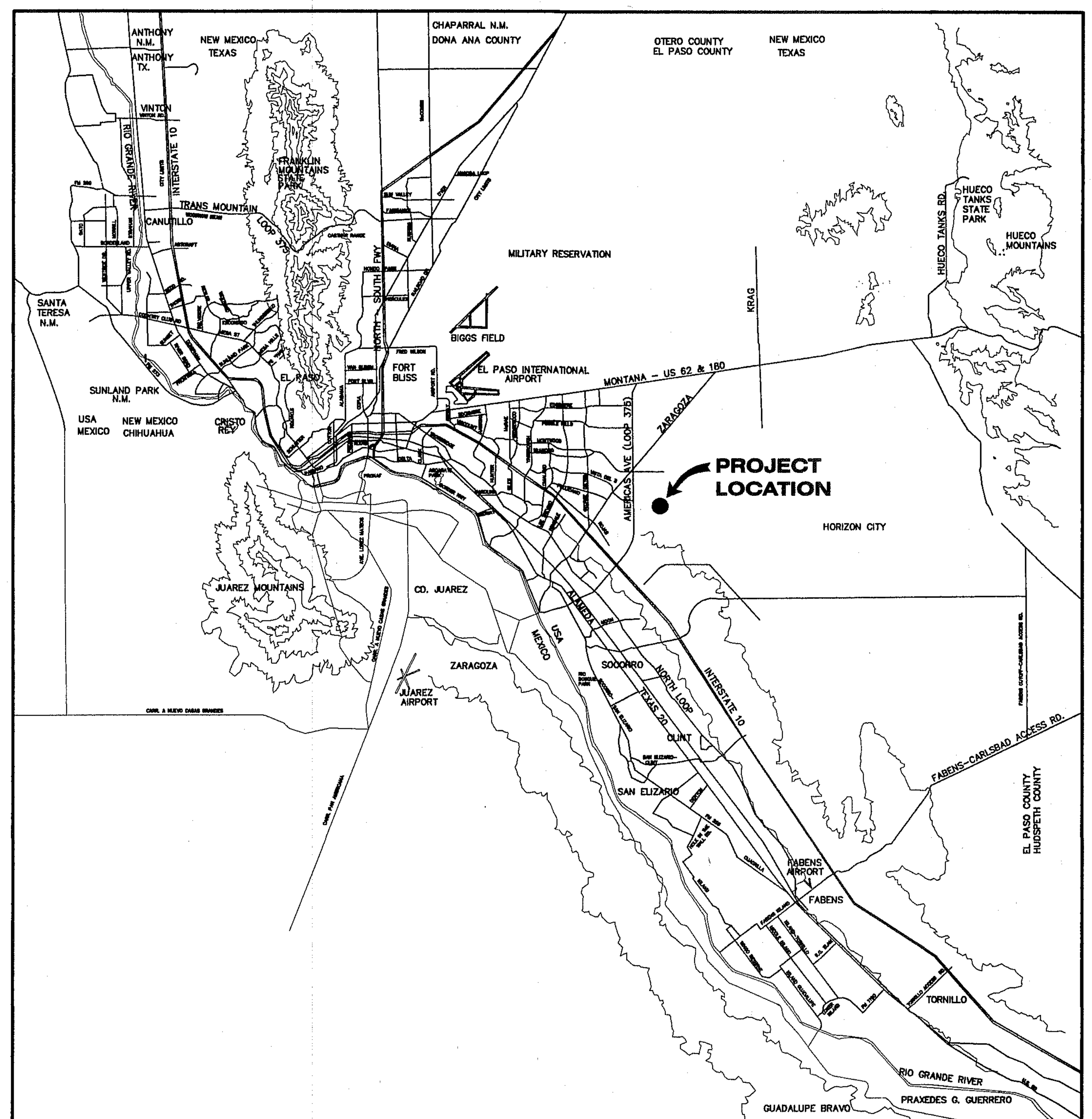
MESQUITE TRAILS UNIT TEN SUBDIVISION IMPROVEMENTS

A PORTION OF SECTION 16, BLOCK 79, TOWNSHIP 3, TEXAS AND PACIFIC RAILWAY COMPANY SURVEYS, CITY OF EL PASO, EL PASO COUNTY, TEXAS CONTAINING 23.139± ACRES



VICINITY MAP
APPROXIMATE SCALE: 1" = 2 MILES

SHEET NUMBER	SHEET TITLE
CVR	COVER SHEET
C1.1	GENERAL INFORMATION
C2.1	FINAL PLAT
C3.1	GRADING PLAN
C4.1	DRAINAGE PLAN
C5.1	GRADING SECTIONS
C6.1–C6.7	STREET PLAN & PROFILES
C7.1–C7.2	STORM SEWER PLAN & PROFILES
C8.1–C8.3	STANDARD DETAILS
C9.1–C9.2	DRAINAGE DETAILS
C10.1–C10.2	ILLUMINATION PLAN / TRAFFIC SIGN DETAILS
C11.1	WATER INDEX / GENERAL INFORMATION
C12.1–C12.4	WATER DETAILS
C13.1	SANITARY SEWER INDEX / GENERAL INFORMATION
C14.1–C14.3	SANITARY SEWER PLAN & PROFILES
C15.1–C15.3	SANITARY SEWER DETAILS
C16.1–C16.3	STORM WATER POLLUTION PREVENTION PLAN

THE CITY OF EL PASO TEXAS
Final Approval

STATE OF TEXAS
JORGE L. AZCARATE
85075
LICENSED PROFESSIONAL ENGINEER

8-12-14

JORGE L. AZCARATE
85075
LICENSED PROFESSIONAL ENGINEER

8-8-14

JORGE L. AZCARATE, P.E. PROJECT MANAGER

cea group
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-4564
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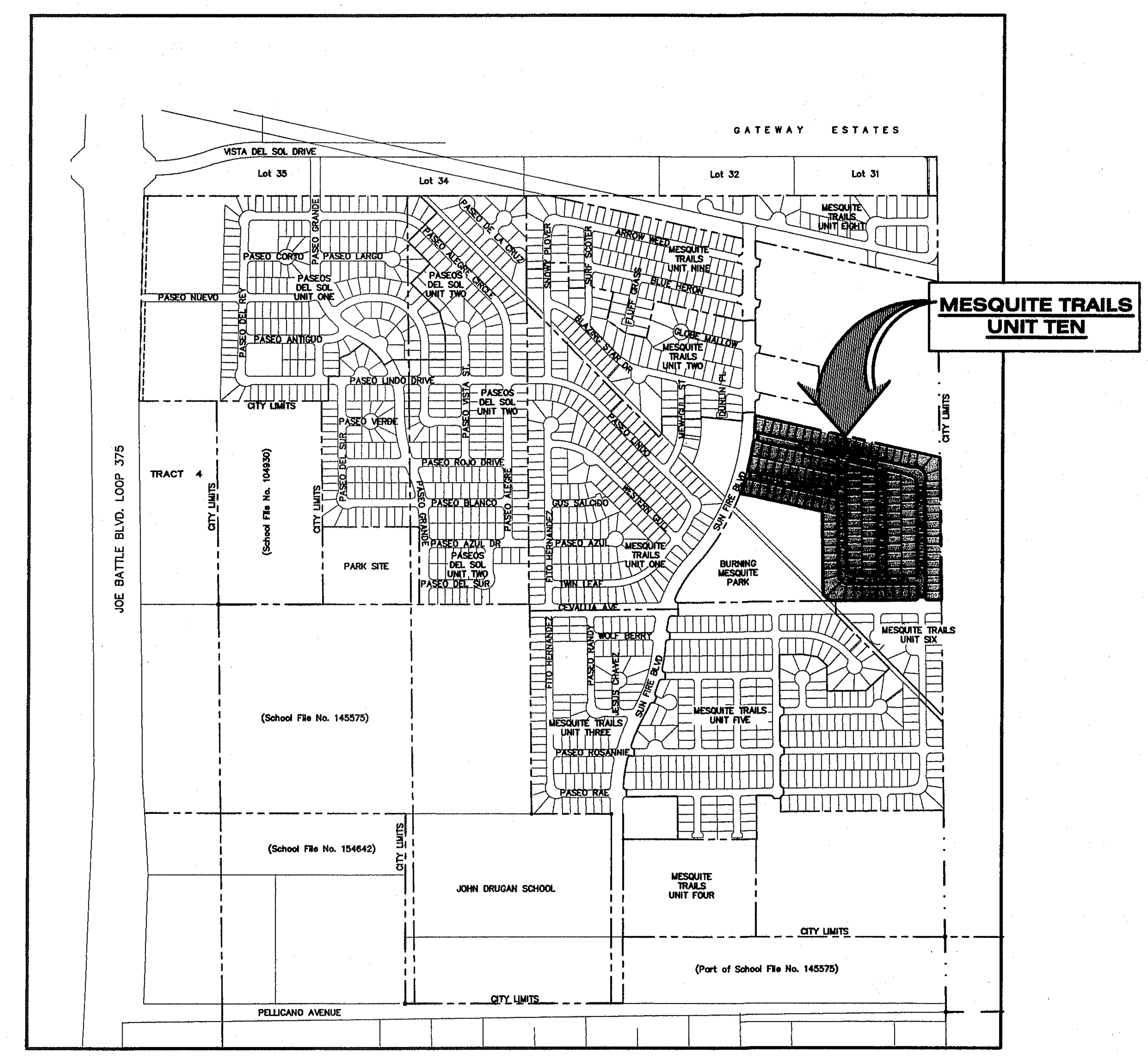

LOCATION MAP
APPROXIMATE SCALE: 1" = 600'

CITY DEVELOPMENT DEPARTMENT
Reviewed For Conformance For Condition Related To:
Sidewalks
Grading & Drainage
Wheelchair Ramps
On Site Parking Layout
Driveways
Retaining Rock Walls
On Site Ponding of Storm Water
Contractor Must Call 24 Hours Prior To Construction for Inspections
By 9/9/14 Date

PRINCIPAL CONTACTS:

	NAME	ADDRESS	CITY & ZIP	PHONE	FAX
OWNER:	AMERICAS LOOP 375 JOINT VENTURE	4655 COHEN AVENUE	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

GENERAL NOTES

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

LEGEND

- SUBDIVISION BOUNDARY
- ROW LINE
- CURB LINE
- PROPERTY LINE
- STREET CENTERLINE
- EASEMENT LINE
- MATCH LINE
- STORM SEWER LINE
- HIGH WATER MARK
- CURB AND GUTTER DROP INLET
- STORM SEWER MANHOLE
- 4000 — FINISHED GROUND CONTOUR ELEVATION (INDEX)
- FINISHED GROUND CONTOUR ELEVATION (INTERMEDIATE)
- 4000 — EXISTING GROUND CONTOUR ELEVATION (INDEX)
- EXISTING GROUND CONTOUR ELEVATION (INTERMEDIATE)
- NEW RETAINING ROCKWALL (2'-3' IN HEIGHT)
- NEW RETAINING ROCKWALL (3'-9' IN HEIGHT)
- X / X — STANDARD DETAIL/SECTION NUMBER; SHEET NUMBER WHERE STANDARD/SECTION DETAIL IS LOCATED
- 4000.00 — FINISHED SPOT ELEVATION
- FG. 56.00 — LOT FINISHED GROUND ELEVATION
- TC 4000.00 — TOP OF CURB ELEVATION
- TP 4000.00 — TOP OF PAVEMENT ELEVATION
- 1 (2) — SUBDIVISION LOT AND BLOCK NUMBER
- DRAINAGE FLOW
- HIGH POINT
- LOW POINT
- EXISTING HIGH POINT
- EXISTING LOW POINT
- HEADWALL WITH WINGWALLS
- DA-4 — DRAINAGE AREA
- 3:1 SLOPE — HORIZONTAL:VERTICAL SLOPE RATIO
- WHEELCHAIR RAMP

GRADING SPECIFICATIONS

1. CLEARING AND GRUBBING: CLEAR SITE OF TREES, SHRUBS AND OTHER VEGETATION; COMPLETELY REMOVE STUMPS, ROOTS AND OTHER DEBRIS PROTUDING THROUGH GROUND SURFACE; FILL DEPPRESIONS 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 NECCESSARY TO FACILITATE NEW CONSTRUCTION. BURNING IS NOT PERMITED 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

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

INDEX OF DRAWINGS

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.
4. CONTRACTOR SHALL CONSTRUCT TEMPORARY SLOPES BETWEEN LOTS THAT HAVE A VERTICAL GRADE DIFFERENTIAL OF OVER 4-FEET.

Final Approval

REFERENCES – BENCHMARKS
BENCHMARK IS CITY MONUMENT AT THE INTERSECTION OF JOSIE TINAJERO ALLEGRE DR. AND PASEO LINDO DR.
ELEVATION = 4003.10 FEET (CITY DATUM).

DATE	REVISIONS	BY

cea group
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-4624
4712 Woodrow Bean, Ste. F El Paso, TX 79924
Office 915.544.3232 Fax 915.544.3233 www.ceagroup.net

ENGINEER'S SEAL
STATE OF TEXAS — JORGE L. AZCARATE — 85075 — LICENSED PROFESSIONAL ENGINEER — 9-17-14

SCALE	
Horizontal:	N/A
Vertical:	N/A
Contour Interval:	N/A
DATE:	JUNE 2014
DESIGN BY:	A.C.
DRAWN BY:	A.C./F.S.
CHKD. BY:	J.L.A.
APPV'D. BY:	J.L.A.
JOB No.	2000-181LD

PROJECT TITLE
MESQUITE TRAILS
UNIT TEN
SUBDIVISION IMPROVEMENTS

SHEET TITLE
GENERAL INFORMATION

SHEET NO.
C1.1

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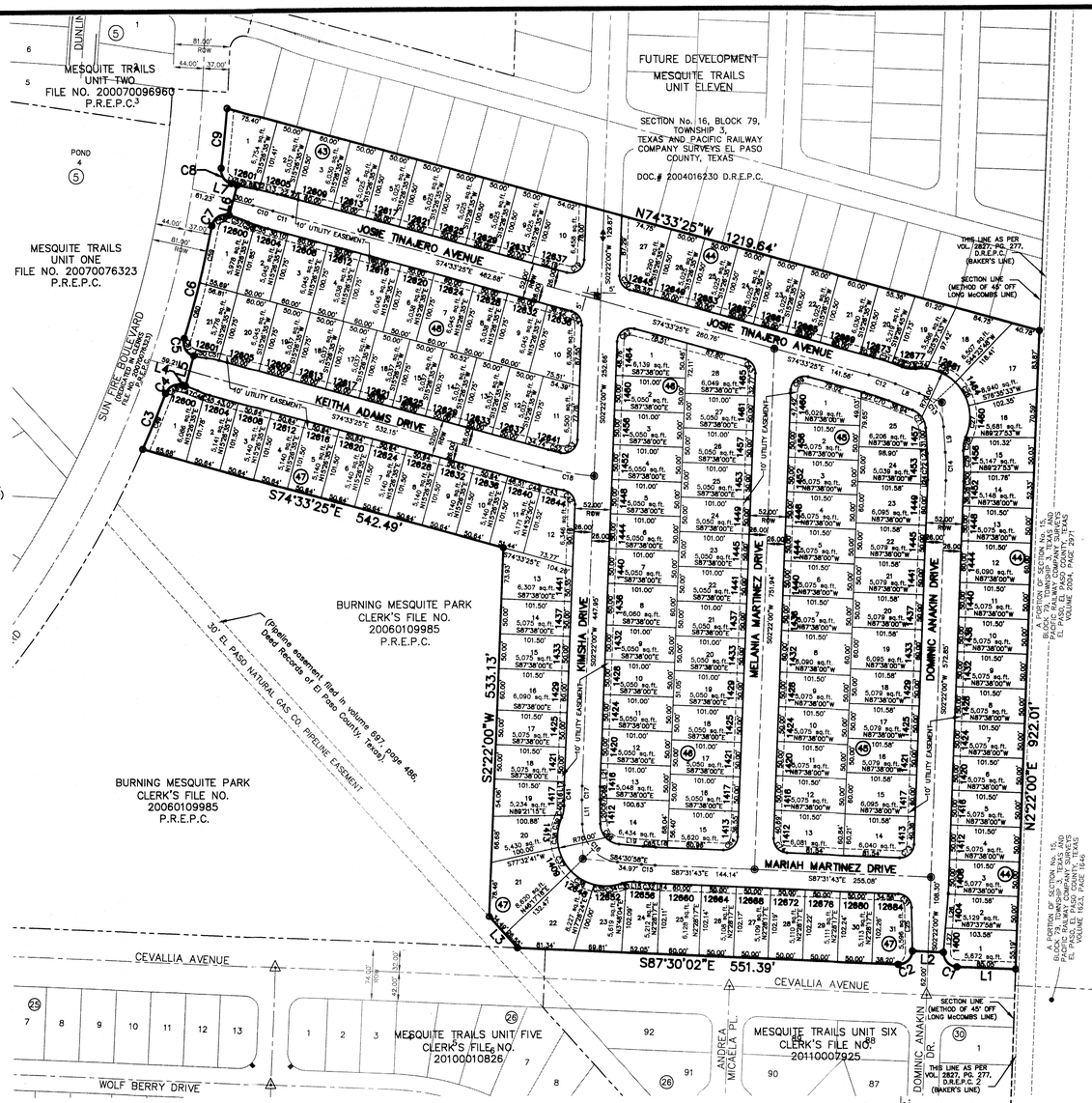

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MESQUITE TRAILS UNIT TEN

A PORTION OF SECTION 16, BLOCK 79, TOWNSHIP 3, TEXAS AND PACIFIC RAILWAY COMPANY SURVEYS, CITY OF EL PASO, EL PASO COUNTY, TEXAS

CONTAINING 23.139 ACRES ±

CURVE TABLE

CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	20.00'	31.37'	19.95'	28.25'	S42°34'01"E	089°52'02"
C2	20.00'	31.46'	20.05'	28.32'	N47°25'59"E	090°07'58"
C3	1493.58'	87.47'	43.75'	87.46'	N22°21'38"E	003°21'20"
C4	20.00'	29.59'	18.25'	26.96'	S63°03'43"W	084°45'44"
C5	20.00'	32.12'	20.71'	28.78'	S28°33'07"E	092°00'36"
C6	1492.21'	167.88'	84.03'	167.79'	N14°13'47"E	006°26'45"
C7	20.00'	32.96'	21.61'	29.36'	S58°13'29"W	094°26'13"
C8	20.00'	28.74'	17.49'	26.33'	S33°23'42"E	082°19'25"
C9	1493.30'	86.33'	43.18'	86.31'	N06°06'33"E	003°18'44"
C10	600.00'	30.00'	15.01'	30.00'	N73°07'28"W	002°51'55"
C11	600.00'	30.00'	15.00'	30.00'	S73°07'28"E	002°51'54"
C12	375.00'	40.58'	20.31'	40.56'	N71°27'25"W	006°11'59"
C13	56.00'	63.06'	35.35'	59.78'	N36°05'42"W	064°31'27"
C14	375.00'	40.58'	20.31'	40.56'	N00°43'59"W	006°11'59"
C15	375.00'	19.72'	9.86'	19.71'	S86°01'21"E	003°00'45"
C16	56.00'	81.97'	50.31'	74.85'	S42°34'52"E	083°52'13"
C17	375.00'	19.72'	9.86'	19.71'	S00°51'38"W	003°00'45"
C18	375.00'	74.56'	37.40'	74.44'	S80°15'10"E	011°23'31"
C19	20.00'	35.98'	25.18'	31.32'	N53°54'18"E	103°04'35"
C20	20.00'	26.85'	15.89'	24.88'	S36°05'42"E	076°55'25"
C21	401.00'	28.01'	14.01'	28.01'	N72°33'20"W	004°00'10"
C22	401.00'	15.38'	7.69'	15.37'	N69°27'20"W	002°11'49"
C23	40.00'	20.32'	10.39'	20.10'	S82°20'40"E	029°06'32"
C24	70.00'	15.92'	8.00'	15.89'	S89°37'06"W	013°02'05"
C25	70.00'	46.74'	24.28'	45.88'	N64°44'02"W	038°15'40"
C26	70.00'	39.33'	20.20'	38.82'	N29°30'19"W	032°11'46"
C27	70.00'	46.97'	24.41'	46.09'	N05°48'36"E	038°26'34"
C28	40.00'	19.93'	10.17'	19.72'	N10°26'16"E	028°32'31"
C29	401.00'	30.97'	15.49'	30.96'	N01°40'38"W	004°25'29"
C30	401.00'	12.82'	6.41'	12.82'	N01°27'03"E	001°49'53"
C31	20.00'	30.26'	18.87'	27.45'	N44°11'20"W	086°40'45"
C32	401.00'	21.08'	10.54'	21.08'	S86°01'21"E	003°00'45"
C33	40.00'	11.48'	5.78'	11.44'	S87°15'33"W	016°26'58"
C34	40.00'	5.98'	3.00'	5.97'	S74°45'09"W	008°33'51"
C35	70.00'	41.36'	21.30'	40.76'	N87°23'50"E	033°51'13"
C36	70.00'	39.05'	20.05'	38.55'	S59°41'38"E	031°57'51"
C37	70.00'	39.00'	20.02'	38.50'	S27°45'07"E	031°55'11"
C38	70.00'	44.18'	22.85'	43.45'	S06°17'16"W	036°09'34"
C39	40.00'	3.24'	1.62'	3.24'	N22°02'38"E	004°38'50"
C40	40.00'	14.22'	7.18'	14.14'	N09°32'14"E	020°21'59"
C41	401.00'	21.08'	10.54'	21.08'	S00°51'38"W	003°00'45"
C42	20.00'	28.70'	17.45'	26.30'	N38°44'28"W	082°12'56"
C43	401.00'	33.10'	16.56'	33.09'	S77°29'03"E	004°43'46"
C44	401.00'	3.94'	1.97'	3.94'	S74°50'18"E	000°33'46"
C45	100.87'	7.58'	3.79'	7.58'	S72°24'18"E	004°18'13"
C46	100.87'	11.24'	5.63'	11.23'	S67°03'40"E	006°23'04"
C47	100.87'	18.82'	9.44'	18.79'	N69°12'46"W	010°41'17"
C48	20.00'	29.59'	18.25'	26.96'	S63°03'43"W	084°45'44"
C49	1493.58'	87.47'	43.75'	87.46'	N22°21'38"E	003°21'20"
C50	100.87'	18.82'	9.44'	18.79'	S79°54'03"E	010°41'17"
C51	100.87'	18.82'	9.44'	18.79'	N79°54'03"W	010°41'17"
C52	349.00'	18.85'	9.43'	18.85'	S76°06'16"E	003°05'43"
C53	20.00'	34.90'	23.83'	30.64'	N52°21'26"E	099°58'52"
C54	20.00'	26.85'	15.89'	24.88'	N36°05'42"W	076°55'25"
C55	180.00'	19.94'	9.98'	19.93'	S71°23'02"E	006°20'46"
C56	180.00'	10.10'	5.05'	10.10'	S66°36'13"E	003°12'51"
C57	180.00'	30.03'	15.05'	30.00'	N69°46'36"W	009°33'37"
C58	20.00'	32.96'	21.61'	29.36'	S58°13'29"W	094°26'13"
C59	1492.21'	84.32'	42.17'	84.30'	N12°37'31"E	003°14'15"
C60	1492.21'	83.56'	41.79'	83.55'	N15°50'54"E	003°12'30"
C61	20.00'	32.12'	20.71'	28.78'	S28°33'07"E	092°00'36"
C62	20.00'	35.98'	25.18'	31.32'	S53°54'18"W	103°04'35"
C63	20.00'	26.85'	15.89'	24.88'	N36°05'42"W	076°55'25"
C64	20.00'	31.45'	20.04'	28.31'	N47°25'09"E	090°06'17"
C65	349.00'	18.35'	9.18'	18.35'	S86°01'21"E	003°00'45"
C66	30.00'	43.91'	26.95'	40.10'	S42°34'51"E	083°52'13"
C67	349.00'	2.29'	1.14'	2.29'	S00°27'29"E	000°22'32"
C68	349.00'	16.06'	8.03'	16.06'	S01°02'53"W	002°38'13"
C69	20.00'	35.98'	25.18'	31.32'	S53°54'18"W	103°04'35"
C70	349.00'	37.76'	18.90'	37.74'	N71°27'25"W	006°11'59"
C71	30.00'	33.78'	18.94'	32.03'	N36°05'42"W	064°31'27"
C72	349.00'	37.76'	18.90'	37.74'	N00°43'59"W	006°11'59"
C73	20.00'	31.45'	20.04'	28.31'	N47°25'09"E	090°06'17"
C74	20.00'	31.38'	19.96'	28.26'	S42°34'51"E	089°53'43"

LINE TABLE

LINE	BEARING	LENGTH
L1	S87°30'02"E	85.05'
L2	S87°22'57"E	45.00'
L3	S41°56'57"E	61.04'
L4	N74°33'25"W	5.38'
L5	S15°26'35"W	45.00'
L6	S15°26'35"W	45.00'
L7	S74°33'25"E	9.02'
L8	S88°21'26"E	36.94'
L9	S03°49'59"E	36.94'
L10	N74°33'25"W	9.02'
L11	S00°38'45"E	34.97'
L12	S76°31'36"E	2.74'
L13	S76°27'45"E	27.24'
L14	N87°31'43"W	8.71'

LINE TABLE

LINE	BEARING	LENGTH
L15	S84°30'58"E	8.51'
L16	S00°38'45"E	8.51'
L17	N02°22'00"E	5.16'
L18	S87°31'43"E	17.09'
L19	S84°30'58"E	34.97'
L20	S00°38'45"E	34.97'
L21	S02°22'00"W	33.94'
L22	S74°33'25"E	4.63'
L23	S03°49'59"E	5.94'
L24	S02°22'00"W	6.40'
L25	S00°50'58"E	63.51'
L26	S04°40'59"W	50.04'
L27	S04°40'59"W	35.02'

LEGEND

◉	PROPOSED CITY MONUMENT. (MAY BE SUBJECT TO RELOCATION AT TIME OF CONSTRUCTION. FOR EXACT LOCATION PLEASE CONTACT THE CITY OF EL PASO)
△	EXISTING CITY MONUMENT
o	SUBDIVISION BOUNDARY CORNER
1 ③	LOT AND BLOCK NUMBER
P.R.E.P.C.	PLAT RECORDS OF EL PASO COUNTY, TEXAS
D.R.E.P.C	DEED RECORDS OF EL PASO COUNTY, TEXAS

BENCHMARK:

EXISTING CITY MONUMENT
ELEVATION=4003.10 FEET (CITY DATUM)

LOCATED AT THE CENTERLINE INTERSECTION OF PASEO ALEGRE CIRCLE AND PASEO LINDO DRIVE.

SCHOOL DISTRICT

SOCORRO INDEPENDENT SCHOOL DISTRICT
12300 EASTLAKE DRIVE, EL PASO, TX. 79928

GRAPHIC SCALE

100 0 50 100 200

(IN FEET)
1 inch = 100 ft.

LOCATION MAP

SCALE: 1" = 600'

UPDATED: 11/20/2014

NOTES:

THIS IS TO CERTIFY THAT WATER AND SEWER SERVICES WILL BE PROVIDED TO MESQUITE TRAILS UNIT TEN BY THE EL PASO WATER UTILITIES/PUBLIC SERVICE BOARD IN ACCORDANCE WITH THEIR RULES AND REGULATIONS AND WITH SECTION 16.343 OF THE TEXAS WATER CODE. WATER AND SEWER SERVICES WILL BE EXTENDED TO THE SUBDIVISION FROM EXISTING FACILITIES LOCATED ON SUN FIRE BLVD AND CEVALLIA AVE. 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. 20150016707 . DATE, 3/16/15 .

RESTRICTIVE COVENANTS FOR THIS SUBDIVISION ARE FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION.
INSTRUMENT No. 20150016710 . DATE, 3/16/15 .

SUBDIVISION IMPROVEMENTS AGREEMENT & GUARANTEE FOR THIS SUBDIVISION IS FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION.
INSTRUMENT No. 20150016708 . DATE, 3/16/15 .

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."

VEHICULAR ACCESS TO THOSE RESIDENTIAL LOTS ABUTTING CEVALLIA AVE. AND EXISTING 100 FOOT WIDE GAS EASEMENT SHALL BE FROM OTHER DEDICATED STREETS ONLY. THE INSTRUMENT ASSURING RELEASE OF ACCESS IS FILED IN THE OFFICE OF THE COUNTY CLERK, . DEED AND RECORD SECTION.
INSTRUMENT No. 20150016709 . DATE, 3/16/15 .

THIS SUBDIVISION LIES WITH IN ZONE "X" AS DESIGNATED IN PANEL NO. 480212 0250B, DATED SEPTEMBER 04, 1991, OF THE FLOOD INSURANCE RATE MAPS, EL PASO COUNTY, TEXAS. ZONE "X" INDICATES AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN.

BEARINGS SHOWN ARE GRID BEARINGS DERIVED FROM RTK OBSERVATIONS. REFERRED TO THE STATE PLANE COORDINATE SYSTEM (NAD 83) 1993 ADJUSTMENT, CENTRAL ZONE OF TEXAS. DISTANCES ARE GROUND DISTANCE.

DEED REFERENCE: VOL. 2827, PG. 277, AND DOC# 20040106230, DEED RECORDS OF EL PASO COUNTY, TEXAS.

THE SUBJECT PROPERTY IS LOCATED WITHIN AN INTERMEDIATE PRESSURE ZONE. THE LOT/HOME BUYER SHALL ACQUIRE OWNERSHIP OF THE WATER PRESSURE REGULATING DEVICE TO BE LOCATED AT THE DISCHARGE SIDE OF THE WATER METER ON THEIR PROPERTY AND SHALL BE RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE WATER PRESSURE REGULATING DEVICE.

D E D I C A T I O N

Americas Loop 375 Joint Venture 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, and utility easements as hereon laid down and designated, including easements for overhang 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 31st day of December 2014.

R.L. Bowling, III, Managing Partner

A C K N O W L E D G E M E N T

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 19th day of January 201~~4~~15.

Denise Marquez
Notary Public in and for El Paso County

May 17, 2017
My Commission Expires

C I T Y P L A N N I N G C O M M I S S I O N

This subdivision is hereby approved as to the platting and as to the condition of the accordance with Chapter 212 of the Local Government Code of Texas this 12 day of FEBRUARY, 201~~4~~5

Chairperson

Executive Secretary

Approved for filing this 10 day of FEBRUARY, 201~~4~~5

City Development Director

F I L I N G

Filed and recorded in the office of the County Clerk of El Paso County, Texas, this 16th day of March ~~2014,~~ 2015 in File No. 20150016706 of the Plat Records.

County Clerk

Charlie Quiroga
by Deputy

Subdivision improvement plans prepared by and under the supervision of CEA Group.

11/26/14
Jorge L. Azcarate, P.E.
Licensed Professional Engineer
Texas License No. 85075

JORGE L. AZCARATE
85075

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.

11/24/2014
Benito Barragan TX, R.P.L.S. No. 5615

BENITO BARRAGAN
5615

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

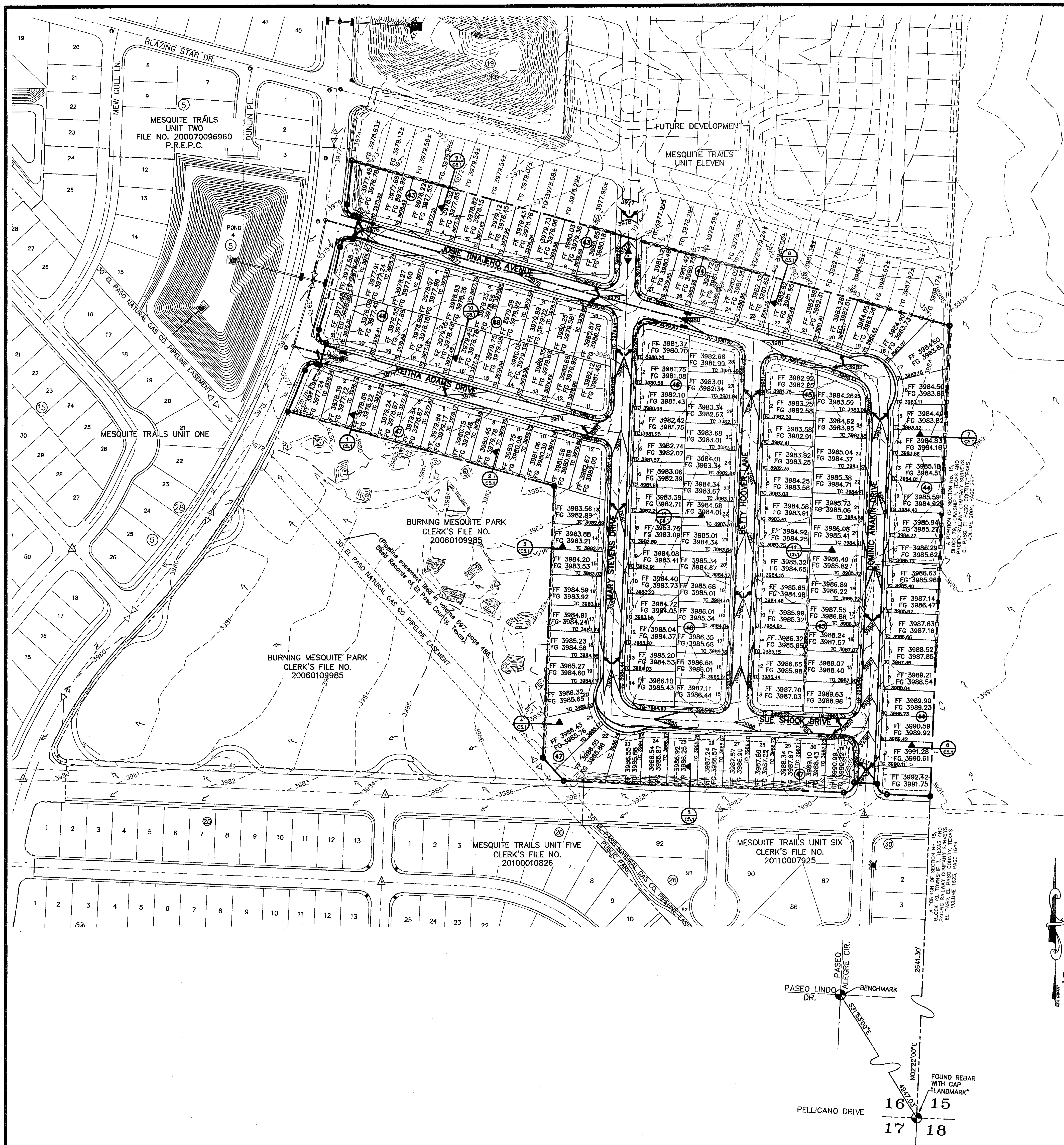
CONTACT: JORGE L. AZCARATE, P.E.

SURVEYOR

Barragan & Associates Inc.
LAND PLANNING & LAND SURVEYING
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: NOVEMBER 20, 2014



GRADING PLAN

SCALE: 1" = 100'

LEGEND:

- SUBDIVISION BOUNDARY LINE
- STREET RIGHT OF WAY
- PROPERTY LINE
- STREET CENTERLINE
- 10' UTILITY EASEMENT
- LOT AND BLOCK NUMBER
- EXISTING DRAINAGE FLOW
- PROPOSED DRAINAGE FLOW
- HIGH POINT
- PROPOSED MONUMENT
- PROPERTY CORNER
- NEW 4' HIGH RETAINING ROCKWALL (2'-3' RETAINING HEIGHT)
- EXISTING RETAINING ROCKWALL (2'-3' RETAINING HEIGHT)
- NEW 4' HIGH RETAINING ROCKWALL (3'-9' RETAINING HEIGHT)
- EXISTING RETAINING ROCKWALL (3'-9' RETAINING HEIGHT)
- EXISTING MONUMENT
- PROPOSED MAJOR CONTOURS
- PROPOSED MINOR CONTOURS
- EXISTING MAJOR CONTOURS
- EXISTING MINOR CONTOURS
- PROPOSED INLET & STORM SEWER PIPE
- EXISTING INLET & STORM SEWER PIPE

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

NOTES:

1. RETAINING WALLS SHALL BE CONSTRUCTED FOR VERTICAL GRADES GREATER THAN 2-FEET.
2. SLOPED AREAS SHALL BE MAINTAINED BY THE PROPERTY OWNERS.
3. ALL RETAINING WALLS NOT SPECIFIED TO BE CONSTRUCTED BY DEVELOPER, SHALL BE BUILT BY BUILDER.
4. DEVELOPER SHALL COMPLY WITH SECTION 13.08.070 (EXCESSIVE PAVING CUTS) OF THE EL PASO MUNICIPAL CODE.
5. IMPROVEMENTS SHALL NOT BE PLACED ON SIDEWALK (NDBCU's, SIGNS, POLES, FIRE HYDRANTS, ETC.) REFER TO STANDARD DETAIL SHEETS.
6. IMPROVEMENTS SHALL COMPLY WITH T.A.S./A.D.A.

BENCHMARK

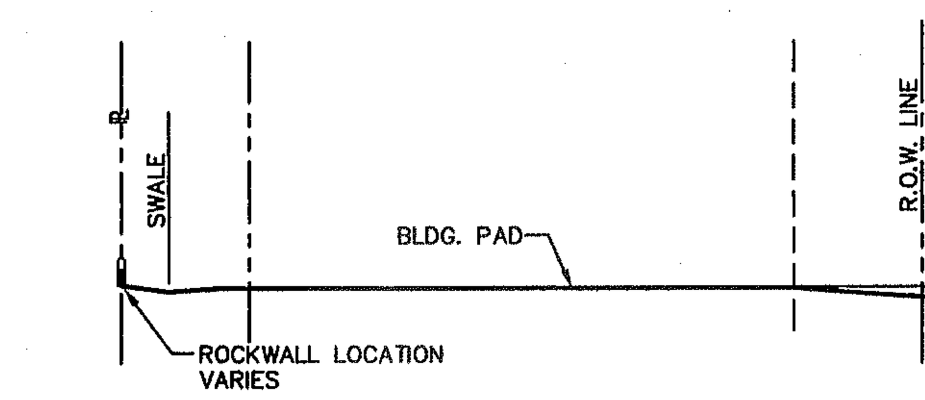
EXISTING CITY MONUMENT
ELEVATION=4003.10 FEET (CITY DATUM)

LOCATED AT THE CENTERLINE INTERSECTION OF PASEO ALEGRE CIRCLE AND PASEO LINDO DRIVE.

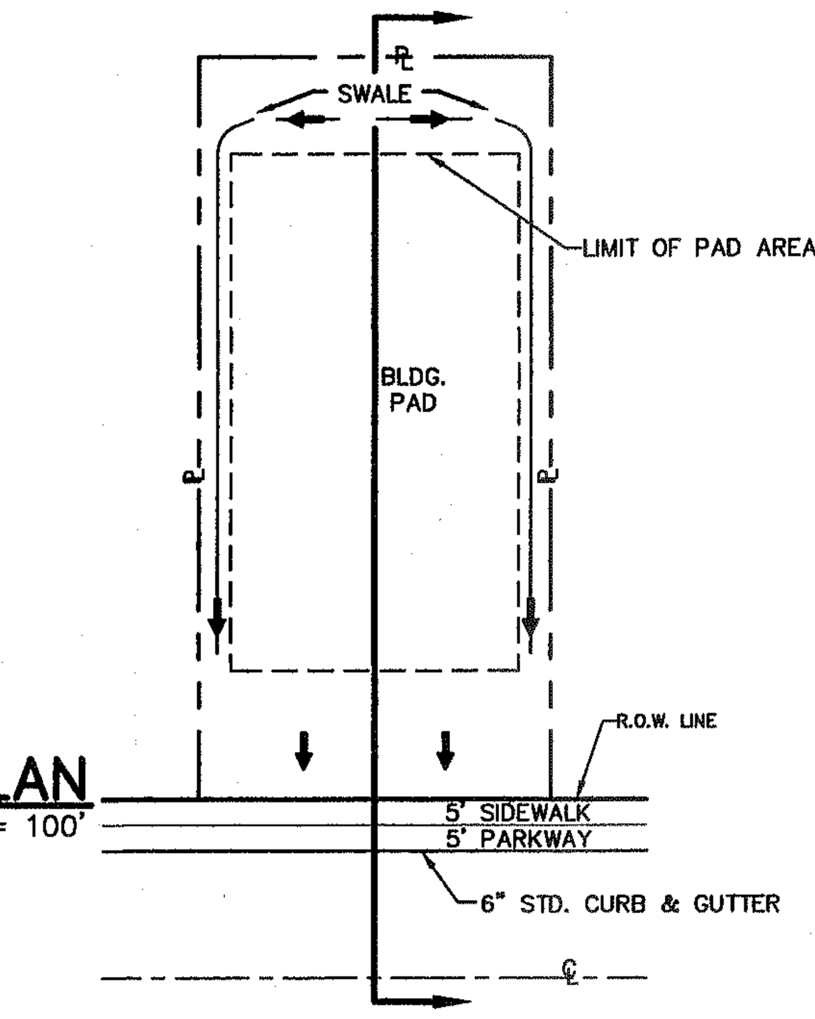
FLOOD ZONE:

THIS SUBDIVISION LIES WITH IN ZONE "X" AS DESIGNATED IN PANEL NO. 480212 0250B, DATED SEPTEMBER 4, 1991, OF THE FLOOD INSURANCE RATE MAPS, EL PASO COUNTY, TEXAS. ZONE "X" INDICATES AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN.

JORGE L. AZCARATE 85075 LICENSED PROFESSIONAL ENGINEER 8-8-14

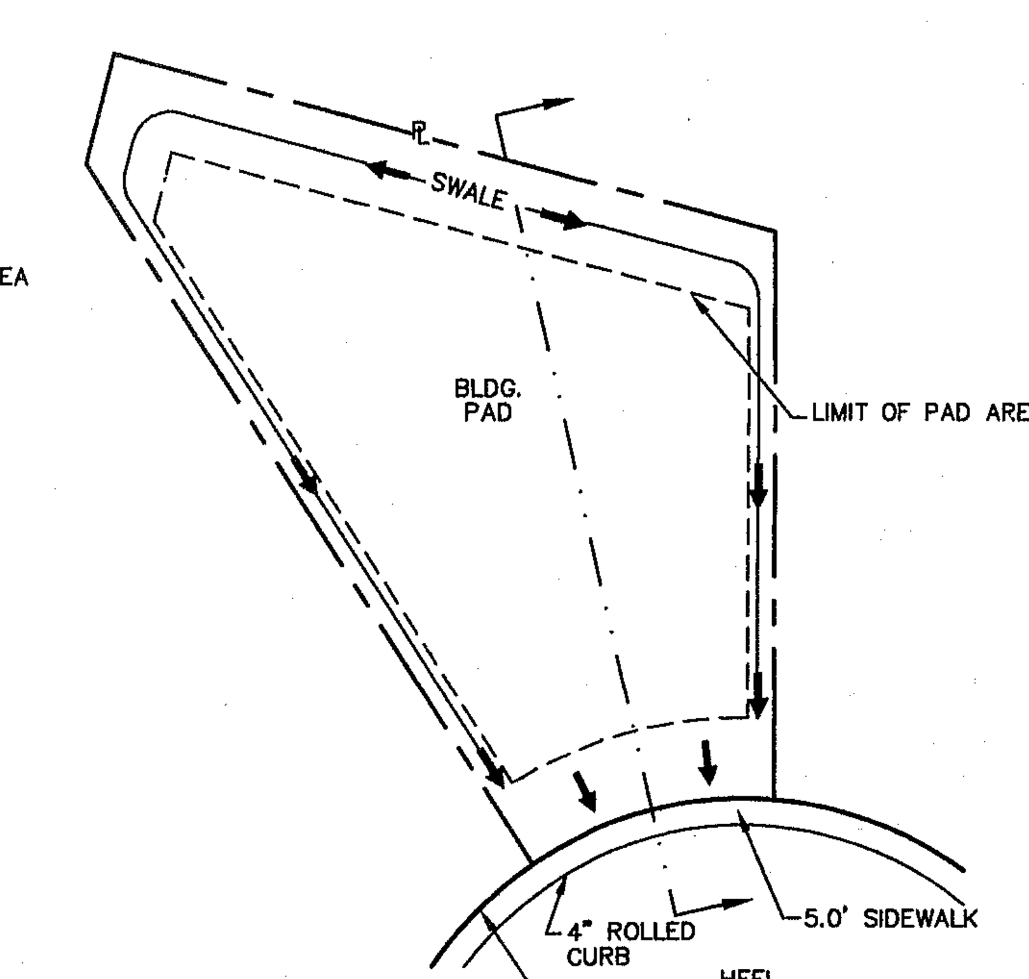


SECTION



PLAN

TYPICAL LOT PLAN
SCALE: N.T.S.



TYPICAL LOT AT HEEL PLAN
SCALE: N.T.S.

NOTE:

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. IMPROVEMENTS SHALL COMPLY WITH APPLICABLE YARD SETBACKS AS PER CITY OF EL PASO MUNICIPAL CODE.

THE CITY OF EL PASO TEXAS
Final Approval

REFERENCES – BENCHMARKS

BENCHMARK IS CITY MONUMENT AT THE INTERSECTION OF PASEO ALEGRE CIR. AND PASEO LINDO DR. ELEVATION = 4003.10 FEET (CITY DATUM).

DATE	REVISIONS	BY

cea group
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-4564
4712 Woodrow Bean, Ste. F El Paso, TX 79924

ENGINEER'S SEAL

SCALE
Horizontal: 1"=100'
Vertical: N/A
Contour Interval: N/A
DATE: JULY 2014
DESIGN BY: A.C.
DRAWN BY: A.C./F.S.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-181LD

PROJECT TITLE

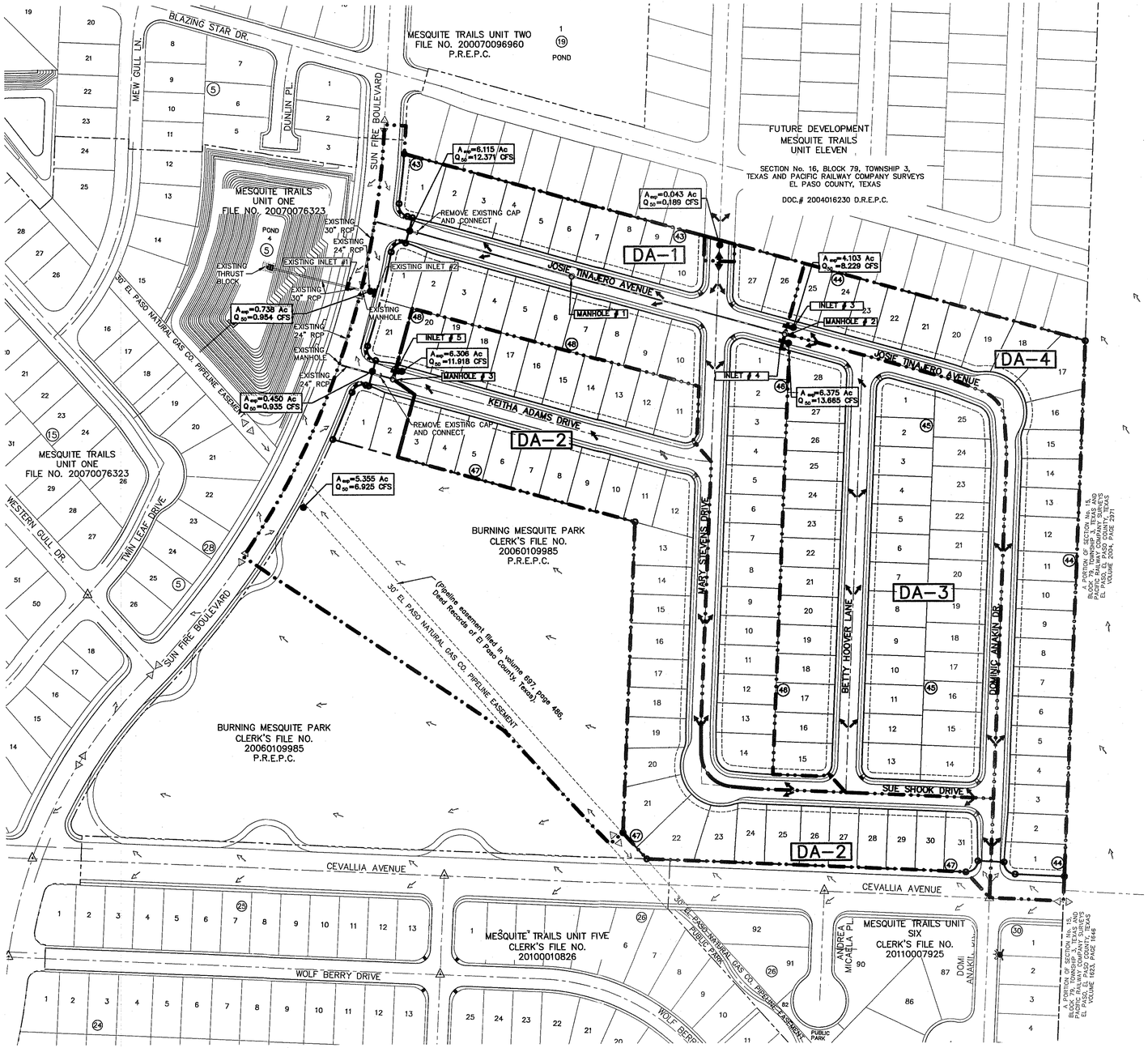
MESQUITE TRAILS UNIT TEN SUBDIVISION IMPROVEMENTS

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

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1-800-344-8377
FOR FIELD LOCATING EXISTING UTILITIES

LEGEND

- SUBDIVISION BOUNDARY LINE
- DRAINAGE AREA BOUNDARY
- DRAINAGE FLOW
- HIGH POINT
- LOW POINT
- DROP INLET
- STORM SEWER MANHOLE
- RCP
- THRUST BLOCK STRUCTURE
- DA-10 DRAINAGE AREA

REFERENCES – BENCHMARKS

BENCHMARK IS CITY MONUMENT AT THE INTERSECTION OF PASEO ALEGRE CIR. AND PASEO LINDO DR. ELEVATION = 4003.10 FEET (CITY DATUM).

DATE	REVISIONS	BY

cea group
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-4564
4715 Woodrow Bean, Ste. F El Paso, TX 79924
Office 915.544.4282 Fax 915.544.4283 www.ceagroup.net

ENGINEER'S SEAL
THE STATE OF TEXAS
JORGE L. AZCARATE
85075
LICENSED PROFESSIONAL ENGINEER
8-21-14

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

DATE:	JULY 2014
DESIGN BY:	A.C.
DRAWN BY:	A.C.
CHKD. BY:	J.L.A.
APPVD. BY:	J.L.A.
JOB No.	2000-181LD

PROJECT TITLE
MESQUITE TRAILS UNIT TEN
SUBDIVISION IMPROVEMENTS

SHEET TITLE
DRAINAGE PLAN

SHEET NO.
C4.1

MESQUITE TRAILS UNIT ONE – EXISTING POND INFORMATION (FOR REFERENCE ONLY)

EXISTING POND CALCULATIONS

QT = (ARC)/12
QT = 17.614
A = 67.121
R = 4"
C = 0.601
QT X 25% = 3.362
13.447 + 3.362 = 16.809

SILT VOLUME = 0.805
0.012 AC-FT/AC
16.809 + 0.805 = 17.614 AC-FT

$TOTAL_{req}$ = 17.578 AC-FT

POND #1 MESQUITE TRAILS UNIT ONE

EXISTING POND AREAS

CONTOUR	ACCUMULATED VOLUME (AC-FT.)
3974	19.155
3973	17.586
3972	16.095
3971	14.680
3970	13.341
3969	12.074
3968	10.879
3967	9.754
3966	8.697
3965	7.705
3964	6.777
3963	5.912
3962	5.108
3961	4.362
3960	3.674
3959	3.040
3958	2.460
3957	1.932
3956	1.453
3955	1.022
3954	0.638
3953	0.298
3952	0.000

EXISTING RETENTION BASIN

BASIN NO.	REQUIRED CAPACITY (AC.-FT.)	AVAILABLE CAPACITY (AC.-FT.)	PEAK INFLOW (CFS)	OUTLET TOWER FLOW (CFS)	HIGH WATER SURFACE ELEV. (FT.)	BOTTOM ELEVATION	FREE BOARD (FT.)
1	17.614	19.155	115.111	0	3970.68±	3952.00	3.320

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

HWSE = QT + SILT VOLUME
HWSE = 13.447 + 0.805 = 14.252 AC-FT
CONTOUR 3970, ACCUMULATED VOLUME = 13.341 AC-FT
CONTOUR 3971, ACCUMULATED VOLUME = 14.680 AC-FT
HIGH WATER SURFACE ELEVATION = 3970.66

EXISTING DROP INLETS

NO.	REQ. FLOW CAPACITY Q REQ (CFS)	AVAIL. FLOW CAPACITY Q AVAIL. (CFS)	ADDITIONAL FLOW (CFS)	FLOW BYPASS (CFS)	# OF GRATES	TYPE OF INLET
#1 EXISTING	3.426	19.630	0.000	0.000	2	I
#2 EXISTING	16.265	19.630	0.000	0.000	2	I

REFERENCE: CITY OF EL PASO SUBDIVISION STANDARDS (3-11-9)
(1) RAINFALL INTENSITY, 25 YEAR STORM => PLATE NO. 2-14
(2) Q25 = C x A x I25

DROP INLETS

NO.	REQ. FLOW Q REQ. (CFS)	ADDITIONAL FLOW Q (CFS) FROM INLET	Q(CFS) OVERTOP AT CROWN	Q EXP. (CFS)	AVAIL. FLOW CAPACITY Q AVAIL. (CFS)	Q(CFS) BYPASS TO INLET	# OF GRATES	TYPE OF INLET	INLET LOCATION
1	3.426	N/A	0	3.426	19.630	0	2	I	SUMP
2	16.389	2.805 CFS-FROM INLET #3	0	19.174	19.630	0	2	I	SUMP
3	8.229	2.713 CFS-FROM INLET #4	2.713 CFS	10.942	8.137	(#2 Off-Site) 2.805	2	I	ON GRADE
4	13.655	0	2.713 CFS	10.942	11.028	0	3	I	ON GRADE
5	11.918	0	0	11.918	13.822	0	4	I	ON GRADE

NOTE: AVAILABLE FLOW CAPACITIES SHOWN REFLECT CAPACITIES WITH ON-GRADE INLET GRATE EFFICIENCY.

50 YEAR STORM CALCULATIONS FOR WATERSHED AREAS

DRAINAGE AREA NO. (1)	DRAINAGE AREA (AC) (2)	DESIGN STORM INTENSITY (I50) (3)	TIME OF CONCENTRATION (4)	RUNOFF COEFF. (C) (5)	Q50 (CFS) (6)
DA-1	12.658	2.440	43.00	0.53	16.369
DA-2	6.306	3.150	29.47	0.600	11.918
DA-3	6.375	3.570	24.05	0.600	13.655
DA-4	4.103	3.418	25.87	0.600	8.229

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. 2-13A (REV.1)

$$I_{50} = \frac{b}{(tc + d)^e} \qquad b = 90,\ d = 12.0,\ e = 0.90$$

(4) TIME OF CONCENTRATION: TC= T (OVERLAND) + T (GUTTER)
(5) RUNOFF COEFFICIENT => PLATE NO. 2-10 TABLE A
RESIDENTIAL AREA = 0.60
PAVEMENT AREA = 0.90
(6) Q_{50}= C X A X I_{50}

MOMENTUM COMPUTATION

LOCATION @ INLET (1)	DEPTH (2)	VELOCITY (3)	PRODUCT NUMBER (4)
1	0.19	3.04	0.58
2	0.43	3.39	1.46
3	0.36	2.57	0.93
4	0.36	2.57	0.93
5	0.30	3.32	0.99

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

FLOOD ZONE:

THIS SUBDIVISION LIES WITH IN ZONE "X" AS DESIGNATED IN PANEL NO. 480212 0250B, DATED SEPTEMBER 4, 1991, OF THE FLOOD INSURANCE RATE MAPS, EL PASO COUNTY, TEXAS. ZONE "X" INDICATES AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN.

DRAINAGE PLAN
SCALE: 1" = 100'

GRAPHIC SCALE
100 0 50 100 200
(IN FEET)
1 inch = 100 ft.

THE CITY OF EL PASO TEXAS
Final Approval

S:\2000\2000-181LD-MQTR10\DWGS\Construction Drawings\Improvement Plans\C4.1 Drainage Plan.dwg, C4.1 Drainage, 8/12/2014 10:20:42 AM

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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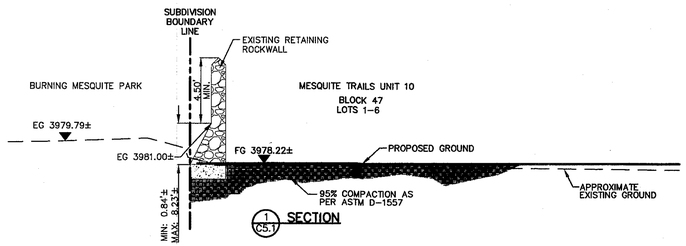
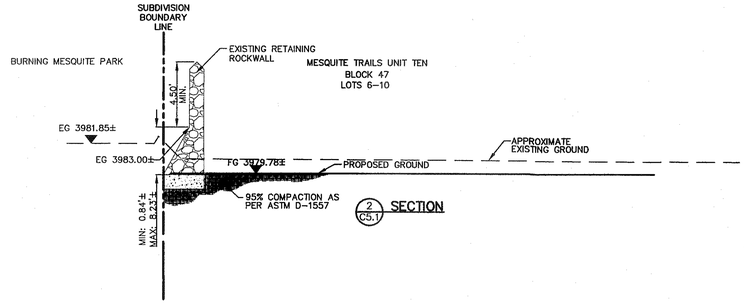


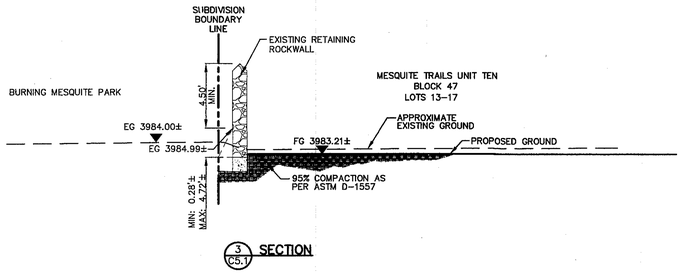
1 C5.1 SECTION



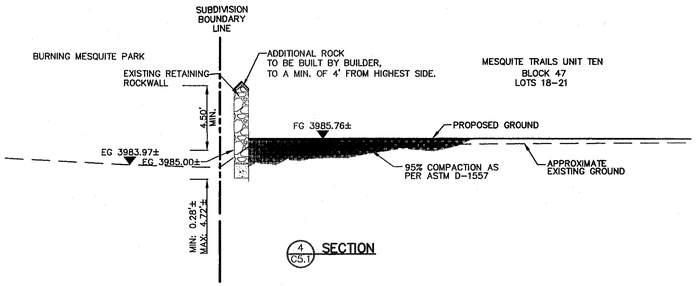
2 C5.1 SECTION

GENERAL NOTES:

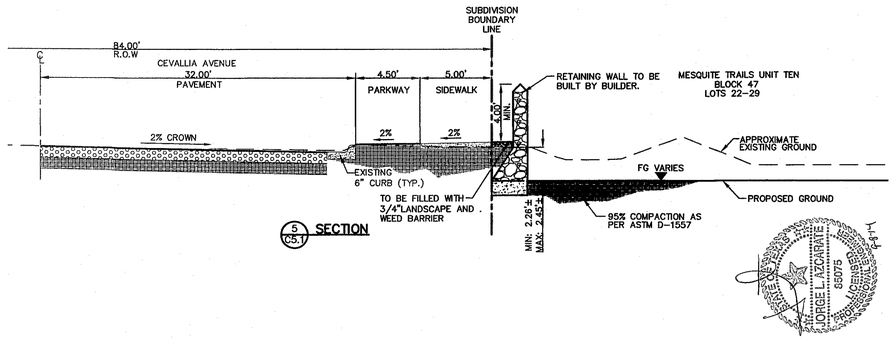
1. WHENEVER THE RETAINING HEIGHT OF A ROCKWALL/RETAINING WALL EXCEEDS FOUR (4') FEET OR MORE, THE DEVELOPER SHALL BUILD THE RETAINING PORTION OF THE WALL (INCLUDING NECESSARY REINFORCED CONCRETE FOOTING) TO HIGHEST FINISHED GROUND. THE BUILDER SHALL FINISH THE REMAINING OF THE STEM WALL. IF THE RETAINING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



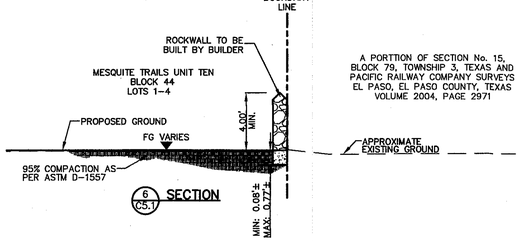
3 C5.1 SECTION



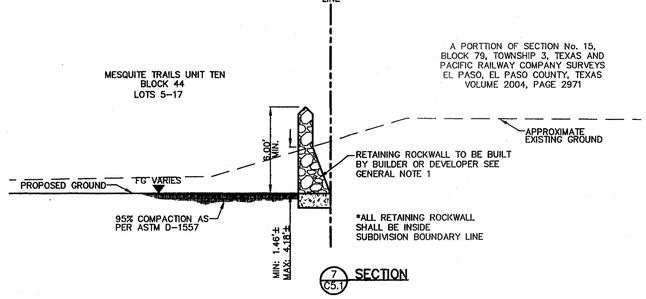
4 C5.1 SECTION



5 C5.1 SECTION



6 C5.1 SECTION



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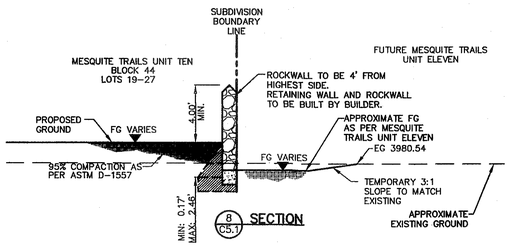

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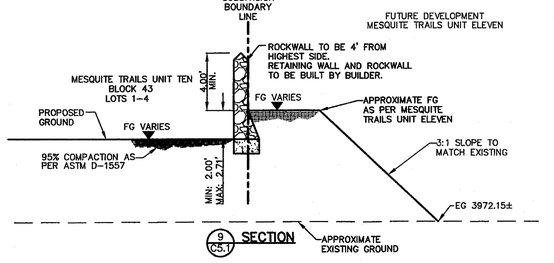

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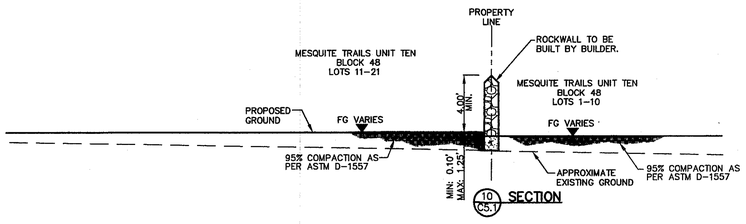

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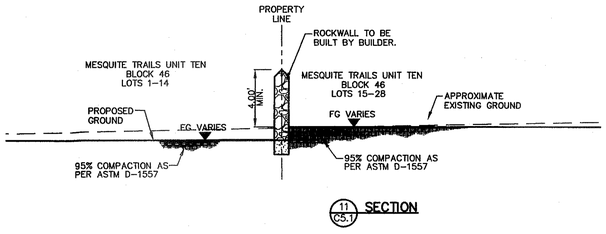

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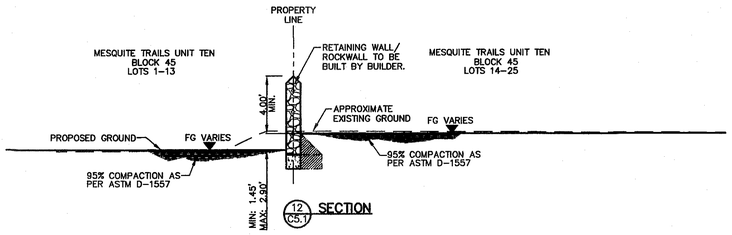

12 C5.1 SECTION

THE CITY OF EL PASO TEXAS
Final Approval

REFERENCES – BENCHMARKS
BENCHMARK IS CITY MONUMENT AT THE INTERSECTION OF PASEO ALEGRE CIR. AND PASEO LINDO DR. ELEVATION = 4003.10 FEET (CITY DATUM).

DATE	REVISIONS	BY

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ENGINEER'S SEAL
JORGE L. AZCARATE 85075 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS
6-17-14

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

DATE:	JULY 2014
DESIGN BY:	A.C.
DRAWN BY:	F.S.
CHKD. BY:	J.L.A.
APPVD. BY:	J.L.A.
JOB No.	2000-181LD

PROJECT TITLE
MESQUITE TRAILS UNIT TEN SUBDIVISION IMPROVEMENTS

SHEET TITLE
GRADING SECTIONS

SHEET NO.
C5.1

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REFERENCES – BENCHMARKS

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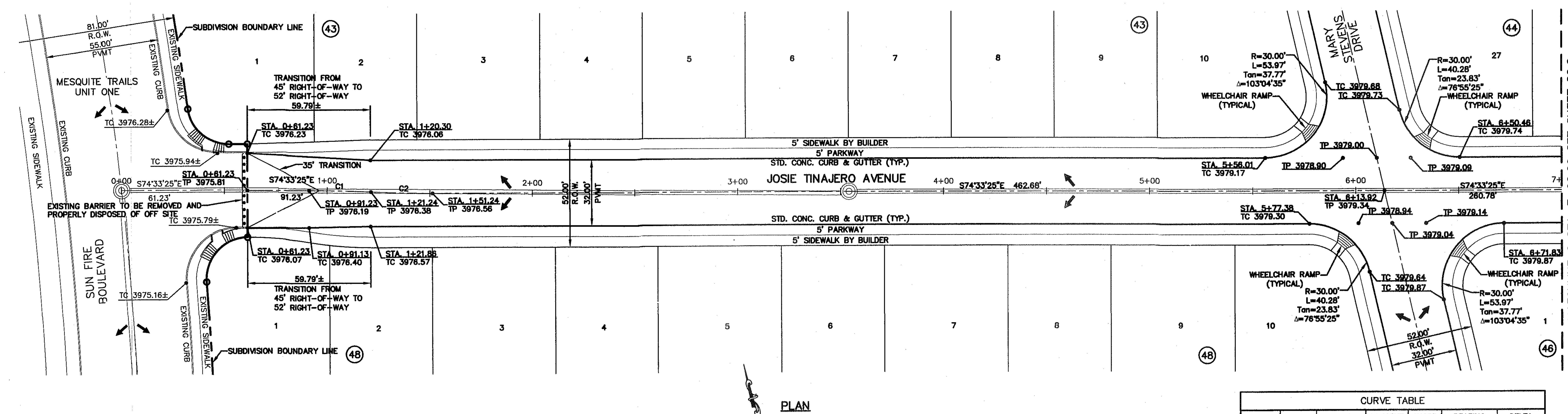
DATE	REVISIONS	BY



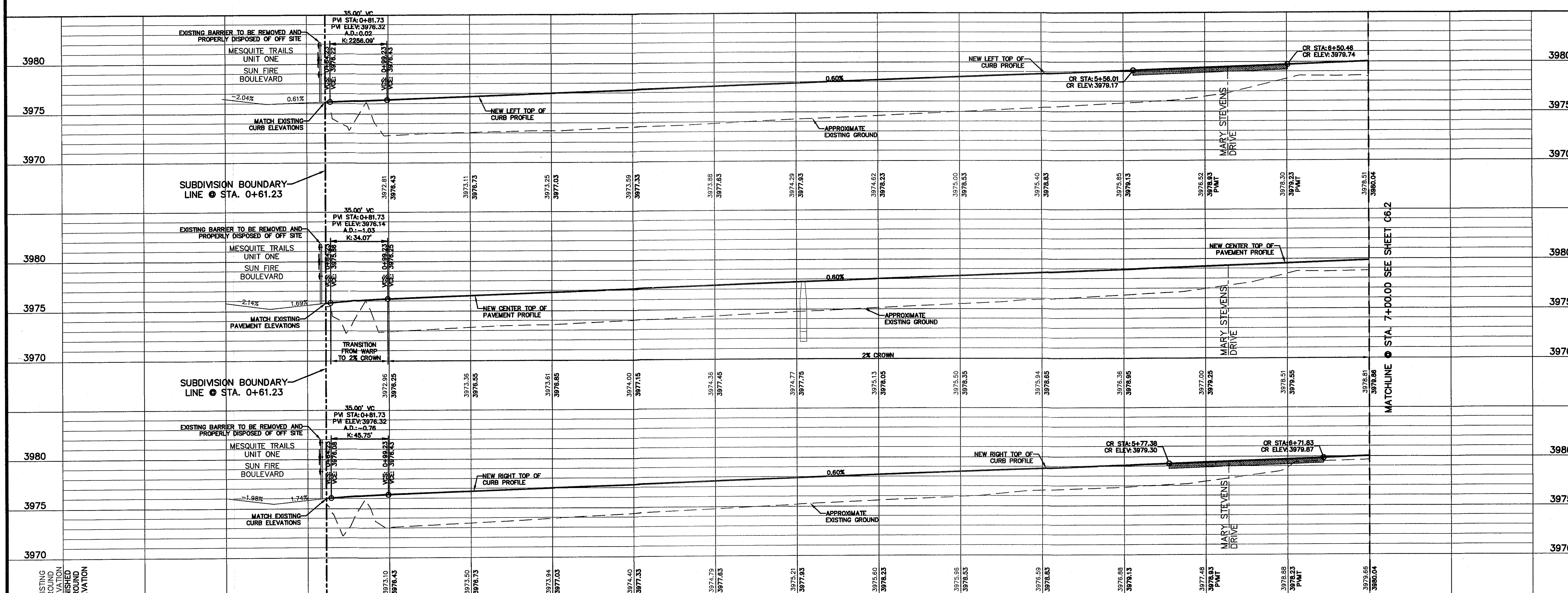
PLAN

CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	600.00'	30.00'	15.00'	30.00'	N73°07'28"W	002°51'54"
C2	600.00'	30.00'	15.00'	30.00'	S73°07'28"E	002°51'54"

LEGEND

WHEELCHAIR RAMP BY DEVELOPER (TYP.)

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



PROFILE

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

DATE: JUNE 2014
DESIGN BY: A.C.
DRAWN BY: A.A.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-181LD

PROJECT TITLE

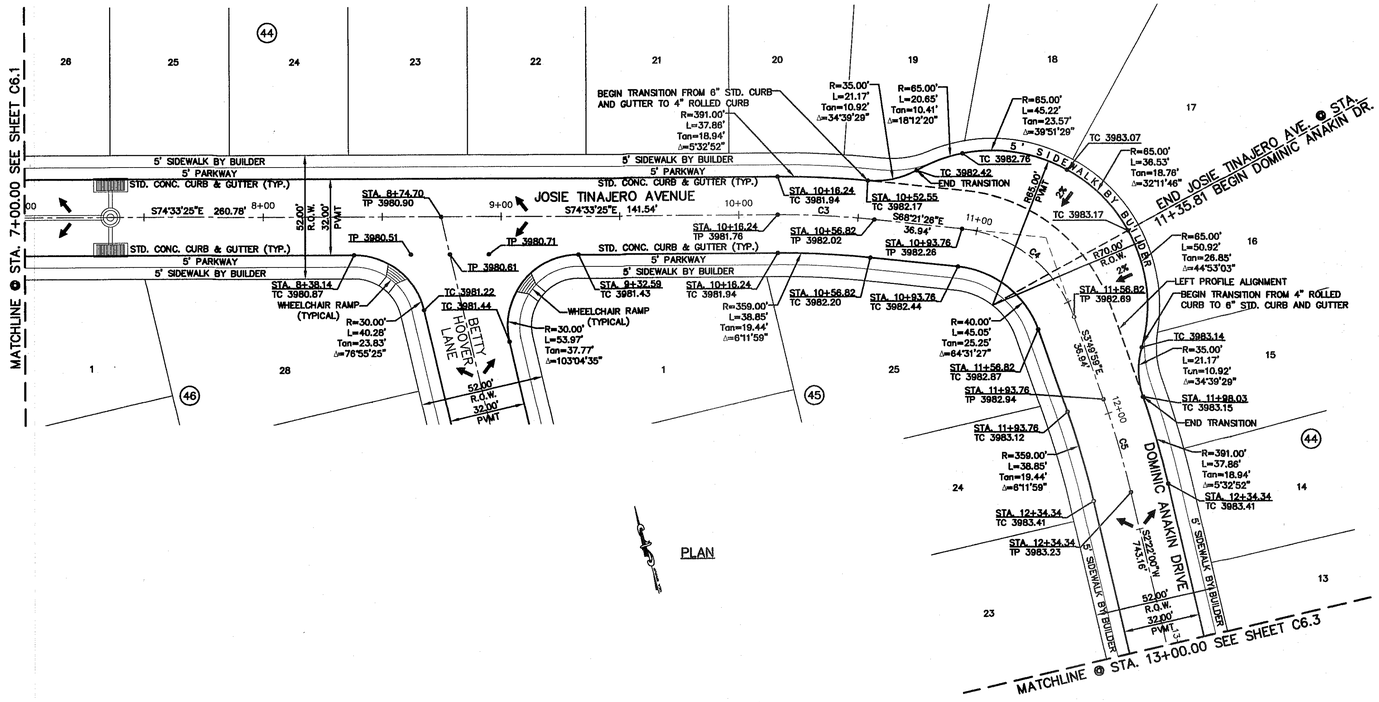
MESQUITE TRAILS UNIT TEN SUBDIVISION IMPROVEMENTS

SHEET TITLE

JOSIE TINAJERO AVENUE PLAN & PROFILE FROM STA. 0+61.23 TO STA. 7+00.00

SHEET NO.

C6.1



CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C3	375.00'	40.58'	20.31'	40.56'	N71°27'25"W	006°11'59"
C4	56.00'	63.06'	35.35'	59.78'	N36°05'42"W	064°31'27"
C5	375.00'	40.58'	20.31'	40.56'	N00°43'59"W	006°11'59"

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THE CITY OF EL PASO TEXAS
Final Approval

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
BENCHMARK IS CITY MONUMENT AT THE INTERSECTION OF PASEO ALEGRE CIR. AND PASEO LINDO DR. ELEVATION = 4003.10 FEET (CITY DATUM).

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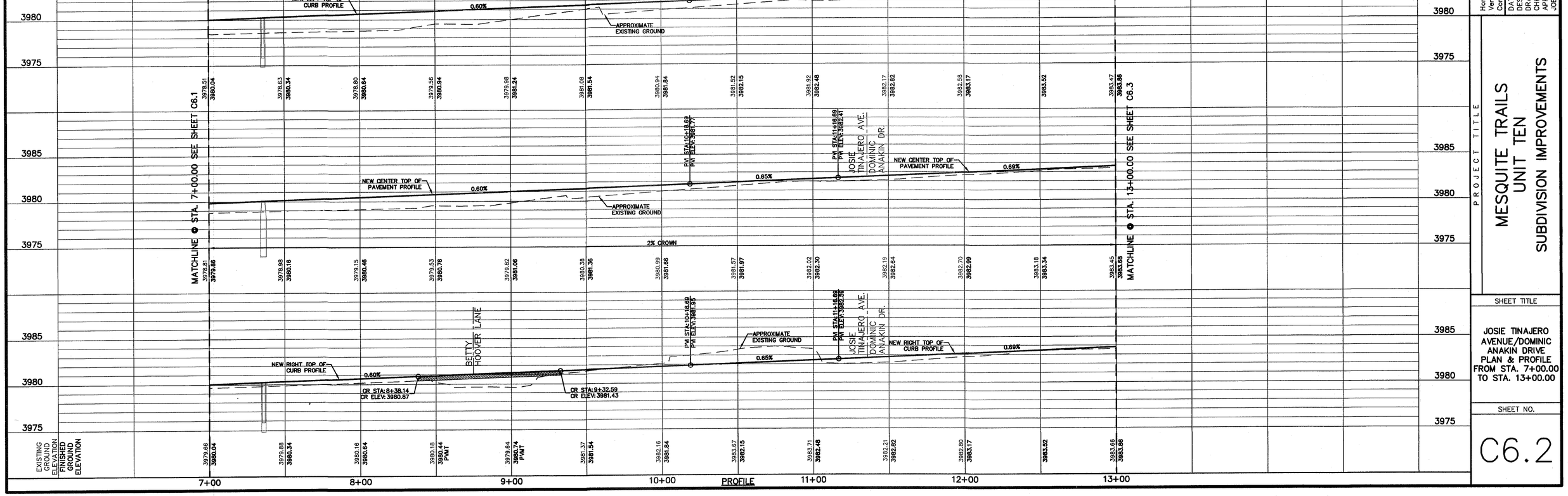
ENGINEER'S SEAL
STATE OF TEXAS JORGE L. AZCARATE 85075 LICENSED PROFESSIONAL ENGINEER



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

DATE: JUNE 2014
DESIGN BY: A.C.
DRAWN BY: A.A.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-181D

PROJECT TITLE
MESQUITE TRAILS
UNIT TEN
SUBDIVISION IMPROVEMENTS

SHEET TITLE
JOSIE TINAJERO AVENUE/DOMINIC ANAKIN DRIVE PLAN & PROFILE FROM STA. 7+00.00 TO STA. 13+00.00

SHEET NO.
C6.2

S:\2000-2000 181D-WORK\DWGS\Construction Drawings\Improvement Plans\C6.1-C6.3 Dominic Anakin-Josie Rae P&P.dwg, C6.2, 8/12/2014 10:31:15 AM

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MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
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SBC	(800) 545-6005
AT&T	(800) 852-3786
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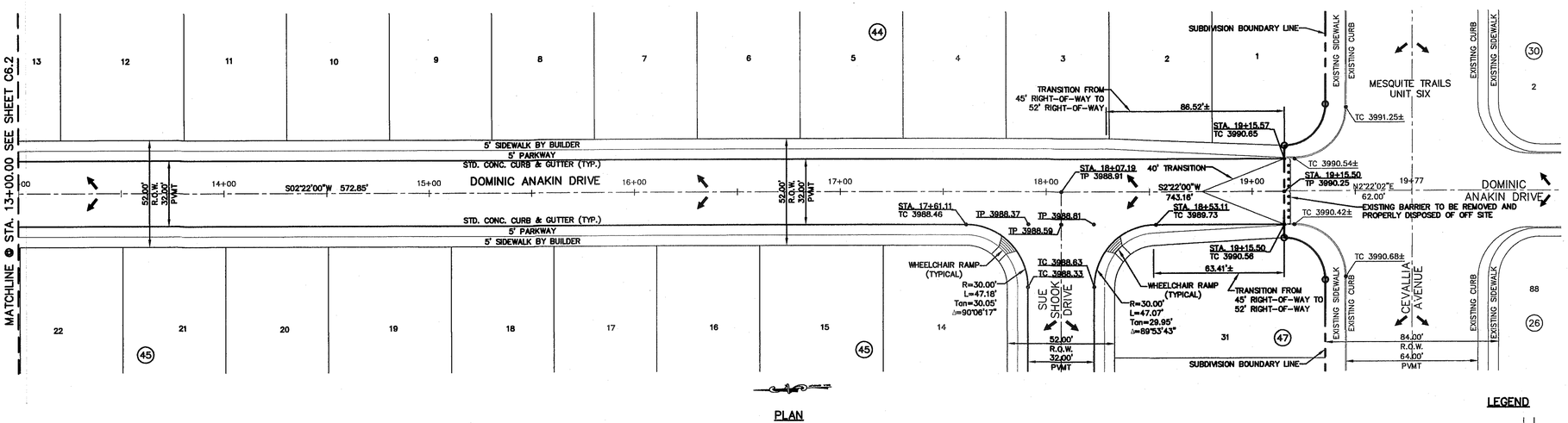
REFERENCES – BENCHMARKS
BENCHMARK IS CITY MONUMENT AT THE INTERSECTION OF PASEO ALEGRE CIR. AND PASEO UNDO DR. ELEVATION = 4003.10 FEET (CITY DATUM).

DATE	REVISIONS	BY



PLAN

LEGEND

WHEELCHAIR RAMP BY DEVELOPER (TYP.)

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

THE CITY OF EL PASO TEXAS
Final Approval

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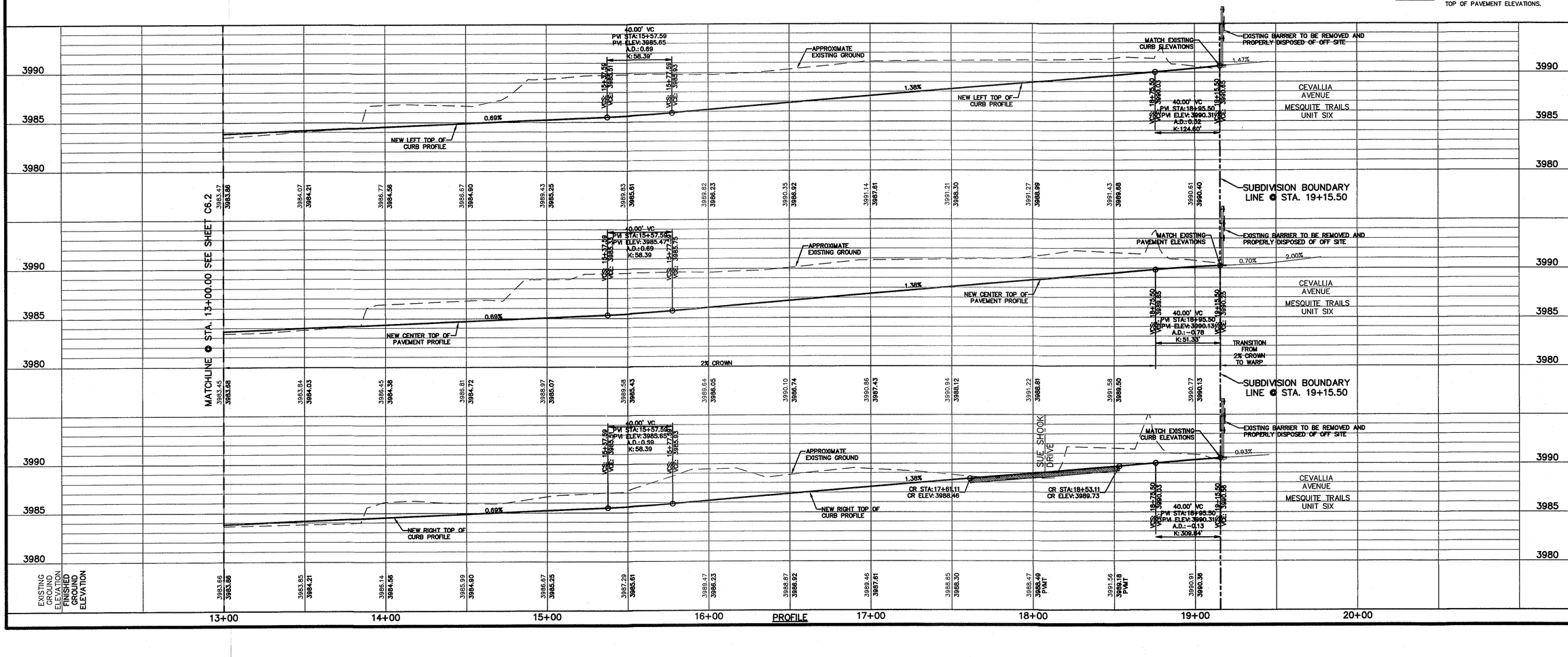
ENGINEER'S SEAL
JORGE L. AZCARATE 85075 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS



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Contour Interval:	N/A
DATE:	JUNE 2014
DESIGN BY:	A.C.
DRAWN BY:	A.A.
CHKD. BY:	J.L.A.
APPVD. BY:	J.L.A.
JOB No.	2000-181LD

PROJECT TITLE
MESQUITE TRAILS
UNIT TEN
SUBDIVISION IMPROVEMENTS

SHEET TITLE
DOMINIC ANAKIN DR PLAN & PROFILE FROM STA. 13+00.00 TO STA. 19+15.50

SHEET NO.
C6.3

S:\2000_2000 181LD-MESTRO\DWGS\Construction Drawings\Improvement Plans\C6-1-C6.3 Dominic Anakin-Phase Rev P&P.dwg, C6.3, 6/12/2014 10:31:49 AM

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TIME WARNER COMMUNICATIONS	(915) 772-1123
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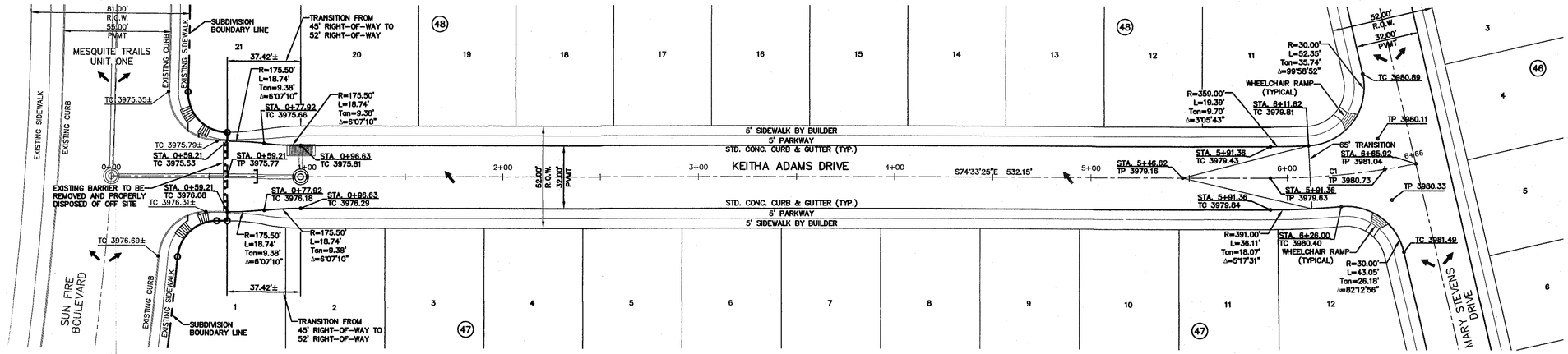
REFERENCES – BENCHMARKS
BENCHMARK IS CITY MONUMENT AT THE INTERSECTION OF MESQUITE TRAILS AND SUN FIRE BLVD. ELEVATION = 4003.10 FEET (CITY DATUM).

DATE	REVISIONS	BY



PLAN

CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	375.00'	74.56'	37.40'	74.44'	S80°15'10"E	011°23'31"

LEGEND

WHEELCHAIR RAMP BY DEVELOPER (TYP.)

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

Final Approval

THE CITY OF EL PASO TEXAS

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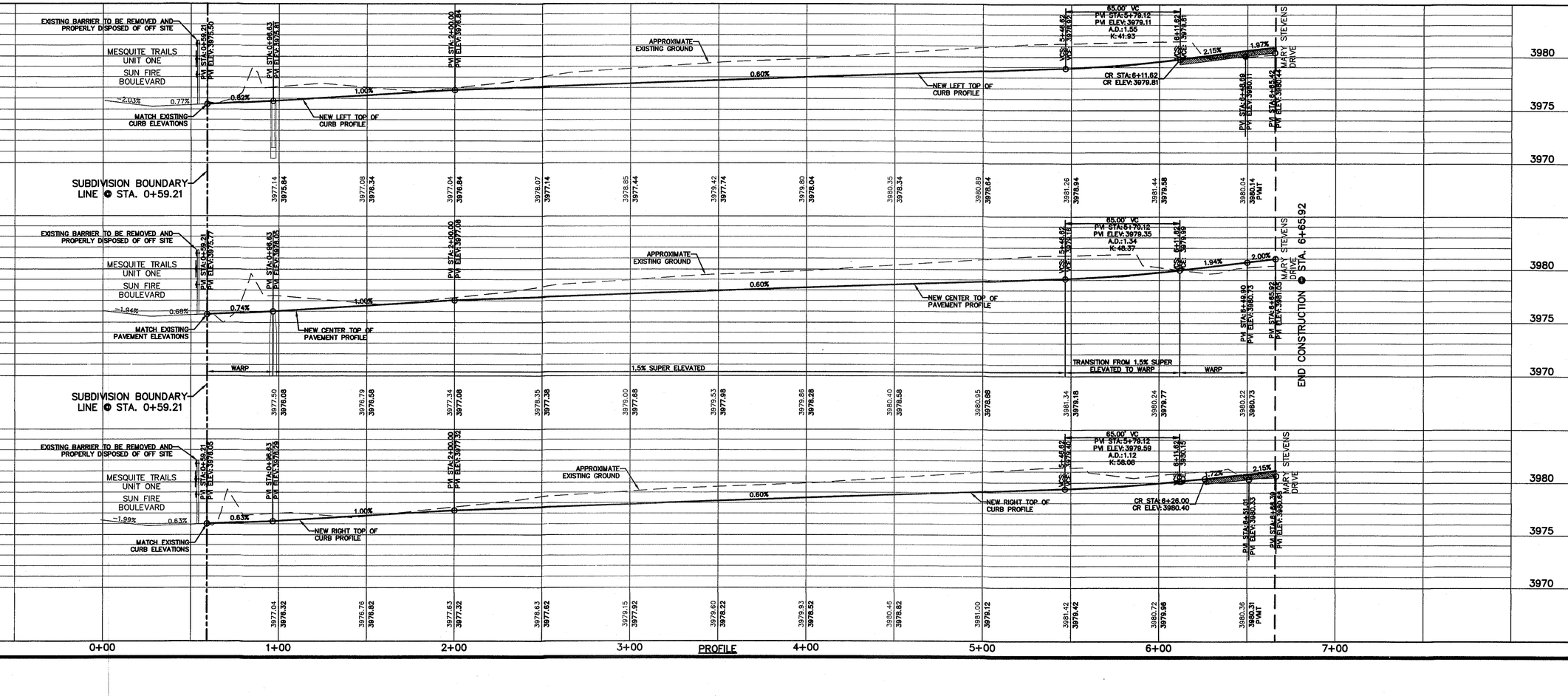
ENGINEER'S SEAL

JORGE L. AZCARATE 85075 REGISTERED PROFESSIONAL ENGINEER STATE OF TEXAS 6-12-14



PROFILE

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

DATE:	JUNE 2014
DESIGN BY:	A.C.
DRAWN BY:	A.A.
CHKD. BY:	J.L.A.
APPVD. BY:	J.L.A.
JOB No.	2000-181LD

PROJECT TITLE
MESQUITE TRAILS UNIT TEN
SUBDIVISION IMPROVEMENTS

SHEET TITLE
KEITHA ADAMS DRIVE PLAN & PROFILE FROM STA. 00+59.21 TO STA. 6+65.92

SHEET NO.
C6.4

S:\2000\2000-181LD-MQTR\DWGS\Construction Drawings\Improvement Plans\C6.4 Keitha Adams P&P.dwg, C6.4, 6/12/2014 10:38:17 AM

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REFERENCES – BENCHMARKS

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ELEVATION = 4083.10 FEET (CITY DATUM).

DATE	REVISIONS	BY

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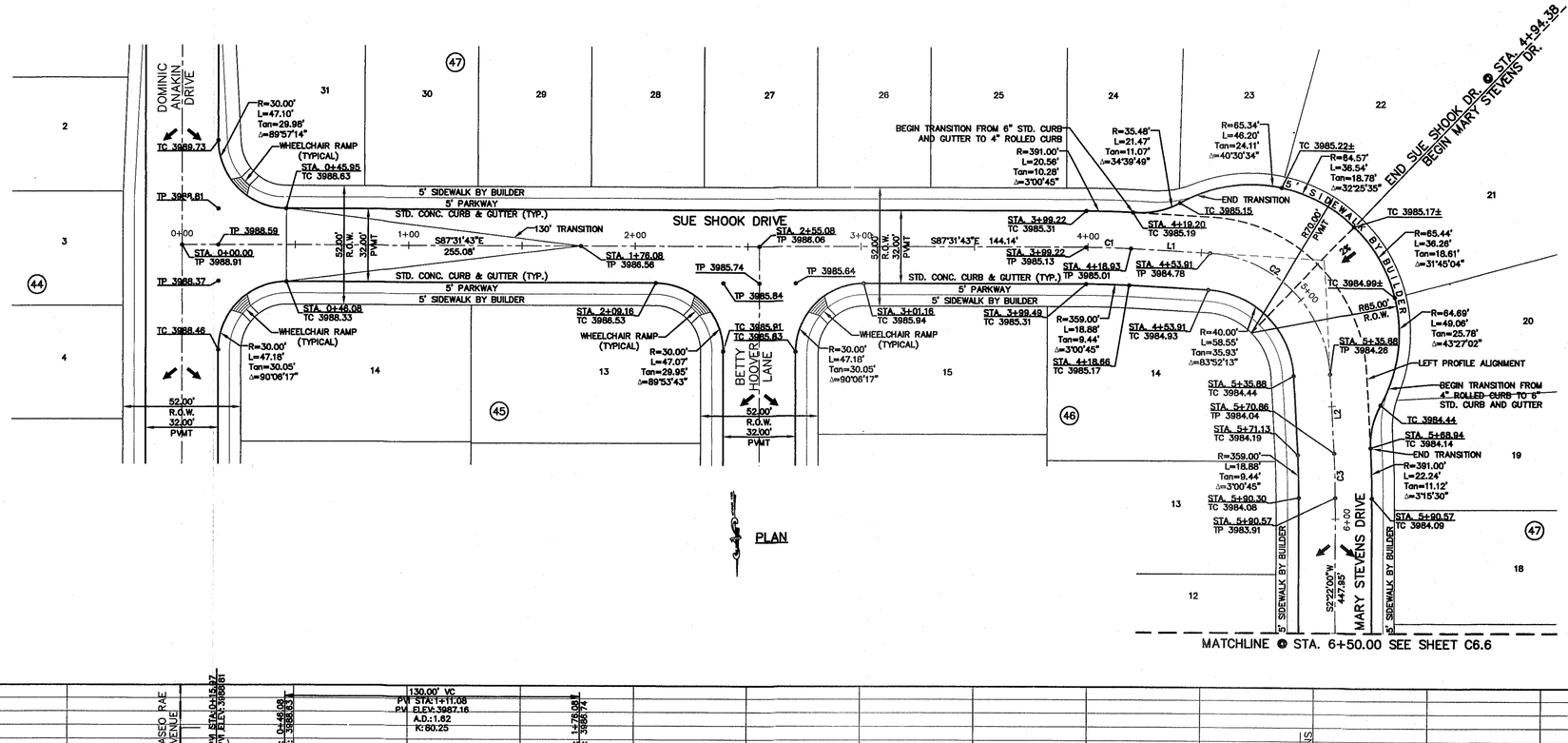


PLAN

LINE TABLE		
LINE	BEARING	LENGTH
L1	N84°30'58"W	34.97'
L2	N00°38'45"W	34.97'

CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	375.00'	19.72'	9.86'	19.71'	S86°01'21"E	003°00'45"
C2	56.00'	81.97'	50.31'	74.85'	S42°34'52"E	083°52'13"
C3	375.00'	19.72'	9.86'	19.71'	S00°51'38"W	003°00'45"

Final Approval

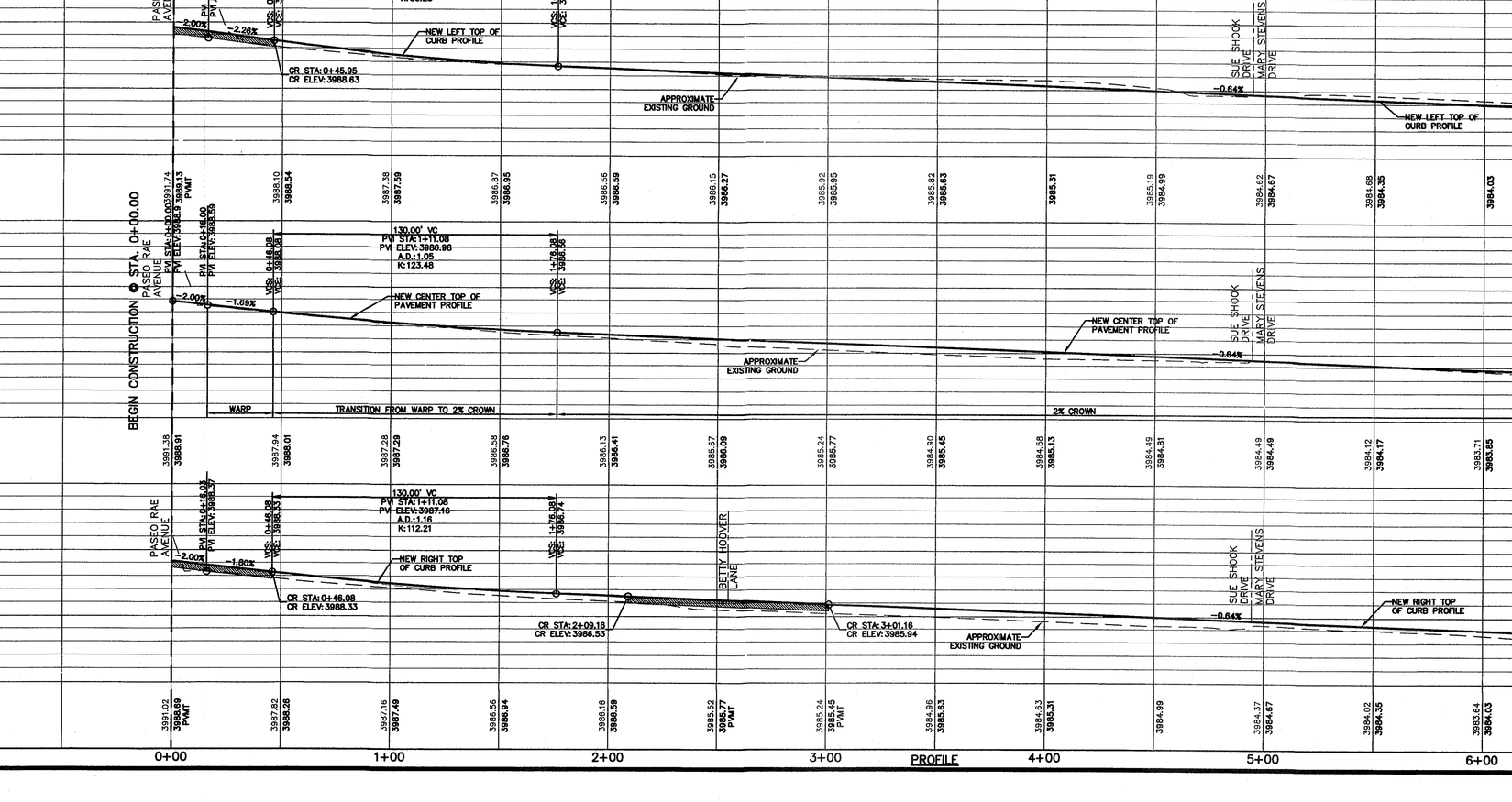
LEGEND

WHEELCHAIR RAMP BY DEVELOPER (TYP.)

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

ENGINEER'S SEAL

JORGE L. AZCARATE 85075 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS



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DATE:	JUNE 2014
DESIGN BY:	A.C.
DRAWN BY:	A.A.
CHKD. BY:	J.L.A.
APPVD. BY:	J.L.A.
JOB No.	2000-181LD

PROJECT TITLE

MESQUITE TRAILS UNIT TEN SUBDIVISION IMPROVEMENTS

SHEET TITLE

SUE SHOOK DRIVE/ MARY STEVENS DRIVE PLAN & PROFILE FROM STA. 0+00.00 TO STA. 6+50.00

SHEET NO.

C6.5

S:\2000\2000 181LD-ROTH\DWGS\Construction Drawings\Improvement Plans\C6.5-C6.6 Sue Shook-Mary Stevens P&P.dwg, C6.5, 9/12/2014 10:19:02 AM

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TIME WARNER COMMUNICATIONS	(915) 772-1123
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SBC	(800) 545-6005
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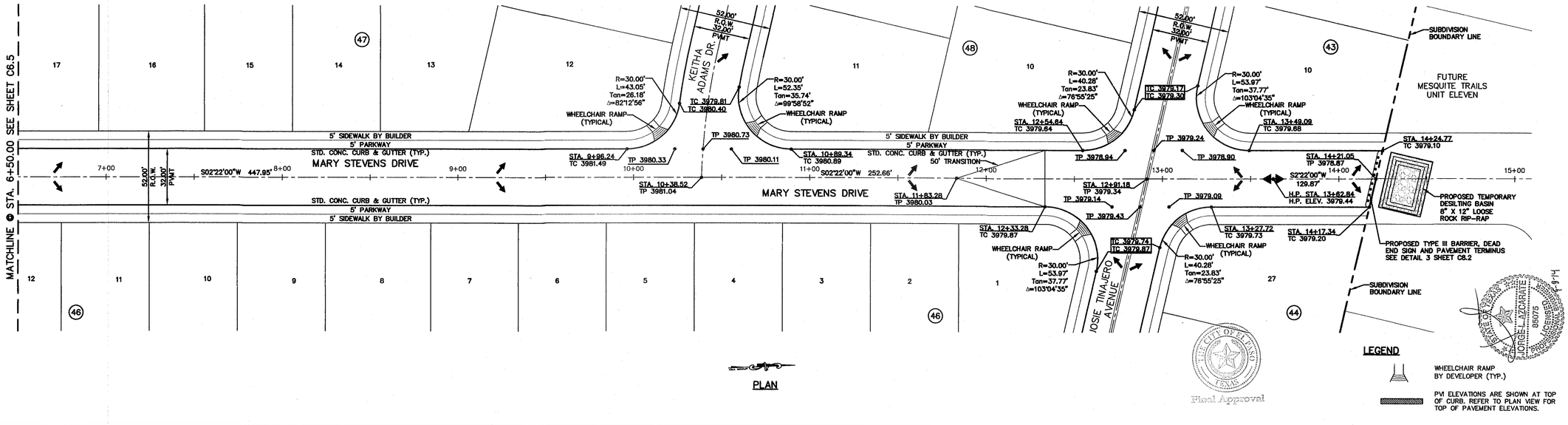
REFERENCES - BENCHMARKS

BENCHMARK IS CITY MONUMENT AT THE INTERSECTION OF PASEO ALEGRE CIR. AND PASEO LINDO DR. ELEVATION = 4003.10 FEET (CITY DATUM).

DATE	REVISIONS	BY



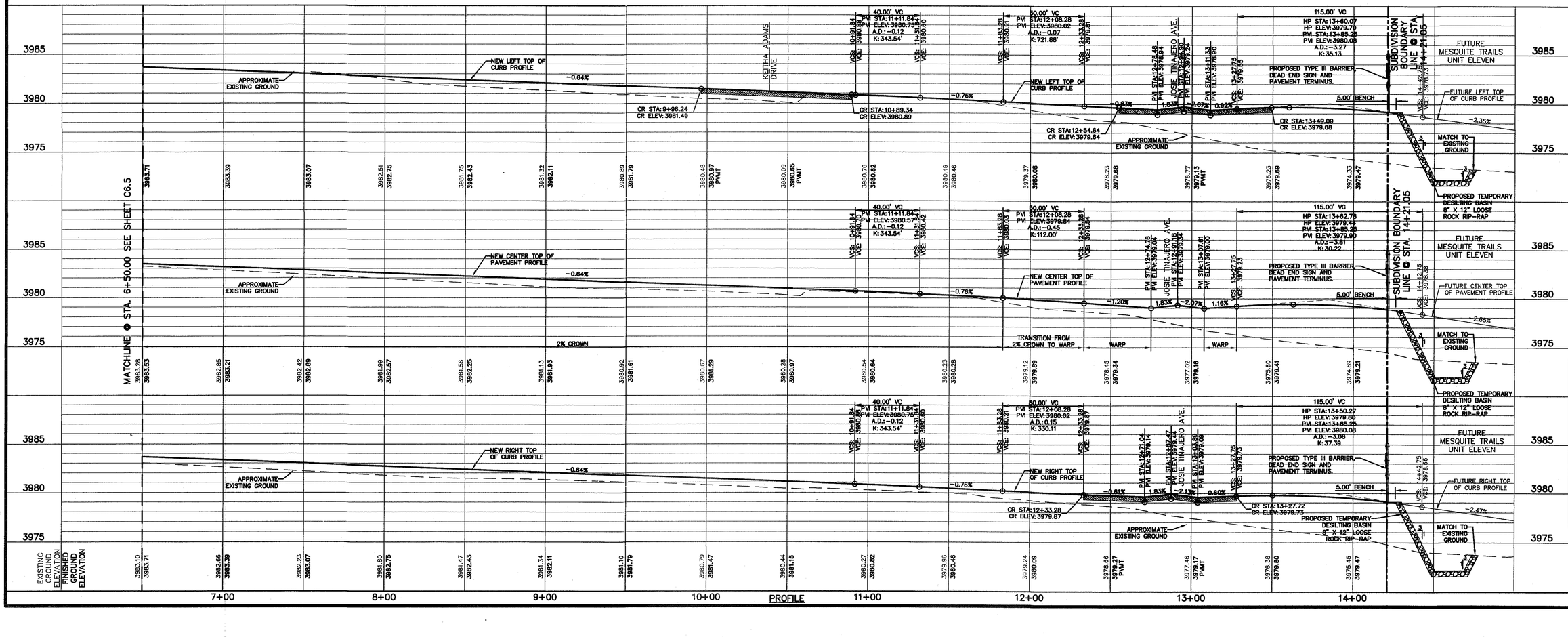
PLAN

LEGEND

WHEELCHAIR RAMP BY DEVELOPER (TYP.)

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

Final Approval



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

DATE: JUNE 2014
DESIGN BY: A.C.
DRAWN BY: A.A.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-181D

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PROJECT TITLE

MESQUITE TRAILS UNIT TEN
SUBDIVISION IMPROVEMENTS

SHEET TITLE

MARY STEVENS DRIVE PLAN & PROFILE FROM STA. 6+50.00 TO STA. 14+21.05

SHEET NO.

C6.6

S:\2000_JOBS-181D-MESTRIO\DWGS\Construction Drawings\Improvement Plans\C6.5-C6.6 Sue Shook-Mary Stevens P&P.dwg, C6.6, 8/12/2014 2:26:13 PM

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REFERENCES - BENCHMARKS
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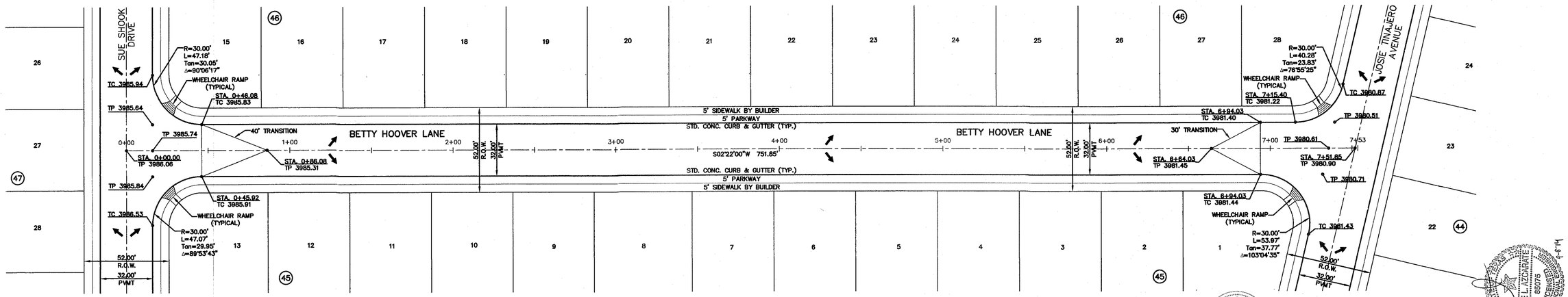
ELEVATION = 4003.10 FEET (CITY DATUM).

DATE	REVISIONS	BY



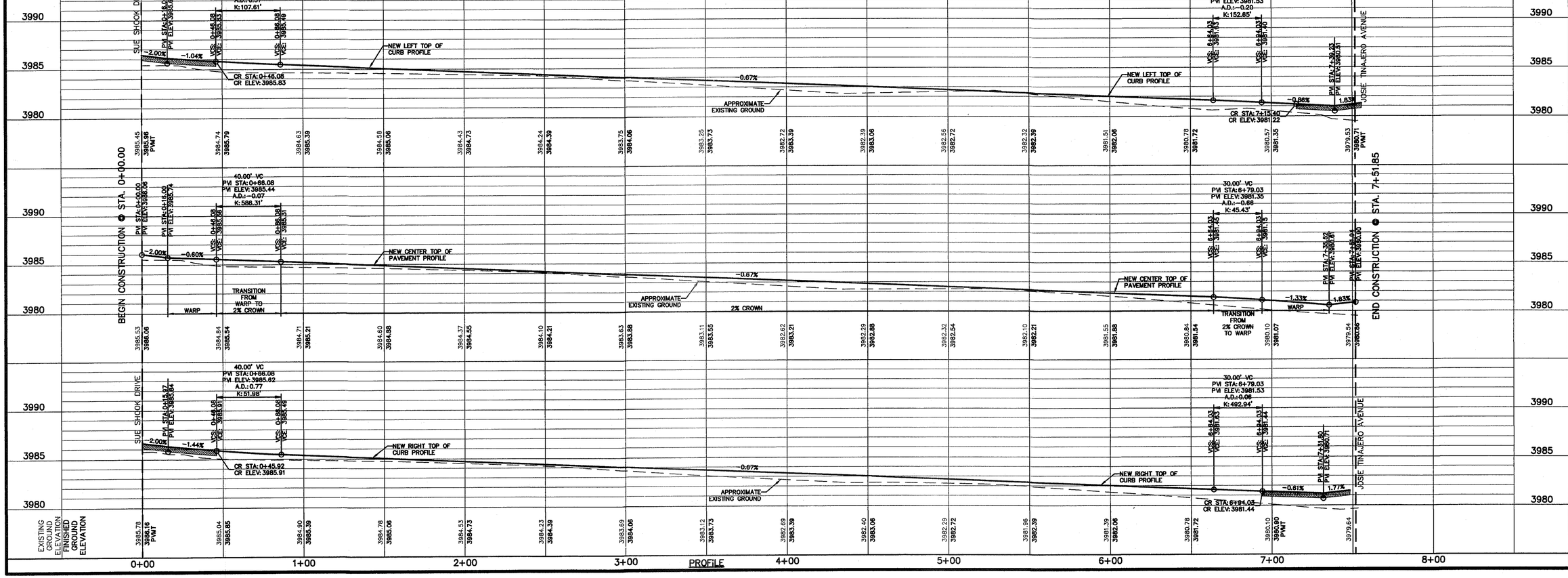
PLAN

Final Approval

LEGEND

WHEELCHAIR RAMP BY DEVELOPER (TYP.)

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



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ENGINEER'S SEAL

THE STATE OF TEXAS — JORGE L. AZCARATE — 85075 — LICENSED PROFESSIONAL ENGINEER — 8-8-14

THE CITY OF EL PASO TEXAS — RECOMMENDED FOR APPROVAL — 8-11-14

SCALE	
Horizontal:	1"=30'
Vertical:	1"=5'
Contour Interval:	N/A
DATE:	JUNE 2014
DESIGN BY:	A.C.
DRAWN BY:	A.A.
CHKD. BY:	J.L.A.
APPVD. BY:	J.L.A.
JOB No.	2000-181LD

PROJECT TITLE
MESQUITE TRAILS
UNIT TEN
SUBDIVISION IMPROVEMENTS

SHEET TITLE
BETTY HOOVER LANE
PLAN & PROFILE
FROM STA. 0+00.00
TO STA. 7+51.85

SHEET NO.
C6.7

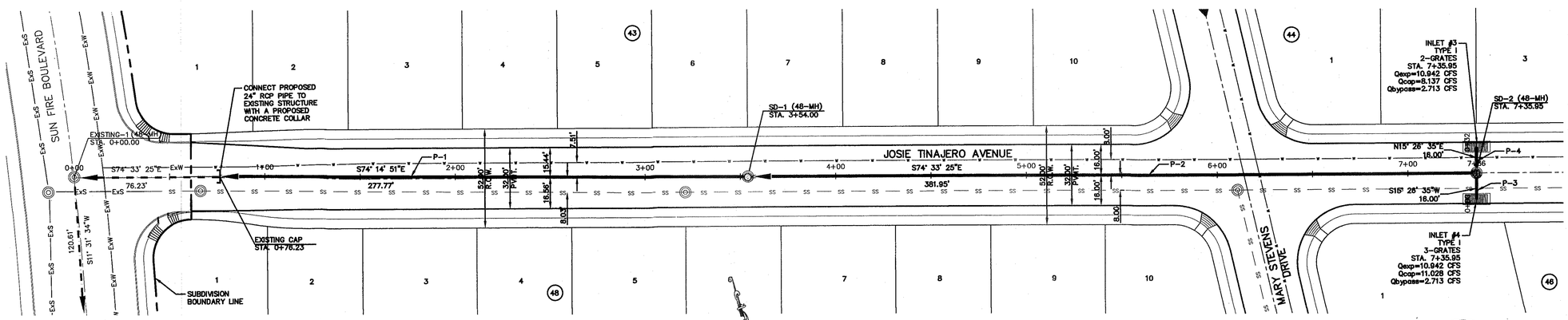
S:\2000\2000-181LD-MORTON\DWGS\Construction Drawings\Improvement Plans\C6.7 Betty Hoover P&P.dwg, C6.7, 8/12/2014 10:54:00 AM

STORM PIPE LINE A OUTPUT INFORMATION						
PIPE	DOWNSTREAM INVERT ELEVATION (ft)	UPSTREAM INVERT ELEVATION (ft)	HYDRAULIC GRADE DOWNSTREAM (ft)	HYDRAULIC GRADE UPSTREAM (ft)	Q(50) Expected (cfs)	Q(50) Capacity (cfs)
P-1	3969.25	3972.15	3974.97	3977.26	18.17 CFS	20.47 CFS
P-2	3972.15	3975.27	3977.00	3979.58	18.61 CFS	20.45 CFS
P-3	3975.27	3975.56	3979.96	3980.00	10.94 CFS	30.46 CFS
P-4	3975.27	3975.56	3979.96	3979.98	8.19 CFS	30.46 CFS

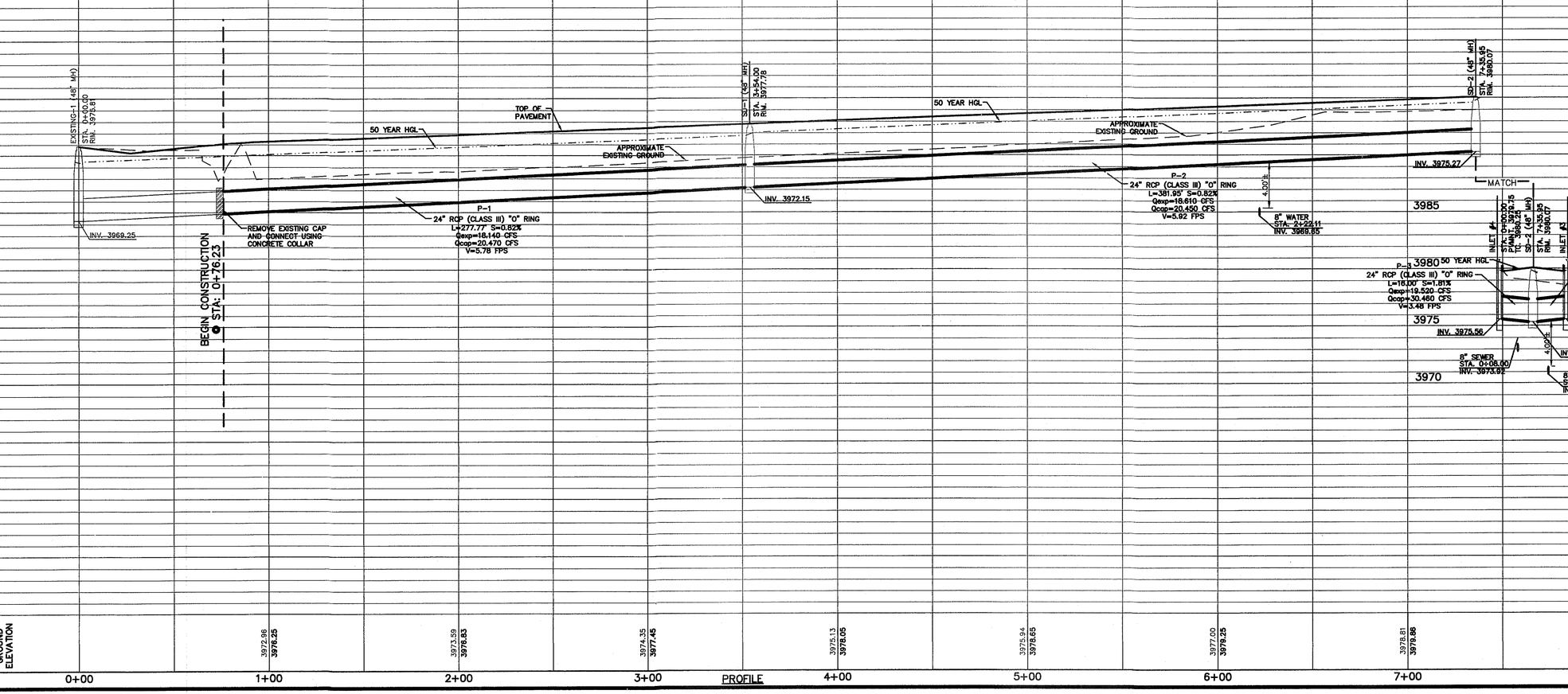
UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT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

WARNING ! BEFORE YOU DIG
CALL
1-800-DIG-TESS
1-800-344-8377
FOR FIELD LOCATING EXISTING UTILITIES

LINE A



PLAN



PROFILE

LEGEND:
- STORM SEWER LINE
- NEW STORM SEWER LINE ON OTHER STREETS
- EXISTING STORM SEWER LINE
- DROP INLET
- MANHOLE
- SS — SANITARY SEWER LINE
- W — WATER LINE

Final Approval

REFERENCES – BENCHMARKS
BENCHMARK IS CITY MONUMENT AT THE INTERSECTION OF PASEO ALEGRE CIR. AND PASEO LINDO DR. ELEVATION = 4003.10 FEET (CITY DATUM).

DATE	REVISIONS	BY

cea group
engineers • architects • planners
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4710 Woodrow Bean, Ste. F El Paso, TX 79924
Office: 915.544.3232 Fax: 915.544.8233 www.ceagroup.net

ENGINEER'S SEAL
JORGE L. AZCARATE 85075 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS
9-12-14

SCALE	
Horizontal:	1"=30'
Vertical:	1"=5'
Contour Interval:	
DATE:	JUNE 2014
DESIGN BY:	A.C.
DRAWN BY:	A.C.
CHKD. BY:	J.L.A.
APPVD. BY:	J.L.A.
JOB No.	2000-181LD

PROJECT TITLE
MESQUITE TRAILS
UNIT TEN
SUBDIVISION IMPROVEMENTS

SHEET TITLE
LINE A
PLAN & PROFILE
FROM STA. 0+00.00
TO STA. 7+35.95

SHEET NO.
C7.1

S:\2000-2000-181LD-MESTRAIL\DWGS\Construction Drawings\Improvement Plans\C7.1 Storm Sewer Line A.dwg, C7.1 LINE A_Storm Sewer Plan, 9/12/2014 1:17:43 PM

STORM PIPE LINE B OUTPUT INFORMATION						
PIPE	DOWNSTREAM INVERT ELEVATION (ft)	UPSTREAM INVERT ELEVATION (ft)	HYDRAULIC GRADE DOWNSTREAM (ft)	HYDRAULIC GRADE UPSTREAM (ft)	Q(50) Expected (cfs)	Q(50) Capacity (cfs)
P-5	3974.84	3975.11	3974.61	3974.88	11.99 CFS	18.55 CFS
P-6	3970.90	3971.35	3975.07	3975.27	12.00 CFS	17.62 CFS

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
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TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

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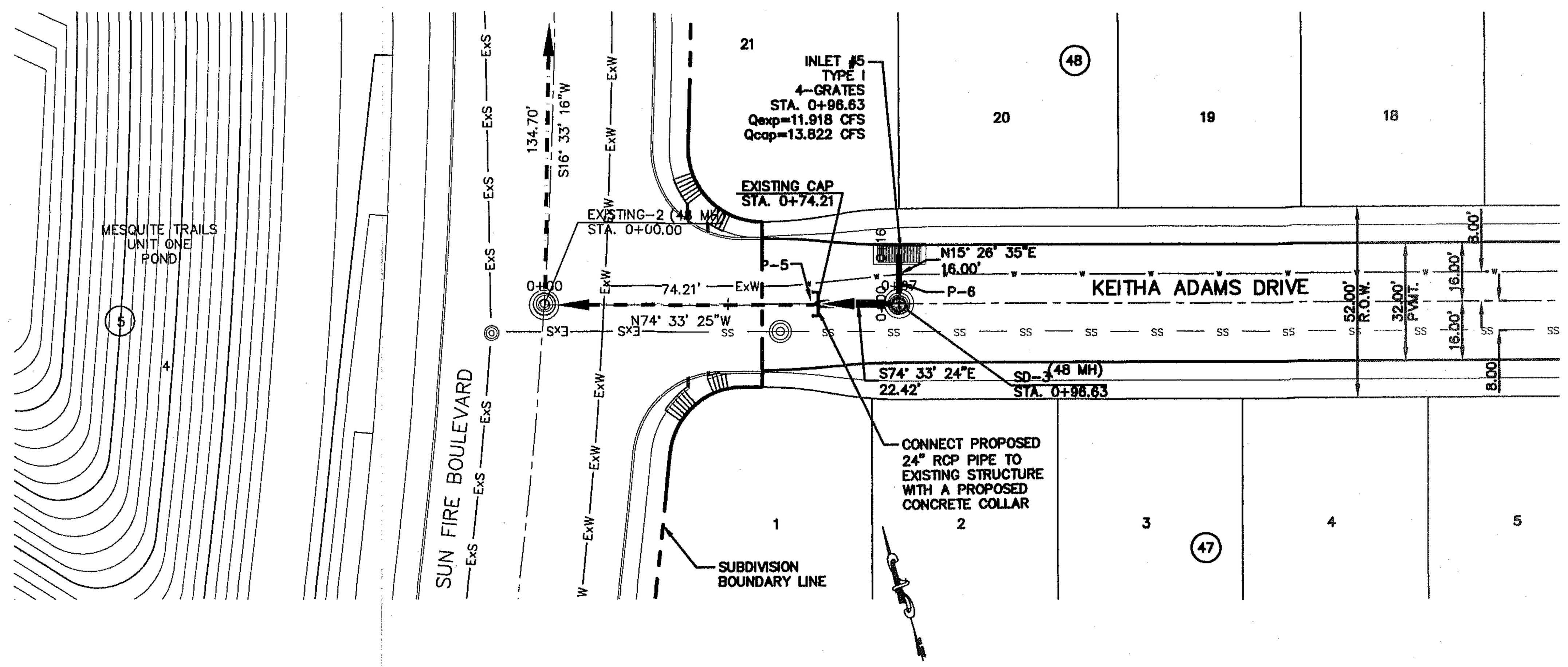
REFERENCES - BENCHMARKS

BENCHMARK IS CITY MONUMENT AT THE INTERSECTION OF PASEO ALEGRE CIR. AND PASEO LINDO DR. ELEVATION = 4003.10 FEET (CITY DATUM).

DATE | REVISIONS | BY

LINE B

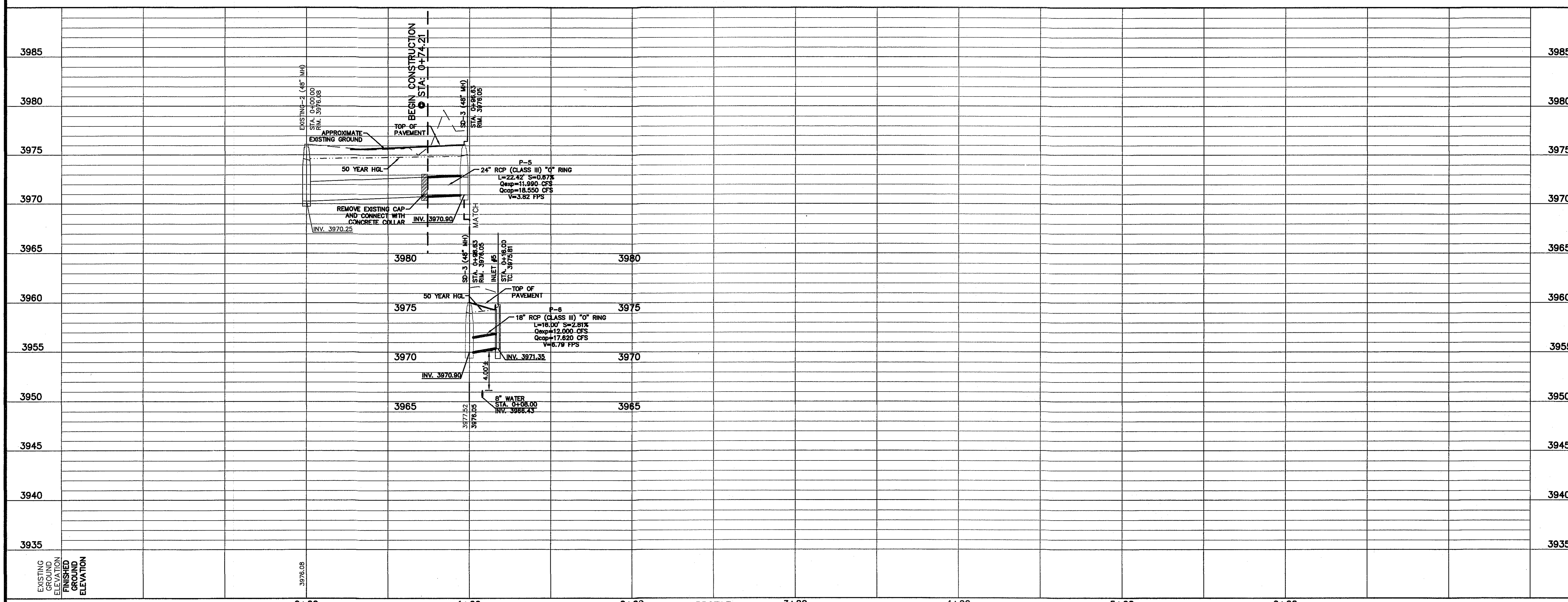


PLAN

Final Approval

LEGEND:

STORM SEWER LINE
NEW STORM SEWER LINE ON OTHER STREETS
EXISTING STORM SEWER LINE
DROP INLET
MANHOLE
SANITARY SEWER LINE
WATER LINE



PROFILE

cea group
engineers • architects • planners
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4712 Woodrow Bean, Ste. F El Paso, TX 79924

ENGINEER'S SEAL

JORGE L. AZCARATE 85075 LICENSED PROFESSIONAL ENGINEER

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

DATE: JUNE 2014
DESIGN BY: A.C.
DRAWN BY: A.C.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-181LD

PROJECT TITLE

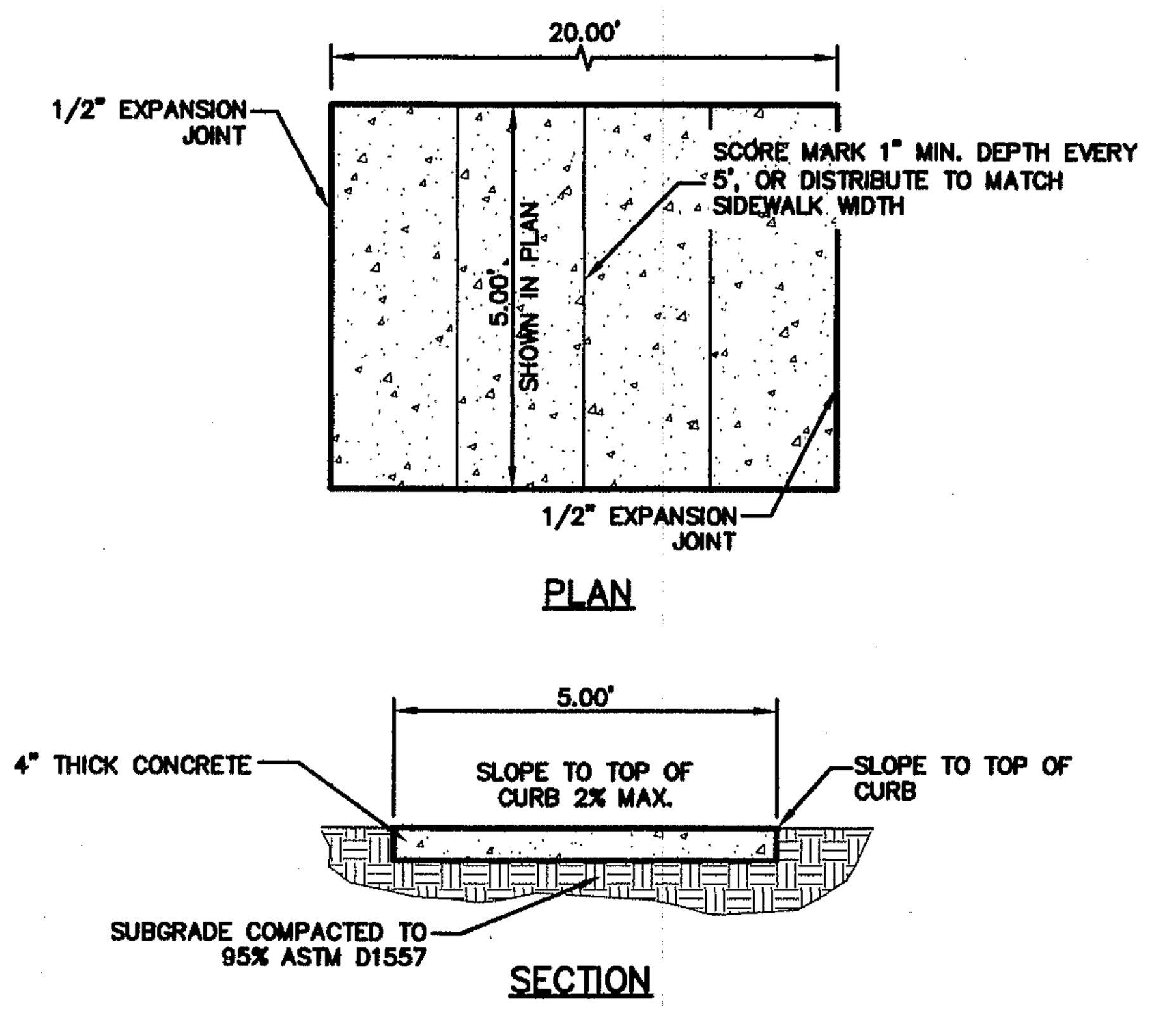
MESQUITE TRAILS UNIT TEN SUBDIVISION IMPROVEMENTS

SHEET TITLE

LINE B PLAN & PROFILE FROM STA. 0+00.00 TO STA. 0+96.63

SHEET NO.

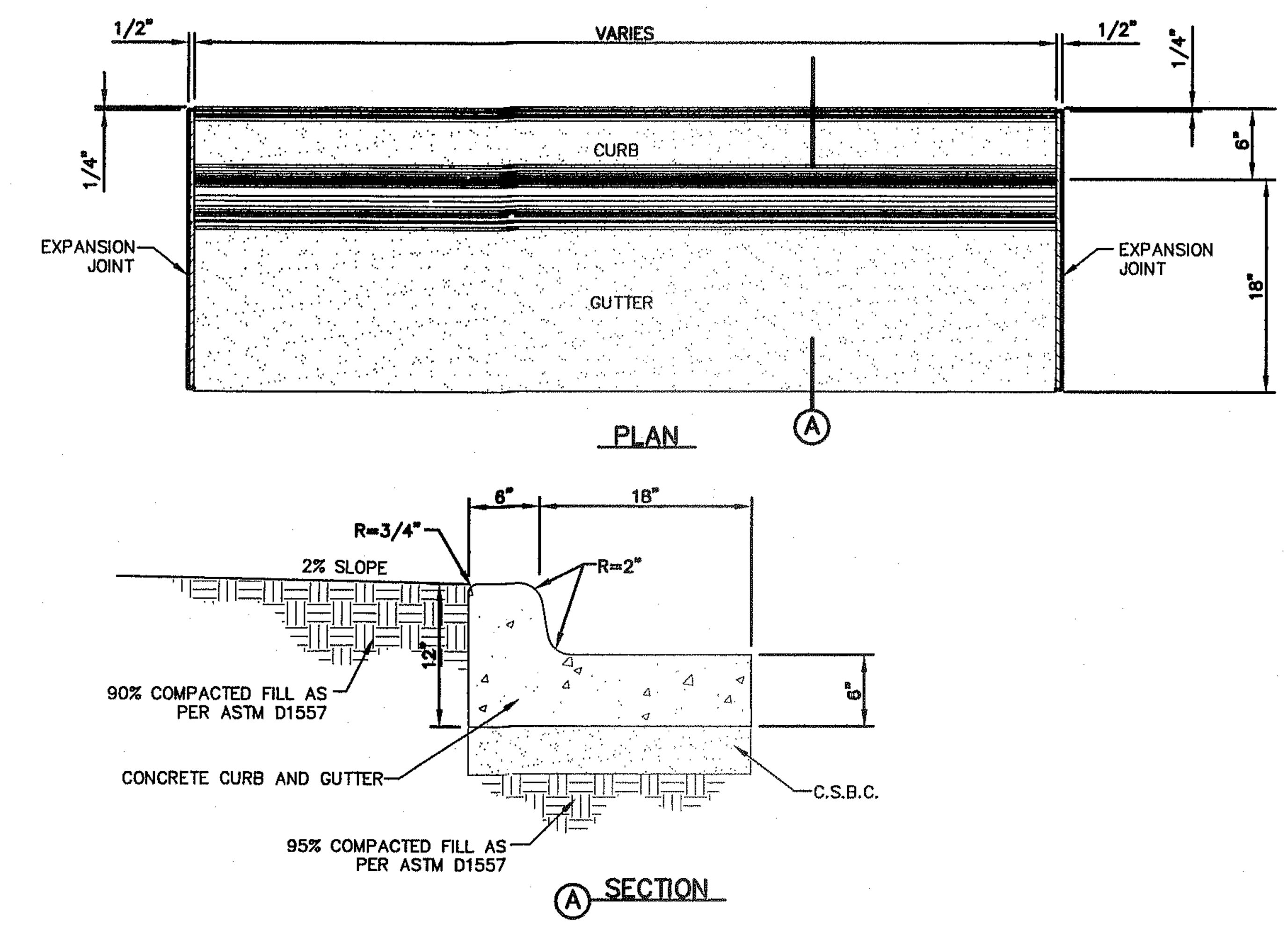
C7.2



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.

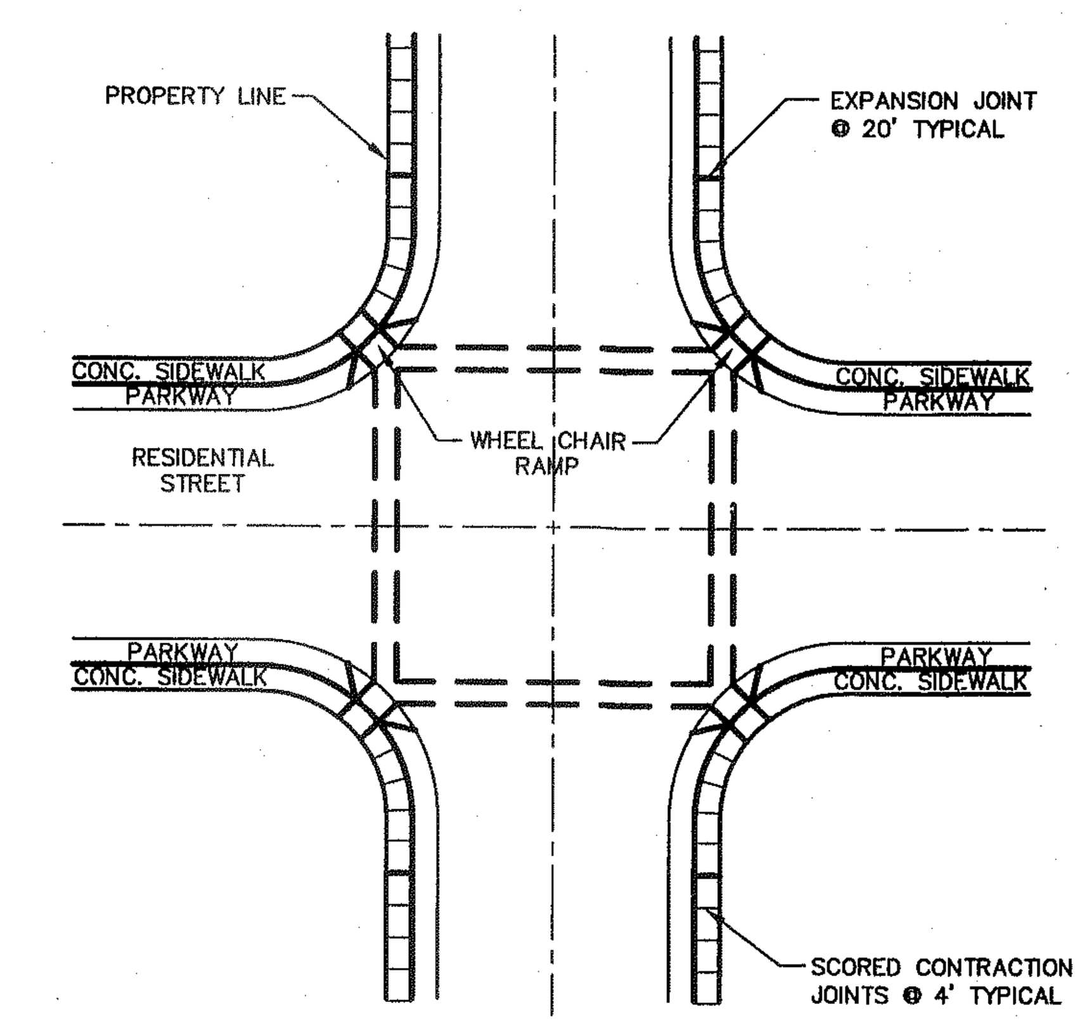
1 / C8.1 SECTION-SIDEWALK/SLAB
SCALE: 1" = 2'-0"



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.

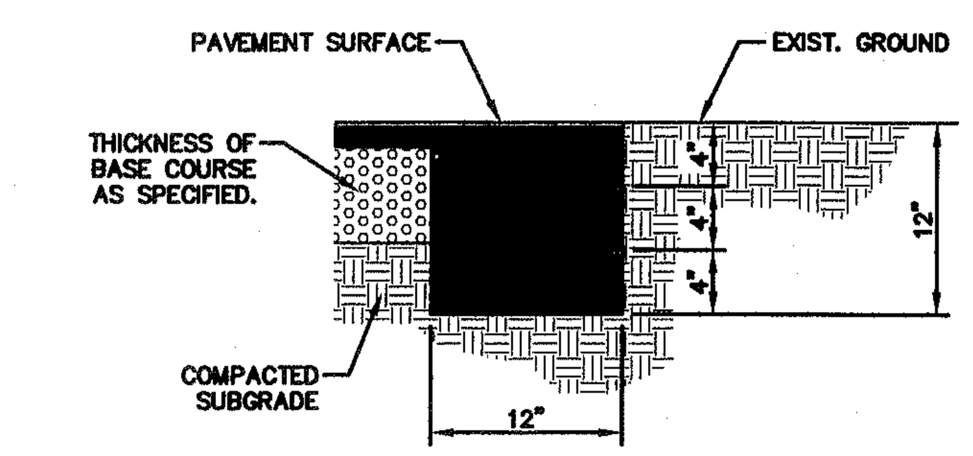
2 / C8.1 CURB & GUTTER DETAIL
SCALE: 1" = 1'-0"



NOTES:

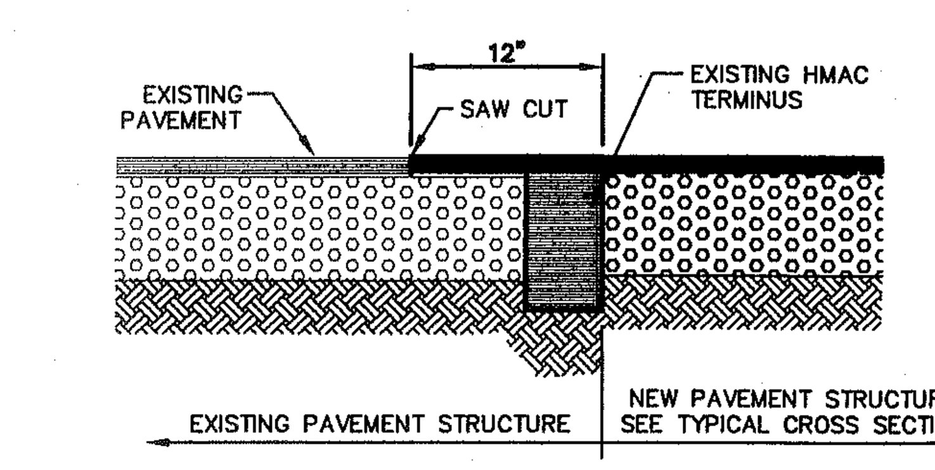
1. RAMPS MAY BE PLACED AS SUGGESTED, HOWEVER EXISTING LIGHT POLES, FIREHYDRANTS, DROP INLETS, ETC., MAY AFFECT PLACEMENT.
2. THE CONCRETE SURFACE SHALL HAVE A ROUGH, NONSKID TYPE FINISH.
3. CONSTRUCTION METHODS SHALL CONFORM WITH THE CITY OF EL PASO SPECIFICATIONS.
4. ALL PARKING AND PAVEMENT MARKINGS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

3 / C8.1 WHEELCHAIR RAMP STREET PLAN
SCALE: 1" = 30'-0"

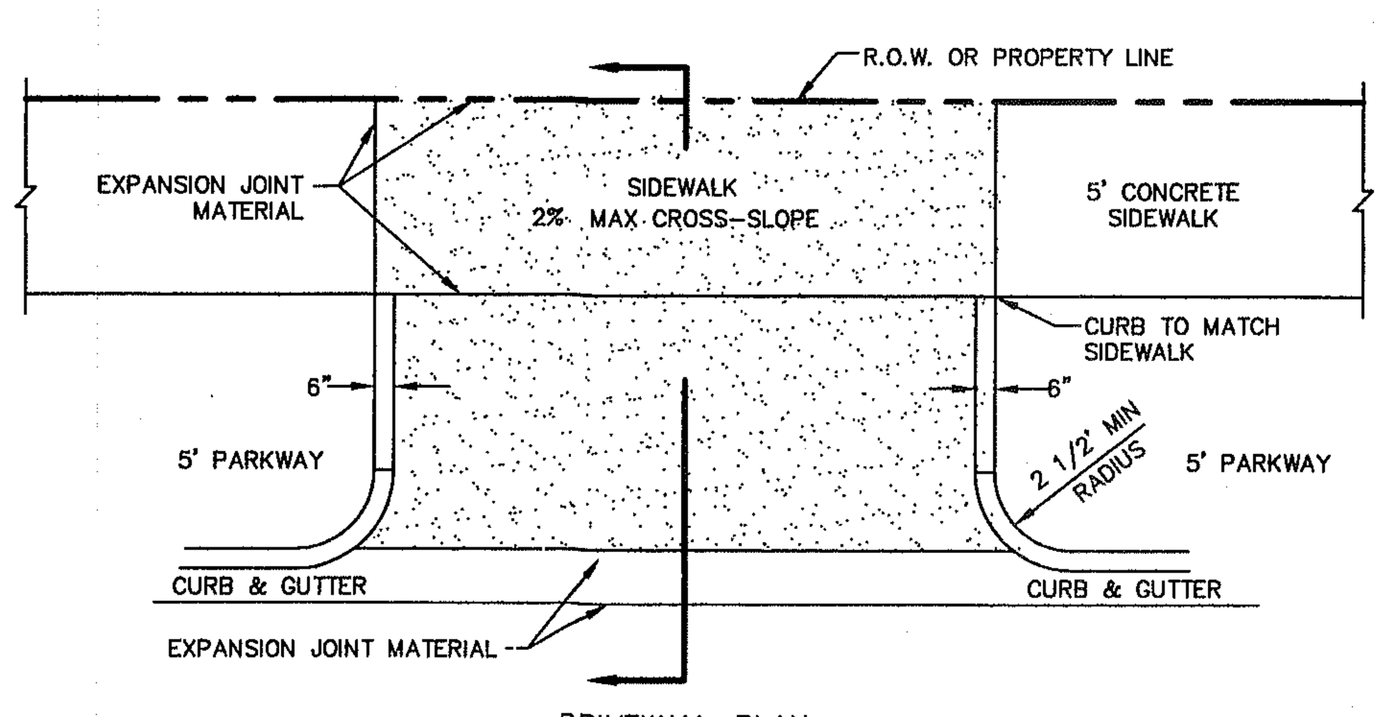


NOTE:
TERMINUS MUST BE CONSTRUCTED IN 4" LIFTS. FINAL LIFT MUST BE PLACED WITH FINAL PAVEMENT COURSE.

4 / C8.1 TERMINUS OF STREET
SCALE: 1" = 1'-0"

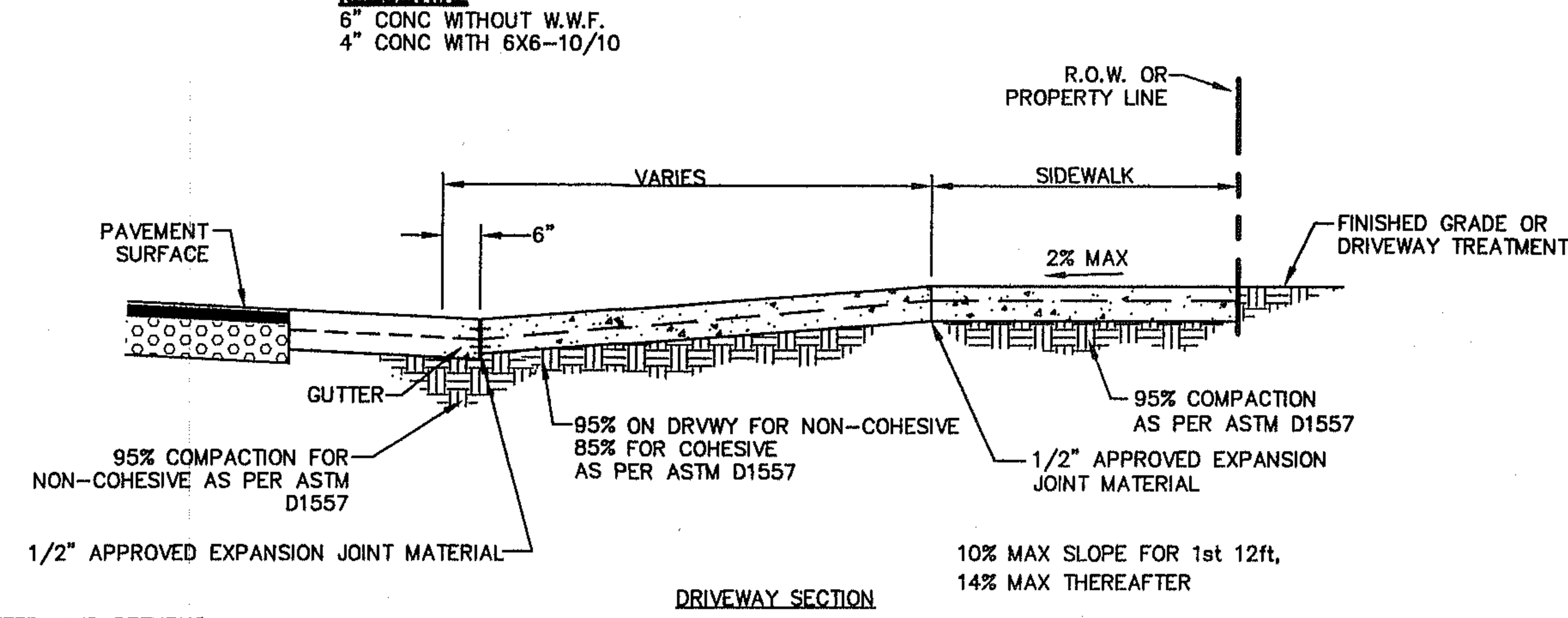


5 / C8.1 TYPICAL PAVEMENT JOINT SECTION
SCALE: N.T.S.



DRIVEWAY WIDTH	MIN	MAX
RESIDENTIAL (SINGLE FAMILY 60' LOTS)	10'	20'
LESS THAN 60' LOTS, DUPLEX AND TOWN HOMES (REFER TO PLATE 6-16; DESIGN STANDARDS FOR CONSTRUCTION)	15'	25'

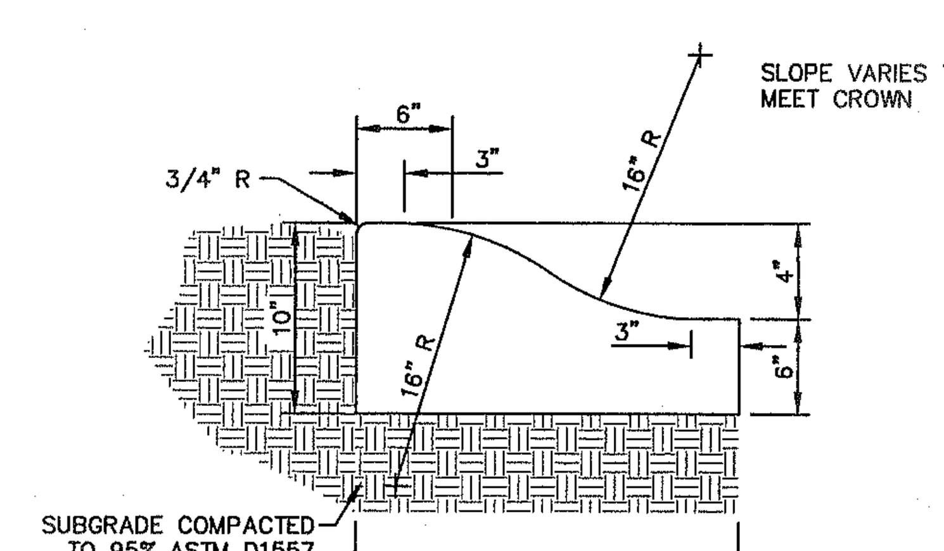
***RESIDENTIAL**
6" CONC WITHOUT W.W.F.
4" CONC WITH 6X6-10/10



NOTES:

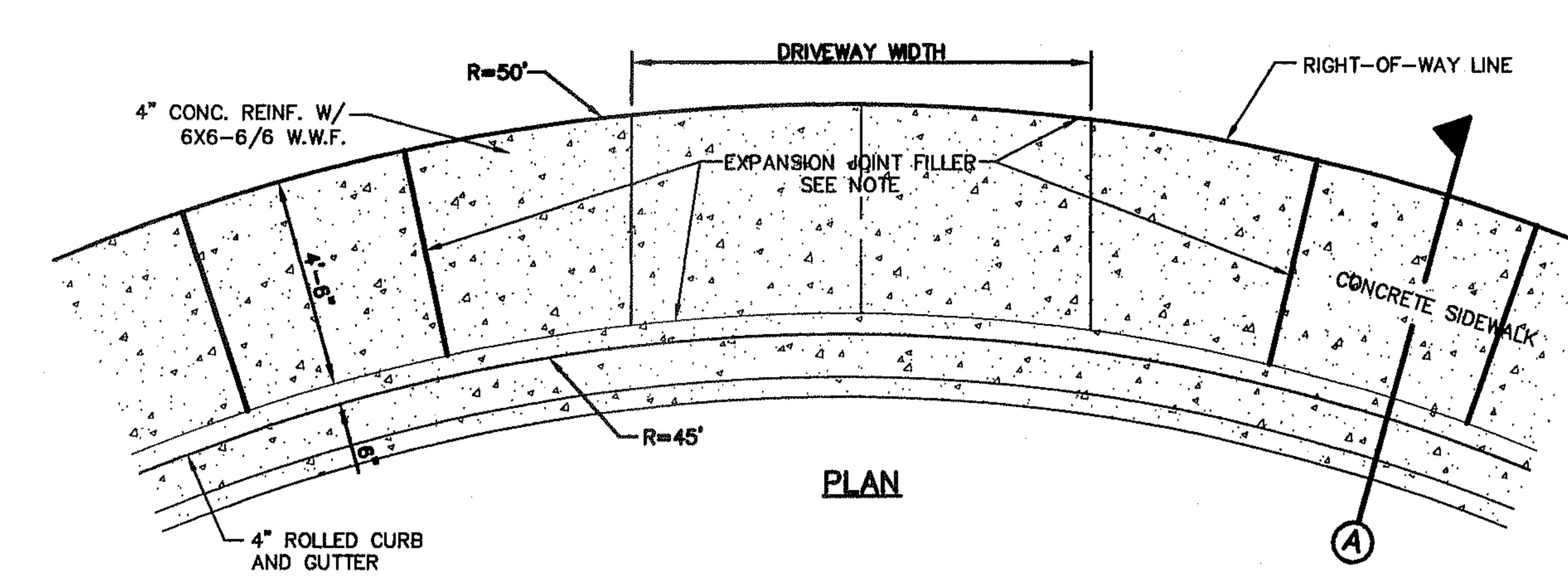
1. DUMMY JOINTS REQUIRED AT 10' O.C.
2. CONCRETE HEADER CURB, CURB, CURB & GUTTER, AND RETURNS SHALL BE 3,000 P.S.I. MIN.
3. 1/2" PREMOLDED BITUMINOUS EXPANSION JOINT (AASHTO M-33) IS REQUIRED FOR ALL CURBS RETURNS. TRIM BITUMINOUS MATERIAL 1/4" LESS THAN NEAT CURB & GUTTER DIMENSION.
4. SUBGRADE UNDER CURBS MUST BE FORMED AND COMPACTED TO 95% ASTM D-1557.
5. EXPANSION JOINTS REQUIRED AT 50' O.C. WHEN FORMING FOR CURBS.

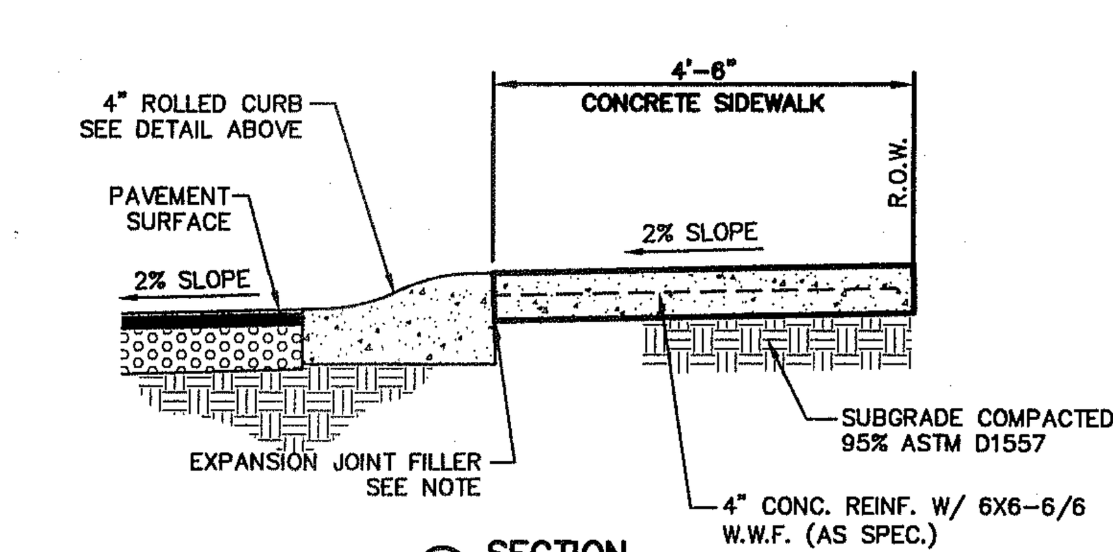
6 / C8.1 CONCRETE APRON FOR DRIVEWAYS/ALLEYWAYS
SCALE: N.T.S.



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.

7 / C8.1 4" CONCRETE ROLLED CURB DETAIL
SCALE: 1"=1'-0"





NOTE:
EXPANSION JOINT FILLER SHALL CONSIST OF 1/2" BITUMINOUS TYPE PREFORMED (AASHTO M-33)

8 / C8.1 CUL-DE-SAC (50' R) DRIVEWAY DETAIL
SCALE: N.T.S.

REFERENCES - BENCHMARKS

BENCHMARK IS CITY MONUMENT AT THE INTERSECTION OF PASEO ALEGRE CIR. AND PASEO LINDO DR. ELEVATION = 4003.10 FEET (CITY DATUM).

DATE	REVISIONS	BY

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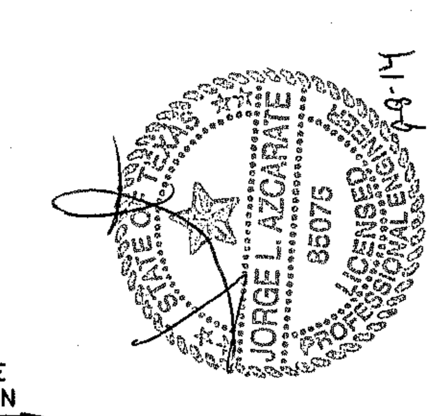
Office 915.544.5232 Fax 915.544.5233 www.ceagroup.net

ENGINEER'S SEAL



SCALE
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: JUNE 2014
DESIGN BY: A.C.
DRAWN BY: A.C./F.S.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-181LD

PROJECT TITLE

MESQUITE TRAILS UNIT TEN SUBDIVISION IMPROVEMENTS

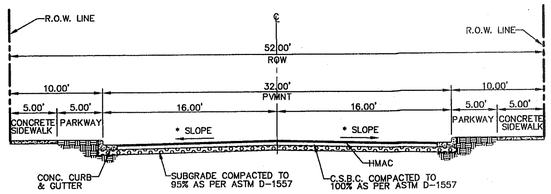
SHEET TITLE

STANDARD DETAILS

(SHEET 1 OF 3)

SHEET NO.

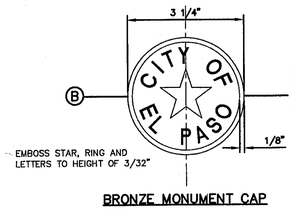
C8.1



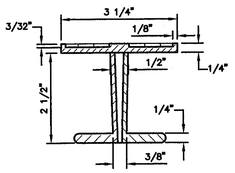
1 / C8.2 TYPICAL 52' ROW STREET SECTIONS DETAIL
SCALE: N.T.S.

NOTES:

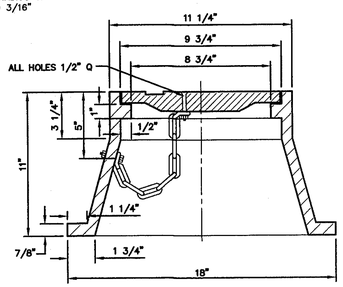
1. (*) STREET TRANSVERSE SLOPE AS SHOWN IN PLANS
2. SIDEWALK WIDTH IS REQUIRED TO COMPLY WITH ADA/TAS REGULATIONS.
3. STREET IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT CITY OF EL PASO PAVING CONSTRUCTION DETAILS AND STANDARD SPECIFICATIONS. CBR @ EVERY 500' RESULTS TO BE SUBMITTED TO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



BRONZE MONUMENT CAP



Ⓑ SECTION



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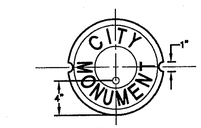
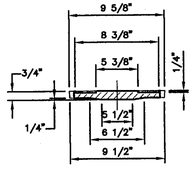
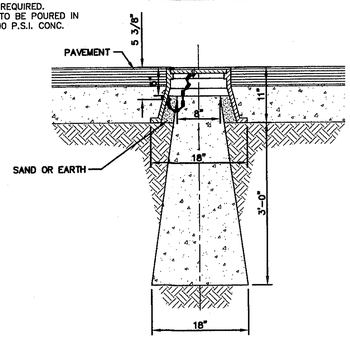


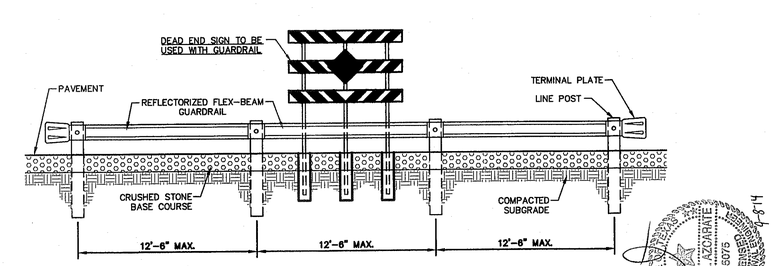
COVER



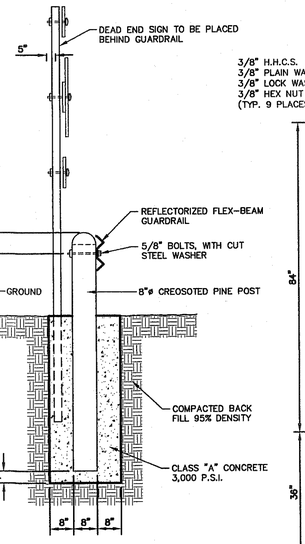
NO FORMS REQUIRED. CONCRETE TO BE POURED IN PLACE. 3000 P.S.I. CONC.



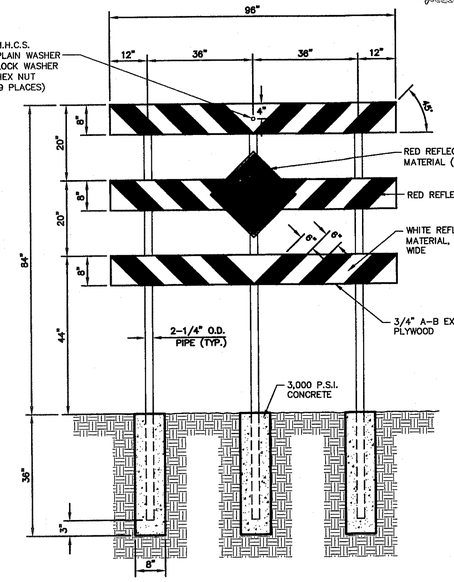
2 / C8.2 CITY SURVEY MONUMENT DETAILS
SCALE: N.T.S.



ELEVATION
SCALE: 1'=5'

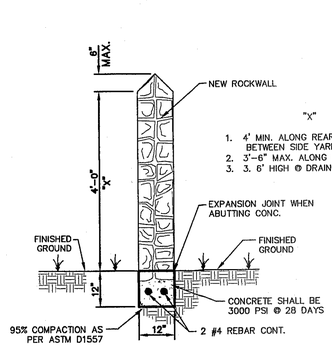


POST AND SIGN DETAIL
SCALE: N.T.S.



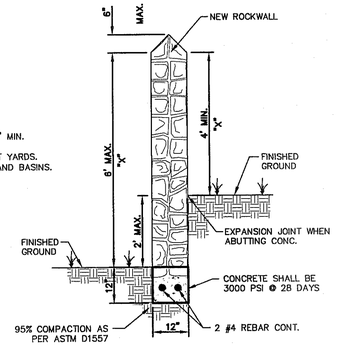
DEAD END SIGN DETAIL
SCALE: 1" = 2'-0"

3 / C8.2 GUARD RAIL/SIGN ASSEMBLY AT DEAD END STREET DETAIL
SCALE: AS SHOWN

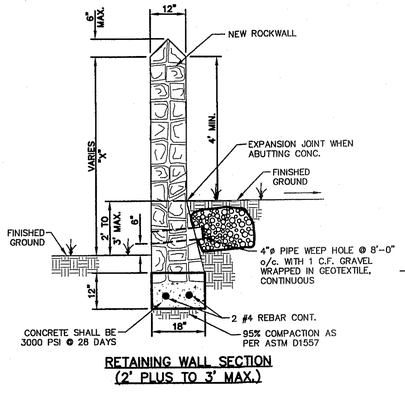


GARDEN WALL SECTION

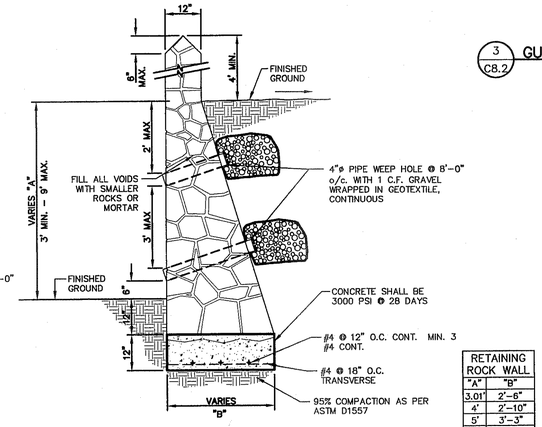
1. 4' MIN. ALONG REAR & 4' MIN. BETWEEN SIDE YARDS.
2. 3'-6" MAX. ALONG FRONT YARDS.
3. 3. 6' HIGH @ DRAINAGE AND BASINS.



GARDEN WALL SECTION (2' MAX.)



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



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

RETAINING ROCK WALL	
"X"	"B"
3.01'	2'-6"
4'	2'-10"
5'	3'-3"
6'	3'-8"
7'	4'-0"
8'	4'-5"
9'	4'-10"

4 / C8.2 TYPICAL ROCKWALL DETAILS
SCALE: 1" = 2'-0"

ROCK WALL NOTES

1. STONE FOR ROCKWALL SHALL BE AS NEARLY UNIFORM IN SECTIONS AS IN PRACTICABLE THE STONE SHALL BE DENSE AND RESISTANT OF AIR AND WATER.
2. MORTAR MUST BE TYPE "S: 1800 P.S.I. AS PER ASTM C270.
3. MASONRY WALL OVER SIX (6) FEET IN HEIGHT AND THOSE USED FOR EARTH RETENTION OVER TWO (2) FEET MUST BE DESIGNED AS STRUCTURAL WALLS..
4. 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.
5. ROCKWALL MORTAR JOINTS MUST NOT EXCEED TWO (2) INCHES.
6. PROVIDE ONE (1) INCH EXPANSION JOINTS AT EVERY 100 FEET.
7. ALL STONE SHALL BE THOROUGHLY SOAKED BEFORE BEING PLACED.
8. ALL STONE FOR ROCKWALLS SHALL BE FRACTURED QUARRIED ROCK OR ROUND ROCK, NO RIVER ROCK SHALL BE ALLOWED.
9. REINFORCING STEEL SHALL BE ASTM A615 GRADE 40.
10. ALLOWABLE SOIL BEARING PRESSURE = 2,500 PSI (MINIMUM).
11. BACKFILL MATERIALS SHALL CONSIST OF COARSE GRAINED, WELL-DRAINED SOILS (WITH NO CLAY CONTENT).

THE CITY OF EL PASO TEXAS
Final Approval

REFERENCES - BENCHMARKS
BENCHMARK IS CITY MONUMENT AT THE INTERSECTION OF PASEO ALEGRE CIR. AND PASEO LINDO DR. ELEVATION = 4003.10 FEET (CITY DATUM).

DATE	REVISIONS	BY

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engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-4964
4712 Woodrow Bean, Ste. F El Paso, TX 79924
Office 915.544.5232 Fax 915.544.5233 www.ceagroup.net

ENGINEER'S SEAL
JORGE L. AZCARATE 85075 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS
12-17-14

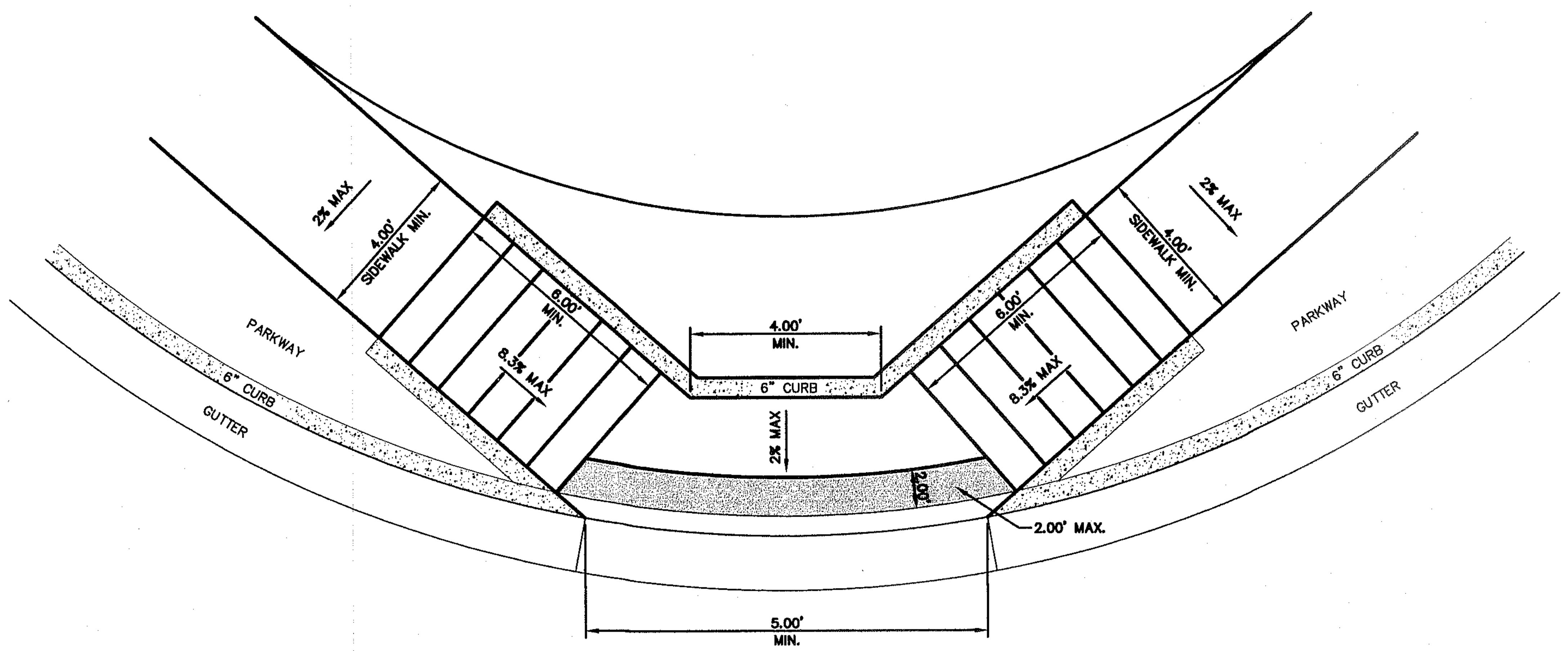
SCALE
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: JUNE 2014
DESIGN BY: A.C./F.S.
DRAWN BY: A.C./F.S.
CHKD. BY: J.L.A.
APPD. BY: J.L.A.
JOB No. 2000-181LD

PROJECT TITLE
MESQUITE TRAILS
UNIT TEN
SUBDIVISION IMPROVEMENTS

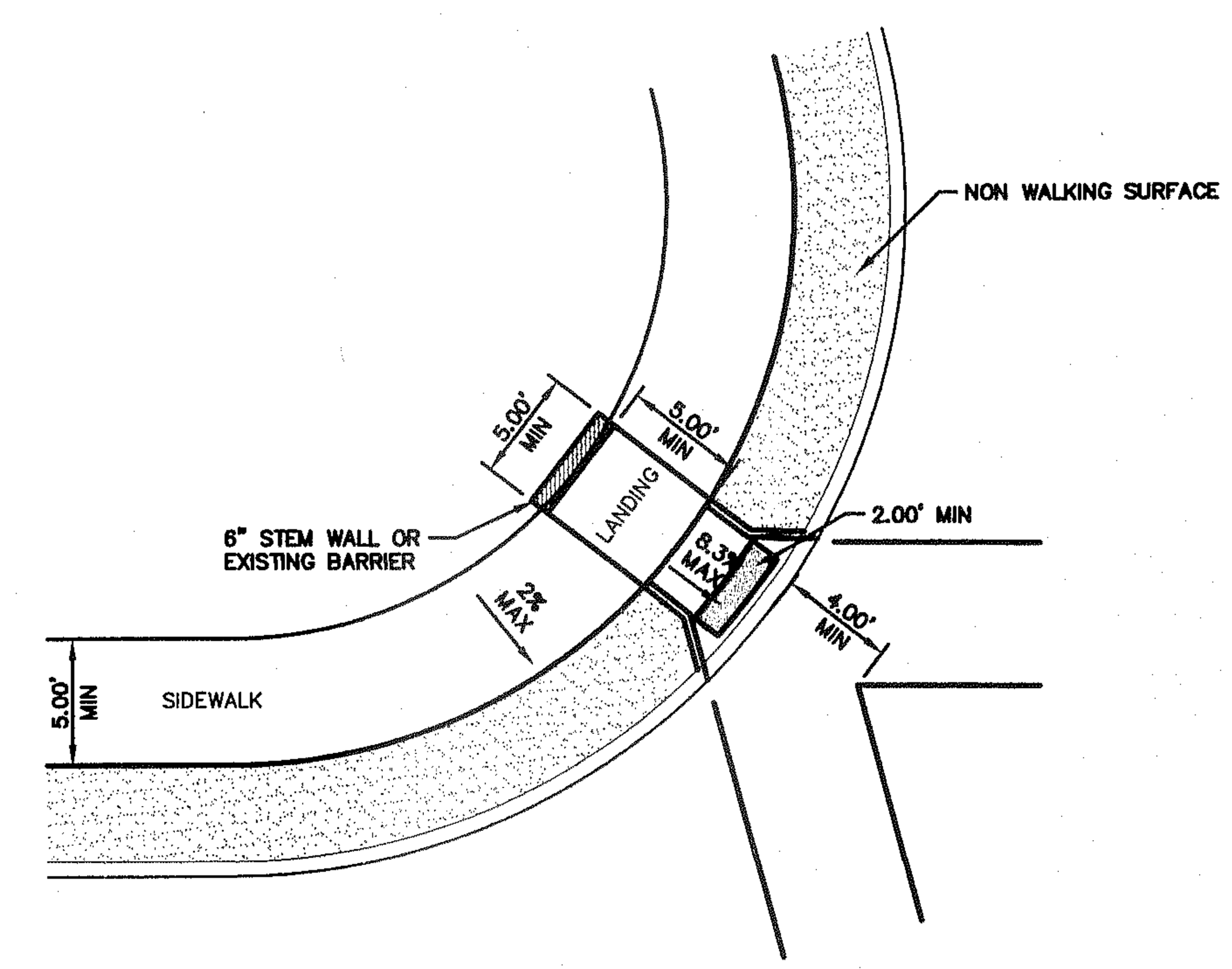
SHEET TITLE
STANDARD DETAILS
(SHEET 2 OF 3)

SHEET NO.
C8.2

S:\2000\2000-181LD-MQTR10\DWG\Construction Drawings\Improvement Plans\C8.1-8.3 Standard Details.dwg, C8.2_Standard Detail 2, 8/12/2014 1:23:33 PM



1 / C8.3 DIRECTIONAL RAMP @ INTERSECTION
SCALE: N.T.S.



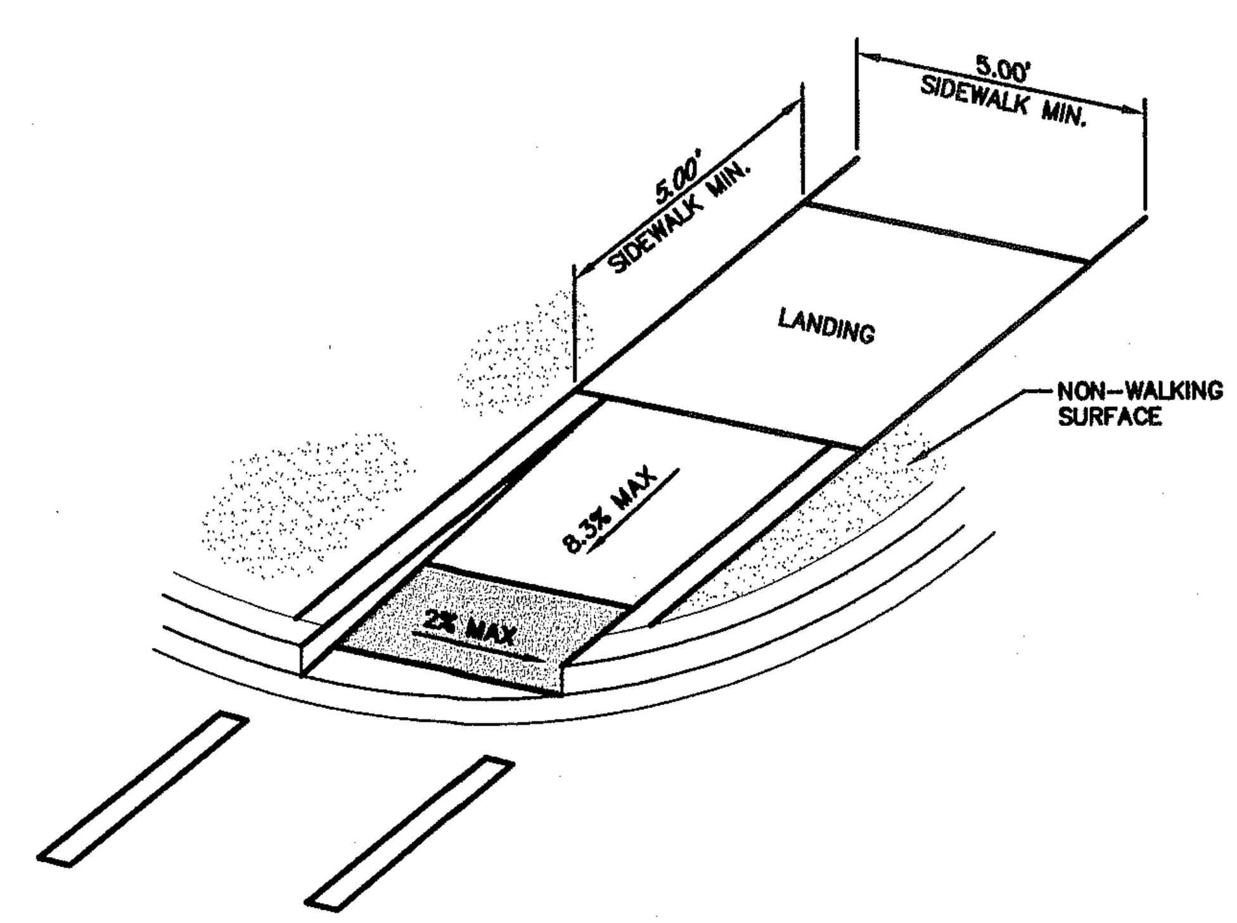
2 / C8.3 DIAGONAL CURB RAMP (RETURNED CURB) (TYPE VI)
SCALE: N.T.S.

LEGEND

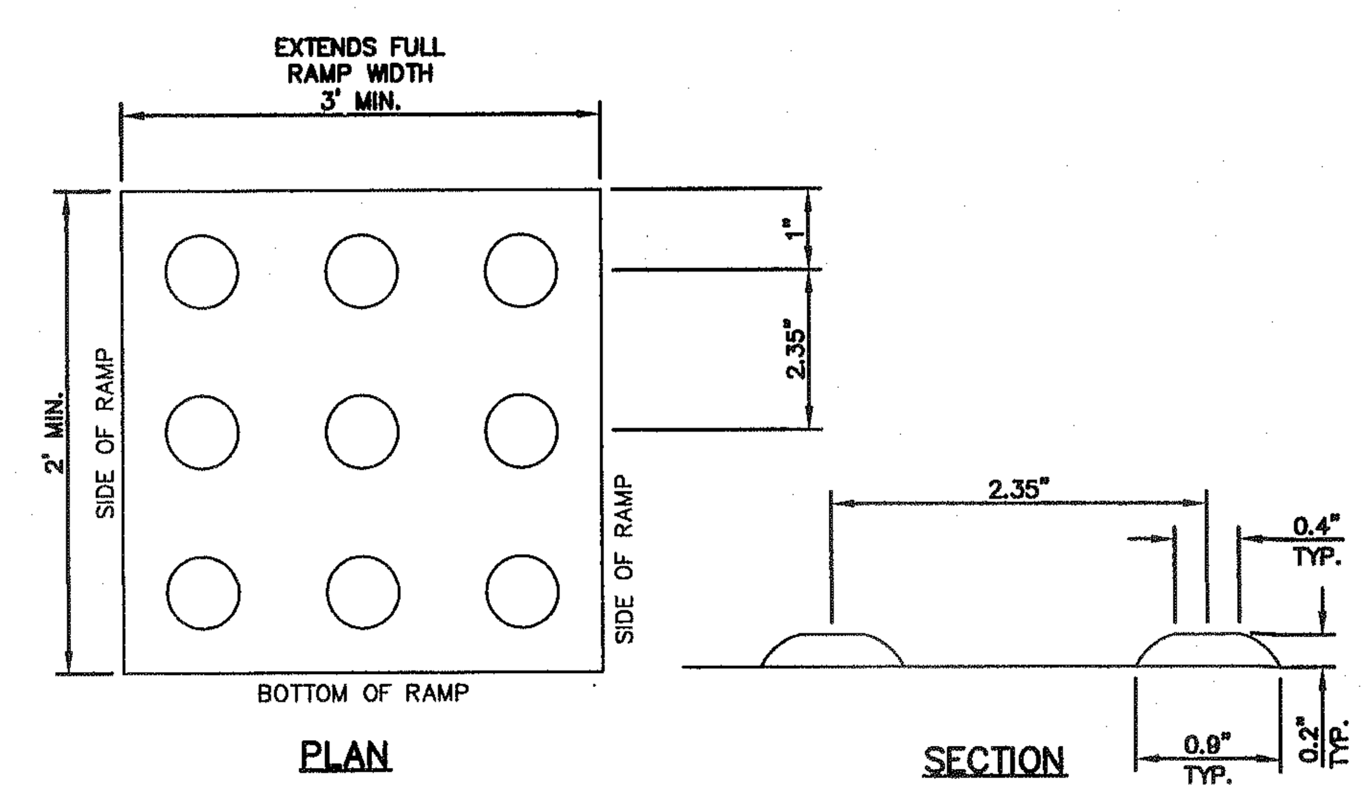
DETECTABLE WARNING SURFACE SHALL CONSIST OF RAISED TRUNCATED DOMES WITH A NOMINAL DIAMETER OF 0.9 IN, A NOMINAL HEIGHT OF 0.2 IN AND A CENTER TO CENTER NOMINAL SPACING OF 2.35 IN, AND SHALL NOT BE STAGGERED. THE SURFACE SHALL HAVE A COLOR CONTRAST VISUALLY WITH ADJOINING SURFACES.

GENERAL NOTES:

1. 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.
2. 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.
3. LANDINGS SHALL BE 5' X 5' MINIMUM WITH A MAXIMUM 2% SLOPE IN ANY DIRECTION.
4. 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.
5. CURB RAMPS WITH RETURNED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP. OTHERWISE, FLARED SIDES SHALL BE PROVIDED.
6. ALL CONCRETE SIDEWALK SURFACES SHALL RECEIVE A LIGHT BROOM FINISH UNLESS NOTED OTHERWISE IN THE PLANS.
7. 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.
8. 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.
9. MAXIMUM ALLOWABLE CROSS SLOPE ON SIDEWALK AND RAMP SURFACES IS 2%.
10. 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).



3 / C8.3 DIRECTIONAL RAMP WITHIN RADIUS (TYPE IV)
SCALE: N.T.S.

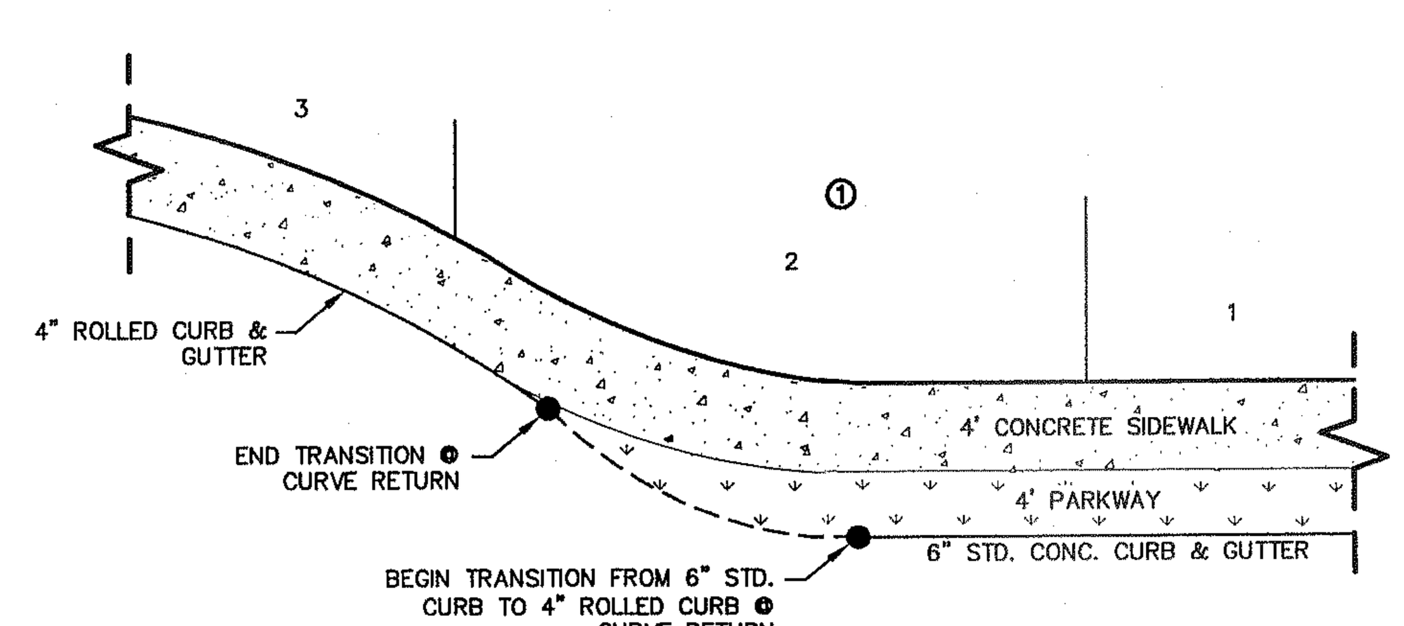


NOTES:

1. ALL CONCRETE SHALL BE 3,000 P.S.I. MIN. AT 28 DAYS.
2. CONCRETE SLABS SHALL BE A MIN. 4" THICK.
3. 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.
4. ALL NEW RAMPS SHALL COMPLY WITH T.A.S. AND A.D.A. REQUIREMENTS. ANY SECTIONS NOT CONFORMING WILL BE REMOVED AT THE CONTRACTORS EXPENSE.

4 / C8.3 TRUNCATED DOME
SCALE: N.T.S.

THE CITY OF EL PASO TEXAS
Final Approval



5 / C8.3 TYPICAL HEEL/CUL-DE-SAC SIDEWALK TRANSITION
SCALE: N.T.S.

REFERENCES – BENCHMARKS

BENCHMARK IS CITY MONUMENT AT THE INTERSECTION OF PASEO ALEGRE CIR. AND PASEO LINDO DR. ELEVATION = 4003.10 FEET (CITY DATUM).

DATE	REVISIONS	BY

cea group
engineers • architects • planners
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ENGINEER'S SEAL
STATE OF TEXAS
JORGE L. AZCARATE
85075
LICENSED PROFESSIONAL ENGINEER
8-12-14

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

DATE: JUNE 2014
DESIGN BY: A.C.
DRAWN BY: A.C./F.S.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-181LD

PROJECT TITLE

MESQUITE TRAILS UNIT TEN SUBDIVISION IMPROVEMENTS

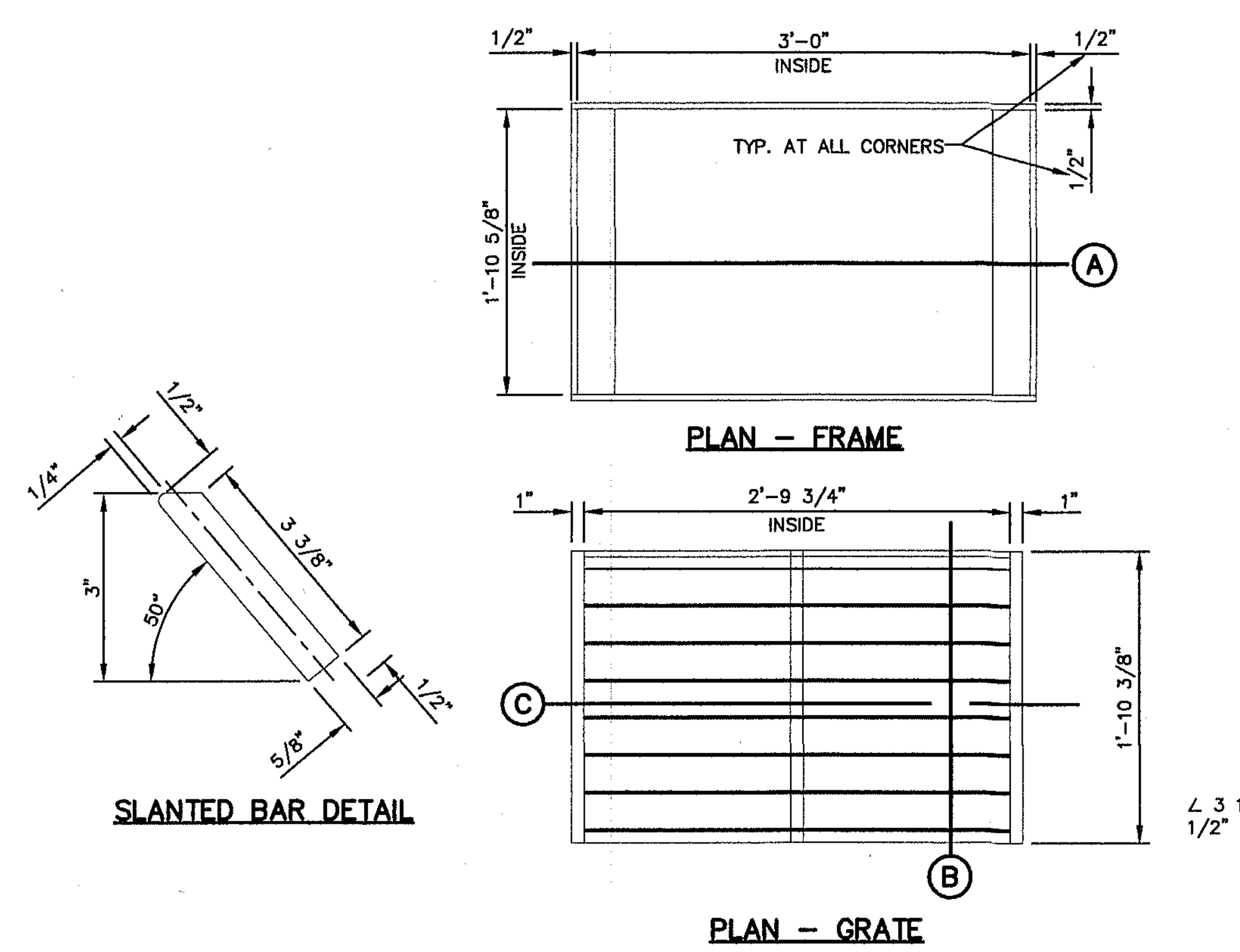
SHEET TITLE

STANDARD DETAILS

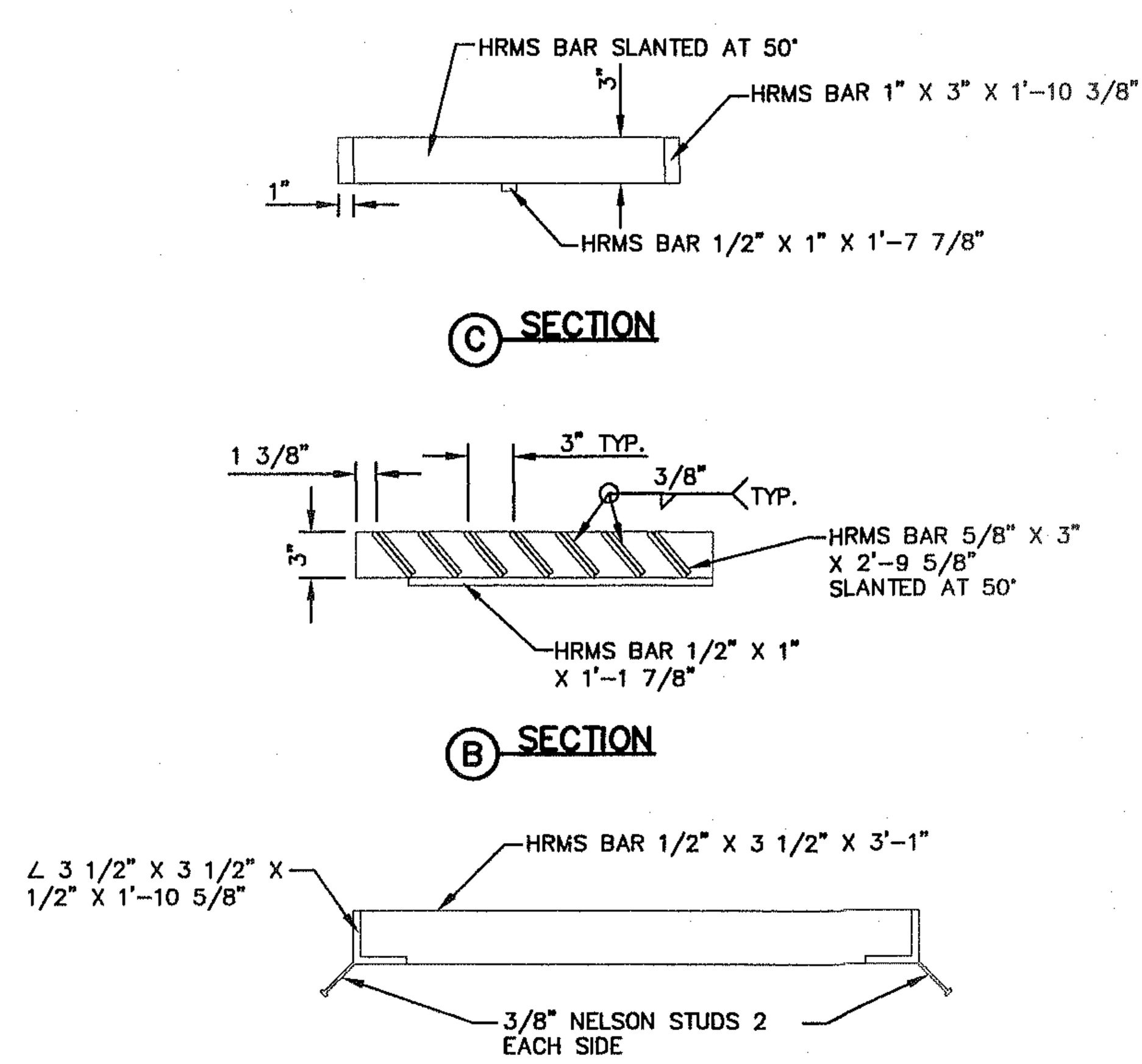
(SHEET 3 OF 3)

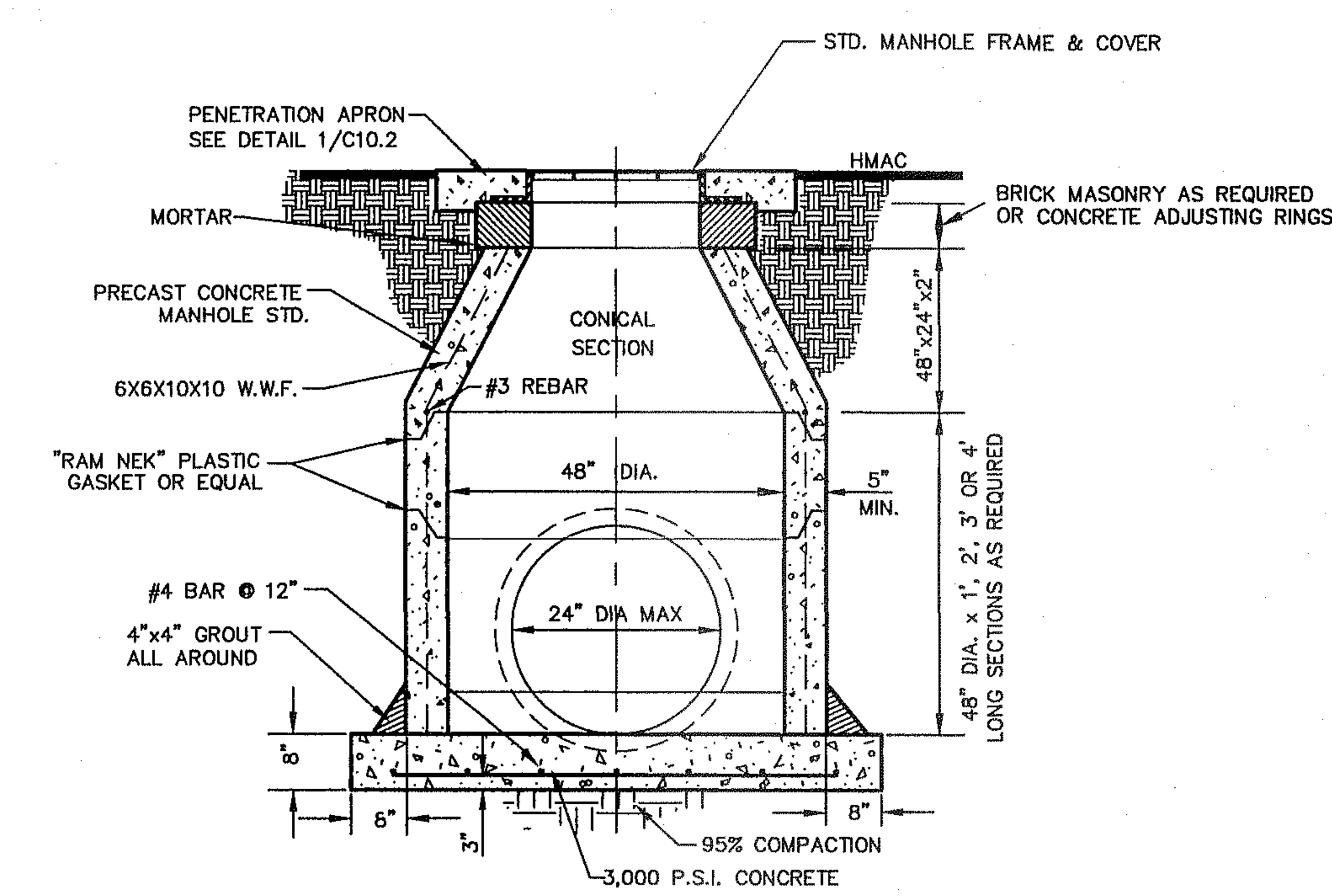
SHEET NO.

C8.3



1 / C9.1 GRATE AND FRAME DETAILS
SCALE: 1" = 1'-0"

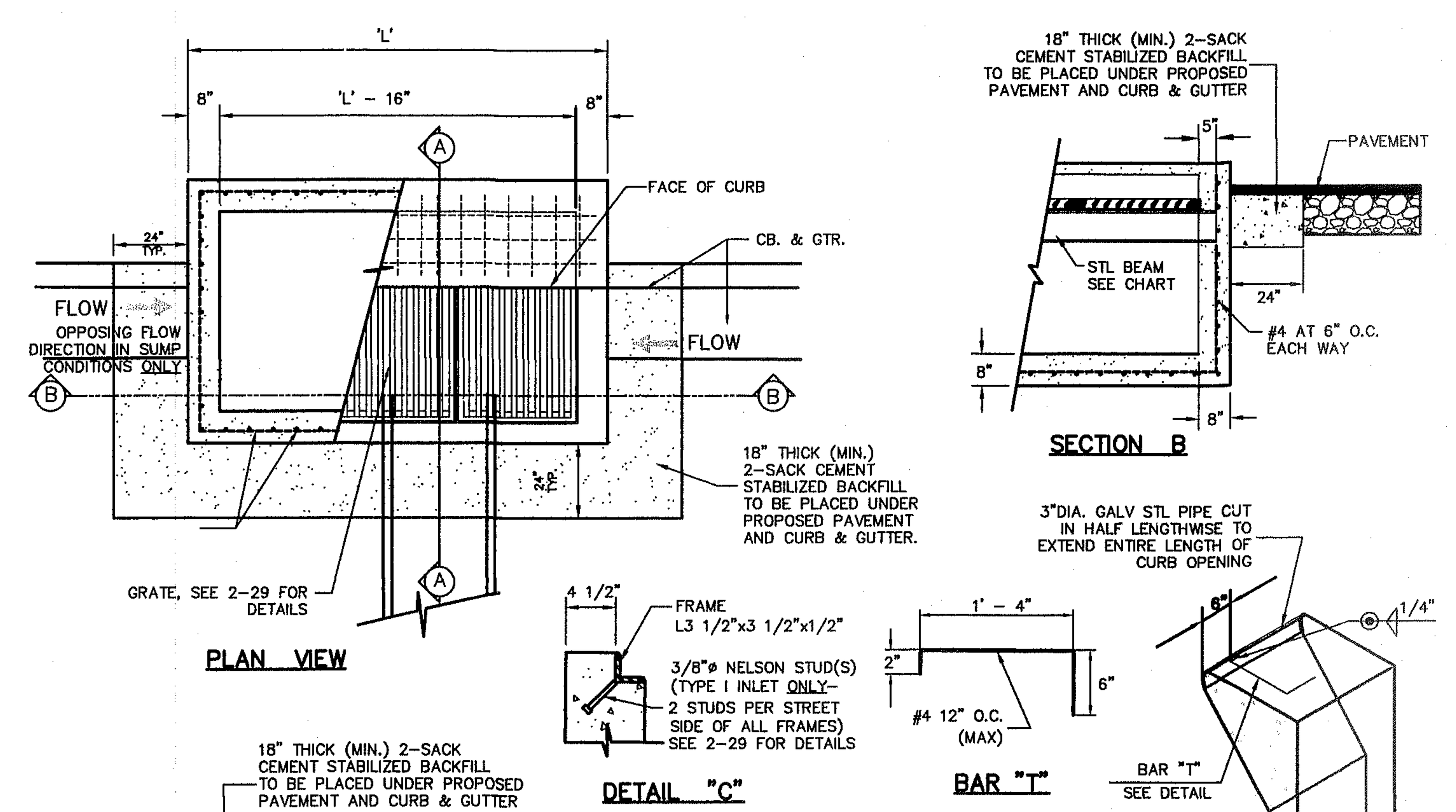


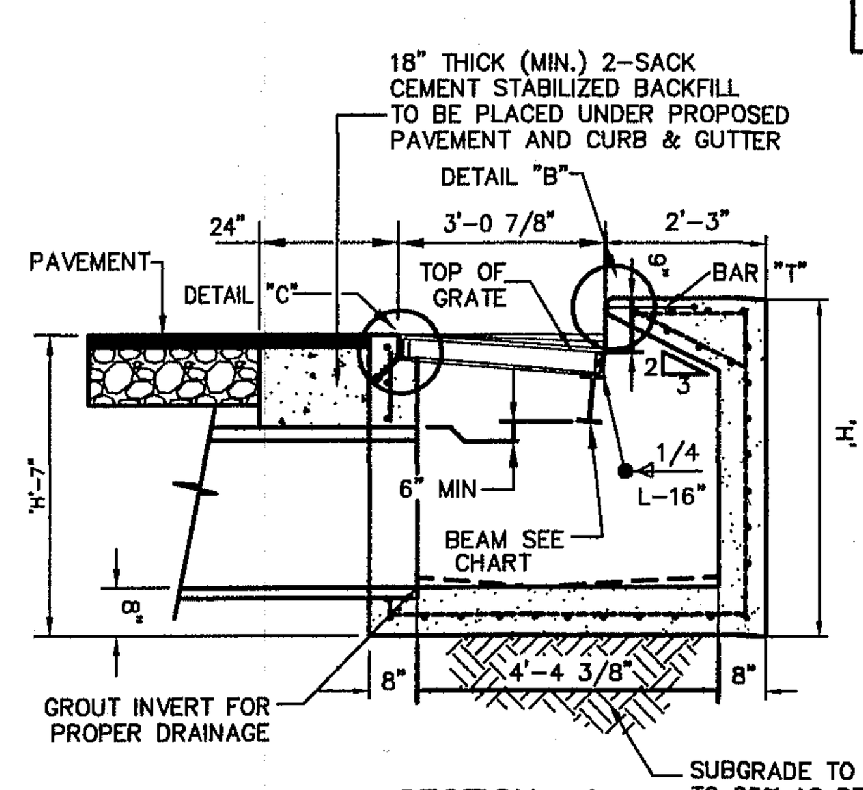


NOTE:

1. ALL CONCRETE SHALL HAVE 3,000 PSI MIN. @ 28 DAYS.
2. NINETY-FIVE (95%) PERCENT COMPACTION AS PER ASTM D-1557 UNDER ALL CONCRETE STRUCTURES.
3. REINFORCED STEEL SHALL BE DEFORMED AND A MINIMUM OF GRADE 40.

2 / C9.1 48" STANDARD MANHOLE DETAIL
SCALE: N.T.S.





NOTES
1. H = 20' MAXIMUM
2. CONCRETE TO BE 3000 psi MIN CORE TEST @ 28 DAYS.
3. GRATE TO BE PERPENDICULAR TO TRAFFIC.

NO. OF GRATES	'L'	BEAM	
		LENGTH	MINIMUM SIZES
2	5'-2 1/4"	4'-8 1/4"	W6X12, S6X12.5, MC6X15.1
3	7'-1 7/8"	6'-7 7/8"	W8X15, S7X18.4, MC7X19.1
4	9'-1 1/2"	8'-7 1/2"	W10X19, S8X18.4, MC10X22
5	11'-1 1/8"	10'-7 1/8"	W12X16, S8X23, MC10X22
6	13'-0 3/4"	12'-6 3/4"	W12X19, S8X23, MC10X25

ALL SUBSTITUTIONS OF STRUCTURAL STEEL BEAMS AND CHANNELS FOR DROP INLETS MUST BE SUBMITTED FOR REVIEW AND INCLUDE SECTION MODULUS AND DEFLECTION CALCULATIONS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF TEXAS.

3 / C9.1 DROP INLET (TYPE I) DETAILS
SCALE: N.T.S.

DROP INLET GENERAL NOTES:

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS.
2. SHARP EDGES RESULTING FROM FABRICATION SHALL BE DULLED BY ANY ACCEPTABLE METHOD FOR SAFETY IN HANDLING.
3. GRATES SHALL BE INSTALLED IN FRAME WITH FLOW ARROW POINTING DOWNSTREAM OR TOWARD THE LOW POINT IN A SUMP.
4. 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.
5. GRATES MADE OF M-183 STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M-111 SPECIFICATIONS OR SHALL BE PAINTED WITH INORGANIC ZINC PAINTS, MEETING THE REQUIREMENTS OF CURRENT STANDARD SPECIFICATIONS.
6. ALL WELDS SHALL HAVE A MINIMUM OF 1/4" FILLET AND SHALL CONFORM TO THE SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND TO THE AWS STRUCTURAL WELDING CODE. ELECTRODES SHALL BE COMPATIBLE TO THE DIFFERENT GRADES OF STEEL THAT COMPRISE THE GRATE MEMBERS.
7. CAST GRATES SHALL BE CAST STEEL CONFORMING TO THE REQUIREMENTS OF AASHTO M-103, GRADE 65-35 OR OF DUCTILE IRON CONFORMING TO THE REQUIREMENTS OF ASTM A-536, SPECIAL GRADE 60-45, OR OF GRAY IRON CONFORMING TO THE REQUIREMENTS OF AASHTO M-105, CLASS 35B OR ASTM A-48 CLASS 35B. THE SPECIFICATIONS OF GENERAL APPLICATION FOR CAST STEEL GRATES SHALL BE AASHTO M-103 SCOPE 1.2.1, GRADE N-1.
8. FERROUS CASTINGS SHALL BE OF UNIFORM QUALITY, FREE OF BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTION OR OTHER DEFECTS. THEY SHALL BE SMOOTH AND WELL CLEANED BY SHOT BLASTING OR OTHER APPROVED CLEANING METHOD. AFTER CLEANING THEY SHALL BE COATED WITH ASPHALT BASE PAINT RESULTING IN A SMOOTH COATING, TOUGH AND TENACIOUS WHEN COLD, NOT TACKY OR BRITTLE.
9. ALL CASTING SHALL BE MANUFACTURED TRUE TO PATTERN. COMPONENT PARTS SHALL FIT TOGETHER IN A SATISFACTORY MANNER.
10. ALL CONCRETE TO BE 3000 PSI. CHAMFER ALL EXPOSED EDGES 3/4". ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS.
11. MINIMUM CONCRETE COVER SHALL BE 1 1/2" FOR STEEL REINFORCING.
12. 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.
13. STRUCTURAL STEEL SHALL BE SHOP PAINTED IN ACCORDANCE WITH TxDOT. ITEM 446 "PAINT AND PAINTING"
14. SURFACE OF ALL EXPOSED CONCRETE SHALL CONFORM IN SLOPE AND GRADE TO EXISTING OR PROPOSED CURB AND WALK ADJACENT TO INLETS.
15. GRATES WILL BE DEPRESSED 1" BELOW PROPOSED OR EXISTING GRADE.
16. ALL REINFORCING BARS TO BE #4 BARS AT 6" O.C. GRADE 60. BEND BARS AROUND PIPE OPENINGS.
17. INLETS TO BE DESIGNATED IN PLANS BY NUMBER OF GRATES REQUIRED.
18. LOCATION OF SEWER PIPES SHOWN ELSEWHERE IN PLANS.
19. THE GRATES OF ALL INLETS WITHIN THE STREET PAVEMENT MUST BE CONSTRUCTED WITH THE GRATE BARS PERPENDICULAR TO THE CURB.

Final Approval

REFERENCES – BENCHMARKS

BENCHMARK IS CITY MONUMENT AT THE INTERSECTION OF PASEO ALEGRE CIR. AND PASEO LINDO DR. ELEVATION = 4003.10 FEET (CITY DATUM).

DATE	REVISIONS	BY

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ENGINEER'S SEAL

JORGE L. AZCARATE 85075

SCALE
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: JUNE 2014
DESIGN BY: A.C.
DRAWN BY: A.C.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-181LD

PROJECT TITLE

MESQUITE TRAILS UNIT TEN SUBDIVISION IMPROVEMENTS

SHEET TITLE

DRAINAGE DETAILS

(SHEET 1 OF 2)

SHEET NO.

C9.1

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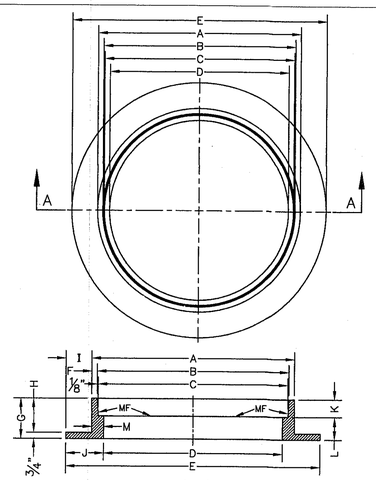


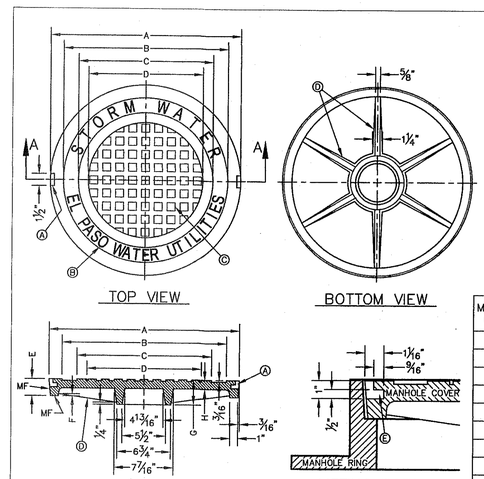
A–A

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

MANHOLE RING	MANHOLE – ALL TYPES	MANHOLE TYPE 48" (SEE NOTE 6)	MANHOLE TYPE 72" (SEE NOTE 6)
A	33"	25¼"	32¾"
B	31¾"	23⅞"	31⅜"
C	31½"	23⅝"	31⅛"
D	30"	22½"	30"
E	39½"	34½"	42"
F	⅝"	1/16"	1/16"
G	5"	6"	6"
H	4¼"	5¼"	5¼"
I	3¼"	4¼"	4¼"
J	4¾"	6"	6"
K	2 3/16"	3 1/16"	3 1/16"
L	2 13/16"	2 15/16"	2 15/16"
M	1½"	1⅜"	1⅜"
WEIGHT	220 lbs.	165 lbs.	225 lbs.

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

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



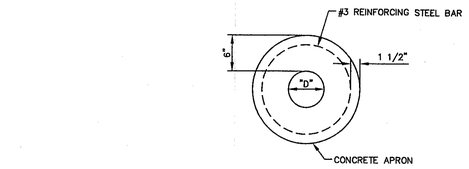
GENERAL NOTES:
1. MATCHING SURFACES MARKED "MF" TO BE FINISHED OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.
2. CASTING TO BE SMOOTH & VOID OF AIR HOLES.
3. CASTING MUST MEET REQUIREMENTS OF AASHTO M306–07.
4. AS–CAST DIMENSIONS MAY VARY 1/16"±/ PER FOOT (AASHTO M306–07).
5. WEIGHT MAY VARY 5%±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

CONSTRUCTION KEY NOTES:
A. LIFTING NOTCH.
B. ⅜" RAISED LETTERING.
C. 1" SQUARES (⅜" TALL) WITH ⅝" SPACE BETWEEN.
D. REINFORCING RIBS.
E. SLOT.

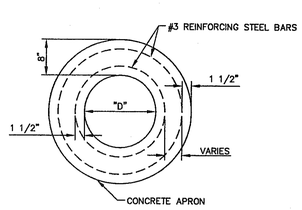
MANHOLE COVER	MANHOLE – ALL TYPES	MANHOLE TYPE 48" (SEE NOTE 6)	MANHOLE TYPE 72" (SEE NOTE 6)
A	31 3/8"	23¾"	31¼"
B	28⅛"	20⅝"	28⅛"
C	24⅜"	16⅞"	24⅜"
D	21⅞"	14⅜"	21⅞"
E	2⅜"	3"	3"
F	¼"	1¼"	1¼"
G	3⅛"	3"	3"
H	1⅜"	1"	1"
WEIGHT	265 lbs.	175 lbs.	310 lbs.

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

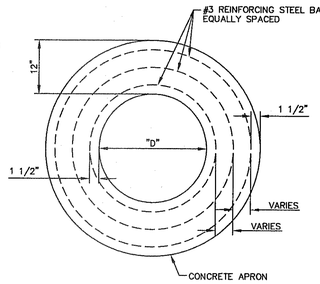
2 / C9.2 STORMWATER MANHOLE RING
N.T.S.



PLAN VIEW – SINGLE REBAR



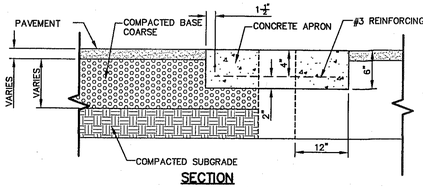
PLAN VIEW – 2 REBAR



PLAN VIEW – 3 REBAR

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

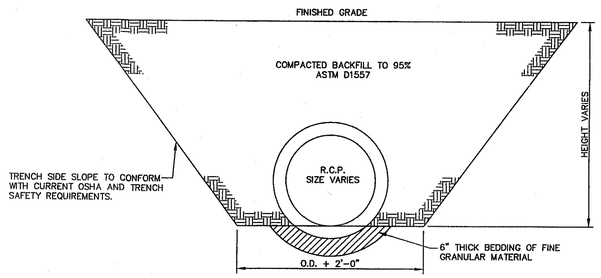
GENERAL NOTES:
1. THE PENETRATION APRON SHOULD BE CAST IN–PLACE CONCRETE. (MINIMUM 28 DAY COMPRESSIVE STRENGTH 4000 PSI. HIGH EARLY CONCRETE IS REQUIRED).
2. TOPS OF PENETRATION APRON SHALL BE FLUSH WITH ROADWAY SURFACE OR FINISHED GRADE UNLESS OTHERWISE SPECIFIED BY THE CITY ENGINEER.



SECTION

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

3 / C9.2 PENETRATION APRON DETAILS
SCALE: N.T.S.



4 / C9.2 STORM SEWER BEDDING DETAIL
SCALE: 1/2" = 1'–0"

Final Approval

REFERENCES – BENCHMARKS
BENCHMARK IS CITY MONUMENT AT THE INTERSECTION OF PASEO ALEGRE CIR. AND PASEO LINDO DR. ELEVATION = 4003.10 FEET (CITY DATUM).

DATE	REVISIONS	BY

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engineers • architects • planners
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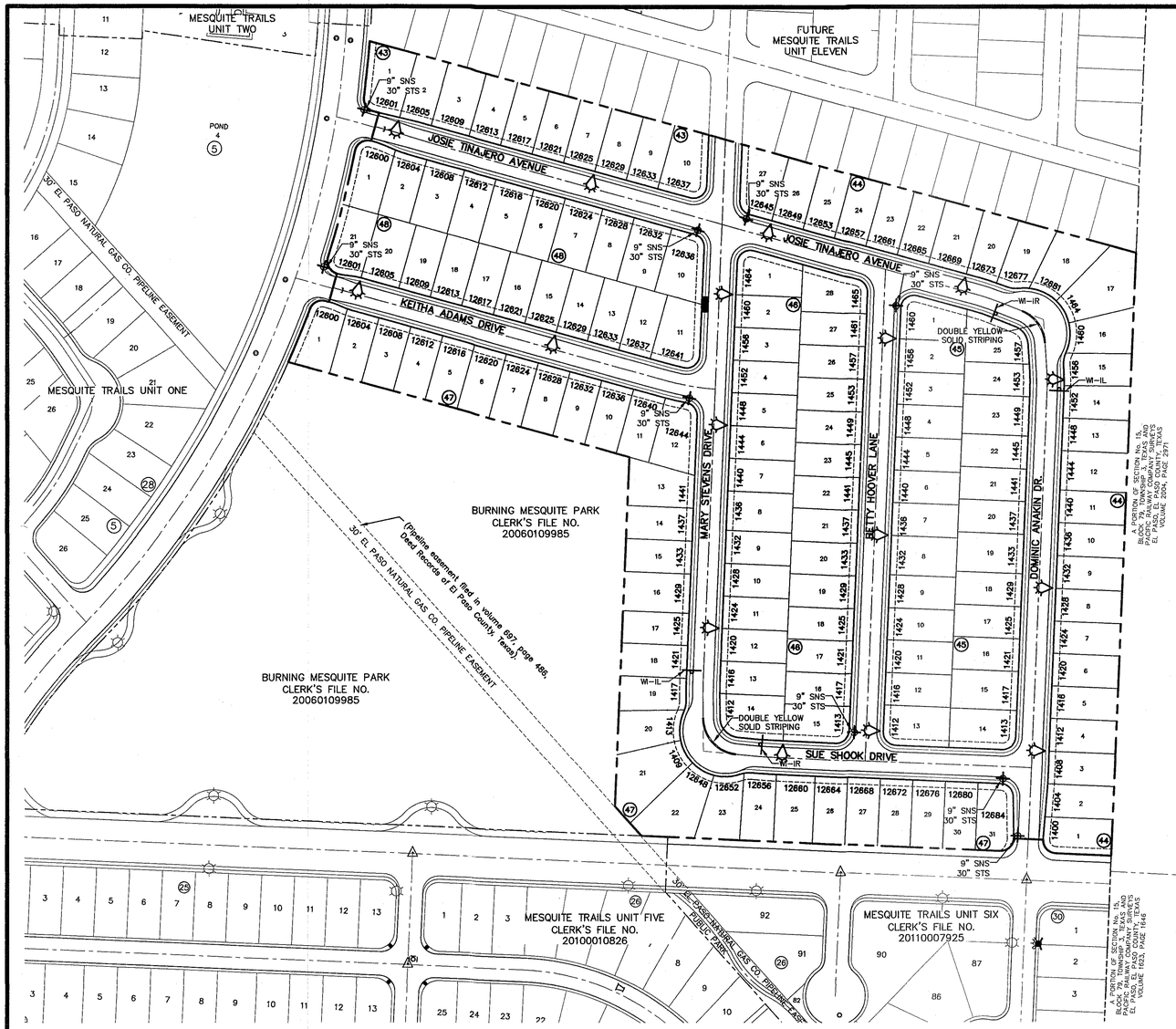
ENGINEER'S SEAL

SCALE
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: JUNE 2014
DESIGN BY: A.C.
DRAWN BY: A.C.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000–181LD

PROJECT TITLE
MESQUITE TRAILS UNIT TEN SUBDIVISION IMPROVEMENTS

SHEET TITLE
DRAINAGE DETAILS
(SHEET 2 OF 2)

SHEET NO.
C9.2



LEGEND:

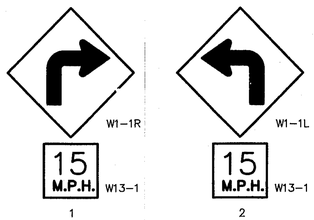
- EXISTING RESIDENTIAL STREET LIGHT
- NEW RESIDENTIAL STREET LIGHT
- NEW 9" STREET NAME SIGN (TWO SIGNS) AND 30" STOP SIGN
- NEW N.D.B.C.U. MAIL

16 RESIDENTIAL STREET LIGHTS

ILLUMINATION & SIGNAGE PLAN
SCALE: 1" = 100'

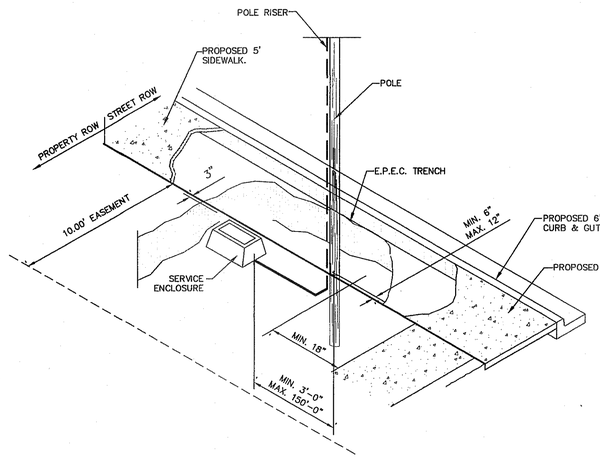
NOTE

1. TRAFFIC STREET SIGNS MUST BE OF HIGH INTENSITY REFLECTIVE SHEETING.

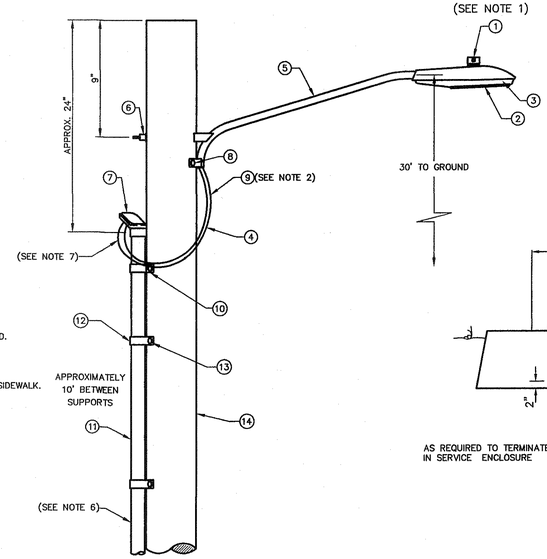


NOTE:
SIGNS SHOULD COMPLY WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

SIGNS DETAIL
SCALE: N.T.S.

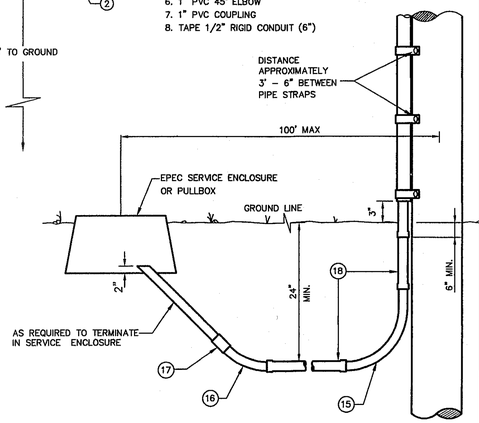


POLE LOCATION DETAIL
SCALE: N.T.S.



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

KEY NOTES:
1. 1/2" GALVANIZED RIGID CONDUIT
2. REDUCER 1" TO 1/2" BUSHING
3. 1" PVC FEMALE ADAPTER
4. 1" PVC 90° ELBOW
5. 1" PVC CONDUIT
6. 1" PVC 45° ELBOW
7. 1" PVC COUPLING
8. TAPE 1/2" RIGID CONDUIT (6")



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

UTILITY LOCATOR SERVICES

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

WARNING ! BEFORE YOU DIG
CALL
1-800-DIG-TESS
1-800-344-8377
FOR FIELD LOCATING EXISTING UTILITIES

ITEM NO.	DESCRIPTION	STOCK NO.	QTY.		
1	PHOTO CELL, 240 V-SEE NOTE 1	21-225	1	LCOBRAHD	LCOBRAUG
2	HPS LASMP, 100W	21-085	1		
3	LUMINARE, 100W H.P.S.	21-335	1		
4	SLEEVES, #12-10	05-140	2	LSLV1210	
5	MAST ARM, 6' X 1 1/4"	21-200	1	LBRKT1*6	
6	MACHINE BOLT, 5/8" X 12"	02-470	1	LMB5/812	
	SQUARE GALV. WASHER, 2 1/4" X 2 1/4"	02-760	1		
	COIL SPRING WASHER, 5/8"	02-786	1		
	LOCK NUT, 5/8"	02-705	1		
7	SERVICE ENTRANCE CAP FOR 1" PVC CONDUIT	17-281	1	LSVCCAP1	
8	LAG BOLT, 3/8" X 3"	02-343	1	LLAG38*3	
9	CABLE, #10, 2 CONDUCTOR, 600V, UF	13-600	8'	L2C#10S	
10	COPPER CABLE, #12, SOLID, 600V, BLUE	13-702	60'	LC#12CU	
11	SCHEDULE 80 1" PVC CONDUIT	17-280	30'	LSCH801	
12	PIPE STRAP FOR 1" PVC CONDUIT, 2-HOLE	17-283	9'	LPVCSTRP	
13	NAIL, STAINLESS STEEL SCREW 2.5 IN.	14-427	.25#	LNAL14*2	
14	POLE, 35 FT. – CLASS 4	09-035	1	L354UG	
15	1" PVC 90 DEGREE ELBOW	17-297	1	LEL901	
16	1" PVC 45 DEGREE ELBOW	17-298	1	LEL451	
17	1" PVC COUPLING	17-296	1	LCPLG1	
18	1" PVC CONDUIT	17-299	AS REQ	LPVC1	

RESIDENTIAL STREET LIGHT WOOD POLE

1. MOUNT SO THAT PHOTO CELL IS FACING NORTH.
2. ITEM # 9 SHALL NOT BE SPLICED INSIDE ITEM # 5.
3. INSTALLATION MUST COMPLY WITH LOCAL CODE REQUIREMENTS.
4. FOR ANY CLARIFICATION, EXCEPTIONS OR QUESTIONS REGARDING THIS STANDARD, CALL THE EL PASO ELECTRIC COMPANY DISTRIBUTION DESIGN DEPARTMENT.
5. ON STREETS WHERE SIDEWALK IS ADJACENT TO CURBS, STREET LIGHT POLE SHALL BE INSTALLED IN THE SIDEWALK NEXT TO PROPERTY LINE. 36 INCHES REQUIRED FROM BACK OF CURB TO COMPLY WITH AMERICAN DISABILITY'S ACT AND LOCAL CODES.
6. THE CONDUIT RISER SHALL BE INSTALLED ON THE BACK OF THE WOOD POLE (AWAY FROM THE STREET).
7. THE WIRE LEADS FROM THE WEATHER HEAD TO THE MAST ARM SHALL HAVE A MINIMUM 4" DRIP LOOP BELOW THE WEATHER HEAD.

THE CITY OF EL PASO TEXAS
Final Approval

REFERENCES – BENCHMARKS
BENCHMARK IS CITY MONUMENT AT THE INTERSECTION OF PASEO ALEGRE CIR. AND PASEO LINDO DR. ELEVATION = 4003.10 FEET (CITY DATUM).

DATE	REVISIONS	BY

cea group
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-4564
4712 Woodrow Bean, Ste. F, El Paso, TX 79924
Office: 915.544.3232 Fax: 915.544.3283 www.ceagroup.net

ENGINEER'S SEAL

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

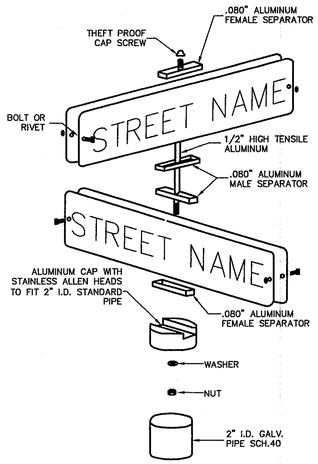
DATE: JUNE 2014
DESIGN BY: A.C./F.S.
DRAWN BY: A.C./F.S.
CHKD BY: J.L.A.
APP'VD BY: J.L.A.
JOB No. 2000-181LD

PROJECT TITLE
MESQUITE TRAILS UNIT TEN
SUBDIVISION IMPROVEMENTS

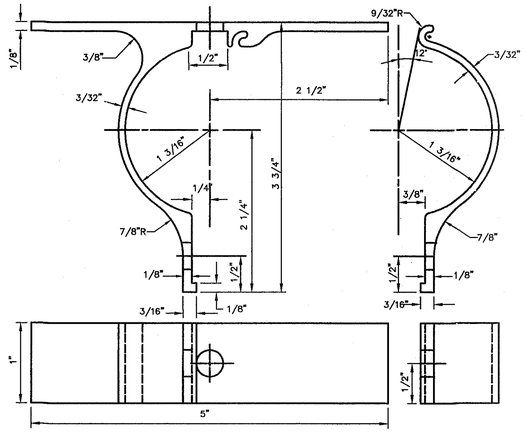
SHEET TITLE
ILLUMINATION & SIGNAGE
(SHEET 1 OF 2)

SHEET NO.
C10.1

S:\2000\2000-181LD-AQ\RHO\DWGS\Construction Drawings\Improvement Plans\C10.1 Illumination & Signage.dwg, C10.1_Illumination 1, 8/12/2014 1:25:38 PM



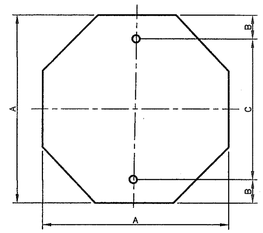
1 C10.2 **9" STREET NAME ASSEMBLY**
SCALE: N.T.S.



NOTES:

1. ALL HOLES 3/8" PUNCH
2. FILLETS & ROUNDS 1/16"=R
3. FURNISH THE FOLOWING HARDWARE FOR EACH BRACKET:
   1 – 5/16"x 3/4" BOLTS
   1 – 5/16"x 1 1/4" BOLT
   2 – 5/16"x NUTS & LOCK WASHERS
   2 – FLAT WASHERS
4. THE BRACKET IS TO BE MADE FROM HIGH STRENGTH ALUMINUM ALLOY. THE BRACKET IS TO EMPLOY AN EXTRUDED INTERLOCKING FEATURE OFFERING A RIGID MEANS OF ATTACHING A FLAT SIGN TO A STANDARD 2" (2/8" O.D.) TUBULAR POST.

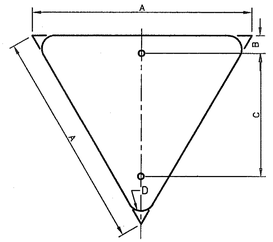
2 C10.2 **ALUMINUM SIGN CLAMP BRACKET FOR TRAFFIC CONTROL SIGNS**
SCALE: N.T.S.



3/8" HOLE DIA.

A	B	C
24	3	18
30	3	24
36	3	30

OCTAGON
N.T.S.



3/8" HOLE DIA.

A	B	C	D
36	3	21	2
42	3	24	2 1/2
48	3	35	3

EQUILATERAL TRIANGLE
N.T.S.

3 C10.2 **D.H.T. BLANK STANDARDS**
SCALE: N.T.S.

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
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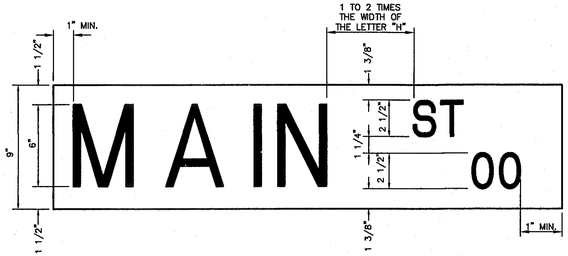

SIGN CLASS	SIGN LENGTH	PRIMARY LETTERS SIZE & SERIES	SUFFIX & BLOCK NUMBER SIZE & SERIES
9" ARTERIAL STREETS	36"	6" C,D SERIES	3" C SERIES
	42"	6" C,D SERIES	3" C SERIES
	48"	6" A,B,C,D SERIES	3" C SERIES

4 C10.2 **LAYOUT FOR 9" STREET NAME SIGNS**
SCALE: N.T.S.

REFERENCES – BENCHMARKS
BENCHMARK IS CITY MONUMENT AT THE INTERSECTION OF PASEO ALEGRE CIR. AND PASEO LINDO DR.
ELEVATION = 4003.10 FEET (CITY DATUM).

DATE	REVISIONS	BY

cea group
engineers • architects • planners
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4712 Woodrow Bean, Ste. F El Paso, TX 79924
Office 915.544.3232 Fax 915.544.4233 www.ceagroup.net

ENGINEER'S SEAL

SCALE: Horizontal: N/A Vertical: N/A
Contour Interval: N/A
DATE: JUNE 2014
DESIGN BY: A.C.
DRAWN BY: A.C./F.S.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-181LD

PROJECT TITLE
MESQUITE TRAILS UNIT TEN
SUBDIVISION IMPROVEMENTS

SHEET TITLE
TRAFFIC SIGN DETAILS
(SHEET 2 OF 2)

SHEET NO.
C10.2

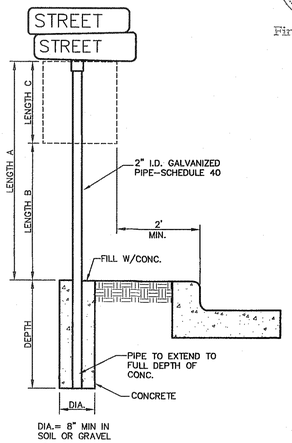
CITY OF EL PASO SPECIFICATIONS FOR REFLECTORIZED STREET NAME SIGNS

1. COLOR OF SIGNS : THE FINISHED SIGN MUST HAVE A REFLECTORIZED BLUE BACKGROUND. THE BLUE MUST CONFORM WITH THE BUREAU OF PUBLIC ROADS HIGHWAY BLUE. THE LEGEND MUST BE REFLECTORIZED SILVER WHITE (BLUE REVERSE SCREENED BACKGROUND WITH SILVER COPY).
2. LETTER DESIGN: THE LETTERING OF ALL LEGENDS MUST BE UPPER CASE LETTERS IN ACCORDANCE WITH "STANDARD ALPHABETS FOR HIGHWAY SIGNS" PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION.
3. LETTER SPACING: THE CONTROL FOR THE SPACING VALUES IN TRAFFIC LAYOUT IS THE DISTANCE RECOGNIZED AS AESTHETIC SPACING BETWEEN TWO STRAIGHT LETTERS (HN). A SPACING CONTROL OF TWO TIMES THE WIDTH OF THE STROKE OF THE LETTER SERIES TO BE USED MUST BE THE AESTHETIC CONTROL (100%). TWO AND ONE–HALF TIMES (2–1/2) THIS CONTROL MUST BE USED AS THE AESTHETIC WORD SPACE BETWEEN ELEMENTS IN THE PRIMARY LEGEND.
4. LAYOUT: THE MAXIMUM NUMBER OF LETTERS TO BE ACCOMMODATED ON A GIVEN LENGTH STREET NAME FACE MUST BE DETERMINED BY THE WIDEST LETTER SERIES POSSIBLE FOR THAT LEGEND AND THE SPACING CONTROL (100%) FOR THE SERIES USED MUST BE EXPANDED OR CONDENSED UP TO 25% IN 5% INCREMENTS.
5. THE SPACING CONTROL (100%) FOR THE SERIES USED MUST BE EXPANDED OR CONDENSED UP TO 25% IN 5% INCREMENTS FOR THE END MARGIN WITH MINIMUM OF 1".
6. THE WORD SPACE MUST BE EXPANDED UP TO 25% IN 5% INCREMENTS BUT NOT CONDENSED.
7. SPACE BETWEN PRIMARY AND BLOCK NUMBER AREA MUST BE 1/2 THE AESTHETIC WORK SPACE USED IN THE PRIMARY LEGEND.
8. SUFFIX LETTER SIZE FOR ALL LENGTHS MUST BE 2" CAPITALS, "C" SERIES, EXCEPT THAT SERIES "A" OR "B" WHERE SUFFIX ABBREVIATION EXCEEDS TWO LETTERS, MAY BE USED.
9. SIZE OF LEGEND: FOR 9" STREET NAME SIGNS, THE PRIMARY LEGEND, OR STREET NAME MUST HAVE CAPITAL LETTERS SIX INCHES (6") HIGH AND ALL SECONDARY LEGENDS, INCLUDING THE SUFFIX, BLOCK NUMBERS, MUST HAVE UPPER CASE LETTERS TWO AND ONE–HALF INCHES (2 1/2") HIGH.
10. SUFFIX LETTER SIZE FOR ALL LENGTHS MUST BE 2 1/2" CAPITALS, "C" SERIES, EXCEPT THAT SERIES "A" OR "B" WHERE SUFFIX ABBREVIATION EXCEEDS TWO LETTERS, MAY BE USED.
11. POSITION OF LEGEND: EACH SIGN FACE WILL CONSIST OF THE STREET NAME, SUFFIX, AND TWO ZEROS OF THE BLOCK NUMBER . THE ADDITIONAL NUMBERS OF THE BLOCK NUMBER WILL BE APPLIED BY THE CITY OF EL PASO. THE SUFFIX WILL BE LOCATED IN THE UPPER RIGHT CORNER AND THE BLOCK NUMBER IN THE LOWER RIGHT CORNER OF THE SIGN FACE AND THE STREET NAME CENTERED IN THE REMAINING SPACE.
12. SIGN FABRICATION: THE SIGN FACE MUST BE FABRICATED BY REVERSE SCREENING GREEN TRANSPARENT COLOR OVER SILVER REFLECTIVE SHEETING. TRANSPARENT PROCESS COLORS MUST BE AS RECOMMENDED BY THE SHEETING MANUFACTURER. CUT–OUT OR APPLIED LEGENDS ARE NOT PERMITTED. SIGN FACES MUST BE COMPRISED OF ONE PIECE OR PANEL OF REFLECTIVE SHEETING.
13. TYPE OF SHEETING: ENGINEER GRADE REFLECTIVE SHEETING MUST BE USED IN THE FABRICATION OF THE STREET NAME SIGN FACES.

CITY OF EL PASO TEXAS
Final Approval

GENERAL NOTES
BRACKET MATERIALS TO BE 385 ALUMINUM ALLOY TENSILE STRENGTH 4900 P.S.I.
DIE CAST FREE OF BURRS, PITS, & HOLES

5 C10.2 **9" STREET NAME SIGN ASSEMBLY**
SCALE: N.T.S.



SIGN POST INSTALLATION

LENGTH A	LENGTH B	LENGTH C	DEPTH
10 FT	7 FT	LARGER THAN 24"	2 FT
9 FT	7 FT	SMALLER THAN 24"	1 1/2 FT

6 C10.2 **SIGN POST INSTALLATION**
SCALE: N.T.S.

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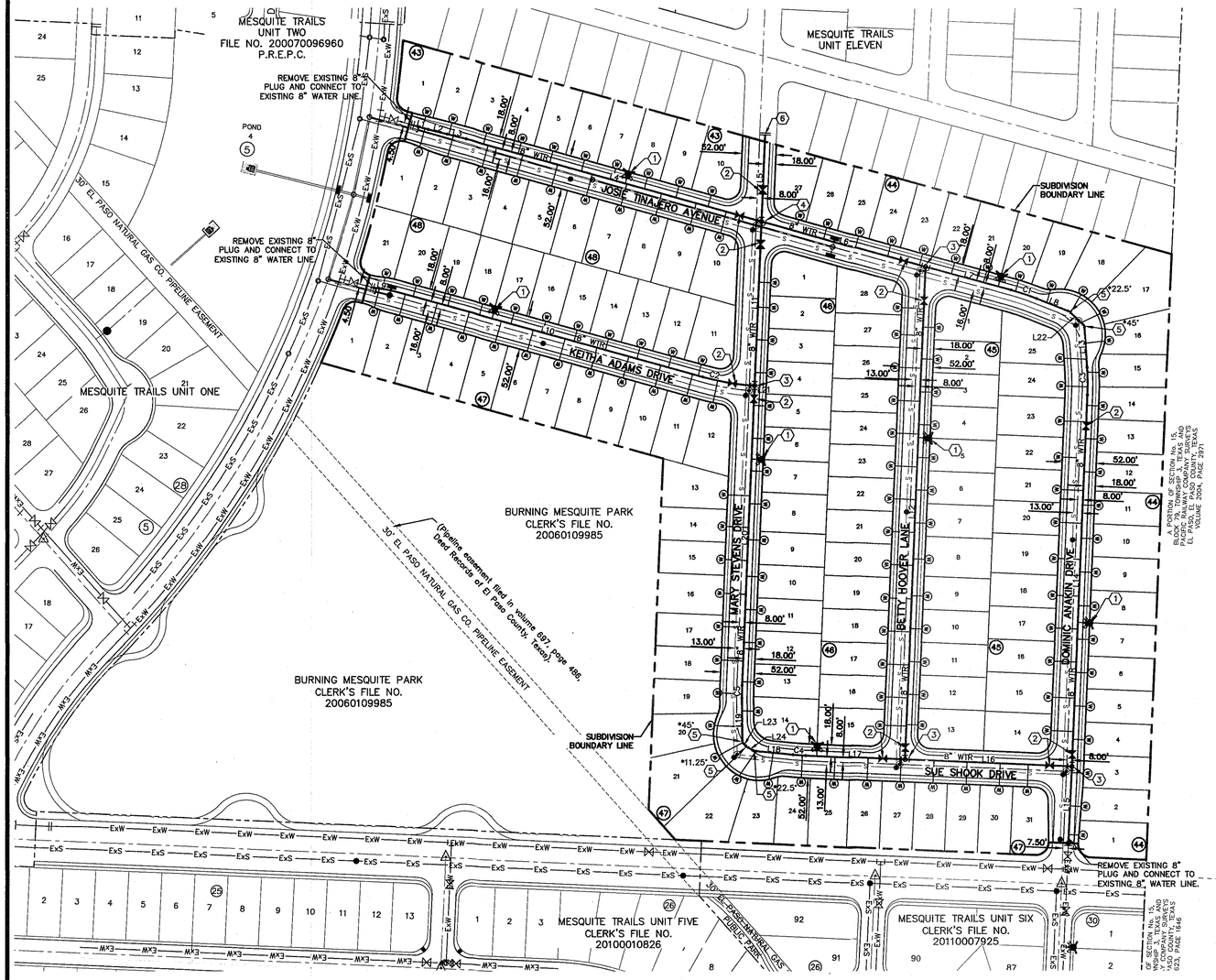

WATER QUANTITIES

DESCRIPTION	QUANTITY	UNIT
8" PVC WATER LINE	4,654.99	LF
8" GATE VALVE	11	EA
8" PLUG	1	EA
WATER SERVICE LINE	142	EA
FIRE HYDRANT	7	EA

WATER KEYED NOTES

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

* REFER TO PLAN VIEW FOR ANGLES

LINE TABLE

LINE	BEARING	LENGTH
L1	S74°33'25"E	26.37'
L2	S76°04'31"E	30.00'
L3	S76°04'31"E	30.00'
L4	S74°33'25"E	469.03'
L5	S02°22'00"W	131.92'
L6	S74°33'25"E	260.76'
L7	S74°33'25"E	135.21'
L8	S68°21'26"E	53.57'
L9	S80°23'58"E	30.35'
L10	S74°33'25"E	494.74'
L11	S02°22'00"W	251.17'
L12	S02°22'00"W	750.31'
L13	S03°49'50"E	64.17'
L14	S02°22'00"W	564.87'
L15	S02°36'47"W	116.29'
L16	S87°31'43"E	255.08'
L17	S87°31'43"E	152.13'
L18	S84°30'58"E	59.34'
L19	S00°38'45"E	66.70'
L20	S02°22'00"W	446.72'
L21	S02°22'00"W	9.08'
L22	S46°22'19"E	31.74'
L23	N45°00'39"W	9.78'
L24	S62°09'43"E	13.44'

CURVE TABLE

CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	383.00'	41.44'	20.74'	41.42'	N71°27'25"W	006°11'59"
C2	367.00'	80.74'	40.53'	80.57'	S80°51'33"E	012°36'16"
C3	383.00'	41.44'	20.74'	41.42'	N00°43'59"W	006°11'59"
C4	367.00'	19.30'	9.65'	19.29'	S86°01'21"E	003°00'45"
C5	367.00'	19.30'	9.65'	19.29'	S00°51'38"W	003°00'45"

THE CITY OF EL PASO TEXAS
Final Approval

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

WATER INDEX MAP

SCALE: 1" = 100'

GENERAL NOTES

1. UNLESS OTHERWISE SHOWN ON THE DRAWINGS, THE PROPOSED WATER MAINS SHALL BE INSTALLED NO LESS THAN 10' AWAY FROM EXISTING SEWER LINE. SEPARATIONS DISTANCES SHALL FOLLOW TCEQ STANDARD REQUIREMENTS (§290.44).
2. THE INTENT OF THE OWNER IS TO HAVE THE WATER MAINS INSTALLED TO A DEPTH OF 48" 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.
3. 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 PRIOR TO CONSTRUCTION. ALL EXISTING UTILITY DEPTHS ARE UNKNOWN. THE CONTRACTOR SHALL BE ULTIMATELY RESPONSIBLE FOR AQCUIRING FIELD DEPTHS OF ALL UTILITIES WITHIN THE PROJECT AREAS.
4. TRENCH SAFETY REQUIREMENTS SHALL BE AS REQUIRED BY OSHA.
5. THE EL PASO WATER UTILITIES AND CITY OF EL PASO MUST BE NOTIFIED 48 HOURS PRIOR TO COMMENCING ANY WORK IN AREAS WITHIN THEIR JURISDICTION.
6. 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.
7. TRAFFIC CONTROL SHALL BE IN PLACE PRIOR TO INITIATING WORK.
8. ALL TIE-INS SHALL BE CLOSELY COORDINATED WITH THE EL PASO WATER UTILITIES AT LEAST 48 HOURS PRIOR TO ACTUAL CONSTRUCTION.
9. CONTRACTOR SHALL PROVIDE THE REQUIRED COUPLINGS, ELBOWS AND NECESSARY PIPING APPURTENANCES FOR A COMPLETE AND OPPERATIONAL WATER SYSTEM.
10. ALL NEW VALVES SHALL BE ALIGNED PERPENDICULAR TO PROPERTY LINES.
11. 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 APPURTENANDCES.
12. FIRE HYDRANTS SHALL BE INSTALLED IN THE PARKWAY AREA.
13. 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:
U.S. SPRINT
151 N. BOONE ST.
EL PASO, TX. 79905
(915) 534-7910
MR. RICK DERAGISCH

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

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

WATER & SEWER:
EL PASO WATER UTILITIES
1154 HAWKINS BOULEVARD
EL PASO, TX. 79961
(915) 594-5530
MR. FELIPE LOPEZ, JR., P.E.

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

EL PASO STREETS
CITY OF EL PASO
DEPARTMENT OF TRANSPORTATION
7968 SAN PAULO DRIVE
EL PASO, TX. 79907
(915) 621-6750
MR. TED MARQUEZ, P.E.

RESIDENTIAL GAS LINES:
TEXAS GAS SERVICE
4700 POLLARD ST.
EL PASO, TX 79930
(915) 680-7329

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

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

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

INDEX

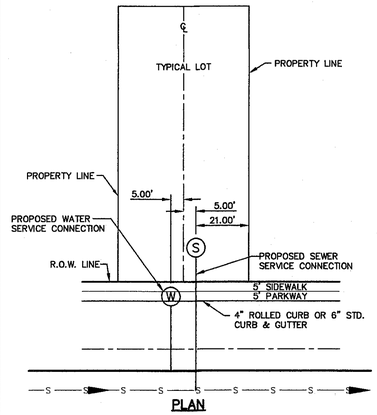
SHEET NO.	DESCRIPTION
C11.1	MESQUITE TRAILS UNIT TEN WATER MAIN PIPE LAYOUT
C12.1 – C12.4	WATER DETAILS

NOTES:

1. CONTRACTOR SHALL VERIFY DEPTH AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION.
2. ALL LOTS SHALL BE PROVIDED WITH ONE SERVICE CONNECTION TO BE INSTALLED AT THE LOCATION AS SHOWN ON THE SERVICE LOCATION DETAIL.
3. ALL WATER LINES SHALL BE PVC C-900, CLASS 150.
4. REFERENCE WATER DETAILS FOR TYPICAL VALVE AND WATER LOCATIONS AT STREET INTERSECTIONS.

LEGEND

SYMBOL	DESCRIPTION
8" WTR.	NEW 8" C-900, CLASS 150 P.V.C. PIPE
	SUBDIVISION BOUNDARY LINE
	PROPERTY LINE
	STREET CENTER LINE
8" SWR	NEW SEWER LINE (PLAN VIEW)
	NEW STORM SEWER
W	NEW SERVICE CONNECTION (PLAN VIEW)
	NEW FIRE HYDRANT, KENNEDY OR MUELLER MODEL
	NEW 8" PLUG
	NEW GATE VALVE
	POINT OF TANGENCY
	EXISTING GATE VALVE
	EXISTING FIRE HYDRANT
	EXISTING PLUG
ExS	EXISTING SEWER LINE
ExW	EXISTING WATER LINE



PLAN

SERVICE LOCATION DETAIL

SCALE: N.T.S.

REFERENCES – BENCHMARKS

BENCHMARK IS CITY MONUMENT AT THE INTERSECTION OF PASEO ALEGRE CIR. AND PASEO LINDO DR. ELEVATION = 4003.10 FEET (CITY DATUM).

DATE	REVISIONS	BY

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ENGINEER'S SEAL

JORGE L. AZCARATE 85075 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS 7-15-14

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

DATE: JUNE 2014
DESIGN BY: A.C.
DRAWN BY: A.C./F.S.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-181D

PROJECT TITLE
MESQUITE TRAILS
UNIT TEN
SUBDIVISION IMPROVEMENTS

SHEET TITLE
WATER INDEX

SHEET NO.
C11.1

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UTILITY LOCATOR SERVICES	
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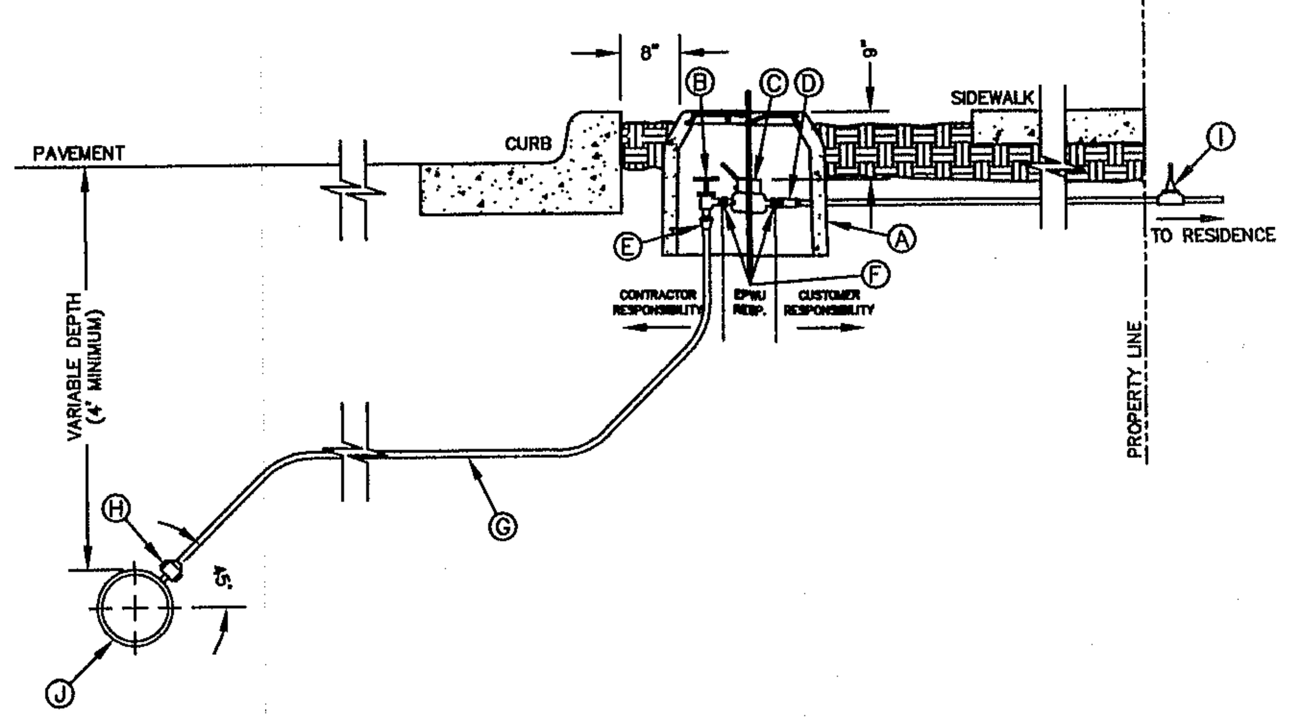


GENERAL NOTES:

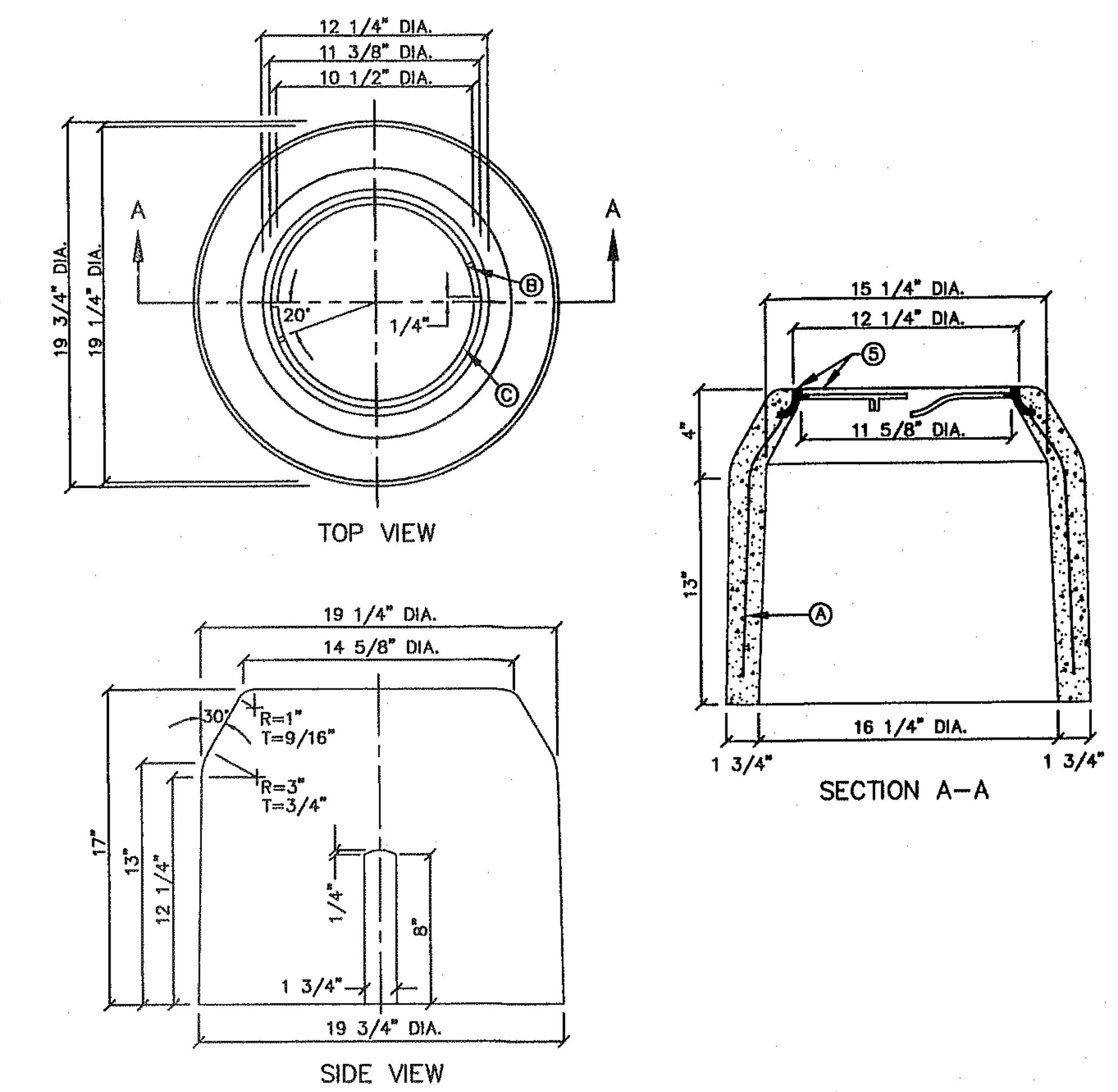
1. DETAIL SHOWN FOR A 3/4" SERVICE, 1" SERVICE INSTALLATION IS SIMILAR EXCEPT FOR SIZES OF PIPE, FITTING, METER AND BOX (TYPE "B").
2. WHERE NO CURB EXISTS, METER IS TO BE SET NEAR PROPERTY LINE OR AT DESIGNATED LOCATION.
3. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY PIPE, FITTINGS, AND METER BOXES REQUIRED. IT SHALL BE THE RESPONSIBILITY OF THE PRIVATE OWNER TO HAVE A CERTIFIED PLUMBER INSTALL A BACKFLOW PREVENTER AND EXTEND SERVICE LINE ON DISCHARGE SIDE OF METER.
4. NO SPLICING SHALL BE ALLOWED. FULL LENGTH OF PIPING SERVICE SHALL BE INSTALLED.
5. THE EPWU WILL FURNISH AND INSTALL THE METER.

CONSTRUCTION KEY NOTES:

A. METER BOX TYPE "A" (SEE DETAILS 300 & 301) SHALL BE SET SLIGHTLY HIGHER THAN SURROUNDING GROUND OR AT CURB LEVEL.
B. 3/4" ANGLE SERVICE VALVE.
C. WATER METER (CENTER INSIDE METER BOX).
D. WHEN REQUIRED BY EPWU, A DUAL CHECK BACKFLOW PREVENTER SHALL BE INSTALLED ON THE OUTLET SIDE OF THE METER.
E. END FLARE OF SERVICE LINE.
F. INLET AND OUTLET COUPLING.
G. 3/4" COPPER SERVICE LINE (SEE NOTE 4).
H. 5/8" X 3/4" CORPORATION STOP
I. PRESSURE REGULATOR SOMETIMES LOCATED NEAR THE RESIDENCE.
J. WATER MAIN

STANDARD DETAIL	DATE: 10/20/2000 REV: 5/24/2007	SERVICE LINE ¾" AND 1" INSTALLATION BY CONTRACTOR N.T.S.	EL PASO WATER UTILITIES PUBLIC SERVICE BOARD	DETAIL No. 290-4

1 C12.1 TYPICAL SERVICE LINE INSTALLATION
SCALE: N.T.S.



GENERAL NOTES:

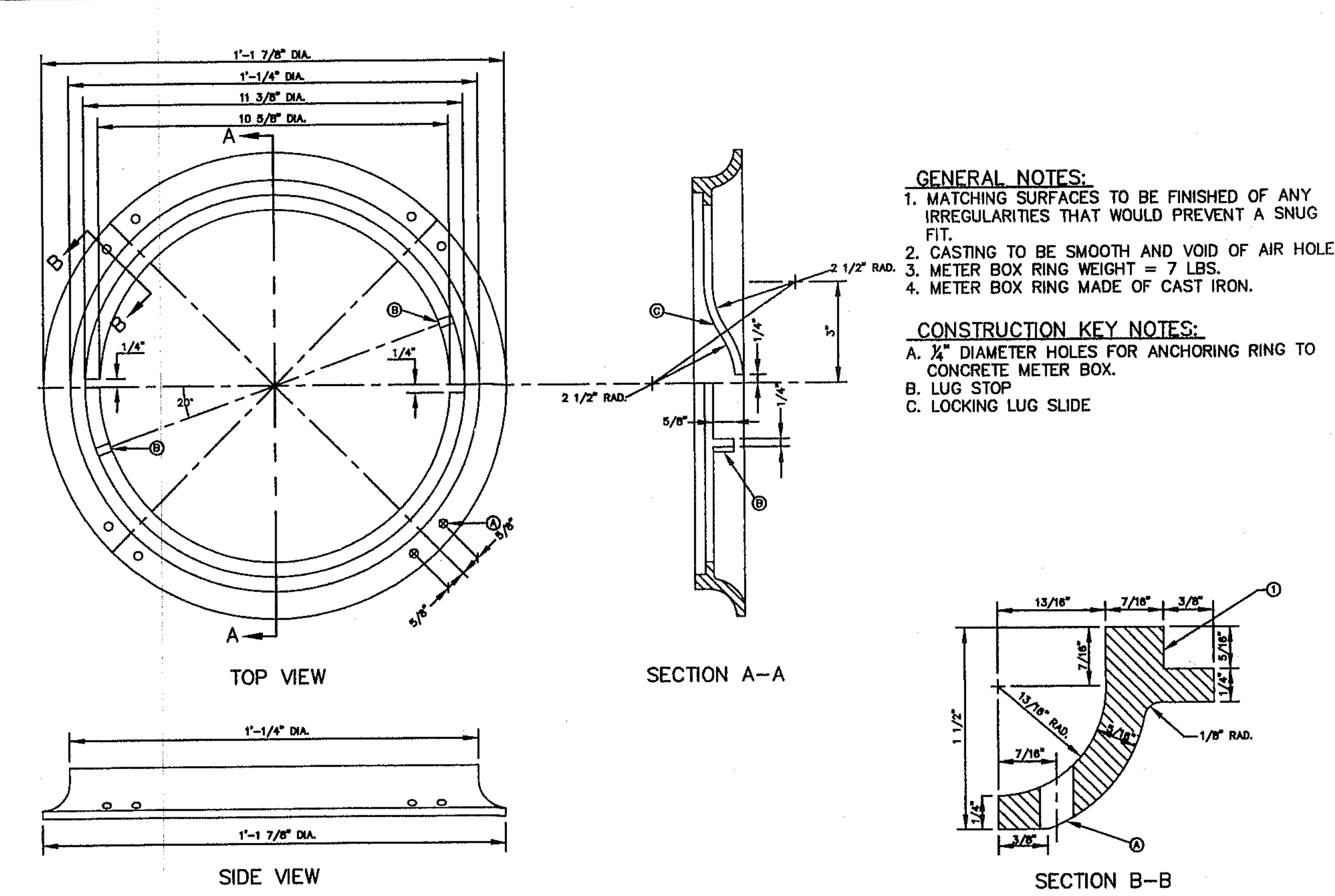
1. INSTALL TO GRADE MATCHING TOP OF CURB.
2. ANGLE VALVE SHALL BE IN LINE WITH THE INLET/OUTLET PORTS OF THE METER BOX.
3. METER BOXES SHALL NOT BE INSTALLED UNDER SIDEWALKS, DRIVEWAYS, OR PROPOSED ABOVE GROUND STRUCTURES.
4. WHERE NO CURBING EXIST, INSTALL BOXES IN ACCESSIBLE LOCATIONS BEYOND LIMITS OF STREET SURFACING, WALKS AND DRIVEWAYS.
5. METER BOX RING AND COVER PER EPWU DETAILS 300 AND 301.
6. WHERE IT IS NECESSARY TO INSTALL A TYPE "A" BOX FOR 3/4" METER UNDER ROADWAYS OF TRAFFIC BEARING SURFACES, BOX SHALL BE ENCASED IN 12" CONCRETE, 3000 PSI. MINIMUM.
7. METER BOX SHALL BE SINGLE UNIT CONSTRUCTION; CONCRETE TO HAVE A MINIMUM 28 DAYS COMPRESSIVE STRENGTH OF 4000 PSI.

CONSTRUCTION KEY NOTES:

A. 3/16", 9 GAUGE BLACK ANNEALED WIRE
B. LUG-STOP C. CAST IRON RING

STANDARD DETAIL	DATE: 4/1994 REV: 8/24/2006	METER BOX TYPE "A" FOR ¾" SERVICE INSTALLATION N.T.S.	EL PASO WATER UTILITIES PUBLIC SERVICE BOARD	DETAIL No. 291

2 C12.1 METER BOX DETAIL
SCALE: N.T.S.



GENERAL NOTES:

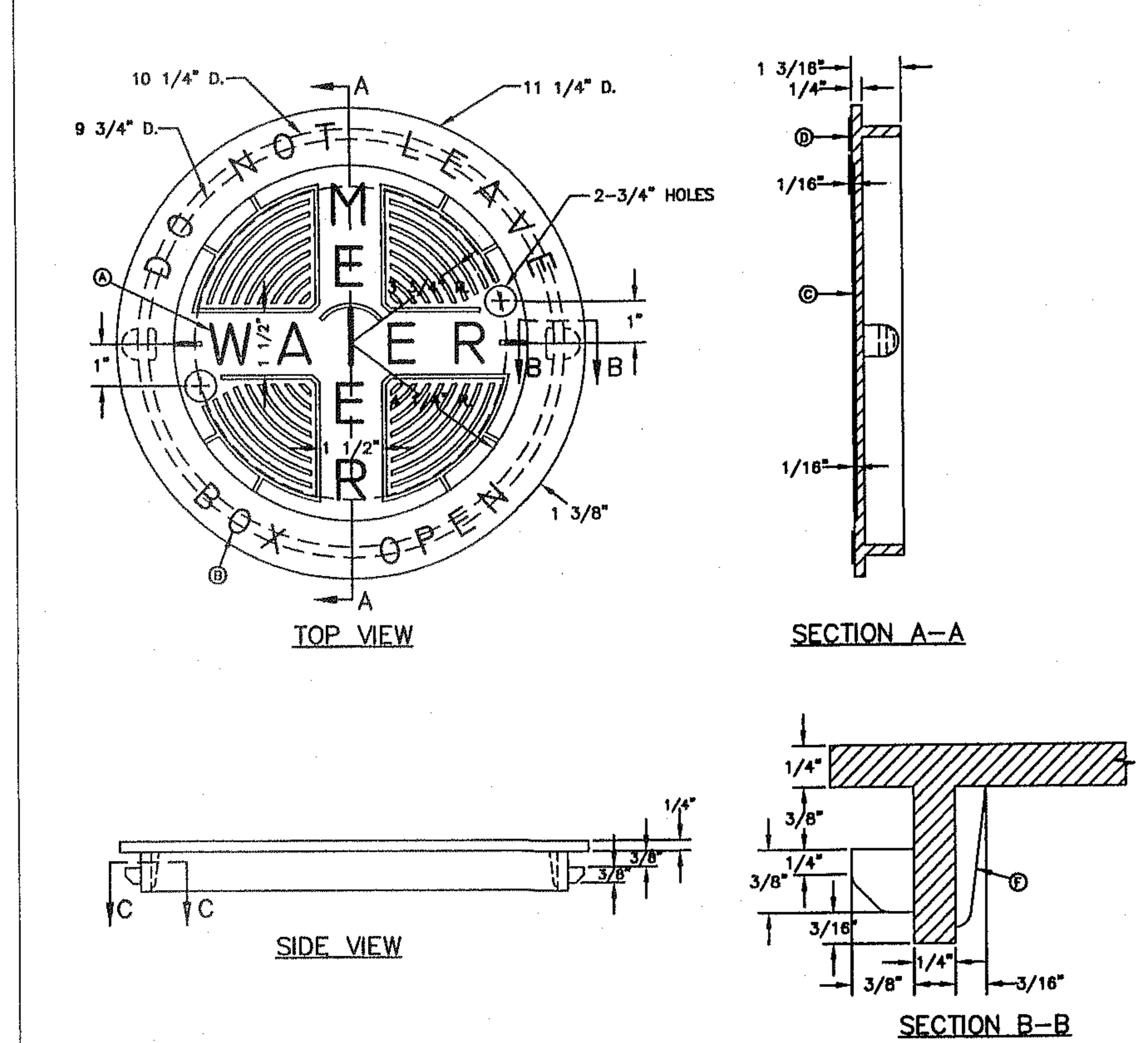
1. MATCHING SURFACES TO BE FINISHED OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.
2. CASTING TO BE SMOOTH AND VOID OF AIR HOLES.
3. METER BOX RING WEIGHT = 7 LBS.
4. METER BOX RING MADE OF CAST IRON.

CONSTRUCTION KEY NOTES:

A. ¼" DIAMETER HOLES FOR ANCHORING RING TO CONCRETE METER BOX.
B. LUG STOP
C. LOCKING LUG SLIDE

STANDARD DETAIL	DATE: 1/1995 REV: 8/10/2006	METER BOX RING FOR TYPE "A" & "B" METER BOXES N.T.S.	EL PASO WATER UTILITIES PUBLIC SERVICE BOARD	DETAIL No. 300

3 C12.1 METER BOX RING DETAIL
SCALE: N.T.S.



GENERAL NOTES:

1. MATCHING SURFACES TO BE ROUGH GROUND OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.
2. CASTING TO BE SMOOTH AND VOID OF AIR
3. METER BOX COVER WEIGHT= 1 1/4 lbs.

CONSTRUCTION KEY NOTES:

A. LETTERS TO BE 1" HIGH, 3/4" WIDE, 1/8' THICK
B. LETTERS TO BE ¾" HIGH, ⅝" WIDE, ⅛" THICK
C. INSIDE LETTERS & RIBS ⅛" TALL
D. OUTSIDE LETTERS ⅛" TALL
E. REINFORCE BACK OF LUG
F. REINFORCEMENT

STANDARD DETAIL	DATE: 4/1994 REV: 8/10/2006	METER BOX COVER FOR TYPE "A" & "B" METER BOXES N.T.S.	EL PASO WATER UTILITIES PUBLIC SERVICE BOARD	DETAIL No. 301

4 C12.1 METER BOX COVER DETAIL
SCALE: N.T.S.

Final Approval

REFERENCES - BENCHMARKS

BENCHMARK IS CITY MONUMENT AT THE INTERSECTION OF PASEO ALEGRE CIR. AND PASEO LINDO DR. ELEVATION = 4003.10 FEET (CITY DATUM).

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ENGINEER'S SEAL

JORGE L. AZCARATE 85075

SCALE
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: JUNE 2014
DESIGN BY: A.C.
DRAWN BY: A.C.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-181LD

PROJECT TITLE

MESQUITE TRAILS UNIT TEN SUBDIVISION IMPROVEMENTS

SHEET TITLE

WATER DETAILS

(SHEET 1 OF 4)

SHEET NO.

C12.1

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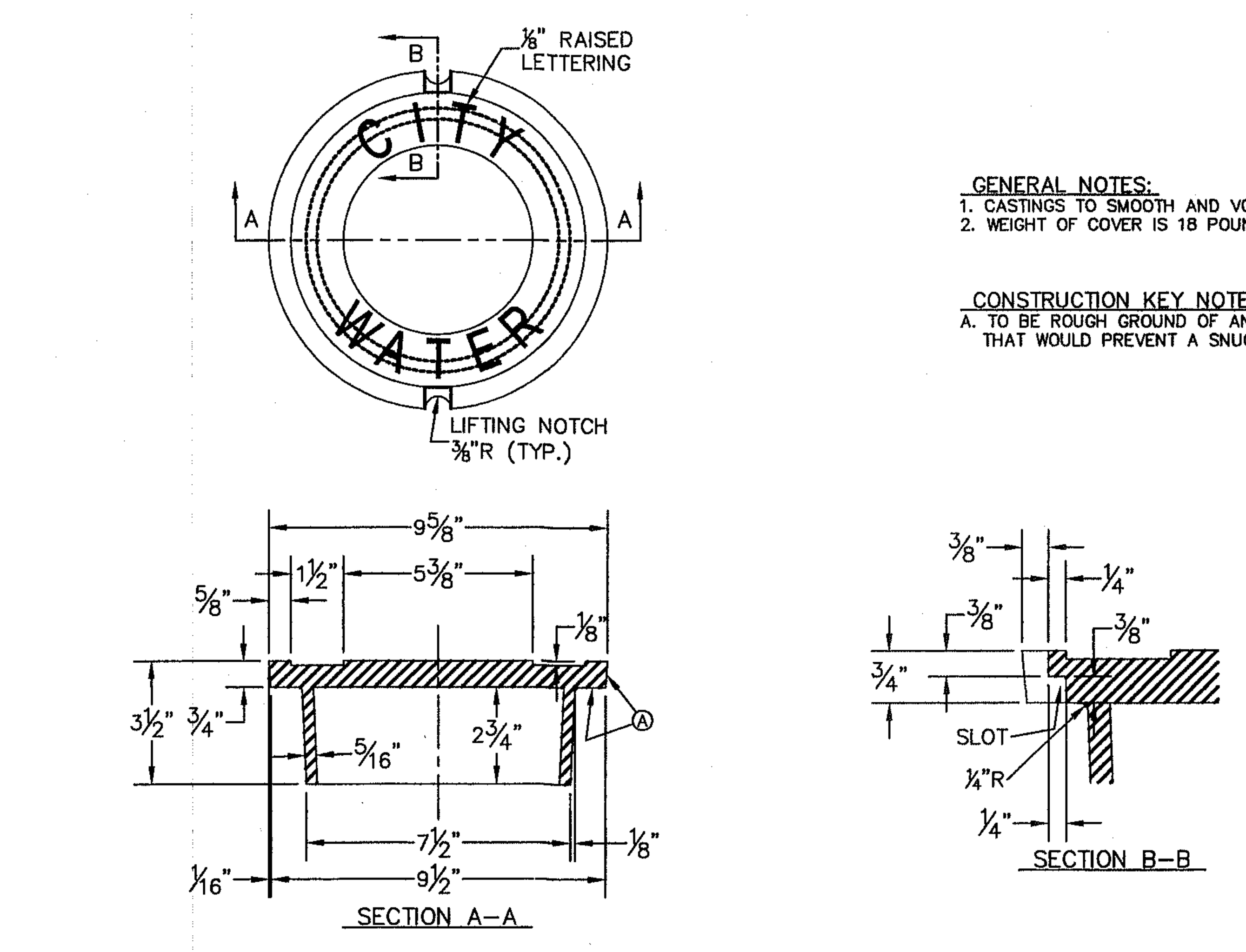
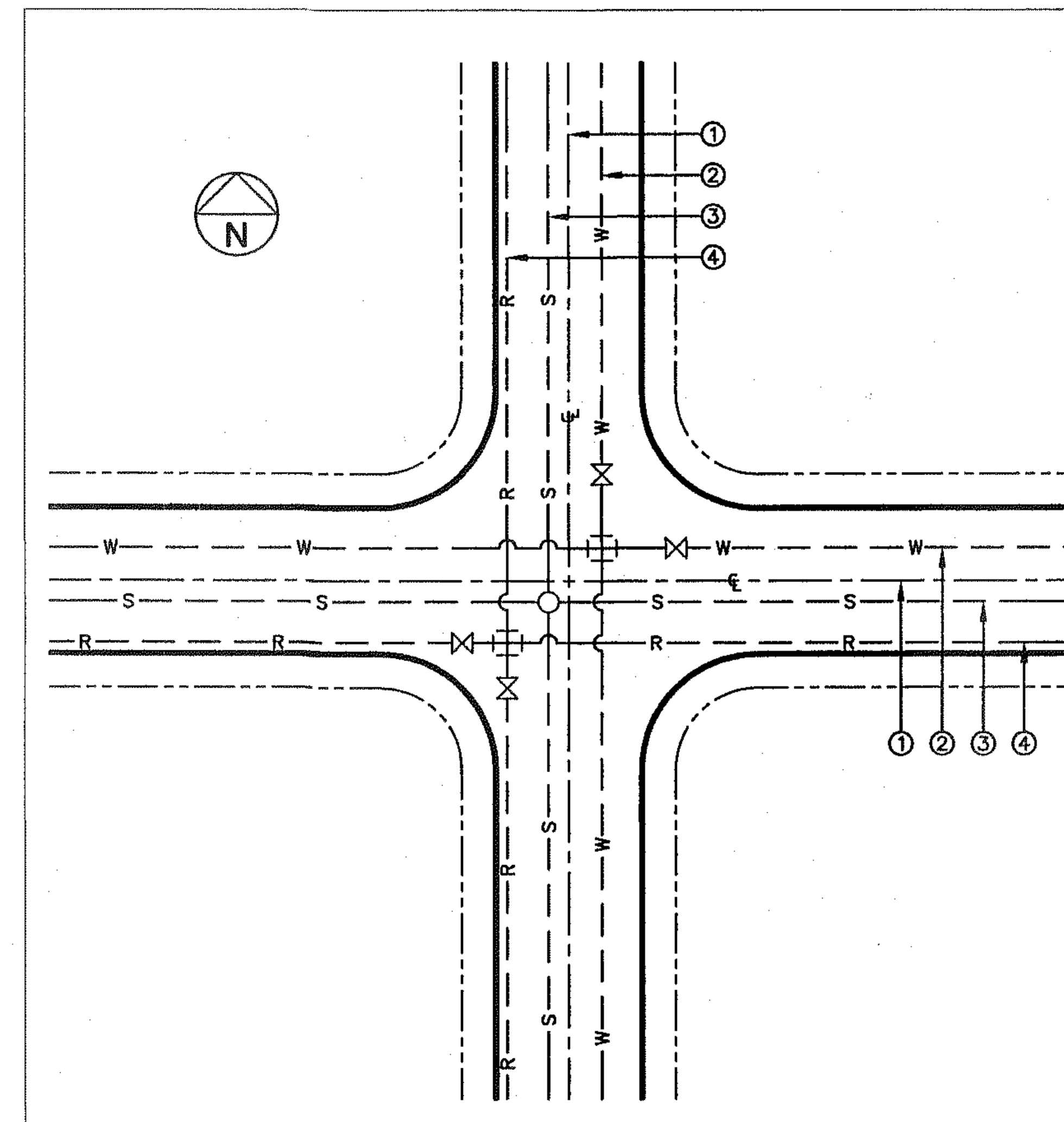


GENERAL NOTES:
1. CASTINGS TO SMOOTH AND VOID OF AIR HOLES.
2. WEIGHT OF COVER IS 18 POUNDS.

CONSTRUCTION KEY NOTES:
A. TO BE ROUGH GROUND OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.

STANDARD DETAIL | DATE: 2/16/2006 REV: 12/14/2007 | BONNET BOX COVER (FLIP RESISTANT) | N.T.S. | EL PASO WATER UTILITIES PUBLIC SERVICE BOARD | DETAIL No. 269-2

(1 / C12.2) BONNET BOX COVER (FLIP RESISTANT)
SCALE: N.T.S.



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

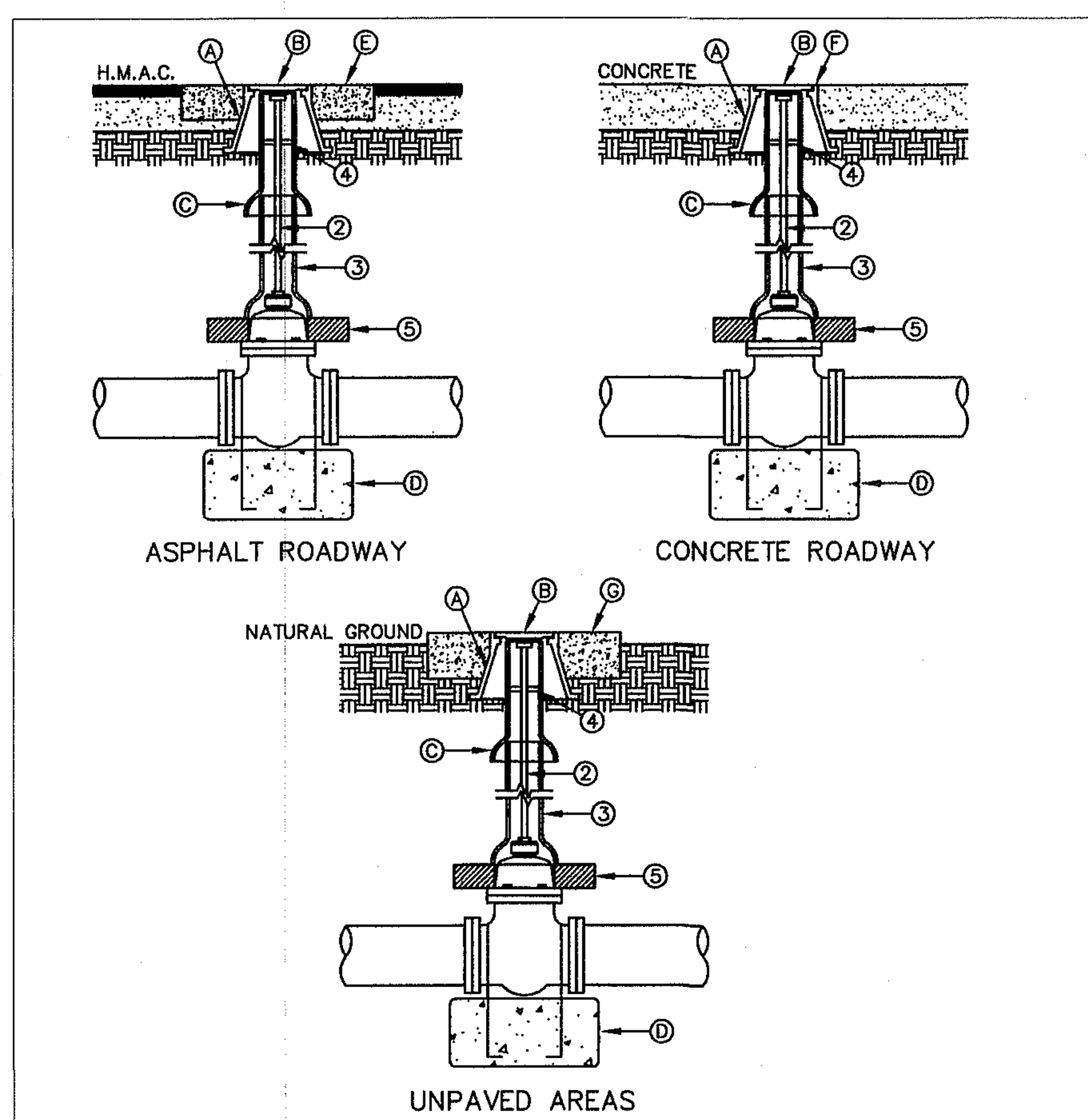
CONSTRUCTION KEY NOTES:
A. DISTANCES FROM CENTERLINE VARY AND SHALL BE ACCORDING TO THE FOLLOWING:

PIPELINE LOCATION WITHIN NEW RIGHT-OF-WAY			
RIGHT-OF-WAY WIDTH*	OFFSET FROM CENTERLINE**		
	WATER	SEWER	RECLAIMED
36 FT.	9 FT.	1 FT.	6 FT.
45 FT.	7.5 FT.	7.5 FT.	8 FT.
52 FT.	8 FT.	5 FT.	10 FT.
64 FT.	10 FT.	5 FT.	10 FT.
72 FT.	10 FT.	5 FT.	10 FT.
76 FT.	10 FT.	5 FT.	10 FT.
84 FT.	22 FT.	5 FT.	10 FT.
110 FT.	25 FT.	15 FT.	20 FT.

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

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

(2 / C12.2) STANDARD LOCATION FOR EXTENSIONS DETAIL
SCALE: N.T.S.

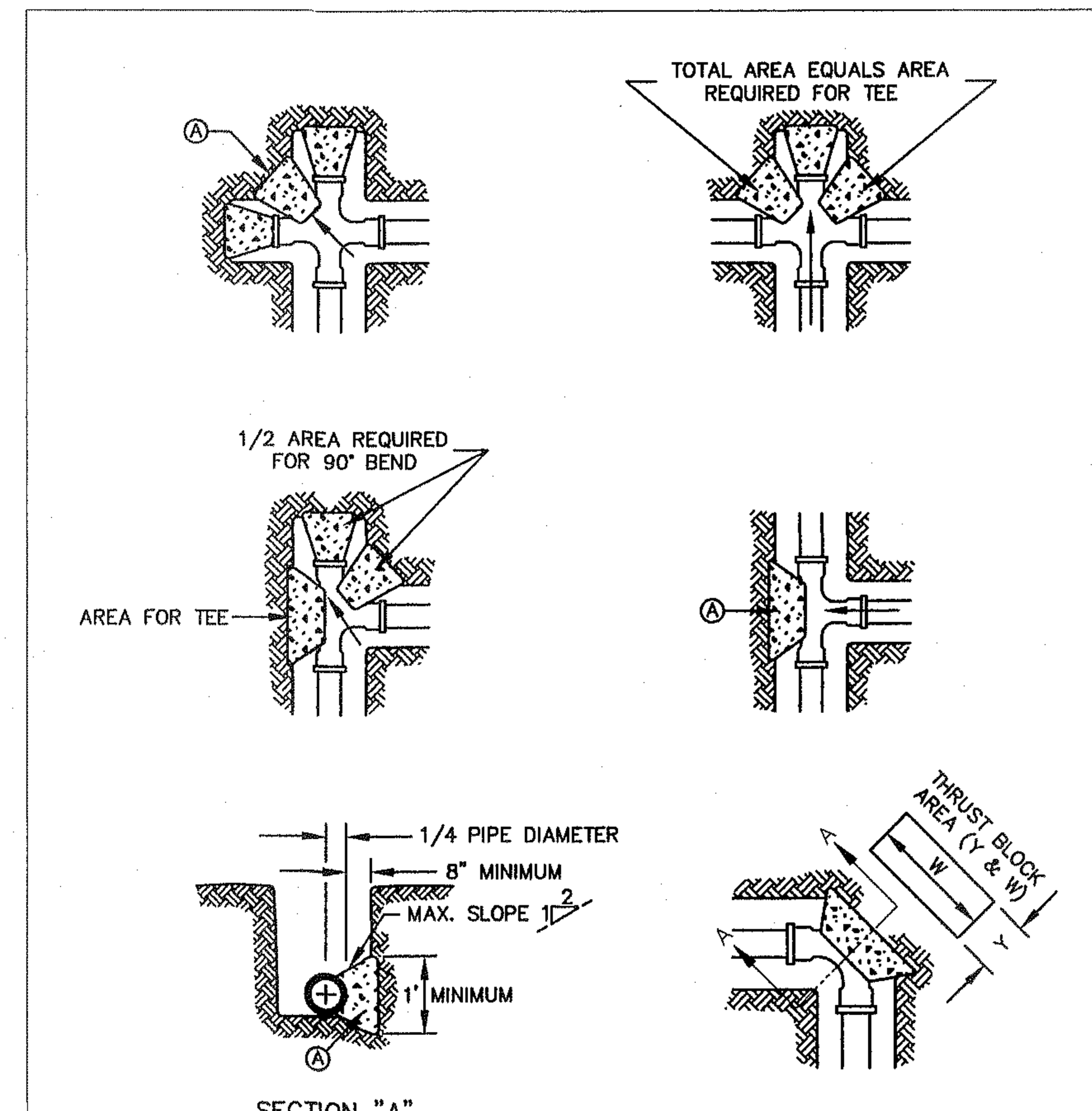


GENERAL NOTES:
1. VALVE TYPE AND VALVE ENDS SHALL BE AS SHOWN ON THE PLANS.
2. ALL BURIED VALVES 5' AND DEEPER SHALL BE PROVIDED WITH SOLID STEEL EXTENSION STEM OPERATOR WITH 2" SQUARE AWWA NUT WITHIN 36" OF VALVE BOX COVER. NUT IS TO INDICATE DIRECTION OF ROTATION TO OPEN VALVE.
3. 8" DIA. MINIMUM VITRIFIED CLAY OR SDR 35 P.V.C. PIPE, PIPE SHALL NOT REST ON VALVE BODY.
4. ¼" THICK STEEL TRASH RING VALVE BOX INSIDE DIAMETER MINUS ⅛".
5. MINIMUM 2½" CONCRETE OR BRICK ALL AROUND.
6. CLEAN BONNET BOX OF ALL DEBRIS AND SOIL.
7. COAT BURIED PIPE AND BONNET BOX PER SPECIFICATIONS, VALVE SHALL BE WRAPPED IN POLYETHYLENE IN ACCORDANCE WITH SPECIFICATIONS.

CONSTRUCTION KEY NOTES:
A. BONNET BOX (SEE DETAIL 268).
B. BONNET BOX COVER (SEE DETAILS 269-1 & 269-2)
C. FINAL EXTENSION TO BONNET BOX SHALL BE WITH BELL AND SPIGOT ENDS (CLAY OR SDR 35 P.V.C. SPOOL).
D. CONCRETE VALVE ANCHOR (SEE DETAIL 271).
E. CONCRETE COLLAR (SEE DET 184-1) FLUSH WITH TOP OF H.M.A.C.
F. BONNET BOX FLUSH WITH TOP OF CONCRETE, CONCRETE COLLAR NOT NEEDED.
G. CONCRETE APRON (SEE DETAIL 184-2) FLUSH WITH BONNET BOX AND 2" ABOVE NATURAL GROUND.

STANDARD DETAIL | DATE: 5/1994 REV: 6/22/2009 | GATE VALVE INSTALLATION | N.T.S. | EL PASO WATER UTILITIES PUBLIC SERVICE BOARD | DETAIL No. 260

(3 / C12.2) GATE VALVE INSTALLATION
SCALE: N.T.S.



GENERAL NOTES:
1. TABLE IS BASED ON 2000#/SQ. FT. SOIL. IF CONDITIONS ARE FOUND TO INDICATE SOIL BEARING IS LESS, THE AREAS SHALL BE INCREASED ACCORDINGLY. 2. AREAS FOR PIPE LARGER THAN 18" SHALL BE CALCULATED.
3. CONCRETE SHALL HAVE A MINIMUM COMPRESSION STRENGTH OF 2500 PSI.
4. THRUST BLOCK IS TO EXTEND TO UNDISTURBED SOIL.
5. SIZE MAY BE DECREASED FOR LESSER DEGREE BENDS AS DETERMINED BY ENGINEER.
6. KEEP CONCRETE CLEAR OF M.J. OR BELL AND SPIGOT JOINTS.
7. BLOCK IN A SIMILAR MANNER AT TEES, HYDRANTS, PLUG OR OTHER LOCATIONS AS REQUIRED.
8. WHEN NECESSARY ADDITIONAL THRUST RESTRAINT METHODS MAY BE USED, SUCH AS MECHANICAL JOINT RESTRAINTS, TIE-RODS (INSTALLED PER MANUFACTURERS' RECCOMMENDATIONS) OR OTHER APPROVED METHODS.

CONSTRUCTION KEY NOTES:
A. LENGTH "Y & W" AS REQUIRED TO OBTAIN BEARING AREA AGAINST UNDISTURBED SOIL.
B. ADDITIONAL EXCAVATION IF NECESSARY TO OBTAIN REQUIRED BEARING AREA.
C. MINIMUM THRUST BLOCK AREA REQUIREMENTS FOR (Y & W) AS FOLLOWS:

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

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

(4 / C12.2) THRUST BLOCKING
SCALE: N.T.S.

REFERENCES - BENCHMARKS
BENCHMARK IS CITY MONUMENT AT THE INTERSECTION OF PASEO ALEGRE CIR. AND PASEO LINDO DR. ELEVATION = 4003.10 FEET (CITY DATUM).

DATE	REVISIONS	BY

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STATE OF TEXAS · JORGE L. AZCARATE · 85075 · LICENSED PROFESSIONAL ENGINEER
8-12-14

Final Approval

SCALE
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: JUNE 2014
DESIGN BY: A.C.
DRAWN BY: A.C.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-181LD

PROJECT TITLE
MESQUITE TRAILS UNIT TEN SUBDIVISION IMPROVEMENTS

SHEET TITLE
WATER DETAILS
(SHEET 2 OF 4)
SHEET NO.
C12.2

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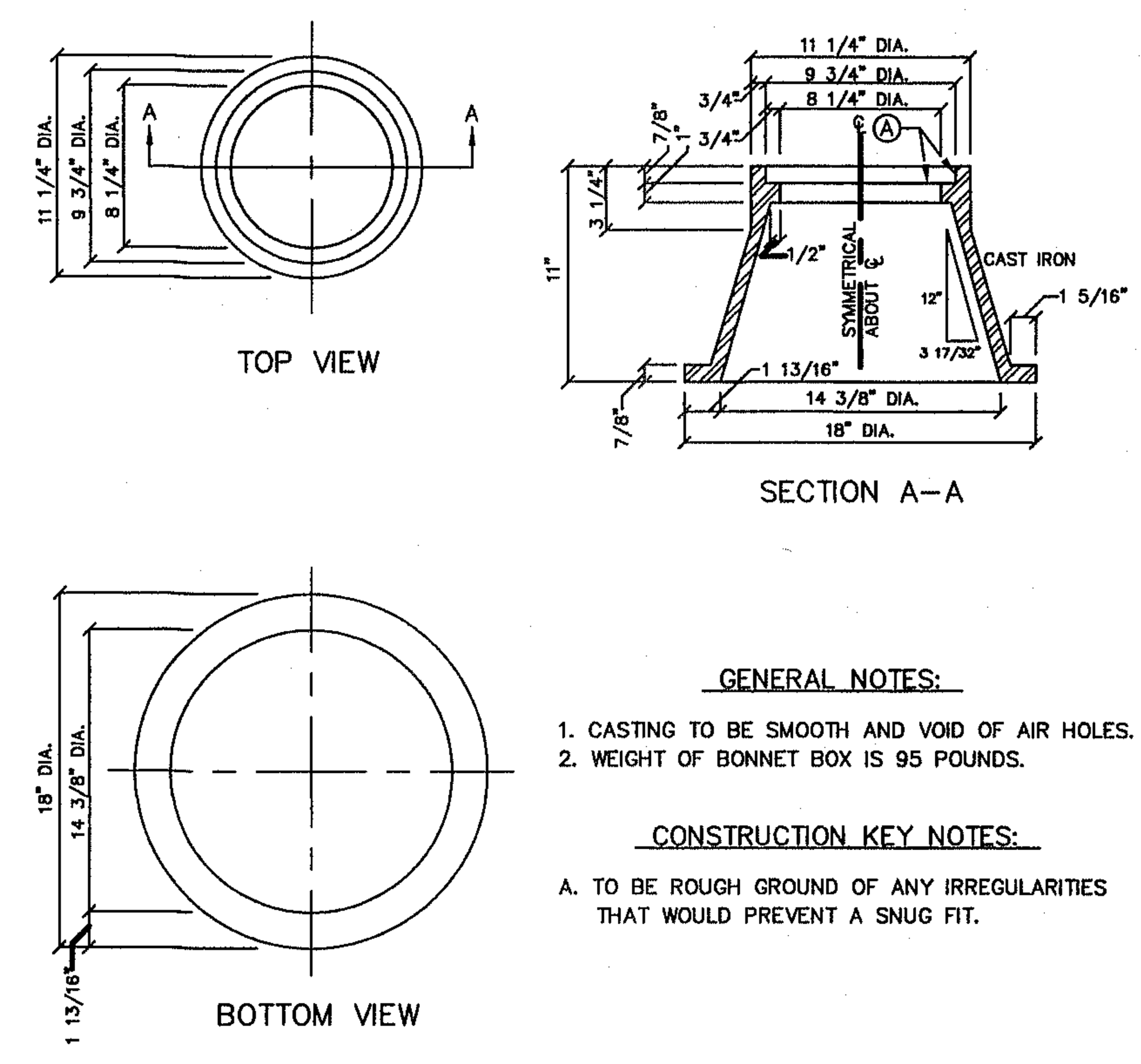


GENERAL NOTES:

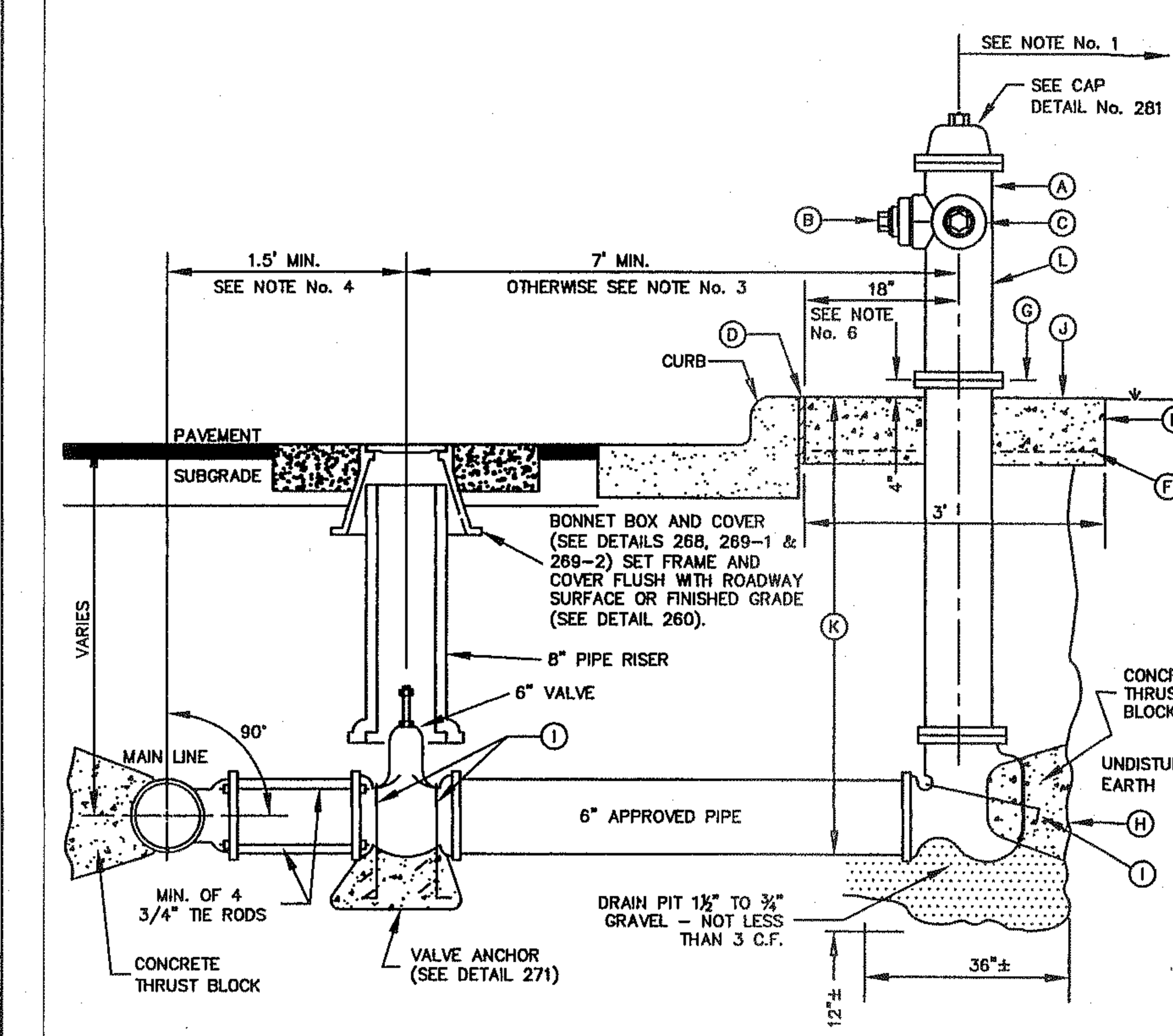
1. CASTING TO BE SMOOTH AND VOID OF AIR HOLES.
2. WEIGHT OF BONNET BOX IS 95 POUNDS.

CONSTRUCTION KEY NOTES:

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

STANDARD DETAIL	FEB. 1994 REV:	BONNET BOX N.T.S.	EL PASO WATER UTILITIES PUBLIC SERVICE BOARD	DETAIL No. 268

(1 / C12.3) **BONNET BOX**
SCALE: N.T.S.



GENERAL NOTES:

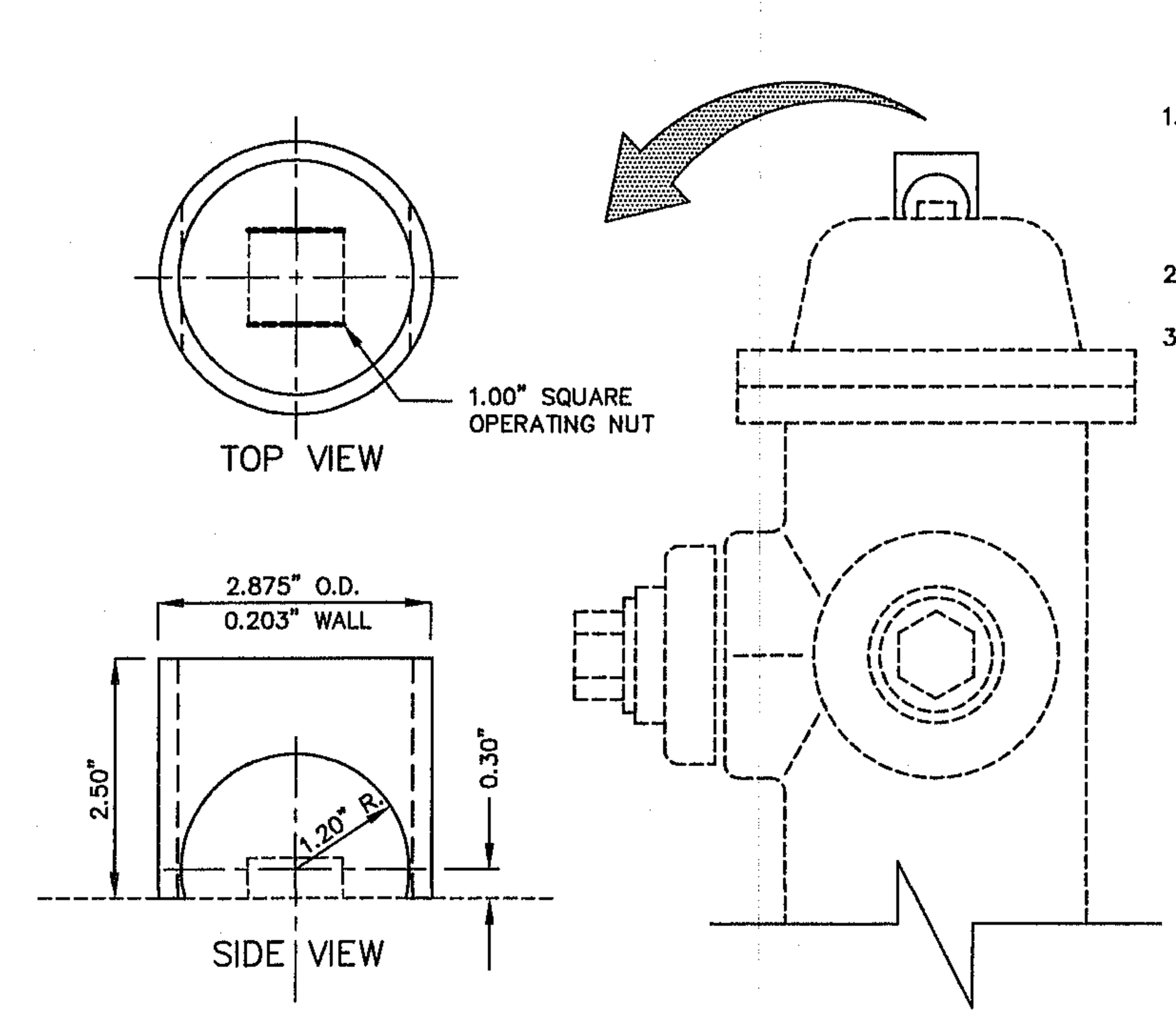
1. NO OBSTRUCTIONS WILL BE PERMITTED WITHIN 5 FT. IN ALL DIRECTIONS OF FIRE HYDRANT (PER EL PASO MUNICIPAL CODE, TITLE 12). FIRE HYDRANT SHALL NOT BE PLACED IN WHEEL CHAIR RAMP OR DRIVEWAY.
2. FIRE HYDRANT SHALL BE LOCATED AT THE BEGINNING OF CURB RETURN OR AT THE PROPERTY LINE COMMON TO ADJOINING LOTS, UNLESS OTHERWISE SHOWN ON PLANS. REFER TO DETAIL No. 282 FOR SPECIAL CASES.
3. WHERE DISTANCE IS LESS THAN 7', HYDRANT SHALL BE INSTALLED IN ACCORDANCE WITH DETAIL No. 282.
4. VALVE MAY BE CONNECTED TO TEE AT MAIN LINE. USE FLANGED MECHANICAL JOINT ENDS. WHERE SPOOL IS REQUIRED BETWEEN TEE AND VALVE, USE FLANGED MECHANICAL ENDS WITH ¾" DIAMETER TIE RODS.
5. COMPLY WITH REQUIREMENTS OF AWWA C-502, DRY BARREL FIRE HYDRANTS AND AWWA C-550, PROTECTIVE EPOXY INTERIOR COATINGS FOR VALVES AND HYDRANTS.
6. WHEN INSTALLATION IS WITHIN TxDOT RIGHT OF WAY, HYDRANT SHALL NOT BE PLACED IN SIDEWALK AREA OR ANY CLOSER THAN 5' FROM BACK OF CURB.

CONSTRUCTION KEY NOTES:

A. FIRE HYDRANT PER SPEC'S.
B. PUMPER NOZZLE 4½" TO BE FACING THE TRAVELED WAY, UNLESS OTHERWISE NOTED IN THE PLANS.
C. HOSE NOZZLE 2½".
D. ½" PREMOLDED EXPANSION JOINT WITH 1" TOP FILLER.
E. 3'x3'x6" CONC. SQ. PAD, TO BE CONSTRUCTED AROUND FIRE HYDRANT'S CENTER LINE WHEN NOT LOCATED WITHIN SIDEWALK OR CONC. AREA.
F. #10; 6/6 WWF.
G. CONTROLLED ELEVATION LINE, LEVEL IN ALL DIRECTIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR SETTING TOP FLANGE OF THE HYDRANT TO CONTROLLED ELEVATION.
H. CONC. THRUST BLOCK, APPROX. 2'x2'x3' TO BE POURED AGAINST UNDISTURBED EARTH, F.H. WEEP HOLE MUST BE UNOBSTRUCTED.
I. 2"x1/4" STEEL ANCHOR PINS.
J. TOP OF SLAB SHALL BE AT CURB LEVEL 4" BELOW THE BREAK LINE OF THE HYDRANT. UNDER SPECIAL CONDITIONS THE ENGINEER MAY ALLOW VARIATIONS TO THIS CONSTRUCTION.
K. MAXIMUM OF ONE (1) SPOOL EXTENSION ALLOWED TO MAINTAIN THE CONTROLLED ELEVATION LINE TO TOP OF SLAB. ADDITIONAL ADJUSTMENT MUST ME MADE WITH OFFSETS & FITTINGS AS NEEDED.
L. REQUIRED – DAVIDSON ANTI TERRORISM CORROSION RESISTANT VALVE KIT (DATV).

STANDARD DETAIL	DATE: 2/1993 REV: 12/1/2011	FIRE HYDRANT INSTALLATION N.T.S.	EL PASO WATER UTILITIES PUBLIC SERVICE BOARD	DETAIL No. 280-1

(2 / C12.3) **STANDARD FIRE HYDRANT INSTALLATION**
SCALE: N.T.S.

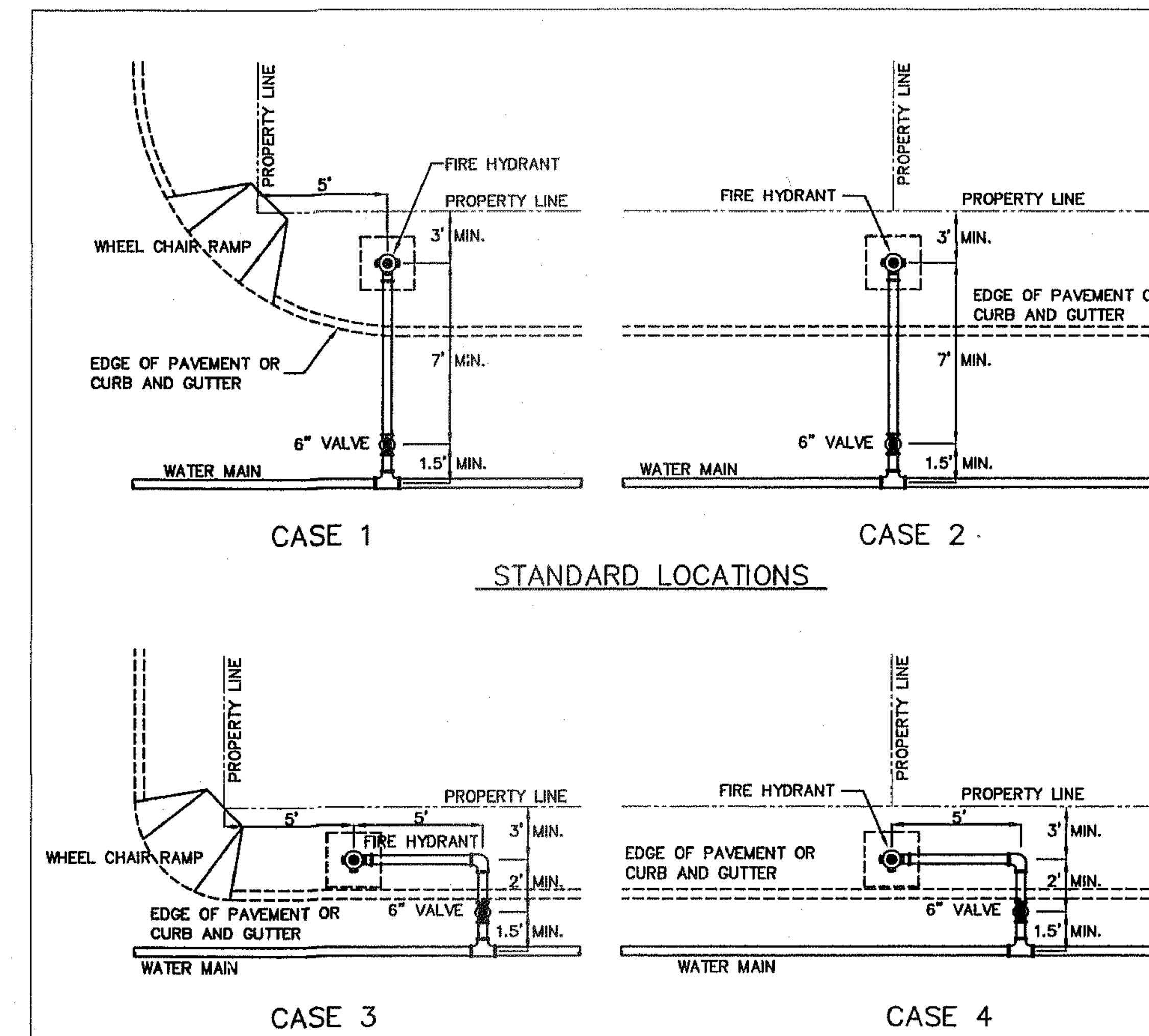


GENERAL NOTES:

1. STEEL CAPS TO BE MACHINED FROM STEEL PIPE:
   NOMINAL SIZE = 2 1/2" DIA.
   OUTSIDE DIA. = 2.875"
   WALL THICKNESS = 0.203
   LBS/FT. = 5.79
2. CAPS ARE TO BE TACK WELDED OR BRAZED ON FIRE HYDRANT BONNET OR WEATHER CAP.
3. THE CAPS OVER THE OPERATING NUT WILL PREVENT ACCESS TO THE UNAUTHORIZED USE OF HYDRANT WATER.

STANDARD DETAIL	FEB. 1993 REV: FEB. 1994	FIRE HYDRANT CAP N.T.S.	EL PASO WATER UTILITIES PUBLIC SERVICE BOARD	DETAIL No. 281

(3 / C12.3) **FIRE HYDRANT CAP**
SCALE: N.T.S.

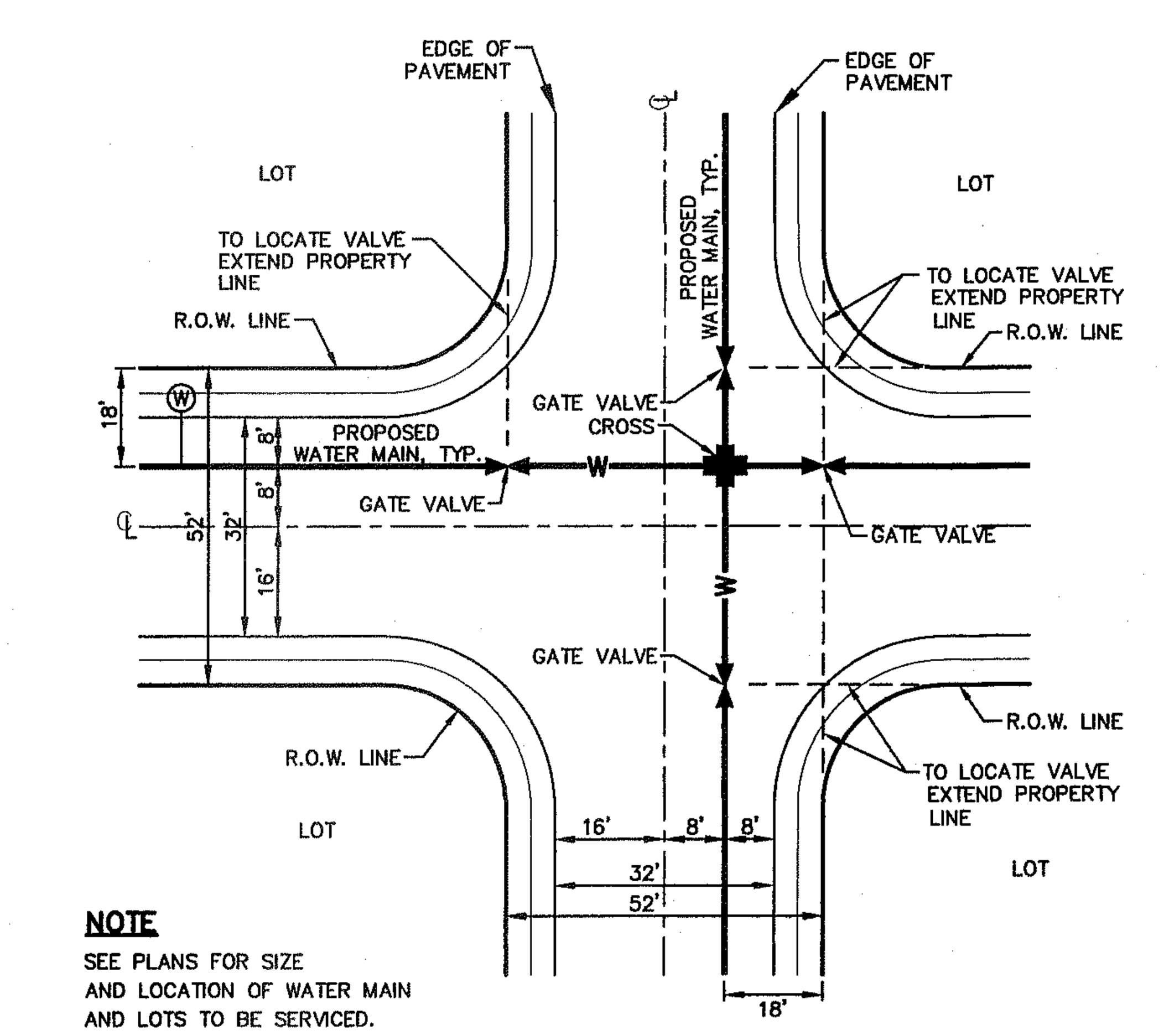


GENERAL NOTES:

1. FOR CASE 1 FIRE HYDRANT SHALL BE LOCATED AT A DISTANCE OF 5 FT. MINIMUM FROM THE PROPERTY LINE OR AT THE BEGINNING OF CURB RETURN.
2. FOR CASE 2 FIRE HYDRANT SHALL BE LOCATED AT THE PROPERTY LINE COMMON TO ADJOINING LOTS.
3. FOR CASE 3 AND IV WHERE THE DISTANCE BETWEEN THE VALVE AND THE HYDRANT IS LESS THAN 7 FT. PLACE HYDRANT AS SHOWN.
4. FOR INSTALLATION OF FIRE HYDRANT SEE DETAIL 280-1 OR 280-2.
5. A MINIMUM CLEARANCE OF 3 FT. WILL BE PROVIDED BETWEEN A FIRE HYDRANT AND A PERMANENT OBSTRUCTION (UTILITY POLE, LIGHT STANDARD, TRAFFIC SIGNAL, WHEEL CHAIR RAMP, FENCE PROTECTIVE POSTS, ETC.).
6. WHEN INSTALLATION IS WITHIN TxDOT RIGHT OF WAY, HYDRANT SHALL NOT BE PLACED IN SIDEWALK AREA OR ANY CLOSER THAN 5' FROM BACK OF CURB.

STANDARD DETAIL	DATE: 5/1994 REV: 6/25/2007	FIRE HYDRANT LOCATIONS N.T.S.	EL PASO WATER UTILITIES PUBLIC SERVICE BOARD	DETAIL No. 282

(4 / C12.3) **FIRE HYDRANT LOCATIONS**
SCALE: N.T.S.



NOTE
SEE PLANS FOR SIZE AND LOCATION OF WATER MAIN AND LOTS TO BE SERVICED.

(5 / C12.3) **TYPICAL VALVE AND WATER LOCATION AT STREET INTERSECTIONS**
SCALE: N.T.S.

Final Approval

REFERENCES – BENCHMARKS
BENCHMARK IS CITY MONUMENT AT THE INTERSECTION OF PASEO ALEGRE CIR. AND PASEO LINDO DR. ELEVATION = 4003.10 FEET (CITY DATUM).

DATE	REVISIONS	BY

cea group
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-4564
4712 Woodrow Bean, Ste. F El Paso, TX 79924

ENGINEER'S SEAL
JORGE L. AZCARATE 85075

SCALE
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: JUNE 2014
DESIGN BY: A.C.
DRAWN BY: A.C.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-181LD

PROJECT TITLE
MESQUITE TRAILS UNIT TEN SUBDIVISION IMPROVEMENTS

SHEET TITLE
WATER DETAILS
(SHEET 3 OF 4)

SHEET NO.
C12.3

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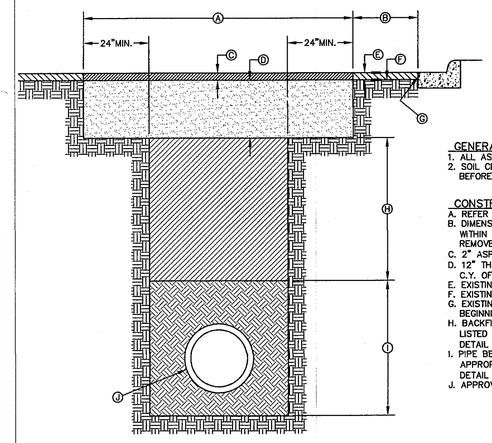
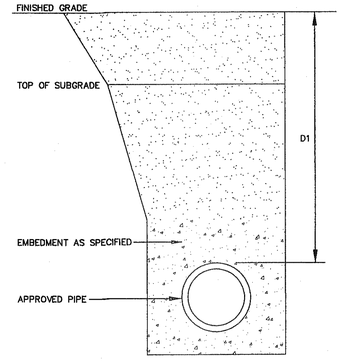


GENERAL NOTES:
1. ALL ASPHALT CUTS MUST BE SAW CUT.
2. SOIL CEMENT SLURRY SHALL BE ALLOWED TO CURE BEFORE PAVING OR OPENING TO ALL TRAFFIC.

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

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

1 C12.4 PAVEMENT REPAIR DETAIL
SCALE: N.T.S.



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

CONSTRUCTION KEY NOTES:

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

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

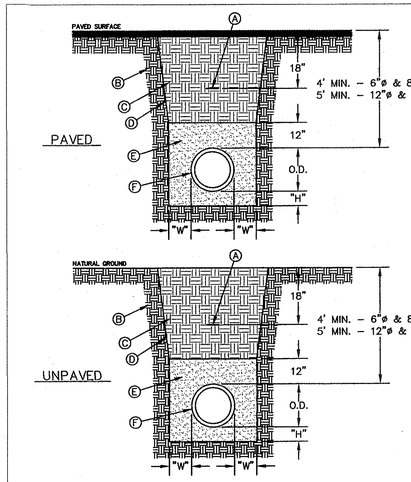
CONDITION B - NEW SUBDIVISIONS, NON-PAVED AREA

AND SHALL BE AS FOLLOWS.

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

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

2 C12.4 STANDARD COVER FOR WATER MAINS
SCALE: N.T.S.



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

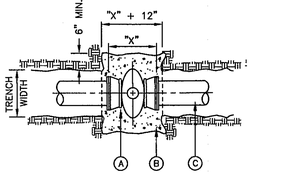
CONSTRUCTION KEY NOTES:
A. APPROVED MARKING TAPE.
B. UNDISTURBED STABLE MATERIAL.
C. NATIVE MATERIAL BACKFILL.
PAVED CONDITION: COMPACT TO 90% DENSITY PER ASTM D-1557 MODIFIED PROCTOR.
UNPAVED CONDITION: COMPACT TO 85% DENSITY PER ASTM D-1557 MODIFIED PROCTOR.
(*SEE NOTE #3 IF THESE PREVIOUS CONDITIONS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

PIPE DIAMETER	"H"
6" - 30"	4"
GREATER THAN 30"	6"

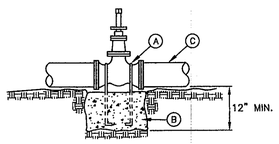
PIPE DIAMETER	"W"
6" - 30"	8"
GREATER THAN 30"	12"

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

3 C12.4 BEDDING CLASS DETAILS FOR P.V.C. PRESSURE PIPE
SCALE: N.T.S.



PLAN



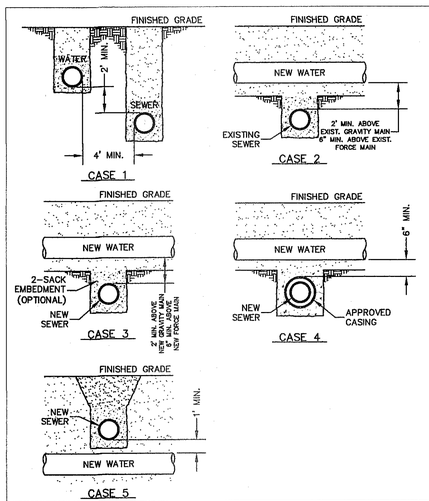
SECTION

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

CONSTRUCTION KEY NOTES:
A. TWO No. 5 REBAR HAIR PINS. PAINT UNEMBEDDED PORTION OF REBARS WITH TWO COATS OF COAL TAR EPOXY.
B. CONCRETE VALVE SUPPORT, 2500 PSI. CONCRETE.
C. APPROVED PIPE.

STANDARD DETAIL	DATE: 2/1994 REV: 12/12/2011	VALVE ANCHOR N.T.S.	EL PASO WATER UTILITIES PUBLIC SERVICE BOARD	DETAIL No. 271

4 C12.4 VALVE ANCHOR
SCALE: N.T.S.



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

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

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

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

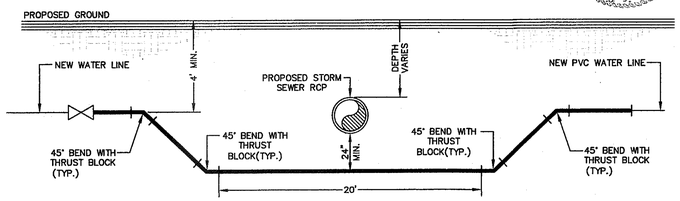
CASE 3. NEW POTABLE WATER MAIN CROSSING NEW GRAVITY SANITARY SEWER MAIN OR NEW FORCE MAIN (PER TCEQ §290.44(e)(4)(B)(ii), §290.44(e)(4)(B)(iv) AND §290.44(e)(4)(B)(vi)(I).
- LOCATION: WATER ABOVE SEWER OR FORCE MAIN.
- SEWER MATERIALS: NEW GRAVITY MAIN - PVC (150 PSI) or DI REQUIRED, CENTER UNDER WATER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

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

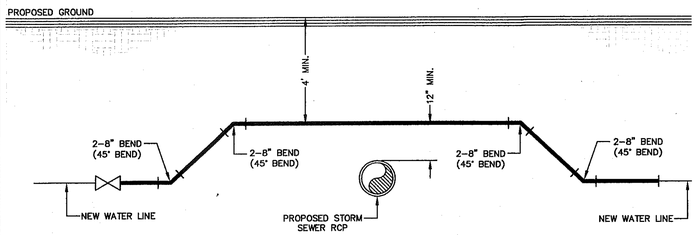
CASE 5. NEW GRAVITY SANITARY SEWER MAIN OR NEW FORCE MAIN CROSSING NEW POTABLE WATER MAIN (PER TCEQ §290.44(e)(4)(B)(iv) (II)).
- LOCATION: SEWER OR FORCE MAIN ABOVE WATER.
- NEW GRAVITY MAIN OR FORCE MAIN REQUIRES ONE PIPE SEGMENT OF PVC (150 PSI) OR DI. IN ADDITION, WATER MUST BE DI OR STEEL OR ENCASED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

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

5 C12.4 SEPARATION DISTANCE-SANITARY SEWER AND POTABLE WATER
SCALE: N.T.S.



6 C12.4 STORM SEWER CROSSING DETAIL
SCALE: N.T.S.



7 C12.4 STORM SEWER CROSSING DETAIL
SCALE: N.T.S.

THE CITY OF EL PASO TEXAS
Final Approval

REFERENCES - BENCHMARKS
BENCHMARK IS CITY MONUMENT AT THE INTERSECTION OF PASEO ALEGRE DR. AND PASEO UNDO DR. ELEVATION = 4003.10 FEET (CITY DATUM).

DATE	REVISIONS	BY

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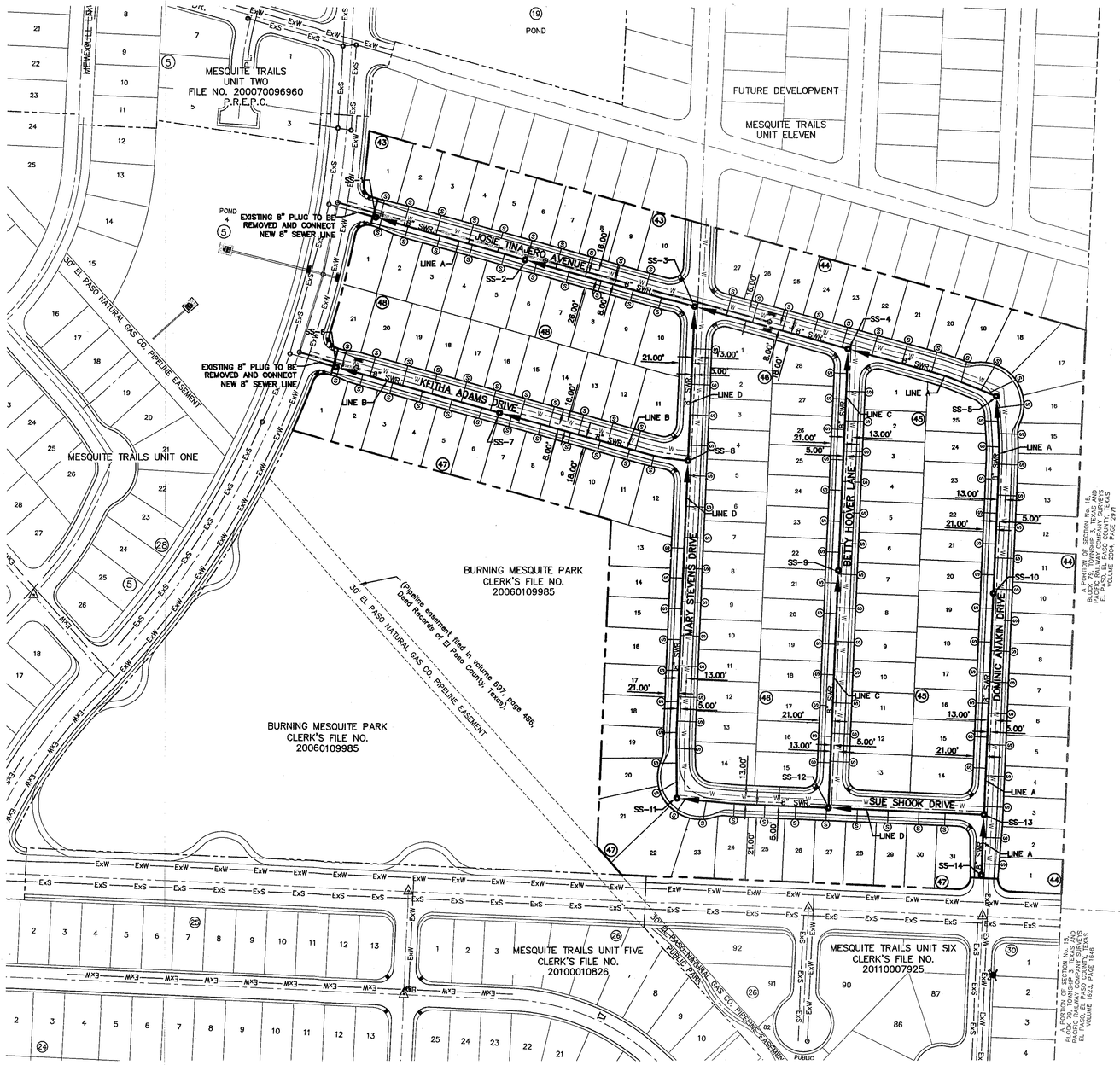
SCALE
Horizontal: N/A
Vertical: N/A
Contour Interval: A.C.

DATE: JUNE 2014
DESIGN BY: A.C.
DRAWN BY: A.C.
CHKD BY: J.L.A.
APPVD BY: J.L.A.
JOB No. 2000-181LD

PROJECT TITLE
MESQUITE TRAILS
UNIT TEN
SUBDIVISION IMPROVEMENTS

SHEET TITLE
WATER DETAILS

(SHEET 4 OF 4)
SHEET NO.
C12.4



M.H. DEPTH	No. of M.H.'s
0'–8'	10
8'–12'	3
12'–16'	0

MANHOLE QUANTITIES

PIPE SIZE	DEPTH			
	0'–8'	8'–10'	10'–12'	12'–14'
8"	4,211.35'	245.36'	90.73'	0.00'

PIPE QUANTITIES

Final Approval

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

SANITARY SEWER INDEX MAP
SCALE: 1" = 100'

GENERAL NOTES

1. UNLESS OTHERWISE SHOWN ON THE DRAWINGS, THE PROPOSED SEWER MAINS AND SEWER MANHOLES SHALL BE INSTALLED NO LESS THAN 10' AWAY FROM EXISTING WATER LINE. SEPARATIONS DISTANCES SHALL FOLLOW TCEQ STANDARD REQUIREMENTS (§290.44)
2. THE INTENT OF THE OWNER IS TO HAVE THE SANITARY SEWER PIPELINES INSTALLED TO SUCH A DEPTH THAT THEY WILL HAVE AT LEAST 48" 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.
3. 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.
4. TRENCH SAFETY REQUIREMENTS SHALL COMPLY WITH CURRENT OSHA REGULATIONS.
5. 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.
6. THE EL PASO WATER UTILITIES AND CITY OF EL PASO MUST BE NOTIFIED 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.
7. EXISTING STREETS, DRIVEWAYS AND ALL OTHER MISCELLANEOUS STRUCTURES DAMAGE OR REMOVED BY CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO ORIGINAL OR BETTER THAN ORIGINAL CONDITION.
8. CONSTRUCTION OF THE PUBLIC WATER AND SEWER SYSTEM INCLUDING MATERIALS AND TESTING SHALL CONFIRM TO EPWU-PSB STANDARD SPECIFICATIONS FOR THE INSTALLATION OF WATER MAINS, SEWER MAINS AND RELATED APPURTENANCES.

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

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

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

WATER & SEWER:
EL PASO WATER UTILITIES
1154 HAWKINS BOULEVARD
EL PASO, TX. 79961
(915) 594-5530
MR. FELIPE LOPEZ, JR., P.E.

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

EL PASO STREETS
CITY OF EL PASO
DEPARTMENT OF TRANSPIRATION
7969 SAN PAULO DRIVE
EL PASO, TX. 79907
(915) 621-6750
MR. TED MARQUEZ, PE.

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
MR. TIM BROWN

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

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

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INDEX

SHEET NO.	DESCRIPTION
C13.1	MESQUITE TRAILS UNIT TEN LEGEND INDEX / GENERAL INFORMATION
C14.1	LINE A
C14.2	LINE B & C
C14.3	LINE D
C15.1	SANITARY SEWER DETAILS
C15.2	SANITARY SEWER DETAILS
C15.3	SANITARY SEWER DETAILS

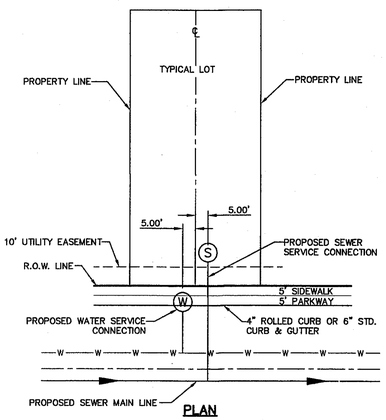
NOTES:
1. ALL LOTS SHALL BE PROVIDED WITH ONE SERVICE CONNECTION TO BE INSTALLED AT THE LOCATION AS SHOWN ON THE SERVICE LOCATION DETAIL.
2. ALL SANITARY SEWER PIPES SHALL BE PVC, SDR 35, (D 3034), UNLESS OTHERWISE SHOWN. AS REQUIRED BY THE EPWU/PSB RULES AND REGULATIONS AND DESIGN STANDARDS.
3. REFERENCE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

LEGEND

SYMBOL	DESCRIPTION
	NEW STORM SEWER
ExW ExW	EXISTING WATER LINE
ExS ExS	EXISTING SEWER LINE
	SUBD. BOUNDARY LINE
	PROPERTY LINE
	CENTER LINE
W W W	NEW WATER LINE
8" SEWER / SDR35	NEW SEWER LINE (PLAN VIEW)
	NEW SEWER LINE ON ANOTHER SHEET (PLAN VIEW)
P.V.C. @ 0.33% / 311 GPM	NEW SEWER LINE (PROFILE VIEW)
S	NEW MANHOLE (PLAN VIEW)
S	NEW SERVICE CONNECTION (PLAN VIEW)
S	EXISTING MANHOLE (PLAN VIEW)

NEW MANHOLE (PROFILE VIEW)

EXISTING MANHOLE (PROFILE VIEW)



PLAN

SERVICE LOCATION DETAIL
SCALE: N.T.S.

REFERENCES – BENCHMARKS
BENCHMARK IS CITY MONUMENT AT THE INTERSECTION OF PASEO ALEGRE CIR. AND PASEO LINDO DR. ELEVATION = 4003.10 FEET (CITY DATUM).

DATE	REVISIONS	BY

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engineers • architects • planners
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ENGINEER'S SEAL
JORGE L. AZCARATE 85075 LICENSED PROFESSIONAL ENGINEER
4-9-14

SCALE
Horizontal: 1"=100'
Vertical: N/A
Contour Interval: N/A
DATE: JUNE 2014
DESIGN BY: A.C.
DRAWN BY: F.S./A.C.
CHKD. BY: J.L.A.
APPV'D. BY: J.L.A.
JOB No. 2000-1811D

PROJECT TITLE
MESQUITE TRAILS UNIT TEN
SUBDIVISION IMPROVEMENTS

SHEET TITLE
SANITARY SEWER INDEX

SHEET NO.
C13.1

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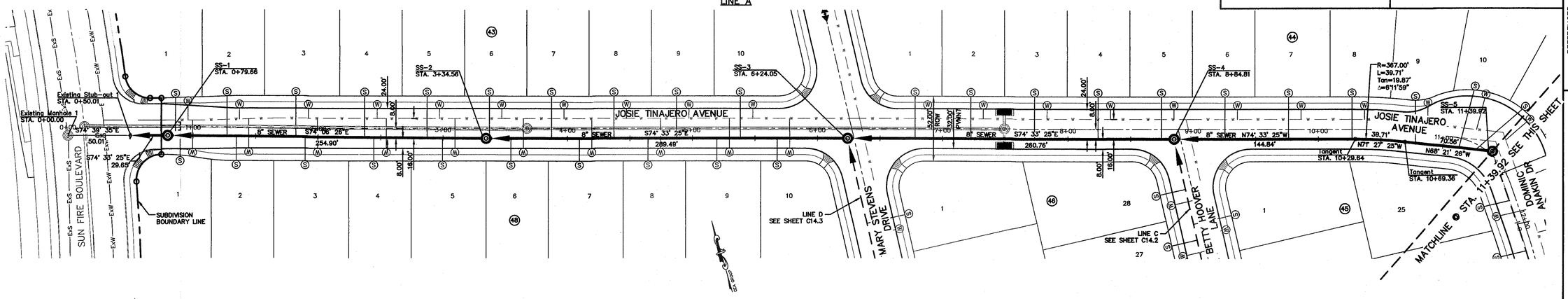
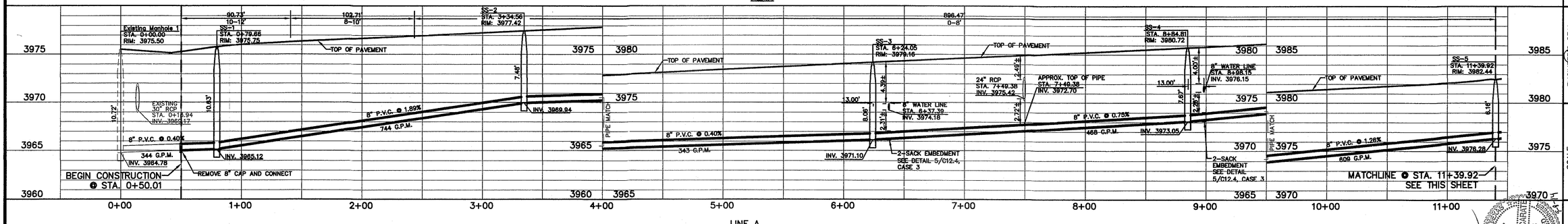
LINE A



PLAN



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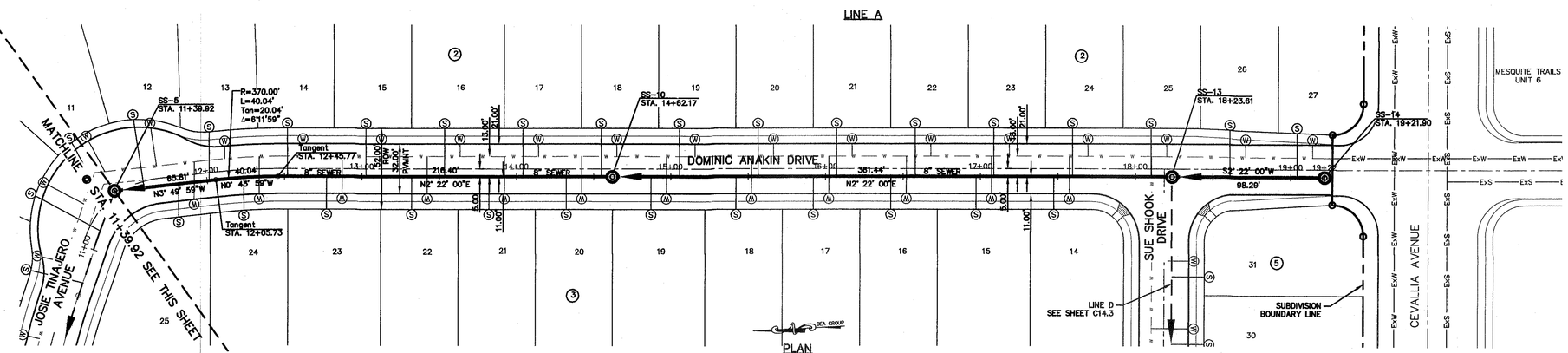

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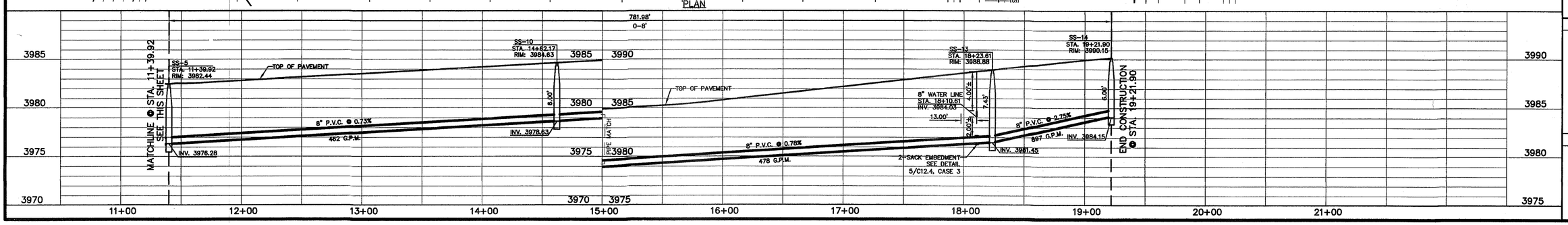

REFERENCES – BENCHMARKS

BENCHMARK IS CITY MONUMENT AT THE INTERSECTION OF PASEO ALEGRE CIR. AND PASEO LINDO DR. ELEVATION = 4003.10 FEET (CITY DATUM).

DATE	REVISIONS	BY

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THE STATE OF TEXAS — JORGE L. AZCARATE — 85075 — LICENSED PROFESSIONAL ENGINEER — 8/29/14

SCALE	
Horizontal:	1"=40'
Vertical:	1"=5'
Contour Interval:	
DATE:	JUNE 2014
DESIGN BY:	A.C.
DRAWN BY:	A.C.
CHKD. BY:	J.L.A.
APPVD. BY:	J.L.A.
JOB No.	2000-181LD

PROJECT TITLE

MESQUITE TRAILS UNIT TEN SUBDIVISION IMPROVEMENTS

LEGEND:

- NEW STORM SEWER LINE
- NEW WATER LINE
- NEW SEWER LINE ON ANOTHER SHEET (PLAN VIEW)
- NEW SEWER LINE
- NEW WATER SERVICE
- NEW SEWER SERVICE
- NEW SEWER MANHOLE

THE CITY OF EL PASO TEXAS — Final Approval

SHEET TITLE

SANITARY SEWER PLAN & PROFILE LINE A

SHEET NO.

C14.1

S:\2000\2000-181LD-MSTR\LD\DWG\Construction Drawings\Improvement Plans\C14.1 Sewer Line Josie Tinajero-Dominic Anakin.dwg, C14.1_Sewer Josie Tinajero & Plasso Row, 8/29/2014 7:55:54 AM

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
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REFERENCES – BENCHMARKS
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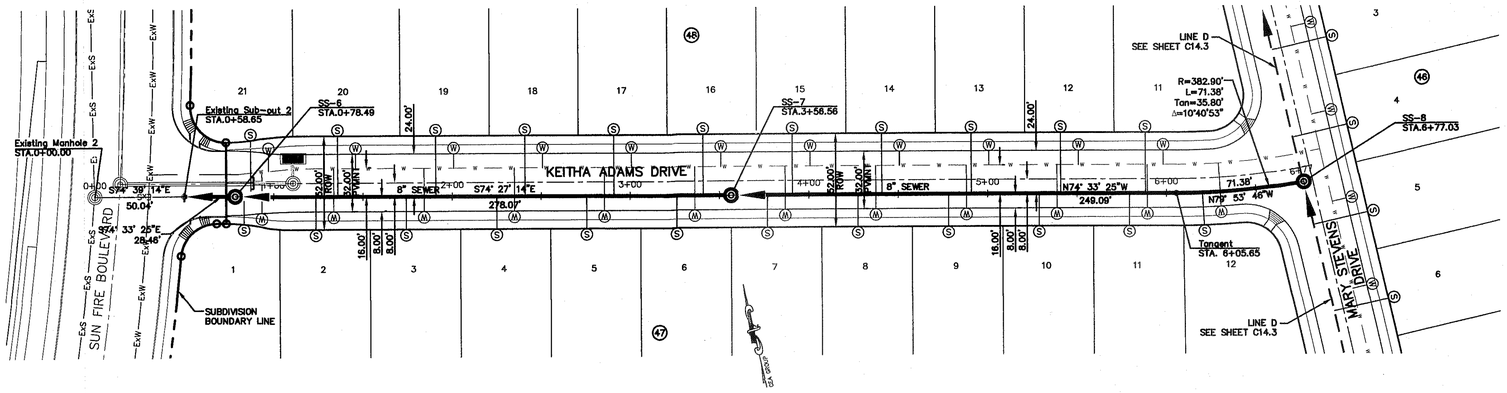
ELEVATION = 4003.10 FEET (CITY DATUM).

DATE	REVISIONS	BY

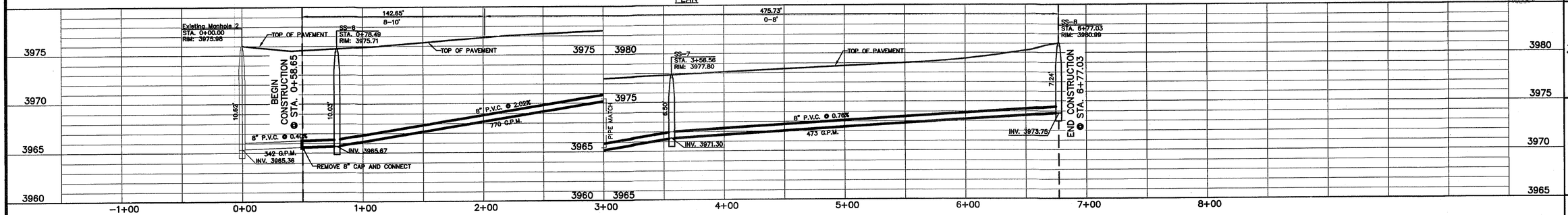
LINE B



LEGEND:

- NEW STORM SEWER LINE
- NEW WATER LINE
- NEW SEWER LINE ON ANOTHER SHEET (PLAN VIEW)
- NEW SEWER LINE
- NEW WATER SERVICE
- NEW SEWER SERVICE
- NEW SEWER MANHOLE

PLAN



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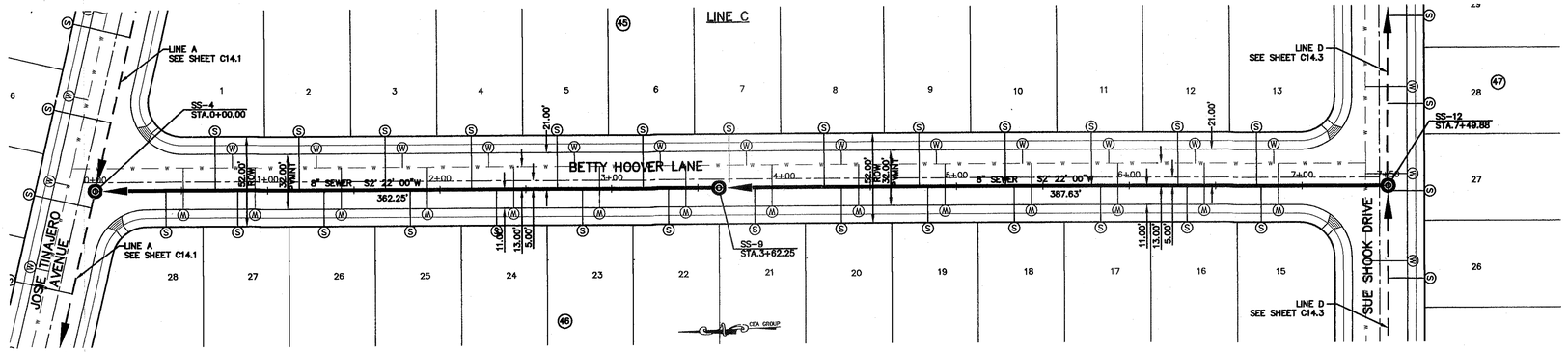

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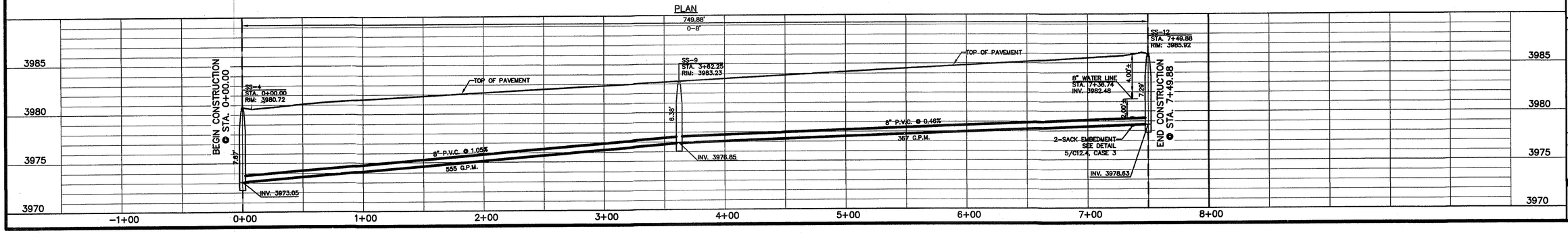

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THE STATE OF TEXAS
JORGE L. AZCARATE
85075
LICENSED PROFESSIONAL ENGINEER
7-1-14

SCALE
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Vertical: 1"=5'
Contour Interval: N/A
DATE: JUNE 2014
DESIGN BY: A.C.
DRAWN BY: A.C./F.S.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-18ILD

PROJECT TITLE
MESQUITE TRAILS
UNIT TEN
SUBDIVISION IMPROVEMENTS

SHEET TITLE
SANITARY SEWER PLAN & PROFILE LINE B & C

SHEET NO.
C14.2

S:\2000\2000-18ILD-MQTRD\DWGS\Construction Drawings\Improvement Plans\C14-2 Sewer Line Keitha Adams-Betty Hoover.dwg, Sewer Keitha Adams-Betty Hoover, 6/28/2014 7:59:46 AM

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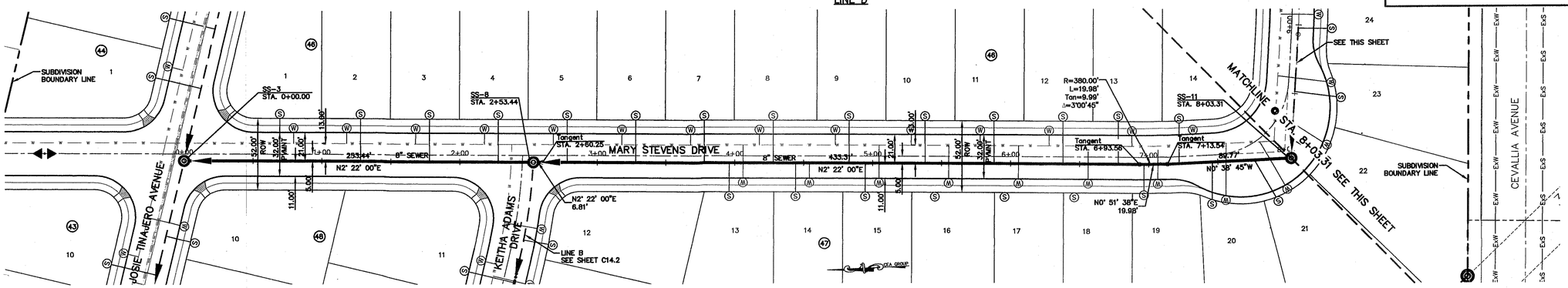
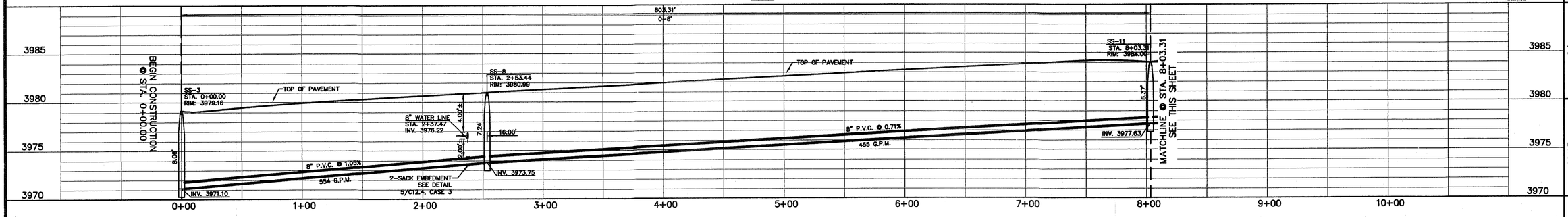
LINE D



PLAN



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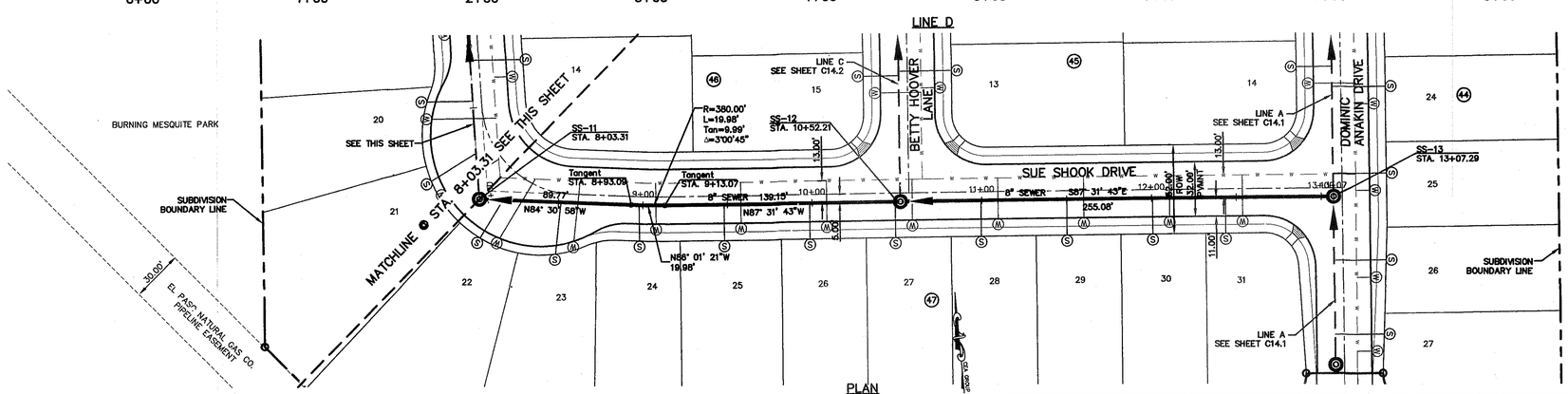


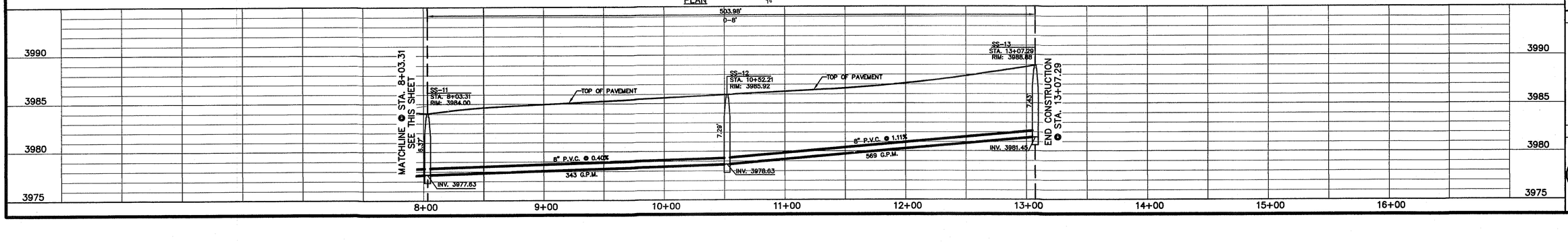
A PORTION OF SECTION No. 15, BLOCK 79, TOWNSHIP 3, TEXAS AND PACIFIC RAILWAY COMPANY SURVEYS EL PASO, EL PASO COUNTY, TEXAS VOLUME 2004, PAGE 2971

LEGEND:

- NEW STORM SEWER LINE
- NEW WATER LINE
- NEW SEWER LINE ON ANOTHER SHEET (PLAN VIEW)
- NEW SEWER LINE
- NEW WATER SERVICE
- NEW SEWER SERVICE
- NEW SEWER MANHOLE

Final Approval

PLAN



ENGINEER'S SEAL

THE STATE OF TEXAS · JORGE L. AZCARATE · 85075 · LICENSED PROFESSIONAL ENGINEER

SCALE
Horizontal: 1"=40'
Vertical: 1"=5'
Contour Interval:

DATE: JUNE 2014
DESIGN BY: A.C.
DRAWN BY: A.C.
CHKD. BY: J.L.A.
APPV'D. BY: J.L.A.
JOB No. 2000-181LD

PROJECT TITLE

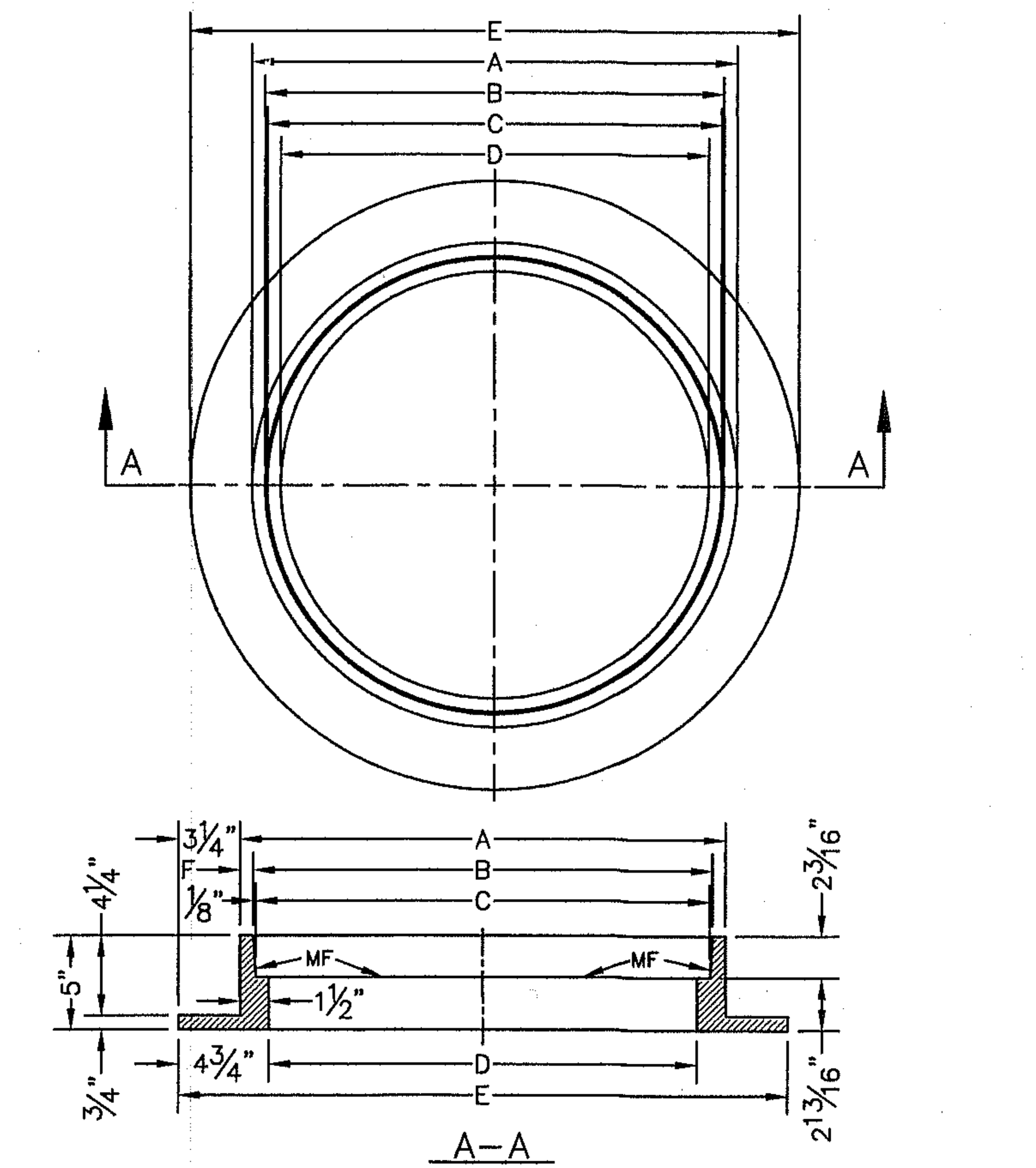
MESQUITE TRAILS UNIT TEN SUBDIVISION IMPROVEMENTS

SHEET TITLE

SANITARY SEWER PLAN & PROFILE LINE D

SHEET NO.

C14.3



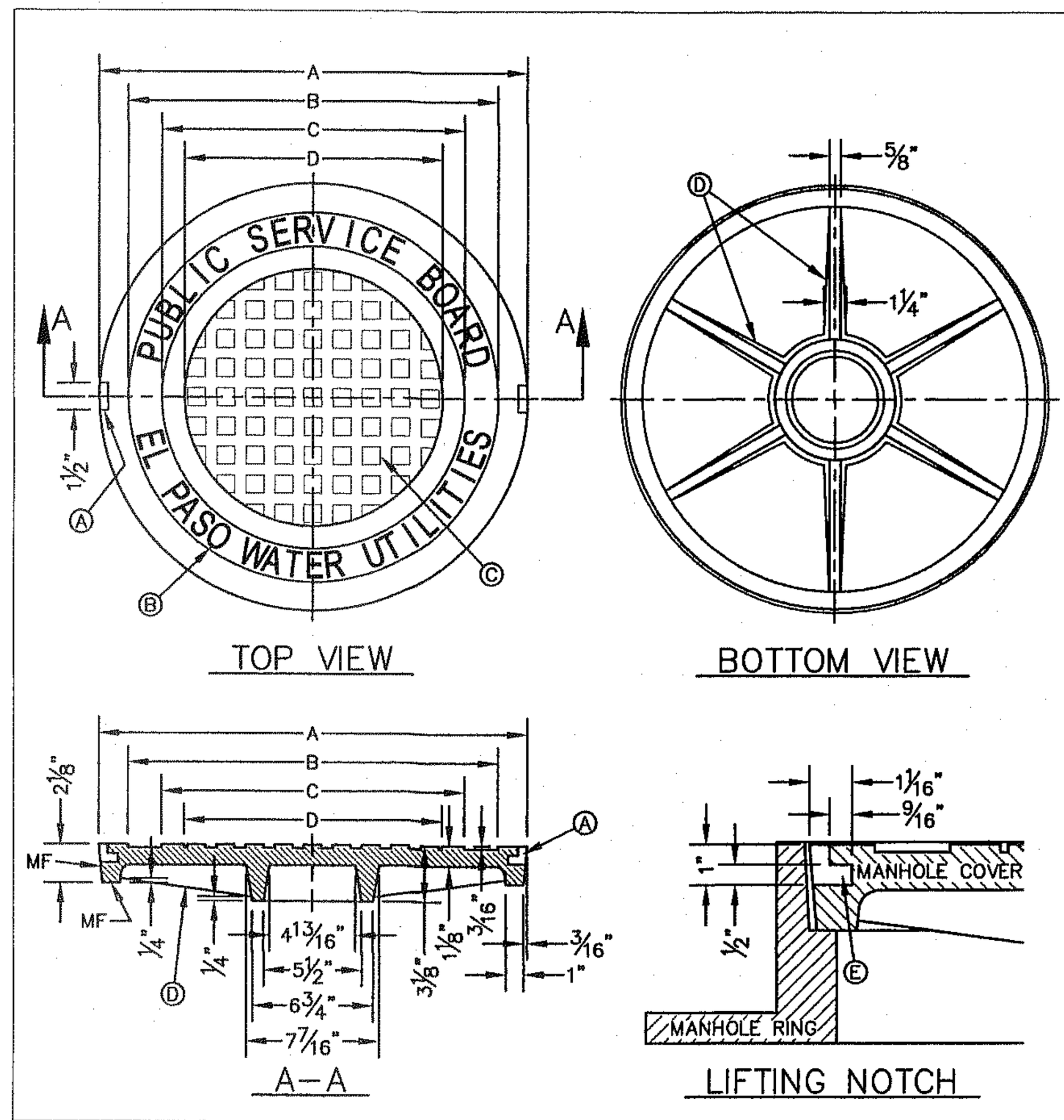
GENERAL NOTES:
1. MATCHING SURFACES MARKED "MF" TO BE FINISHED OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.
2. CASTING TO BE SMOOTH & VOID OF AIR HOLES.
3. CASTING MUST MEET REQUIREMENTS OF AASHTO M306-07.
4. AS-CAST DIMENSIONS MAY VARY 1/16"±/ PER FOOT (AASHTO M306-07).
5. WEIGHT MAY VARY 5%± (AASHTO M306-07).

MANHOLE RING	MANHOLE - ALL TYPES	*MANHOLE TYPE A, A1, A2 & C
A	33"	25½"
B	31¾"	24⅛"
C	31½"	23⅞"
D	30"	22½"
E	39½"	32"
F	⅝"	1 1/16"
WEIGHT	205 lbs.	170 lbs.

*OBSOLETE -DO NOT USE (FOR REFERENCE ONLY)

STANDARD DETAIL	DATE: 11/1992 REV: 2/21/2011	SEWER MANHOLE RING N.T.S.	EL PASO WATER UTILITIES PUBLIC SERVICE BOARD	DETAIL No. 377

(1 / 15.1) STANDARD MANHOLE RING
SCALE: N.T.S.



GENERAL NOTES:
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2. CASTING TO BE SMOOTH & VOID OF AIR HOLES.
3. CASTING MUST MEET REQUIREMENTS OF AASHTO M306-07.
4. AS-CAST DIMENSIONS MAY VARY 1/16"±/ PER FOOT (AASHTO M306-07).
5. WEIGHT MAY VARY 5%± (AASHTO M306-07).

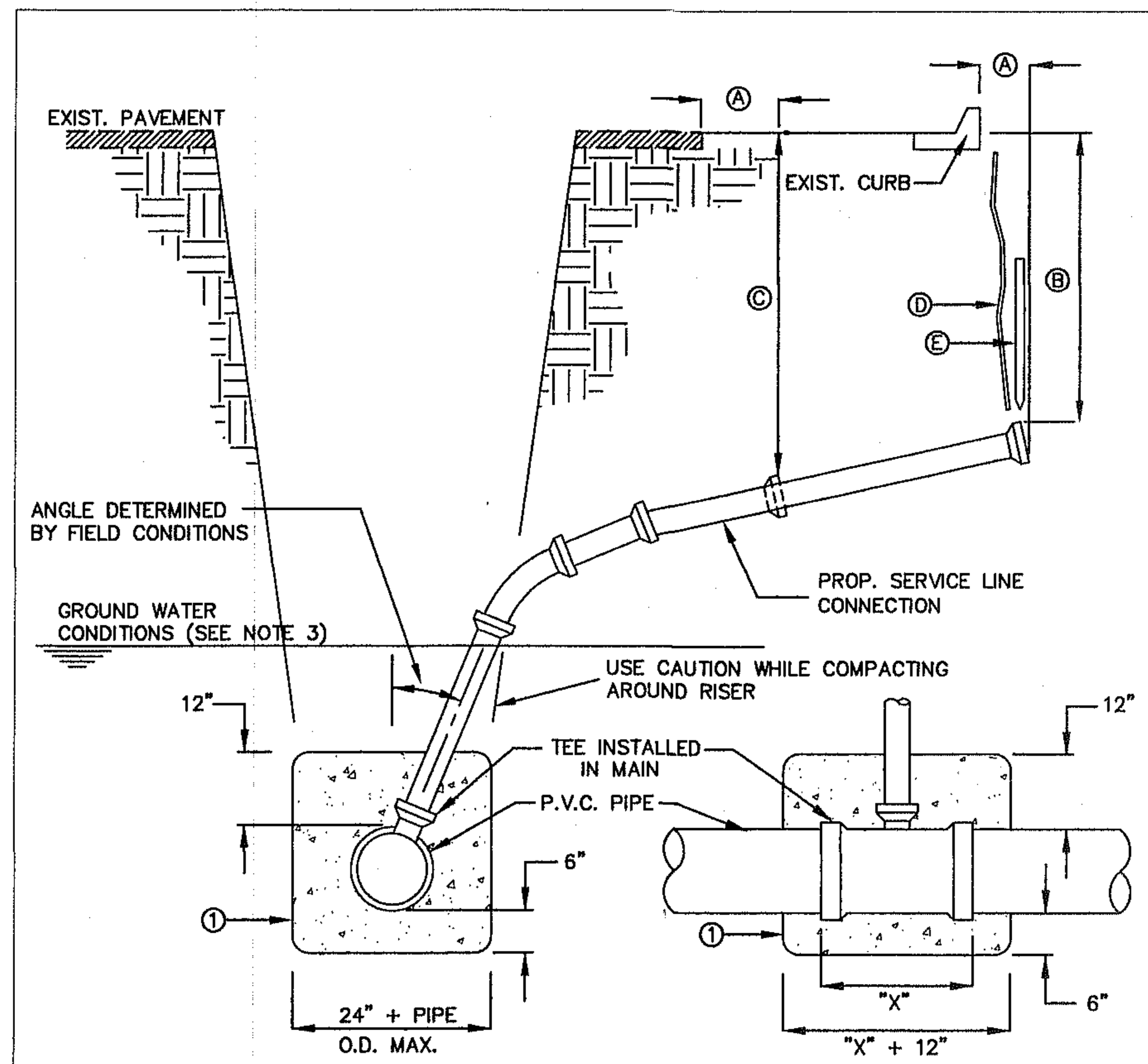
CONSTRUCTION KEY NOTES:
A. LIFTING NOTCH.
B. 3/16" RAISED LETTERING.
C. 1" SQUARES (3/16" TALL) WITH ⅝" SPACE BETWEEN.
D. REINFORCING RIBS.
E. SLOT.

MANHOLE COVER	MANHOLE - ALL TYPES	*MANHOLE TYPE A, A1, A2 & C
A	31⅜"	23⅞"
B	28⅛"	20⅝"
C	24⅜"	16⅞"
D	21⅞"	14⅜"
WEIGHT	200 lbs.	165 lbs.

*OBSOLETE -DO NOT USE (FOR REFERENCE ONLY)

STANDARD DETAIL	DATE: 11/1992 REV: 2/21/2011	SEWER MANHOLE COVER N.T.S.	EL PASO WATER UTILITIES PUBLIC SERVICE BOARD	DETAIL No. 378

(2 / C15.1) STANDARD COVER DETAIL
SCALE: N.T.S.

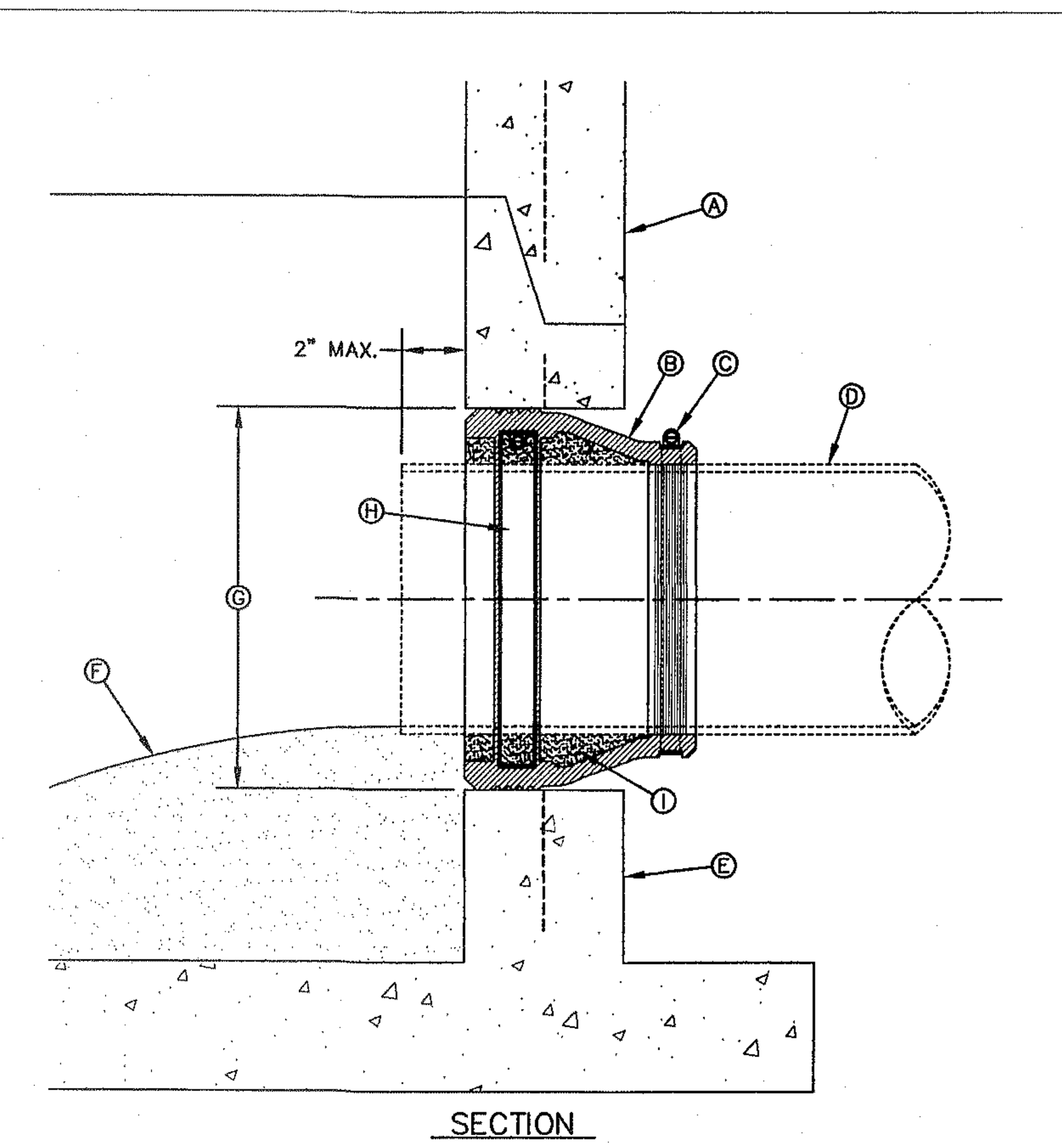


GENERAL NOTES:
1. IN GROUNDWATER CONDITIONS ONLY, P.V.C. SADDLES OR TEES ARE TO BE ENCASED WITH CLASS B CONCRETE.
2. UNDER CERTAIN CONDITIONS FIELD INVESTIGATIONS WILL BE REQUIRED TO DETERMINE THE ADEQUACY OF THE DEPTH ON THE LATERAL.
3. WHEN GROUND WATER IS ENCOUNTERED SERVICE RISER SHALL BE EXTENDED ABOVE ANTICIPATED WATER TABLE LEVEL.

CONSTRUCTION KEY NOTES:
A. CONTRACTOR TO INSTALL SEWER SERVICE LINE FROM THE MAIN TO A LOCATION 6" BEHIND THE CURB OR 18" BEYOND THE EDGE OF PAYMENT, UNLESS CONDITIONS REQUIRE OTHERWISE.
B. 18" FOR STANDARD SUBDIVISION, 3.5' FOR SUBDIVISIONS WITH ON-SITE PONDING OR FLAT TERRAIN.
C. RISERS OR LATERALS EXTENDING BEYOND EXISTING PAVING SHALL BE INSTALLED TO 3.5' MINIMUM TOP OF GROUND OR PAVEMENT, UNLESS CONDITIONS REQUIRE OTHERWISE.
D. PLASTIC METALLIC MARKING TAPE RISING TO WITHIN 6" OF GROUND SURFACE OR METALLIC DISK.
E. WOODEN STAKE (1"x2"x36") VERTICALLY PLACED AT PLUGGED END OF PROPOSED SERVICE LINE.

STANDARD DETAIL	DATE: 11/1992 REV: 1/23/2009	SEWER SERVICE RISER AND SERVICE LINE CONNECTION N.T.S.	EL PASO WATER UTILITIES PUBLIC SERVICE BOARD	DETAIL No. 391

(3 / C15.1) SEWER SERVICE RISER AND SERVICE LINE CONNECTION
SCALE: N.T.S.



GENERAL NOTES:
1. MANHOLE CONNECTOR SHALL BE KOR-N-SEAL OR EQUAL MEETING THE REQUIREMENTS OF ASTM C-923. CONNECTOR SHALL BE FURNISHED BY CONTRACTOR.

CONSTRUCTION KEY NOTES:
A. PRECAST MANHOLE BARREL.
B. FLEXIBLE CONNECTOR.
C. PIPE CLAMP SS 316.
D. APPROVED PIPE.
E. PRECAST MANHOLE BASE.
F. GROUT AS REQUIRED TO FORM SMOOTH CHANNEL TO MANHOLE INVERT.
G. PIPE OPENINGS/KNOCKOUTS AS REQUIRED TO FIT PIPE SIZE.
H. EXPANSION BAND SS 316.
I. FILL SPACE WITH GROUT.

STANDARD DETAIL	DATE: 11/1992 REV: 8/13/2009	PIPE CONNECTION TO MANHOLE N.T.S.	EL PASO WATER UTILITIES PUBLIC SERVICE BOARD	DETAIL No. 376

(4 / C15.1) PIPE CONNECTION TO MANHOLE
SCALE: N.T.S.

THE CITY OF EL PASO TEXAS
Final Approval

REFERENCES - BENCHMARKS
BENCHMARK IS CITY MONUMENT AT THE INTERSECTION OF PASEO ALEGRE CIR. AND PASEO LINDO DR. ELEVATION = 4003.10 FEET (CITY DATUM).

DATE	REVISIONS	BY

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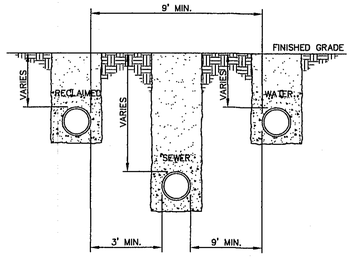
STATE OF TEXAS
JORGE L. AZCARATE
85075
LICENSED PROFESSIONAL ENGINEER

SCALE
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: JUNE 2014
DESIGN BY: A.C.
DRAWN BY: A.C./F.S.
CHKD. BY: J.L.A.
APPD. BY: J.L.A.
JOB No. 2000-181LD

PROJECT TITLE
MESQUITE TRAILS
UNIT TEN
SUBDIVISION IMPROVEMENTS

SHEET TITLE
SEWER DETAILS
(SHEET 1 OF 3)

SHEET NO.
C15.1

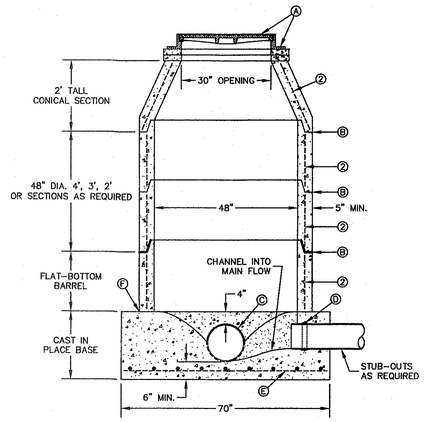


SECTION

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

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

1 / C15.2 SEPARATION DISTANCE–POTABLE WATER, SANITARY SEWER AND RECLAIMED WATER
SCALE: N.T.S.



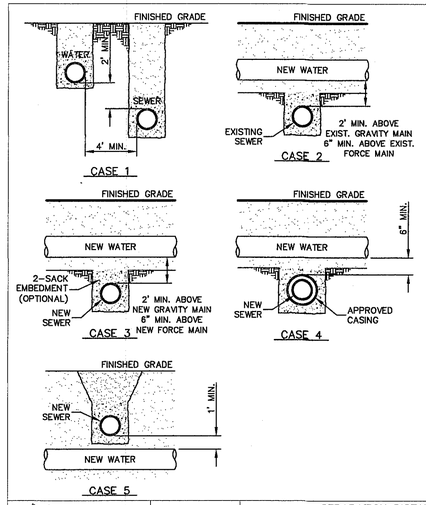
SECTION

GENERAL NOTES:
1. MANHOLE TYPE "A1" SHALL BE USED FOR LINES 21" AND SMALLER. NOT TO BE USED IN GROUNDWATER CONDITIONS.
2. PRE–CAST MANHOLE SECTIONS SHALL BE OF REINFORCED CONCRETE CONFORMING TO ASTM C–478 AND SHALL MEET HS–20 LOADING.
3. CEMENT SHALL BE TYPE I–II, PER ASTM C–150, AND MUST CONTAIN A MINIMUM OF 4% FLY ASH OF THE TOTAL MANHOLE WEIGHT.
4. THE BASE SHALL BE CAST IN PLACE CONCRETE (MINIMUM 28 DAY COMPRESSIVE STRENGTH 4000 PSI.) POURED ON UNDISTURBED OR THOROUGHLY COMPACTED SUB–BASE.
5. MANUFACTURER TO PROVIDE LIFTERS OF ADEQUATE SIZE AS NEEDED.
6. THE SUBGRADE UNDER THE BASE SHALL BE COMPACTED TO 95% DENSITY IN ACCORDANCE WITH ASTM D–1557.

CONSTRUCTION KEY NOTES:
A. MANHOLE RING AND COVER (SEE DETAILS 377 & 378). SET FRAME AND COVER FLUSH WITH ROADWAY SURFACE OR FINISHED GRADE (SEE DETAIL 185).
B. ALL JOINTS TO BE TONGUE, GROOVE AND SEALED WITH RAM–NEK OR APPROVED EQUAL.
C. ON MAINLINE, PIPE IS TO BE LAID THRU AND UPPER HALF CUT OUT.
D. PIPE GASKET.
E. No. 4 REBARS 8" ON CENTER, BOTH WAYS.
F. SEAL ALL AROUND WITH RAM–NEK OR APPROVED EQUAL.

STANDARD DETAIL	DATE: 11/1992 REV: 8/14/2009	MANHOLE TYPE "A1" N.T.S.	EL PASO WATER UTILITIES PUBLIC SERVICE BOARD	DETAIL No. 370–2

2 / C15.2 STANDARD MANHOLE TYPE "A1"
SCALE: N.T.S.



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

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

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

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

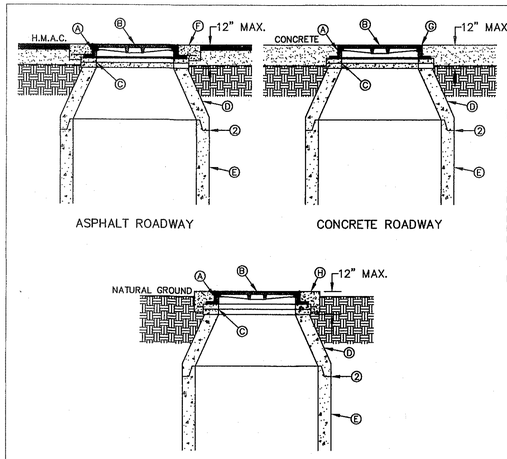
CASE 3. NEW POTABLE WATER MAIN CROSSING NEW GRAVITY SANITARY SEWER MAIN OR NEW FORCE MAIN (PER TCEQ §290.44(e)(4)(B)(ii), §290.44(e)(4)(B)(iv) AND §290.44(e)(4)(B)(iv)(I).
- LOCATION: WATER ABOVE SEWER OR FORCE MAIN.
- SEWER MATERIALS: NEW GRAVITY MAIN - PVC (150 PSI) or DI REQUIRED, CENTER UNDER WATER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

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

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

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

3 / C15.2 SEPARATION DISTANCE SANITARY SEWER AND POTABLE WATER (SPECIAL CONDITIONS)
SCALE: N.T.S.



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

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

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

4 / C15.2 STANDARD MANHOLE RING AND COVER INSTALLATION DETAIL
SCALE: N.T.S.

Final Approval

REFERENCES – BENCHMARKS
BENCHMARK IS CITY MONUMENT AT THE INTERSECTION OF PASEO ALEGRE CIR. AND PASEO LINDO DR. ELEVATION = 4003.10 FEET (CITY DATUM).

DATE	REVISIONS	BY

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ENGINEER'S SEAL
STATE OF TEXAS · JORGE L. AZCARATE · 85075 · LICENSED PROFESSIONAL ENGINEER · 4-4-14

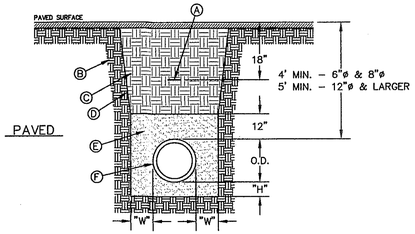
SCALE
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: JUNE 2014
DESIGN BY: A.C.
DRAWN BY: A.C./F.S.
CHKD. BY: J.L.A.
APPV'D. BY: J.L.A.
JOB No. 2000–181LD

PROJECT TITLE
MESQUITE TRAILS
UNIT TEN
SUBDIVISION IMPROVEMENTS

SHEET TITLE
SEWER DETAILS
(SHEET 2 OF 3)

SHEET NO.
C15.2

S:\2000\2000-181LD-MDP\PLDWGS\Construction Drawings\Improvement Plans\C15.1 Sanitary Sewer Details.dwg, C15.2_Sanitary Details 2, 6/12/2014 2:09:20 PM



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

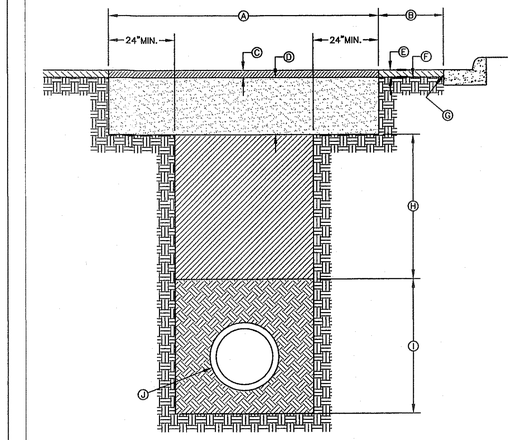
CONSTRUCTION KEY NOTES:
A. APPROVED MARKING TAPE.
B. UNDISTURBED STABLE MATERIAL.
C. NATIVE MATERIAL BACKFILL.
PAVED CONDITION: COMPACT TO 90% DENSITY PER ASTM D-1557 MODIFIED PROCTOR.
UNPAVED CONDITION: COMPACT TO 85% DENSITY PER ASTM D-1557 MODIFIED PROCTOR.
(*SEE NOTE #3 IF THESE PREVIOUS CONDITIONS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

PIPE DIAMETER	"H"
6" – 30"	4"
GREATER THAN 30"	6"

PIPE DIAMETER	"W"
6" – 30"	8"
GREATER THAN 30"	12"

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

1 / C15.3 EMBEDMENT CLASS "A" FOR PRESSURE PIPE AND GRAVITY PIPE DRY CONDITIONS SCALE: N.T.S.

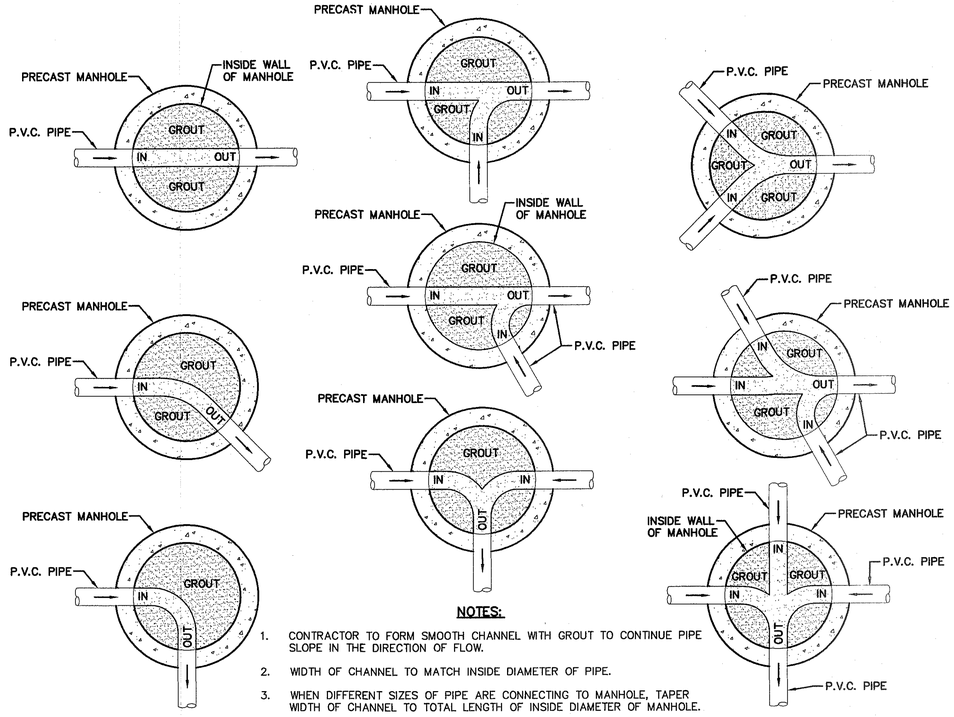


GENERAL NOTES:
1. ALL ASPHALT CUTS MUST BE SAW CUT.
2. SOIL CEMENT SLURRY SHALL BE ALLOWED TO CURE BEFORE PAVING OR OPENING TO ALL TRAFFIC.

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

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

2 / C15.3 PAVEMENT REPAIR DETAIL N.T.S.



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

3 / C15.3 TYPICAL MANHOLE INVERT PLANS SCALE: N.T.S.

Final Approval

REFERENCES – BENCHMARKS
BENCHMARK IS CITY MONUMENT AT THE INTERSECTION OF PASEO ALEGRE CIR. AND PASEO LINDO DR. ELEVATION = 4003.10 FEET (CITY DATUM).

DATE	REVISIONS	BY

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SCALE
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: JUNE 2014
DESIGN BY: A.C.
DRAWN BY: A.C./F.S.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-181LD

PROJECT TITLE
MESQUITE TRAILS
UNIT TEN
SUBDIVISION IMPROVEMENTS

SHEET TITLE
SEWER DETAILS
(SHEET 3 OF 3)

SHEET NO.
C15.3

SITE DESCRIPTION

PROJECT NAME AND LIMITS: MESQUITE TRAILS UNIT TEN IS BORDERED BY MESQUITE TRAILS UNIT SIX AND BURNING MESQUITE PARK TO THE SOUTH, MESQUITE TRAILS UNIT ONE TO THE WEST, A PORTION OF SECTION NO. 15, BLOCK 79, TOWNSHIP 3, TEXAS AND PACIFIC RAILWAY COMPANY SURVEYS TO THE EAST AND MESQUITE TRAILS UNIT ELEVEN TO THE NORTH.

PROJECT DESCRIPTION: THE SITE FOR THE NEW SUBDIVISION WILL ENCOMPASS APPROXIMATELY 23.139± ACRES, AND WILL CONTAIN A TOTAL OF 142 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: 23.139±

TOTAL AREA TO BE DISTURBED: 23.139±

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 HUECO-WINK ASSOCIATION. THE SOILS IN THESE AREA ARE GENERALLY DESCRIBED AS NEARLY LEVEL AND GENTLY SLOPING SOILS THAT HAVE A FINE SANDY LOAM SUBSOIL AND ARE MODERATELY DEEP OVER CALICHE; IN THE HUECO BOLSON.

NAME OF RECEIVING WATERS: MESQUITE TRAILS UNIT TEN WILL DISCHARGE INTO AN ON-SITE STORM SEWER INFRASTRUCTURE AND ULTIMATELY DISCHARGE INTO AN OFF-SITE RETENTION BASIN, LOCATED AT MESQUITE TRAILS UNIT ONE.

EROSION AND SEDIMENT CONTROL

SOIL STABILIZATION PRACTICES

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

OTHER: ___

STRUCTURAL PRACTICES:

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

OTHER: ___

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

1. INSTALL TEMPORARY EROSION AND SEDIMENT CONTROLS (e.g. SILT FENCE AND/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 9.04.260 (ACCUMULATION AND STORAGE). 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 TARPAULIN
- EXCESS DIRT ON ROAD SHALL BE REMOVED IMMEDIATELY
- STABILIZED CONSTRUCTION ENTRANCE
- OTHER: ___

Final Approval

CITY OF EL PASO · TEXAS

JORGE L. AZCARATE 85076 LICENSED PROFESSIONAL ENGINEER 9-8-14

REFERENCES – BENCHMARKS

BENCHMARK IS CITY MONUMENT AT THE INTERSECTION OF PASEO ALEGRE CIR. AND PASEO LINDO DR. ELEVATION = 4003.10 FEET (CITY DATUM).

DATE	REVISIONS	BY

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ENGINEER'S SEAL

STATE OF TEXAS · JORGE L. AZCARATE · 85075 · LICENSED PROFESSIONAL ENGINEER · 9-12-14

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

DATE: JUNE 2014
DESIGN BY: A.C.
DRAWN BY: A.C./F.S.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-181LD

PROJECT TITLE

MESQUITE TRAILS UNIT TEN SUBDIVISION IMPROVEMENTS

SHEET TITLE

STORM WATER POLLUTION PREVENTION PLAN: GENERAL NOTES

SHEET NO.

C16.1

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

—X—X— SILT FENCE OR EARTHEN BERM

EXISTING ROCK WALL

STABILIZED CONSTRUCTION ENTRANCE

S STAGING AREA

P PORTABLE TOILETS

W WASH OUT

TEMPORARY WOOD CHIP FILLED MESH BAGS PLACED TO PROTECT INLET.

Final Approval

SITE PLAN
SCALE: 1" = 50'

REFERENCES – BENCHMARKS
BENCHMARK IS CITY MONUMENT AT THE INTERSECTION OF PASEO ALEGRE DR. AND PASEO UNDO DR. ELEVATION = 4003.10 FEET (CITY DATUM).

DATE	REVISIONS	BY

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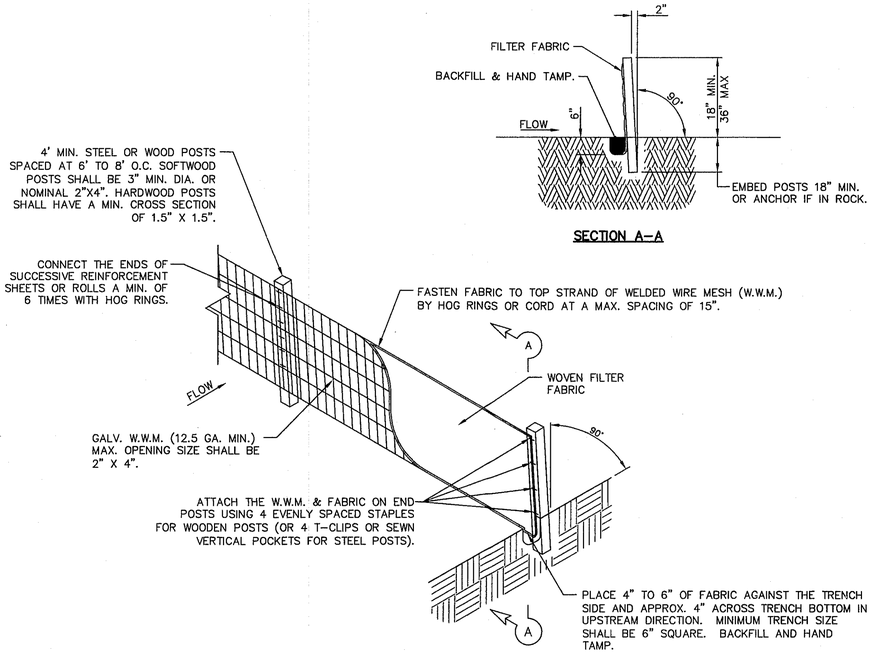
Horizontal: SCALE 1"=100'
Vertical: N/A
Contour Interval: N/A
DATE: JUNE 2014
DESIGN BY: A.C.
DRAWN BY: A.C./F.S.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-181LD

PROJECT TITLE
MESQUITE TRAILS
UNIT TEN
SUBDIVISION IMPROVEMENTS

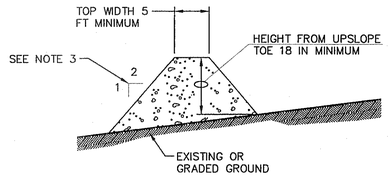
SHEET TITLE
STORM WATER POLLUTION PREVENTION PLAN: SITE PLAN

SHEET NO.
C16.2

S:\2000\2000-181LD-MASTER\DWGS\Construction Drawings\Improvement Plans\C16.2 SWPPP SITE PLAN.dwg, C16.2_Site Plan, 6/12/2014 2:11:02 PM



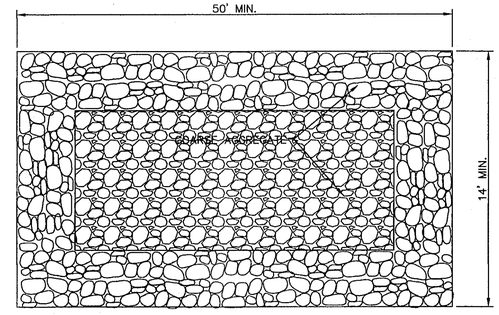
TEMPORARY SEDIMENT CONTROL FENCE



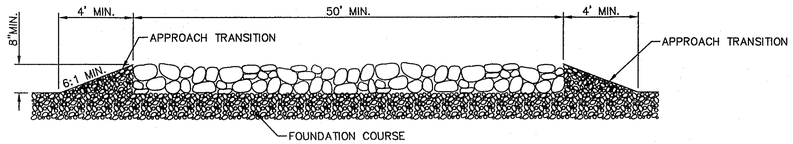
GENERAL NOTES:

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

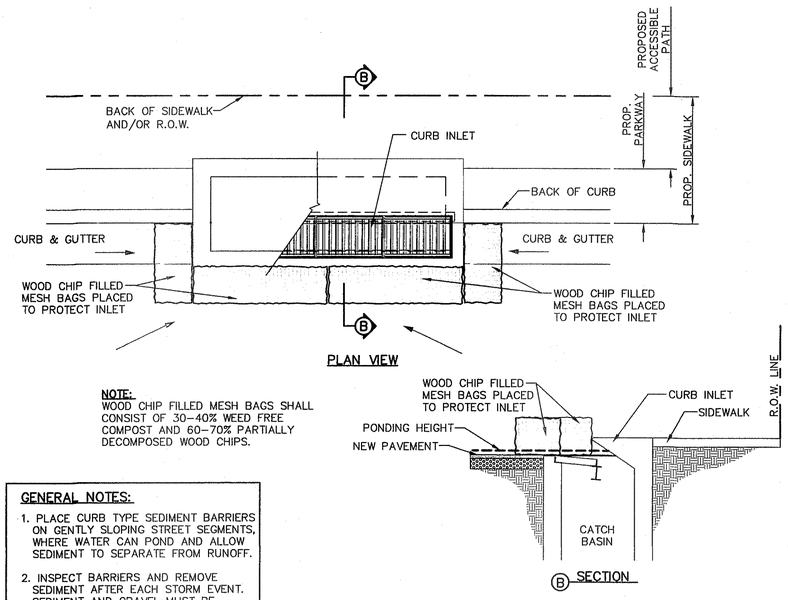


PROFILE

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

THE CITY OF EL PASO TEXAS
Final Approval

REFERENCES – BENCHMARKS

BENCHMARK IS CITY MONUMENT AT THE INTERSECTION OF PASEO ALEGRE DR. AND PASEO LINDO DR. ELEVATION = 4003.10 FEET (CITY DATUM).

DATE	REVISIONS	BY

cea group
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ENGINEER'S SEAL

JORGE L. AZCARATE 85075 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS

8-12-14

Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: JUNE 2014
DESIGN BY: A.C./F.S.
DRAWN BY: A.C./F.S.
CHKD. BY: J.L.A.
APP'VD. BY: J.L.A.
JOB No. 2000-181LD

PROJECT TITLE

MESQUITE TRAILS
UNIT TEN
SUBDIVISION IMPROVEMENTS

SHEET TITLE

STORM WATER POLLUTION PREVENTION PLAN: DETAILS

SHEET NO.

C16.3