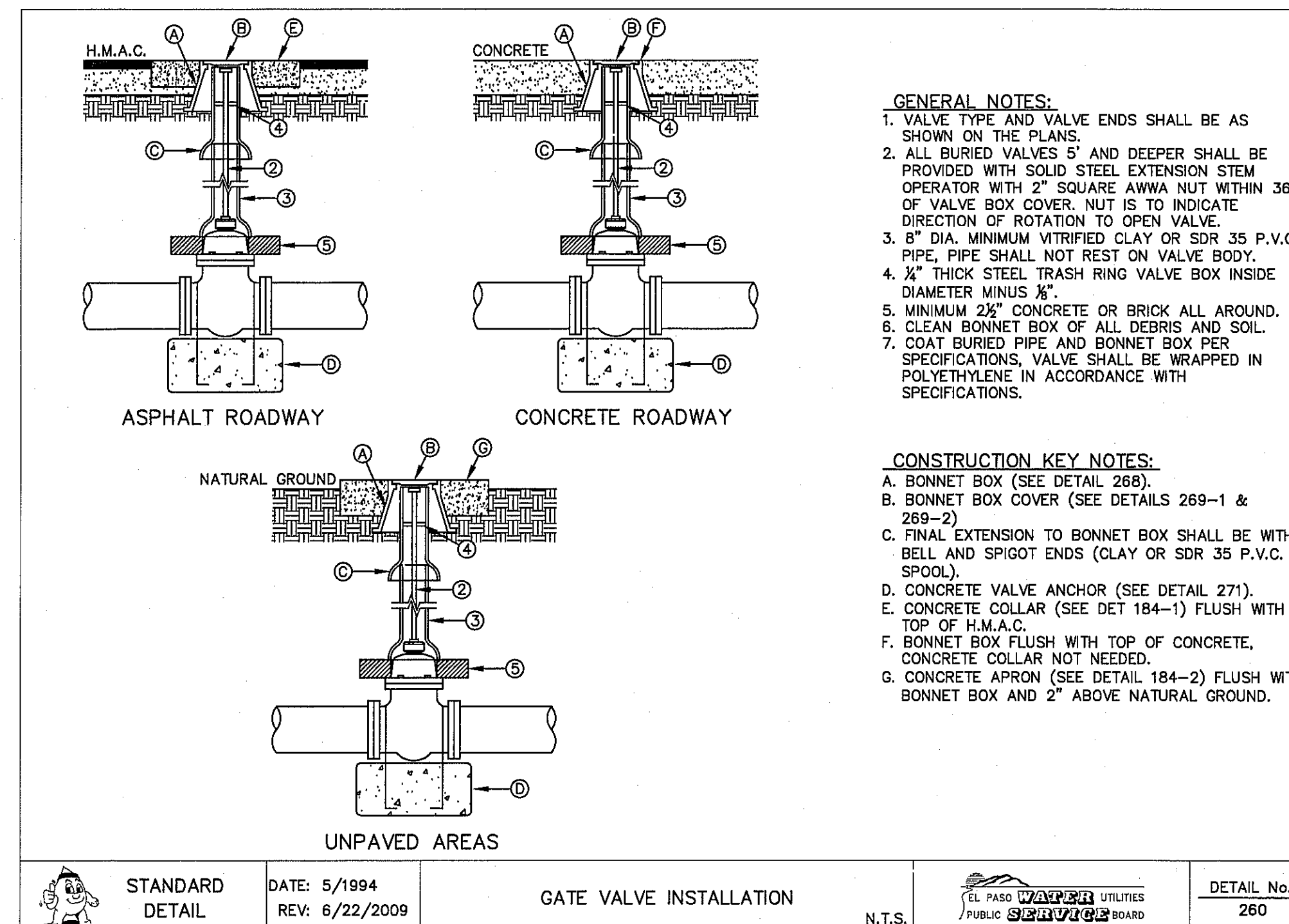
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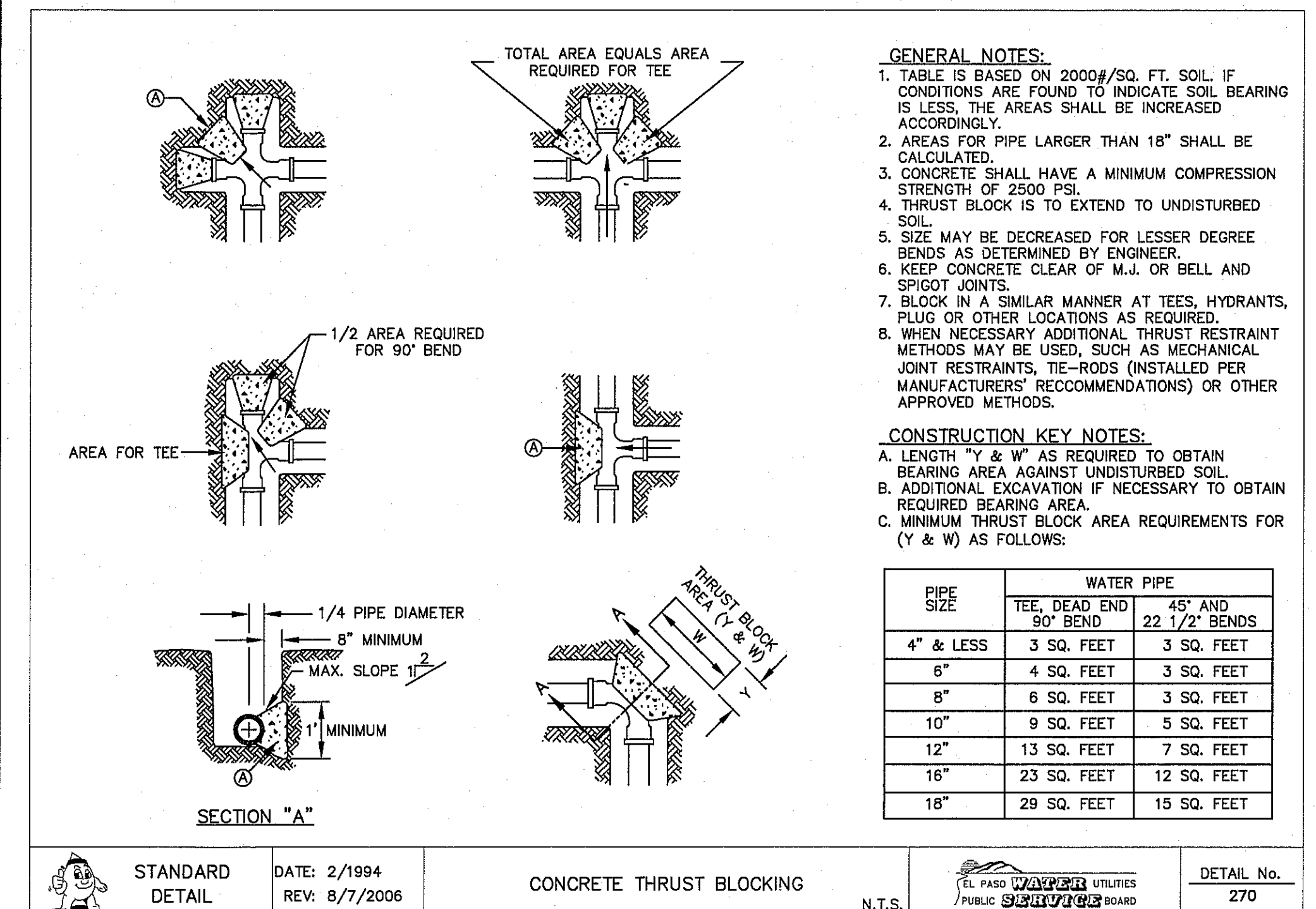
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4 COVER FOR WATER MAINS
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5 GATE VALVE INSTALLATION
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6 CONCRETE THRUST BLOCKING
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REFERENCES - BENCHMARKS	
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DATE	
REVISIONS	
BY	

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TEXAS REGISTERED ENGINEERING F-6584
4712 Woodrow Bean, Ste. F El Paso, TX 79924
Office: 915.544.5232 Fax: 915.544.5233 www.csaengineers.com

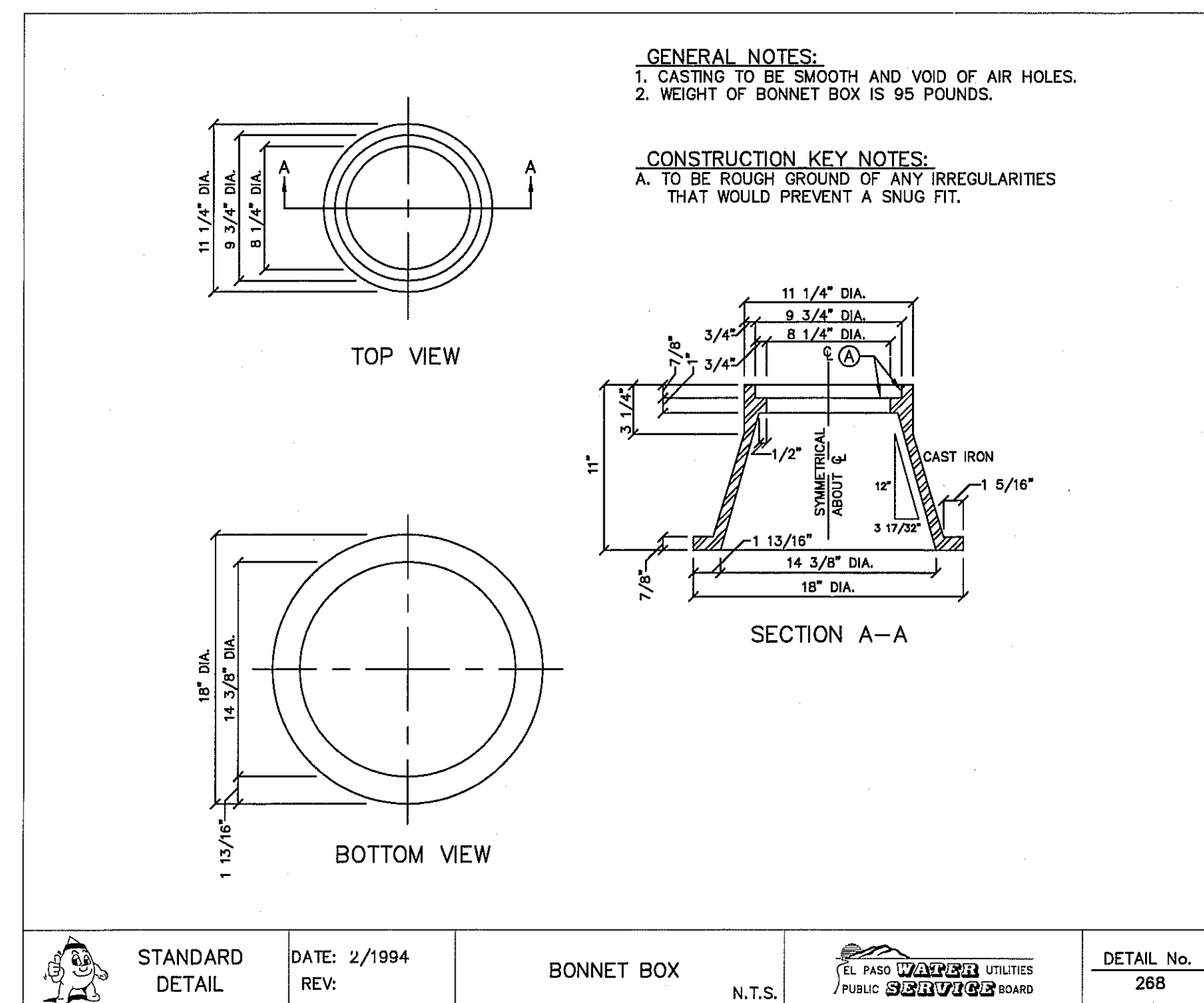


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DRAWN BY: J.L.A.
CHKD. BY: J.L.A.
APPD. BY: J.L.A.
JOB No. 2000-190LD

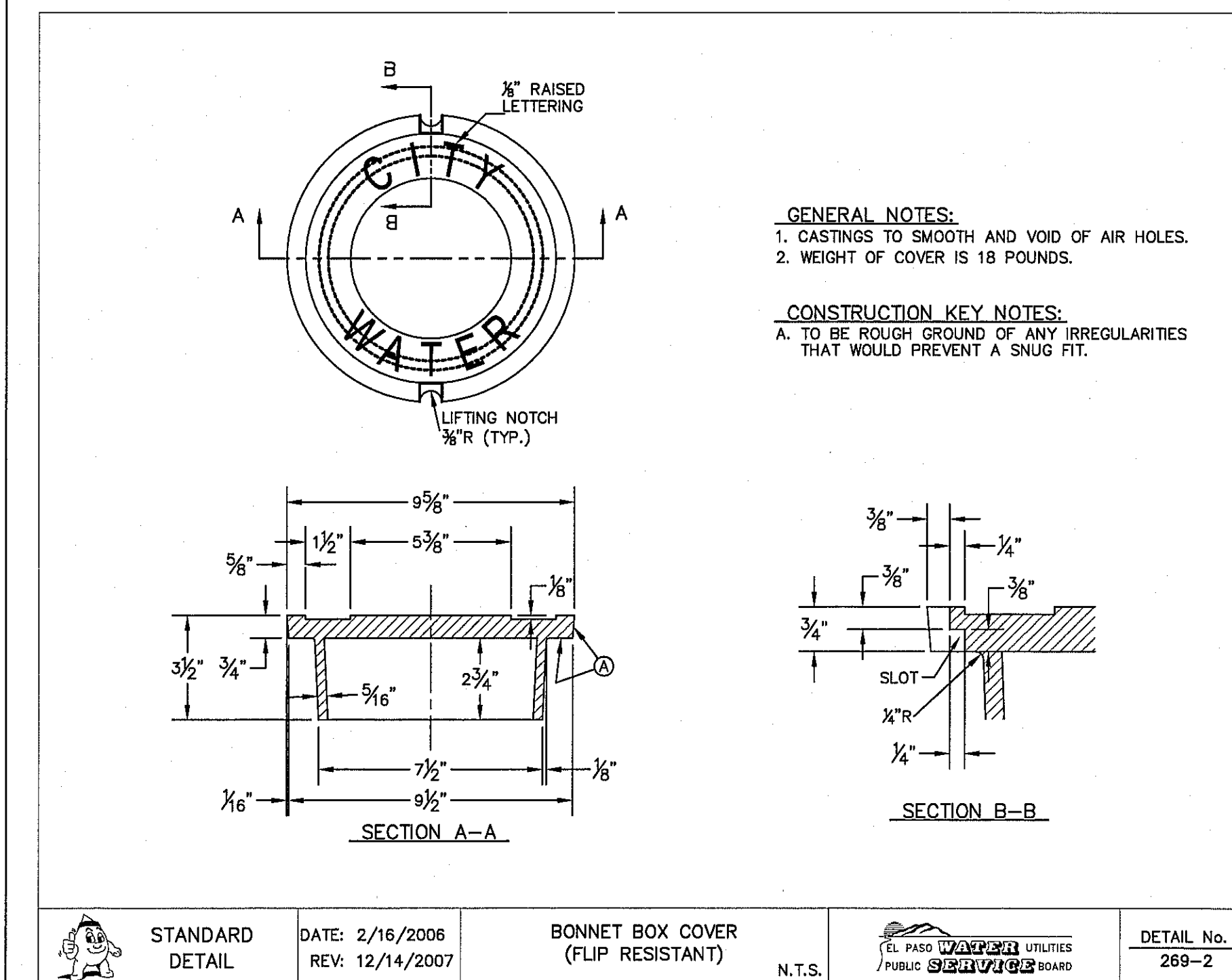
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**SUNSET TERRACE
UNIT FIVE
SUBDIVISION IMPROVEMENTS**

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

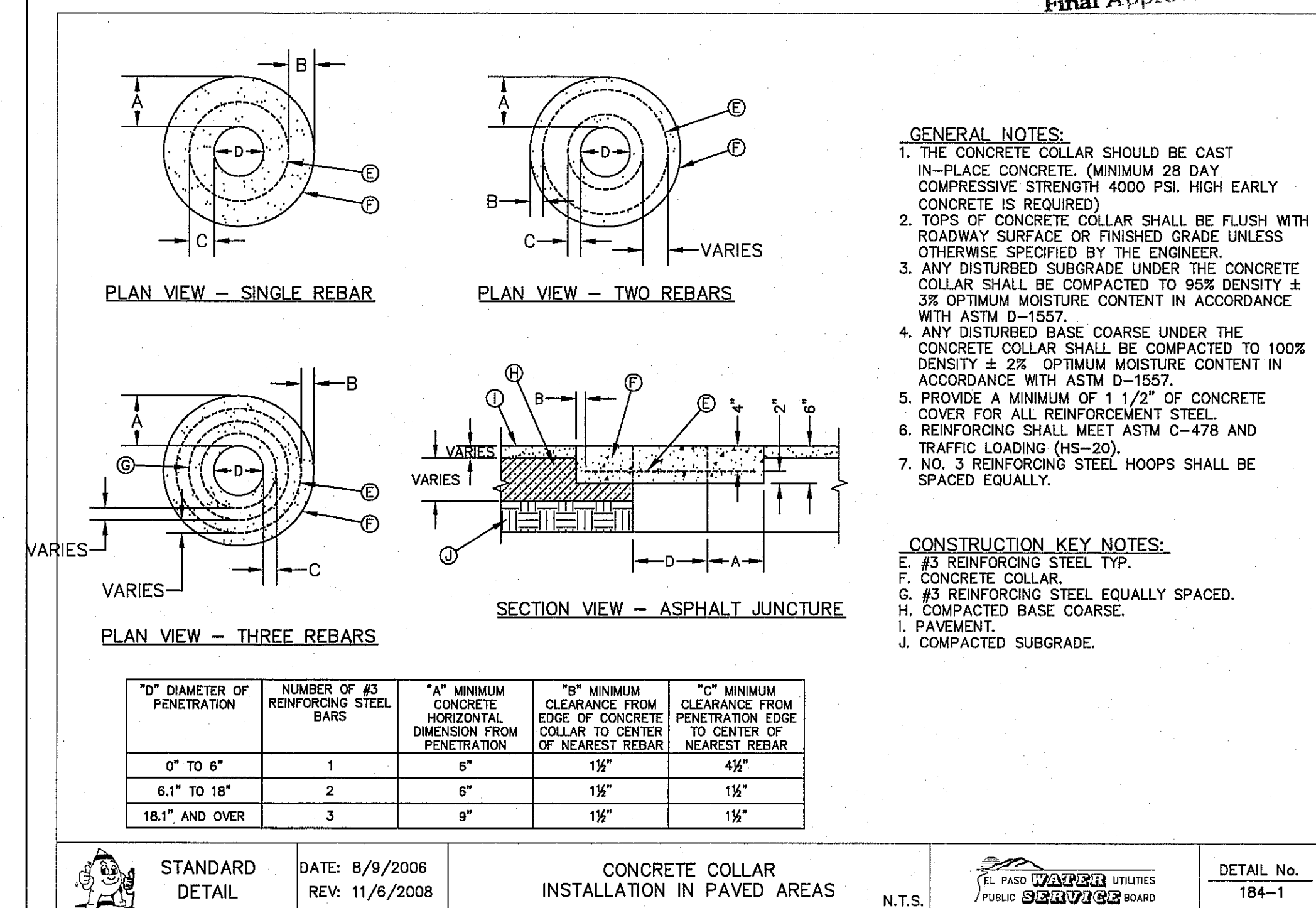
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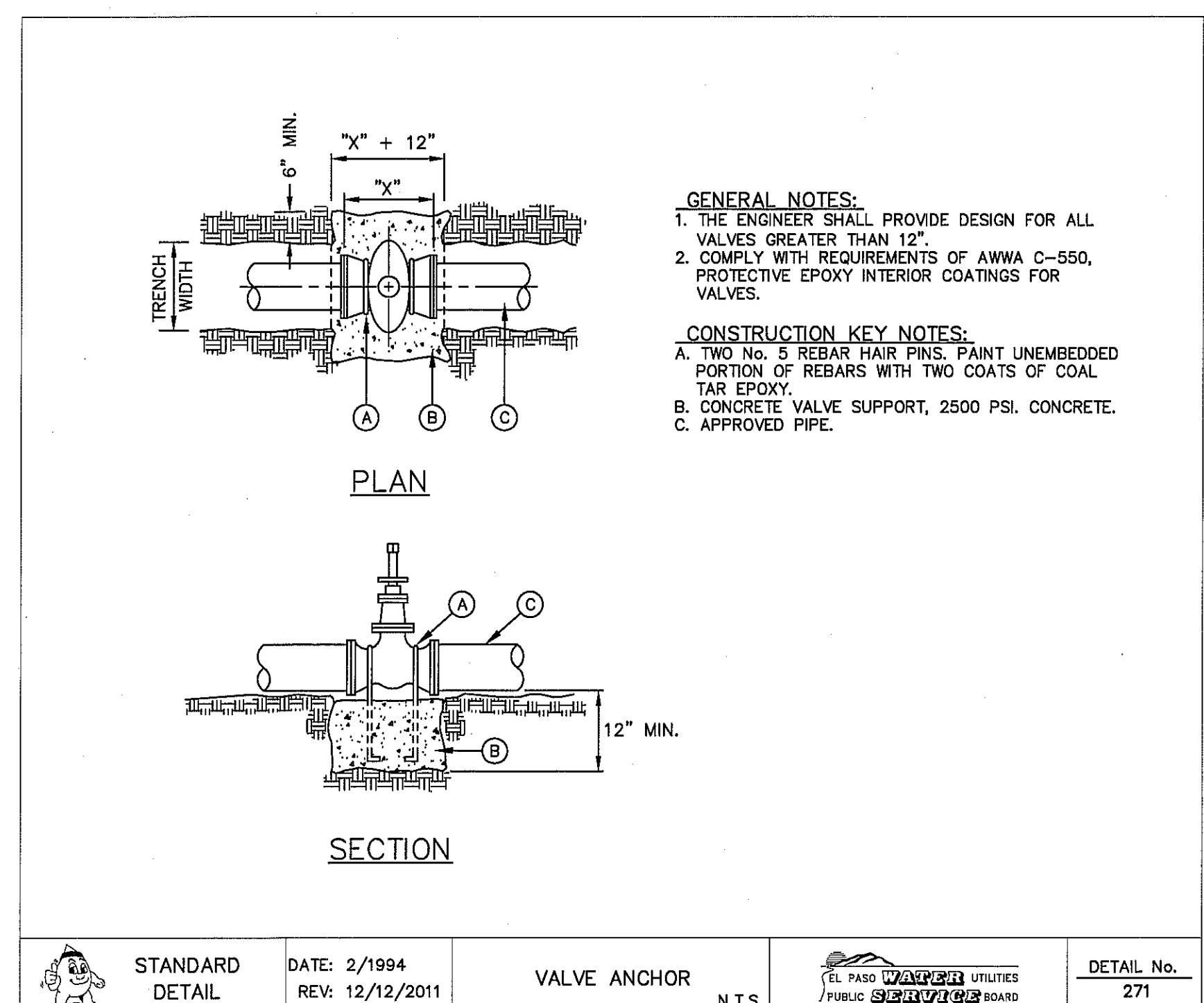
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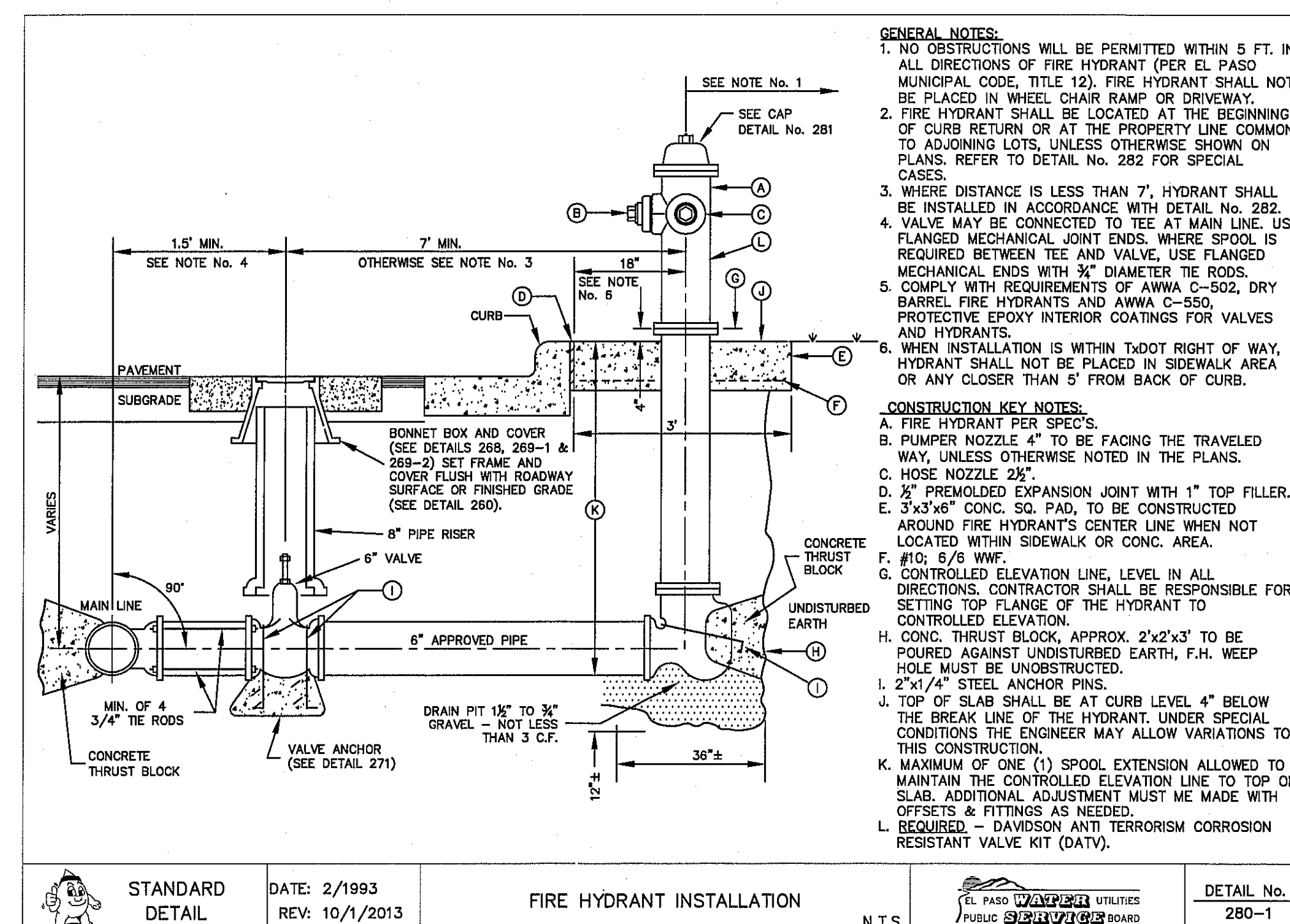
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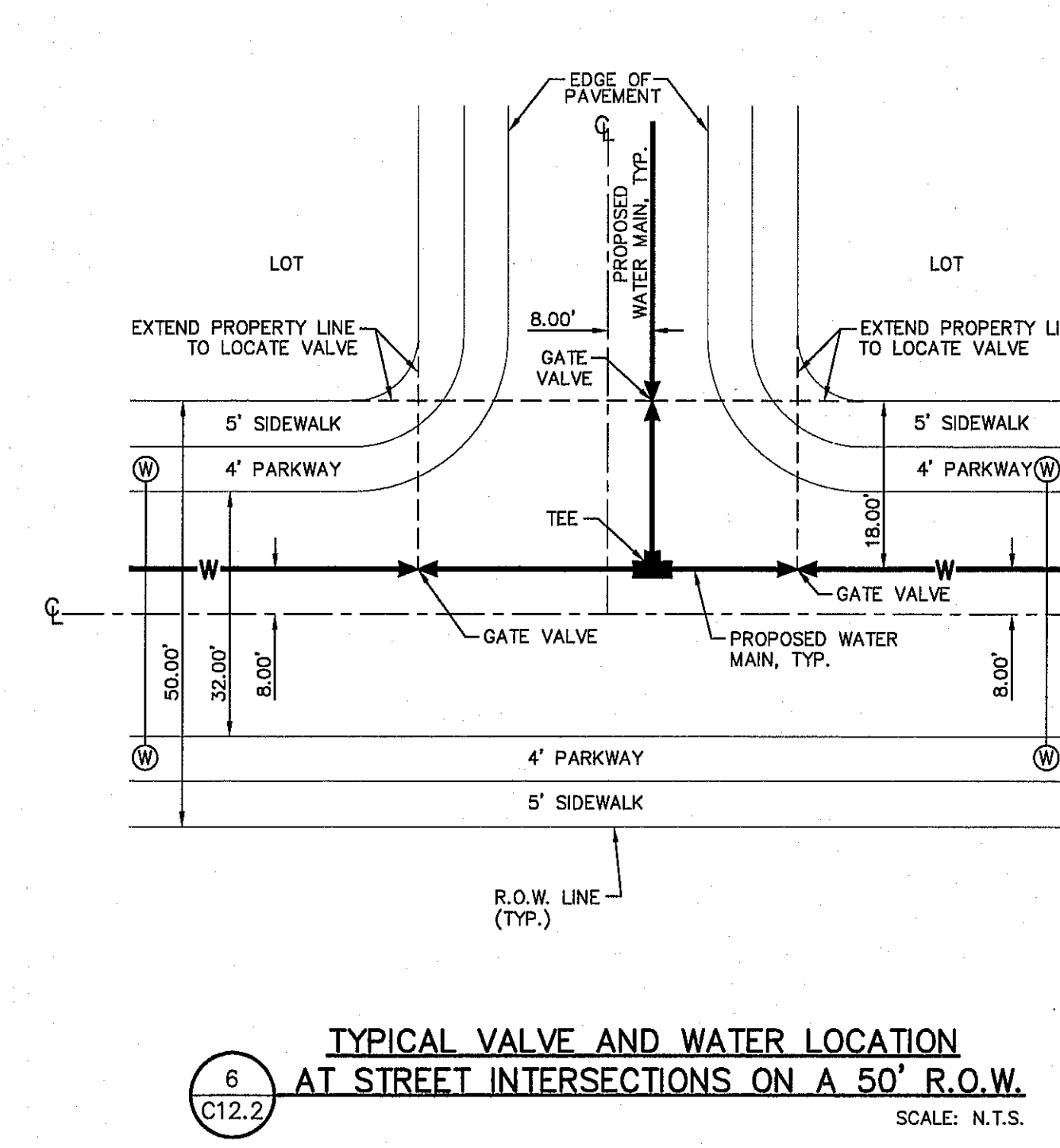
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4 **VALVE ANCHOR**
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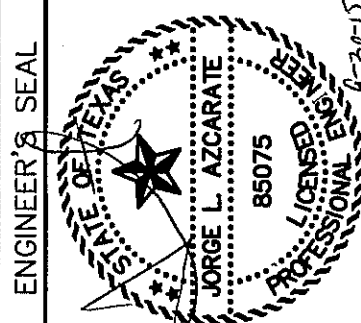
5 **FIRE HYDRANT INSTALLATION**
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6 **TYPICAL VALVE AND WATER LOCATION AT STREET INTERSECTIONS ON A 50' R.O.W.**
SCALE: N.T.S.

REFERENCES - BENCHMARKS	BY
CITY MONUMENT AT THE INTERSECTION OF PASO DEL NORTE & NORTHWESTERN. ELEVATION = 3887.39 (CITY DATUM). THIS IS BASED ON NGS MONUMENT (CHINO ELEVATION = 3953.46 (CITY DATUM))	DATE
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SCALE: N/A
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: SEPTEMBER 2015
DESIGN BY: R.O.
DRAWN BY: J.L.A.
CHKD. BY: J.L.A.
APPD. BY: J.L.A.
JOB No. 2000-1901.D

**SUNSET TERRACE
UNIT FIVE
SUBDIVISION IMPROVEMENTS**

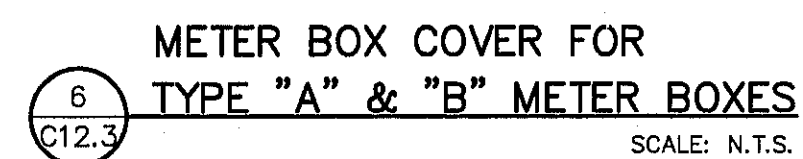
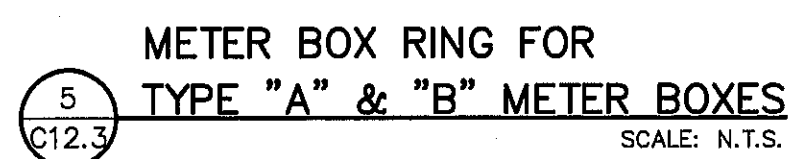
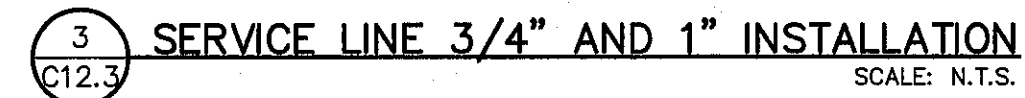
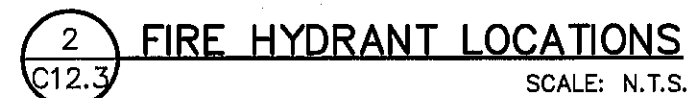
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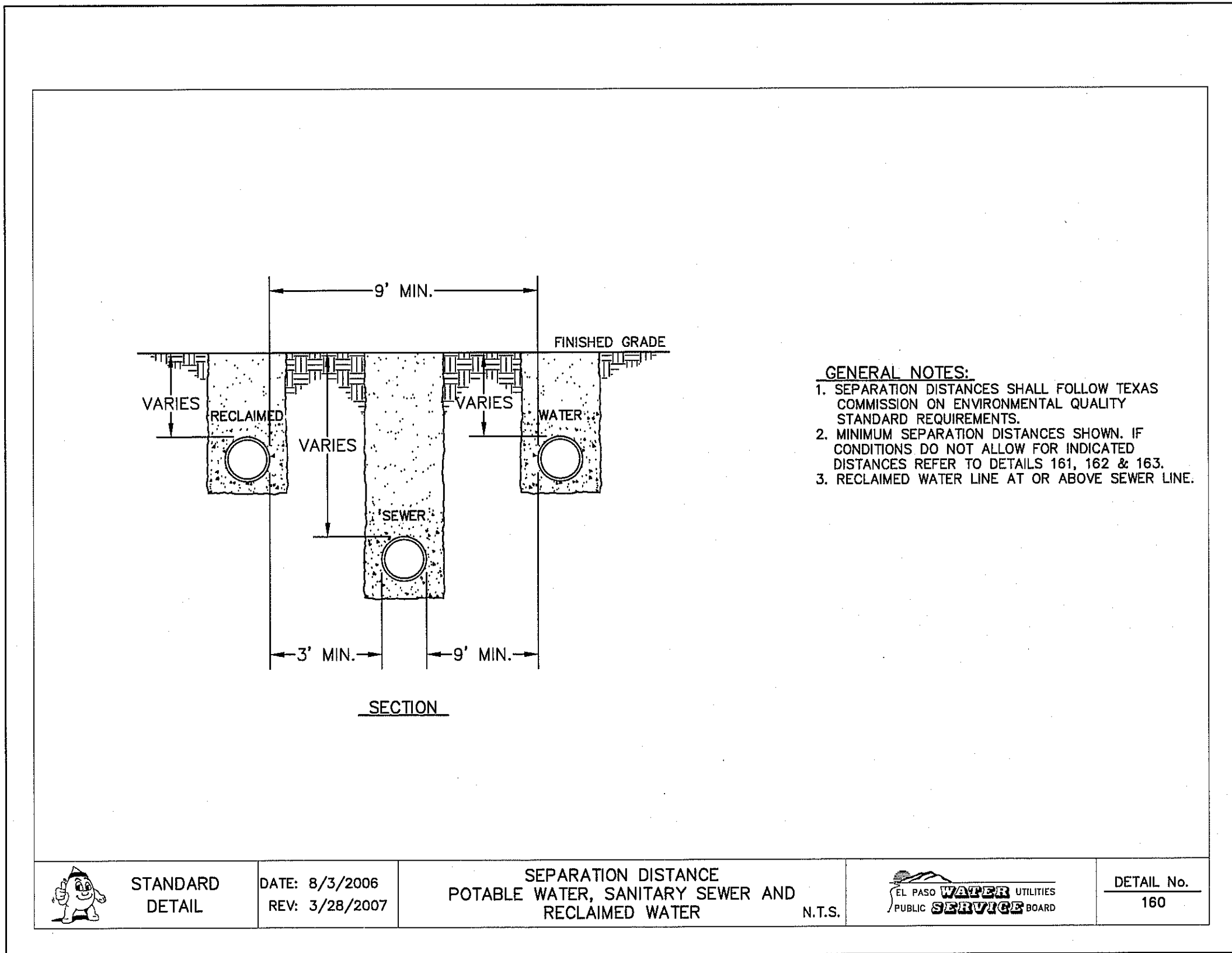
**WATER
DETAILS**

(SHEET 2 OF 4)

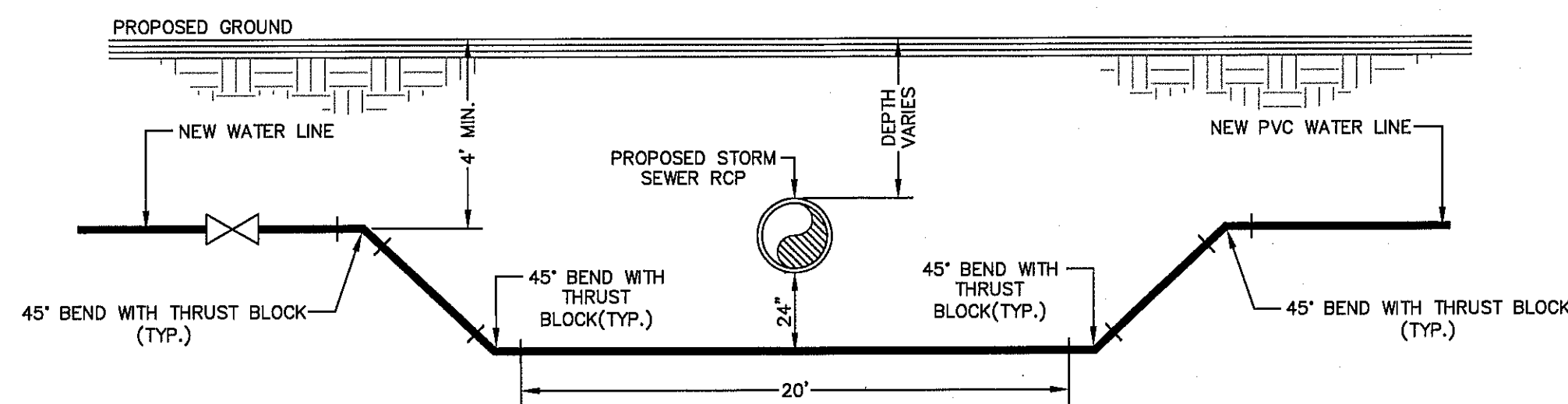
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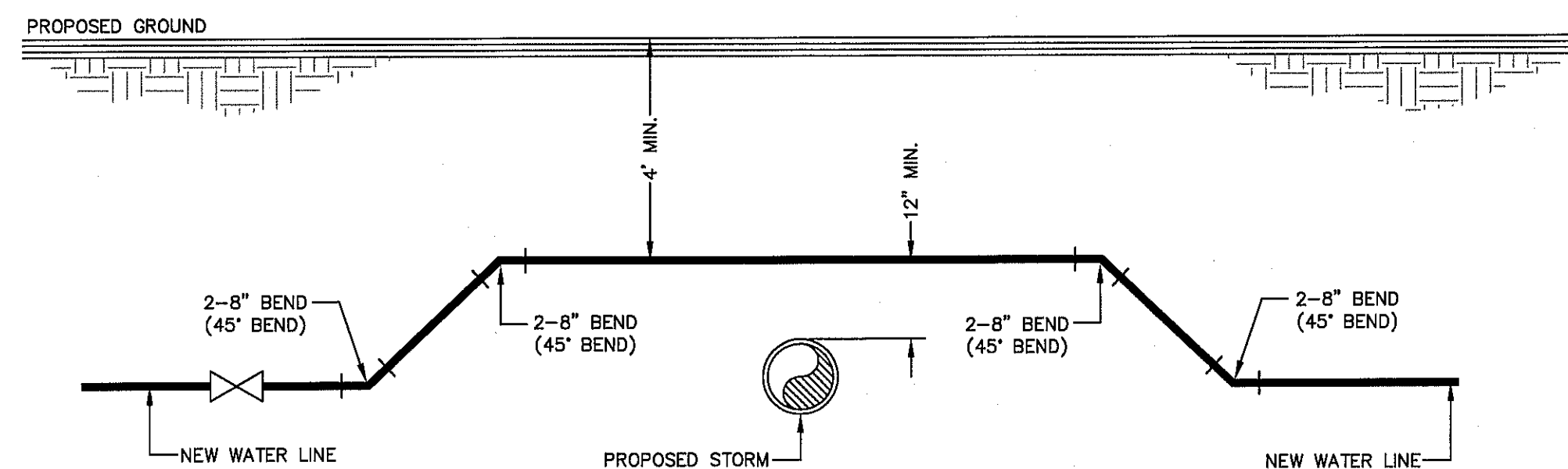




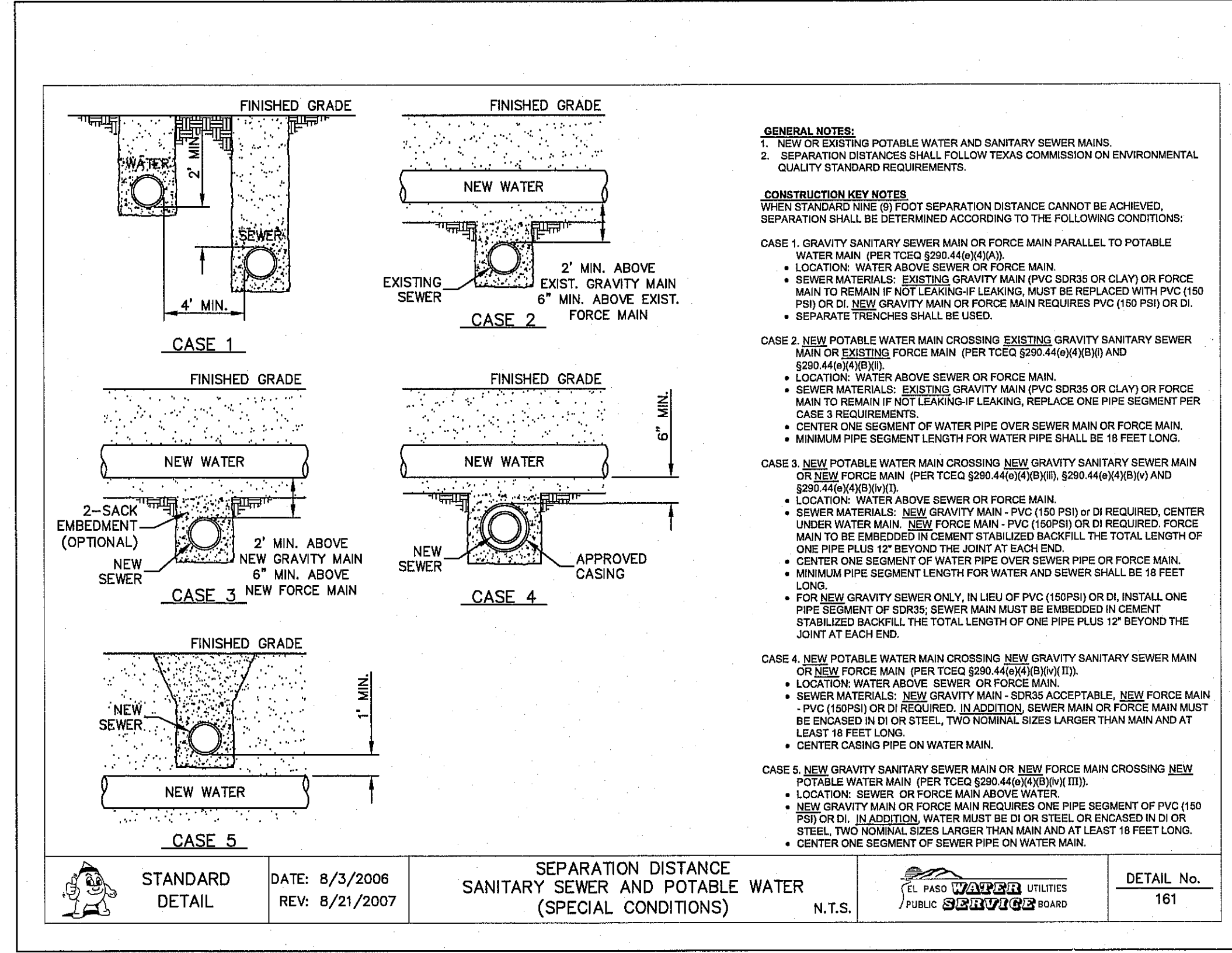
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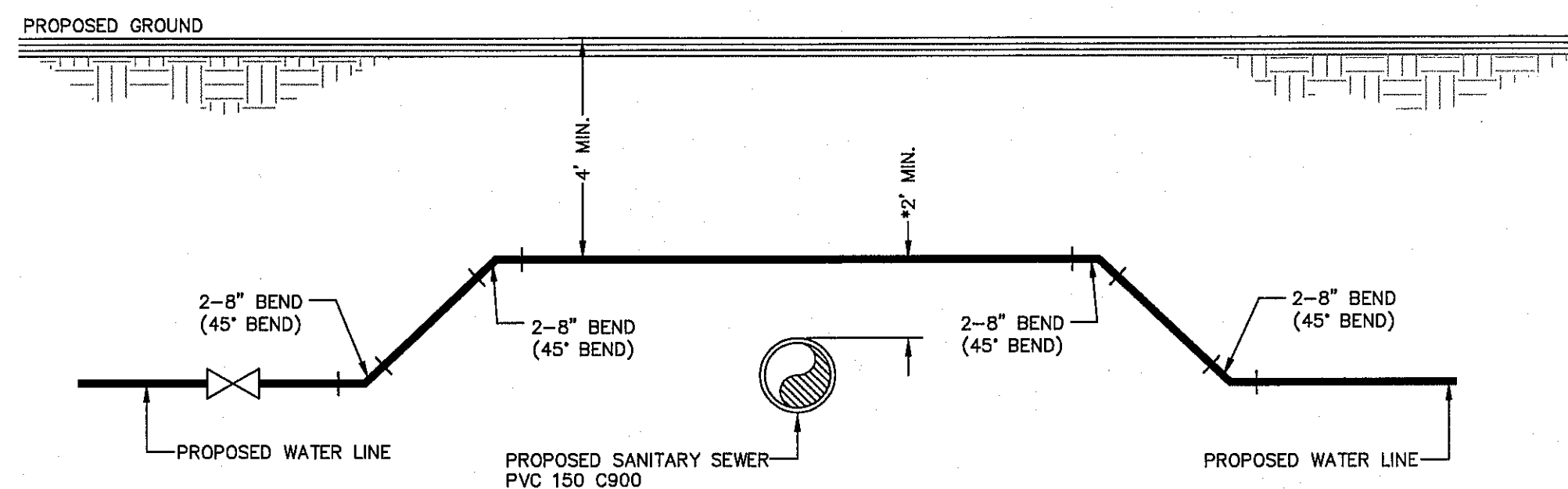
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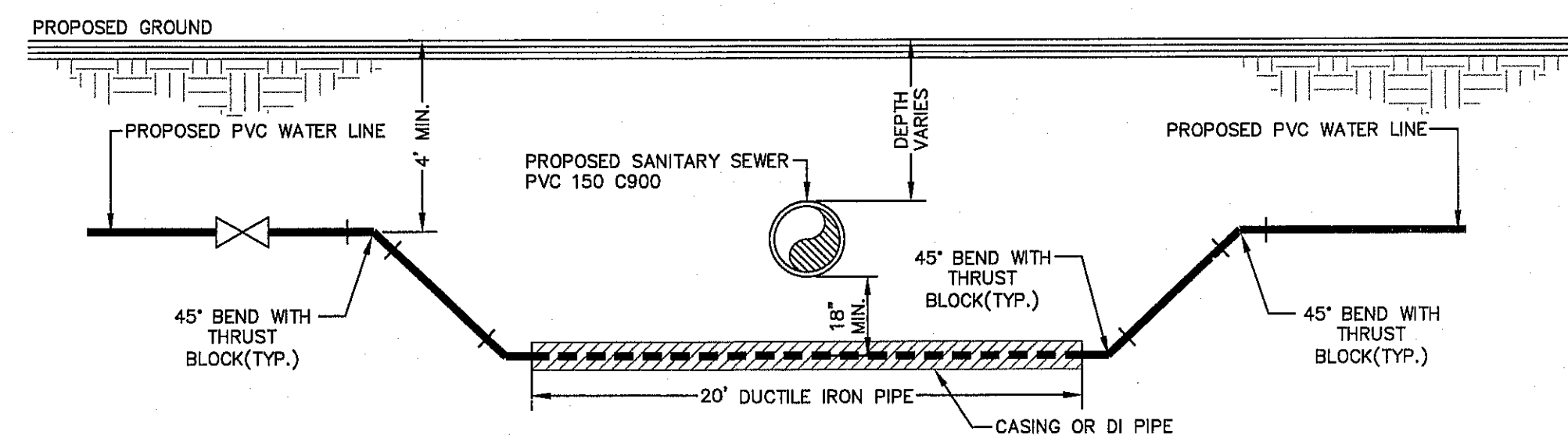
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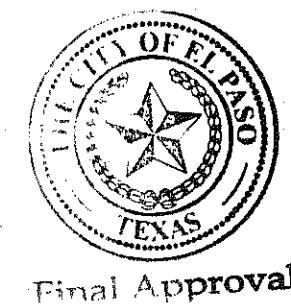
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4 SANITARY SEWER CROSSING WATER LINE DETAIL
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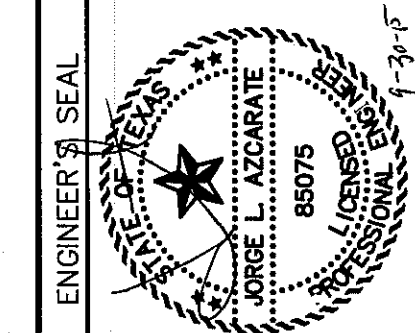


6 SANITARY SEWER CROSSING WATER LINE DETAIL
SCALE: N.T.S.



DATE	REVISIONS	BY

ENGINEER'S SEAL
J. L. AZCARRATE
REGISTERED PROFESSIONAL ENGINEER
NO. 80075
STATE OF TEXAS
OFFICE: 915.544.5232 FAX: 915.544.5233 www.cagroup.net

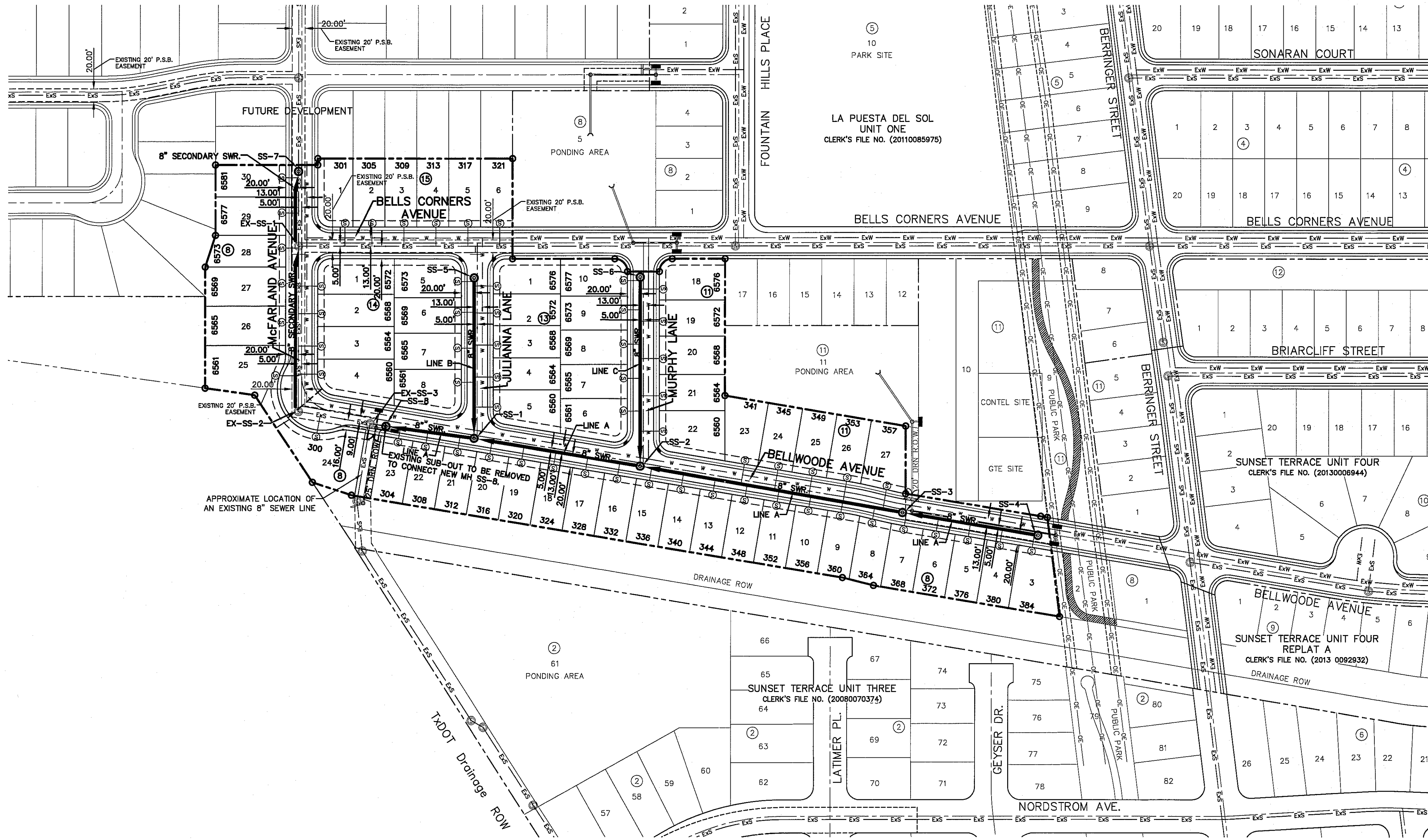


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Contour Interval:	10'
DATE:	SEPTEMBER 2015
DESIGN BY:	R.O.
DRAWN BY:	J.L.A.
CHKD. BY:	J.L.A.
APPVD. BY:	J.L.A.
JOB No.	2000-190LD

PROJECT TITLE
SUNSET TERRACE
UNIT FIVE
SUBDIVISION IMPROVEMENTS

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

C12.4



WASTEWATER QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
1	8" PVC SDR35 GRAVITY LINE	1984	LINEAR FEET
2	WASTEWATER MANHOLE	8	EACH
3	4" WASTEWATER SERVICE CONNECTION	55	EACH

SANITARY SEWER INDEX MAP

SCALE: 1" = 100'

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

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:
EL PASO WATER UTILITIES
11884 GREENVILLE AVENUE
DALLAS, TX. 75243
(800) 344-8377

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

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

ELECTRIC:
EL PASO ELECTRIC CO.
AT&T
P.O. BOX 1650
EL PASO, TX. 79949
(915) 543-2076
MR. FRANK VIGEL (DISTRIBUTION)

EL PASO STREETS
CITY OF EL PASO
STREET & MAINTENANCE DEPT.
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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:
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P.O. BOX 1650
EL PASO, TX. 79949
(800) 852-3786

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

WARNING!
BEFORE YOU DIG
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FOR FIELD LOCATING EXISTING UTILITIES

INDEX

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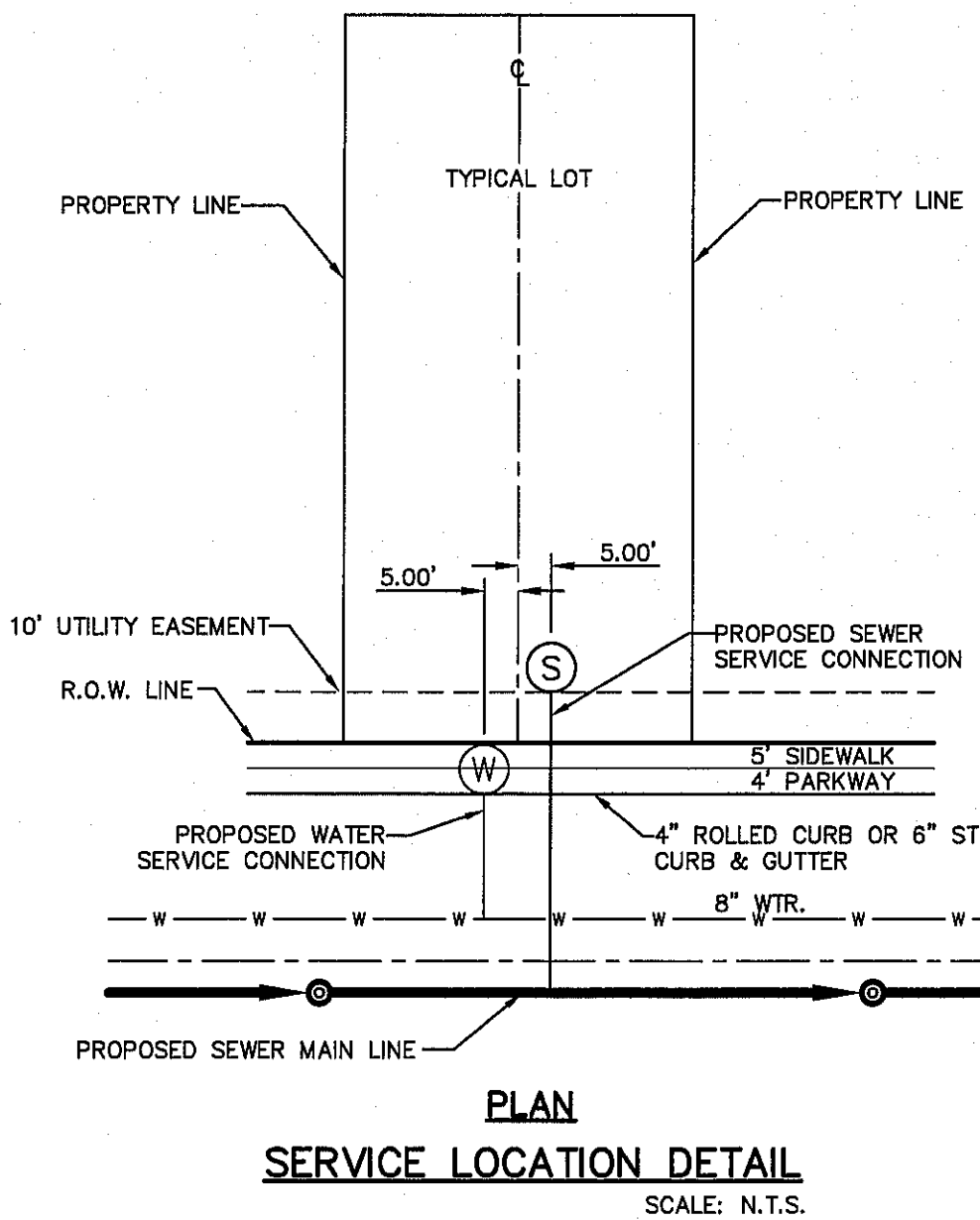
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C14.1	LINE A, B & C
C15.1	SANITARY SEWER DETAILS
C15.2	SANITARY SEWER DETAILS
C15.3	SANITARY SEWER DETAILS

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.
- SANITARY SEWER SERVICES FOR LOTS 1 THRU 8, BLOCK 15 AND LOT 24, BLOCK 8 WILL BE INSTALLED BY EPWU UNDER AN INSTALLATION AND SERVICE CONTRACT.

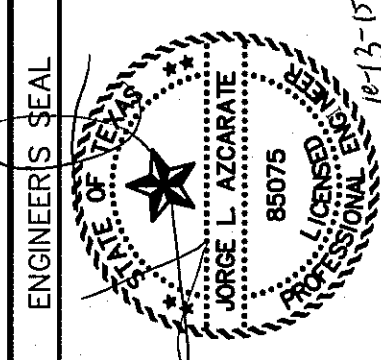
LEGEND

SYMBOL	DESCRIPTION
	PROPOSED STORM SEWER
	EXISTING WATER LINE
	EXISTING SEWER LINE
	SUBD. BOUNDARY LINE
	PROPERTY LINE
	CENTER LINE
	PROPOSED WATER LINE
	PROPOSED SEWER LINE (PLAN VIEW)
	PROPOSED SEWER LINE ON ANOTHER SHEET (PLAN VIEW)
	PROPOSED SEWER LINE (PROFILE VIEW)
	PROPOSED SEWER MANHOLE (PROFILE VIEW)
	PROPOSED SERVICE CONNECTION (PLAN VIEW)
	EXISTING MANHOLE (PLAN VIEW)
	PROPOSED MANHOLE (PROFILE VIEW)
	EXISTING MANHOLE (PROFILE VIEW)



REFERENCES - BENCHMARKS	
CITY MONUMENT AT THE INTERSECTION OF PASO DEL NORTE & NORTHWESTERN. ELEVATION = 3887.39 (CITY DATUM). THIS IS BASED ON NGM MONUMENT (CHINA) ELEVATION = 3935.48 (CITY DATUM)	BY
DATE	REVISIONS

CEA GROUP
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-464
4712 Woodrow Bean, Ste. F El Paso, TX 79924
Office: 915.544.5232 Fax: 915.544.5233 www.ceagroup.net



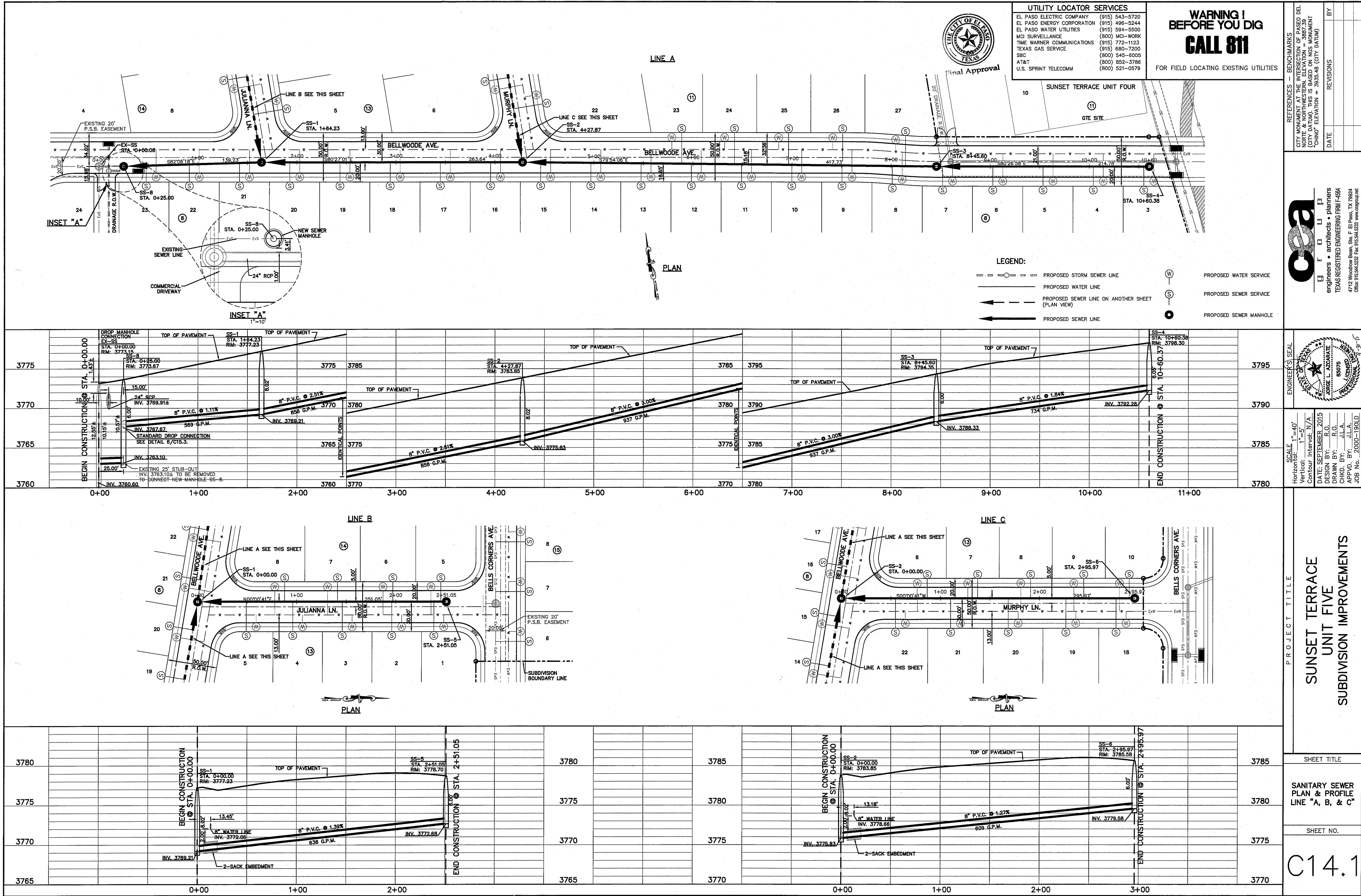
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DATE: OCTOBER 2015
DESIGN BY: R.O.
DRAWN BY: J.L.A.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB NO. 2000-1901D

PROJECT TITLE
**SUNSET TERRACE
UNIT FIVE
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
**SANITARY SEWER
INDEX/GENERAL
INFORMATION**

SHEET NO.

C13.1



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

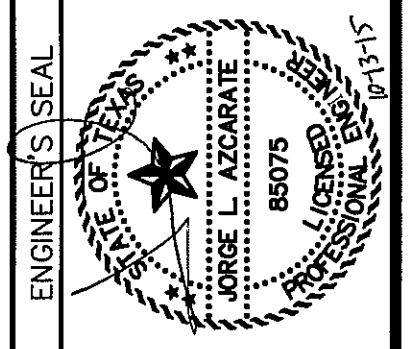
**WARNING !
BEFORE YOU DIG
CALL 811**

FOR FIELD LOCATING EXISTING UTILITIES



DATE	REVISIONS	BY

osa
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-4694
4712 Woodrow Bann, Suite E El Paso, TX 79924
Office: 915.544.5223 Fax: 915.544.5233 www.osaengineers.com



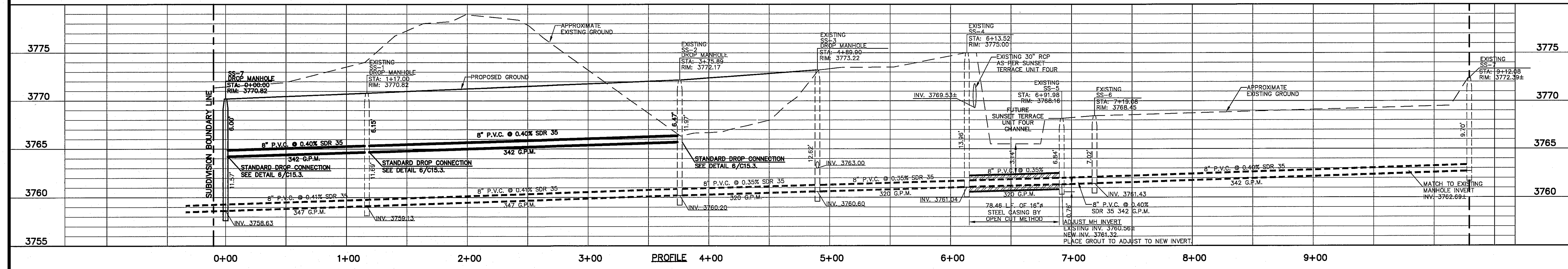
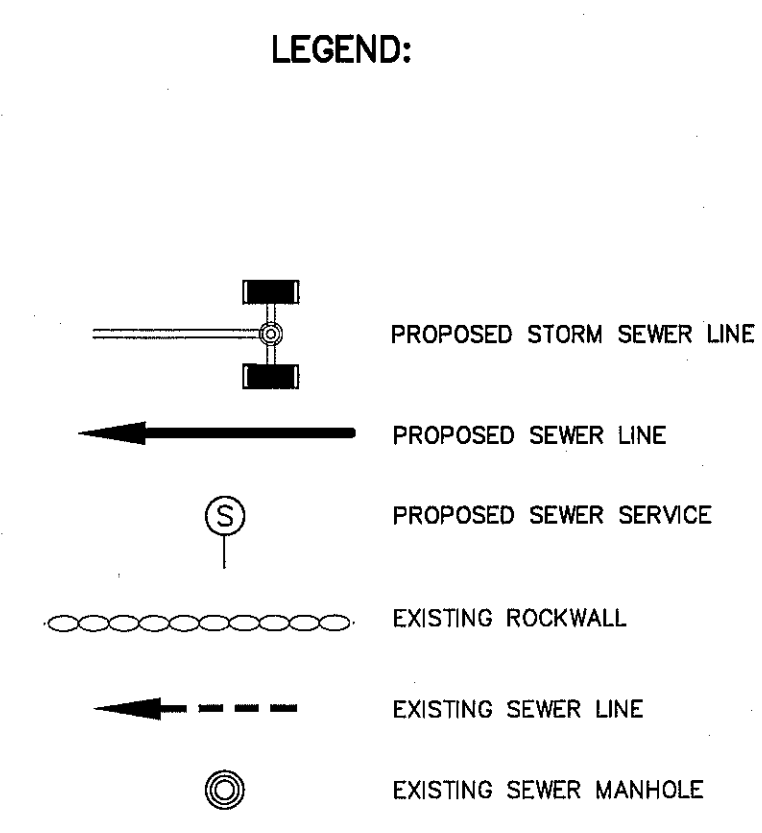
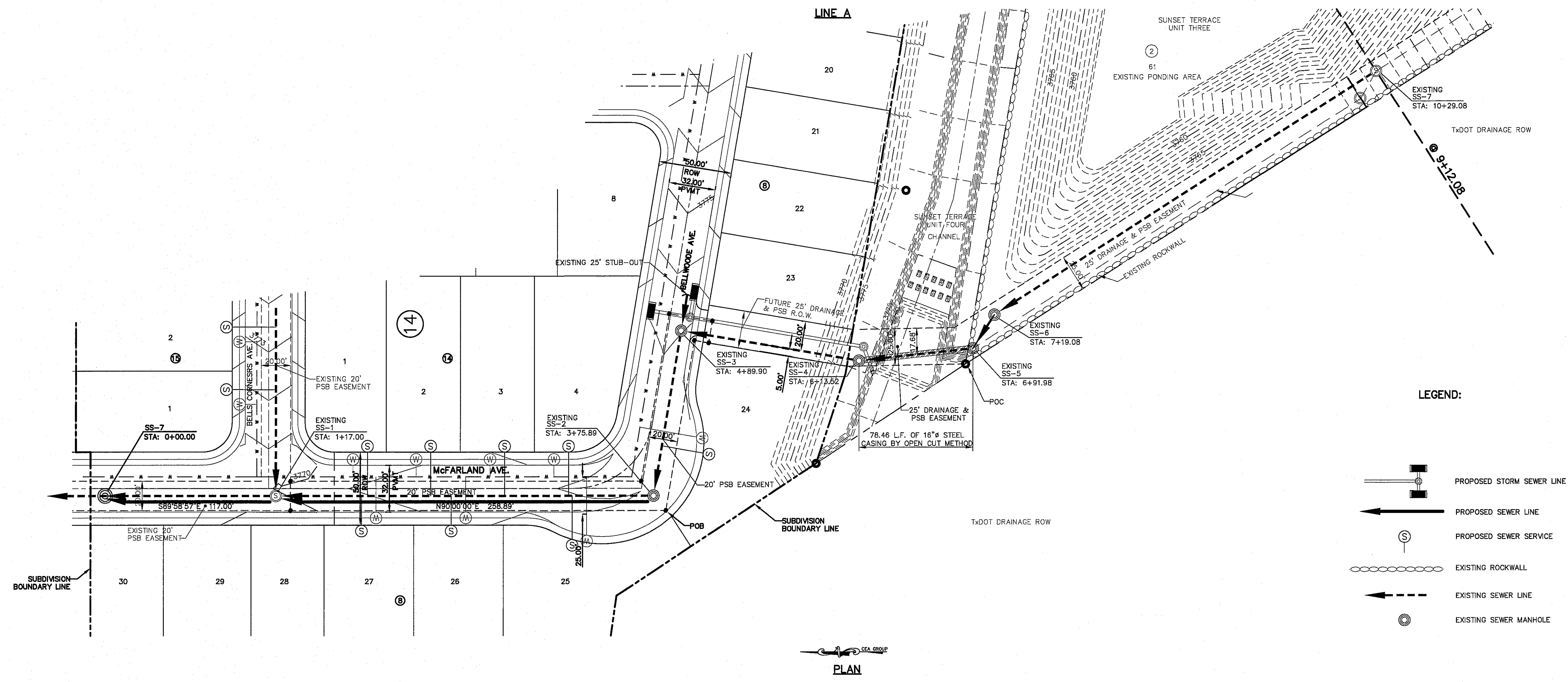
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APPVD BY:	J.L.A.
JOB NO.	2000-190LD

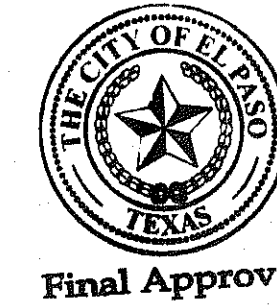
PROJECT TITLE
**SUNSET TERRACE
UNIT FIVE
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
**SANITARY SEWER
PLAN & PROFILE
LINE A**
(SUNSET TERRACE
UNIT THREE)

SHEET NO.

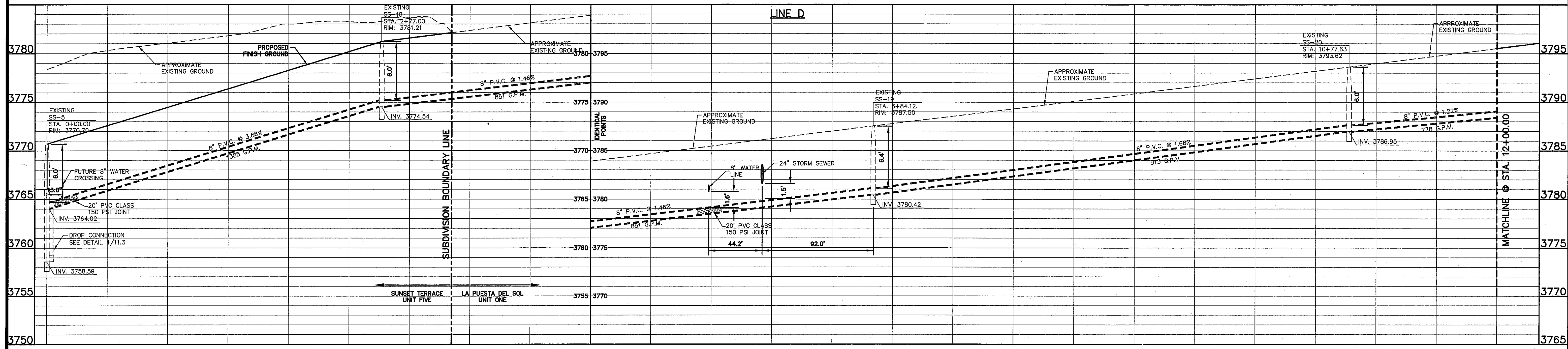
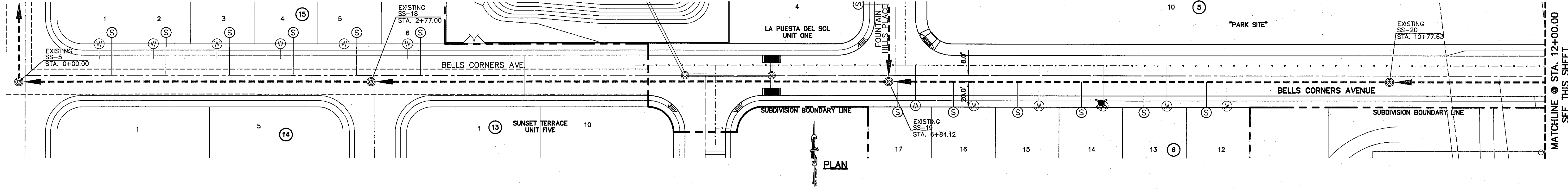
C14.2





- LEGEND:
- EXISTING STORM SEWER LINE
 - EXISTING SEWER LINE
 - EXISTING SEWER MANHOLE
 - PROPOSED WATER SERVICE
 - PROPOSED SEWER SERVICE
 - PROPOSED WATER LINE

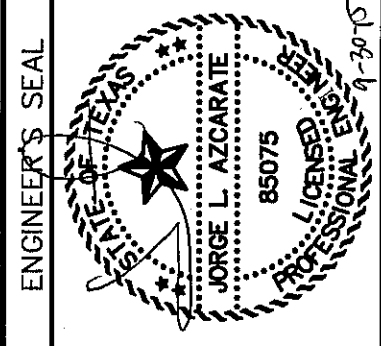
- NOTES:
1. ALL WATER LINE CROSSINGS MUST COMPLY WITH THE SEPARATION DISTANCES FROM TCEO REQUIREMENTS.
 2. SANITARY SEWER SERVICES FOR LOTS 1 THRU 6, BLOCK 18 AND LOT 24, BLOCK 8 WILL BE INSTALLED BY EPWJ UNDER AN INSTALLATION AND SERVICE CONTRACT.
 3. THE CONTRACTOR SHALL FIELD VERIFY THE INVERTS OF THE MANHOLES ON THE EXISTING SEWER MAINS.



PROFILE

REFERENCES - BENCHMARKS	
CITY MONUMENT AT THE INTERSECTION OF PASCO DEL NORTE & NORTHWESTERN. ELEVATION = 3887.39 (CITY DATUM). THIS IS BASED ON NGS MONUMENT (CHNO) ELEVATION = 3953.48 (CITY DATUM)	
DATE	REVISIONS
2/27/12	ADDED BEARING AND DISTANCE TO SEWER MAIN LINE
BY	

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SCALE: 1"=40'
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DATE: SEPTEMBER 2015
DESIGN BY: R.O.
DRAWN BY: J.L.A.
CHKD. BY: J.L.A.
APPD. BY: J.L.A.
JOB NO. 2000-190LD

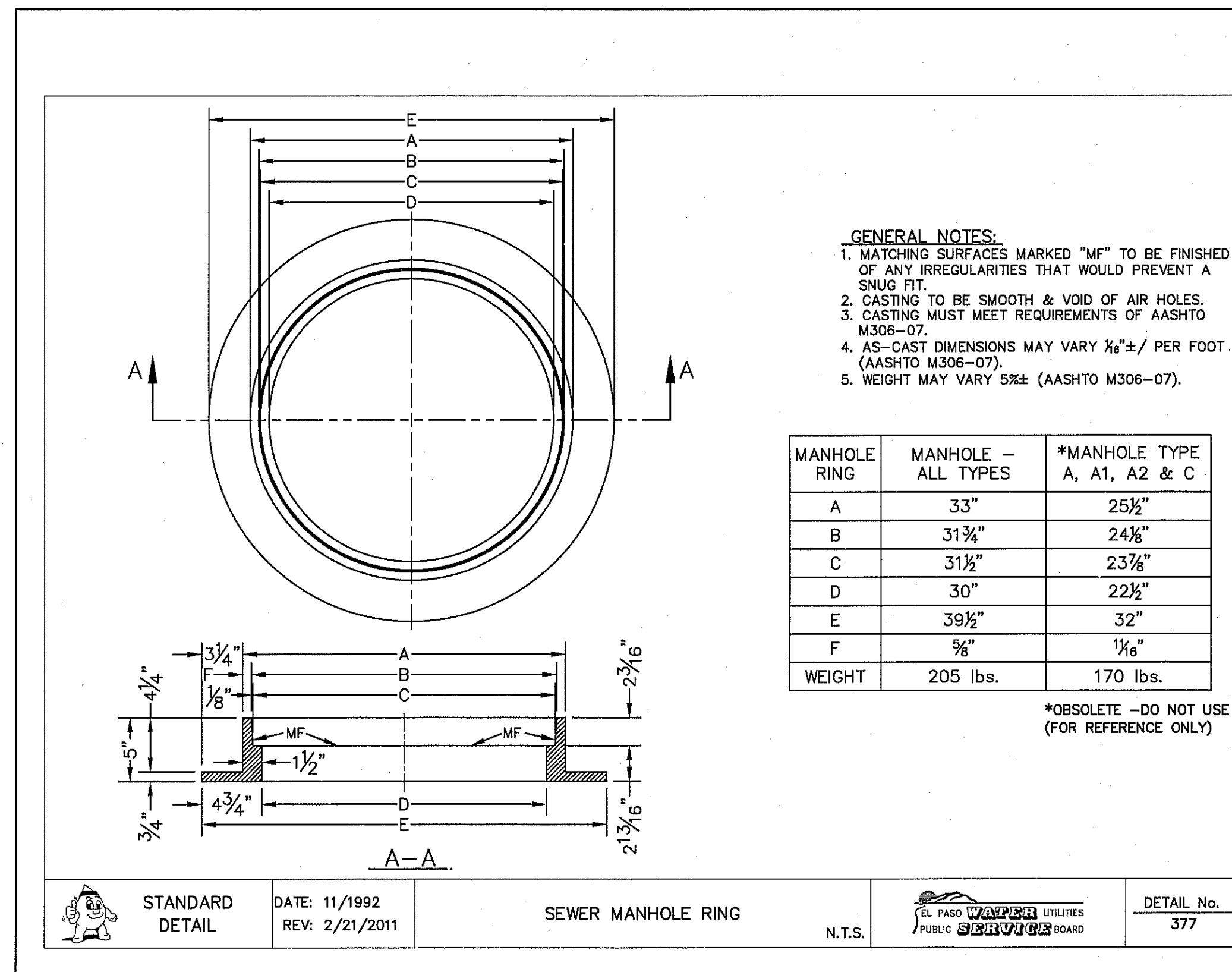
SUNSET TERRACE
UNIT FIVE
SUBDIVISION IMPROVEMENTS

SHEET TITLE
SANITARY SEWER
PLAN & PROFILE
LINE "D"

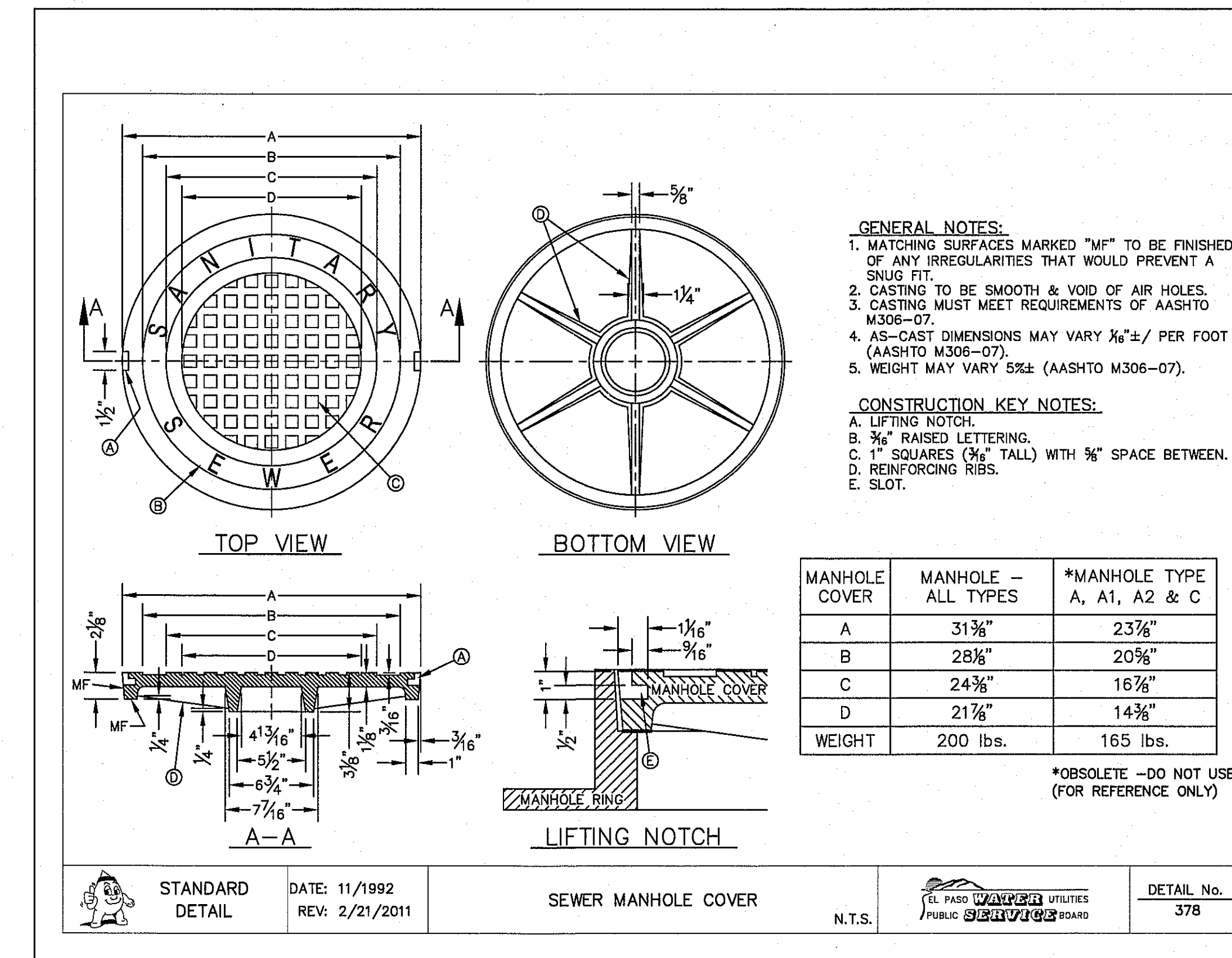
(LA PUERTA DEL SOL
UNIT ONE)

SHEET NO.

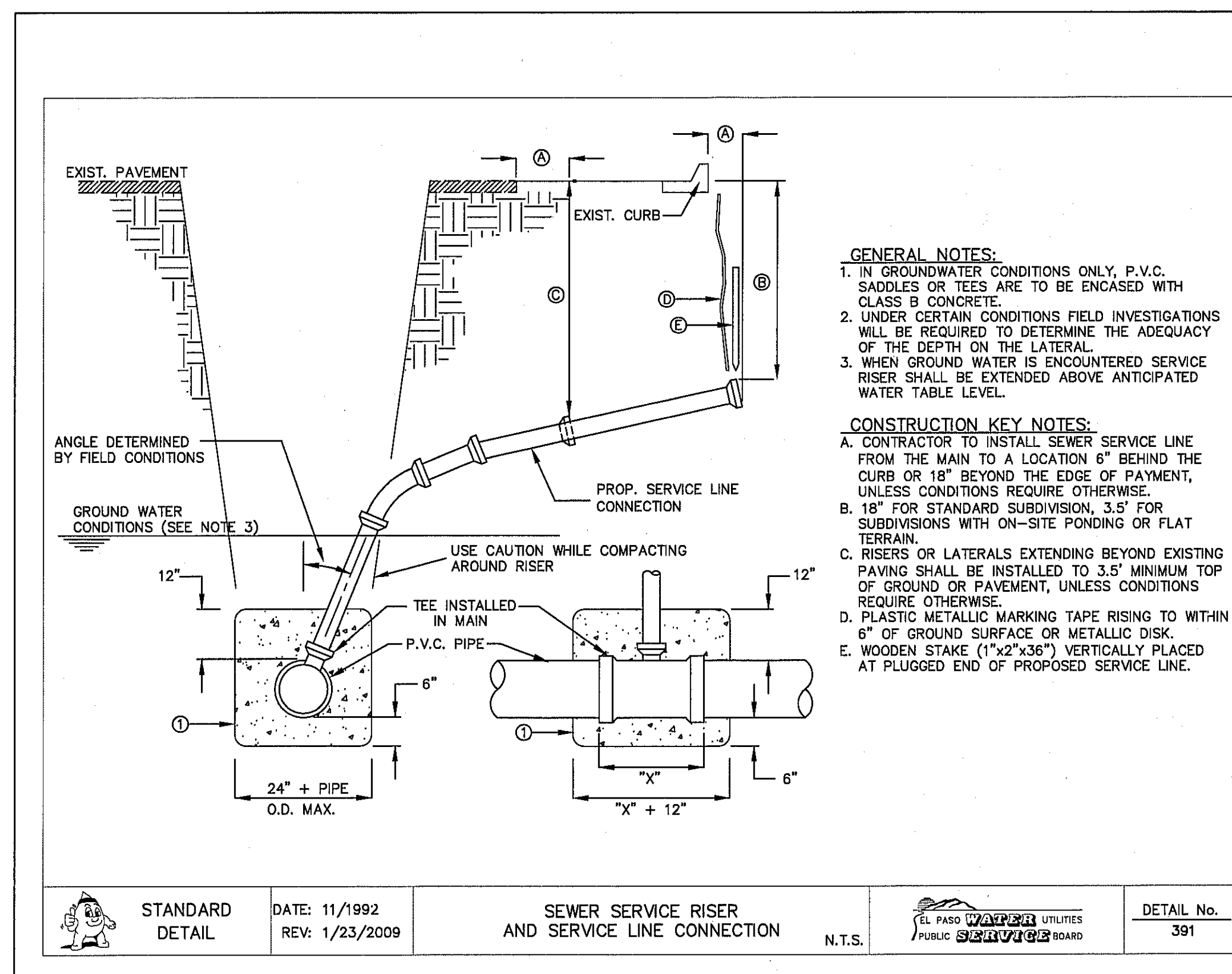
C14.3



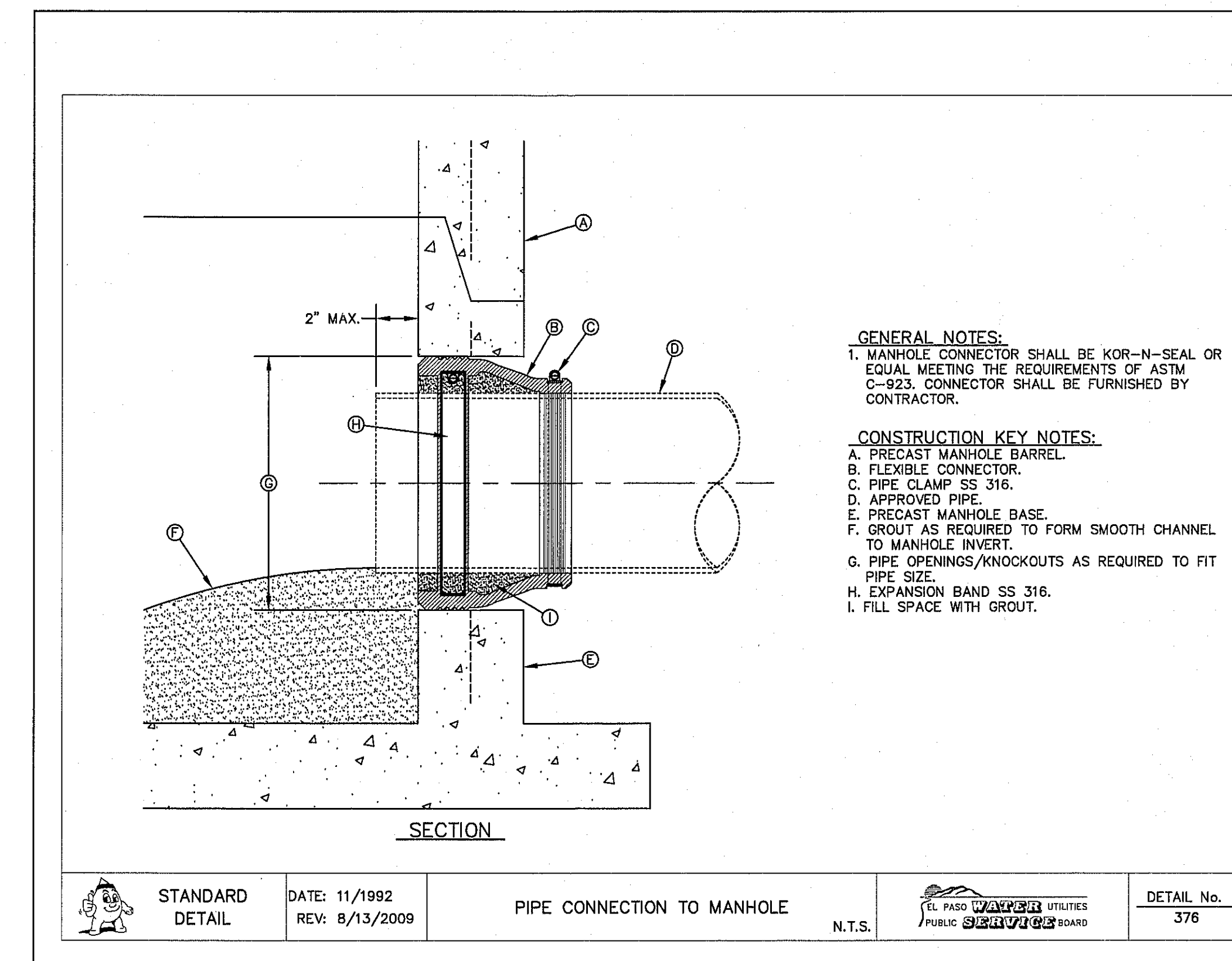
1 STANDARD MANHOLE RING SCALE: N.T.S.



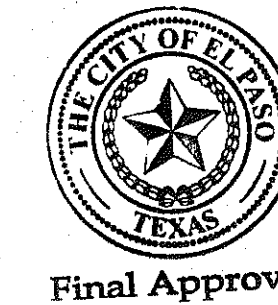
2 STANDARD COVER DETAIL SCALE: N.T.S.



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

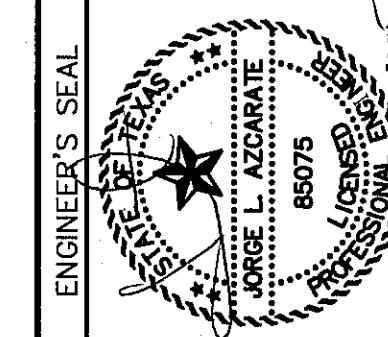


4 PIPE CONNECTION TO MANHOLE SCALE: N.T.S.



REFERENCES - BENCHMARKS	
CITY MONUMENT AT THE INTERSECTION OF PASCO DEL NORTE & NORTHWESTERN. ELEVATION = 3887.39 (CITY DATUM). THIS IS BASED ON NGS MONUMENT (CHNO ELEVATION = 3933.48 (CITY DATUM))	
DATE	BY
REVISIONS	

ca
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4712 Woodrow Bean, Ste. F El Paso, TX 79924
Office: 915.544.5232 Fax: 915.544.5233 www.caengr.com



SCALE	N/A
Horizontal:	N/A
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Contour Interval:	N/A
DATE: SEPTEMBER 2015	
DESIGN BY: R.O.	
DRAWN BY: J.L.A.	
CHKD. BY: J.L.A.	
APPROV. BY: J.L.A.	
JOB No. 2000-190LD	

PROJECT TITLE
**SUNSET TERRACE
UNIT FIVE
SUBDIVISION IMPROVEMENTS**

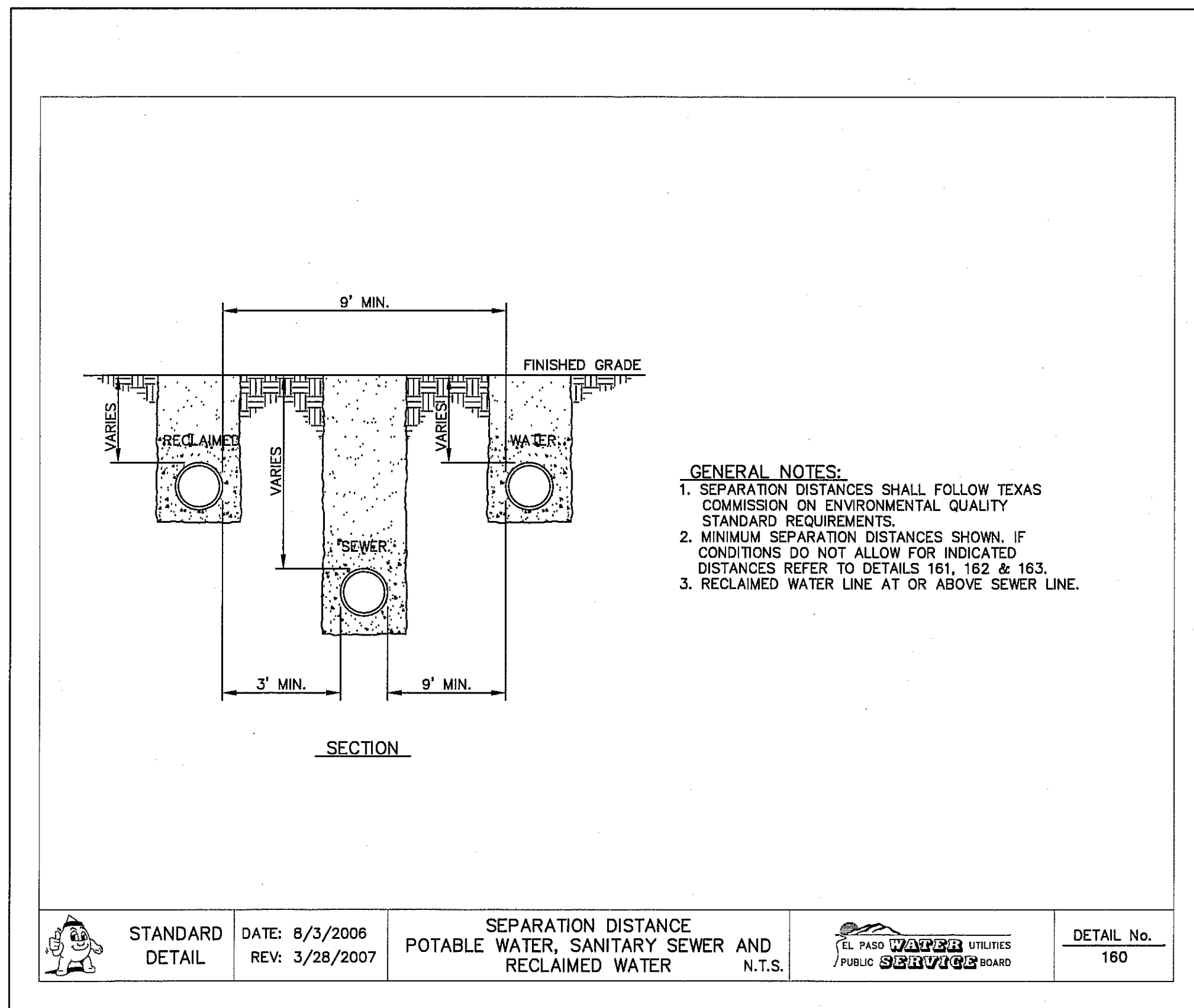
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**SANITARY SEWER
DETAILS**

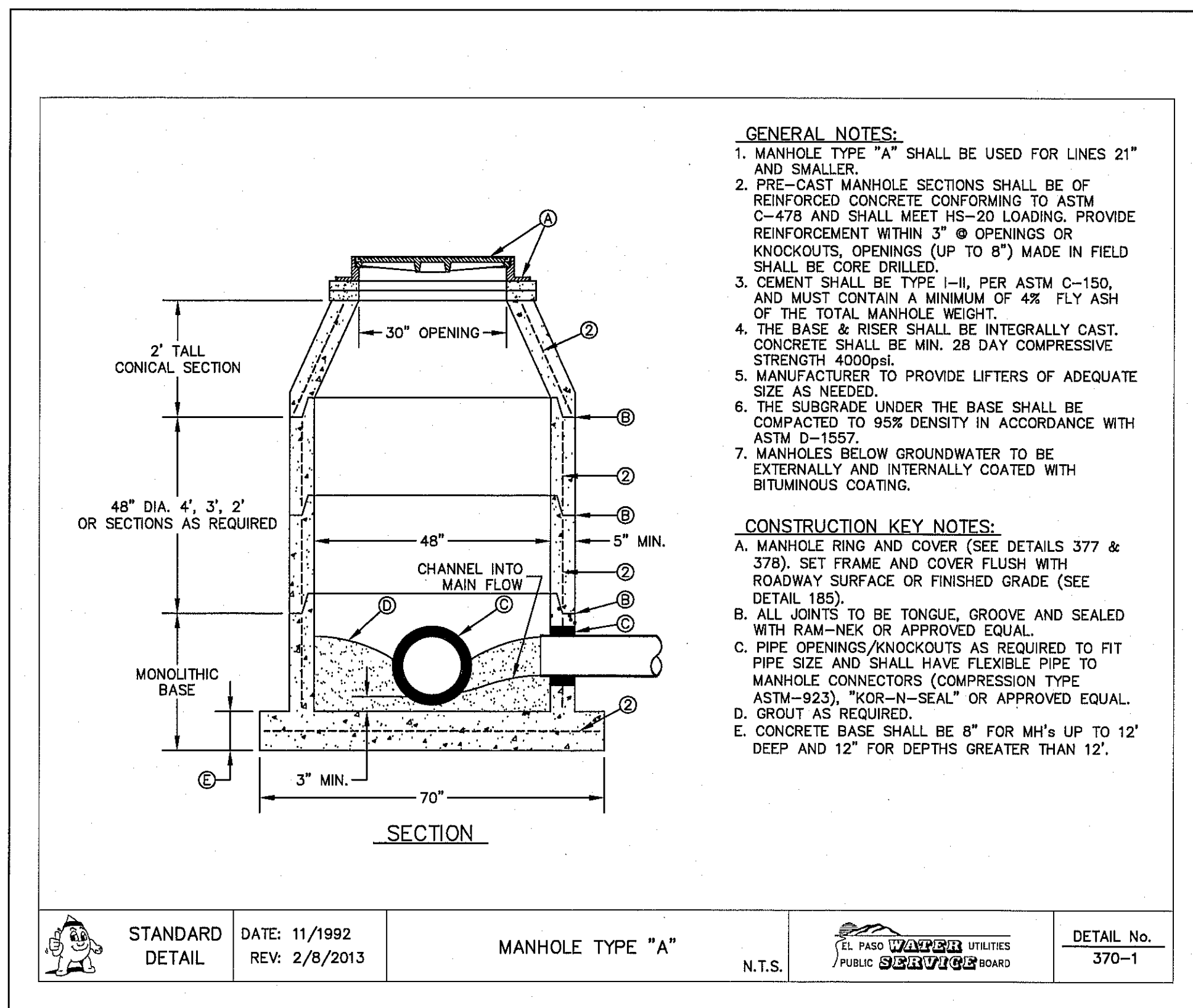
(SHEET 1 OF 3)

SHEET NO.

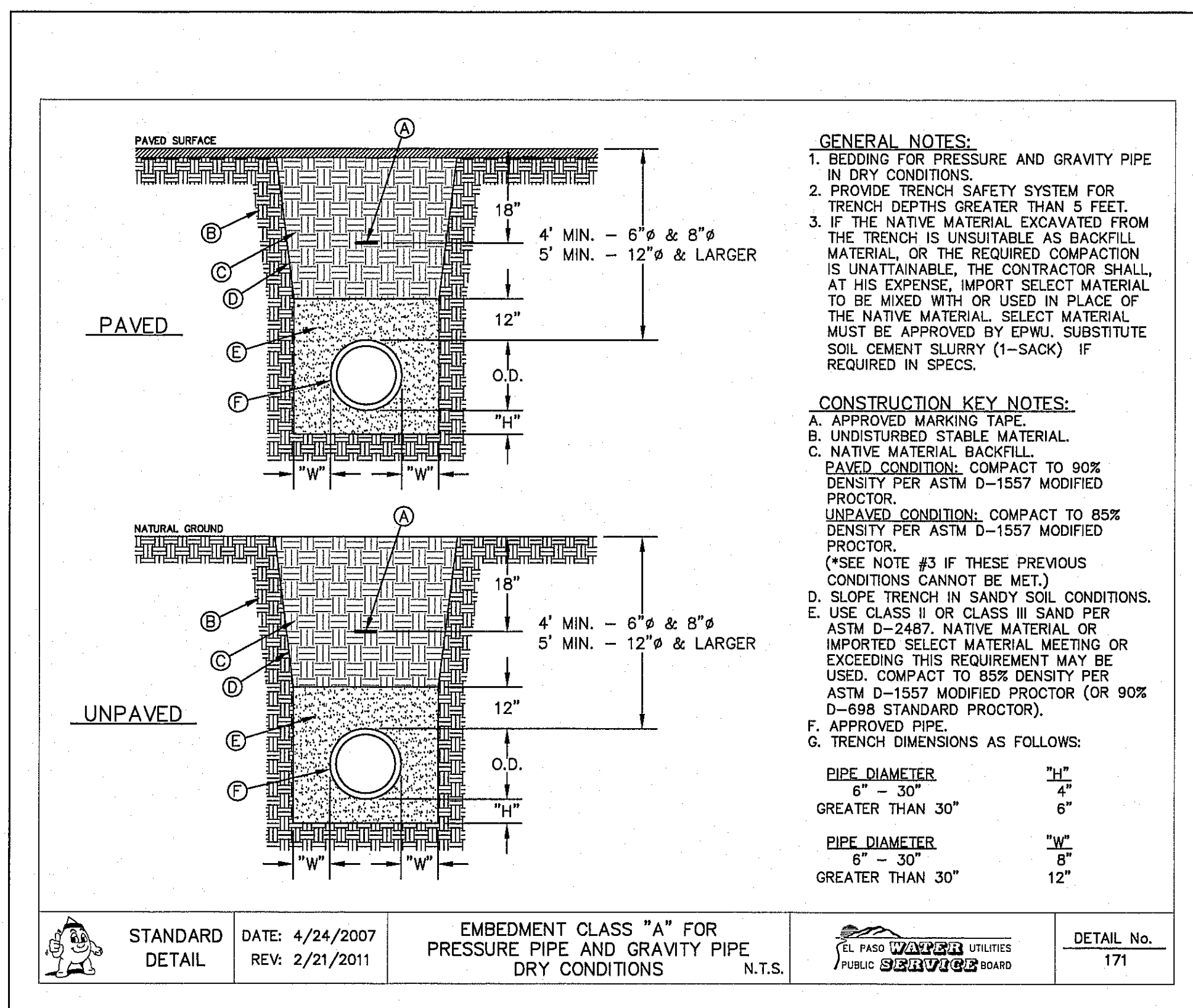
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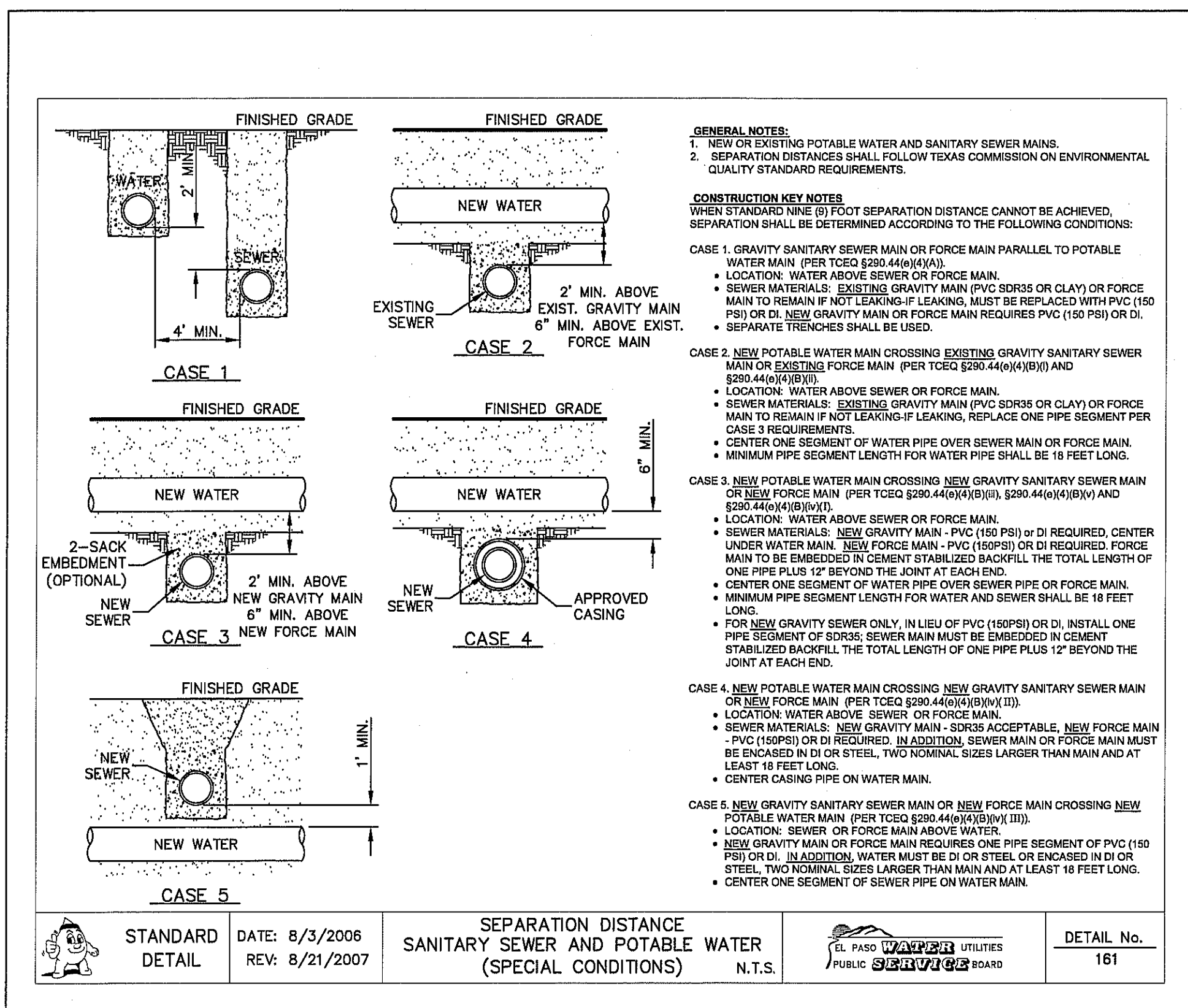
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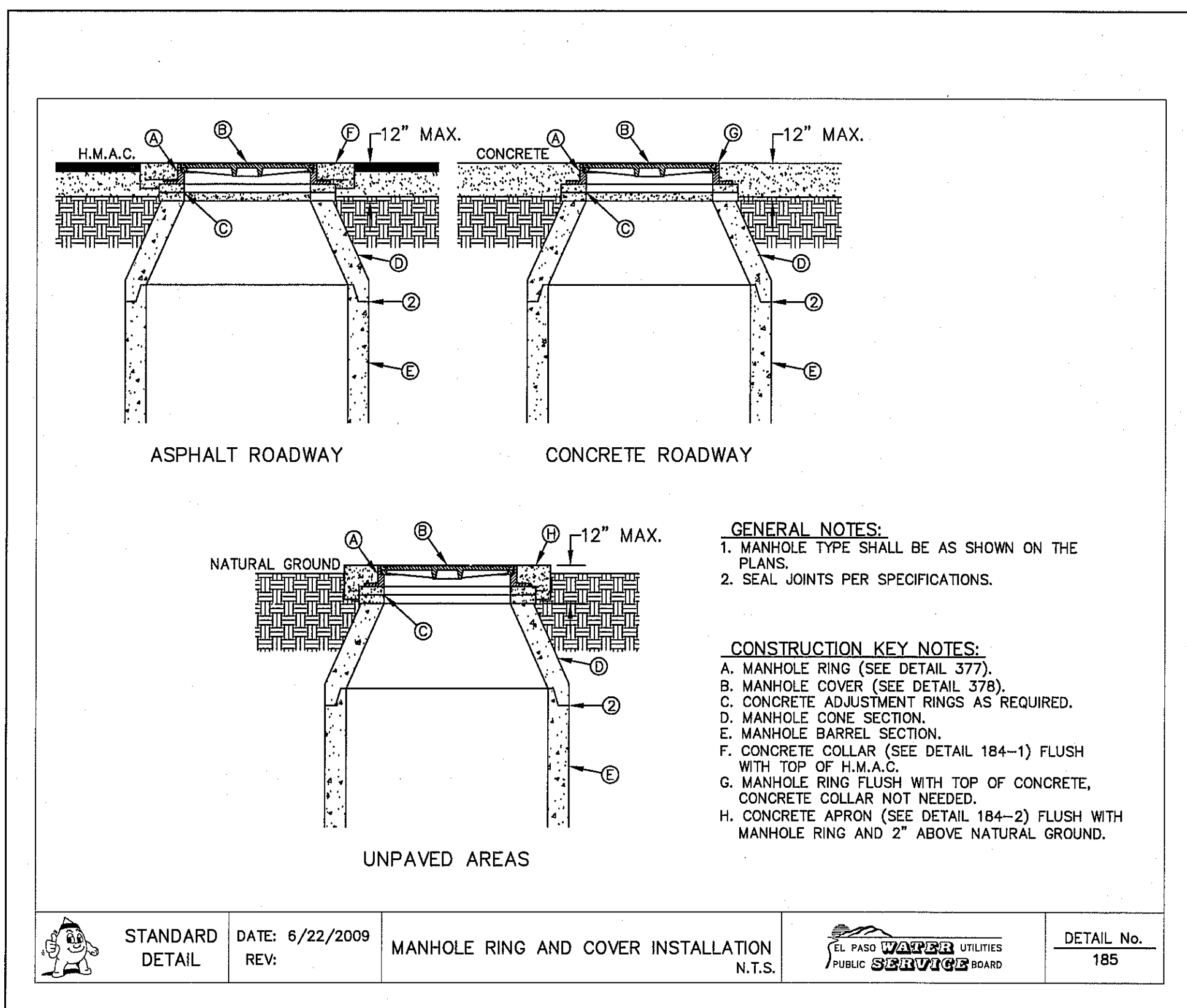
2 STANDARD MANHOLE TYPE "A" SCALE: N.T.S.



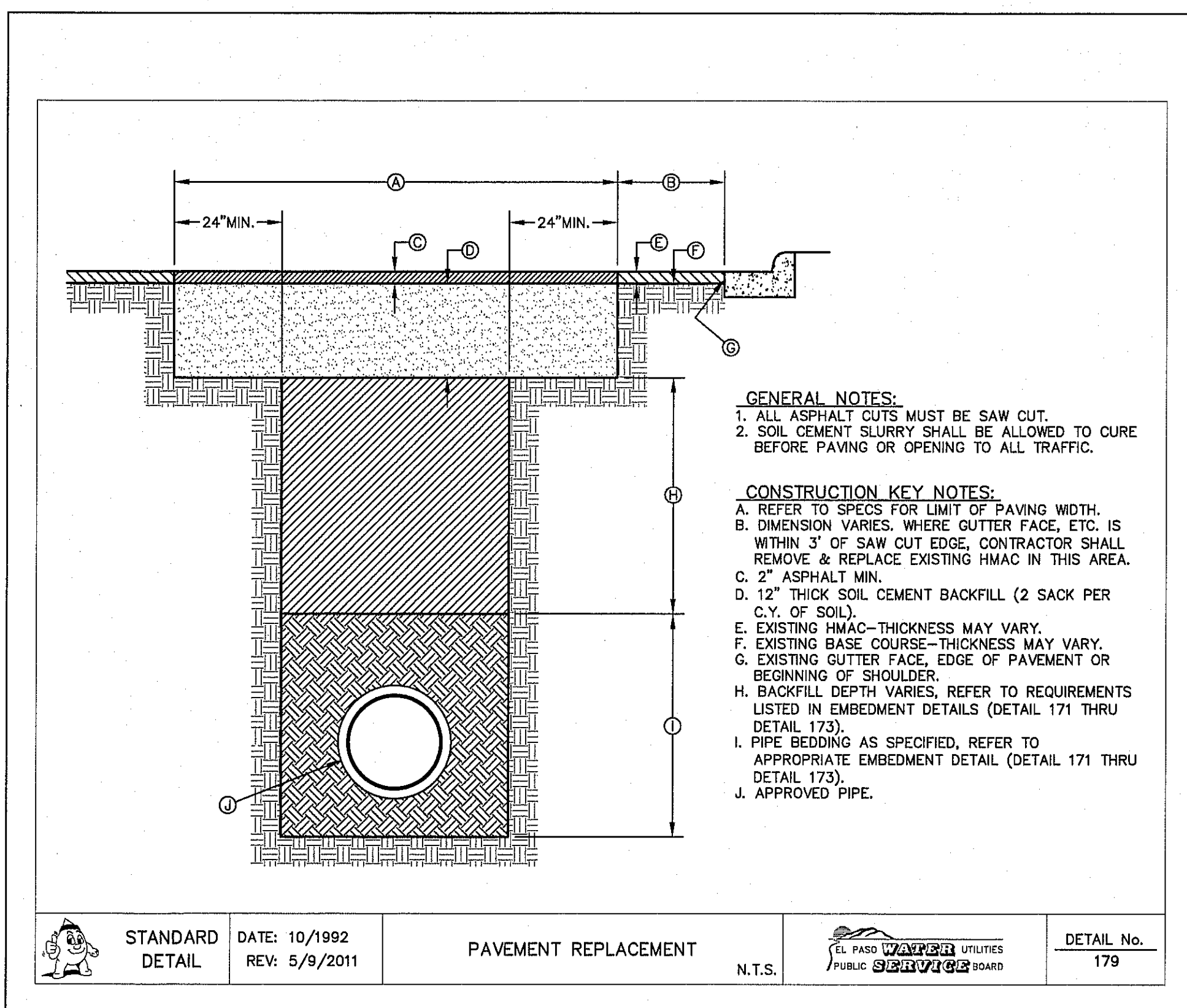
3 BEDDING CLASS DETAILS FOR P.V.C. PRESSURE PIPE SCALE: N.T.S.



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



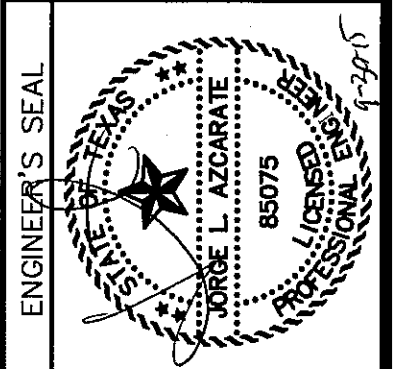
5 STANDARD MANHOLE RING AND COVER INSTALLATION DETAIL SCALE: N.T.S.



6 PAVEMENT REPAIR DETAIL SCALE: N.T.S.

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 = 3935.46 (CITY DATUM)	
REVISIONS	BY
DATE	

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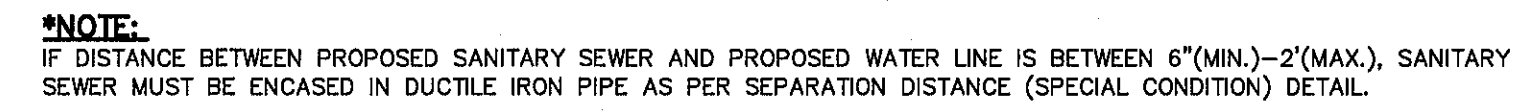
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DESIGN BY:	R.O.
DRAWN BY:	J.L.A.
CHECKED BY:	J.L.A.
APPROVED BY:	J.L.A.
JOB NO.	2000-190LD

**SUNSET TERRACE
UNIT FIVE
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
**SANITARY SEWER
DETAILS**

(SHEET 2 OF 3)
SHEET NO.

C15.2



PROPOSED GROUND

PROPOSED PVC WATER LINE

4" MIN.

PROPOSED SANITARY SEWER
PVC 150 C900

DEPTH VARIES

45° BEND WITH THRUST BLOCK (TYP.)

45° BEND WITH THRUST BLOCK (TYP.)

18" MIN.

20' DUCTILE IRON PIPE

CASING OR DI PIPE

45° BEND WITH THRUST BLOCK (TYP.)

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.

- 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.

GENERAL NOTES:

1. DROP CONNECTION SHOWN MAY BE USED ON ALL MANHOLE TYPES (NOT RECOMMENDED IN GROUND WATER CONDITIONS).
2. DROP CONNECTION TO BE CONSTRUCTED WHEN INVERT ELEVATION OF INFLUENT PIPE IS 3 FEET (OR GREATER) ABOVE THE MANHOLE INVERT.

CONSTRUCTION KEY NOTES:

- A. PIPE OPENINGS IN MANHOLE RISERS SHALL HAVE COMPRESSION TYPE FLEXIBLE PIPE TO MANHOLE CONNECTORS (A.S.T.M. - C923) "KOR-N-SEAL" OR APPROVED EQUAL.
- B. MANHOLE WALL
- C. INFLUENT SEWER PIPE.
- D. 90° BEND (P.V.C.)
- E. P.V.C. PIPE (SDR. 35)
- F. P.V.C. TEE
- G. CONCRETE FLOWABLE FILL
- H. 2500 psi CONCRETE
- I. USE GROUT TO FORM A SMOOTH CHANNEL TO MANHOLE INVERT



Final Approval

C15.3

SITE DESCRIPTION

PROJECT NAME AND LIMITS: SUNSET TERRACE UNIT FIVE IS BORDERED BY A PORTION OF TRACT 3A, NELLIE D. MUNDY SURVEY NO. 240 AND LA PUESTA DEL SOL UNIT ONE SUBDIVISION TO THE NORTH, SUNSET TERRACE UNIT FOUR SUBDIVISION TO EAST AND SOUTH, A PORTION OF TRACT 1A, NELLIE D. MUNDY SURVEY NO. 241 TO THE WEST,

PROJECT DESCRIPTION: THE SITE FOR THE NEW SUBDIVISION WILL ENCOMPASS APPROXIMATELY 11.181± ACRES, AND WILL CONTAIN A TOTAL OF 62 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: 11.181±

TOTAL AREA TO BE DISTURBED: 11.181±

WEIGHTED RUNOFF COEFFICIENT (AFTER CONSTRUCTION): 0.60

EXISTING CONDITION OF SOIL AND VEGETATIVE COVER AND % OF EXISTING VEGETATIVE COVER: THE PROJECT SITE IS LOCATED IN THE VICINITY OF THE DELNORTE-CANUTO 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: SUNSET TERRACE UNIT FIVE SUBDIVISION WILL DISCHARGE INTO ON-SITE STORM SEWER INFRASTRUCTURE AND ULTIMATELY DISCHARGE INTO AN OFF-SITE DRAINAGE CHANNEL.

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:

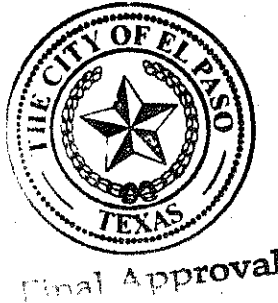
- ☒ SILT FENCES
- ☐ HAY BALES
- ☐ ROCK BERMS
- ☐ DIVERSION, INTERCEPTOR, OR PERIMETER DIKES
- ☐ DIVERSION, INTERCEPTOR, OR PERIMETER SWALES
- ☐ DIVERSION DIKE AND SWALE COMBINATION
- ☐ PIPE SLOPE DRAINS
- ☐ CONCRETE FLUMES
- ☒ ROCK BEDDING AT CONSTRUCTION EXIT
- ☐ TIMBER MATTING AT CONSTRUCTION EXIT
- ☐ CHANNEL LINERS
- ☐ SEDIMENT TRAPS
- ☐ SEDIMENT BASINS
- ☐ STORM INLET SEDIMENT TRAP
- ☐ STONE OUTLET STRUCTURES
- ☒ CURBS AND GUTTERS
- ☒ 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/OR EARTHEN BERM, 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 SWPP 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; ANTIFREEZE/COOLANT; AND EROSION.



BEST MANAGEMENT PRACTICES CONTROLS

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 TNRCC.

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 TARP/AULIN
- EXCESS DIRT ON ROAD SHALL BE REMOVED IMMEDIATELY
- STABILIZED CONSTRUCTION ENTRANCE
- OTHER: _____

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 = 3955.48 (CITY DATUM)				
DATE	REVISIONS	BY		

engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-684
4712 Woodrow Bean, Ste. F El Paso, TX 79924
Office 915.544.6233 Fax 915.544.6233 www.casgroup.net

ENGINEER'S SEAL

SCALE	N/A
Horizontal:	N/A
Vertical:	N/A
Contour Interval:	N/A
DATE: SEPTEMBER 2015	
DESIGN BY: R.C.	
DRAWN BY: R.C.	
CHKD. BY: J.L.A.	
APPRO. BY: J.L.A.	
JOB No. 2000-1901D	

PROJECT TITLE

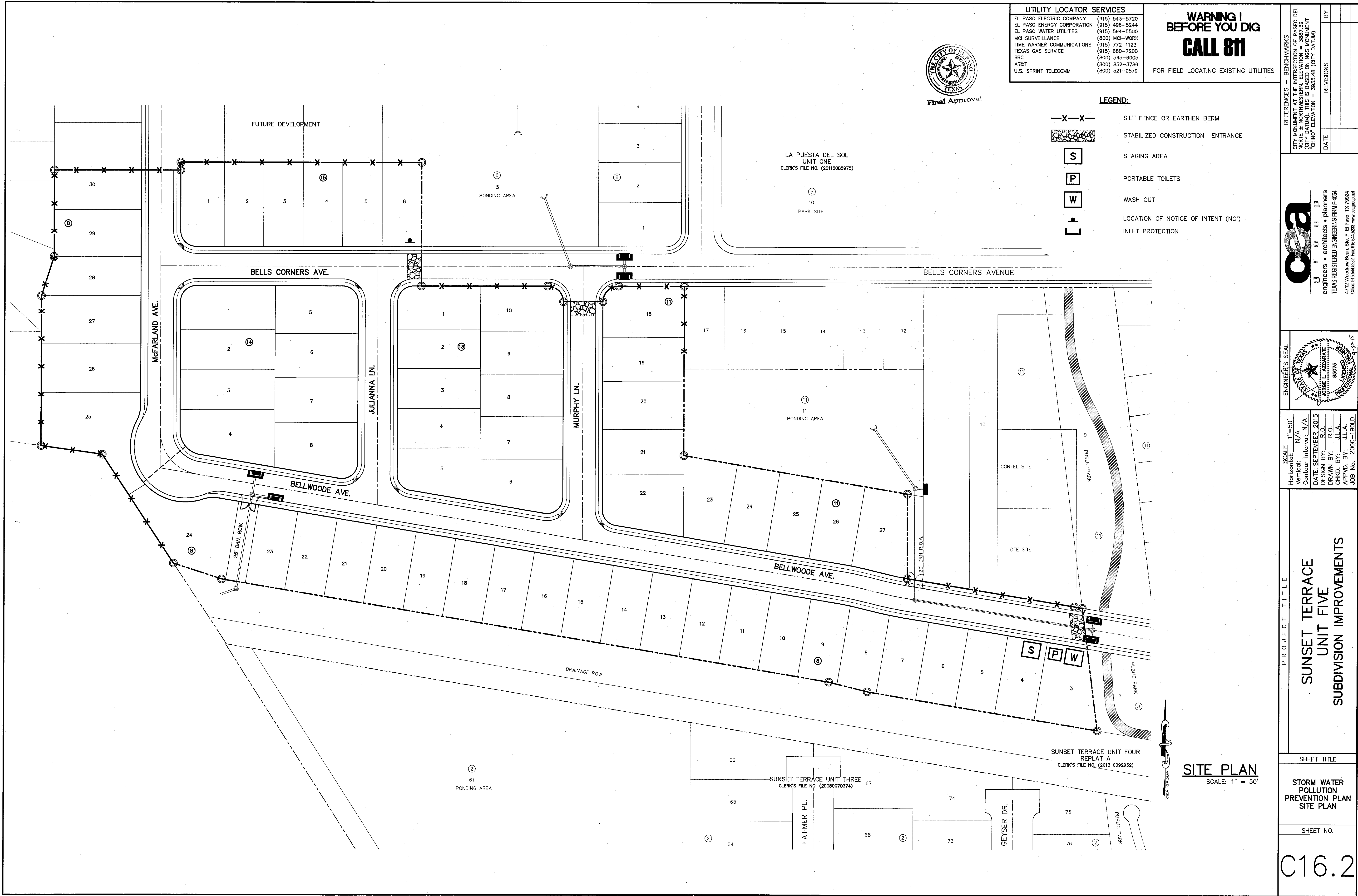
SUNSET TERRACE
UNIT FIVE
SUBDIVISION IMPROVEMENTS

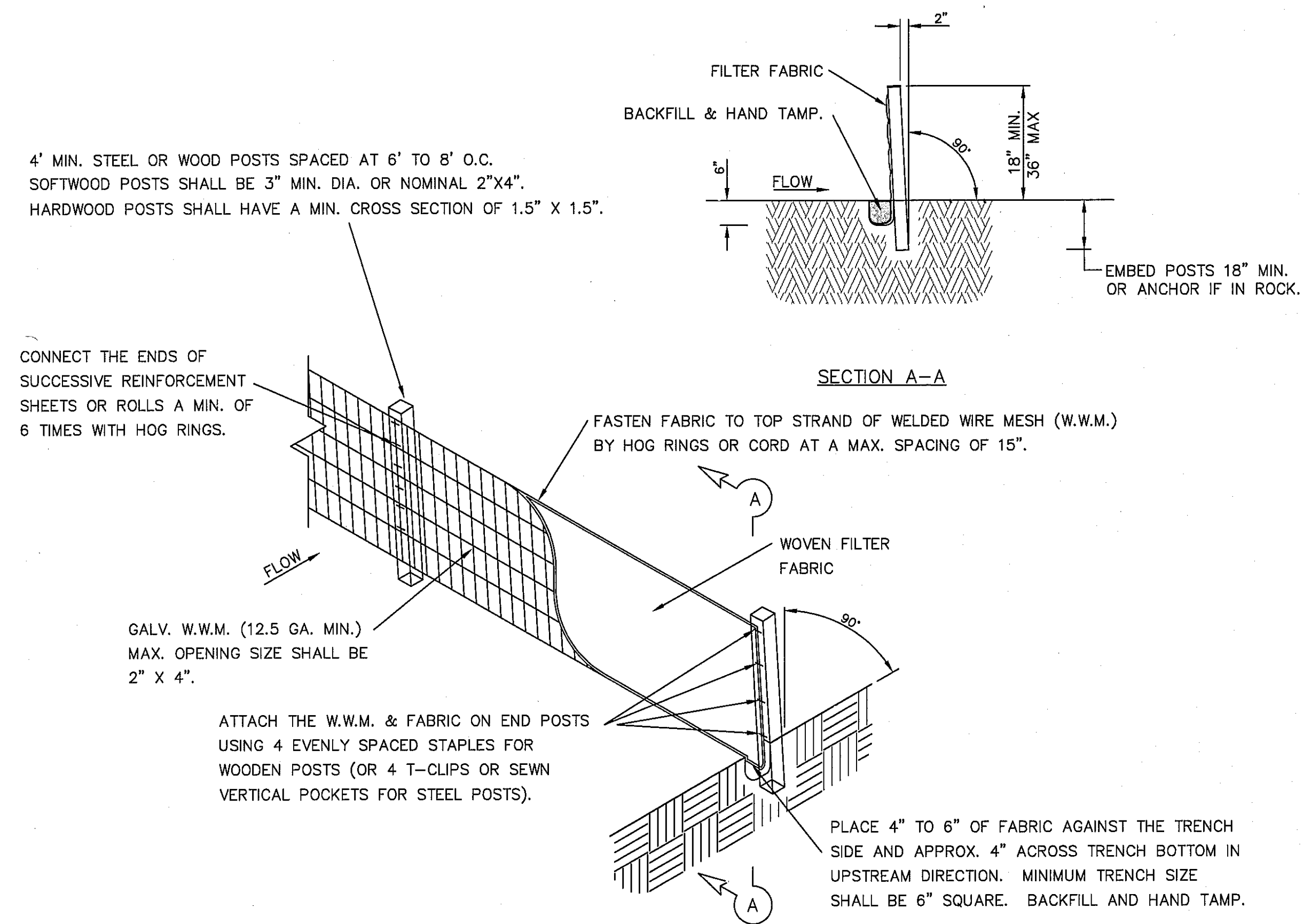
SHEET TITLE

STORM WATER
POLLUTION
PREVENTION PLAN
GENERAL NOTES

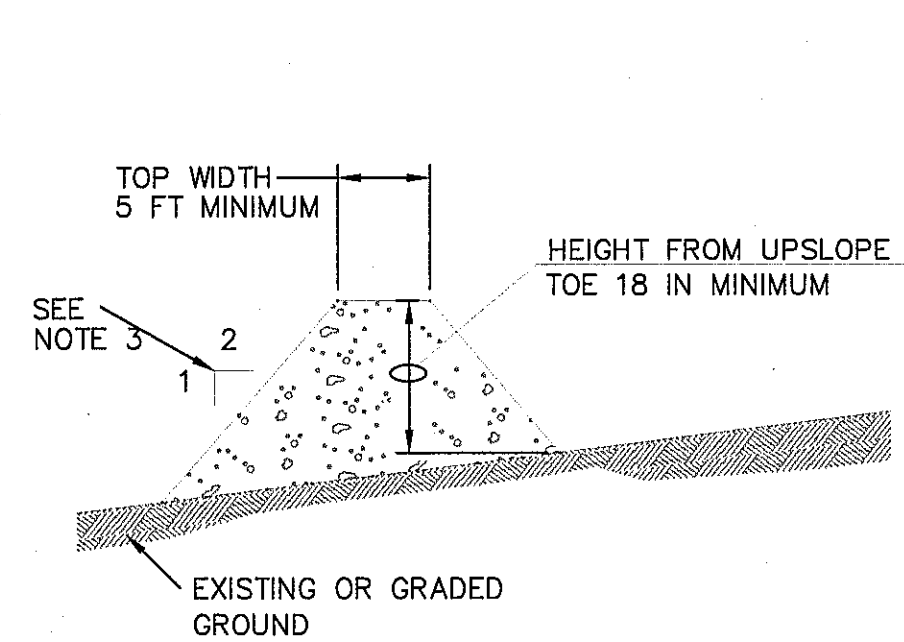
SHEET NO.

C16.1





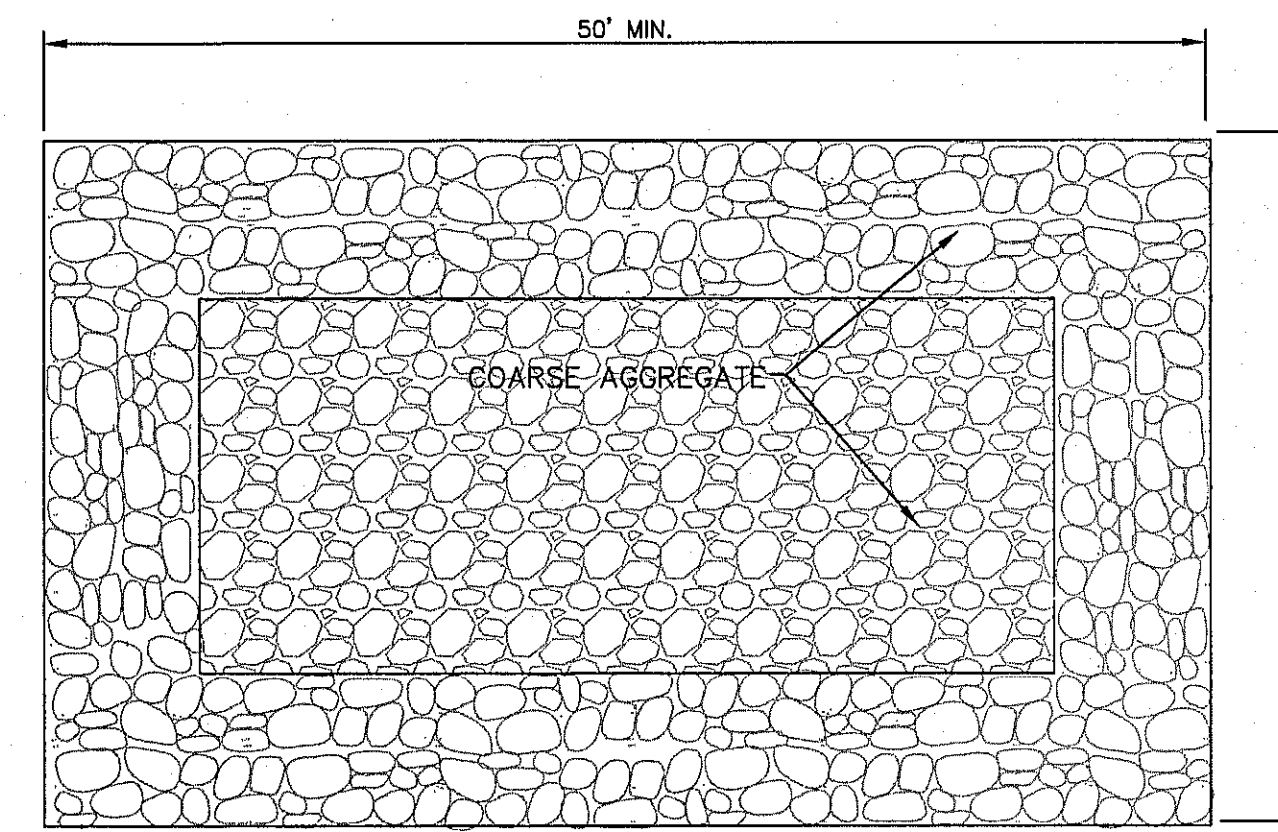
TEMPORARY SEDIMENT CONTROL FENCE



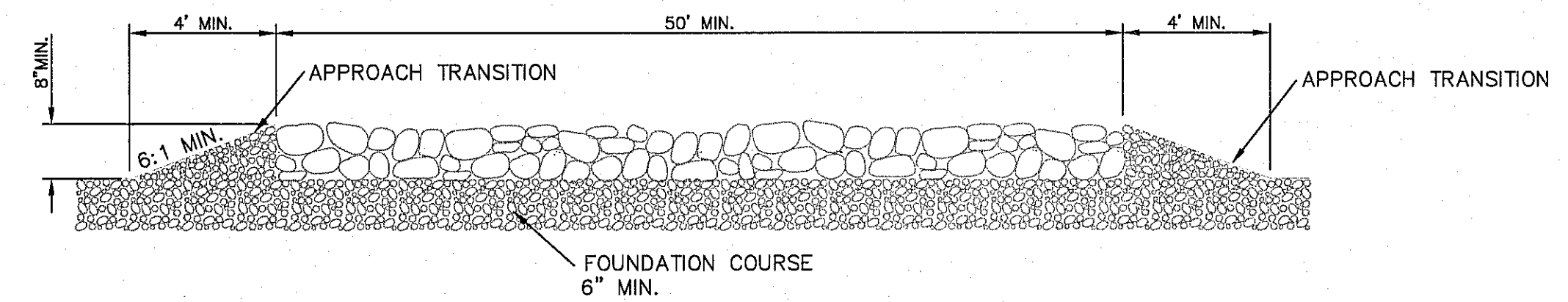
GENERAL NOTES:

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

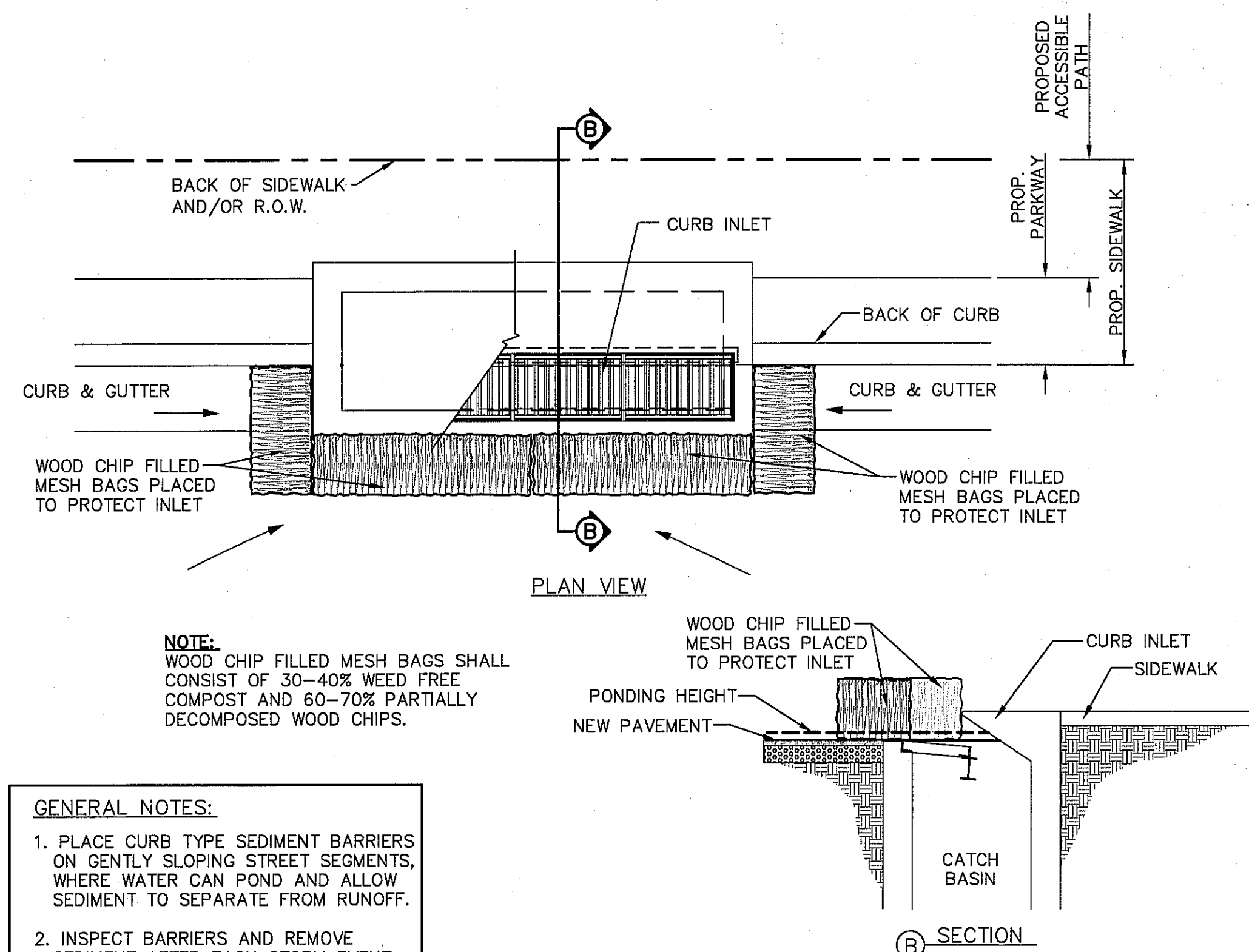


PROFILE

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.

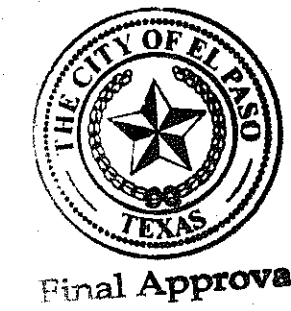
CONSTRUCTION EXIT (TYPE 1)



GENERAL NOTES:

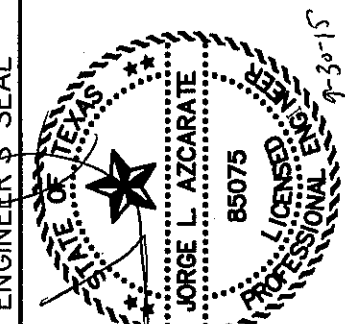
1. PLACE CURB TYPE SEDIMENT BARRIERS ON GENTLY SLOPING STREET SEGMENTS, WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
2. INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT. SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.

TEMPORARY INLET PROTECTION



REFERENCES - BENCHMARKS	DATE	BY
CITY MONUMENT AT THE INTERSECTION OF PASO DEL NORTE & NORTHWESTERN. ELEVATION = 3887.39 (CITY DATUM). THIS IS BASED ON NGS MONUMENT (CHINA ELEVATION = 3933.48 (CITY DATUM))		
REVISIONS		

engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM #454
4712 Woodrow Bean, Ste. F El Paso, TX 79924
Office: 915.541.5322 Fax: 915.541.5323 www.cagroup.net



SCALE	N/A
Horizontal	N/A
Vertical	N/A
Contour Interval	N/A
DATE: SEPTEMBER 2015	
DESIGN BY: R.O.	
DRAWN BY: J.L.A.	
CHKD. BY: J.L.A.	
APPVD. BY: J.L.A.	
JOB No. 2000-1901D	

PROJECT TITLE
SUNSET TERRACE
UNIT FIVE
SUBDIVISION IMPROVEMENTS

SHEET TITLE
STORM WATER
POLLUTION
PREVENTION PLAN
DETAILS

SHEET NO.

C16.3

SUNSET TERRACE UNIT FIVE

A PORTION OF TRACT 1A AND 1B,
NELLIE D. MUNDY SURVEY NO. 241,
AND A PORTION OF TRACT 3A-2,
NELLIE D. MUNDY SURVEY NO. 240,
CITY OF EL PASO, EL PASO COUNTY, TEXAS
CONTAINING 11.18 ACRES ±

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, drainage r.o.w., 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 2 day of December, 2015.

R. L. Bowling III, President

ACKNOWLEDGEMENT

STATE OF TEXAS
COUNTY OF EL PASO

Before me, the undersigned authority, on this day personally appeared R. L. Bowling III, 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 2nd day of DECEMBER, 2015.

Notary Public in and for El Paso County

My Commission Expires

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 24 day of SEPTEMBER, 2015.

Chairperson

Executive Secretary

Approved for filing this 17 day of DECEMBER, 2015.

Planning & Inspections Director

FILING

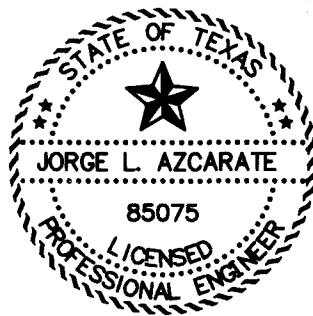
Filed and recorded in the office of the County Clerk of El Paso County, Texas, this 16th day of January, 2016, in File No. 2016000 2235 of the Plat Records.

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.

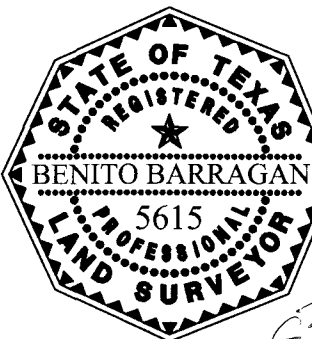


Jorge L. Azcarate, P.E.
Licensed Professional Engineer
Texas License No. 85075

ENGINEER

cea
group
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-4564
4712 Woodrow Bean, Ste. F El Paso, TX 79924
Office: 915.544.5232 Fax: 915.544.5233 www.ceagroup.net

CONTACT: JORGE L. AZCARATE, P.E.



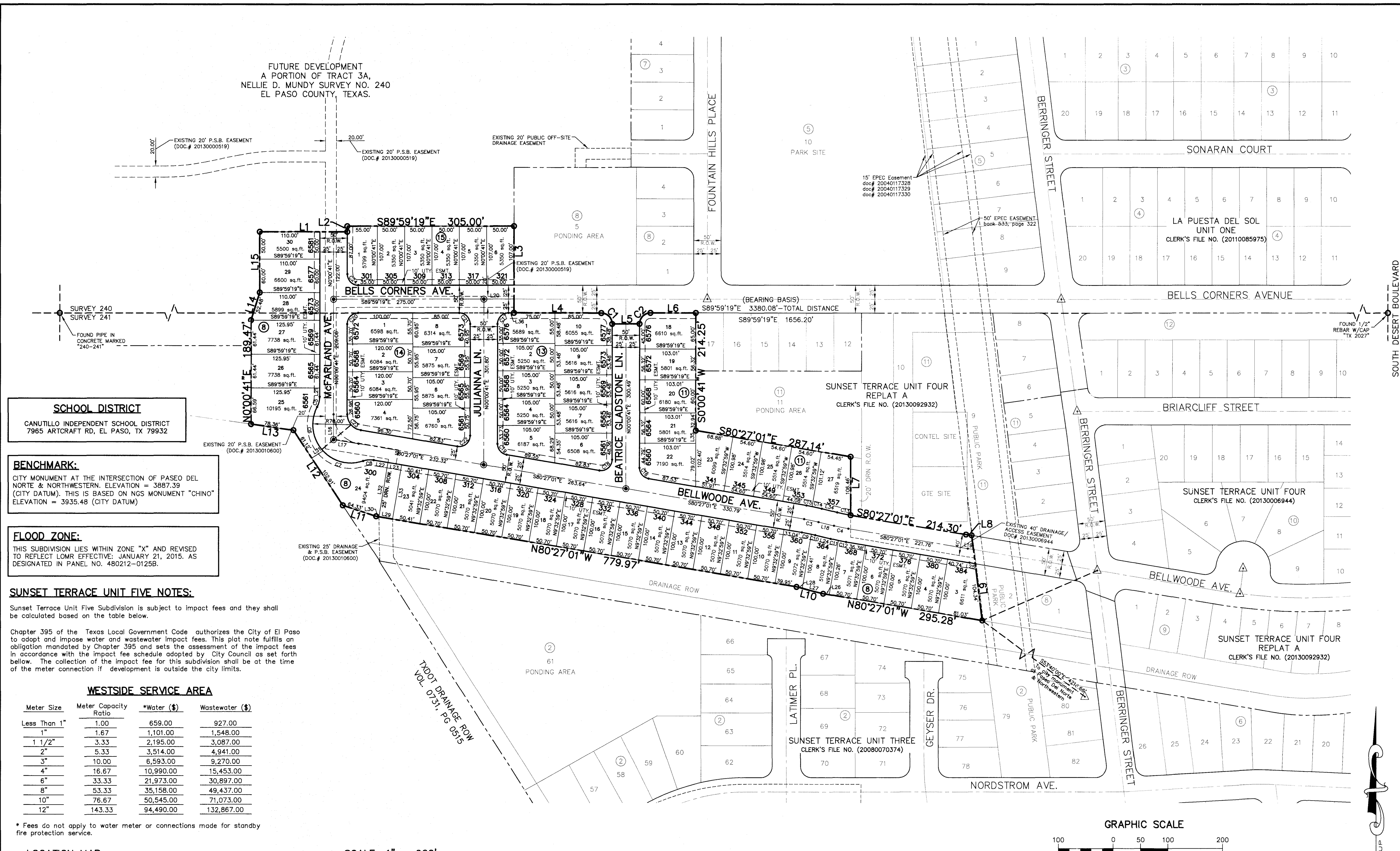
Benito Barragan TX, R.P.L.S. No. 5615

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: AUGUST 2015



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.

SUNSET TERRACE UNIT FIVE NOTES:

Sunset Terrace Unit Five 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 at the time of the meter connection if development is outside the city limits.

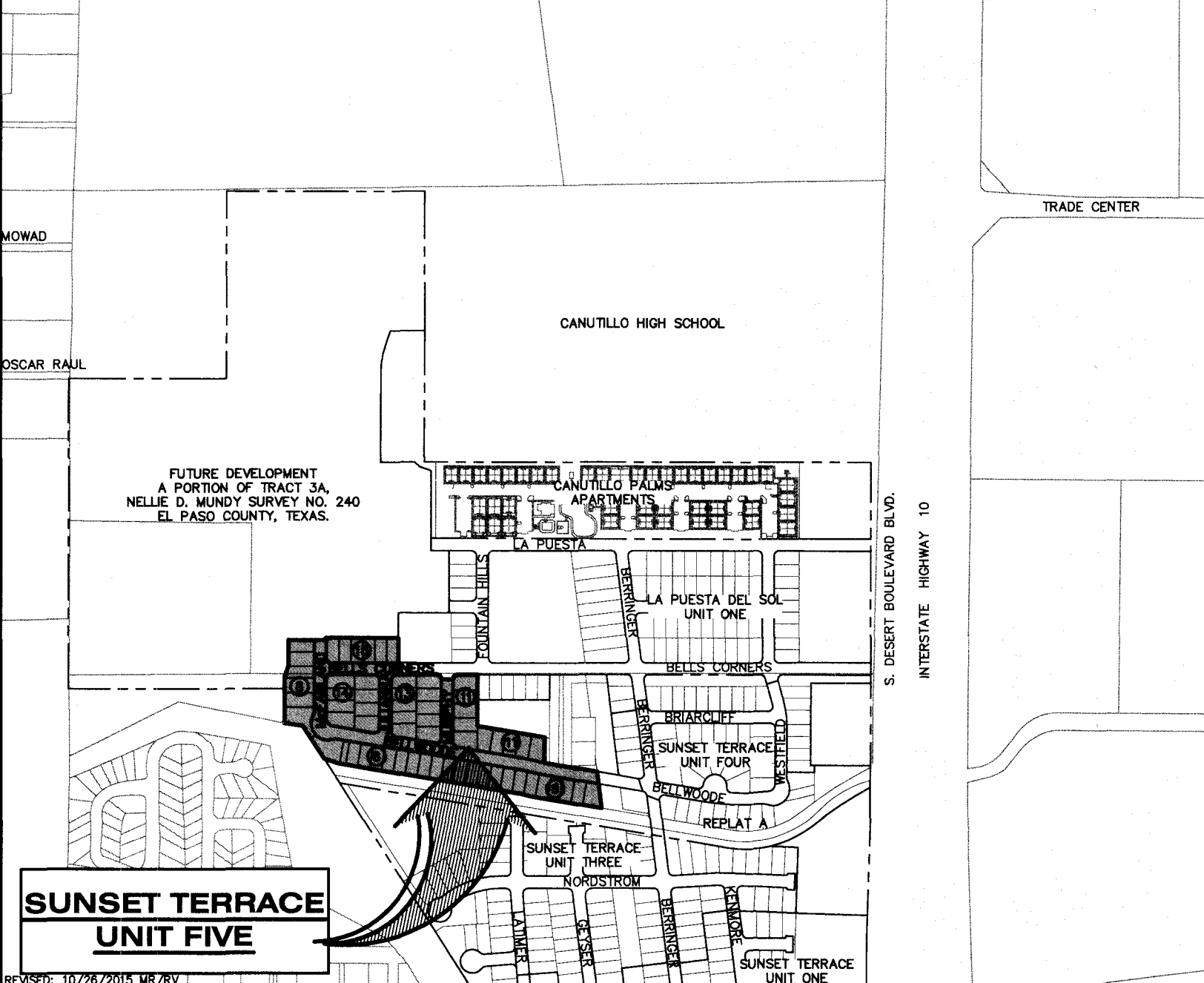
WESTSIDE SERVICE AREA

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.

LOCATION MAP

SCALE: 1" = 600'

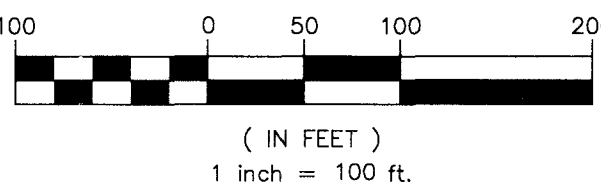


CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	CHORD
C1	20.00'	31.42'	20.00'	28.28'
C2	20.00'	31.42'	20.00'	28.28'
C3	375.00'	26.80'	13.41'	26.80'
C4	375.00'	26.80'	13.41'	26.80'
C5	40.00'	19.57'	9.98'	19.37'
C6	70.00'	86.88'	50.03'	81.41'
C7	70.00'	79.91'	44.95'	75.65'
C8	40.00'	19.57'	9.98'	19.37'
C9	350.00'	17.67'	8.84'	17.67'
C10	350.00'	7.34'	3.67'	7.34'
C11	400.00'	14.26'	7.13'	14.26'
C12	400.00'	14.33'	7.16'	14.33'
C13	350.00'	25.01'	12.51'	25.01'
C14	400.00'	18.06'	9.03'	18.06'
C15	400.00'	10.52'	5.26'	10.52'
C16	20.00'	28.09'	16.92'	25.83'
C17	20.00'	31.42'	20.00'	28.28'
C18	20.00'	34.75'	23.64'	30.54'
C19	20.00'	28.09'	16.92'	25.83'
C20	20.00'	31.42'	20.00'	28.28'
C21	20.00'	31.42'	20.00'	28.28'
C22	20.00'	34.75'	23.64'	30.54'
C23	30.00'	42.13'	25.38'	38.75'
C24	20.00'	31.42'	20.00'	28.28'

LINE TABLE		
LINE	BEARING	LENGTH
L1	S89°59'19"E	160.00'
L2	N00°00'41"E	10.00'
L3	S00°00'41"W	156.99'
L4	S89°59'19"E	160.00'
L5	S89°59'19"E	50.00'
L6	S89°59'19"E	83.01'
L7	S00°01'32"E	106.46'
L8	S80°20'22"E	10.44'
L9	S07°04'16"E	156.52'
L10	N75°52'35"W	50.16'
L11	N71°43'08"W	64.33'
L12	N33°26'32"W	164.03'
L13	N81°56'00"W	78.36'
L14	N17°42'50"E	52.48'
L15	N00°00'41"E	110.00'
L16	N00°00'41"E	46.53'
L17	S80°20'01"E	46.53'
L18	S76°21'20"E	29.20'

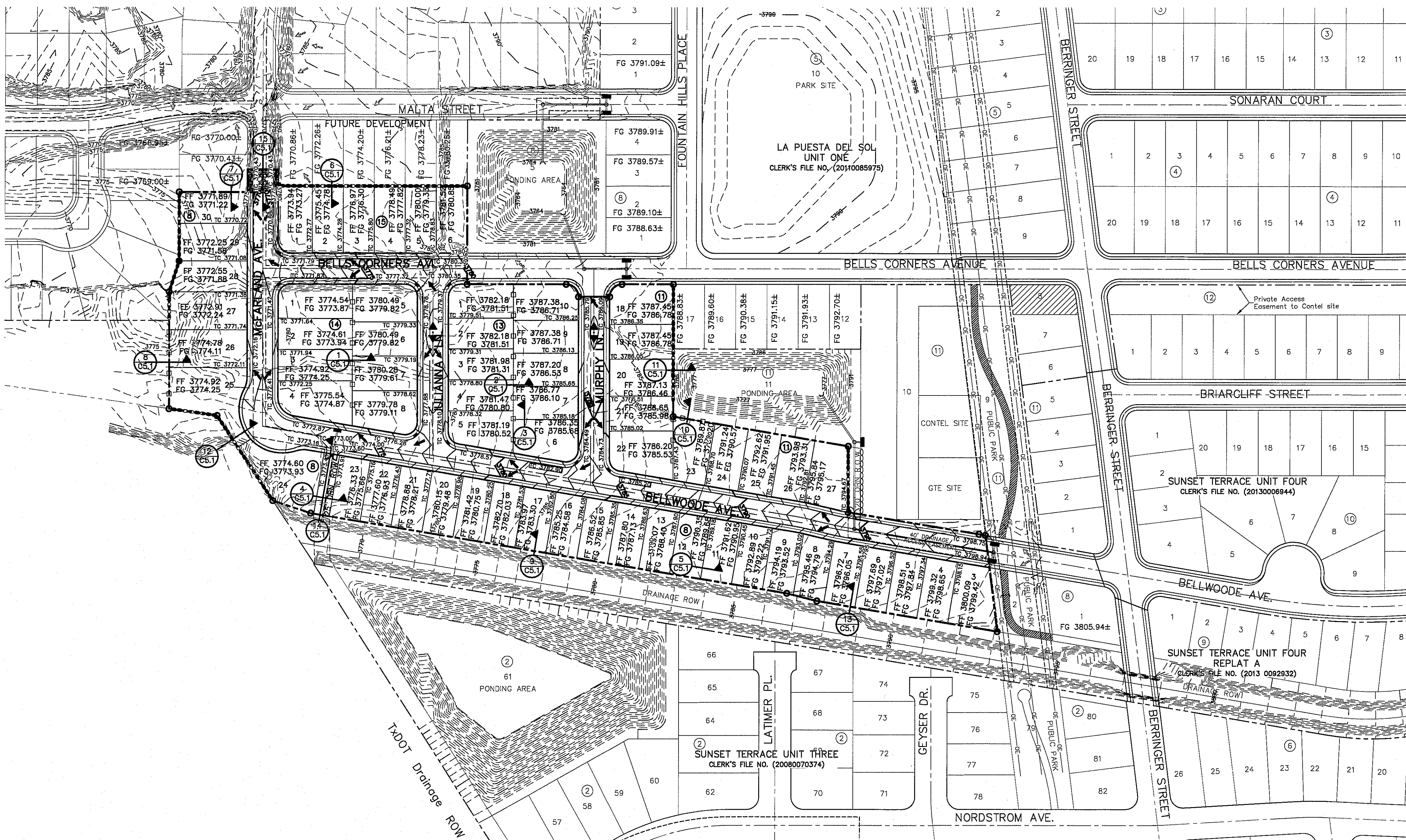
LINE TABLE		
LINE	BEARING	LENGTH
L19	S80°20'22"E	10.44'
L20	S89°59'19"E	55.00'
L21	S00°00'41"W	15.86'
L22	S80°20'01"E	26.46'
L23	S80°20'01"E	25.44'
L24	S76°21'20"E	29.20'
L25	S80°20'22"E	10.44'
L26	N80°20'01"W	11.45'
L27	N75°52'35"W	39.37'
L28	N75°52'35"W	10.79'
L29	N80°20'01"W	25.44'
L30	N80°20'01"W	5.07'
L31	N57°25'47"E	24.50'
L32	S09°32'59"W	100.00'
L33	N09°32'59"E	100.00'
L34	S76°21'20"E	29.20'
L35	S00°00'41"W	23.38'
L36	S89°59'19"E	10.00'

GRAPHIC SCALE



PLAT NOTES AND RESTRICTIONS:

- THIS IS TO CERTIFY THAT WATER AND SEWER SERVICES WILL BE PROVIDED TO SUNSET TERRACE UNIT FIVE SUBDIVISION BY THE EL PASO WATER UTILITIES/PUBLIC SERVICE BOARD IN ACCORDANCE WITH THEIR RULES AND REGULATIONS AND WITH SECTION 18.543 OF THE TEXAS WATER CODE. WATER AND SEWER SERVICES WILL BE EXTENDED TO THE SUBDIVISION FROM EXISTING FACILITIES LOCATED ON BELLWOOD AVENUE AND WILL BE CONSTRUCTED TO SERVE THE SUBDIVISION.
- TAX CERTIFICATE(S) FOR THIS SUBDIVISION ARE FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION. INSTRUMENT NO. 20140002236-37, DATE 1-11-16
- RESTRICTIVE COVENANTS FOR THIS SUBDIVISION ARE FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION. INSTRUMENT NO. 20140002233, DATE 1-11-16
- SUBDIVISION IMPROVEMENTS AGREEMENT & GUARANTEE FOR THIS SUBDIVISION IS FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION. INSTRUMENT NO. 20140002233, DATE 1-11-16
- INTERIOR LOT CORNERS WILL BE SET UPON 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.
- "U.S. POSTAL SERVICE DELIVERY WILL BE PROVIDED THROUGH NEIGHBORHOOD DELIVERY AND COLLECTION BOX UNITS."
- THIS SUBDIVISION LIES WITHIN ZONE "X" AND REVISED TO REFLECT LOMR EFFECTIVE: JANUARY 21, 2015. AS DESIGNATED IN PANEL NO. 480212-0125B.
- DEED REFERENCES: DOC NO. 20060039241, VOL. 2092, PG. 0638, VOL. 2980, PG. 0801, VOL. 4188, PG. 0270.
- BEARINGS SHOWN ARE BASED ON THE DEED FILED IN DOC# 20070072034, REAL PROPERTY RECORDS OF EL PASO COUNTY TEXAS.
- ⊙ DENOTES PROPOSED CITY MONUMENT. (MAY BE SUBJECT TO RELOCATION AT TIME OF CONSTRUCTION. FOR EXACT LOCATION PLEASE CONTACT THE CITY OF EL PASO)
- △ DENOTES EXISTING MONUMENT.



UTILITY LOCATOR SERVICES		
EL PASO ELECTRIC COMPANY	(915) 543-5720	
EL PASO ENERGY CORPORATION	(915) 498-5244	
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 PORTION 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 (NDSOU'S, SIGNS, POLES, FIRE HYDRANTS, ETC.) REFER TO STANDARD DETAIL SHEETS.
 - IMPROVEMENTS SHALL COMPLY WITH T.A.S./A.D.A.
 - WHEELCHAIR RAMP WILL BE CONSTRUCTED BY DEVELOPER AS PART OF SUBDIVISION IMPROVEMENTS.

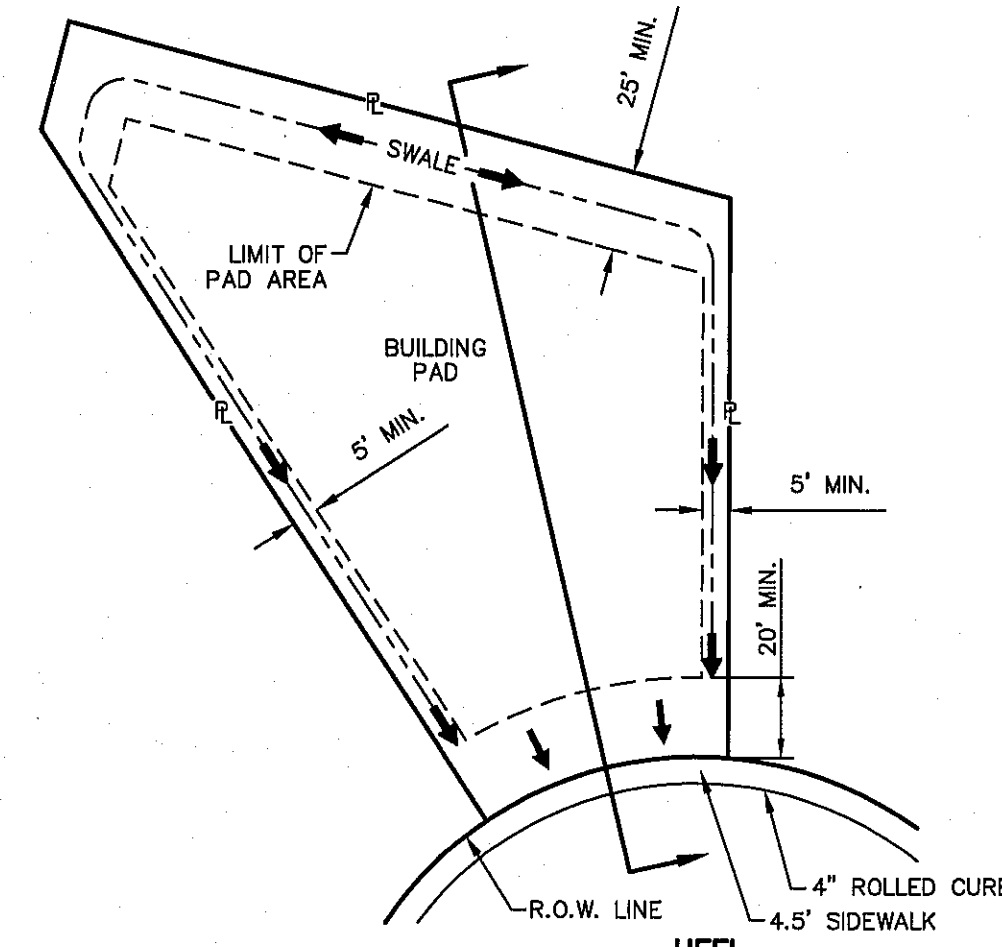
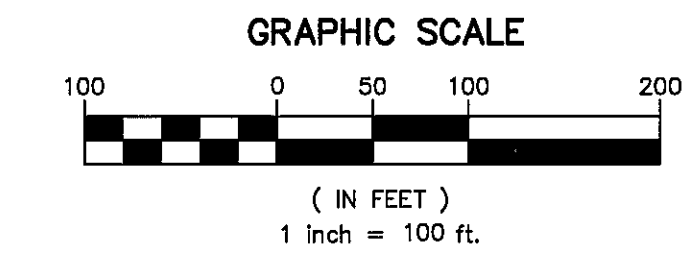
BENCHMARK
CITY MONUMENT AT THE INTERSECTION OF PASEO DEL NORTE & NORTHWESTERN. ELEVATION = 3887.39 (CITY DATUM). THIS IS BASED ON NGS MONUMENT "CHINO" ELEVATION = 3935.48 (CITY DATUM)

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

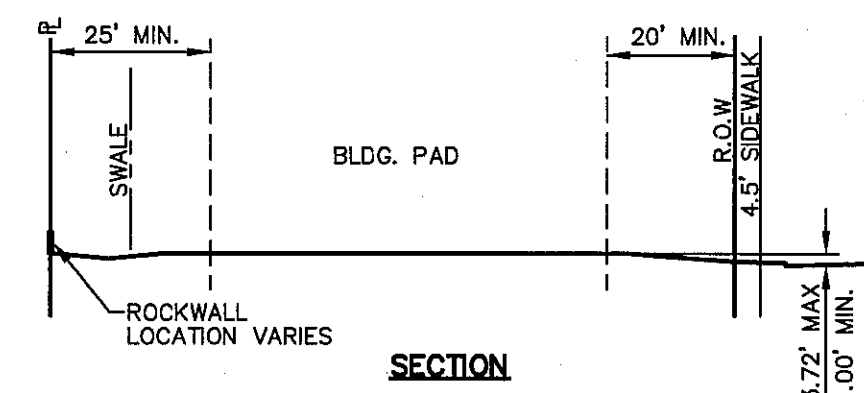
- LEGEND:**
- NEW 6" HIGH RETAINING ROCKWALL (2'-3' RETAINING HEIGHT)
 - NEW 6" HIGH RETAINING ROCKWALL (3'-9' RETAINING HEIGHT)
 - PROPOSED MAJOR CONTOURS
 - PROPOSED MINOR CONTOURS
 - EXISTING MAJOR CONTOURS
 - EXISTING MINOR CONTOURS
 - PROPOSED TEMPORARY DESILTING BASIN



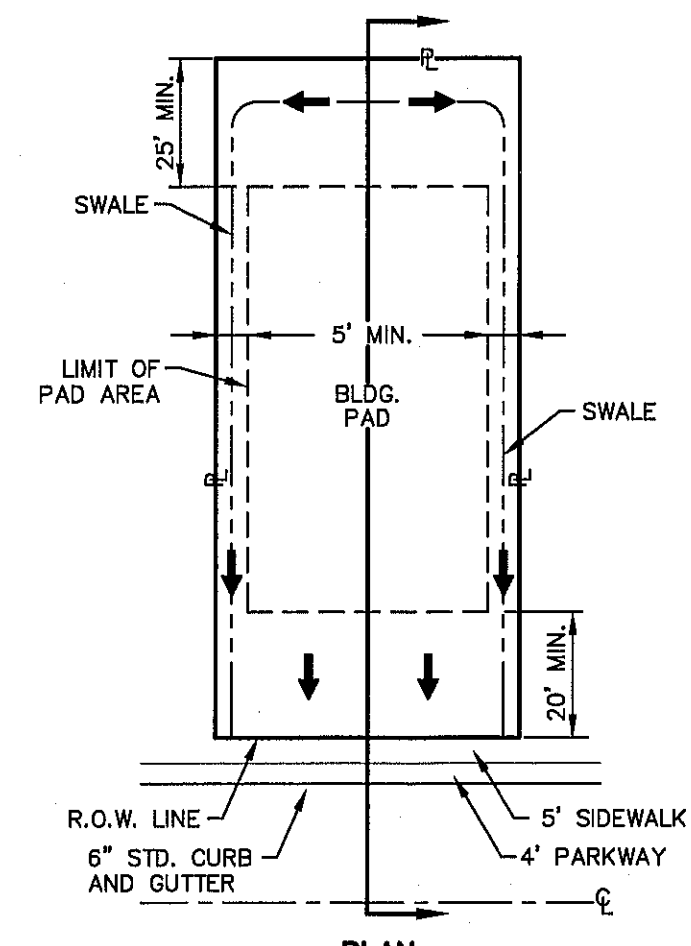
GRADING PLAN
SCALE: 1" = 100'



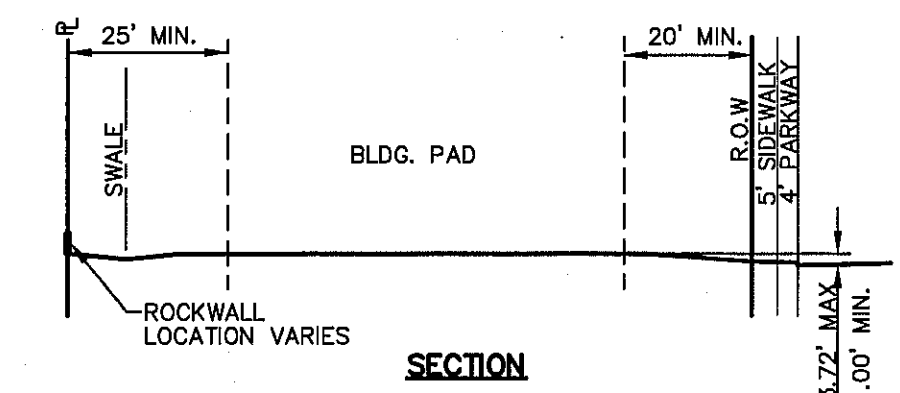
TYPICAL LOT DETAIL AT HEEL
SCALE: NTS



SECTION
NOTE: 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)

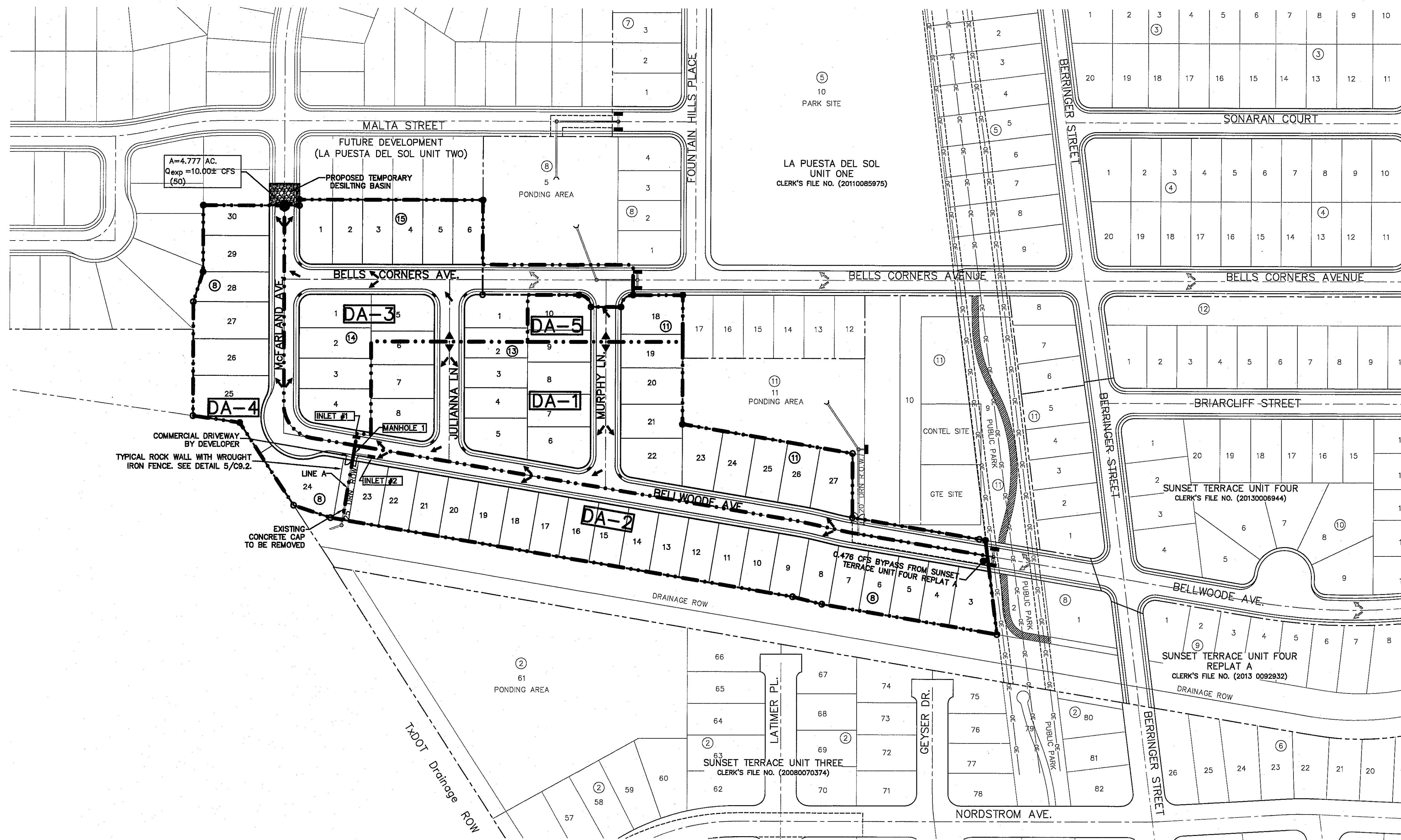


TYPICAL LOT PLAN
SCALE: 1" = 30'



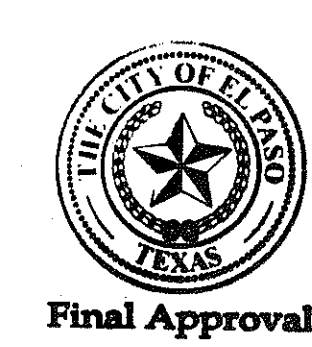
SECTION
NOTE: DRIVEWAY SLOPES MUST BE 10% MAX. FROM GUTTER FOR FIRST 12 FEET AND 14% MAX. THEREAFTER (DRIVEWAY SHALL BE LOCATED @ HIGH SIDE OF LOT UNLESS OTHERWISE COORDINATED WITH CITY OF EL PASO)

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	
SCALE	Horizontal: 1" = 100' Vertical: N/A Contour Interval: N/A
DATE: SEPTEMBER 2015	DESIGN BY: R.O. CHECK BY: J.L.A. APPROV. BY: J.L.A.
PROJECT TITLE	SUNSET TERRACE UNIT FIVE SUBDIVISION IMPROVEMENTS
SHEET TITLE	GRADING PLAN
SHEET NO.	C3.1



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	
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AT&T	(800) 852-3786	
U.S. SPRINT TELECOMM	(800) 521-0579	

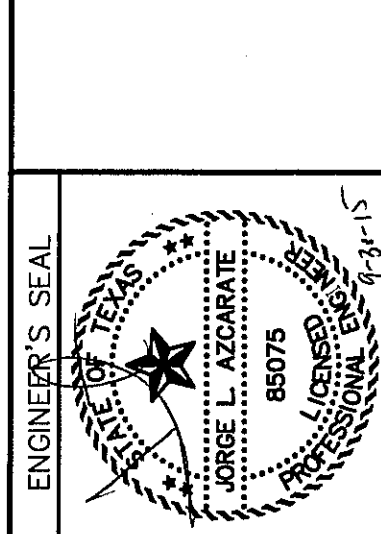
WARNING!
BEFORE YOU DIG
CALL 811
FOR FIELD LOCATING EXISTING UTILITIES



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

REFERENCES - BENCHMARKS	
CITY MONUMENT AT THE INTERSECTION OF LAS DEL NORTE & NORTHWESTERN ELEVATION 6872.0 (CITY DATUM). THIS IS BASED ON NGS MONUMENT "CHINO" ELEVATION = 3935.48 (CITY DATUM)	
DATE	REVISIONS
BY	

csa
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM #4684
4712 Woodrow Bawn, Ste. F, El Paso, TX 79924
Office: 915.544.5232 Fax: 915.544.5233 www.csaeng.com



SCALE: 1"=100'
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: SEPTEMBER 2015
DESIGN BY: R.O.
DRAWN BY: R.O.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB NO. 20000-190LD

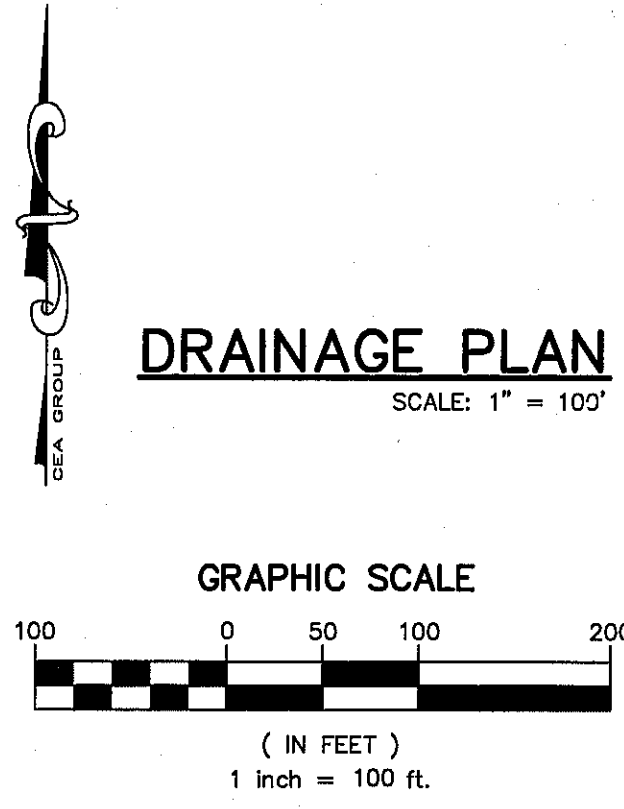
PROJECT TITLE
**SUNSET TERRACE
UNIT FIVE
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

DRAINAGE PLAN

SHEET NO.

C4.1



100 YEAR STORM CALCULATIONS FOR WATERSHED AREAS					
DRAINAGE AREA NO. (1)	DRAINAGE AREA (AC) (2)	DESIGN STORM INTENSITY (1100) (3)	TIME OF CONCENTRATION (4)	RUNOFF COEFF. (C) (5)	Q100 (CFS) (6)
DA-1	3.623	3.895	23.25	0.60	8.467
DA-2	3.090	4.175	19.65	0.60	7.740
DA-3	2.749	3.913	23.00	0.60	6.454
DA-4	1.594	3.772	25.00	0.60	3.608
DA-5	0.434	4.608	15.00	0.60	1.200

DROP INLETS					
NO.	REQ. FLOW CAPACITY Q REQ (CFS)	AVAIL. FLOW CAPACITY Q AVAIL (CFS)	ADDITIONAL FLOW (CFS)	# OF BYPASS GRATES	TYPE OF INLET LOCATION
1	8.467	8.997	0	0	3 1 ON-GRADE
2	8.218	8.997	0.779	0	3 1 ON-GRADE

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	0.24	4.39	1.05
2	0.24	4.39	1.05

- 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: T_C = T_(OVERLAND) + T_(GUTTER)
 - (5) RUNOFF COEFFICIENT => PLATE NO. 2-10 TABLE A
RESIDENTIAL AREA = 0.60
PAVEMENT AREA = 0.90
 - (6) Q₅₀ = C X A X I^{0.50}

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

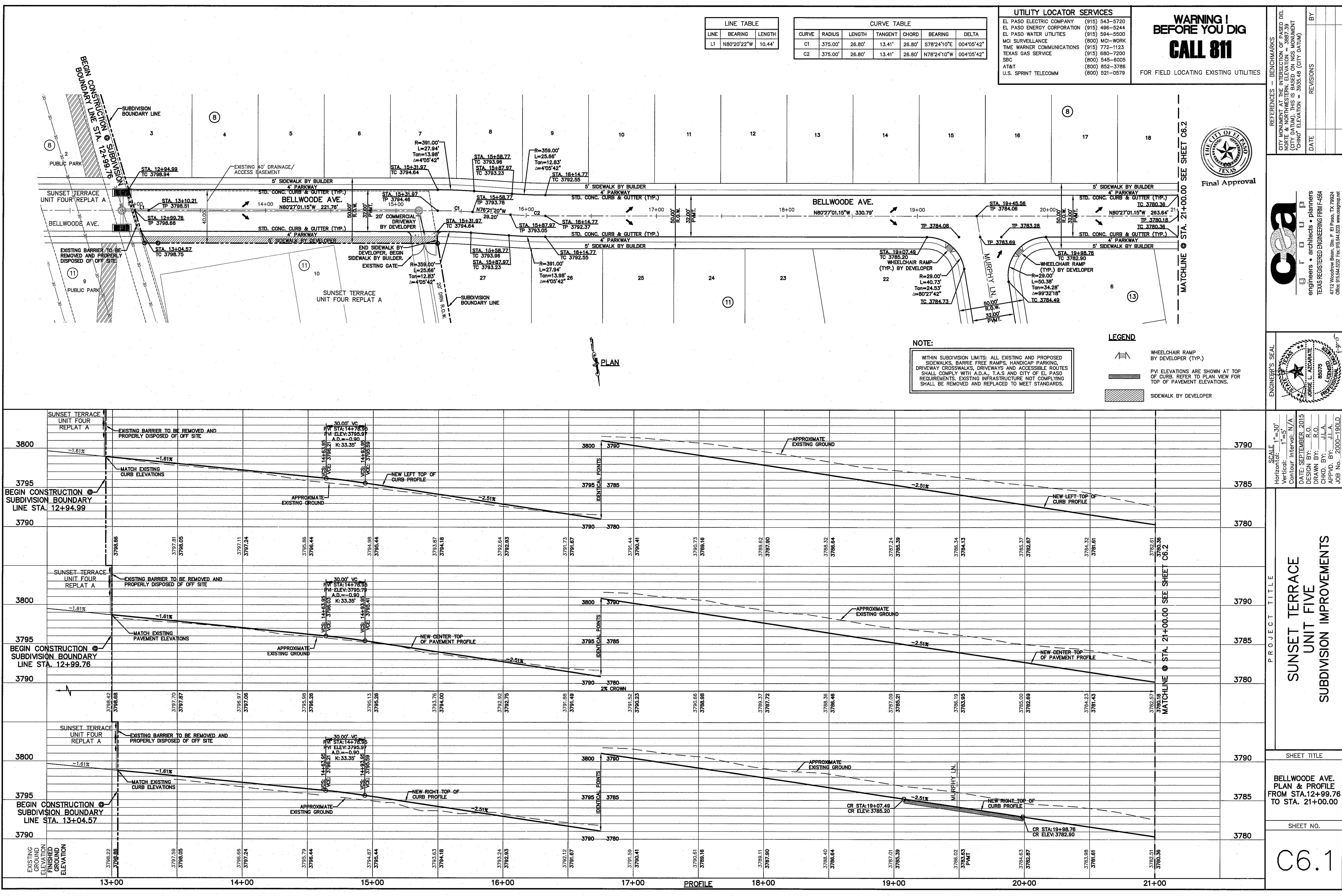
LINE TABLE		
LINE	BEARING	LENGTH
L1	N80°20'22"W	10.44'

CURVE TABLE					
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING
C1	375.00'	26.80'	13.41'	26.80'	S78°24'10"E
C2	375.00'	26.80'	13.41'	26.80'	N78°24'10"W

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
A&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

WARNING!
BEFORE YOU DIG
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FOR FIELD LOCATING EXISTING UTILITIES



REFERENCES - BENCHMARKS

CITY MONUMENT WEST SIDE OF BELLWOOD AVENUE (CITY DATUM). THIS IS BASED ON NGS MONUMENT "CHINO" ELEVATION = 3935.48 (CITY DATUM)

DATE _____

REVISIONS _____

BY _____

Final Approval

City of El Paso

Engineers • architects • planners

TEXAS REGISTERED ENGINEERING FIRM F-4664

4719 Woodbine Road, Suite F, El Paso, TX 79924

Office: 915.544.5222 Fax: 915.544.5233 www.aagroup.net

ENGINEER'S SEAL

SCALE: 1"=30'

Horizontal: 1"=5'

Vertical: Contour interval: N/A

DATE: SEPTEMBER 2015

DESIGN BY: R.O.

DRAWN BY: J.L.A.

CHECKED BY: J.L.A.

APP'D BY: J.L.A.

JOB NO. 2000-190LD

PROJECT TITLE

SUNSET TERRACE UNIT FIVE SUBDIVISION IMPROVEMENTS

SHEET TITLE

BELLWOOD AVENUE PLAN & PROFILE FROM STA. 12+99.76 TO STA. 21+00.00

SHEET NO.

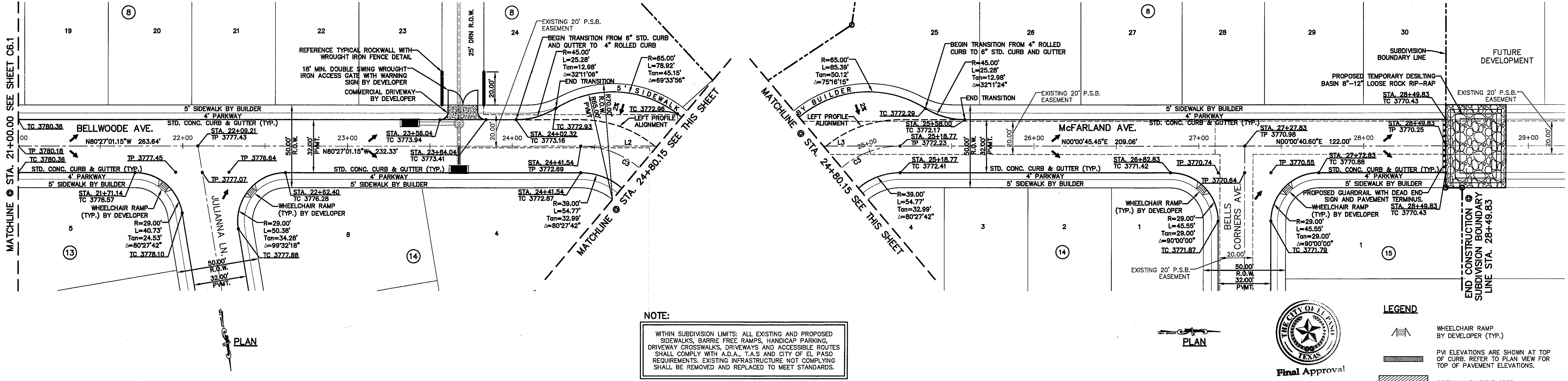
C6.1

LINE TABLE		
LINE	BEARING	LENGTH
L2	N80°27'01"W	46.52'
L3	N00°00'19"E	46.53'

CURVE TABLE					
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING
C3	55.00'	77.24'	46.53'	71.05'	S40°13'10"E

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) 545-8005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

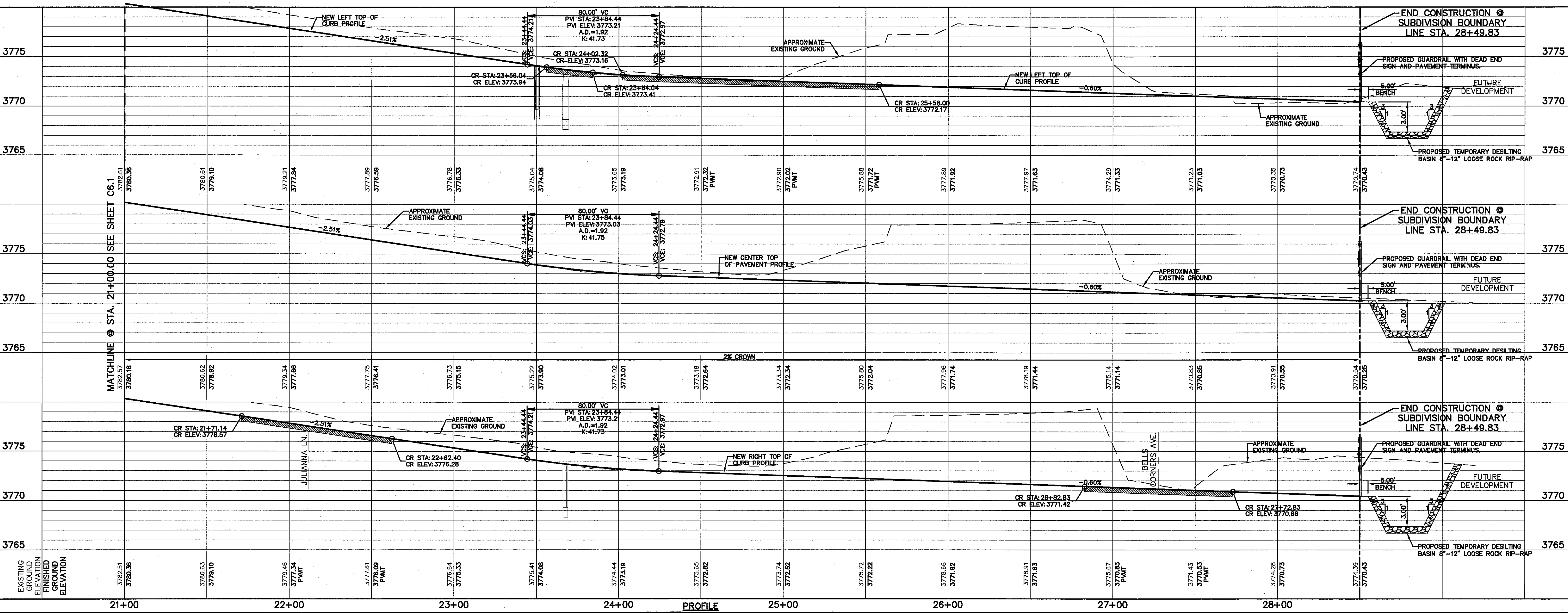
WARNING!
BEFORE YOU DIG
CALL 811
FOR FIELD LOCATING EXISTING UTILITIES



NOTE:
WITHIN SUBDIVISION LIMITS, ALL EXISTING AND PROPOSED SIDEWALKS, BARRIE FREE RAMPS, HANDICAP PARKING, DRIVEWAY CROSSWALKS, DRIVEWAYS AND ACCESSIBLE ROUTES SHALL COMPLY WITH A.D.A., T.A.S. AND CITY OF EL PASO REQUIREMENTS. EXISTING INFRASTRUCTURE NOT COMPLYING SHALL BE REMOVED AND REPLACED TO MEET STANDARDS.



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



REFERENCES - BENCHMARKS
CITY MONUMENT (NORTH) - ELEVATION 5872.00 (CITY DATUM). THIS IS BASED ON NGS MONUMENT "CHINO" ELEVATION = 3935.48 (CITY DATUM)

ENGINEER'S SEAL
J. A. J. A.
JULIANNA L. J. A.
JULIANNA L. J. A.
JULIANNA L. J. A.

PROJECT TITLE
SUNSET TERRACE
UNIT FIVE
SUBDIVISION IMPROVEMENTS

SHEET TITLE
BELLWOODE AVE.
PLAN & PROFILE FROM
STA. 21+00.00
TO STA. 24+80.15
McFARLAND AVE.
PLAN & PROFILE FROM
STA. 24+80.15
TO STA. 28+49.83

SHEET NO.
C6.2



Final Approval

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 498-5244
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

REVISIONS	DATE	BY

ENGINEER'S SEAL

SCALE: 1"=30'

Vertical: 1"=5'

Horizontal: 1"=30'

Contour Interval: N/A

DATE: SEPTEMBER 2015

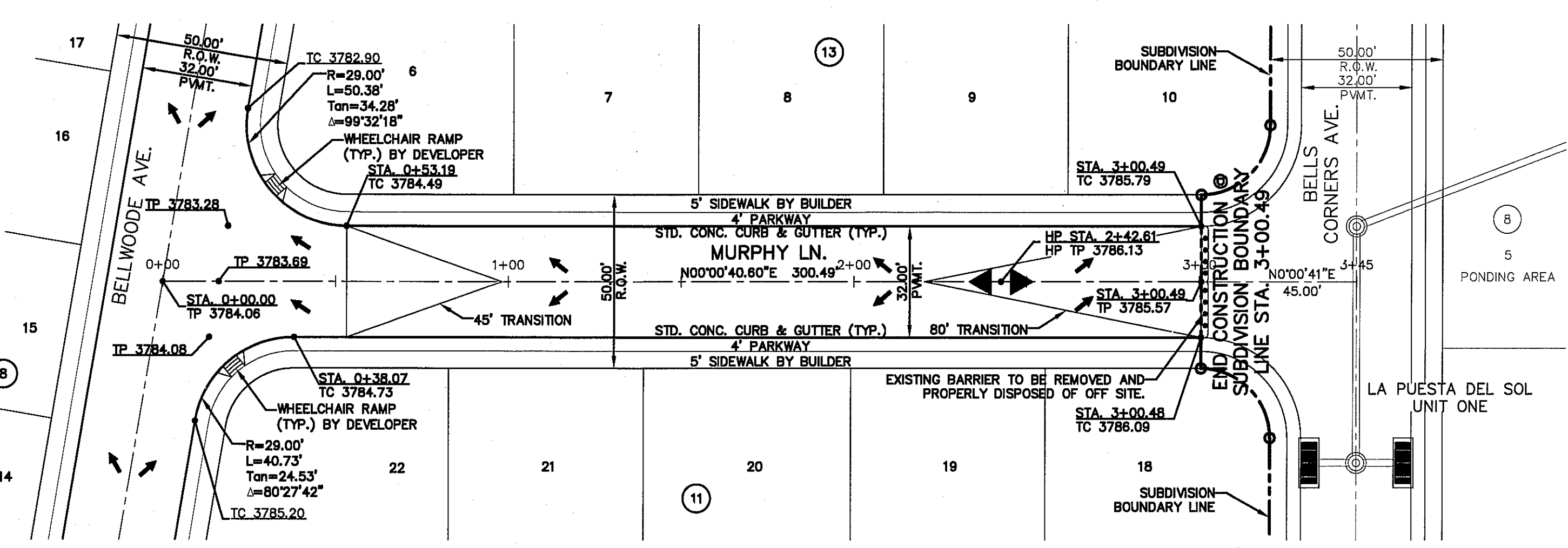
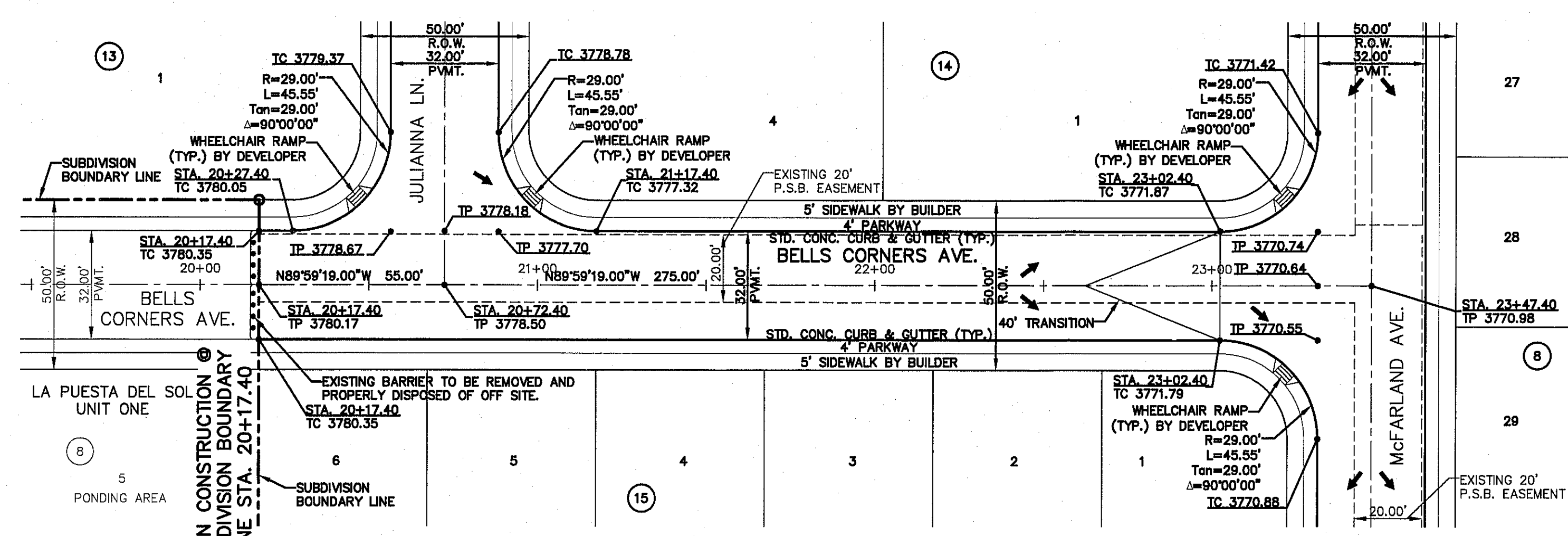
DESIGN BY: R.O.

DRAWN BY: J.L.A.

CHECKED BY: J.L.A.

APPROVED BY: J.L.A.

JOB NO. 2000-1501D



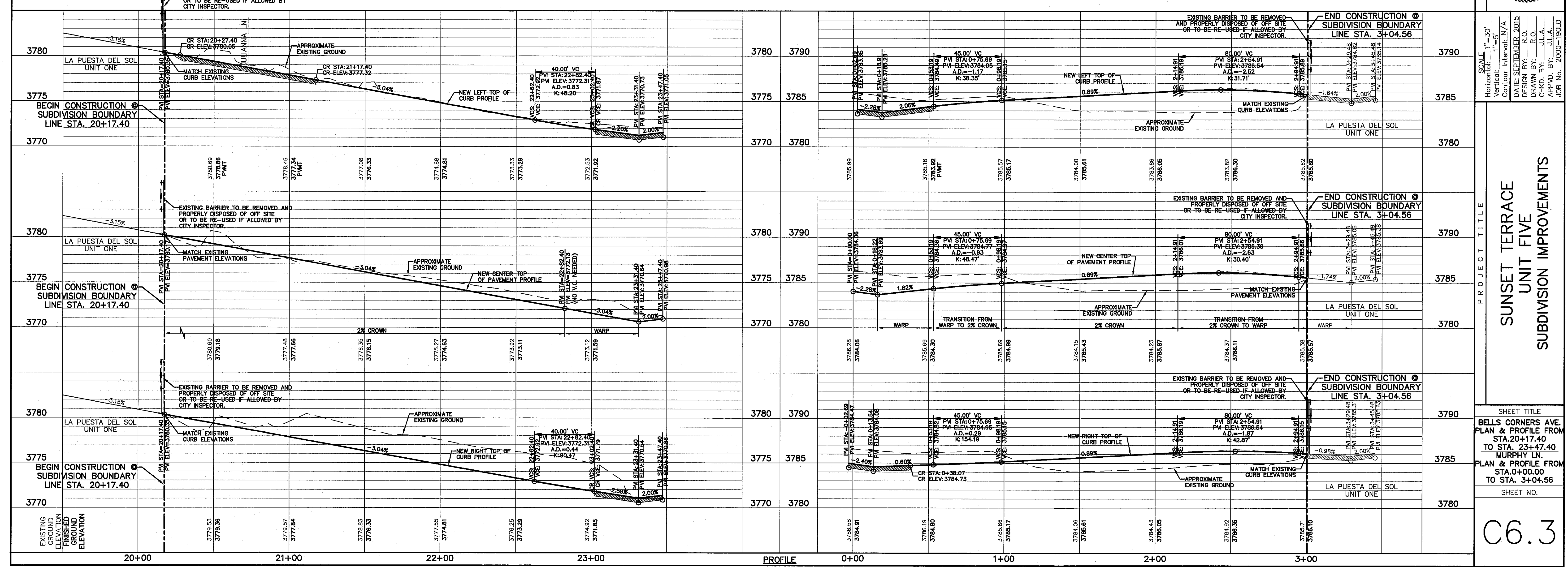
NOTE:

WITHIN SUBDIVISION LIMITS: ALL EXISTING AND PROPOSED SIDEWALKS, BARRIE FREE RAMPS, HANDICAP PARKING, DRIVEWAY CROSSWALKS, DRIVEWAYS AND ACCESSIBLE ROUTES SHALL COMPLY WITH A.D.A., T.A.S AND CITY OF EL PASO REQUIREMENTS. EXISTING INFRASTRUCTURE NOT COMPLYING SHALL BE REMOVED AND REPLACED TO MEET STANDARDS.

LEGEND

WHEELCHAIR RAMP BY DEVELOPER (TYP.)

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



SHEET TITLE

SUNSET TERRACE

UNIT FIVE

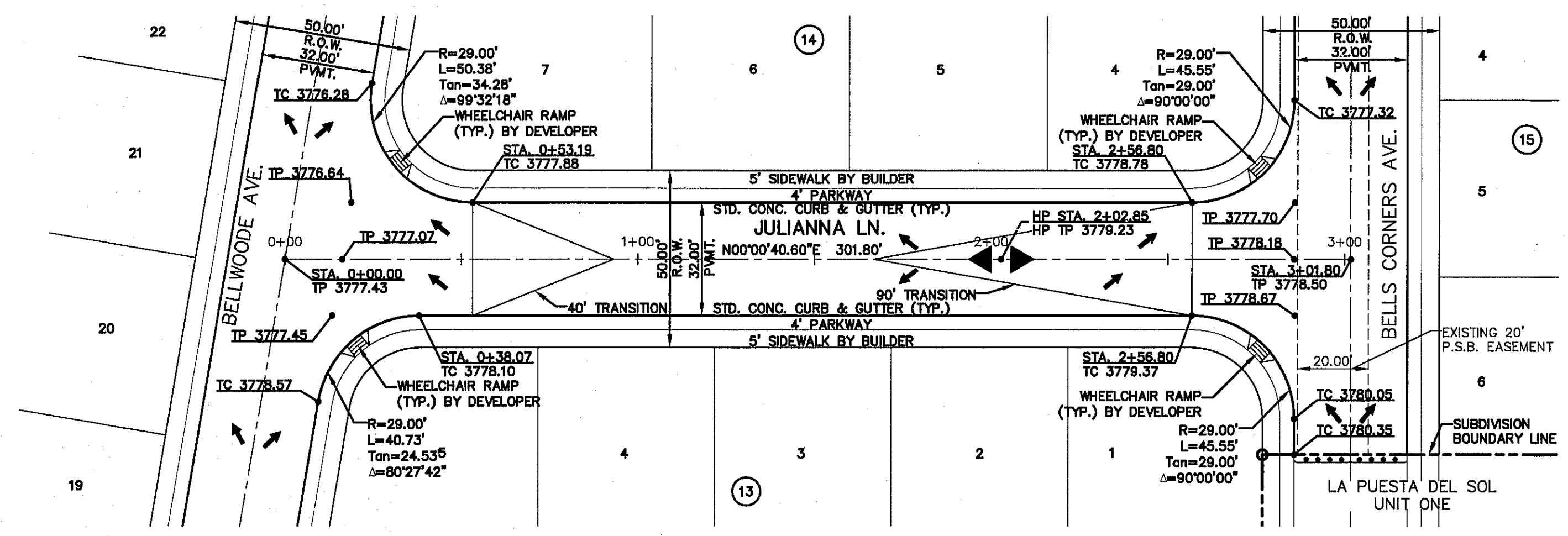
SUBDIVISION IMPROVEMENTS

SHEET NO.

C6.3

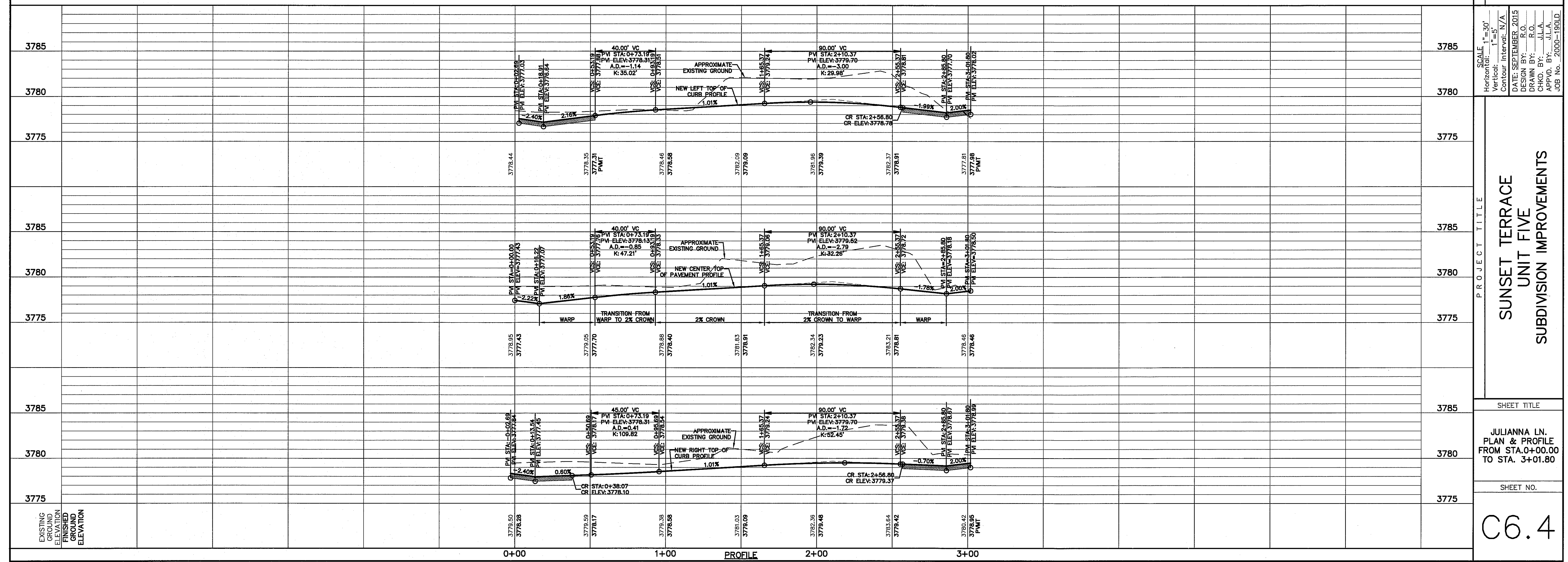
UTILITY LOCATOR SERVICES		
EL PASO ELECTRIC COMPANY	(915) 543-5720	
EL PASO ENERGY CORPORATION	(915) 496-5244	
EL PASO WATER UTILITIES	(915) 594-5500	
MCI SURVEILLANCE	(800) MCI-WORK	
TIME WARNER COMMUNICATIONS	(915) 772-1123	
TEXAS GAS SERVICE	(915) 680-7200	
SBC	(800) 545-6005	
A&T	(800) 852-3786	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

WARNING!
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NOTE:
WITHIN SUBDIVISION LIMITS: ALL EXISTING AND PROPOSED SIDEWALKS, BARRIE FREE RAMPS, HANDICAP PARKING, DRIVEWAY CROSSWALKS, DRIVEWAYS AND ACCESSIBLE ROUTES SHALL COMPLY WITH A.D.A., T.A.S. AND CITY OF EL PASO REQUIREMENTS. EXISTING INFRASTRUCTURE NOT COMPLYING SHALL BE REMOVED AND REPLACED TO MEET STANDARDS.

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

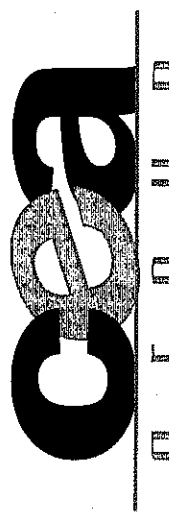


REFERENCES - BENCHMARKS CITY MONUMENT AT THE INTERSECTION OF ASO DEL CERRILLO AND MONUMENT (CITY DATUM). THIS IS BASED ON NGS MONUMENT "CHINO" ELEVATION = 3935.48 (CITY DATUM)	ENGINEER'S SEAL
DESIGNER'S SEAL 	PLANNERS TEXAS REGISTERED ENGINEERING FIRM F-4694 4710 Woodbine Drive, Suite F, El Paso, TX 79904 Office: (915) 544-5222 Fax: (915) 544-5223 www.ogap.com
SCALE Horizontal: 1"=30' Vertical: 1"=5' Contour Interval: N/A DATE: SEPTEMBER 2015 DESIGN BY: R.O. DRAWN BY: J.L.A. CHECKED BY: J.L.A. APPROVED BY: J.L.A. JOB No.: 2000-190LD	PROJECT TITLE SUNSET TERRACE UNIT FIVE SUBDIVISION IMPROVEMENTS
SHEET TITLE JULIANNA LN. PLAN & PROFILE FROM STA. 0+00.00 TO STA. 3+01.80	SHEET NO. C6.4

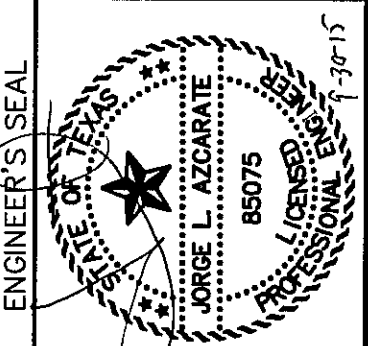
UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT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

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

REFERENCES - BENCHMARKS	
CITY MONUMENT AT THE INTERSECTION OF PASO DEL NORTE & NORTHWESTERN, ELEVATION = 3867.39 (CITY DATUM). THIS IS BASED ON NGS MONUMENT "CHINO" ELEVATION = 3935.46 (CITY DATUM)	DATE
REVISIONS	BY



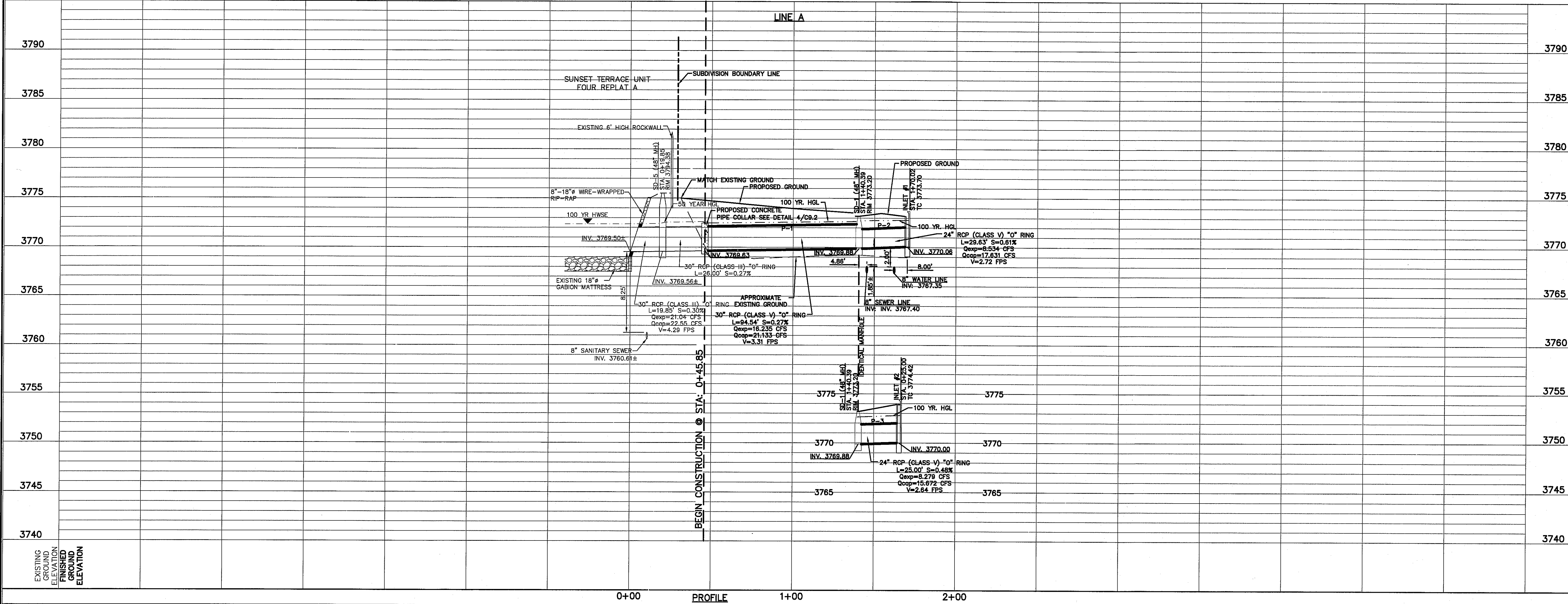
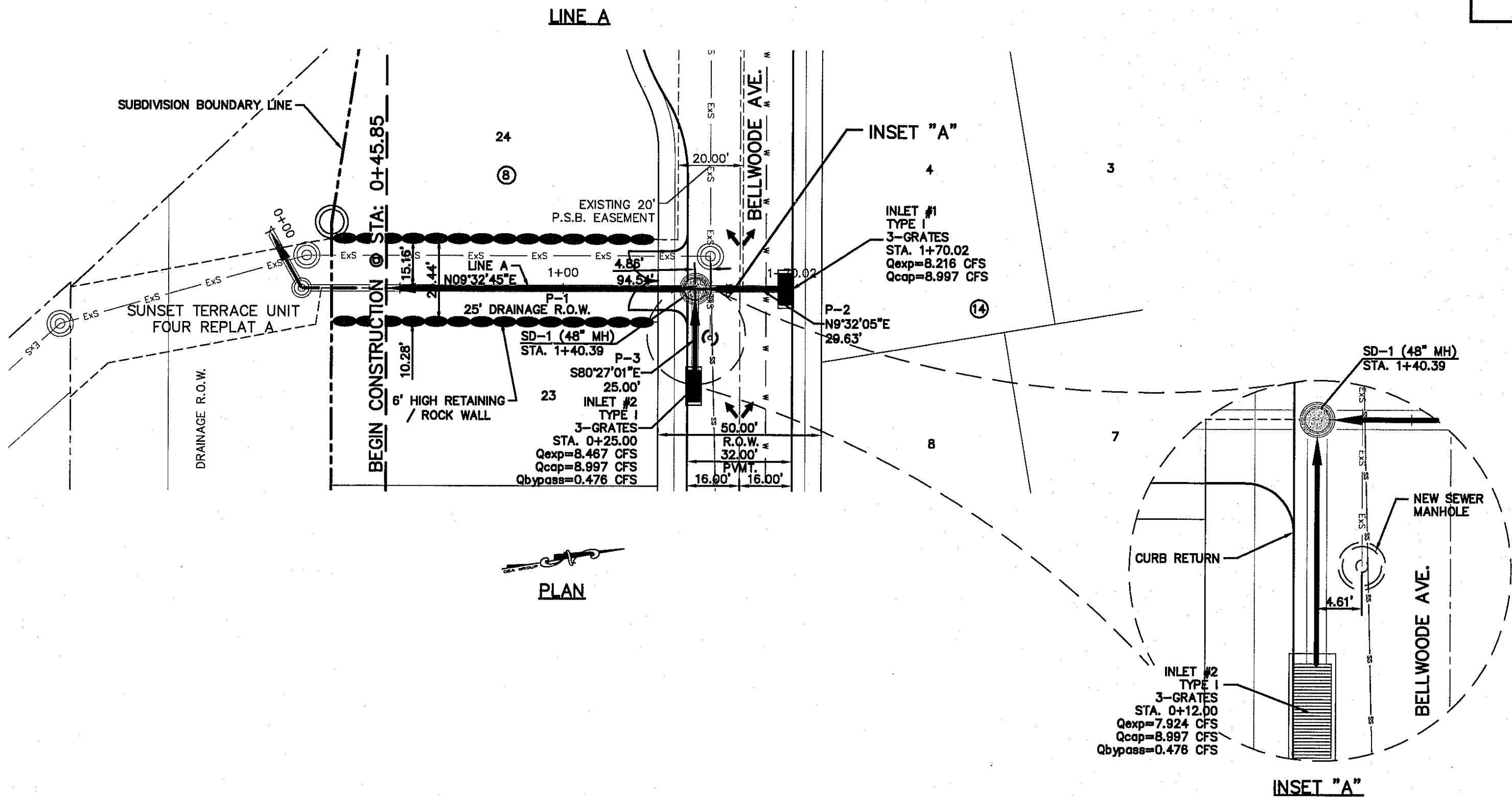
CEA
 ENGINEERS • ARCHITECTS • PLANNERS
 TEXAS REGISTERED ENGINEERING FIRM F-4584
 4712 Woodrow Bean, Ste. F El Paso, TX 79924
 Office 915.544.5232 Fax 915.544.5233 www.ceainc.com

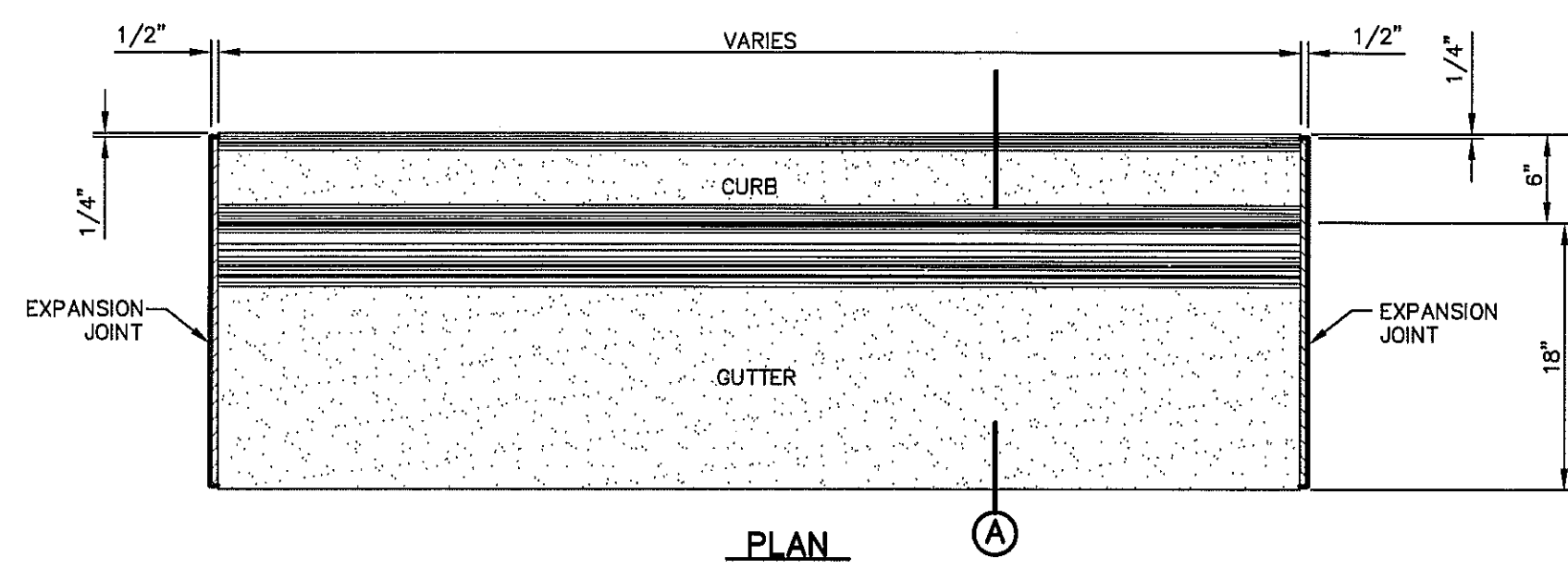


ENGINEER'S SEAL
 JORGE L. AZCARATE
 No. 85075
 State of Texas

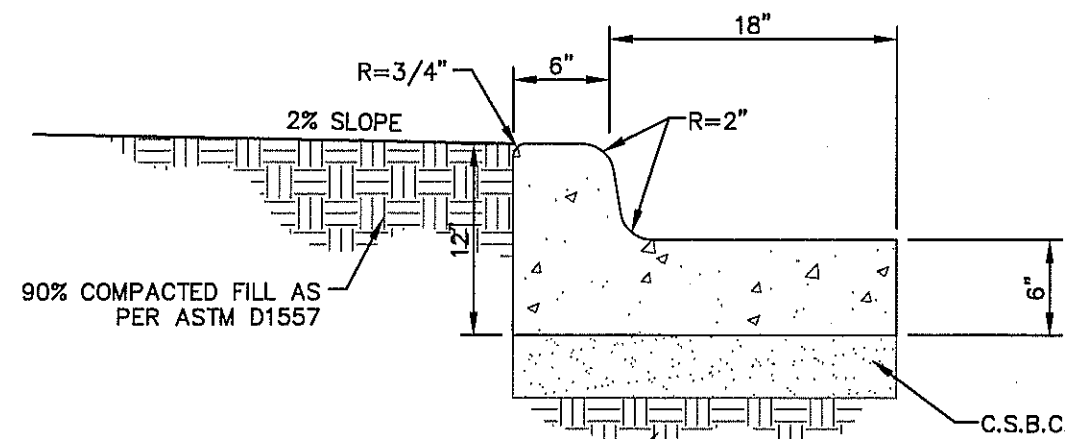
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Horizontal: 1"=100'	Vertical: 1"=10'
Contour Interval: N/A	DATE: SEPTEMBER 2015
DESIGN BY: R.O.	DRAWN BY: J.L.A.
CHKD. BY: J.L.A.	APPROV. BY: J.L.A.
JOB No. - 2000-1901.D	

PROJECT TITLE	
SUNSET TERRACE UNIT FIVE SUBDIVISION IMPROVEMENTS	
SHEET TITLE	
STORM DRAIN PLAN & PROFILE LINE A FROM STA. 0+45.85 TO STA. 1+70.02	
SHEET NO.	
C7.1	





PLAN

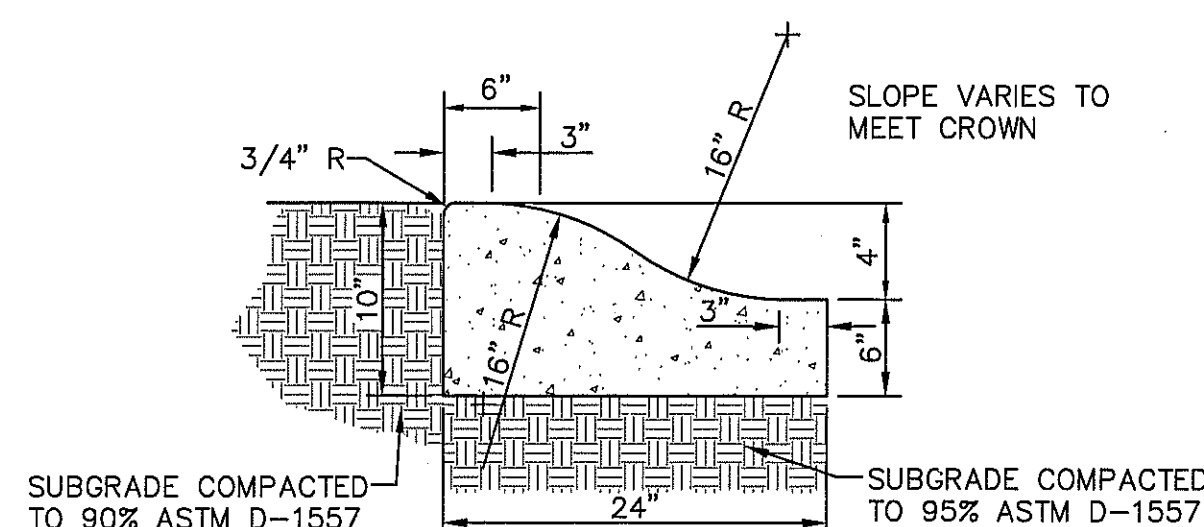


SECTION

NOTES:

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

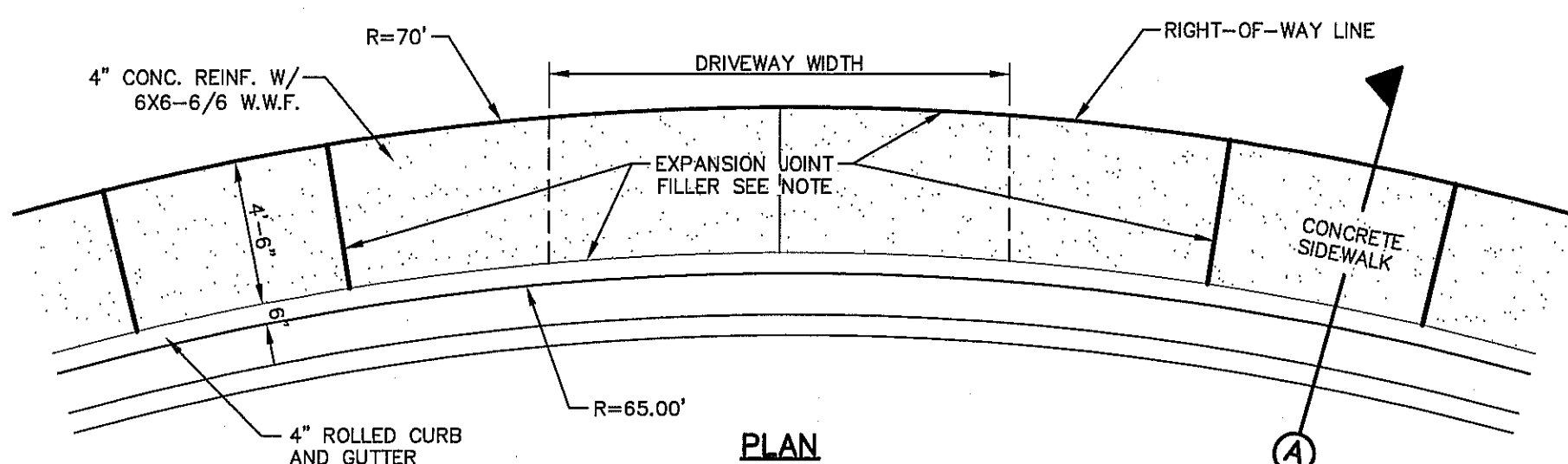
1 CURB & GUTTER DETAIL
SCALE: 1" = 1'-0"



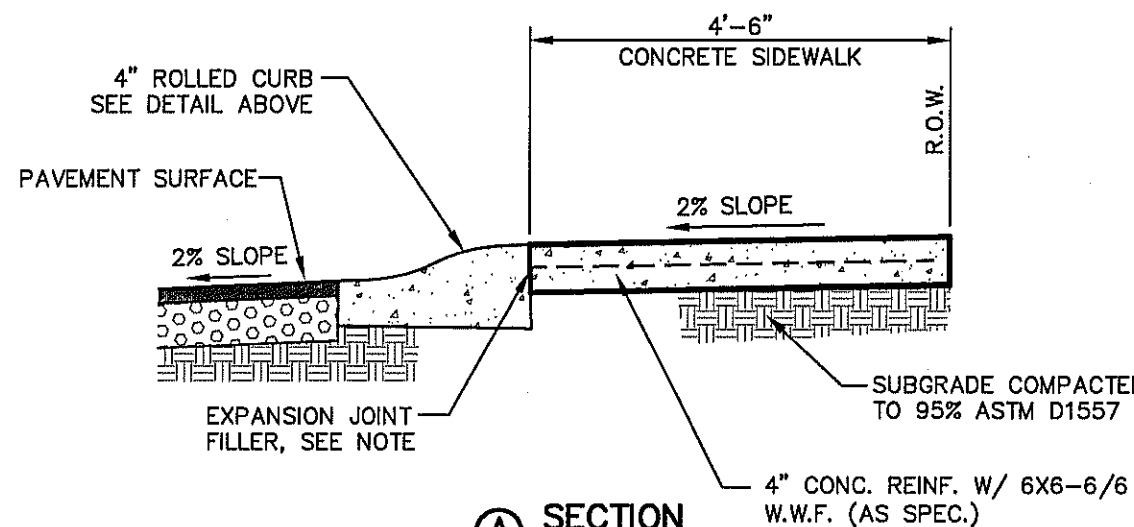
NOTES:

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

6 4" CONCRETE ROLLED CURB DETAIL
SCALE: 1" = 1'-0"



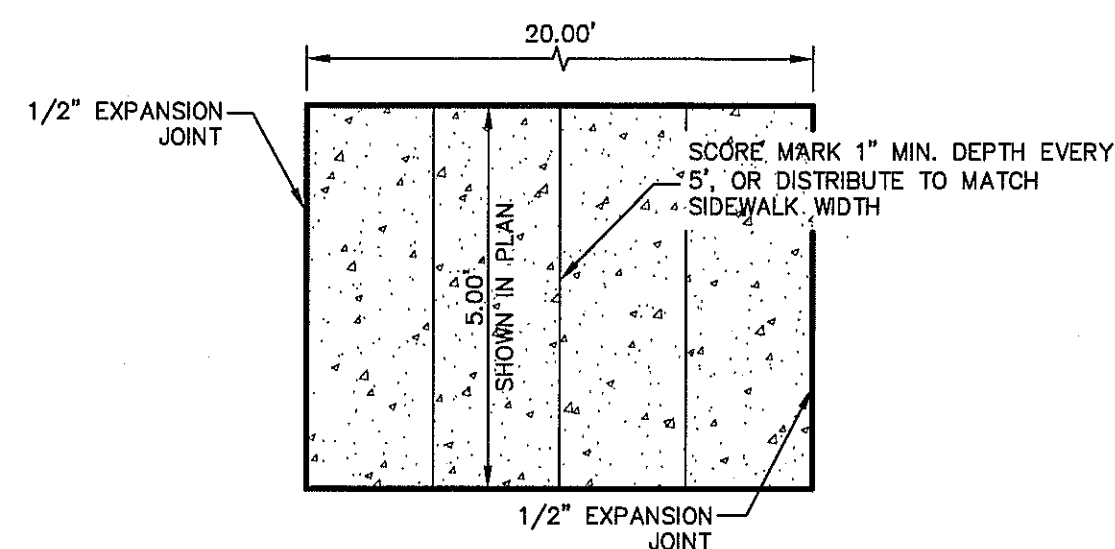
PLAN



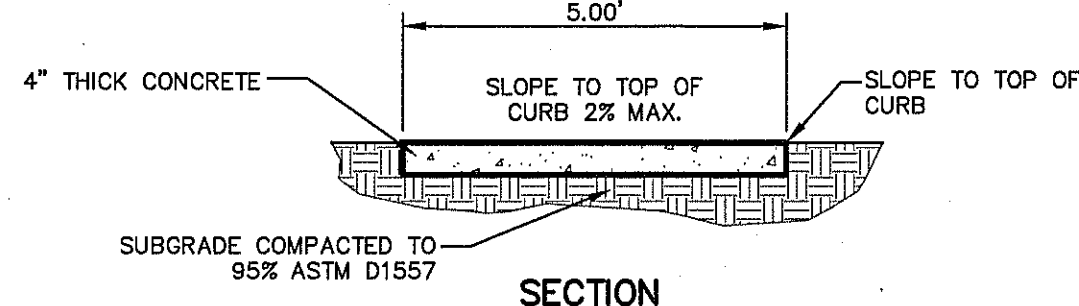
SECTION

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

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



PLAN



SECTION

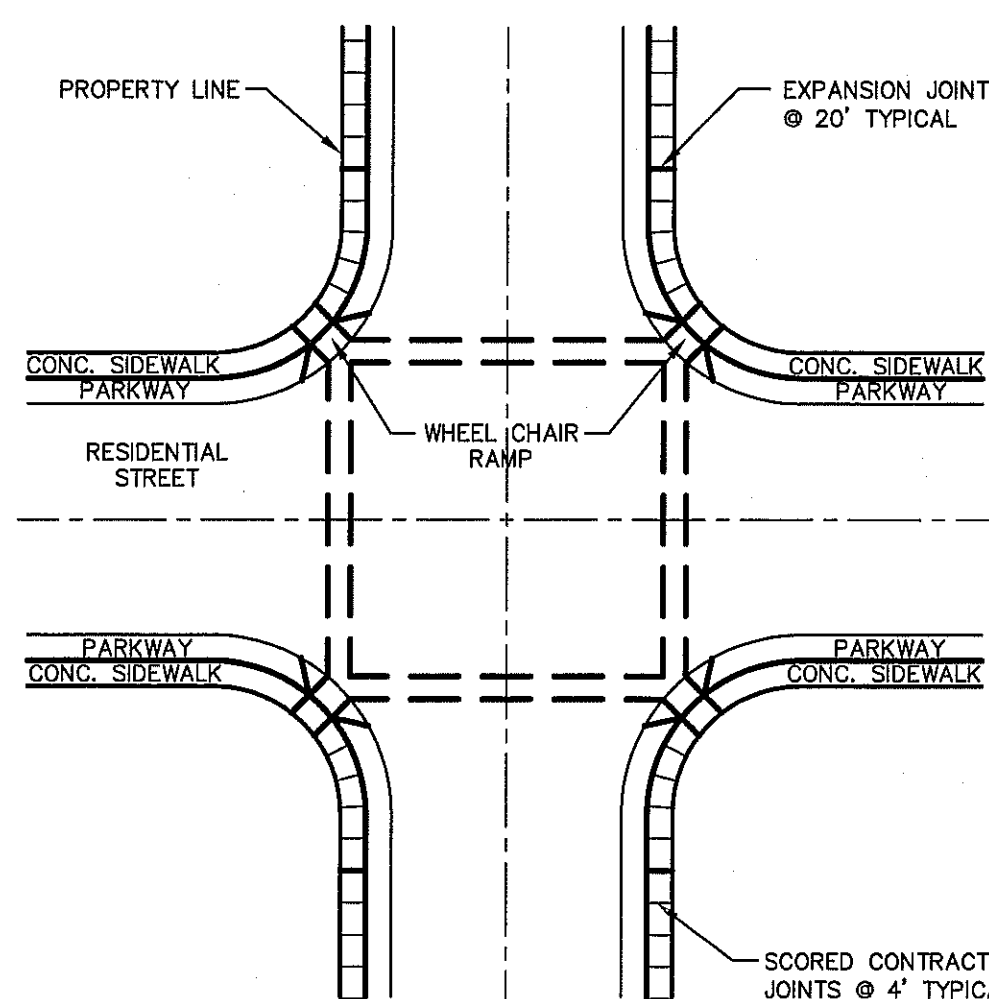
SIDEWALK NOTES:

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

2 SECTION-SIDEWALK/SLAB
SCALE: 1" = 2'-0"

NOTE:

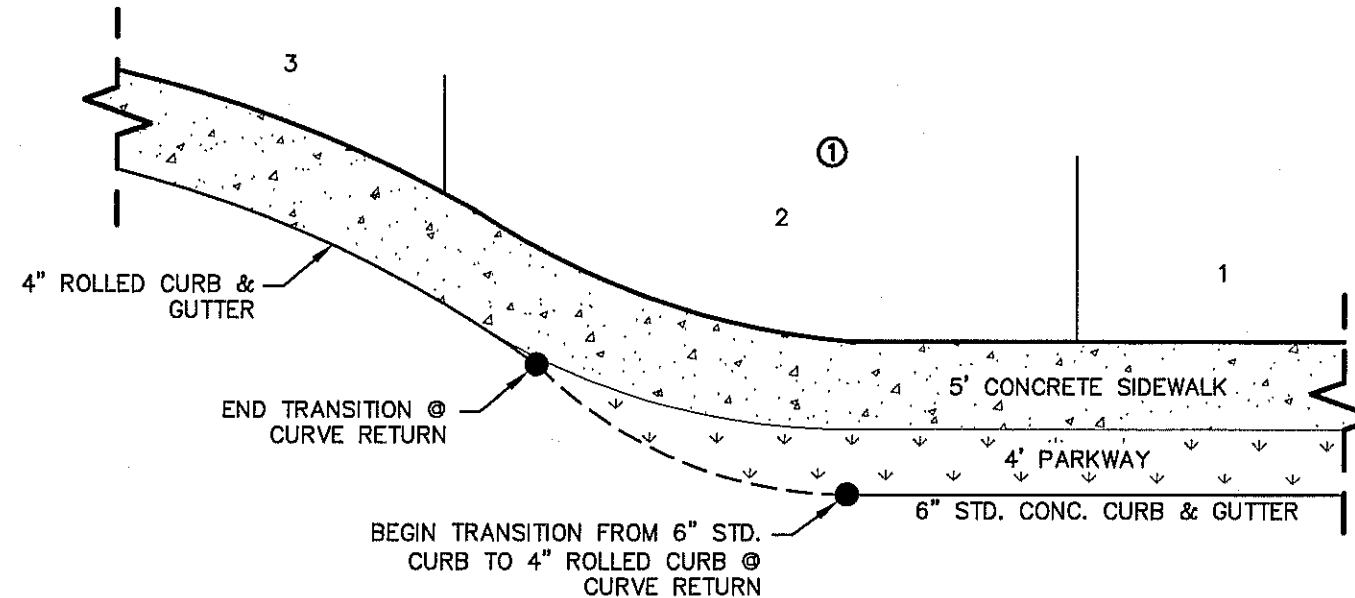
WITHIN SUBDIVISION LIMITS: ALL EXISTING AND PROPOSED SIDEWALKS, BARRIE FREE RAMPS, HANDICAP PARKING, DRIVEWAY CROSSWALKS, DRIVEWAYS AND ACCESSIBLE ROUTES SHALL COMPLY WITH A.D.A., T.A.S AND CITY OF EL PASO REQUIREMENTS. EXISTING INFRASTRUCTURE NOT COMPLYING SHALL BE REMOVED AND REPLACED TO MEET STANDARDS.



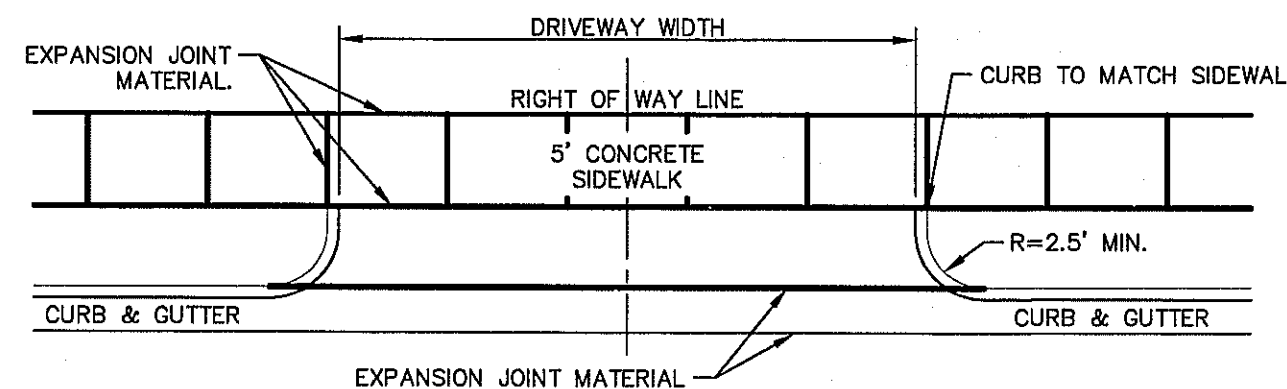
NOTES:

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

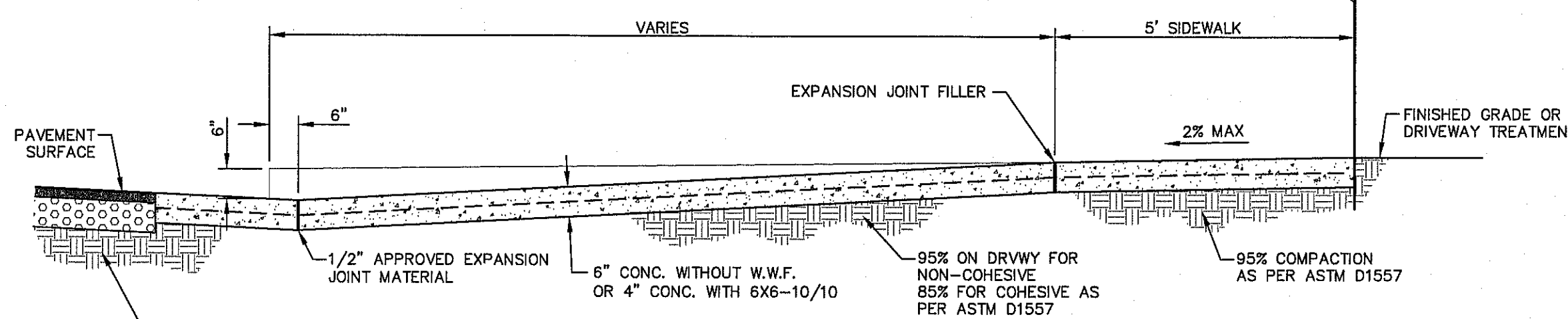
7 WHEELCHAIR RAMP STREET PLAN
SCALE: 1" = 30'-0"



9 TYPICAL HEEL/CUL-DE-SAC SIDEWALK TRANSITION
SCALE: N.T.S.



DRIVEWAY PLAN

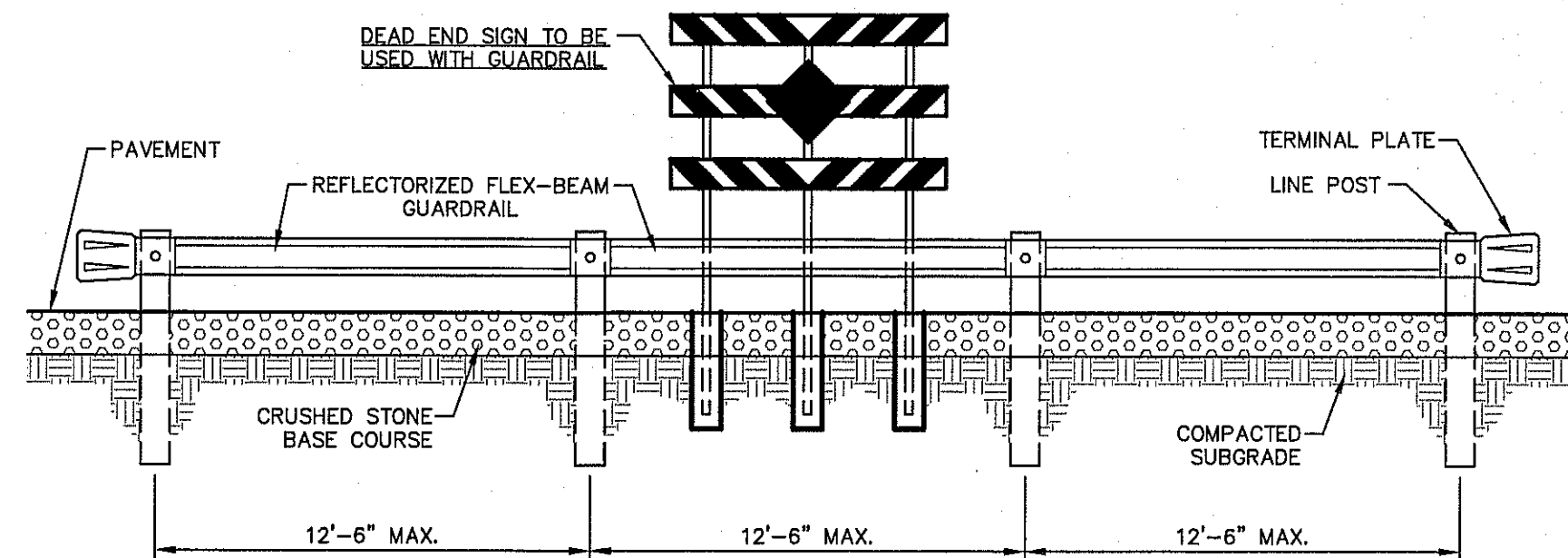


SECTION AT CENTERLINE

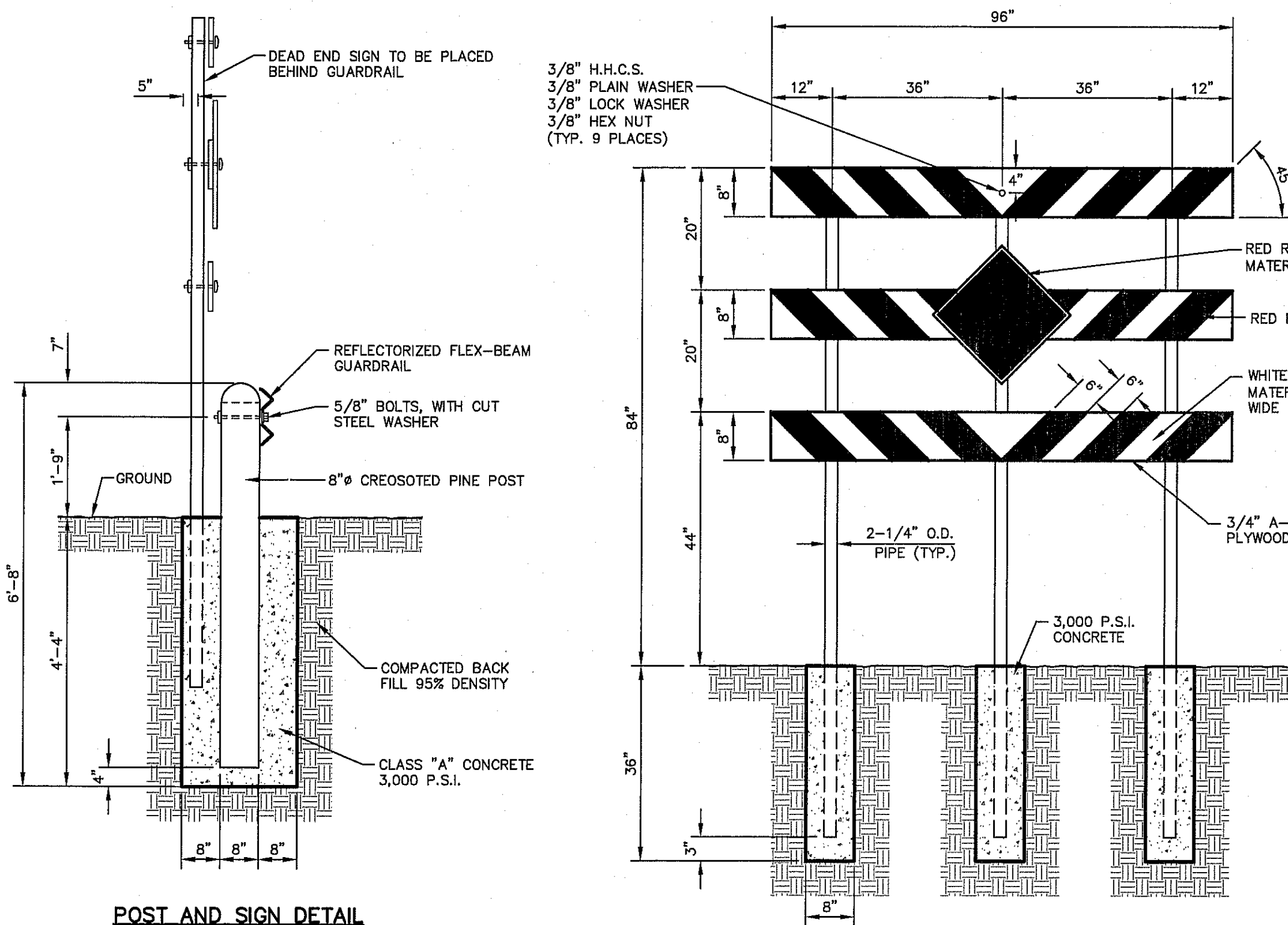
3 TYPICAL DRIVEWAY DETAIL
SCALE: N.T.S.

NOTES:

1. 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)
2. RESIDENTIAL
6" CONCRETE WITHOUT W.W.F.
4" CONCRETE WITH 6X6-10/10
3. COMMERCIAL
6" CONCRETE WITH 6X6-6/6 W.W.F.



ELEVATION
SCALE: 1" = 5'



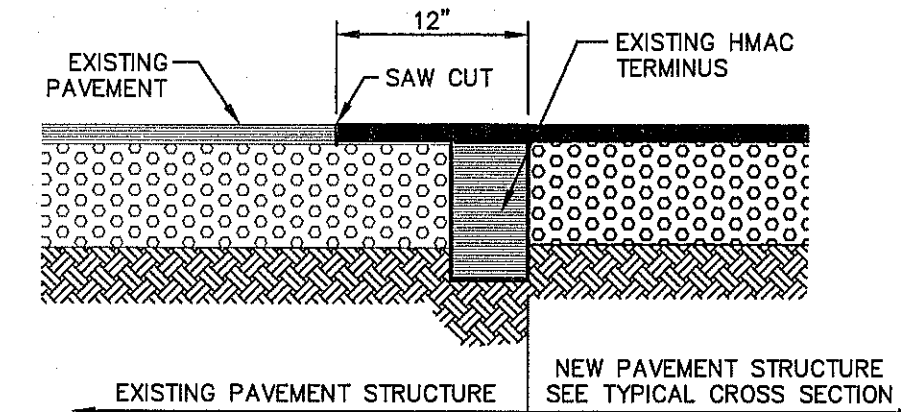
POST AND SIGN DETAIL
SCALE: N.T.S.

DEAD END SIGN DETAIL
SCALE: 1" = 2'-0"

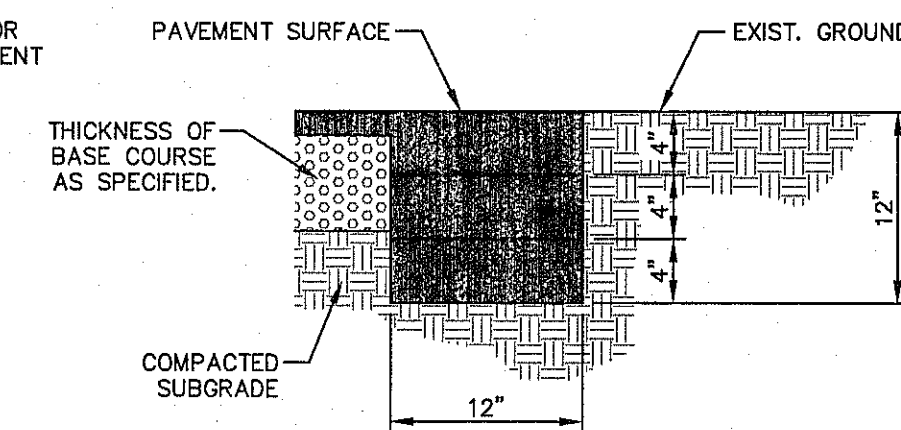
10 GUARD RAIL/SIGN ASSEMBLY AT DEAD END STREET DETAIL
SCALE: AS SHOWN



Final Approval



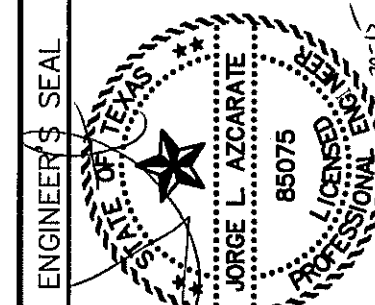
4 TYPICAL PAVEMENT JOINT SECTION
SCALE: N.T.S.



5 TERMINUS OF STREET
SCALE: 1" = 1'-0"

DATE	REVISIONS	BY

REFERENCES - BENCHMARKS
CITY MONUMENT AT THE INTERSECTION OF PASEO DEL NORTE & NORTHWESTERN. ELEVATION = 3887.39
CITY OF EL PASO MONUMENT (CITY OF EL PASO)
CITY OF EL PASO MONUMENT (CITY OF EL PASO)
CITY OF EL PASO MONUMENT (CITY OF EL PASO)



SCALE	N/A
Horizontal:	N/A
Vertical:	N/A
Contour Interval:	N/A
DATE:	AUGUST 2015
DESIGN BY:	R.O.
DRAWN BY:	R.O.
CHECKED BY:	J.L.A.
APPROVED BY:	J.L.A.
JOB No.:	2000-1921D

PROJECT TITLE
LA PUESTA DEL SOL
UNIT TWO
SUBDIVISION IMPROVEMENTS

SHEET TITLE

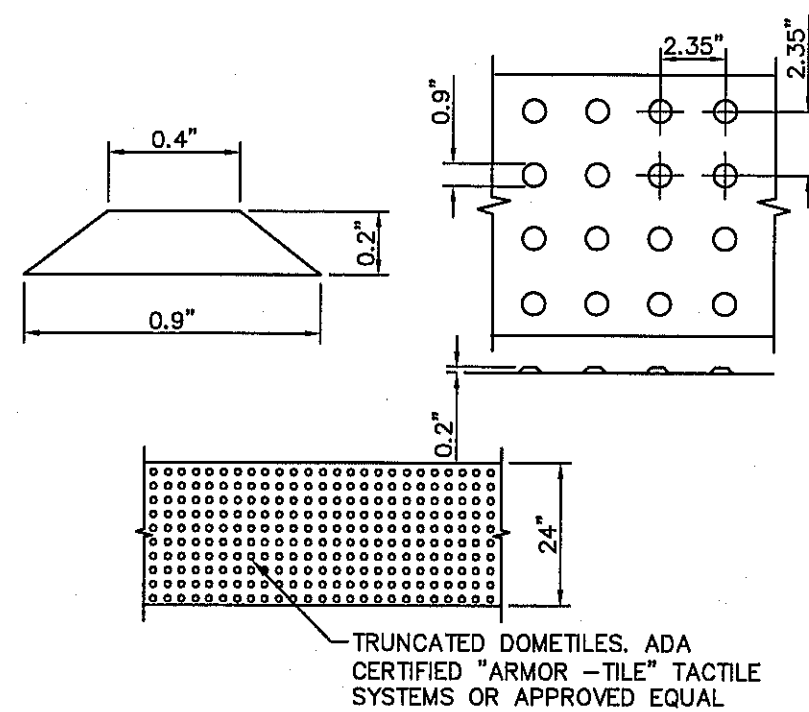
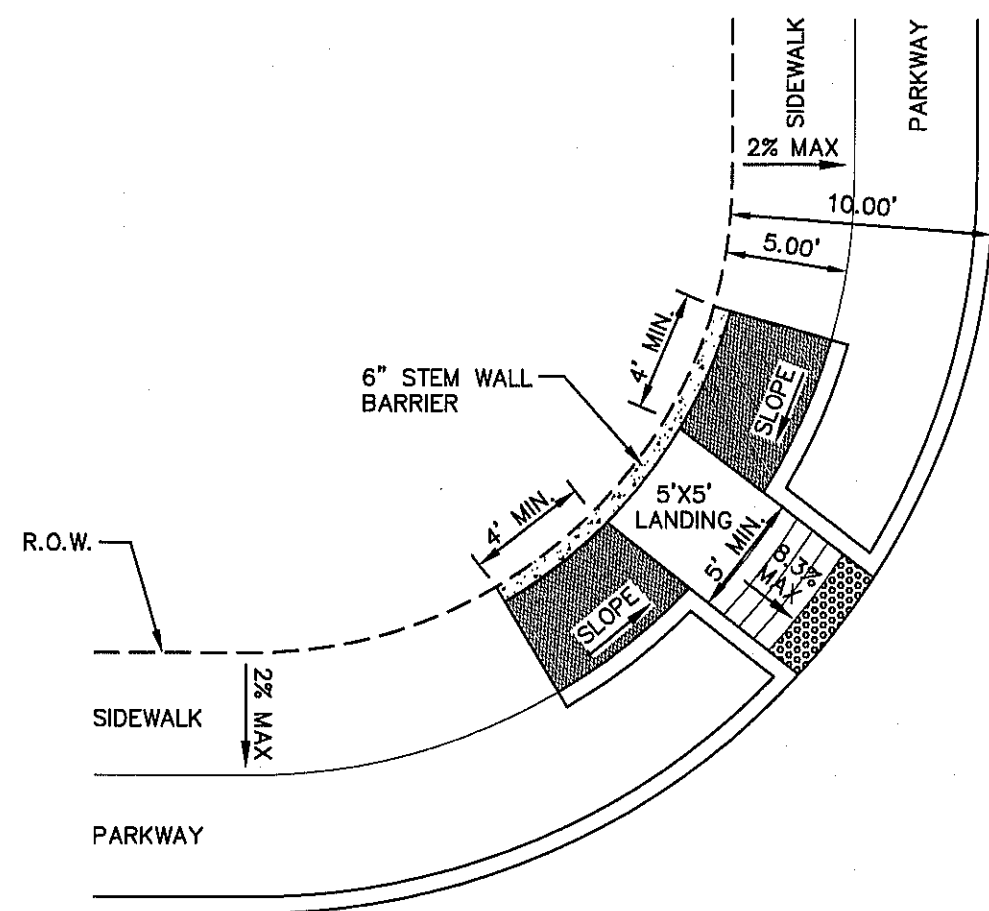
STANDARD DETAILS

(SHEET 1 OF 2)

SHEET NO.

C8.1

1 DIAGONAL CURB RAMP (FLARED SIDES) (TYPE V)
SCALE: NTS



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

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.



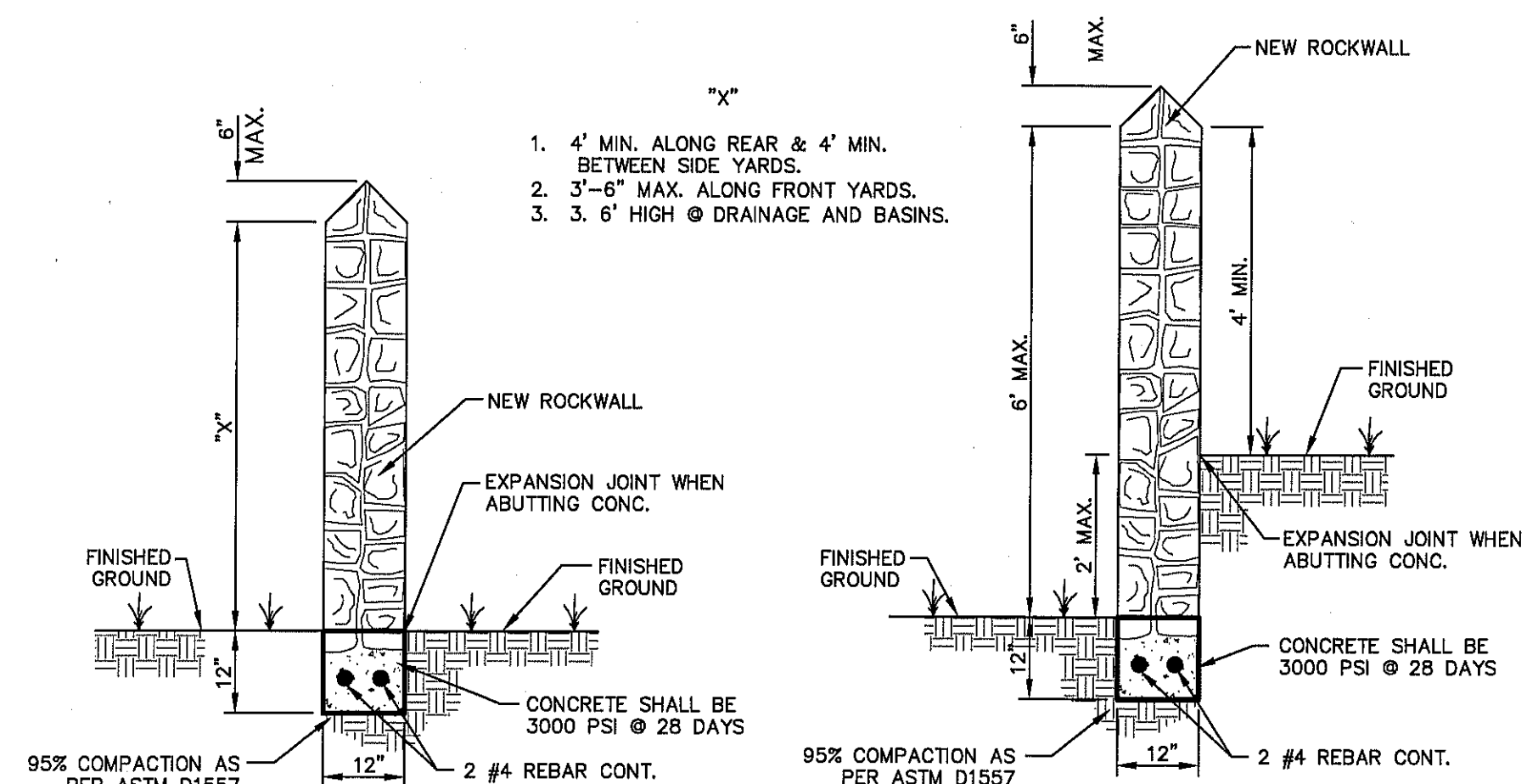
DETECTABLE WARNING SURFACE SHALL CONSIST OF RAISED TRUNCATED DOMES WITH A NOMINAL DIAMETER OF 0.9 IN, A NOMINAL HEIGHT OF 0.2 IN AND A CENTER TO CENTER NOMINAL SPACING OF 2.35 IN, AND SHALL NOT BE STAGGERED. THE SURFACE SHALL HAVE A COLOR CONTRAST VISUALLY WITH ADJOINING SURFACES.

- 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 SIDEWALKS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER.
 - 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 DOMED 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).

NOTE:

WITHIN SUBDIVISION LIMITS: ALL EXISTING AND PROPOSED SIDEWALKS, BARRIER FREE RAMPS, HANDICAP PARKINGS, DRIVEWAY CROSSWALKS, DRIVEWAYS AND ACCESSIBLE ROUTES SHALL COMPLY WITH A.D.A., T.A.S AND CITY OF EL PASO REQUIREMENTS. EXISTING INFRASTRUCTURE NOT COMPLYING SHALL BE REMOVED AND REPLACED TO MEET STANDARDS.

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

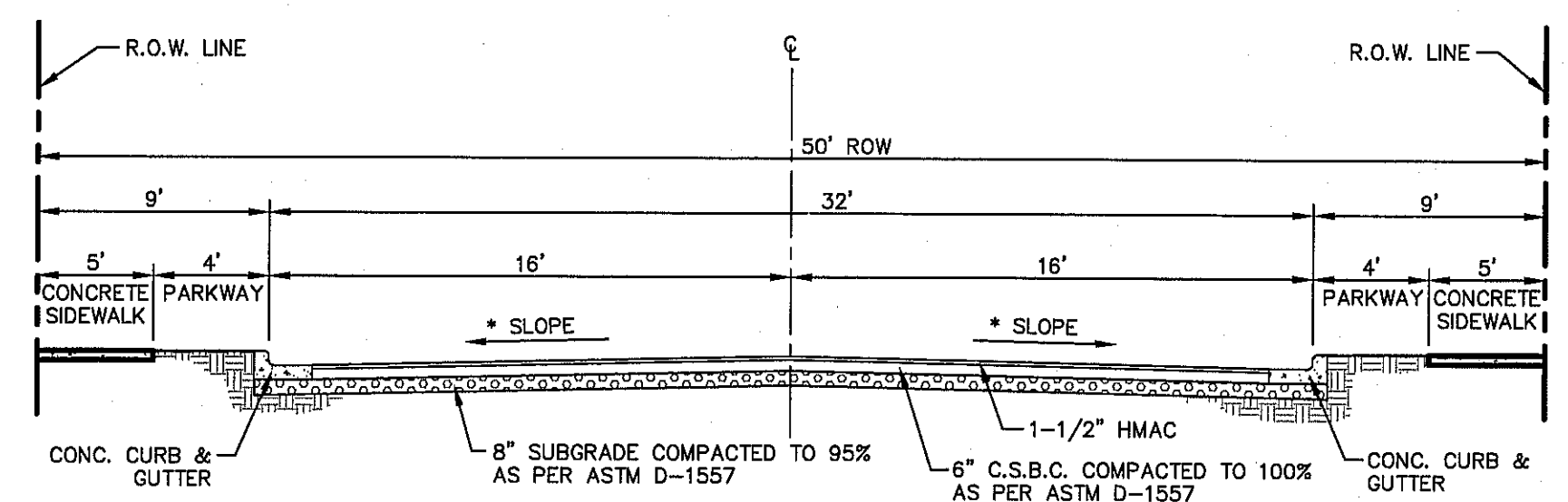


GARDEN WALL SECTION

GARDEN WALL SECTION (2' MAX.)

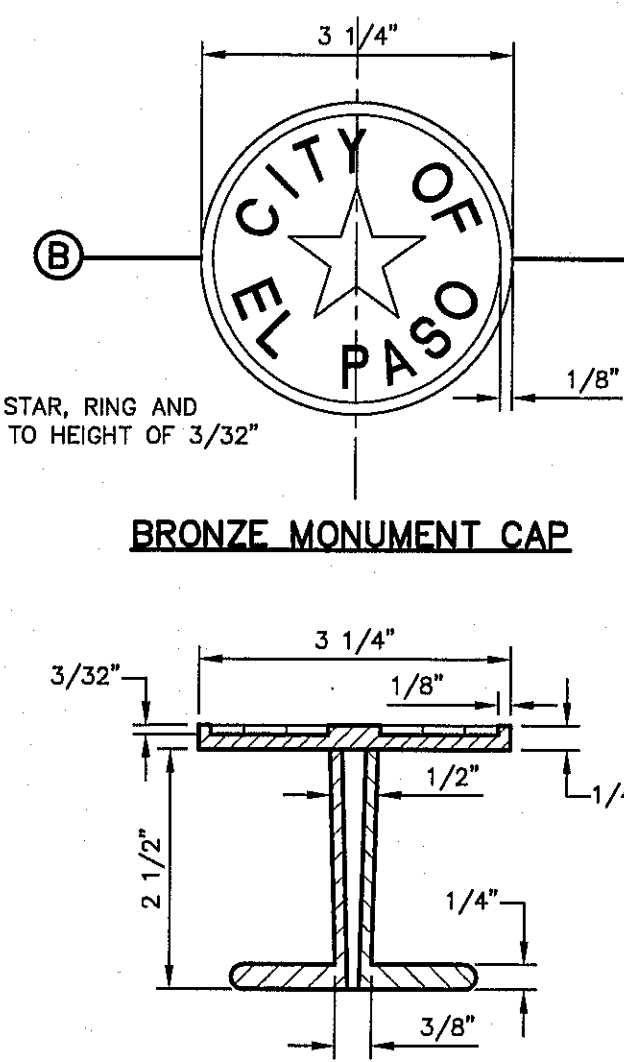
- ROCK WALL NOTES**
- STONE FOR ROCKWALL SHALL BE AS NEARLY UNIFORM IN SECTIONS AS IN PRACTICABLE THE STONE SHALL BE DENSE AND RESISTANT OF AIR AND WATER.
 - MORTAR MUST BE TYPE "S": 1800 P.S.I. AS PER ASTM C270.
 - MASONRY WALL OVER SIX (6) FEET IN HEIGHT AND THOSE USED FOR EARTH RETENTION OVER TWO (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	
4'1"	2'-6"
4'	2'-10"
5'	3'-3"
6'	3'-8"
7'	4'-0"
8'	4'-5"
9'	4'-10"

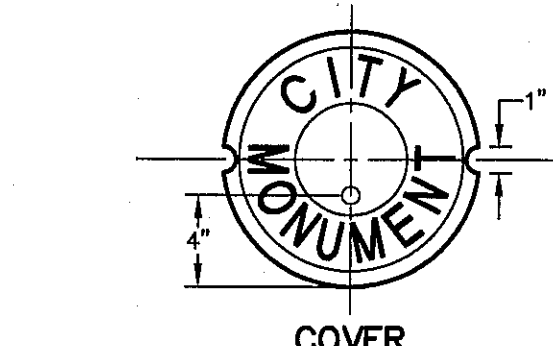


- NOTES:**
- (*) STREET TRANSVERSE SLOPE AS SHOWN IN PLANS
 - SIDEWALK WIDTH IS REQUIRED TO COMPLY WITH ADA/TAS REGULATIONS.
 - STREET IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT CITY OF EL PASO PAVING CONSTRUCTION DETAILS AND STANDARD SPECIFICATIONS: CBR @ EVERY 500' RESULTS TO BE SUBMITTED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

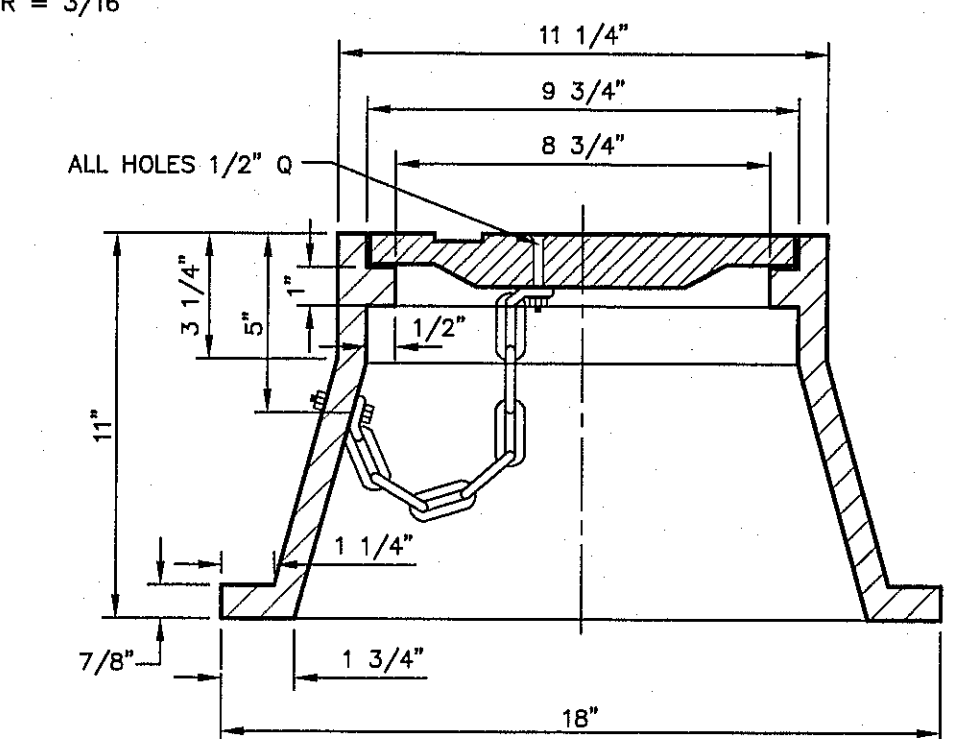
3 TYPICAL ROCKWALL DETAILS
SCALE: 1" = 2'-0"



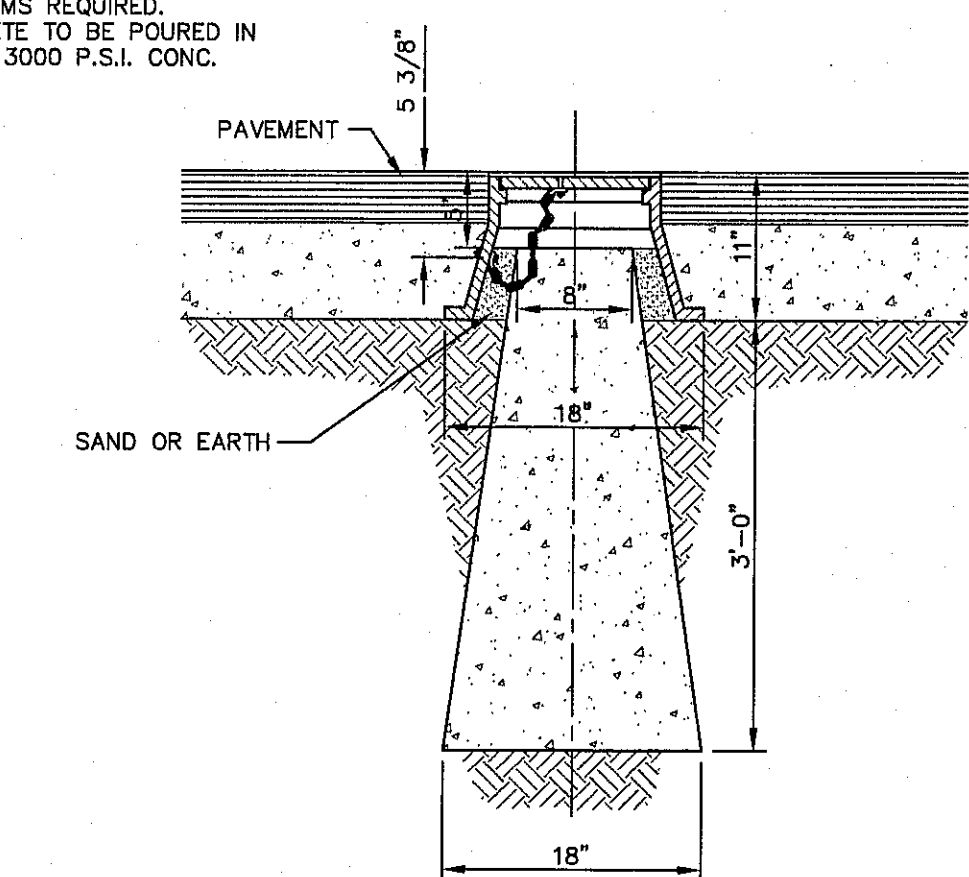
BRONZE MONUMENT CAP



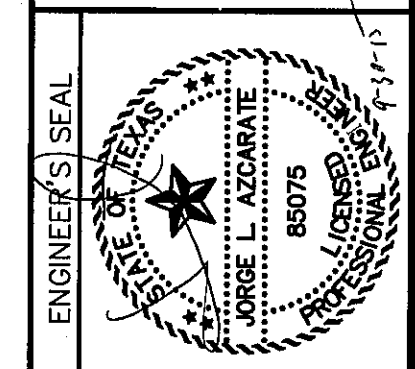
COVER



MONUMENT BOX



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



SCALE: N/A
Horizontal: N/A
Vertical: N/A
Contour interval: N/A
DATE: AUGUST 2015
DESIGN BY: R.O.
DRAWN BY: R.O.
CHKD. BY: J.L.A.
APP'D. BY: J.L.A.
JOB NO.: 2000-1921D

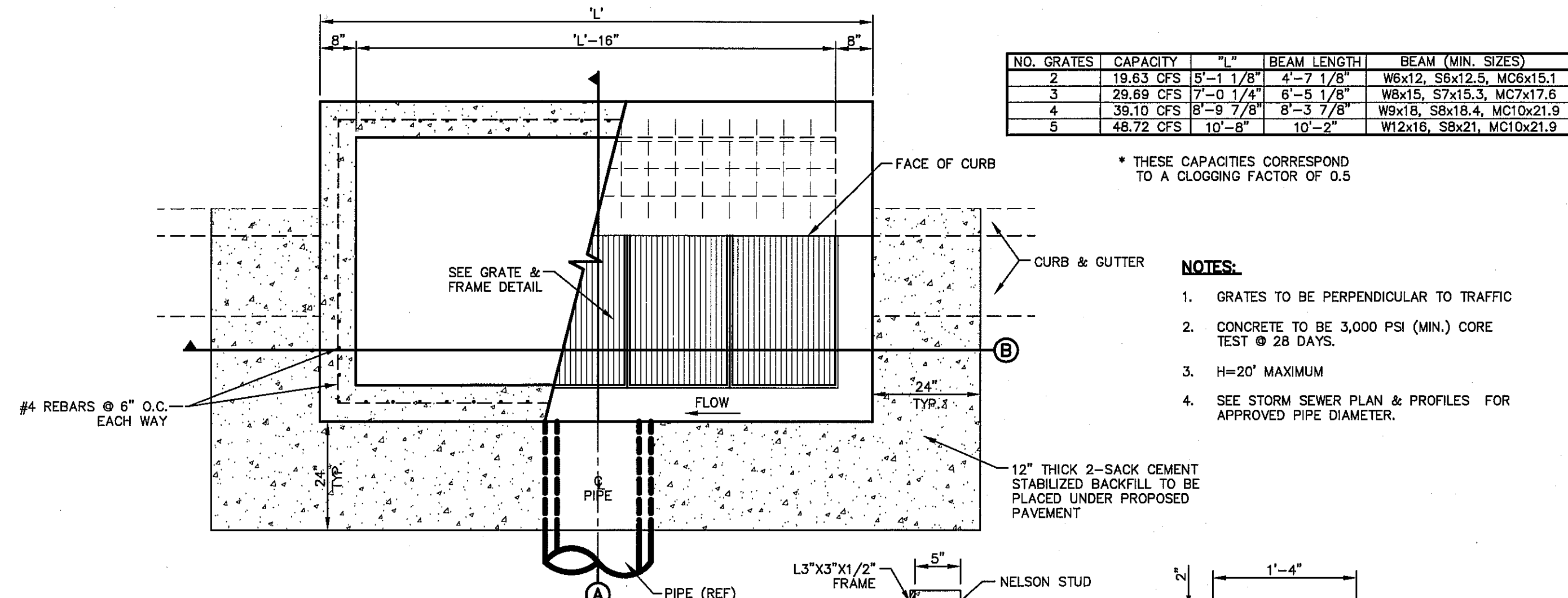
PROJECT TITLE
LA PUESTA DEL SOL
UNIT TWO
SUBDIVISION IMPROVEMENTS

SHEET TITLE

STANDARD
DETAILS

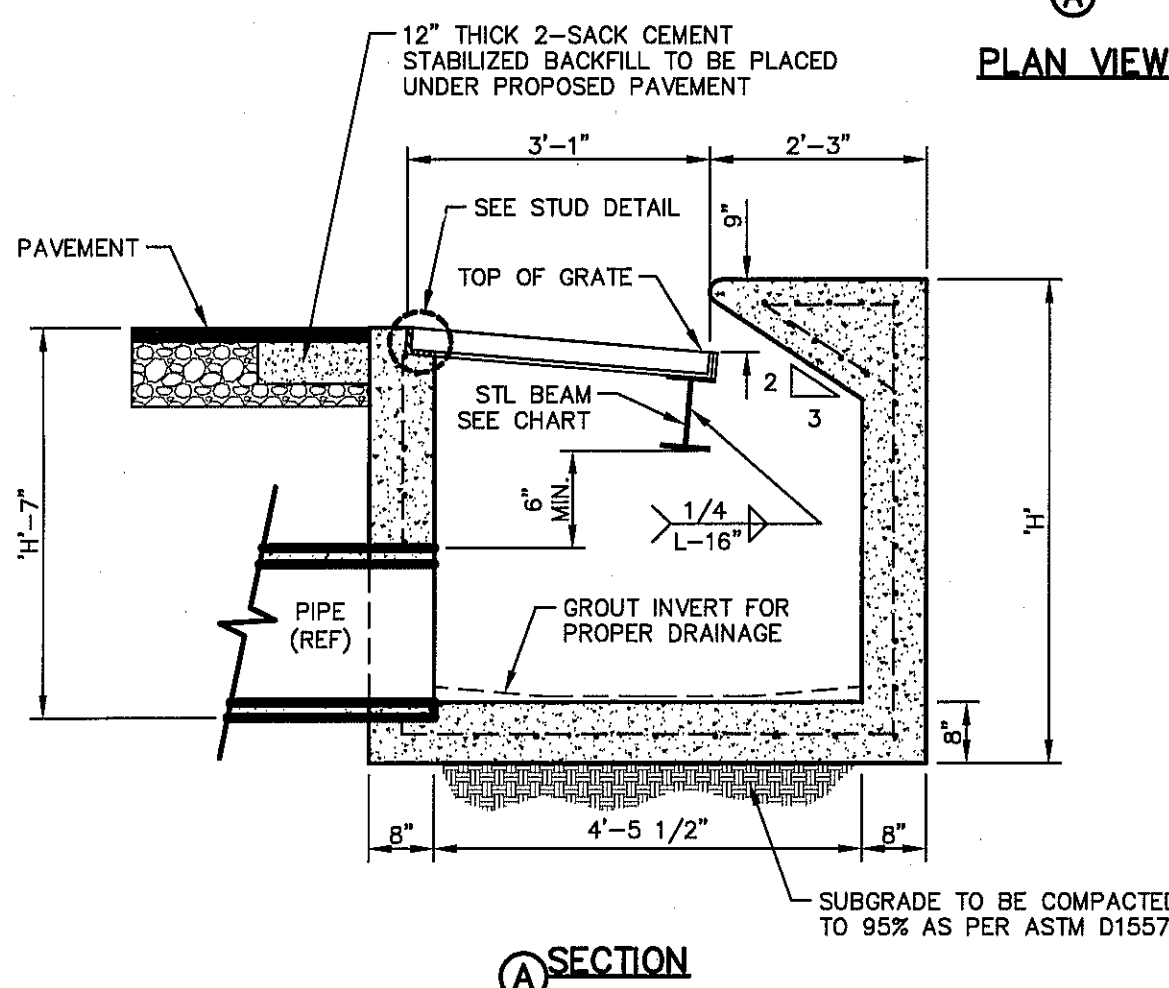
(SHEET 2 OF 2)
SHEET NO.

C8.2

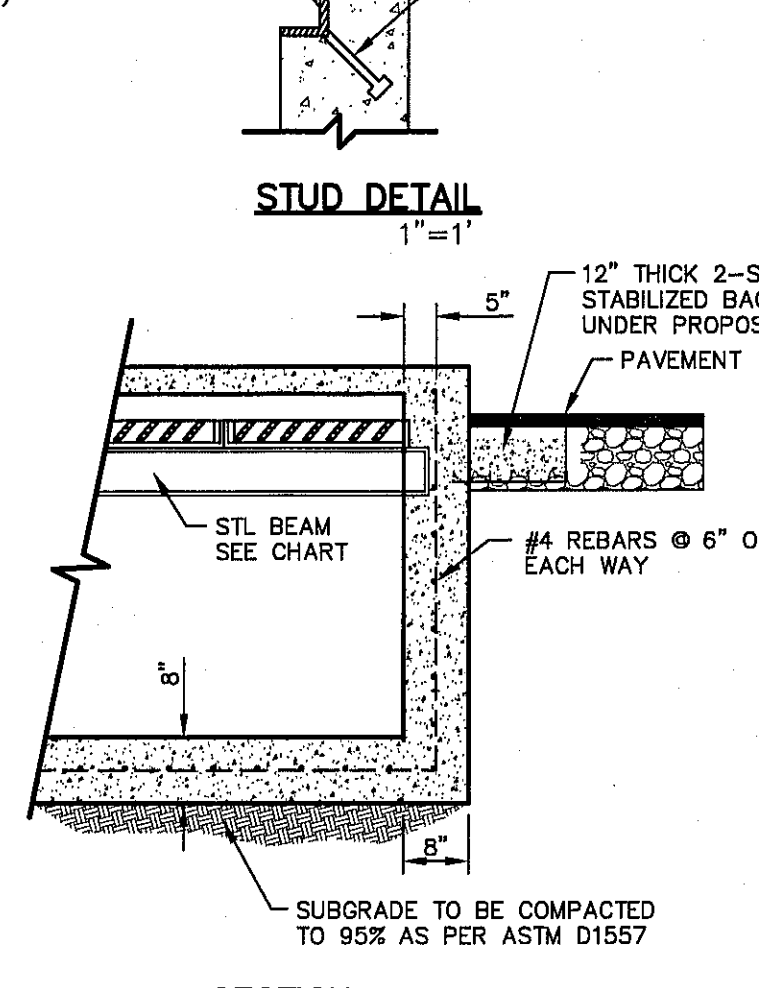


NOTES:

- 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.

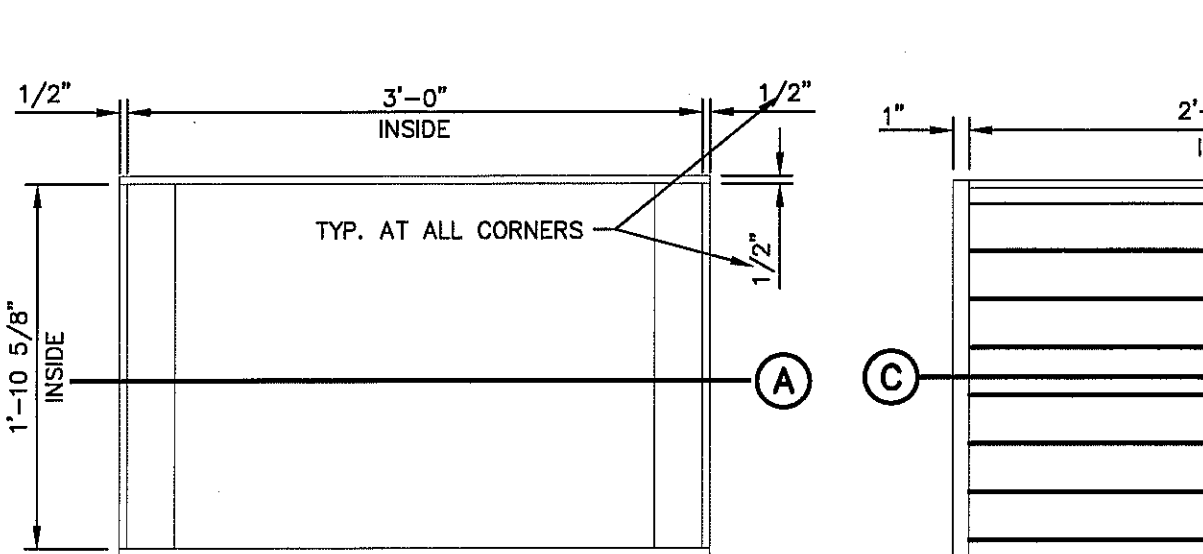


SECTION A

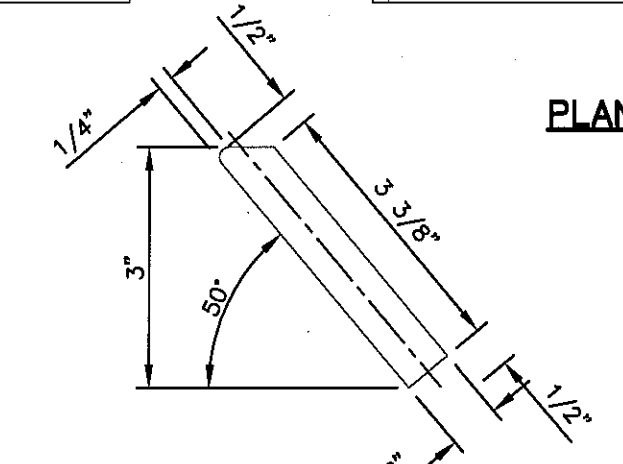


SECTION B

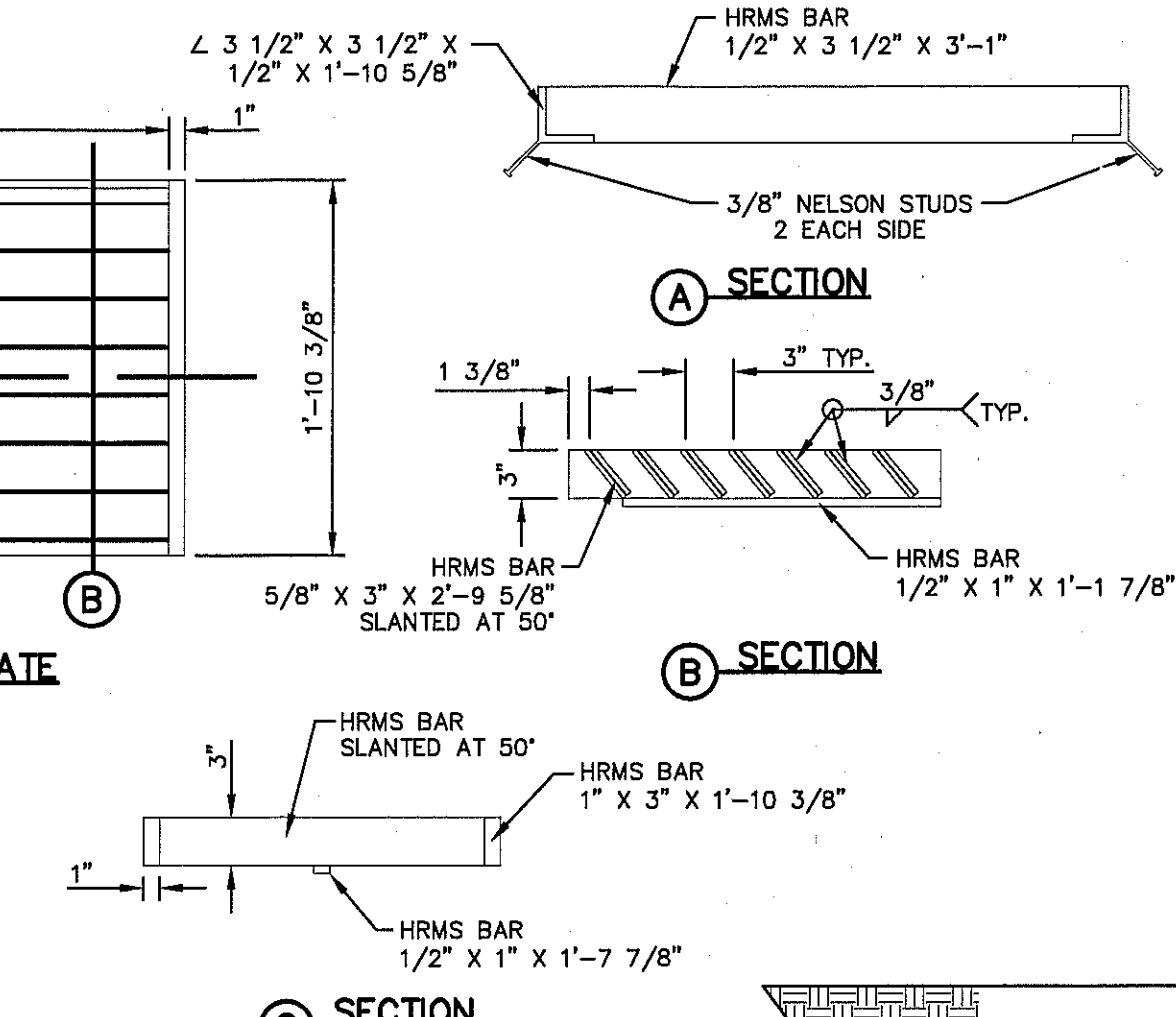
1 DROP INLET (TYPE I) DETAILS
SCALE: 1" = 2'-0"



PLAN - FRAME



PLAN - GRATE



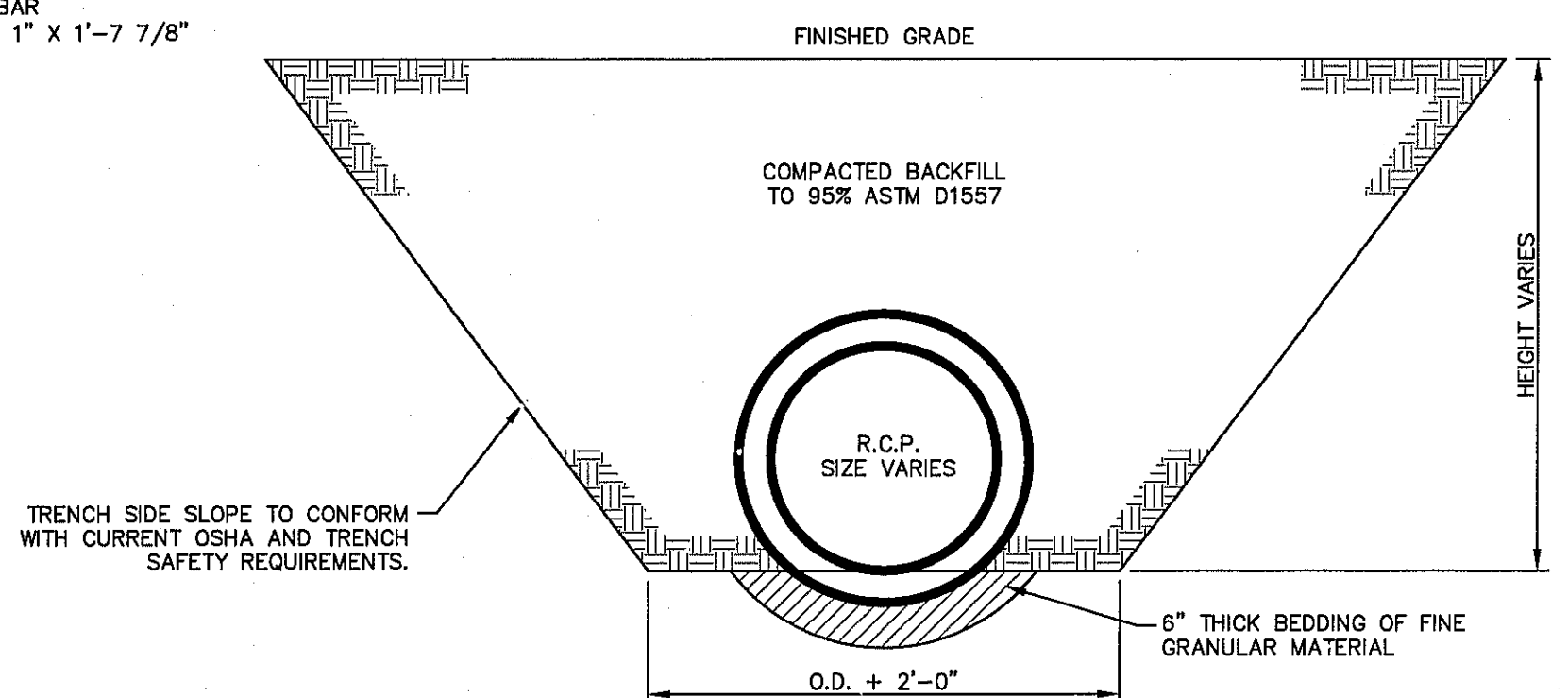
SECTION A

SECTION B

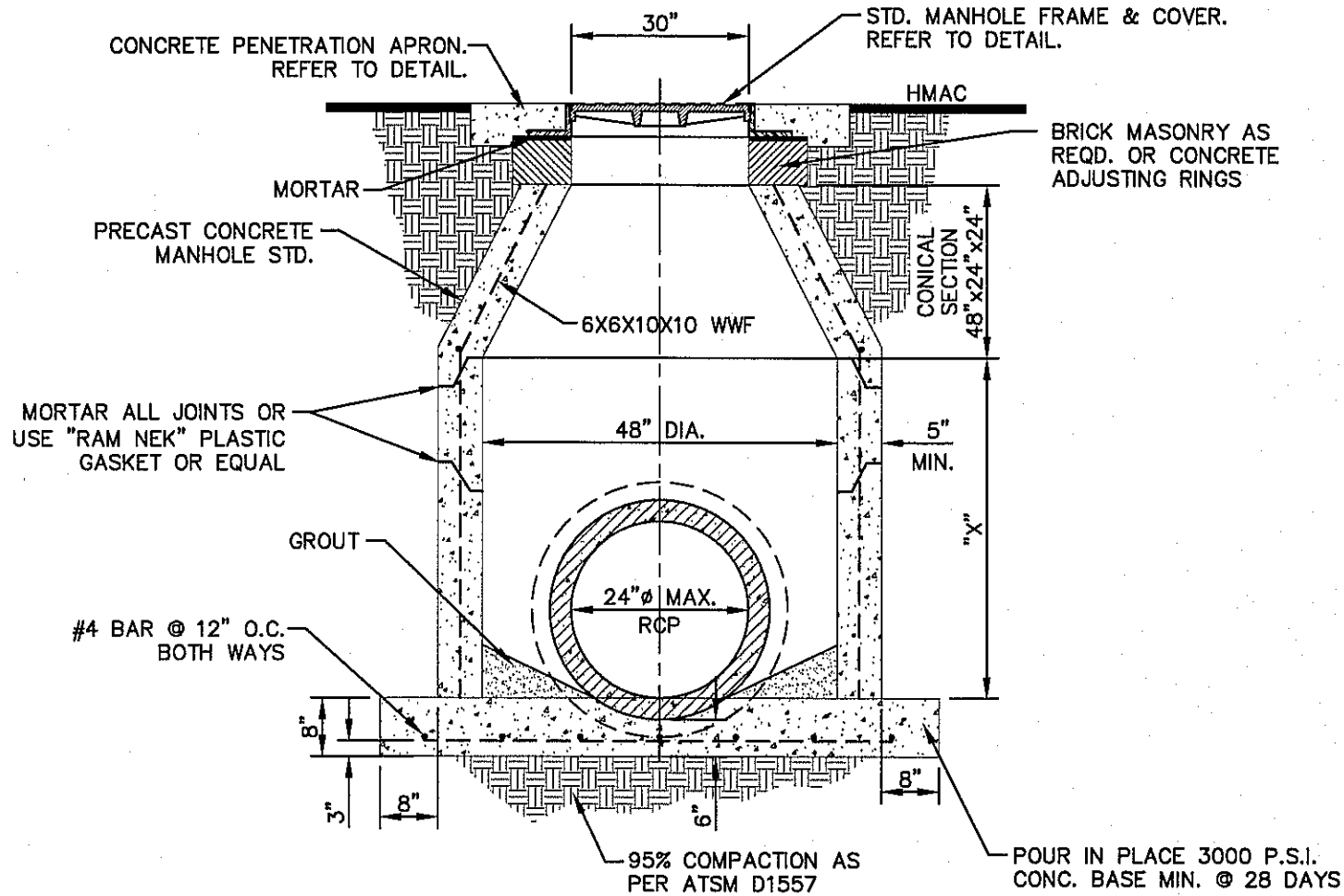
SECTION C

SLANTED BAR DETAIL

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



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



48" STANDARD MANHOLE DETAIL
SCALE: N.T.S.

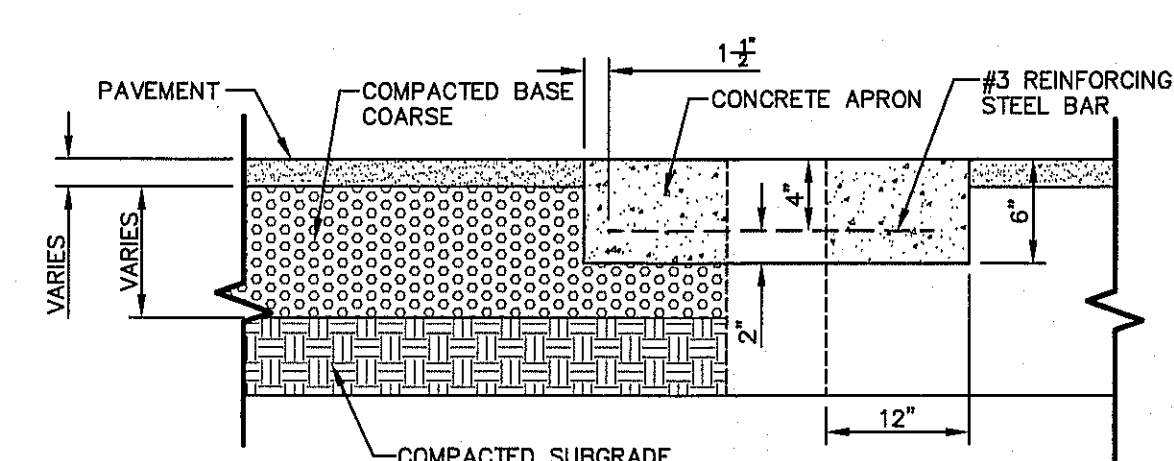
CONCRETE APRON FOR CIRCULAR PENETRATIONS IN ASPHALT PAVEMENTS				
"D" DIAMETER OF PENETRATION (INCHES)	"A" CONCRETE HORIZONTAL DIMENSION FROM PENETRATION (INCHES)	NUMBER OF NO. 3 REINFORCING STEEL BARS (QUANTITY)	"B" MINIMUM CLEARANCE FROM EDGE OF CONCRETE APRON TO CENTER OF NEAREST REBAR (INCHES)	"C" 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:

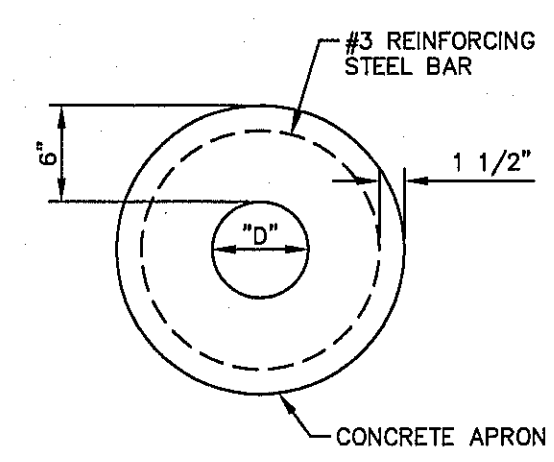
- ANY DISTURBED SUBGRADE UNDER THE CONCRETE APRON SHALL BE COMPACTED TO 95% DENSITY ±3% OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D-1557.
- ANY DISTURBED COARSE UNDER THE CONCRETE APRON SHALL BE COMPACTED TO 100% DENSITY ±2% OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D-1557.
- PROVIDE A 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:

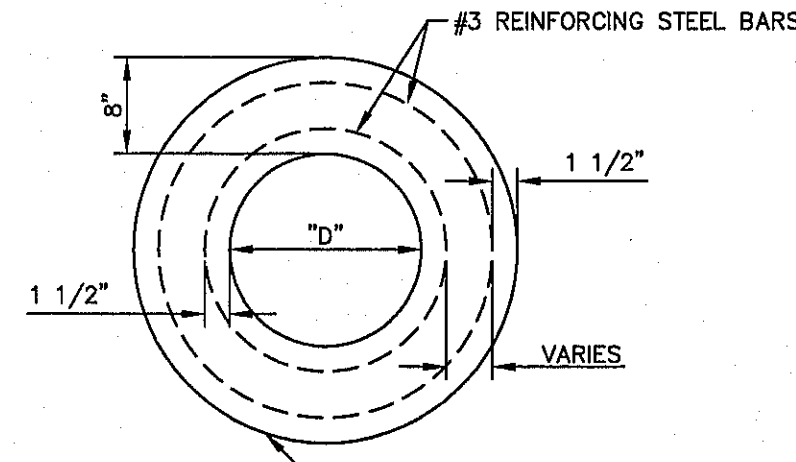
- THE PENETRATION APRON SHOULD BE CAST IN-PLACE CONCRETE. (MINIMUM 28 DAY COMPRESSIVE STRENGTH 4000 PSI. HIGH EARLY CONCRETE IS REQUIRED).
- TOPS OF PENETRATION APRON SHALL BE FLUSH WITH ROADWAY SURFACE OR FINISHED GRADE UNLESS OTHERWISE SPECIFIED BY THE CITY ENGINEER.



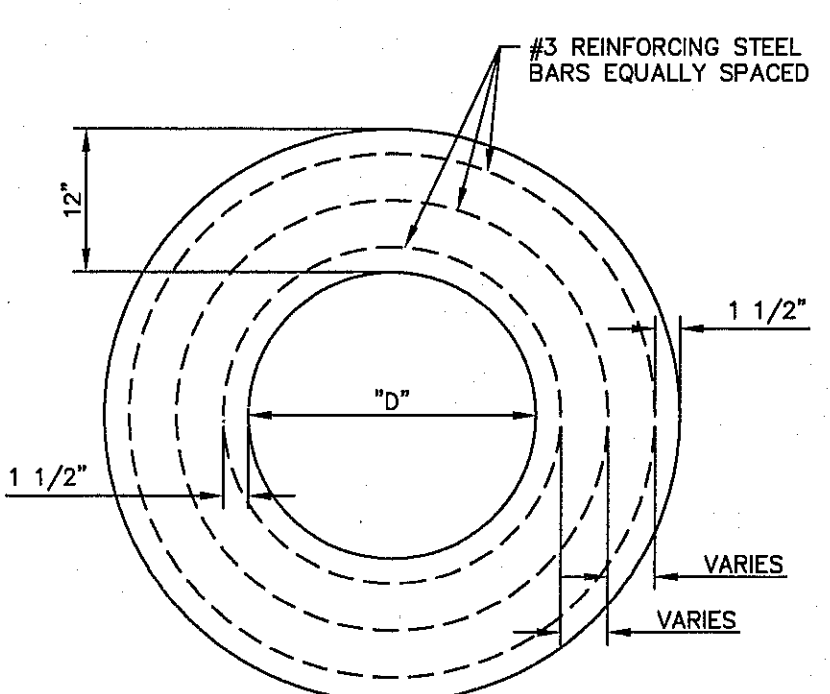
SECTION



PLAN VIEW - SINGLE REBAR



PLAN VIEW - 2 REBAR



PLAN VIEW - 3 REBAR

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

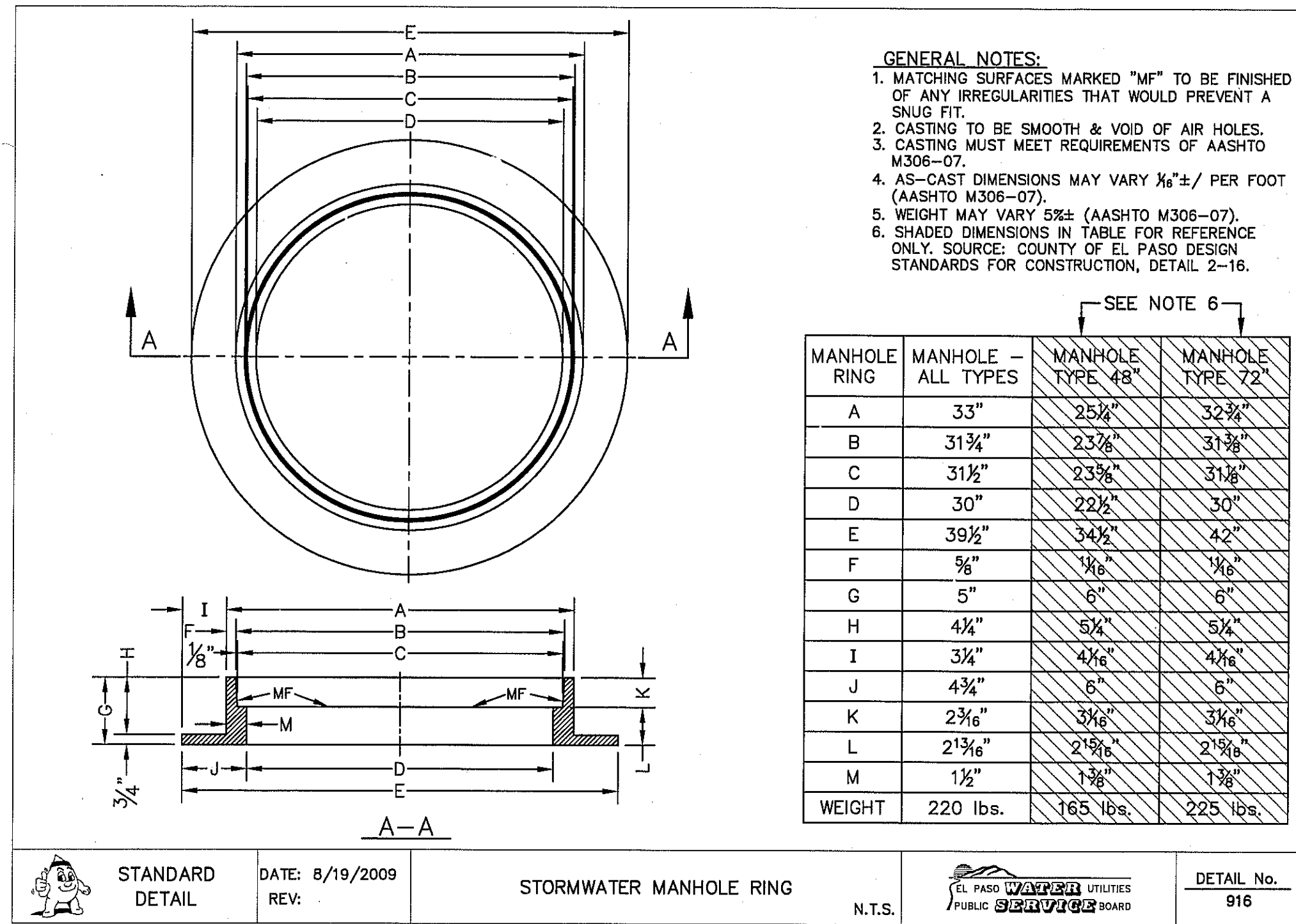
DROP INLET GENERAL NOTES:

- 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 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.
- 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 COMPOSE 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-538, 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.
- FERRUS 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 DERESSED 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 OF ALL INLETS WITHIN THE STREET PAVEMENT MUST BE CONSTRUCTED WITH THE GRATE BARS PERPENDICULAR TO THE CURB.

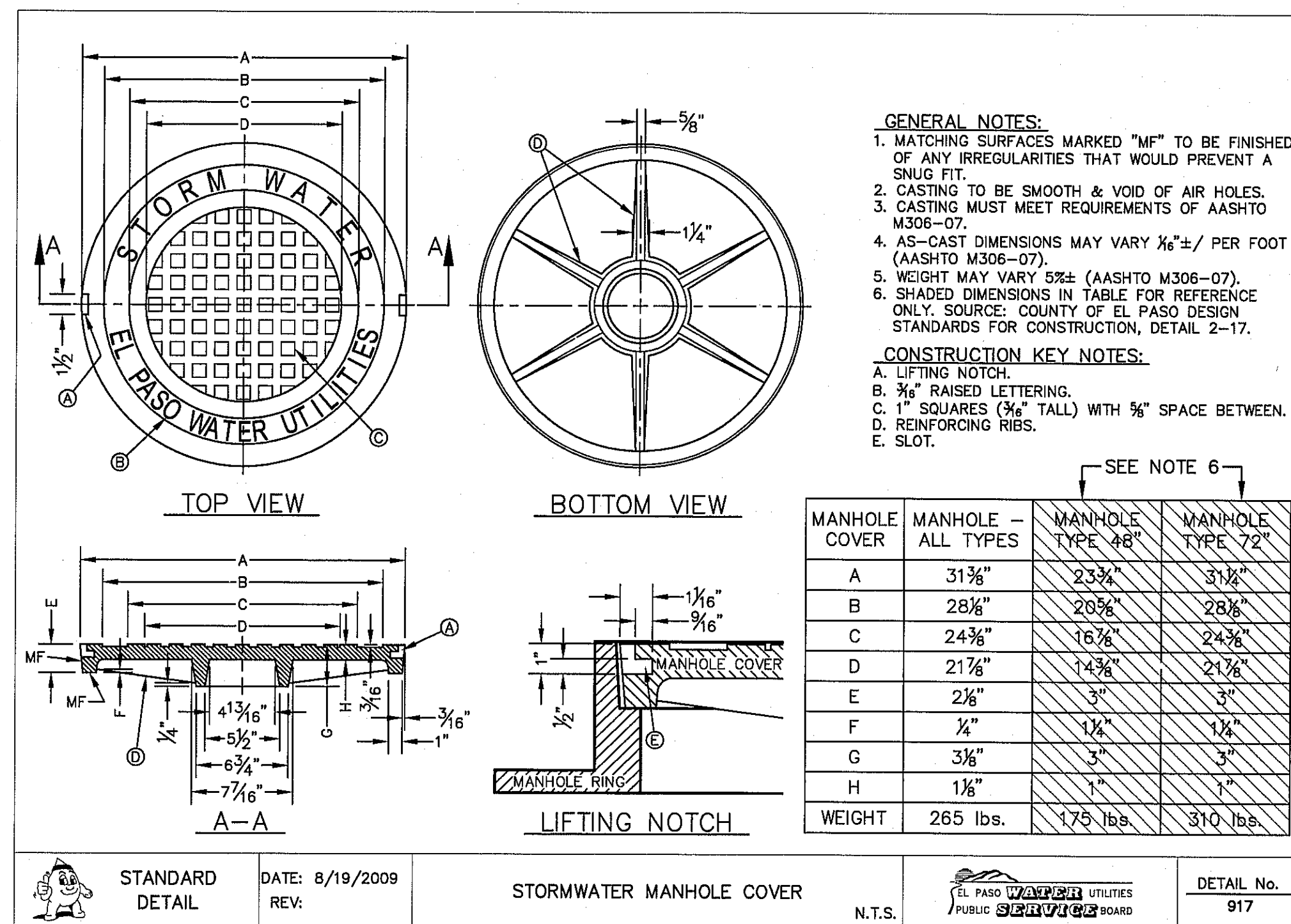


Final Approval

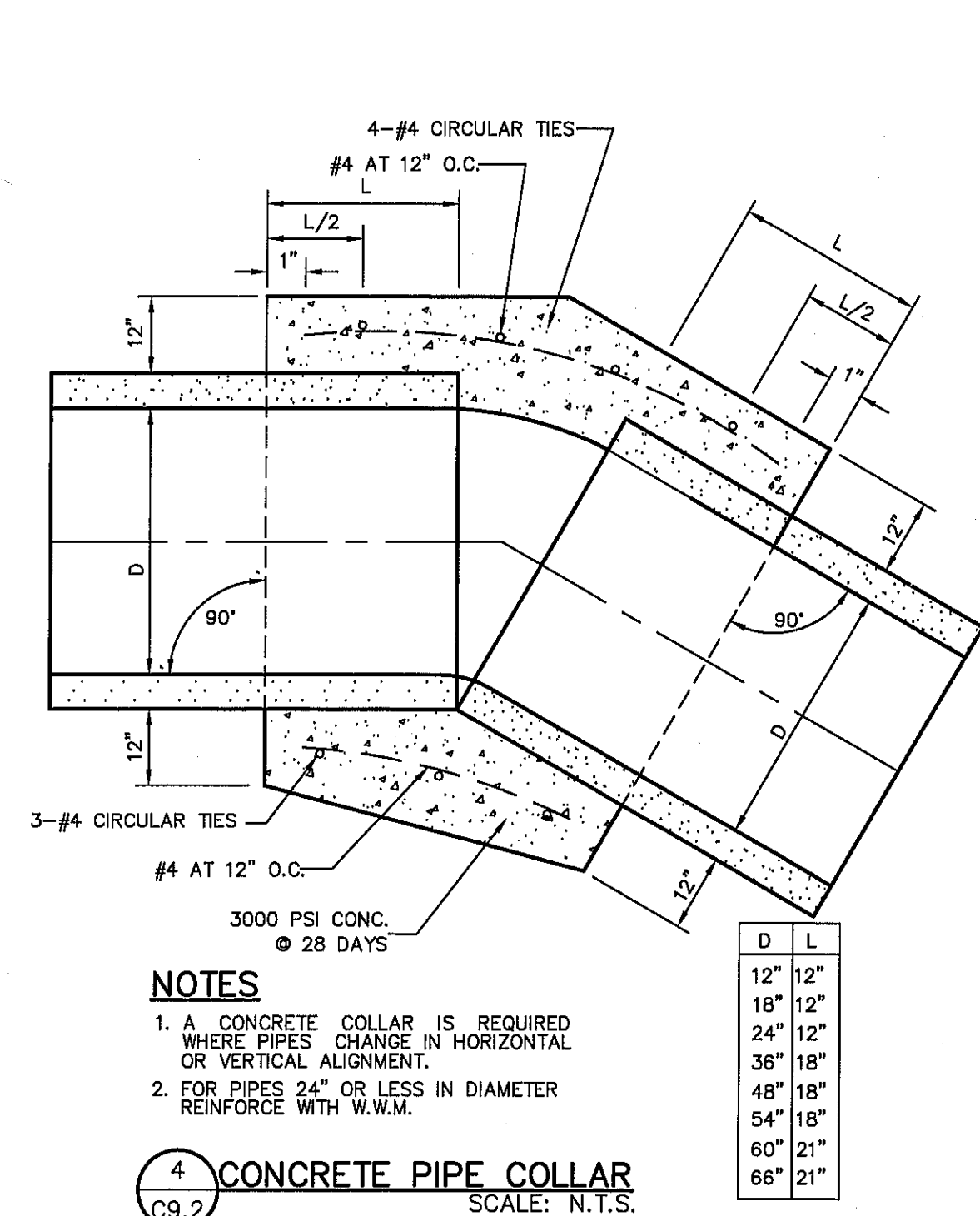
REFERENCES - BENCHMARKS		CITY MONUMENT AT THE INTERSECTION OF PASO DEL NORTE & NORTHWESTERN. ELEVATION = 3887.39 (NOTED). THIS IS BASED ON NGMS MONUMENT (CHNG ELEVATION = 3935.49 (CITY DATA))	
DATE	REVISIONS	BY	
engineers • architects • planners TEXAS REGISTERED ENGINEERING FIRM F-4564 4712 Woodrow Bean, Ste. F El Paso, TX 79924 Office 915.544.5222 Fax 915.544.5233 www.candaplanet.com			
PROJECT TITLE			
SUNSET TERRACE UNIT FIVE SUBDIVISION IMPROVEMENTS			
SHEET TITLE			
DRAINAGE DETAILS			
(SHEET 1 OF 2)			
SHEET NO.			
C9.1			



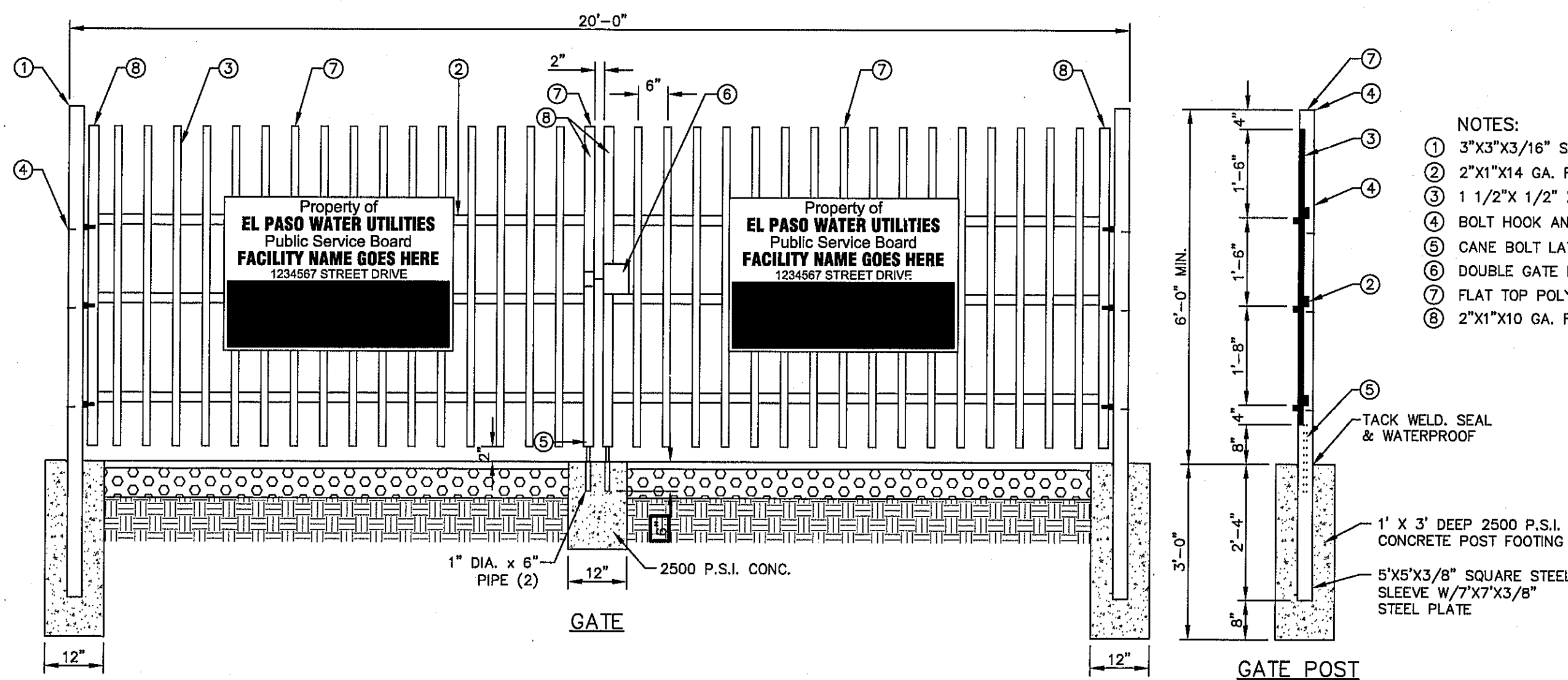
1 STORMWATER MANHOLE RING
C9.2 N.T.S.



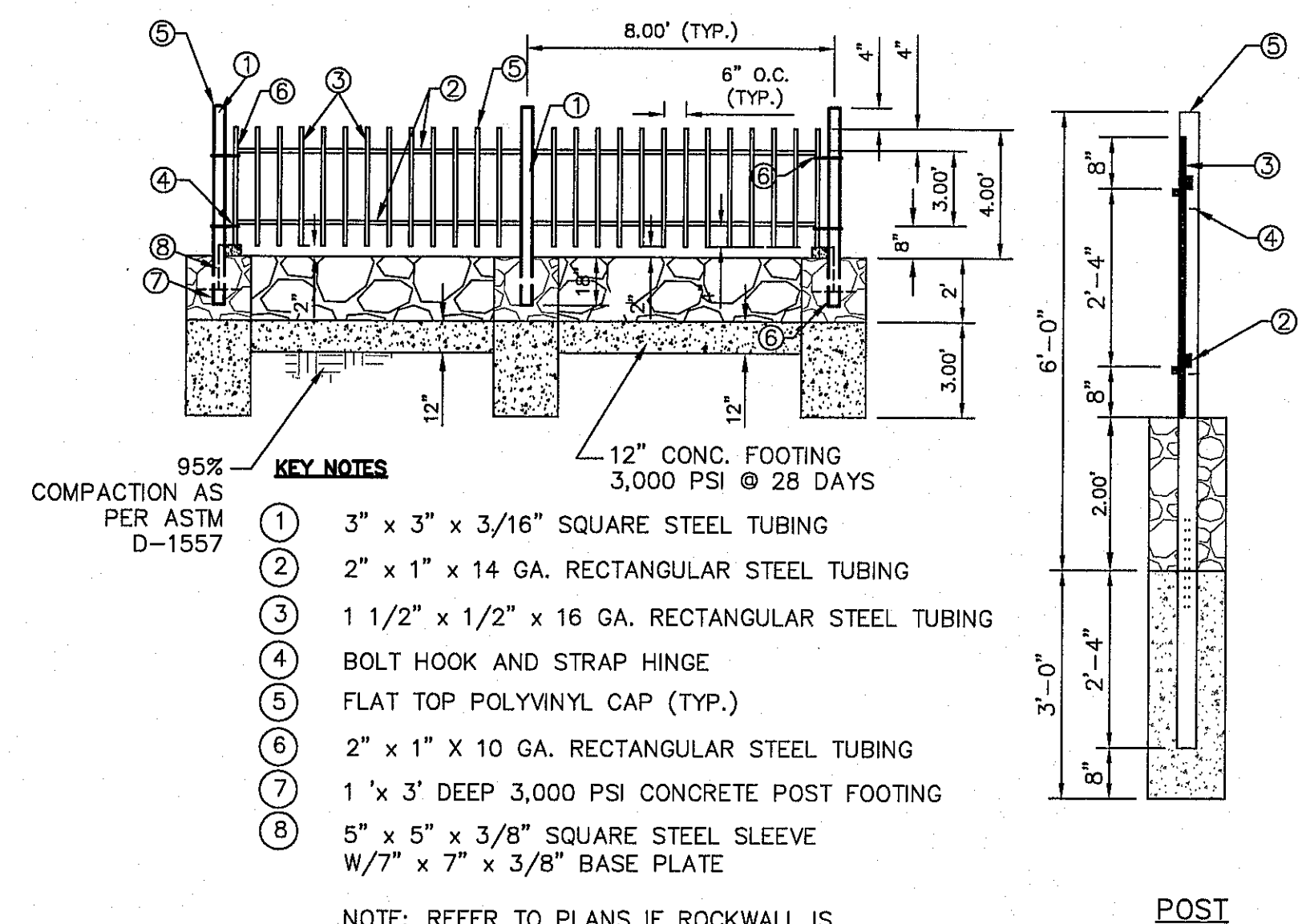
2 STORMWATER MANHOLE COVER
C9.2 N.T.S.



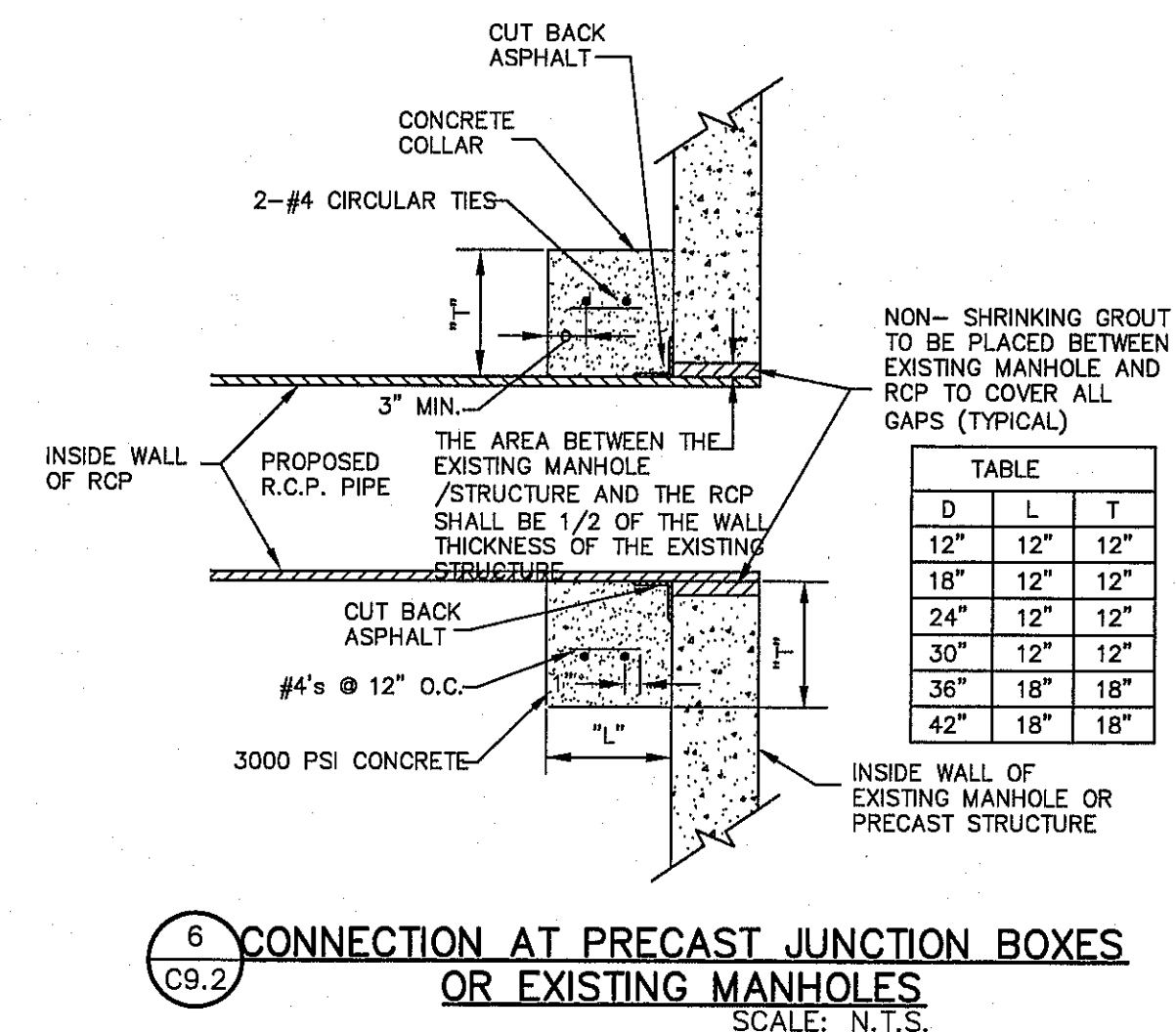
4 CONCRETE PIPE COLLAR
C9.2 SCALE: N.T.S.



5 WROUGHT IRON GATE
C9.2 SCALE: N.T.S.



3 TYPICAL ROCKWALL W/ WROUGHT IRON FENCE DETAILS
C9.2 SCALE: N.T.S.



6 CONNECTION AT PRECAST JUNCTION BOXES OR EXISTING MANHOLES
C9.2 SCALE: N.T.S.

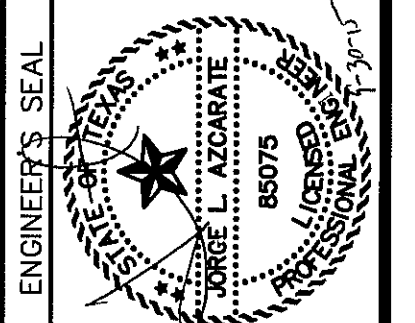


7 NO TRESPASSING WARNING SIGN
C9.2 SCALE: N.T.S.



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	

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Office 915.544.5232 Fax 915.544.5233 www.csaengineers.com



SCALE	N/A
Horizontal:	N/A
Vertical:	N/A
Contour Interval:	N/A
DATE: SEPTEMBER 2015	
DESIGN BY: R.O.	
DRAWN BY: J.L.A.	
CHKD. BY: J.L.A.	
APPROV. BY: J.L.A.	
JOB No. - 2000-1901D	

PROJECT TITLE
**SUNSET TERRACE
UNIT FIVE
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

DRAINAGE DETAILS

(SHEET 2 OF 2)

SHEET NO.

C9.2