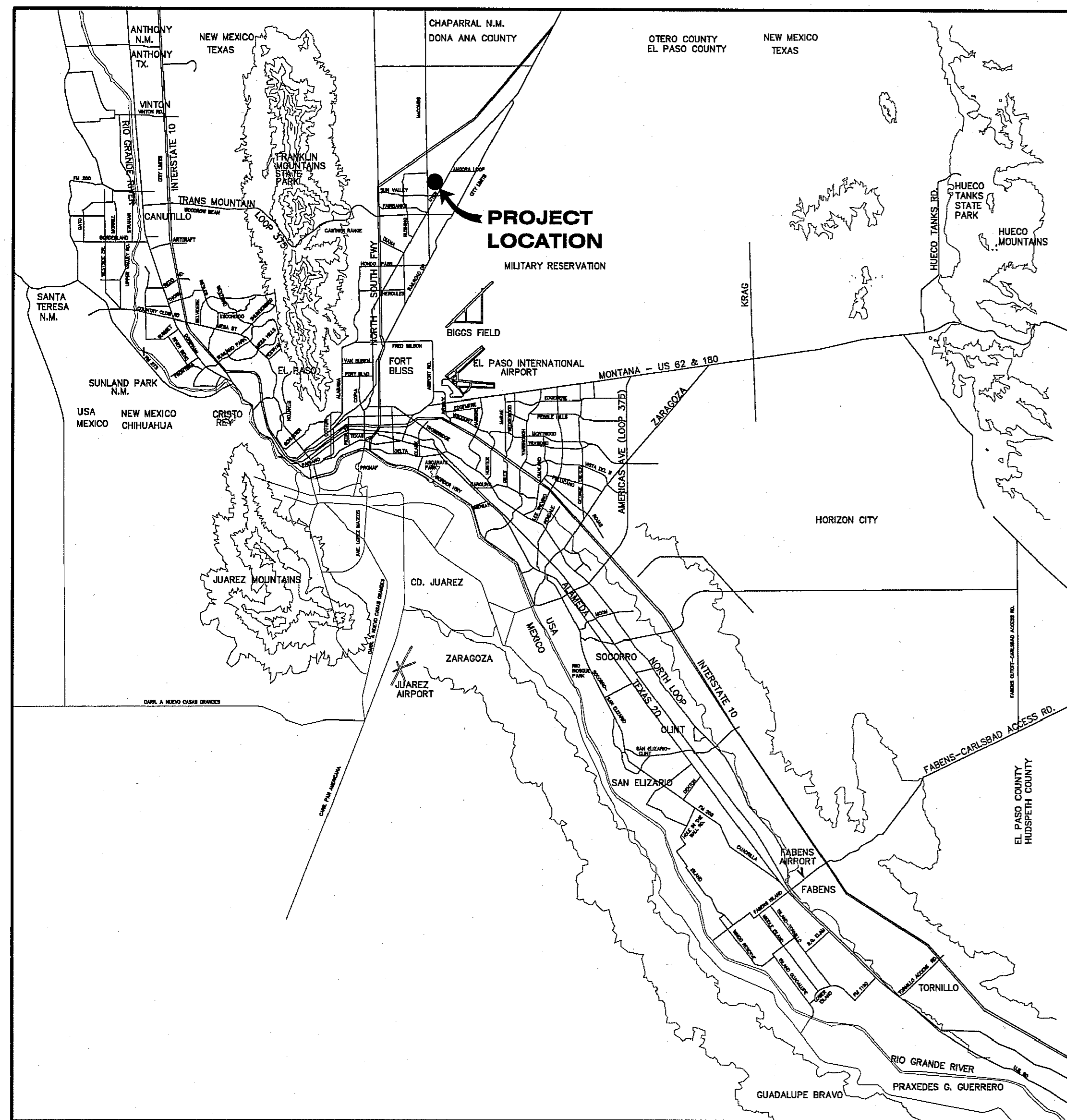


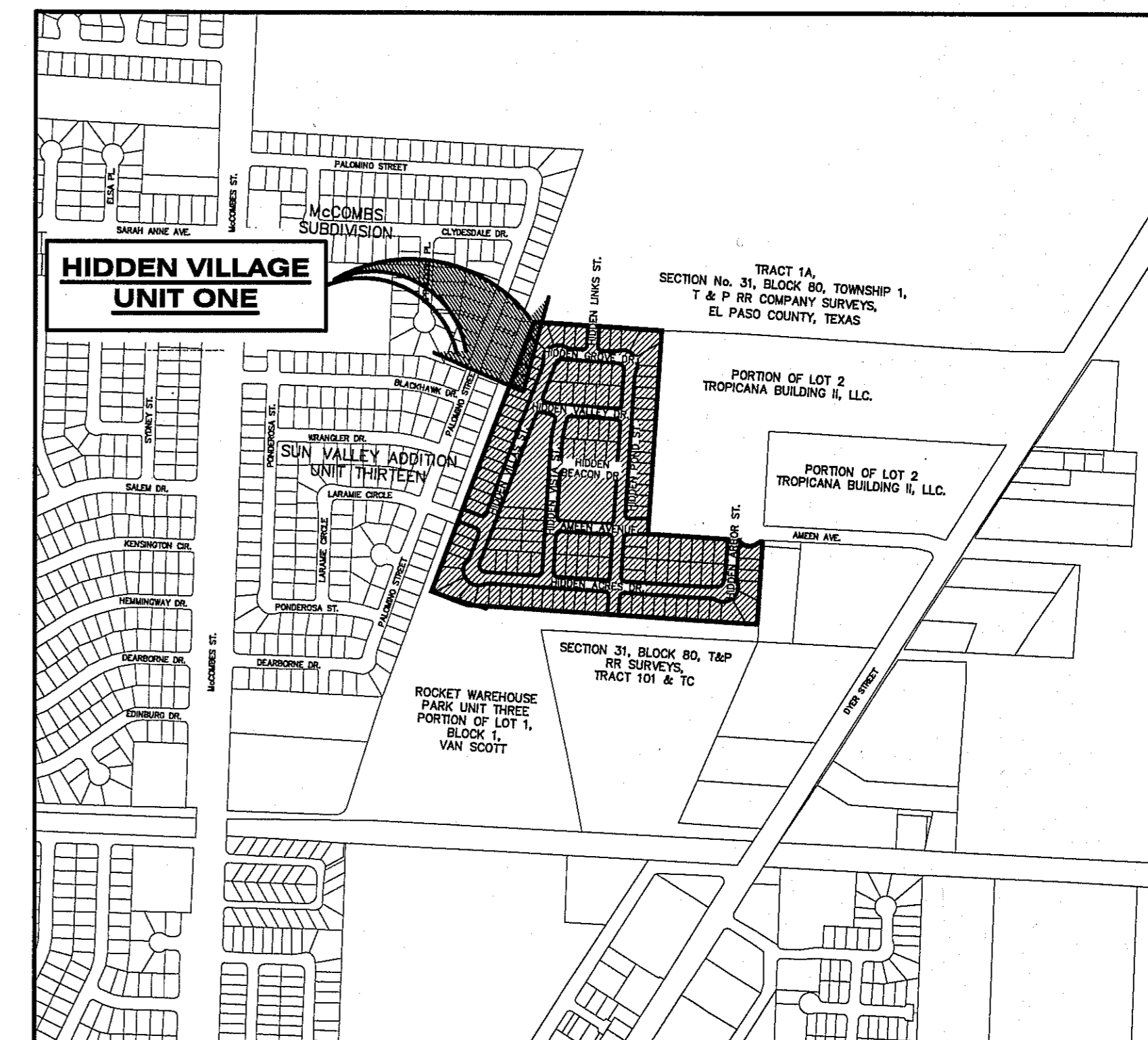
HIDDEN VILLAGE UNIT ONE SUBDIVISION IMPROVEMENT PLAN

A PORTION OF LOTS 1 AND 2, BLOCK 1,
ROCKET WAREHOUSE PARK, UNIT THREE,
CITY OF EL PASO, EL PASO COUNTY, TEXAS
CONTAINING 28.66± ACRES

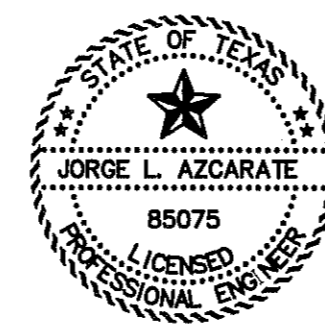


VICINITY MAP
APPROXIMATE SCALE:
1" = 2 MILES

SHEET NUMBER	SHEET TITLE
CVR	COVER SHEET
C1.1	GENERAL INFORMATION
C2.1	FINAL PLAT
C3.1	GRADING PLAN
C3.2	PARK GRADING PLAN
C4.1	DRAINAGE PLAN
C5.1-C5.2	GRADING SECTIONS
C6.1-C6.10	STREET PLAN & PROFILES
C7.1-C7.2	STORM SEWER PLAN & PROFILE
C8.1	POND DESIGN
C9.1-C9.3	STANDARD DETAILS
C10.1-C10.3	DRAINAGE DETAILS
C11.1-C11.3	ILLUMINATION, SIGNAGE, STRIPING AND CONSTRUCTION PHASING PLAN
C12.1-C12.1A	WATER INDEX / GENERAL INFORMATION - WATERLINE CROSSING
C12.2-C12.5	WATER DETAILS
C13.1	SANITARY SEWER INDEX / GENERAL INFORMATION
C13.2-C13.5	SANITARY SEWER PLAN & PROFILES
C13.6-C13.9	SANITARY SEWER DETAILS
C14.1-C14.3	STORM WATER POLLUTION PREVENTION PLAN: GENERAL NOTES, SITE PLAN, & DETAILS
L1 - L9	LANDSCAPE & IRRIGATION PLANS
CT1 - CT6	BRIDGE DESIGN PLANS



LOCATION MAP
APPROXIMATE SCALE: 1" = 600'



7-10-18
JORGE L. AZCARATE, P.E. PROJECT MANAGER



PARKS DEPARTMENT
REVIEWED *[Signature]* 08/07/2018

PRINCIPAL CONTACTS:

	NAME	ADDRESS	CITY & ZIP	PHONE	FAX
OWNER:	BOWLING ENTERPRISES	4712 WOODROW BEAN DR. STE. A	EL PASO, TX 79924	(915) 757-1802	(915) 757-1827
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., BLDG F	EL PASO, TX 79936	(915) 591-5709	(915) 591-5706



Reviewed For Conformance For Condition Related To:

- _____ Detouring
- _____ Grading & Drainage
- _____ Wheelchair Ramps
- _____ On Site Parking Layout
- _____ Retaining Rock Walls
- _____ On Site Paving of Areas Where

Contractor Must Call 24 Hours Prior To Construction for Inspections

[Signature] 8/7/2018

GENERAL NOTES

- THE CONTRACTOR SHALL VISIT AND FAMILIARIZE HIMSELF WITH THE PROJECT SITE PRIOR TO SUBMITTING BIDS.
- 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.
- 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.
- 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.
- THE CONTRACTOR SHALL COORDINATE THE CONSTRUCTION SCHEDULE WITH THE USER, ALL UTILITIES, AND ALL OTHER AGENCIES WITH JURISDICTION OVER THE PROJECT.
- 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.
- 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.
- SEE REFERENCED BENCHMARK ON TITLE BLOCK FOR DATUM ELEVATIONS.
- VIBRATORY ROLLERS WILL NOT BE PERMITTED ON ANY PHASE OF THIS PROJECT, UNLESS APPROVED IN WRITING BY THE CITY ENGINEER.
- ALL WORK REQUIRED BY THESE PLANS SHALL BE CONDUCTED IN CONFORMANCE WITH CURRENT SAFETY CODES AND STANDARDS WITH JURISDICTION OVER THE PROJECT.
- THE LOCATION OF THE INLETS SHALL BE AT THE FIELD LOW POINT AND APPROVED BY THE ENGINEER.
- SIDEWALKS SHALL BE BUILT BY BUILDER UNLESS SPECIFIED ELSEWHERE IN PLANS.
- NO BLASTING SHALL BE PERMITTED.
- THE CONTRACTOR SHALL FIELD VERIFY ELEVATIONS, MEASUREMENTS AND EXISTING CONDITIONS PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES. NOTIFY THE ENGINEER PROMPTLY OF ANY OMISSIONS, ERRORS, OR DISCREPANCIES FOUND SO THAT NECESSARY CORRECTIONS AND INTERPRETATIONS BE MADE PRIOR TO CONSTRUCTION.
- ALL CONSTRUCTION PRACTICES AND PROCEDURES SHALL COMPLY WITH THE PERTINENT PROVISIONS OF THE OCCUPATIONAL SAFETY AND HEALTH STANDARD (TITLE 29, CODE OF FEDERAL REGULATIONS) PUBLISHED BY THE OSHA, DEPARTMENT OF LABOR.

GRADING SPECIFICATIONS

- CLEARING AND GRUBBING: CLEAR SITE OF TREES, SHRUBS AND OTHER VEGETATION; COMPLETELY REMOVE STUMPS, ROOTS AND OTHER DEBRIS PROTRUDING THROUGH GROUND SURFACE; FILL DEPRESSIONS CAUSED BY CLEARING AND GRUBBING OPERATIONS WITH SATISFACTORY FILL MATERIAL. UNLESS FURTHER EXCAVATION OF EARTHWORK IS INDICATED; REMOVE EXISTING ABOVE-GRADE AND BELOW-GRADE IMPROVEMENTS AS INDICATED AND AS NECESSARY TO FACILITATE NEW CONSTRUCTION. BURNING IS NOT PERMITTED ON OWNER'S PROPERTY. REMOVE WASTE MATERIALS FROM OWNER'S PROPERTY.
- 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, SW, SP, SM, AND SC.
- UNSATISFACTORY FILL MATERIALS: ARE DEFINED AS THOSE COMPLYING WITH ASTM D2487 SOIL CLASSIFICATION GROUPS GW, GP, GM, GC, SW, SP, SM, AND SC.
- EXCAVATION: IS UNCLASSIFIED AND INCLUDES EXCAVATION TO ELEVATIONS INDICATED, REGARDLESS OF CHARACTER OF MATERIAL AND OBSTRUCTIONS ENCOUNTERED.
- 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 DISSED 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.
- 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.
- 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.
- QUALITY CONTROL: THE OWNER SHALL PROVIDE A GEOTECHNICAL ENGINEER TO PERFORM FIELD DENSITY TESTS ON 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
ROP	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
V	DELTA ANGLE
S	SLOPE
TEMP	TEMPORARY
V	VELOCITY IN FEET PER SECOND
HGL	HYDRAULIC GRADE LINE
HWE	HIGH WATER ELEVATION

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)
4000	FINISHED GROUND CONTOUR ELEVATION (INTERMEDIATE)
-4000-	EXISTING GROUND CONTOUR ELEVATION (INDEX)
-4000-	EXISTING GROUND CONTOUR ELEVATION (INTERMEDIATE)
-----	NEW RETAINING ROCKWALL (2'-3' IN HEIGHT)
-----	NEW RETAINING ROCKWALL (3'-9' IN HEIGHT)
⊗	STANDARD DETAIL/SECTION NUMBER
⊗	SHEET NUMBER WHERE STANDARD/SECTION DETAIL IS LOCATED
4000.00	FINISHED SPOT ELEVATION
FG 4000.00	LOT FINISHED GROUND ELEVATION
TC 4000.00	TOP OF CURB ELEVATION
TP 4000.00	TOP OF PAVEMENT ELEVATION
1 2	SUBDIVISION LOT AND BLOCK NUMBER
→	DRAINAGE FLOW
▲	HIGH POINT
▼	LOW POINT
▲	EXISTING HIGH POINT
▼	EXISTING LOW POINT
■	HEADWALL WITH WINGWALLS
DA-1	DRAINAGE AREA
3(H):1(V) SLOPE	HORIZONTAL:VERTICAL SLOPE RATIO
♿	WHEELCHAIR RAMP

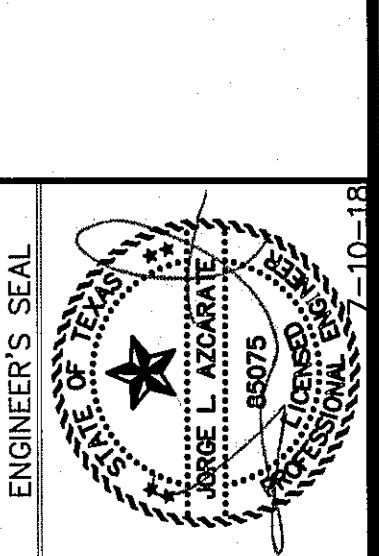
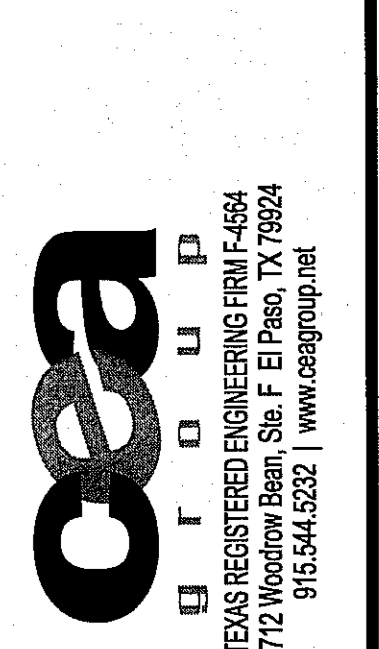
INDEX OF DRAWINGS

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HIDDEN ACRES ST. PLAN & PROFILE FROM STA. 6+54.63 TO STA. 13+00.00	C-6.2
HIDDEN ACRES ST. PLAN & PROFILE FROM STA. 13+00.00 TO STA. 14+05.81	C-6.3
HIDDEN VILLAS ST. PLAN & PROFILE FROM STA. 14+05.81 TO STA. 20+00.00	C-6.4
HIDDEN VILLAS ST. PLAN & PROFILE FROM STA. 20+00.00 TO STA. 24+73.41	C-6.5
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HIDDEN PALMS DR. PLAN & PROFILE FROM STA. 27+00.00 TO STA. 28+21.00	C-6.7
HIDDEN POND ST. PLAN & PROFILE FROM STA. 28+21.00 TO STA. 34+50.00	C-6.8
HIDDEN VISTA ST. PLAN & PROFILE FROM STA. 0+00.00 TO STA. 7+58.25	C-6.9
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HIDDEN LINKS PLAN & PROFILE FROM STA. 0+00.00 TO STA. 1+38.00	C-7.3
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LINE B PLAN & PROFILE FROM STA. 0+00.00 TO STA. 0+88.00	C-8.2
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BRIDGE DESIGN PLAN	CT6

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

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

REFERENCES - BENCHMARKS	CITY MONUMENT LOCATED AT THE CENTERLINE INTERSECTION OF CLIVERDALE DRIVE AND FALLOMHO ELEVATION = 3928.24' (E.P.V.D.). THE NORTH AMERICAN VERTICAL DATUM OF SAID CITY MONUMENT IS ELEVATION = 3893.53' (NAVD 88).
DATE	REVISIONS
BY	



SCALE	Horizontal: N/A
Vertical	N/A
Contour Interval	N/A
DATE	JULY, 2018
DESIGN BY	R.O.
DRAWN BY	G.M.
CHKD. BY	J.L.A.
APPVD. BY	J.L.A.
JOB No.	2000-201

PROJECT TITLE

HIDDEN VILLAGE UNIT ONE
SUBDIVISION IMPROVEMENTS

SHEET TITLE

GENERAL INFORMATION

SHEET NO.

C1.1



HIDDEN VILLAGE UNIT ONE SUBDIVISION

BEING A REPEAT OF A PORTION
OF LOTS 1 AND 2, BLOCK 1,
ROCKET WAREHOUSE PARK UNIT 3,
CITY OF EL PASO,
EL PASO COUNTY, TEXAS.
CONTAINING 28.66 ACRES ±

DEDICATION

Northtime Village 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, ponding area, utility easements, and park as hereon laid down and designated, including easements for overhead of service wires for pole utility and the right for installation of service poles alongside lot lines as may be required, easements for buried service wires, conduits and pipes for underground utilities, and the right to ingress and egress for service and construction, and the right to trim interfering trees and shrubs.

Witness my signature this 5th day of December 2018.

Gregory B. Bowling
Gregory B. Bowling, Manager

ACKNOWLEDGEMENT

STATE OF TEXAS
COUNTY OF EL PASO
Before me, the undersigned authority, on this day personally appeared Gregory B. Bowling, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same as the act and deed for the purpose and consideration therein expressed.

Given under my hand and seal of office this 5th day of December 2018.

Hanni Haly
Notary Public in and for El Paso County
My Commission Expires 10-13-2021

CITY PLANNING COMMISSION

This subdivision is hereby approved as to the platting and as to the condition of the dedication in accordance with Chapter 212 of the Local Government Code of Texas
this 20 day of September 2018.

Marybeth Switzer
Chairperson
Benito Barragan
Executive Secretary

Approved for filing this 12 day of December 2018.

Philip Eltwe
Planning and Inspections Director

FILING

Filed and recorded in the office of the County Clerk of El Paso County, Texas, this 12th day of December 2018, in File No. 20180094175 of the Plat Records.

Dora Bimich
FOR RECORDING PURPOSES ONLY
County Clerk

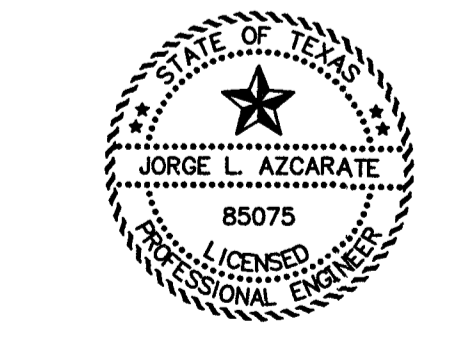
Isabel Chavez
By Deputy

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

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

Jorge L. Azcarate
12-4-18
JORGE L. AZCARATE, P.E.
Licensed Professional Engineer
Texas License No. 85075

Benito Barragan 11/30/2018
Benito Barragan TX, R.P.L.S. No. 5615



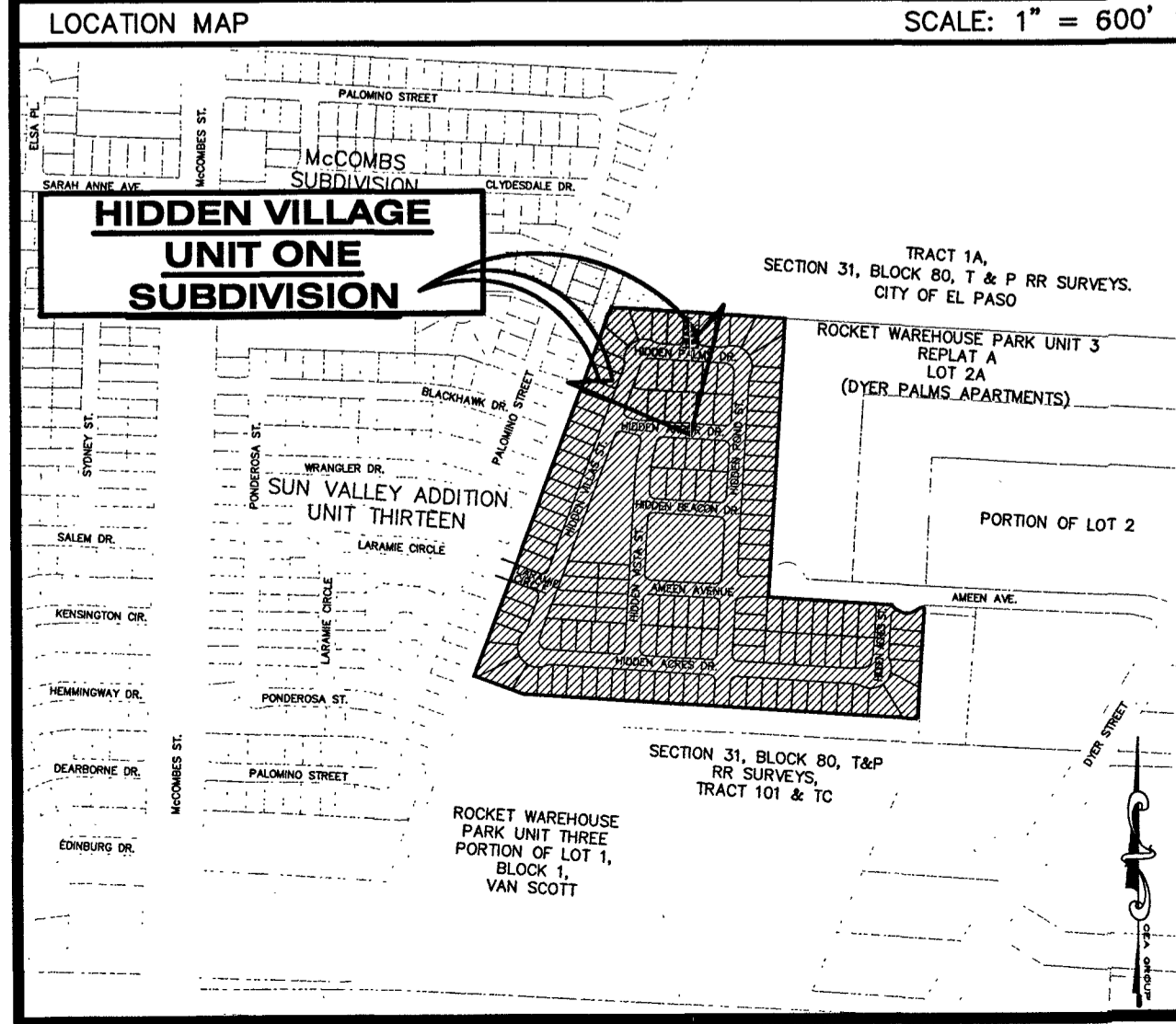
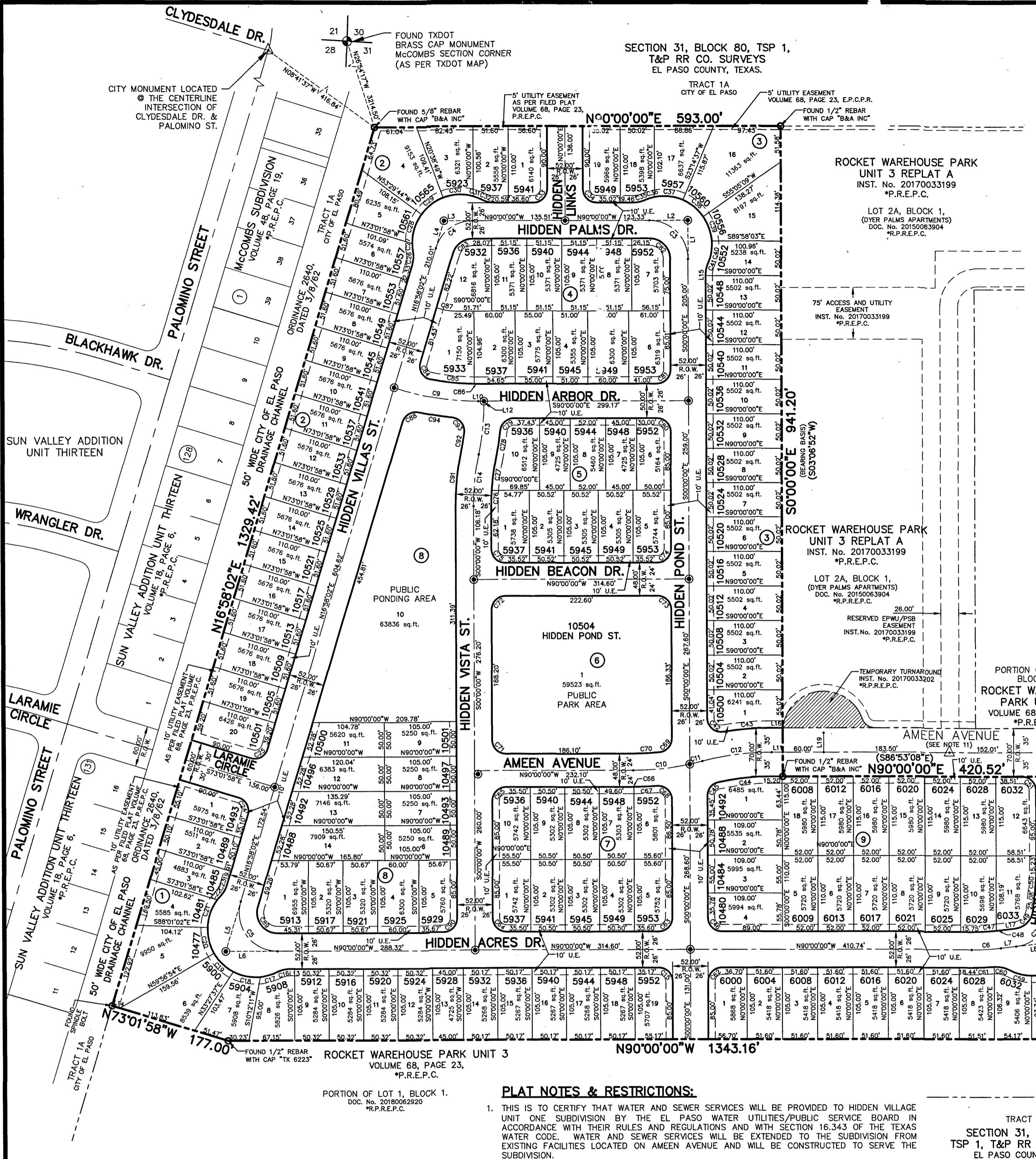
ENGINEER
cea
GROUP
TEXAS REGISTERED ENGINEERING FIRM F-4564
4712 Woodrow Bean, Ste. F El Paso, TX 79924
915.544.5232 | www.ceagroup.net

SURVEYOR
Barragan & Associates Inc.
LAND PLANNING & LAND SURVEYING
TBPLS FIRM # 10151200
10950 Pellicano Dr. Bldg. F - El Paso TX 79935
Phone: (915) 591-5709 Fax: (915) 591-5706
CONTACT: JORGE L. AZCARATE, P.E. CONTACT: BENITO BARRAGAN, R.P.L.S.
DATE OF PREPARATION: NOVEMBER, 2018.

CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	60.00'	102.71'	69.11'	90.62'	S84°43'25"E	088°04'34"
C2	30.00'	22.91'	12.05'	22.36'	S68°07'09"W	043°45'42"
C3	56.00'	87.96'	56.00'	79.20'	N45°00'00"W	090°00'00"
C4	56.00'	71.38'	41.46'	66.65'	S53°29'01"W	073°01'58"
C5	56.00'	104.55'	75.63'	90.01'	S36°30'59"E	106°58'02"
C6	390.00'	43.16'	21.60'	43.13'	N86°49'48"E	062°20'25"
C7	56.00'	71.12'	41.26'	66.44'	N47°16'30"E	072°46'11"
C8	375.00'	71.28'	35.75'	71.17'	N05°26'42"E	0105°32'44"
C9	374.00'	124.32'	62.74'	123.70'	S80°28'36"E	0192°42'44"
C10	400.00'	83.09'	41.70'	82.89'	N84°02'56"E	0115°40'09"
C11	400.00'	19.16'	9.58'	19.16'	N76°43'31"E	002°44'40"
C12	400.00'	102.25'	51.41'	101.98'	S82°40'36"E	0143°38'48"
C13	375.00'	76.19'	38.23'	76.06'	S05°49'14"E	0113°28'28"
C14	375.00'	76.19'	38.23'	76.06'	S05°49'14"E	0113°28'28"
C15	20.00'	31.42'	20.00'	28.28'	N45°00'00"W	090°00'00"
C16	40.00'	16.70'	8.35'	16.37'	N78°11'29"E	023°37'01"
C17	70.00'	28.24'	13.28'	28.09'	N73°57'19"E	021°28'47"
C18	70.00'	40.58'	20.88'	40.62'	S78°41'43"E	033°13'08"
C19	70.00'	39.14'	20.00'	38.63'	S48°04'07"E	032°02'03"
C20	70.00'	39.14'	20.00'	38.63'	S14°02'44"E	032°02'03"
C21	70.00'	43.32'	22.38'	42.83'	S19°42'42"W	032°27'28"
C22	70.00'	7.71'	3.86'	7.71'	S40°35'44"W	008°18'41"
C23	40.00'	18.70'	9.35'	18.53'	S30°31'34"E	008°47'04"
C24	20.00'	31.42'	20.00'	28.28'	N45°00'00"W	090°00'00"
C25	20.00'	31.42'	20.00'	28.28'	N45°00'00"W	090°00'00"
C26	40.00'	16.95'	8.65'	16.77'	N67°32'52"E	027°08'20"
C27	70.00'	11.92'	5.98'	11.91'	S05°17'32"E	009°45'32"
C28	70.00'	45.10'	23.37'	44.33'	S18°02'45"W	036°55'02"
C29	70.00'	44.13'	20.63'	39.58'	S52°55'44"W	032°50'55"
C30	70.00'	44.64'	23.11'	43.89'	S87°32'07"W	036°32'61"
C31	70.00'	13.74'	6.89'	13.72'	N86°29'08"W	011°45'52"
C32	40.00'	18.95'	9.65'	18.77'	S76°25'50"E	027°08'20"
C33	20.00'	31.42'	20.00'	28.28'	N45°00'00"W	090°00'00"
C34	20.00'	31.42'	20.00'	28.28'	N45°00'00"W	090°00'00"
C35	40.00'	16.49'	8.36'	16.37'	N78°11'29"E	023°37'01"
C36	70.00'	15.26'	7.66'	15.23'	S72°37'45"W	012°29'32"
C37	70.00'	41.99'	21.65'	41.36'	N83°56'28"W	034°22'06"
C38	70.00'	38.90'	19.97'	38.40'	N50°50'07"W	031°50'31"
C39	70.00'	37.77'	19.36'	37.31'	N19°27'23"W	030°54'57"
C40	70.00'	33.74'	17.20'	33.41'	N09°48'33"E	027°38'56"
C41	40.00'	16.49'	8.36'	16.37'	S11°48'31"E	023°37'01"
C42	20.00'	31.42'	20.00'	28.28'	S45°00'00"W	099°20'00"
C43	430.00'	70.86'	35.51'	70.78'	S85°20'00"W	009°20'00"
C44	365.00'	78.69'	39.50'	78.53'	S83°49'27"W	012°12'06"
C45	20.00'	27.10'	16.09'	25.06'	S38°49'29"W	077°38'59"
C46	20.00'	31.42'	20.00'	28.28'	S45°00'00"W	090°00'00"
C47	364.00'	36.31'	18.17'	36.30'	N87°08'31"E	005°42'58"

CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C48	364.00'	3.97'	1.98'	3.97'	N83°58'19"E	000°37'27"
C49	30.00'	40.48'	24.00'	37.48'	N45°00'00"E	077°19'11"
C50	349.00'	38.62'	19.33'	38.60'	N03°10'12"E	008°20'25"
C51	20.00'	31.42'	20.00'	28.28'	N45°00'00"W	090°00'00"
C52	60.00'	67.08'	37.53'	63.64'	N78°16'00"E	064°53'23"
C53	20.00'	38.50'	28.72'	32.82'	S50°08'51"W	110°17'41"
C54	40.00'	16.56'	8.40'	16.44'	S11°51'33"E	023°43'06"
C55	40.00'	1.95'	0.97'	1.95'	S25°06'47"E	002°47'21"
C56	70.00'	45.40'	23.53'	44.61'	N07°55'40"W	037°09'34"
C57	70.00'	47.82'	24.89'	46.90'	N30°13'24"E	039°08'35"
C58	70.00'	50.21'	26.24'	49.14'	N70°20'35"E	041°04'48"
C59	70.00'	33.44'	17.04'	33.12'	S75°25'27"E	027°22'06"
C60	40.00'	22.91'	11.78'	22.60'	N78°08'59"W	032°49'08"
C61	416.00'	33.10'	16.56'	33.09'	N87°43'13"E	004°33'33"
C62	20.00'	31.42'	20.00'	28.28'	S45°00'00"W	090°00'00"
C63	20.00'	31.42'	20.00'	28.28'	N45°00'00"E	090°00'00"
C64	20.00'	31.42'	20.00'	28.28'	S45°00'00"W	090°00'00"
C65	20.00'	31.42'	20.00'	28.28'	S45°00'00"W	090°00'00"
C66	424.00'	0.90'	0.45'	0.90'	N83°58'22"E	000°07'17"
C67	424.00'	34.00'	17.01'	33.89'	N47°34'54"E	004°35'38"
C68	20.00'	33.06'	21.72'	29.49'	N87°21'27"W	094°42'55"
C69	20.00'	29.36'	18.04'	26.80'	N42°03'28"E	085°05'58"
C70	376.00'	38.62'	19.33'	38.60'	N03°10'12"E	008°20'25"
C71	20.00'	31.42'	20.00'	28.28'	S45°00'00"E	090°00'00"
C72	20.00'	31.42'	20.00'	28.28'	S45°00'00"W	090°00'00"
C73	20.00'	31.42'	20.00'	28.28'	N45°00'00"W	090°00'00"
C74	20.00'	31.42'	20.00'	28.28'	S45°00'00"E	090°00'00"
C75	20.00'	31.42'	20.00'	28.28'	S45°00'00"W	090°00'00"
C76	349.00'	22.83'	11.42'	22.83'	S01°52'27"W	003°44'54"
C77	349.00'	48.08'	24.08'	48.04'	S07°41'41"W	007°53'34"
C78	401.00'	39.95'	19.99'	39.93'	N08°47'14"E	005°42'28"
C79	20.00'	29.34'	18.03'	26.78'	S47°38'00"W	084°04'00"
C80	20.00'	31.42'	20.00'	28.28'	N45°00'00"W	090°00'00"
C81	20.00'	31.42'	20.00'	28.28'	N45°00'00"W	090°00'00"
C82	30.00'	47.12'	30.00'	42.43'	N45°00'00"W	090°00'00"
C83	30.00'	38.24'	22.21'	35.70'	S52°59'01"W	073°01'58"
C84	20.00'	33.39'	22.08'	29.65'	S30°51'42"E	098°39'29"
C85	349.00'	63.53'	31.85'	63.44'	S83°54'21"E	010°25'48"
C86	349.00'	5.36'	2.68'	5.35'	S89°33'38"E	000°52'45"
C87	85.00'	29.64'	14.97'	29.49'	S80°00'40"E	019°58'40"
C88	20.00'	29.87'	18.51'	27.17'	S59°44'50"W	085°33'36"
C89	30.00'	56.01'	40.52'	48.22'	S36°30'59"E	106°58'02"
C90	20.00'	31.42'	20.00'	28.28'	N45°00'00"E	090°00'00"
C91	401.00'	81.47'	40.88'	81.33'	S05°49'14"E	011°38'28"
C92	349.00'	26.67'	13.34'	26.67'	N05°27'08"E	004°22'43"
C93	20.00'	32.03'	20.62'	32.03'	S45°00'00"E	091°45'40"
C94	399.00'	48.93'	24.50'	48.90'	S80°59'09"E	007°01'34"

LINE TABLE		
LINE	BEARING	LENGTH
L1	S00°00'00"E	56.00'
L2	N90°00'00"W	56.00'
L3	N90°00'00"W	41.46'
L4	N16°58'02"E	41.46'
L5	N16°58'02"E	75.63'
L6	N90°00'00"W	75.63'
L7	N83°39'35"E	22.27'
L8	N83°39'35"E	41.26'
L9	S10°53'24"W	41.26'
L10	S90°00'00"E	8.47'
L11	N90°00'00"W	16.21'
L12	N00°00'00"E	1.48'
L13	N90°00'00"W	7.22'
L14	S73°01'58"E	11.69'
L15	S00°00'00"E	1.12'
L16	N90°00'00"E	16.21'
L17	N83°39'35"E	23.30'



- ### PLAT NOTES & RESTRICTIONS:
- THIS IS TO CERTIFY THAT WATER AND SEWER SERVICES WILL BE PROVIDED TO HIDDEN VILLAGE UNIT ONE SUBDIVISION BY THE EL PASO WATER UTILITIES/PUBLIC SERVICE BOARD IN ACCORDANCE WITH THEIR RULES AND REGULATIONS AND WITH SECTION 16.543 OF THE TEXAS WATER CODE. WATER AND SEWER SERVICES WILL BE EXTENDED TO THE SUBDIVISION FROM EXISTING FACILITIES LOCATED ON AMEEN AVENUE AND WILL BE CONSTRUCTED TO SERVE THE SUBDIVISION.
 - TAX CERTIFICATE(S) FOR THIS SUBDIVISION ARE FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION, INSTRUMENT NO. 20180094176 DATE 12/12/2018
 - RESTRICTIVE COVENANTS FOR THIS SUBDIVISION ARE FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION, INSTRUMENT NO. 20180094178 DATE 12/12/2018
 - SPECIAL WARRANTY DEED FOR PUBLIC PARK AREA FOR THIS SUBDIVISION ARE FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION, INSTRUMENT NO. 20180094179 DATE 11/30/2018
 - INTERIOR LOT CORNERS WILL BE SET UPON COMPLETION OF CONSTRUCTION OF ROADWAYS AND UTILITIES.
 - "U.S. POSTAL SERVICE DELIVERY WILL BE PROVIDED THROUGH NEIGHBORHOOD DELIVERY AND COLLECTION BOX UNITS."
 - THIS SUBDIVISION LIES WITHIN ZONE "C" AS DESIGNATED IN PANEL No. 480214-0015D, DATED JUNE 12, 2018
 - ⊙ DENOTES PROPOSED CITY MONUMENT. (NOT IN PLACE AS OF DATE OF PREPARATION). MAY BE SUBJECT TO RELOCATION AT TIME OF CONSTRUCTION. (FOR EXACT LOCATION CONTACT CITY OF EL PASO)
 - △ DENOTES FOUND CITY MONUMENT.
 - ALL DEVELOPED STORM WATER RUNOFF DISCHARGE VOLUMES SHALL BE RETAINED WITHIN THIS SUBDIVISION'S LIMITS IN COMPLIANCE WITH PROVISIONS OF DSC, MUNICIPAL CODE 19.19.01A AND DDM, 11.1.
 - FOR BLOCK 5, LOTS 1-10 AND BLOCK 7, LOTS 6-10, LOTS SHALL BE 45 FEET OR WIDER WITH TWO CAR DRIVEWAYS AND A MINIMUM DRIVEWAY OF 18 FEET IN WIDTH.
 - PORTION OF AMEEN AVENUE DEDICATED BY PLAT FOR ROCKET WAREHOUSE UNIT 3 REPLAT A, INSTRUMENT NO. 20170033199, PLAT RECORDS OF EL PASO COUNTY, TEXAS.
 - BEARINGS SHOWN ARE BASED ON THE FILED PLAT FOR ROCKET WAREHOUSE PARK UNIT 3. BEARINGS SHOWN IN PARENTHESIS AS PER ROCKET WAREHOUSE PARK UNIT 3 REPLAT A.
 - "ALL EASEMENTS SHALL BE (10') FEET UNLESS OTHERWISE NOTED".

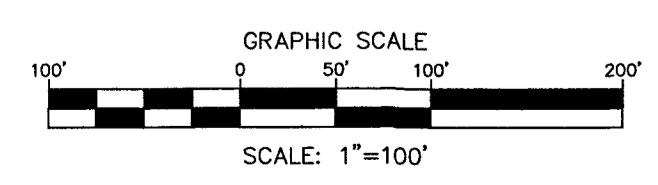
SCHOOL DISTRICT
YSLETA INDEPENDENT SCHOOL DISTRICT,
9600 SIMS DRIVE, EL PASO, TEXAS, 79925

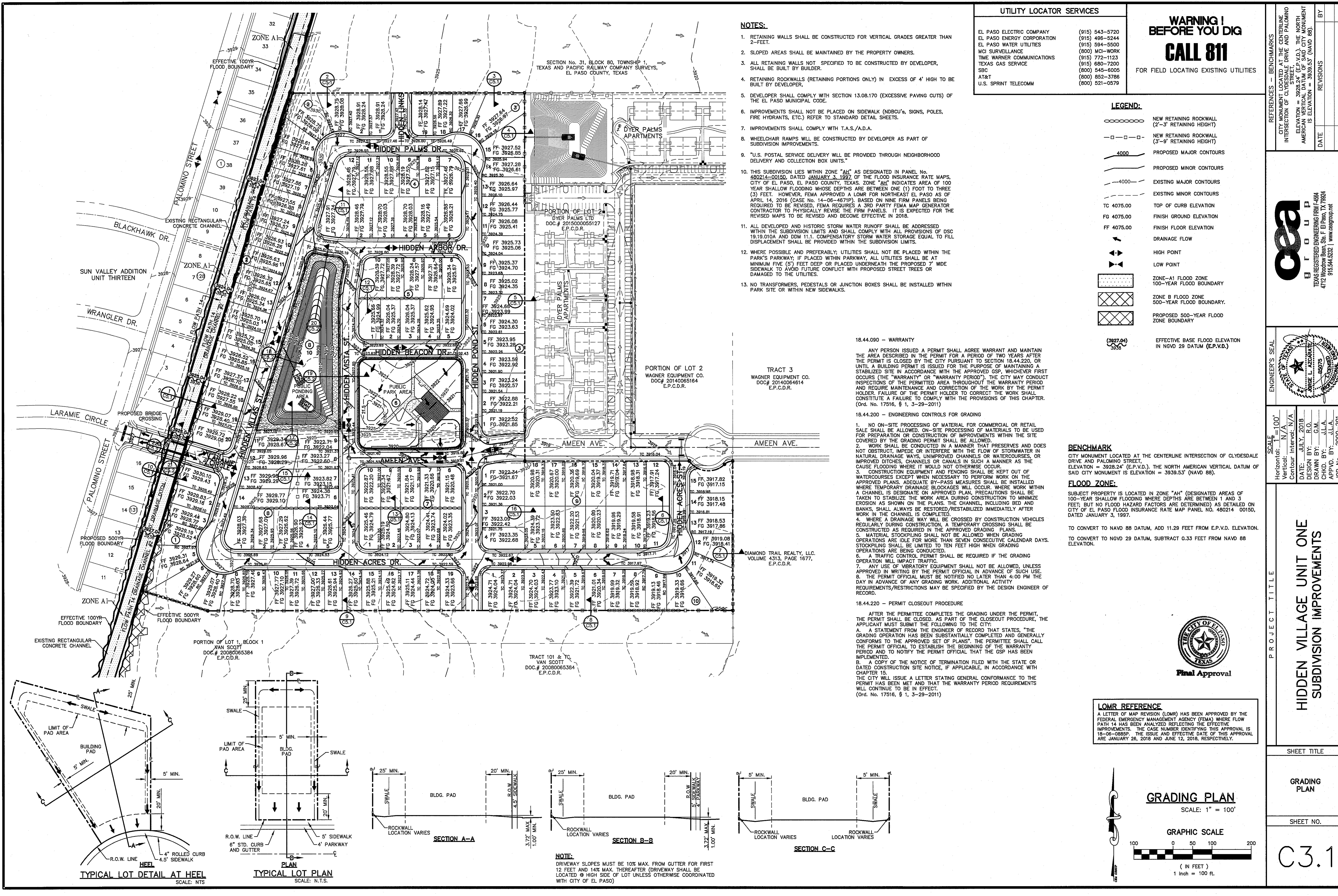
PROPOSED LAND USE
RESIDENTIAL = 136
POND = 1
PARK = 1
TOTAL = 138

PURPOSE OF REPLAT:
TO SUBDIVIDE THE PROPERTY TO SINGLE-FAMILY RESIDENTIAL LOTS

DEED REFERENCE
• WARRANTY DEED (WITH VENDOR'S LIEN) FILED IN DOC. No. 20060022273, REAL PROPERTY RECORDS OF EL PASO COUNTY, TEXAS.
• SPECIAL WARRANTY DEED FILED IN DOC. No. 20170008915, REAL PROPERTY RECORDS OF EL PASO COUNTY, TEXAS.

*R.P.R.E.P.C. = REAL PROPERTY RECORDS OF EL PASO COUNTY, TEXAS
*P.R.E.P.C. = PLAT RECORDS OF EL PASO COUNTY, TEXAS





- NOTES:**
- RETAINING WALLS SHALL BE CONSTRUCTED FOR VERTICAL GRADES GREATER THAN 2'-FEET.
 - SLOPED AREAS SHALL BE MAINTAINED BY THE PROPERTY OWNERS.
 - ALL RETAINING WALLS NOT SPECIFIED TO BE CONSTRUCTED BY DEVELOPER, SHALL BE BUILT BY BUILDER.
 - RETAINING ROCKWALLS (RETAINING PORTIONS ONLY) IN EXCESS OF 4' HIGH TO BE BUILT BY DEVELOPER.
 - DEVELOPER SHALL COMPLY WITH SECTION 13.08.170 (EXCESSIVE PAVING CUTS) OF THE EL PASO MUNICIPAL CODE.
 - IMPROVEMENTS SHALL NOT BE PLACED ON SIDEWALK (NDRCU's, SIGNS, POLES, FIRE HYDRANTS, ETC.) REFER TO STANDARD DETAIL SHEETS.
 - IMPROVEMENTS SHALL COMPLY WITH T.A.S./A.D.A.
 - WHEELCHAIR RAMP SHALL BE CONSTRUCTED BY DEVELOPER AS PART OF SUBDIVISION IMPROVEMENTS.
 - "U.S. POSTAL SERVICE DELIVERY WILL BE PROVIDED THROUGH NEIGHBORHOOD DELIVERY AND COLLECTION BOX UNITS."
 - THIS SUBDIVISION LIES WITHIN ZONE "AH" AS DESIGNATED IN PANEL No. 480214-00150, DATED JANUARY 3, 1997, OF THE FLOOD INSURANCE RATE MAPS, CITY OF EL PASO, EL PASO COUNTY, TEXAS. ZONE "AH" INDICATES AREA OF 100 YEAR SHALLOW FLOODING WHOSE DEPTHS ARE BETWEEN ONE (1) FOOT TO THREE (3) FEET. HOWEVER, FEMA APPROVED A LOMR FOR NORTHEAST EL PASO AS OF APRIL 14, 2016 (CASE No. 14-06-4671P), BASED ON NINE FIRM PANELS BEING REQUIRED TO BE REVISED, FEMA REQUIRES A 3RD PARTY FEMA MAP GENERATOR CONTRACTOR TO PHYSICALLY REVISE THE FIRM PANELS. IT IS EXPECTED FOR THE REVISED MAPS TO BE REVISED AND BECOME EFFECTIVE IN 2018.
 - ALL DEVELOPED AND HISTORIC STORM WATER RUNOFF SHALL BE ADDRESSED WITHIN THE SUBDIVISION LIMITS AND SHALL COMPLY WITH ALL PROVISIONS OF DSC 19.19.010A AND DDM 11.1. COMPENSATORY STORM WATER STORAGE EQUAL TO LIFT DISPLACEMENT SHALL BE PROVIDED WITHIN THE SUBDIVISION LIMITS.
 - WHERE POSSIBLE AND PREFERABLY, UTILITIES SHALL NOT BE PLACED WITHIN THE PARK'S PARKWAY; IF PLACED WITHIN PARKWAY, ALL UTILITIES SHALL BE AT MINIMUM FIVE (5') FEET DEEP OR PLACED UNDERNEATH THE PROPOSED 7' WIDE SIDEWALK TO AVOID FUTURE CONFLICT WITH PROPOSED STREET TREES OR DAMAGED TO THE UTILITIES.
 - NO TRANSFORMERS, PEDESTALS OR JUNCTION BOXES SHALL BE INSTALLED WITHIN PARK SITE OR WITHIN NEW SIDEWALKS.

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) MC-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 650-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

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

- LEGEND:**
- NEW RETAINING ROCKWALL (2'-3' RETAINING HEIGHT)
 - NEW RETAINING ROCKWALL (3'-9' RETAINING HEIGHT)
 - PROPOSED MAJOR CONTOURS
 - PROPOSED MINOR CONTOURS
 - EXISTING MAJOR CONTOURS
 - EXISTING MINOR CONTOURS
 - TC 4075.00 TOP OF CURB ELEVATION
 - FG 4075.00 FINISH GROUND ELEVATION
 - FF 4075.00 FINISH FLOOR ELEVATION
 - DRAINAGE FLOW
 - HIGH POINT
 - LOW POINT
 - ZONE-A1 FLOOD ZONE 100-YEAR FLOOD BOUNDARY
 - ZONE B FLOOD ZONE 500-YEAR FLOOD BOUNDARY
 - PROPOSED 500-YEAR FLOOD ZONE BOUNDARY
 - (3927.04) EFFECTIVE BASE FLOOD ELEVATION IN NGVD 29 DATUM (E.P.V.D.)

18.44.090 - WARRANTY

ANY PERSON ISSUED A PERMIT SHALL AGREE WARRANT AND MAINTAIN THE AREA DESCRIBED IN THE PERMIT FOR A PERIOD OF TWO YEARS AFTER THE PERMIT IS CLOSED BY THE CITY PURSUANT TO SECTION 18.44.220, OR UNTIL A BUILDING PERMIT IS ISSUED FOR THE PURPOSE OF MAINTAINING A STABILIZED SITE IN ACCORDANCE WITH THE APPROVED GSP, WHICHEVER FIRST OCCURS (THE "WARRANTY" OR "WARRANTY PERIOD"). THE CITY MAY CONDUCT INSPECTIONS OF THE PERMITTED AREA THROUGHOUT THE WARRANTY PERIOD AND REQUIRE MAINTENANCE AND CORRECTION OF THE WORK BY THE PERMIT HOLDER. FAILURE OF THE PERMIT HOLDER TO CORRECT THE WORK SHALL CONSTITUTE A FAILURE TO COMPLY WITH THE PROVISIONS OF THIS CHAPTER. (Ord. No. 17516, § 1, 3-29-2011)

18.44.200 - ENGINEERING CONTROLS FOR GRADING

- NO ON-SITE PROCESSING OF MATERIAL FOR COMMERCIAL OR RETAIL SALE SHALL BE ALLOWED. ON-SITE PROCESSING OF MATERIALS TO BE USED FOR PREPARATION OR CONSTRUCTION OF IMPROVEMENTS WITHIN THE SITE COVERED BY THE GRADING PERMIT SHALL BE ALLOWED.
- WORK SHALL BE CONDUCTED IN A MANNER THAT PRESERVES AND DOES NOT OBSTRUCT, IMPEDE OR INTERFERE WITH THE FLOW OF STORMWATER IN NATURAL DRAINAGE WAYS, UNIMPROVED CHANNELS OR WATERCOURSES, OR IMPROVED DITCHES, CHANNELS OR CANALS IN SUCH A MANNER AS THE CAUSE FLOODING WHERE IT WOULD NOT OTHERWISE OCCUR.
- CONSTRUCTION EQUIPMENT AND FENCING SHALL BE KEPT OUT OF WATERCOURSES EXCEPT WHEN NECESSARY TO PERFORM WORK ON THE APPROVED PLANS. ADEQUATE BY-PASS MEASURES SHALL BE INSTALLED WHERE TEMPORARY DRAINAGE BLOCKAGES WILL OCCUR. WHERE WORK WITHIN A CHANNEL IS DESIRABLE ON APPROVED PLAN, PRECAUTIONS SHALL BE TAKEN TO STABILIZE THE WORK AREA DURING CONSTRUCTION TO MINIMIZE EROSION AS SHOWN ON THE PLANS. THE CHANNEL, INCLUDING BED AND BANKS, SHALL ALWAYS BE RESTORED/RE-STABILIZED IMMEDIATELY AFTER WORK IN THE CHANNEL IS COMPLETED.
- WHERE A DRAINAGE WAY WILL BE CROSSED BY CONSTRUCTION VEHICLES REGULARLY DURING CONSTRUCTION, A TEMPORARY CROSSING SHALL BE CONSTRUCTED AS REQUIRED IN THE APPROVED GRADING PLANS.
- MATERIAL STOCKPILING SHALL NOT BE ALLOWED WHEN GRADING OPERATIONS ARE IDLE FOR MORE THAN SEVEN CONSECUTIVE CALENDAR DAYS. STOCKPILING SHALL BE LIMITED TO TEN FEET HIGH WHEN GRADING OPERATIONS ARE BEING CONDUCTED.
- A TRAFFIC CONTROL PERMIT SHALL BE REQUIRED IF THE GRADING OPERATION WILL IMPACT TRAFFIC.
- ANY USE OF VIBRATORY EQUIPMENT SHALL NOT BE ALLOWED, UNLESS APPROVED IN WRITING BY THE PERMIT OFFICIAL IN ADVANCE OF SUCH USE. THE PERMIT OFFICIAL MUST BE NOTIFIED NO LATER THAN 4:00 PM THE DAY IN ADVANCE OF ANY GRADING WORK. ADDITIONAL ACTIVITY REQUIREMENTS/RESTRICTIONS MAY BE SPECIFIED BY THE DESIGN ENGINEER OF RECORD.

18.44.220 - PERMIT CLOSEOUT PROCEDURE

AFTER THE PERMITTEE COMPLETES THE GRADING UNDER THE PERMIT, THE PERMIT SHALL BE CLOSED, AS PART OF THE CLOSEOUT PROCEDURE, THE APPLICANT MUST SUBMIT THE FOLLOWING TO THE CITY:

- A STATEMENT FROM THE ENGINEER OF RECORD THAT STATES, "THE GRADING OPERATION HAS BEEN SUBSTANTIALLY COMPLETED AND GENERALLY CONFORMS TO THE APPROVED SET OF PLANS". THE PERMITTEE SHALL CALL THE PERMIT OFFICIAL TO ESTABLISH THE BEGINNING OF THE WARRANTY PERIOD AND TO NOTIFY THE PERMIT OFFICIAL THAT THE GSP HAS BEEN IMPLEMENTED.
- A COPY OF THE NOTICE OF TERMINATION FILED WITH THE STATE OR DATED CONSTRUCTION SITE NOTICE, IF APPLICABLE, IN ACCORDANCE WITH CHAPTER 15.

THE CITY WILL ISSUE A LETTER STATING GENERAL CONFORMANCE TO THE PERMIT HAS BEEN MET AND THAT THE WARRANTY PERIOD REQUIREMENTS WILL CONTINUE TO BE IN EFFECT. (Ord. No. 17516, § 1, 3-29-2011)

BENCHMARK
CITY MONUMENT LOCATED AT THE CENTERLINE INTERSECTION OF CLYDESDALE DRIVE AND PALOMINO STREET, ELEVATION = 3928.24' (E.P.V.D.), THE NORTH AMERICAN VERTICAL DATUM OF SAID CITY MONUMENT IS ELEVATION = 3939.53' (NAVD 88).

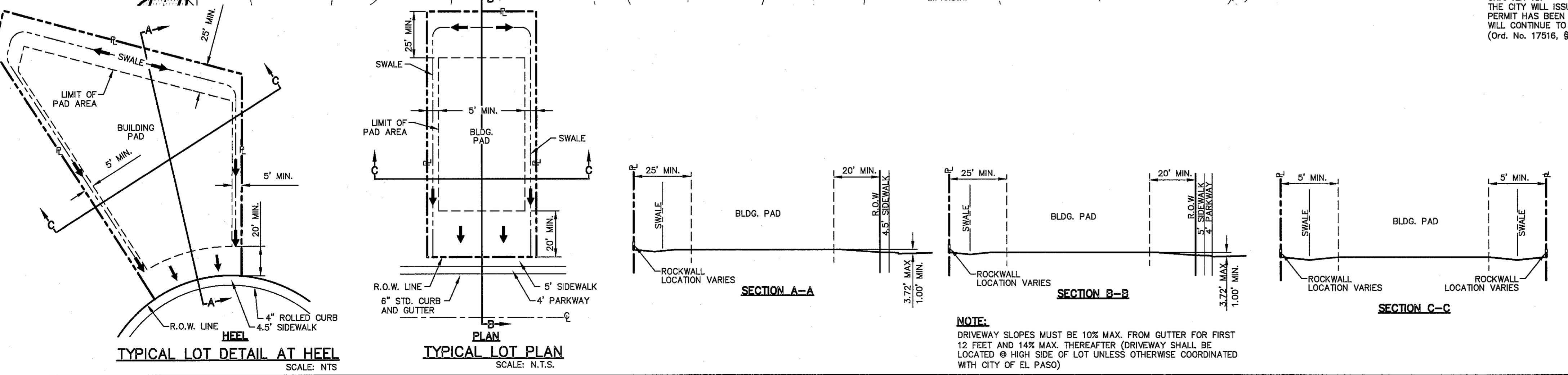
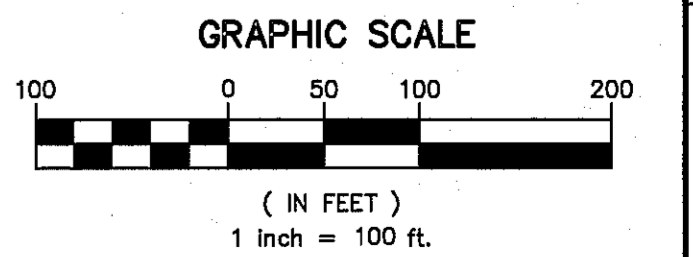
FLOOD ZONE:
SUBJECT PROPERTY IS LOCATED IN ZONE "AH" (DESIGNATED AREAS OF 100-YEAR SHALLOW FLOODING WHERE DEPTHS ARE BETWEEN 1 AND 3 FEET; BUT NO FLOOD HAZARD FACTORS ARE DETERMINED) AS DETAILED ON CITY OF EL PASO FLOOD INSURANCE RATE MAP PANEL No. 480214 00150, DATED JANUARY 3, 1997.

TO CONVERT TO NAVD 88 DATUM, ADD 11.29 FEET FROM E.P.V.D. ELEVATION.
TO CONVERT TO NGVD 29 DATUM, SUBTRACT 0.33 FEET FROM NAVD 88 ELEVATION.



LOMR REFERENCE
A LETTER OF MAP REVISION (LOMR) HAS BEEN APPROVED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) WHERE FLOW PATH 14 HAS BEEN ANALYZED REFLECTING THE EFFECTIVE IMPROVEMENTS. THE CASE NUMBER IDENTIFYING THIS APPROVAL IS 15-06-0885P. THE ISSUE AND EFFECTIVE DATE OF THIS APPROVAL ARE JANUARY 26, 2018 AND JUNE 12, 2018, RESPECTIVELY.

GRADING PLAN
SCALE: 1" = 100'



NOTE:
DRIVEWAY SLOPES MUST BE 10% MAX. FROM GUTTER FOR FIRST 12 FEET AND 14% MAX. THEREAFTER (DRIVEWAY SHALL BE LOCATED 9' HIGH SIDE OF LOT UNLESS OTHERWISE COORDINATED WITH CITY OF EL PASO)

REFERENCES - BENCHMARKS

CITY MONUMENT LOCATED AT THE CENTERLINE INTERSECTION OF CLYDESDALE DRIVE AND PALOMINO STREET, ELEVATION = 3928.24' (E.P.V.D.), THE NORTH AMERICAN VERTICAL DATUM OF SAID CITY MONUMENT IS ELEVATION = 3939.53' (NAVD 88).

DATE	REVISIONS	BY



ENGINEER'S SEAL

SCALE: 1" = 100'

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

DATE: JULY, 2018
DESIGN BY: R.O.
DRAWN BY: G.M.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. - 2000-201

PROJECT TITLE

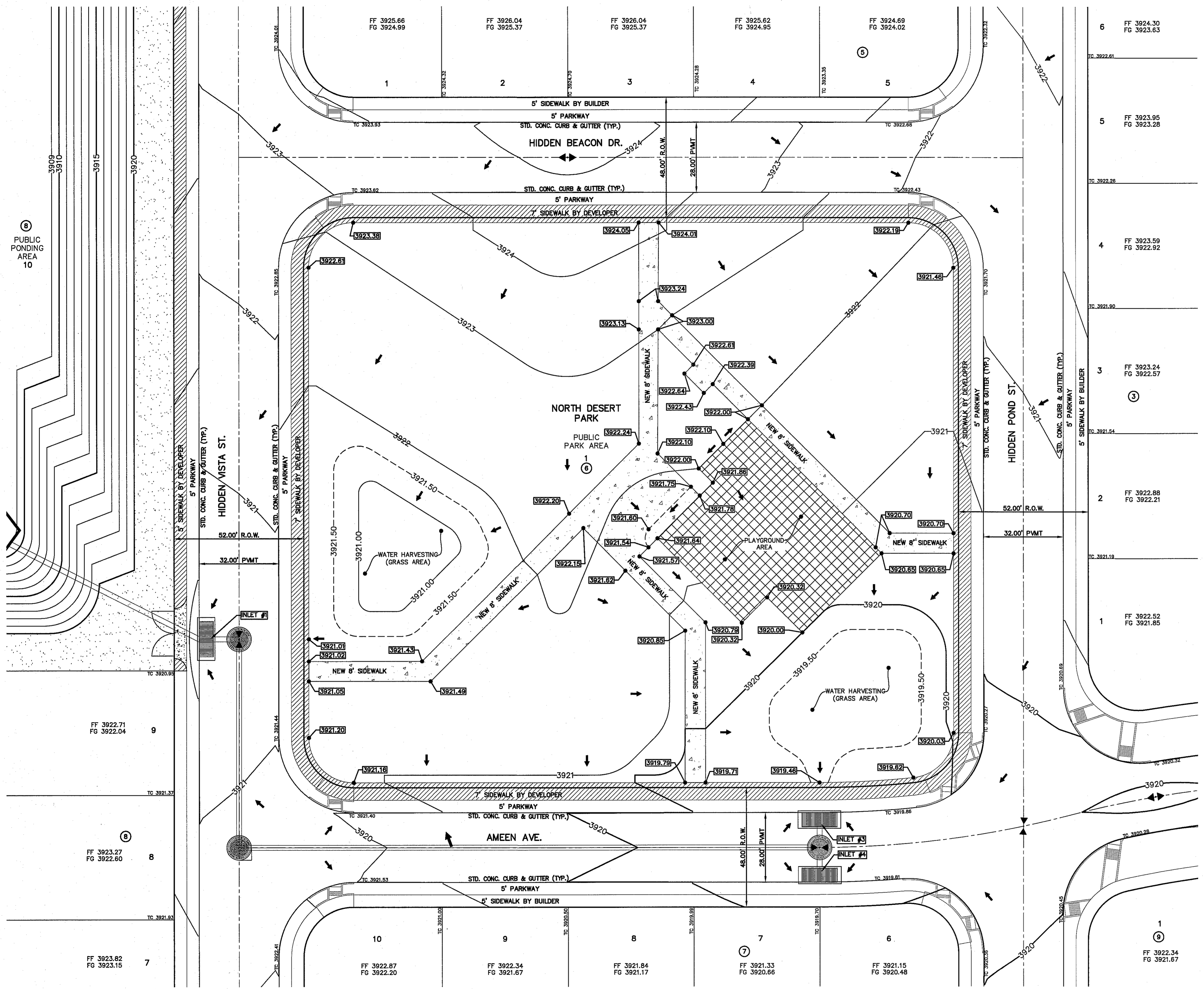
HIDDEN VILLAGE UNIT ONE
SUBDIVISION IMPROVEMENTS

SHEET TITLE

GRADING PLAN

SHEET NO.

C3.1



UTILITY LOCATOR SERVICES

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

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

LEGEND:

	PROPOSED MAJOR CONTOURS
	PROPOSED MINOR CONTOURS
	EXISTING MAJOR CONTOURS
	EXISTING MINOR CONTOURS
TC 4075.00	TOP OF CURB ELEVATION
FG 4075.00	FINISH GROUND ELEVATION
FF 4075.00	FINISH FLOOR ELEVATION
	DRAINAGE FLOW
	HIGH POINT
	LOW POINT

REFERENCES - BENCHMARKS
 CITY MONUMENT LOCATED AT THE CENTERLINE INTERSECTION OF CLYDEDALE DRIVE AND PALOMINO STREET.
 ELEVATION = 3926.24' (C.P.V.D.). THE NORTH AMERICAN DATUM IS ELEVATION = 3859.53' (NAVD 83).

ENGINEER'S SEAL

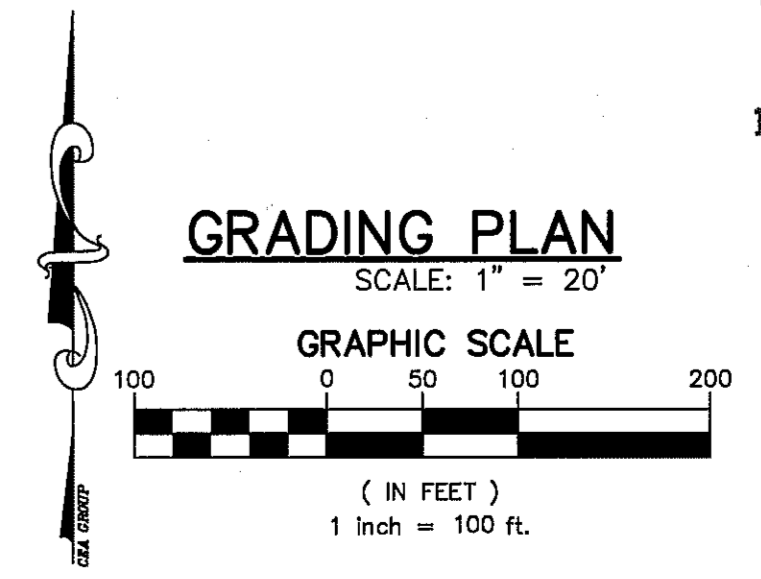
 J.L. A.
 4712 Woodrow Bean, Ste. F El Paso, TX 79924
 915.544.6332 | www.cagroup.net

SCALE: 1" = 100'
 Horizontal: N/A
 Vertical: N/A
 Contour Interval: N/A
 DATE: JULY, 2018
 DESIGN BY: R.O.
 DRAWN BY: J.L.A.
 CHKD. BY: J.L.A.
 APPVD. BY: J.L.A.
 JOB No. 2000-201

PROJECT TITLE
 HIDDEN VILLAGE UNIT ONE
 SUBDIVISION IMPROVEMENTS

SHEET TITLE
 PARK GRADING PLAN

SHEET NO.
 C3.2



Final Approval

ⓑ PUBLIC PONDING AREA 10

6 FF 3924.30
FG 3923.63

5 FF 3923.95
FG 3923.28

4 FF 3923.59
FG 3922.92

3 FF 3923.24
FG 3922.57

2 FF 3922.88
FG 3922.21

1 FF 3922.52
FG 3921.85

1 FF 3922.34
FG 3921.67

9 FF 3922.71
FG 3922.04

8 FF 3923.27
FG 3922.60

7 FF 3923.82
FG 3923.15

1 FF 3925.66
FG 3924.99

2 FF 3926.04
FG 3925.37

3 FF 3926.04
FG 3925.37

4 FF 3925.62
FG 3924.95

5 FF 3924.69
FG 3924.02

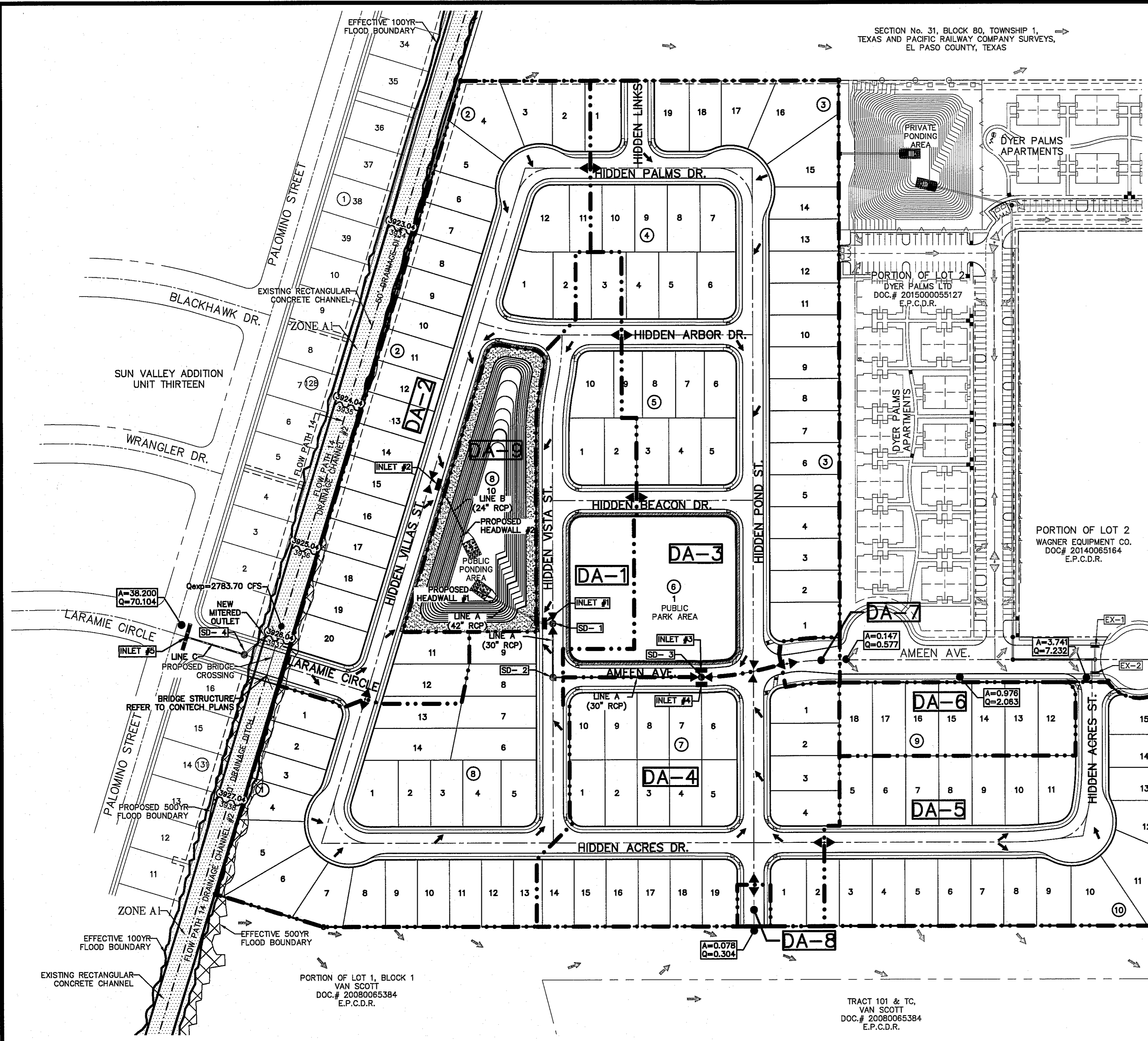
10 FF 3922.87
FG 3922.20

9 FF 3922.34
FG 3921.67

8 FF 3921.84
FG 3921.17

7 FF 3921.33
FG 3920.66

6 FF 3921.15
FG 3920.48



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POND CALCULATIONS

QT = (ARC)/12
 QT = 4.786 AC-FT
 A = 28.656
 R = 3.34"
 Cw = 0.600

TOTALreq = 4.786 AC-FT

POND

BASIN NO.	REQUIRED CAPACITY (AC.-FT.)	AVAILABLE CAPACITY (AC.-FT.)	PEAK INFLOW (CFS)	OUTLET TOWER FLOW (CFS)	HIGH WATER SURFACE ELEV. (FT.)	BOTTOM ELEVATION (FT.)	FREE BOARD (FT.)	TOP ELEVATION
1	4.786	7.132	42.629	0	3917.51±	3909	2.49	3920

POND AREAS

CONTOUR	ACCUMULATED VOLUME (AC.-FT.)
3920	7.132
3919	6.133
3918	5.207
3917	4.353
3916	3.569
3915	2.853
3914	2.210
3913	1.641
3912	1.142
3911	0.705
3910	0.325
3909	0

NOTE: THE HGL REFLECTS THE ELEVATION AS REQUIRED BY THE CITY OF EL PASO.
 HWSE = QT
 HWSE = 4.786 AC-FT
 CONTOUR 3918, ACCUMULATED VOLUME = 5.207 AC-FT
 CONTOUR 3917, ACCUMULATED VOLUME = 4.353 AC-FT
 HYDRAULIC GRADE LINE ELEVATION = 3917.51±

DROP INLETS

NO.	REQ. FLOW Q (CFS)	ADDITIONAL FLOW Q (CFS) FROM INLET #	CROWN Q OVERTOP (CFS)	Q EXP. (CFS)	AVAIL. FLOW CAPACITY Q (CFS)	FLOW BYPASS Q (CFS) TO INLET #	# OF GRATES	TYPE OF INLET	INLET LOCATION
1	11.440	0	0	11.440	17.748	0	2	III	ON SUMP
2	9.216	0	0	9.216	19.267	0	2	I	ON SUMP
3	12.752	0	2.704	10.048	19.267	0	2	I	ON SUMP
4	7.343	2.704	0	10.048	19.267	0	2	I	ON SUMP
5	70.104	0	0	70.104	76.549	0	8	III	ON SUMP

AVAILABLE FLOW CAPACITY SHOWN AT ON-GRADE INLETS REFLECTS CAPACITIES WITH INLET GRATE EFFICIENCIES.

100 YEAR STORM CALCULATIONS FOR WATERSHED AREAS

DRAINAGE AREA NO. (1)	DRAINAGE AREA (AC) (2)	DESIGN STORM INTENSITY (100) (3)	TIME OF CONCENTRATION (4)	RUNOFF COEFF. (5)	Q100 (CFS) (6)
DA-1	6.186	3.124	22.860	0.592	11.440
DA-2	4.878	3.149	22.440	0.600	9.216
DA-3	7.384	2.937	26.280	0.588	12.752
DA-4	3.802	3.219	21.300	0.600	7.343
DA-5	3.741	3.222	21.240	0.600	7.232
DA-6	0.976	3.523	16.860	0.600	2.063
DA-7	0.147	4.133	10.000	0.950	0.577
DA-8	0.078	4.133	10.000	0.950	0.304
DA-9	1.466	4.133	10.000	0.310	1.878

REFERENCE: CITY OF EL PASO SUBDIVISION STANDARDS (JUNE 2006)

- WATERSHED AREA IDENTIFICATION
- AREA FROM DRAINAGE PLAN
- RAINFALL INTENSITY, 100 YEAR STORM => CENTRAL INTENSITY EQUATIONS (4-7)
 $I_{100} = \frac{111.04}{(Tc + 26.090)^{0.9177}}$ EQUATION 4-25
- TIME OF CONCENTRATION: TC = T (OVERLAND) + T (GUTTER)
- TABLE 4-5: RATIONAL METHOD DEVELOPED CONDITION COEFFICIENT (100yr c)
 SINGLE FAMILY RESIDENTIAL = 0.60
 PAVEMENT AND ROOFTOPS = 0.95
 GENERAL OPEN SPACE = 0.50
- $Q_{100} = C \times A \times I_{100}$
 C = RATIONAL COEFFICIENT
 A = COMPUTED CONTRIBUTING WATERSHEDS AREA, ACRES
 I = RAINFALL INTENSITY, INCH PER HOUR

LEGEND:

- DRAINAGE AREA BOUNDARY
- DRAINAGE FLOW
- ▲ HIGH POINT
- ▼ LOW POINT
- DROP INLET
- STORM SEWER MANHOLE
- RCP
- ▭ HEADWALL STRUCTURE
- DA-10 DRAINAGE AREA
- ZONE-AE FLOOD ZONE
- 100-YEAR FLOOD BOUNDARY
- ZONE B FLOOD ZONE
- 500-YEAR FLOOD BOUNDARY
- PROPOSED 500-YEAR FLOOD ZONE BOUNDARY

(3927.04) 3936 EFFECTIVE BASE FLOOD ELEVATION IN NGVD 29 DATUM (E.P.V.D.)

STREET CAPACITIES

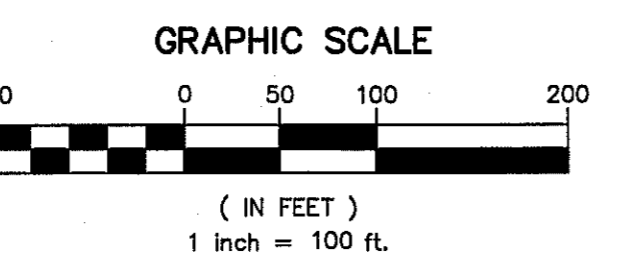
STREET NAME	AT INLET(S)	CAPACITY (CFS)	VELOCITY (FT/S)
HIDDEN VISTA ST.	1	48.109	2.343
HIDDEN VILLAS ST.	2	48.109	2.258
HIDDEN VISTA ST.	3 & 4	30.756	2.639

LOMR REFERENCE

A LETTER OF MAP REVISION (LOMR) HAS BEEN APPROVED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) WHERE FLOW PATH 14 HAS BEEN ANALYZED REFLECTING THE EFFECTIVE IMPROVEMENTS. THE CASE NUMBER IDENTIFYING THIS APPROVAL IS 18-08-0889P. THE ISSUE AND EFFECTIVE DATE OF THIS APPROVAL ARE JANUARY 26, 2018 AND JUNE 12, 2018, RESPECTIVELY.



DRAINAGE PLAN
SCALE: 1" = 100'



SHOWN FOR REFERENCE ONLY
SEE ROCKET WAREHOUSE PARK UNIT 3 REPLAT A FOR MORE INFORMATION

DROP INLETS

NO.	LOCATION OF INLET	TYPE OF INLET	NUMBER OF GRATES	WATERSHED FLOW Q WAT (CFS)	ADDITIONAL FLOW Q ADD (CFS)	TOTAL FLOW REQUIRED Q REQ (CFS)	AVAILABLE FLOW CAPACITY Q CAP (CFS)	BYPASS FLOW Q BYP (CFS)
EX-1	SAG	1	2	1.720	8.527	10.247	19.267	0.000
EX-2	SAG	1	2	1.720	5.769	7.488	19.267	0.000

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

DYER PALMS POND #1 CALCULATIONS

QT = (ARC)/12
 QT = 5.322 AC-FT
 A = 28.421
 R = 3.34"
 Cw = 0.673

TOTALreq = 5.322 AC-FT

A FULL DEVELOPED CONDITIONS STORM SEWER INFRASTRUCTURE SHALL BE COMPLETED BY THE ADDITION OF STORM SEWER PIPING WITHIN AMEEN DRIVE STREET RECONSTRUCTION IMPROVEMENTS. THE EXISTING BASIN WITHIN DYER PALMS APARTMENTS WILL HANDLE THE REQUIRED STORM RUNOFF.
 DRAINAGE BASIN SHALL BE MAINTAINED TO ENSURE FUNCTIONALITY.

NEW PRIVATE POND #1 (DYER PALMS + AMEEN DR. IMPROVEMENTS)

BASIN NO.	REQUIRED CAPACITY (AC.-FT.)	AVAILABLE CAPACITY (AC.-FT.)	PEAK INFLOW (CFS)	OUTLET TOWER FLOW (CFS)	HIGH WATER SURFACE ELEV. (FT.)	BOTTOM ELEVATION (FT.)	FREE BOARD (FT.)	TOP ELEVATION
1	5.322	5.873	77.305	0	3910.16±	3893	0.84±	3911

NOTE: THE HGL REFLECTS THE ELEVATION AS REQUIRED BY THE CITY OF EL PASO.
 HGL (ALL) = QT
 HGL (ALL) = 5.322 AC-FT
 CONTOUR 3910, ACCUMULATED VOLUME=5.221 AC-FT
 CONTOUR 3911, ACCUMULATED VOLUME=5.873 AC-FT
 HYDRAULIC GRADE LINE ELEVATION=3910.16±

DYER PALMS NEW POND#1 AREAS

CONTOUR	ACCUMULATED VOLUME (AC.-FT.)
3911	5.873
3910	5.221
3909	4.614
3908	4.053
3907	3.536
3906	3.061
3905	2.625
3904	2.229
3903	1.871
3902	1.548
3901	1.259
3900	1.003
3899	0.779
3898	0.585
3897	0.418
3896	0.287
3895	0.163
3894	0.070
3893	0.000

REFERENCES - BENCHMARKS
 CITY MONUMENT LOCATED AT THE INTERSECTION OF CLAYDALE DRIVE AND PALOMINO STREET.
 ELEVATION = 3928.24' (E.P.V.D.), THE NORTH AMERICAN VERTICAL DATUM OF 1988. CITY MONUMENT IS ELEVATION = 3929.53' (NAD 83).

ENGINEER'S SEAL

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

DATE: JULY 2018
 DESIGNED BY: R.O.
 DRAWN BY: G.M.
 CHECK BY: J.L.A.
 APPROVED BY: J.L.A.
 JOB No. 2000-201

PROJECT TITLE
HIDDEN VILLAGE UNIT ONE
SUBDIVISION IMPROVEMENTS

SHEET TITLE
DRAINAGE PLAN

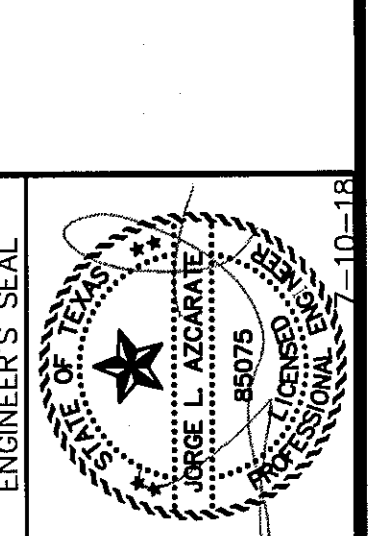
SHEET NO.
C4.1

UTILITY LOCATOR SERVICES		
EL PASO ELECTRIC COMPANY	(915) 543-5720	
EL PASO ENERGY CORPORATION	(915) 496-5244	
EL PASO WATER UTILITIES	(915) 594-5500	
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AT&T	(800) 852-3786	
U.S. SPRINT TELECOMM	(800) 521-0579	

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FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY

REFERENCES - BENCHMARKS
CITY MONUMENT LOCATED AT THE CENTERLINE INTERSECTION OF CLOVESDALE DRIVE AND PALOMINO STREET.
ELEVATION = 3928.24' (C.P.M.D.) THE NORTH AMERICAN DATUM IS ELEVATION = 3839.53' (NAD 83).



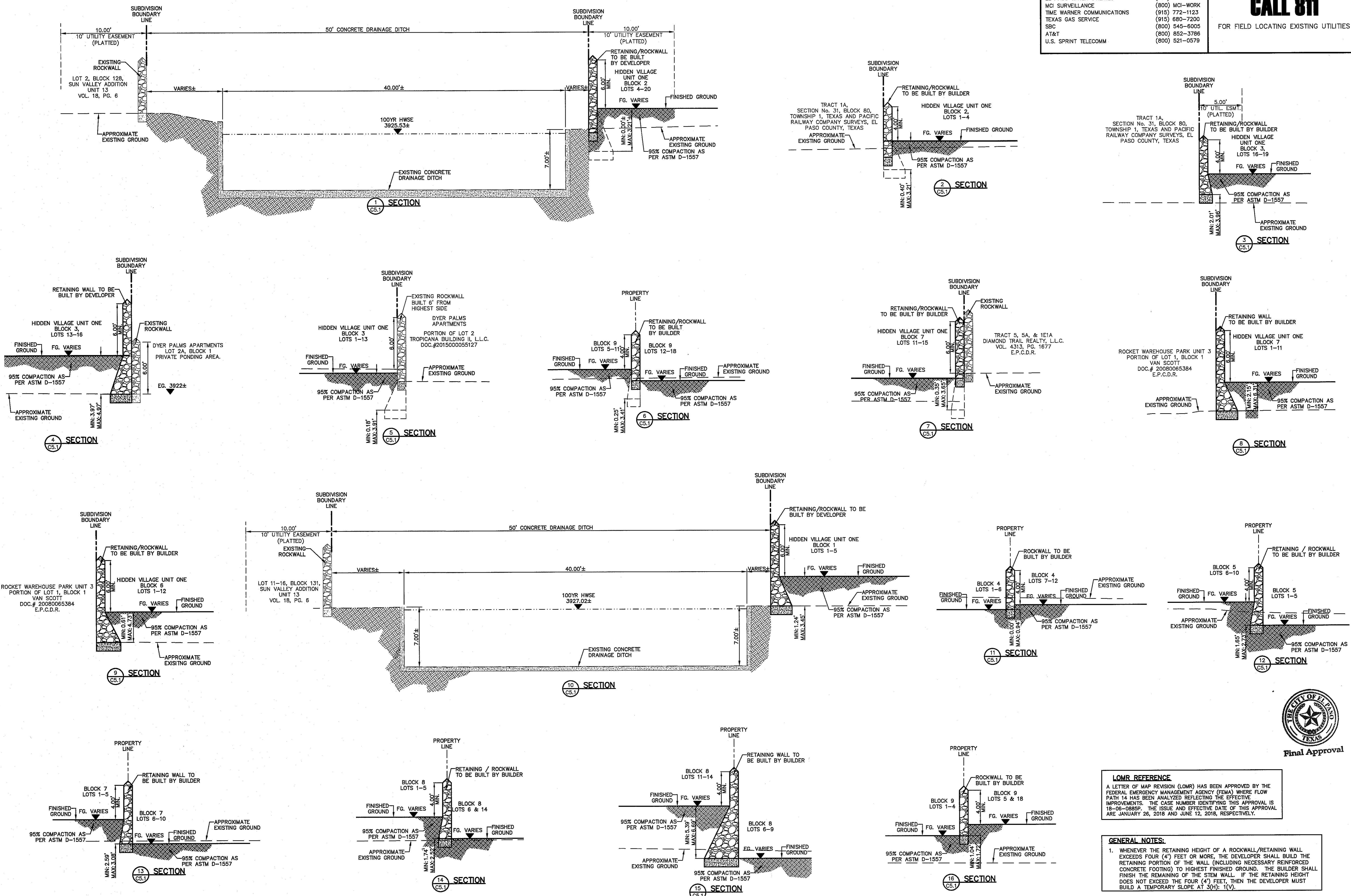
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Vertical:	N/A
Contour Interval: N/A	
DATE:	JULY, 2018
DESIGN BY:	R.O.
DRAWN BY:	G.M.
CHKD. BY:	J.L.A.
APPVD. BY:	J.L.A.
JOB No.:	2000-201

PROJECT TITLE
HIDDEN VILLAGE UNIT ONE
SUBDIVISION IMPROVEMENTS

SHEET TITLE
GRADING SECTIONS

(SHEET 1 OF 2)
SHEET NO.

C5.1



LOMR REFERENCE
A LETTER OF MAP REVISION (LOMR) HAS BEEN APPROVED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) WHERE FLOW PATH 14 HAS BEEN ANALYZED REFLECTING THE EFFECTIVE IMPROVEMENTS. THE CASE NUMBER IDENTIFYING THIS APPROVAL IS 18-06-0885P. THE ISSUE AND EFFECTIVE DATE OF THIS APPROVAL ARE JANUARY 26, 2018 AND JUNE 12, 2018, RESPECTIVELY.

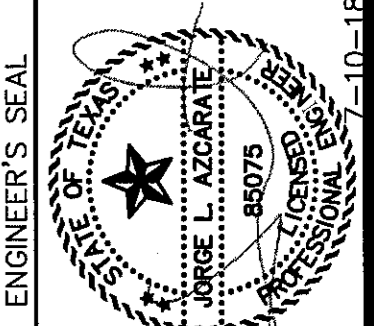
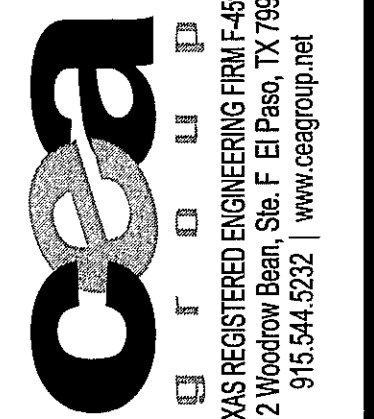
GENERAL NOTES:
1. WHENEVER THE RETAINING HEIGHT OF A ROCKWALL/RETAINING WALL EXCEEDS FOUR (4') FEET OR MORE, THE DEVELOPER SHALL BUILD THE RETAINING PORTION OF THE WALL (INCLUDING NECESSARY REINFORCED CONCRETE FOOTING) TO HIGHEST FINISHED GROUND. THE BUILDER SHALL FINISH THE REMAINING OF THE STEM WALL.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



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DATE	REVISIONS	BY



Horizontal:	1" = 5'
Vertical:	N/A
Contour Interval:	N/A
DATE:	JULY, 2018
DESIGN BY:	R.O. G.M.
DRAWN BY:	J.L.A.
CHKD. BY:	J.L.A.
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PROJECT TITLE
HIDDEN VILLAGE UNIT ONE
SUBDIVISION IMPROVEMENTS

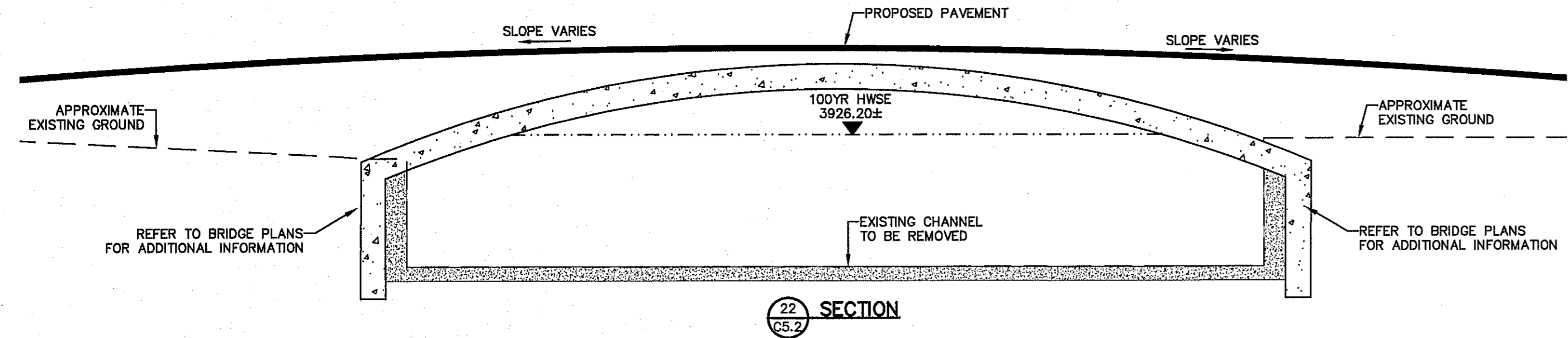
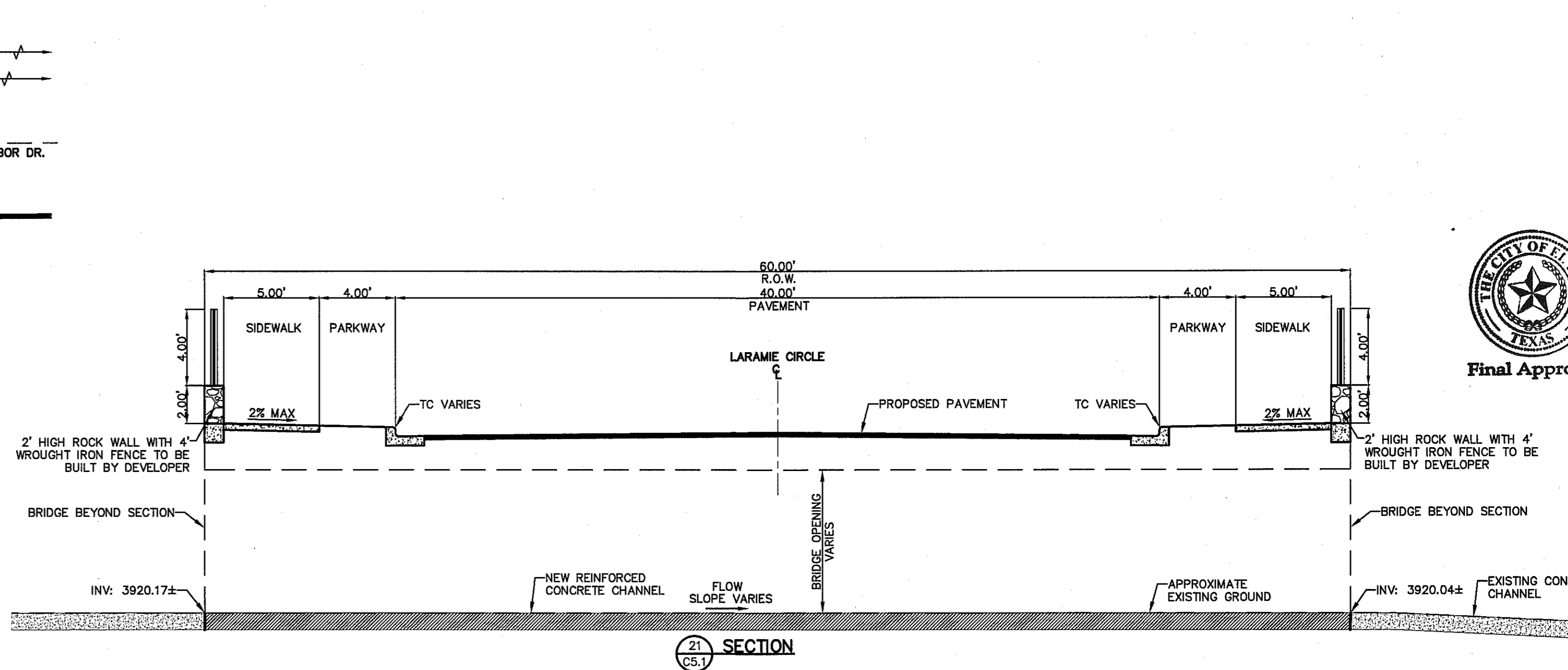
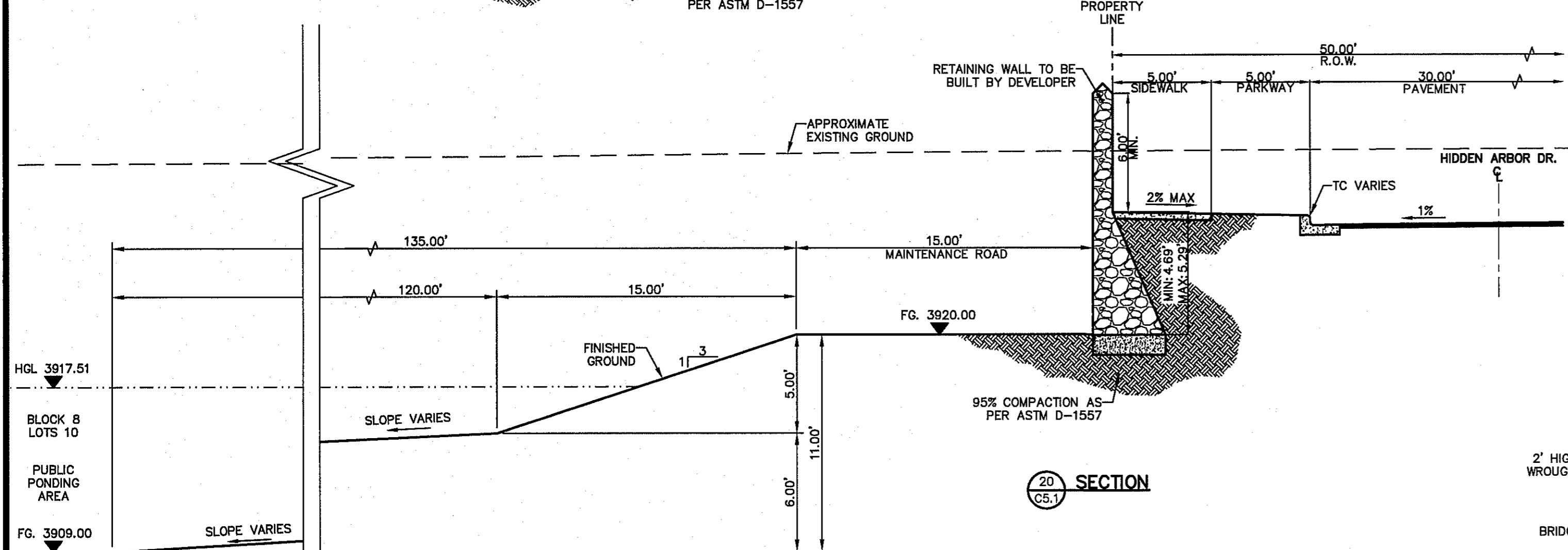
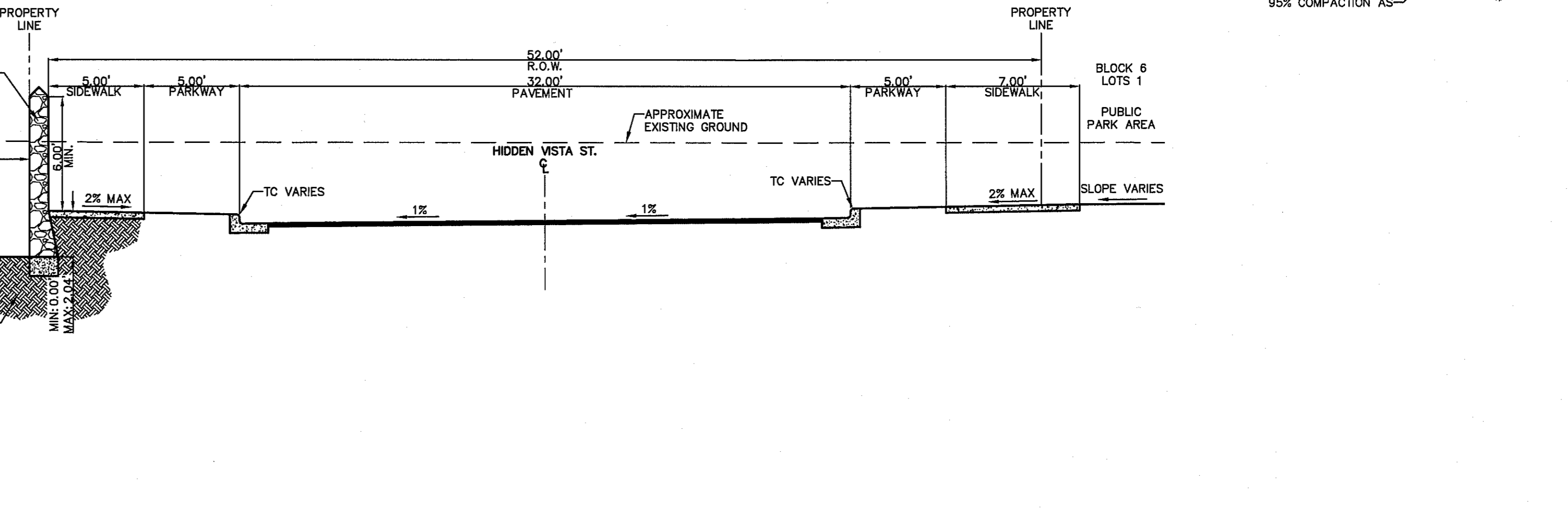
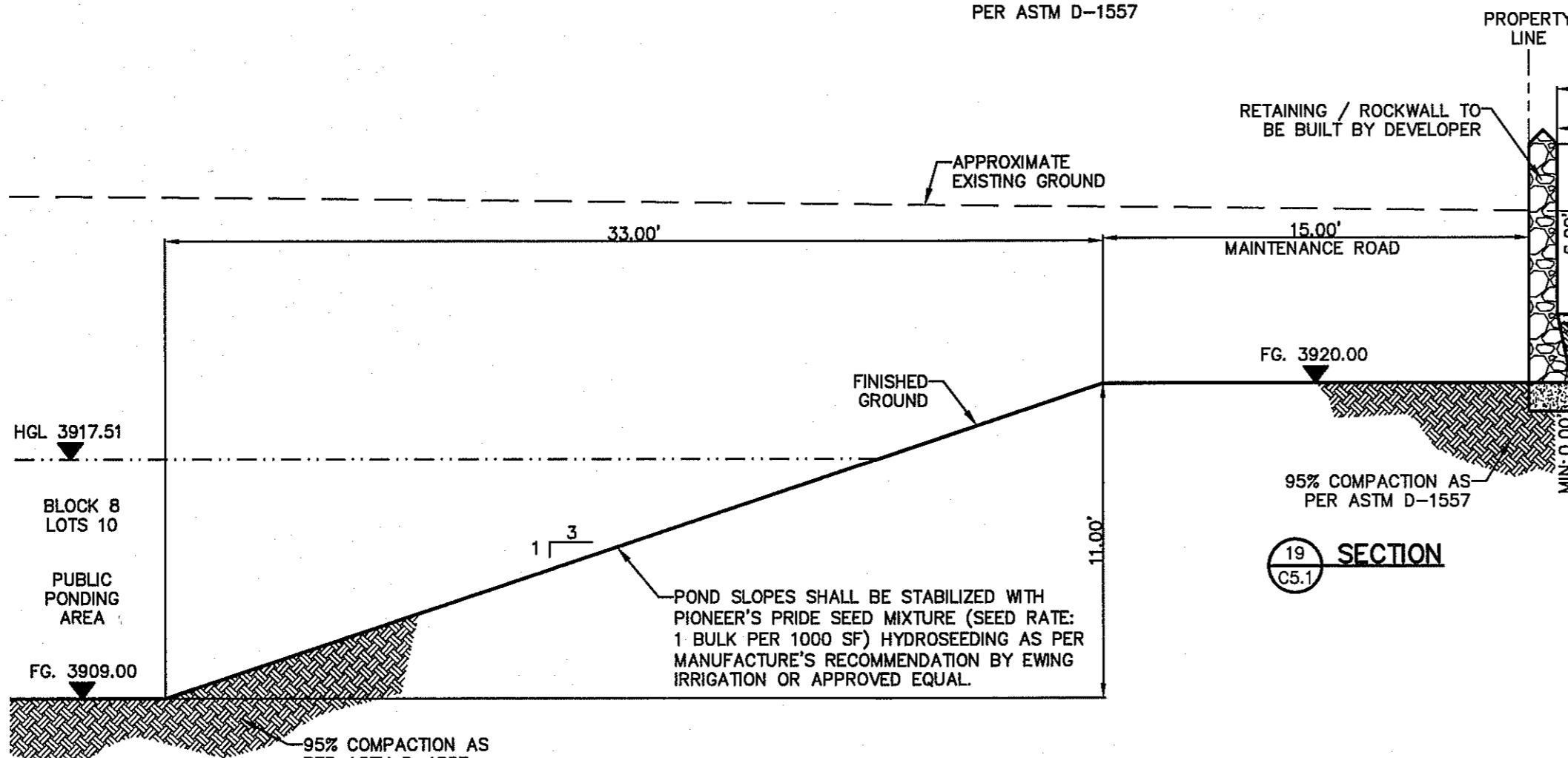
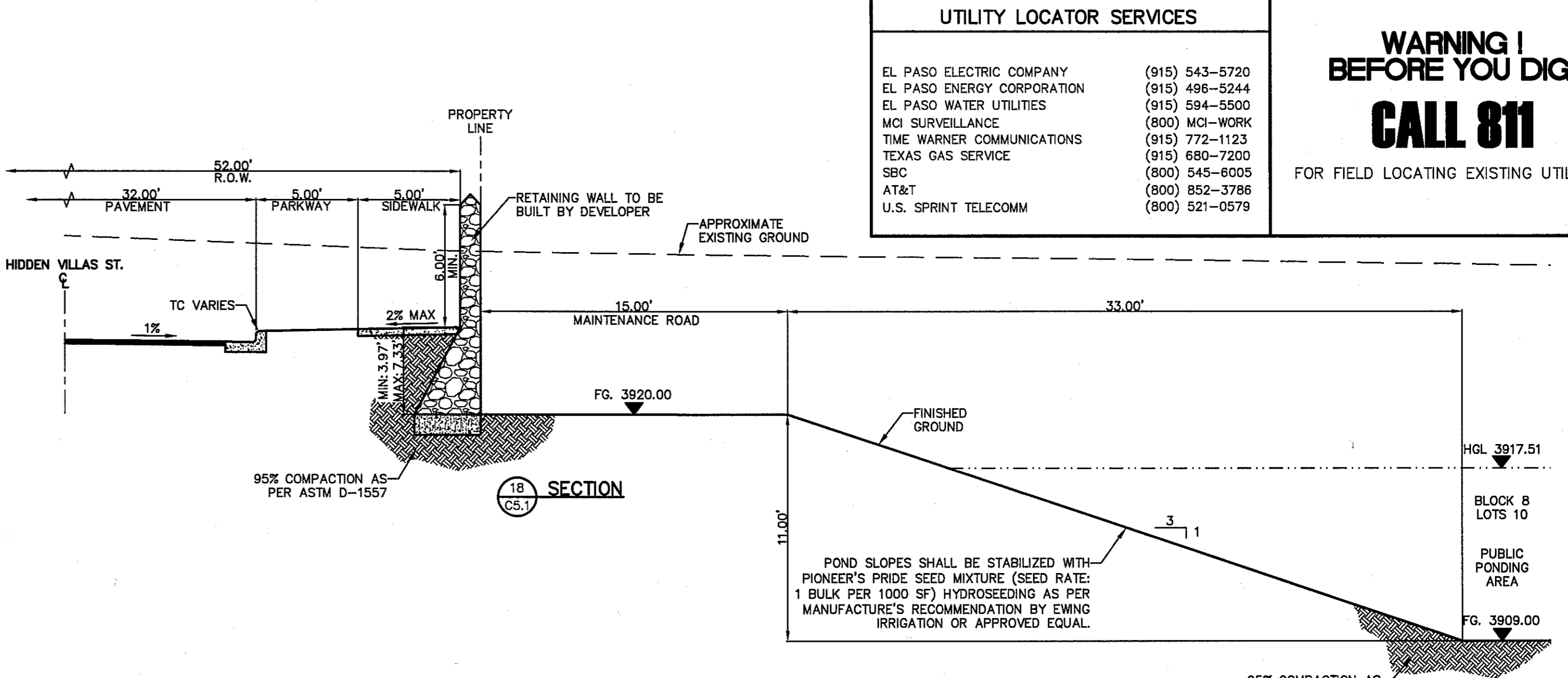
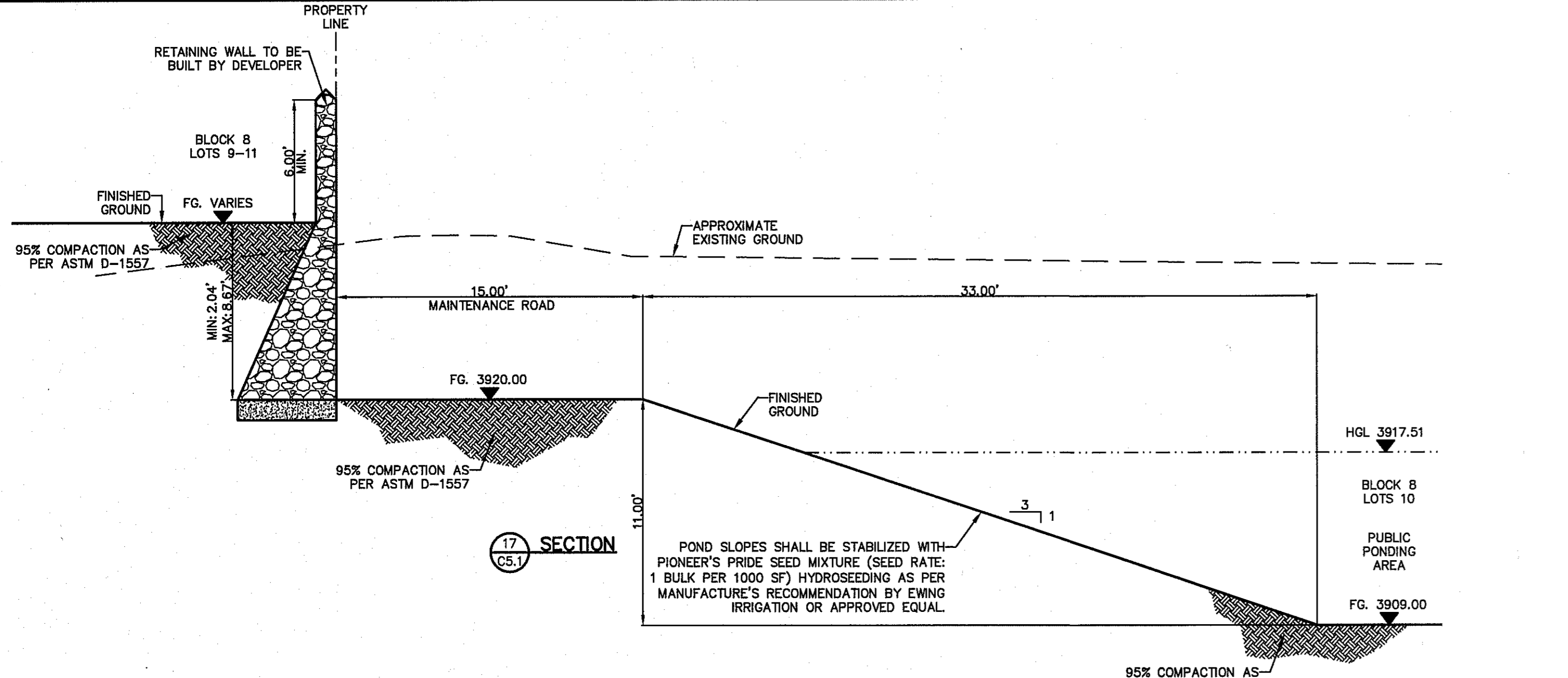
SHEET TITLE

GRADING SECTIONS

(SHEET 2 OF 2)

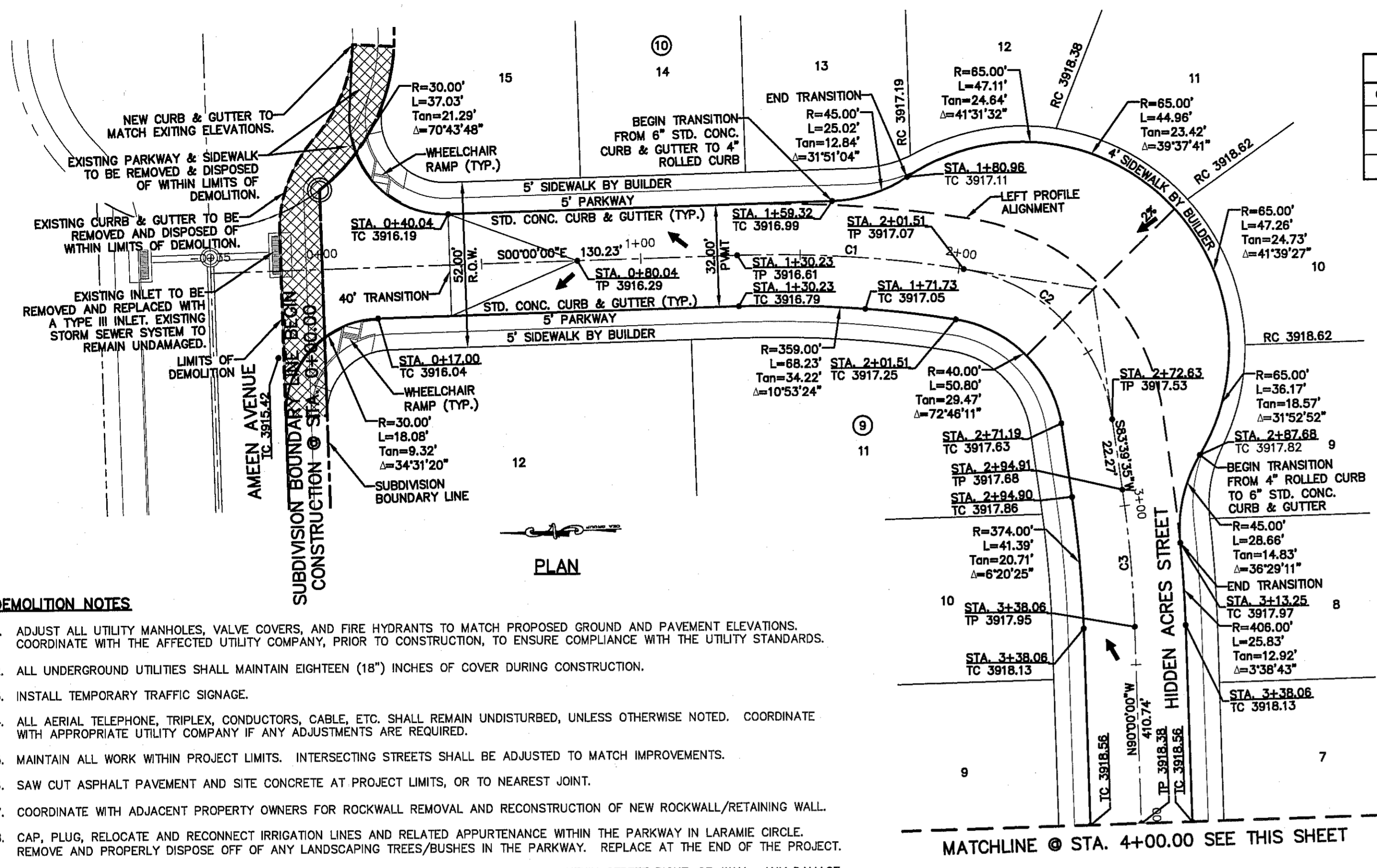
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C5.2



LOMR REFERENCE
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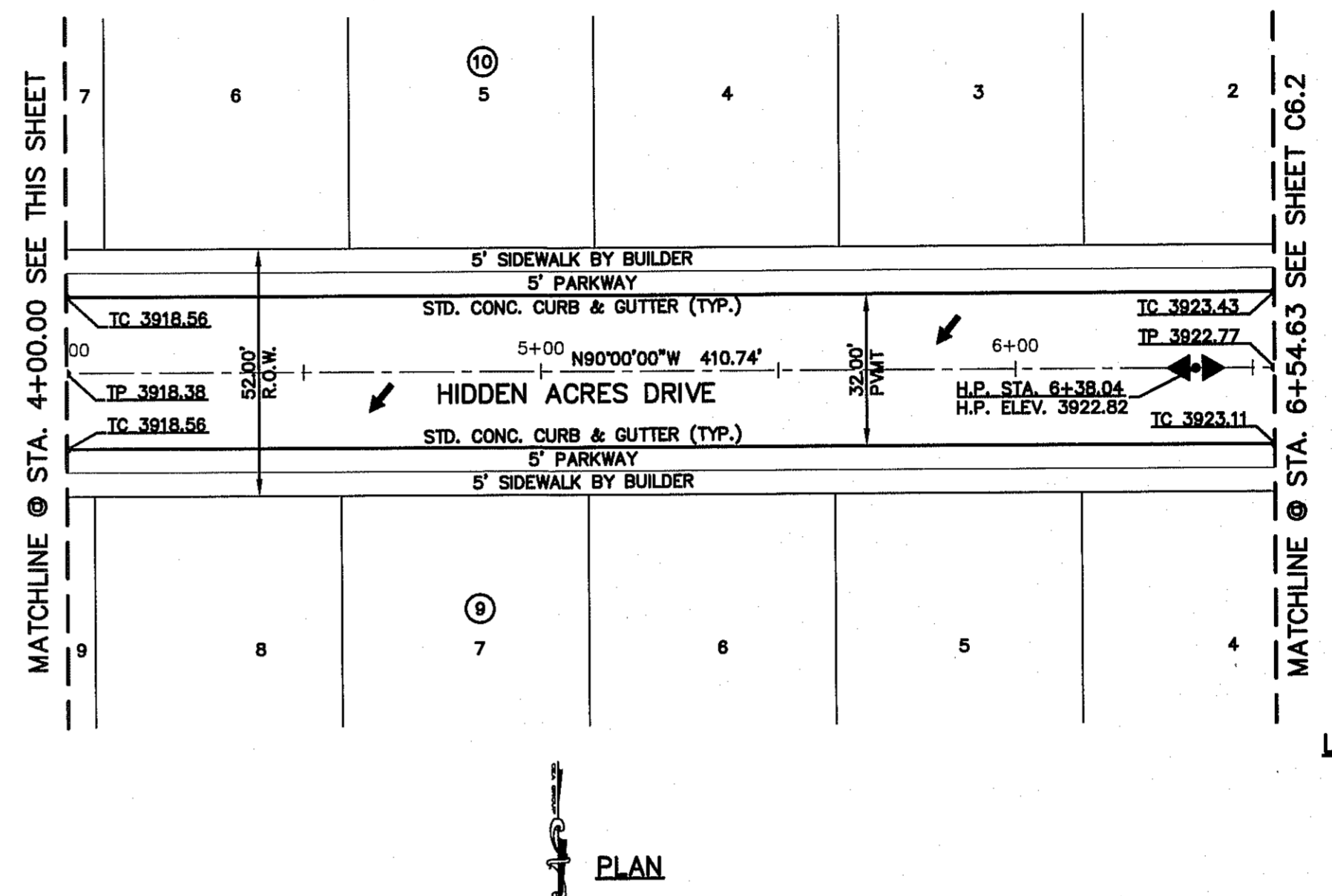


CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	375.00'	71.28'	35.75'	71.17'	N05°26'42"E	010°53'24"
C2	56.00'	71.12'	41.26'	66.44'	N47°16'30"E	072°46'11"
C3	390.00'	43.16'	21.60'	43.13'	N86°49'48"E	006°20'25"

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- DEMOLITION NOTES**
- ADJUST ALL UTILITY MANHOLES, VALVE COVERS, AND FIRE HYDRANTS TO MATCH PROPOSED GROUND AND PAVEMENT ELEVATIONS. COORDINATE WITH THE AFFECTED UTILITY COMPANY, PRIOR TO CONSTRUCTION, TO ENSURE COMPLIANCE WITH THE UTILITY STANDARDS.
 - ALL UNDERGROUND UTILITIES SHALL MAINTAIN EIGHTEEN (18") INCHES OF COVER DURING CONSTRUCTION.
 - INSTALL TEMPORARY TRAFFIC SIGNAGE.
 - ALL AERIAL TELEPHONE, TRIPLEX, CONDUCTORS, CABLE, ETC. SHALL REMAIN UNDISTURBED, UNLESS OTHERWISE NOTED. COORDINATE WITH APPROPRIATE UTILITY COMPANY IF ANY ADJUSTMENTS ARE REQUIRED.
 - MAINTAIN ALL WORK WITHIN PROJECT LIMITS. INTERSECTING STREETS SHALL BE ADJUSTED TO MATCH IMPROVEMENTS.
 - SAW CUT ASPHALT PAVEMENT AND SITE CONCRETE AT PROJECT LIMITS, OR TO NEAREST JOINT.
 - COORDINATE WITH ADJACENT PROPERTY OWNERS FOR ROCKWALL REMOVAL AND RECONSTRUCTION OF NEW ROCKWALL/RETAINING WALL.
 - CAP, PLUG, RELOCATE AND RECONNECT IRRIGATION LINES AND RELATED APPURTENANCE WITHIN THE PARKWAY IN LARAMIE CIRCLE. REMOVE AND PROPERLY DISPOSE OFF OF ANY LANDSCAPING TREES/BUSHES IN THE PARKWAY. REPLACE AT THE END OF THE PROJECT.
 - DEMOLITION ACTIVITIES SHALL BE KEPT TO THE LIMITS OF DEMOLITION SHOWN AND TO BE WITHIN STREET RIGHT-OF-WAY. ANY DAMAGE DONE OUTSIDE RIGHT-OF-WAY SHALL BE REPAIRED AT ORIGINAL CONDITION OR BETTER.
 - DEMOLITION ACTIVITIES WITHIN CHANNEL SHALL BE TO NEAREST CONSTRUCTION JOINT. ANY DAMAGE DONE BEYOND LIMITS SHALL BE REPAIRED AT ORIGINAL CONDITION OR BETTER.
 - EPWATER SHALL BE NOTIFIED ONE (1) WEEK PRIOR TO COMMENCING DEMOLITION CONSTRUCTION ACTIVITIES AT CHANNEL.

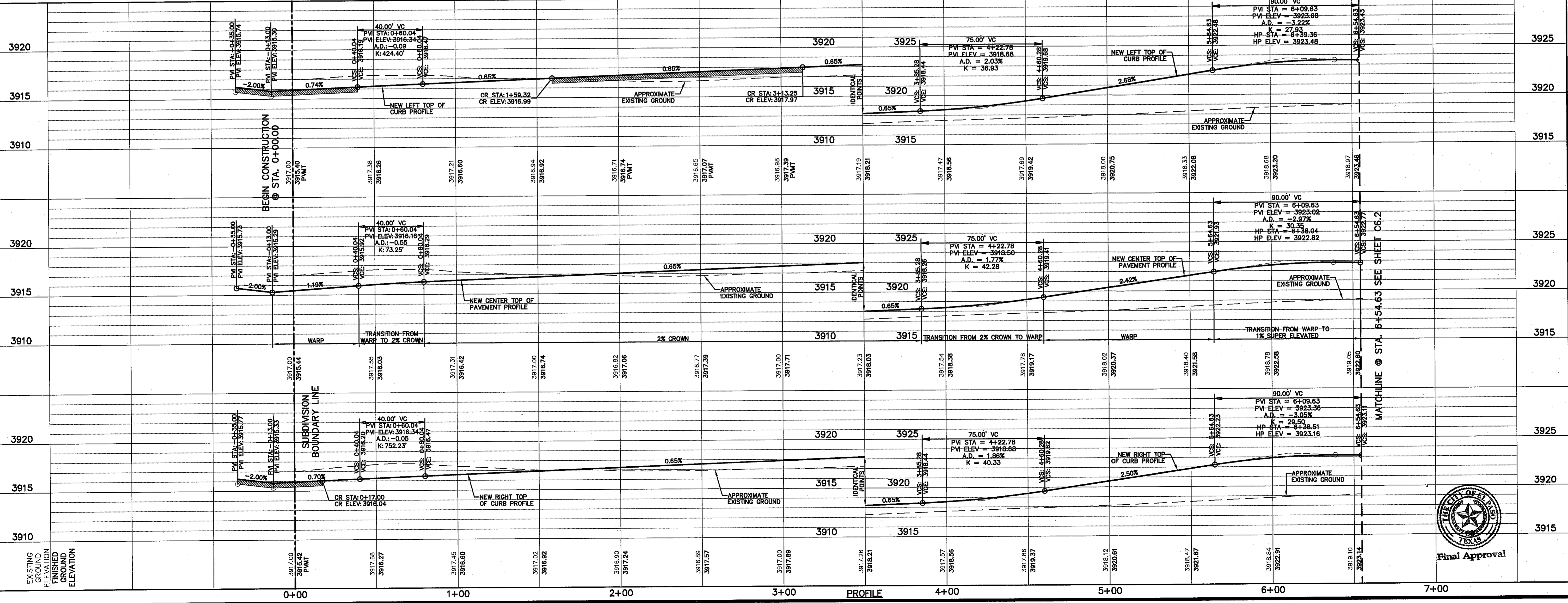
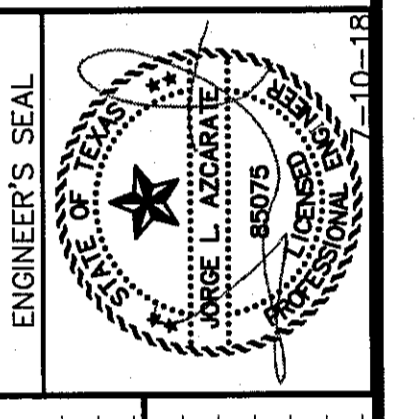


- LEGEND**
- WHEELCHAIR RAMP BY DEVELOPER (TYP.)
 - PVI ELEVATIONS ARE SHOWN AT TOP OF CURB. REFER TO PLAN VIEW FOR TOP OF PAVEMENT ELEVATIONS.
 - LIMITS OF DEMOLITION

REFERENCES - BENCHMARKS	DATE	REVISIONS	BY
CITY MONUMENT LOCATED AT THE CENTERLINE INTERSECTION OF CLOSDALE DRIVE AND PALOMINO			
ELEVATION = 3928.24' (E.P.V.D.), THE NORTH AMERICAN VERTICAL DATUM OF SAID CITY MONUMENT IS ELEVATION = 3926.55' (NAD 88).			

osa

TEXAS REGISTERED ENGINEERING FIRM #484
 4712 Woodrow Bean, Ste. F El Paso, TX 79924
 915.544.5221 | www.osaengr.com



SCALE: Horizontal: 1" = 50'
 Vertical: 1" = 5'
 Contour Interval: N/A

DATE: JULY, 2018
 DESIGN BY: R.O.
 DRAWN BY: G.M.
 CHKD. BY: J.L.A.
 APPVD. BY: J.L.A.
 JOB NO.: 2000-201

PROJECT TITLE

HIDDEN VILLAGE UNIT ONE
SUBDIVISION IMPROVEMENTS

SHEET TITLE

HIDDEN ACRES STREET
PLAN & PROFILE
FROM STA. 0+00.00
TO STA. 6+54.63

SHEET NO.

C6.1

Final Approval

UTILITY LOCATOR SERVICES

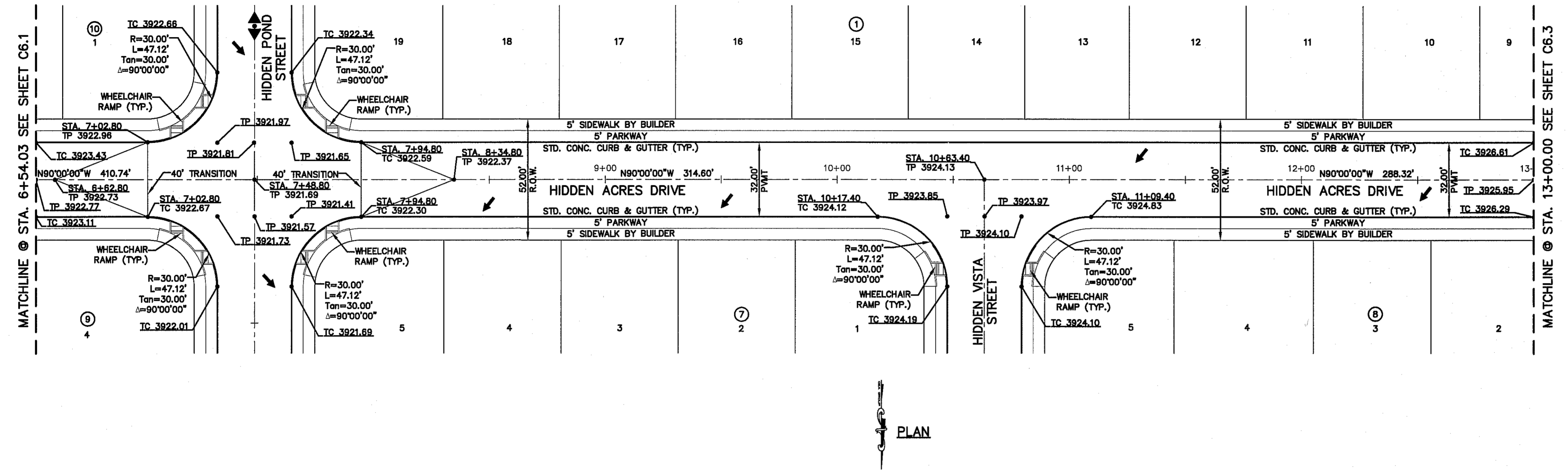
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

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

REFERENCES - BENCHMARKS

CITY MONUMENT LOCATED AT THE CENTERLINE INTERSECTION OF CLYDEDALE DRIVE AND PALOMINO ELEVATION = 3928.24' (E.P.V.D.), THE NORTH AMERICAN VERTICAL DATUM OF SAID CITY MONUMENT IS ELEVATION = 3939.53' (NAVD 83).

DATE	REVISIONS	BY

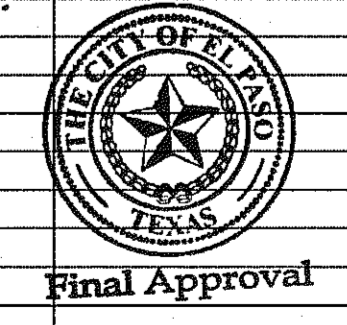
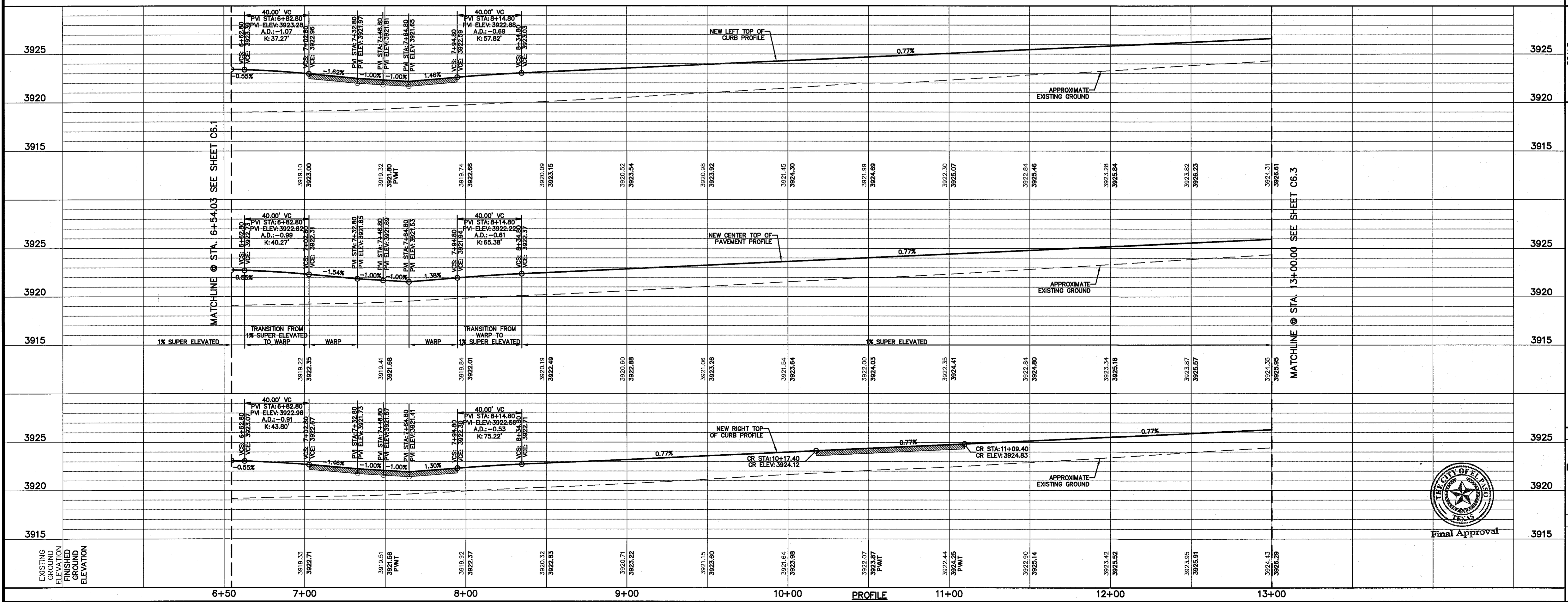


PLAN

LEGEND

WHEELCHAIR RAMP BY DEVELOPER (TYP.)

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



SCALE 1"=30'
Horizontal: 1"=50'
Vertical: 1"=5'

DATE: JULY, 2018
DESIGN BY: R.O.
DRAWN BY: G.M.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB NO. 2008-201

PROJECT TITLE

HIDDEN VILLAGE UNIT ONE
SUBDIVISION IMPROVEMENTS

SHEET TITLE

HIDDEN ACRES DRIVE
PLAN & PROFILE
FROM STA. 6+54.03
TO STA. 13+00.00

SHEET NO.

C6.2

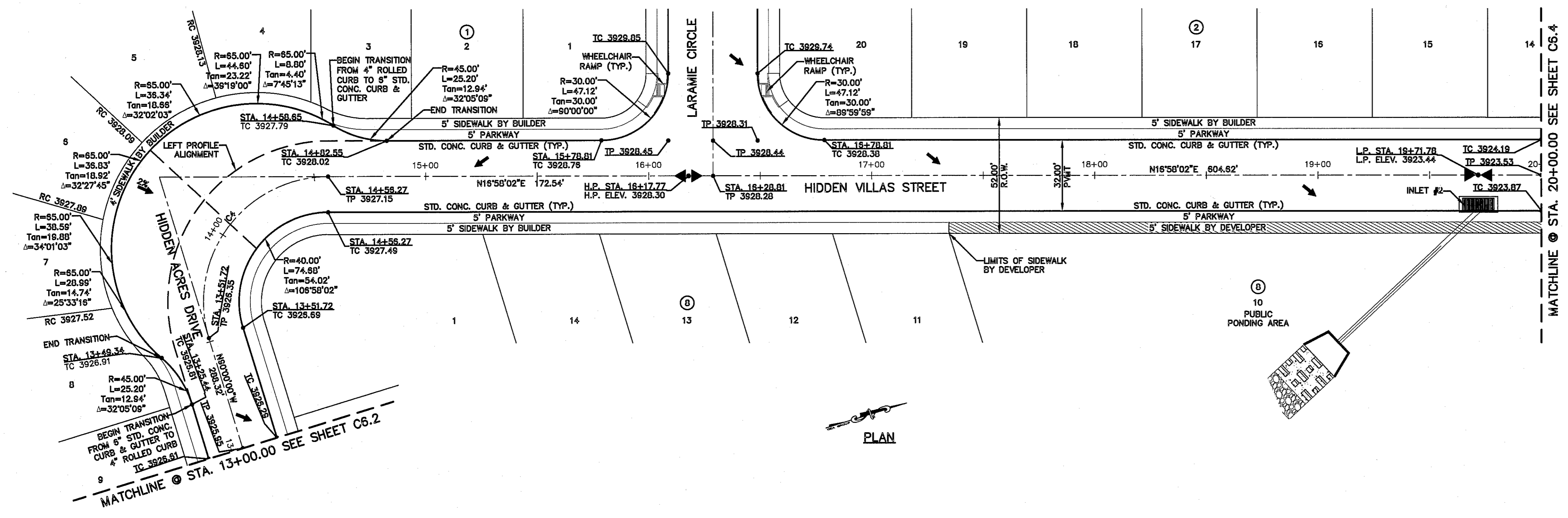
UTILITY LOCATOR SERVICES

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

WARNING!
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FOR FIELD LOCATING EXISTING UTILITIES

CURVE TABLE

CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C4	56.00'	104.55'	75.63'	90.01'	S36°30'59"E	106°58'02"



LEGEND

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

REFERENCES - BENCHMARKS

CITY MONUMENT LOCATED AT THE CENTERLINE INTERSECTION OF CLIPPERDALE DRIVE AND PALOMINO ELEVATION = 3928.24' (E.P.V.D.), THE NORTH AMERICAN VERTICAL DATUM OF SAID CITY MONUMENT IS ELEVATION = 3939.53' (NAVD 88).

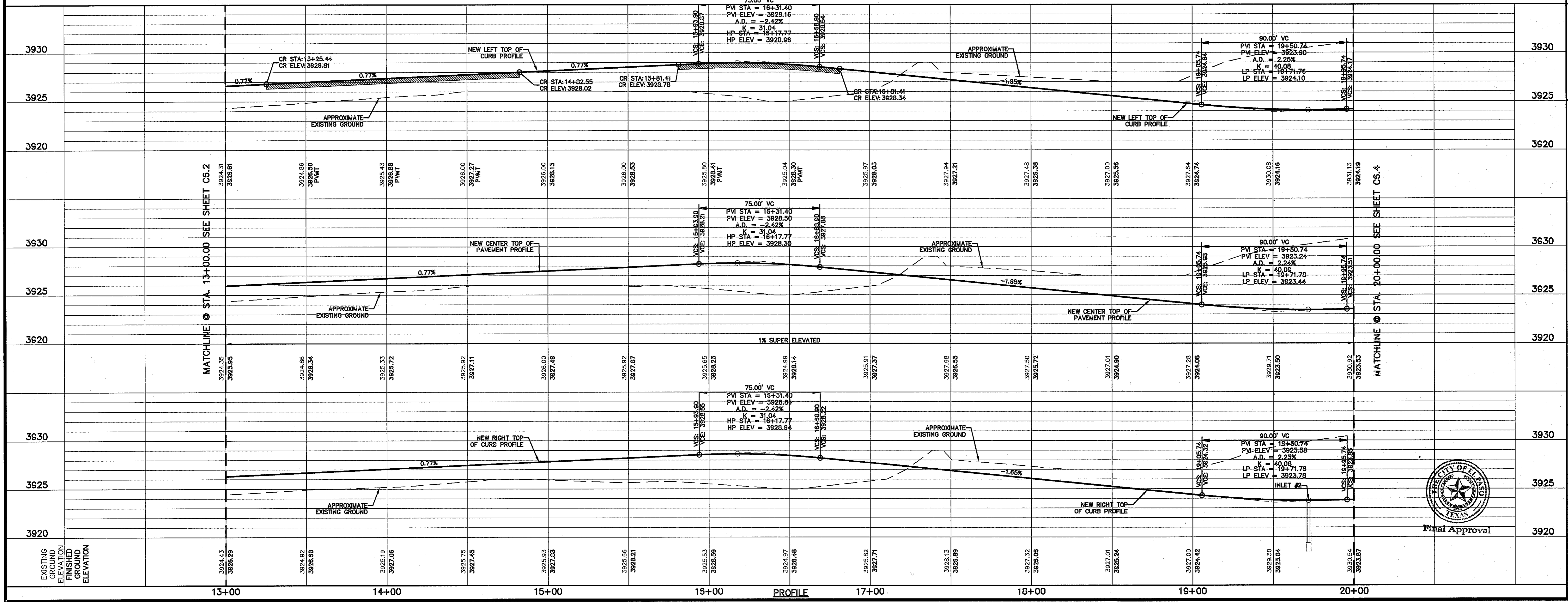
DATE	REVISIONS	BY

osa

TEXAS REGISTERED ENGINEERING FIRM #684
4172 Woodrow Babin, Ste. F, El Paso, TX 79924
915.544.5232 | www.osagroup.net

ENGINEER'S SEAL

ANGEL L. AZARATE
19075



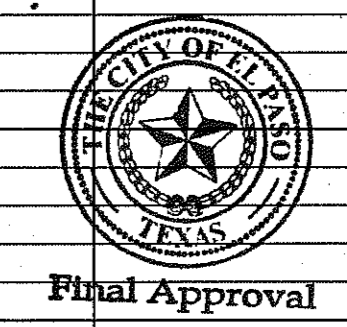
PROJECT TITLE

**HIDDEN VILLAGE UNIT ONE
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

**HIDDEN ACRES DRIVE
PLAN & PROFILE
FROM STA. 13+00.00
TO STA. 14+05.81
HIDDEN VILLAS ST.
PLAN & PROFILE
FROM STA. 14+05.81
TO STA. 20+00.00**

SHEET NO.



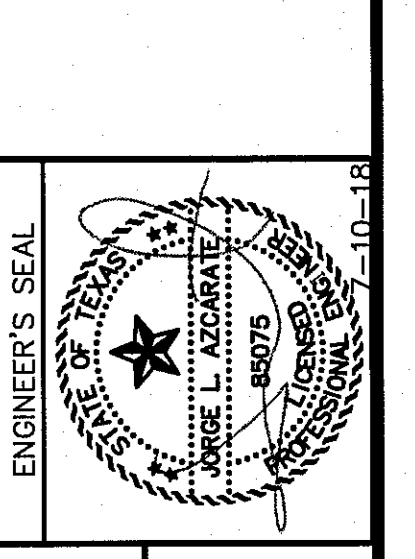
C6.3

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 498-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
A&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

WARNING!
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CALL 811
FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY

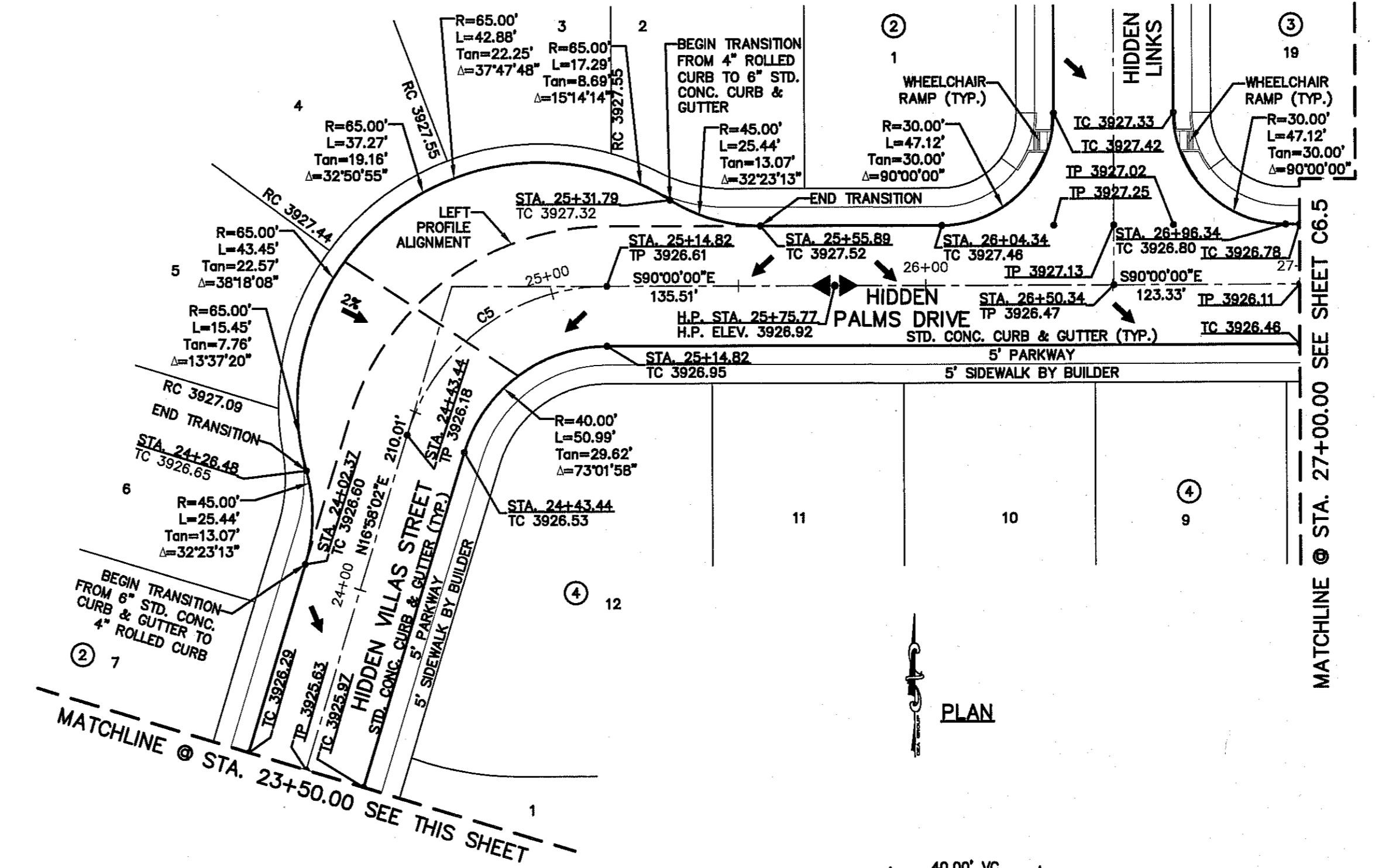
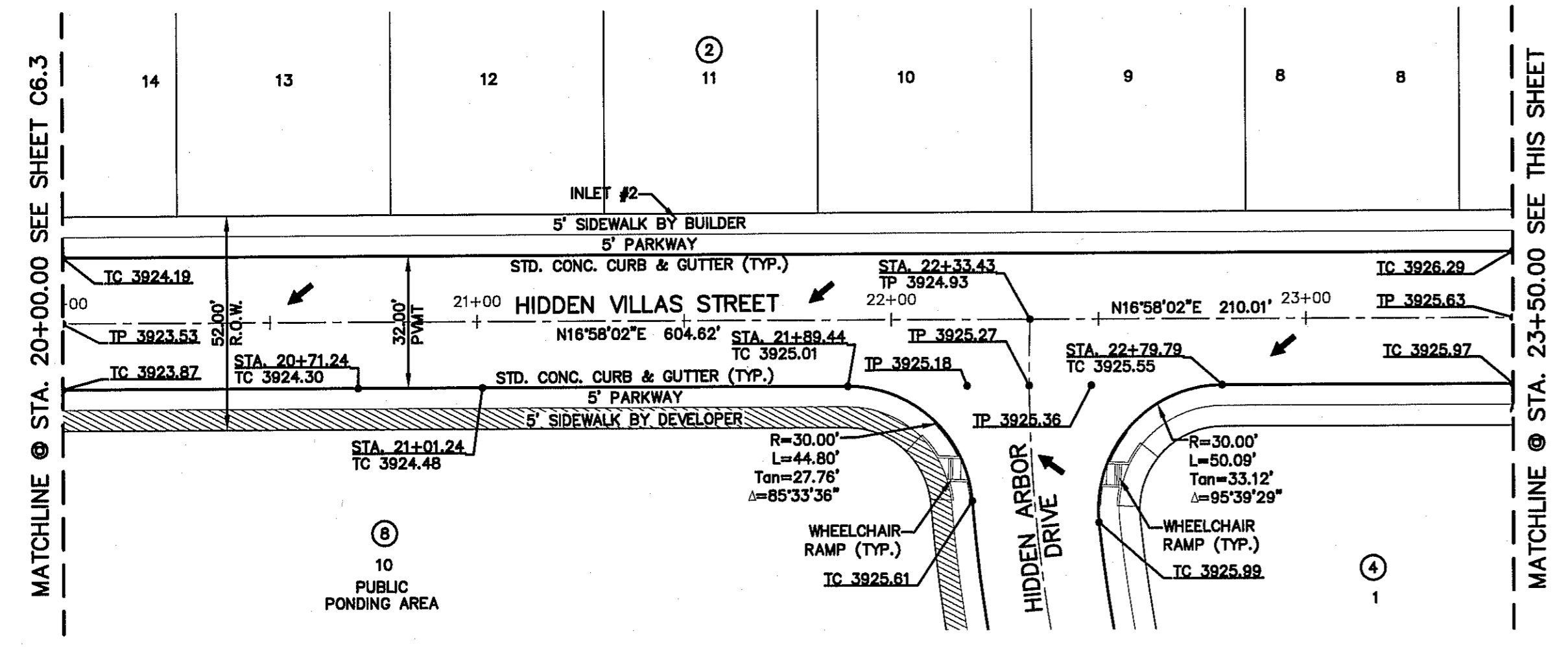
REFERENCES - BENCHMARKS
CITY MONUMENT LOCATED AT THE CENTERLINE INTERSECTION OF CLOVESDALE DRIVE AND PALMWOOD ELEVATION = 3928.24' (E.P.V.D.). THE NORTH AMERICAN VERTICAL DATUM OF SAO CITY MONUMENT IS ELEVATION = 3939.53' (NAVD 88).



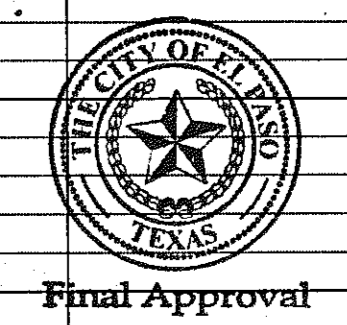
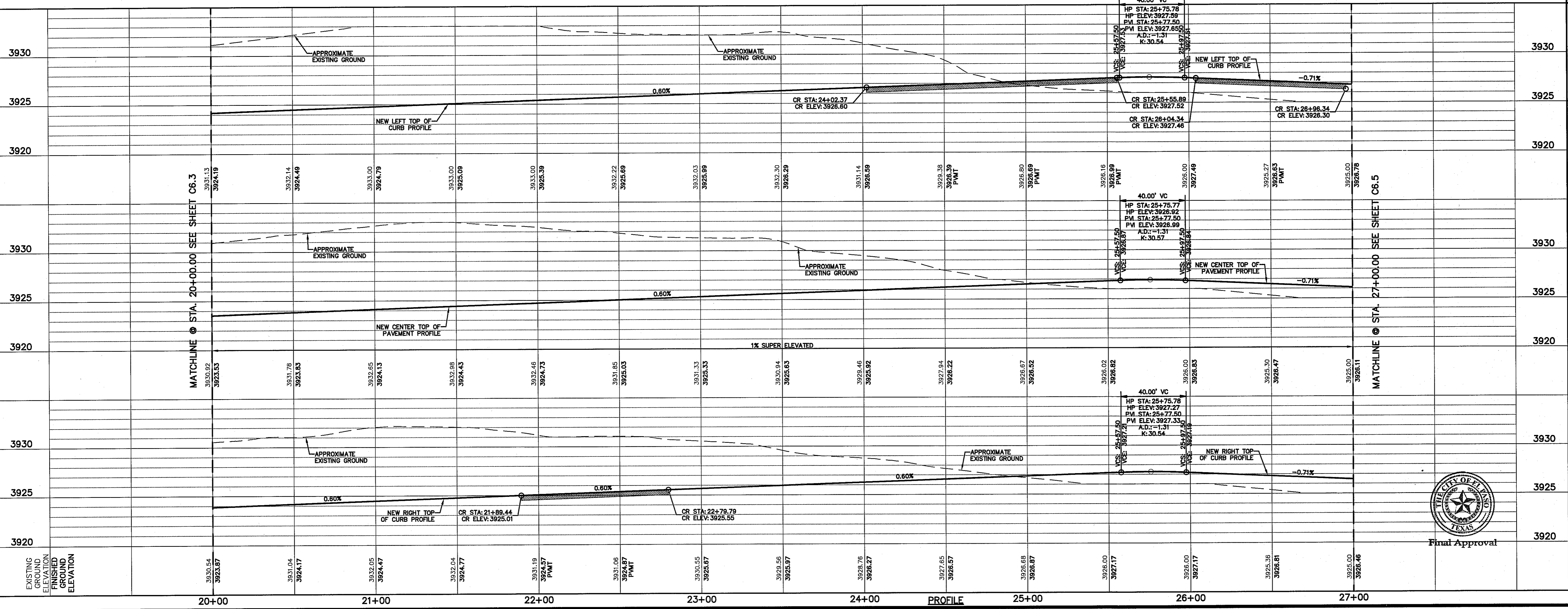
ENGINEER'S SEAL
SCALE: 1"=30'
Horizontal: 1"=50'
Vertical: 1"=5'
Contour Interval: 1' / 4'
DATE: JULY, 2018
DESIGN BY: R.O.
DRAWN BY: G.M.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-201

PROJECT TITLE
HIDDEN VILLAGE UNIT ONE
SUBDIVISION IMPROVEMENTS

SHEET TITLE
HIDDEN VILLAS ST. PLAN & PROFILE FROM STA. 20+00.00 TO STA. 24+73.41
HIDDEN PALMS DRIVE PLAN & PROFILE FROM STA. 24+73.41 TO STA. 27+00.00
SHEET NO.



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



C6.4

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
NO SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
A&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

WARNING!
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FOR FIELD LOCATING EXISTING UTILITIES

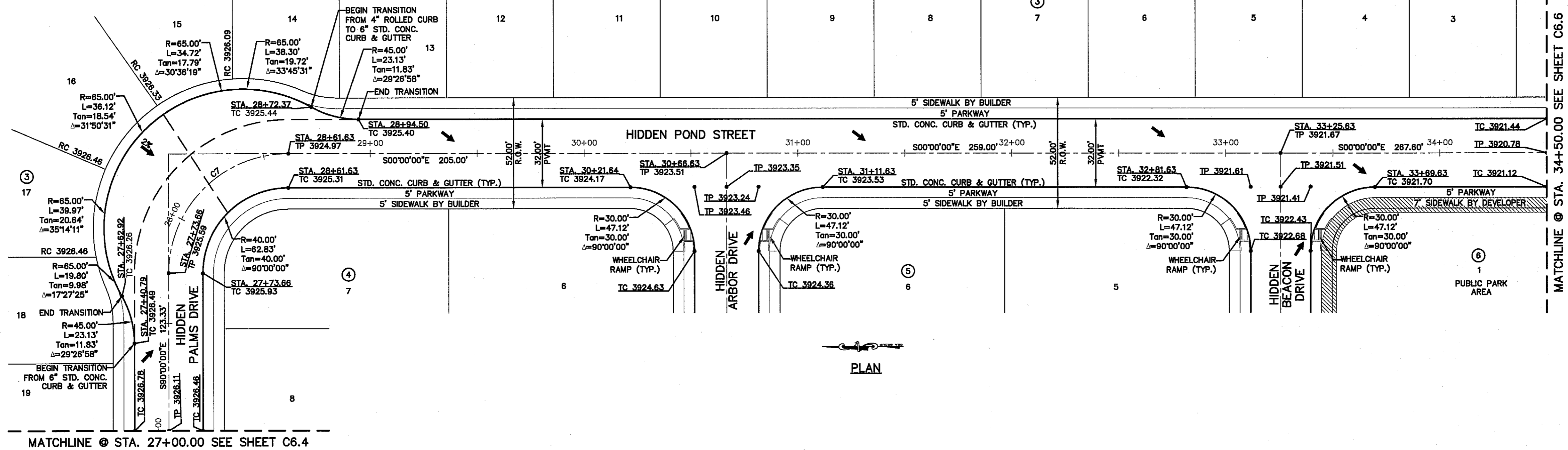
REVISIONS	DATE	BY

REFERENCES - BENCHMARKS
CITY MONUMENT LOCATED AT THE CENTERLINE INTERSECTION OF CLIPPERDALE DRIVE AND PALMWOOD ELEVATION = 3928.24' (E.P.V.D.), THE NORTH AMERICAN VERTICAL DATUM OF SAID CITY MONUMENT IS ELEVATION = 3939.53' (NAVD 88).

OSA ENGINEERING GROUP, INC.
TEXAS REGISTERED ENGINEERING FIRM #1684
4172 Woodrow Behm, Ste. F El Paso, TX 79924
915.544.5332 | www.osagroup.net

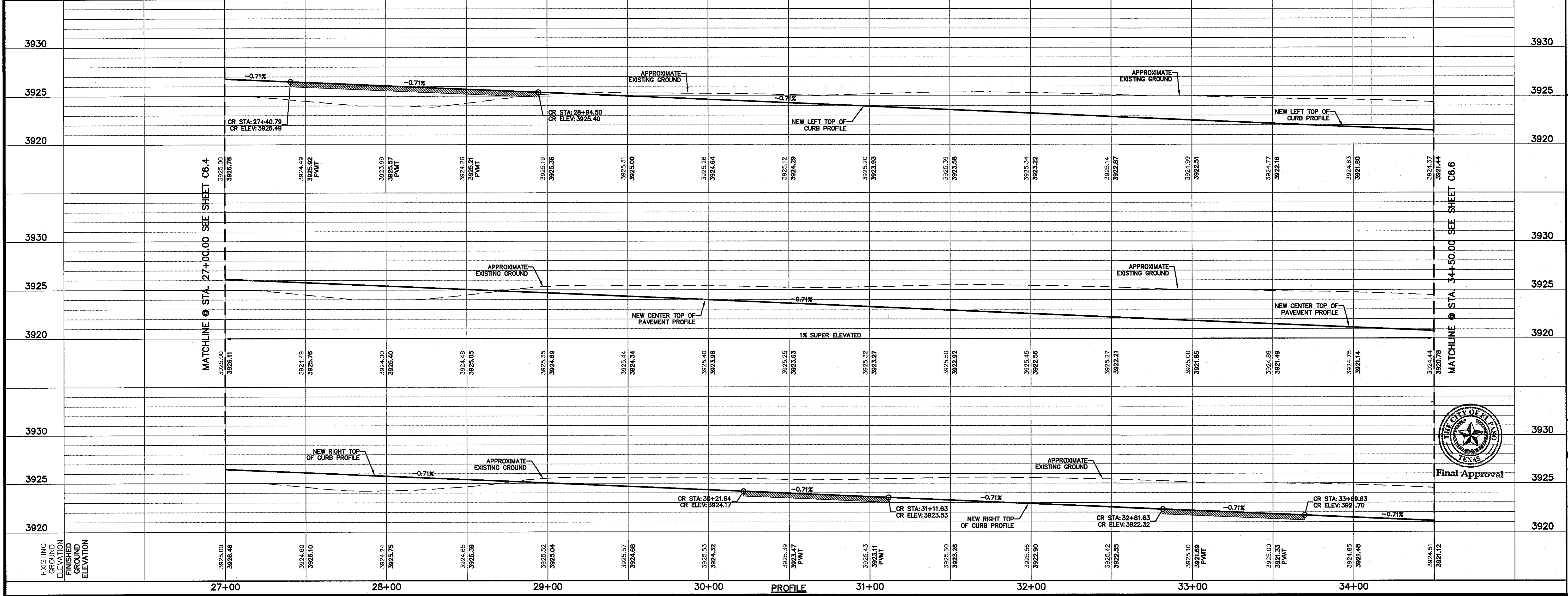
ENGINEER'S SEAL

Horizontal:	1"=30'
Vertical:	1"=5'
Contour Interval:	N/A
DATE:	JULY, 2018
DESIGN BY:	R.O.
DRAWN BY:	G.M.
CHKD. BY:	J.L.A.
APPD. BY:	J.L.A.
JOB No.:	2000-201



LEGEND

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



PROJECT TITLE
HIDDEN VILLAGE UNIT ONE
SUBDIVISION IMPROVEMENTS

SHEET TITLE
HIDDEN PALMS DRIVE PLAN & PROFILE FROM STA. 27+00.00 TO STA. 28+21.00
HIDDEN POND ST. PLAN & PROFILE FROM STA. 28+21.00 TO STA. 34+50.00
SHEET NO.
C6.5

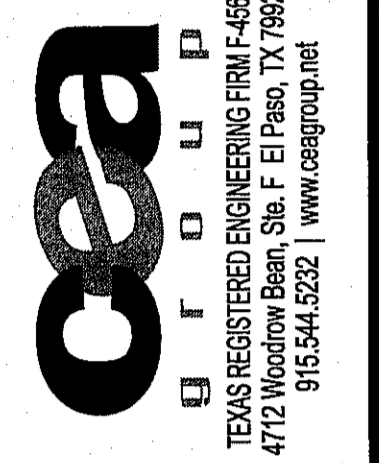
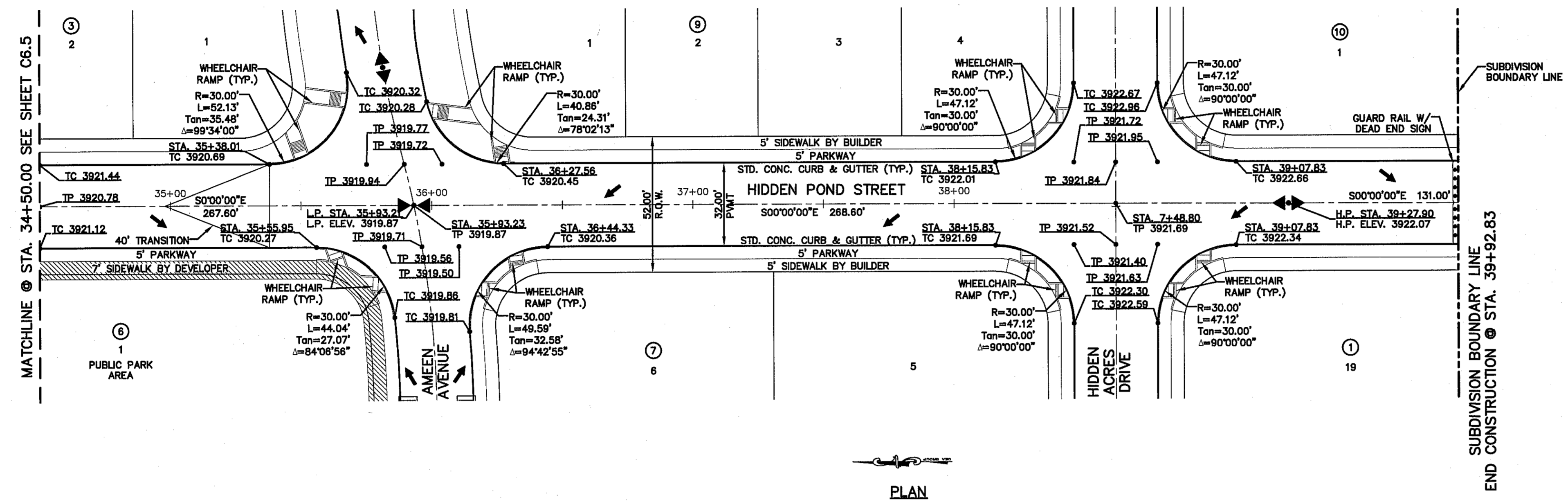
Final Approval

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

WARNING!
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FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY

REFERENCES - BENCHMARKS
CITY MONUMENT LOCATED AT THE CENTERLINE INTERSECTION OF CLOVESDALE DRIVE AND PALMINGO ELEVATION = 3928.24' (E.P.V.D.). THE NORTH AMERICAN VERTICAL DATUM OF SAID CITY MONUMENT IS ELEVATION = 3939.53' (NAVD 88).

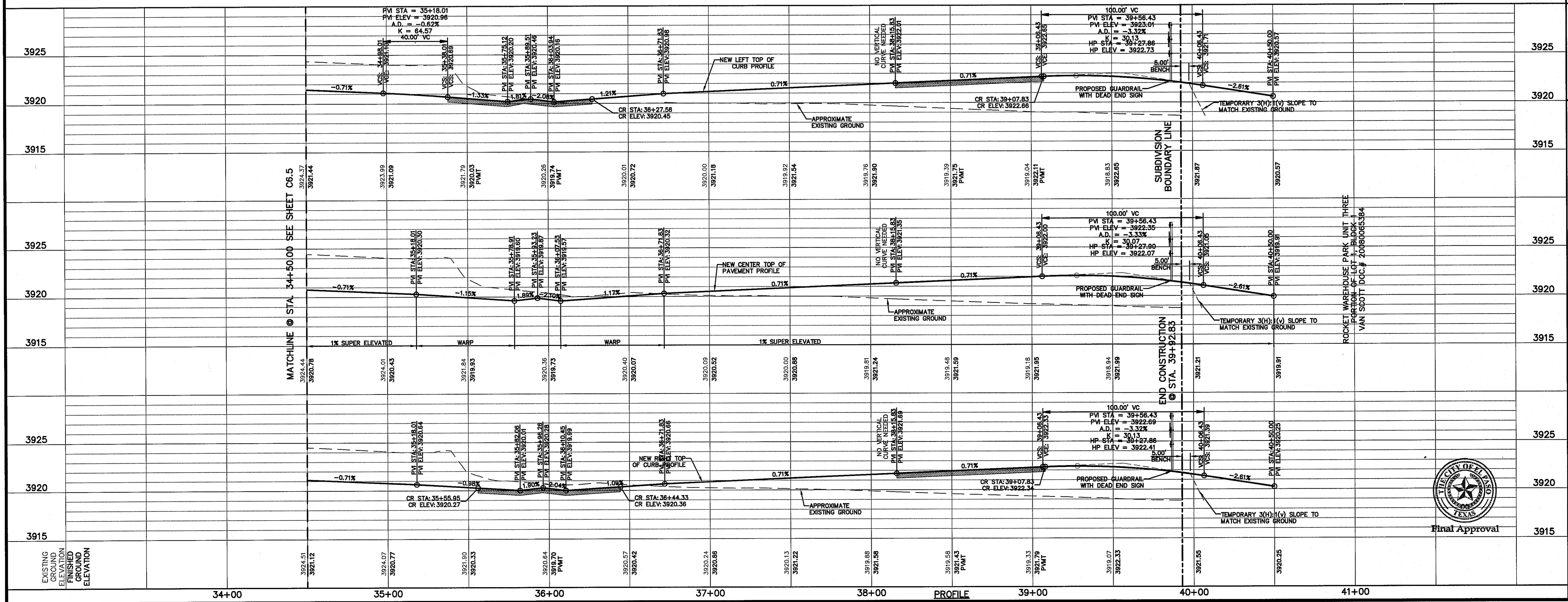



ROCKET WAREHOUSE PARK UNIT THREE
PORTION OF LOT 1, BLOCK 1
VAN SCOTT DOC.# 20080065384

LEGEND

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

PLAN



SCALE: 1" = 30'

Horizontal: 1" = 30'
Vertical: 1" = 5'

Contour Interval: N/A

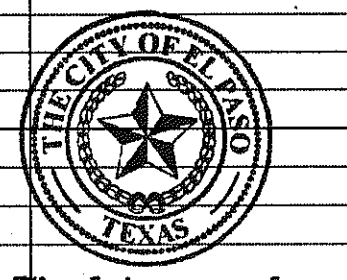
DATE: JULY, 2018
DESIGN BY: R.O.
DRAWN BY: G.M.
CHKD. BY: J.L.A.
APP'D. BY: J.L.A.
JOB NO.: 2008-201

PROJECT TITLE
**HIDDEN VILLAGE UNIT ONE
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
HIDDEN POND ST.
PLAN & PROFILE
FROM STA. 34+50.00
TO STA. 39+92.83

SHEET NO.
C6.6

Final Approval



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

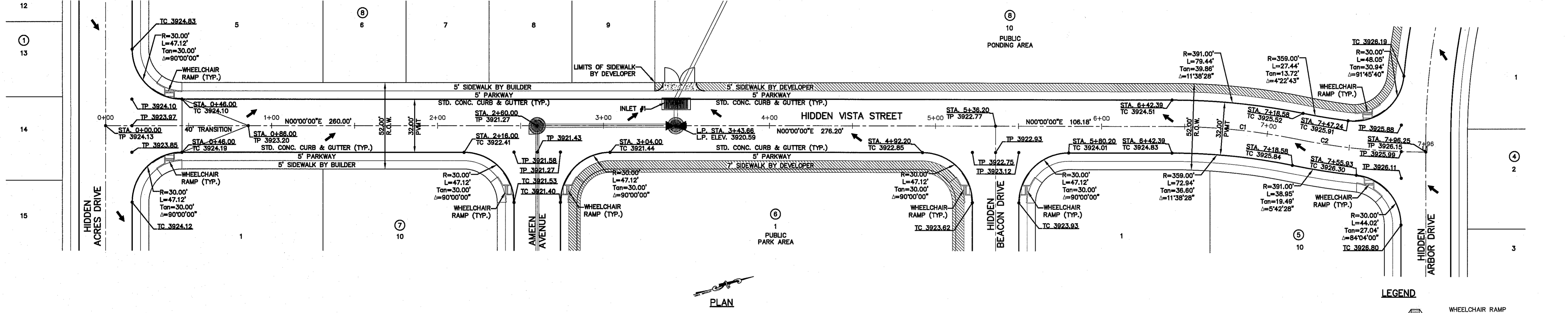
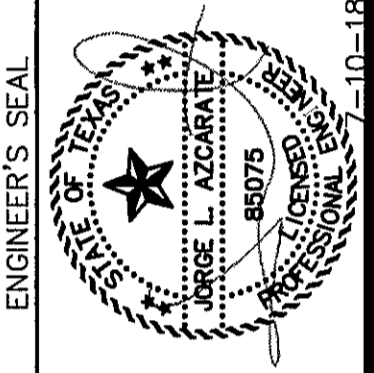
WARNING!
BEFORE YOU DIG
CALL 811
FOR FIELD LOCATING EXISTING UTILITIES

CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	375.00'	76.19'	38.23'	76.06'	S05°49'14"W	011°38'28"
C2	375.00'	76.19'	38.23'	76.06'	N05°49'14"E	011°38'28"

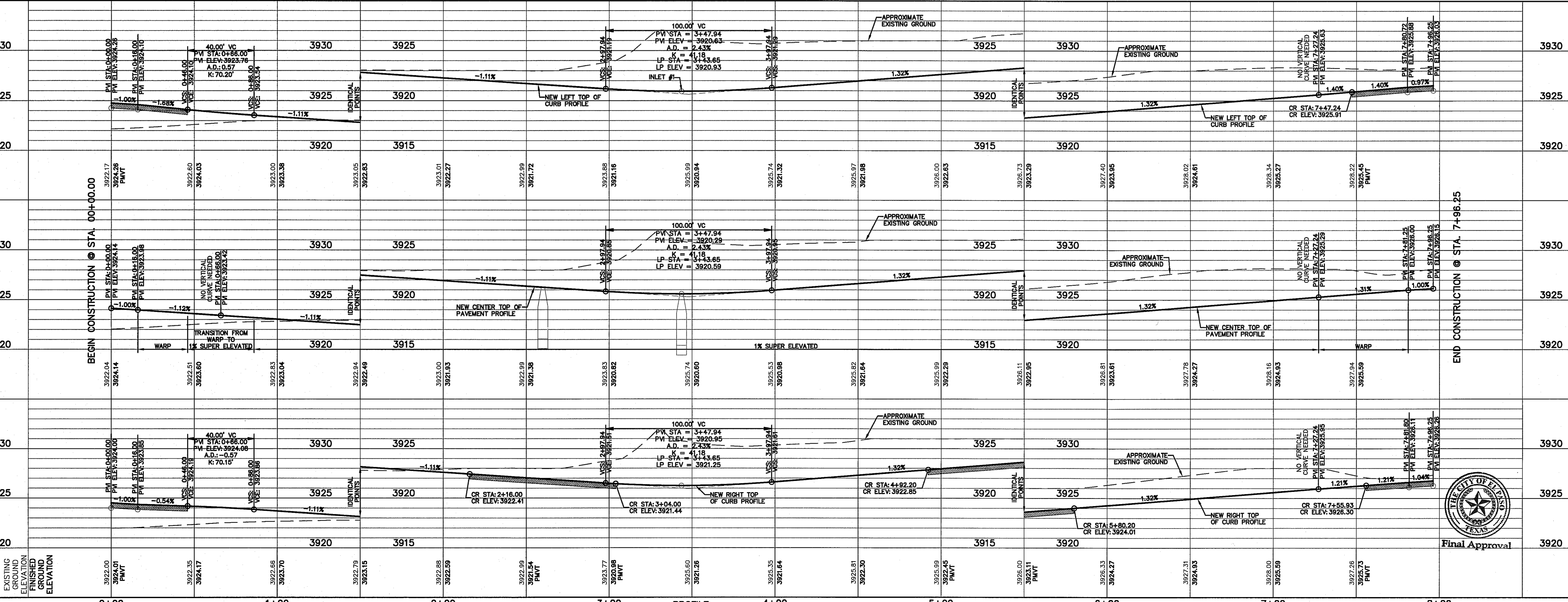
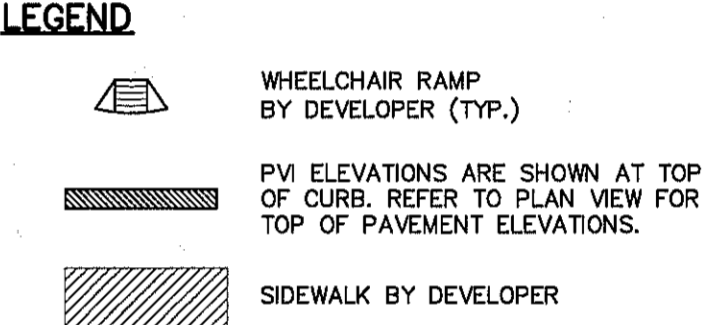
LINE TABLE		
LINE	BEARING	LENGTH
L1	N00°00'00"E	1.48'

DATE	REVISIONS	BY

CSA
TEXAS REGISTERED ENGINEERING FIRM-4984
4712 Woodrow Bean, Ste. F El Paso, TX 79924
915.544.5232 | www.csa-group.net



PLAN



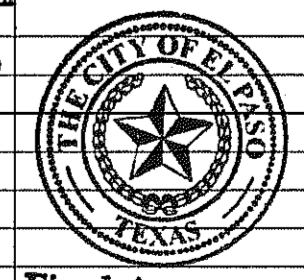
SCALE: Horizontal: 1"=30'
Vertical: 1"=5'
Contour Interval: N/A
DATE: JULY, 2018
DESIGN BY: R.O.
DRAWN BY: G.M.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB NO. 2000-201

PROJECT TITLE
HIDDEN VILLAGE UNIT ONE
SUBDIVISION IMPROVEMENTS

SHEET TITLE
HIDDEN VISTA ST.
PLAN & PROFILE
FROM STA. 0+00.00
TO STA. 7+96.25

SHEET NO.

C6.7



Final Approval

DEMOLITION NOTES

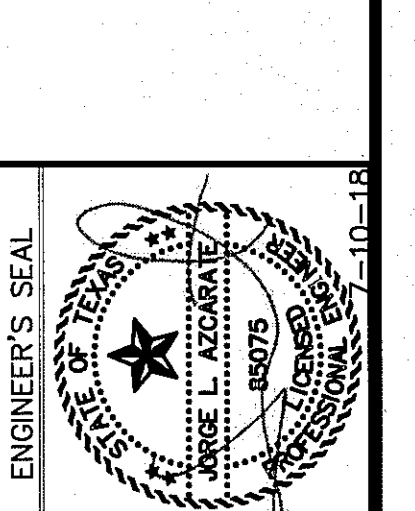
- ADJUST ALL UTILITY MANHOLES, VALVE COVERS, AND FIRE HYDRANTS TO MATCH PROPOSED GROUND AND PAVEMENT ELEVATIONS. COORDINATE WITH THE AFFECTED UTILITY COMPANY, PRIOR TO CONSTRUCTION, TO ENSURE COMPLIANCE WITH THE UTILITY STANDARDS.
- ALL UNDERGROUND UTILITIES SHALL MAINTAIN EIGHTEEN (18") INCHES OF COVER DURING CONSTRUCTION.
- INSTALL TEMPORARY TRAFFIC SIGNAGE.
- ALL AERIAL TELEPHONE, TRIPLEX, CONDUCTORS, CABLE, ETC. SHALL REMAIN UNDISTURBED, UNLESS OTHERWISE NOTED. COORDINATE WITH APPROPRIATE UTILITY COMPANY IF ANY ADJUSTMENTS ARE REQUIRED.
- MAINTAIN ALL WORK WITHIN PROJECT LIMITS. INTERSECTING STREETS SHALL BE ADJUSTED TO MATCH IMPROVEMENTS.
- SAW CUT ASPHALT PAVEMENT AND SITE CONCRETE AT PROJECT LIMITS, OR TO NEAREST JOINT.
- COORDINATE WITH ADJACENT PROPERTY OWNERS FOR ROCKWALL REMOVAL AND RECONSTRUCTION OF NEW ROCKWALL/RETAINING WALL.
- CAP, PLUG, RELOCATE AND RECONNECT IRRIGATION LINES AND RELATED APPURTENANCE WITHIN THE PARKWAY IN LARAMIE CIRCLE. REMOVE AND PROPERLY DISPOSE OFF OF ANY LANDSCAPING TREES/BUSHES IN THE PARKWAY. REPLACE AT THE END OF THE PROJECT.
- DEMOLITION ACTIVITIES SHALL BE KEPT TO THE LIMITS OF DEMOLITION SHOWN AND TO BE WITHIN STREET RIGHT-OF-WAY. ANY DAMAGE DONE OUTSIDE RIGHT-OF-WAY SHALL BE REPAIRED AT ORIGINAL CONDITION OR BETTER.
- DEMOLITION ACTIVITIES WITHIN CHANNEL SHALL BE TO NEAREST CONSTRUCTION JOINT. ANY DAMAGE DONE BEYOND LIMITS SHALL BE REPAIRED AT ORIGINAL CONDITION OR BETTER.
- EPWATER SHALL BE NOTIFIED ONE (1) WEEK PRIOR TO COMMENCING DEMOLITION CONSTRUCTION ACTIVITIES AT CHANNEL.

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) MC-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

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

DATE	REVISIONS	BY

REFERENCES - BENCHMARKS
CITY MONUMENT LOCATED AT THE CENTERLINE INTERSECTION OF CLIPPERDALE DRIVE AND PALOMINO ELEVATION = 3928.24' (E.P.V.D.), THE NORTH AMERICAN VERTICAL DATUM OF SAID CITY MONUMENT IS ELEVATION = 3939.53' (NAVD 88).

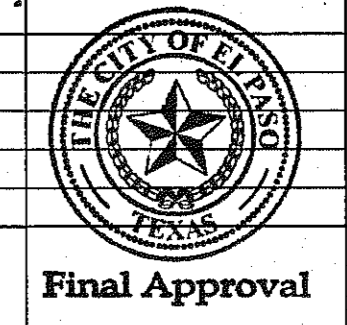
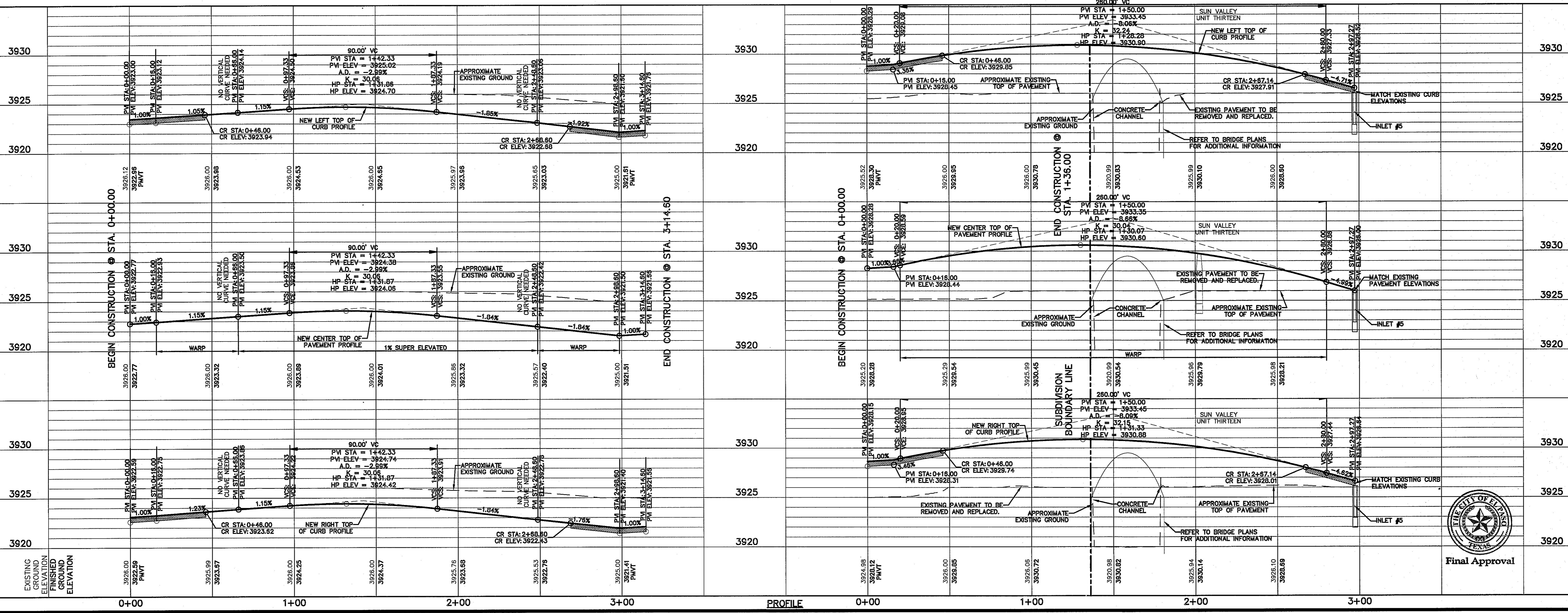
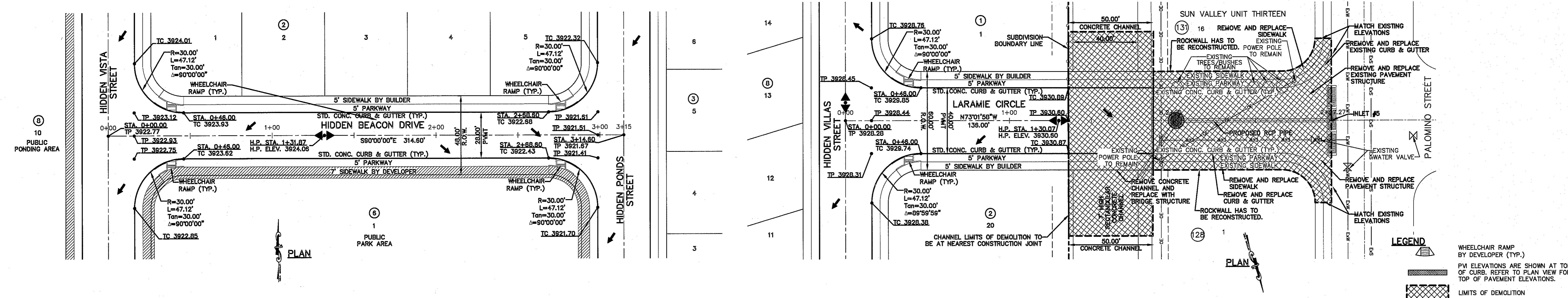


SCALE: Horizontal: 1" = 30'
Vertical: 1" = 5'
Contour Interval: N/A
DATE: JULY, 2018
DESIGN BY: R.O.
DRAWN BY: G.M.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No.: 2000-201

HIDDEN VILLAGE UNIT ONE
SUBDIVISION IMPROVEMENTS

SHEET TITLE
HIDDEN BEACON DR.
PLAN & PROFILE
FROM STA. 0+00.00
TO STA. 3+14.60
LARAMIE CIRCLE
PLAN & PROFILE
FROM STA. 0+00.00
TO STA. 2+97.27
SHEET NO.

C6.8



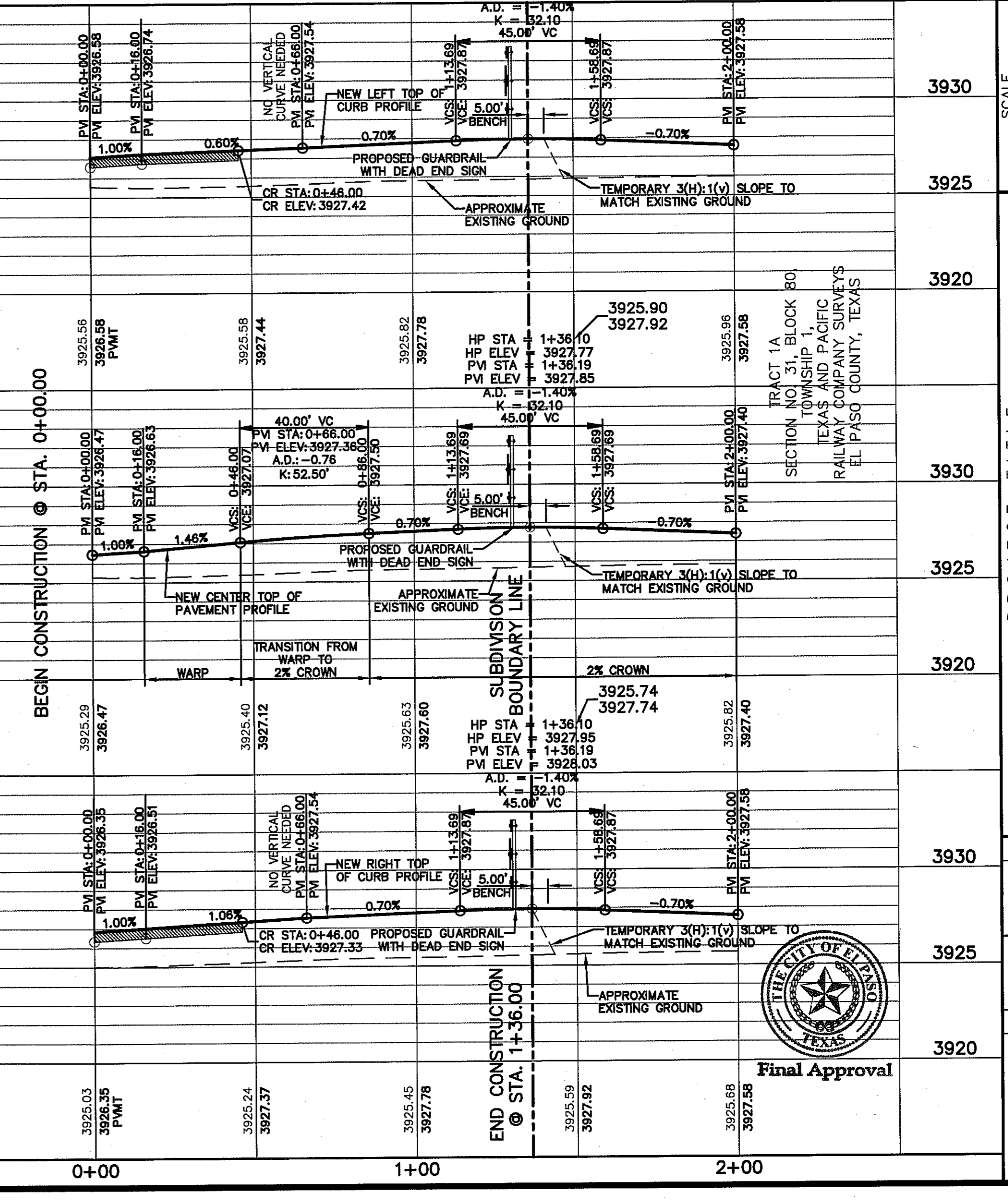
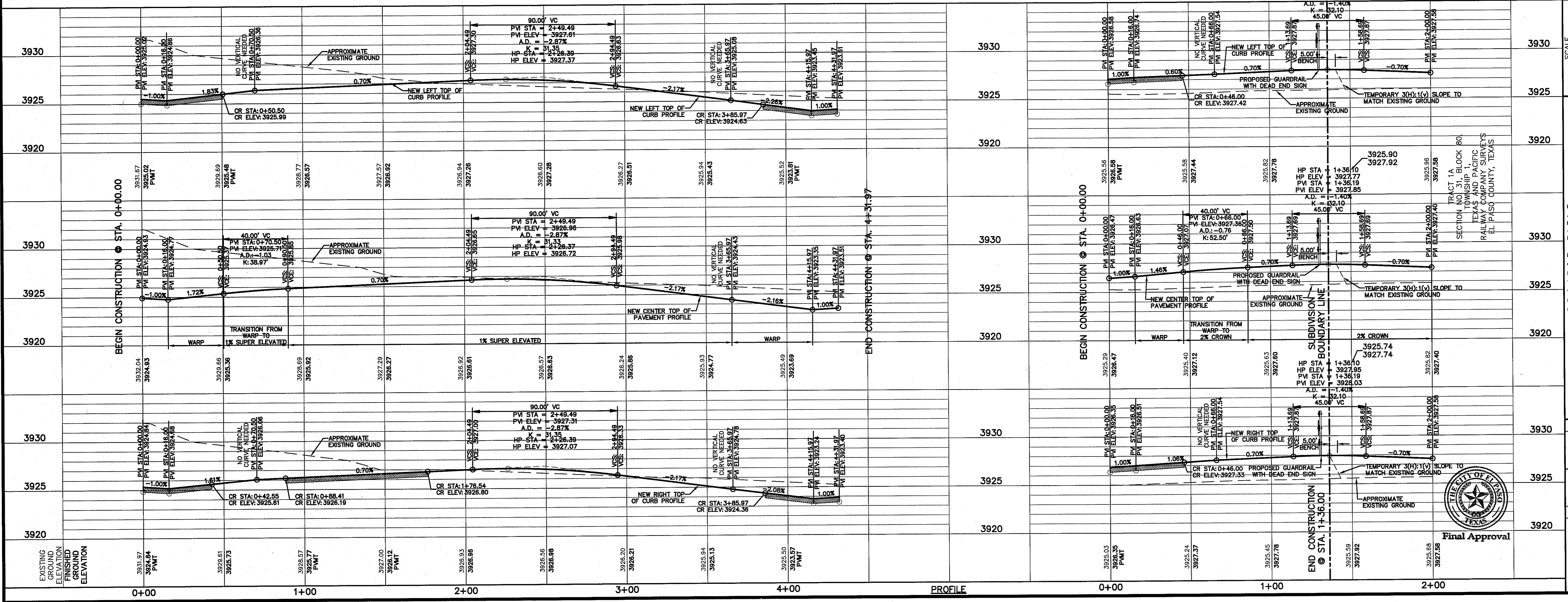
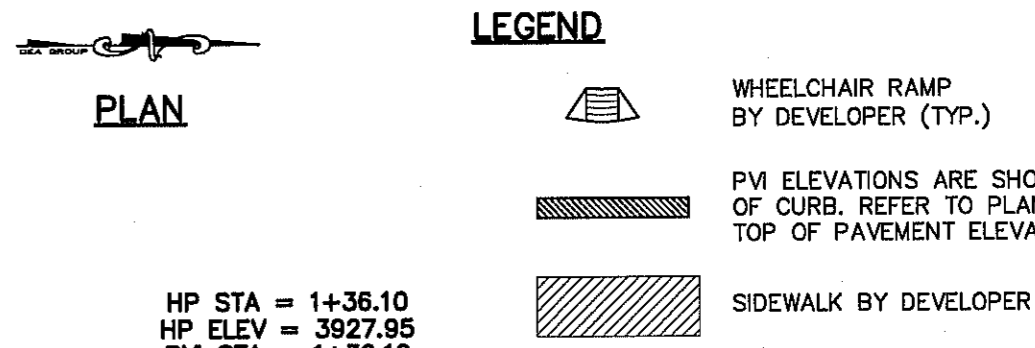
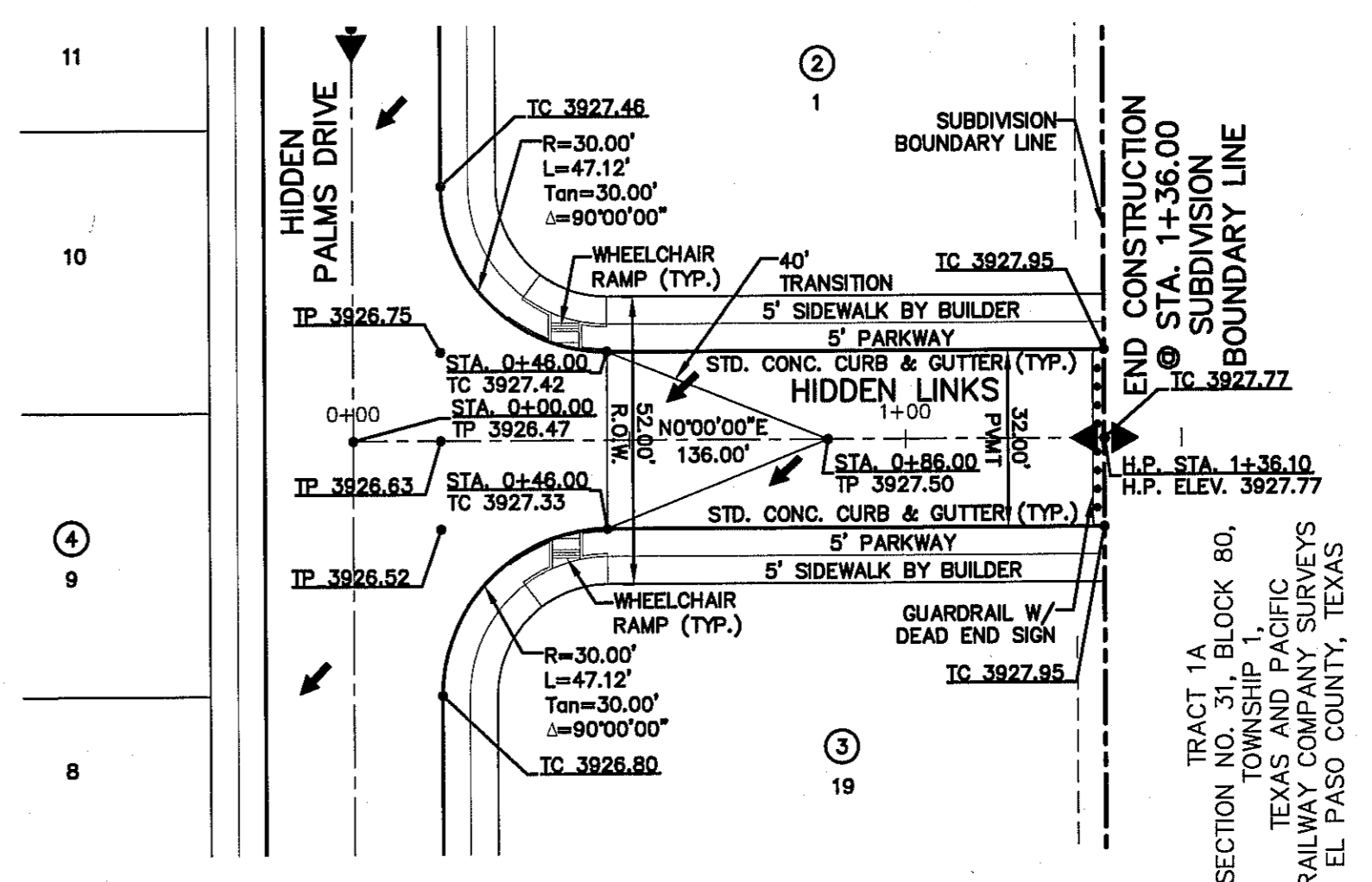
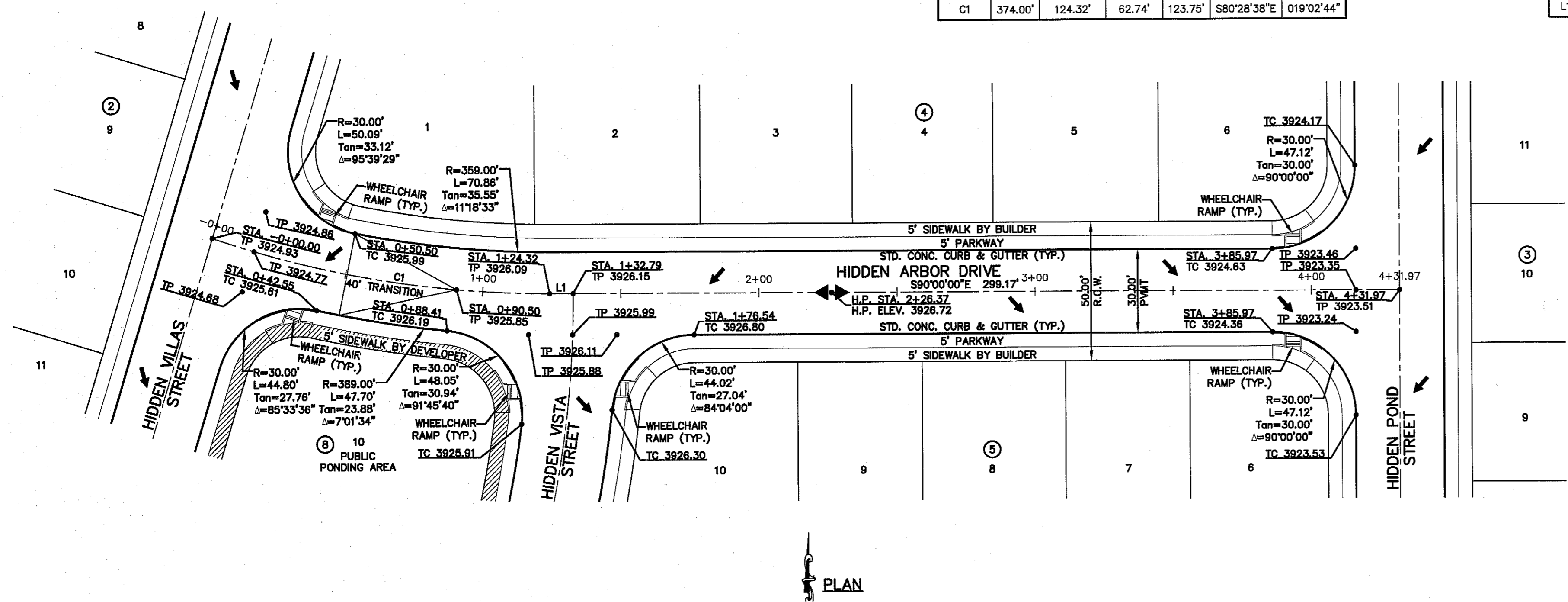
UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 498-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
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SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

**WARNING I
BEFORE YOU DIG
CALL 811**

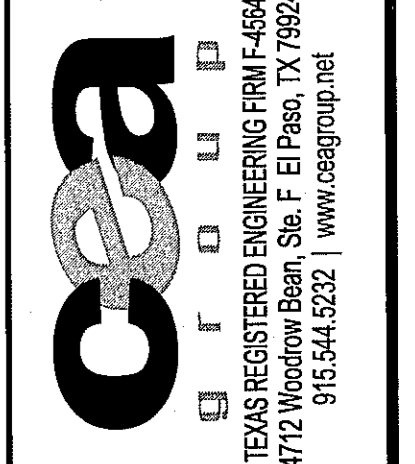
FOR FIELD LOCATING EXISTING UTILITIES

CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	374.00'	124.32'	62.74'	123.75'	S80°28'38"E	019°02'44"

LINE TABLE		
LINE	BEARING	LENGTH
L1	S90°00'00"E	8.47'



DATE	REVISIONS	BY



PROJECT TITLE
**HIDDEN VILLAGE UNIT ONE
SUBDIVISION IMPROVEMENTS**

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

DATE: JULY, 2018
DESIGN BY: R.O.
DRAWN BY: G.M.
CHKD BY: J.L.A.
APPVD BY: J.L.A.
JOB No. 2000-201

SHEET TITLE
**HIDDEN ARBOR DR.
PLAN & PROFILE
FROM STA. 0+00.00
TO STA. 4+31.97**

**HIDDEN LINKS
PLAN & PROFILE
FROM STA. 0+00.00
TO STA. 1+36.00**

SHEET NO.
C6.9

Final Approval

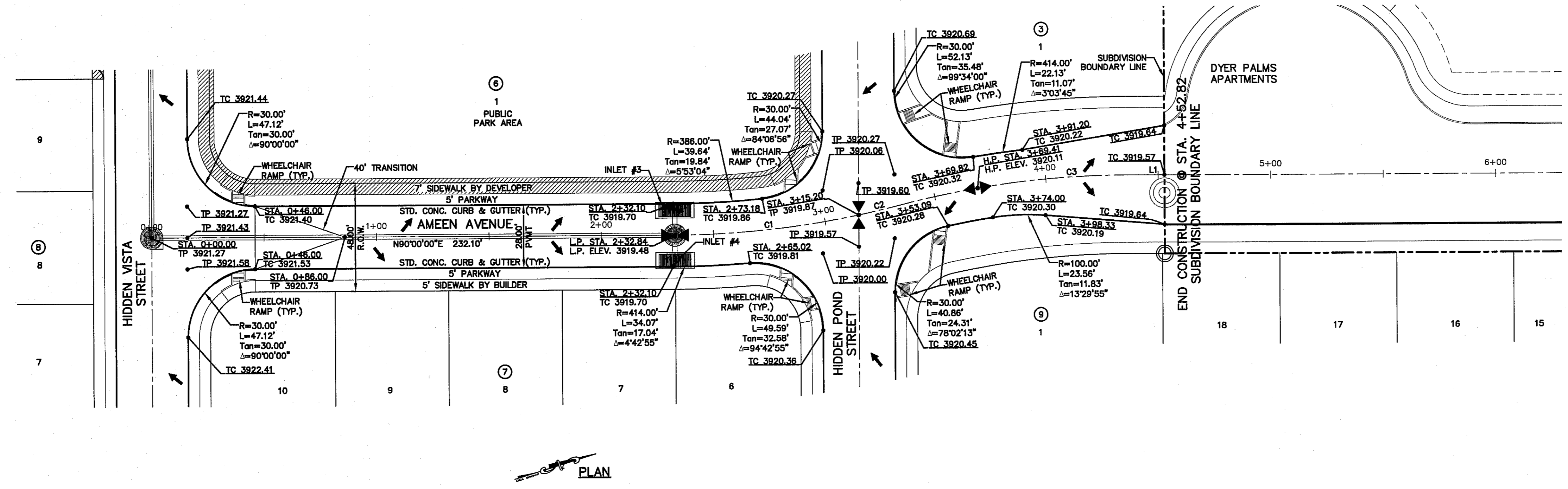
UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
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U.S. SPRINT TELECOMM	(800) 521-0579

WARNING!
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FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY

REFERENCES - BENCHMARKS
CITY MONUMENT LOCATED AT THE CENTERLINE INTERSECTION OF CROSSDALE DRIVE AND PALOMINO STREET.
ELEVATION = 3928.24' (C.P.V.D.), THE NORTH AMERICAN DATUM (N.A.D.)
IS ELEVATION = 3939.53' (NAVD. 88).

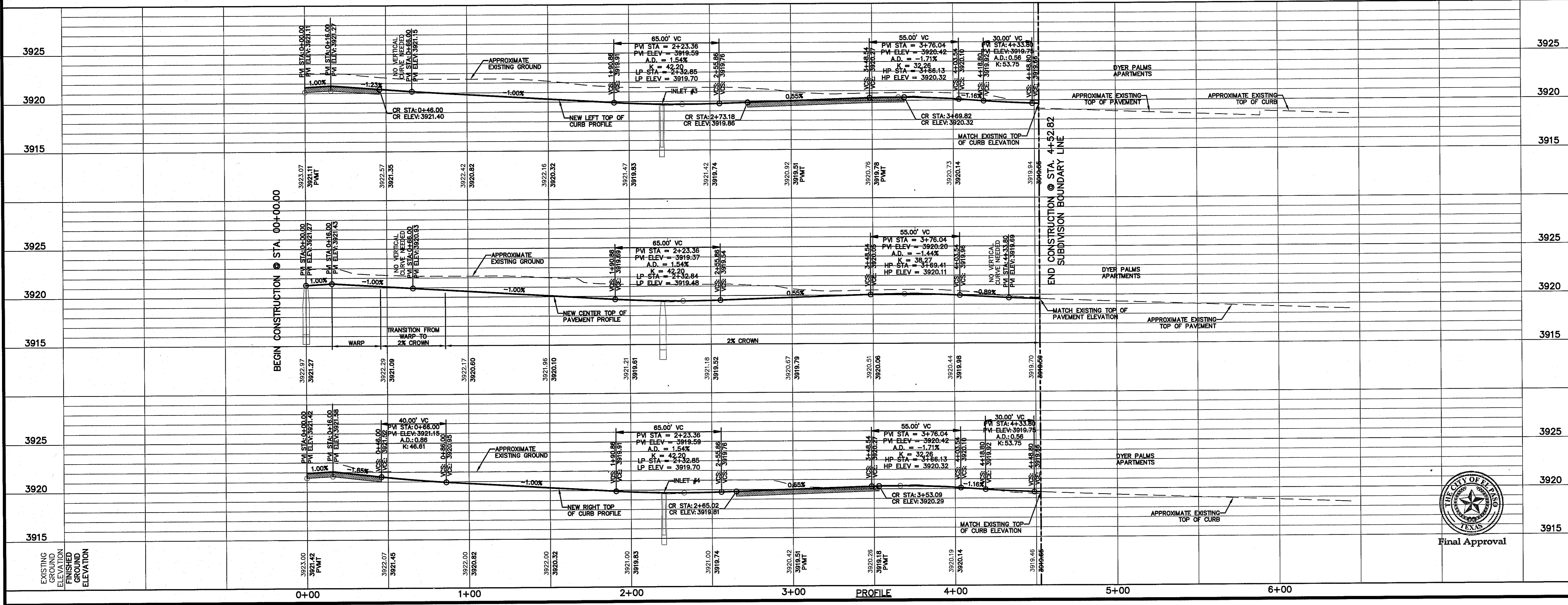
TEXAS REGISTERED ENGINEERING FIRM #684
4712 Woodrow Wilson, Ste. F El Paso, TX 79924
915.544.5232 | www.cagroup.net



LEGEND

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

ENGINEER'S SEAL



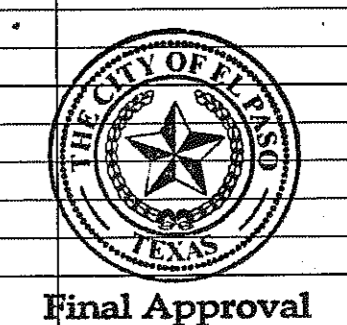
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Vertical: 1"=5'
Contour Interval: N/A

DATE: JULY, 2018
DESIGN BY: R.O.
DRAWN BY: C.M.
CHECKED BY: J.L.A.
APP'D. BY: J.L.A.
JOB No.: 2000-201

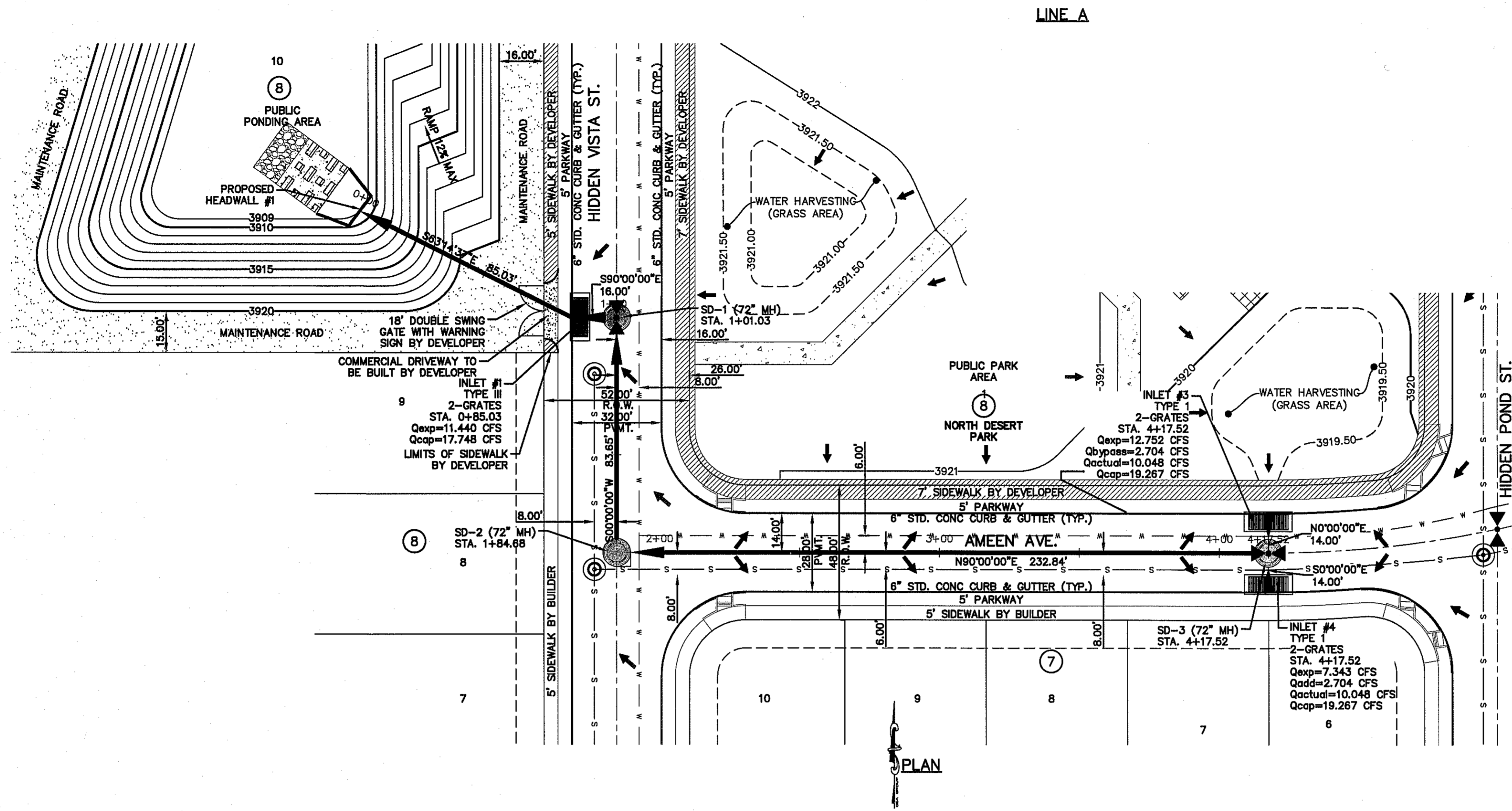
PROJECT TITLE
**HIDDEN VILLAGE UNIT ONE
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
**AMEEN AVENUE
PLAN & PROFILE
FROM STA. 0+00.00
TO STA. 4+52.82**

SHEET NO.
3915



C6.10



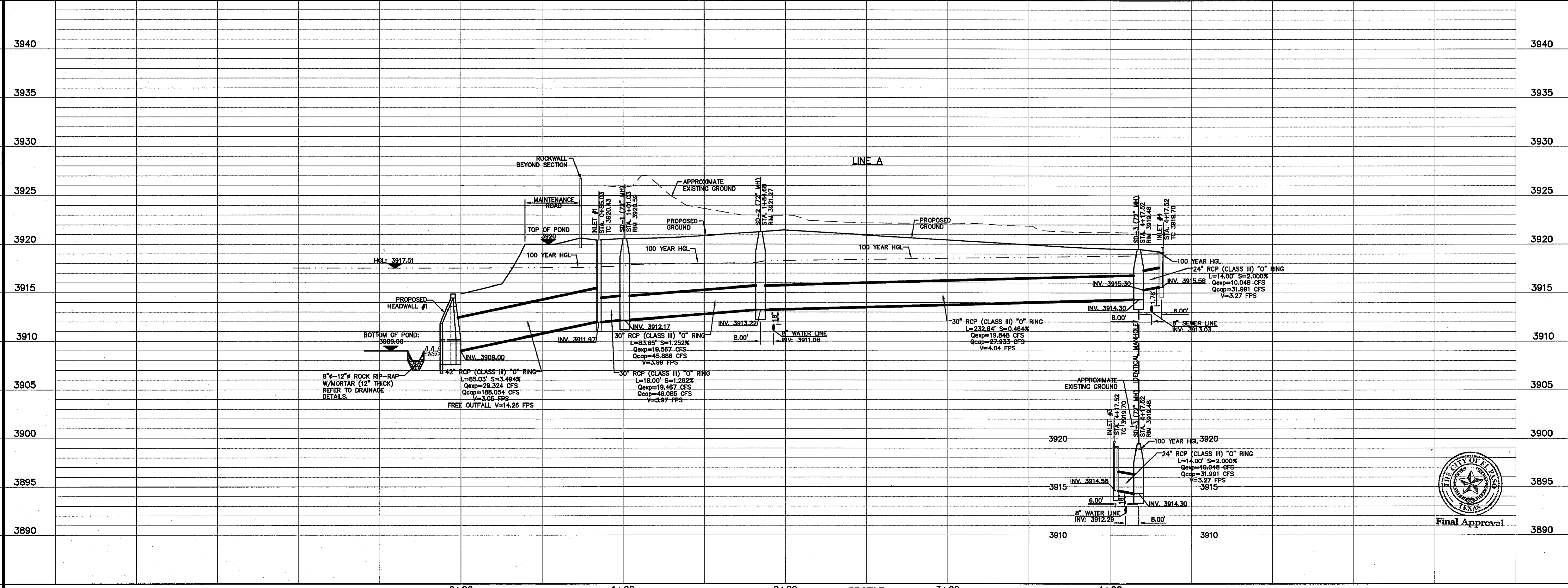
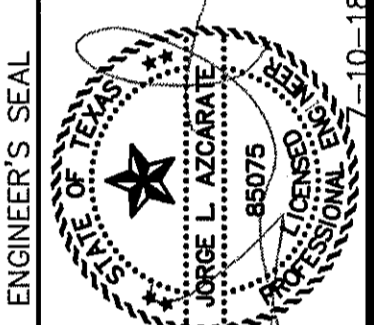
UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 498-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

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

- LEGEND:**
- S — S — SANITARY SEWER LINE
 - W — W — WATER LINE
 - S — S — DIRECTION OF FLOW
 - ▲ HIGH POINT
 - ▼ LOW POINT
 - — — STORM SEWER LINE
 - DROP INLET
 - MANHOLE

REFERENCES — BENCHMARKS
CITY MONUMENT LOCATED AT THE CENTERLINE INTERSECTION OF CLYDEDALE DRIVE AND PALOMINO STREET.
ELEVATION = 3928.24' (E.P.V.D.), THE NORTH AMERICAN MEAN SEA LEVEL DATUM (NAD 83).
DATE: _____ BY: _____
REVISIONS: _____

cea
TEXAS REGISTERED ENGINEERING FIRM #4564
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915.544.5232 | www.ceagroup.net



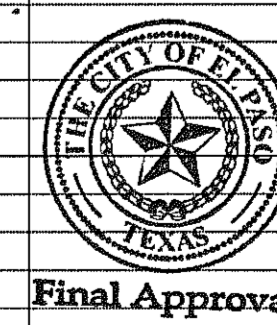
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Contour Interval: N/A
DATE: JULY, 2018
DESIGN BY: R.O.
DRAWN BY: G.M.
CHKD. BY: J.L.A.
APP'D. BY: J.L.A.
JOB No. 2000-201

PROJECT TITLE
**HIDDEN VILLAGE UNIT ONE
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
**LINE "A"
STORM SEWER
PLAN & PROFILE
FROM STA. 0+00.00
TO STA. 4+17.52**

SHEET NO.

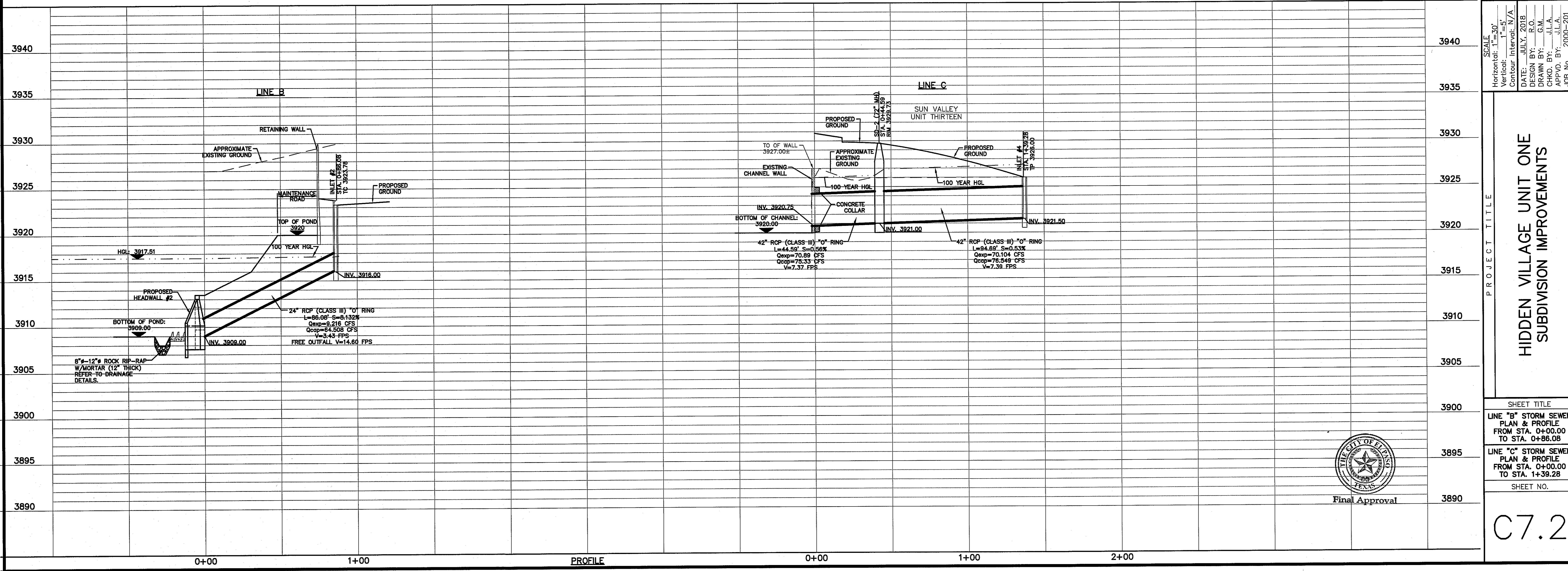
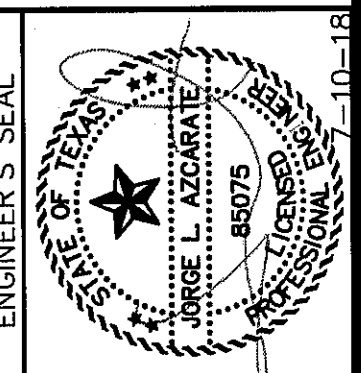
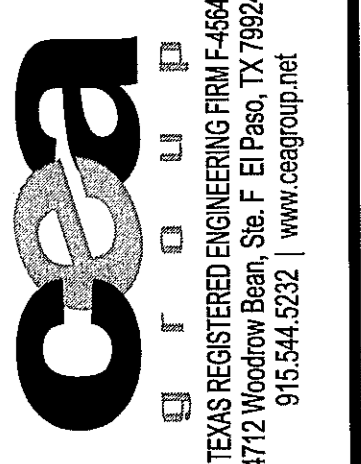
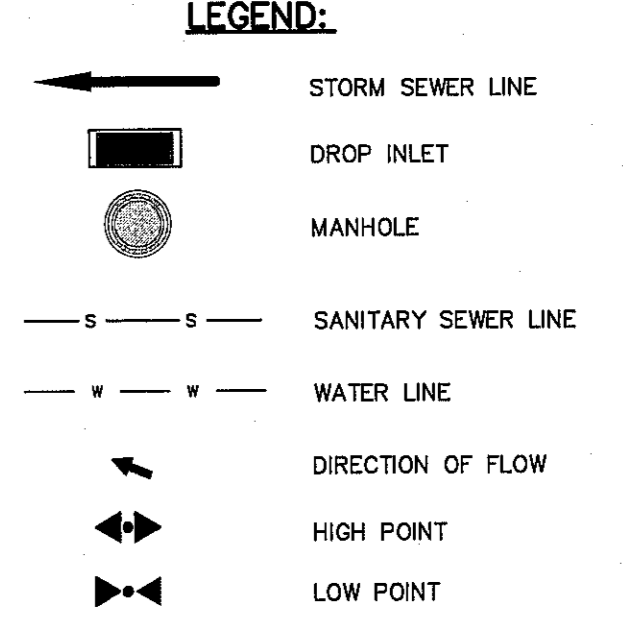
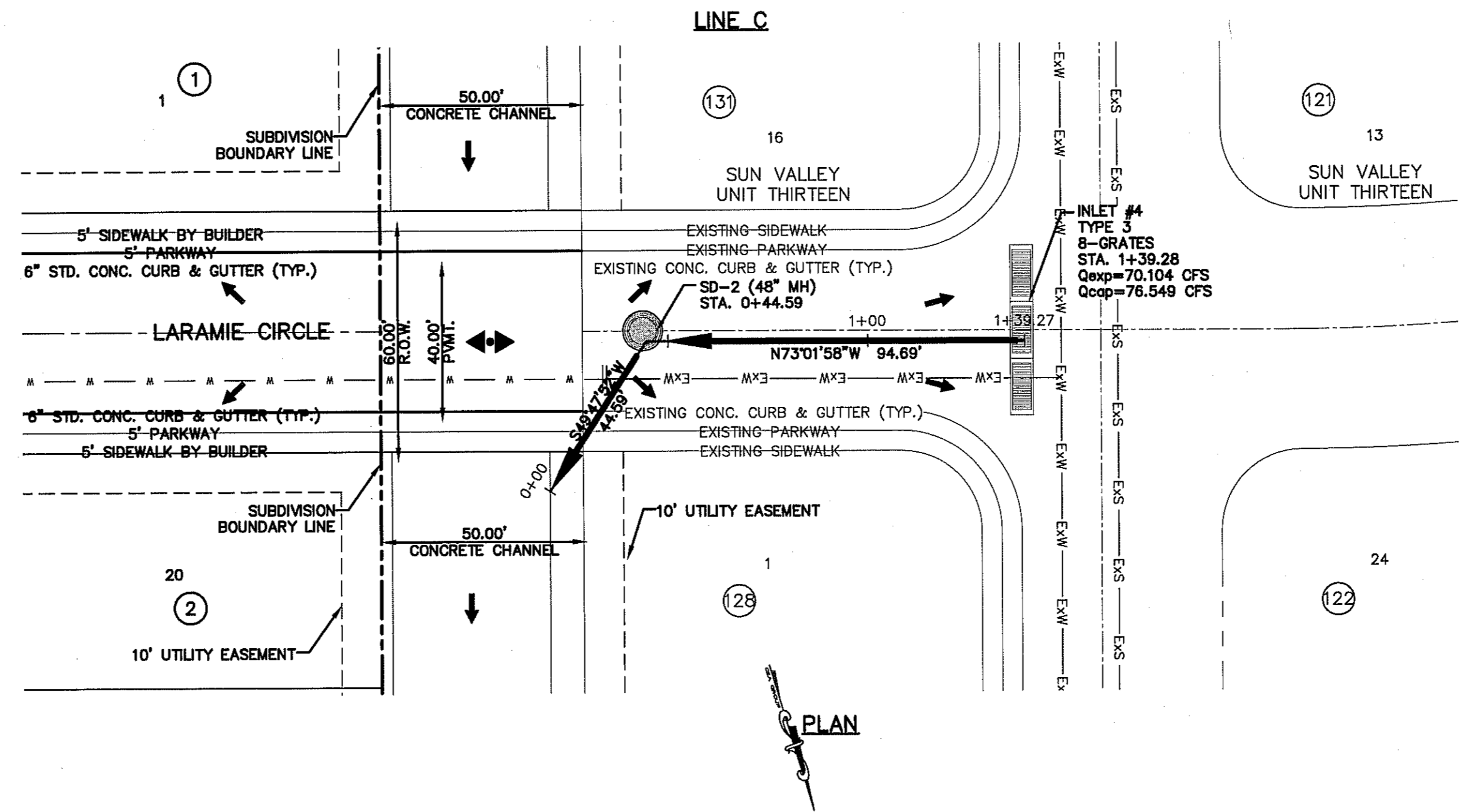
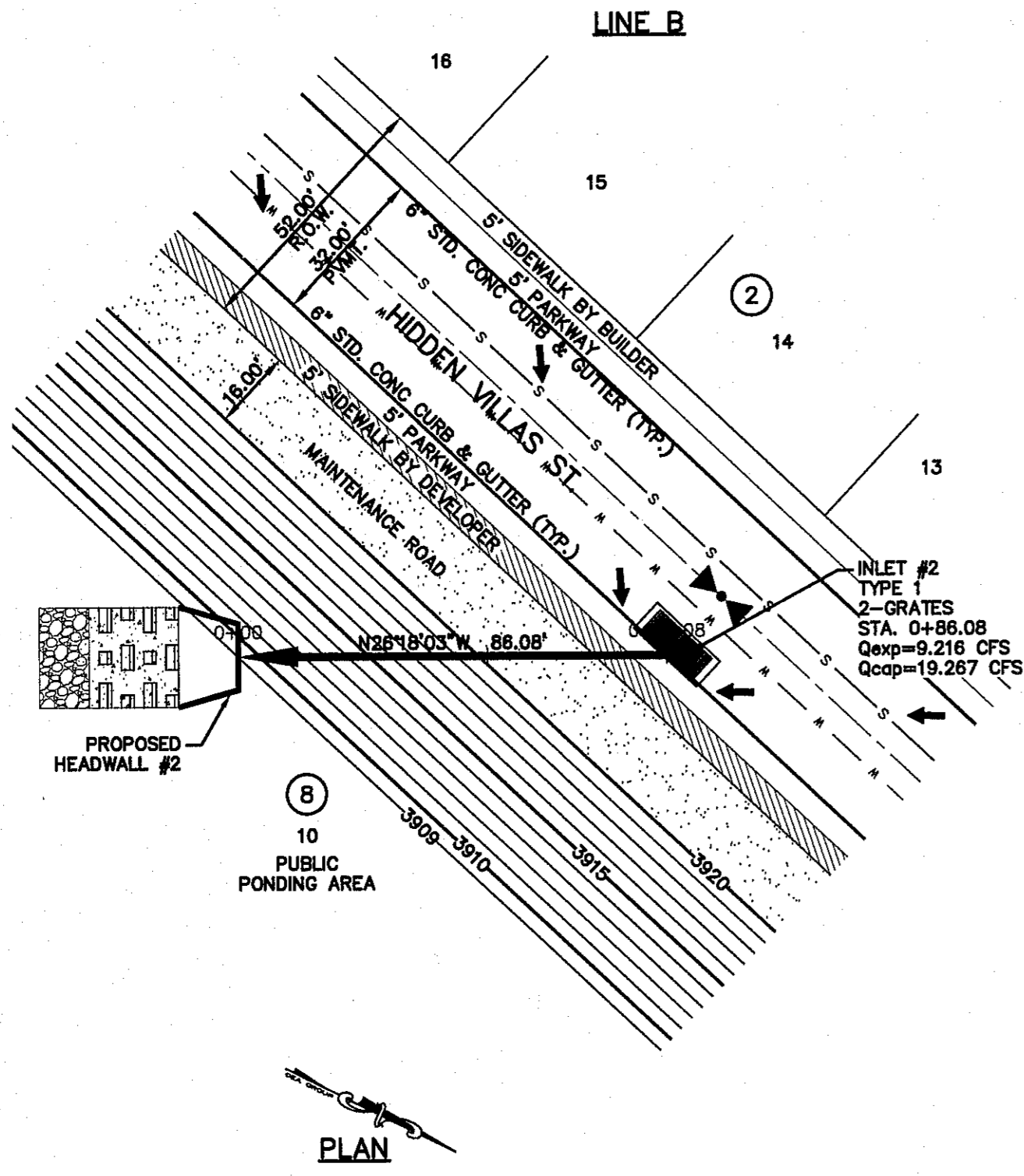
C7.1



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

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

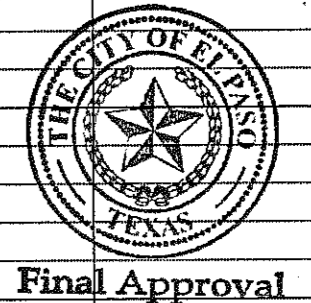
DATE	REVISIONS	BY



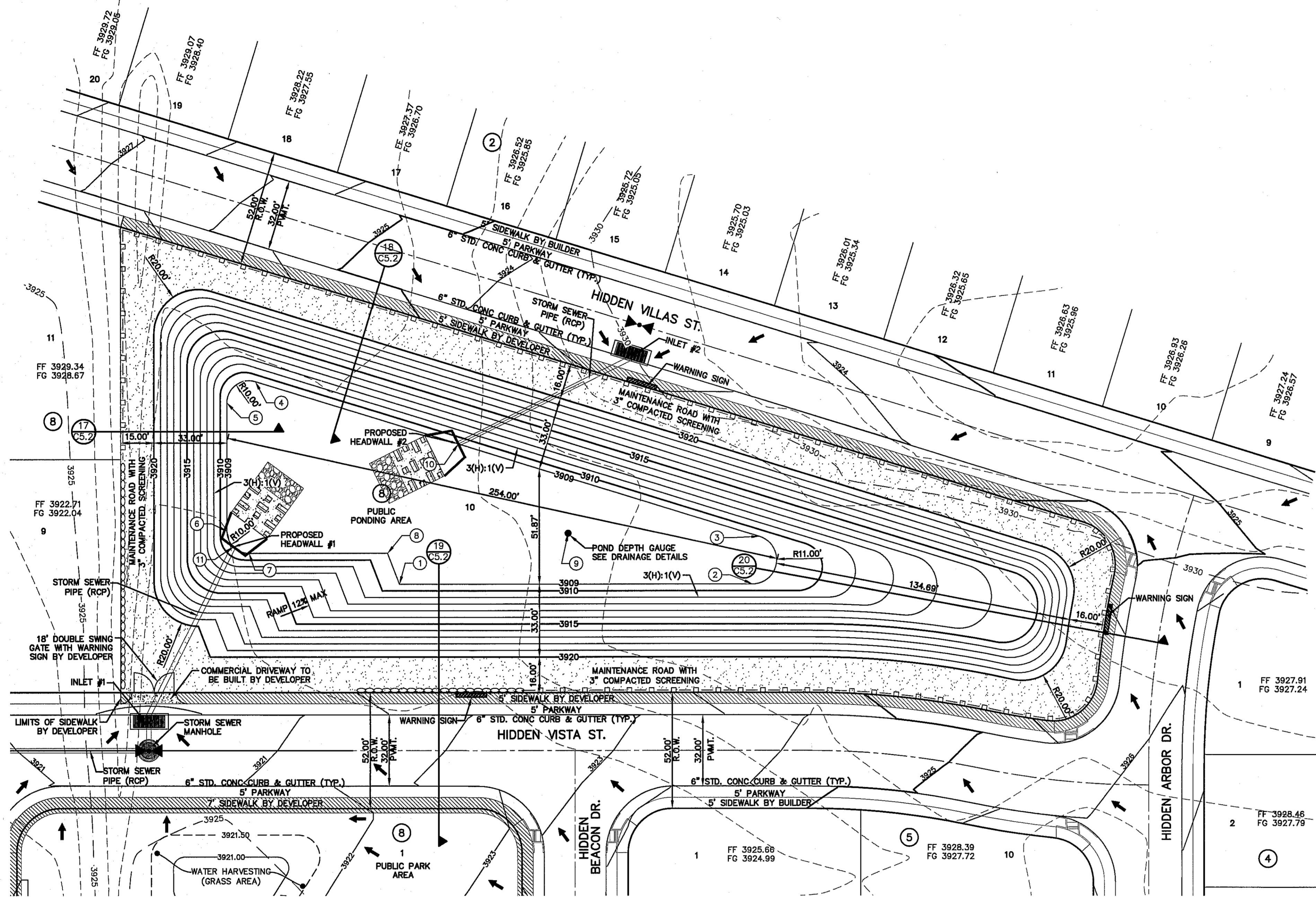
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	Vertical: 1"=5'
Contour Interval:	N/A
DATE:	JULY, 2018
DESIGN BY:	R.O.
DRAWN BY:	C.M.
APP'D. BY:	J.L.A.
CHECKED BY:	J.L.A.
JOB No.:	2000-201

HIDDEN VILLAGES UNIT ONE
SUBDIVISION IMPROVEMENTS

SHEET TITLE	LINE "B" STORM SEWER PLAN & PROFILE FROM STA. 0+00.00 TO STA. 0+86.08
SHEET TITLE	LINE "C" STORM SEWER PLAN & PROFILE FROM STA. 0+00.00 TO STA. 1+39.28
SHEET NO.	C7.2



Final Approval



POND DESIGN PLAN
SCALE: 1" = 30'

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

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

GENERAL NOTES

- REFERENCE SHEETS C5.2 FOR ADDITIONAL INFORMATION ON CROSS SECTIONS.
- A PERCOLATION TEST WITHIN THE PROPOSED POND SHALL BE PERFORMED AT THE TIME OF EXCAVATION ACCORDING TO ASTM D-5128. THIS PERCOLATION TEST SHALL BE SUBMITTED FOR REVIEW AND APPROVAL TO AND BY EP WATER STORMWATER ENGINEERING. SUBSURFACE SOIL PROFILES SHALL BE PROVIDED TO A MINIMUM OF FIVE (5') FEET BELOW THE PROPOSED POND INVERT. STORMWATER SHALL PERCOLATE WITHIN SEVENTY-TWO (72) HOURS IN ACCORDANCE TO SECTION 11.4.3 OF THE CITY OF EL PASO'S DRAINAGE DESIGN MANUAL.
- PROPOSED ROCKWALLS & RETAINING WALL LOCATIONS SHALL BE CONSTRUCTED ACCORDING TO GRADING SECTIONS.
- REFERENCE LANDSCAPING PLANS FOR DETAIL INFORMATION ON NEW IMPROVEMENTS.
- POND SLOPES SHALL BE STABILIZED WITH PIONEER'S PRIDE SEED MIXTURE (SEED RATE: 1 BULK PER 1000 SF) HYDROSEEDING AS PER MANUFACTURE'S RECOMMENDATION BY EWING IRRIGATION OR APPROVED EQUAL.

LEGEND:

- NEW 6' HIGH RETAINING ROCKWALL (2'-3' RETAINING HEIGHT) BY DEVELOPER
- NEW 6' HIGH RETAINING ROCKWALL (3'-9' RETAINING HEIGHT) BY DEVELOPER
- PROPOSED MAJOR CONTOURS
- PROPOSED MINOR CONTOURS
- EXISTING MAJOR CONTOURS
- EXISTING MINOR CONTOURS
- FINISH GROUND ELEVATION
- FINISH FLOOR ELEVATION
- EXISTING FINISH GROUND ELEVATION
- DRAINAGE FLOW
- HIGH POINT
- LOW POINT
- SIDEWALK BY DEVELOPER 2% MAX
- WARNING SIGN

COORDINATE TABLE

Point #	Northing	Easting
1	11699.4190	11418.6737
2	11858.8150	11418.6737
3	11862.0251	11397.1525
4	11634.4170	11327.7081
5	11621.4987	11337.2728
6	11621.4987	11394.6794
7	11631.4987	11404.6794
8	11694.0190	11404.6794
9	11775.5777	11395.6627
10	11726.0731	11355.6729
11	11624.4276	11401.7505

POND								
BASIN NO.	REQUIRED CAPACITY (AC.-FT.)	AVAILABLE CAPACITY (AC.-FT.)	PEAK INFLOW (CFS)	OUTLET TOWER FLOW (CFS)	HIGH WATER SURFACE ELEV. (FT.)	BOTTOM ELEVATION	FREE BOARD (FT.)	TOP ELEVATION
1	4.786	7.132	42.629	0	3917.51±	3909	2.49	3920

NOTE: THE HGL REFLECTS THE ELEVATION AS REQUIRED BY THE CITY OF EL PASO.

HWSE = QT
HWSE = 4.786 AC-FT
CONTOUR 3918, ACCUMULATED VOLUME = 5.207 AC-FT
CONTOUR 3917, ACCUMULATED VOLUME = 4.353 AC-FT
HYDRAULIC GRADE LINE ELEVATION = 3917.51±

POND CALCULATIONS	
QT = (ARC)/12	
QT = 4.786 AC-FT	
A = 28.656	
R = 3.34"	
Cw = 0.600	
TOTAL_{req} = 4.786 AC-FT	

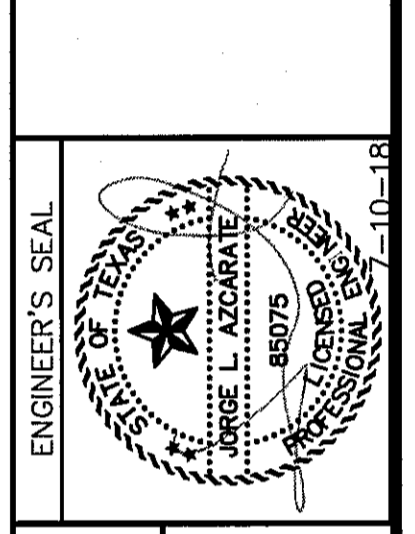
POND AREAS	
CONTOUR	ACCUMULATED VOLUME (AC.-FT.)
3920	7.132
3919	6.133
3918	5.207
3917	4.353
3916	3.569
3915	2.853
3914	2.210
3913	1.641
3912	1.142
3911	0.705
3910	0.325
3909	0



DATE	REVISIONS	BY

REFERENCES - BENCHMARKS
CITY MONUMENT LOCATED AT THE INTERSECTION OF CLAYTON DRIVE AND PALMDALE STREET.
ELEVATION = 3928.24' (E.P.V.D.). THE NORTH AMERICAN VERTICAL DATUM OF SAID CITY MONUMENT IS ELEVATION = 3928.55' (NAD 83).

CEA GROUP
TEXAS REGISTERED ENGINEERING FIRM #454
4712 Woodrow Blvd. Ste. F El Paso, TX 79904
915.544.6232 | www.ceagroup.net

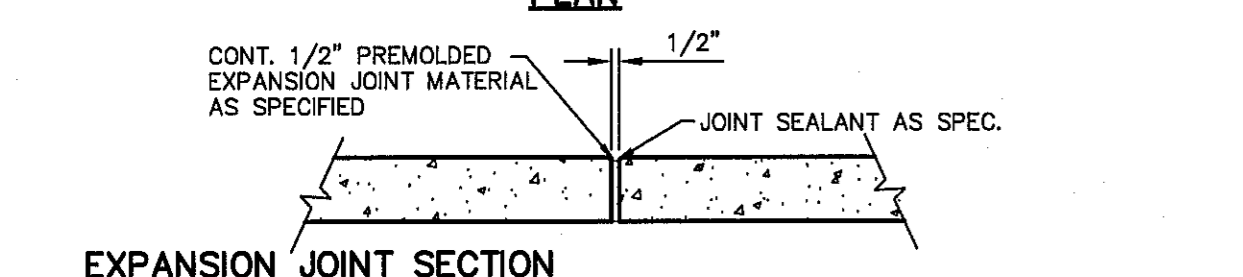
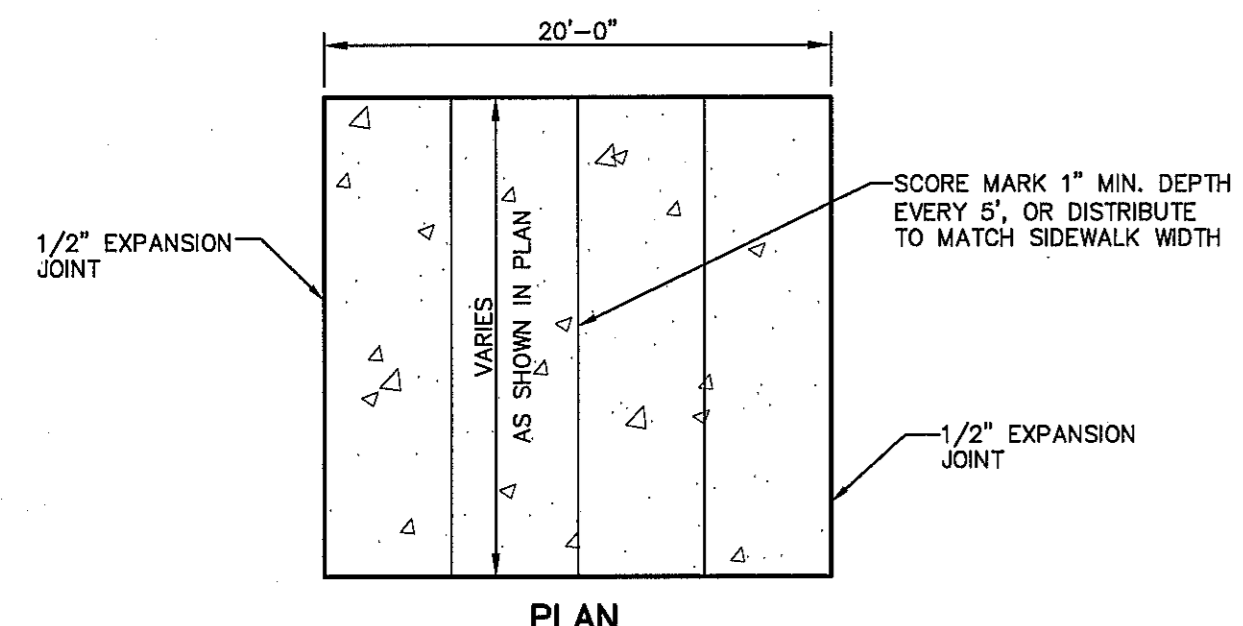


Horizontal: 1" = 30'	Vertical: N/A	Contour Interval: N/A
DATE: JULY 2018	DESIGN BY: R.D.	DRAWN BY: G.M.
CHKD BY: J.L.A.	APPVD BY: J.L.A.	JOB No. 2000-201

PROJECT TITLE
**HIDDEN VILLAGE UNIT ONE
SUBDIVISION IMPROVEMENTS**

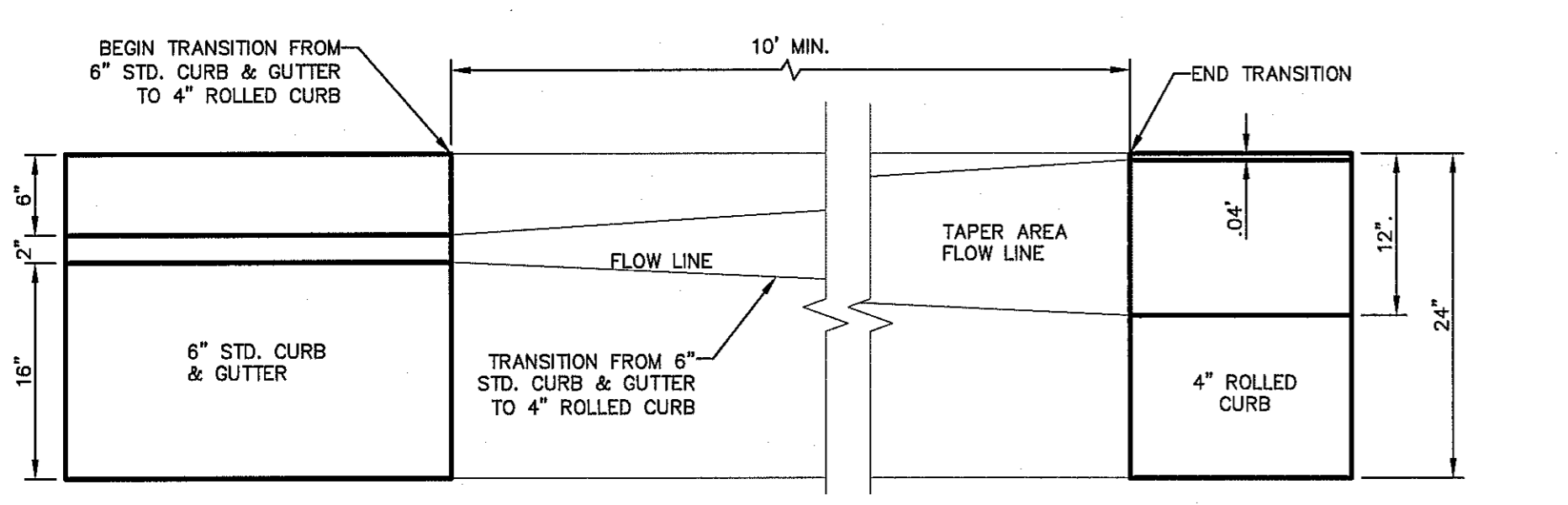
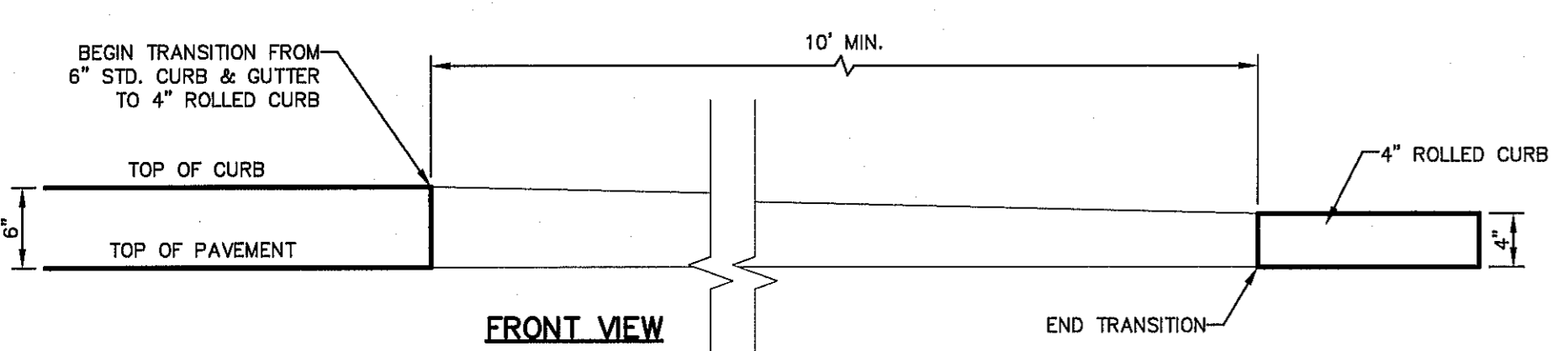
SHEET TITLE
**POND
DESIGN PLAN**

SHEET NO.
C8.1

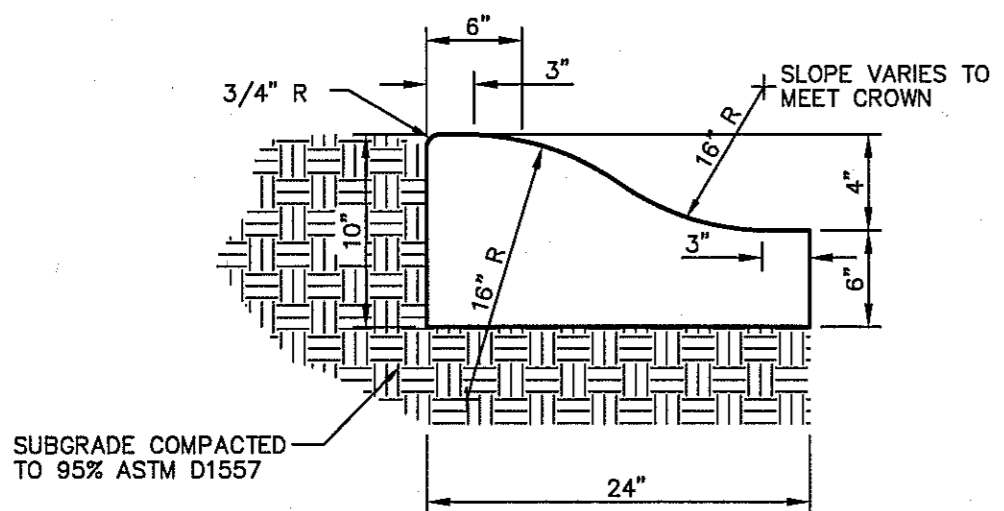


- NOTES:**
- EXPANSION JOINT FILLER SHALL BE 1/2" BITUMINOUS TYPE PREFORMED JOINT FILLER (AASHTO M-33).
 - EXPANSION JOINTS SHALL BE SPACED AT 20'-0" MAX.
 - WHEREVER SIDEWALK ABUTS ROCK OR MASONRY STRUCTURES SUCH AS CURBS OR BUILDINGS, EXPANSION JOINTS FILLER SHALL BE PLACED IN ACCORDANCE WITH STANDARD SPECIFICATIONS.

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

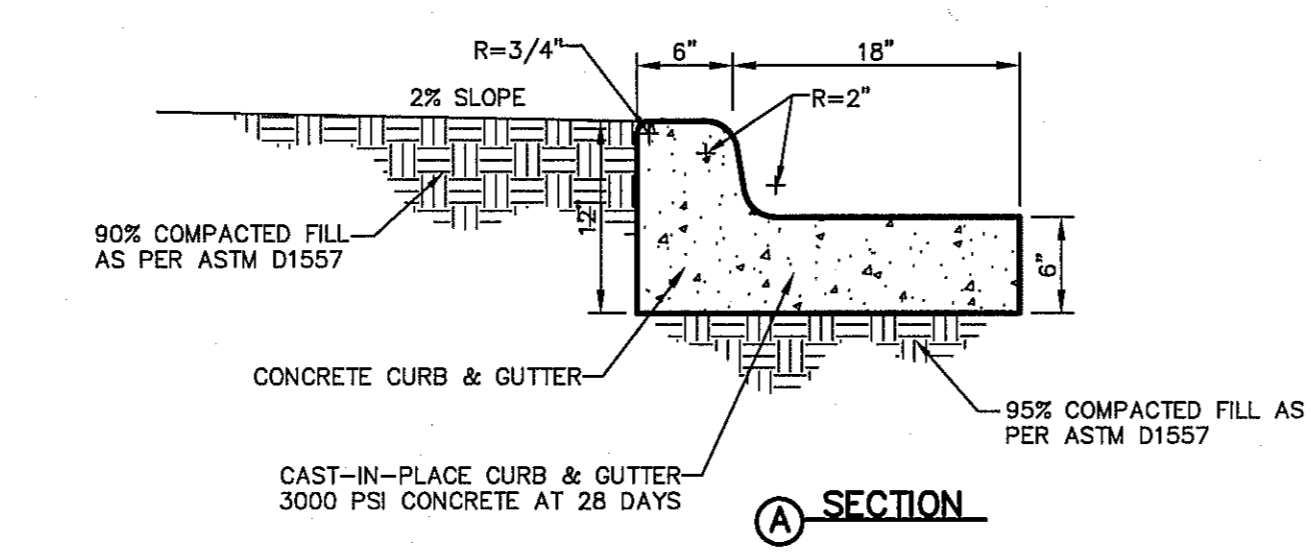
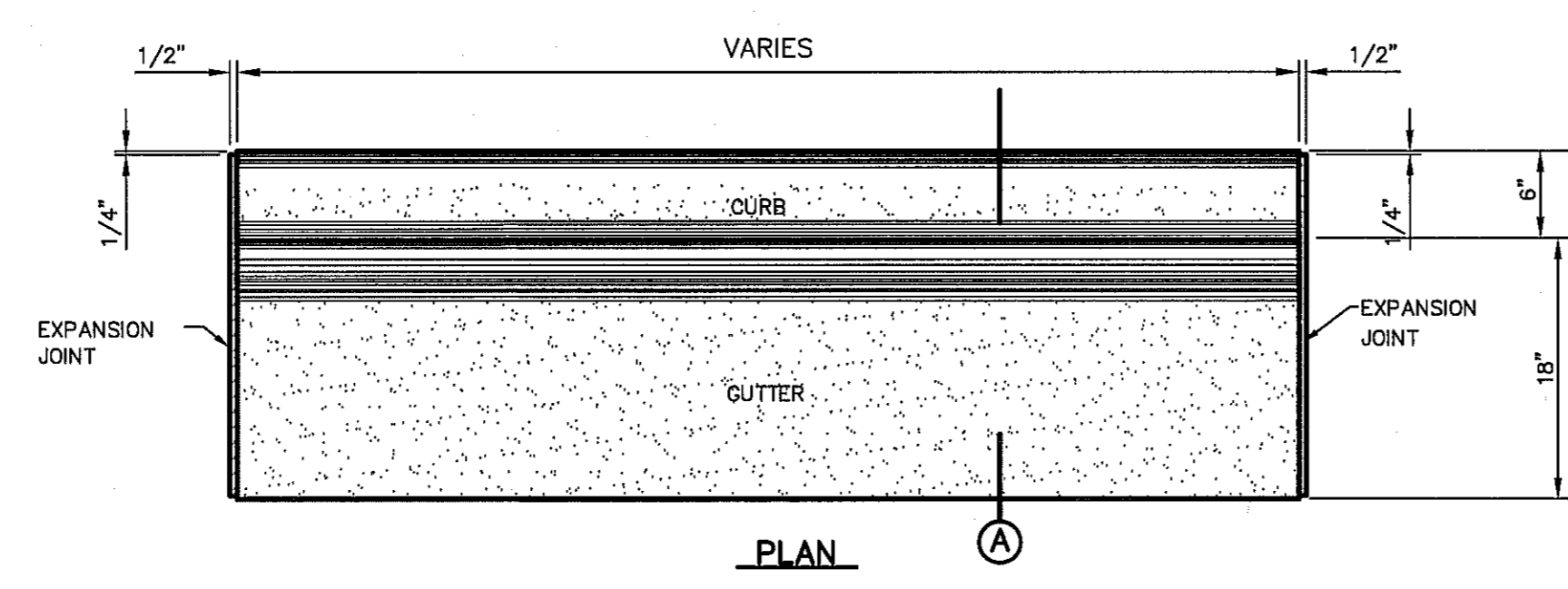


6 CURB TRANSITION DETAIL
SCALE: N.T.S.



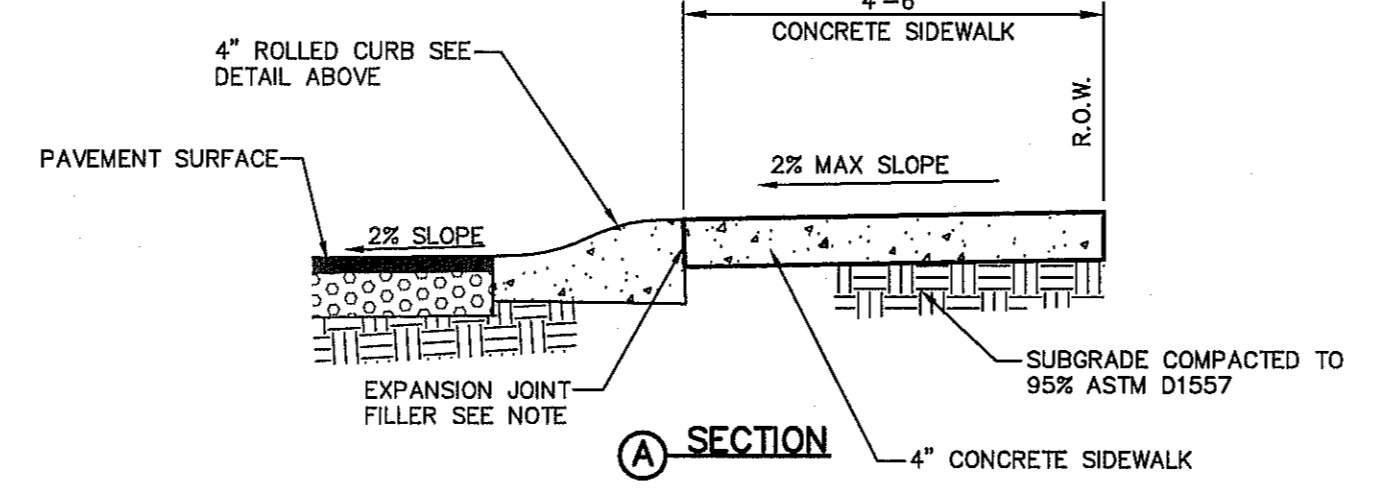
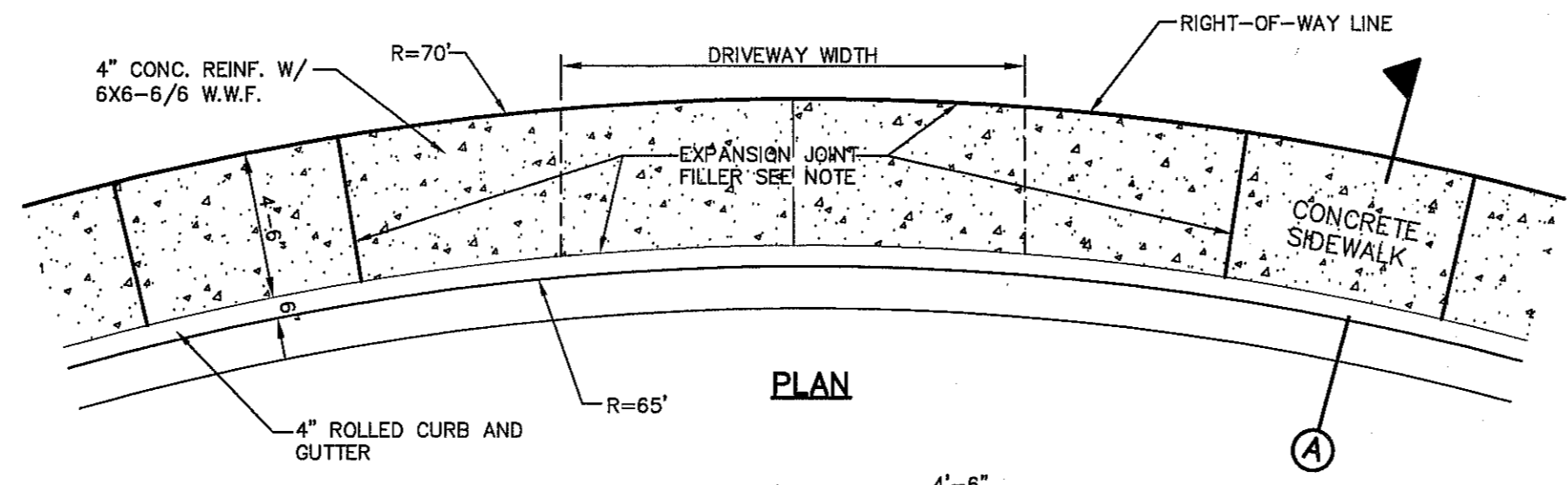
- CONCRETE TO BE 3000 PSI MIN. AT 28 DAYS.
- DUMMY JOINTS REQUIRED AT 10' O.C. FOR HEADERS AND 5' O.C. FOR SIDEWALK.
- EXPANSION MATERIAL REQUIRED AT CURB RETURNS WITH 1/2" PREFORMED ASPHALT IMPREGNATED EXPANSION MATERIAL OR EQUAL.
- EXPANSION JOINTS REQUIRED AT 50' O.C. WHEN FORMING FOR HEADERS.
- EXPANSION JOINTS REQUIRED FOR SIDEWALK AT 20' O.C.
- * FOR CUL-DE-SAC AND HEEL ONLY.

9 4" CONCRETE ROLLED CURB DETAIL
SCALE: 1"=1'-0"



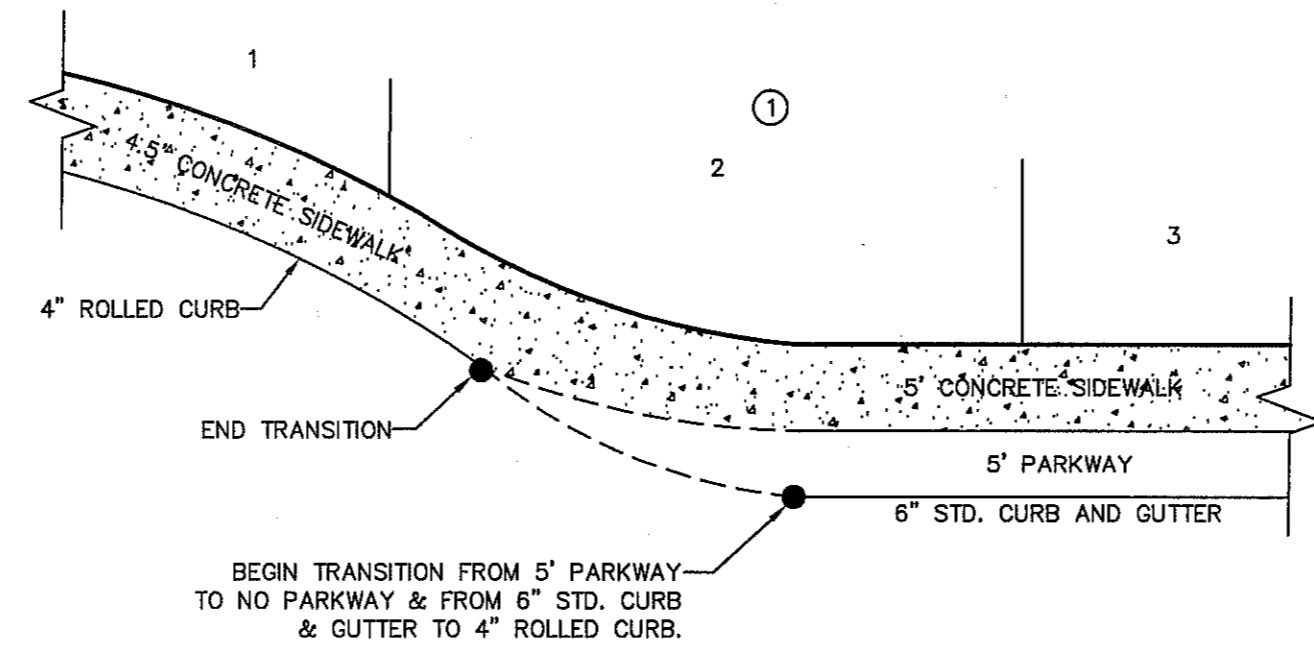
- NOTES:**
- CONCRETE CURB, GUTTER AND RETURNS SHALL BE 3,000 P.S.I. MIN. AT 28 DAYS.
 - DUMMY JOINT REQUIRED AT 10' O.C. FOR CURB & GUTTER, AND 5' O.C. FOR SIDEWALK.
 - 1/2" PREFORMED BITUMINOUS EXPANSION JOINT (AASHTO M-33) IS REQUIRED FOR ALL CURB RETURNS, TRIM BITUMINOUS MATERIAL 1/4" LESS THAN NEAT CURB AND GUTTER DIMENSION.
 - SUBGRADE UNDER CURBS MUST BE FORMED AND COMPACTED TO 95% ASTM D1557.
 - EXPANSION JOINTS REQUIRED AT 50' O.C. WHEN FORMING FOR CURBS.

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

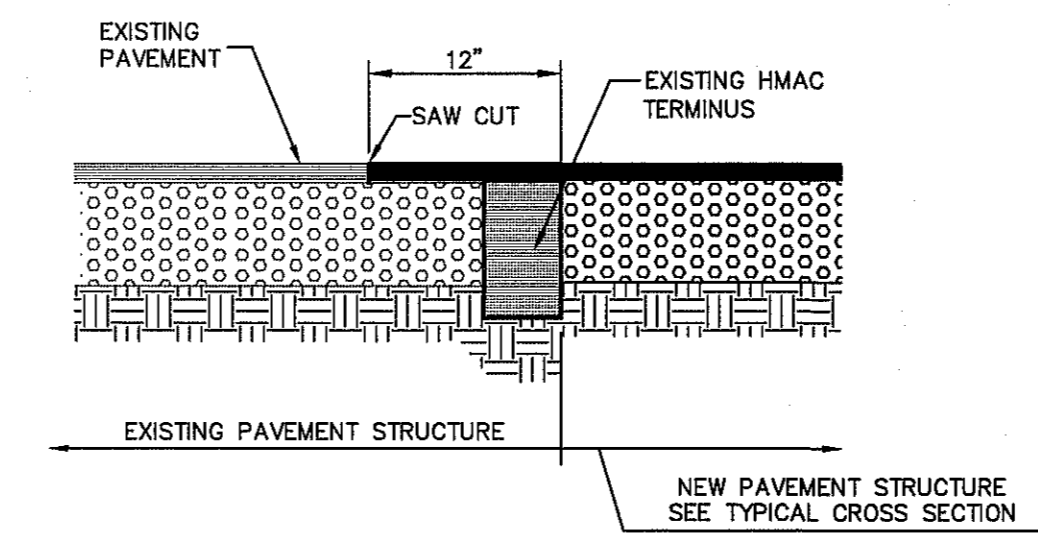


- NOTE:**
EXPANSION MATERIAL SHALL BE 1/2" PREFORMED ASPHALT IMPREGNATED EXPANSION MATERIAL OR EQUAL.

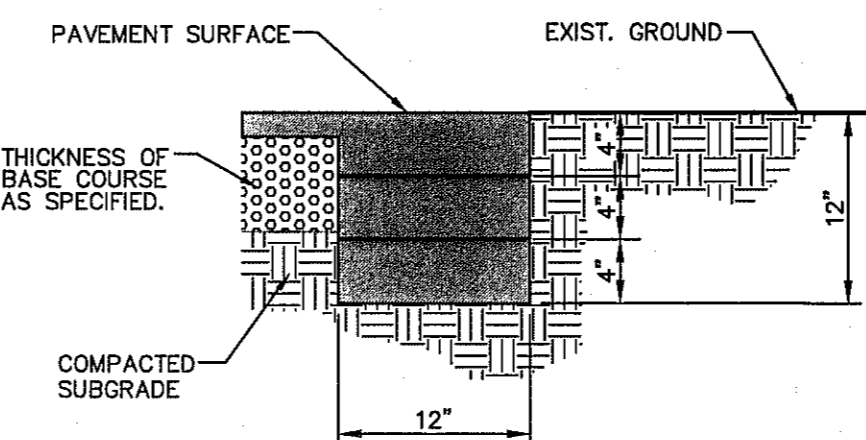
7 HEEL/DRIVEWAY DETAIL
SCALE: N.T.S.



10 TYPICAL HEEL/SIDEWALK TRANSITION
SCALE: N.T.S.

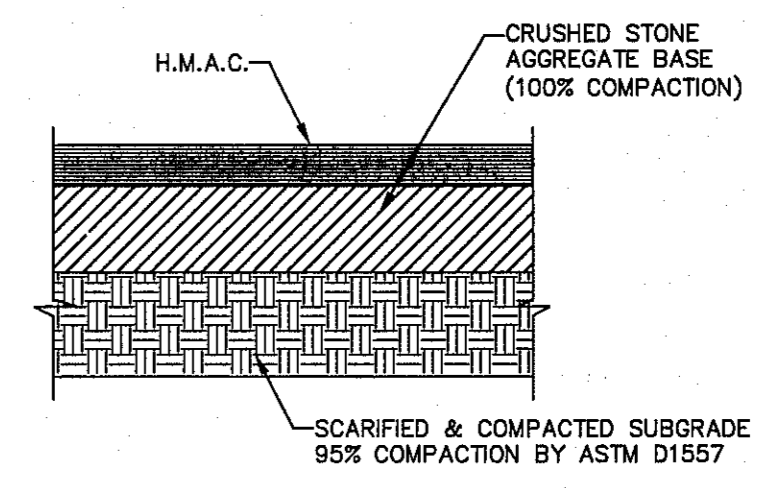


3 TYPICAL PAVEMENT JOINT SECTION
SCALE: N.T.S.



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

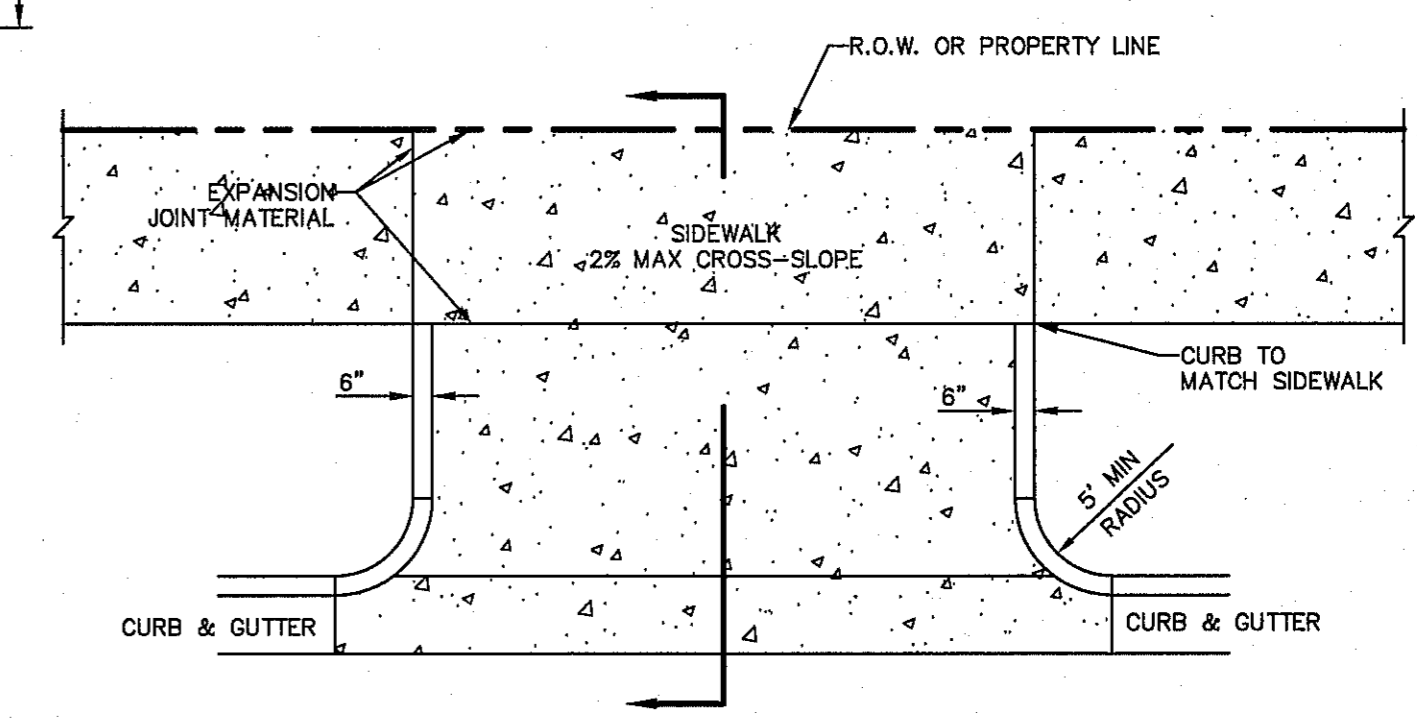
4 TERMINUS OF STREET
SCALE: 1"=1'-0"



PAVEMENT SECTION NOTES:

- SUBGRADE TO BE COMPACTED TO 95% OF MAXIMUM DENSITY AS PER ASTM D-1557.
- MINIMUM PAVEMENT DESIGN DETAILS ARE SHOWN, ACTUAL PAVEMENT DESIGN WILL BE DETERMINED BY CBR.
- STREET IMPROVEMENTS (FLEXIBLE PAVEMENT DESIGN STRUCTURE) 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. THE CBR RESULTS WILL DICTATE THE REQUIRED THICKNESS OF THE PAVEMENT STRUCTURE BASED ON CITY OF EL PASO DESIGN STANDARDS. THE DEVELOPER SHALL PLACE THE HIGHER VALUE OF PAVEMENT STRUCTURE BASED ON THE CBR RESULTS OR THE MINIMUM PAVEMENT THICKNESS AS SHOWN ON THE CITY OF EL PASO DESIGN STANDARDS.

5 TYPICAL PAVEMENT SECTION
SCALE: N.T.S.

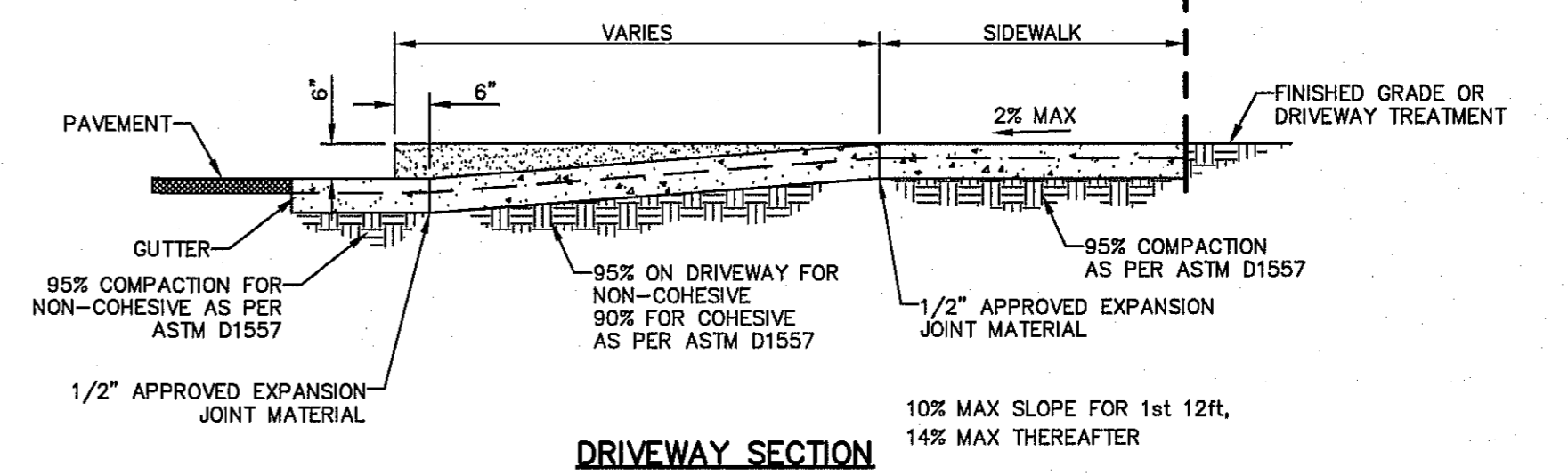


DRIVEWAY PLAN

DRIVEWAY WIDTH	MIN	MAX
COMMERCIAL/INDUSTRIAL	24'	35'
RESIDENTIAL (SINGLE FAMILY 60' LOTS)	10'	20'
LESS THAN 60' LOTS, DUPLEX AND TOWN HOMES (REFER TO PLATE 6-16)	15'	25'

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

COMMERCIAL/INDUSTRIAL
6" CONC WITH 6X6-6/6

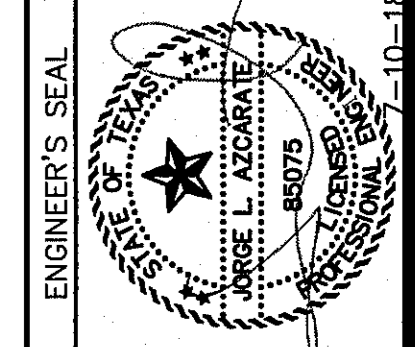


DRIVEWAY SECTION

8 CONCRETE APRON FOR DRIVEWAYS/ALLEYS
SCALE: N.T.S.

REFERENCES - BENCHMARKS
CITY MONUMENT LOCATED AT THE CENTERLINE INTERSECTION OF CYPRESSDALE DRIVE AND PALMINDO ELEVATION = 3928.24' (E.P.V.D.). THE NORTH AMERICAN VERTICAL DATUM OF SAID CITY MONUMENT IS ELEVATION = 3939.53' (NAVD 88).
DATE: _____ BY: _____

osa
ENGINEERING
TEXAS REGISTERED ENGINEERING FIRM #484
4712 Woodrow Began, Sigs. El Paso, TX 79904
915.344.6232 | www.osaengineer.com



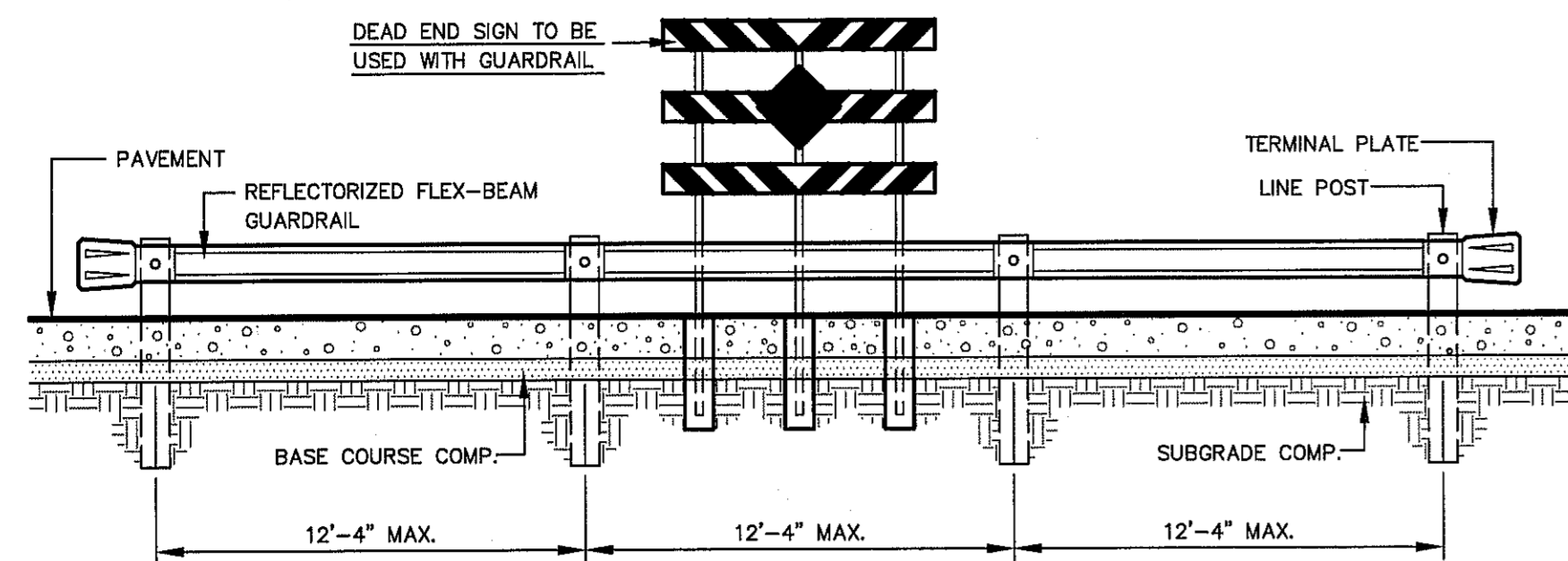
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Contour Interval: N/A
DATE: JULY, 2018
DESIGN BY: R.O.
DRAWN BY: G.M.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB NO.: 2000-201

PROJECT TITLE
**HIDDEN VILLAGE UNIT ONE
SUBDIVISION IMPROVEMENTS**

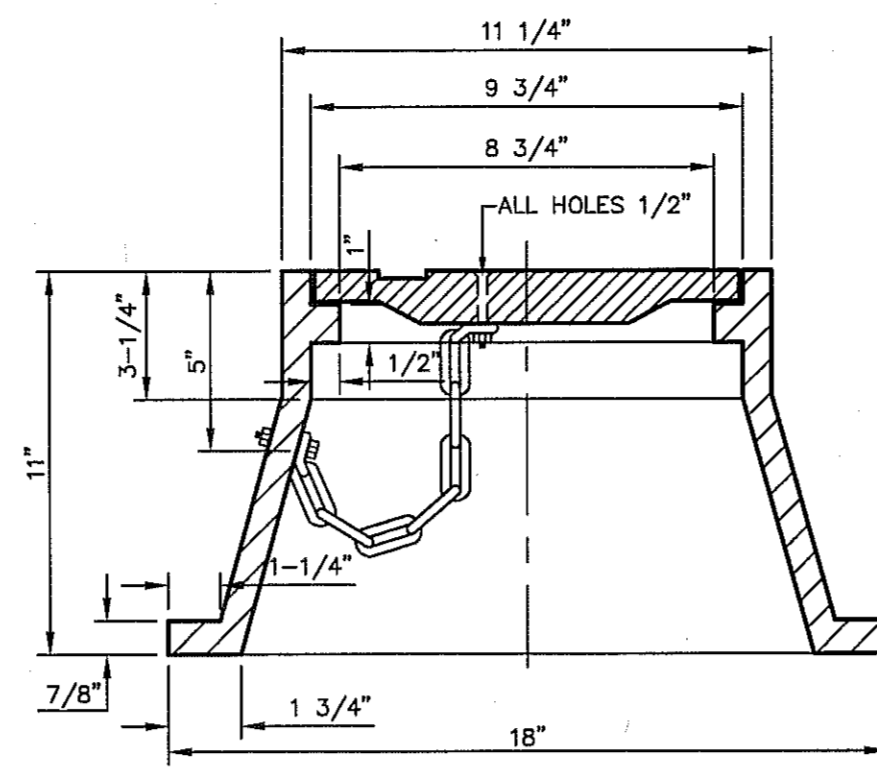
SHEET TITLE
**STANDARD
DETAILS**
(SHEET 1 OF 3)
SHEET NO.



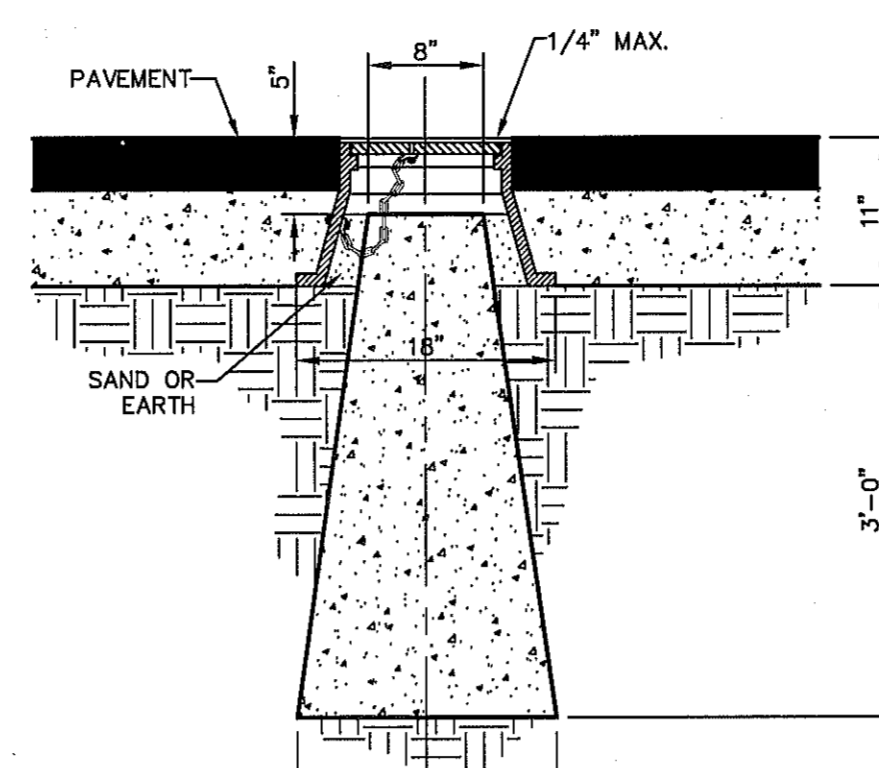
C9.1



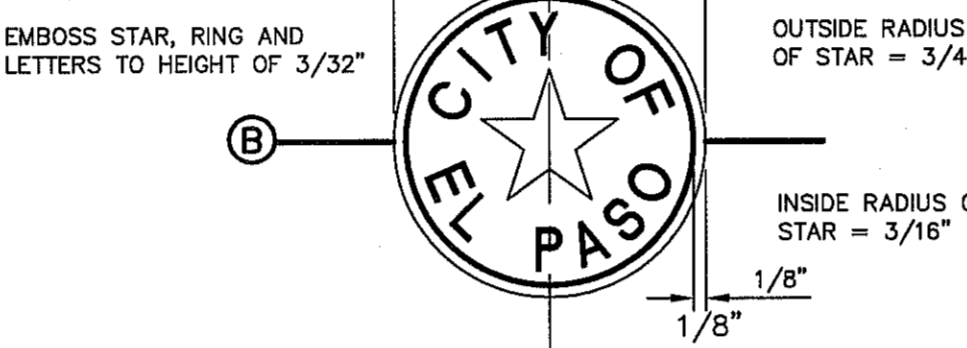
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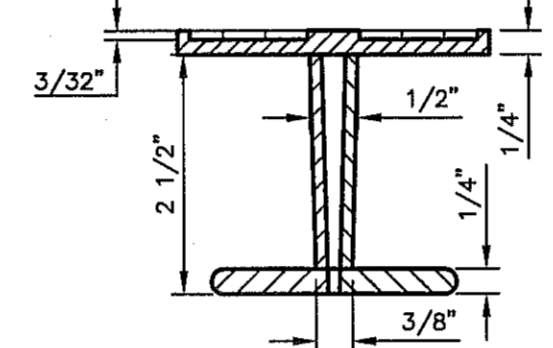
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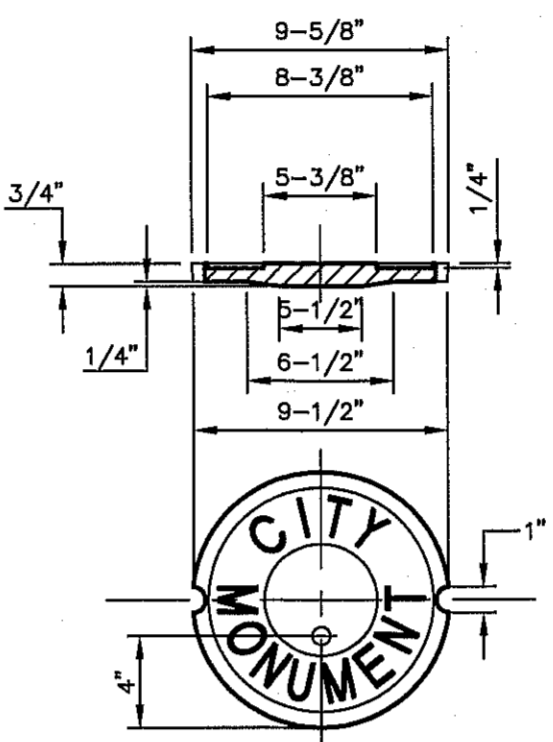
COVER



BRONZE MONUMENT CAP



B SECTION



COVER

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

ROCK WALLS

MATERIALS: STONE FOR ROCK WALLS SHALL CONSIST OF QUARRIED LIMESTONE AS NEARLY UNIFORM IN SECTION AS IS PRACTICABLE. FIELD STONE OR SALVAGED STONE FROM ROCK WALLS SHALL BE USED ONLY WHERE DIRECTED BY THE ENGINEER. THE STONE SHALL BE DENSE, RESISTANT TO THE ACTION OF AIR AND WATER, CLEAN OF OLD MORTAR AND SUITABLE IN ALL RESPECTS FOR THE PURPOSE INTENDED.

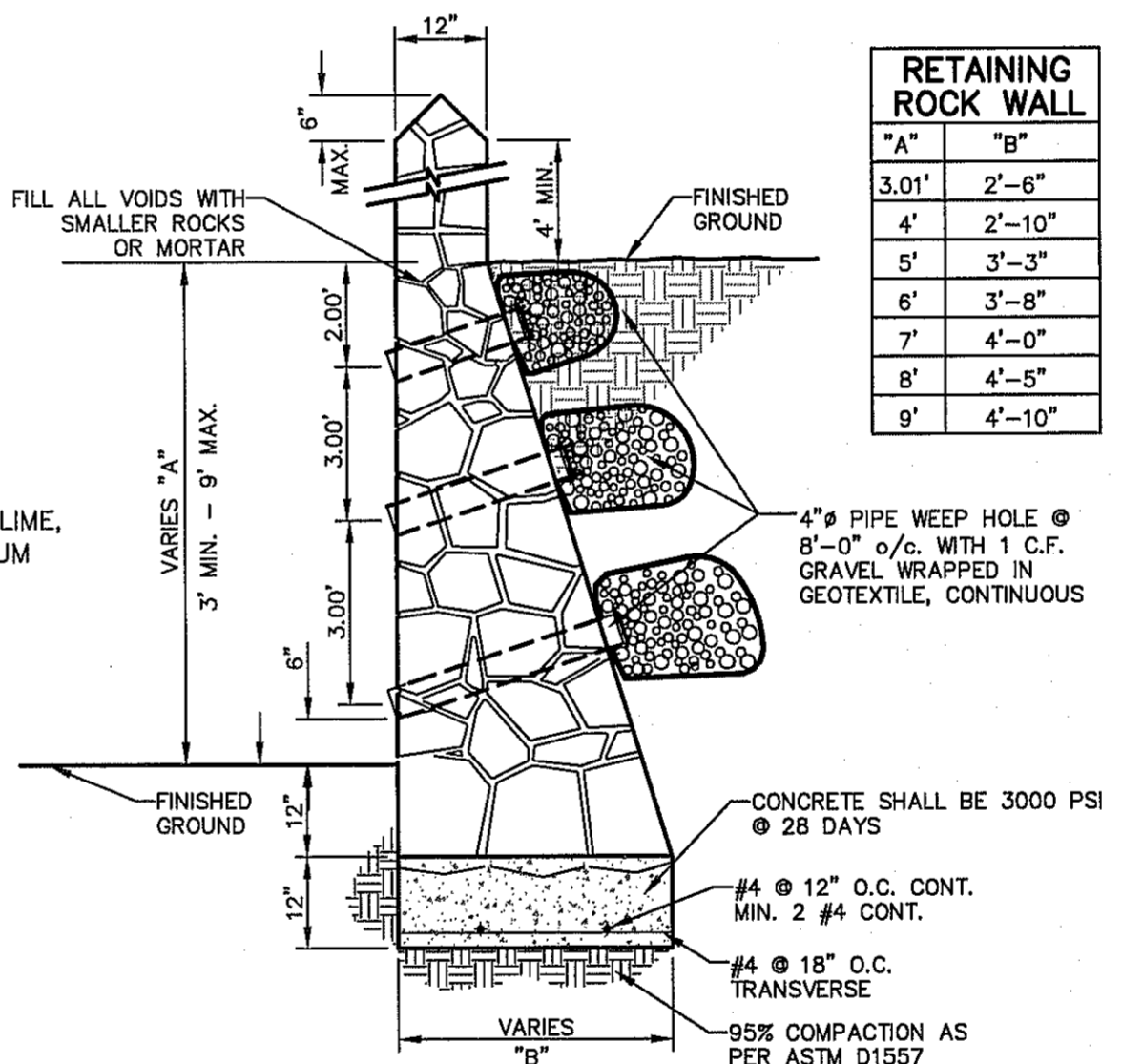
MORTAR FOR THE ROCK WALLS SHALL CONSIST BY VOLUMES OF ONE (1) PART PORTLAND CEMENT, ONE-QUARTER TO ONE-HALF (1/4 TO 1/2) PART HYDRATED LIME, AND THREE (3) PARTS CLEAN, HARD, DURABLE SAND (2 1/4 TO 3 TIMES THE SUM OF THE VOLUMES OF CEMENT AND LIME COMBINED. SEE CITY BUILDING CODE PP. 14-3 AND 14-4). MORTAR SHALL BE TYPE S, ASTM SPECIFICATION C270-73. COMPRESSIVE STRENGTH = 1800 P.S.I. (28 DAYS). CONCRETE FOR THE FOUNDATION SHALL BE CLASS "A" (3000 P.S.I.). REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60. IF ROCK WALL IS FREQUENTLY EXPOSED TO WATER, LIME SHALL NOT BE USED AND THE PORTIONS SHALL BE ONE PART PORTLAND CEMENT AND THREE PARTS SAND.

CONSTRUCTION METHODS: PRIOR TO PLACING THE CONCRETE FOUNDATION, THE EXCAVATION FOR THE ROCK WALLS SHALL BE MADE TO THE PROPER SECTION, AND, IF CONSIDERED NECESSARY BY THE ENGINEER, THE BOTTOM OF EXCAVATION SHALL BE HAND-TAMPED AND SPRINKLED. THE EXCAVATED AREA FOR ROCK WALLS SHALL BE MOIST WHEN THE CONCRETE IS PLACED. REINFORCING STEEL SHALL BE PLACED CONTINUOUSLY AS SHOWN ON THE PLANS AND PROPERLY SUPPORTED THROUGHOUT THE PLACEMENT OF CONCRETE. THE SURFACE OF THE CONCRETE SHALL NOT BE TROWELED. THE CONCRETE SHALL BE CURED A MINIMUM OF 24 HOURS BEFORE ANY STONE OR MORTAR IS PLACED ON THE FOUNDATION. THE CONCRETE SHALL BE CURED A MINIMUM OF 48 HOURS BEFORE MORE THAN 300 POUNDS PER SQUARE FOOT OF STONE AND MORTAR IS PLACED ON THE FOUNDATION. CONTRACTOR SHALL EMBED THE FIRST FOUR INCHES OF THE FIRST LAYER INTO THE FRESH CONCRETE OF THE FOOTING.

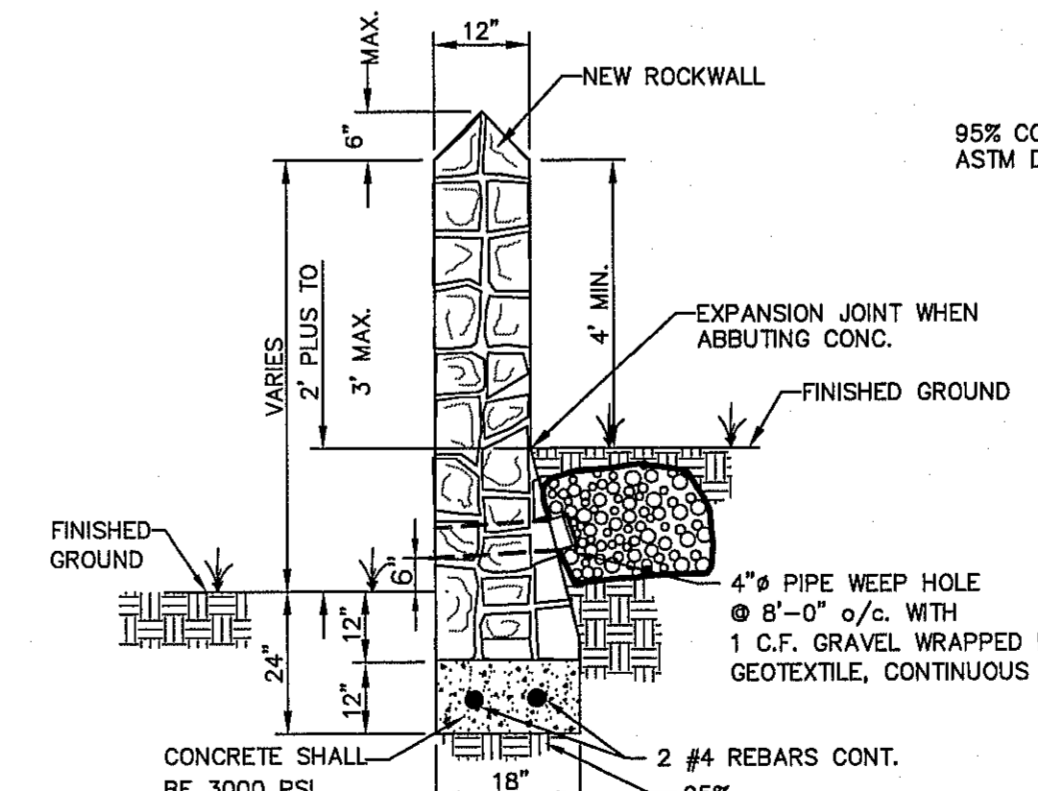
STONE SHALL BE SELECTED AS TO SIZE AND SHAPE TO SECURE FAIRLY LARGE FLAT-SURFACED STONE WHICH MAY BE ERECTED WITH TRUE AND EVEN SURFACE FACES AND A MINIMUM OF EXPOSED MORTAR. ALL STONES SHALL BE THOROUGHLY CLEANED, WETTED, HAND-PLACED AND EMBEDDED IN MORTAR SO THAT NO STONES SHALL TOUCH EACH OTHER OR THE CONCRETE FOUNDATION BUT SHALL BE FIRMLY BOUND TOGETHER WITH MORTAR. THE FINISHED SURFACE SHALL PRESENT A NEAT, CLEAN, WORKMANLIKE AND TRUE-TO-LINE APPEARANCE. THE INTERIOR OF THE ROCK WALL SHALL BE COMPLETELY FILLED WITH SPALLS AND PIECES OF THE SPECIFIED STONE, COMPLETELY EMBEDDED AND SURROUNDED BY MORTAR WITH NO VOIDS.

THE ERECTION OF THE ROCK WALL SHALL NOT BE MORE THAN THREE FEET IN HEIGHT FOR EVERY 24-HOUR PERIOD TO ALLOW FOR THE LOWER PORTIONS TO BECOME SUFFICIENTLY SET. ALL STONES SHALL BE THOROUGHLY WET BEFORE BEING PLACED IN FRESH MORTAR. THE LAST LAYER OF ROCK PRIOR TO BREAK OF CONSTRUCTION PHASE SHALL NOT HAVE ANY MORTAR ON TOP. FRESH MORTAR MUST BE USED FOR CONTINUATION OF WORK FOLLOWING ERECTION BREAK.

WEEP HOLES SHALL BE PLACED ON THE ROCK WALL AS SHOWN ON THE PLANS. THE WEEP HOLES SHALL BE NOT MORE THAN TEN FEET APART ON-CENTER. THE WEEP HOLES SHALL CONSIST OF FOUR-INCH VITRIFIED CLAY PIPE, OR OTHER PIPE AS APPROVED BY THE ENGINEER, NEATLY CUT TO THE EXPOSED SURFACE OF THE ROCK WALL. NO LESS THAN ONE CUBIC FOOT OF ONE-INCH TO 3/4-INCH OF GRADED GRAVEL SHALL BE PLACED AT THE INLET OF EACH WEEP HOLE AS SHOWN ON THE PLANS.

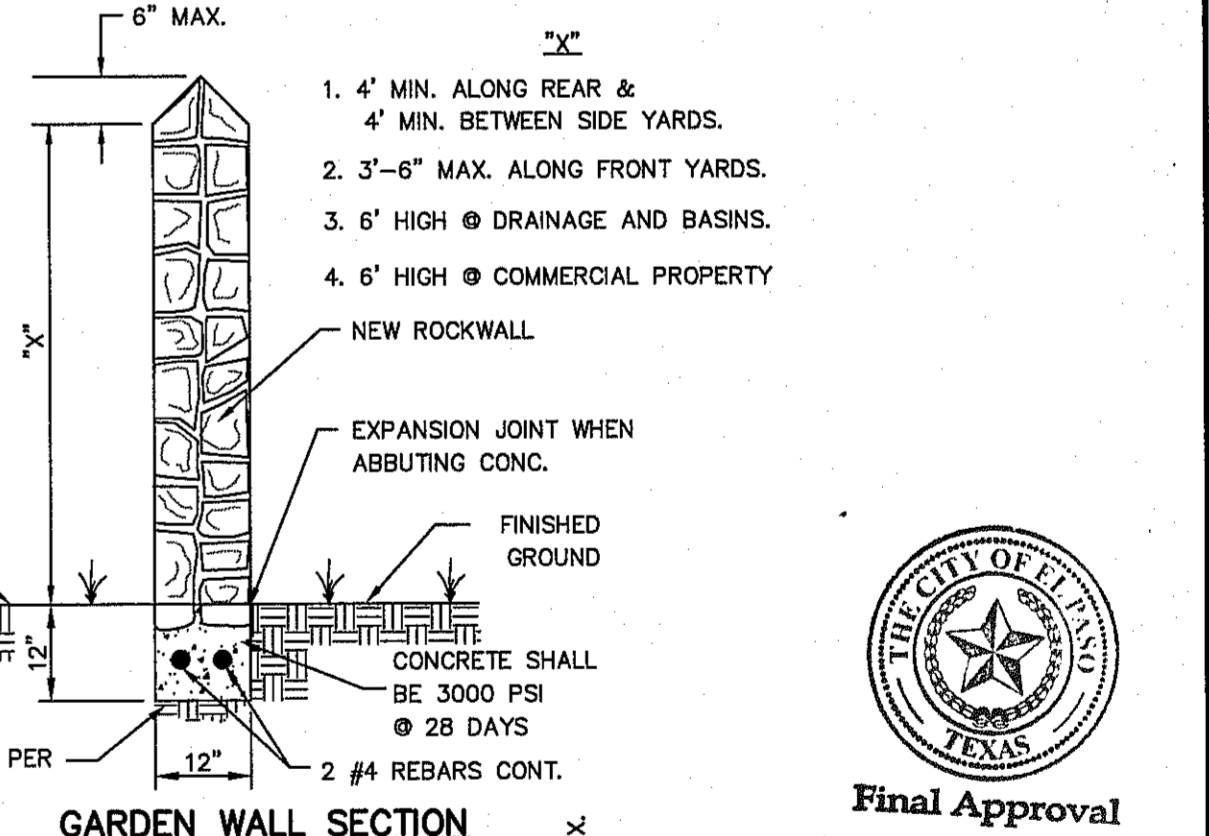


RETAINING WALL SECTION (3' MIN. TO 9' MAX.)

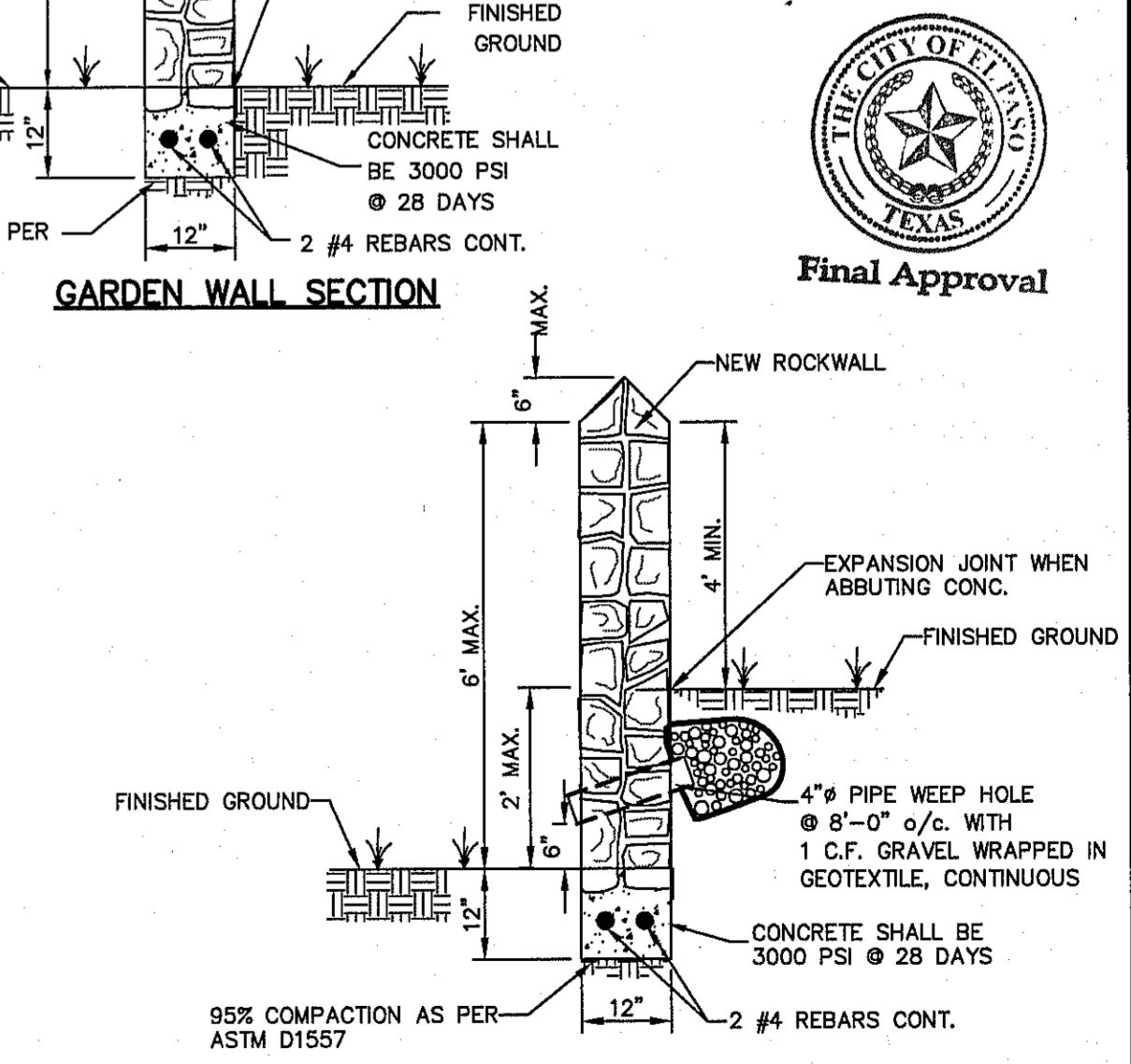


RETAINING WALL SECTION (2' PLUS TO 3' MAX.)

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



GARDEN WALL SECTION (2' MAX.)



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

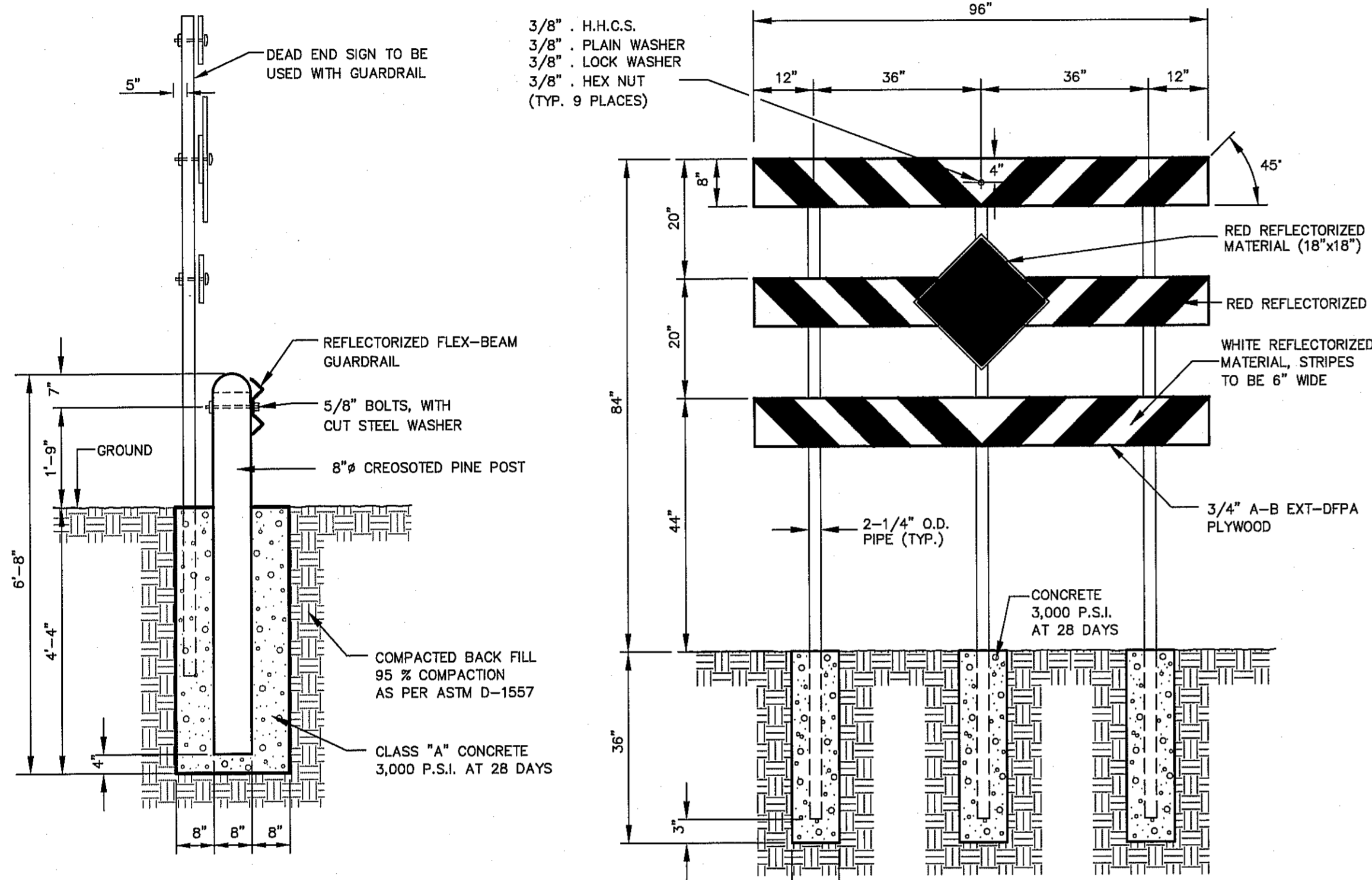
PROPOSED MONUMENT LOCATIONS

- MONUMENTS SHALL BE INSTALLED SO THAT ALL FRONT PROPERTY CORNERS OF ALL LOTS IN THE SUBDIVISION ARE WITHIN LINE OF SIGHT OF A MONUMENT, OR WITHIN SIGHT OF THE LINE BETWEEN TWO ADJACENT MONUMENTS.
- EACH MONUMENT SHALL BE WITHIN LINE OF SIGHT OF ANOTHER MONUMENT.
- MONUMENTS SHALL BE NO FARTHER THAN 2000 FEET APART.
- AT LEAST ONE (1) MONUMENT SHALL BE PLACED ON EACH HORIZONTAL CURVE (P) OF THE TANGENTS LEADING INTO THE CURVE FALLS OUTSIDE THE CURB LINE.
- NO FEWER THAN TWO MONUMENTS SHALL BE PLACED IN ONE (1) STREET SUBDIVISIONS.

ROCK WALL NOTES

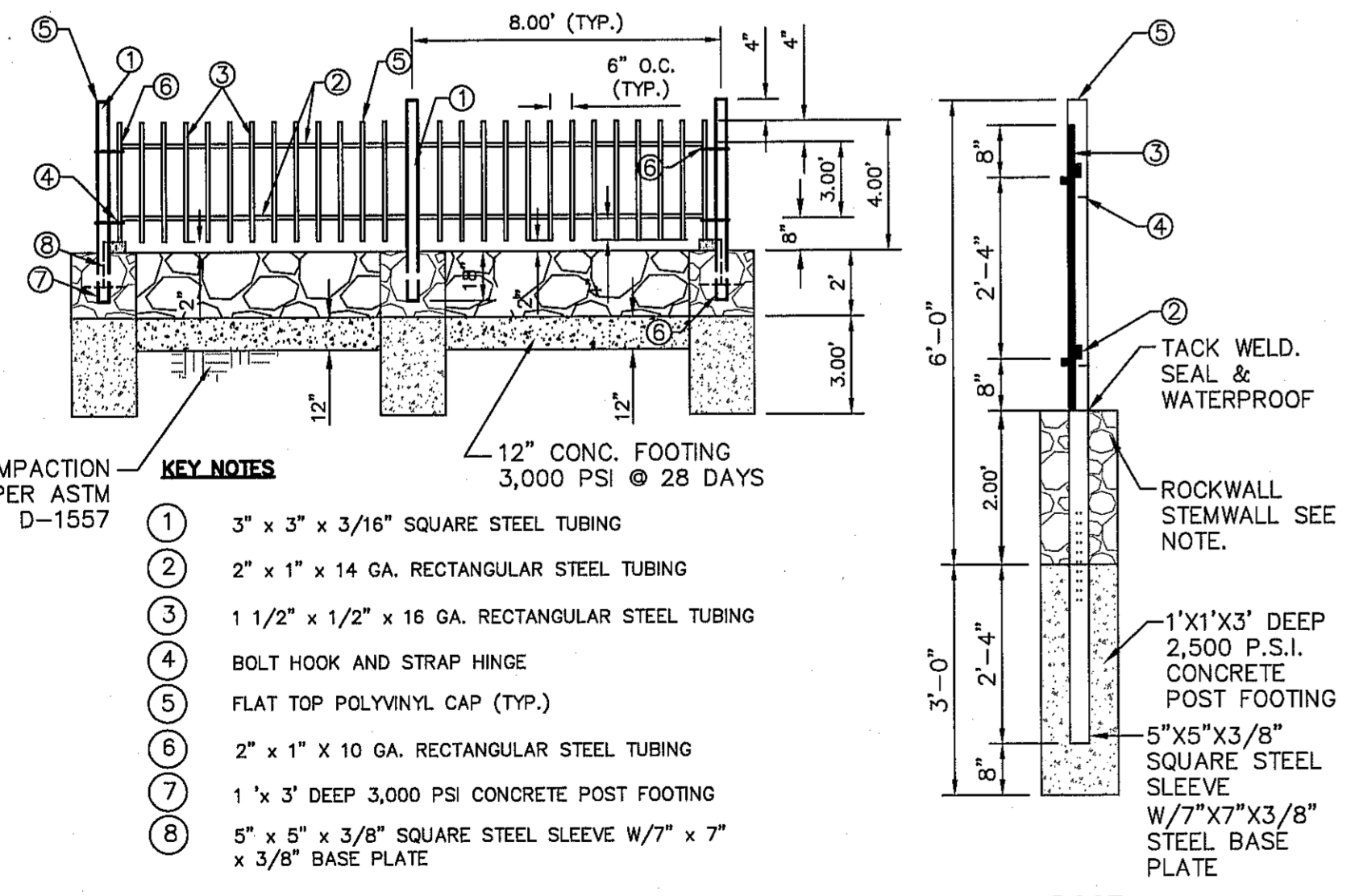
- STONE FOR ROCKWALL SHALL BE AS NEARLY UNIFORM IN SECTIONS AS IS PRACTICABLE THE STONE SHALL BE DENSE AND RESISTANT OF AIR AND WATER
- MORTAR MUST BE TYPE "S" 1800 P.S.I. AS PER ASTM C270
- MASONRY WALL OVER SIX (6) FEET IN HEIGHT AND THOSE USED FOR EARTH RETENTION OVER TWO (2) FEET MUST BE DESIGNED AS STRUCTURAL WALLS.
- WALLS ADJACENT TO PONDING AREAS OR DRAINAGE DITCHES MAY BE CONSTRUCTED OF BRICK, ROCK, STONE OR CINDER BLOCK AND SHALL NOT BE LESS THAN SIX (6) FEET HIGH
- ROCKWALL MORTAR JOINTS MUST NOT EXCEED TWO (2) INCHES
- PROVIDE ONE (1) INCH EXPANSION JOINTS AT EVERY 100 FEET
- ALL STONE SHALL BE THOROUGHLY SOAKED BEFORE BEING PLACED
- ALL STONE FOR ROCKWALLS SHALL BE FRACTURED QUARRIED ROCK OR ROUND ROCK, NO RIVER ROCK SHALL BE ALLOWED.
- REINFORCING STEEL SHALL BE ASTM A615 GRADE 40.
- ALLOWABLE SOIL BEARING PRESSURE = 2,500 PSI (MINIMUM)
- BACKFILL MATERIALS SHALL CONSIST OF COARSE GRAINED, WELL-DRAINED SOILS (WITH NO CLAY CONTENT).
- ALL THE RETAINING WALLS OVER 4' IN DEPTH SHALL BE BUILT BY DEVELOPER, REMAINING ROCKWALLS TO BE BUILT BY BUILDER.

NOTE: BUILDER SHALL SUBMIT ROCKWALL AND RETAINING ROCKWALL COMPUTATIONS TO THE COUNTY OF EL PASO OR FOR APPROVAL, IF IN EXCESS OF THOSE SHOWN.



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

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



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

NOTE: REFER TO PLANS IF ROCKWALL IS DESIRED FOR A 2' ROCKWALL/ 4' FENCE OR ONLY A 6" WROUGHT IRON FENCE.

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

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

REFERENCES - BENCHMARKS

CITY MONUMENT LOCATED AT THE CENTERLINE INTERSECTION OF CLOVESDALE DRIVE AND PALOMINO ELEVATION = 3928.24' (E.P.V.D.). THE NORTH AMERICAN VERTICAL DATUM OF SAID CITY MONUMENT IS ELEVATION = 3939.53' (NAVD 88).

DATE	REVISIONS	BY

osa

TEXAS REGISTERED ENGINEERING FIRM #684
4712 Woodrow Behm, S.B. F. El Paso, TX 79924
915.544.5322 | www.osagroup.net

ENGINEER'S SEAL

SCALE SHOWN

Horizontal: 1/4"

Vertical: 1/8"

Contour Interval: N/A

DATE: JULY, 2018

DESIGN BY: R.O.

DRAWN BY: G.M.

CHKD. BY: J.L.A.

APPVD. BY: J.L.A.

JOB No. 2000-201

PROJECT TITLE

HIDDEN VILLAGE UNIT ONE
SUBDIVISION IMPROVEMENTS

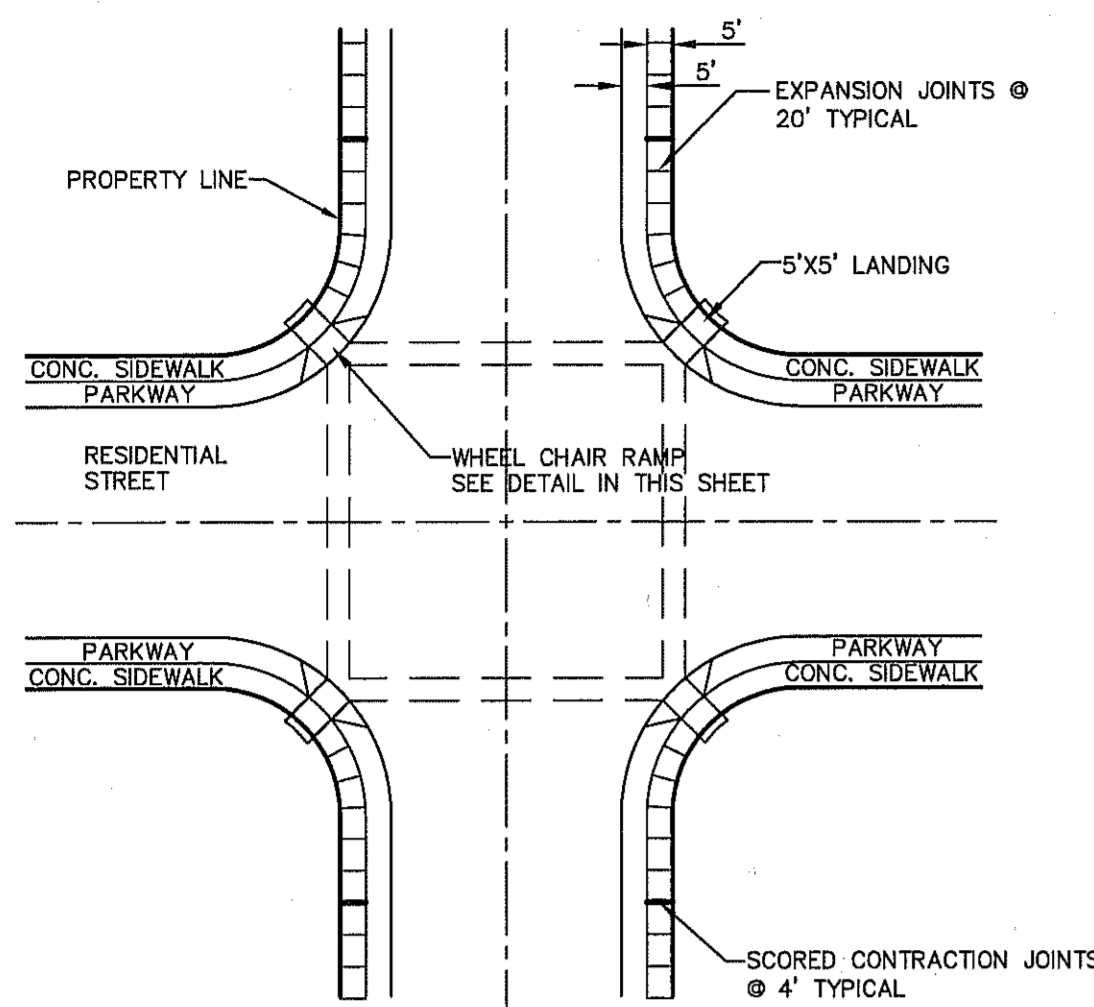
SHEET TITLE

STANDARD DETAILS

(SHEET 2 OF 3)

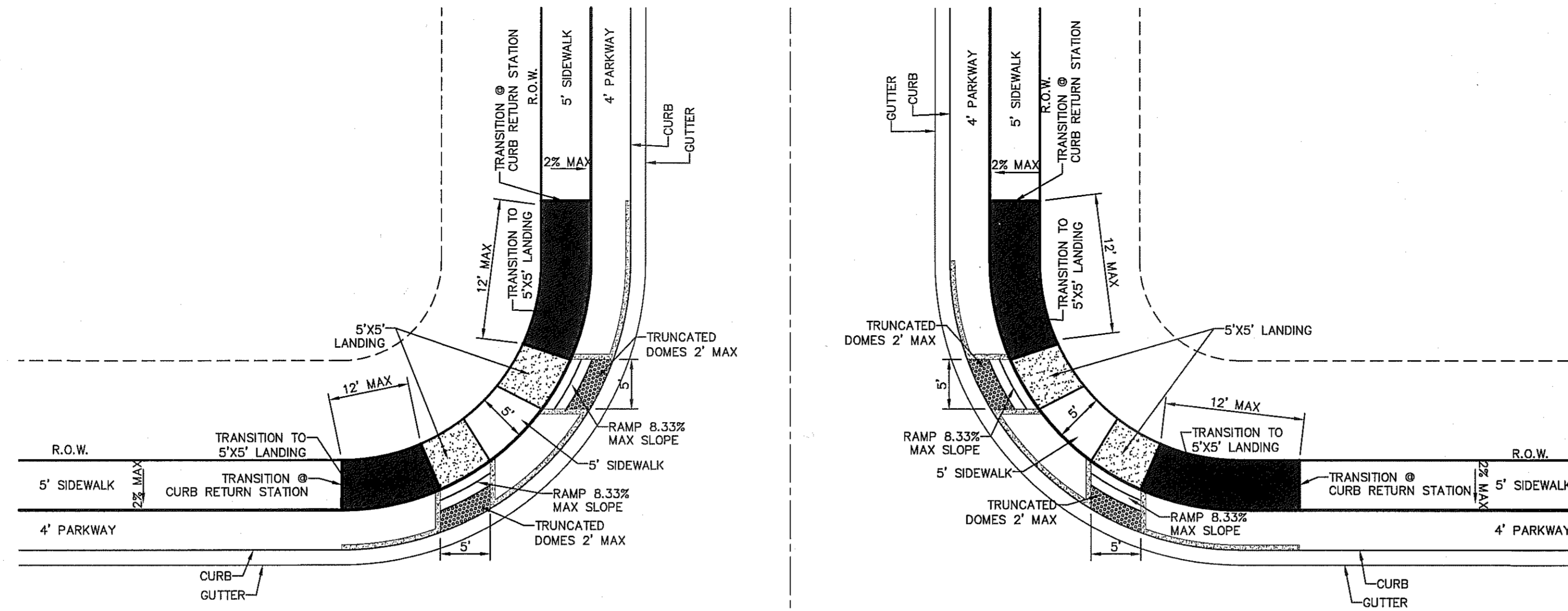
SHEET NO.

C9.2



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

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



2 DIRECTIONAL RAMP AT INTERSECTION
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 BE A MINIMUM OF 70% CONTRAST IN LIGHT REFLECTANCE BETWEEN THE DETECTABLE WARNING AND AN ADJOINING SURFACE. OR THE DETECTABLE WARNING SHALL BE "RED BRICK" COLOR, UNLESS OTHERWISE DIRECTED BY THE CITY OF EL PASO ROAD AND BRIDGE DEPARTMENT. THE MATERIAL USED TO PROVIDE VISUAL CONTRAST SHALL BE AN INTEGRAL PART OF THE DETECTABLE WARNING SURFACE. ADA TILE SHALL BE PROVIDED BY PLACING AND MIXING TINT IN THE PLASTIC CONCRETE USED FOR THE DETECTABLE WARNING SURFACE. NO PAINTING OF SURFACE SHALL BE PERMITTED.

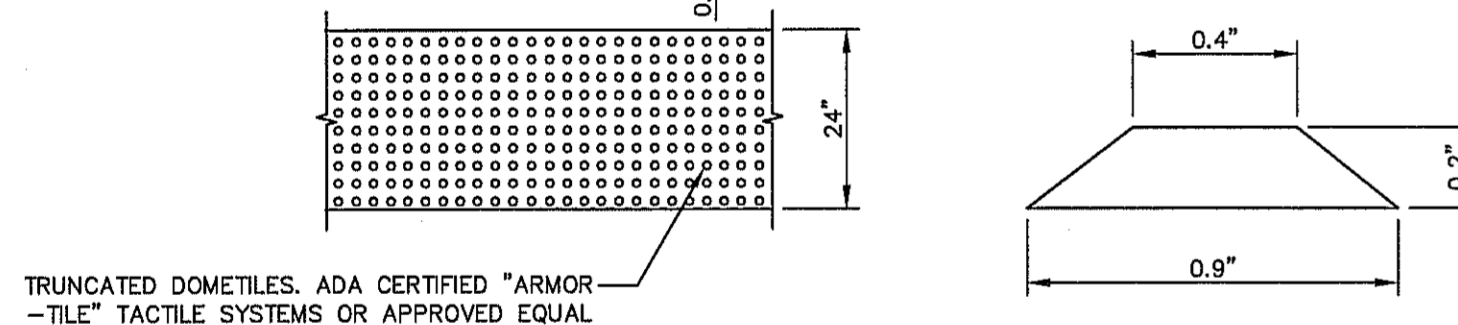
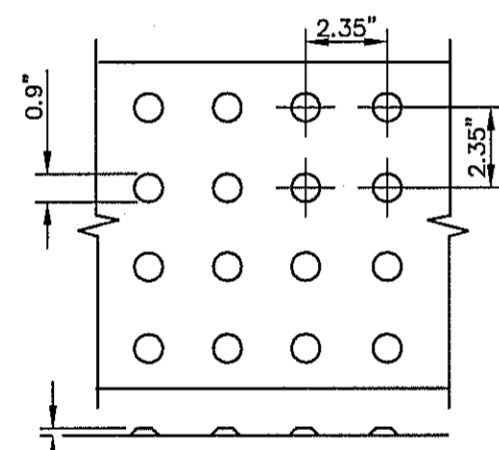
NOTES:

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

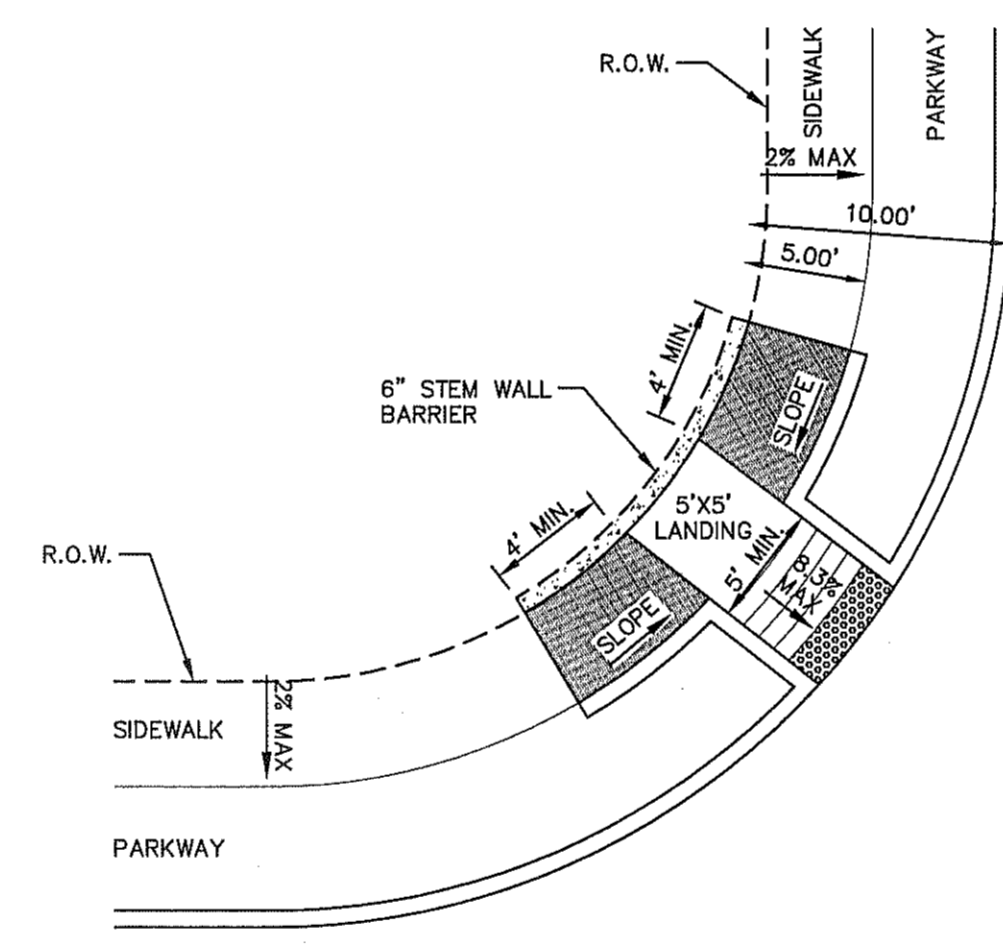
DOMES SIZE AND SPACING. TRUNCATED DOMES SHALL HAVE A DIAMETER OF NOMINAL 0.9 INCHES (23 mm) AT THE BOTTOM, A DIAMETER OF 0.4 INCH (10 mm) AT THE TOP, A HEIGHT OF NOMINAL 0.2 INCHES (5 mm), AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.35 INCHES (60 mm) MEASURED ALONG ONE SIDE OF A SQUARE ARRANGEMENT.

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

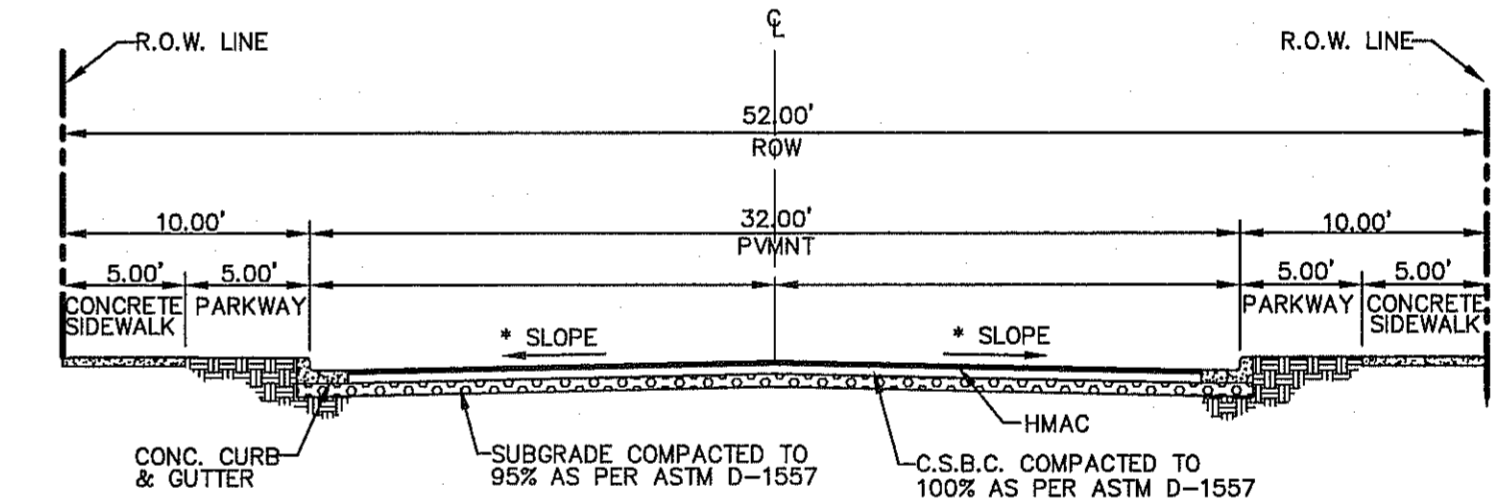
CONTRAST. THERE SHALL BE A MINIMUM OF 70 PERCENT CONTRAST IN LIGHT REFLECTANCE BETWEEN THE DETECTABLE WARNING AND AN ADJOINING SURFACE, OR THE DETECTABLE WARNING SHALL BE "RED BRICK" COLOR, UNLESS OTHERWISE DIRECTED BY THE OWNER. THE MATERIAL USED TO PROVIDE VISUAL CONTRAST SHALL BE AN INTEGRAL PART OF THE DETECTABLE WARNING SURFACE. ADA CERTIFIED "ARMOR-TILE" (REQUIRED). CONCRETE POURED TRUNCATED DOMES NOT ALLOWED. NO PAINTING OF SURFACE SHALL BE PERMITTED.



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

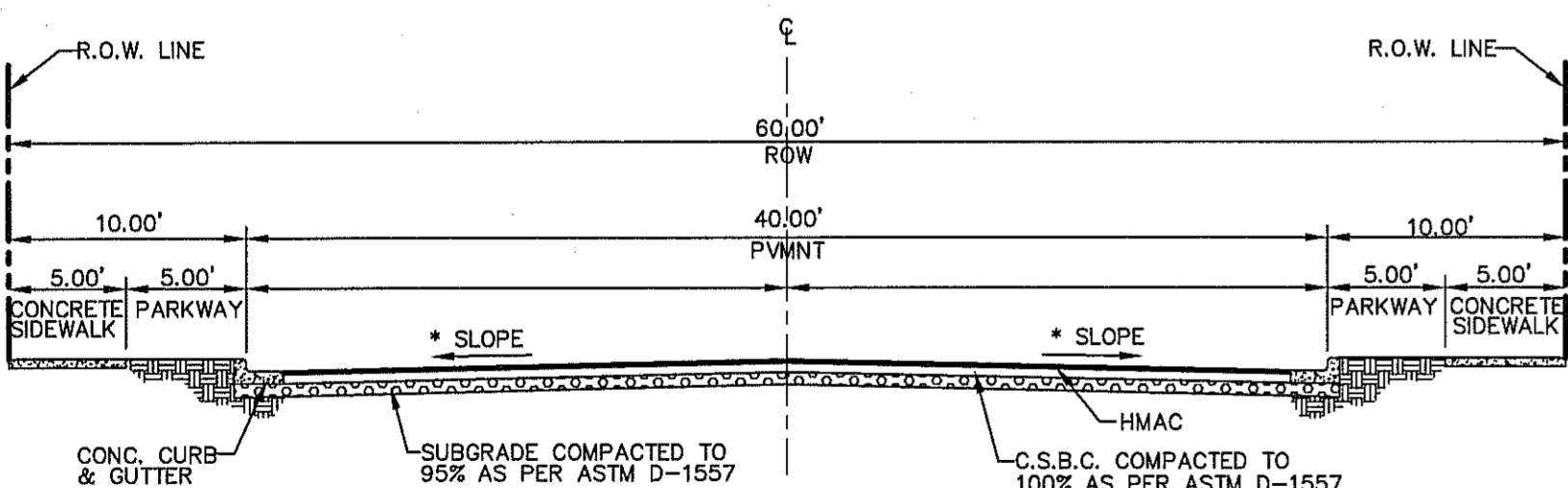


4 DIAGONAL CURB RAMP (FLARED SIDES) (TYPE V)
SCALE: N.T.S.



***CBR NOTE:**
STREET IMPROVEMENTS (FLEXIBLE PAVEMENT DESIGN STRUCTURE) 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. THE CBR RESULTS WILL DICTATE THE REQUIRED THICKNESS OF THE PAVEMENT STRUCTURE BASED ON CITY OF EL PASO DESIGN STANDARDS. THE DEVELOPER SHALL PLACE THE HIGHER VALUE OF PAVEMENT STRUCTURE BASED ON THE CBR RESULTS OR THE MINIMUM PAVEMENT THICKNESS AS SHOWN ON THE CITY OF EL PASO DESIGN STANDARDS.

5 TYPICAL 52' ROW STREET SECTION DETAIL (RESIDENTIAL SUBCOLLECTOR)
SCALE: N.T.S.

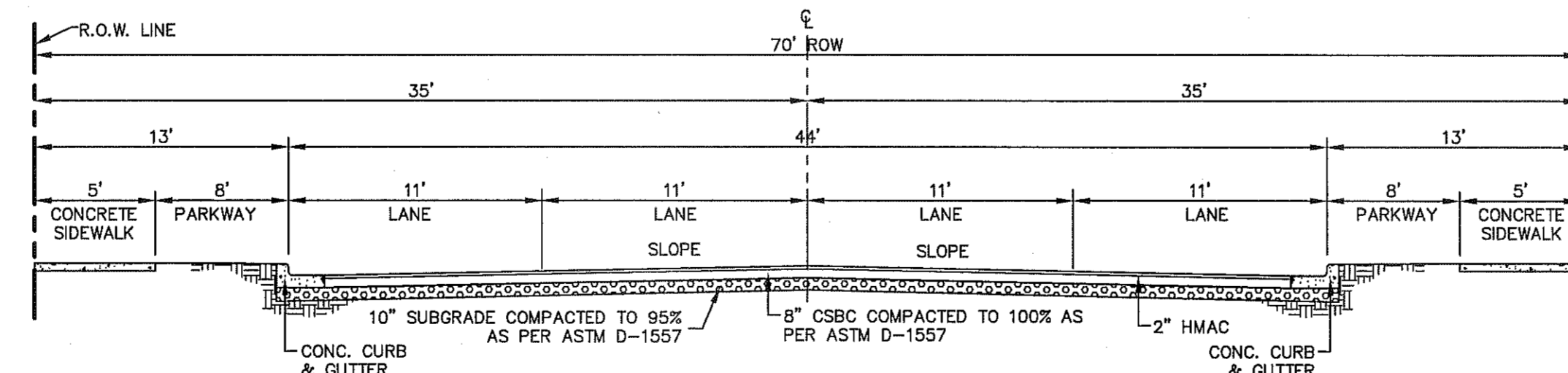


6 TYPICAL 60' ROW STREET SECTION DETAIL (RESIDENTIAL SUBCOLLECTOR)
SCALE: N.T.S.

NOTE: PARKING LANE WIDTHS AS PER CITY OF EL PASO DESIGN STANDARDS FOR CONSTRUCTION

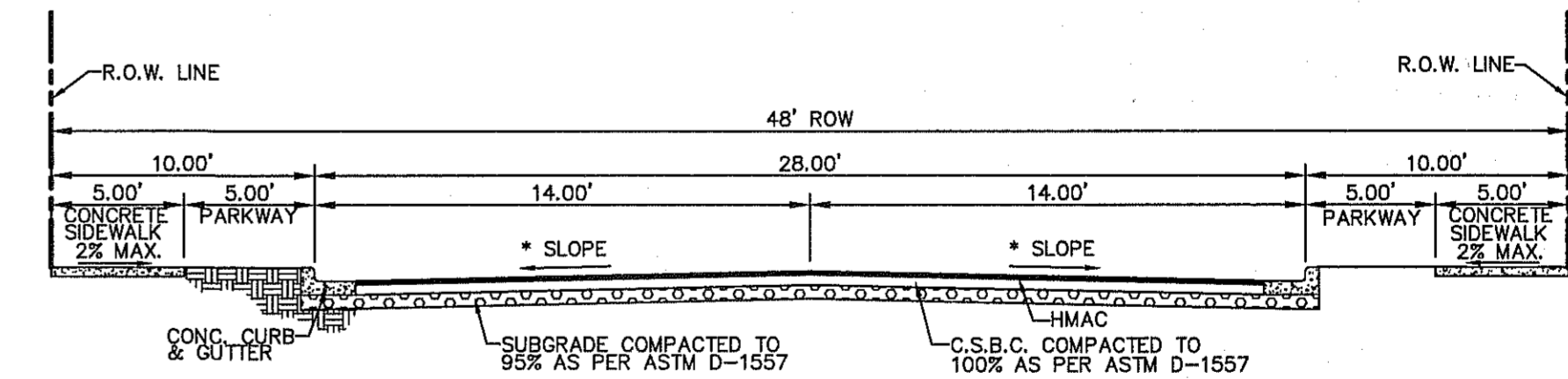
NOTES:

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



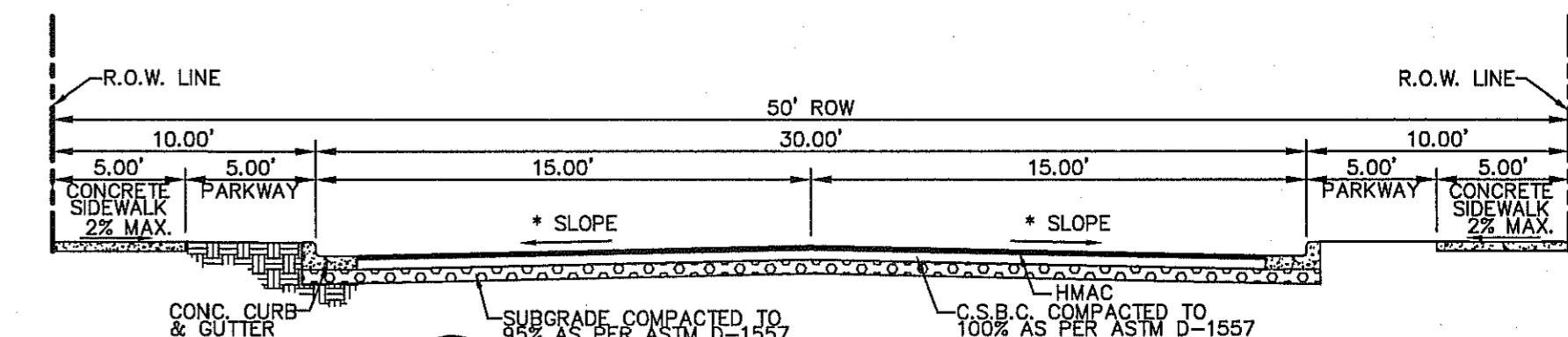
7 TYPICAL 70' ROW STREET SECTION DETAIL (RESIDENTIAL SUBCOLLECTOR)
SCALE: N.T.S.

NOTE: PARKING LANE WIDTHS AS PER CITY OF EL PASO DESIGN STANDARDS FOR CONSTRUCTION



8 PROPOSED 48' ROW STREET SECTION DETAIL (RESIDENTIAL SUBCOLLECTOR)
SCALE: N.T.S.

NOTE: PARKING LANE WIDTHS AS PER CITY OF EL PASO DESIGN STANDARDS FOR CONSTRUCTION

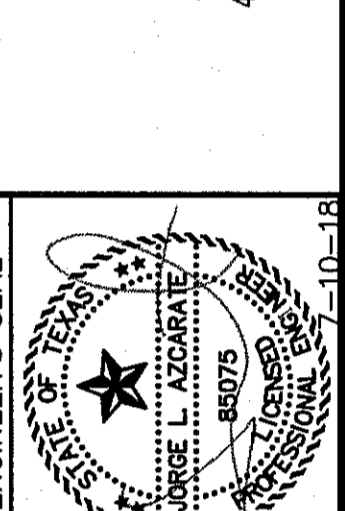


9 PROPOSED 50' ROW STREET SECTION DETAIL (RESIDENTIAL SUBCOLLECTOR)
SCALE: N.T.S.

NOTE: PARKING LANE WIDTHS AS PER CITY OF EL PASO DESIGN STANDARDS FOR CONSTRUCTION

REFERENCES - BENCHMARKS	DATE	BY
CITY MONUMENT LOCATED AT THE CENTERLINE INTERSECTION OF CYPRESSDALE DRIVE AND PALOMINO ELEVATION = 3928.24' (E.P.V.D.), THE NORTH AMERICAN VERTICAL DATUM OF SAID CITY MONUMENT IS ELEVATION = 3939.63' (NAVD 83).		

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REGISTERED ENGINEERING FIRM #4684
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SCALE	AS SHOWN
Horizontal	N/A
Vertical	N/A
Contour Interval	N/A
DATE	JULY, 2018
DESIGN BY	R.O.
DRAWN BY	G.M.
CHKD. BY	J.L.A.
APPVD. BY	J.L.A.
JOB NO.	2008-201

PROJECT TITLE
HIDDEN VILLAGE UNIT ONE
SUBDIVISION IMPROVEMENTS

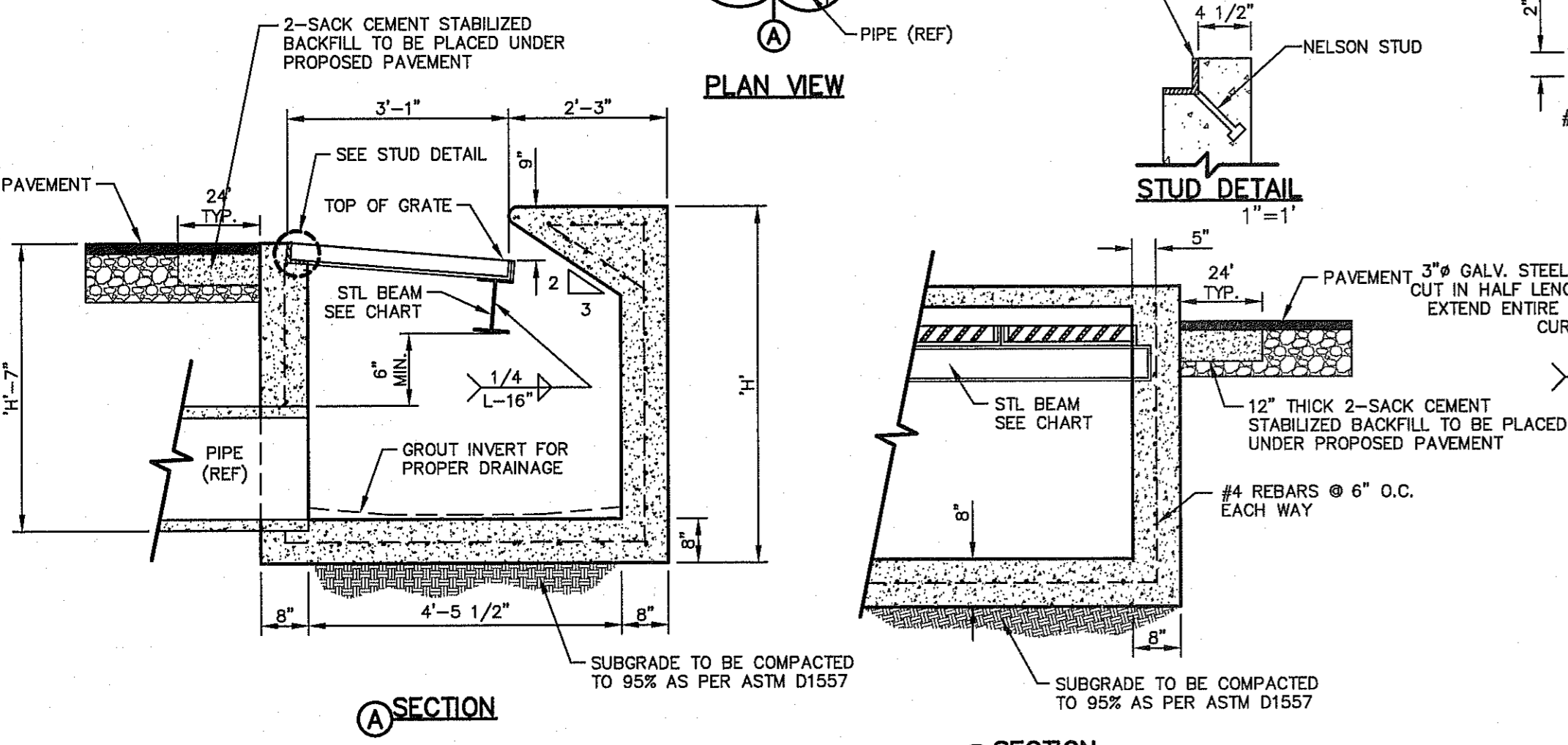
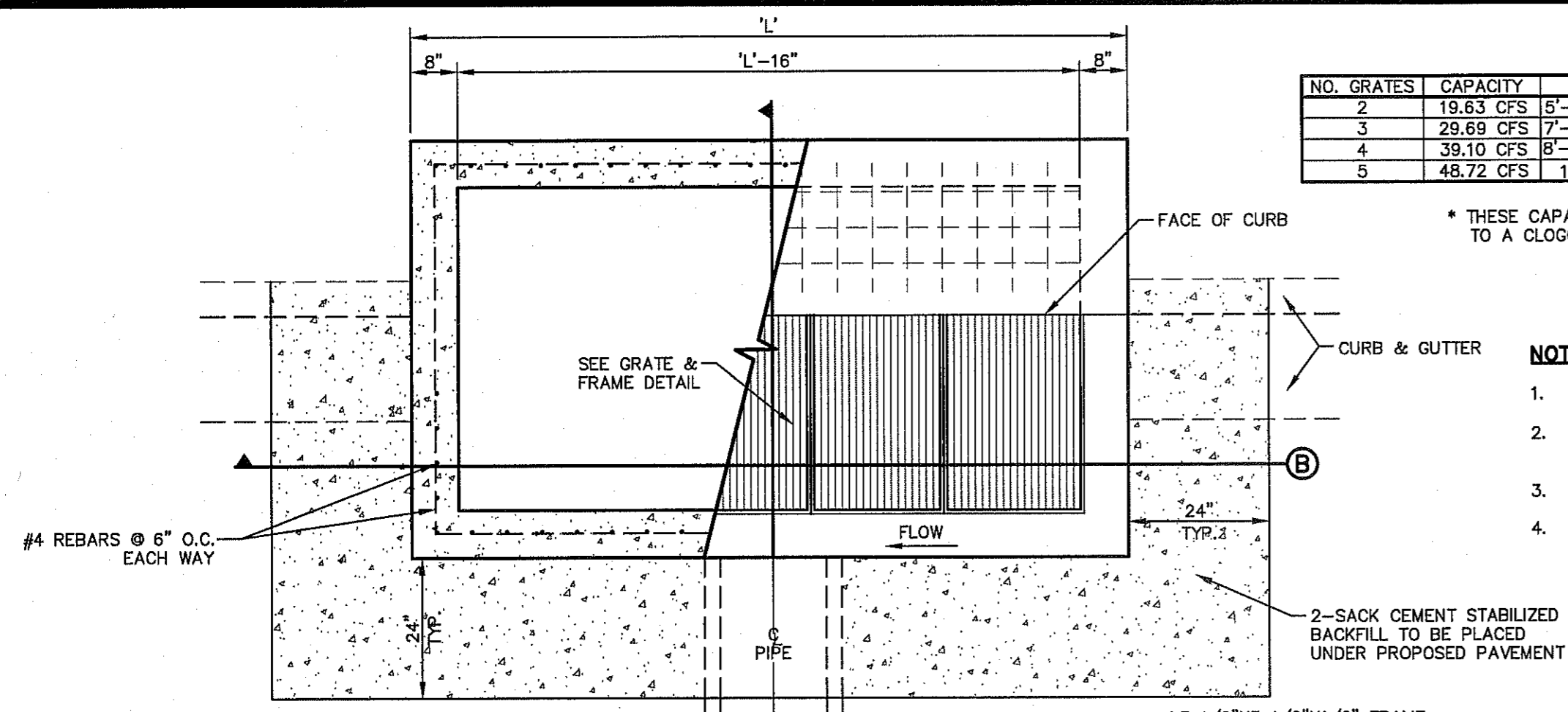
SHEET TITLE
STANDARD DETAILS
(SHEET 3 OF 3)
SHEET NO.

C9.3

NO. GRATES	CAPACITY	"L"	BEAM LENGTH	BEAM (MIN. SIZES)
2	19.63 CFS	5'-1 1/8"	4'-7 1/8"	W6x12, S6x12.5, MC6x15.1
3	29.69 CFS	7'-0 1/4"	6'-5 1/8"	W8x15, S7x15.3, MC7x17.6
4	39.10 CFS	8'-9 7/8"	8'-3 7/8"	W8x18, S8x18.4, MC10x21.9
5	48.72 CFS	10'-8"	10'-2"	W12x16, S9x21, MC10x21.9

* THESE CAPACITIES CORRESPOND TO A CLOGGING FACTOR OF 0.5

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



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

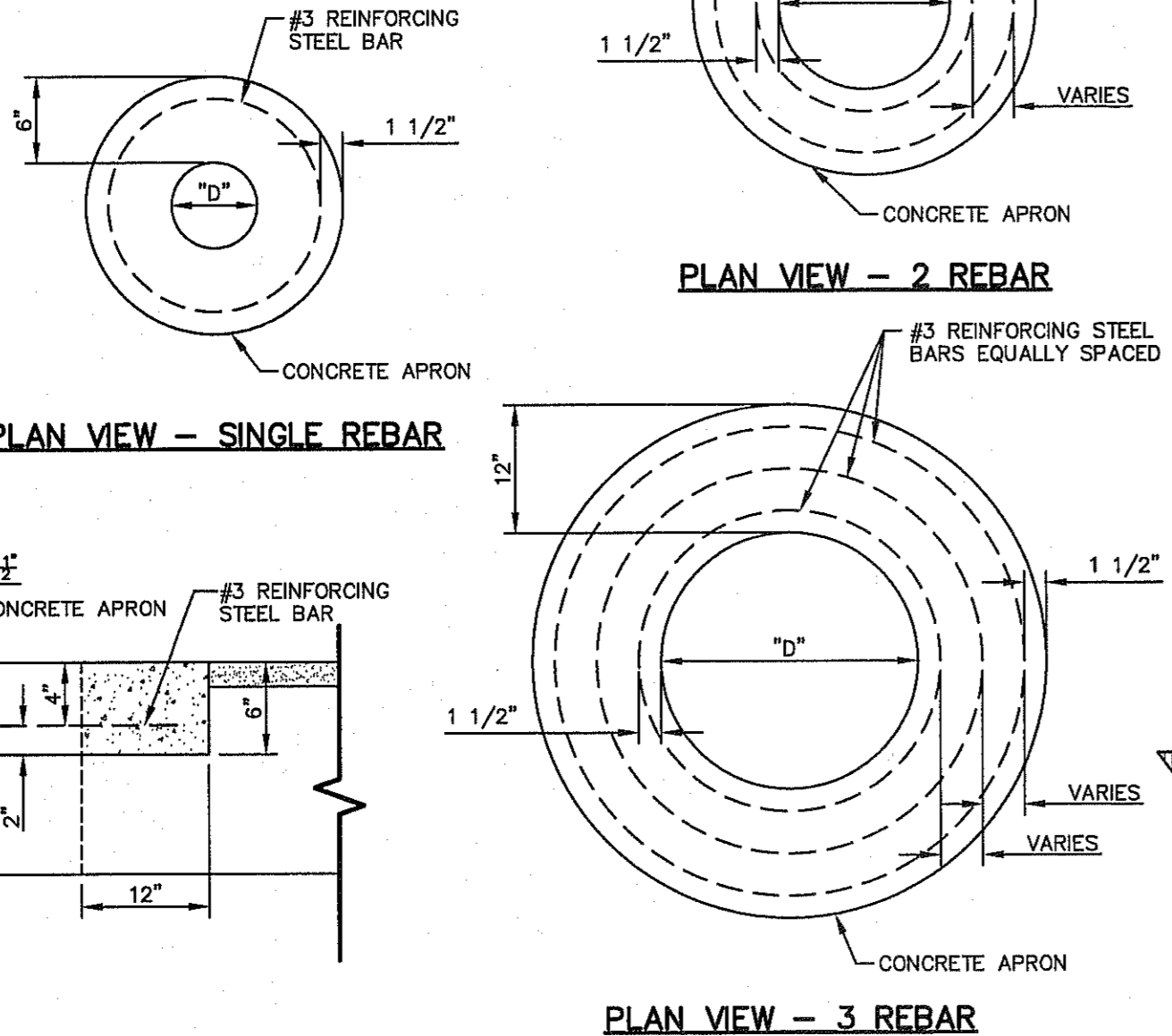
"D" DIAMETER OF PENETRATION (INCHES)	"T" CONCRETE HORIZONTAL DIMENSION FROM PENETRATION (INCHES)	NUMBER OF NO. 3 REINFORCING STEEL BARS (QUANTITY)	"B" MINIMUM CLEARANCE FROM EDGE OF CONCRETE APRON TO CENTER OF NEAREST REBAR (INCHES)	"C" MINIMUM CLEARANCE FROM PENETRATION EDGE TO CENTER OF NEAREST REBAR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

CONSTRUCTION NOTES:

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 REINFORCING 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:

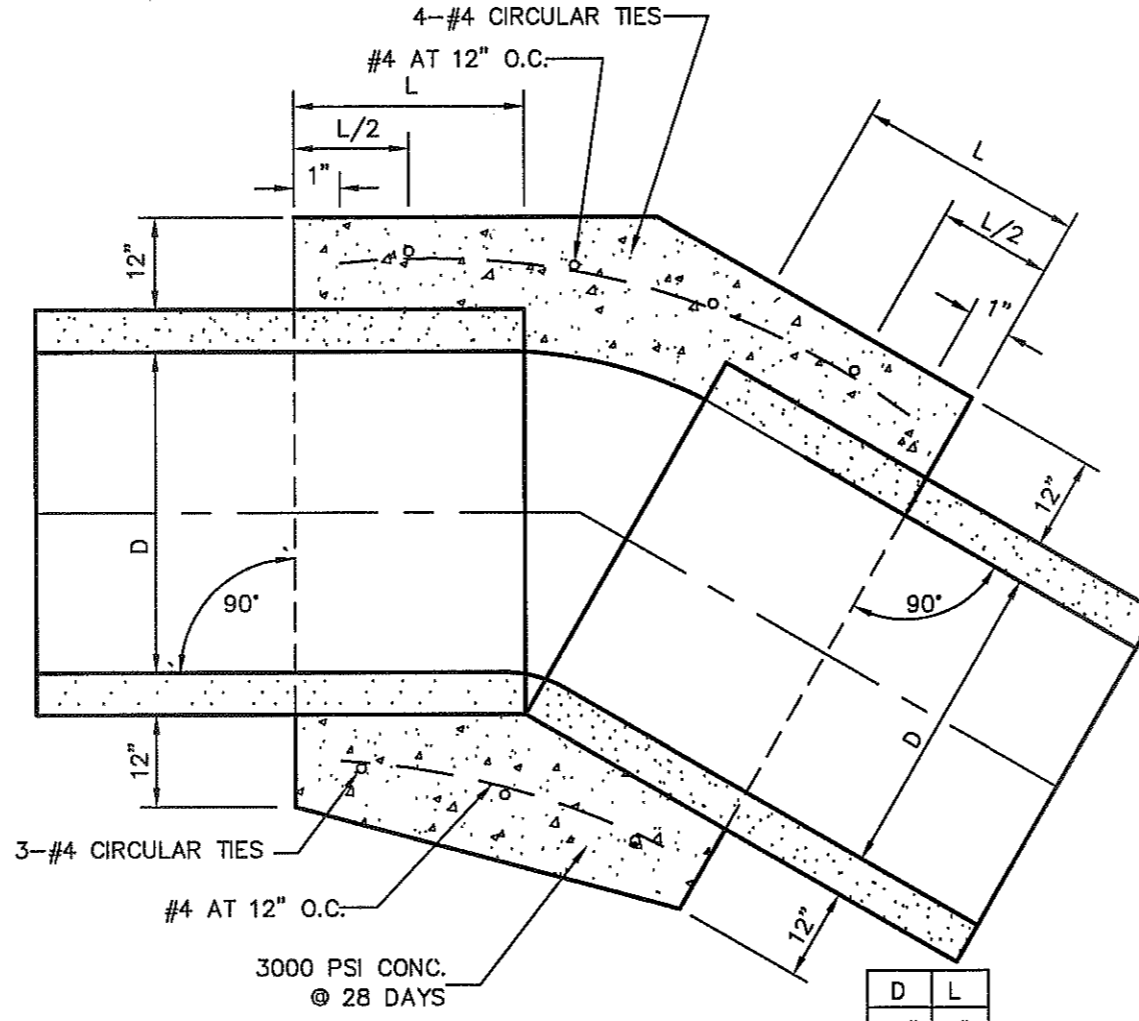
1. THE PENETRATION APRON SHOULD BE CAST IN-PLACE CONCRETE. (MINIMUM 28 DAY COMPRESSIVE STRENGTH 4000 PSI. HIGH EARLY CONCRETE IS REQUIRED).
2. TOPS OF PENETRATION APRON SHALL BE FLUSH WITH ROADWAY SURFACE OR FINISHED GRADE UNLESS OTHERWISE SPECIFIED BY THE CITY ENGINEER.



NOTES:

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

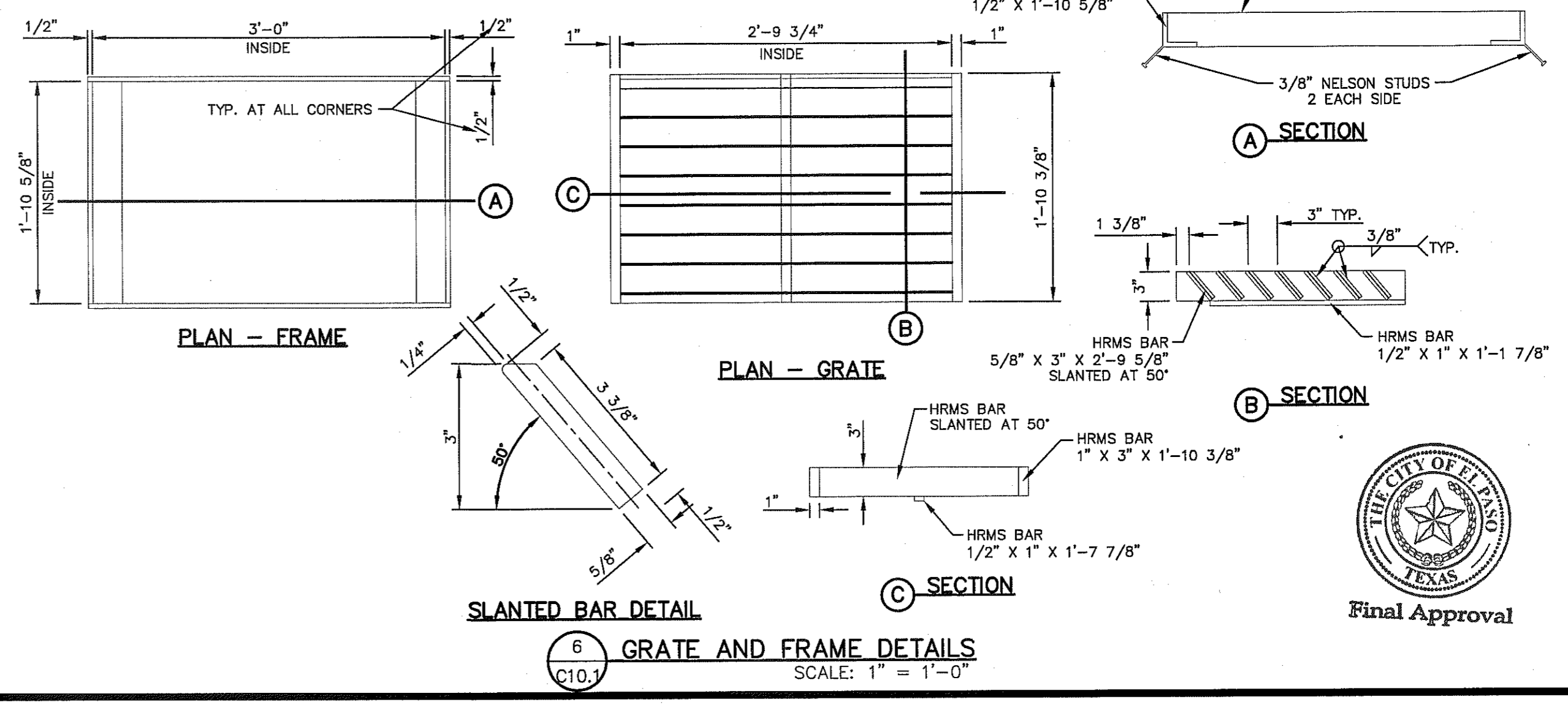
3 CONCRETE PIPE COLLAR
 SCALE: N.T.S.



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

DROP INLET GENERAL NOTES:

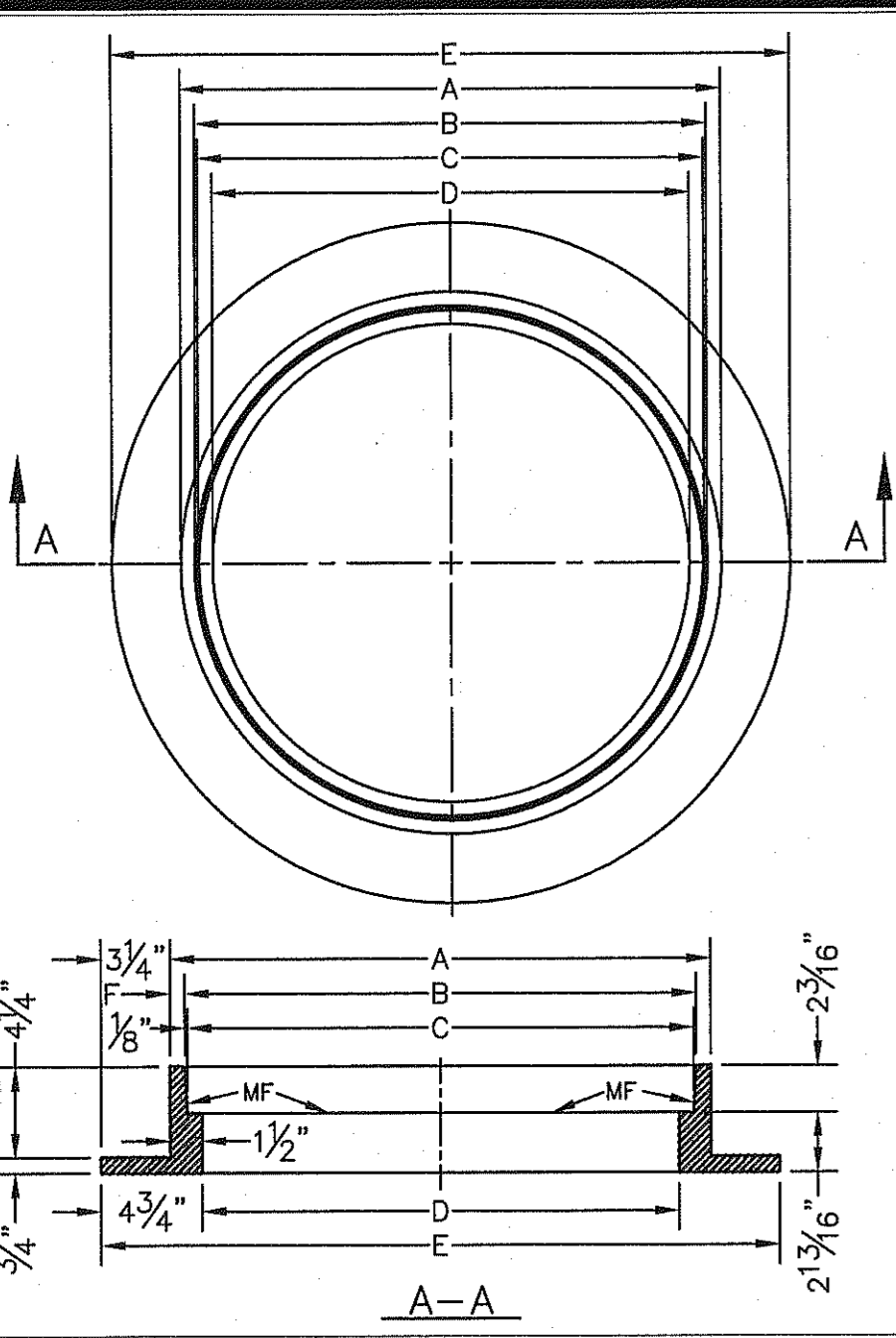
1. WELDED STEEL OR CAST GRATES AS DETAILED ARE ALL ACCEPTABLE GRATES. MIXING OF ALTERNATE TYPES OF GRATES ON THE SAME PROJECT WILL BE PERMITTED WITH THE APPROVAL OF THE CITY ENGINEER.
2. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS.
3. SHARP EDGES RESULTING FROM FABRICATION SHALL BE DULLED BY ANY ACCEPTABLE METHOD FOR SAFETY IN HANDLING.
4. GRATES SHALL BE INSTALLED IN FRAME WITH FLOW ARROW POINTING DOWNSTREAM OR TOWARD THE LOW POINT IN A SUMP.
5. 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-181 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.
6. 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.
7. ALL WELDS SHALL HAVE A MINIMUM OF 1/4" FILLET AND SHALL CONFORM TO THE SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND TO THE AISC STRUCTURAL WELDING CODE. ELECTRODES SHALL BE COMPATIBLE TO THE DIFFERENT GRADES OF STEEL THAT COMPRISE THE GRATE MEMBERS.
8. 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.
9. 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.
10. ALL CASTING SHALL BE MANUFACTURED TRUE TO PATTERN. COMPONENT PARTS SHALL FIT TOGETHER IN A SATISFACTORY MANNER.
11. ALL CONCRETE TO BE 3000 P.S.I. CHAMFER ALL EXPOSED EDGES 3/4". ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS.
12. MINIMUM CONCRETE COVER SHALL BE 1 1/2" FOR STEEL REINFORCING.
13. EXPANSION MATERIAL TO BE 1/2" BITUMINOUS FIBER AND PLACED WHERE PROPOSED CONCRETE COMES IN CONTACT WITH ANY EXISTING OR PROPOSED CONCRETE OR MASONRY STRUCTURES.
14. STRUCTURAL STEEL SHALL BE SHOP PAINTED IN ACCORDANCE WITH T.O.D. ITEM 446 "PAINT AND PAINTING"
15. SURFACE OF ALL EXPOSED CONCRETE SHALL CONFORM IN SLOPE AND GRADE TO EXISTING OR PROPOSED CURB AND WALK ADJACENT TO INLETS.
16. GRATES WILL BE DERESSED 1" BELOW PROPOSED OR EXISTING GRADE.
17. ALL REINFORCING BARS TO BE #4 BARS AT 6" O.C. GRADE 60. BEND BARS AROUND PIPE OPENINGS.
18. INLETS TO BE DESIGNATED IN PLANS BY NUMBER OF GRATES REQUIRED.
19. LOCATION OF SEWER PIPES SHOWN ELSEWHERE IN PLANS.
20. TWO 3/8"x4" LONG CONCRETE ANCHOR STUDS REQUIRED FOR EACH SIDE OF FRAME, WHERE RESTING ON CONCRETE, USE NELSON STUDS OR EQUAL.
21. THE GRATES OF ALL INLETS WITHIN THE STREET PAVEMENT MUST BE CONSTRUCTED WITH THE GRATE BARS PERPENDICULAR TO THE CURB.



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

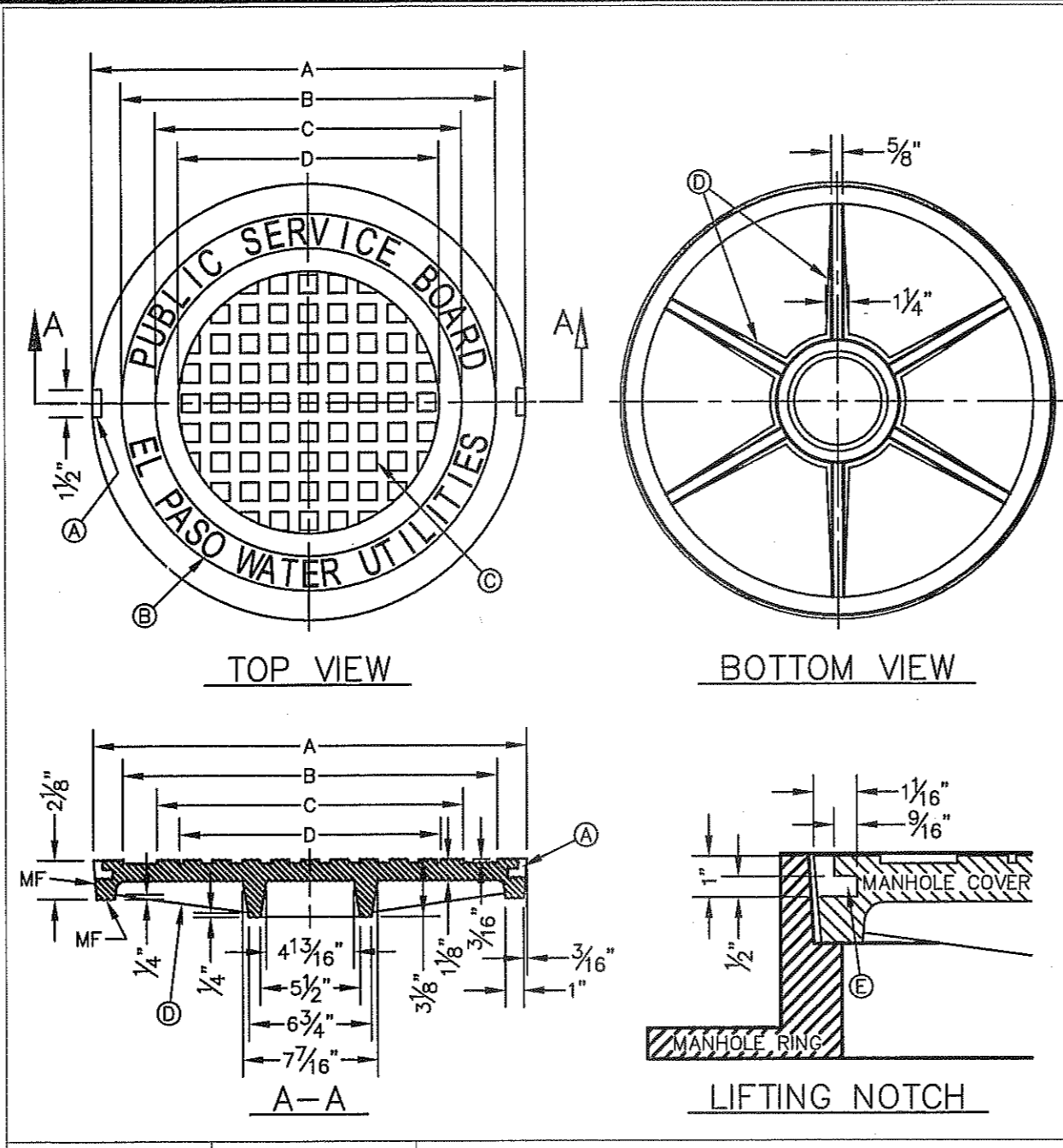
6 GRATE AND FRAME DETAILS
 SCALE: 1" = 1'-0"

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



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

MANHOLE RING	MANHOLE - ALL TYPES
A	33"
B	31 $\frac{3}{4}$ "
C	31 $\frac{1}{2}$ "
D	30"
E	30 $\frac{1}{2}$ "
F	3 $\frac{1}{2}$ "
WEIGHT	205 lbs.



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

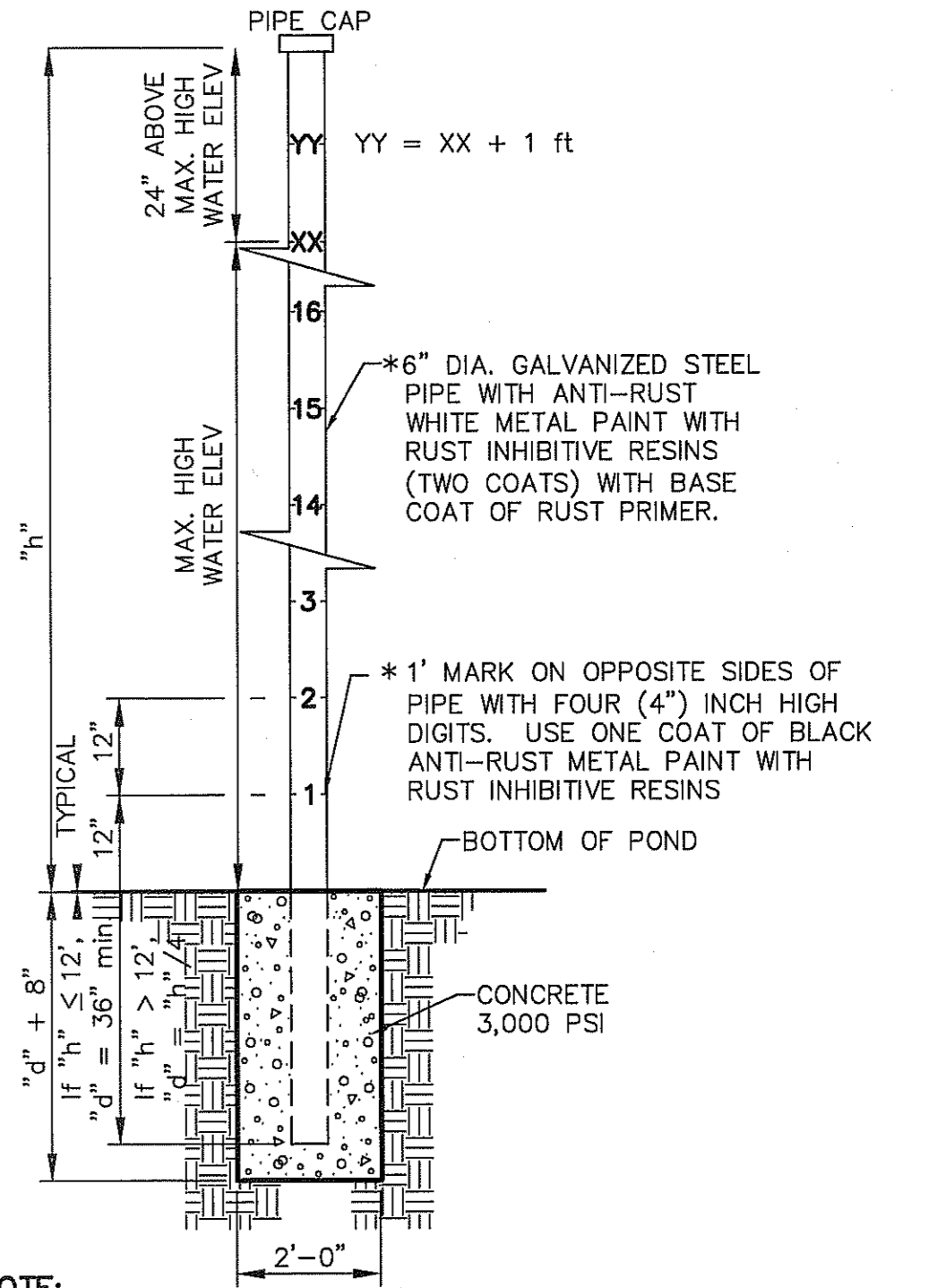
CONSTRUCTION KEY NOTES:
 A. LIFTING NOTCH.
 B. $\frac{3}{4}$ " RAISED LETTERING.
 C. 1" SQUARES ($\frac{1}{2}$ " TALL) WITH $\frac{1}{2}$ " SPACE BETWEEN.
 D. REINFORCING RIBS.
 E. SLOT.

MANHOLE COVER	MANHOLE - ALL TYPES
A	31 $\frac{3}{4}$ "
B	28 $\frac{1}{2}$ "
C	24 $\frac{3}{4}$ "
D	21 $\frac{7}{8}$ "
WEIGHT	200 lbs.



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

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

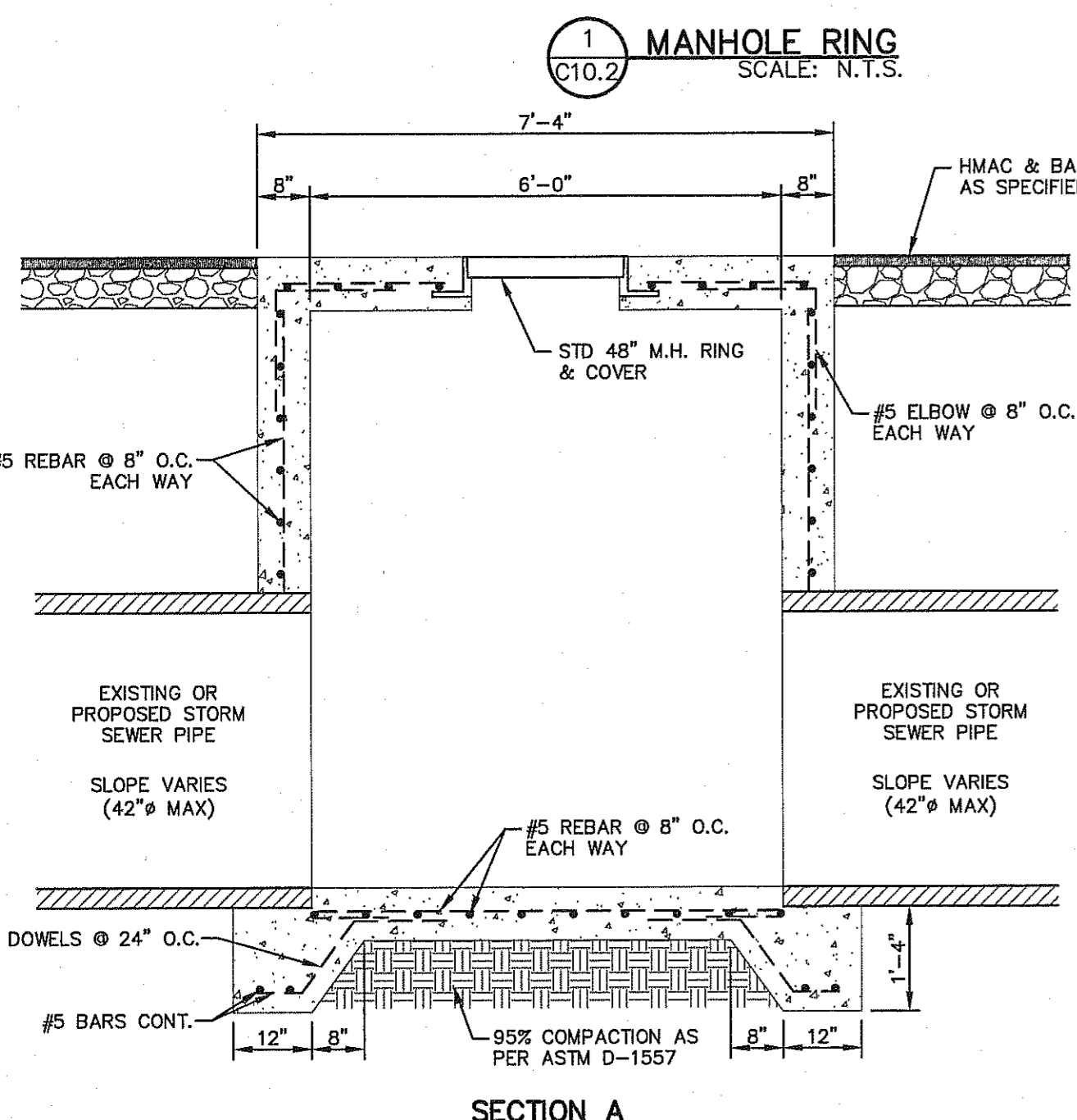


NOTE:
 * 1. CONSULT WITH PAINT MANUFACTURER FOR PRODUCTS THAT CAN SUSTAIN LONG PERIODS OF MOISTURE.
 2. GAUGE REQUIRED IN PONDS OF GREATER THAN FIVE (5') FOOT DEPTH ONLY.
 3. "h"=Height
 4. "xx"=MAXIMUM HIGH WATER ELEVATION BASED ON A 100-YR STORM EVENT ROUNDED TO NEAREST WHOLE NUMBER.
 5. ALTERNATES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

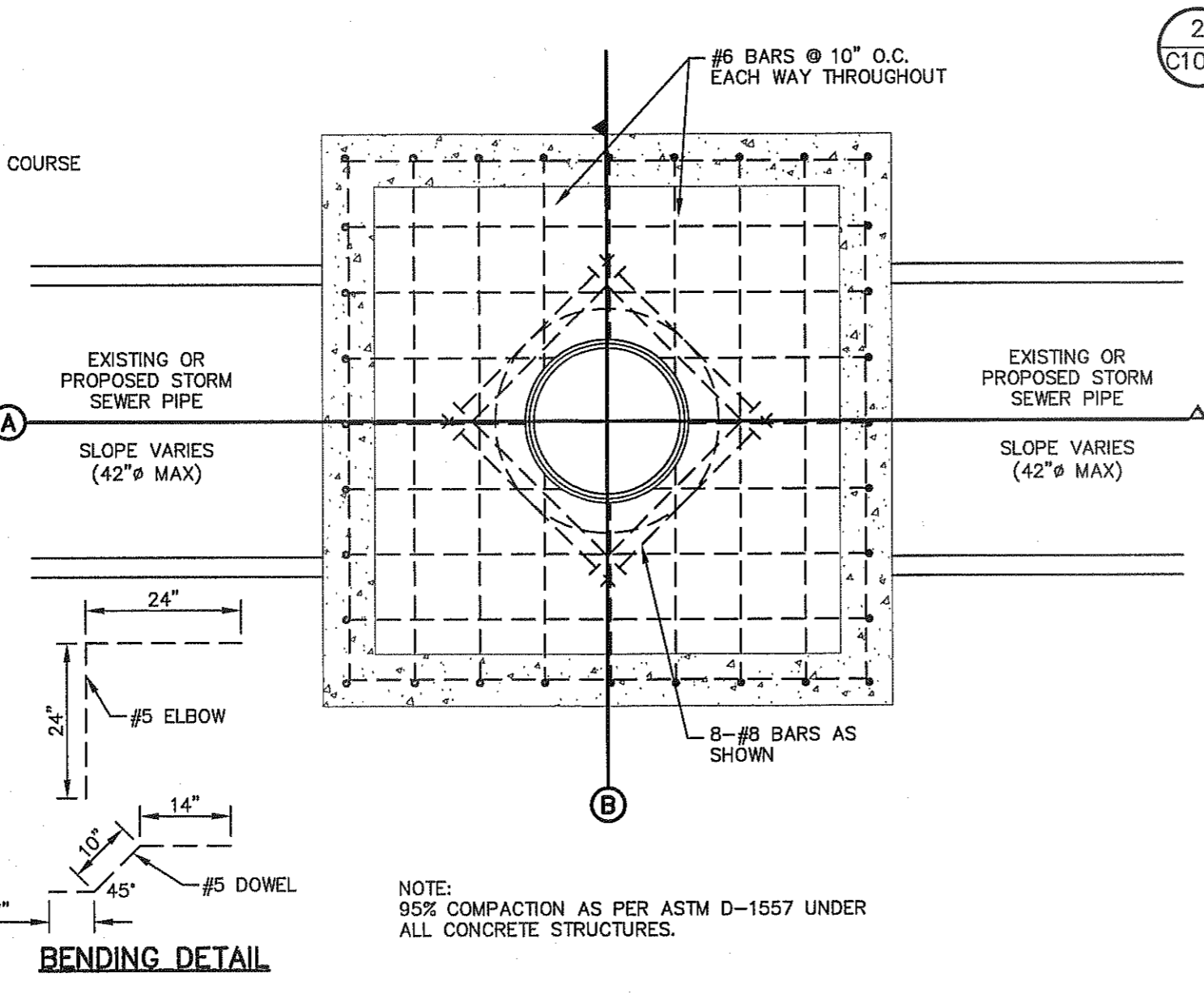
4 WATER DEPTH POLE DETAIL
 SCALE: N.T.S.

STANDARD DETAIL DATE: 11/1992 REV: 2/21/2011 SEWER MANHOLE RING N.T.S. el pasO WATER DETAIL No. 377

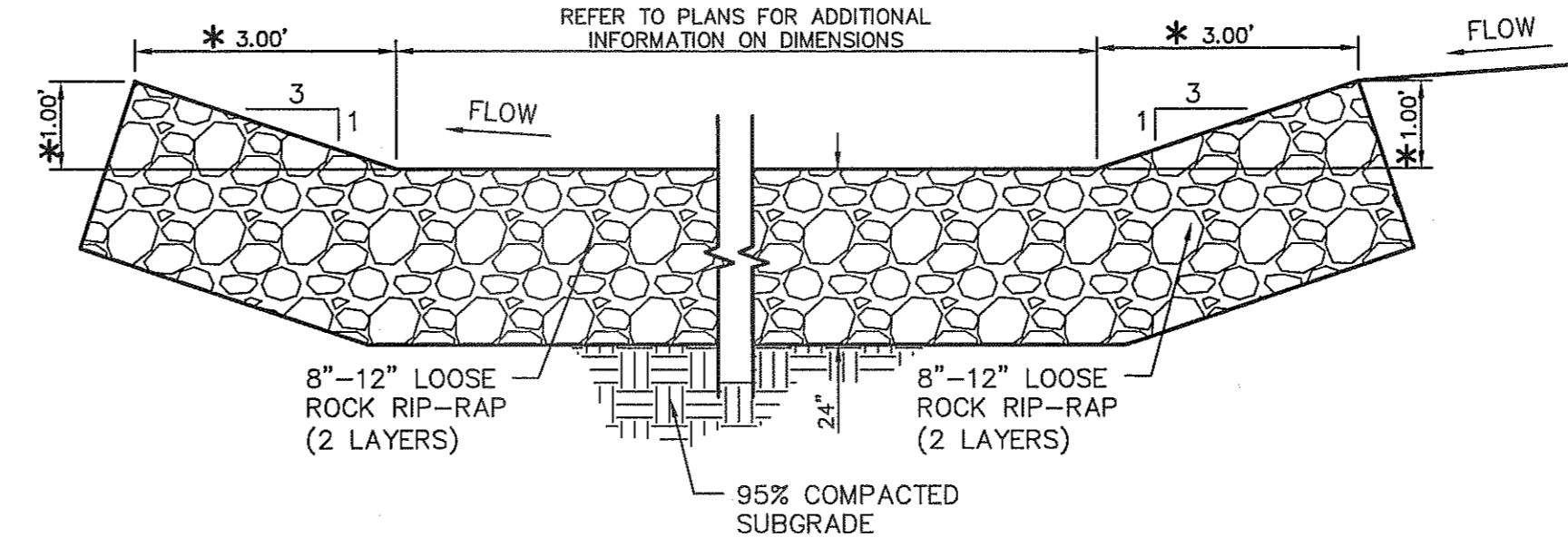
STANDARD DETAIL DATE: 11/1992 REV: 2/21/2011 SEWER MANHOLE COVER N.T.S. el pasO WATER DETAIL No. 378



1 MANHOLE RING
 SCALE: N.T.S.

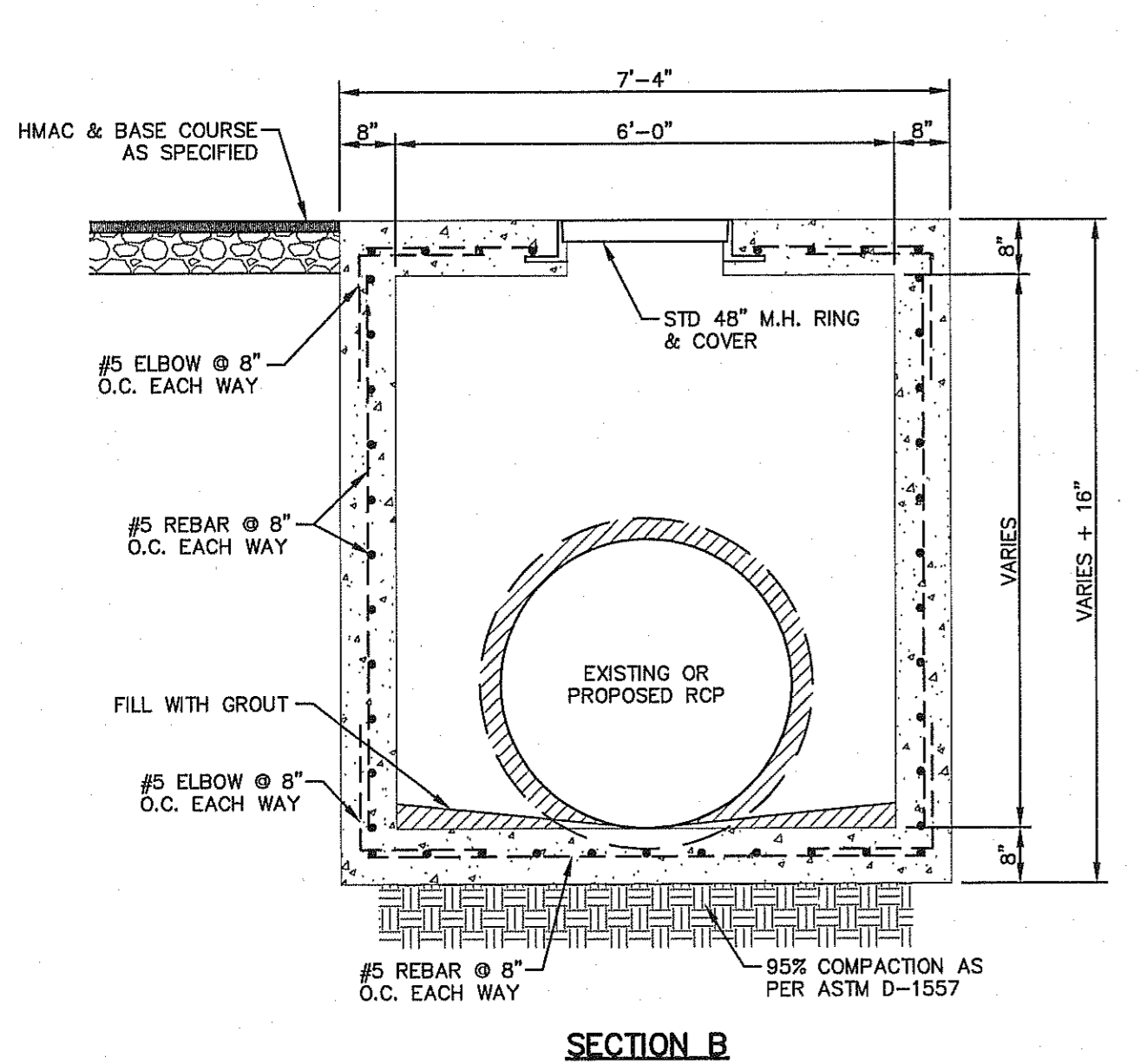


2 MANHOLE COVER
 SCALE: N.T.S.

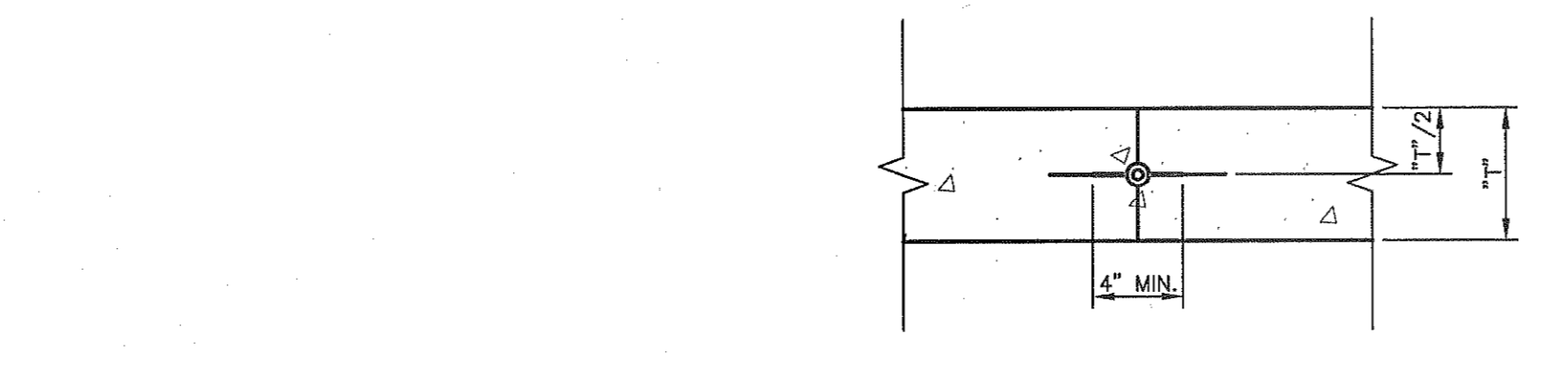


NOTE:
 1. SUBGRADE TO BE COMPACTED TO NINETY-FIVE (95%) PERCENT OF MAXIMUM DENSITY AS PER ASTM D-1557.
 2. TYPICAL THICKNESS IS SHOWN. ACTUAL THICKNESS WILL VARY, BUT IN NO EVENT SHALL BE LESS THAN TWELVE (12") INCHES.

5 DESILTING BASIN DETAIL
 SCALE: 1" = 2'-0"

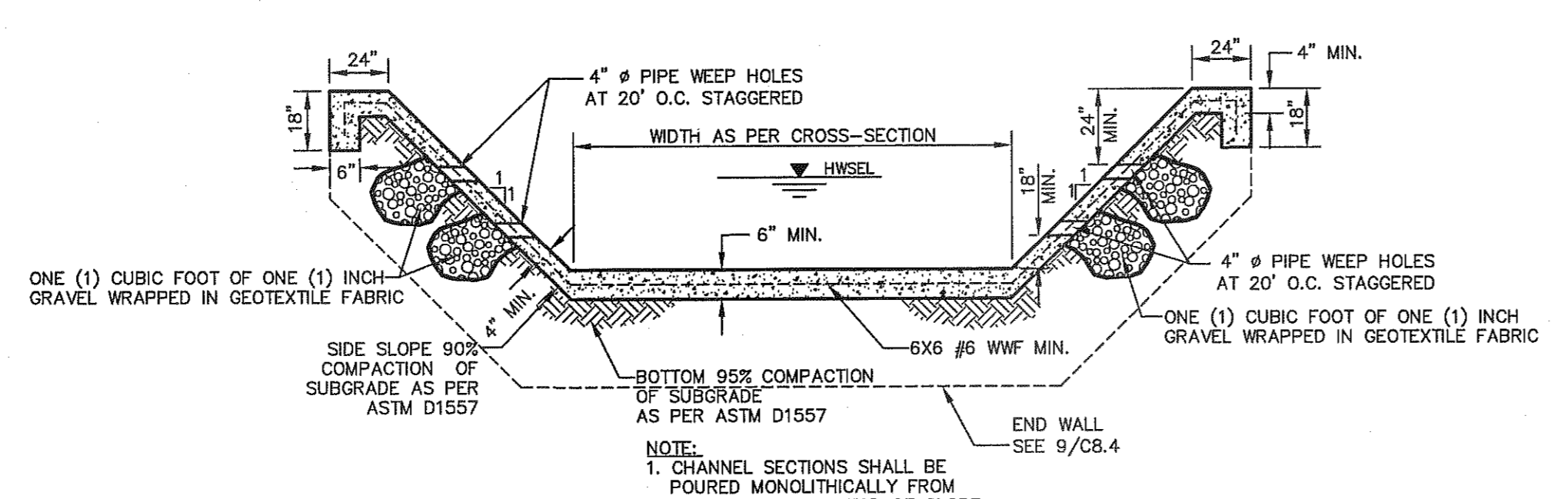


8 72" CAST-IN PLACE MANHOLE DETAIL
 SCALE: 1" = 2'-0"



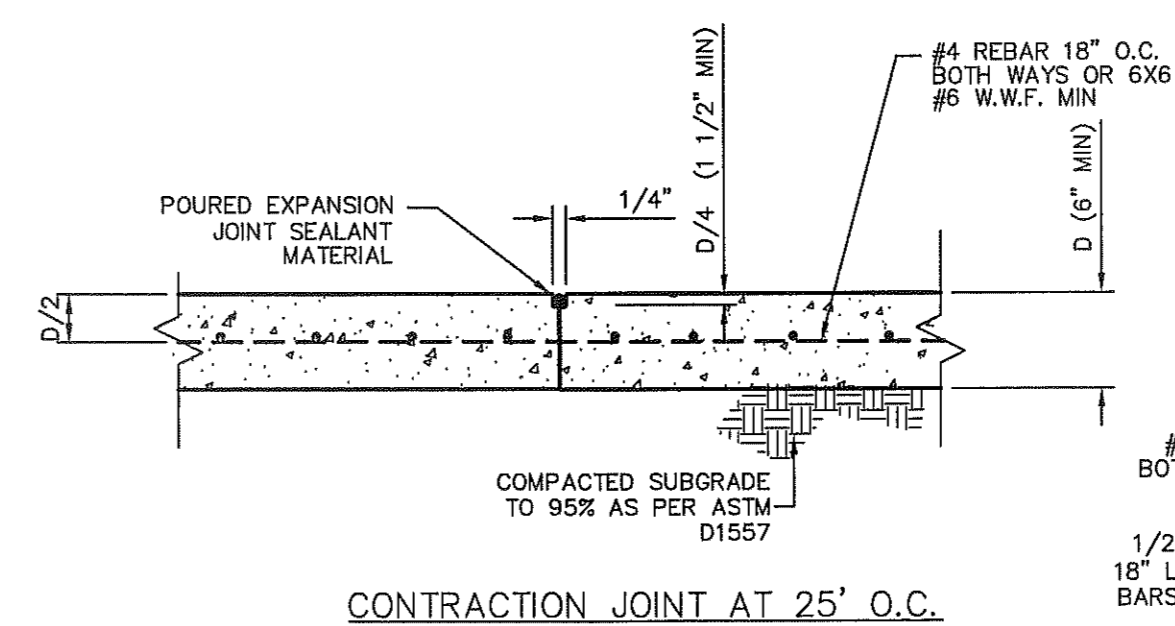
NOTE:
 WATERSTOP SHALL BE GREENSTREAK PVC MATERIAL, SPECIFICATIONS GRADE, 6" X 1/8" AND SEPERATED WITH CENTERBULBS OR APPROVED SUBSTITUTION BY CITY ENGINEER.

6 WATERSTOP DETAIL
 SCALE: 3" = 2'-0"

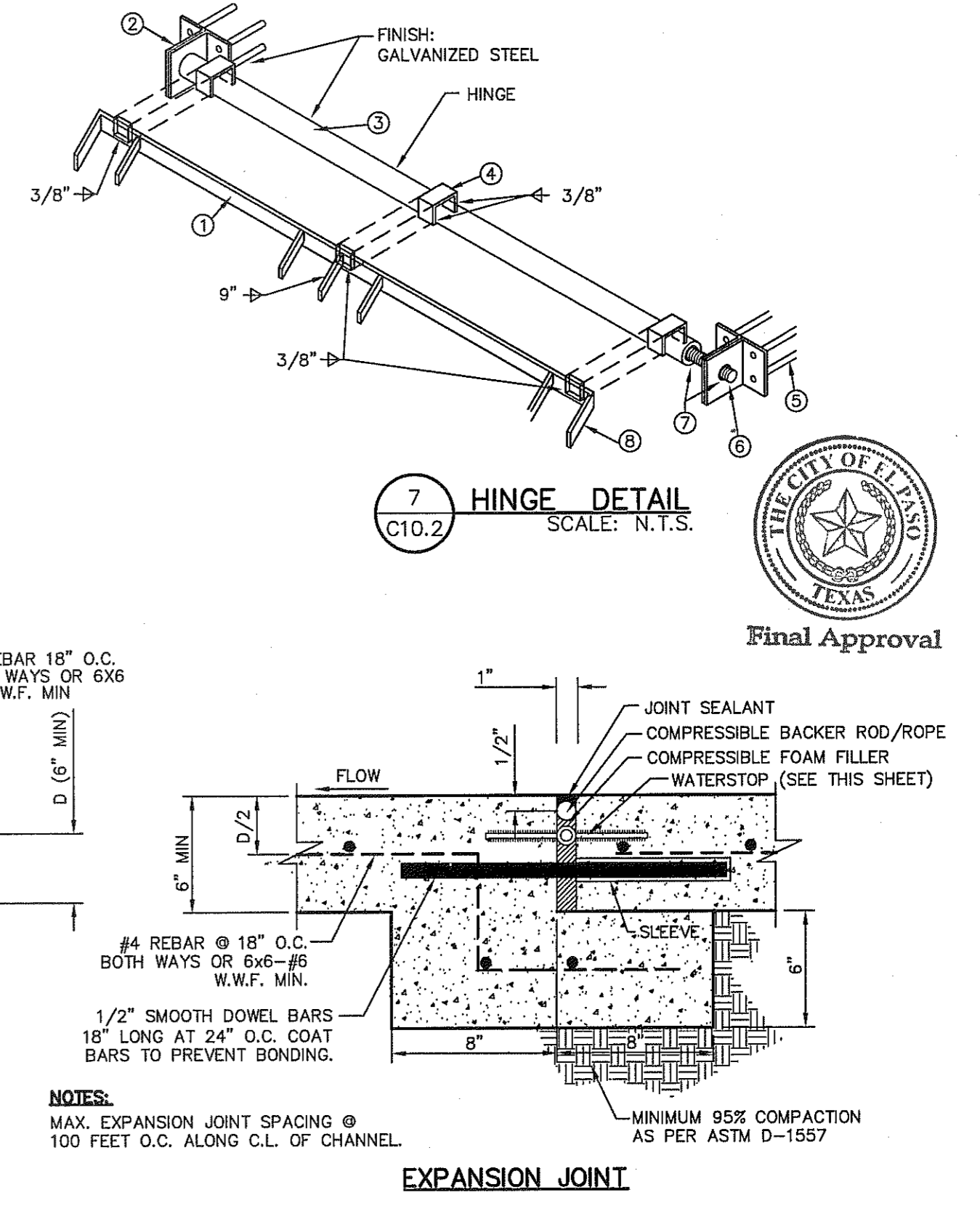


NOTE:
 1. CHANNEL SECTIONS SHALL BE POURED MONOLITHICALLY FROM TOP OF SLOPE TO TOP OF SLOPE.
 2. CONCRETE TO BE 3000 PSI @ 28 DAYS.

9 CONCRETE CHANNEL DETAIL
 SCALE: N.T.S.

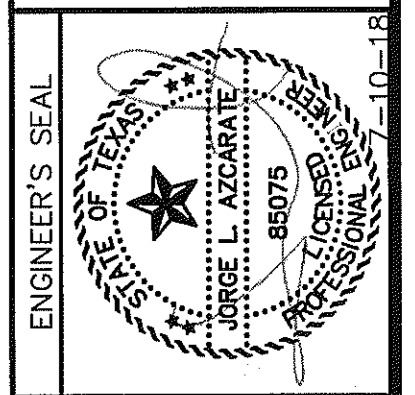


10 CONCRETE JOINTS DETAIL
 SCALE: N.T.S.



7 HINGE DETAIL
 SCALE: N.T.S.

REFERENCES - BENCHMARKS
 CITY MONUMENT LOCATED AT THE CENTERLINE INTERSECTION OF CLOVESDALE DRIVE AND PALOMINO STREET.
 ELEVATION = 3928.24' (E.P.V.D.), THE NORTH AMERICAN 1988 DATUM.
 MONUMENT IS ELEVATION = 3939.53' (MAY 88).
 DATE REVISIONS BY

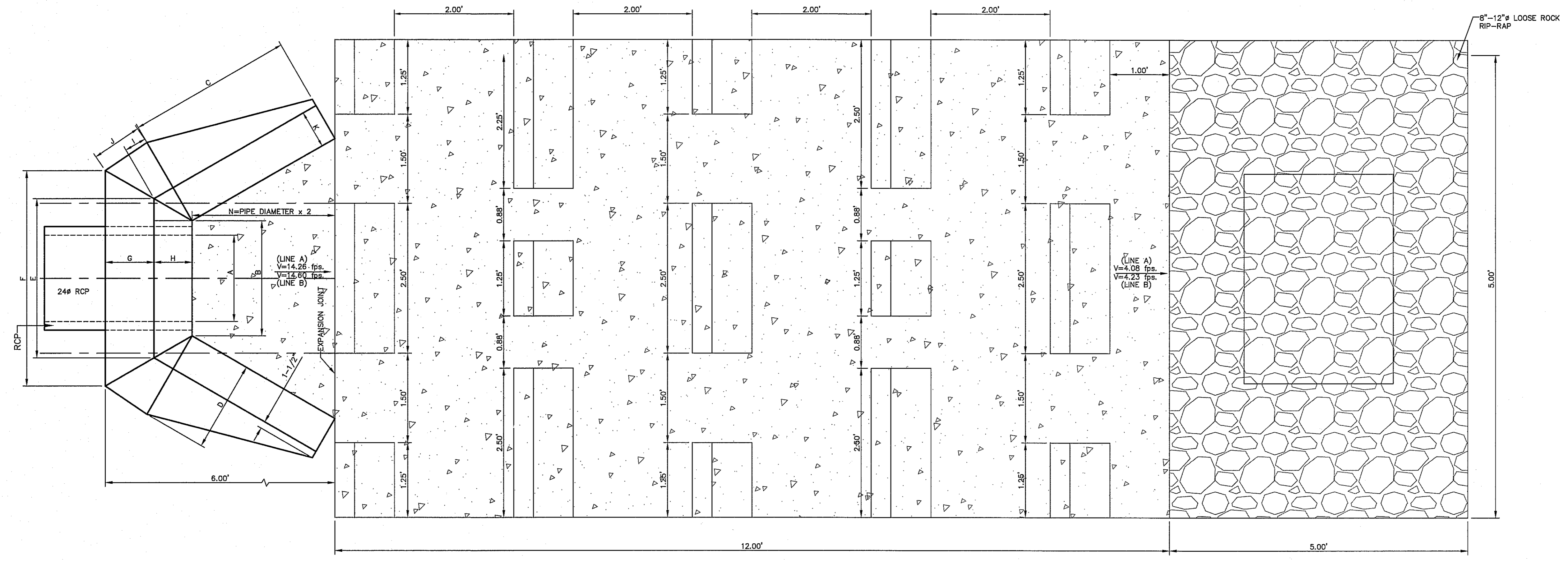


SCALE: AS SHOWN
 Horizontal: N/A
 Vertical: N/A
 Contour Interval: N/A
 DATE: JULY, 2018
 DESIGN BY: R.O.
 DRAWN BY: G.M.
 CHECKED BY: J.L.A.
 APP'D BY: J.L.A.
 JOB No. - 2000-201

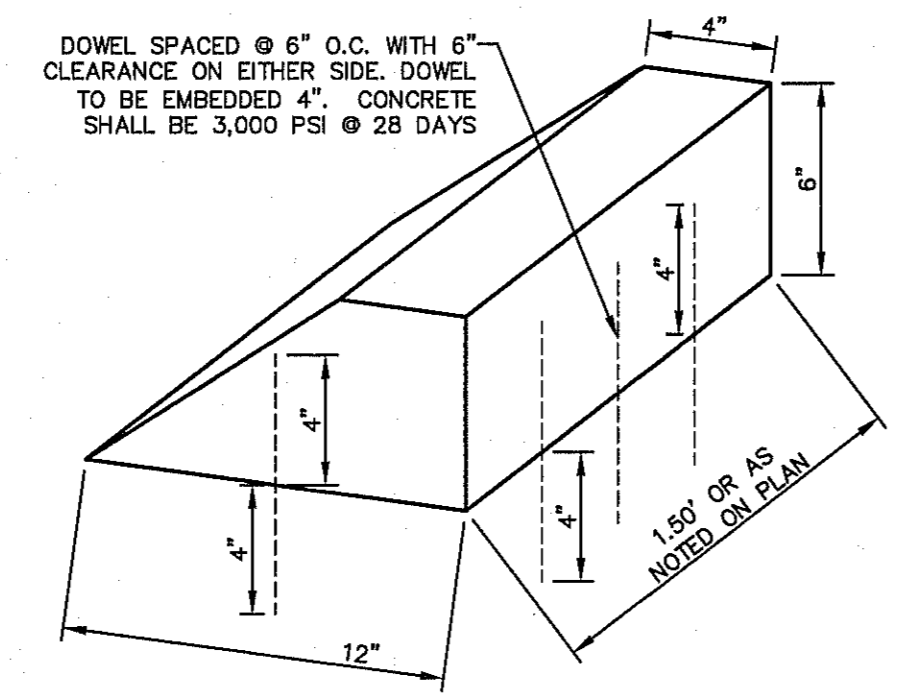
PROJECT TITLE
HIDDEN VILLAGE UNIT ONE
SUBDIVISION IMPROVEMENTS

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

C10.2



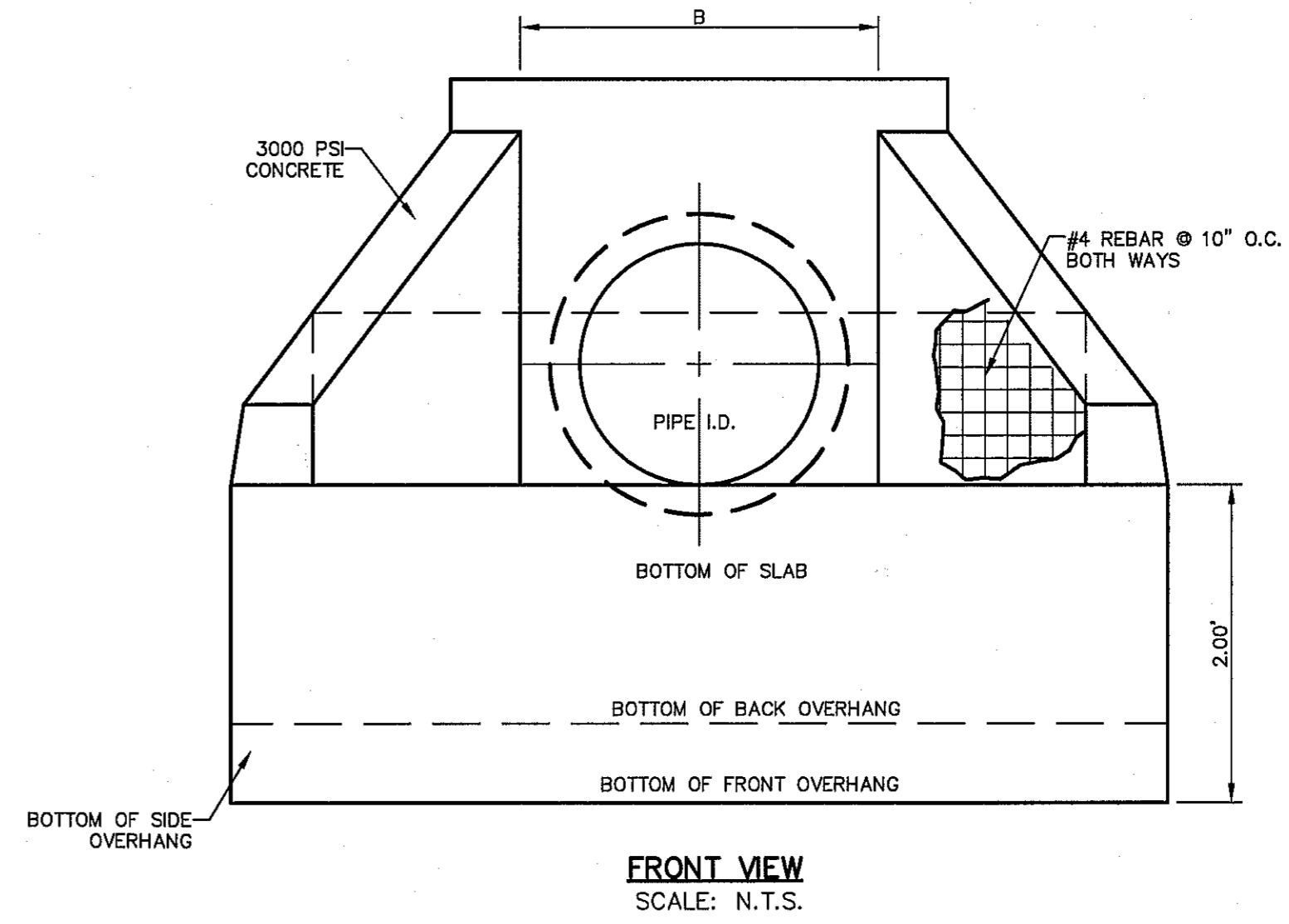
TOP VIEW
SCALE: N.T.S.



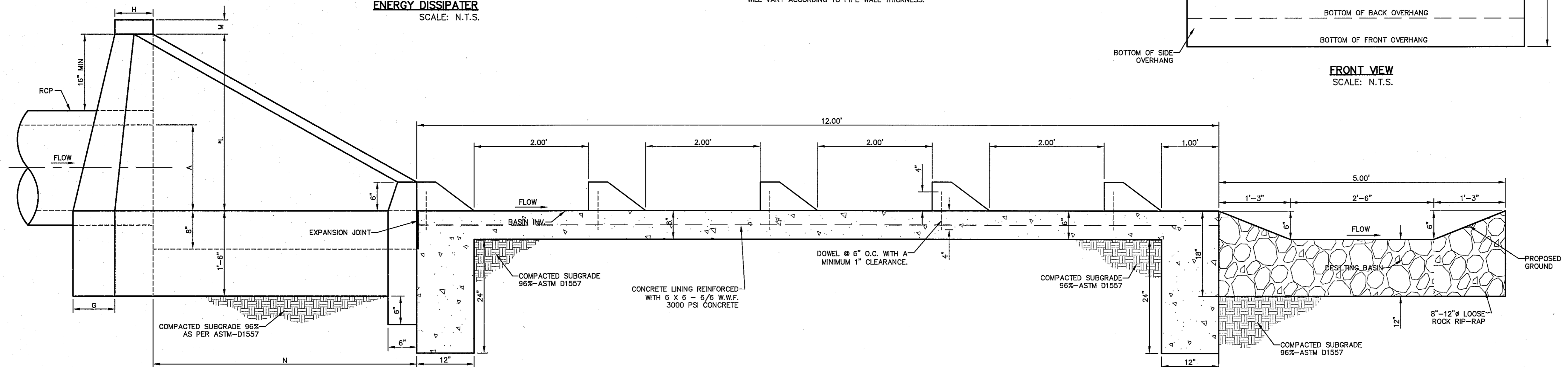
ENERGY DISSIPATER
SCALE: N.T.S.

PIPE I.D.	A	B	C	D	E	F	G	H	I	J	K	L	M	N
18"	18"	30"	34 1/2"	19"	39 1/2"	52"	11"	8"	4 1/2"	11"	8"	37"	3"	36"
24"	24"	36"	41 1/2"	19"	45 1/2"	58"	11"	8"	4 1/2"	11"	8"	43"	3"	48"
30"	30"	42"	48 1/2"	20"	51 1/2"	65"	12"	8"	4 1/2"	11 1/2"	8"	50"	3"	60"
36"	36"	48"	55 1/2"	20 1/2"	58 1/2"	72"	11 1/2"	9"	5 1/2"	12"	9"	57"	3 1/2"	72"
42"	42"	54"	62 1/2"	25"	65 1/2"	82 1/2"	15"	10"	5 1/2"	14 1/2"	10"	63"	3 1/2"	84"
48"	48"	60"	69 1/2"	25"	71 1/2"	88 1/2"	15"	10"	5 1/2"	14 1/2"	10"	70"	4"	96"
54"	54"	66"	76 1/2"	25"	77 1/2"	94 1/2"	15"	10"	5 1/2"	14 1/2"	10"	76"	4 1/2"	108"

*NOTE: APPROXIMATE DISTANCE SHOWN. ACTUAL DISTANCE WILL VARY ACCORDING TO PIPE WALL THICKNESS.



FRONT VIEW
SCALE: N.T.S.

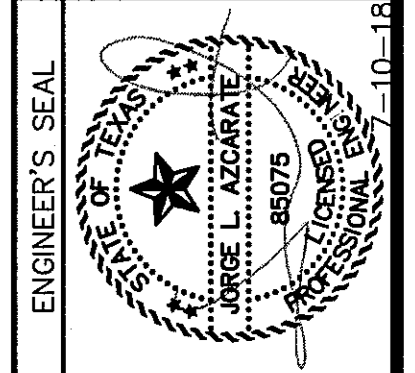


1 **OUTLET STRUCTURE WITH ENERGY DISSIPATER FOR LINE A & B**
SCALE: 1" = 1'-0"

REFERENCES - BENCHMARKS

CITY MONUMENT LOCATED AT THE CENTERLINE INTERSECTION OF CLAYSON DRIVE AND PALOMINO STREET
ELEVATION = 3928.24' (E.P.V.D.), THE NORTH AMERICAN VERTICAL DATUM OF SAID CITY MONUMENT IS ELEVATION = 3939.55' (NAD 83).

DATE	REVISIONS	BY



SCALE

Horizontal: AS SHOWN
Vertical: N/A

Contour Interval: N/A

DATE: JULY 2018
DESIGN BY: R.O.
DRAWN BY: G.M.
CHECKED BY: J.L.A.
APPROVED BY: J.L.A.
JOB No. 2000-201

PROJECT TITLE

HIDDEN VILLAGE UNIT ONE
SUBDIVISION IMPROVEMENTS

SHEET TITLE

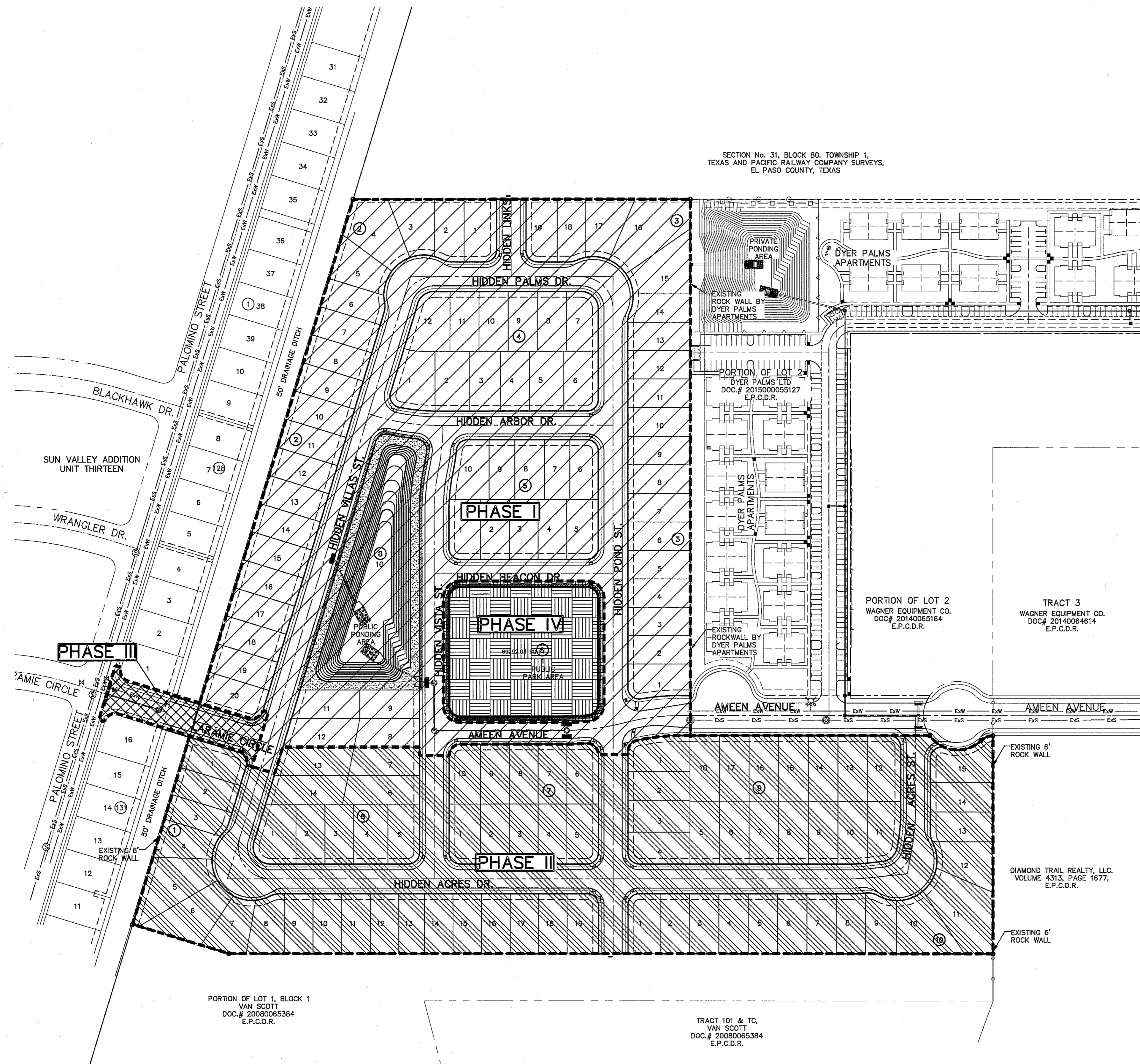
DRAINAGE DETAILS

(SHEET 3 OF 3)

SHEET NO.



C10.3



SECTION No. 31, BLOCK 80, TOWNSHIP 1,
TEXAS AND PACIFIC RAILWAY COMPANY SURVEYS,
EL PASO COUNTY, TEXAS

UTILITY LOCATOR SERVICES

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

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

LEGEND

PHASE I	
PHASE II	
PHASE III	
PHASE IV	

PHASE I	AREA (ACRES)	RESIDENTIAL LOTS
PHASE I	16.15	65
PHASE II	12.51	71
PHASE III	0.41	0
PHASE IV	1.59	0

BENCHMARK
BENCHMARK IS CITY MONUMENT LOCATED AT THE CENTERLINE INTERSECTION OF CLYDESDALE DRIVE AND PALOMINO STREET. ELEVATION = 3928.24' (E.P.V.D.), THE NORTH AMERICAN VERTICAL DATUM OF SAID CITY MONUMENT IS ELEVATION = 3939.53' (NAVD 88).

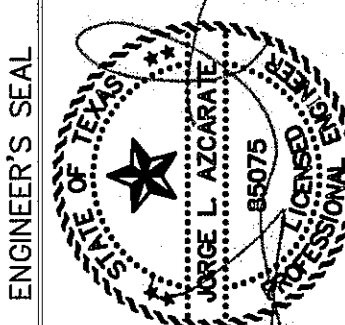
FLOOD ZONE:
THIS SUBDIVISION PROPERTY IS LOCATED IN ZONE "AH" (DESIGNATED AREAS OF 100-YEAR SHALLOW FLOODING WHERE DEPTHS ARE BETWEEN 1 AND 3 FEET; BUT NO FLOOD HAZARD FACTORS ARE DETERMINED) AS DETAILED ON CITY OF EL PASO FLOOD INSURANCE RATE MAP PANEL NO. 480214 0015D, DATED JANUARY 3, 1997.

REFERENCES — BENCHMARKS

CITY MONUMENT LOCATED AT THE CENTERLINE INTERSECTION OF CLYDESDALE DRIVE AND PALOMINO STREET. ELEVATION = 3928.24' (E.P.V.D.), THE NORTH AMERICAN VERTICAL DATUM OF SAID CITY MONUMENT IS ELEVATION = 3939.53' (NAVD 88).

DATE	BY	REVISIONS

osa
ENGINEERING
TEXAS REGISTERED ENGINEERING FIRM #494
4712 Woodrow Began, Ste. F El Paso, TX 79924
915.544.5232 | www.osagroup.net



SCALE: 1" = 100'
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: JULY, 2018
DESIGN BY: R.O.
DRAWN BY: G.M.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB NO.: 2000-201

PROJECT TITLE
**HIDDEN VILLAGE UNIT ONE
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

**CONSTRUCTION
PHASING PLAN**

SHEET NO.

C11.3



CONSTRUCTION PHASING PLAN
SCALE: 1" = 100'



SECTION No. 31, BLOCK 80, TOWNSHIP 1,
TEXAS AND PACIFIC RAILWAY COMPANY SURVEYS,
EL PASO COUNTY, TEXAS

WATER QUANTITIES		
DESCRIPTION	QUANTITY	UNIT
8" PVC WATER LINE	6530	LF
8" GATE VALVE	33	EA
FIRE HYDRANT	6	EA
3/4" SERVICE LINES	136	EA
DUCTILE IRON PIPE	80	LF

WATER KEYED NOTES		
①	8" GATE VALVE	
②	8" TEE	
③	8" CROSS	
④	8" BEND	
⑤	8" PLUG	
⑥	FIRE HYDRANT	
⑦	8"X8" TAPPING SLEEVE & VALVE	

INDEX

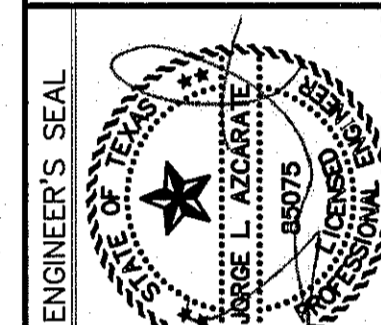
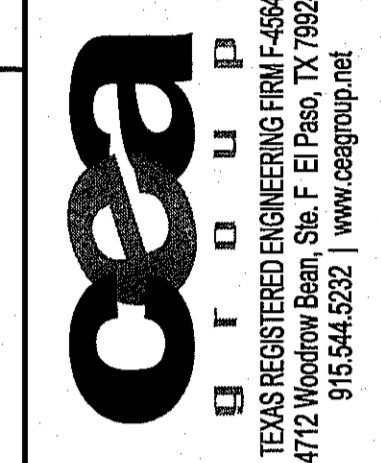
SHEET NO.	DESCRIPTION
C12.1	HIDDEN VILLAGE UNIT ONE WATER MAIN PIPE LAYOUT
C12.1A	WATERLINE CROSSING
C12.2	WATER DETAILS
C12.3	WATER DETAILS
C12.4	WATER DETAILS
C12.5	WATER DETAILS

NOTES:

- ALL LOTS SHALL BE PROVIDED WITH ONE SERVICE CONNECTION TO BE INSTALLED AT THE LOCATION AS SHOWN ON THE SERVICE LOCATION DETAIL.
- ALL WATER LINES SHALL BE PVC C-900, CLASS 235.
- REFERENCE WATER DETAILS FOR TYPICAL VALVE AND WATER LOCATIONS AT STREET INTERSECTIONS.
- REFERENCE WATER DETAILS FOR WATER LINE CROSSING STORM SEWER.

LEGEND

SYMBOL	DESCRIPTION
8" WTR.	PROPOSED 8" C-900, CLASS 235 P.V.C. PIPE
---	SUBDIVISION BOUNDARY LINE
---	PROPERTY LINE
---	STREET CENTER LINE
8" SWR	PROPOSED SEWER LINE (PLAN VIEW)
+	PROPOSED STORM SEWER
+	PROPOSED WATER CROSS CONNECTION
+	PROPOSED WATER TEE CONNECTION
+	PROPOSED WATER BEND CONNECTION
+	PROPOSED SERVICE CONNECTION (PLAN VIEW)
+	PROPOSED FIRE HYDRANT, KENNEDY OR MUELLER MODEL
+	PROPOSED 8" PLUG
+	PROPOSED GATE VALVE
+	POINT OF TANGENCY
+	REDUCER
+	EXISTING FIRE HYDRANT,
+	EXISTING GATE VALVE
+	EXISTING FIRE HYDRANT
+	EXISTING PLUG
+	EXISTING SEWER LINE
+	EXISTING WATER LINE
+	2" IRRIGATION METER



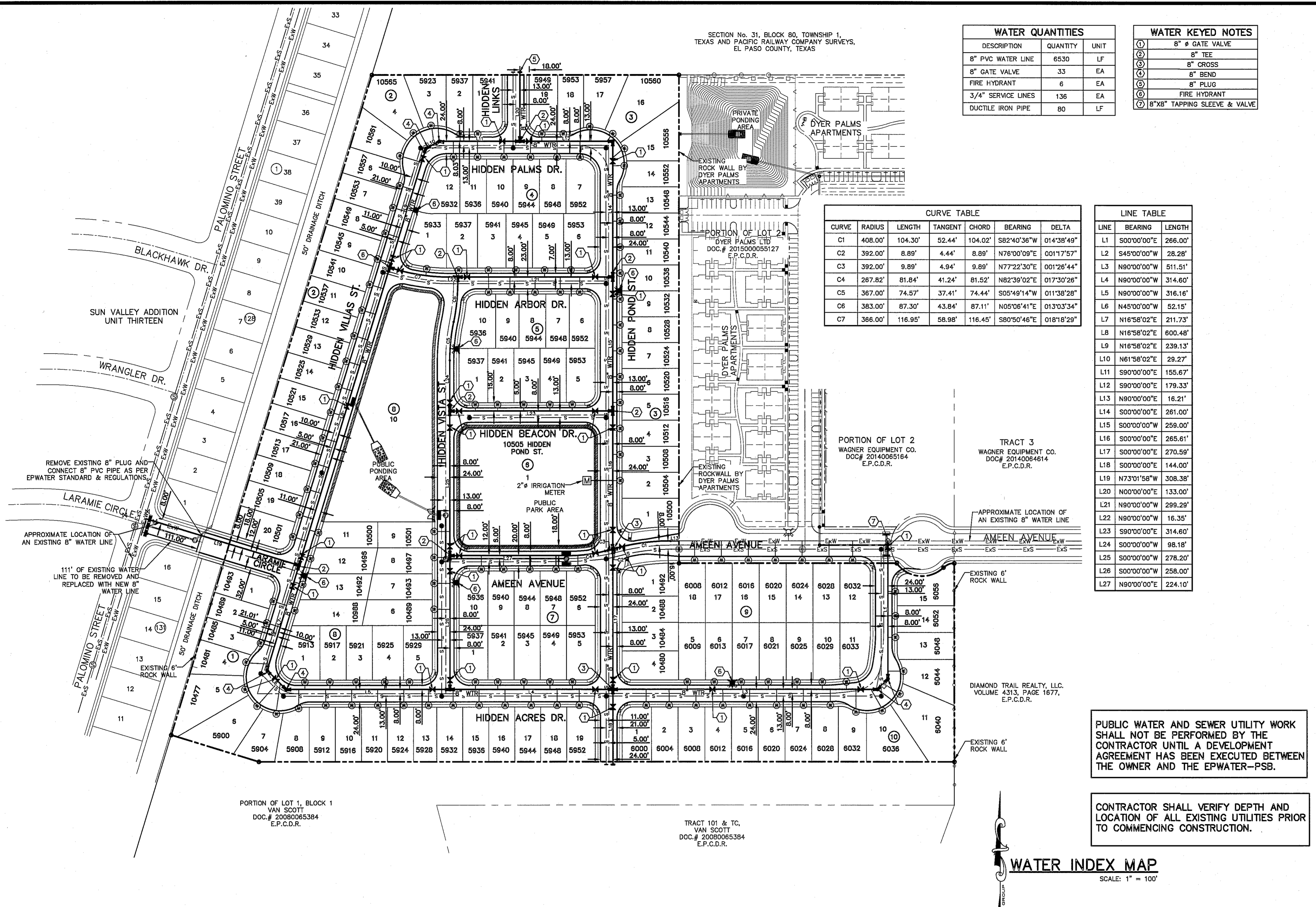
SCALE: 1" = 100'
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: JULY, 2018
DESIGN BY: R.O.
DRAWN BY: G.M.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB NO.: 2000-201

HIDDEN VILLAGE UNIT ONE SUBDIVISION IMPROVEMENTS

PROJECT TITLE
SHEET TITLE
WATER INDEX/
GENERAL
INFORMATION

SHEET NO.

C12.1



PUBLIC WATER AND SEWER UTILITY WORK SHALL NOT BE PERFORMED BY THE CONTRACTOR UNTIL A DEVELOPMENT AGREEMENT HAS BEEN EXECUTED BETWEEN THE OWNER AND THE EPWATER-PSB.

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

WATER INDEX MAP

SCALE: 1" = 100'

GENERAL NOTES

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

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

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 CORP.
4045 DONIPHAN PARK CIRCLE
EL PASO, TX. 79922
(915) 542-2770 EXT. 201
MR. DANIEL HERNANDEZ

WATER & SEWER:
EL PASO WATER UTILITIES
1184 HAWKINS BOULEVARD
EL PASO, TX. 79961
(915) 594-5538
MRS. ADRIANA L. CASTILLO, P.E.

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

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

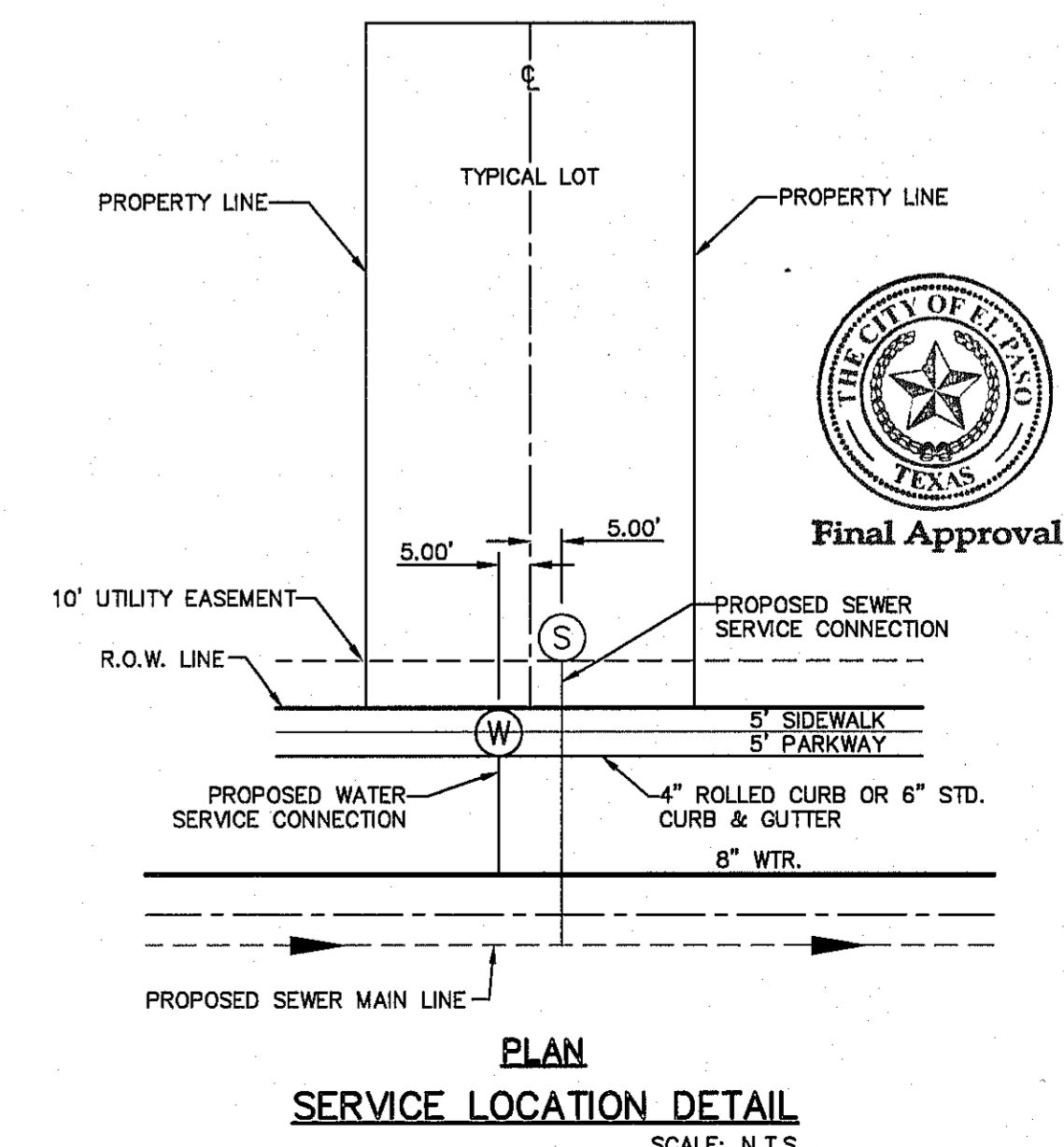
CABLE TELEVISION:
TIME WARNER COMMUNICATIONS
7010 AIRPORT ROAD
EL PASO, TX. 79906
(915) 772-1123

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
(800) 852-3786
MS. DARLENE NORIS

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

WARNING!
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INDEX

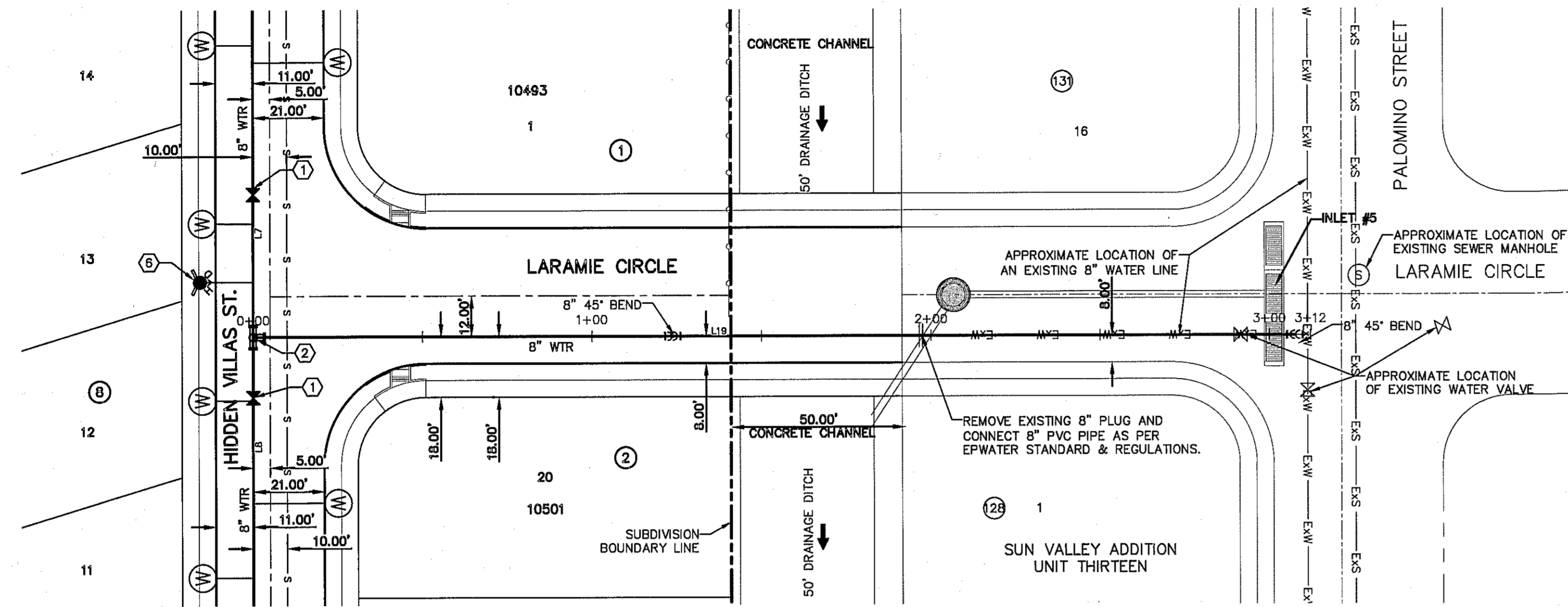
SHEET NO. DESCRIPTION

C12.1	HIDDEN VILLAGE UNIT ONE WATER MAIN PIPE LAYOUT
C12.2	WATER DETAILS
C12.3	WATER DETAILS
C12.4	WATER DETAILS
C12.5	WATER DETAILS

NOTES:

- ALL LOTS SHALL BE PROVIDED WITH ONE SERVICE CONNECTION TO BE INSTALLED AT THE LOCATION AS SHOWN ON THE SERVICE LOCATION DETAIL.
- ALL WATER LINES SHALL BE PVC C-900, CLASS 235.
- REFERENCE WATER DETAILS FOR TYPICAL VALVE AND WATER LOCATIONS AT STREET INTERSECTIONS.
- REFERENCE WATER DETAILS FOR WATER LINE CROSSING STORM SEWER.

LINE TABLE		
LINE	BEARING	LENGTH
L7	N16°58'02"E	211.73'
L8	N16°58'02"E	600.48'
L19	N73°01'58"W	307.53'



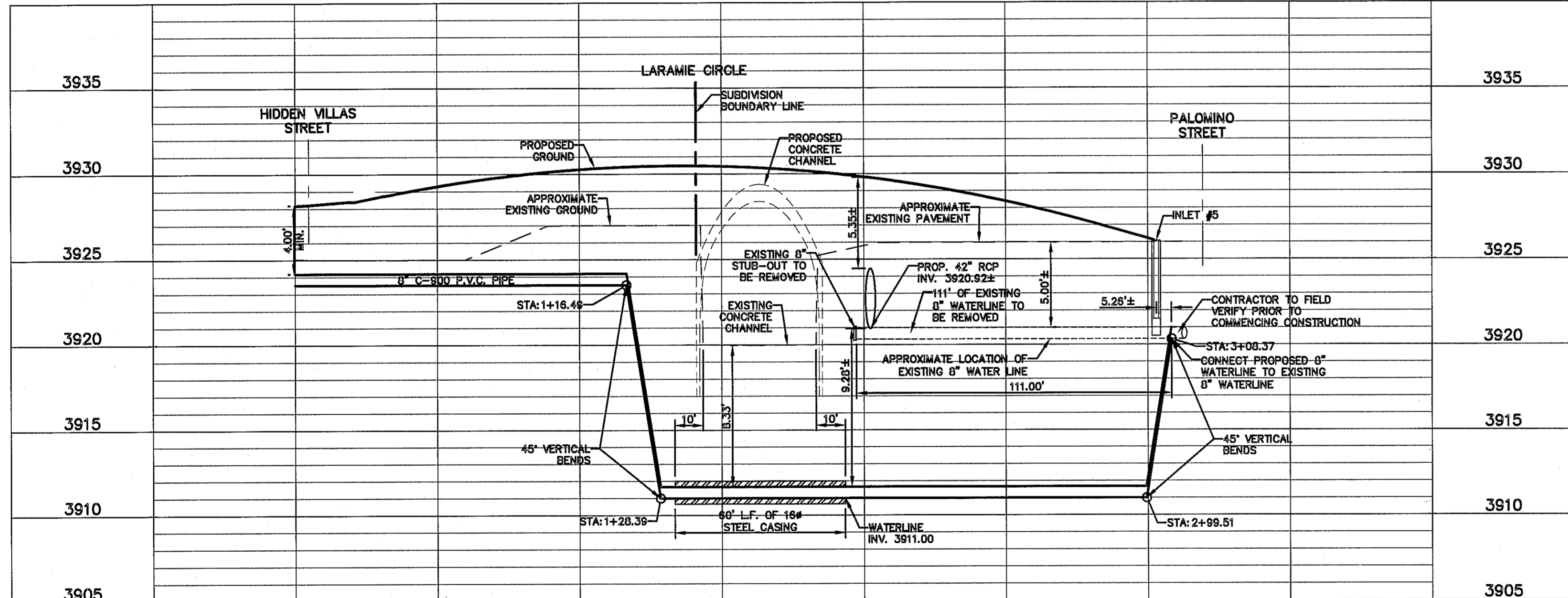
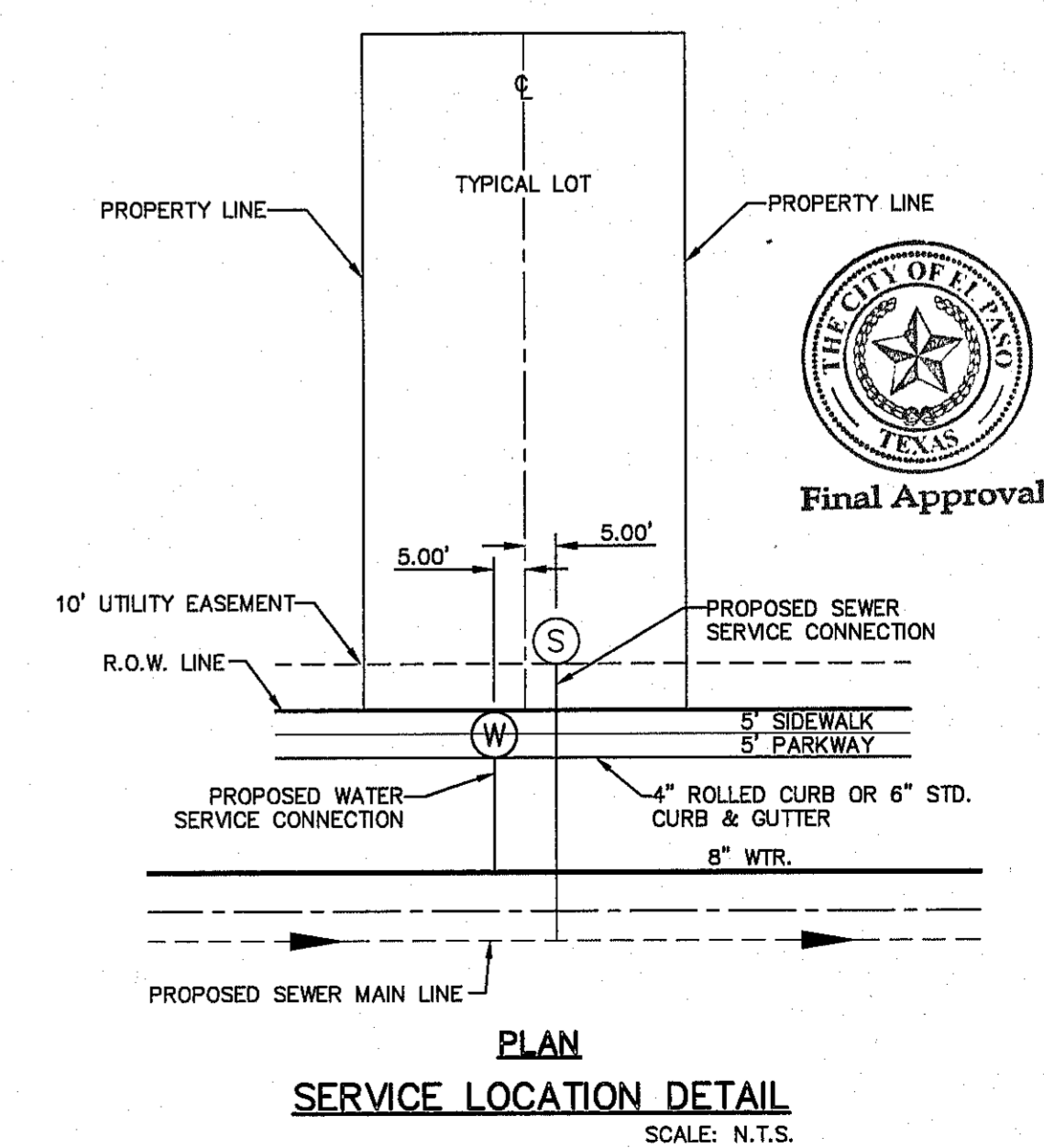
LEGEND

SYMBOL	DESCRIPTION
8" WTR.	PROPOSED 8" C-900, CLASS 235 P.V.C. PIPE
---	SUBDIVISION BOUNDARY LINE
---	PROPERTY LINE
---	STREET CENTER LINE
8" SWR	PROPOSED SEWER LINE (PLAN VIEW)
---	PROPOSED STORM SEWER
+	PROPOSED WATER CROSS CONNECTION
+	PROPOSED WATER TEE CONNECTION
+	PROPOSED WATER BEND CONNECTION
+	PROPOSED SERVICE CONNECTION (PLAN VIEW)
+	PROPOSED FIRE HYDRANT, KENNEDY OR MUELLER MODEL
+	PROPOSED 8" PLUG
+	PROPOSED GATE VALVE
+	POINT OF TANGENCY
+	REDUCER
+	EXISTING FIRE HYDRANT
+	EXISTING GATE VALVE
+	EXISTING FIRE HYDRANT
+	EXISTING PLUG
+	EXISTING SEWER LINE
+	EXISTING WATER LINE
+	IRRIGATION METER WITH 3" SERVICE LINE

PUBLIC WATER AND SEWER UTILITY WORK SHALL NOT BE PERFORMED BY THE CONTRACTOR UNTIL A DEVELOPMENT AGREEMENT HAS BEEN EXECUTED BETWEEN THE OWNER AND THE EPWATER-PSB.

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

WATER LINE CROSSING



GENERAL NOTES

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

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

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

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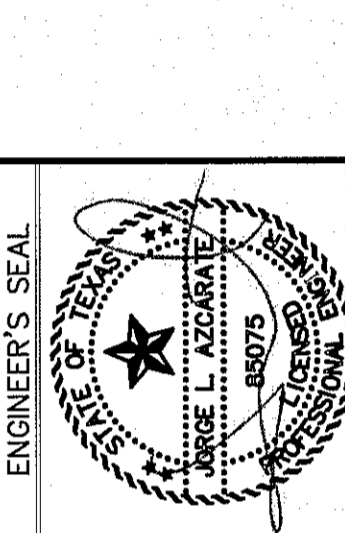
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DATE	REVISIONS	BY

REFERENCES - BENCHMARKS
 CITY MONUMENT LOCATED AT THE CENTERLINE INTERSECTION OF CLAY STREET AND PALOMINO STREET
 ELEVATION = 3928.24' (E.P.V.D.), THE NORTH AMERICAN VERTICAL DATUM OF SAID CITY MONUMENT IS ELEVATION = 3899.53' (NAVD 88).

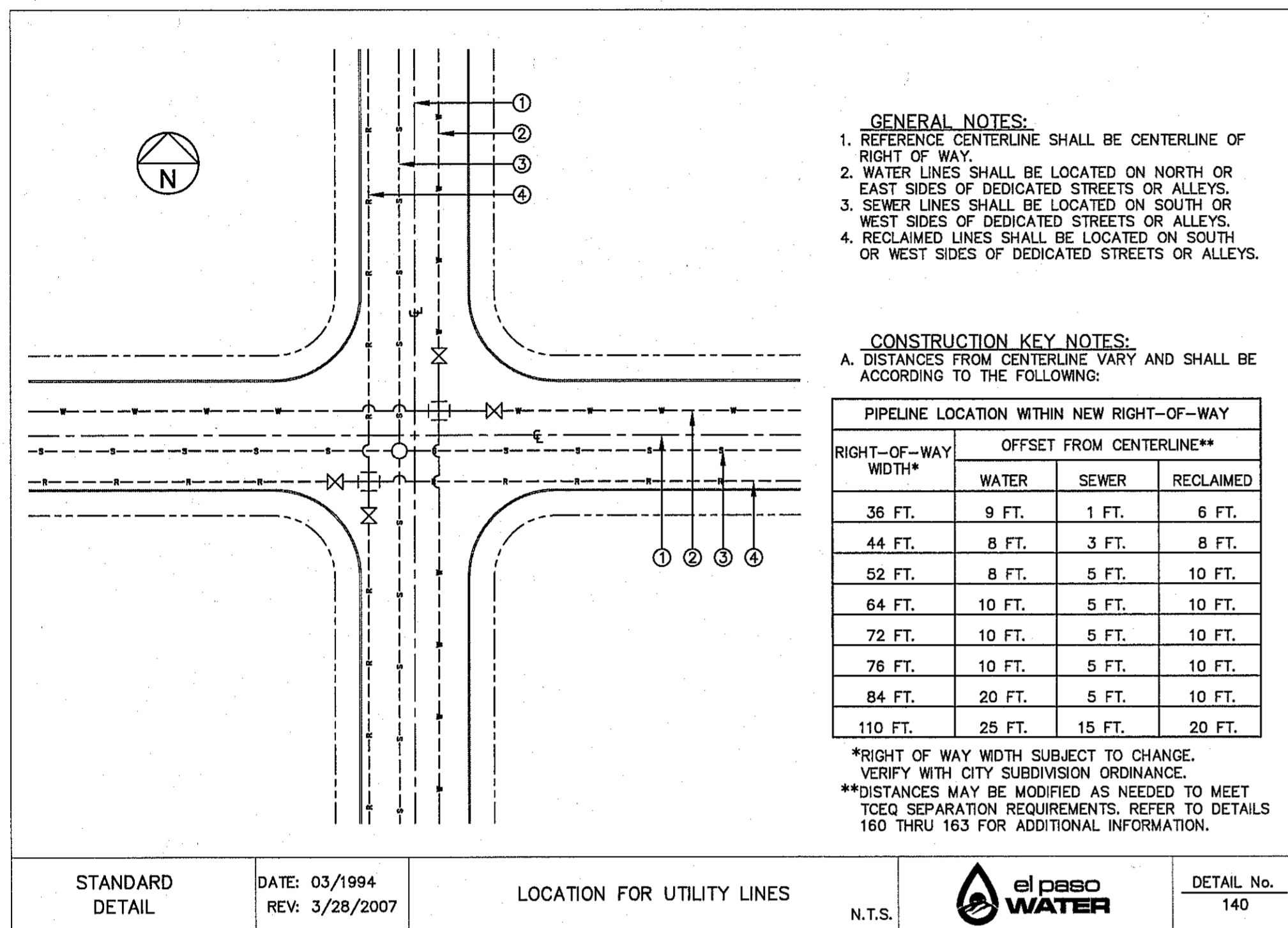


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 Horizontal: 1" = 50'
 Vertical: 1" = 5'
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 DATE: JULY, 2018
 DESIGN BY: R.O.
 DRAWN BY: G.M.
 CHKD. BY: J.L.A.
 APPVD. BY: J.L.A.
 JOB NO.: 2000-201

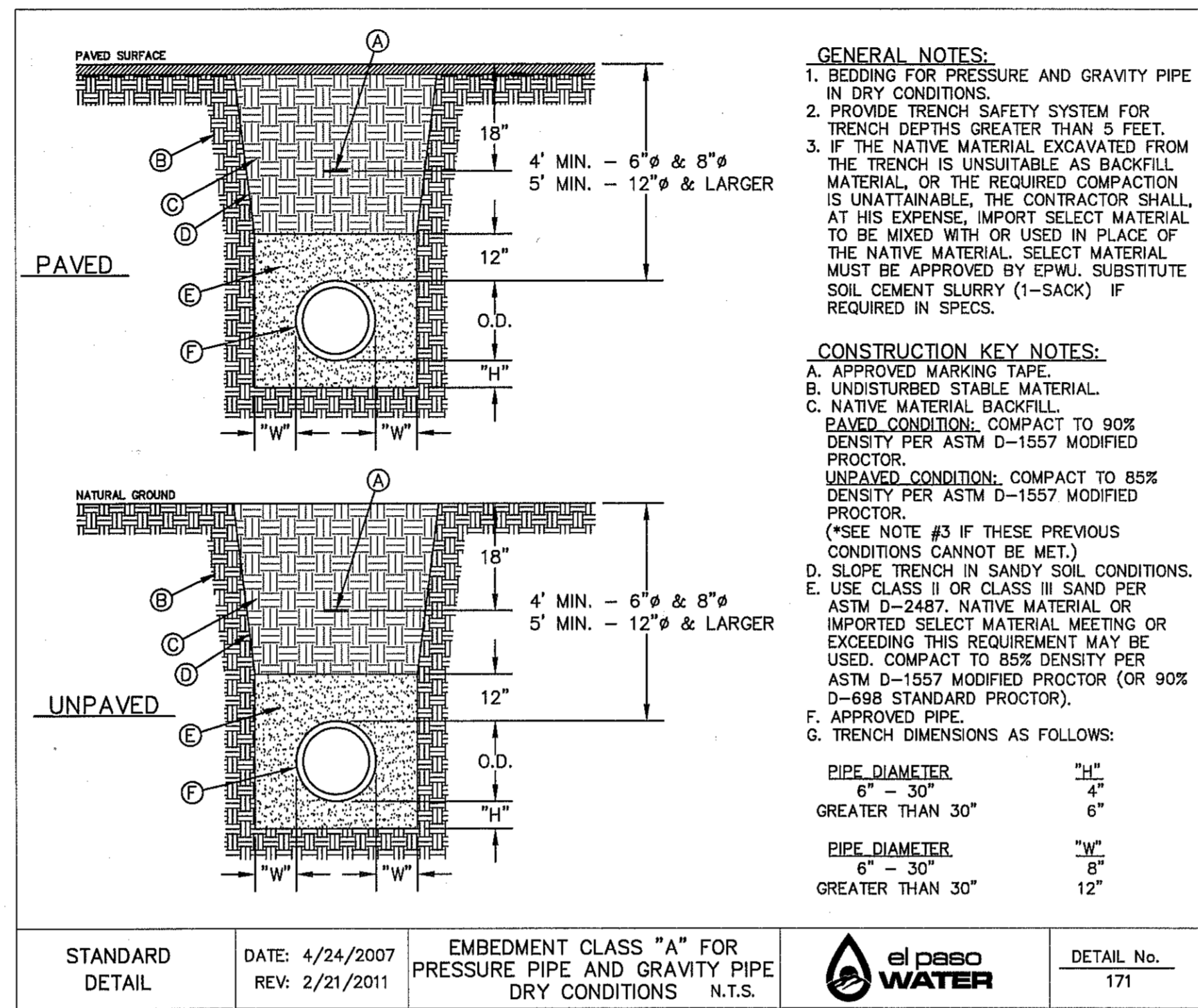
PROJECT TITLE
HIDDEN VILLAGE UNIT ONE
SUBDIVISION IMPROVEMENTS

SHEET TITLE
WATER LINE CROSSING

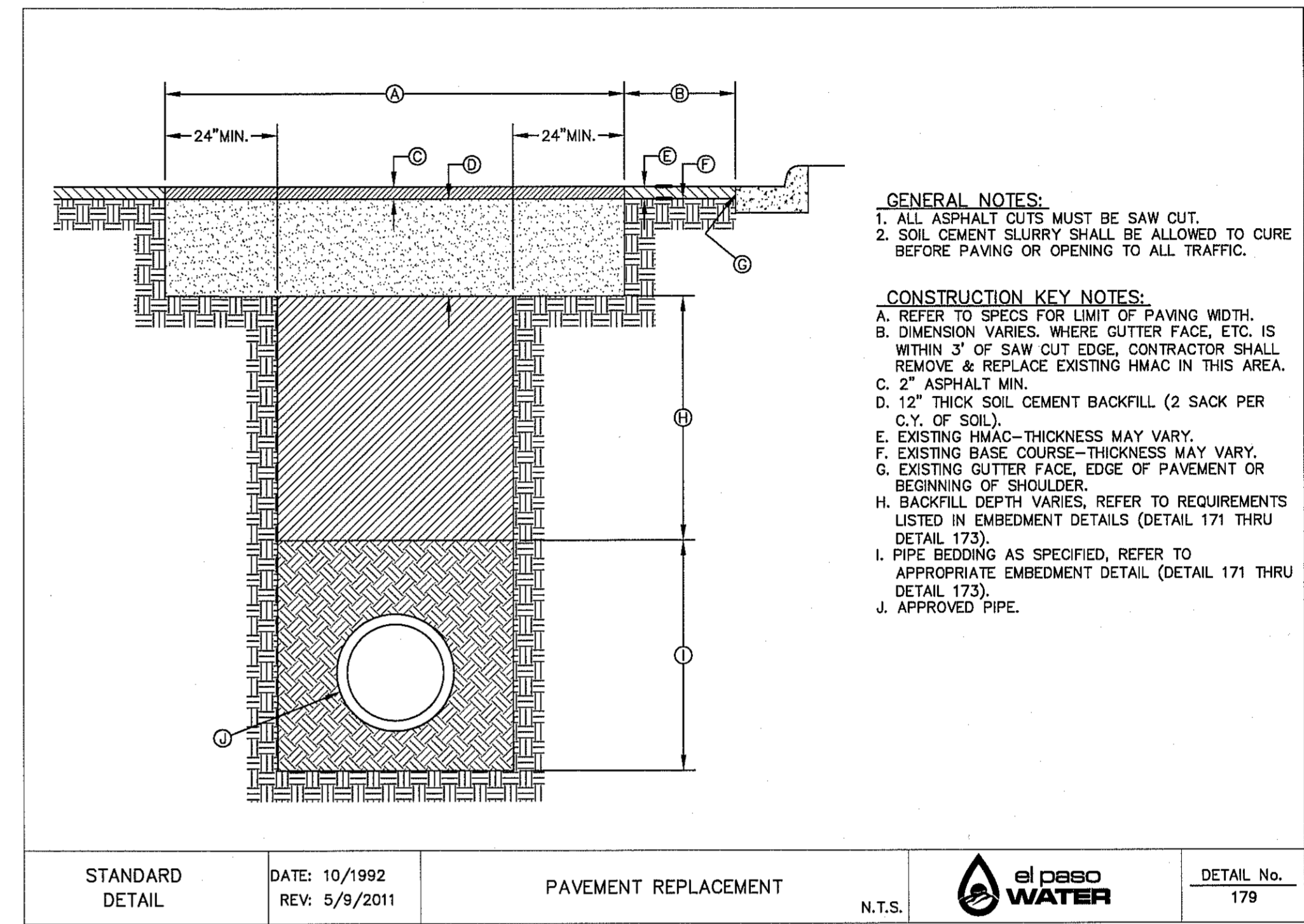
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C12.1A



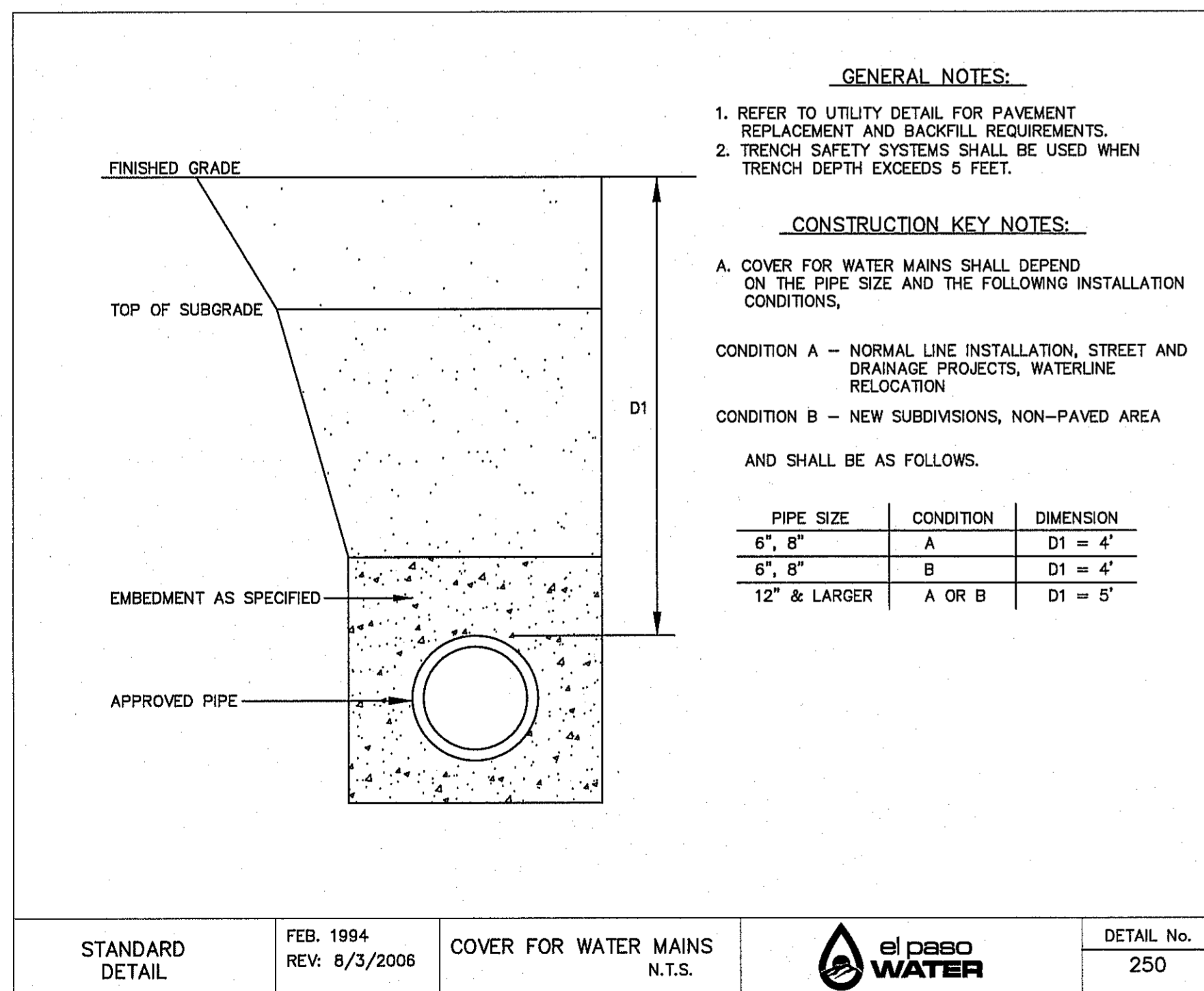
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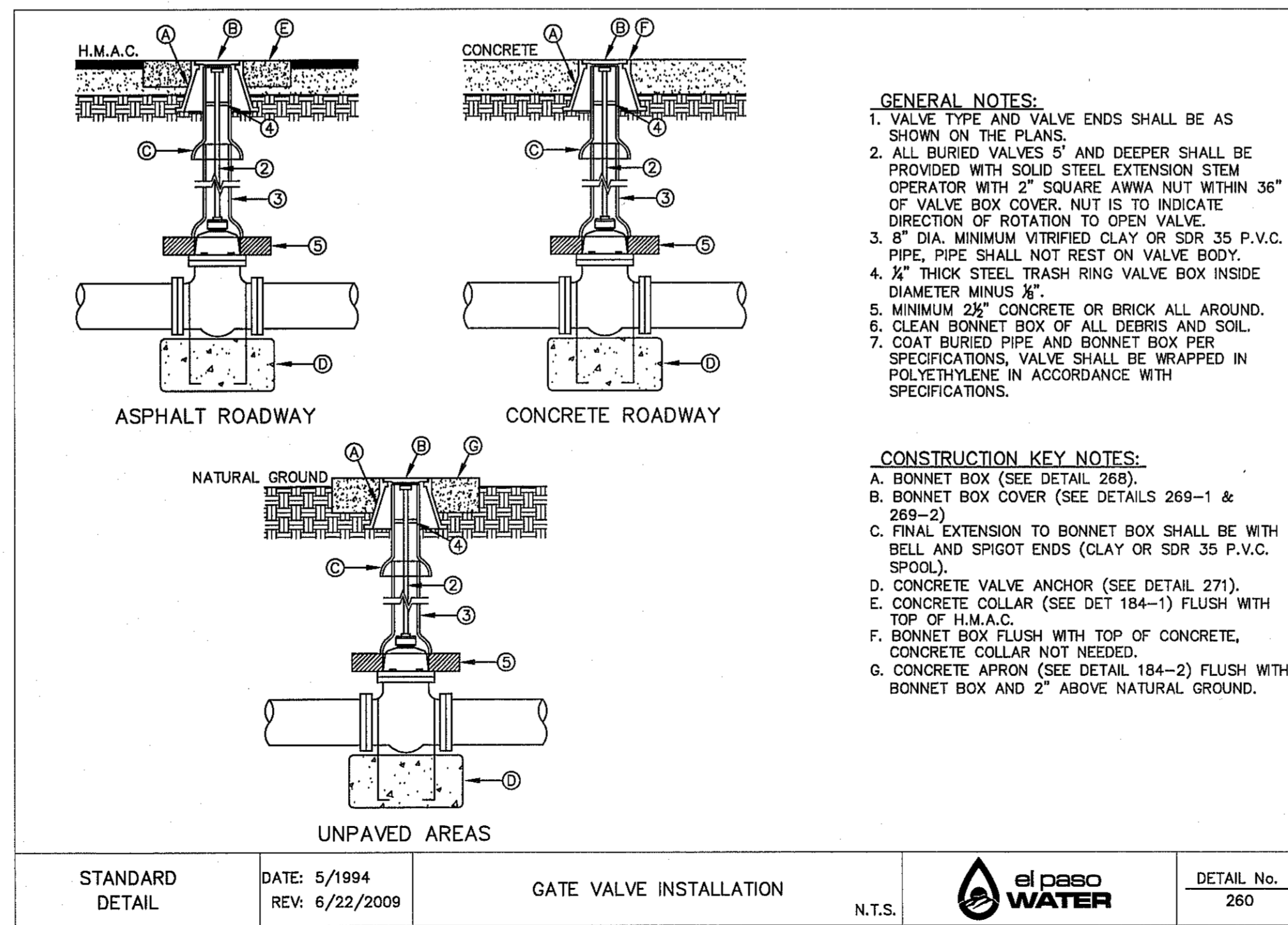
2 BEDDING CLASS DETAILS FOR P.V.C. PRESSURE PIPE SCALE: NTS



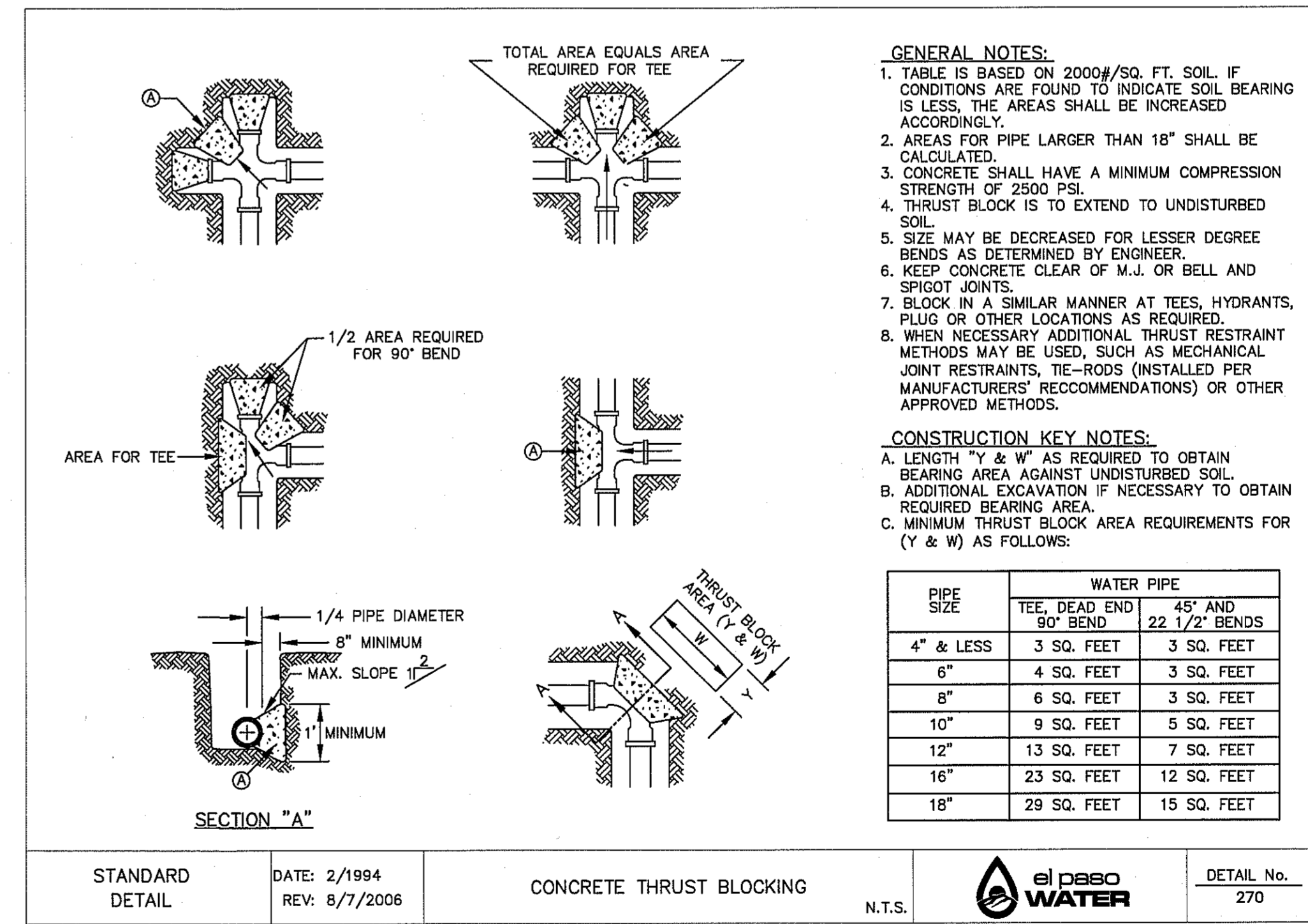
3 PAVEMENT REPLACEMENT SCALE: NTS



4 COVER FOR WATER MAINS SCALE: NTS



5 GATE VALVE INSTALLATION SCALE: NTS



6 CONCRETE THRUST BLOCKING SCALE: NTS

REFERENCES - BENCHMARKS
CITY MONUMENT LOCATED AT THE CENTERLINE OF DRY CONDITIONS.
INTERSECTION OF CLOYESDALE DRIVE AND PALOMINO STREET.
ELEVATION = 3926.24 (G.P. 03). THE NORTH AMERICAN DATUM IS ELEVATION = 3939.53' (NAVD 88).
DATE _____ REVISIONS _____ BY _____

el PASO WATER

ENGINEER'S SEAL
JAMES L. AZARATE
REGISTERED PROFESSIONAL ENGINEER
4712 Woodrow Bean, Ste. F P.O. Box 7992A
915.544.5232 | www.eapgroup.net

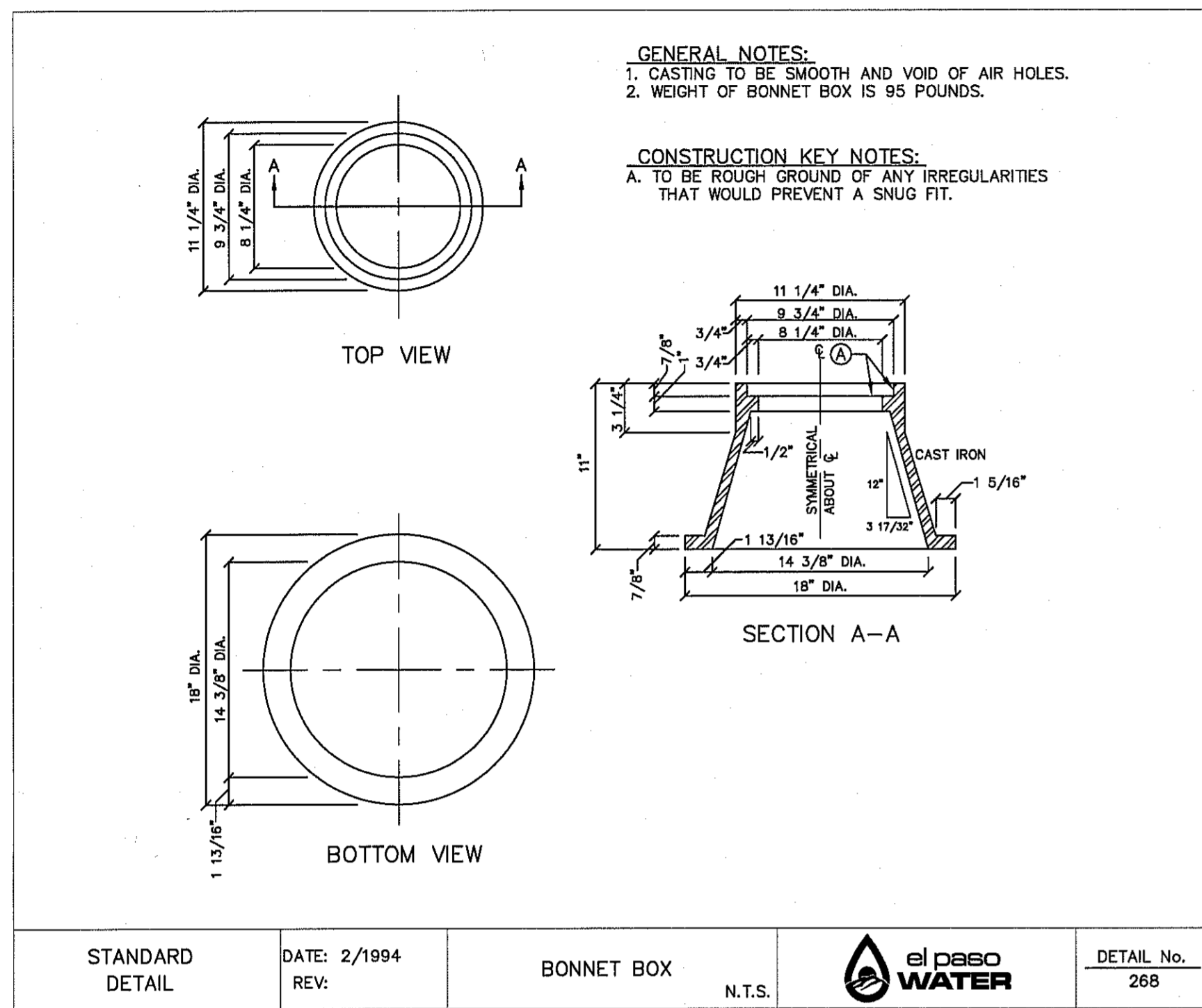
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DATE: APRIL, 2018
DESIGN BY: R.O. G.M.
DRAWN BY: J.L.A.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-201

PROJECT TITLE
HIDDEN VILLAGE UNIT ONE
SUBDIVISION IMPROVEMENTS

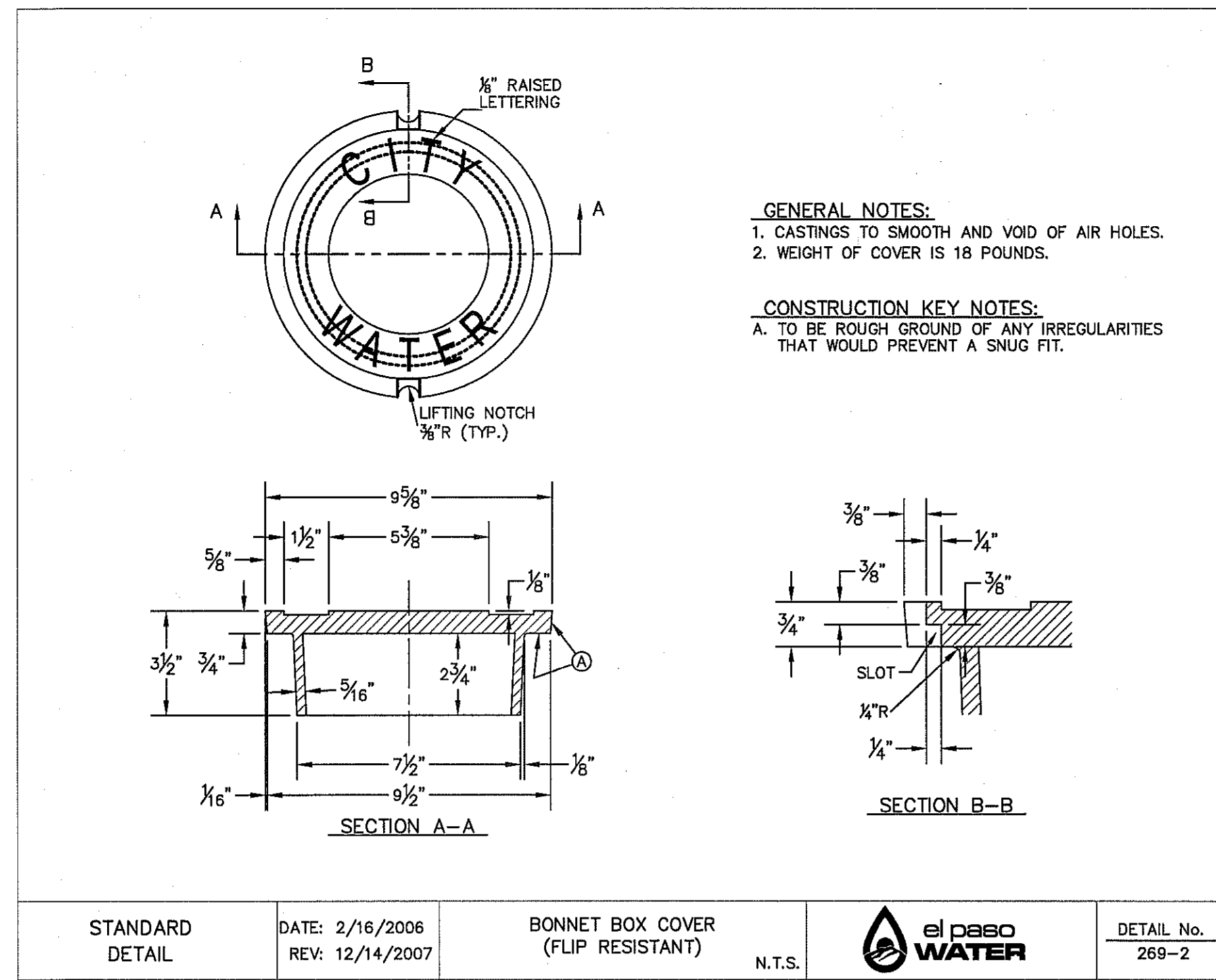
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WATER DETAILS
(SHEET 1 OF 4)
SHEET NO.

C12.2

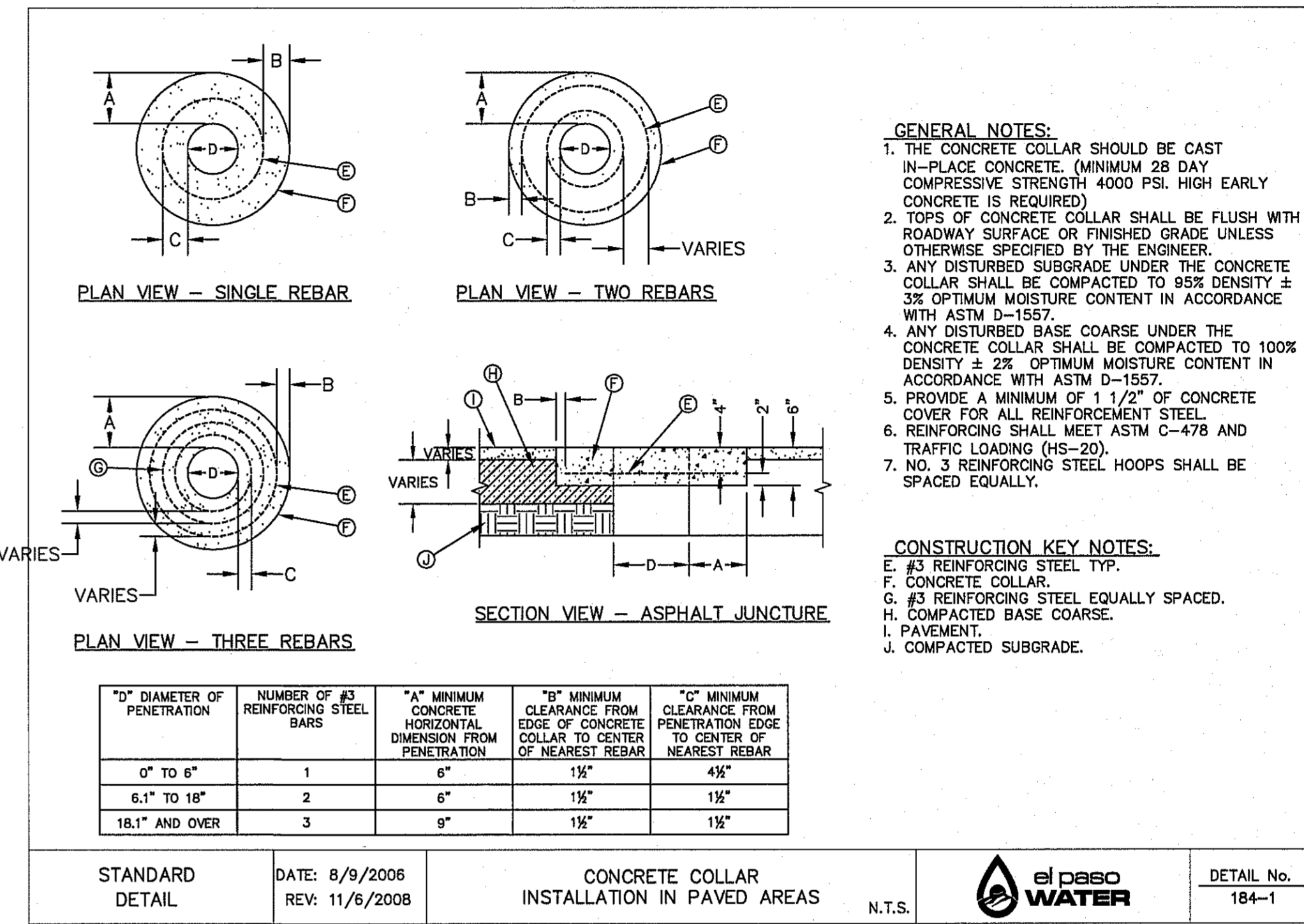
Final Approval



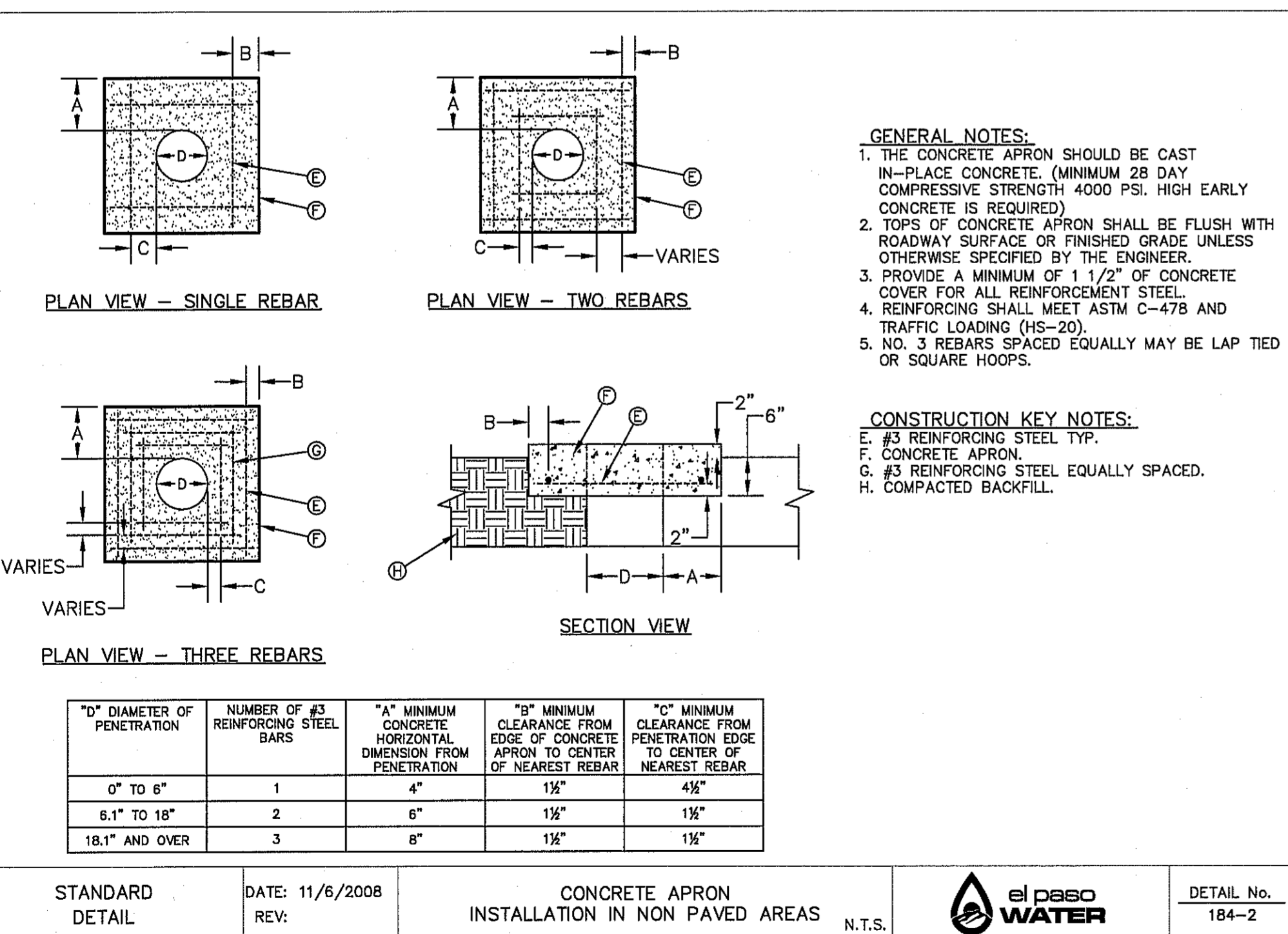
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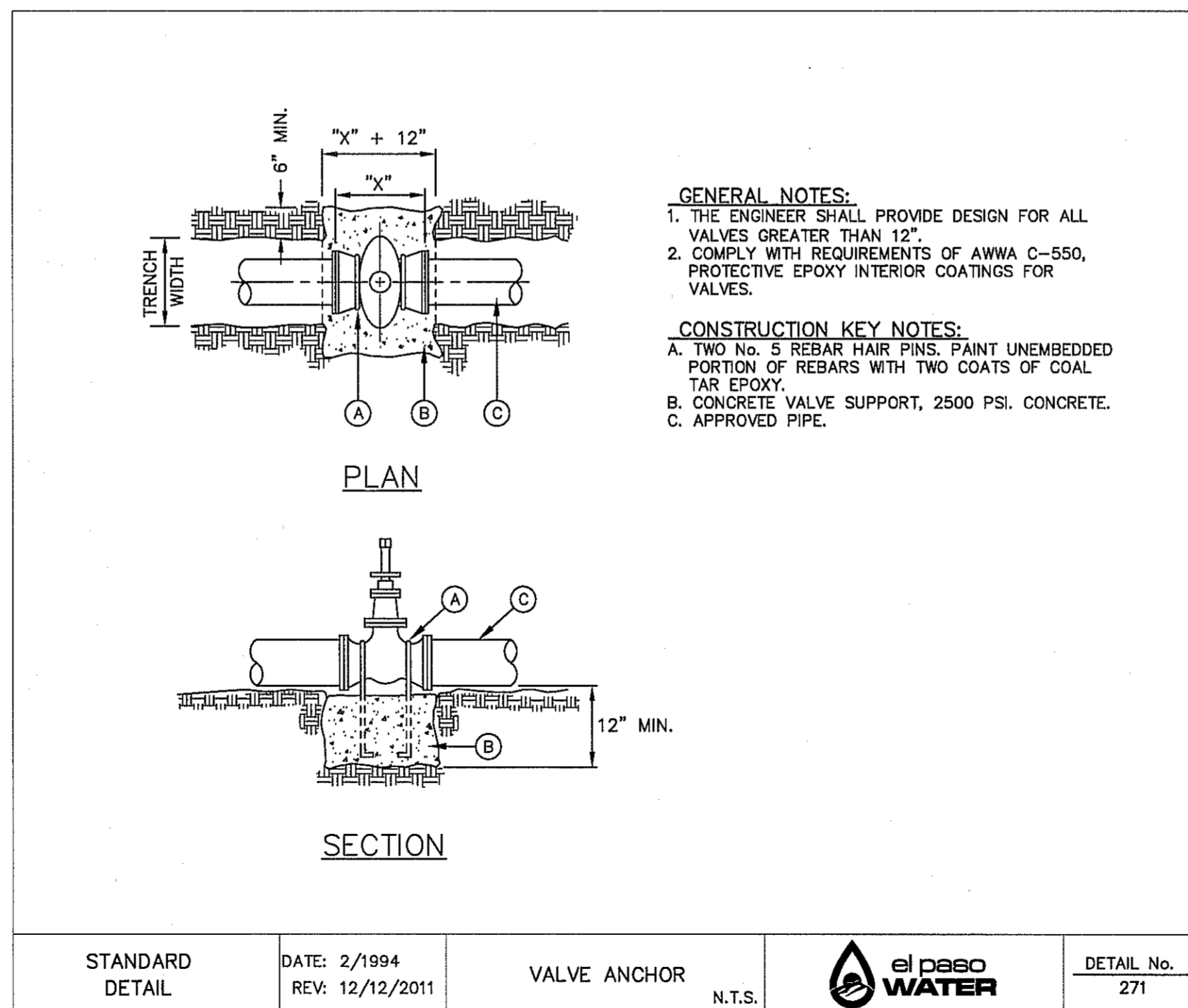
2 BONNET BOX COVER SCALE: NTS



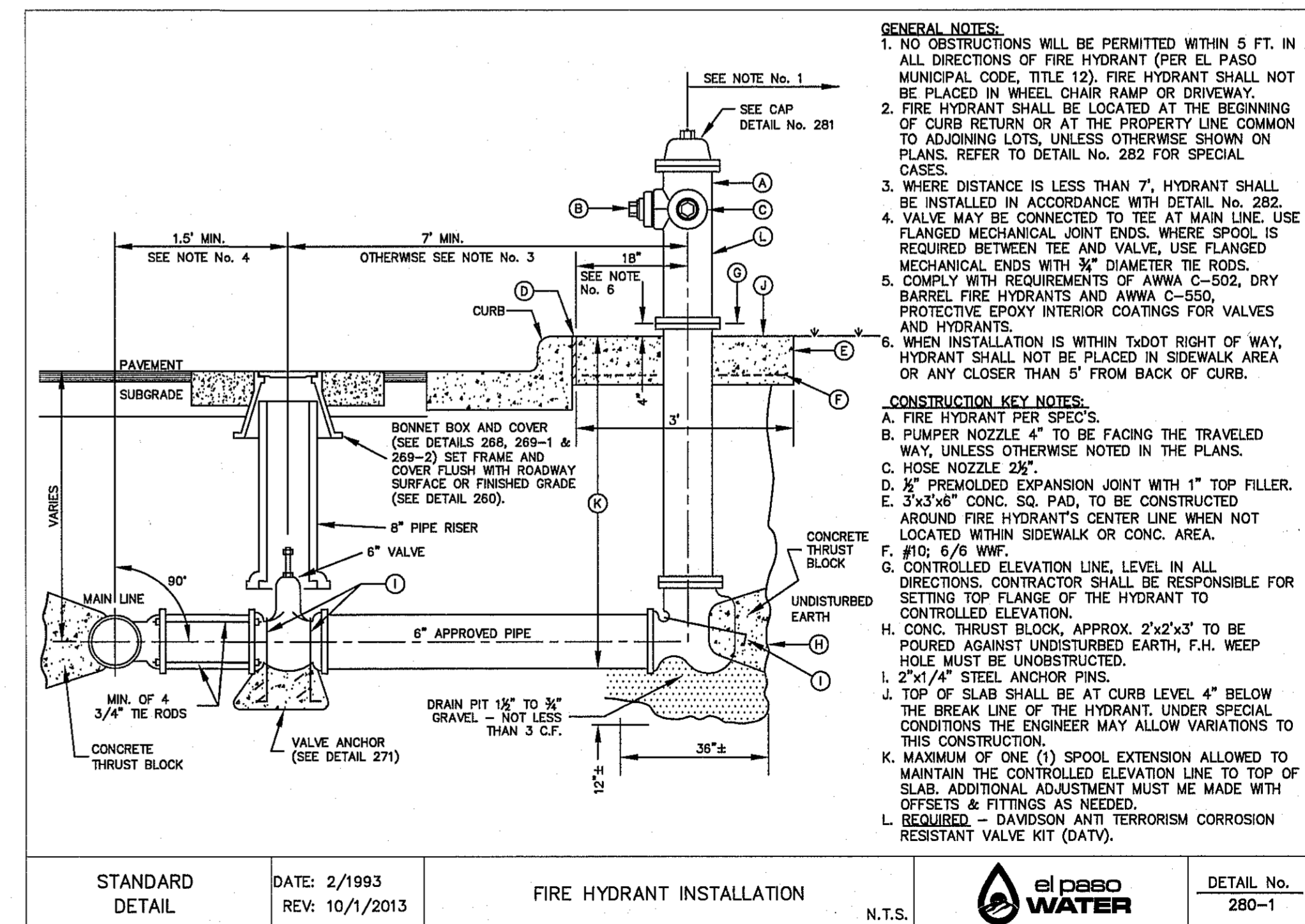
3 CONCRETE COLLAR INSTALLATION IN PAVED AREAS SCALE: NTS



4 CONCRETE COLLAR INSTALLATION IN NON PAVED AREAS SCALE: NTS



5 VALVE ANCHOR SCALE: NTS

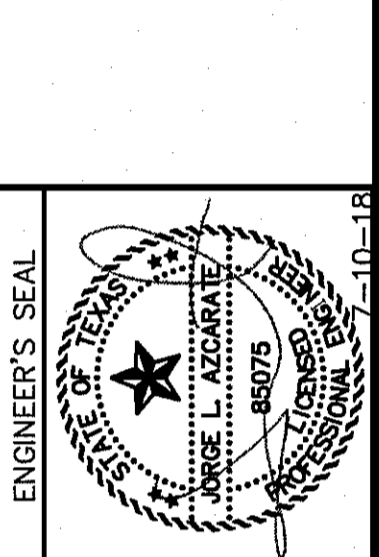
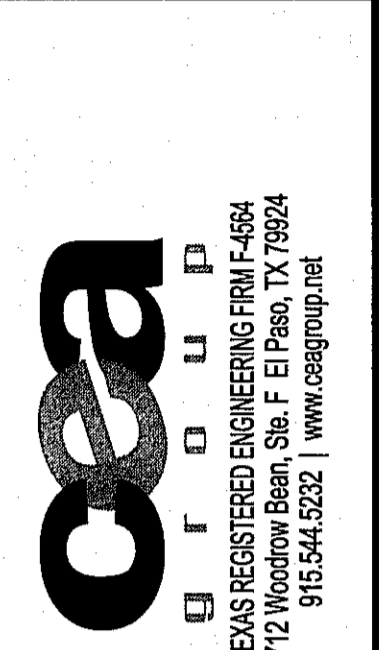


6 FIRE HYDRANT INSTALLATION SCALE: NTS

REFERENCES - BENCHMARKS

CITY MONUMENT LOCATED AT THE CENTERLINE INTERSECTION OF CLYDESDALE DRIVE AND PALOMINO ELEVATION = 8928.24' (E.P.M.D.), THE NORTH AMERICAN VERTICAL DATUM OF SAUD CITY MONUMENT IS ELEVATION = 3939.53' (NAVD 88).

DATE	REVISIONS	BY



SCALE SHOWN: AS SHOWN

Horizontal: N/A

Vertical: N/A

Contour Interval: N/A

DATE: APRIL, 2018

DESIGN BY: R.O.

DRAWN BY: G.M.

CHKD. BY: J.L.A.

APP'D. BY: J.L.A.

JOB No. 2000-201

PROJECT TITLE

HIDDEN VILLAGE UNIT ONE

SUBDIVISION IMPROVEMENTS

SHEET TITLE

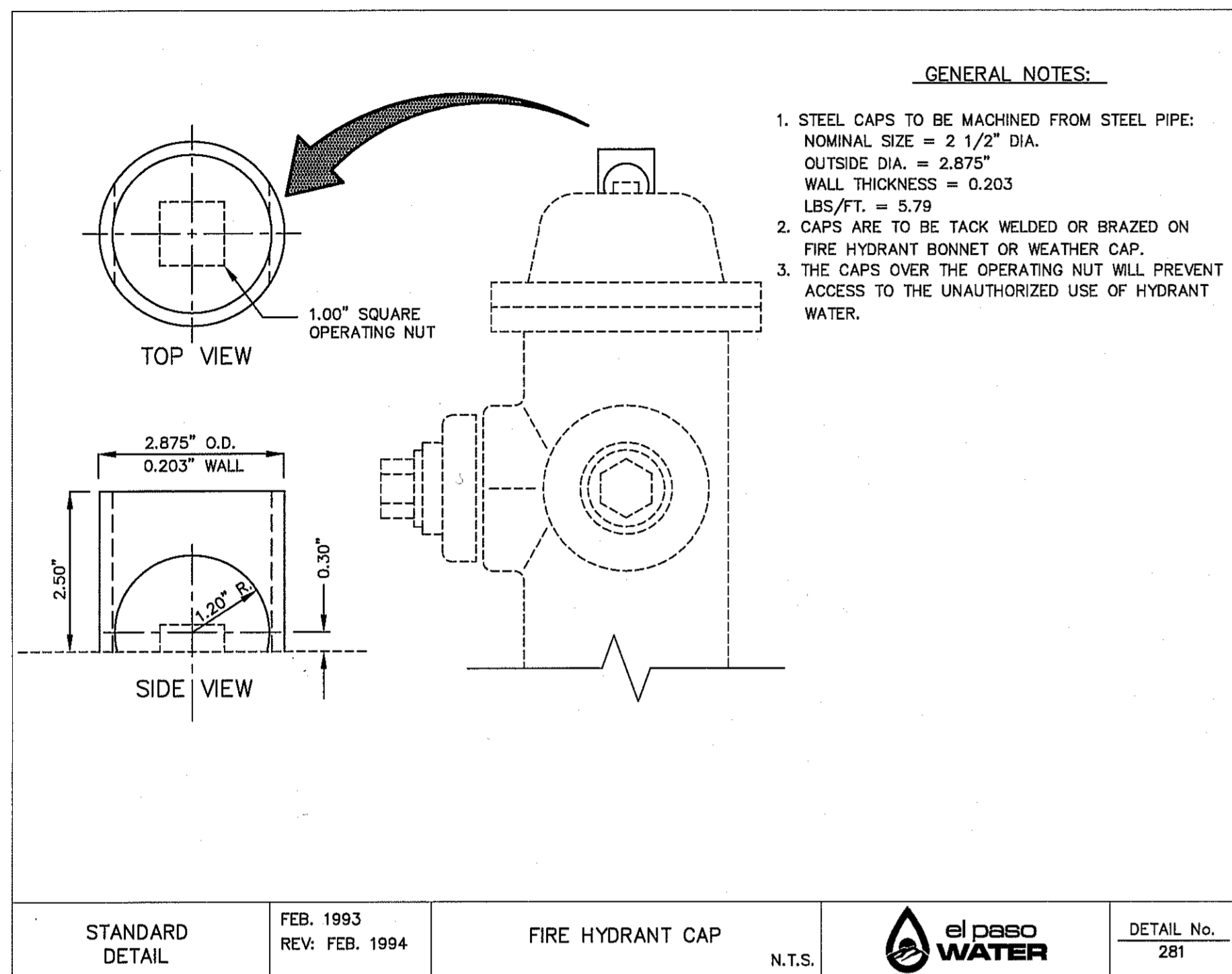
WATER DETAILS

(SHEET 2 OF 4)

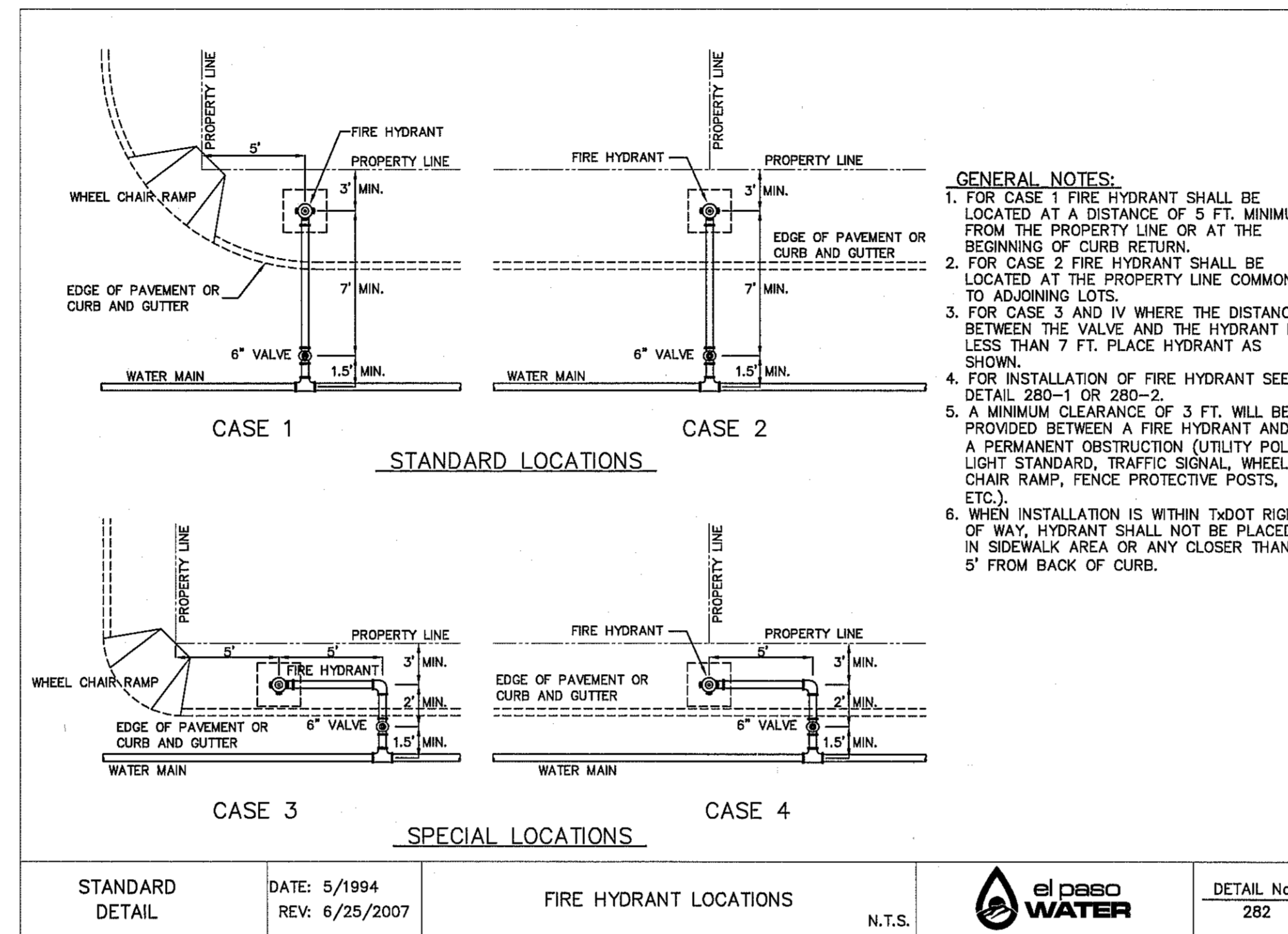
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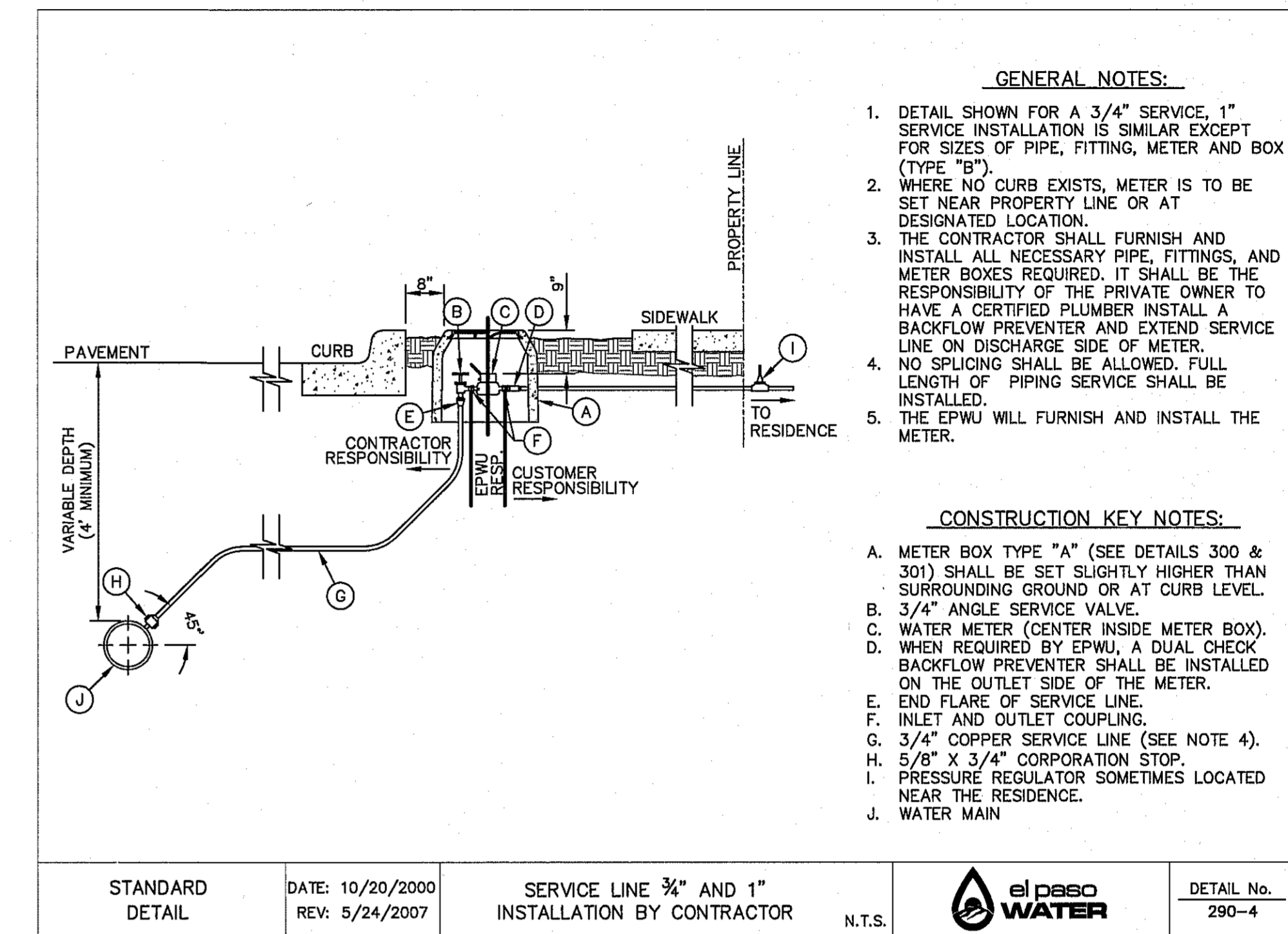
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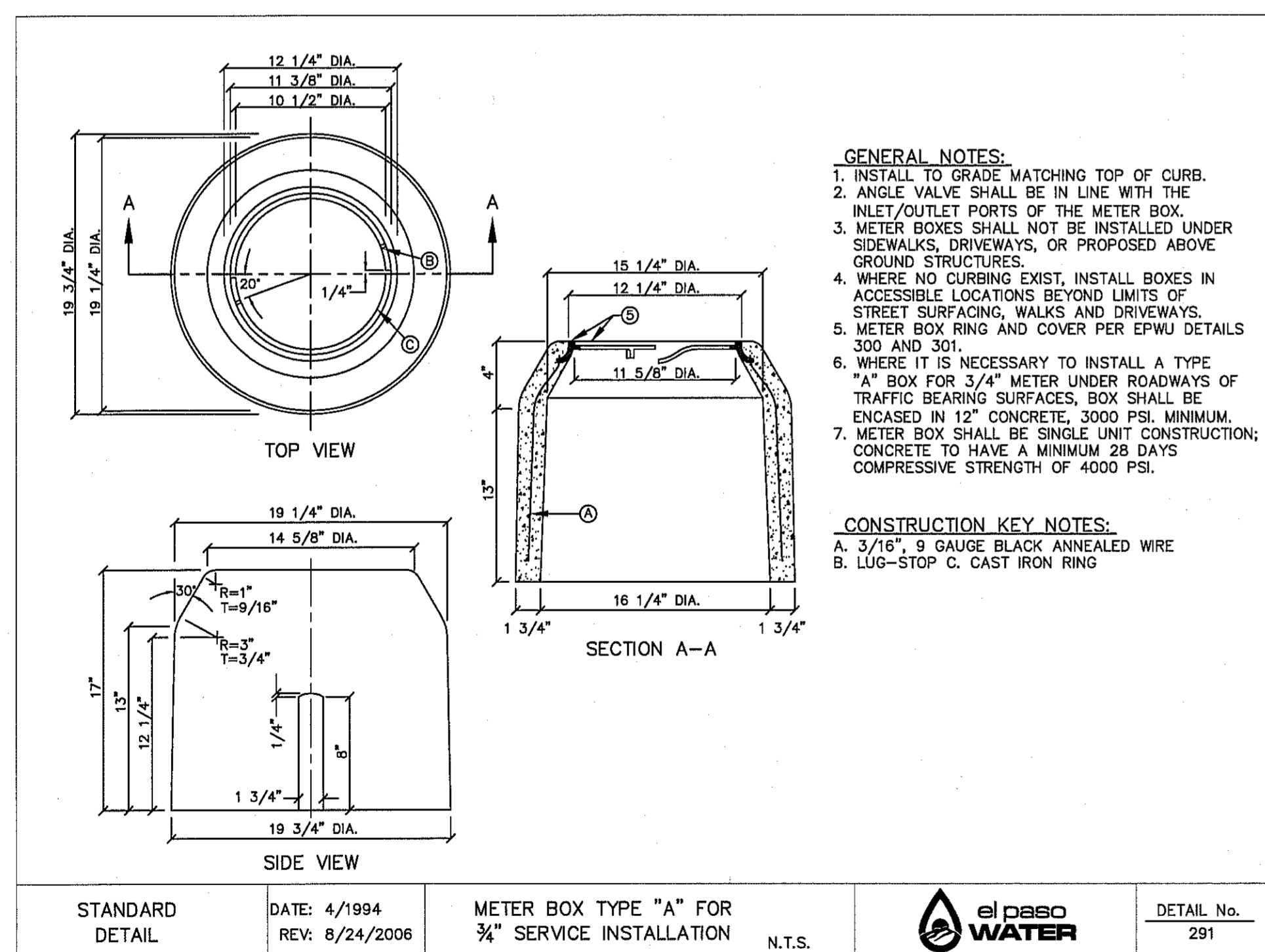
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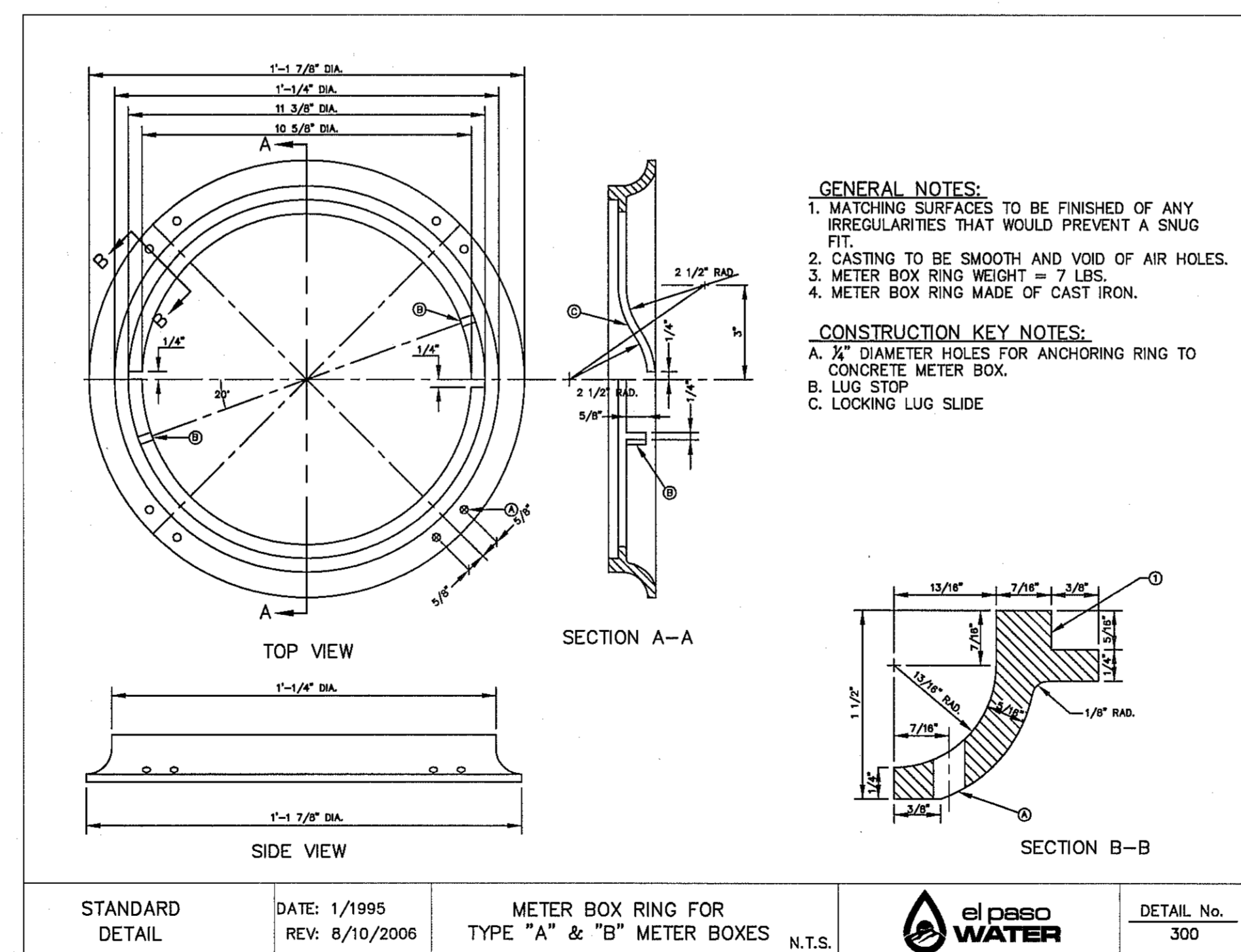
2 FIRE HYDRANT LOCATIONS
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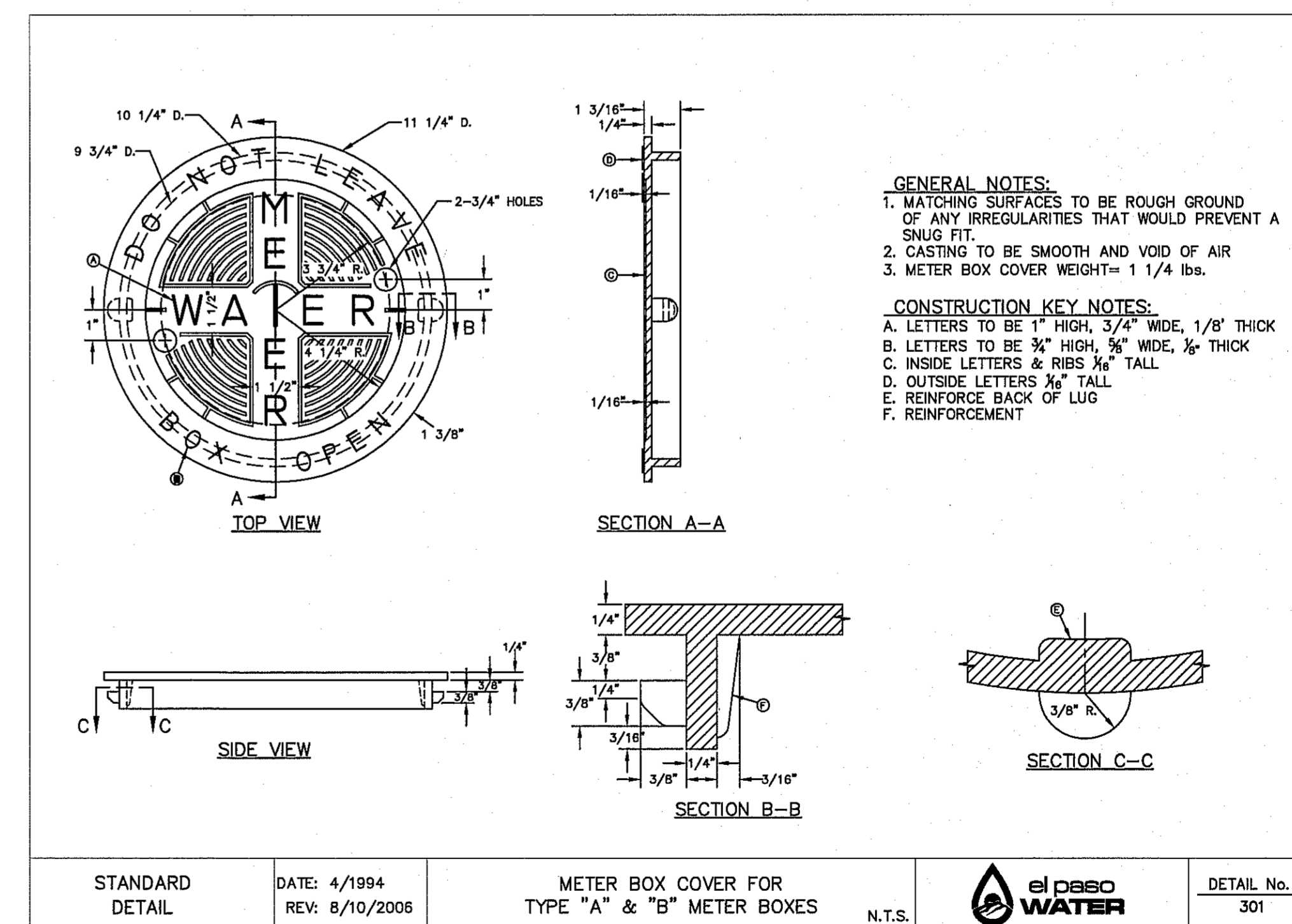
3 SERVICE LINE 3/4" AND 1" INSTALLATION
SCALE: NTS



4 METER BOX TYPE "A" FOR 3/4" SERVICE INSTALLATION
SCALE: NTS



5 METER BOX RING FOR TYPE "A" & "B" METER BOXES
SCALE: NTS

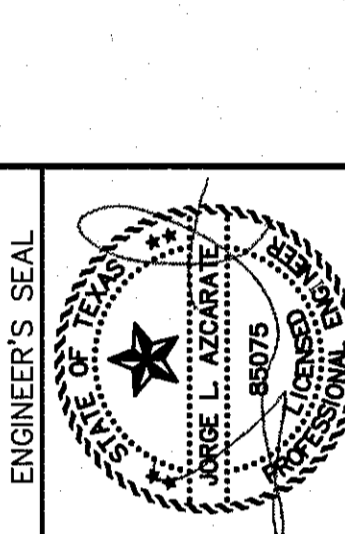
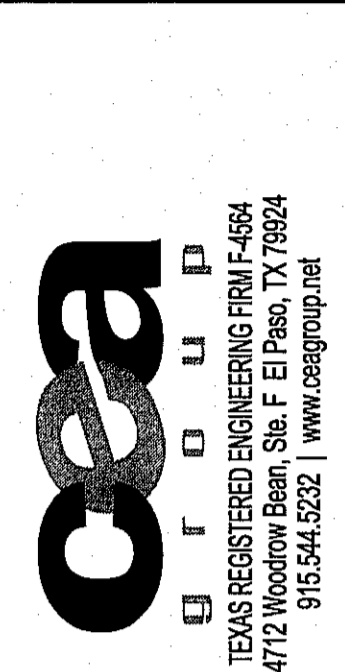


6 METER BOX COVER FOR TYPE "A" & "B" METER BOXES
SCALE: NTS

REFERENCES - BENCHMARKS

CITY MONUMENT LOCATED AT THE CENTERLINE INTERSECTION OF CLYDESDALE DRIVE AND PALOMINO ELEVATION = 3928.24' (E.P.M.D.) THE NORTH AMERICAN VERTICAL DATUM OF SAID CITY MONUMENT IS ELEVATION = 3939.53' (NAVD 88).

DATE	REVISIONS	BY



SCALE

Horizontal: AS SHOWN
Vertical: Interval: N/A

DATE: APRIL, 2018
DESIGN BY: R.O.
DRAWN BY: G.M.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.

JOB No. 2000-201

PROJECT TITLE

HIDDEN VILLAGE UNIT ONE
SUBDIVISION IMPROVEMENTS

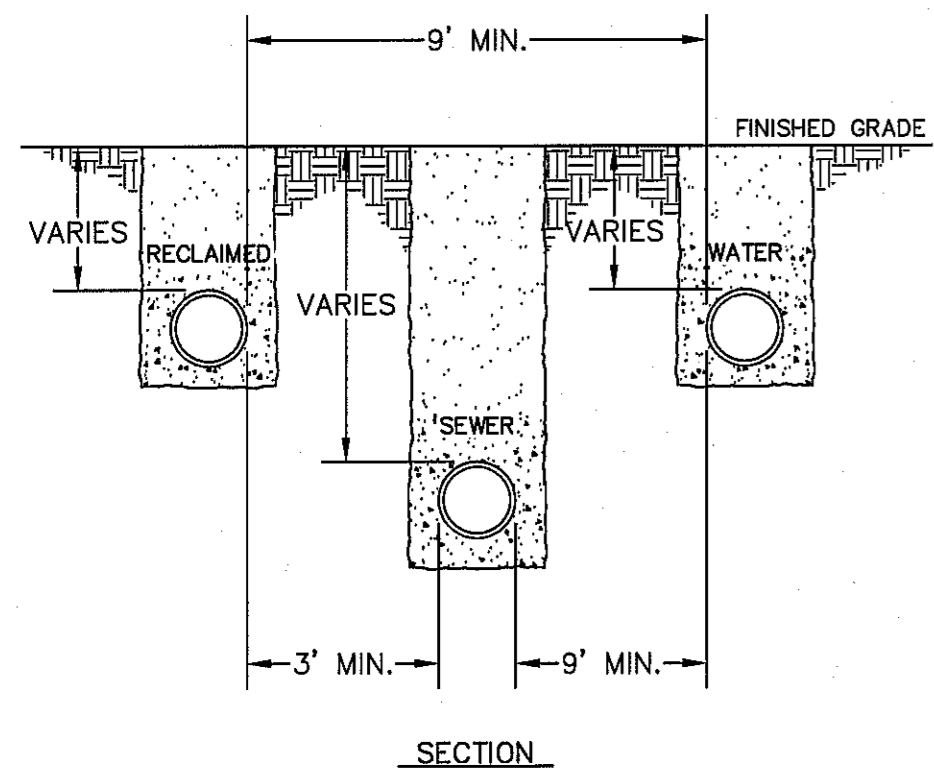
SHEET TITLE

WATER DETAILS

(SHEET 3 OF 4)
SHEET NO.

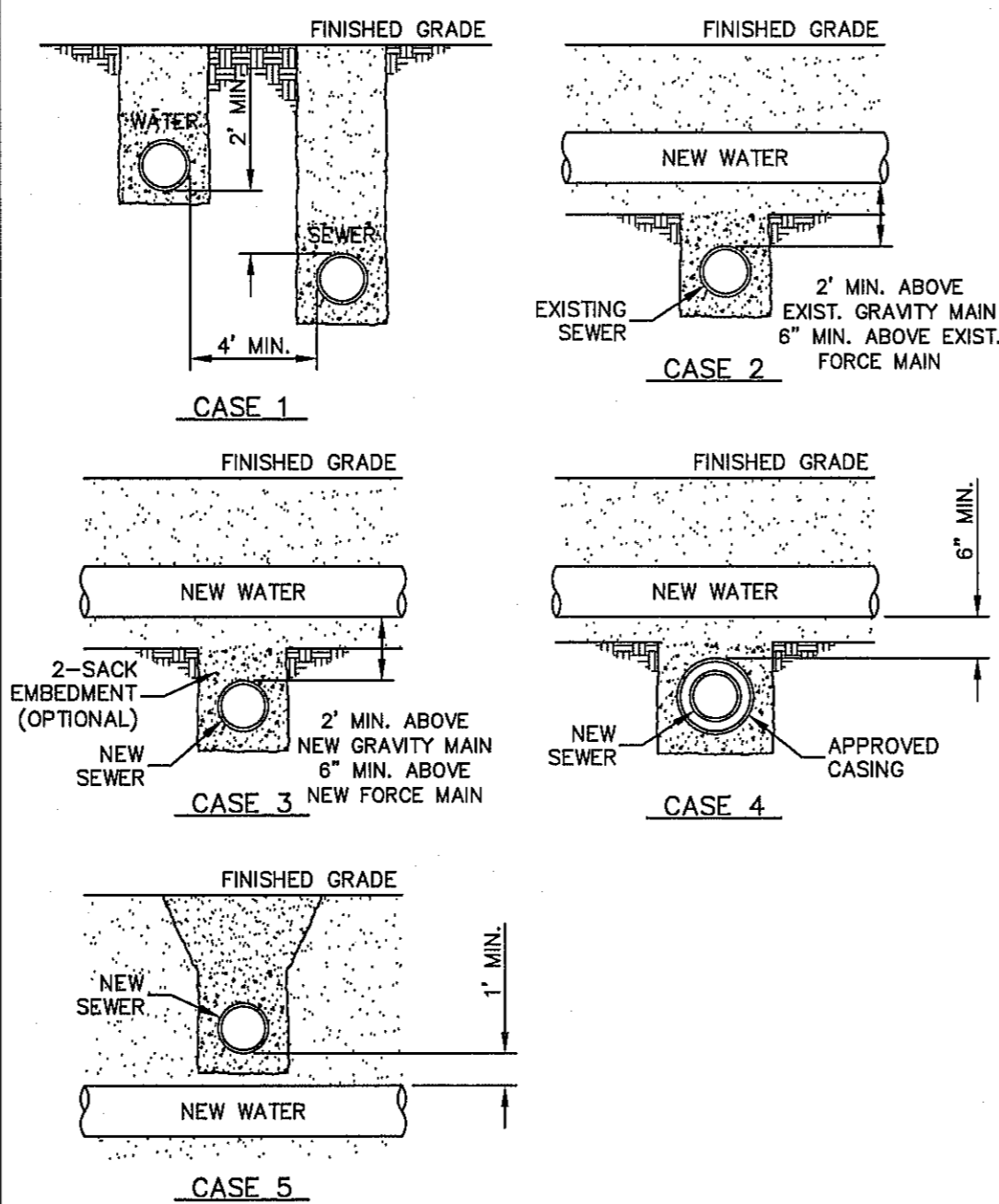
C12.4





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	POTABLE WATER, SANITARY SEWER AND RECLAIMED WATER	N.T.S.		DETAIL No. 160
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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 SPACED NINE (9) FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, SEPARATION SHALL BE DETERMINED ACCORDING TO THE FOLLOWING CONDITIONS:

CASE 1. GRAVITY SANITARY SEWER MAIN OR FORCE MAIN PARALLEL TO POTABLE WATER MAIN (PER TCEQ §290.44(a)(4)(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, REPLACE ONE PIPE SEGMENT PER CASE 3 REQUIREMENTS.
 • SEPARATE TRENCHES SHALL BE USED.

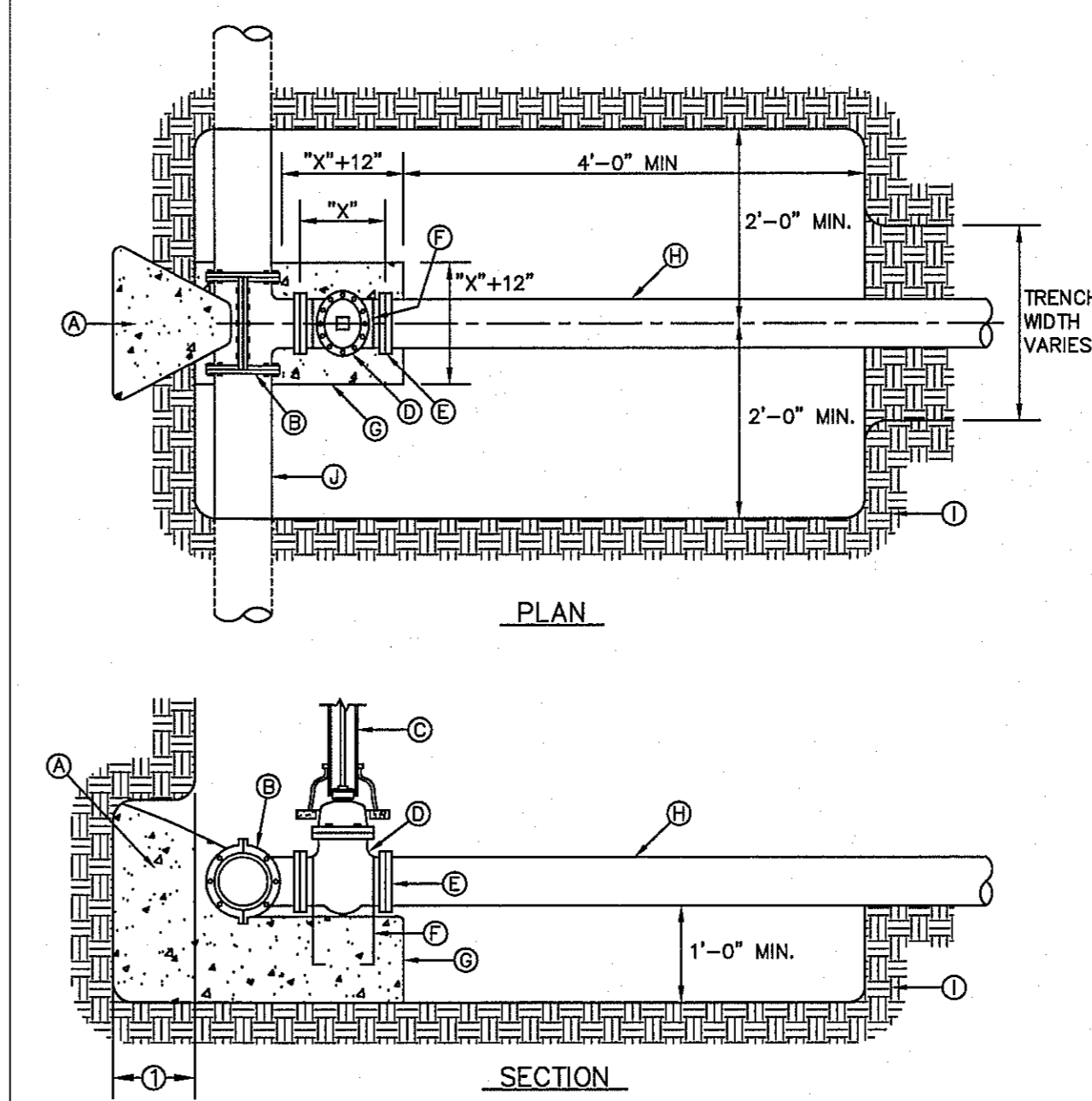
CASE 2. NEW POTABLE WATER MAIN CROSSING EXISTING GRAVITY SANITARY SEWER MAIN OR EXISTING FORCE MAIN (PER TCEQ §290.44(a)(4)(B)(i) AND §290.44(a)(4)(B)(ii)).
 • LOCATION: WATER ABOVE SEWER OR FORCE MAIN.
 • SEWER MATERIALS: EXISTING GRAVITY MAIN (PVC SDR35 OR CLAY) OR FORCE MAIN TO REMAIN IF NOT LEAKING-IF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

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

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

CASE 5. NEW GRAVITY SANITARY SEWER MAIN OR NEW FORCE MAIN CROSSING NEW POTABLE WATER MAIN (PER TCEQ §290.44(a)(4)(B)(i) AND §290.44(a)(4)(B)(ii)).
 • LOCATION: SEWER OR FORCE MAIN ABOVE WATER.
 • SEWER MATERIALS: 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.		DETAIL No. 161
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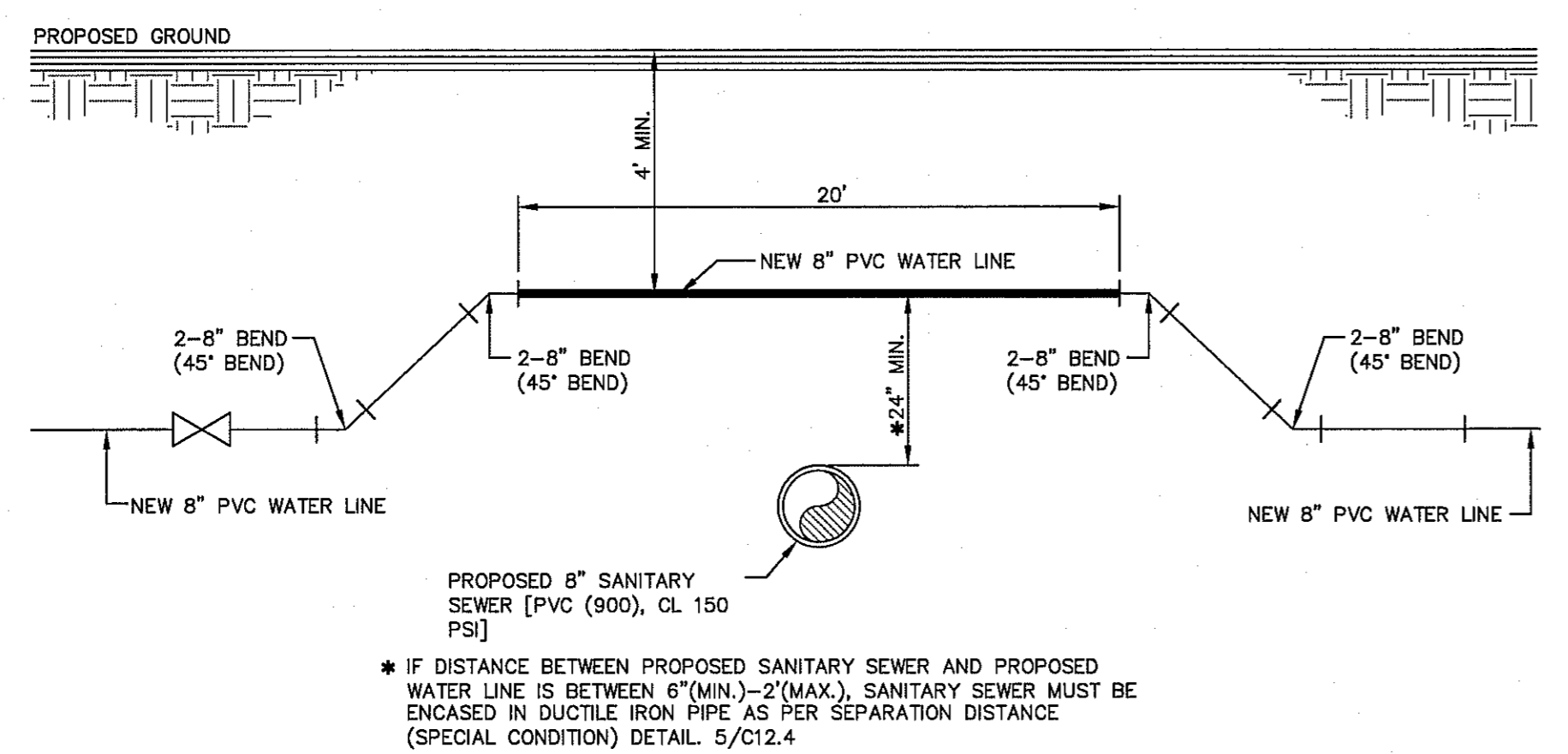
GENERAL NOTES:
 1. THRUST BLOCKING SHALL EXTEND TO UNDISTURBED EARTH.
 2. TAPPING SLEEVE SHALL BE 18" MINIMUM FROM ANY BELL, COUPLING, VALVE OR FITTING LOCATED ALONG EXISTING WATER LINE TO BE TAPPED.
 3. REPLACE EXCAVATED MATERIAL WITH CEMENT STABILIZED BACKFILL PRIOR TO PAVING.
 4. JOINTS AND BOLTS SHALL BE CLEAR OF CONCRETE.
 5. INSTALL PERMANENT THRUST BLOCKING UNDER VALVE BEFORE TAP IS MADE. JOINTS AND BOLTS TO BE CLEAR OF CONCRETE.

STANDARD DETAIL	DATE: 9/1994 REV: 8/9/2006	TAPPING SLEEVE AND VALVE INSTALLATION	N.T.S.		DETAIL No. 266
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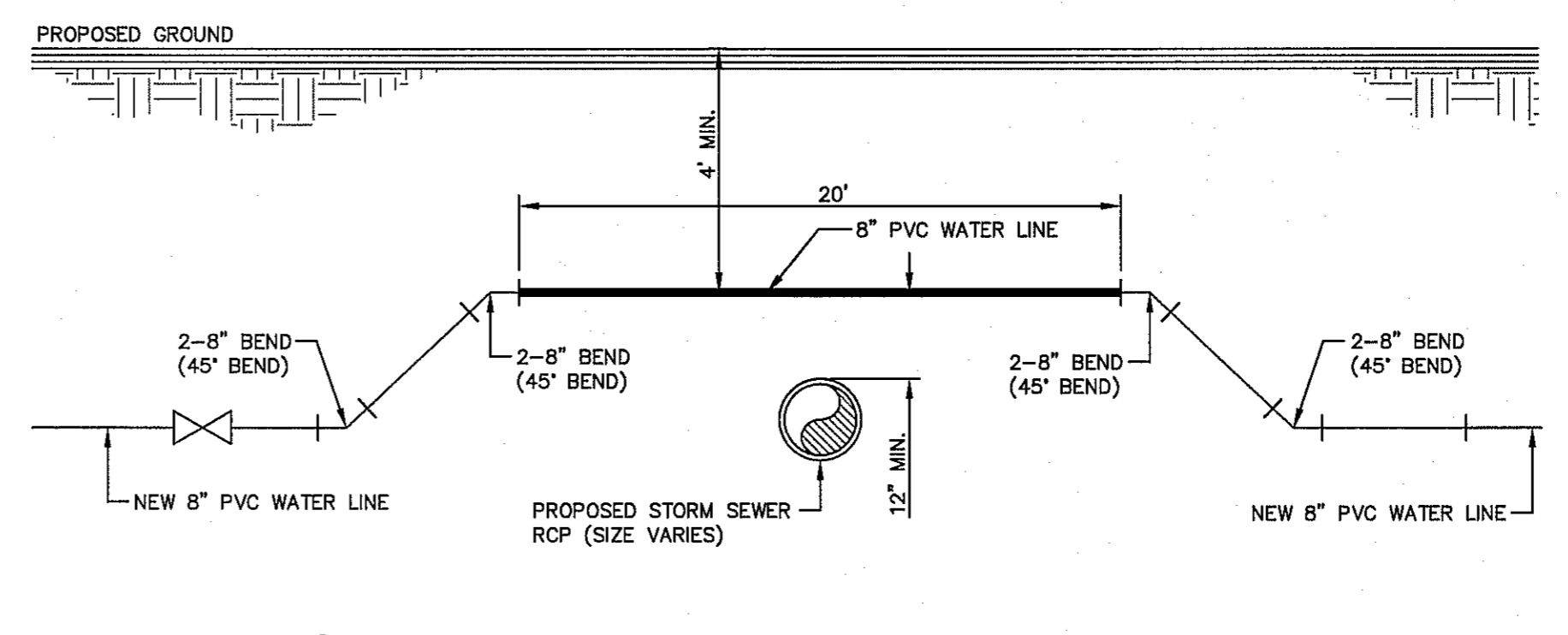
1 SEPARATION DISTANCE POTABLE WATER, SANITARY SEWER AND RECLAIMED WATER
 C12.5 SCALE: NTS

2 SEPARATION DISTANCE SANITARY SEWER AND POTABLE WATER (SPECIAL CONDITIONS)
 C12.5 SCALE: NTS

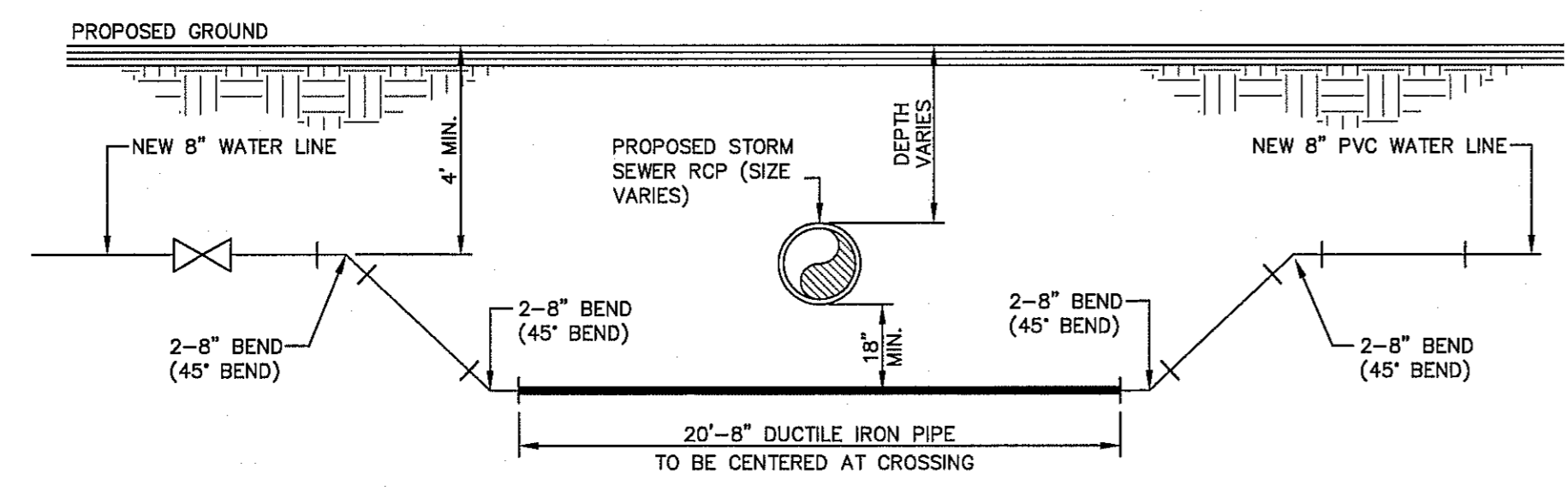
3 TAPPING SLEEVE AND VALVE INSTALLATION
 C12.5



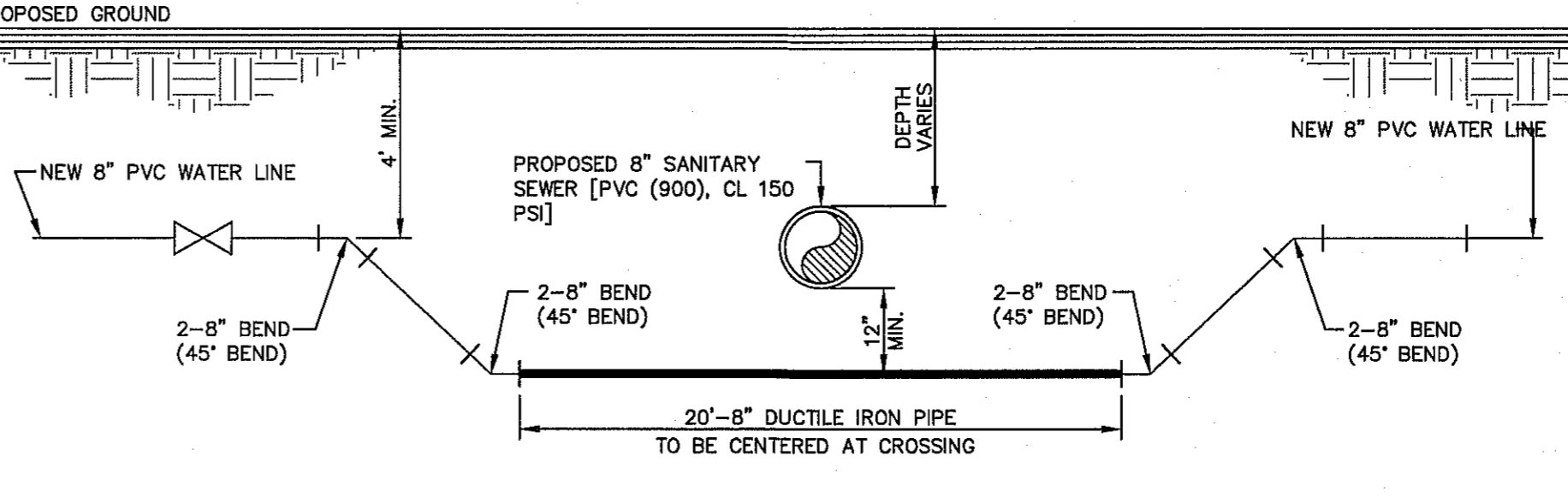
4 WATER LINE OVER SANITARY SEWER CROSSING DETAIL
 C12.5 SCALE: NTS



5 WATER LINE OVER STORM SEWER CROSSING DETAIL
 C12.5 SCALE: NTS



6 WATER LINE UNDER STORM SEWER CROSSING DETAIL
 C12.5 SCALE: NTS



7 WATER LINE UNDER SANITARY SEWER CROSSING DETAIL
 C12.5 SCALE: NTS

REFERENCES - BENCHMARKS

CITY MONUMENT LOCATED AT THE CENTERLINE INTERSECTION OF CLYDESDALE DRIVE AND PALMDALE	BY
ELEVATION = 3928.24' (E.P.V.D.), THE NORTH AMERICAN VERTICAL DATUM OF SAUD CITY MONUMENT IS ELEVATION = 3939.53' (NAYD 88).	REVISIONS
DATE	BY

TEXAS REGISTERED ENGINEERING FIRM F-484
 4712 Woodrow Bldg., Ste. F El Paso, TX 79904
 915.544.6232 | www.osagroup.net

ENGINEER'S SEAL

SCALE

Horizontal: AS SHOWN	N/A
Vertical: AS SHOWN	N/A
DATE: APRIL, 2018	R.O.
DESIGN BY: G.M.	J.L.A.
DRAWN BY: J.L.A.	J.L.A.
CHKD. BY: J.L.A.	J.L.A.
APPVD. BY: J.L.A.	J.L.A.
JOB No.:	2000-201

PROJECT TITLE

**HIDDEN VILLAGE UNIT ONE
 SUBDIVISION IMPROVEMENTS**

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



Final Approval

C12.5

SECTION No. 31, BLOCK 80, TOWNSHIP 1,
TEXAS AND PACIFIC RAILWAY COMPANY SURVEYS,
EL PASO COUNTY, TEXAS

PUBLIC WATER AND SEWER UTILITY WORK
SHALL NOT BE PERFORMED BY THE
CONTRACTOR UNTIL A DEVELOPMENT
AGREEMENT HAS BEEN EXECUTED BETWEEN
THE OWNER AND THE EPWATER-PSB.

INDEX

SHEET NO.	DESCRIPTION
C13.1	HIDDEN VILLAGE UNIT ONE LEGEND INDEX / GENERAL INFORMATION
C13.2	LINE A
C13.3	LINE B, C AND E
C13.4	LINE D, AND F
C13.5	SANITARY SEWER DETAILS
C13.6	SANITARY SEWER DETAILS
C13.7	SANITARY SEWER DETAILS
C13.8	SANITARY SEWER DETAILS

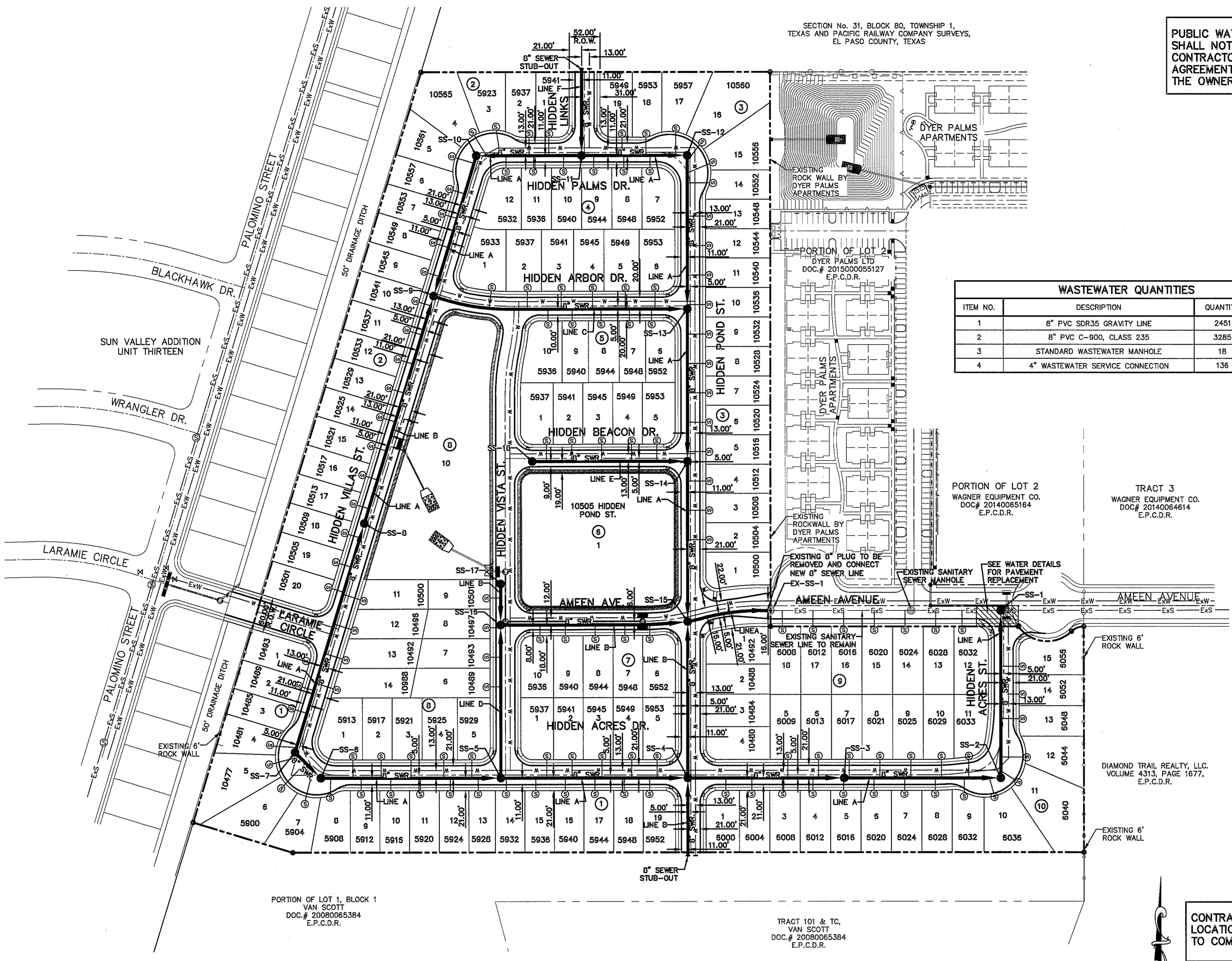
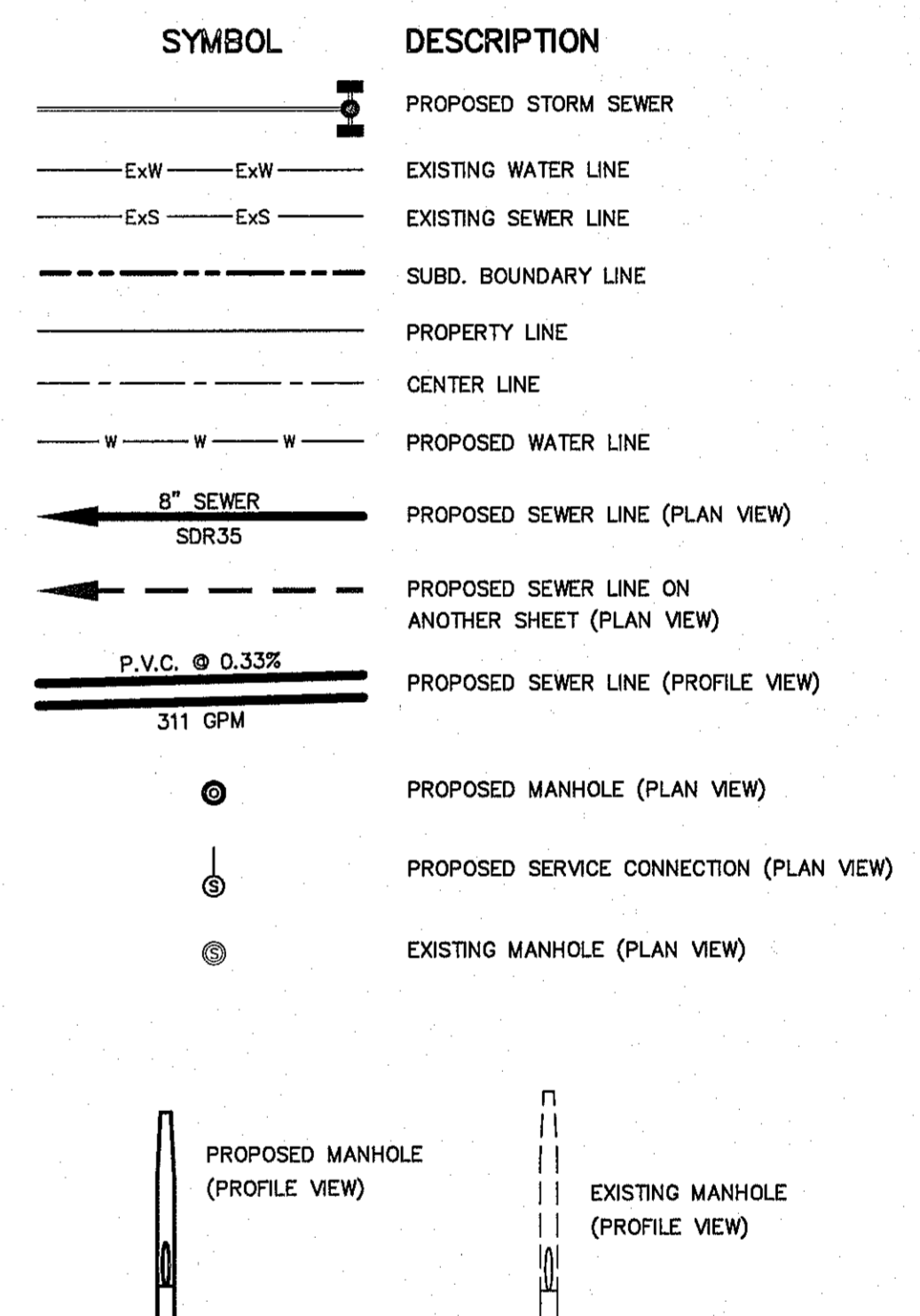
NOTES:

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

WASTEWATER QUANTITIES

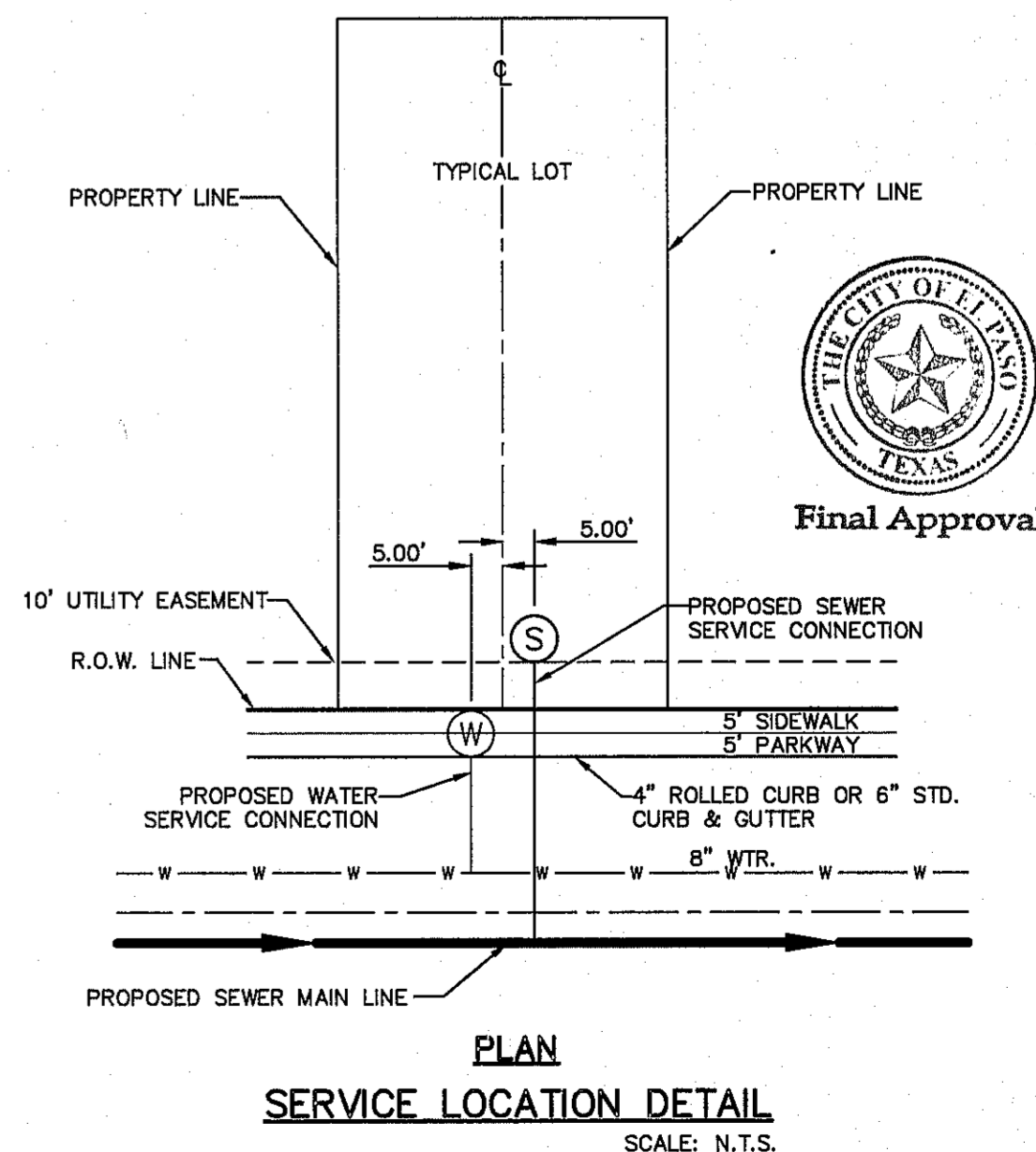
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
1	8" PVC SDR35 GRAVITY LINE	2451	LINEAR FEET
2	8" PVC C-900, CLASS 235	3285	LINEAR FEET
3	STANDARD WASTEWATER MANHOLE	18	EACH
4	4" WASTEWATER SERVICE CONNECTION	136	EACH

LEGEND



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

SANITARY SEWER INDEX MAP
SCALE: 1" = 100'



GENERAL NOTES

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

GENERAL UTILITIES:
TEXAS EXCAVATION SAFETY SERVICE
11894 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 CORP.
4045 DONIPHAN PARK CIRCLE
EL PASO, TX 79922
(915) 542-2775 EXT. 201
MR. DANIEL HERNANDEZ

WATER & SEWER:
EL PASO WATER
1154 HAWKINS BOULEVARD
EL PASO, TX 79961
(915) 594-5538
MRS. ADRIANA L. CASTILLO, P.E.

ELECTRIC:
EL PASO ELECTRIC CO.
501 W. SAN ANTONIO ST.
EL PASO, TX 79902
(915) 543-2078
MR. FRANK VIGEL (DISTRIBUTION)

EL PASO STREETS
CITY OF EL PASO
DEPARTMENT OF TRANSPORTATION
7969 SAN PAULO DRIVE
EL PASO, TX 79907
(915) 621-6750
MR. DARYL W. COLE

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 1850
EL PASO, TX 79949
(800) 852-3786
MS. DARLENE NORIS

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

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

REFERENCES - BENCHMARKS

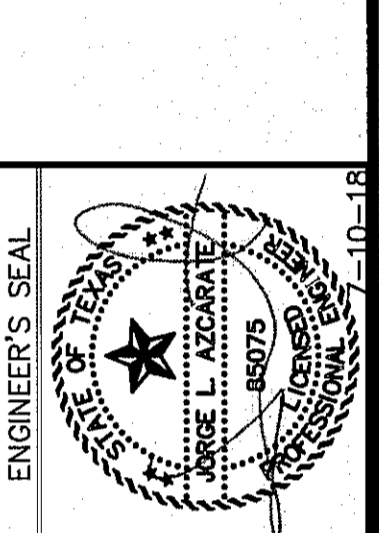
CITY MONUMENT LOCATED AT THE CENTERLINE INTERSECTION OF CLYDEDALE DRIVE AND PALOMINO

ELEVATION = 3928.24' (E.P.V.D.), THE NORTH AMERICAN VERTICAL DATUM OF SAID CITY MONUMENT IS ELEVATION = 3939.53' (NAVD 88).

DATE	REVISIONS	BY

CEA GROUP

TEXAS REGISTERED ENGINEERING FIRM F-664
4712 Woodrow Bean, Ste. F El Paso, TX 79924
915.544.5232 | www.ceagroup.net



SCALE: 1" = 100'

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

DATE: JULY, 2018
DESIGN BY: R.O.
DRAWN BY: G.M.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB NO.: 2008-201

PROJECT TITLE

**HIDDEN VILLAGE UNIT ONE
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

**SANITARY SEWER
INDEX/ GENERAL
INFORMATION**

SHEET NO.

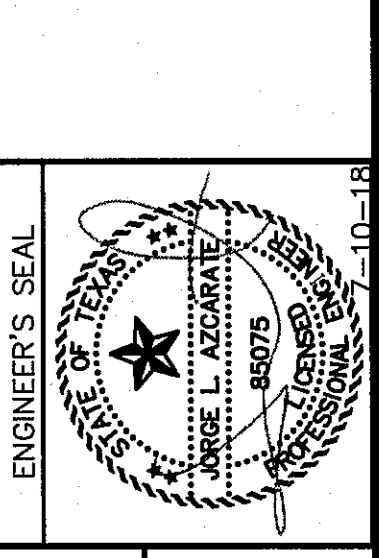
C13.1

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 498-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

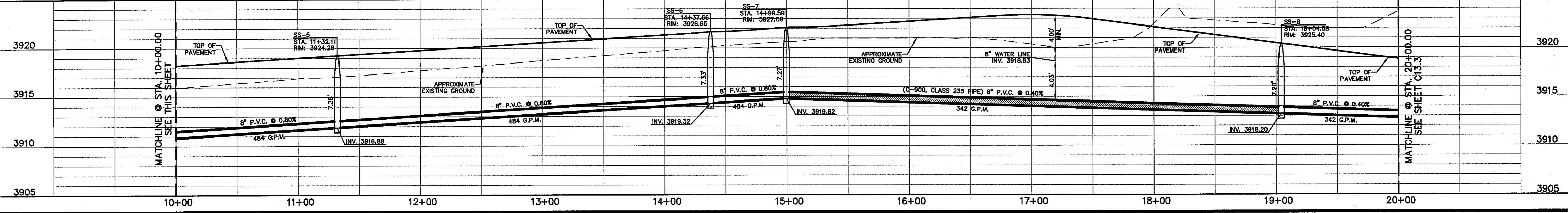
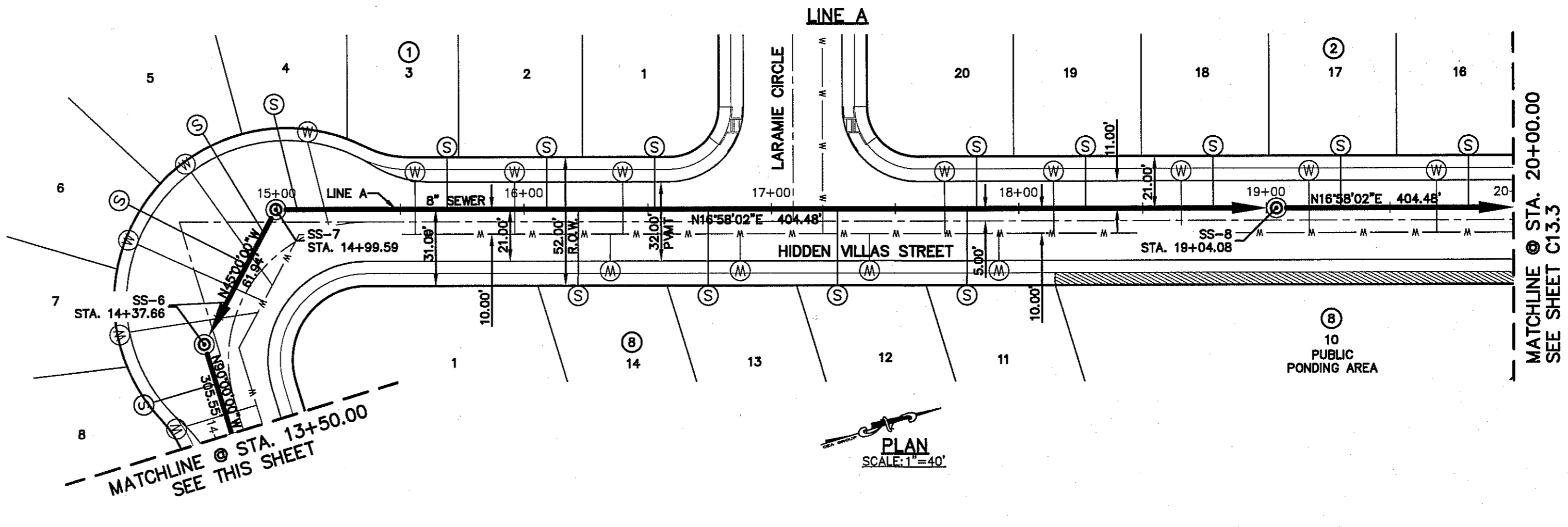
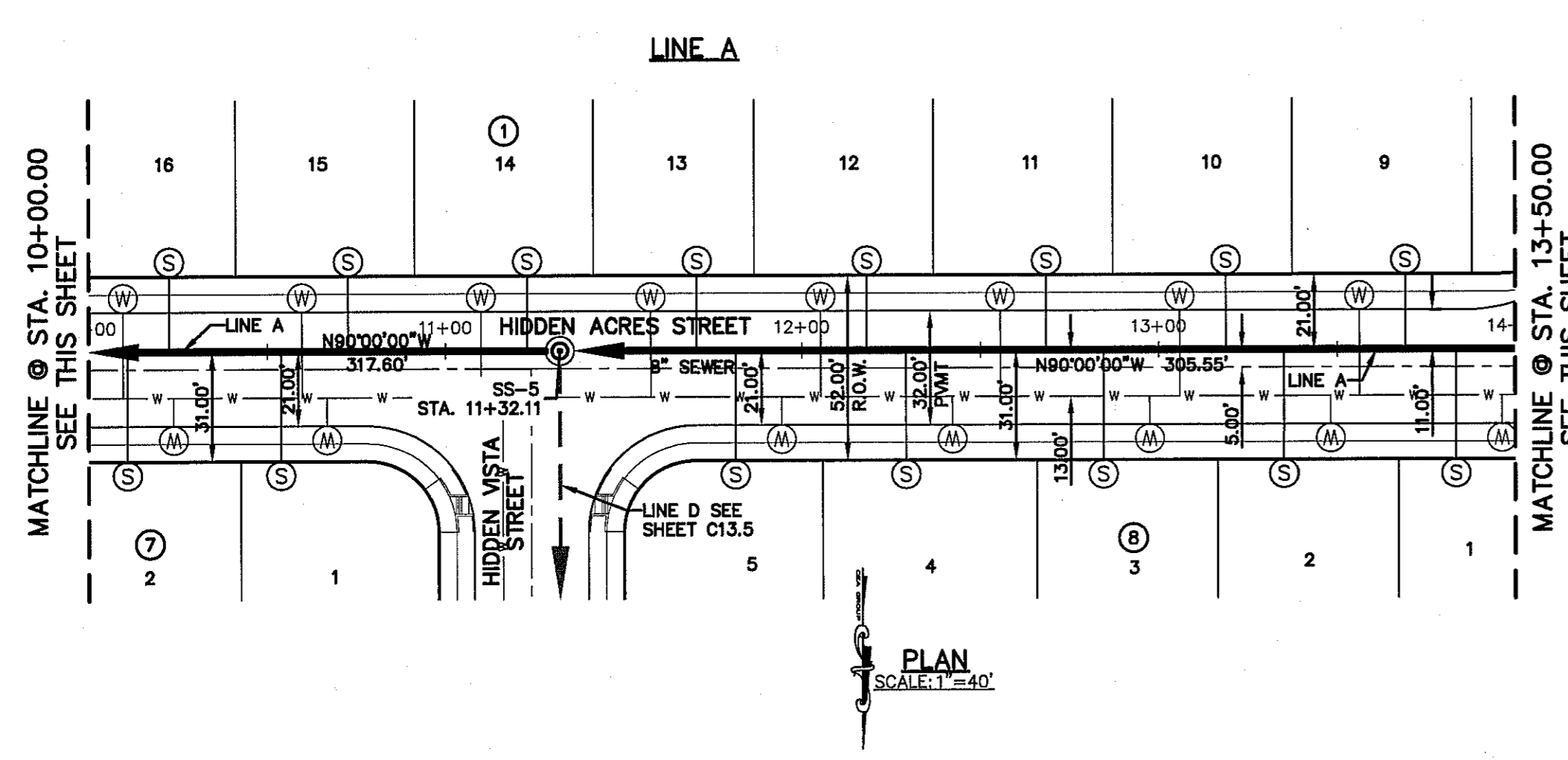
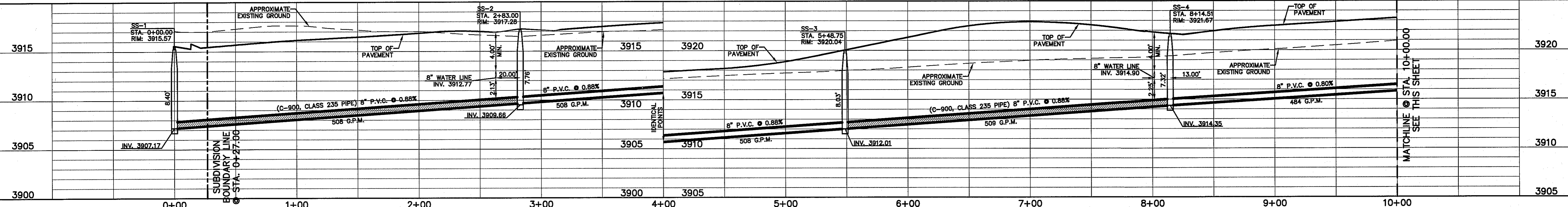
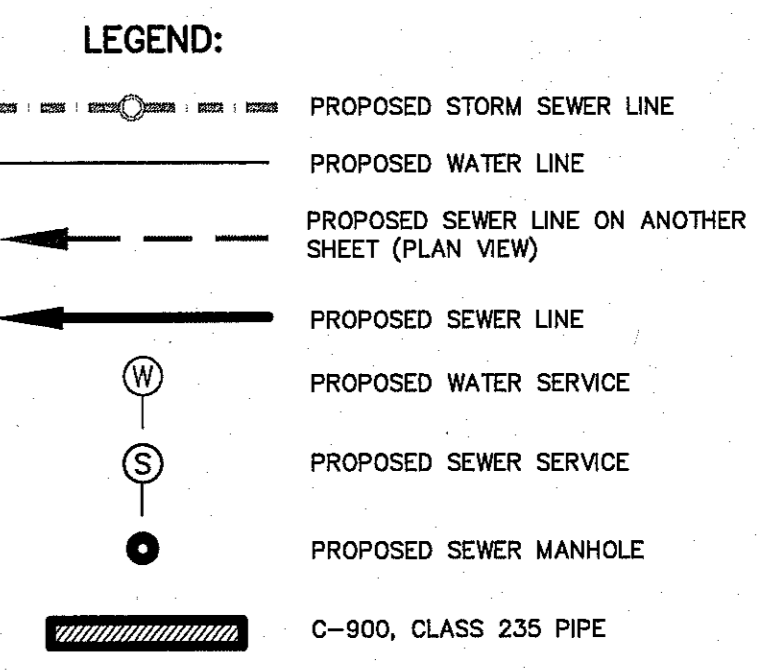
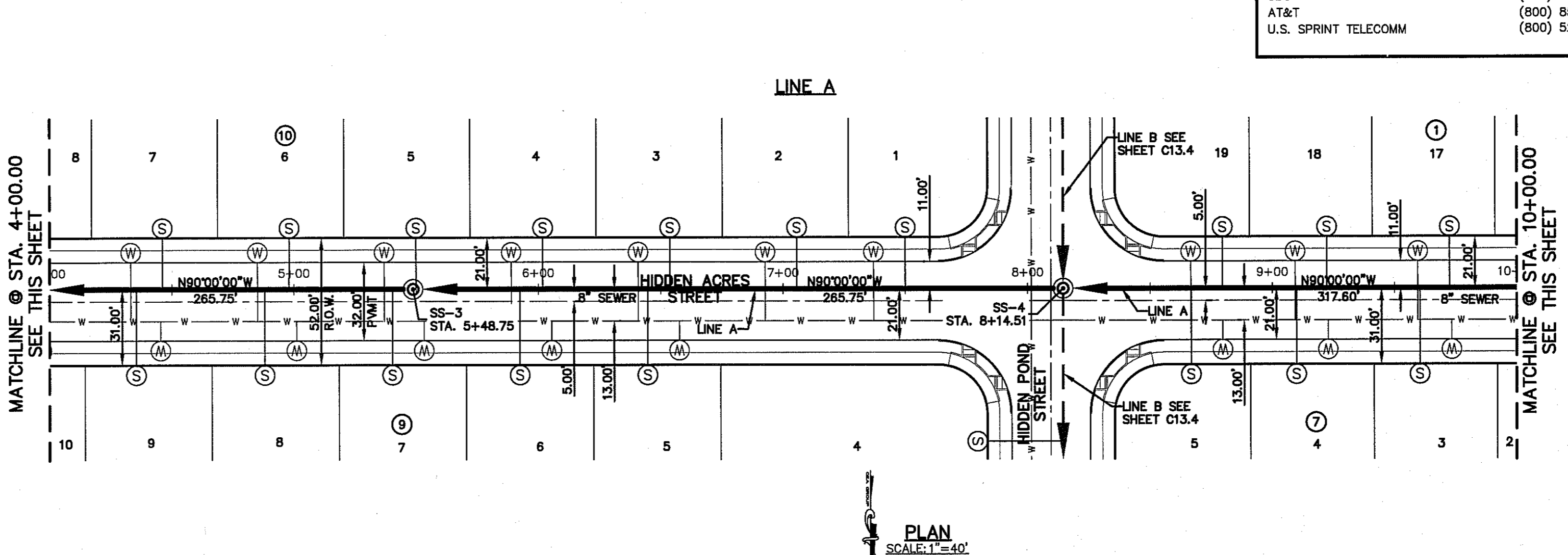
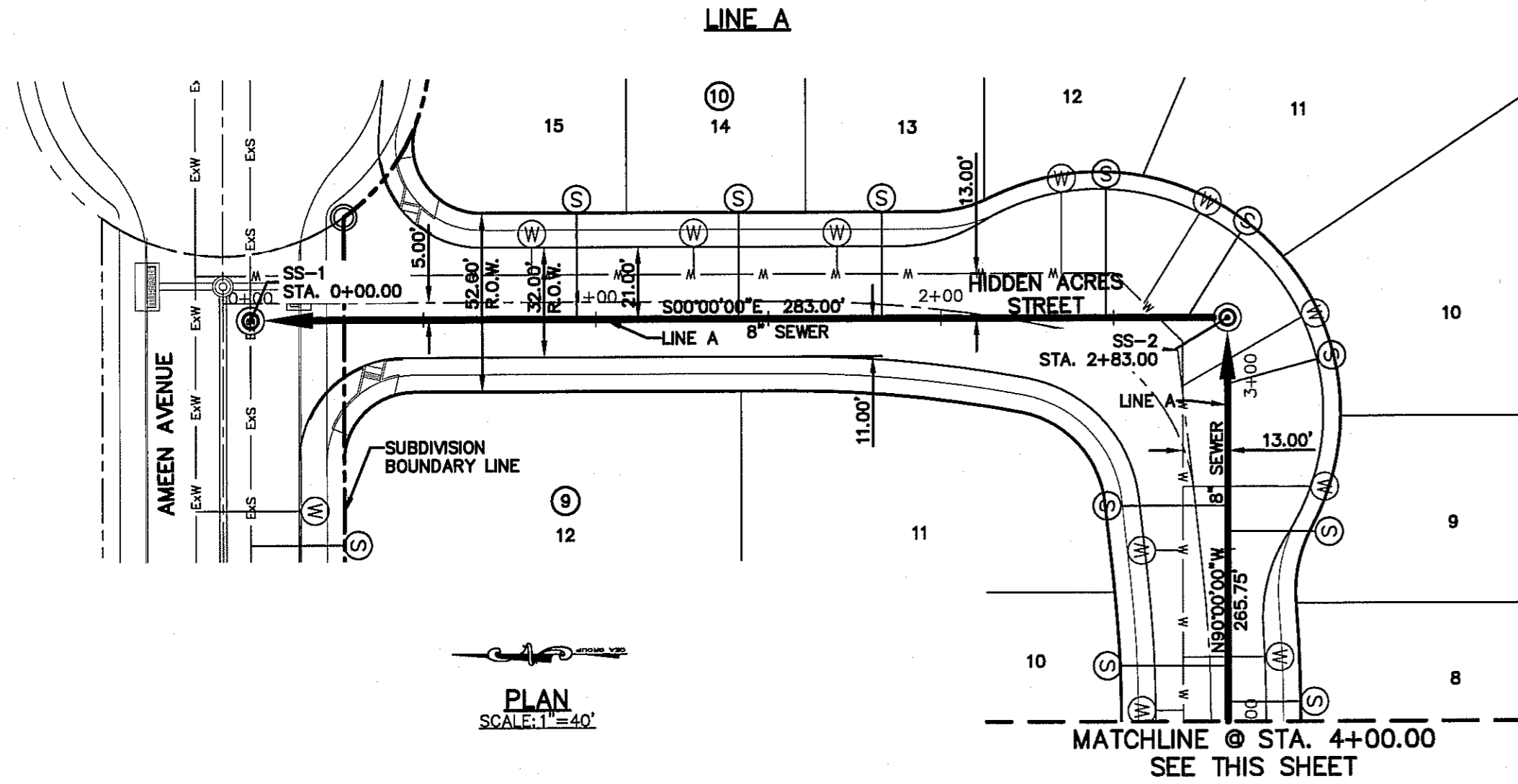
WARNING!
BEFORE YOU DIG
CALL 811
FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY

REFERENCES - BENCHMARKS
CITY MONUMENT LOCATED AT THE CENTERLINE INTERSECTION OF CLOVEDALE DRIVE AND PALOMINO ELEVATION = 3928.24' (E.P.V.D.). THE NORTH AMERICAN VERTICAL DATUM OF SAID CITY MONUMENT IS ELEVATION = 3939.53' (N.A.D. 88).



ENGINEER'S SEAL
SCALE: HORIZONTAL=1"=40'
VERTICAL=1"=5'
DATE: JULY, 2018
DESIGN BY: R.O.
DRAWN BY: G.M.
CHKD. BY: J.L.A.
APP'D. BY: J.L.A.
JOB NO. 2000-201



PROJECT TITLE
HIDDEN VILLAGE UNIT ONE
SUBDIVISION IMPROVEMENTS

SHEET TITLE
SANITARY SEWER
PLAN & PROFILE
LINE A

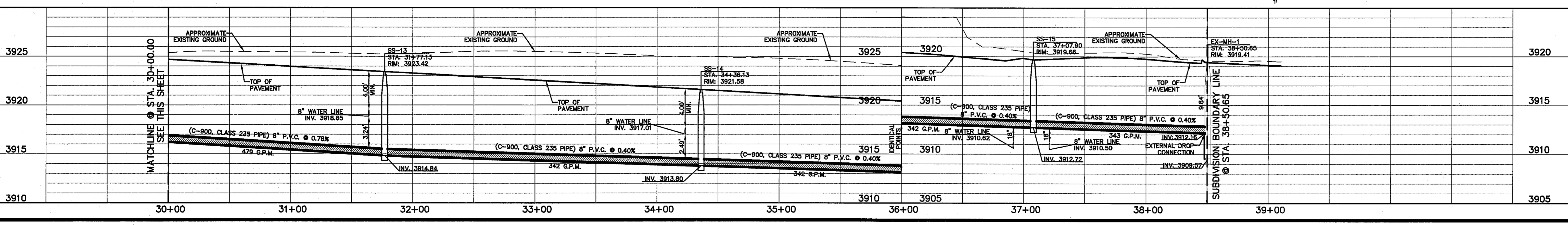
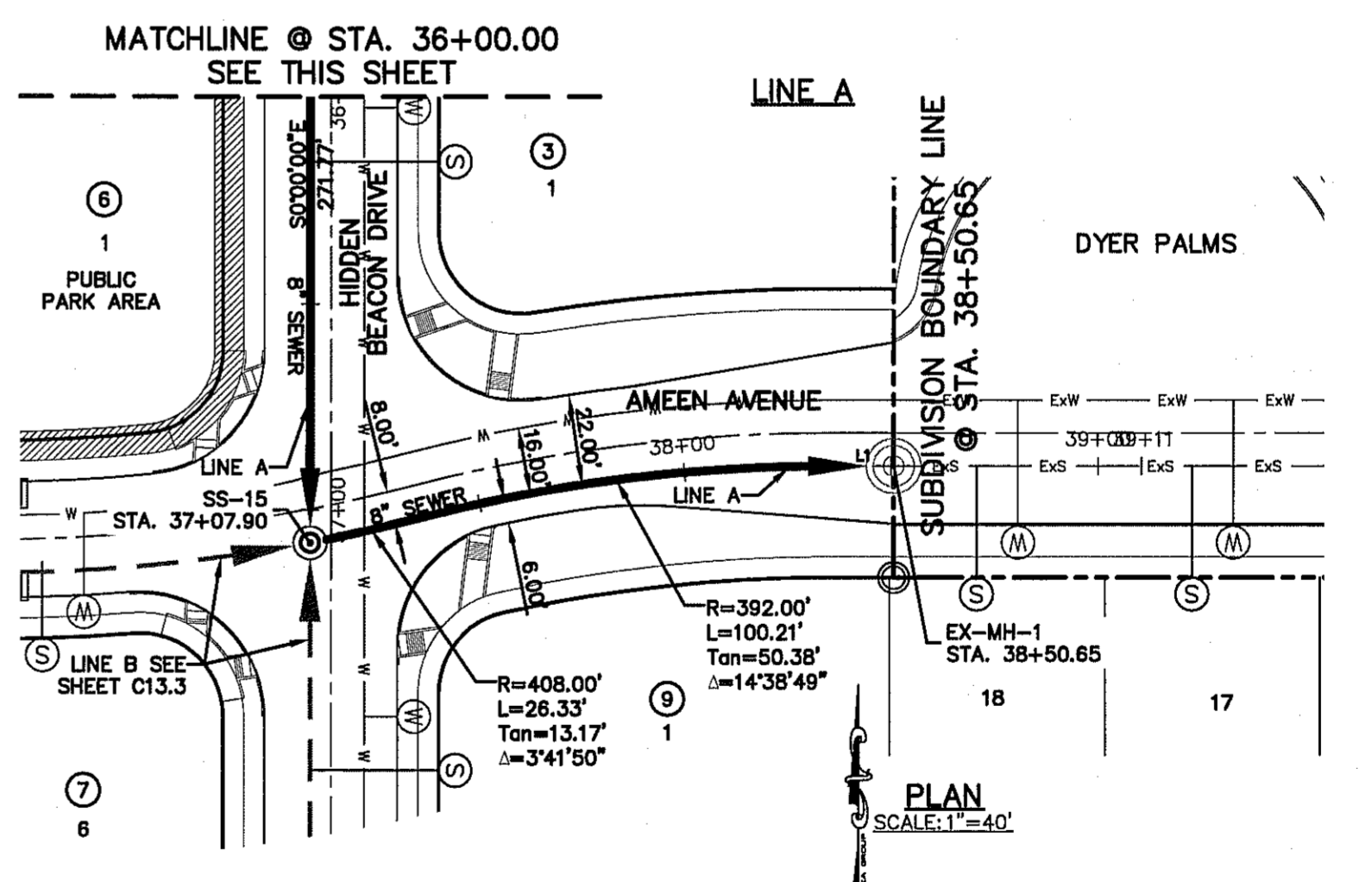
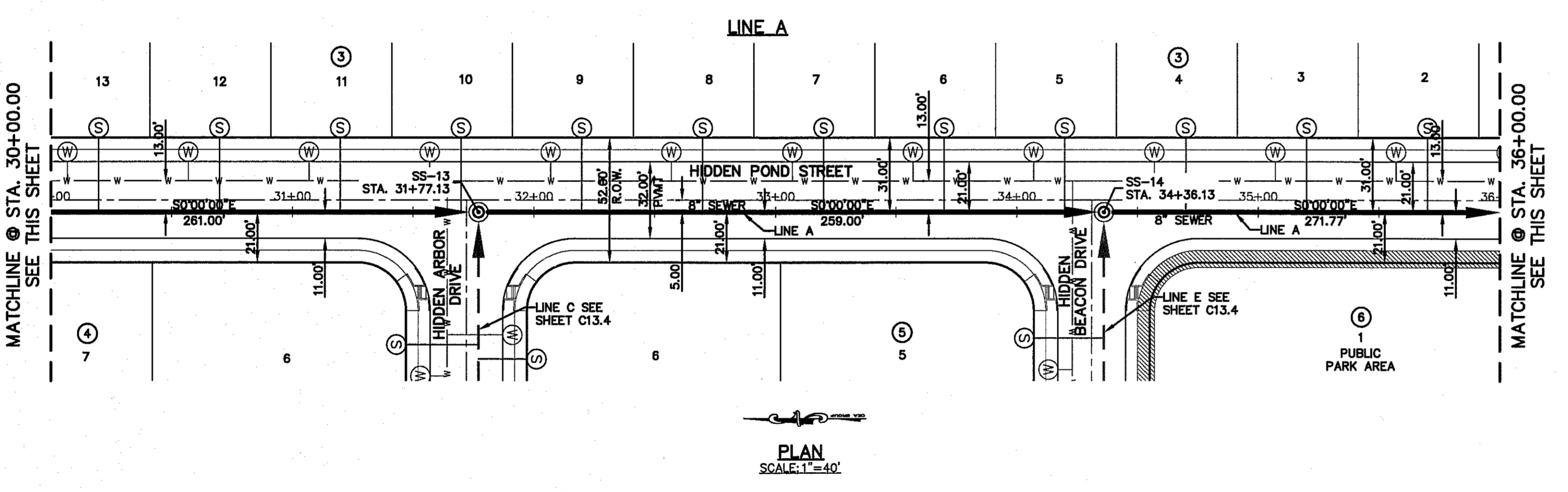
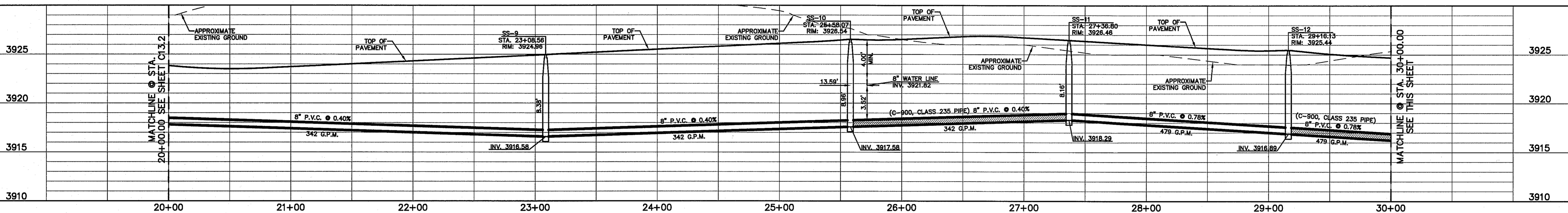
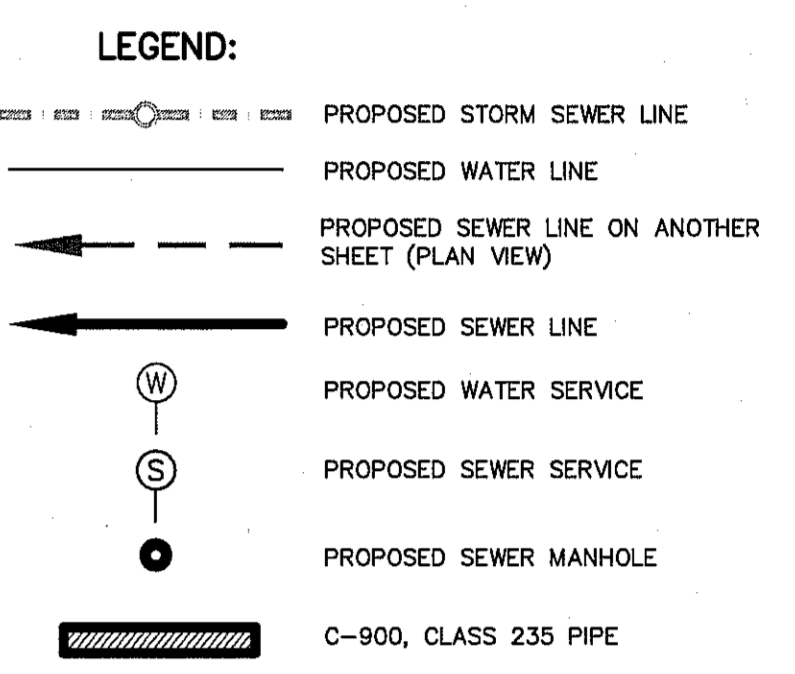
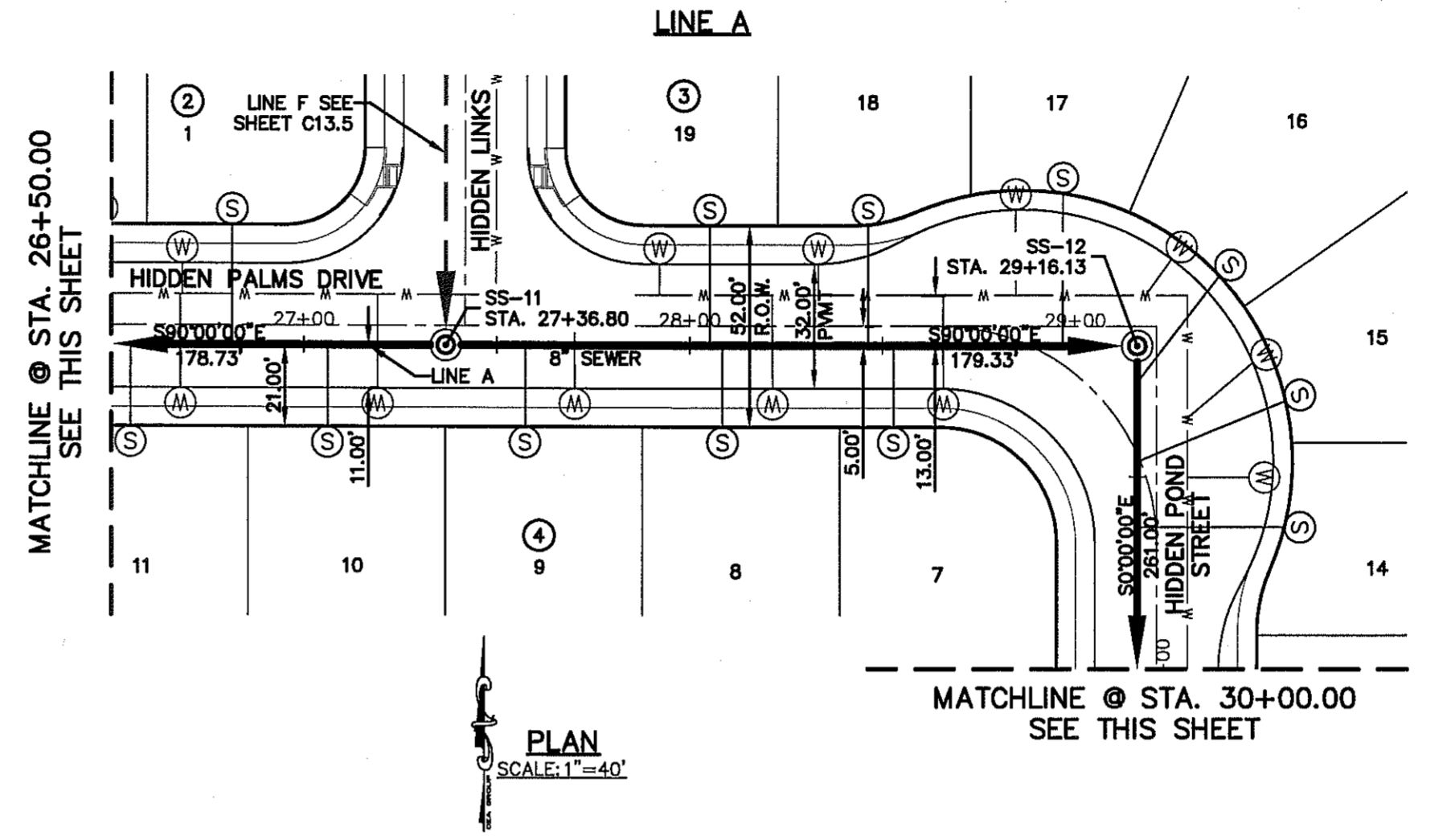
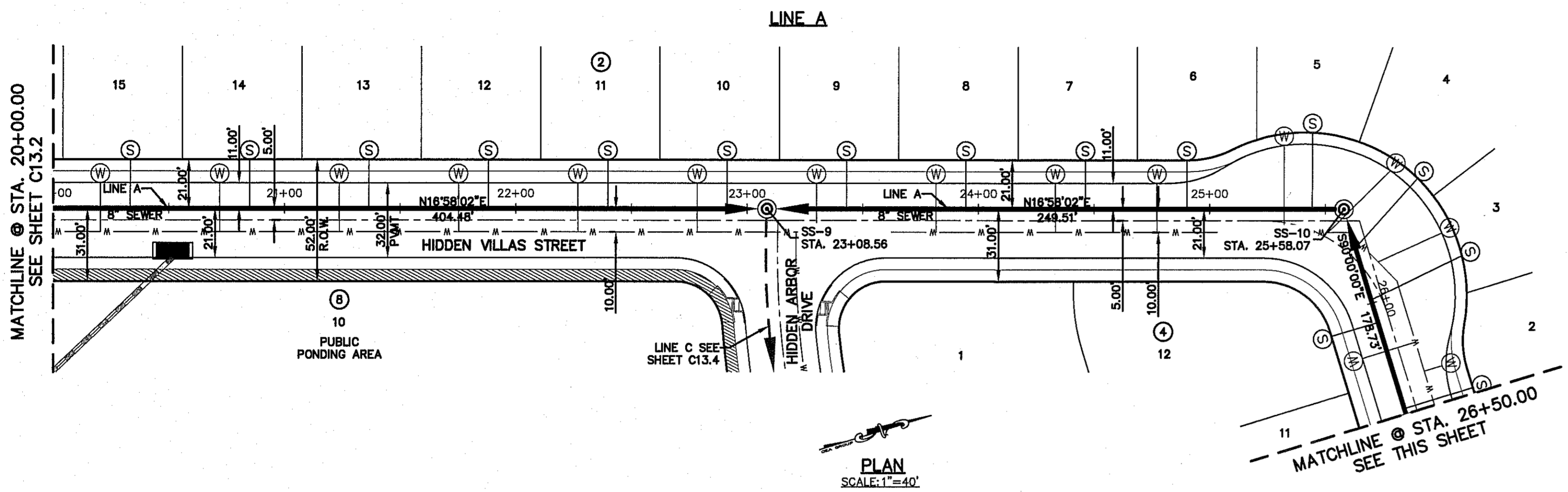
SHEET NO.
C13.2

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

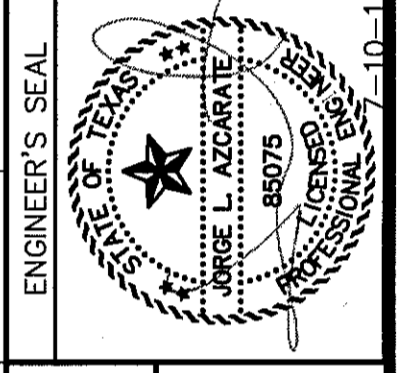
WARNING!
BEFORE YOU DIG
CALL 811

FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY



CSA
TEXAS REGISTERED ENGINEERING FIRM #4864
4712 Woodrow Bean, Ste. F, El Paso, TX 79924
915.544.5232 | www.csaengr.com



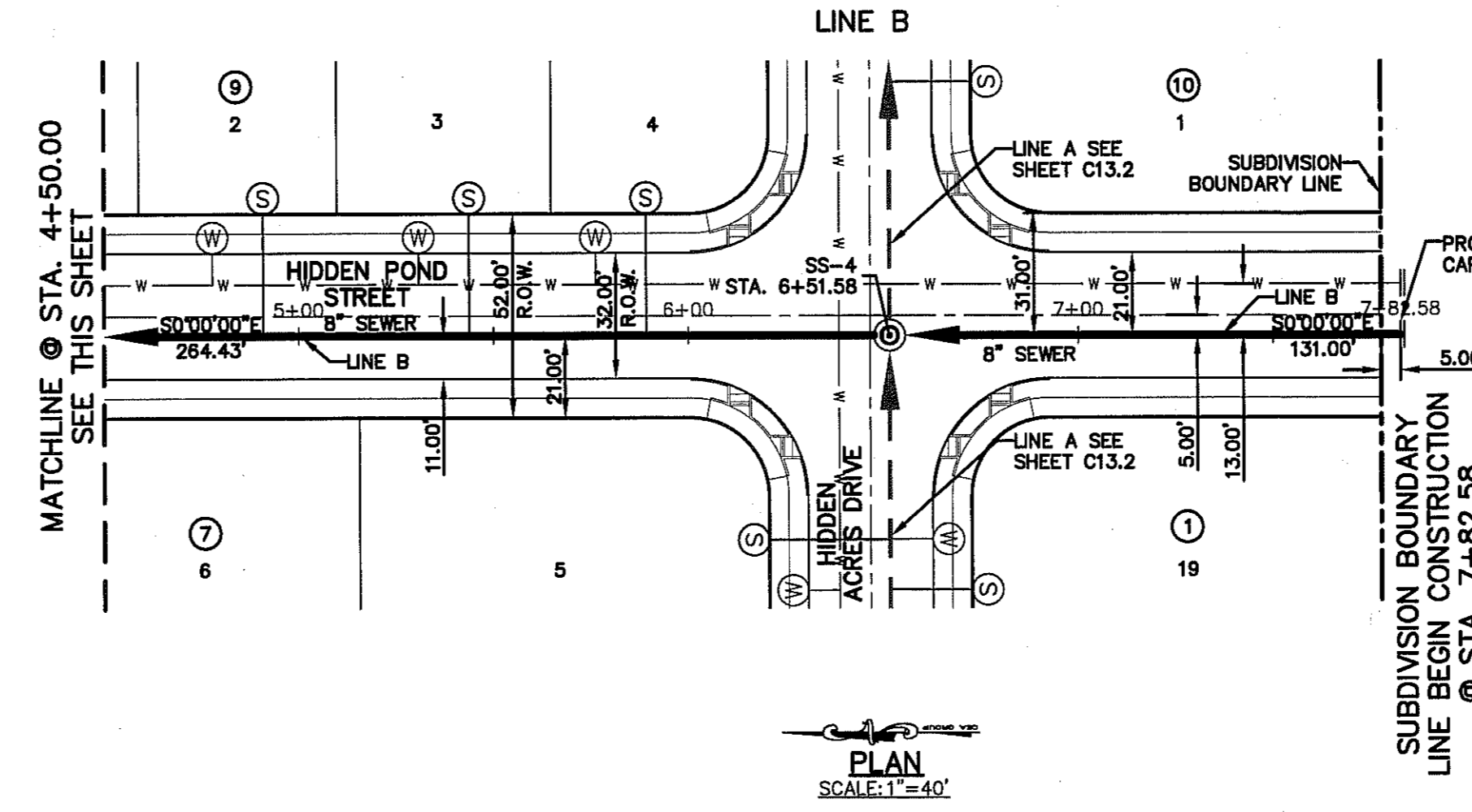
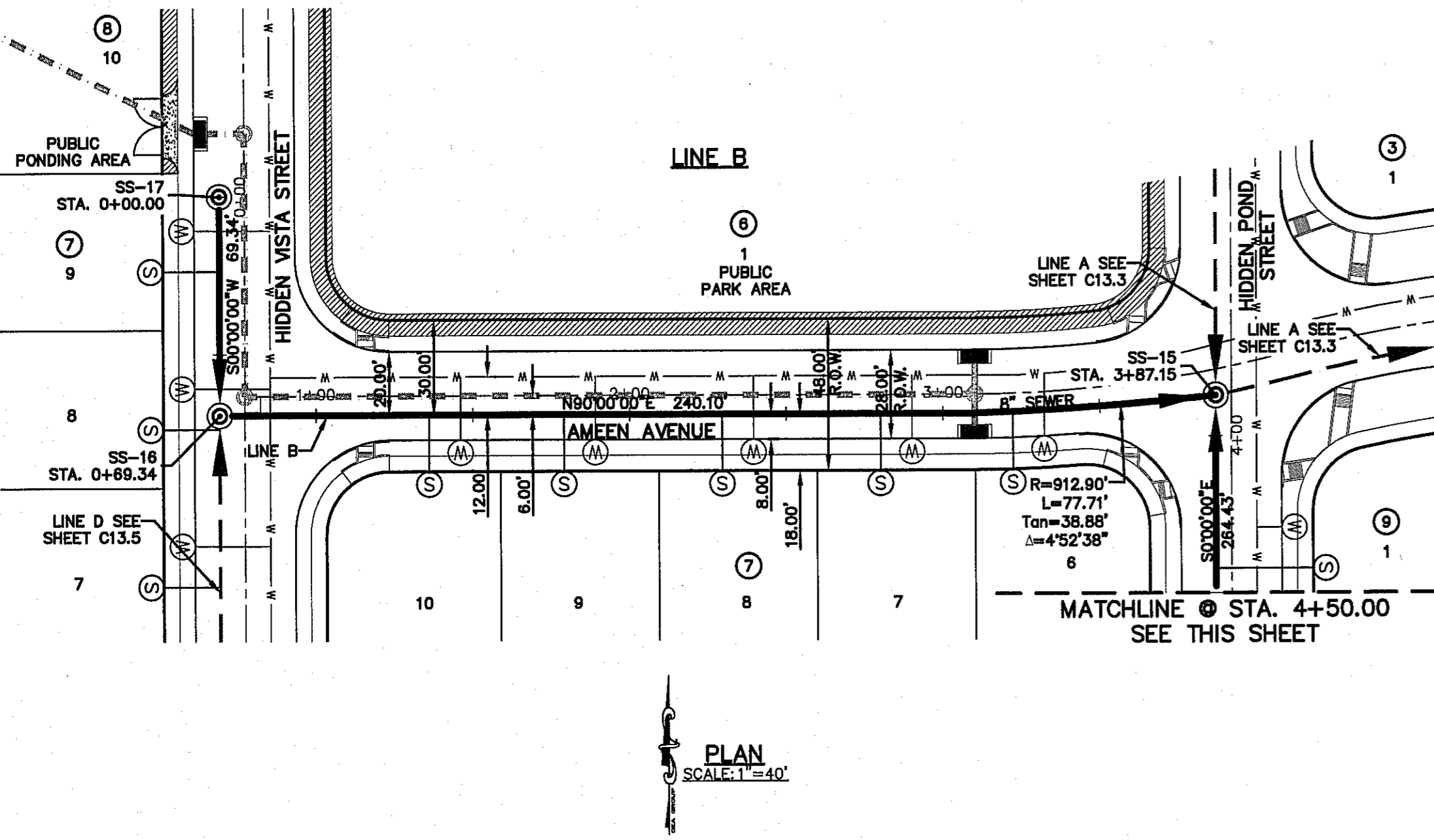
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Contour Interval: N/A
DATE: JULY, 2018
DESIGN BY: R.O.
DRAWN BY: G.M.
CHKD. BY: J.L.A.
APPD. BY: J.L.A.
JOB No.: 2000-201

PROJECT TITLE
**HIDDEN VILLAGE UNIT ONE
SUBDIVISION IMPROVEMENTS**

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

SHEET NO.

C13.3



UTILITY LOCATOR SERVICES

EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 495-5244
EL PASO WATER UTILITIES	(915) 594-5500
MC SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

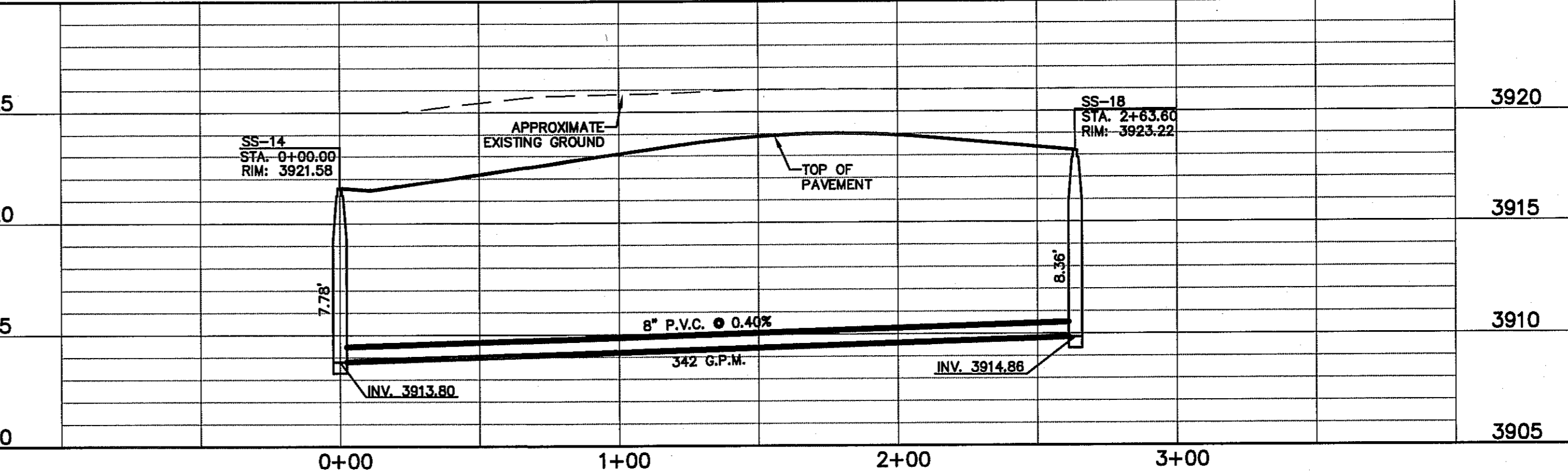
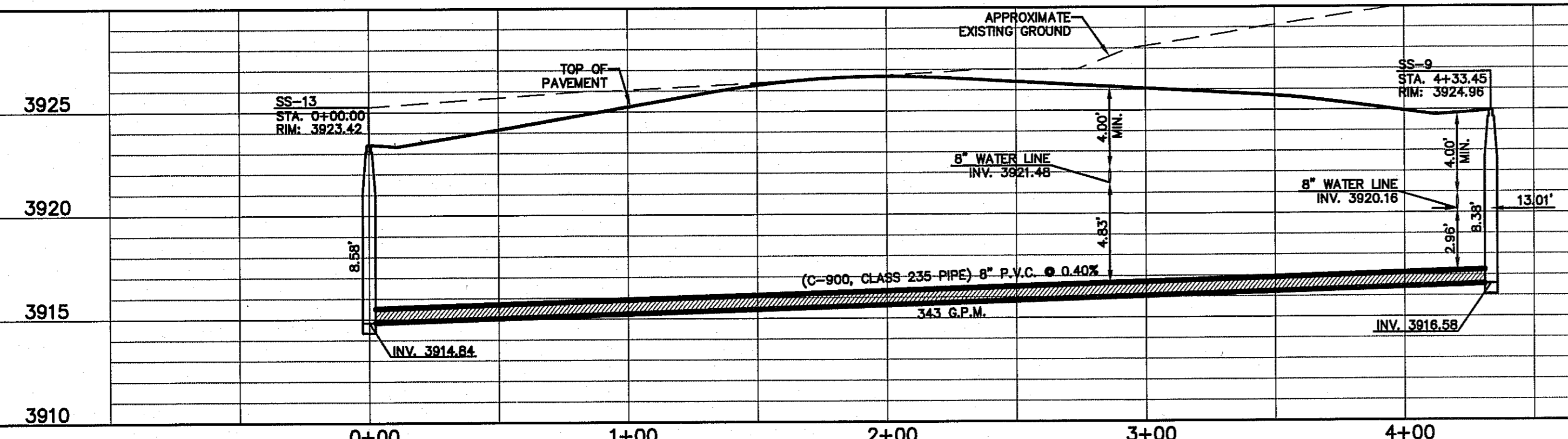
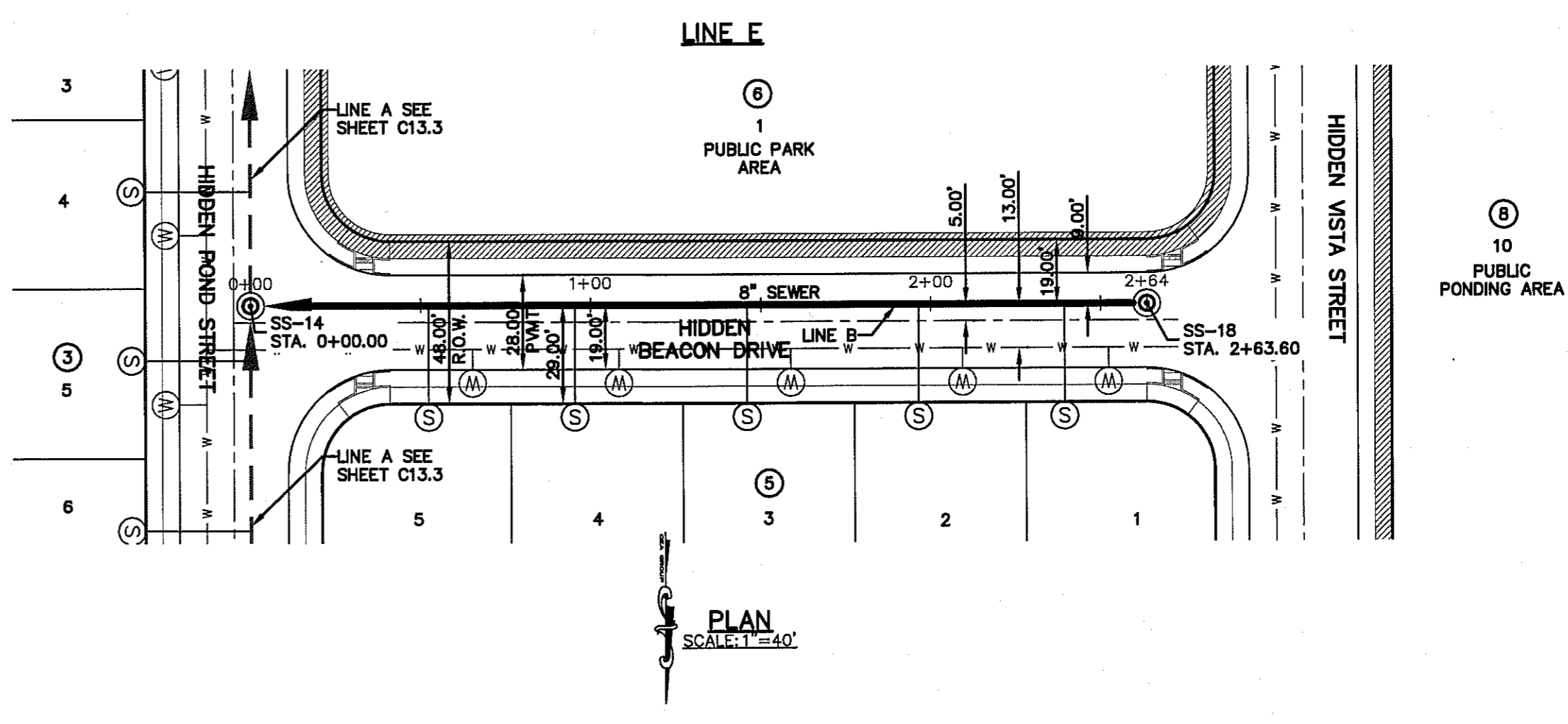
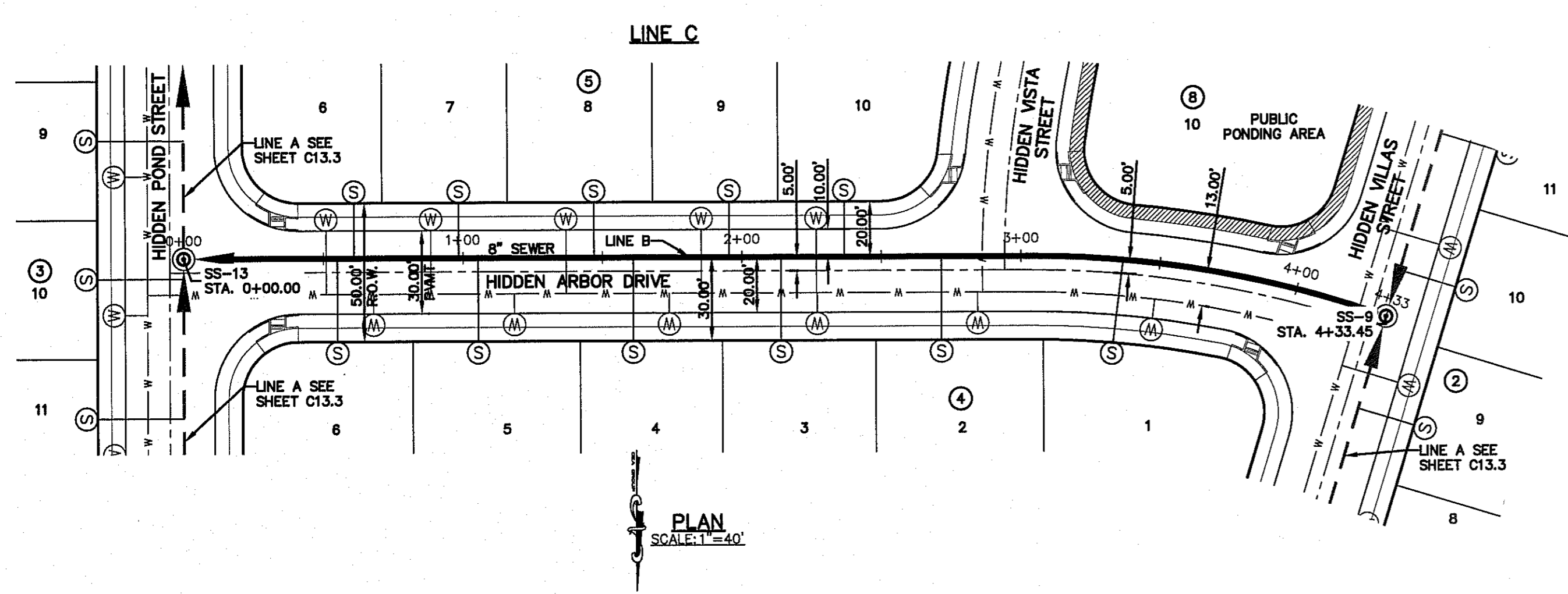
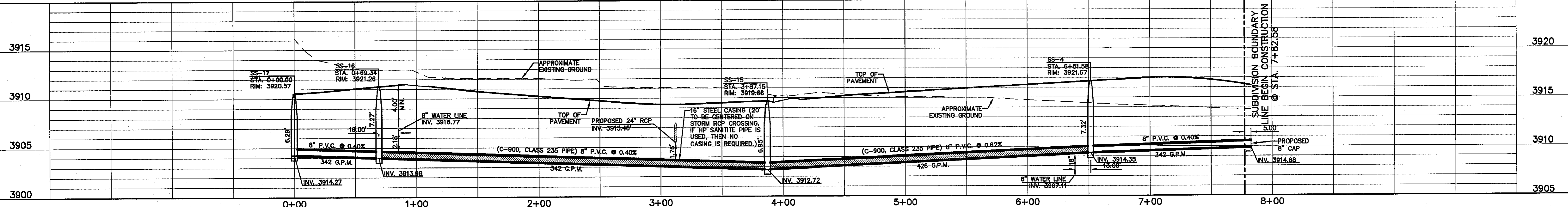
WARNING!
BEFORE YOU DIG
CALL 811
FOR FIELD LOCATING EXISTING UTILITIES

- LEGEND:
- PROPOSED STORM SEWER LINE
 - PROPOSED WATER LINE
 - PROPOSED SEWER LINE ON ANOTHER SHEET (PLAN VIEW)
 - PROPOSED SEWER LINE
 - W PROPOSED WATER SERVICE
 - S PROPOSED SEWER SERVICE
 - PROPOSED SEWER MANHOLE
 - ▨ C-900, CLASS 235 PIPE

REFERENCES - BENCHMARKS
CITY MONUMENT LOCATED AT THE INTERSECTION OF CLOSDALE DRIVE AND PALMWOOD STREET.
ELEVATION = 3928.24' (E.P.V.D.), THE NORTH AMERICAN VERTICAL DATUM OF 1985 CITY MONUMENT IS ELEVATION = 3939.53' (NAD 85).

ROCKET WAREHOUSE PARK UNIT THREE
PORTION OF LOT 1, BLOCK 1
VAN SCOTT DOC.# 20080065384

TEXAS REGISTERED ENGINEERING FIRM # 4584
4712 Woodloch Bar, Ste F, El Paso, TX 79924
915.544.5322 | www.candagroup.net



ENGINEER'S SEAL

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

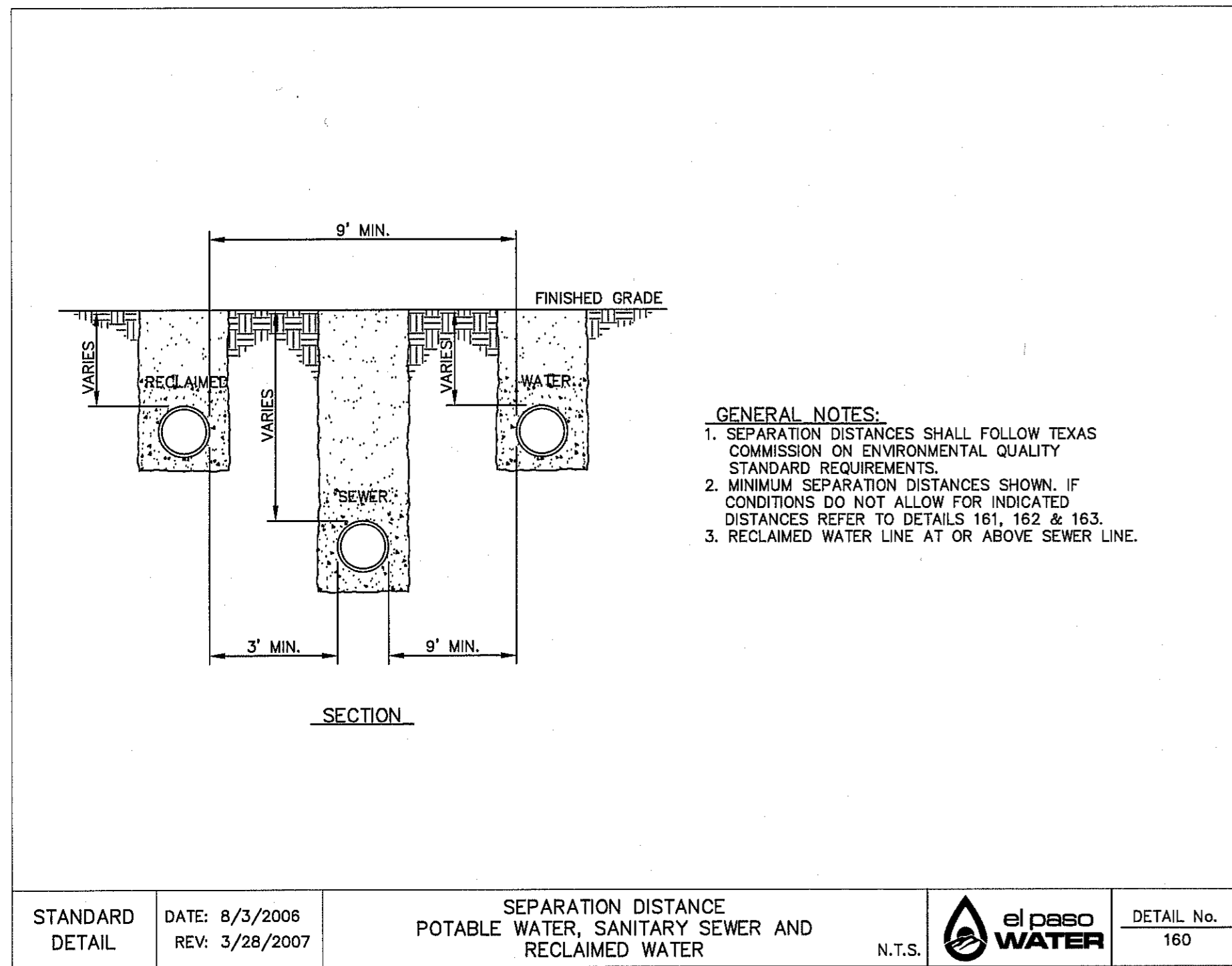
DATE: JULY, 2018
DESIGN BY: R.G.
DRAWN BY: G.M.
CHKD. BY: J.L.A.
APP. NO. BY: J.L.A.
JOB NO.: 2000-201

PROJECT TITLE
**HIDDEN VILLAGE UNIT ONE
SUBDIVISION IMPROVEMENTS**

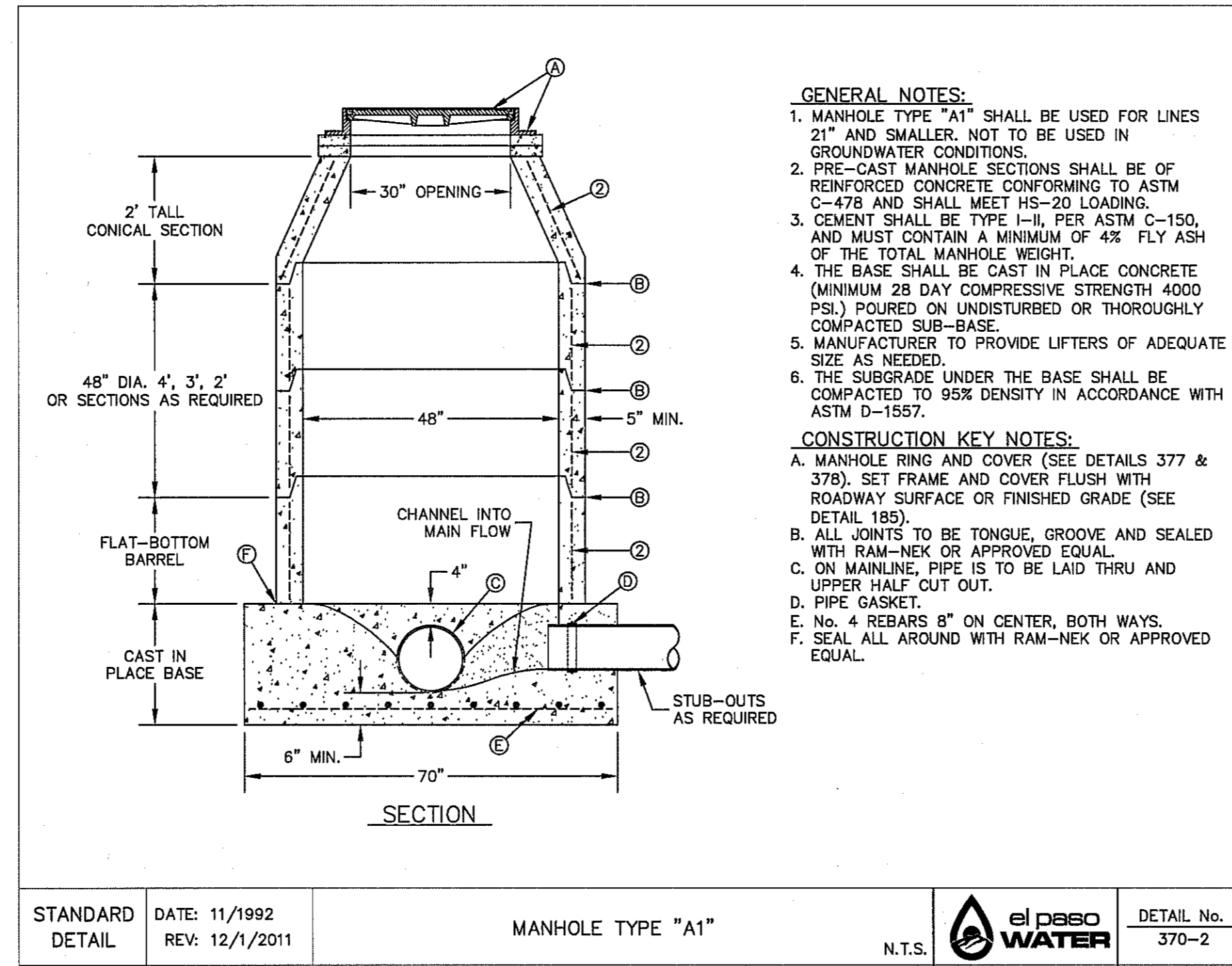
Final Approval

SHEET TITLE
**SANITARY SEWER
PLAN & PROFILE
LINE B, C, E**

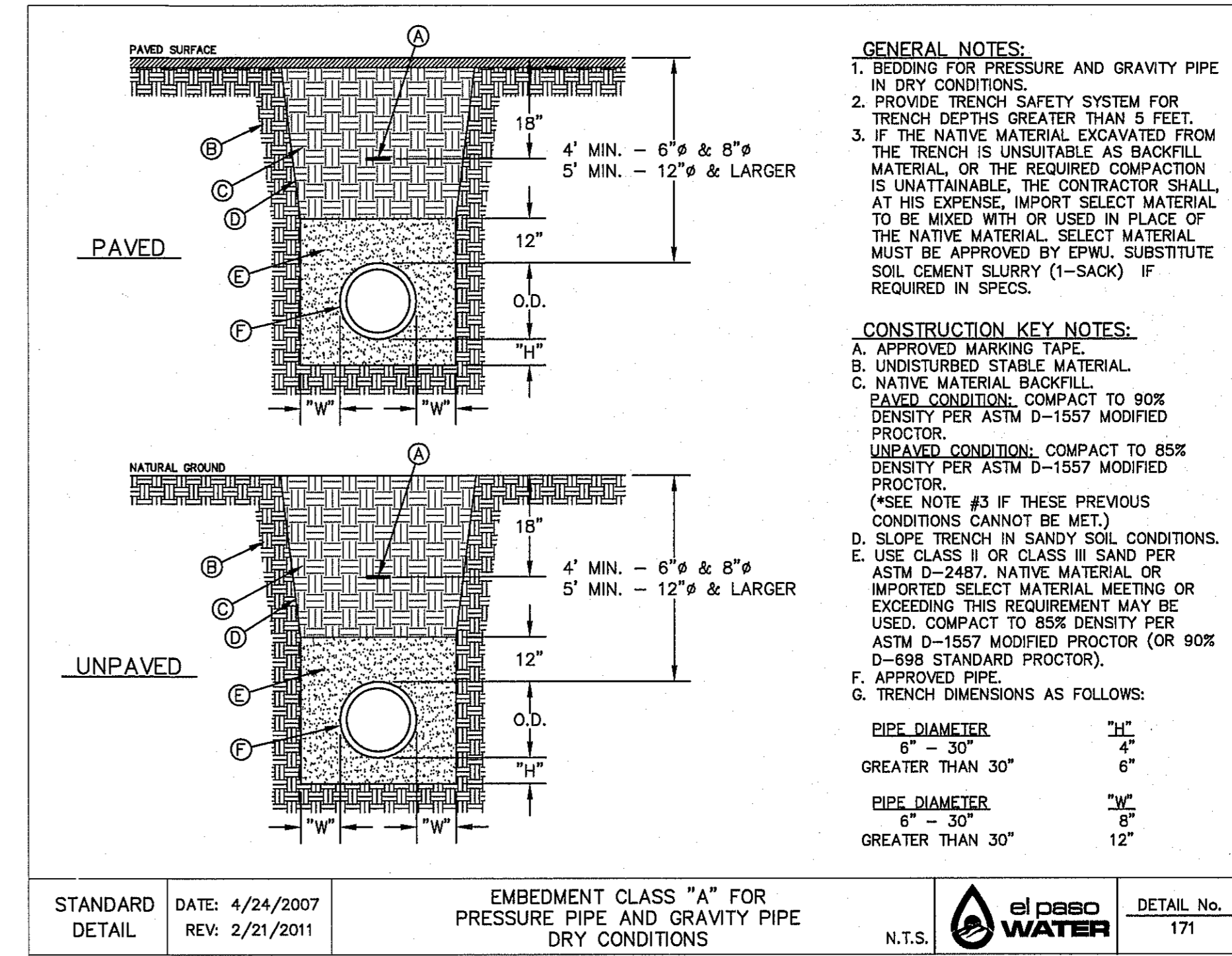
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C13.4



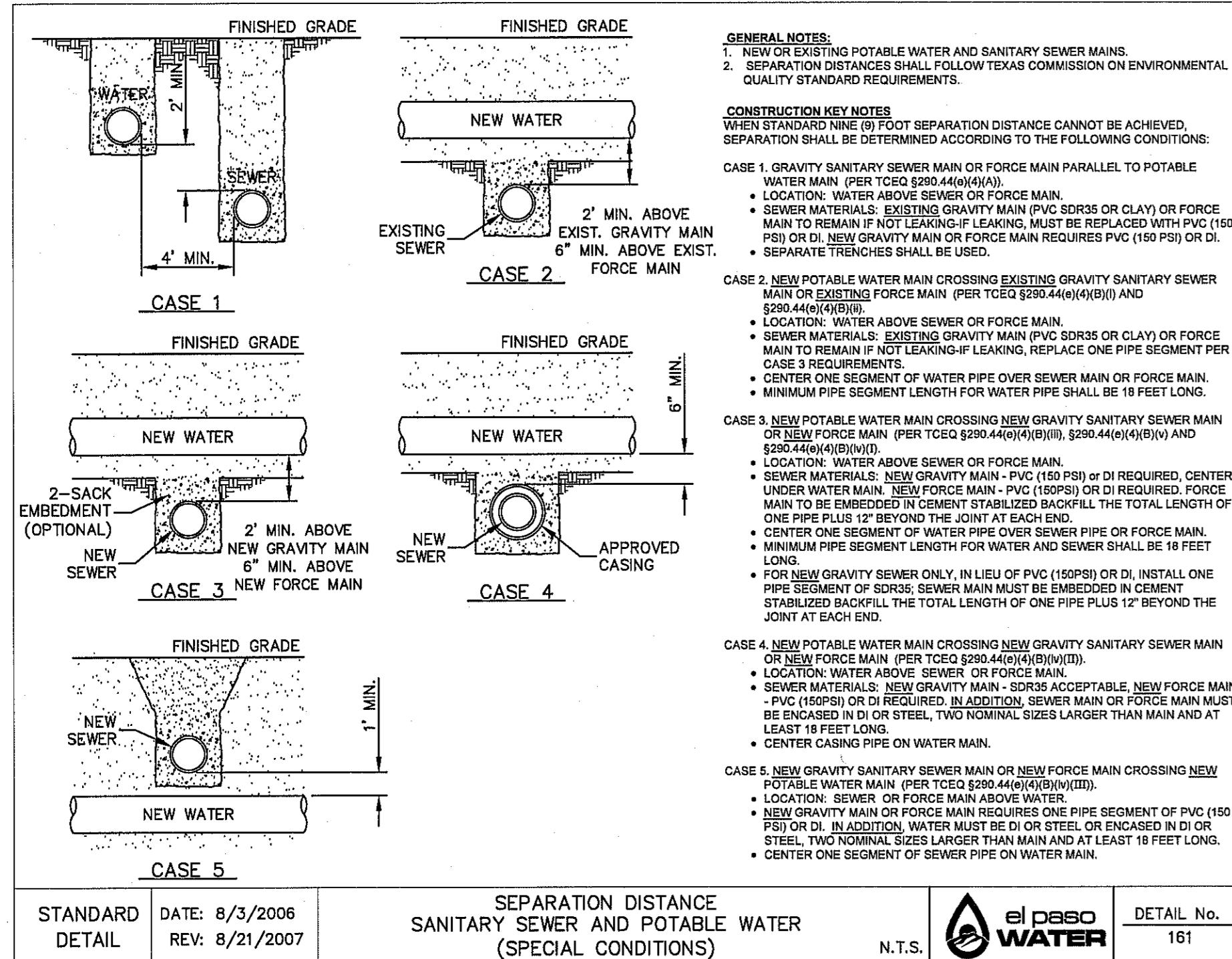
1 SEPARATION DISTANCE-POTABLE WATER, SANITARY SEWER AND RECLAIMED WATER SCALE: N.T.S.



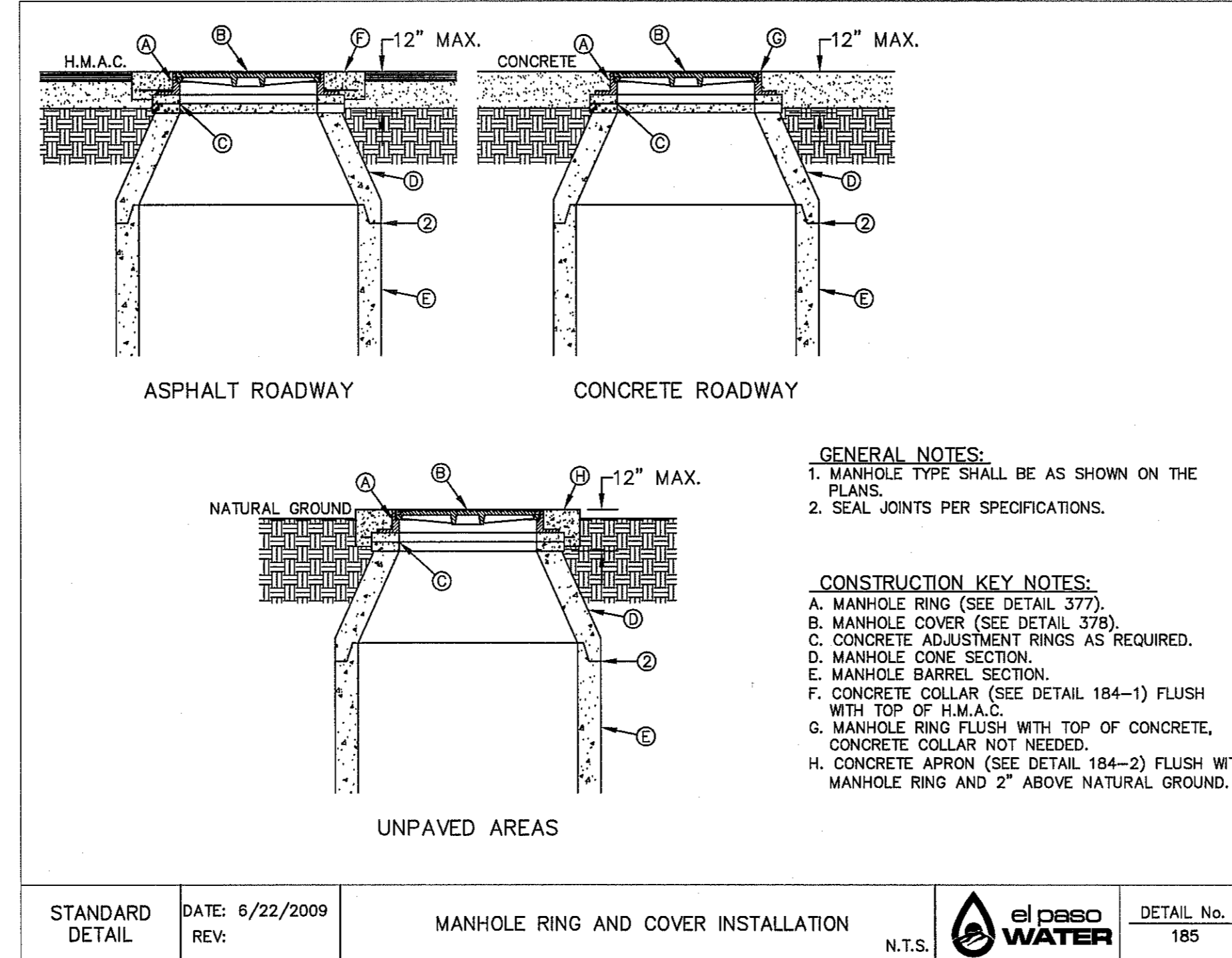
2 STANDARD MANHOLE TYPE "A1" SCALE: N.T.S.



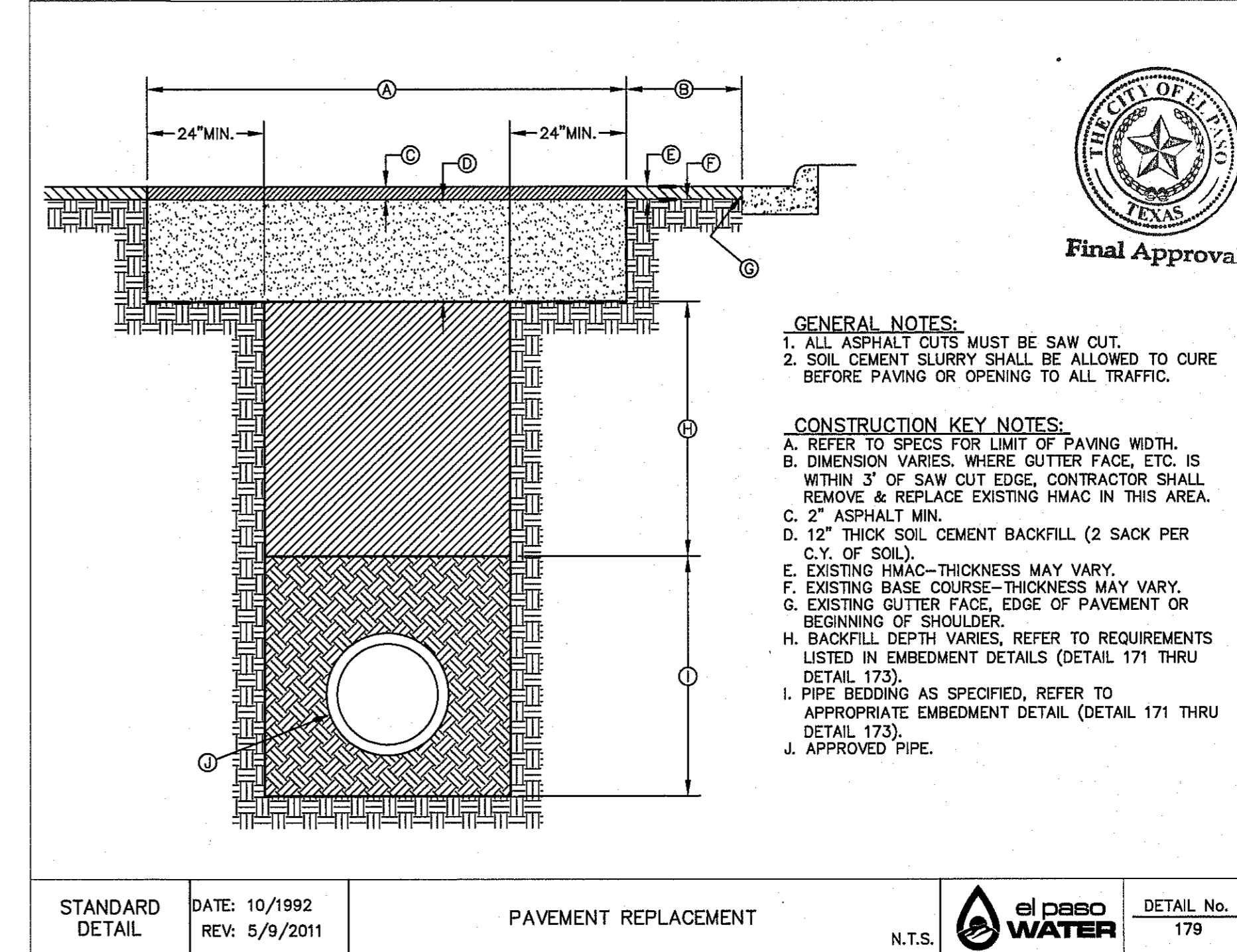
3 BEDDING CLASS DETAILS FOR FOR P.V.C. PRESSURE PIPE SCALE: N.T.S.



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



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



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

REFERENCES - BENCHMARKS
 CITY MONUMENT LOCATED AT THE CENTERLINE INTERSECTION OF CLIPPSDALE DRIVE AND PALMOLINO ELEVATION = 3928.24' (E.P.V.D.), THE NORTH AMERICAN VERTICAL DATUM OF SAID CITY MONUMENT IS ELEVATION = 3939.53' (NAVD 88).

DATE: BY: REVISIONS:

el PASO WATER
 TEXAS REGISTERED ENGINEERING FIRM #7-684
 4717 Woodrow Dr., Ste. F El Paso, TX 79924
 915.544.5232 | www.epwater.com

ENGINEER'S SEAL
 MARGE L. AZARATE
 LICENSE NO. 68075

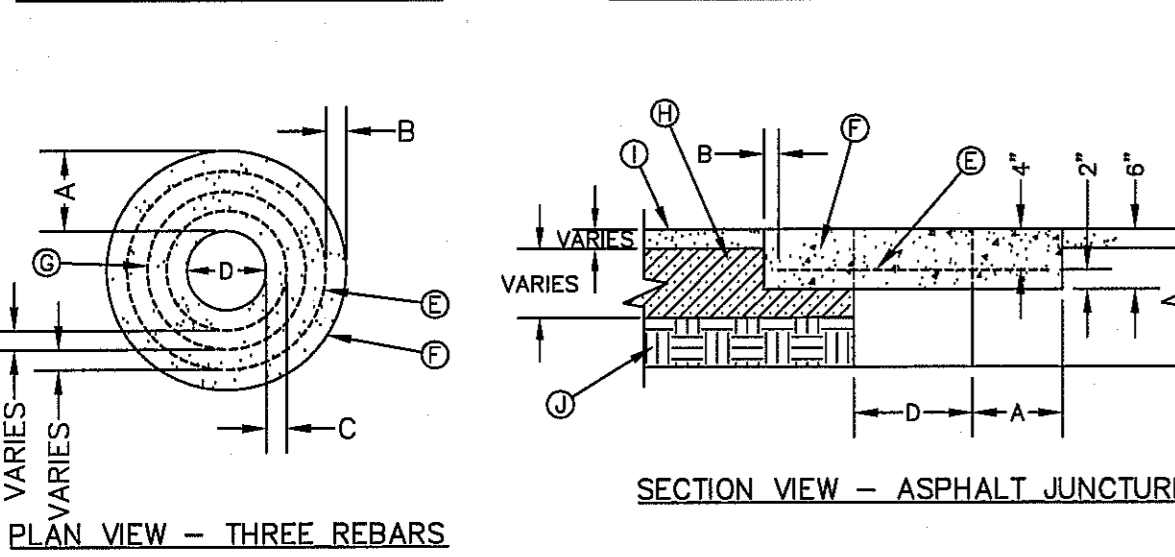
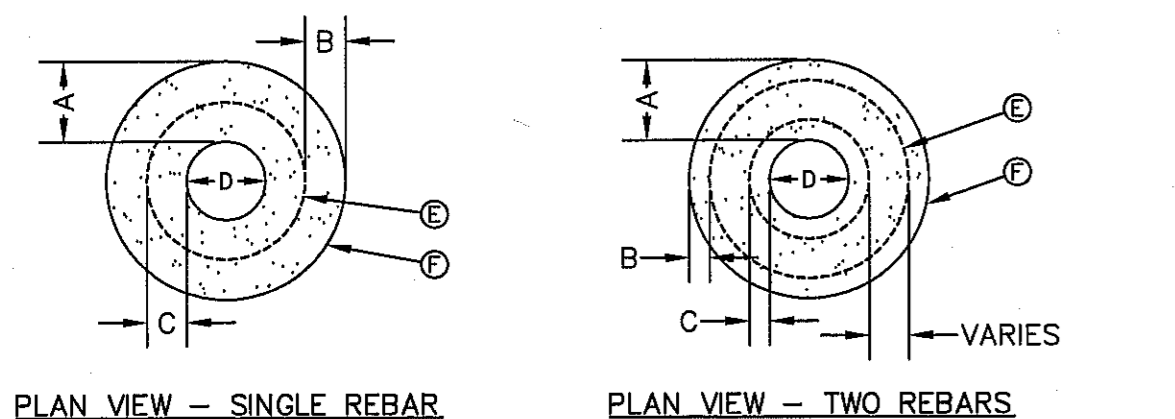
SCALE: AS SHOWN
 Horizontal: N/A
 Vertical: N/A
 Contour Interval: N/A

DATE: JULY, 2018
 DESIGN BY: R.O. G.M.
 DRAWN BY: J.L.A.
 CHECKED BY: J.L.A.
 APP'D. BY: J.L.A.
 JOB NO. 2000-201

PROJECT TITLE
 HIDDEN VILLAGE UNIT ONE
 SUBDIVISION IMPROVEMENTS

SHEET TITLE
 SANITARY SEWER
 DETAILS
 (SHEET 2 OF 4)
 SHEET NO.

C13.7



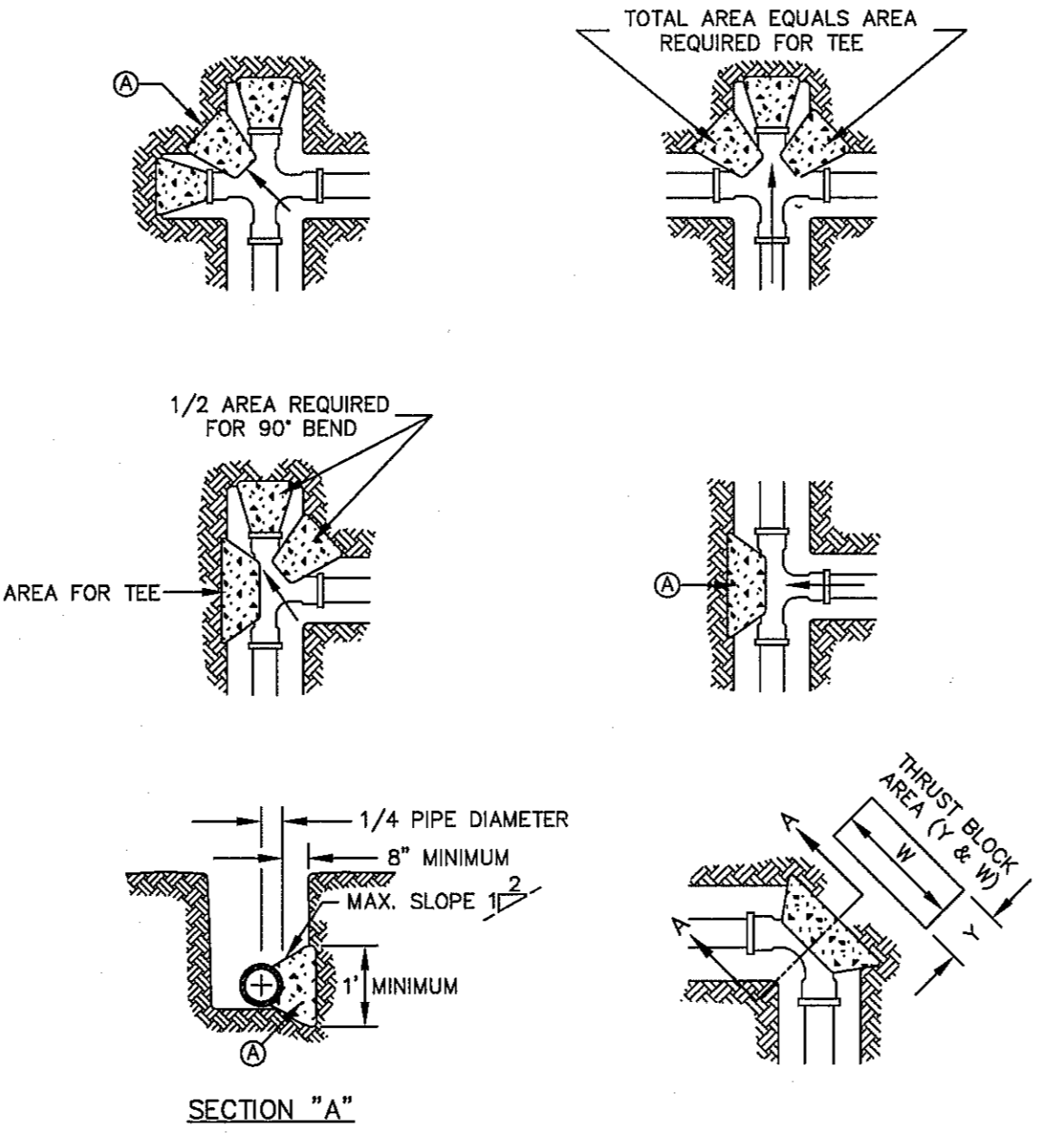
GENERAL NOTES:

- THE CONCRETE COLLAR SHOULD BE CAST IN-PLACE CONCRETE. (MINIMUM 28 DAY COMPRESSIVE STRENGTH 4000 PSI. HIGH EARLY CONCRETE IS REQUIRED)
- TOPS OF CONCRETE COLLAR SHALL BE FLUSH WITH ROADWAY SURFACE OR FINISHED GRADE UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.
- ANY DISTURBED SUBGRADE UNDER THE CONCRETE COLLAR SHALL BE COMPACTED TO 95% DENSITY ± 3% OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D-1557.
- ANY DISTURBED BASE COARSE UNDER THE CONCRETE COLLAR SHALL BE COMPACTED TO 100% DENSITY ± 2% OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D-1557.
- PROVIDE A MINIMUM OF 1 1/2" OF CONCRETE COVER FOR ALL REINFORCEMENT STEEL.
- REINFORCING SHALL MEET ASTM C-478 AND TRAFFIC LOADING (HS-20).
- NO. 3 REINFORCING STEEL HOOPS SHALL BE SPACED EQUALLY.

CONSTRUCTION KEY NOTES:

- #3 REINFORCING STEEL TYP.
- CONCRETE COLLAR.
- COMPACTED BASE COARSE.
- PAVEMENT.
- COMPACTED SUBGRADE.

D ₁ DIAMETER OF PENETRATION	NUMBER OF #3 REINFORCING STEEL BARS	*A" MINIMUM CONCRETE HORIZONTAL DIMENSION FROM PENETRATION	*B" MINIMUM CLEARANCE FROM EDGE OF CONCRETE COLLAR TO CENTER OF NEAREST REBAR	*C" MINIMUM CLEARANCE FROM PENETRATION EDGE TO CENTER OF NEAREST REBAR
0" TO 6"	1	6"	1 1/2"	4 1/2"
6.1" TO 18"	2	6"	1 1/2"	1 1/2"
18.1" AND OVER	3	9"	1 1/2"	1 1/2"



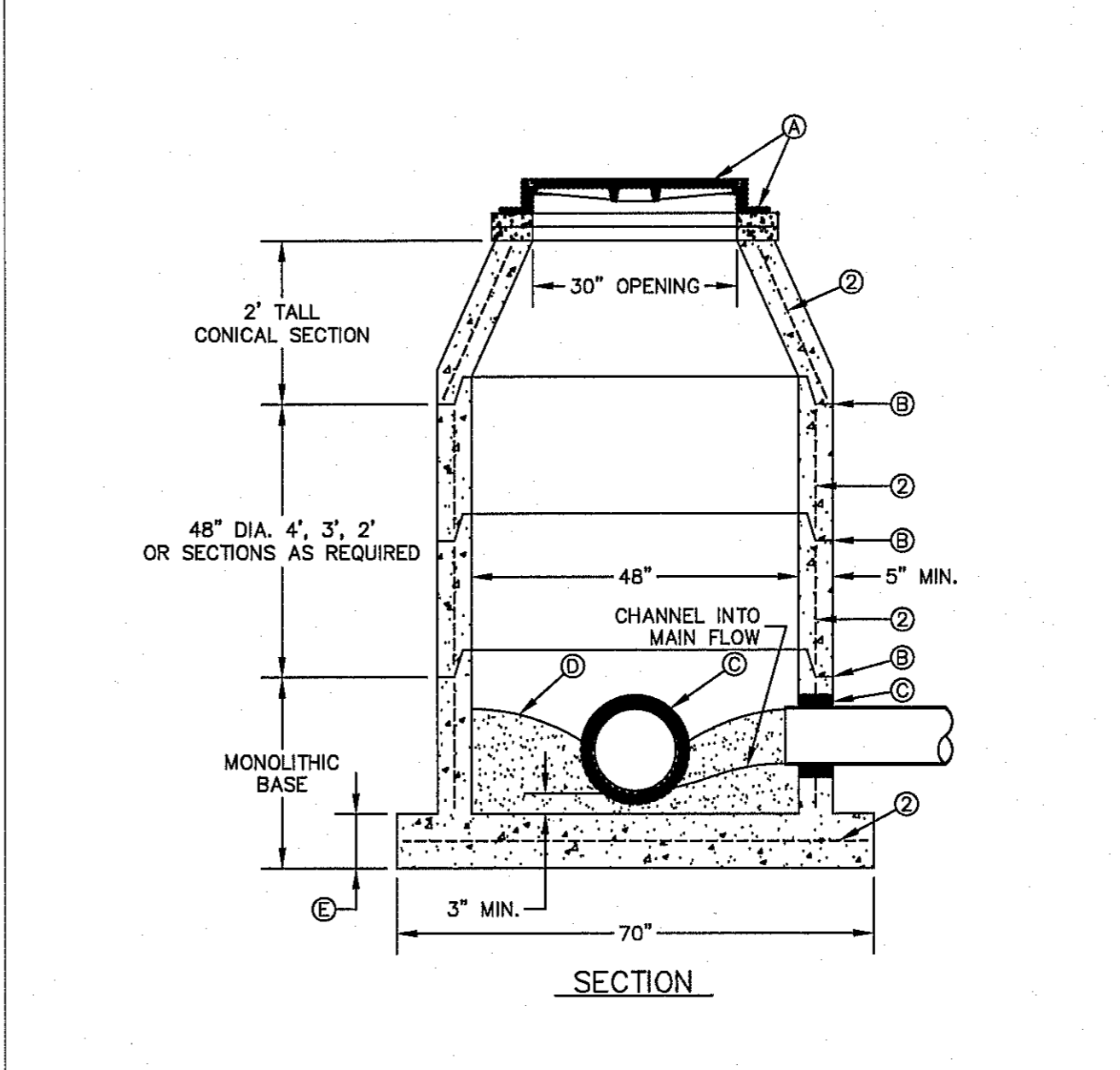
GENERAL NOTES:

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

CONSTRUCTION KEY NOTES:

- LENGTH 'Y' & 'W' AS REQUIRED TO OBTAIN BEARING AREA AGAINST UNDISTURBED SOIL.
- ADDITIONAL EXCAVATION IF NECESSARY TO OBTAIN REQUIRED BEARING AREA.
- MINIMUM THRUST BLOCK AREA REQUIREMENTS FOR (Y & W) AS FOLLOWS:

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



GENERAL NOTES:

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

CONSTRUCTION KEY NOTES:

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

STANDARD DETAIL DATE: 8/9/2006 REV: 11/6/2008 CONCRETE COLLAR INSTALLATION IN PAVED AREAS N.T.S. el PASO WATER DETAIL No. 184-1

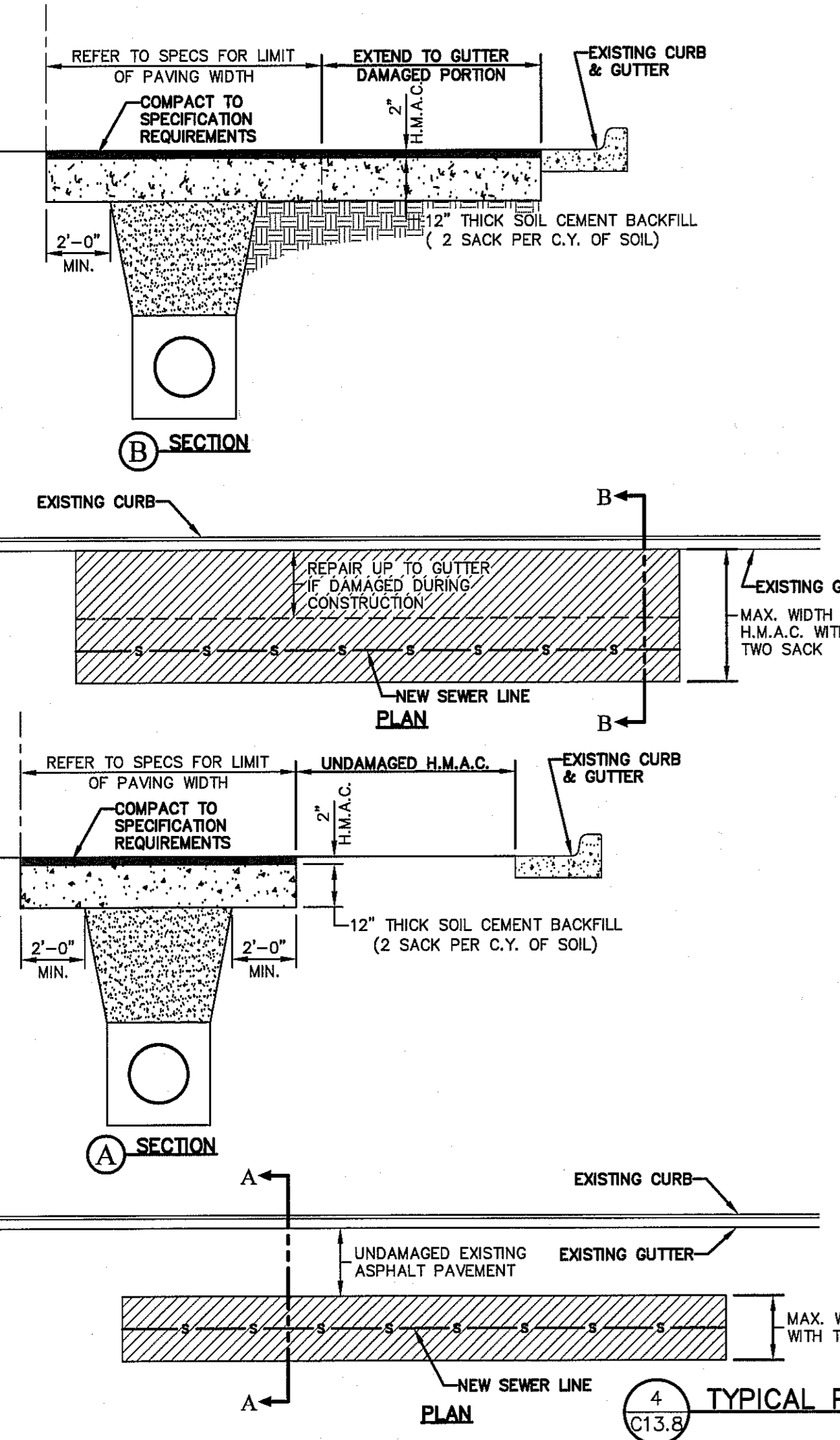
STANDARD DETAIL DATE: 2/1994 REV: 8/7/2006 CONCRETE THRUST BLOCKING N.T.S. el PASO WATER DETAIL No. 270

STANDARD DETAIL DATE: 11/1992 REV: 2/8/2013 MANHOLE TYPE "A" N.T.S. el PASO WATER DETAIL No. 370-1

1 CONCRETE APRON IN PAVED AREAS N.T.S.

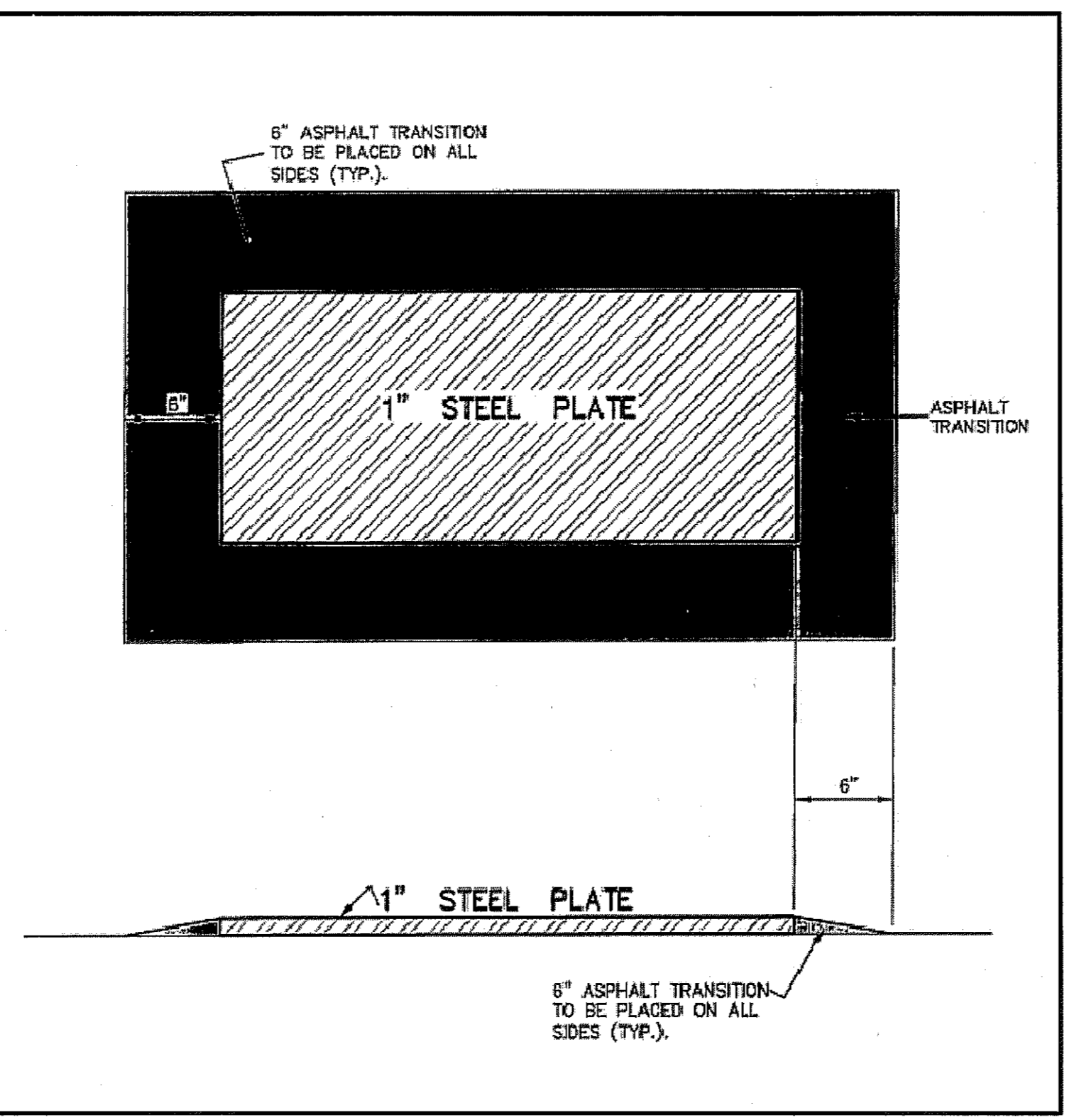
2 CONCRETE THRUST BLOCKING SCALE: N.T.S.

3 MANHOLE TYPE "A" SCALE: N.T.S.



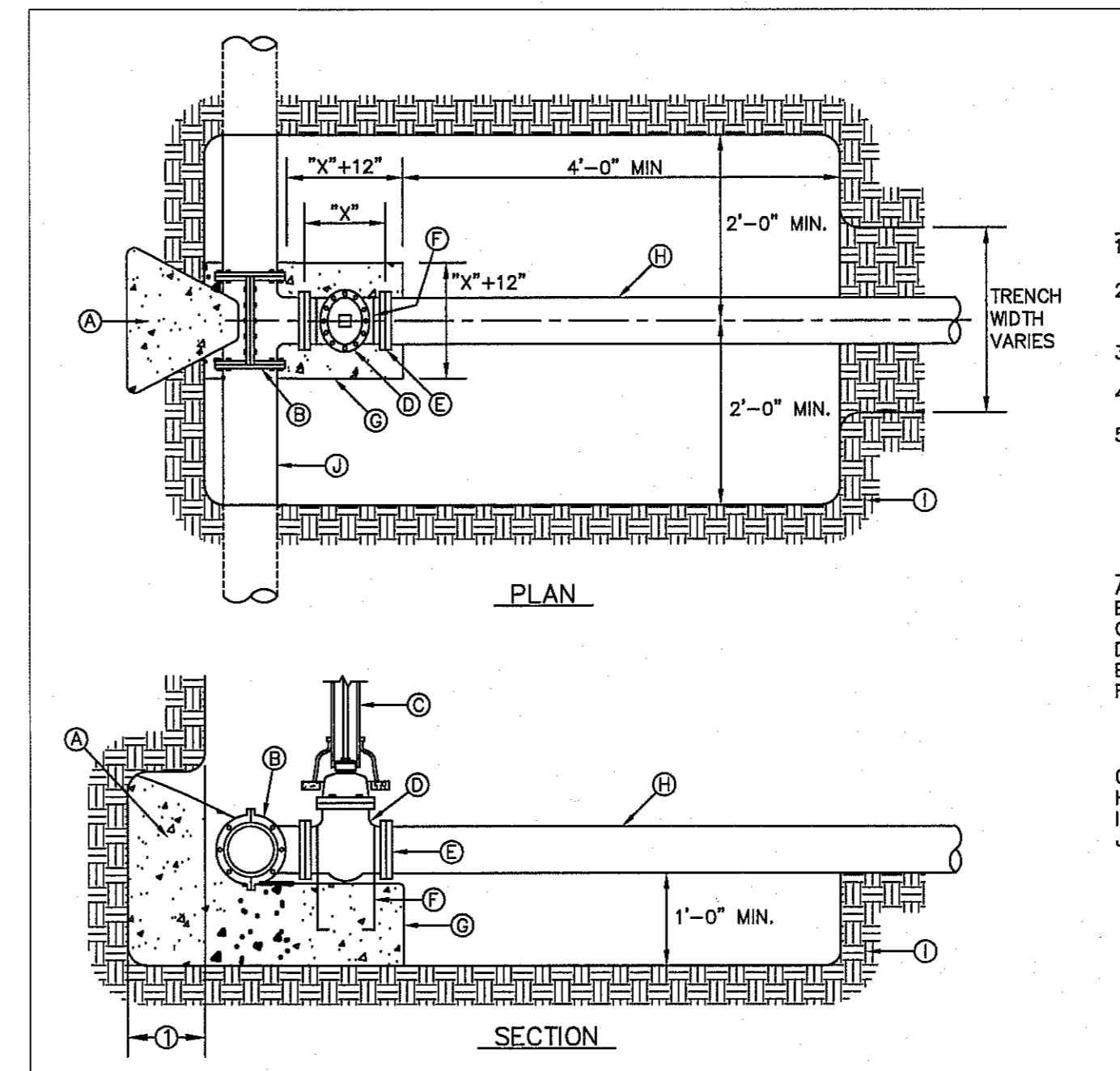
NOTES:

- PAVEMENT REPLACEMENT LIMITS WILL ONLY BE PAID TO CONTRACTOR AS SHOWN IN TYPICAL DETAILS OR AS SPECIFIED, WHICH EVER IS MORE STRINGENT. PAVEMENT REPLACEMENT SHALL COMPLY WITH THE MOST CURRENT CITY OF EL PASO DESIGN STANDARD FOR CONSTRUCTION (JUNE 3, 2008) TITLE 19 SUBDIVISION ORDINANCE UNDER SECTION 3, DETAIL 3-59.
- CITY OF EL PASO SPECIFICATIONS FOR TYPE "C" ASPHALT SHALL BE USED FOR PAVEMENT REPAIRS UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER. CONTRACTOR MUST USE INDUSTRY STANDARD EQUIPMENT AND METHODS FOR PAVING.
- REPAIRS PERPENDICULAR TO THE STREET THAT ARE MORE THE EIGHT FEET (8') IN WIDTH AND EXTEND FROM EITHER GUTTER TO GUTTER OR FROM GUTTER TO THE CENTER OF THE STREET WILL REQUIRE THE USE OF A PAVING MACHINE.
- LONGITUDINAL REPAIRS THAT ARE MORE THAN EIGHT FEET (8') IN WIDTH AND MORE THAN FIFTEEN FEET (15') IN LENGTH WILL REQUIRE THE USE OF A PAVING MACHINE.
- TWO-SACK MATERIAL SHALL BE TWO SACKS OF CEMENT PER ONE CUBIC YARD OF SOIL. MATERIAL MUST BE PRE-MIXED, MIXING ON THE JOBSITE WILL NOT BE ALLOWED. THE MATERIAL MUST BE LEFT TO CURE FOR A MINIMUM OF 24 HOURS AND CONTRACTOR MUST ASSURE THAT THE MATERIAL IS DRY PRIOR TO APPLYING EMULSION AND SETTING PAVING INSPECTION.
- EMULSIFIED ASPHALT SS-1, SS-1h, CSS-1 OR CSS-1h SHALL BE EVENLY APPLIED THROUGHOUT THE CUT.
- REPLACE ALL PAVING MARKINGS. MATERIALS MUST MEET CITY OF EL PASO STREET DEPARTMENT SPECIFICATIONS.
- ASPHALT MUST BE COMPACTED WITH A STEEL DRUM ROLLER; USE OF PLATE TAMPER WILL NOT BE ALLOWED.
- THE USE OF VIBRATORY EQUIPMENT MUST BE APPROVED BY THE CITY ENGINEER.
- A ONE INCH (1") THICK STEEL PLATE MUST BE PLACED OVER THE ENTIRE CUT AND HAVE AN ASPHALT TRANSITION; REFER TO DETAIL 2/C3.6.
- CONTRACTOR MUST COMPLY WITH OSHA SAFETY GUIDELINES THAT APPLY TO TRENCH EXCAVATIONS. PAVING CUT INSPECTIONS WILL NOT BE CONDUCTED IF CONTRACTOR IS NOT IN COMPLIANCE WITH SAFETY GUIDELINES TO INCLUDE TRENCH SHORING.



NOTES:

- A ONE INCH (1") THICK STEEL PLATE MUST BE PLACED OVER THE ENTIRE CUT AND HAVE AN ASPHALT TRANSITION.
- ASPHALT TRANSITION MAY BE INCREASED FOR A SMOOTHER TRANSITION.
- THE CONTRACTOR SHALL MAKE EVERY EFFORT TO NOT LEAVE ANY OPEN TRENCHES. IN THE EVENT THAT TRENCH CANNOT BE BACKFILLED, STEEL PLATES SHALL BE USED TO PROTECT THE PUBLIC.
- STEEL PLATE SHALL EXTEND AT A MINIMUM ONE FOOT BEYOND THE EDGES OF THE TRENCH.
- STEEL PLATES SHALL SUPPORT H-20 LOADING.



GENERAL NOTES:

- THRUST BLOCKING SHALL EXTEND TO UNDISTURBED EARTH.
- TAPPING SLEEVE SHALL BE 18" MINIMUM FROM ANY BELL, COUPLING, VALVE OR FITTING LOCATED ALONG EXISTING WATER LINE TO BE TAPPED.
- REPLACE EXCAVATED MATERIAL WITH CEMENT STABILIZED BACKFILL PRIOR TO PAVING.
- JOINTS AND BOLTS SHALL BE CLEAR OF CONCRETE.
- INSTALL PERMANENT THRUST BLOCKING UNDER VALVE BEFORE TAP IS MADE. JOINTS AND BOLTS TO BE CLEAR OF CONCRETE.

CONSTRUCTION KEY NOTES:

- CONCRETE THRUST BLOCKING, PER DETAIL 270.
- TAPPING SLEEVE.
- RISER INSTALLATION, PER DETAIL 260.
- TAPPING VALVE.
- VALVE ENDS FOR TYPE OF PIPE INSTALLED.
- 2-#5 REBAR HAIRPINS, PAINT UNEMBEDDED PORTION OF BARS WITH 2-COATS OF COAL TAR EPOXY, THEN COVER WITH 2" MINIMUM OF CEMENT MORTAR.
- CONCRETE VALVE SUPPORT, PER DETAIL 271.
- NEW WATER LINE TO BE INSTALLED.
- UNDISTURBED EARTH.
- EXISTING WATER MAIN TO BE TAPPED.

STANDARD DETAIL DATE: 9/1994 REV: 8/9/2006 TAPPING SLEEVE AND VALVE INSTALLATION N.T.S. el PASO WATER DETAIL No. 266

6 TAPPING SLEEVE AND VALVE INSTALLATION SCALE: N.T.S.

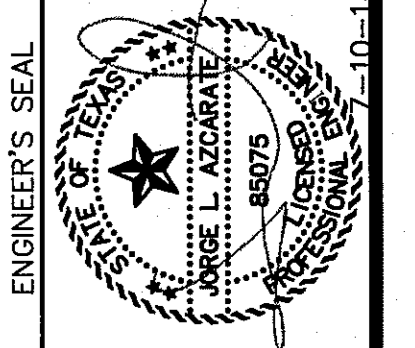
REFERENCES - BENCHMARKS

CITY MONUMENT LOCATED AT THE CENTERLINE INTERSECTION OF CLYDESDALE DRIVE AND PALOMINO ELEVATION = 9928.24' (E.P.V.D.) THE NORTH AMERICAN VERTICAL DATUM OF SAID CITY MONUMENT IS ELEVATION = 3939.53' (NAVD 88).

DATE	REVISIONS	BY

osa

TEXAS REGISTERED ENGINEERING FIRM #7-684
4772 Woodrow Bldg., Ste. F, El Paso, TX 79904
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SCALE: AS SHOWN

Horizontal:	AS SHOWN
Vertical:	AS SHOWN
Contour Interval:	N/A
DATE:	JULY, 2018
DESIGN BY:	R.O.
DRAWN BY:	G.M.
CHKD. BY:	J.L.A.
APPVD. BY:	J.L.A.
JOB No.:	2000-201

PROJECT TITLE

HIDDEN VILLAGE UNIT ONE
SUBDIVISION IMPROVEMENTS

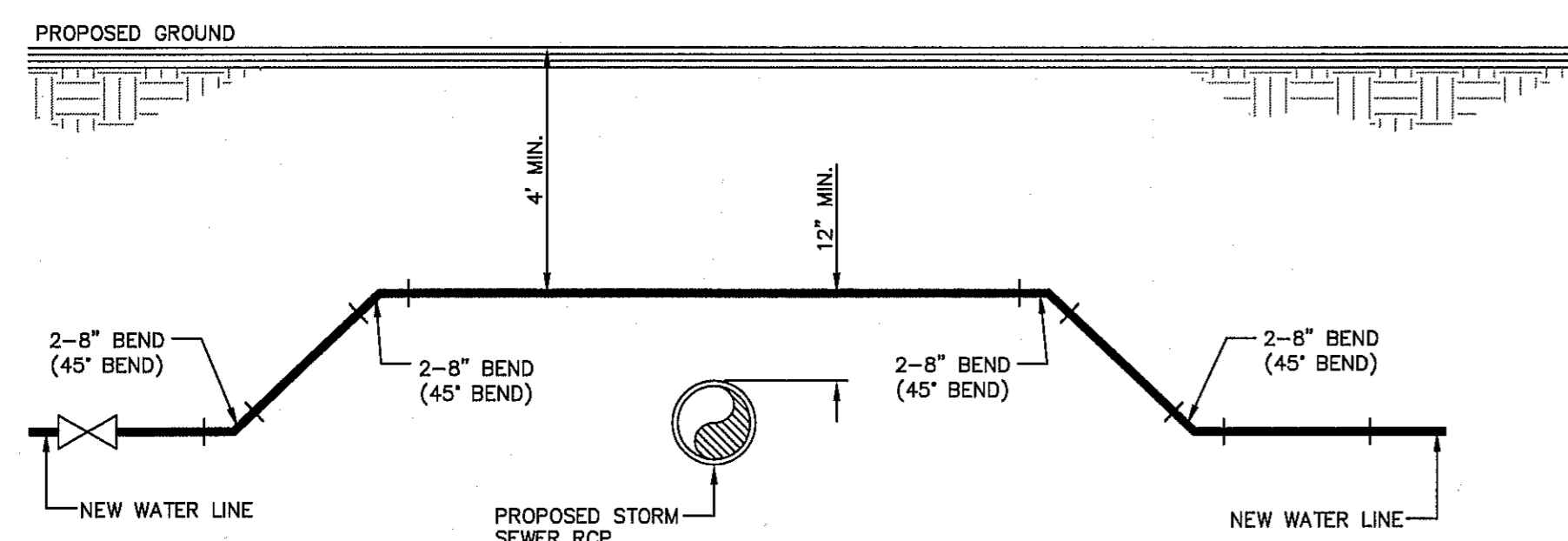
SHEET TITLE

SANITARY SEWER
DETAILS

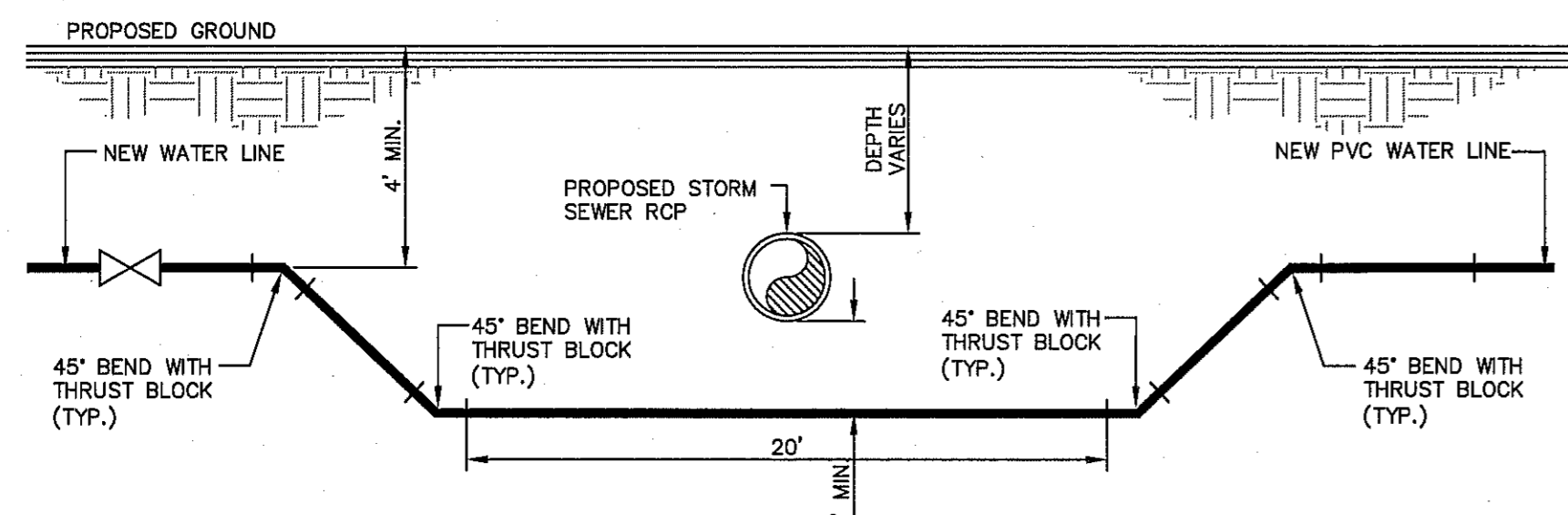
(SHEET 3 OF 4)

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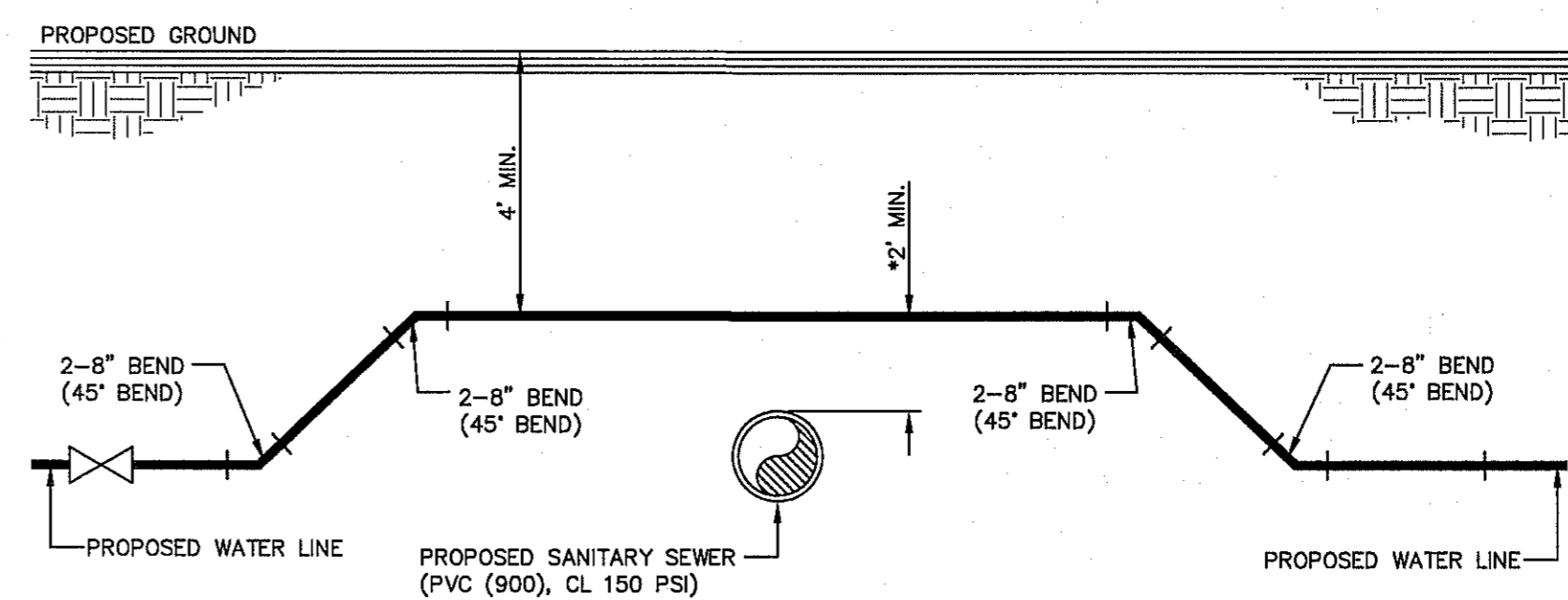
C13.8



3 STORM SEWER CROSSING DETAIL
C13.9 SCALE: N.T.S.

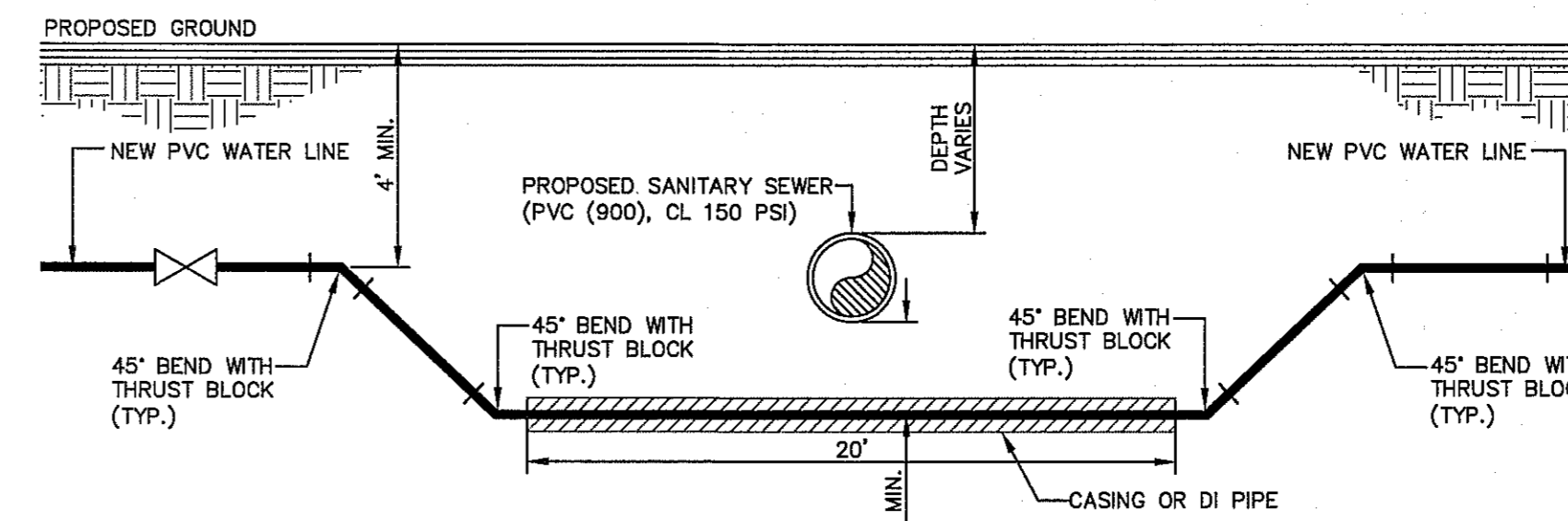


5 STORM SEWER CROSSING DETAIL
C13.9 SCALE: N.T.S.



2 SANITARY SEWER CROSSING WATER LINE DETAIL
C13.9 SCALE: N.T.S.

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



4 SANITARY SEWER CROSSING DETAIL
C13.9 SCALE: N.T.S.

REFERENCES - BENCHMARKS

CITY MONUMENT LOCATED AT THE CENTERLINE INTERSECTION OF CLYDESDALE DRIVE AND PALOMINO AVENUE. THE MONUMENT IS LOCATED AT THE NORTH AMERICAN VERTICAL DATUM OF SAID CITY MONUMENT IS ELEVATION = 3928.24' (E.P.V.D.). THE NORTH AMERICAN VERTICAL DATUM OF SAID CITY MONUMENT IS ELEVATION = 3939.53' (NAVD 83).

DATE	REVISIONS	BY

ENGINEER'S SEAL

SCALE: AS SHOWN

Horizontal: N/A

Vertical: N/A

Contour Interval: N/A

DATE: JULY, 2018

DESIGN BY: R.O.

DRAWN BY: G.M.

CHKD. BY: J.L.A.

APPROV. BY: J.L.A.

JOB No. 2000-201

PROJECT TITLE

HIDDEN VILLAGE UNIT ONE
SUBDIVISION IMPROVEMENTS

SHEET TITLE

SANITARY SEWER
DETAILS

(SHEET 4 OF 4)

SHEET NO.



C13.9

SITE DESCRIPTION

PROJECT NAME AND LIMITS: HIDDEN VILLAGE UNIT ONE IS BORDERED BY TRACT 1A, SECTION No. 31, BLOCK 80, OF TOWNSHIP 1, TEXAS & PACIFIC RAILWAY COMPANY SURVEYS, EL PASO COUNTY, TEXAS TO THE NORTH, DYER PALMS APARTMENTS TO THE EAST, TRACT 5, 5A, & 1E1A DIAMOND TRAIL REALTY, LLC. TO THE EAST, ROCKET WAREHOUSE PARK UNIT THREE, PORTION OF LOT 1 BLOCK 1, TO THE SOUTH, AND SUN VALLEY ADDITION UNIT THIRTEEN TO THE WEST.

PROJECT DESCRIPTION: THE SITE FOR THE NEW SUBDIVISION WILL ENCOMPASS APPROXIMATELY 28.66± ACRES, AND WILL CONTAIN A TOTAL OF 136 RESIDENTIAL LOTS AND 1 PARK & 1 POND.

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

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: 28.66±

TOTAL AREA TO BE DISTURBED: 29.07±

WEIGHTED RUNOFF COEFFICIENT (AFTER CONSTRUCTION): 0.585

EXISTING CONDITION OF SOIL AND VEGETATIVE COVER AND % OF EXISTING VEGETATIVE COVER: THE PROJECT SITE IS LOCATED IN THE VICINITY OF THE TURNEY-BERINO ASSOCIATION: NEARLY LEVEL AND GENTLY SLOPING SOILS THAT HAVE A CLAY LOAM SUBSOIL AND ARE MODERATELY DEEP OVER SOFT CALICHE; IN HUECO BOLSON.

NAME OF RECEIVING WATERS: HIDDEN VILLAGE UNIT ONE SUBDIVISION WILL DISCHARGE INTO AN ON-SITE STORM SEWER INFRASTRUCTURE AND ULTIMATELY DISCHARGE INTO AN ON-SITE RETENTION BASIN.

EROSION AND SEDIMENT CONTROL

SOIL STABILIZATION PRACTICES

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

OTHER:

STRUCTURAL PRACTICES:

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

OTHER:

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

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

SWPPP GENERAL NOTES:

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

BEST MANAGEMENT PRACTICES CONTROLS

I. WASTE MATERIALS:

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

II. HAZARDOUS WASTE:

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

III. SANITARY WASTE:

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

IV. SPILL PREVENTION:

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

V. GOOD HOUSEKEEPING:

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

VI. HAZARDOUS PRODUCTS:

PRACTICES USED TO REDUCE RISKS:

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

VII. PETROLEUM PRODUCTS:

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

VIII. SPILL CONTROL PRACTICES:

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

IX. MAINTENANCE AND INSPECTION PROCEDURES:

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

X. REMARKS:

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

XI. OFFSITE VEHICLE TRACKING:

IN ADDITION TO THE STABILIZED CONSTRUCTION ENTRANCES, THE FOLLOWING MEASURES SHALL BE OBSERVED DURING CONSTRUCTION:

- HAUL ROADS SHALL BE DAMPENED FOR DUST CONTROL
- LOADED HAUL TRUCKS SHALL BE COVERED WITH TARPAULIN
- EXCESS DIRT ON ROAD SHALL BE REMOVED IMMEDIATELY
- STABILIZED CONSTRUCTION ENTRANCE
- OTHER:

XI. REFER TO SWPPP REPORT FOR ADDITIONAL INFORMATION

REFERENCES - BENCHMARKS

CITY MONUMENT LOCATED AT THE CENTERLINE INTERSECTION OF CLOYESDALE DRIVE AND PALOMINO STREET.	ELEVATION = 3928.24' (C.P.V.D.)	THE NORTH CITY MONUMENT	ELEVATION = 3939.53' (NAVD 88).
DATE	REVISIONS	BY	

SCALE

Horizontal:	N/A
Vertical:	N/A
Contour Interval:	N/A
DATE:	JULY, 2018
DESIGN BY:	R.O.
DRAWN BY:	G.M.
CHECK BY:	J.L.A.
APP'D BY:	J.L.A.
JOB No.	2000-201

PROJECT TITLE

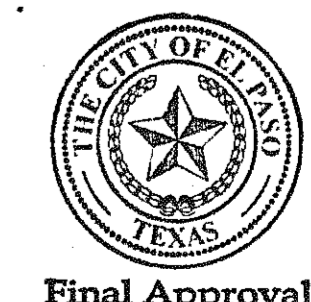
**HIDDEN VILLAGE UNIT ONE
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

**STORM WATER
POLLUTION
PREVENTION PLAN:
GENERAL NOTES**

SHEET NO.

C14.1



Final Approval

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

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

DATE	REVISIONS	BY

REFERENCES - BENCHMARKS
CITY MONUMENT LOCATED AT THE CENTERLINE INTERSECTION OF CLAYSON DRIVE AND PALOMINO STREET.
ELEVATION = 3928.24' (E.P.V.D.), THE NORTH AMERICAN VERTICAL DATUM OF SAID CITY MONUMENT IS ELEVATION = 3899.55' (NAD 83).

TEXAS REGISTERED ENGINEERING FIRM F-654
4772 Woodrow Blvd. Ste. F El Paso, TX 79924
915.544.6322 | www.cfaeng.com

ENGINEER'S SEAL

SCALE	1" = 100'
Horizontal	N/A
Vertical	N/A
Contour Interval	N/A
DATE	JULY, 2018
DESIGN BY:	R.O.
DRAWN BY:	G.M.
CHECKED BY:	J.L.A.
APP'D. BY:	J.L.A.
JOB No.	2000-201

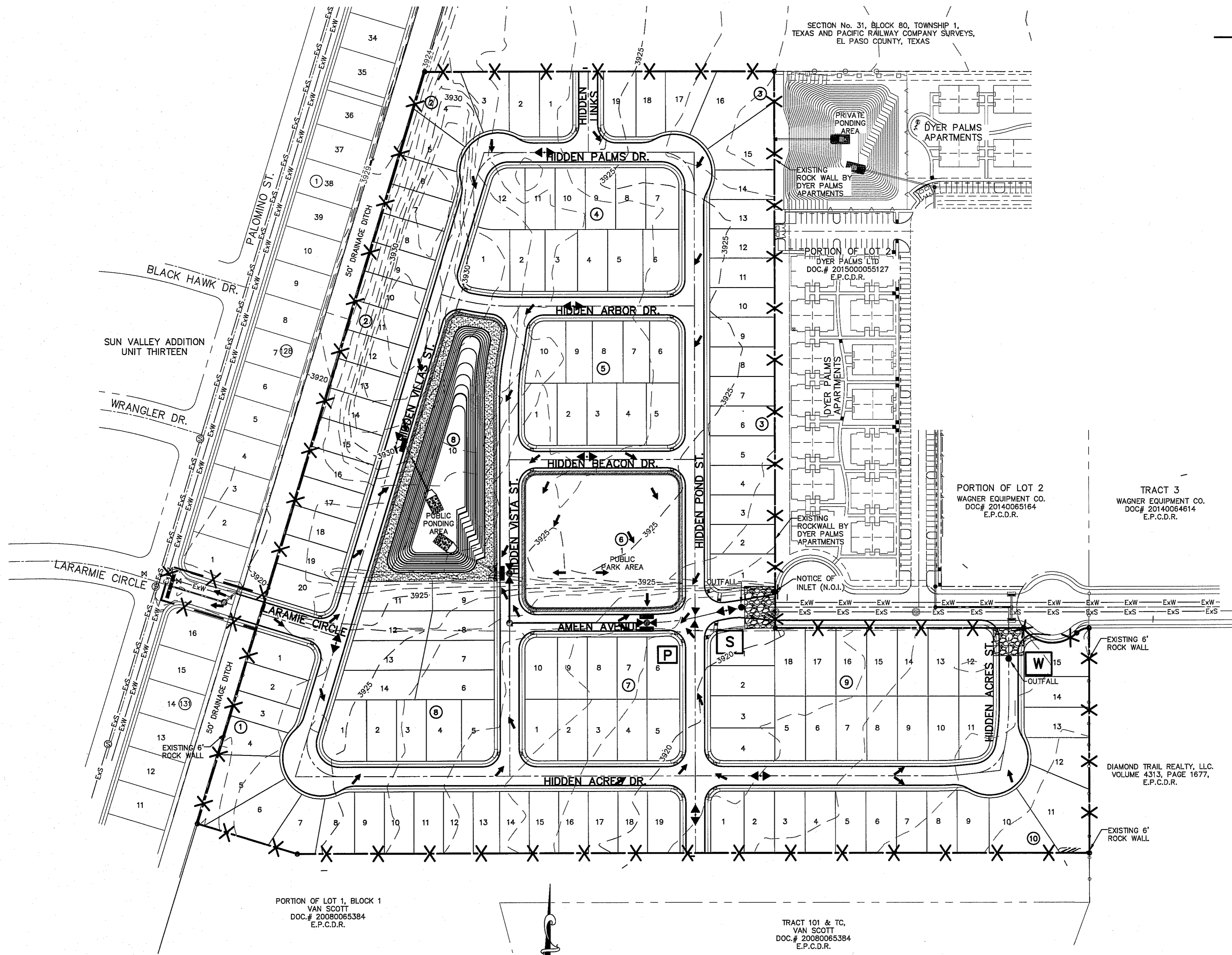
PROJECT TITLE
**HIDDEN VILLAGE UNIT ONE
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

**STORM WATER
POLLUTION
PREVENTION PLAN:
SITE PLAN**

SHEET NO.

C14.2



SITE PLAN
SCALE: 1" = 100'

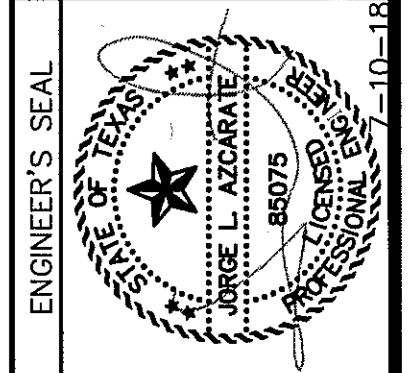


UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
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DATE	REVISIONS	BY

REFERENCES - BENCHMARKS
CITY MONUMENT LOCATED AT THE CENTERLINE INTERSECTION OF CLAYDALE DRIVE AND PALOMINO STREET.
ELEVATION = 3928.24' (E.P.V.D.), THE NORTH AMERICAN VERTICAL DATUM AND CITY MONUMENT IS ELEVATION = 3929.35' (NAD 83).



SCALE:	N/A
Horizontal:	N/A
Vertical:	N/A
Contour Interval:	N/A
DATE:	JULY 2018
DESIGN BY:	R.O.
DRAWN BY:	G.M.
CHECKED BY:	J.L.A.
APPROVED BY:	J.L.A.
JOB No.:	2000-201

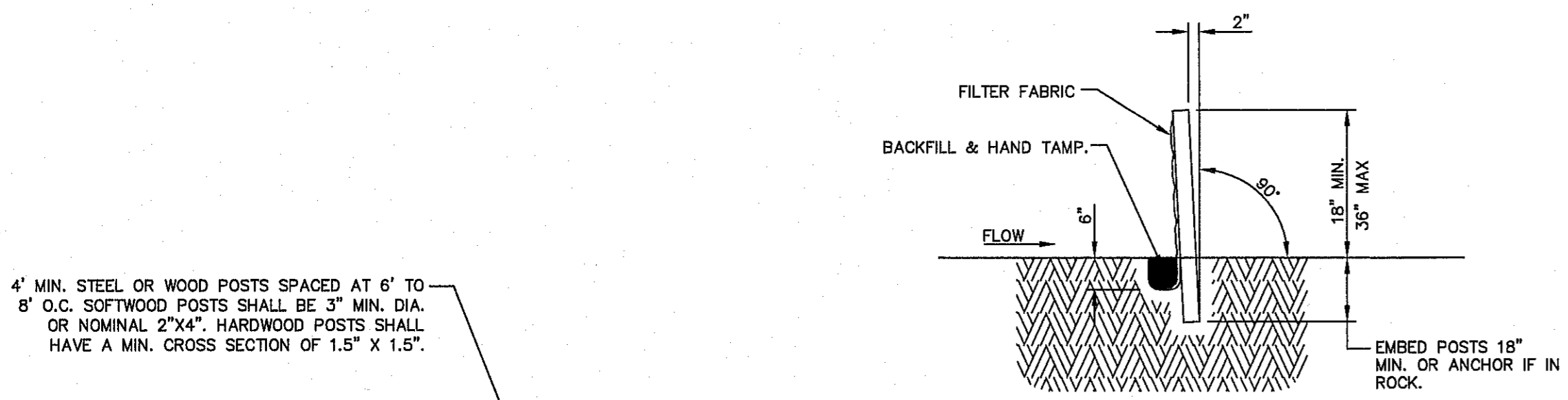
PROJECT TITLE
HIDDEN VILLAGE UNIT ONE
SUBDIVISION IMPROVEMENTS

SHEET TITLE

STORM WATER POLLUTION PREVENTION PLAN: DETAILS

SHEET NO.

C14.3



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

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

FASTEN FABRIC TO TOP STRAND OF WELDED WIRE MESH (W.W.M.) BY HOG RINGS OR CORD AT A MAX. SPACING OF 15".

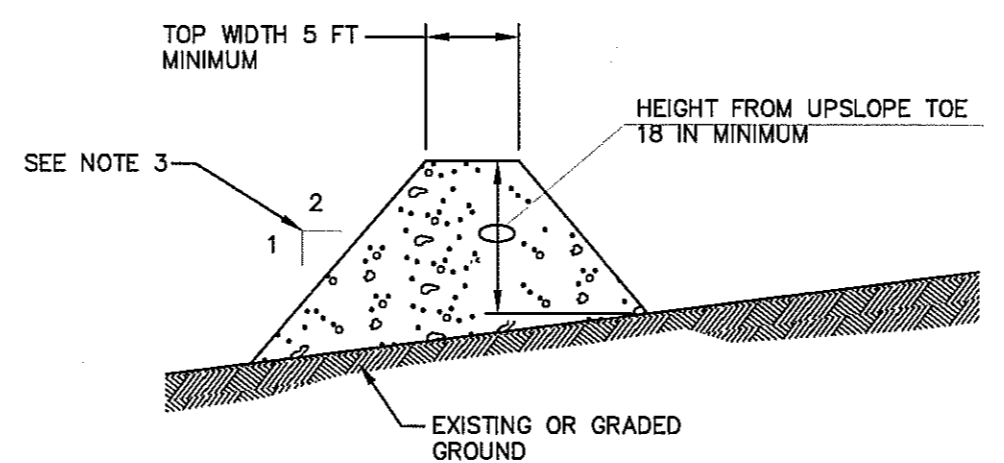
WOVEN FILTER FABRIC

GALV. W.W.M. (12.5 GA. MIN.) MAX. OPENING SIZE SHALL BE 2" X 4".

ATTACH THE W.W.M. & FABRIC ON END POSTS USING 4 EVENLY SPACED STAPLES FOR WOODEN POSTS (OR 4 T-CLIPS OR SEWN VERTICAL POCKETS FOR STEEL POSTS).

PLACE 4" TO 6" OF FABRIC AGAINST THE TRENCH SIDE AND APPROX. 4" ACROSS TRENCH BOTTOM IN UPSTREAM DIRECTION. MINIMUM TRENCH SIZE SHALL BE 6" SQUARE. BACKFILL AND HAND TAMP.

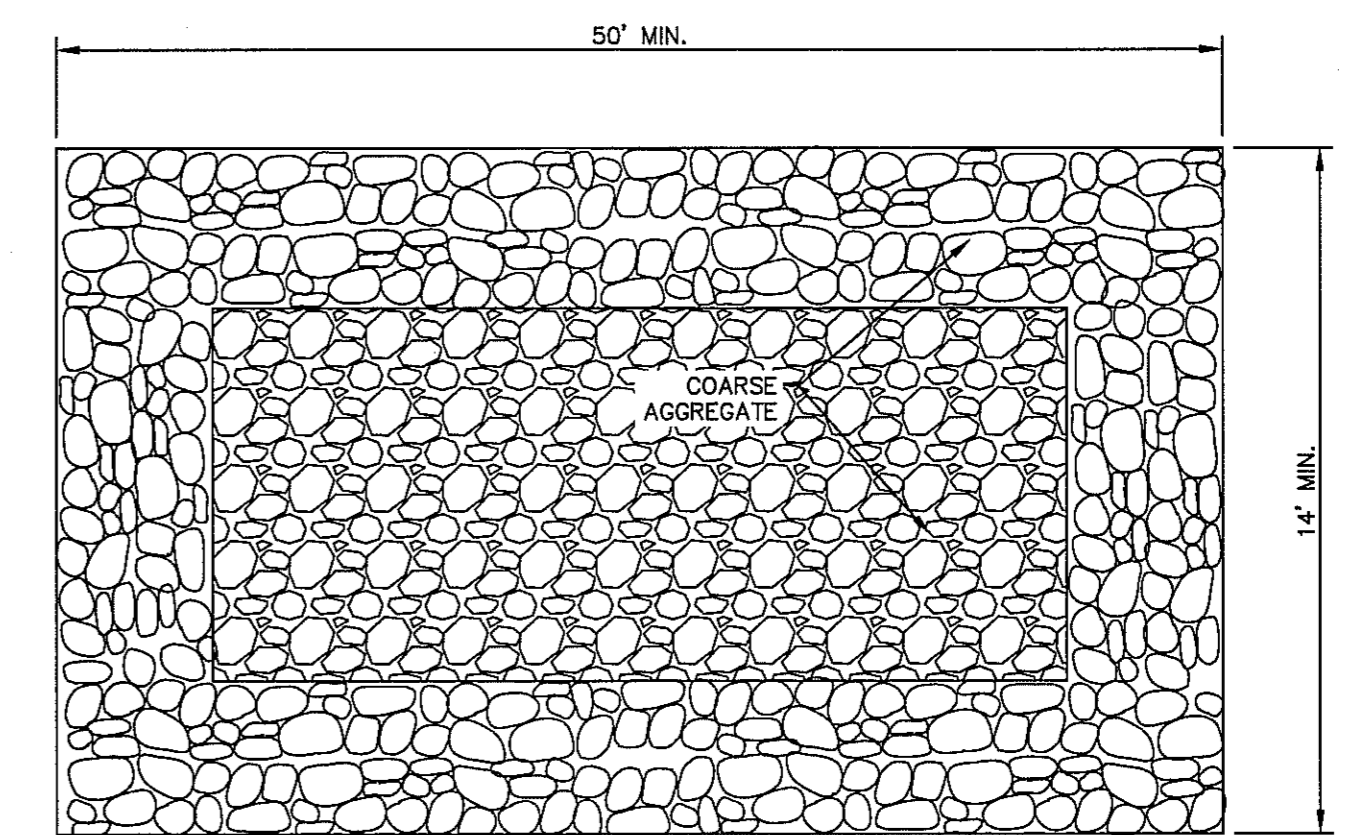
TEMPORARY SEDIMENT CONTROL FENCE



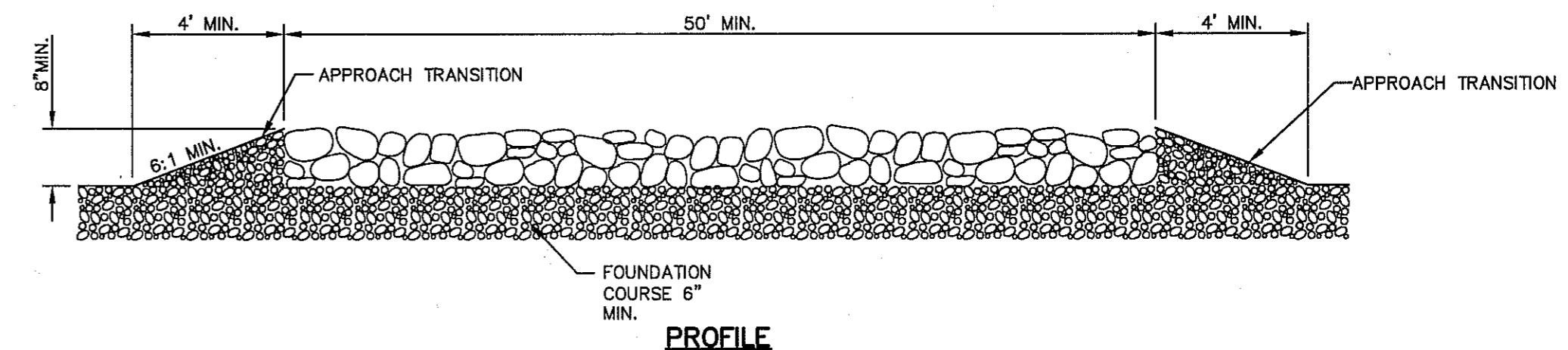
GENERAL NOTES:

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 SIX (6): ONE (1) OR FLATTER.
4. GRADING SHALL BE SHOWN ELSEWHERE IN THE PLANS OR AS DIRECTED BY ENGINEER.
5. THE ENGINEER RESERVES THE RIGHT TO MODIFY THE DIMENSIONS SHOWN FOR THE BERM DEPENDENT PM RUNOFF VOLUME CHARACTERISTICS.
6. BERM THAT ARE IN PLACE FOR MORE THAN FOURTEEN (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



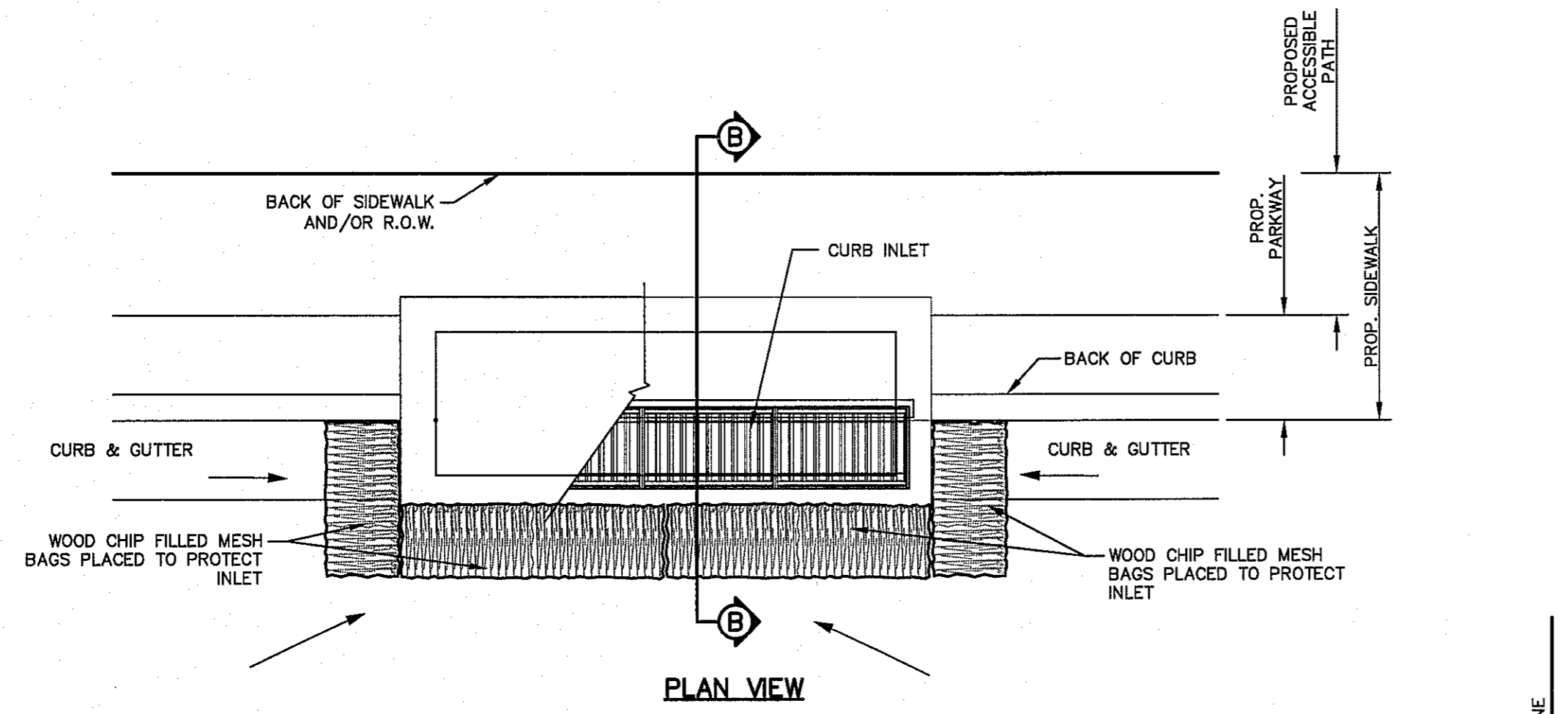
PLAN



PROFILE

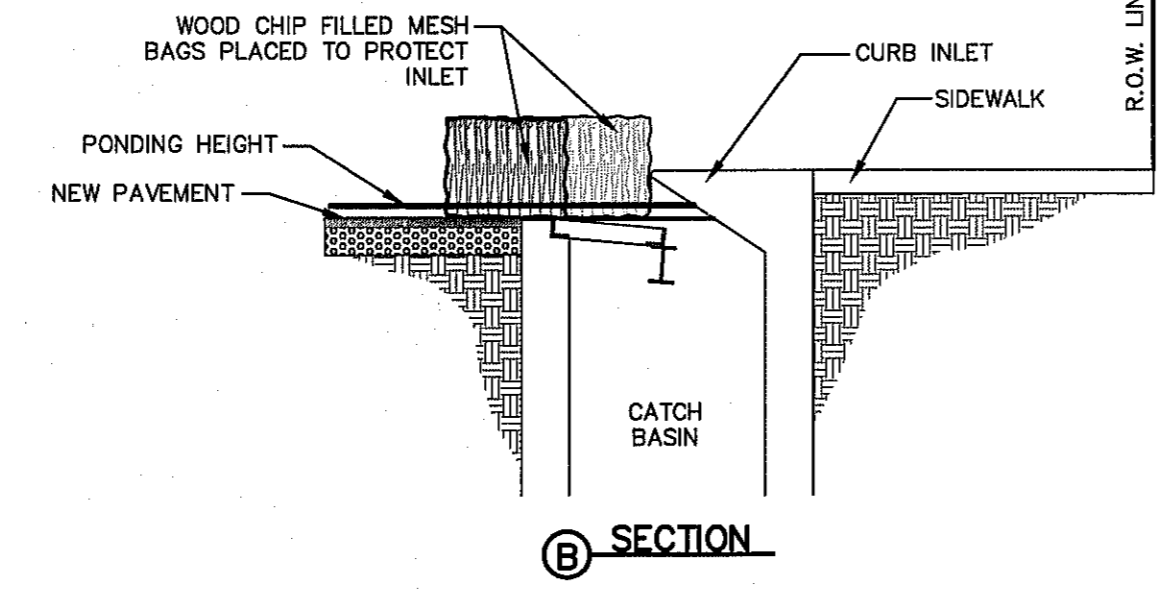
GENERAL NOTES

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.



PLAN VIEW

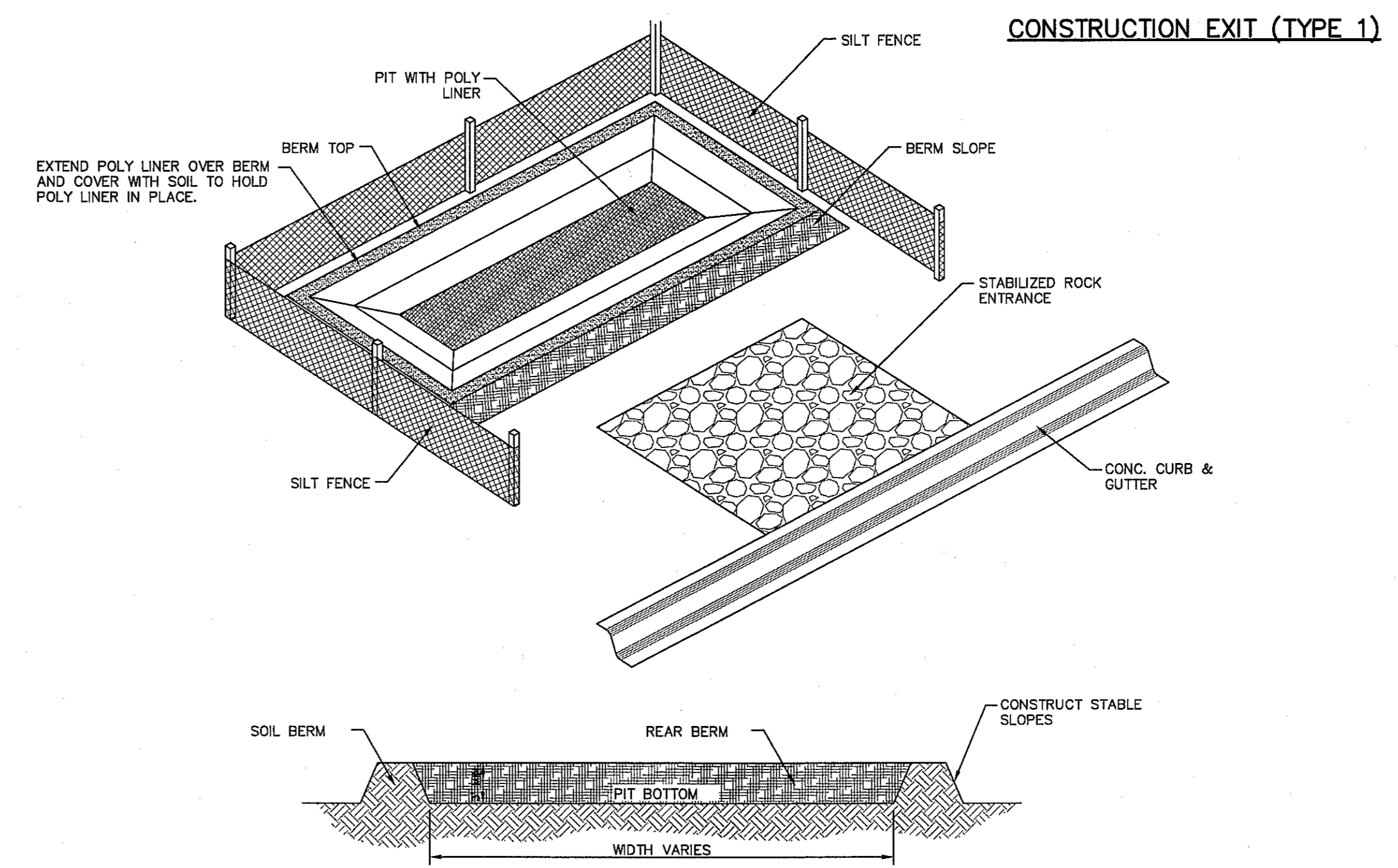
NOTE: WOOD CHIP FILLED MESH BAGS SHALL CONSIST OF 30-40% WEED FREE COMPOST AND 60-70% PARTIALLY DECOMPOSED WOOD CHIPS.



SECTION

TEMPORARY INLET PROTECTION

- 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.



CONSTRUCTION EXIT (TYPE 1)

CONCRETE WASHOUT AREA



SODDING NOTES

- SUBMIT THE FOLLOWING:
- SOD CERTIFICATION FOR GRASS SPECIES AND NAME AND LOCATION OF SOD SOURCE. SODDING SCHEDULE, INCLUDING DATES AND TYPE OF WORK TO BE PERFORMED. PRIOR TO ORDERING, NAME OF SUPPLIER OF SOIL AMENDMENTS MATERIALS.
- QUALITY ASSURANCE
- MINIMUM AGE 18 MONTHS, WITH ROOT DEVELOPMENT THAT WILL SUPPORT ITS OWN WEIGHT WITHOUT TEARING, WHEN SUSPENDED VERTICALLY BY HOLDING THE UPPER TWO CORNERS. DELIVERY, STORAGE AND HANDLING
 - TIME DELIVERY SO THAT SOD WILL BE PLACED WITHIN 24 HOURS OF DELIVERY AT SITE. PROTECT AGAINST DRYING AND BREAKING OF ROLLED STRIPS.
 - DELIVER PACKAGED MATERIALS IN CONTAINERS SHOWING WEIGHT, ANALYSIS AND NAME OF MANUFACTURER. PROTECT MATERIALS FROM DETERIORATION DURING DELIVERY AND WHILE STORED ON SITE.
- SITE CONDITIONS
- PROCEED WITH AND COMPLETE LANDSCAPE WORK AS RAPIDLY AS PORTIONS OF SITE BECOME AVAILABLE, WORKING WITHIN SEASONAL LIMITATIONS FOR EACH KIND OF LANDSCAPE WORK REQUIRED.
 - WHEN CONDITIONS DETRIMENTAL TO PLANT GROWTH ARE ENCOUNTERED, SUCH AS RUBBLE FILL, ADVERSE DRAINAGE CONDITIONS, OR OBSTRUCTIONS CONSULT THE LANDSCAPE ARCHITECT AND CITY OF EL PASO PARKS AND RECREATION BEFORE PLANTING.
 - PLANT OR INSTALL MATERIALS DURING NORMAL PLANTING SEASONS FOR EACH TYPE OF LANDSCAPE WORK REQUIRED. CORRELATE PLANTING WITH SPECIFIED MAINTENANCE PERIODS TO PROVIDE MAINTENANCE FROM DATE OF FINAL ACCEPTANCE.
- SOIL AMENDMENTS
- PROVIDE SOIL ANALYSIS BEFORE ADDITION OF SOIL AMENDMENTS & ANALYSES OF SOIL AMENDMENTS. ORGANIC AMENDMENTS SHALL CONSIST OF WELL-AGED ORGANIC COMPOST OR APPROVED EQUAL.
- FERTILIZER
- SLOW-RELEASE STARTER FERTILIZER ANALYSIS AS RECOMMENDED BY LANDSCAPE ARCHITECT BY WEIGHT AT A RATE OF 1 LB OF ACTUAL NITROGEN PER 1,000 SQUARE FEET BY WEIGHT.
- GRASS MATERIALS
- PROVIDE STRONGLY ROOTED SOD, NOT LESS THAN 18 MONTHS OLD AND FREE OF WEEDS AND UNDESIRABLE NATIVE GRASSES AND MACHINE CUT TO PAD THICKNESS OF ONE INCH (PLUS OR MINUS 1/4 INCH), EXCLUDING TOP GROWTH AND THATCH. PROVIDE SOD CAPABLE OF GROWTH AND DEVELOPMENT WHEN PLANTED. CUT SOD PIECES A MINIMUM OF 18 INCHES WIDE.
- PREPARATION
- PRIOR TO START OF SOIL PREPARATION ALL FINISH GRADES SHALL BE ESTABLISHED AND APPROVED AS MEETING THE REQUIREMENTS OF THE GRADING PLAN. APPLY A UNIFORM ONE-INCH LAYER (3 CY/1,000 SQUARE FEET) OF ORGANIC SOIL AMENDMENT, AFTER APPLICATION OF ORGANIC AMENDMENT AND STARTER FERTILIZER ALL AREAS TO BE SODDED SHALL BE THOROUGHLY ROTOTILLED TO A MINIMUM DEPTH OF 12 INCHES. AFTER ROTOTILLING IS COMPLETE AT CROSS DIRECTIONS, DRAG AND LASER LEVEL TO AN EVEN GRADE, THEN ROLL FOR FIRMNESS. RAKE TILLED AREA AND REMOVE STONES OVER 1 INCH IN ANY DIMENSION, STICKS, ROOTS, RUBBISH AND OTHER EXTRANEIOUS MATTER. ROLL ENTIRE AREA WITH WEIGHTED HAND ROLLER.
- SODDING OPERATIONS
- LAY SOD WITHIN 24 HOURS OF DELIVERY AT SITE. DO NOT PLANT DORMANT SOD OR ON FROZEN GROUND.
 - IF SOIL IS DRY, MOISTEN AREAS BEFORE SODDING. WATER THOROUGHLY AND ALLOW SURFACE MOISTURE TO DRY. DO NOT CREATE A MUDDY SOIL CONDITION.
 - REMOVE FIBER MESH USED BY SOD FARM TO TRANSPORT SOD ROLLS AS SOD IS BEING INSTALLED. LAY SOD TO FORM A SOLID MASS WITH TIGHTLY FITTED JOINTS. NO JOINT SHALL BE MORE THAN 1/8" LAY SOD OVER MOISTENED SOIL, LIGHTLY RAKING THE SOIL AHEAD OF EACH SOD STRIP. BUTT ENDS AND SIDES OF SOD STRIPS. DO NOT OVERLAP. STAGGER STRIPS TO OFF-SET JOINTS IN ADJACENT COURSES. LAY SOD PARALLEL TO CONTOURS OF SLOPE. WORK FROM BOARDS TO AVOID DAMAGE TO SUBSOIL OR SOD. TAMP FIRMLY AND EVENLY BY HAND TO ENSURE CONTACT WITH SUBSOIL. WORK SIFTED TOPSOIL OR SAND INTO MINOR CRACKS BETWEEN PIECES OF SOD
 - WATER SOD THOROUGHLY WITH A FINE SPRAY IMMEDIATELY AFTER PLANTING.
- MAINTENANCE
- BEGIN MAINTENANCE IMMEDIATELY AFTER PLANTING.
 - MAINTAIN LAWNS FOR NOT LESS THAN A PERIOD OF AT LEAST 60 DAYS AFTER COMPLETION AND ACCEPTANCE OF SOD. INSPECTION TO DETERMINE ACCEPTANCE OF SODDED LAWNS WILL BE MADE BY PARKS STAFF AND SITES SOUTHWEST REPRESENTATIVE UPON CONTRACTOR'S REQUEST. PROVIDE NOTIFICATION AT LEAST 10 WORKING DAYS BEFORE REQUESTED INSPECTION DATE, AND LONGER AS REQUIRED TO ESTABLISH AN ACCEPTABLE LAWN.
 - SODDED LAWNS TO BE MAINTAINED NOT LESS THAN 60 DAYS AFTER COMPLETION AND ACCEPTANCE OF SODDING OPERATIONS.
 - MAINTENANCE TO INCLUDE:
WATER SOD THOROUGH EVERY 2 TO 3 DAYS MIN. AS REQUIRED TO ESTABLISH PROPER ROOTING. REPAIR, REWORK AND RESOD AREAS THAT HAVE WASHED OUT OR ERODED.
REPLACE DEAD OR UNDESIRABLE SOD SECTIONS WITH NEW SOD.
MOW LAWN AREAS WHEN THE GRASS IS OVER 2 INCHES HIGH FOR FIRST CUTTING.
FERTILIZE LAWN WITH TOP DRESSING FERTILIZER AT 1 LB. PER 1,000 SQ.FT. OF NITROGEN, WATER THOROUGHLY.
 - ADDITIONAL LAWN MAINTENANCE CONSISTS OF WEEDING, TRIMMING AND OTHER OPERATIONS SUCH AS ROLLING, REGRADING AND REPLANTING AS REQUIRED TO ESTABLISH A SMOOTH, ACCEPTABLE LAWN, FREE OF ERODED OR BARE AREAS.
- CLEANUP AND PROTECTION
- DURING THE WORK, KEEP PAVEMENTS CLEAN AND WORK AREA IN AN ORDERLY CONDITION.
 - PROTECT WORK AND MATERIALS FROM DAMAGE DUE TO SODDING OPERATIONS, OPERATIONS BY OTHER CONTRACTORS AND TRADES AND TRESPASSERS. MAINTAIN PROTECTION DURING INSTALLATION AND MAINTENANCE PERIODS. TREAT, REPAIR OR REPLACE DAMAGED WORK AS DIRECTED.
- INSPECTION AND ACCEPTANCE
- WHEN INSPECTED WORK DOES NOT COMPLY WITH REQUIREMENTS, REPLACE REJECTED WORK AND CONTINUE SPECIFIED MAINTENANCE UNTIL REINSPECTED BY THE LANDSCAPE ARCHITECT AND CITY OF EL PASO PARKS AND RECREATION AND FOUND TO BE ACCEPTABLE. REMOVE REJECTED SOD AND MATERIALS PROMPTLY FROM PROJECT SITE.

GENERAL IRRIGATION NOTES

- ALL MATERIALS LISTED BY BRAND NAME MAY BE SUBSTITUTED BY EQUAL OR BETTER PRODUCTS AS APPROVED BY THE CITY OF EL PASO PARKS AND RECREATION DEPT.
- THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL EXISTING AND PROPOSED UTILITIES, AND ALL SITE CONDITIONS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE CAUSED BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE OTHER CONTRACTORS WORKING ON THE SITE. COORDINATE INSTALLATION OF SLEEVING!
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY WATER PRESSURE, WATER SOURCE AND SIZE IN THE FIELD PRIOR TO CONSTRUCTION. SHOULD A DISCREPANCY EXIST BETWEEN DESIGN PRESSURE AND FIELD PRESSURE THE LANDSCAPE ARCHITECT SHALL BE NOTIFIED IMMEDIATELY.
- IF PRESSURE IS MORE THAN 45 PSI DOWNSTREAM OF METER NOTIFY THE PROJECT MANAGER AND LANDSCAPE ARCHITECT IMMEDIATELY.
- CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS.
- LOCATION OF THE CONTROLLER AND BACKFLOW SHALL BE APPROVED BY CITY OF EL PASO PARKS AND RECREATION DEPT.
- STAKE OUT ROTOR HEAD AND PIPING LOCATIONS PRIOR TO TRENCHING. AFTER APPROVAL BY CITY OF EL PASO PARKS AND RECREATION DEPT., TRENCHING AND EQUIPMENT INSTALLATION MAY BEGIN.
- THE CONTRACTOR SHALL NOT IMPEDRE DRAINAGE IN ANY WAY. THE CONTRACTOR SHALL ALWAYS MAINTAIN POSITIVE DRAINAGE AWAY FROM BUILDINGS, WALLS, ETC.
- ALL PIPING/WIRING RUNNING BENEATH PAVED SURFACES (DRIVES, WALKS, ETC.) SHALL BE INSTALLED IN SCHEDULE 40 PVC SLEEVES. SLEEVES MUST BE 2 X THE DIAMETER SIZE OF PIPE ENGAGED. REMOTE CONTROL WIRING MUST BE RUN IN SEPARATE SLEEVES FROM IRRIGATION PIPE SLEEVES. EXTEND SLEEVE TWENTY-FOUR INCHES (24") BEYOND EDGE OF HARD SURFACES, WRAP ENDS WITH FOUR (4) MILS PLASTIC AND GOOD QUALITY PLASTIC TAPE. GRAY, CLOTH DUCT TAPE IS NOT ACCEPTABLE.
- DIRECT BURIAL 24V ELECTRIC CONTROL WIRE (#14) AND COMMON GROUND (#12) SHALL BE STANDARD COLORS- RED(HOT) AND WHITE(COMMON). INSTALL WIRE WITH SLACK TO ALLOW FOR THERMAL EXPANSION AND CONTRACTION LABEL ALL WIRE ENDS AT CONTROLLER AND IN VALVE BOX. PROVIDE THREE SPARE REMOTE CONTROL VALVE WIRES FOR EACH CONTROLLER AND EXTEND TO FURTHEST VALVE. WIRES SHALL BE IN SEPARATE TRENCH FIVE FEET (5') FROM PRESSURE MAIN LINE ON NORTH AND WEST SIDE OF MAIN. PROVIDE EXPANSION LOOPS FOR WIRES EVERY 200'. WIRES SHALL NOT BE STRETCHED TIGHT. USE DRI-SPLICE CONNECTORS FACTORY FILLED WITH SILICONE FOR VALVE WIRE. SPLICES ARE NOT ALLOWED BETWEEN CONTROLLER AND VALVES. SPARE REMOTE CONTROL VALVE WIRES MUST BE OTHER THAN STANDARD RED IN COLOR.
- ALL VALVES SHALL BE TAGGED WITH A WATERPROOF TAG SHOWING VALVE NUMBER LABEL ALL WIRING AT CONTROLLERS AND PANELS.
- ALL PIPE CUTS SHALL BE MITERED TO 90 DEGREES TO ASSURE PROPER SOLVENT WELD. ALL BURRS SHALL BE REMOVED PRIOR TO GLUING AND MUST HAVE A FILED BEVELED EDGE A MINIMUM OF ONE FOURTH (1/4) THE WIDTH OF PIPE WALL.
USE "3-STEP" GLUING PROCESS.
PIPE MUST BE CLEAN AND PRIMER APPLIED AS RECOMMENDED BY MANUFACTURER WHEN GLUING PROCESS IS UNDERTAKEN. PRIMER SHOULD BE MOIST AS GLUE IS APPLIED AND PVC PIPING IS ASSEMBLED. USE IPS WELD-ON GRAY GLUE WITH HEAVY DUTY, WIFE OFF ALL EXCESS CEMENT AND LET SET PER MANUFACTURER'S RECOMMENDATIONS. INITIAL SET TIMES SHALL BE MINIMUM OF 5 MIN. FOR 1/2 TO 1/4" PIPE, 8 MIN. FOR 1/2" PIPE TO 2" PIPE, 2 HOURS FOR 2-1/2" TO 6" PIPE. CURE TIMES ARE 20 MIN FOR 1/2" TO 1/4" PIPE, 30 MIN FOR 1/2" PIPE, 4 HOURS FOR 2-1/2" PIPE. WHEN HUMIDITY EXCEEDS 60% INCREASE CURE TIME BY 50%. ONCE WELD IS SET, PIPE SHALL NOT BE MOVED FOR ANY REASON UNTIL SET TIMES HAVE BEEN ACHIEVED. WATER SHALL NOT BE TURNED ON UNTIL ALL CURE TIMES HAVE BEEN ACHIEVED.
- A CITY OF EL PASO PARKS AND RECREATION DEPT. REPRESENTATIVE MUST BE PRESENT DURING ALL FLUSHING, TESTING AND ADJUSTING. THE CONTRACTOR MUST PROVIDE 24 HRS NOTICE TO THE CITY OF EL PASO PARKS AND RECREATION DEPT. PRIOR TO CONDUCTING THE TESTS. FLUSHING AND TESTING SHALL BE PERFORMED IN ACCORDANCE WITH PARKS AND RECREATION DEPARTMENT DESIGN AND CONSTRUCTION STANDARDS.
- THE FINISH GRADE OF ALL TRENCHED AREAS SHALL BE SMOOTH, EVEN AND CONSISTENT, FREE OF ANY HIPS, DEPRESSIONS OR OTHER GRADING IRREGULARITIES. OVERFILL TRENCHES AND COMPACT SO NOT TO CRUSH THE PIPE PRIOR TO SODDING INSPECT TRENCHES FOR SETTLING AND BACKFILL AND REGRADE IF NECESSARY. DO NOT LAY SOD UNTIL TRENCHES ARE ACCEPTABLE.
- THE CONTRACTOR SHALL FINE TUNE AND ADJUST THE IRRIGATION SYSTEM SO THAT NO WATER WILL RUN OFF TO THE STREET OR WALKS
- THE CONTRACTOR SHALL PROVIDE A WATER AUDIT CONDUCTED IN THE PRESENCE OF THE CITY OF EL PASO PARKS AND RECREATION DEPT. REPRESENTATIVE.
- THE CONTRACTOR SHALL MAINTAIN ALL WORK UNTIL ALL WORK IS COMPLETE AND ACCEPTED BY THE CITY OF EL PASO PARKS AND RECREATION DEPT.
- WATERING TIME: TO SET TURF STATIONS
SEE TURF IRRIGATION SYSTEM DESIGN CRITERIA. SET PER LOCAL WATERING CODES.
- WARRANTY PERIOD IS ONE YEAR FROM DATE OF ACCEPTANCE.

PROJECT MUST BE COORDINATED WITH TDLR TO INSURE COMPLIANCE WITH TAS REQUIREMENTS TO INCLUDE INSPECTION AND CERTIFICATE OF SUBSTANTIAL COMPLETION.

EAB PROJECT REGISTRATION NUMBER: EABPRJ8821986:

PARKS DEPARTMENT

REVIEWED BY *[Signature]* 08/07/2018

PLANTING NOTES

- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PREVENT PLANTS FROM FALLING OR BEING BLOWN OVER AND TO STRAIGHTEN OR REPLANT ALL PLANTS WHICH ARE DAMAGED DUE TO WIND. PLANTS BLOWN OVER BY HIGH WINDS SHALL NOT BE A CAUSE FOR ADDITIONAL EXPENSE TO THE OWNER, BUT SHALL BE THE FINANCIAL RESPONSIBILITY OF THE CONTRACTOR.
- TOPSOIL MATERIAL FOR PLANTINGS SHALL BE FREE FROM HARD CLODS, STIFF CLAY, HARD PAN STONES LARGER THAN 1" IN DIAMETER, NOXIOUS WEEDS AND PLANTS, SOD, PARTIALLY DISINTEGRATED DEBRIS INSECTS OR ANY OTHER UNDESIRABLE MATERIAL. PLANTS OR SEEDS THAT WOULD BE TOXIC OR HARMFUL TO GROWTH.
- CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF PLANT MATERIAL QUANTITIES.
- IN THE EVENT OF VARIATION BETWEEN QUANTITIES SHOWN ON THE PLANT LIST AND THE PLANS, THE PLANS SHALL CONTROL. IMPROPER PLANT COUNT MADE BY THE LANDSCAPE CONTRACTOR SHALL BE NO CAUSE FOR ADDITIONAL COSTS TO THE OWNER.
- THE CONTRACTOR SHALL MEET BOTH THE CONTAINER SIZE AND CALIFER SIZE, AS WELL AS HEIGHT AND SPREAD SPECIFICATIONS.
- EXCAVATE TWO TIMES GREATER THAN THE ROOT BALL-DIAMETER OF SHRUBS AND ROOT BALLS OF TREES. SCARIFY THE BOTTOM OF PLANTING PIT BEFORE PLACING PLANT. PLACEMENT OF PLANT SHALL BE PERPENDICULAR TO GROUND/VERTICAL WITHOUT LEANING.
- REMOVE ALL WIRE, STRINGS, WIRE BASKETS, BURLAP, CONTAINERS, ETC., FROM THE ROOT BALL OF PLANTS BEFORE BACKFILLING THE PLANTING HOLE.
- CONTRACTOR WILL NOT PLANT MATERIAL SHOWN ON PLANS WHEN IT IS EVIDENT THAT FIELD CONDITIONS HAVE CHANGED SINCE PLANS WERE DRAWN OR IF OTHER CONFLICTS ARE EVIDENT. ANY CHANGES ARE TO BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT BEFORE PLANTING IS DONE IN THE AREA.
- PLANT SUBSTITUTIONS WILL BE PERMITTED DUE TO AVAILABILITY ISSUES NOT PRICE. REQUEST SUBSTITUTION IN WRITING GIVING REASON FOR SUCH SUBSTITUTIONS.
- TURF QUANTITY TAKE-OFFS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- TREAT ALL PLANTING AREAS WITH AN APPLICATION OF SURFLAN. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR APPLICATION.
- SEEDDED AREAS SHOULD BE MAINTAINED UNTIL A FULL GROWTH OF WILD GRASS OR SEEDDED MATERIAL IS ACHIEVED.
- WARRANTY FOR THE PLANTING MATERIAL SHALL BE ONE YEAR FROM THE DATE OF ACCEPTANCE (TREES, SHRUBS AND GROUNDCOVER).

TREES AND OTHER PLANTS DELIVERED TO THE SITE SHALL BE COVERED WITH CANVAS TARP DURING TRANSPORT. PLASTIC TARPS ARE PROHIBITED.

TRANSPORT IN ENCLOSED VAN IS ACCEPTABLE BUT PLANTS MUST BE UNLOADED IMMEDIATELY UPON ARRIVAL AT SITE.

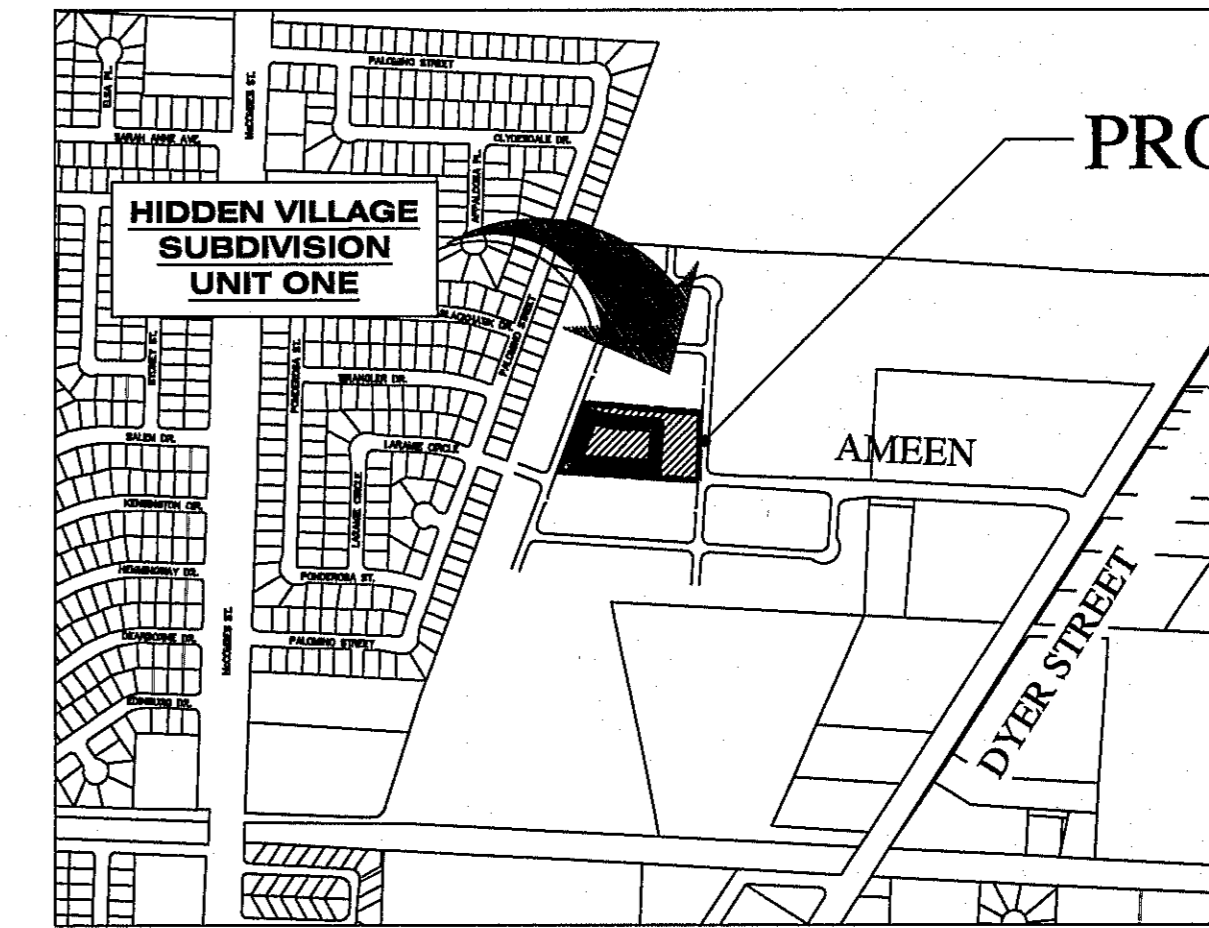
DO NOT LIFT TREES BY THE TRUNK. LIFT BY CONTAINER.

UNSUITABLE SOIL CONDITION MITIGATION PER PARKS AND RECREATION STANDARDS

DEVELOPER / CONTRACTOR SHALL OBTAIN SOIL SAMPLES (TAKEN FROM PROPOSED PARK SITE LOCATION FINISHED GROUND) & PROVIDE COMPLETE ANALYSIS REPORT (TEXTURAL, SOILS CLASSIFICATION, MINERALS AND NUTRIENTS AVAILABILITY, WATER INFILTRATION/PERCOLATION, DETAILED SALINITY, & PH CONDUCTIVITY TEST) WITH RECOMMENDATIONS FOR SOILS AMENDMENTS AND PREPARATION TO INSURE EXISTING SOIL CONDITIONS ARE SUITABLE FOR TURF, SHRUBS, AND TREE GROWTH. COORDINATE SITE VISIT WITH PARKS STAFF FOR COLLECTION OF SOIL SAMPLES.

ANY UNSUITABLE SOIL CONDITIONS SHALL BE REMEDIED TO ELIMINATE HARD SOILS, STONY SOILS, HIGH CALICHE SOILS, CLAY SOILS AND CONTAMINATED SOILS TO A MINIMUM DEPTH OF 12 INCHES AND BY SHATTERING, IN TWO DIRECTIONS, OF HARD PAN CALICHE, CLAY SOILS, ROCKS TO A DEPTH OF 36 INCHES BELOW FINISHED GRADE AS REQUIRED FOR PROPER PLANTING AS PER PARKS DESIGN & CONSTRUCTION STANDARDS FOR PARK FACILITIES APPROVED ON 01/08/2013.

ANY UNSUITABLE SOIL MATERIALS NOT APPROVED BY PARKS DEPARTMENT AND/OR DEPARTMENT LIAISON/DESIGNEE ARE TO BE REMOVED, DISPOSED-OFF, AND REPLACED WITH #10 TOP SOIL / SANDY LOAM MATERIAL (BLEND OF 40% SAND, 40% SILT, & 20% CLAY - CAPABLE OF HOLDING MOISTURE) TO INCLUDE ORGANIC MATTER / NUTRIENTS TO A MINIMUM DEPTH OF 12 INCHES.



SITE MAP

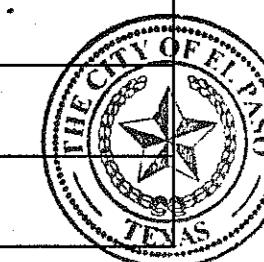
SCALE: 1"= 600'-0"

GENERAL NOTES

- THE CONTRACTOR SHALL VISIT AND FAMILIARIZE HIMSELF WITH THE PROJECT SITE PRIOR TO SUBMITTING HIS BID.
- CONTRACTOR SHALL BE FAMILIAR WITH PLANS, DETAILS AND SPECIFICATIONS AS THEY PERTAIN TO THE SITE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNER'S REPRESENTATIVE IF ANY ITEMS CONTAINED WITHIN THE SCOPE OF WORK DEFINED HEREIN, ARE IN CONFLICT WITH THE PROPOSED CONTRACT.
- EXISTING UTILITY LINES ARE TO BE BLUE STAKED PRIOR TO EXCAVATION, CHECK AND FIELD VERIFY ALL SITE CONDITIONS, UTILITIES AND SERVICES PRIOR TO EXCAVATION. CONSTRUCTION WORK IN CLOSE PROXIMITY TO UNDERGROUND UTILITIES SHALL BE COORDINATED WITH APPROPRIATE AGENCY.
- THE CONTRACTOR SHALL COORDINATE THE CONSTRUCTION SCHEDULE WITH OWNER, ALL AFFECTED UTILITY COMPANIES, AND ALL OTHER ENTITIES HAVING JURISDICTION OVER THE PROJECT.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND GRADES PRIOR TO COMMENCING WITH THE WORK. ANY DISCREPANCY NOTED SHALL BE REPORTED IMMEDIATELY TO THE PROJECT MANAGER. FAILURE OF THE CONTRACTOR TO REPORT ANY FIELD AND PLAN DISCREPANCIES SHALL MAKE THE CONTRACTOR RESPONSIBLE FOR WORK THAT IS PERFORMED.
- VIBRATORY ROLLERS SHALL NOT BE PERMITTED ON ANY PHASE OF THIS PROJECT, UNLESS APPROVED IN WRITING BY THE CITY ENGINEER.
- ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN STRICT CONFORMANCE WITH ALL CURRENT SAFETY CODES AND STANDARDS, INCLUDING BUT NOT LIMITED TO, OSHA REQUIREMENTS.
- WARNINGS BEFORE EXCAVATING, CONTRACTOR SHALL LOCATE AND PROTECT ALL UNDERGROUND UTILITIES LINES. CONTRACTOR SHALL REPLACE ANY UTILITIES DAMAGED DURING CONSTRUCTION AT NO ADDITIONAL COST TO OWNER.
- CONTRACTOR SHALL WATER CONSTRUCTION SITE AREA A MINIMUM OF TWICE A DAY TO DUST CONTROL, ONCE IN THE MORNING AND ONCE IN THE AFTERNOON. THIS SHALL ALSO BE DONE ON WEEKENDS AND HOLIDAYS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF EXISTING IMPROVEMENTS IN THE PROJECT AREA AND ITS VICINITY. ANY DAMAGE RESULTING FROM CONTRACTOR WORK SHALL BE RESTORED AT NO COST TO OWNER.
- CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATION DURING CONSTRUCTION ACTIVITIES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ENVIRONMENTAL FINES RESULTING FROM HISHER WORK AND HOLD THE OWNER HARMLESS IN SUCH CASES.
- CONTRACTOR SHALL SECURE THE SITE DURING CONSTRUCTION TO PROTECT THE AREA FROM VANDALISM AND ILLEGAL TRESPASSING. CONTRACTOR SHALL SECURE THE SITE AT HISHER OWN COST. CONTRACTOR SHALL SITE PROTECTION MEASURES SHALL BE SUBMITTED TO THE PARKS AND RECREATION DEPT. FOR APPROVAL.
- ALL EXISTING UTILITIES CURRENTLY IN SERVICE MUST REMAIN IN SERVICE THROUGHOUT CONSTRUCTION EXCEPT AS NOTED IN THE DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITIES (INCLUDING SERVICE CONNECTIONS) FROM DAMAGE AS A RESULT OF CONSTRUCTION ACTIVITIES.
- PRIOR TO BEGINNING CONSTRUCTION, CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO VERIFY LOCATION OF EXISTING UTILITIES & CONTRACTOR SHALL CALL THE RESPECTIVE "1-CALL" NUMBER FOR SUCH UTILITIES.
- CONTRACTOR SHALL INSURE THE FOLLOWING: ALL ACCESSIBLE ROUTES SHALL NOT EXCEED A RUNNING SLOPE GREATER THAN 1:20(5%). NO WHERE SHALL THE CROSS SLOPE OF AN ACCESSIBLE ROUTE EXCEED 1:50(2%). MAXIMUM SLOPE OF ADJOINING SUTTERS, ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP, OR ACCESSIBLE ROUTE SHALL NOT EXCEED 1:20(5%). MAXIMUM RUNNING SLOPE OF ANY CURB RAMP SHALL NOT EXCEED 1:12(8.33%) SLOPE. ALL ACCESSIBLE PATHS SHALL COMPLY WITH TAS AND ADAAS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR SOIL TESTING PER CITY OF EL PASO PARK STANDARDS AND SHALL A PERFORM A PERCOLATION TEST.

SHEET INDEX

L1	SITE MAP, SHEET INDEX, NOTES
L2	PLANTING AND MATERIALS PLAN
L3	IRRIGATION PLAN
L4	PLAYGROUND EQUIPMENT
L5	PARK LAYOUT
L6	PLANTING AND CONSTRUCTION DETAILS
L7	CONSTRUCTION DETAILS
L8	IRRIGATION DETAILS
L9	IRRIGATION DETAILS



Final Approval

REVISIONS

NO.	DATE	DESCRIPTION

ARCHITECT'S SEAL

LISA MCNELLIS
LANDSCAPE ARCHITECT
1500 FOREBOND
EL PASO, TEXAS 79907
(979) 621-9532

SCALE

Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: 7/18/18
DESIGN BY: LM
DRAWN BY: LM
CHKD. BY: LM
APPVD. BY: LM
JOB NO.

PROJECT TITLE

NORTH DESERT PARK
10505 HIDDEN POND
LOT 1, BLOCK 6
HIDDEN VILLAGE UNIT 1 SUBDIVISION
CITY OF EL PASO, TEXAS 79924
AREA: 58523.32 SQ.FT. - 1.366 ACRES

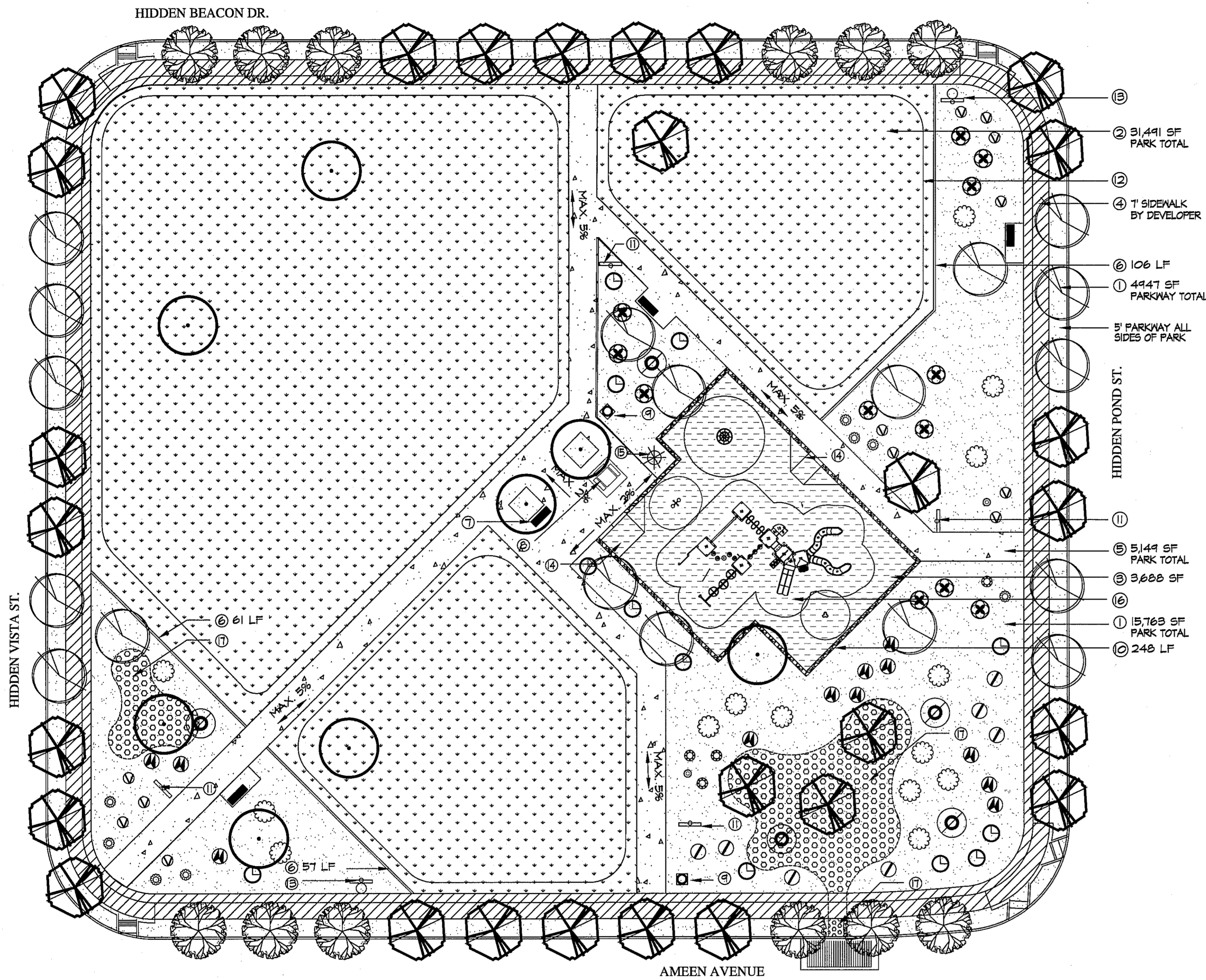
7/18/18

SHEET TITLE

L1

NOTES AND INDEX

SHEET 1 OF 9



PLAN VIEW - PLANTING AND MATERIALS

SCALE: 1" = 20' - 0"

PLANS MUST BE SUBMITTED TO TEXAS DEPT OF LICENSING AND REGULATION FOR COMPLIANCE WITH TEXAS ACCESSIBILITY STANDARDS.

ALL PARK IMPROVEMENTS SHALL COMPLY WITH ADAAS AND TAS RULES AND REGULATIONS AS THEY APPLY.

EAB PROJECT REGISTRATION NUMBER: EABPRJB8821986:

PARK MATERIAL LEGEND AND DETAIL KEY

1. FRANKLIN RED GRAVEL CRUSHER FINES 3" DEPTH 2' BELOW ALL CONCRETE SURFACES. USE DENSITY PRO 5 NEED BARRIER OR EQUAL. PROJECT TOTAL [19,210 SF] SEE DETAIL (S) ON SHEET L7.
2. SANTA ANA BERMUDA GRASS. PROJECT TOTAL [31,441 SF] TOP OF SOD 2" BELOW TOP OF SIDEWALK AND CONCRETE HEADER CURB.
3. ENGINEERED FIBER WOOD CHIPS. INSTALL PER MANUFACTURER'S SPECIFICATIONS. PROJECT TOTAL [3,666 SF] PLACE 18" DEPTH OF CHIPS AND COMPACT TO 12" DEPTH.
4. T CONCRETE WALKWAY BY DEVELOPER PROJECT TOTAL [6,664 SF]
5. 8" PARK INTERIOR CONCRETE WALKWAY. PROJECT TOTAL [5,164 SF] SEE DETAIL (D) ON SHEET L6
6. 6"x12" CONCRETE HEADER CURB. PROJECT TOTAL [163' LF] SEE DETAIL (C) ON SHEET L6.
7. 6'-0" DIAMOR S4 SERIES BENCH-IN GROUND MOUNT. TOTAL [4] MATCH COLORS TO PLAYGROUND. INSTALL PER MANUF. FOR BENCH SEE DETAIL (Q) ON SHEET L7.
8. SHADED ACCESSIBLE PICNIC TABLE - PROJECT TOTAL [1] CRS HAWAIIAN 8X8 COVERED TABLE. 3 SEATS. COLORS TO BE APPROVED BY PARKS. SEE DETAIL (O) ON SHEET L7.
9. DIAMOR TRASH RECEPTACLE 84-32-R2 PROJECT TOTAL [2] BLUE - INSTALL PER MANUFACTURER'S RECOMMENDATIONS SEE DETAIL (I) ON SHEET L7.
10. 18" HT. ROCK WALL. PROJECT TOTAL [246' LF] SEE DETAILS (E) AND (F) ON SHEET L6.
11. PARK INFORMATION SIGN - LOCATION SHALL BE APPROVED BY PARKS DEPT REPRESENTATIVE. SEE DETAIL (N) ON SHEET L7.
12. 6'-8" RECESSED AREA FOR WATER HARVESTING PARKS AND RECREATION REPRESENTATIVE MUST APPROVE GRADING PRIOR TO INSTALLING SOD OR GRAVEL.
13. PET WASTE CLEAN UP STATION - GREEN. PROJECT TOTAL [2] SEE DETAIL (M) ON SHEET L7.
14. ADA ACCESSIBLE PLAYGROUND RAMP. RAMP VARY IN WIDTH. SEE DETAIL (G) AND (H) ON SHEET L7. SEE SHEET L4.
15. AERIAL LIGHTING - 30' HIGH PRE-STRESSED CONCRETE DIRECT BURY POLE. LED FIXTURES AND LAMPS. MUST COMPLY WITH CITY OF EL PASO MUNICIPAL CODE FOR OUTDOOR LIGHTING SECTION 18.18 AND WITH THE DESIGN & CONSTRUCTION STANDARDS FOR PARKS FACILITIES. SEE ENGINEER'S ILLUMINATION PLAN.
16. PLAY STRUCTURES - LANDSCAPE STRUCTURES - PLAYBOOSTER COLORS MUST BE APPROVED BY PARKS PRIOR TO ORDERING. SEE SHEET L4 FOR MORE INFORMATION.
17. 1'-3" COBBLESTONE 6" DEPTH 2' BELOW ALL CONCRETE SURFACES. USE DENSITY PRO 5 NEED BARRIER OR EQUAL. PROJECT TOTAL [2117 SF] SEE DETAIL (S) ON SHEET L7.

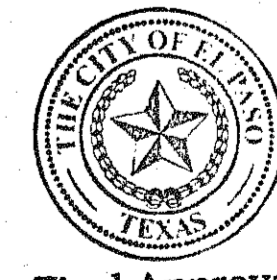
OBTAIN PARK'S APPROVAL OF COLORS PRIOR TO ORDERING ANY EQUIPMENT OR FURNITURE. PLANTING DETAILS ON ARE ON L6.

QUANTITIES ARE PROJECT TOTALS - VERIFY! PLANS TAKE PRECEDENCE

PLANT LEGEND/SCHEDULE							
SYM	KEY	COMMON NAME	BOTANICAL NAME	CONT.	SPACING	QUANT.	REMARKS
HC		LYNN'S LEGACY TEXAS SAGE	LEUCOPHYLLUM LANGMANIAE LYNN'S LEGACY	5 GAL	8' OC	12	18" HT
RY		RED YUCCA	HESPERALOE PARVIFLORA	5 GAL	6' OC	7	18" HT
YL		'NEW GOLD' LANTANA	LANTANA CAMERA 'NEW GOLD'	5 GAL	5' OC	12	12" HT
RB		RED BIRD OF PARADISE	CAESALPINIA PULCHERRIMA	5 GAL	6' OC	5	18" HT
TB		TURPENTINE BUSH	ERICAMERIA LARICIFOLIA	5 GAL	4' OC	12	18" HT
DC		DESERT CASSIA	SENNA NEMOPHILA	5 GAL	6' OC	14	18" HT
BF		BLACKFOOT DAISY	MELAMPodium LEUCANTHUM	1 GAL	2' OC	8	6" HT
SS		MAY NIGHT MEADOW SAGE	SALVIA SUPERBA 'MAY NIGHT'	1 GAL	3' OC	2	10" HT
SG		PINK CHERRY SAGE	SALVIA GREGGII PINK	5 GAL	3' OC	4	18" HT
FL		FURPLE LANTANA	LANTANA MONTEVIDENSIS	5 GAL	5' OC	12	12" HT
		SANTA ANA BERMUDA GRASS	C.DACTYLOX X TRANSVAALENSIS	SOD		32,910 SF	LAY SOD SO THAT NO LINES ARE VISIBLE TYPFWAY II MAY BE USED AS ALTERNATE

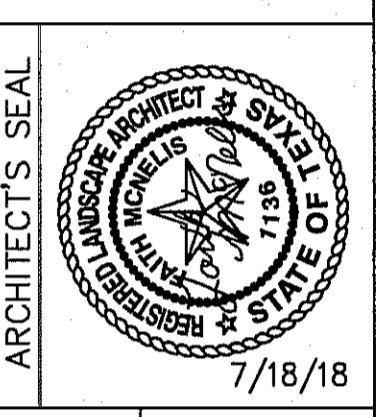
TREE LEGEND/SCHEDULE PROJECT TOTAL							
SYM	KEY	COMMON NAME	BOTANICAL NAME	CONT.	SIZE	QUANT.	REMARKS
LET		LACEBARK ELM	ULMUS PARVIFOLIA	15 GAL	2' GAL-10HT-4' SPREAD	28	SINGLE-FULL
CPT		CHINESE PISTACHE	PISTACIA CHINENSIS	15 GAL	2' GAL-10HT-6' SPREAD	8	SINGLE TRUNK-FULL
RAT		RAYWOOD ASH	FRAXINUS OXYCARPA	15 GAL	2' GAL-10HT-4' SPREAD	18	SINGLE TRUNK-FULL
ROT		RED OAK	QUERCUS BUCKLEYI	15 GAL	2' GAL-10HT-4' SPREAD	12	SINGLE TRUNK-FULL

PARKS DEPARTMENT
 REVIEWED BY *Anthony de la Cruz* 08/07/2018



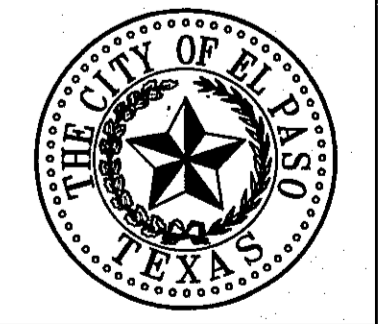
REVISIONS	DATE

LISA MCNELIS
 LANDSCAPE ARCHITECT
 1900 FOREWORD
 AUSTIN, TEXAS 78701
 (512) 621-1000



SCALE:
 Horizontal: N/A
 Vertical: Interval: N/A
 DATE: 7/18/18
 DESIGN BY: LM
 DRAWN BY: LM
 CHKD. BY: LM
 APPD. BY: LM
 JOB NO.

NORTH DESERT PARK
 10905 HIDDEN POND
 LOT 1 BLOCK 6
 HIDDEN VILLAGE UNIT 1 SUBDIVISION
 CITY OF EL PASO, EL PASO, TEXAS 79924
 AREA: 58623.32 SQ.FT. - 1.336 ACRES



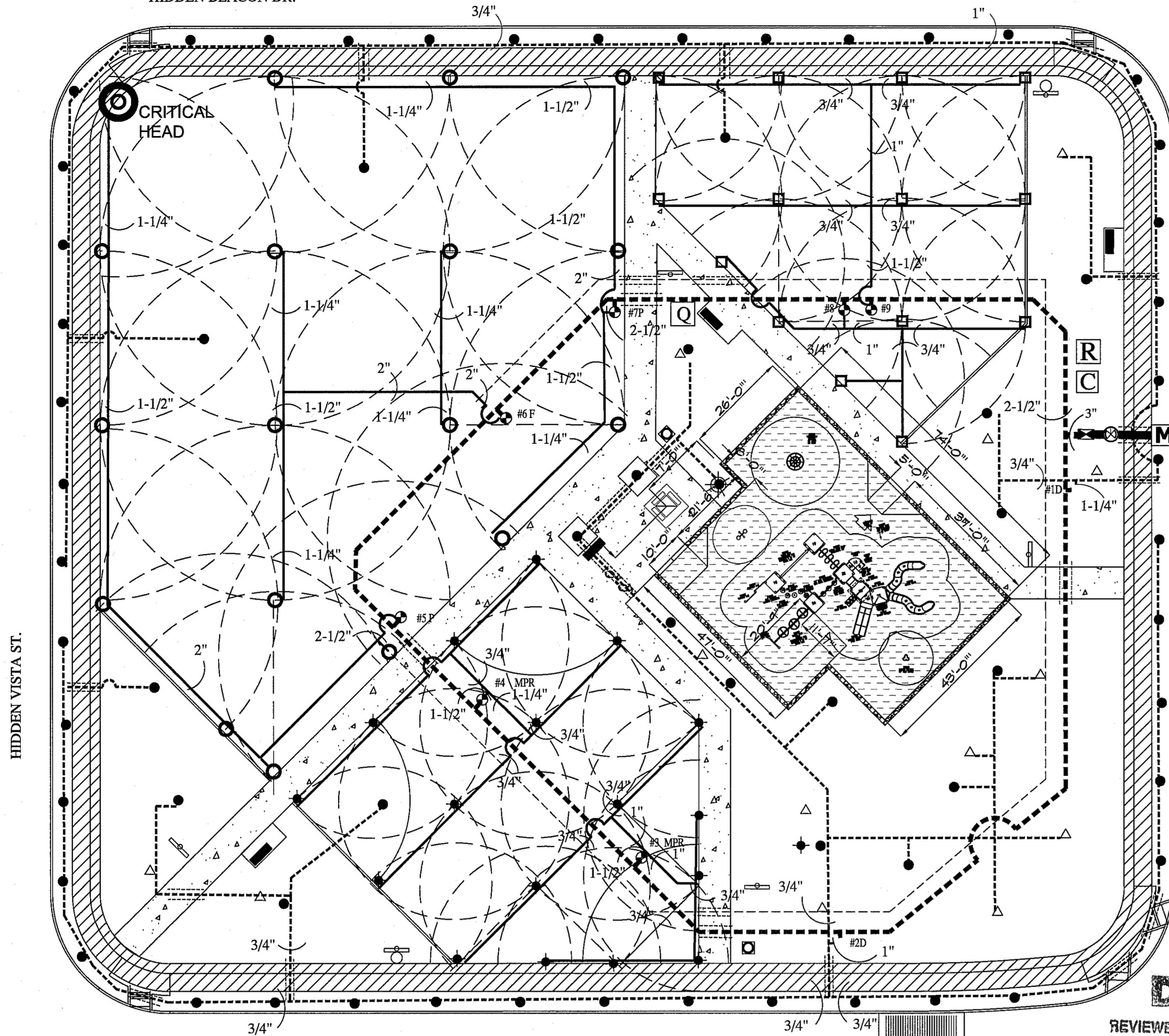
SHEET TITLE
L2
 PLANTING AND MATERIALS
 SHEET 2 OF 9

IRRIGATION IS REGULATED BY:
 PO BOX 13087
 AUSTIN, TEXAS 78711-3087
 TOLL 512-239-8719
 CHAPTER 34, TEXAS WATER CODE
 IRRIGATOR'S LIC. #8947



Faith McNeelis 7/18/18

HIDDEN BEACON DR.



HIDDEN VISTA ST.

HIDDEN POND ST.

2" METER
 2-1/2" SERVICE LINE

WATER METER VAULT SHALL NOT BE INSTALLED WITHIN SIDEWALK. KNOCKOUTS SHALL BE SEALED WITH CONCRETE OR NON SHRINK MORTAR AND COPPER PIPE WRAPPED WERE IT ENTERS AND EXISTS THE BOX.

ELECTRICAL SERVICES MUST BE PROVIDED BY TEXAS LICENSED ELECTRICIAN. SKETCH/DRAWING OF PROPOSED WORK MUST BE SUBMITTED TO PARKS DEPT. OR DESIGNEE.

#1D 1"	#6F 2"
8.91 36	41.5 5
#2D 1"	#7F 2"
12.42 46	49.8 6
#3 1.5"	#8 1.5"
26.66 9	20.43 6
#4 1.5"	#9 1.5"
24.33 8	28.72 8
#5P 2"	
58.1 7	

PARKS DEPARTMENT
 REVIEWED *[Signature]* 08/07/2018



PLAN VIEW - IRRIGATION

AMEEN AVENUE

SCALE: 1" = 20' - 0"



TURF IRRIGATION SYSTEM DESIGN CRITERIA

- WATER SOURCE - FIRE HYDRANT #42**
1. WATER MUST BE DELIVERED TO THE SITE AT SUFFICIENT PRESSURE AND FLOW TO PROVIDE MAXIMUM PERFORMANCE AS SHOWN BELOW.
- PRESSURE REQUIREMENT - 40 PSI STATIC PRESSURE UPSTREAM OF METER
 - 50 PSI AT BASE OF ROTOR HEAD
- MAX FLOW REQUIREMENT - 401 GPM MAXIMUM FLOW RATE
- (DIFFERENCES IN AVAILABLE FLOW AND/OR PRESSURE WILL REQUIRE DESIGN CHANGES) CONTRACTOR MUST VERIFY
2. PROPOSED 2" WATER SERVICE LINE, PROPOSED 2" WATER METER.
- HEAD LAY-OUT**
1. ROTOR HEAD LAY-OUT AND SPACING IS BASED ON SQUARE LAYOUT. DIAMETER OF THE HUNTER I-25 ROTOR WITH L1 BROWN (B) NOZZLE @ 50 PSI IS 44" X 44" @ 44" HEAD AND ROW SPACING. SPACING, ADJUSTED SPACING IS SHOWN AT EDGES OF TURF AND CONCRETE EDGING. MANU. SQUARE PRECIP. - 51 IN GENERAL, HEAD SPACING IS AS FOLLOWS:
 HEAD SPACING = 44"; LATERAL SPACING = 44"
2. ROTOR HEAD LAY-OUT AND SPACING IS BASED ON SQUARE LAYOUT. DIAMETER OF THE HUNTER I-20 ROTOR WITH MPR-25 NOZZLE @ 25 PSI IS 32" X 32" @ 31" HEAD AND ROW SPACING. LATERAL SPACING, ADJUSTED SPACING IS SHOWN AT EDGES OF TURF AND CONCRETE EDGING. MANU. PRECIP. - 36 IN GENERAL, HEAD SPACING IS AS FOLLOWS:
 HEAD SPACING = 31"; LATERAL SPACING = 31"
3. ROTOR HEAD LAY-OUT AND SPACING IS BASED ON SQUARE LAYOUT. DIAMETER OF THE HUNTER I-20 ROTOR WITH MPR-25 NOZZLE @ 25 PSI IS 32" X 32" @ 31" HEAD AND ROW SPACING. LATERAL SPACING, ADJUSTED SPACING IS SHOWN AT EDGES OF TURF AND CONCRETE EDGING. MANU. PRECIP. - 36 IN GENERAL, HEAD SPACING IS AS FOLLOWS:
 HEAD SPACING = 24"; LATERAL SPACING = 24"
- PERFORMANCE STATISTICS**
1. THE FOLLOWING PERFORMANCE STATISTICS WERE CALCULATED PER PLAN CHANGES IN OPERATING PRESSURE, HEAD SPACING AND/OR NOZZLE SELECTION WILL EFFECT RESULTS.
- VALVES #3 AND #4 MPR NOZZLES
 $50.41 \times 46.3 = \frac{4410}{6825} = .714$ 1/HR HEADS 1.66 HR 94 MIN
- VALVE #5 AND #1 (PART ROTOR HEADS)
 $8.3 \times 46.3 = \frac{191.24}{1436} = .133$ 1/HR PART HEADS .88 MIN
- VALVE #6 (FULL ROTOR HEADS)
 $8.3 \times 46.3 = \frac{191.24}{1436} = .133$ 1/HR FULL HEADS 175 MIN
- VALVE #8 AND #9 MPR NOZZLES
 $41.5 \times 46.3 = \frac{4733}{6294} = .752$ 1/HR HEADS 1.58 HR 45 MIN

DRIP IRRIGATION SYSTEM DESIGN CRITERIA

VALVES #5 AND #10 - 45.6 GPM/HR FOR TREES - 21 GPM SHRUBS AND 60 PLANTS - 5.4 GPM/HR - 0.066 PM AT 180 MINUTES PER WEEK CONTROLLER SETTING.

SCALE: Vertical: 1" = 10' Horizontal: 1" = 10' Interval: N/A DATE: 7/18/18 DESIGN BY: LM DRAWN BY: LM CHKD. BY: LM APPD. BY: LM JOB NO. 1515 021-0002

MATERIAL LEGEND AND DETAIL KEY:

- PRESSURE MAIN PVC SCHEDULE 40, DEPTH 18" TO TOP OF PIPE. SEE DETAIL (1) ON L3.
 - LATERAL PVC CLASS 200, DEPTH 12", TO TOP OF PIPE. SEE DETAIL (1) ON L3.
 - DRIP LATERAL PVC CLASS 200, DEPTH 12", TO TOP OF PIPE. SEE DETAIL (1) ON L3.
 - SCH 40 SLEEVING UNDER ALL PAVED AREAS WHERE LINES ARE RUN. SLEEVES SHALL EXTEND 12" PAST PAVING. CHISEL 1" MARK IN CONCRETE CURB OR WALK TO LOCATE SLEEVE AT EACH SIDE. SIZE 2X DIA. OF PIPE TO BE SLEEVED. SEE #10 UNDER GENERAL IRRIGATION NOTES ON L1.
 - FIELD WIRING SHALL BE IN A SEPARATE TRENCH 3" OFFSET FROM MAIN LINE ON NORTH AND WEST SIDE.
 - HUNTER I-25-06-55 08 L1 BROWN NOZZLE USE LASCO SWING JOINTS. 50 PSI - 8.3 GPM - 44" X 2 X 45 = 44" RADIUS SEE DETAIL (1) ON L3.
 - HUNTER I-20-06-55 MPR-25 NOZZLE USE LASCO SWING JOINTS. 25 PSI - 8.3 GPM - 32" X 2 X 45 = 31" RADIUS SEE DETAIL (1) ON L3.
 - HUNTER I-20-06-55 MPR-25 NOZZLE USE LASCO SWING JOINTS. 25 PSI - 8.3 GPM - 32" X 2 X 45 = 31" RADIUS SEE DETAIL (1) ON L3.
 - ▲ DRIP EMITTER FOR TREES. RAINBIRD XERI-BIRD XBD-80 WITH FILTER. USE 1/8-20X1/2 EMITTERS PER TREE. 21 GPM. LOCATE 3' AWAY ON WEST OR SOUTH SIDE OF TREE. SET IN EMITTER VALVE BOX. SEE DETAILS (4) AND (5) ON L3.
 - △ DRIP EMITTER FOR PLANTS. RAINBIRD XERI-BIRD XBD-80 WITH FILTER. USE 1/8-20X1/2 EMITTER PER PLANT. DO NOT EXCEED 20' OF MICRO TUBE. PLACE EMITTER ON (PHILL) SIDE OF PLANT. SET IN EMITTER VALVE BOX. SEE DETAIL (4) ON L3.
 - ⊙ ELECTRIC REMOTE VALVE. HEATHERMATIC 8200CR-10 WITH XPR OPTION AND CUT-OFF BALL VALVE. SIZE ON PLAN. SEE DETAILS (6) (7) ON L3 AND (1) ON L4.
 - ⊙ ELECTRIC REMOTE VALVE FOR DRIP. HEATHERMATIC 8200CR-10 WITH XPR OPTION AND CUT-OFF BALL VALVE. SIZE ON PLAN. SEE DETAILS (6) (7) ON L3 AND (1) ON L4.
 - ⊙ ISOLATION GATE VALVE IN LOCKING VALVE BOX USE STANDARD VALVE BOX DETAILS. MUST BE LOCATED 3' FROM CONCENTRIC REDUCER ON 7" PIPE. SEE DETAIL (1) ON L3.
 - ⊙ BACKFLOW PREVENTER. DOUBLE WIG WITH LASCO SHAP LOCK WITH WALE BRASS STABILIZER ELBOW WITH CUT OFF. TO BE SET IN 12" X 4" LOCKING VALVE BOX. SEE DETAIL (1) ON L3.
 - ⊙ 2" METER LOCATION ON THIS PLAN IS APPROXIMATE. FLOW: 120 GPM DO NOT SET IN SIDEWALK.
 - ⊙ BACKFLOW PREVENTER REDUCED PRESSURE LP860 25". USE ASSE 1060-CLASS 1 ENCLOSURE ELEC. HEAT. INSTALL TO MEET LOCAL CODES AND CITY OF EL PASO PARKS DEPT. REQUIREMENTS. PORTS MUST BE 2' AWAY FROM ANY OBSTRUCTION TO ALLOW FOR INSPECTIONS. SEE DETAIL (1) ON L3.
 - ⊙ RAINBIRD ESP-25ITE SATELLITE CONTROLLER IN LOCKING STRONGBOX STAINLESS STEEL UNIT SB-2465 WITH PEDESTAL. SEE DETAILS (8) AND (9) ON L4.
 - ⊙ RAIN SENSOR - RAINBIRD RSD-65 MOUNTED ON POLE. SEE DETAIL (1) ON L4.
- ALL COMPONENTS TO BE SET IN VALVE BOXES MUST CONFORM TO STANDARD INSTALLATION SEE DETAIL (1) ON L3.

IRRIGATION NOTES

- IRRIGATION PLAN IS DIAGRAMMATIC IN NATURE. CONTRACTOR SHALL BE RESPONSIBLE FOR ACCOMPLISHING FULL COVERAGE IN ALL AREAS WITH SPECIFIED EQUIPMENT. ANY DISCREPANCIES IN THE PLAN SHOULD BE BROUGHT TO THE PROJECT MANAGER'S ATTENTION DURING CONSTRUCTION.
- ALL FITTINGS AND NECESSARY EQUIPMENT REQUIRED TO MAKE THIS IRRIGATION SYSTEM OPERATE PROPERLY AND TO COMPLY WITH LOCAL AND STATE CODES ARE INCIDENTAL TO THESE PLANS AND ARE THE CONTRACTOR'S RESPONSIBILITY.
- CONTRACTOR WILL BE HELD LIABLE FOR GAINING ACCESS UNDER ALL PAVEMENTS.
- SLEEVES SHOWN ON THE PLANS SHOULD BE VERIFIED FOR ACCESSIBILITY AND FEASIBILITY BEFORE BID IS MADE.
- THE CONTRACTOR SHALL LOCATE AND VERIFY EACH WATER TAP TO WHICH THE IRRIGATION SYSTEM WILL CONNECT. ALL EQUIPMENT AND INSTALLATION METHODS SHALL COMPLY WITH THE STANDARDS OF THE CITY OF EL PASO AND THE SPECIFICATIONS.
- CONTRACTOR IS RESPONSIBLE FOR ALL CONNECTIONS AND VALVES REQUIRED FOR THE FULL IMPLEMENTATION OF THE SYSTEM.
- THE CONTRACTOR SHALL LOCATE AND VERIFY THE EXISTENCE OF ALL UTILITIES PRIOR TO INITIATING WORK.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE OR INTERRUPTION IN SERVICE CAUSED BY HIS EXCAVATIONS AND/OR WORK.
- EACH CONTROLLER WILL HAVE AN INDEPENDENT COMMON WIRE LOOPE TO THE VALVES CONNECTED TO IT.
- REMOTE CONTROL VALVE WIRES ARE TO BE IN A SEPARATE TRENCH 3" FROM MAIN LINE ON NORTH OR WEST SIDE OF MAINLINE.
- ALL REMOTE CONTROL VALVE WIRES NEED TO BE LABELED AT VALVE W/ WEATHER (WATER) PROOF LABELS AND AT CONTROLLER WITH CORRESPONDING LABEL. (LETTER AND/OR NUMBER TAGS IN SEQUENTIAL ORDER WILL BE PROVIDED).
- SPLICES OF REMOTE CONTROL VALVE WIRES IS NOT ALLOWED BETWEEN CONTROLLER & VALVE BOX FOR WIRES MUST BE CONTINUOUS FROM CONTROLLER TO REMOTE CONTROL VALVE WITHOUT SPLICES.
- ALL ROTOR SPRINKLER HEADS SHALL BE ON STAINLESS STEEL RISERS WITH CHECK VALVE.
- CONTRACTOR SHALL PROVIDE SLEEVES FOR NEW IRRIGATION LINES CROSSING UNDER CONCRETE SIDEWALKS. SLEEVES SHALL BE 2 TIMES THE PIPE SIZE EXTENDED 24" BEYOND EDGE OF SURFACE, BE WRAPPED WITH MINIMUM 4 MIL PLASTIC AND TAPED WITH 3/4" BRAND HEAVY DUTY PLASTIC.

FH 824 ON DYER - 48 STATIC - ELEV. 3422
 DESIGN PRESSURE AT METER MUST BE MINIMUM OF 74.204 (+) 10% ALLOWANCE FOR PRESSURE FLUCTUATION (142.04)

PRESSURE LOSS CALCULATION SHEET						
VALVE 5P AND 6F	Length of Pipe (Feet)	Flow (Gal.)	Size (in.)	Pressure Loss Per 100 ft.	Pressure Loss This Item	Accumulated Pressure Loss
Class 200	44	8.3	1.25"	0.37	0.1628	0.1628
Class 200	44	16.6	1.5"	0.68	0.2992	0.4620
Class 200	44	24.9	2"	0.45	0.1980	0.6600
Class 200	44	33.2	2"	0.78	0.3432	1.0032
Class 200	11	41.5	2.5"	0.49	0.0539	1.0571
Class 200	42	49.8	2.5"	0.59	0.2478	1.3049
Class 200	6	58.1	2.5"	0.83	0.0498	1.3547
Section Pressure Losses (Sub-Total)						
Calculate Remaining Pressure Losses Below						
Item	Size (in.)	Pressure Loss Per 100 Ft.	Pressure Loss This Item	Accumulated Pressure Loss		
Section Valve	58.1	2	2.0000	3.3547		
Mainline sch 40	10	99.6	3	0.96	0.0960	3.4507
Mainline sch 40	297.5	49.8	2.5	0.77	2.2908	5.7415
Backflow	99.6	2.5"	12.0000	17.7415		
Water Meter	99.6	2"	7.8000	25.5415		
Copper Supply	50	99.6	2.5"	3.84	1.9200	27.4615
Total Pressure Loss to the City Main						
Static Pressure	90.0000					
Actual Head Pressure	62.5368					
Minimum Required Head Pressure	50.0000					

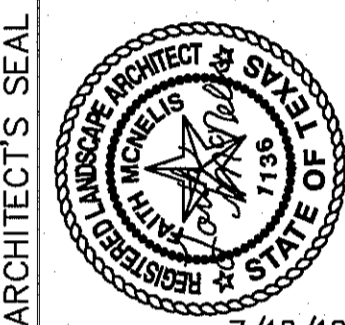
WATERING SCHEDULE									
STATION #	VALVE COMBINATION	RUN TIME PER DAY	WATERING DAYS	DURATION	CLOCK START TIME				
1D	X X X	240 MIN	X X X	240 MIN	12:00 AM				
2D	X X	240 MIN	X X X	240 MIN	12:00 AM				
3	X X X	94 MIN	X X X	94 MIN	12:00 AM				
4	X X X	94 MIN	X X X	94 MIN	12:00 AM				
5P	X X X	88 MIN	X X X	88 MIN	1:25 AM				
6F	X X X	175 MIN	X X X	175 MIN	1:25 AM				
7P	X	88 MIN	X X X	88 MIN	4:31 AM				
8	X X X	45 MIN	X X X	45 MIN	6:00 AM				
9	X X X	45 MIN	X X X	45 MIN	6:00 AM				
TOTAL RUN TIME PER DAY OF OPERATION - DRIP					240 MIN / 4 HOURS				
TOTAL RUN TIME PER DAY OF OPERATION - ROTORS					482 MIN / 7 HOURS				

PRECIPITATION SCHEDULE FOR ROTOR VALVES									
VALVE #	VALVE SIZE	TOTAL GPM	HUNTER PRECIP. RATE	CALCULATED PRECIP. RATE*	WATER REQUIREMENT	NOZZLE SIZE	# & TYPE OF HEADS	GPM PER HEAD	RUN TIME PER DAY
1D	1"	8.91	N/A	N/A	N/A	EMITTER 36 EM. DEVICE	21 PER DEVICE	21 PER DEVICE	240 MIN
2D	1"	12.42	N/A	N/A	N/A	EMITTER 46 EM. DEVICE	21 PER DEVICE	21 PER DEVICE	240 MIN
3	1.5"	26.66	53 IN/HR	.72 IN/HR	1.2"/DAY	MPR 35	4 MPR	VARIES	94 MIN
4	1.5"	24.33	53 IN/HR	.72 IN/HR	1.2"/DAY	MPR 35	8 MPR	VARIES	94 MIN
5P	2"	58.1	67 IN/HR	.82 IN/HR	1.2"/DAY	08	7 PART	8.3	88 MIN
6F	2"	41.5	34 IN/HR	.41 IN/HR	1.2"/DAY	08	5 FULL	8.3	175 MIN
7P	2"	44.8	67 IN/HR	.82 IN/HR	1.2"/DAY	08	7 PART	8.3	88 MIN
8	1.5"	20.43	56 IN/HR	.76 IN/HR	1.2"/DAY	MPR 35	6 MPR	VARIES	45 MIN
9	1.5"	28.72	56 IN/HR	.76 IN/HR	1.2"/DAY	MPR 35	8 MPR	VARIES	45 MIN

COORDINATE THE LOCATION OF ALL EQUIPMENT WITH THE CITY OF EL PASO PARKS AND REG. DEPT.

REVISIONS
 DATE

LISA MCNEELIS
 LANDSCAPE ARCHITECT
 1600 FOREBROOK
 EL PASO, TEXAS 79907
 (915) 621-0002



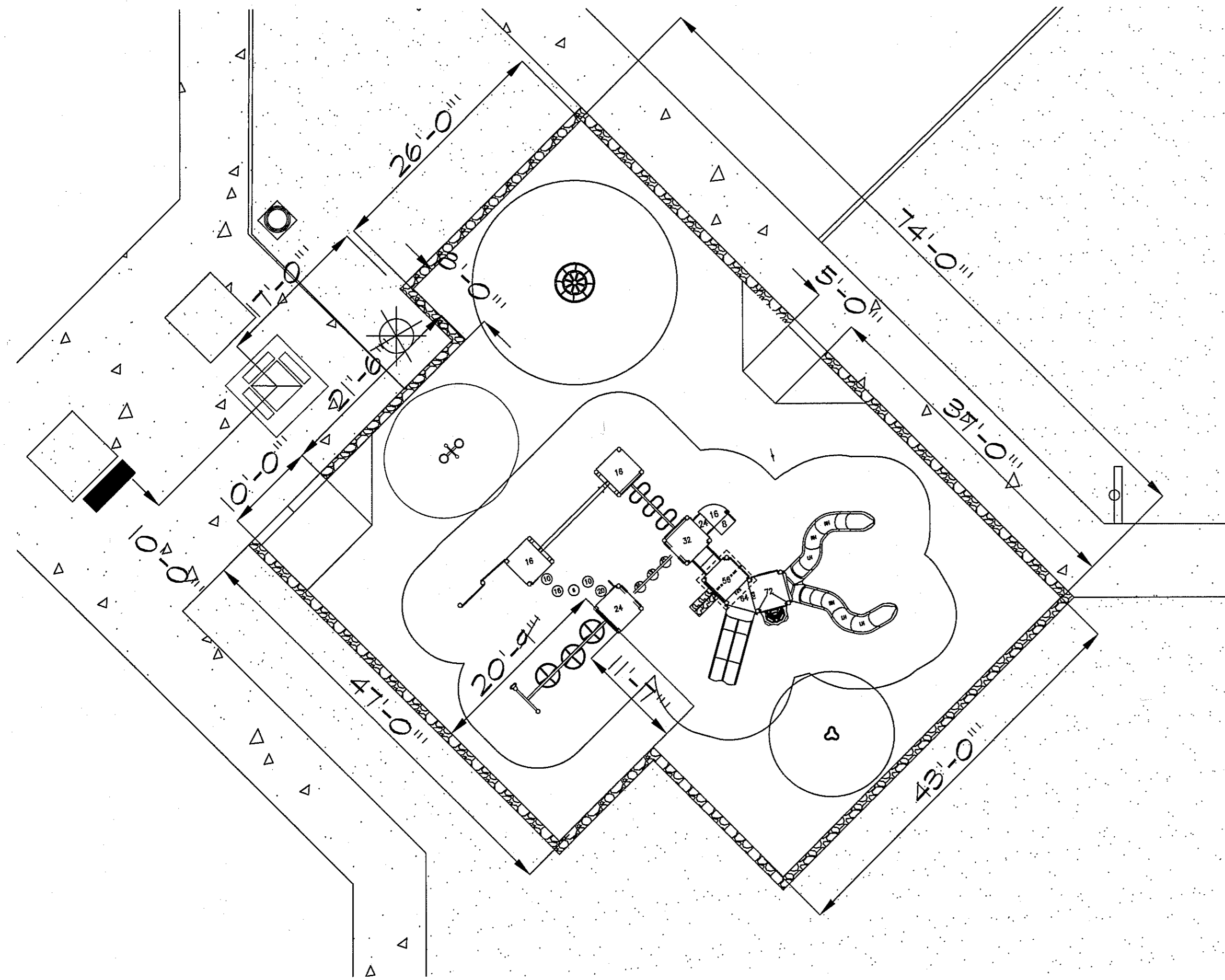
SCALE: Vertical: 1" = 10' Horizontal: 1" = 10' Interval: N/A DATE: 7/18/18 DESIGN BY: LM DRAWN BY: LM CHKD. BY: LM APPD. BY: LM JOB NO. 1515 021-0002

NORTH DESERT PARK
 10505 HIDDEN POND
 LOT 1, BLOCK 6
 HIDDEN VILLAGE UNIT, SUBDIVISION
 CITY OF EL PASO, EL PASO, TEXAS 79924
 AREA: 56623.32 SQ. FT. - 1.366 ACRES



L3

IRRIGATION PLAN
 SHEET 3 OF 9



PLAN VIEW - PLAYGROUND LAYOUT
SCALE: 1" = 10' - 0"

PARKS DEPARTMENT
REVIEWED BY *Clayton J. De la Cruz* 08/07/2018

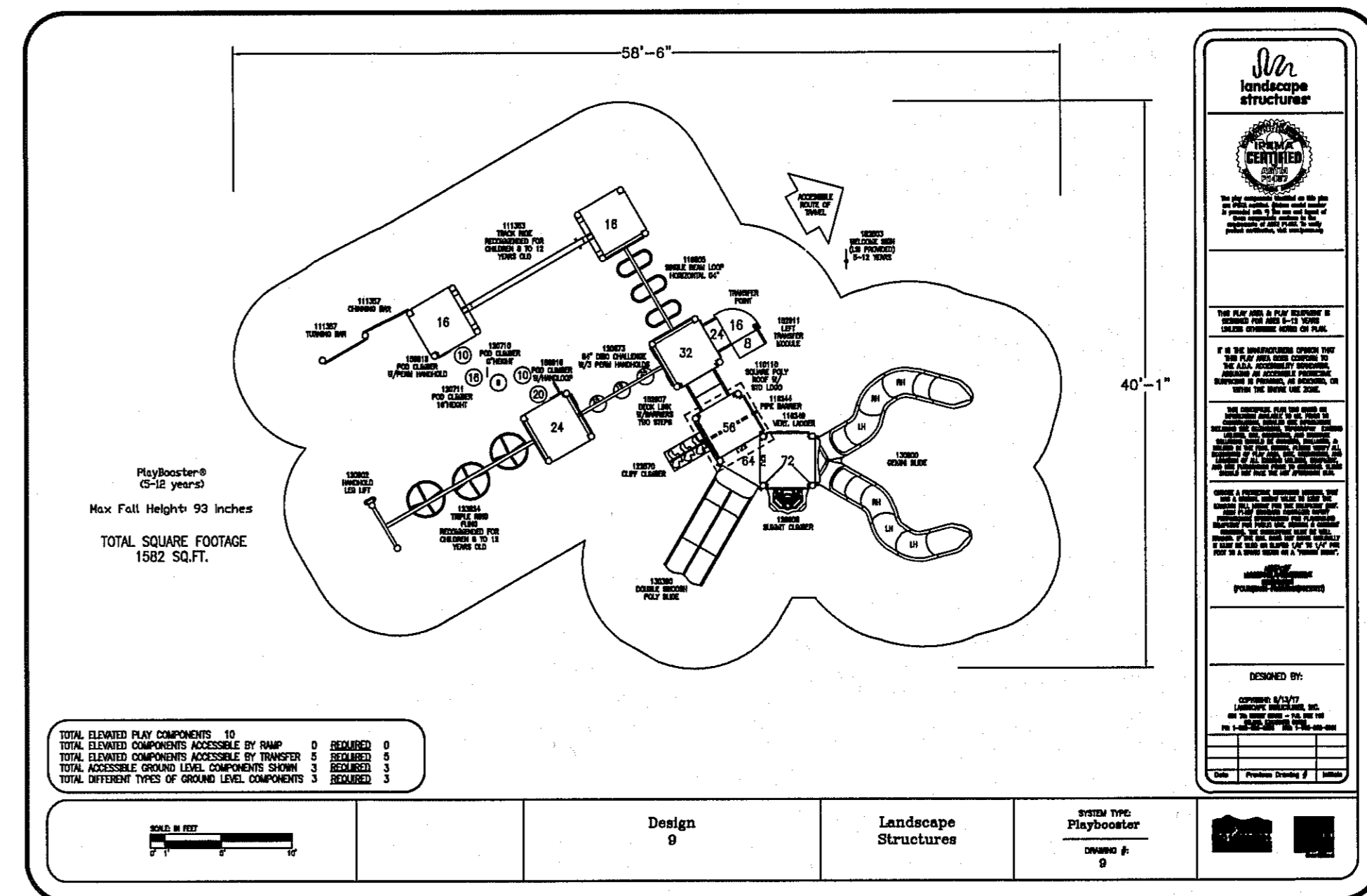
PLAYGROUND EQUIPMENT NOTES:

1. VERIFY LOCATION AND DIMENSIONS OF PLAYGROUND EQUIPMENT BEFORE FINAL INSTALLATION.
2. ACTUAL CONDITIONS IN THE FIELD MAY REQUIRE ADDING OR ADJUSTING COMPONENTS OF THE PLAYGROUND EQUIPMENT TO MEET ALL CPSC, ASTM AND ADAAG REQUIREMENTS. ALL CHANGES SHALL BE REVIEWED AND ACCEPTED BY PARKS STAFF PRIOR TO THEIR EXECUTION.
3. CONTRACTOR SHALL MEET ALL APPLICABLE ADA AND TAS REQUIREMENTS FOR ACCESS TO PLAYGROUND TO INCLUDE CONCRETE SIDEWALKS. THE CONTRACTOR IS RESPONSIBLE TO INSURE THAT RUNNING SLOPE (8%), CROSS-SECTION (1.5%) AND FINISHED SURFACE TEXTURE COMPLY WITH ACCESSIBILITY REQUIREMENTS.
4. CONTRACTOR SHALL PROVIDE A MINIMUM FALL ZONE AS NOTED ON THE DRAWINGS FROM THE EDGE OF THE EQUIPMENT TO THE INNER FACE OF THE CONTAINMENT ROCKWALL.
5. CONTRACTOR IS RESPONSIBLE TO INSURE THAT PLAYGROUND AREA IS FENCE-IN THROUGHOUT THE DURATION OF THE CONSTRUCTION PROJECT. FENCE IS REQUIRED TO BE MINIMUM OF 6 FEET HIGH AND MAINTAINED IN A STABLE AND SECURE CONDITION.
6. CONTRACTOR SHALL PROTECT ALL CONCRETE WORK TO AVOID VANDALISM OR DAMAGE DURING CURING TIME; ANY DAMAGE DONE TO THE CONCRETE DUE TO VANDALISM DAMAGE MUST BE RESTORED TO GOOD FINISHED QUALITY APPEARANCE.
7. CONTRACTOR SHALL BE RESPONSIBLE TO HAVE ANY VEGETATION TREATED AND REMOVED PRIOR TO THE EXCAVATION OF THE SITE FOR THE PLAYGROUND EQUIPMENT, CONTAINMENT ROCKWALL AND SIDEWALK.
8. AT COMPLETION OF PROJECT INSTALLATION CONTRACTOR SHALL PROVIDE MANUFACTURER CERTIFICATION AND OBTAIN AN INDEPENDENT AGENCY TO PROVIDE A SAFETY AUDIT OF PLAYGROUND EQUIPMENT AND PLAY SURFACE.

PLAYGROUND EQUIPMENT NOTES CONT.:

9. CONTRACTOR IS RESPONSIBLE TO MAINTAIN SITE CLEAN AND FREE OF CONSTRUCTION DEBRIS. DAILY CLEAN-UP OF SITE WILL BE REQUIRED TO BE PROVIDED BY CONTRACTOR, NO STOCK PILING OF CONSTRUCTION DEBRIS WILL BE PERMITTED ON SITE.
10. CONTRACTOR IS RESPONSIBLE TO INSURE THAT CONSTRUCTION EQUIPMENT WILL NOT BE CLEANED AT THE SITE UNLESS PROPER CONTAINERS ARE PROVIDED TO STORE WASTE. THIS INCLUDES MORTAR, CONCRETE, RUBBERIZED RESILIENT SURFACING, ETC.; WASTE MATERIAL MUST BE REMOVED FROM SITE ON A DAILY BASIS.
11. CONTRACTOR IS RESPONSIBLE TO INSURE THAT ANY CONSTRUCTION MASONRY MATERIALS THAT ARE HAND MIXED AT JOB SITE ARE DONE IN AN APPROPRIATE CONTAINER AND ANY SPILLAGE IS CLEANED AND REMOVED IMMEDIATELY.

AGE APPROPRIATE SIGNAGE MUST BE INCLUDED.



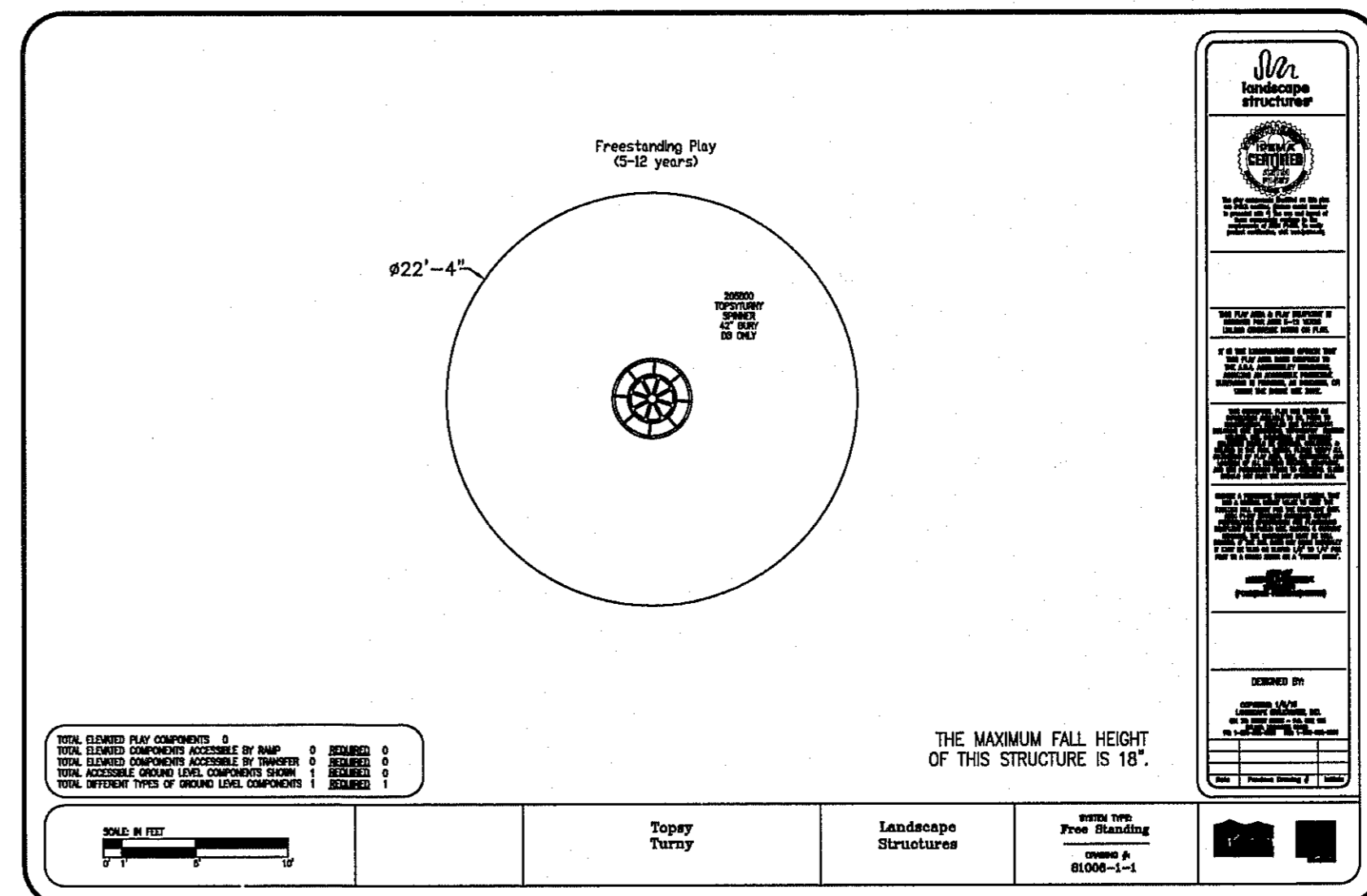
TOTAL ELEMENTED PLAY COMPONENTS: 10
TOTAL ELEMENTED COMPONENTS ACCESSIBLE BY RAMP: 0
TOTAL ELEMENTED COMPONENTS ACCESSIBLE BY TRANSFER: 0
TOTAL ACCESSIBLE GROUND LEVEL COMPONENTS: 3
TOTAL DIFFERENT TYPES OF GROUND LEVEL COMPONENTS: 3

SCALE: 1" = 10'

DESIGN: 9

LANDSCAPE STRUCTURES

EQUIPMENT: Playbooster



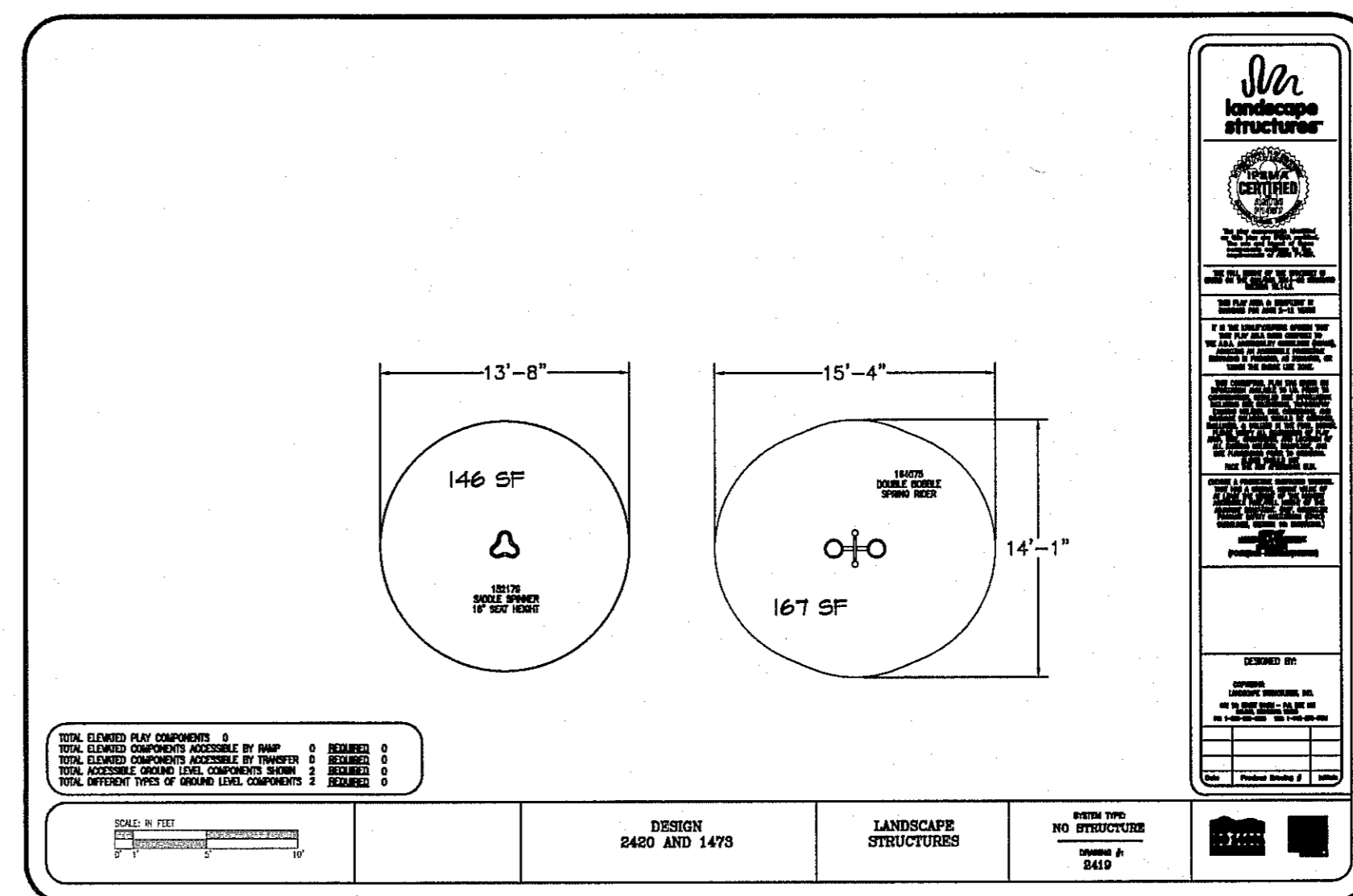
TOTAL ELEMENTED PLAY COMPONENTS: 6
TOTAL ELEMENTED COMPONENTS ACCESSIBLE BY RAMP: 0
TOTAL ELEMENTED COMPONENTS ACCESSIBLE BY TRANSFER: 0
TOTAL ACCESSIBLE GROUND LEVEL COMPONENTS: 1
TOTAL DIFFERENT TYPES OF GROUND LEVEL COMPONENTS: 1

SCALE: 1" = 10'

DESIGN: Turry

LANDSCAPE STRUCTURES

EQUIPMENT: Free Standing



TOTAL ELEMENTED PLAY COMPONENTS: 6
TOTAL ELEMENTED COMPONENTS ACCESSIBLE BY RAMP: 0
TOTAL ELEMENTED COMPONENTS ACCESSIBLE BY TRANSFER: 0
TOTAL ACCESSIBLE GROUND LEVEL COMPONENTS: 2
TOTAL DIFFERENT TYPES OF GROUND LEVEL COMPONENTS: 2

SCALE: 1" = 10'

DESIGN: 2480 AND 1479

LANDSCAPE STRUCTURES

EQUIPMENT: SADDLE SPINNER

PLAN VIEW - SADDLE SPINNER & DOUBLE BOBBLE
NO SCALE

REVISIONS

DATE

PROJECT TITLE

NORTH DESERT PARK
10605 HIDDEN POND LOT 1, BLOCK 6
HIDDEN VILLAGE UNIT 1 SUBDIVISION
CITY OF EL PASO, EL PASO, TEXAS 79924
AREA: 59523.32 SQ.FT. - 1.366 ACRES

ARCHITECT'S SEAL

LISA MCNEELIS
LANDSCAPE ARCHITECT
1900 FOXBORO LAS CRUCES, NEW MEXICO 88007
(505) 621-5052

SCALE

Horizontal: Vertical: Contour Interval: N/A

DATE: 7/18/18
DESIGN BY: LM
DRAWN BY: LM
CHKD. BY: LM
APPVD. BY: LM
JOB No.

SHEET TITLE

L4
PLAYGROUND EQUIPMENT

SHEET 4 OF 9



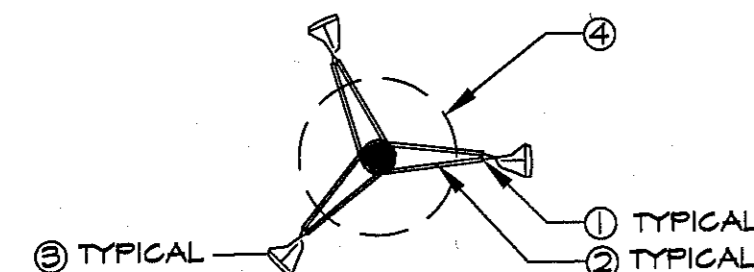
STAKING IS NOT REQUIRED BUT IF DEEMED NECESSARY THE STAKING DETAIL SHALL BE FOLLOWED. STAKING IS AT THE DISCRETION OF THE CONTRACTOR, LANDSCAPE ARCHITECT AND PARKS DEPT. BUT SHOULD TREES REQUIRE STAKING THE CONTRACTOR SHALL INCLUDE THE COST OF THE STAKING IN THE COST OF THE TREE.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REMOVE STAKES AT END OF THE GUARANTEE PERIOD AT NO COST TO THE OWNER.

TREES THAT ARE DAMAGED DUE TO IMPROPER OR LACK OF STAKING MUST BE REPLACED BY THE CONTRACTOR AT NO COST TO THE OWNER.

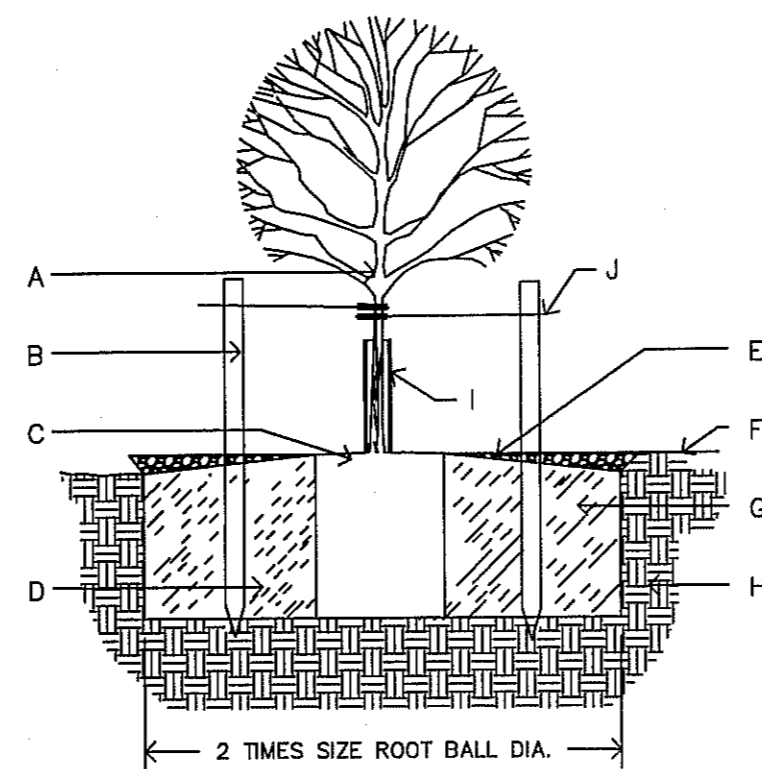
WIRES SHALL NOT BE TAUT BUT SHOULD ALLOW MOVEMENT OF 5 - 10 DEGREES FROM VERTICAL.

STAKES SHALL NOT BE DRIVEN INTO ROOTBALL OF TREES.



1. 2 STRAND TWIST 4 GAUGE WIRE
2. 1/2" RUBBER HOSE
3. 6" WOOD STAKE SET INTO GROUND 2'
4. ROOTBALL

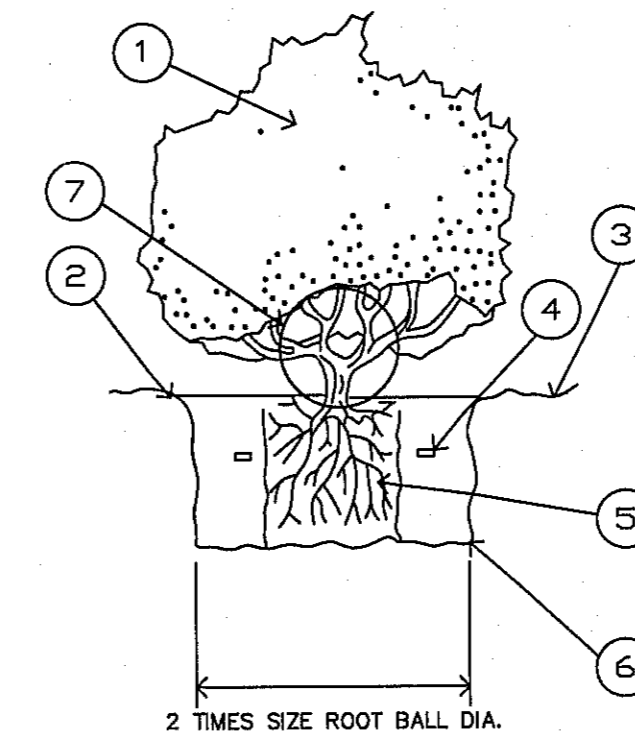
(A) TYPICAL TREE GUYING DETAIL - PLAN VIEW
NOT TO SCALE



- A. TREE
- B. STAKING NEEDED
- C. 4" SPACE BETWEEN MULCH AND TREE
- D. SLOPE ON SIDES OF PLANTING HOLE
- E. DEPTH OF BARK MULCH-SEE PLAN
- F. FINISH SOIL GRADE
- G. BACKFILL WITH EXISTING NATIVE SOIL
- H. UNDISTURBED SOIL
- I. USE EXPANDABLE TREE GUARDS TO PROTECT TREES PLANTED IN LAWN AREAS. GUARDS MUST BE APPROVED BY THE PARKS DEPT.
- J. TIES TO STAKES TO HAVE RUBBER HOSE TO PROTECT TREE TRUNK FROM DAMAGE BY WIRE. WIRE TIES TO BE LOOSE TO PROTECT TREE TRUNK FROM DAMAGE. WIRE TIES TO BE SET ON SAME TRUNK OR MAIN TRUNK.

1. KEEP SOIL BELOW ROOT BALL UNDISTURBED TO PREVENT TREE FROM SETTLING.
2. REMOVE ANY EXCESS SOIL FROM TOP OF ROOTBALL TO EXPOSE ROOT FLARE (WHERE TOP MOST ROOT EMERGES FROM THE TRUNK). PLANT WITH ROOT FLARE THAN FINISH GRADE 1'-2" HIGHER.
3. REMOVE CONTAINER AND CUT ANY ROOTS THAT ARE CIRCLING THE CONTAINER. PRIOR TO SETTING TREE IN PLANTING HOLE (PIT).
4. TAMP SOIL FIRMLY AROUND BASE OF ROOTBALL WITH FOOT PRESSURE.
5. AT TIME OF PLANTING, ONLY PRUNE CO-DOMINANT LEADERS (DOES NOT APPLY TO MULTI-TRUNK SPECIMENS), CROSSOVER LIMBS, AND DEAD OR BROKEN BRANCHES.
6. DO NOT ALLOW MULCH IN CONTACT WITH TREE TRUNK, KEEP AT LEAST 4" AWAY FROM TRUNK.
7. INSTALL TREE GUARD.
8. WHEN DONE, THOROUGHLY WATER TO ELIMINATE AIR POCKETS.
9. STAKING IS NOT REQUIRED - STAKE TREES ONLY IF TREE CANNOT STAND ALONE AND WITH APPROVAL OF THE LANDSCAPE ARCHITECT. CONTRACTOR SHALL NOT STAKE ALL TREES INDISCRIMINATELY, APPROVAL MUST BE OBTAINED TO STAKE TREES.
10. WITH APPROVAL, PROVIDE MIN. 3 STAKES/TREE (TYP.) IN A TRIANGULAR PATTERN, STAKED INTO UNDISTURBED SOIL WITH CLARK'S TREE STAKE KIT OR APPROVED EQUAL. REMOVE AFTER ONE GROWING SEASON.
11. TOP OF ROOT BALL SHALL BE LEVEL WITH TOP OF MULCH OR BARK. MULCH SHALL BE FEATHERED TO FULL DEPTH.

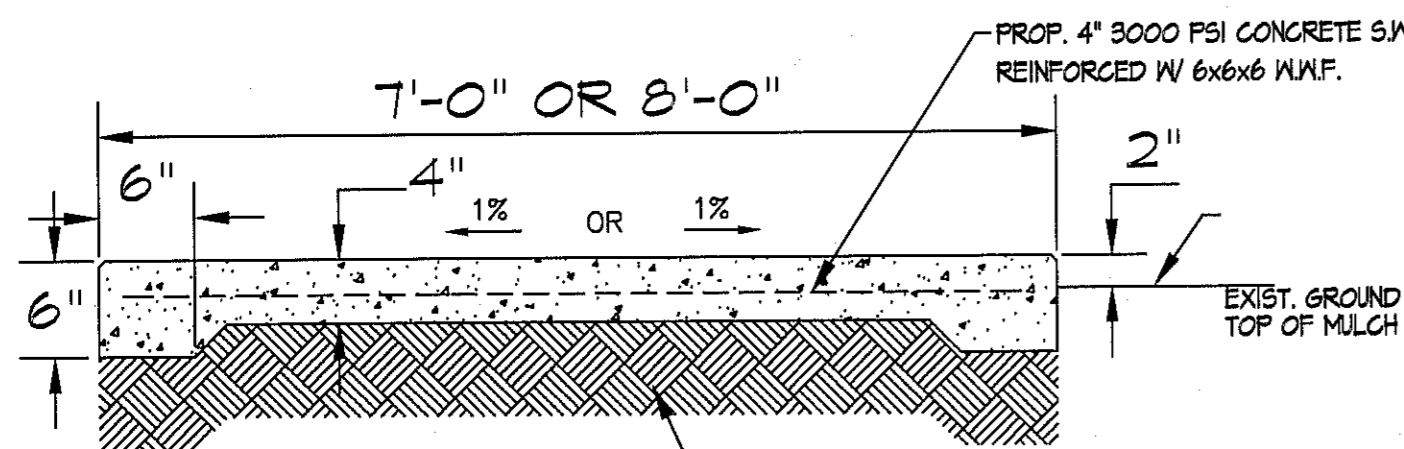
(B) TREE PLANTING DETAIL - SECTION
NOT TO SCALE



LEGEND

1. SHRUB OR VINE PER PLAN
 2. EARTH WATERING BASIN (COVER WITH SPECIFIED MULCH ON PLAN).
 3. FINISH GRADE
 4. 7 GRAM PLANT TABLETS
1 GAL = 3, 5 GAL = 6, 10-15 GAL = 9
 5. ROOTBALL (SET CROWN FLUSH WITH FINISH GRADE) COVER 2" SPECIFIED MULCH.
 6. UNDISTURBED NATIVE SOIL
 7. DO NOT BURY PLANT BASE IN GRAVEL
- EXCAVATE AND REPLACE WITH SAME SOIL. REMOVE STONES 2" OR LARGER.

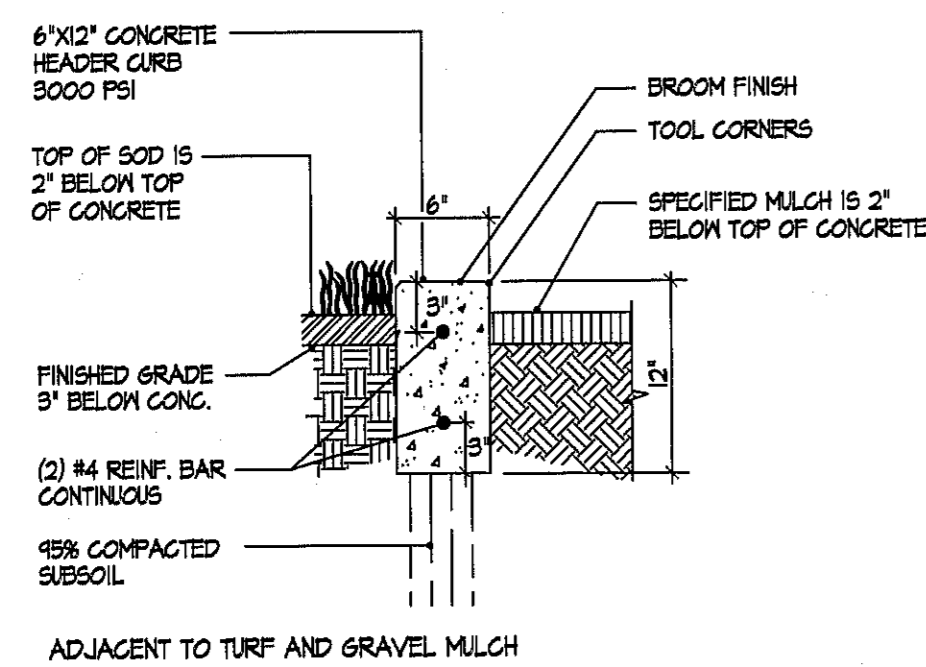
(C) SHRUB PLANTING DETAIL - SECTION
NOT TO SCALE



NOTES:

1. CONCRETE SHALL BE 3000 PSI MINIMUM.
2. CONTROL JOINT REQUIRED AT 5' O.C. FOR SIDEWALKS, CONTROL JOINTS SHALL BE 1/8" THICK AND 1" DEEP.
3. EXPANSION JOINT MATERIAL REQUIRED @ 20' O.C. FOR SIDEWALKS.
4. DO NOT CROSS REINFORCEMENT THRU EXPANSION MATERIAL.
5. PROVIDE EXPANSION JOINT MATERIAL WHERE SIDEWALKS MEET, EXISTING SIDEWALKS AND CURBS.

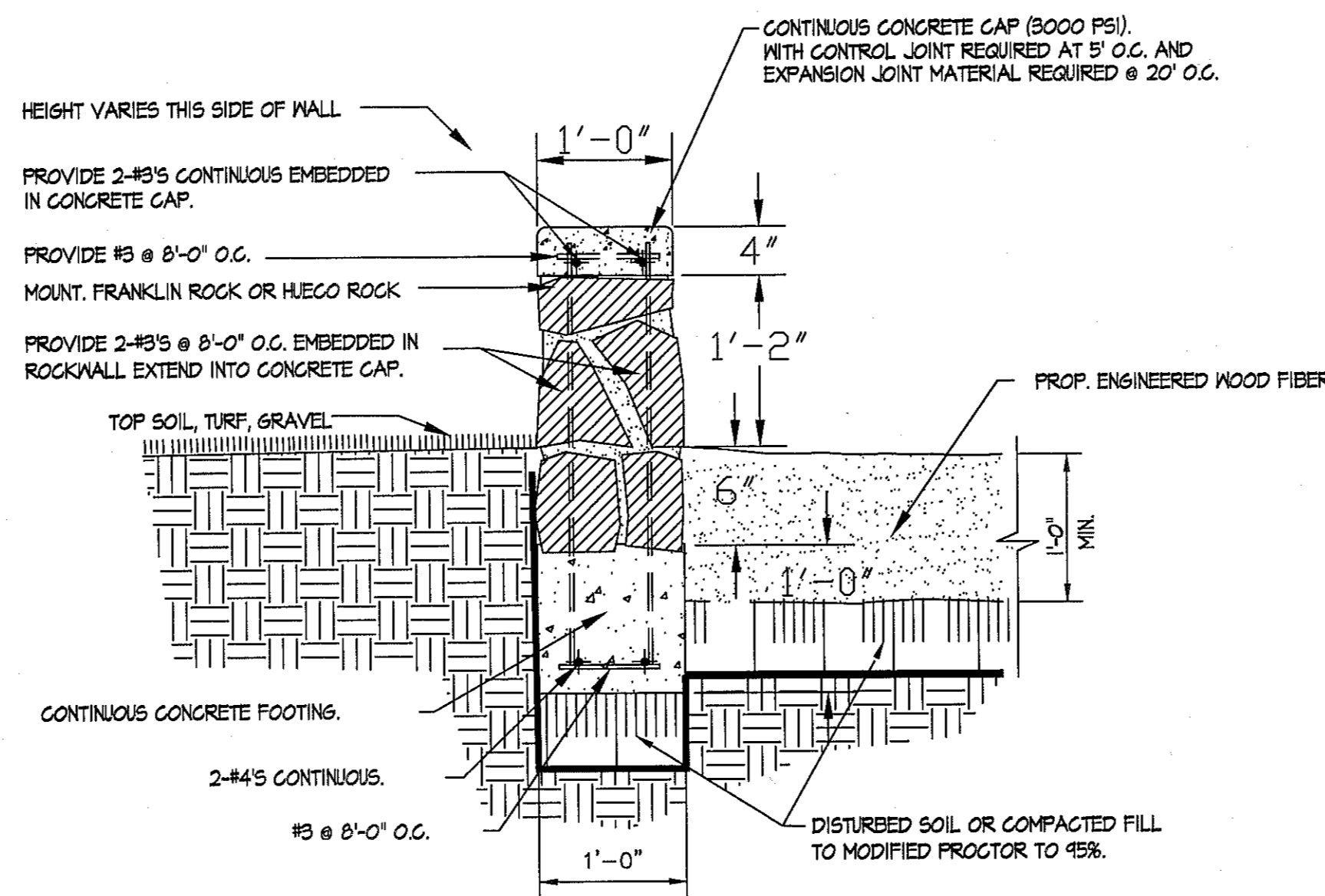
(D) TRAIL AND PARK CONCRETE SIDEWALK DETAIL - SECTION
NOT TO SCALE



NOTES:

1. USE CONTROL JOINT EVERY 5'.
2. USE 1/2" ASPHALT EXPANSION JOINTS EVERY 20' AND AT CURB RETURNS
3. HEADER CURBS MACHINE INSTALLED SHALL INCLUDE:
(a) 2.0 POUNDS OF LONG FIBERGLASS MESH CUBIC YARD
(b) WITH 1/2 INCH EXPANSION JOINTS EVERY 20.0 FEET AND CONTROL JOINTS EVERY 3.0 FEET, AND A BROOM FINISH.

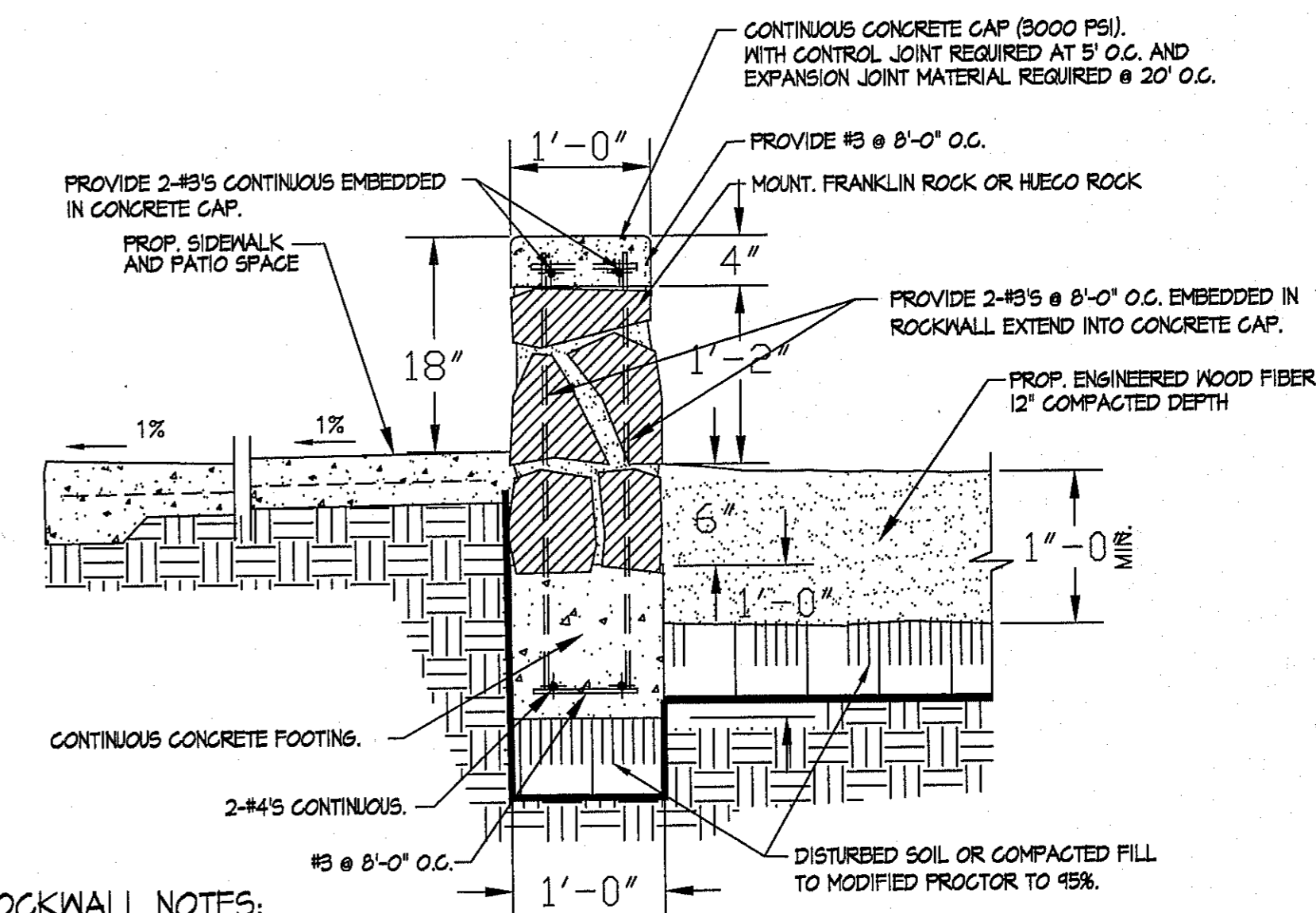
(D-1) CONCRETE HEADER CURB DETAIL - SECTION
NOT TO SCALE



ROCKWALL NOTES:

1. STONE FOR ROCKWALL SHALL BE AS NEARLY UNIFORM IN SECTION AS IS PRACTICABLE. THE STONE SHALL BE DENSE AND RESISTANT TO AIR AND WATER.
2. MORTAR SHALL BE TYPE 'S' 1800 P.S.I. AS PER ASTM C270-T3. MORTAR SHALL CONSIST BY VOLUME OF 1 PART PORTLAND CEMENT, 3 1/2 PARTS OF CLEAN, HARD, DURABLE SAND AND 1/4 PART (MORTAR) LIME THOROUGHLY MIXED WITH WATER.
3. ROCKWALL MORTAR JOINTS SHALL NOT EXCEED 3/4" TO 1 1/4".
4. STONE SHALL BE CLEANED, FREE OF DIRT PRIOR TO INSTALLATION.
5. NO RIVER ROCK SHALL BE ALLOWED FOR ROCKWALLS.

(E) PLAYGROUND ROCK WALL ADJACENT TO GRAVEL AREA - SECTION
NOT TO SCALE



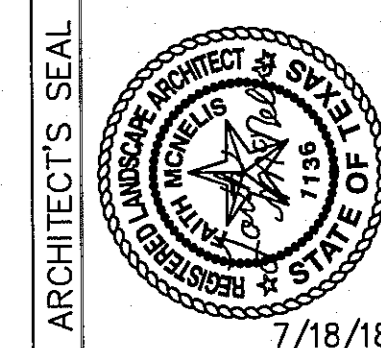
ROCKWALL NOTES:

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2. MORTAR SHALL BE TYPE 'S' 1800 P.S.I. AS PER ASTM C270-T3. MORTAR SHALL CONSIST BY VOLUME OF 1 PART PORTLAND CEMENT, 3 1/2 PARTS OF CLEAN, HARD, DURABLE SAND AND 1/4 PART (MORTAR) LIME THOROUGHLY MIXED WITH WATER.
3. ROCKWALL MORTAR JOINTS SHALL NOT EXCEED 3/4" TO 1 1/4".
4. STONE SHALL BE CLEANED, FREE OF DIRT PRIOR TO INSTALLATION.
5. NO RIVER ROCK SHALL BE ALLOWED FOR ROCKWALLS.
6. ROCKWALL TO BE EMBEDDED IN THE CONCRETE FOOTING.

(F) PLAYGROUND ROCK WALL ADJACENT TO CONCRETE - SECTION
NOT TO SCALE

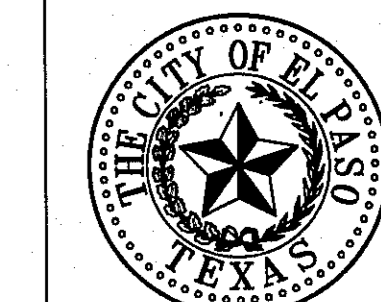
DATE

LISA MCNEELIS
LANDSCAPE ARCHITECT
1400 FOXBORO
LAS CRUCES, NEW MEXICO 88007
(505) 621-5052



SCALE
Horizontal: Contour Interval: N/A
Vertical: 7/18/18
DATE: 7/18/18
DESIGN BY: LM
DRAWN BY: LM
CHKD. BY: LM
APPD. BY: LM
JOB No.

PROJECT TITLE
NORTH DESERT PARK
10506 HIDDEN POND
LOT 1, BLOCK 6
HIDDEN VILLAGE UNIT 1 SUBDIVISION
CITY OF EL PASO, TEXAS 79924
AREA: 99233.32 SQ.FT. - 1.866 ACRES



SHEET TITLE

L6

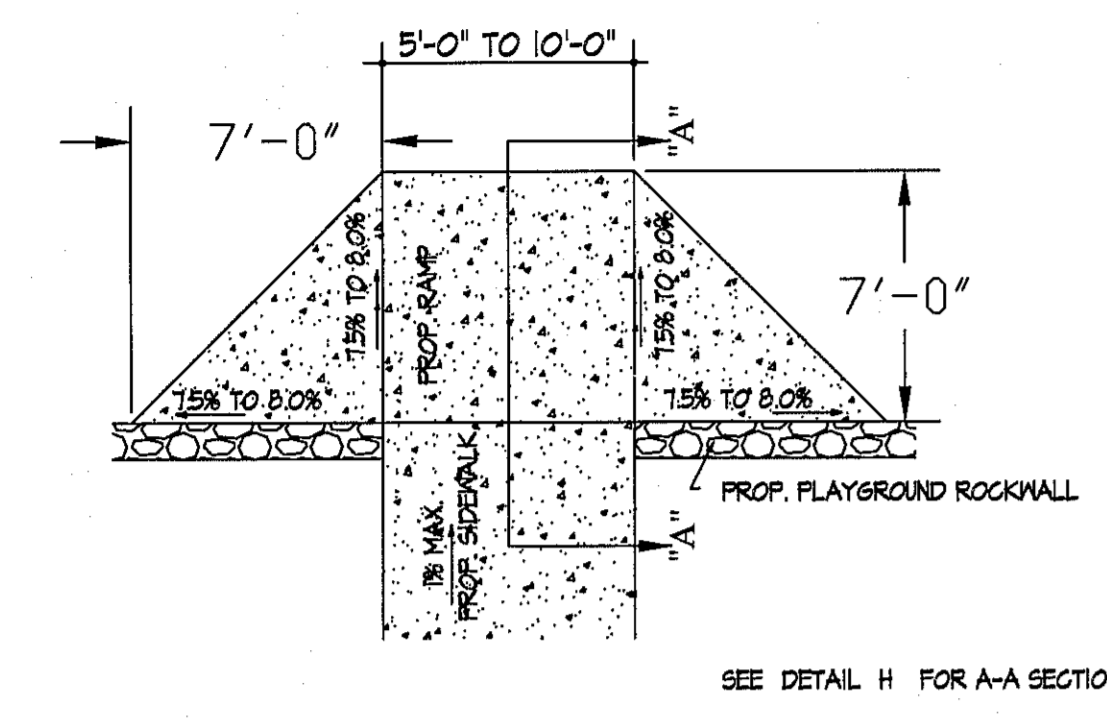
CONSTRUCTION DETAILS

SHEET 6 OF 9

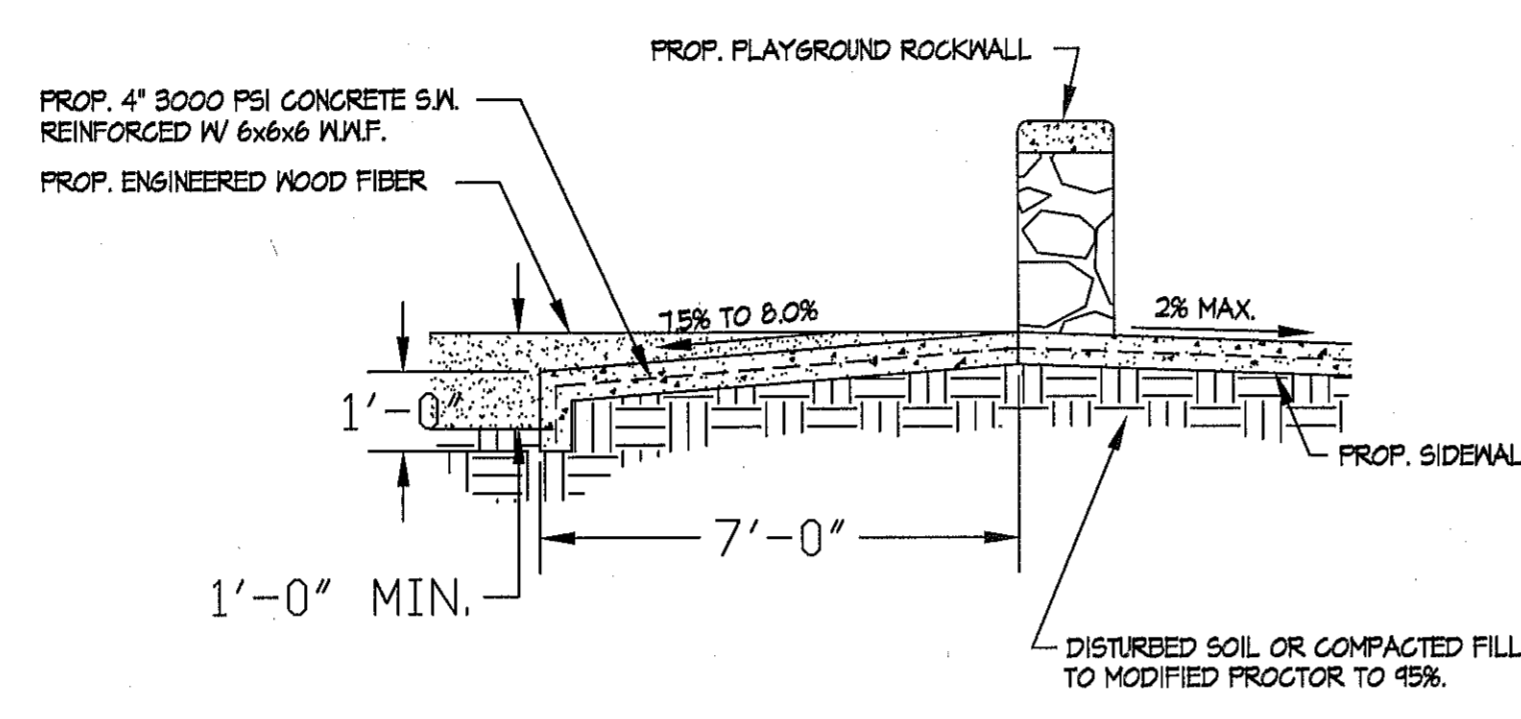
PARKS DEPARTMENT

REVIEWED BY: [Signature] 08/07/2018

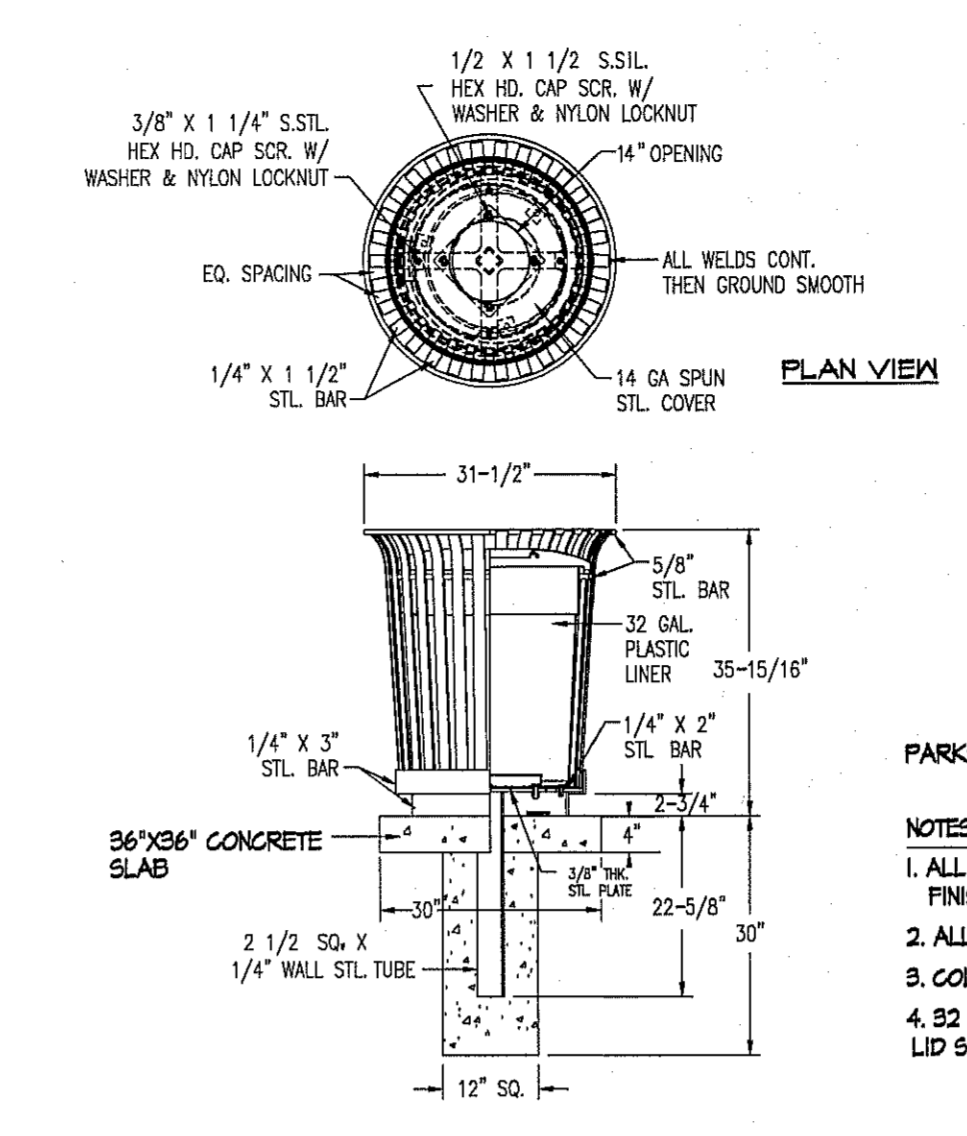




G PLAYGROUND ENTRANCE RAMP - PLAN VIEW
 NOT TO SCALE

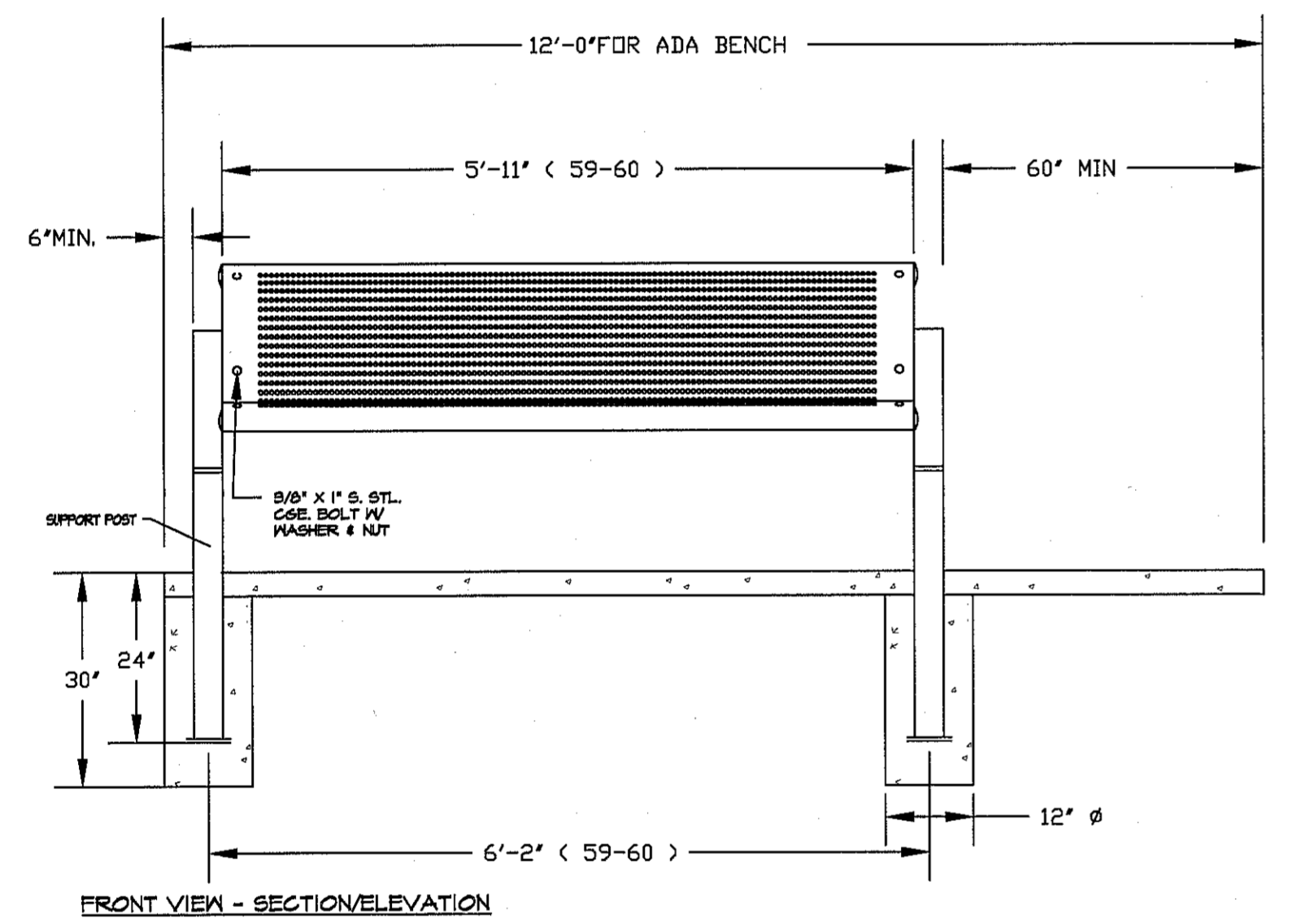


H SECTION A - A
 NOT TO SCALE

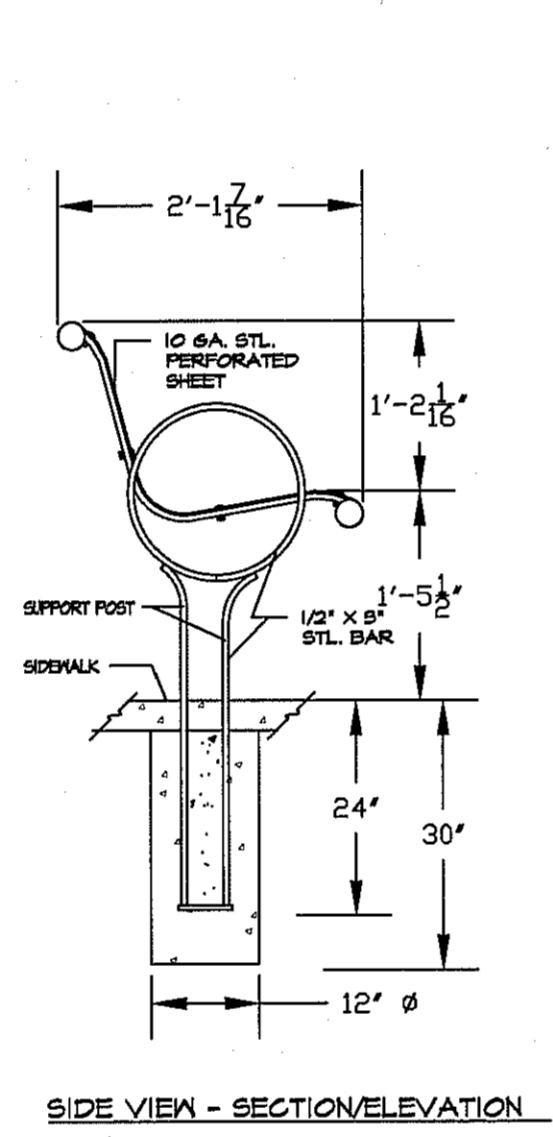


I TRASH RECEPTICAL DETAIL - SECTION
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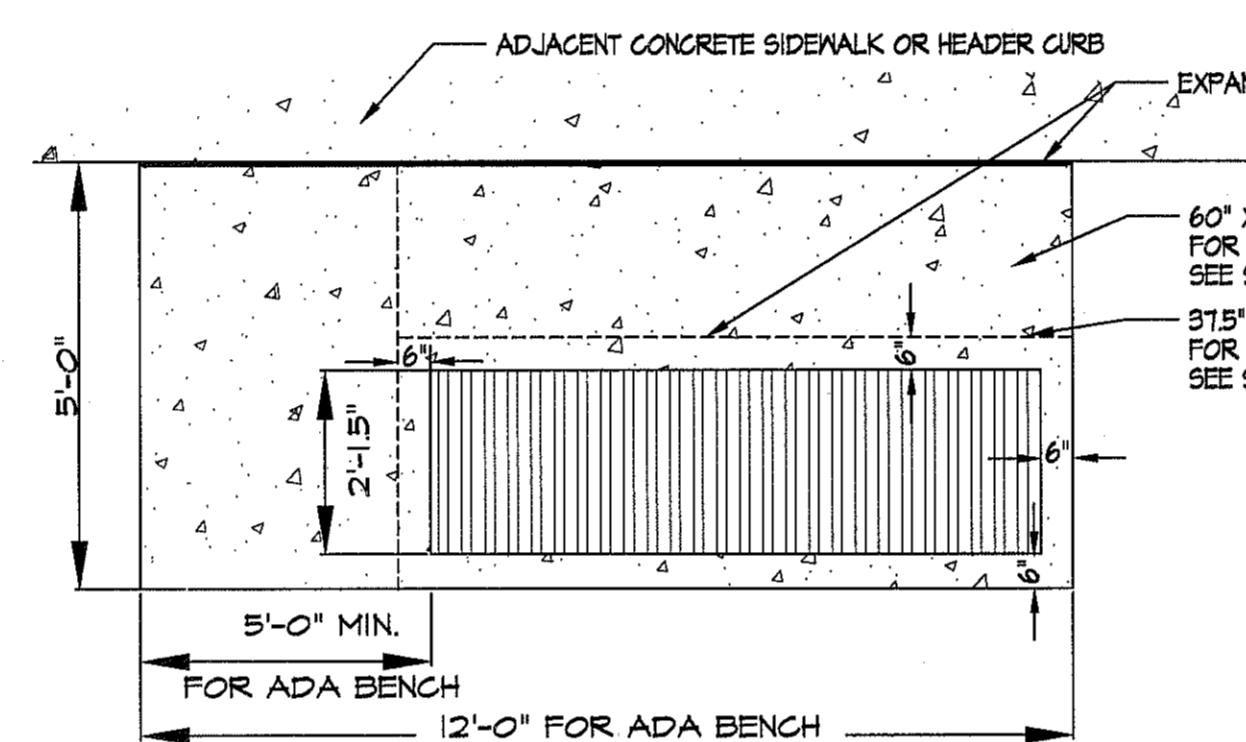
PARKS DEPARTMENT
 REVIEWED BY: *[Signature]* 08/07/2018



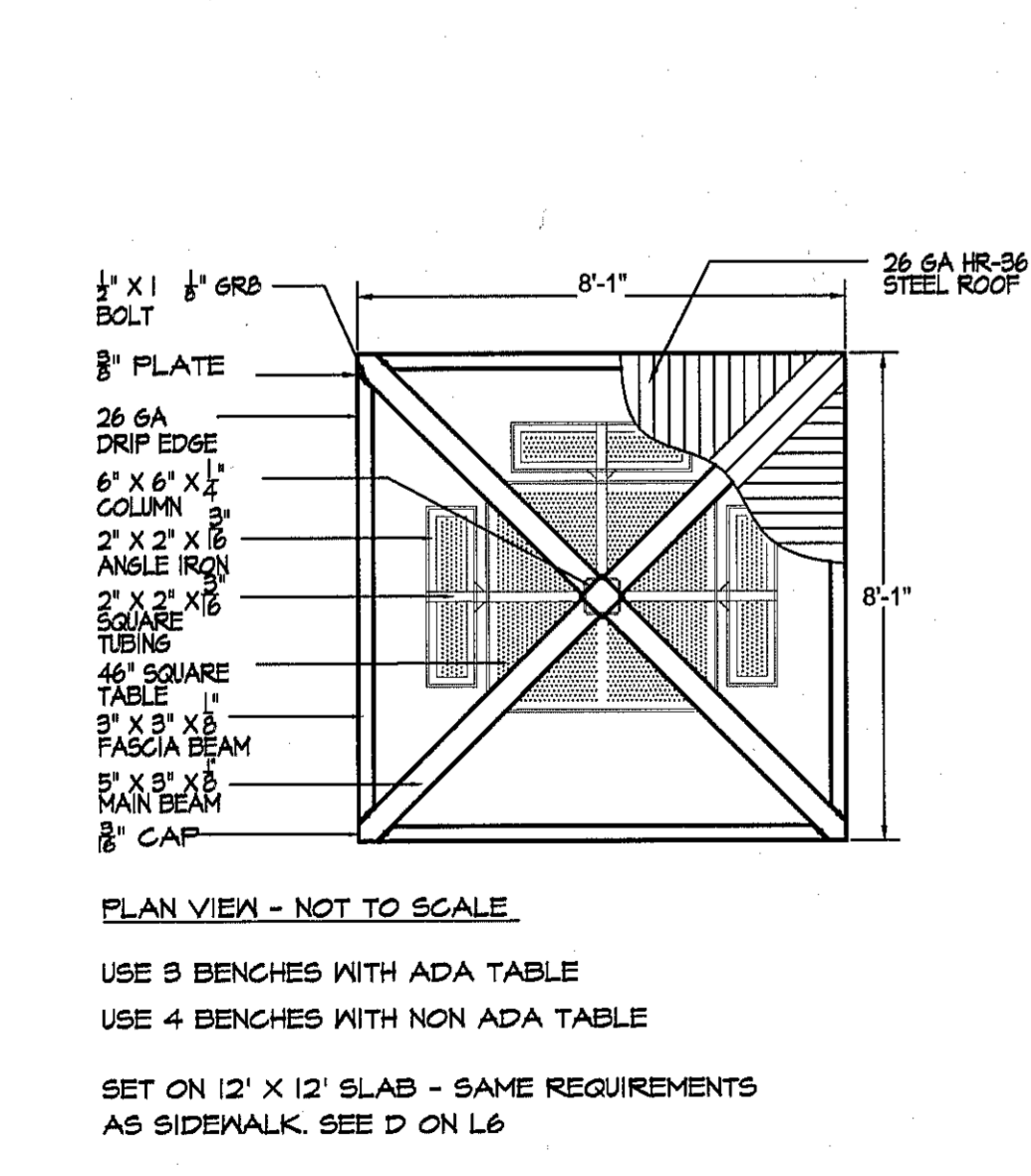
J ADA BENCH DETAIL
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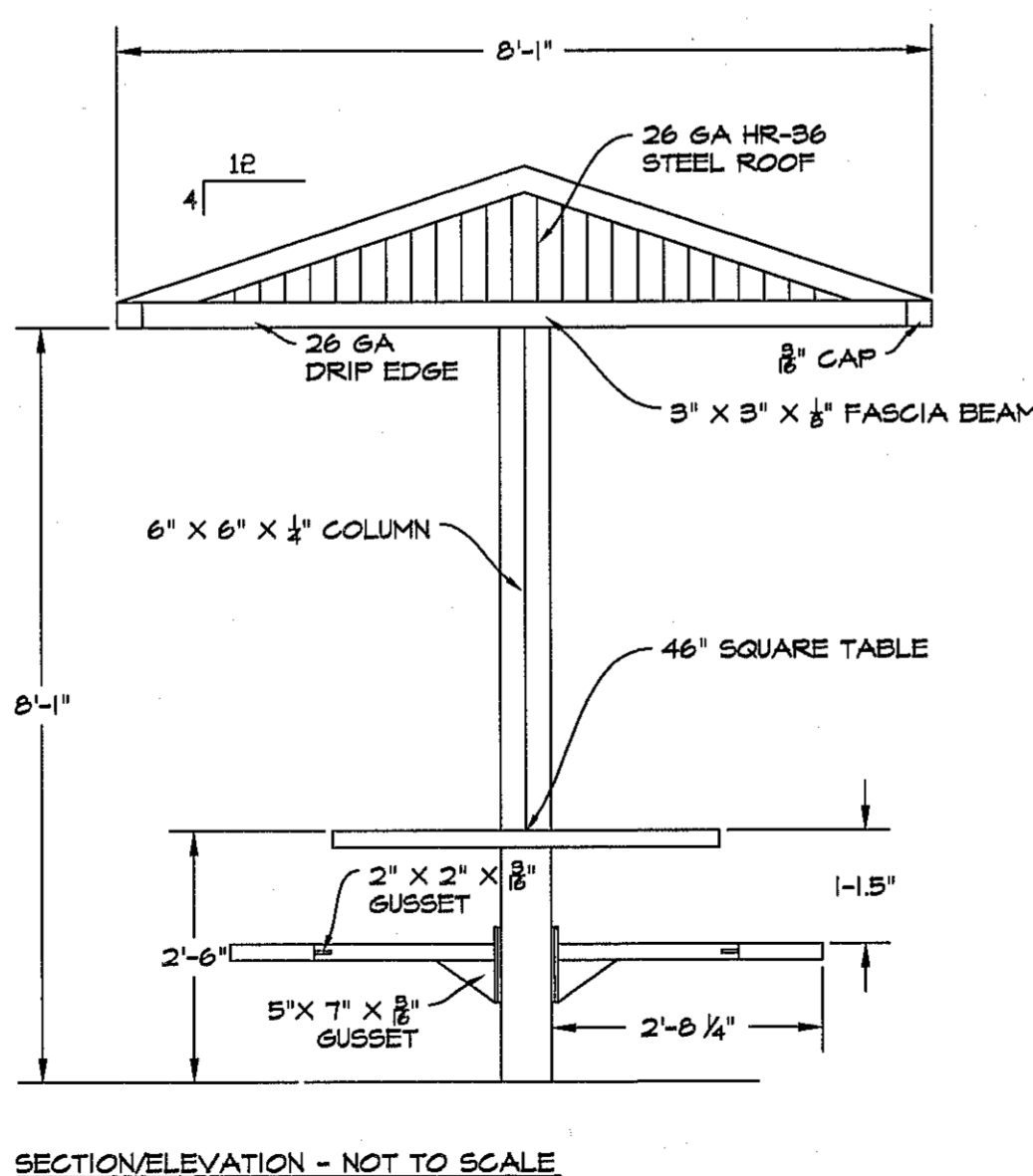
K GRAVEL MULCH AT PAVING DETAIL
 NOT TO SCALE



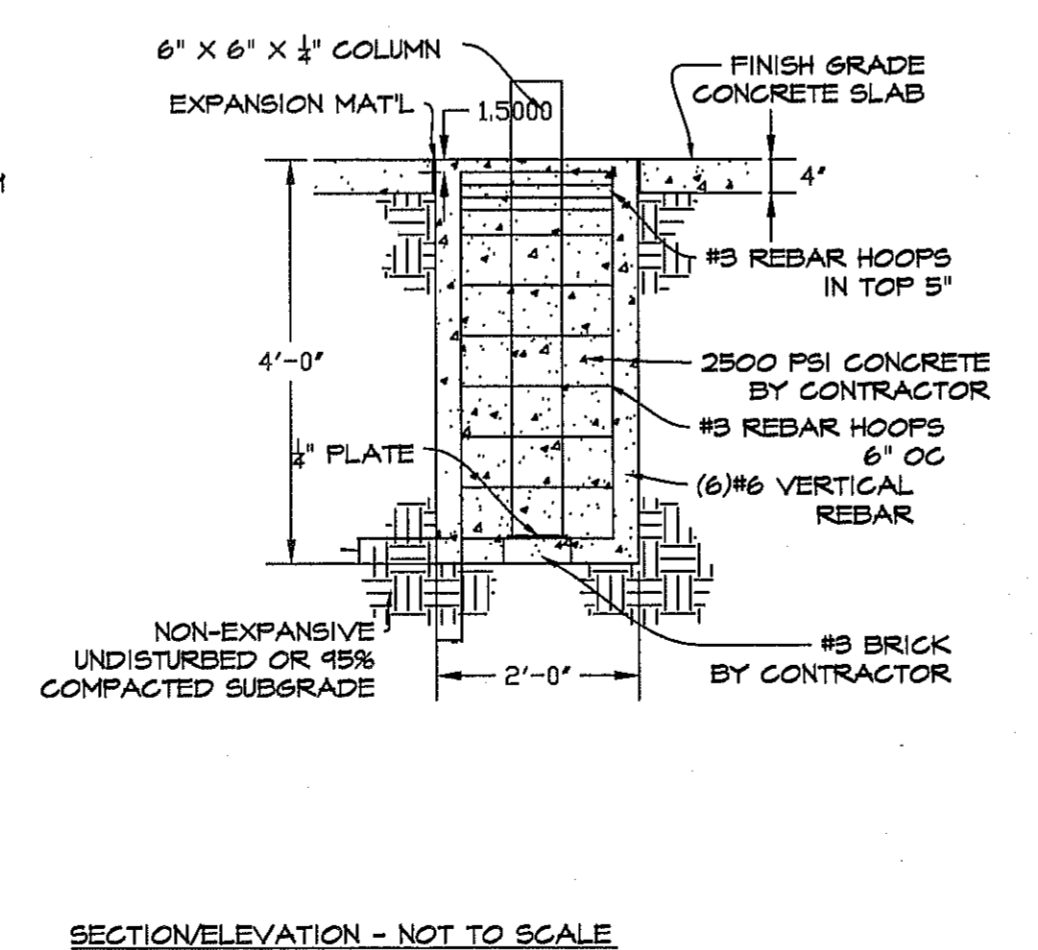
L ADA BENCH DETAIL
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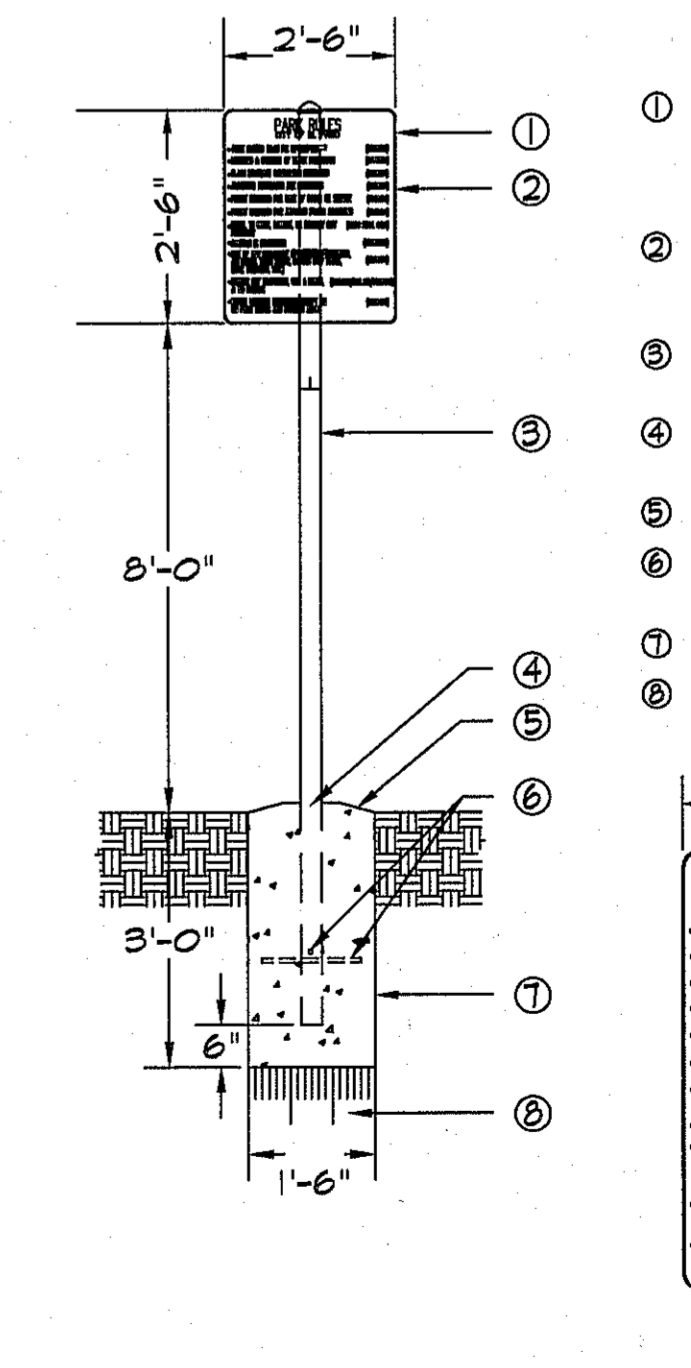
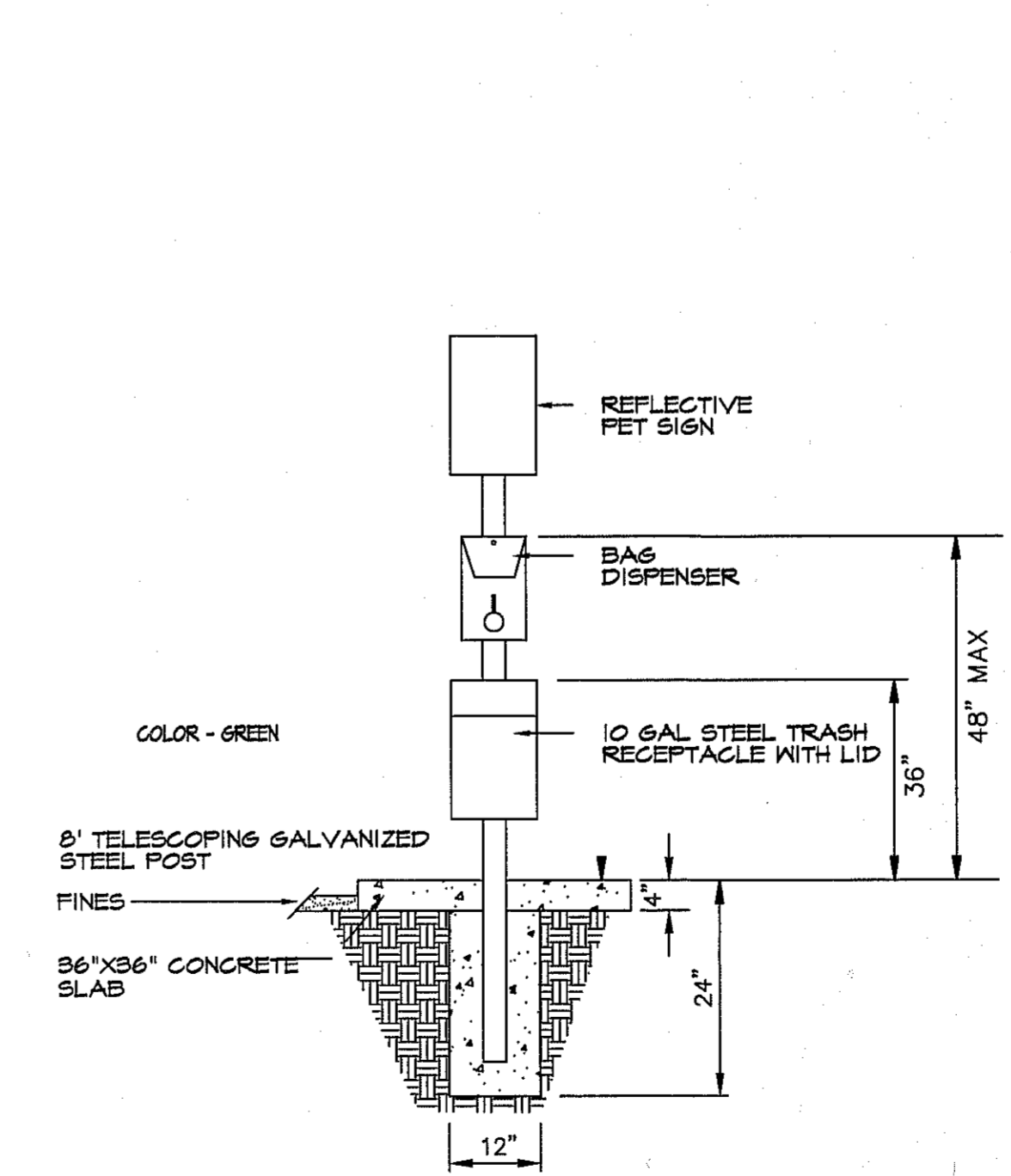
M PET WASTE STATION
 NOT TO SCALE



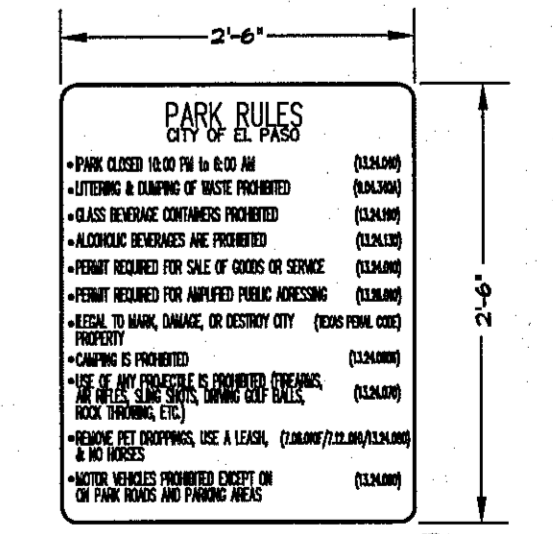
N PARK RULES SIGN - SECTION
 NOT TO SCALE



O SHADED PICNIC TABLE DETAIL
 NOT TO SCALE

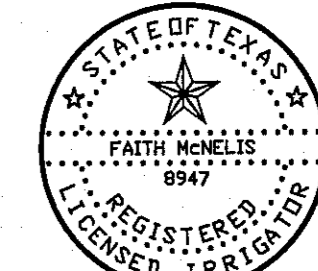


- 1 GALVANIZED STEEL CAP SECURED BY TACK WELDS (CLEANED, PRIMED AND PAINTED WITH ZINC BASED PAINT)
- 2 PARK RULES SIGN ONE SIDE ENGLISH ONE SIDE SPANISH
- 3 3" DIA. NPS STANDARD GALVANIZED STEEL PIPE POST SCHED. 40
- 4 STANDARD STEEL PIPE POST EMBEDDED IN CONCRETE BASE.
- 5 CROWN TOP OF FOOTING
- 6 #6 X 8" LONG BARS E.M. THROUGH PIPE.
- 7 3000 PSI CONCRETE FOOTING.
- 8 COMPACTED FILL, TO MODIFIED PROCTOR TO 95%.



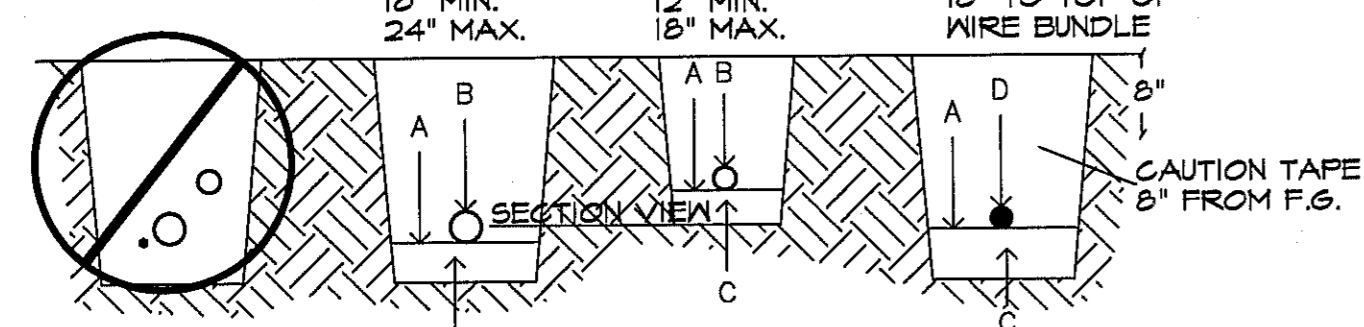
Final Approval


IRRIGATION IS REGULATED BY:
 PO BOX 13087
 AUSTIN, TEXAS 78711-3087
 TCEQ 512-239-6719
 CHAPTER 34, TEXAS WATER CODE
 IRRIGATOR'S LIC. #8947



7/18/18
 Faith McNeelis

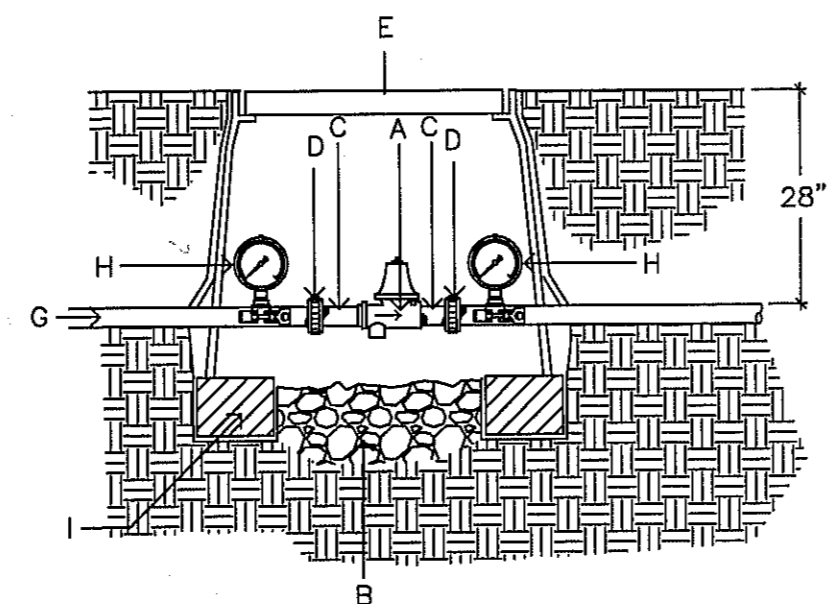
MAINLINE, LATERAL, AND WIRING SHALL NOT BE PLACED IN THE SAME TRENCH



SET WIRE BUNDLE AT 5' FROM MAINLINE ALONG THE NORTH AND WEST SIDE OF MAIN OR AS AGREED TO WITH PARKS STAFF.

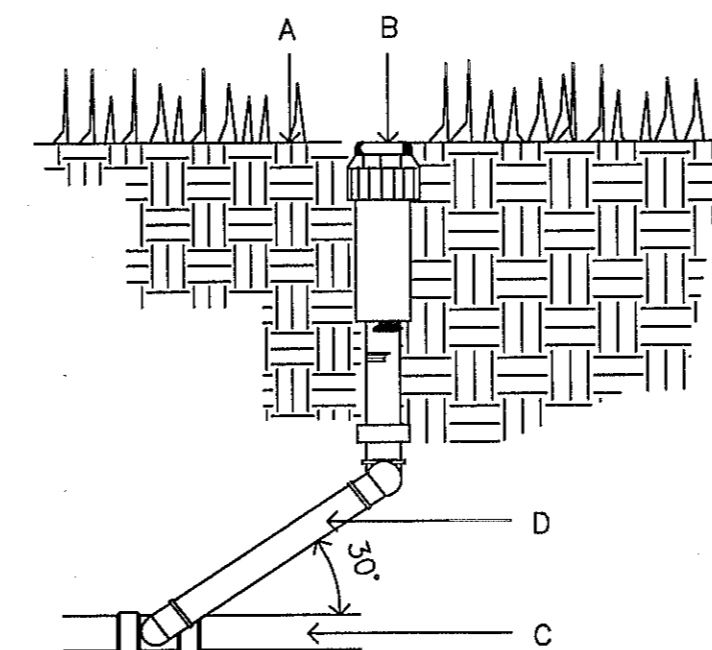
ALL SOLVENT WELD PLASTIC PIPING TO BE SNAKED IN TRENCH AS SHOWN FOR LATERAL LINES.
 TIE A 24-INCH LOOP IN ALL WIRING AT CHANGES OF DIRECTION OF 90° OR GREATER AND EVERY 200 FEET.

- NOTES:
- A. BOTTOM OF EXCAVATED TRENCH WHERE NONE ROCKY SOILS ARE EXPOSED (ENCOUNTERED).
 - B. IRRIGATION SYSTEM PIPING.
 - C. MINIMUM 4" DEEP BEDDING SANDY SOILS MATERIAL WHERE ROCKY SOILS ARE EXPOSED.
 - D. IRRIGATION SYSTEM VALVE WIRING.
 - E. BACKFILL SOILS MATERIAL MAY BE NATIVE SOILS IF IT IS FREE OF GALICHE OR STONES LARGER THAN 1" IN SIZE AND ORGANIC MATTER OR WASTE DEBRIS. SOILS COMPACTION IN TURF AREAS TO BE 80% TO 85% DENSITY BY ASTM D-1557 STANDARD AND AT 45% DENSITY UNDER PAVED OR HARDSCAPE SURFACES.

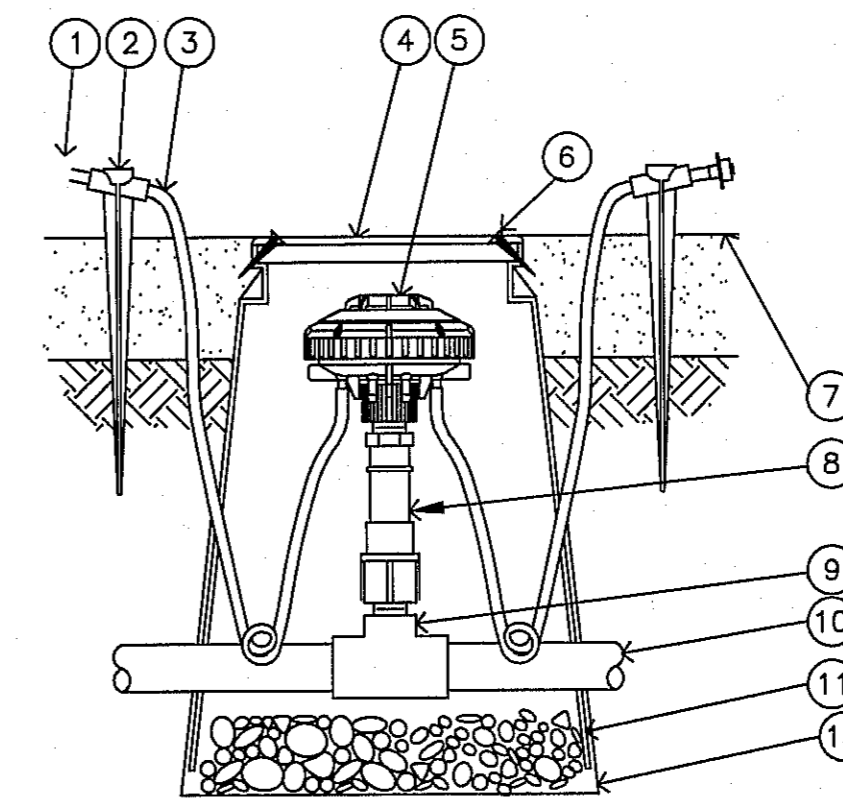
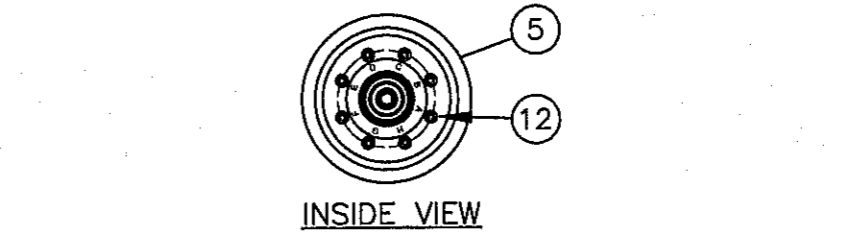


- NOTE: PVC PIPE TO BE CLEAR OF VALVE BOX AND SOLID CMU BLOCK.
- CONSTRUCTION NOTES:
- A. PRESSURE REGULATOR, SEE IRRIGATION LEGEND
 - B. 2 CU. FT. 1" DIAMETER WASHED PEA GRAVEL.
 - C. SCH. 80 PVC NIPPLE
 - D. FLANGE (8" AND ABOVE) AND UNION (BELOW 3" PIPE SIZE)
 - E. CARSON PRODUCTS INC. 1419 OR 1730 PB-18 BODY (ABS) VALVE BOX WITH 1419 OR 1730 BOLT DOWN COVER (ABS) TO MATCH FINISHED MATERIAL AND (1) 8 INCH EXTENSION.
 - F. DEWITT PRO 5 WEED CLOTH ALONG SIDES AND BASE OF VALVE BOX INSTALLATION TAPE TO ALL INLET AND OUTLET PIPE AND VALVE BOX WITH HEAVY DUTY PLASTIC 3M TAPE.
 - G. MAINLINE
 - H. HORIZONTAL HYGIENIC PRESSURE GAUGE
- NOTE: PROVIDE 1 PRESSURE GAUGE ON MAIN LINE UPSTREAM AND DOWNSTREAM OF PRESSURE REDUCING VALVE. SET IT IN HORIZONTAL TO BE READABLE.
- I. 8"x8"x16" SOLID CMU BLOCK @ EACH CORNER.

REQUIRED IF PRESSURE EXCEEDS 40 PSI DOWNSTREAM OF BACKFLOW



- NOTE: THIS DETAIL SHALL BE USED FOR POP-UP SHRUB SPRAY, POP-UP LAWN SPRAY, GEAR DRIVEN AND ROTARY SPRINKLER HEADS. TOP OF SPRINKLER HEAD SHALL BE SET FLUSH WITH FINISH GRADE. SWING JOINT INSTALLATION TO COMPLY WITH MANUFACTURER'S RECOMMENDATION.
- A. FINISH GRADE
 - B. SPRINKLER HEAD (SEE PLAN)
 - C. LATERAL LINE (SEE PLAN)
 - D. LASCO PRE-ASSEMBLED SWING JOINT.



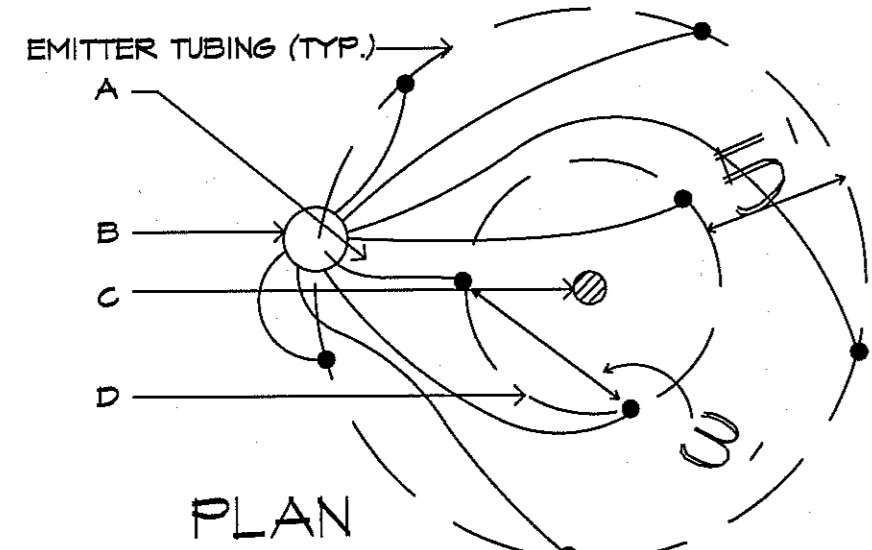
- NOTES:
- 1. COIL ADDITIONAL 4" OF TUBING IN EMITTER BOX TO FACILITATE MAINTENANCE.
 - 2. RAIN BIRD XE-BUS BARB X BARB EMITTERS ARE AVAILABLE IN THE FOLLOWING MODELS:
 XB-05PC 0.5 GPH XB-10PC 1.0 GPH XB-20PC 2.0 GPH

- 4. DRIP EMITTER FOR TREES AND PLANTS RAIN BIRD XE-BIRD & MULTI OUTLET EMISSION DEVICE NOT TO SCALE

- 1. PIPE IN TRENCH NOT TO SCALE

- 2. IN-LINE PRESSURE REGULATOR NOT TO SCALE

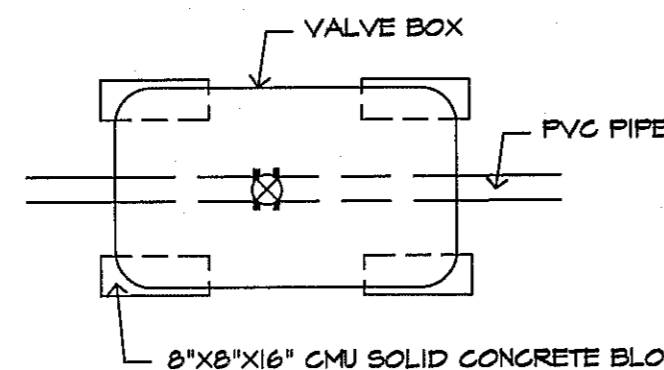
- 3. HUNTER ROTOR HEAD NOT TO SCALE



INSTALL (6) EMITTERS PER TREE, SPACE EVENLY AROUND ROOTBALL, IN OFFSET TRIANGULAR PATTERN FOR TREES, SEE IRRIGATION LEGEND FOR OUTLET EMITTER SIZE.

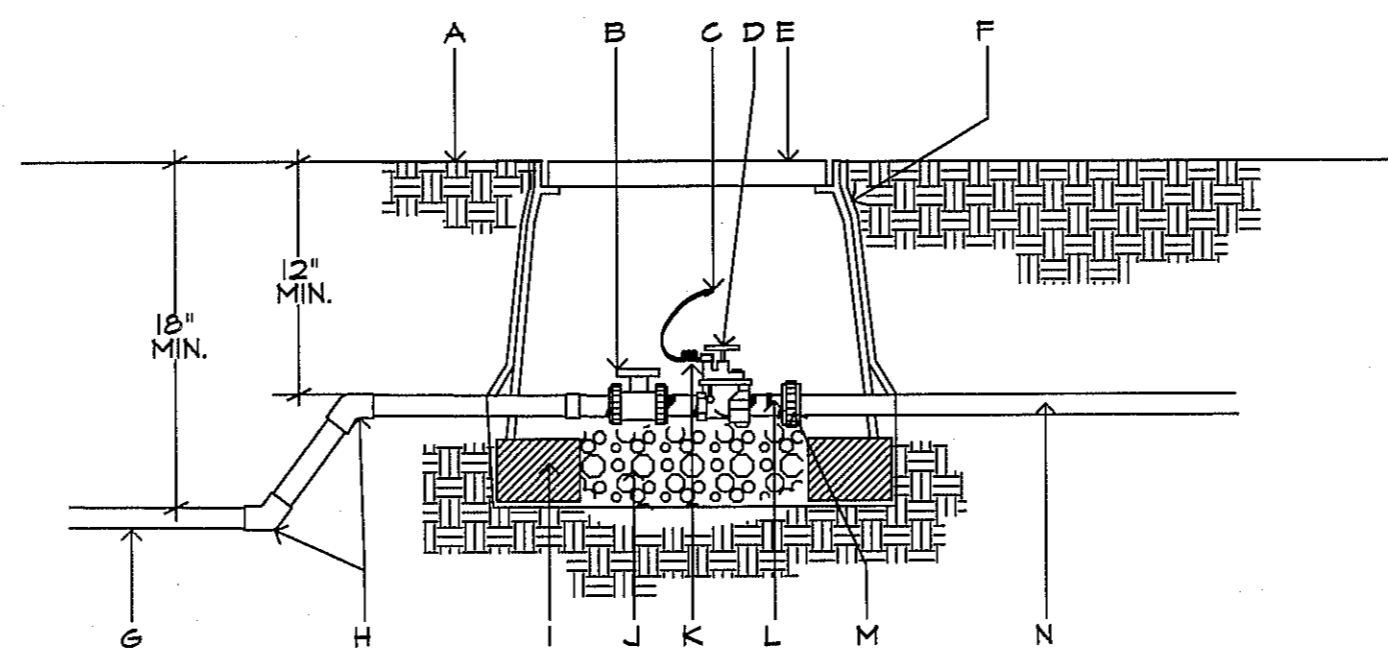
- A. EMITTER TUBING.
- B. MULTI OUTLET EMITTER DEVICE, INSTALL 5' FROM TREE TRUNK ON WEST SIDE.
- C. TREE TRUNK.
- D. TREE ROOTBALL.

- 5. EMITTER PLACEMENT FOR TREES NOT TO SCALE



NOTE: BLOCKS TO SIT ON WEED CLOTH ON UNDISTURBED SOIL. DISTURBED SOILS SHALL BE COMPACTED WITH TAMPER PRIOR TO SETTING WEED CLOTH & BLOCKS. VALVE BOX AND EXTENSIONS TO SIT ON BLOCKS. VALVE BOX AND EXTENSIONS TO HAVE A MINIMUM 2" CLEARANCE TO THE TOP OF PVC PIPE.

- 6. BLOCK PLACEMENT ON VALVE BOXES NOT TO SCALE

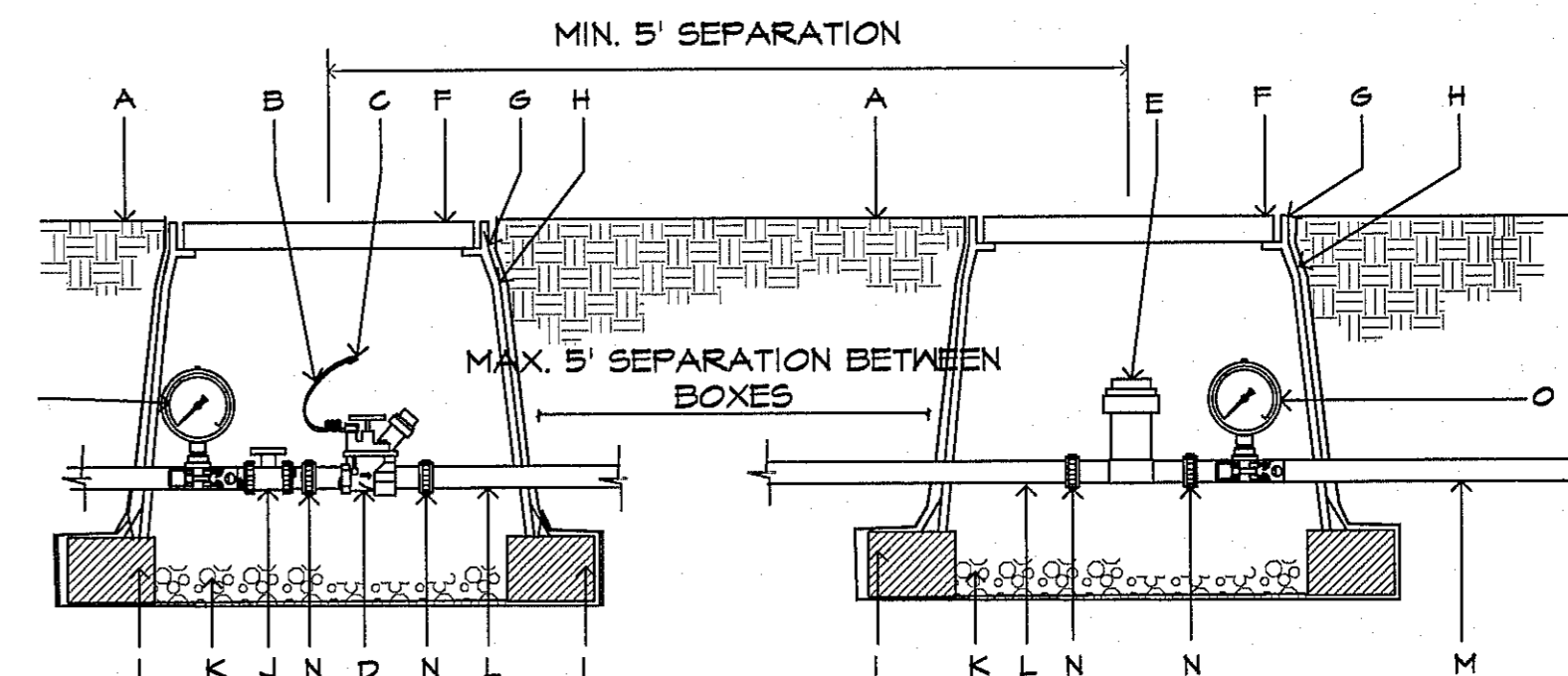


NOTE: PVC PIPE TO BE CLEAR OF VALVE BOX AND SOLID CMU BLOCK.

USE XPR PRESSURE REGULATOR

- A. FINISH GRADE.
- B. BALL VALVE.
- C. DRY SPLICE CONNECTOR OR EQUAL.
- D. ELECTRIC VALVE -SEE IRRIGATION LEGEND.
- E. CARSON PRODUCTS INC. 1419-18(ABS) VALVE BOX WITH BOLT DOWN FLAT LID COVER TO MATCH COLOR OF FINISHED MATERIAL AND 8" EXTENSIONS AS NECESSARY.
- F. PROVIDE DEWITT PRO 5 WEED CLOTH ALONG SIDES AND BASE OF VALVE BOX INSTALLATION TAPE TO ALL INLET AND OUTLET PIPE AND VALVE BOX WITH HEAVY DUTY PLASTIC 3M TAPE.
- G. PVC MAINLINE-SEE IRRIGATION LEGEND.
- H. SCH 80 - 45 DEGREE FITTING.
- I. 8"x8"x16" SOLID CMU BLOCK @ EACH CORNER.
- J. 4" DEPTH, 3/8" DIAMETER WASHED PEA GRAVEL.
- K. 24" WIRE EXPANSION COIL, EXTEND WIRE 12" ABOVE VALVE BOX FOR SERVICE.
- L. SCHEDULE 80 PVC CLOSE NIPPLE.
- M. FLANGE (8" AND ABOVE) AND UNION (BELOW 3" PIPE SIZE)
- N. LATERAL LINE.

- 7. IRRIGATION CONTROL VALVE NOT TO SCALE



NOTE: PROVIDE 1 PRESSURE GAUGE ON MAIN LINE UPSTREAM OF BALL VALVE AND ANOTHER DOWNSTREAM OF BASKET FILTER. PROVIDE 5' SEPARATION BETWEEN BOXES. IF SPACE IS NOT AVAILABLE, PROVIDE A MIN. 5' SEPARATION AT CENTER LINES OF BOXES. SET GAGES HORIZONTAL TO BE READABLE FROM ABOVE.

- A. FINISH GRADE.
- B. 24" WIRE LOOP.
- C. DRY SPLICE CONNECTOR OR EQUAL.
- D. AUTOMATIC VALVE, SEE IRRIGATION LEGEND.
- E. RAINBIRD PRESSURE BASKET FILTER STRAINER SHALL BE INSTALLED TO PROVIDE ACCESS FOR MAINTENANCE AND REPLACEMENT AND 40 PSI PRESSURE REGULATION FOR DRIP IRR.
- F. LOCKING VALVE BOX COVER FLAT LID WITH BOLT.
- G. CARSON PRODUCTS INC. 1419-18 BODY (ABS) VALVE BOX W/BOLT DOWN COVER (COVER COLOR TO MATCH FINISHED MATERIAL AND EXTENSION AS NECESSARY).
- H. PROVIDE DEWITT PRO 5 WEED CLOTH ALONG SIDES AND BASE OF VALVE BOX AND BLOCKS. TAPE TO ALL INLET & OUTLET PIPE WITH 3M HEAVY DUTY PLASTIC TAPE.
- I. 8"x8"x16" CMU SOLID CONCRETE BLOCK @ EACH CORNER.
- J. BALL VALVE, INCLUDED IN CONTROL ZONE KIT, SEE IRRIGATION LEGEND.
- K. 4" LAYER OF 3/8" WASHED PEA GRAVEL.
- L. PVC PIPE SIZED PER PLAN WITH WELD ON THREADED FITTINGS ON EACH END.
- M. LATERAL LINE
- N. PROVIDE PVC UNION FOR PIPE SIZES LESS THAN THREE INCHES IN DIAMETER OR PROVIDE FLANGES FOR PIPE SIZES THREE INCHES IN DIAMETER OR LARGER.
- O. HORIZONTAL HYGIENIC PRESSURE GAUGE

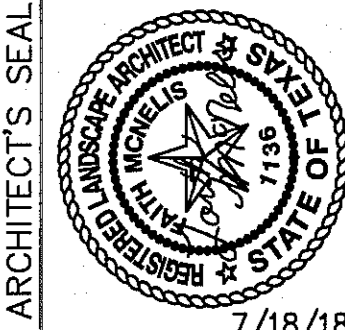
- 8. DRIP VALVE W/ BASKET FILTER NOT TO SCALE

PARKS DEPARTMENT
 REVIEWED BY: *Anthony DeLeon* 08/07/2018



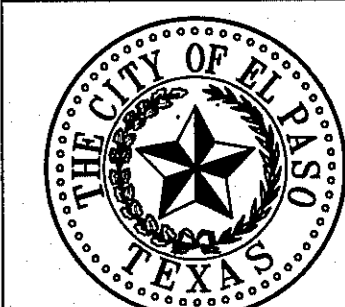
DATE

ARCHITECT'S SEAL
 LISA MCNEELIS
 LANDSCAPE ARCHITECT
 1900 FOXBORO
 LAS CRUCES, NEW MEXICO 88007
 (505) 621-5052



SCALE
 Vertical: Interval: N/A
 Contour: Interval: N/A
 DATE: 7/18/18
 DESIGN BY: LM
 DRAWN BY: LM
 CHKD. BY: LM
 APPVD. BY: LM
 JOB No.

PROJECT TITLE
NORTH DESERT PARK
 10658 HIDDEN POND
 LOT 1, BLOCK 6
 HIDDEN VILLAGE UNIT 1 SUBDIVISION
 CITY OF EL PASO, EL PASO, TEXAS 79924
 AREA: 95923.32 SQ.FT. - 1,386 ACRES

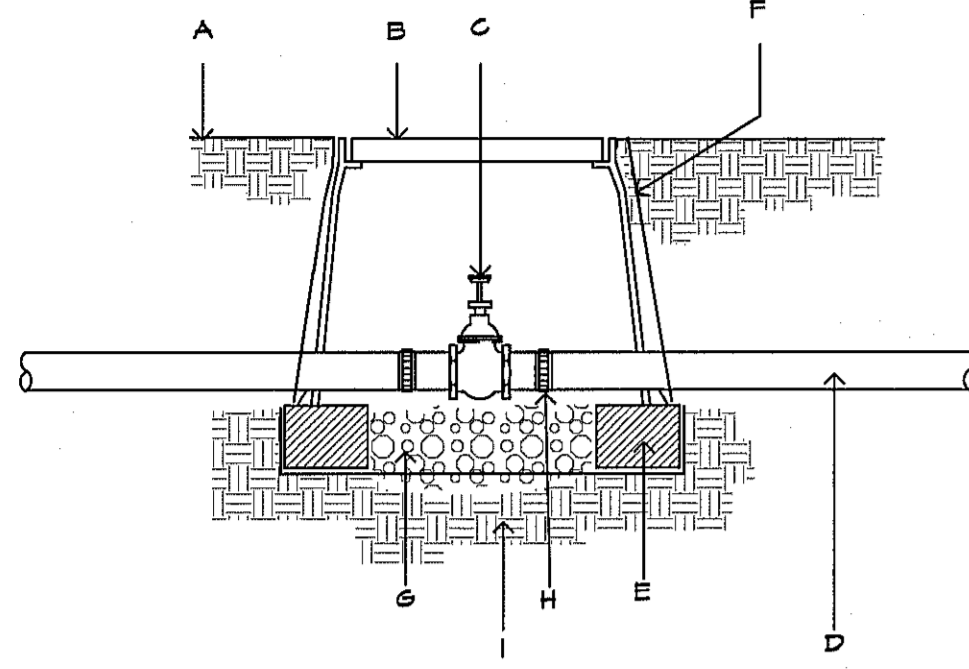


SHEET TITLE

L8

IRRIGATION DETAILS

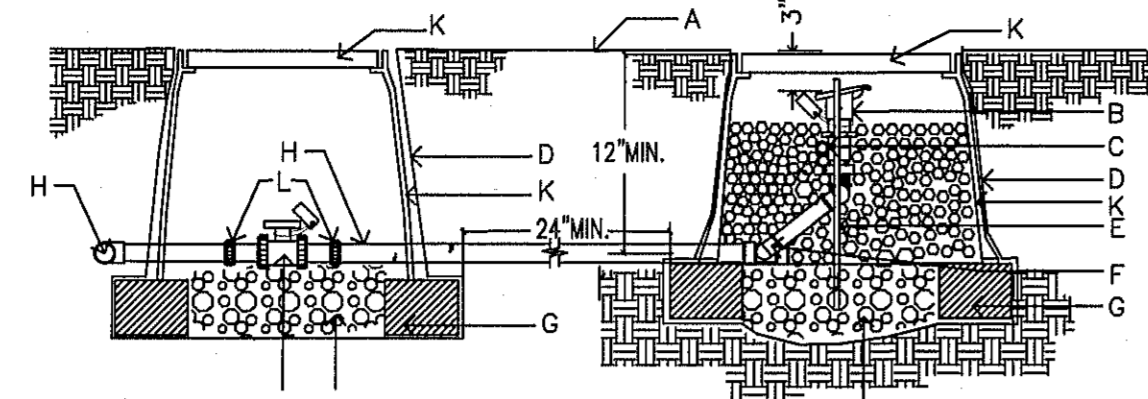
SHEET 8 OF 9



NOTE: PVC PIPE TO BE CLEAR OF VALVE BOX AND SOLID CMU BLOCK.

- FINISH GRADE.
- CARSON PRODUCTS INC. 1419-18(ABS) VALVE BOX WITH BOLT DOWN FLAT LID COVER TO MATCH COLOR OF FINISH MATERIAL AND 8" EXTENSIONS AS NECESSARY.
- BRASS ISOLATION VALVE- TO BE APPROVED BY PARKS AND REC.
- IRRIGATION MAINLINE.
- 8" X 8" X 16" SOLID CMU SOLID BLOCK @ EACH CORNER.
- PROVIDE DEWITT PRO 5 WEED CLOTH ALONG SIDES AND BASE OF VALVE BOX INSTALLATION. TAPE TO ALL INLET AND OUTLET PIPE AND VALVE BOX WITH HEAVY DUTY PLASTIC 3M TAPE.
- 4" DEPTH, 3/8" WASHED PEA GRAVEL.
- FLANGE (3" AND ABOVE) AND UNION (BELOW 3" PIPE SIZE)
- EXISTING SOIL

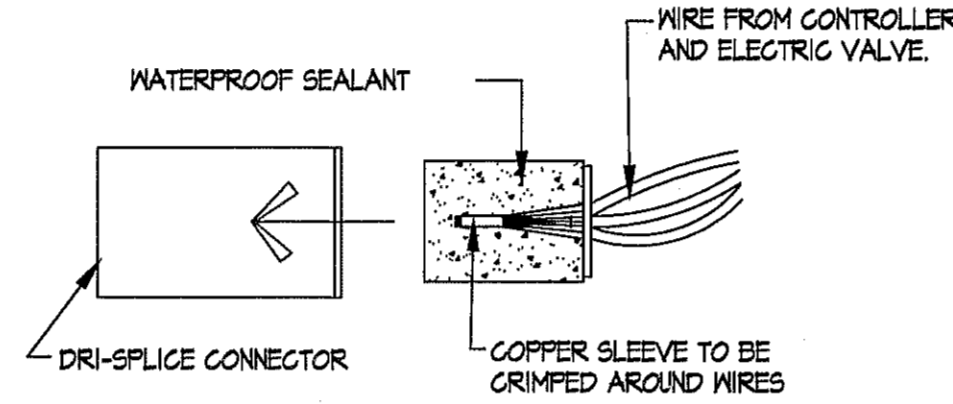
9 ISOLATION VALVE
NOT TO SCALE



- FINISH GRADE.
- 1" BUCKNER QUICK COUPLER VALVE, DOUBLE LUG WITH LASCO SNAP-LOK W/MALE BRASS STABILIZER ELBOW.
- MIN. 12" SECTION 1" DIA. PVC, SECTION SHOULD EXTEND BEYOND BOTH REBAR SECTION, STABILIZE IN GRAVEL.
- PROVIDE DEWITT PRO 5 WEED CLOTH ALONG SIDES AND BASE OF VALVE BOX. TAPE TO ALL INLET AND OUTLET PIPE AND VALVE BOX WITH HEAVY DUTY 3M PLASTIC TAPE.
- 1/2" OR 3/8" REBAR, MIN. 30" LENGTH, ONE ON EITHER SIDE OF QUICK COUPLER FOR STABILITY.
- LASCO SWING JOINT (PRE-ASSEMBLED).
- 8" X 8" X 16" SOLID CMU BLOCK.
- IRRIGATION MAINLINE.
- ISOLATION BALL VALVE, SEE IRRIGATION LEGEND.
- 6" DEPTH OF 3/8" WASHED PEA GRAVEL.
- CARSON PRODUCTS INC. 1419-18 BODY (ABS) VALVE BOX W/BOLT DOWN COVER (COVER COLOR AND BOX TO BE PURPLE COLOR)
- PROVIDE PVC UNION FOR PIPE SIZES LESS THAN THREE INCHES IN DIAMETER OR PROVIDE FLANGES FOR PIPE SIZES THREE INCHES IN DIAMETER OR LARGER.
- 3/8" WASHED PEA GRAVEL FILLED TO QUICK COUPLER FOR STABILITY.
- PROVIDE PURPLE COLOR WEATHER-PROOF TAG THAT READS, "NON-POTABLE WATER, NOT SAFE FOR DRINKING." SECURE TO VALVE AND QUICK COUPLER.

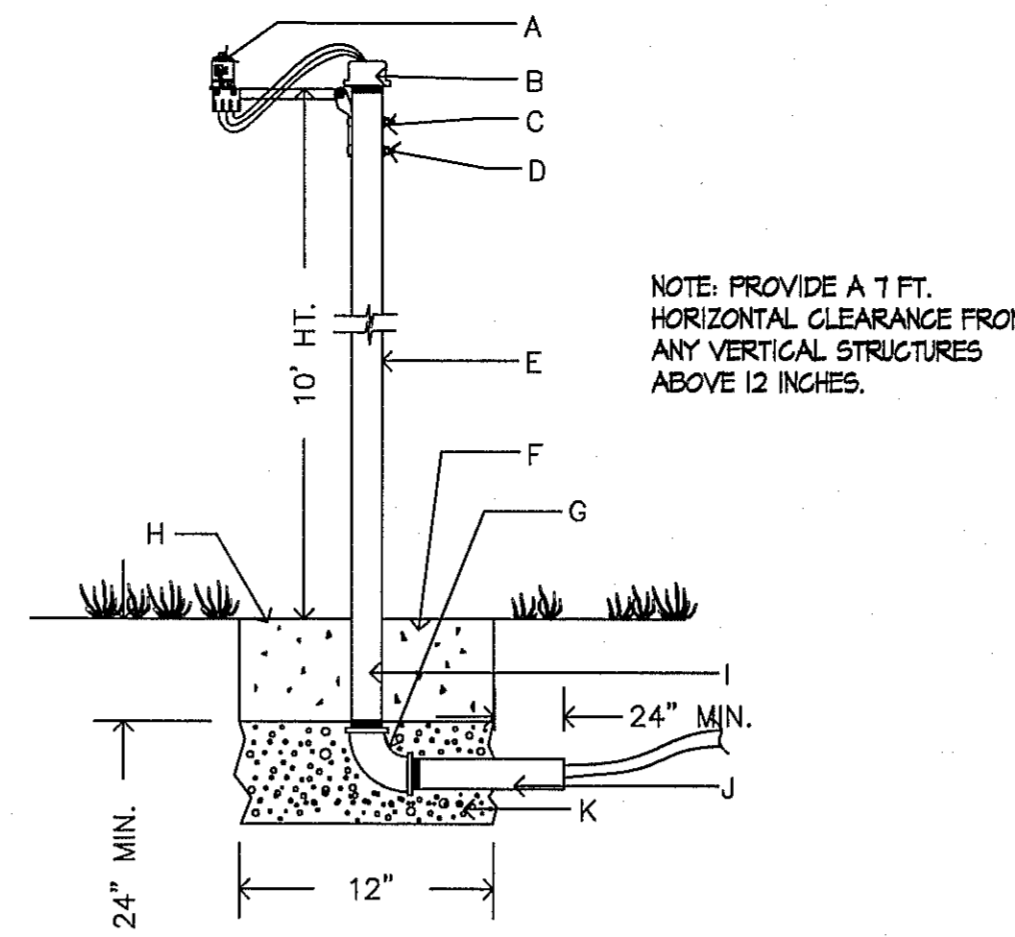
NOTE: INSTALL AN 8" X 8" X 16" SOLID CMU BLOCK AT EACH CORNER OF THE VALVE BOX. INSTALL 3/8" PEA GRAVEL BELOW THE 1419-18 VALVE BOX WITH BOLT DOWN COVER. EXTEND PEA GRAVEL UP TO COLLAR OF QUICK COUPLER VALVE. INSTALL A TEE, FLANGE & BALL VALVE OFF OF THE MAIN LINE IMMEDIATELY UPSTREAM OF THE QUICK COUPLER VALVE.

10 QUICK COUPLER VALVE
NOT TO SCALE



THREE STEP OPERATION DRI-SPLICE CONNECTOR ONLY. FILL WITH SEALANT SUFFICIENT TO SEAL WHEN ASSEMBLED.

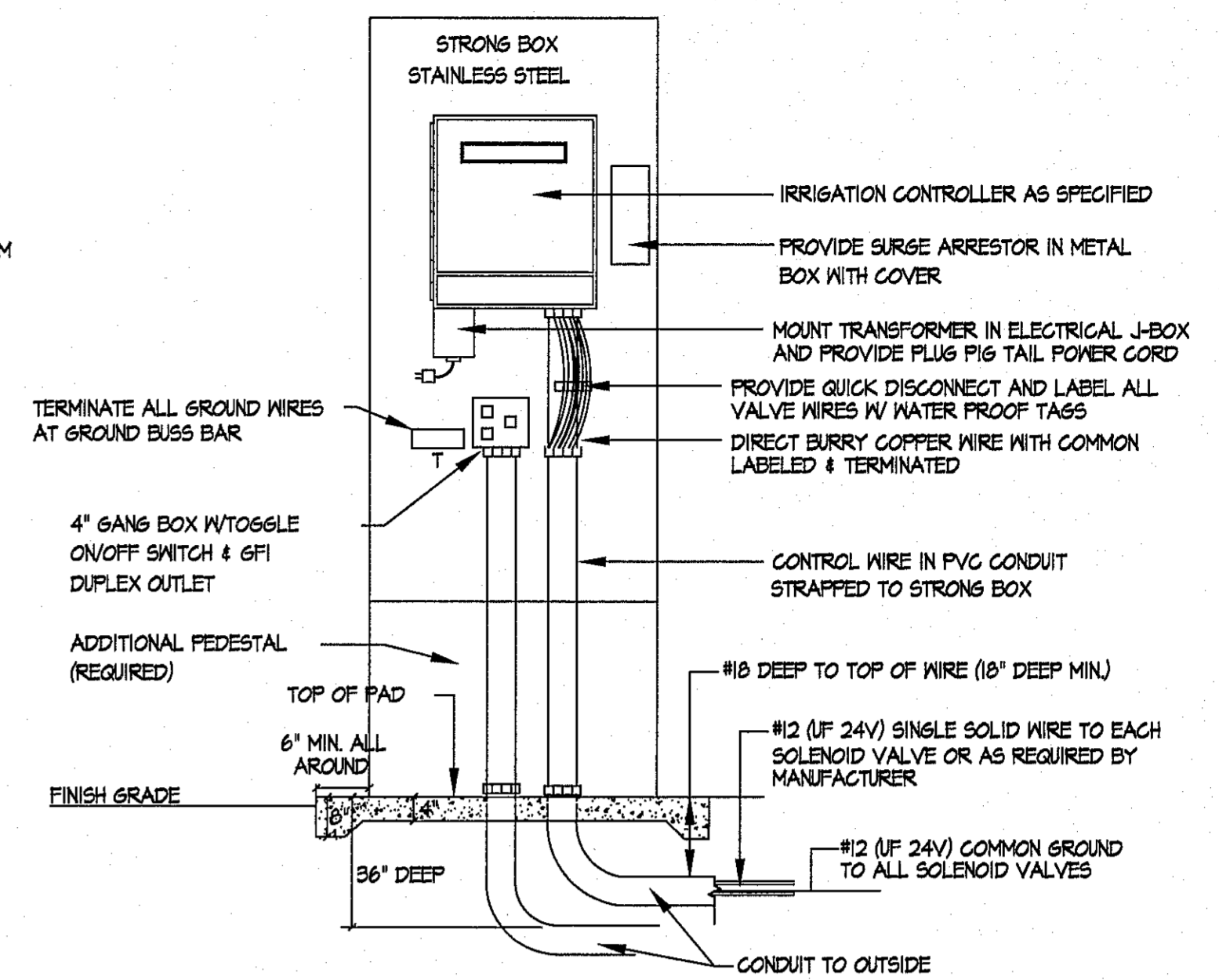
11 BELOW GRADE WIRE CONNECTORS
NOT TO SCALE



NOTE: PROVIDE A 1 FT. HORIZONTAL CLEARANCE FROM ANY VERTICAL STRUCTURES ABOVE 12 INCHES.

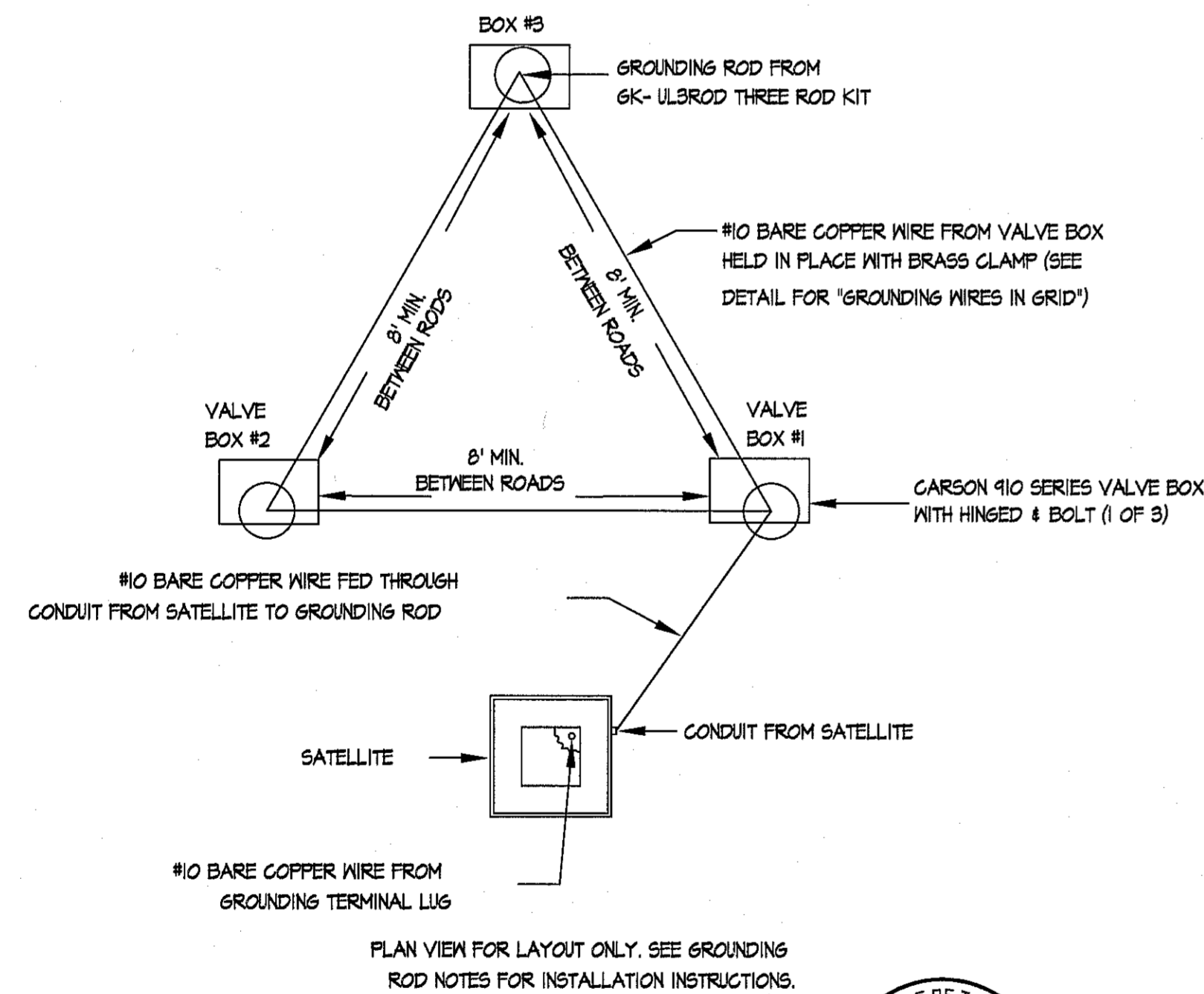
- RAIN BIRD RSD-BEX RAIN SENSOR SET TO 1/8"
- 2 1/2" PIPE CAP WITH HOLE FOR WIRES AND SEAL WITH EXTERIOR GRADE SILICONE SEALANT.
- DRILL TWO 3/16" HOLES IN PIPE FOR SENSOR BRACKET.
- (2) NO. 8-32 MACHINE SCREWS WITH WASHER, LOCK WASHER AND NUT.
- 2 1/2" SCH 40 GALVANIZED PIPE-10 FT. HT. A.G.
- 12" X 12" CONCRETE BASE, MIN. 24" DEEP.
- PIPE ELBOW.
- FINISH GRADE
- PIPE TO BE SEALED AFTER CABLE IS RUN, USE 4 MIL. PLASTIC AND TAPED NIPPLE AND THE CABLE WITH HIGH GRADE 3M WEATHER PROOF PLASTIC TAPE.
- NIPPLE, GALVANIZED PIPE IN CONCRETE FOOTING TO BE WRAPPED WITH WEATHER PROOF TAPE TO PROTECT FROM CORROSION.
- 6" THICK, 3/8" DIAMETER WASHED PEA GRAVEL.

12 RAIN SENSOR
NOT TO SCALE



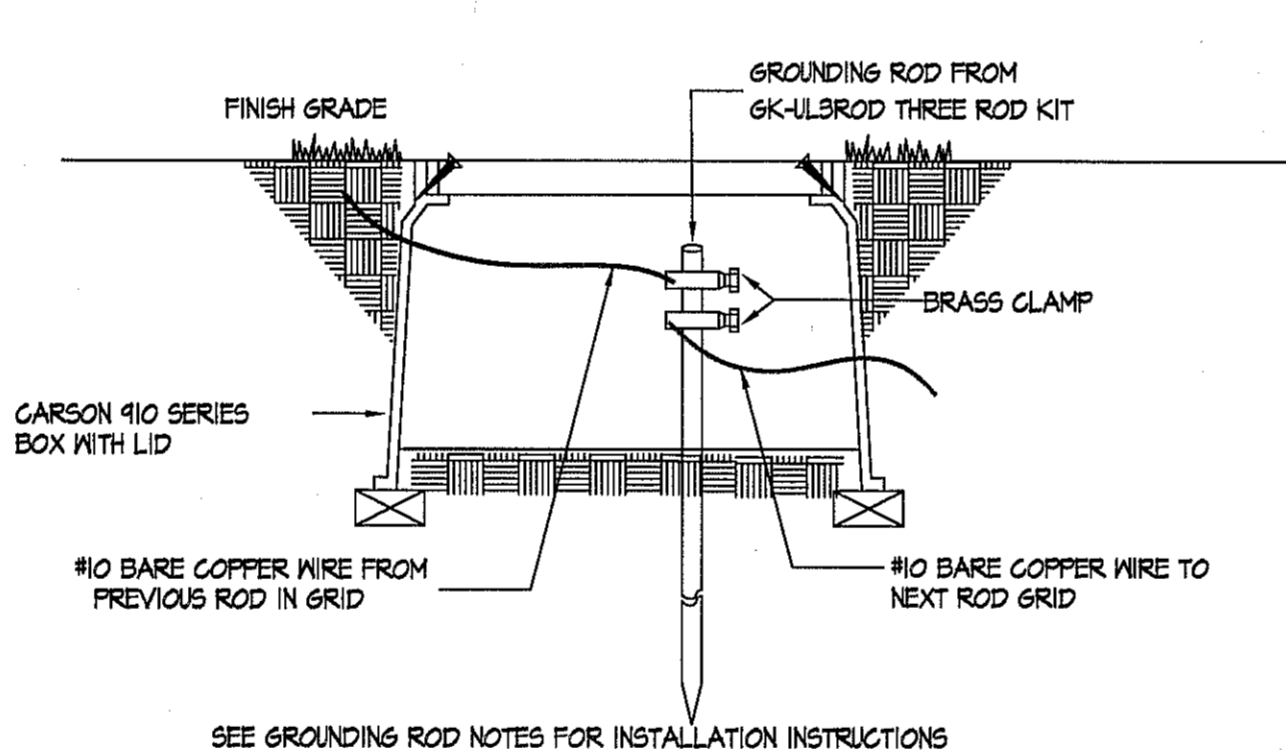
- GROUND CABINET WITH #10 GAUGE OR HEAVIER STRANDED COPPER WIRE TO GROUNDING ROD AS PER MANUFACTURER'S SPECIFICATIONS.
- PEDESTAL ENCLOSURE TO BE SIZED TO HOUSE EQUIPMENT PROPERLY.
- PEDESTAL ENCLOSURE TO BE ANCHORED TO CONCRETE PAD PER MANUFACTURER'S SPECIFICATIONS

13 CONTROLLER IN PEDESTAL DETAIL
NOT TO SCALE



PLAN VIEW

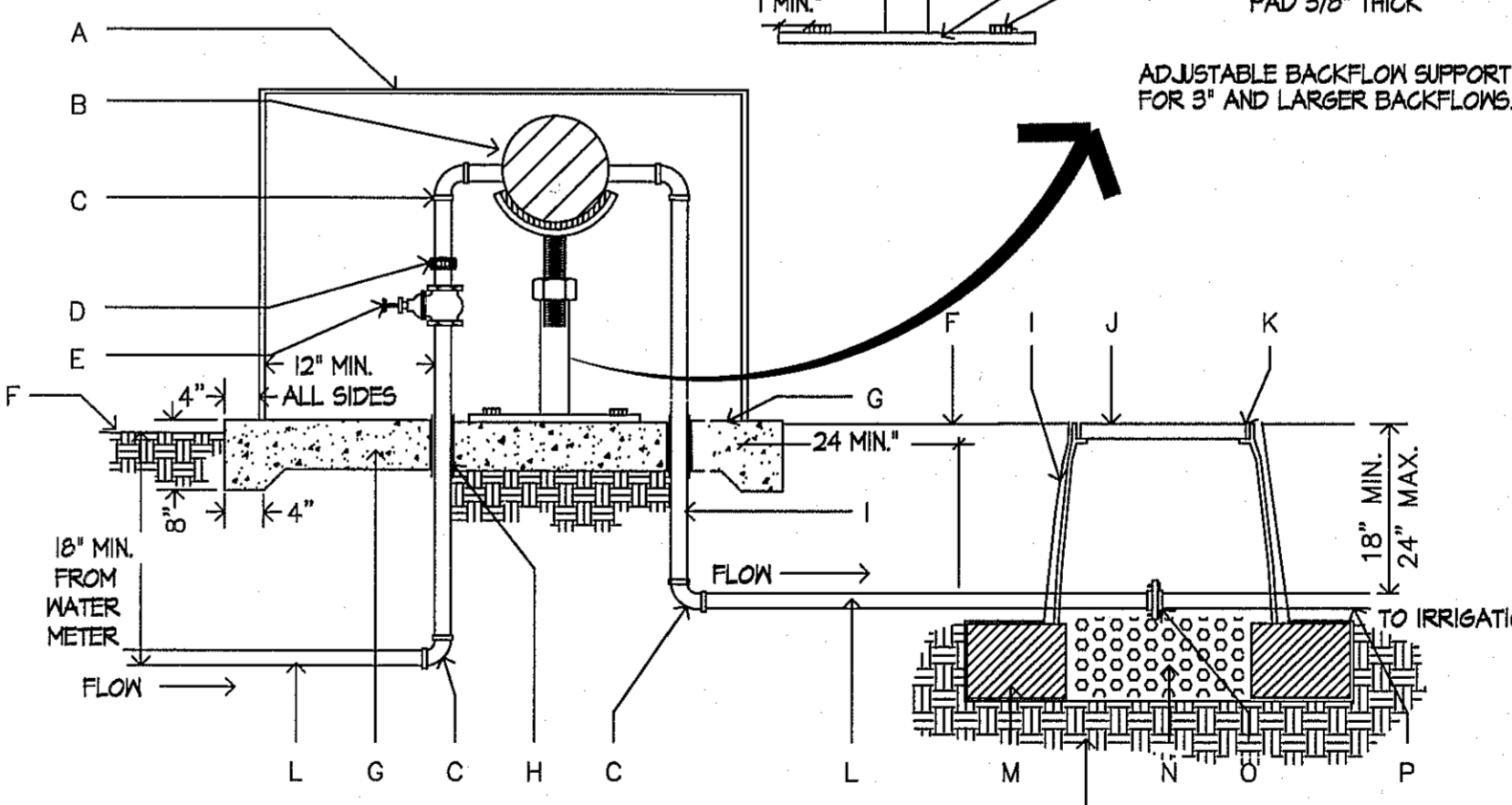
14 TRIANGULAR GROUNDING GRID DETAIL
NOT TO SCALE



GROUNDING WIRES IN GRID DETAIL
INITIAL TERMINAL

GROUNDING ROD NOTES:

- GROUNDING RODS SERVE AS ELECTRODES FOR DEVICES TO DISSIPATE THE SURGE INTO THE EARTH. CAREFULLY READ THE FOLLOWING INSTALLATION INSTRUCTIONS.
- ALWAYS USE A 5/8" X 8' COPPER CLAD ROD.
 - RUN A #10 OF LARGER BARE COPPER WIRE FROM THE DEVICE TO THE ROD.
 - KEEP THE GROUND WIRES AS SHORT AND STRAIGHT AS POSSIBLE FROM THE DEVICE TO THE FIRST ROD.
 - CLAMP ALL WIRES TO THE GROUNDING ROD. DO NOT SOLDER OR TAPE THEM TO THE ROD.
 - TO INSTALL GROUNDING ROD, USE GK-TOOLS ROD DRIVING SLEEVE.
 - SPACE THREE RODS IN A TRIANGULAR GRID AT LEAST 8' APART FROM THE OTHERS IN THE GRID. CONNECT ALL THREE RODS WITH A SOLID #10 COPPER WIRE.
 - WHEN TESTED WITH THE PROPER EQUIPMENT, GRIDS SHOULD HAVE AN EARTH RESISTANCE NO GREATER THAN 15 OHMS.
 - WHENEVER MORE THAN ONE WIRE IS ATTACHED TO A GROUNDING ROD ALWAYS USE A SEPARATE CLAMP FOR EACH WIRE. TRYING TO INSTALL MORE THAN ONE WIRE PER CLAMP COULD CAUSE A POOR CONNECTION RESULTING IN HIGH RESISTANCE LEVELS.
 - GROUNDING RODS SERVE AS ELECTRODES FOR THE SURGE DEVICES TO DISSIPATE THE SURGE INTO THE EARTH. REMEMBER THESE TIPS WHEN INSTALLING THEM.



NOTE: ALL ASSEMBLIES SHOULD BE ACCESSIBLE FOR PERIODIC TESTING AND MAINTENANCE AS ESTABLISHED BY LOCAL CODES. SUGGESTED 16" MINIMUM CLEARANCE FROM TESTCOCK SIDE OF ASSEMBLY AND 12" MINIMUM CLEARANCE FROM VALVE BODY.

15 REDUCED PRESSURE ASSEMBLY BACKFLOW
NOT TO SCALE

STATE OF TEXAS
FAITH MCNELIS
REGISTERED IRRIGATOR
LICENSED IRRIGATOR
7/18/18
Faith McNeilis

IRRIGATION IS REGULATED BY:
PO BOX 13087
AUSTIN, TEXAS 78711-3087
TCOE 512-239-6719
CHAPTER 34, TEXAS WATER CODE
IRRIGATOR'S LIC. #8947

PARKS DEPARTMENT
REVIEWED BY: Anthony Del... 08/07/2018

Final Approval

DATE: _____

ARCHITECT'S SEAL: LISA MCNELIS LANDSCAPE ARCHITECT
1600 FOXBORO BLVD. NEW MEXICO 88001
(505) 621-5022

SCALE: Horizontal: N/A, Vertical: 7/18/18, Contour Interval: N/A

PROJECT TITLE: NORTH DESERT PARK
10505 HIDDEN POND LOT 1, BLOCK 6
HIDDEN VILLAGE UNIT 1 SUBDIVISION
CITY OF EL PASO, EL PASO, TEXAS 79924
AREA: 56523.32 SQ. FT. - 1.286 ACRES

SHEET TITLE: IRRIGATION DETAILS

SHEET 9 OF 9

NOTES:

GENERAL NOTES:

1. THIS BRIDGE HAS BEEN DESIGNED FOR GENERAL SITE CONDITIONS. THE PROJECT ENGINEER SHALL BE RESPONSIBLE FOR THE STRUCTURES SUITABILITY TO THE EXISTING SITE CONDITIONS AND FOR THE HYDRAULIC EVALUATION, INCLUDING SCOUR AND CONFIRMATION OF SOIL CONDITIONS.
2. PRIOR TO CONSTRUCTION, CONTRACTOR MUST VERIFY ALL ELEVATIONS SHOWN THROUGH THE ENGINEER.
3. ONLY CONTECH ENGINEERED SOLUTIONS LLC, THE CON/SPAN(R) APPROVED PRECASTER IN TEXAS MAY PROVIDE THE STRUCTURE DESIGNED IN ACCORDANCE WITH THESE PLANS. CONTACT ISHAM KHAN, 513-716-2178, IKHAN@CONTECHES.COM.
4. THE USE OF ANOTHER PRECAST STRUCTURE WITH THE DESIGN ASSUMPTIONS USED FOR THE CON/SPAN(R) STRUCTURE IS NOT ALLOWED.
5. CON/SPAN DRAWINGS AND CALCULATIONS MUST BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER, REGISTERED IN THE STATE OF TEXAS, EMPLOYED BY THE PRECAST CONCRETE BRIDGE SUPPLIER.
6. THE PRECAST ARCH SUPPLIER MUST ATTEND THE PRE-BID MEETING, IF ONE IS HELD.
7. THE PRECAST ARCH SUPPLIER MUST PROVIDE AN ONSITE CONSULTANT DURING INSTALLATION OF THE PRECAST ELEMENTS.
8. SUPPLIER OF PROPOSED CON/SPAN(R) BRIDGE SYSTEM MUST SUBMIT AT LEAST TWO (2) INDEPENDENTLY VERIFIED FULL SCALE LOAD TESTS THAT CONFIRM THE PROPOSED DESIGN METHODOLOGY OF THE THREE SIDED/ARCH STRUCTURE(S).
9. PRECAST CONCRETE BRIDGE SUPPLIER MUST HAVE A MINIMUM OF TWO (2) REGISTERED PROFESSIONAL ENGINEERS ON STAFF THAT ARE DEDICATED TO THE DESIGN OF THESE TYPES OF STRUCTURES. SUPPLIER MUST PROVIDE THESE NAMES, P.E. LICENSE NUMBERS AND DATES OF HIRE WITH SUBMITTAL.

DESIGN DATA:

DESIGN LOADING:
 BRIDGE UNITS: HL-93 LIVE LOAD
 HEADWALLS: EARTH LOAD AND LIVE LOAD SURCHARGE ONLY
 DESIGN FILL HEIGHT: 1'-0" MIN TO 2'-0" MAX FROM TOP OF CROWN TO TOP OF PAVEMENT.
 DESIGN METHOD (FOUNDATION): LOAD FACTOR DESIGN PER STANDARD AASHTO SPECIFICATION, 17th EDITION.
 NET ALLOWABLE SOIL BEARING PRESSURE: 3500PSF

*FOUNDATION EXCAVATION AND SUBGRADE PREPARATION SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL REPORT FOR THIS PROJECT PREPARED BY CQC ENGINEERING
 DEC. 7TH, 2017 AND SUPPLEMENTAL EMAIL DATE: JAN. 8TH, 2018.

MATERIALS

PRECAST UNITS SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH CON/SPAN(R) SPECIFICATIONS. CONCRETE FOR FOOTINGS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI. REINFORCING STEEL FOR FOOTINGS SHALL CONFORM TO ASTM A615 OR A996-GRADE 60.

TOPOGRAPHIC SURVEY DATA:

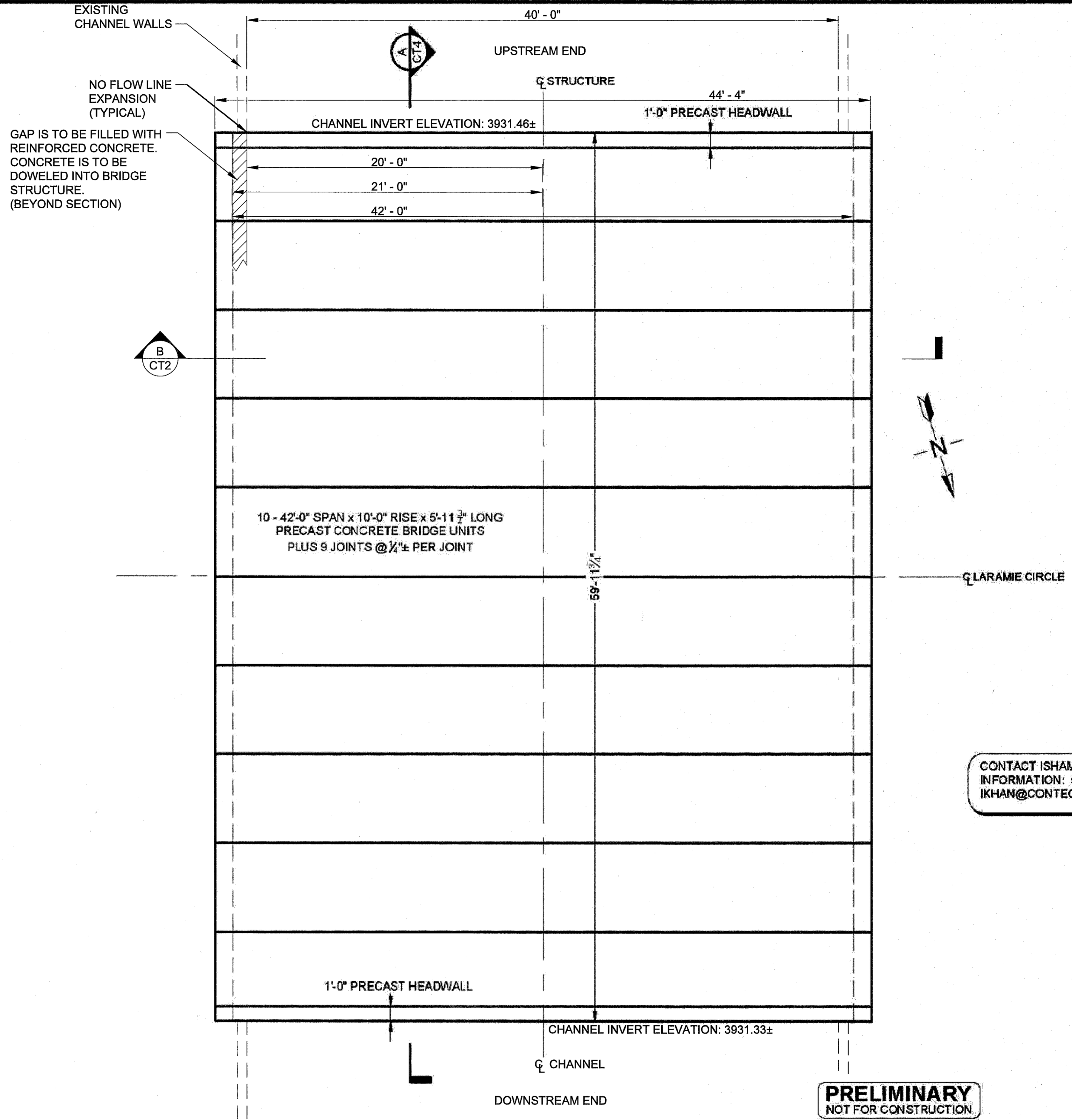
ELEVATIONS AND CONTOURS SHOWN ARE BASED ON THE NAVD88 DATUM.

BENCHMARK:

CITY MONUMENT LOCATED AT THE CENTERLINE INTERSECTION OF CLYDESDALE DRIVE AND PALOMINO STREET.
 ELEVATION: 3928.24' (E.P.V.D.). THE NORTH AMERICAN VERTICAL DATUM OF SAID CITY MONUMENT IS ELEVATION = 3939.53' (NAVD 88).

TO CONVERT TO NAVD 88 DATUM, ADD 11.29 FEET FROM E.P.V.D. ELEVATION.
 TO CONVERT TO NGVD 29 DATUM, SUBTRACT 0.33 FEET FROM NAVD 88 ELEVATION.

TIE TO FOUND CITY MONUMENT @ INTERSECTION OF PALOMINO ST. AND CLYDESDALE DR.,
 N08°43'36"W-416.41', BENCHMARK ELEV=3939.53' (NAVD88)



CONTACT ISHAM KHAN FOR MORE INFORMATION: 513-716-2178, IKHAN@CONTECHES.COM

PRELIMINARY
NOT FOR CONSTRUCTION



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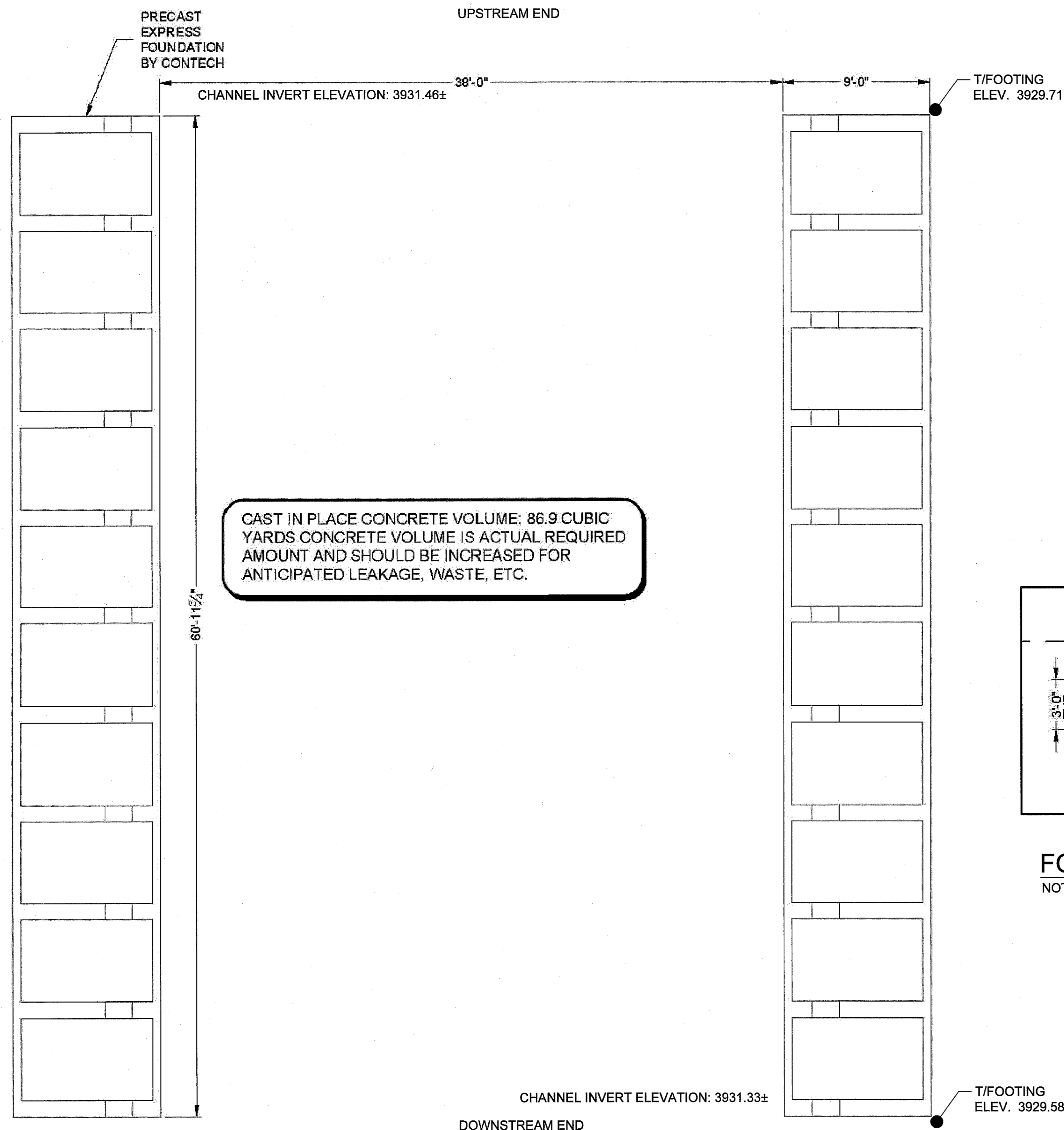
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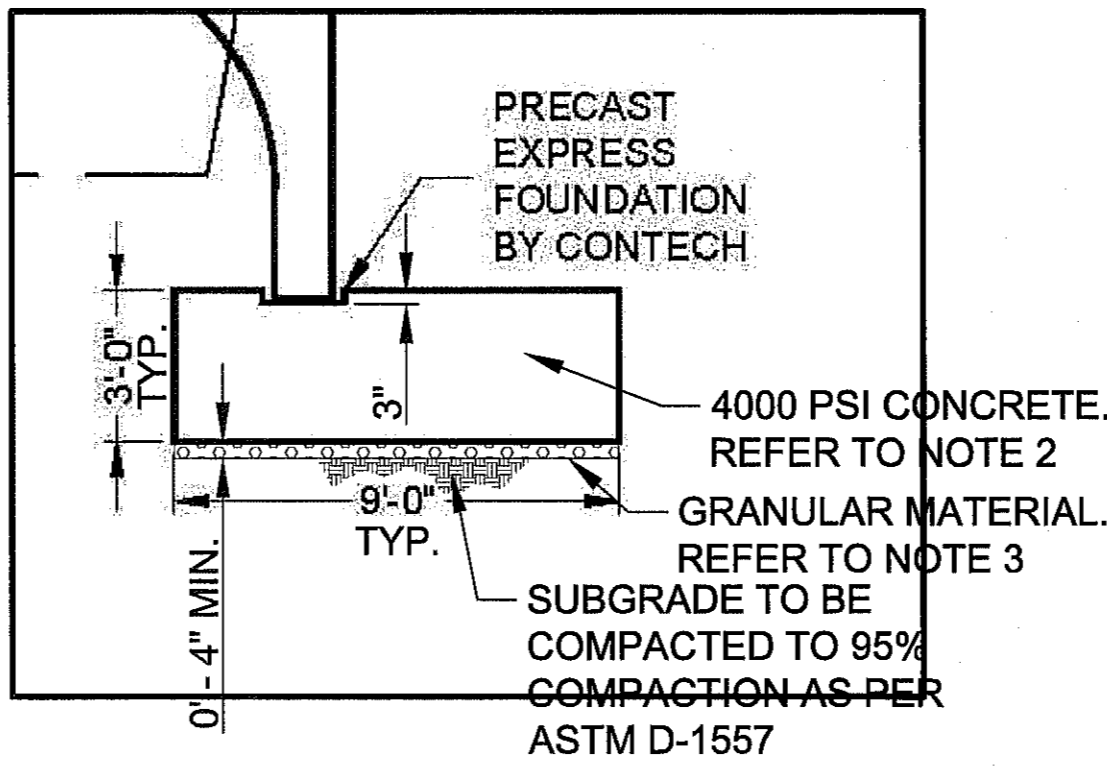
CONSPAN
BRIDGE SYSTEMS
EXPRESS Foundations
PRELIMINARY
NOT FOR CONSTRUCTION

HIDDEN VILLAGE SUBDIVISION
42' SPAN X 10' RISE CON/SPAN PRECAST ARCH
WITH PRECAST EXPRESS FOUNDATION SYSTEM
EL PASO, TX

PROJECT No.: 572719	SEQ. No.: 010	DATE: 5/10/2018
DESIGNED: IK	DRAWN: IK	
CHECKED:	APPROVED:	
SHEET NO.: CT1 OF CT6		



CAST IN PLACE CONCRETE VOLUME: 86.9 CUBIC YARDS CONCRETE VOLUME IS ACTUAL REQUIRED AMOUNT AND SHOULD BE INCREASED FOR ANTICIPATED LEAKAGE, WASTE, ETC.



FOUNDATION DETAIL
NOT TO SCALE

- PRECAST REINFORCED CONCRETE EXPRESS™ FOUNDATION NOTES:**
1. PRECAST FOUNDATION UNITS SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH SPECIFICATIONS FOR MANUFACTURE AND INSTALLATION OF CON/SPAN BRIDGE SYSTEMS.
 2. PRECAST AND CAST-IN-PLACE CONCRETE FOR EXPRESS FOUNDATIONS SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI. REINFORCING STEEL FOR FOUNDATIONS SHALL CONFORM TO ASTM A615 OR A996, GRADE 60.
 3. PRECAST FOUNDATION UNITS SHALL BE SET ON A MINIMUM 4-INCH THICK BASE LAYER OF COMPACTED GRANULAR MATERIAL THE FULL WIDTH OF THE FOUNDATION.
 4. COMPACTED BACKFILL MATERIAL MUST BE PLACED UP TO THE TOP OF THE PRECAST FOUNDATION UNITS ON BOTH SIDES PRIOR TO PLACING CAST-IN-PLACE CONCRETE PORTION OF FOUNDATIONS.
 5. CONCRETE SURFACES WHICH CAST-IN-PLACE CONCRETE WILL BE PLACED AGAINST SHALL BE CLEAN, FREE OF LAITANCE, DIRT, STANDING WATER AND ANY OTHER MATERIAL THAT MAY IMPAIR THE BOND BETWEEN THE PRECAST CONCRETE AND CAST-IN-PLACE CONCRETE.
 6. CAST-IN-PLACE CONCRETE MIX USED TO FILL FOUNDATION SHALL BE ABLE TO FLOW INTO ARCH SHIM SPACE OR NON-SHRINK GROUT SHALL BE PLACED UNDER ARCH UNIT LEG AT FOUNDATION CROSS MEMBERS PRIOR TO PLACEMENT OF CAST-IN-PLACE PORTION OF FOUNDATION.
 7. IF THE AMBIENT TEMPERATURE AT THE TIME OF PLACEMENT OF CAST-IN-PLACE CONCRETE IS ABOVE 90°F OR EXPECTED TO GO BELOW 35°F DURING THE CURE PERIOD, THE CONTRACTOR SHALL FOLLOW THE REQUIREMENTS OF THE LATEST EDITION OF THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS, SECTION 8.6.2 HOT WEATHER PROTECTION OR SECTION 8.6.4 COLD WEATHER PROTECTION.
 8. IF PRECAST ARCH UNITS ARE TO BE ERECTED ON PRECAST FOUNDATION UNITS PRIOR TO PLACEMENT OF CAST-IN-PLACE CONCRETE, THE CABLE TIES/RODS (SHIPPED WITH LONG-SPAN STRUCTURES) MUST REMAIN IN PLACE AND MAY NOT BE REMOVED UNTIL CAST-IN-PLACE CONCRETE HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI.
 9. IF CABLE TIES/RODS (SHIPPED WITH LONG-SPAN STRUCTURES) MUST BE REMOVED PRIOR TO SETTING OF ARCH UNITS, CAST-IN-PLACE CONCRETE PORTION OF FOUNDATIONS MUST BE PLACED AND ALLOWED TO REACH A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI BEFORE PLACEMENT OF PRECAST ARCH UNITS, HEADWALLS AND WINGWALLS. CONTRACTOR MUST FOLLOW SPECIFICATION SECTION 13.4 AND NOTIFY CONTECH ENGINEER PRIOR TO REMOVING CABLES TIES/RODS.
 10. IF CAST-IN-PLACE CONCRETE PORTION OF FOUNDATION IS TO BE PLACED PRIOR TO SETTING OF ARCH UNITS, HEADWALLS OR WINGWALLS, CAST-IN-PLACE CONCRETE SHALL REACH A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI BEFORE PRECAST ARCH UNITS, HEADWALLS AND WINGWALLS ARE SET.
 11. FOUNDATION CONCRETE SHALL REACH ITS FULL DESIGN STRENGTH BEFORE BACKFILLING OF ARCH UNITS MAY COMMENCE.

TOPOGRAPHIC SURVEY DATA:
ELEVATIONS AND CONTOURS SHOWN ARE BASED ON THE NAVD88 DATUM.

572719 010 5/10/2018

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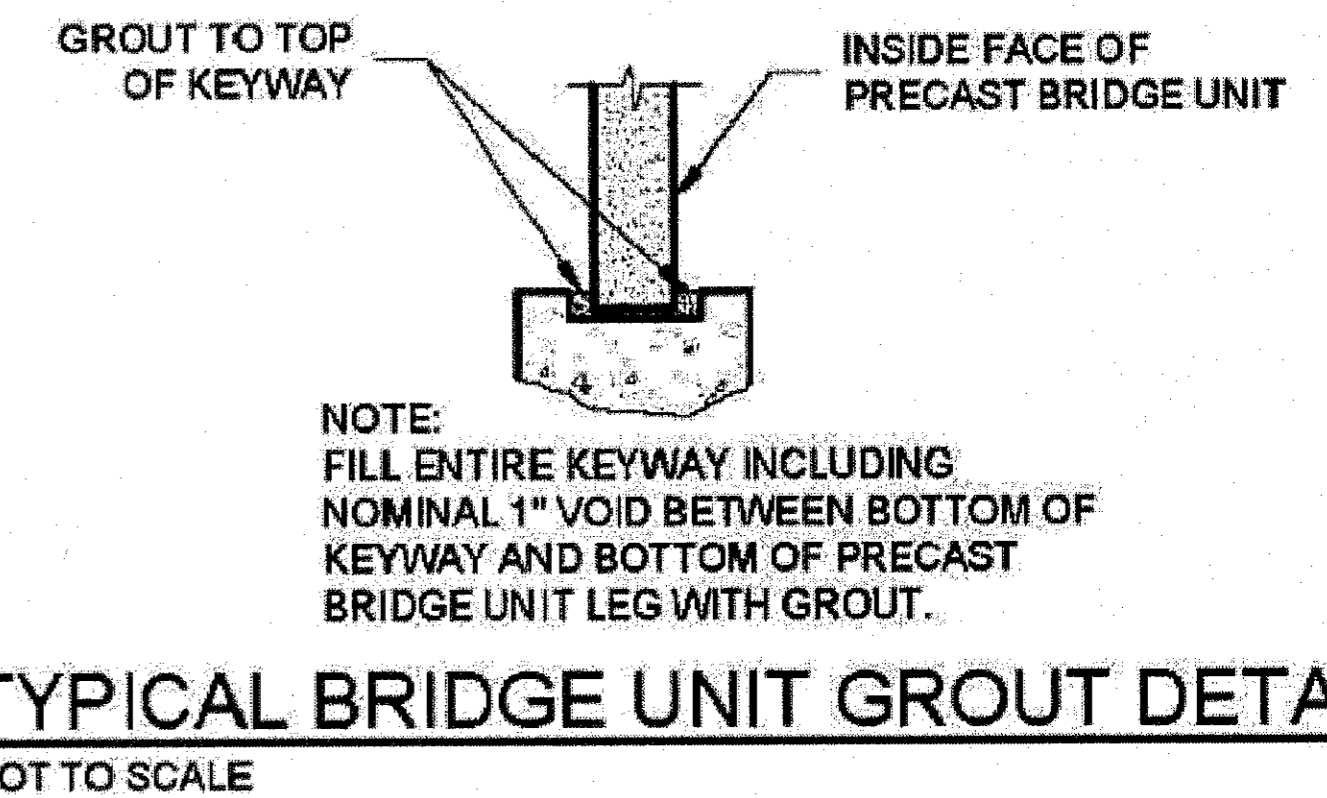
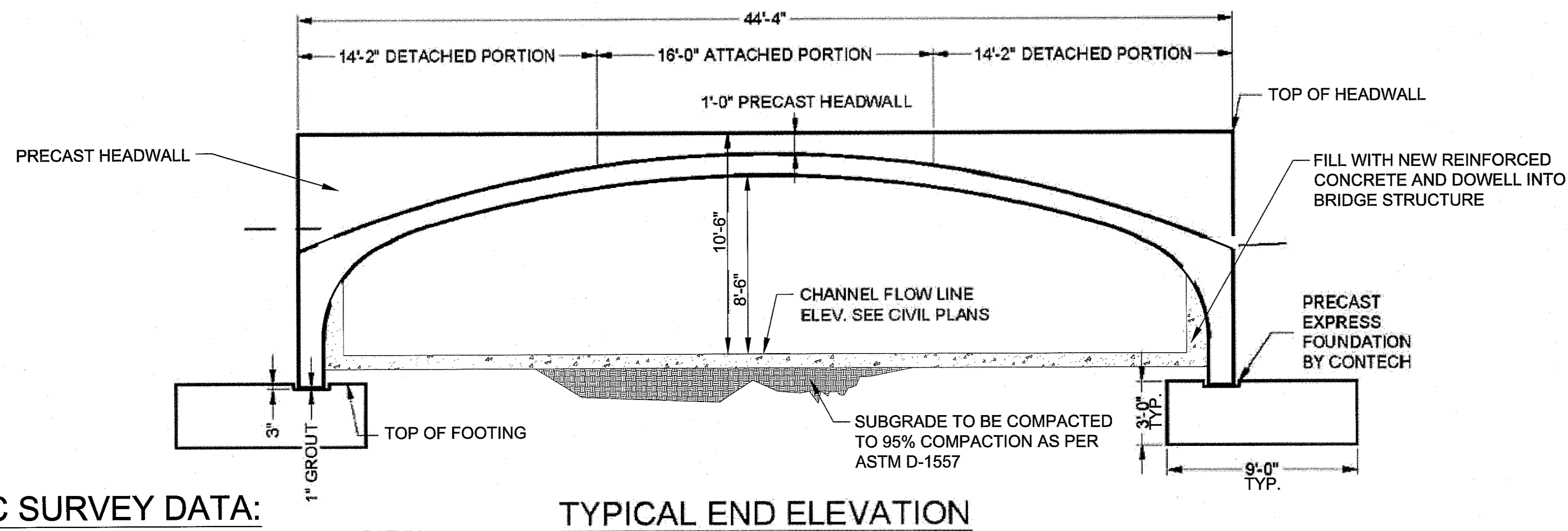
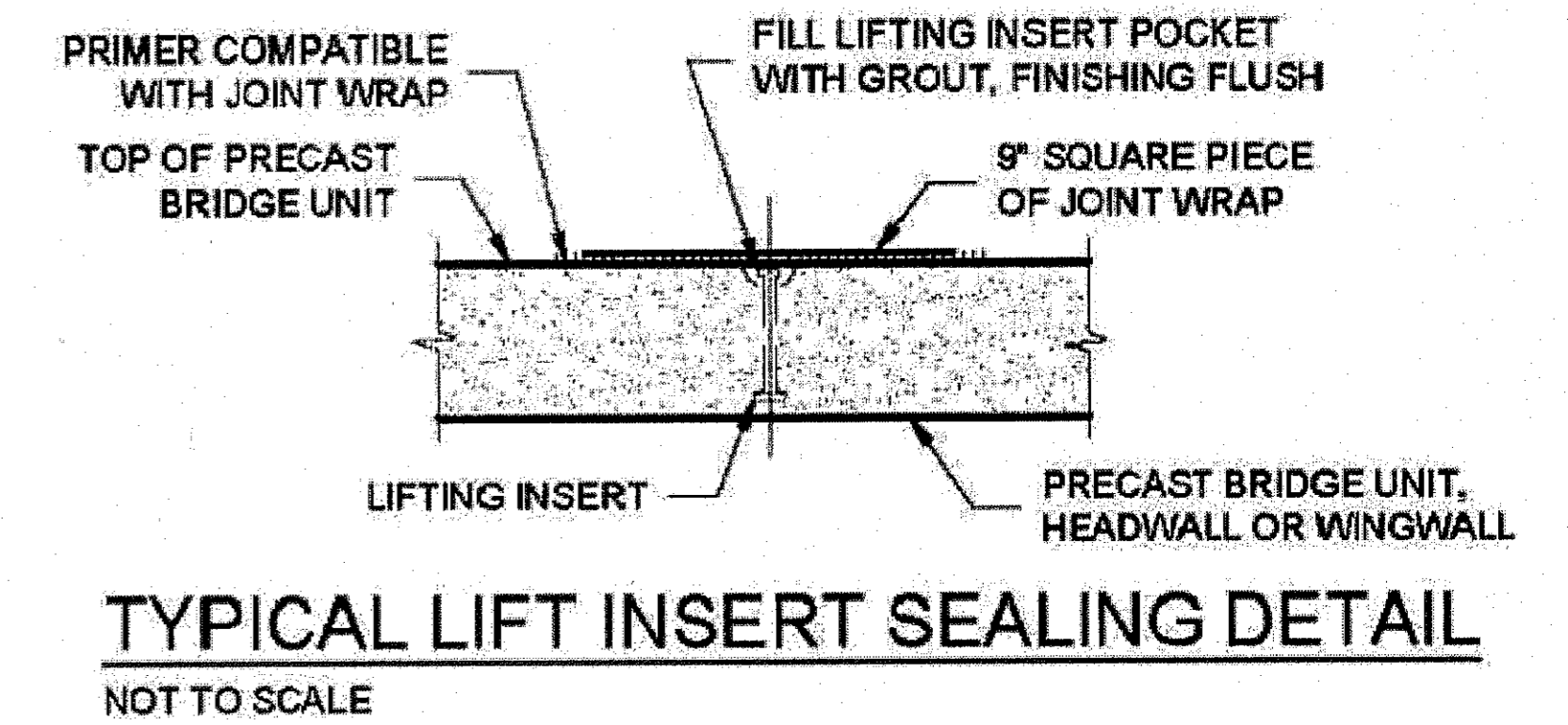
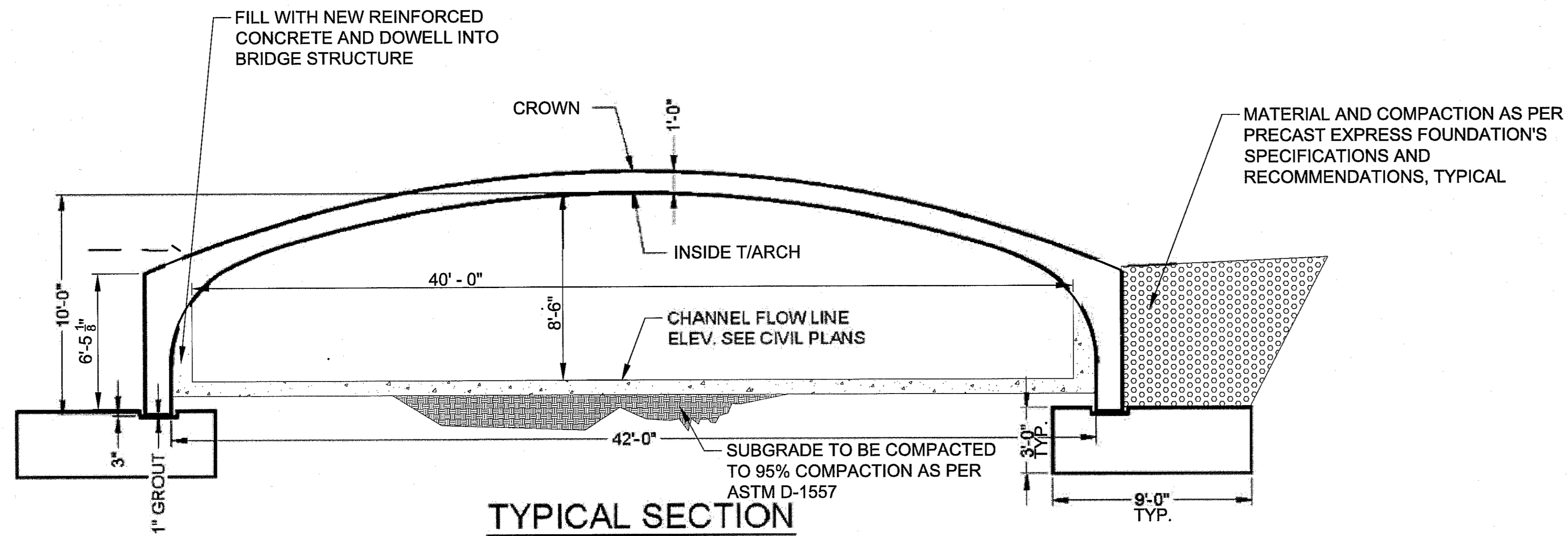
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HIDDEN VILLAGE SUBDIVISION
42' SPAN X 10' RISE CON/SPAN PRECAST ARCH
WITH PRECAST EXPRESS FOUNDATION SYSTEM
EL PASO, TX

PROJECT No.:	SEQ. No.:	DATE:
572719	010	5/10/2018
DESIGNED:	DRAWN:	
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CHECKED:	APPROVED:	
SHEET NO.:	CT2 OF CT6	



TOPOGRAPHIC SURVEY DATA:
ELEVATIONS AND CONTOURS SHOWN ARE BASED ON THE NAVD88 DATUM.

BENCHMARK:

CITY MONUMENT LOCATED AT THE CENTERLINE INTERSECTION OF CLYDESDALE DRIVE AND PALOMINO STREET.
ELEVATION: 3928.24' (E.P.V.D.). THE NORTH AMERICAN VERTICAL DATUM OF SAID CITY MONUMENT IS ELEVATION = 3939.53' (NAVD 88).

TO CONVERT TO NAVD 88 DATUM, ADD 11.29 FEET FROM E.P.V.D. ELEVATION.

TO CONVERT TO NGVD 29 DATUM, SUBTRACT 0.33 FEET FROM NAVD 88 ELEVATION.

TIE TO FOUND CITY MONUMENT @ INTERSECTION OF PALOMINO ST. AND CLYDESDALE DR., N08°43'36"W~416.41', BENCHMARK ELEV=3939.53' (NAVD88)

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SPECIFICATIONS FOR MANUFACTURE AND INSTALLATION OF CON/SPAN® BRIDGE SYSTEMS

1. DESCRIPTION

- 1.1. TYPE - THIS WORK SHALL CONSIST OF FURNISHING AND CONSTRUCTING A CON/SPAN® BRIDGE SYSTEM IN ACCORDANCE WITH THESE SPECIFICATIONS AND IN REASONABLY CLOSE CONFORMITY WITH THE LINES, GRADES, DESIGN AND DIMENSIONS SHOWN ON THE PLANS OR AS ESTABLISHED BY THE ENGINEER. IN SITUATIONS WHERE TWO OR MORE SPECIFICATIONS APPLY TO THIS WORK, THE MOST STRINGENT REQUIREMENTS SHALL GOVERN.
- 1.2. DESIGNATION - PRECAST REINFORCED CONCRETE CON/SPAN® BRIDGE UNITS MANUFACTURED IN ACCORDANCE WITH THIS SPECIFICATION SHALL BE DESIGNATED BY SPAN AND RISE. PRECAST REINFORCED CONCRETE WINGWALLS AND HEADWALLS MANUFACTURED IN ACCORDANCE WITH THIS SPECIFICATION SHALL BE DESIGNATED BY LENGTH, HEIGHT, AND DEFLECTION ANGLE. PRECAST REINFORCED CONCRETE EXPRESS™ FOUNDATION UNITS MANUFACTURED IN ACCORDANCE WITH THIS SPECIFICATION SHALL BE DESIGNATED BY LENGTH, HEIGHT AND WIDTH.

2. DESIGN

- 2.1. SPECIFICATIONS - THE PRECAST ELEMENTS ARE DESIGNED IN ACCORDANCE WITH THE "AASHTO LRFD BRIDGE SPECIFICATION" 8TH EDITION, ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2012. A MINIMUM OF ONE FOOT OF COVER ABOVE THE CROWN OF THE BRIDGE UNITS IS REQUIRED IN THE INSTALLED CONDITION. (UNLESS NOTED OTHERWISE ON THE SHOP DRAWINGS AND DESIGNED ACCORDINGLY.)

3. MATERIALS

- 3.1. CONCRETE - THE CONCRETE FOR THE PRECAST ELEMENTS SHALL BE AIR-ENTRAINED WHEN INSTALLED IN AREAS SUBJECT TO FREEZE-THAW CONDITIONS, COMPOSED OF PORTLAND CEMENT, FINE AND COARSE AGGREGATES, ADMIXTURES AND WATER. AIR-ENTRAINED CONCRETE SHALL CONTAIN 6 ± 2 PERCENT AIR. THE AIR-ENTRAINING ADMIXTURE SHALL CONFORM TO AASHTO M154. THE MINIMUM CONCRETE COMPRESSIVE STRENGTH SHALL BE AS SHOWN ON THE SHOP DRAWINGS.
 - 3.1.1. PORTLAND CEMENT - SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATIONS C150-TYPE I, TYPE II, OR TYPE III CEMENT.
 - 3.1.2. COARSE AGGREGATE - SHALL CONSIST OF STONE HAVING A MAXIMUM SIZE OF 1 INCH. AGGREGATE SHALL MEET REQUIREMENTS FOR ASTM C33.
 - 3.1.3. WATER REDUCING ADMIXTURE - THE MANUFACTURER MAY SUBMIT FOR APPROVAL BY THE ENGINEER, A WATER-REDUCING ADMIXTURE FOR THE PURPOSE OF INCREASING WORKABILITY AND REDUCING THE WATER REQUIREMENT FOR THE CONCRETE.
 - 3.1.4. CALCIUM CHLORIDE - THE ADDITION TO THE MIX OF CALCIUM CHLORIDE OR ADMIXTURES CONTAINING CALCIUM CHLORIDE WILL NOT BE PERMITTED.
 - 3.1.5. MIXTURE - THE AGGREGATES, CEMENT AND WATER SHALL BE PROPORTIONED AND MIXED IN A BATCH MIXER TO PRODUCE A HOMOGENEOUS CONCRETE MEETING THE STRENGTH REQUIREMENTS OF THIS SPECIFICATION. THE PROPORTION OF PORTLAND CEMENT IN THE MIXTURE SHALL NOT BE LESS THAN 564 POUNDS (3 SACKS) PER CUBIC YARD OF CONCRETE.
- 3.2. STEEL REINFORCEMENT
 - 3.2.1. THE MINIMUM STEEL YIELD STRENGTH SHALL BE 60,000 PSI, UNLESS OTHERWISE NOTED ON THE SHOP DRAWINGS.
 - 3.2.2. ALL REINFORCING STEEL FOR THE PRECAST ELEMENTS SHALL BE FABRICATED AND PLACED IN ACCORDANCE WITH THE DETAILED SHOP DRAWINGS SUBMITTED BY THE MANUFACTURER.
 - 3.2.3. REINFORCEMENT SHALL CONSIST OF WELDED WIRE FABRIC CONFORMING TO ASTM SPECIFICATION A195 OR A 497, OR DEFORMED BILLET-STEEL BARS CONFORMING TO ASTM SPECIFICATION A615, GRADE 60. LONGITUDINAL DISTRIBUTION REINFORCEMENT MAY CONSIST OF WELDED WIRE FABRIC OR DEFORMED BILLET-STEEL BARS.
- 3.3. STEEL HARDWARE
 - 3.3.1. BOLTS AND THREADED RODS FOR WINGWALL CONNECTIONS SHALL CONFORM TO ASTM A307. NUTS SHALL CONFORM TO AASHTO M292 (ASTM A194) GRADE 2H. ALL BOLTS, THREADED RODS AND NUTS USED IN WINGWALL CONNECTIONS SHALL BE MECHANICALLY ZINC COATED IN ACCORDANCE WITH ASTM B689 CLASS 50.
 - 3.3.2. STRUCTURAL STEEL FOR WINGWALL CONNECTION PLATES AND PLATE WASHERS SHALL CONFORM TO AASHTO M 270 (ASTM A 709) GRADE 36 AND SHALL BE HOT DIP GALVANIZED AS PER AASHTO M111 (ASTM A123).
 - 3.3.3. INSERTS FOR WINGWALLS SHALL BE 1" DIAMETER TWO-BOLT PRESET WINGWALL ANCHORS AS MANUFACTURED BY DAYTON SUPERIOR CONCRETE ACCESSORIES, MIAMISBURG, OHIO, (800) 745-3700 AND SHALL BE MECHANICALLY ZINC COATED IN ACCORDANCE WITH ASTM B689 CLASS 50.
 - 3.3.4. FERRULE LOOP INSERTS SHALL BE F-64 FERRULE LOOP INSERTS AS MANUFACTURED BY DAYTON SUPERIOR CONCRETE ACCESSORIES, MIAMISBURG, OHIO, (800) 745-3700.
 - 3.3.5. HOOK BOLTS USED IN ATTACHED HEADWALL CONNECTIONS SHALL BE ASTM A307.
 - 3.3.6. INSERTS FOR DETACHED HEADWALL CONNECTIONS SHALL BE AISI TYPE 304 STAINLESS STEEL EXPANDED COIL INSERTS AS MANUFACTURED BY DAYTON SUPERIOR

CONCRETE ACCESSORIES, MIAMISBURG, OHIO, (800) 745-3700. COIL RODS AND NUTS USED IN HEADWALL CONNECTIONS SHALL BE AISI TYPE 304 STAINLESS STEEL WASHERS USED IN HEADWALL CONNECTIONS SHALL BE EITHER AISI TYPE 304 STAINLESS STEEL PLATE WASHERS OR AASHTO M270 (ASTM A 709) GRADE 36 PLATE WASHERS HOT DIP GALVANIZED AS PER AASHTO M111 (ASTM A123).

3.3.7. MECHANICAL SPLICES OF REINFORCING BARS SHALL BE MADE USING THE DOWEL BAR SPLICER SYSTEM AS MANUFACTURED BY DAYTON SUPERIOR CONCRETE ACCESSORIES, MIAMISBURG, OHIO, (800) 745-3700, AND SHALL CONSIST OF THE DOWEL BAR SPLICER (DB-SAE) AND DOWEL-IN (DI).

4. MANUFACTURE OF PRECAST ELEMENTS - SUBJECT TO THE PROVISIONS OF SECTION 5, BELOW, THE PRECAST ELEMENT DIMENSION AND REINFORCEMENT DETAILS SHALL BE AS PRESCRIBED IN THE PLAN AND SHOP DRAWINGS PROVIDED BY THE MANUFACTURER.

- 4.1. FORMS - THE FORMS USED IN MANUFACTURE SHALL BE SUFFICIENTLY RIGID AND ACCURATE TO MAINTAIN THE REQUIRED PRECAST ELEMENT DIMENSIONS WITHIN THE PERMISSIBLE VARIATIONS GIVEN IN SECTION 6 OF THESE SPECIFICATIONS. ALL CASTING SURFACES SHALL BE OF A SMOOTH MATERIAL.
- 4.2. PLACEMENT OF REINFORCEMENT
 - 4.2.1. PLACEMENT OF REINFORCEMENT IN PRECAST BRIDGE UNITS - THE COVER OF CONCRETE OVER THE OUTSIDE CIRCUMFERENTIAL REINFORCEMENT SHALL BE 2" MINIMUM. THE COVER OF CONCRETE OVER THE INSIDE CIRCUMFERENTIAL REINFORCEMENT SHALL BE 1 1/2" MINIMUM, UNLESS OTHERWISE NOTED ON THE SHOP DRAWINGS. THE CLEAR DISTANCE FROM THE END CIRCUMFERENTIAL WIRES SHALL NOT BE LESS THAN 1" NOR MORE THAN 2" FROM THE ENDS OF EACH SECTION. REINFORCEMENT SHALL BE ASSEMBLED UTILIZING SINGLE OR MULTIPLE LAYERS OF WELDED WIRE FABRIC (NOT TO EXCEED 3 LAYERS), SUPPLEMENTED WITH A SINGLE LAYER OF DEFORMED BILLET-STEEL BARS, WHEN NECESSARY. WELDED WIRE FABRIC SHALL BE COMPOSED OF CIRCUMFERENTIAL AND LONGITUDINAL WIRES MEETING THE SPACING REQUIREMENTS OF 4.3, BELOW, AND SHALL CONTAIN SUFFICIENT LONGITUDINAL WIRES EXTENDING THROUGH THE BRIDGE UNIT TO MAINTAIN THE SHAPE AND POSITION OF THE REINFORCEMENT. LONGITUDINAL DISTRIBUTION REINFORCEMENT MAY BE WELDED WIRE FABRIC OR DEFORMED BILLET-STEEL BARS AND SHALL MEET THE SPACING REQUIREMENTS OF 4.3, BELOW. THE ENDS OF THE LONGITUDINAL DISTRIBUTION REINFORCEMENT SHALL BE NOT MORE THAN 3" AND NOT LESS THAN 1 1/2" FROM THE ENDS OF THE BRIDGE UNIT.
 - 4.2.2. BENDINGS OF REINFORCEMENT FOR PRECAST BRIDGE UNITS - THE OUTSIDE AND INSIDE CIRCUMFERENTIAL REINFORCING STEEL FOR THE CORNERS OF THE BRIDGE SHALL BE BENT TO SUCH AN ANGLE THAT IS APPROXIMATELY EQUAL TO THE CONFIGURATION OF THE BRIDGE'S OUTSIDE CORNER.
 - 4.2.3. PLACEMENT OF REINFORCEMENT FOR PRECAST WINGWALLS AND HEADWALLS - THE COVER OF CONCRETE OVER THE LONGITUDINAL AND TRANSVERSE REINFORCEMENT SHALL BE 2" MINIMUM. THE CLEAR DISTANCE FROM THE END OF EACH PRECAST ELEMENT TO THE END OF REINFORCING STEEL SHALL NOT BE LESS THAN 1 1/2" NOR MORE THAN 3". REINFORCEMENT SHALL BE ASSEMBLED UTILIZING A SINGLE LAYER OF WELDED WIRE FABRIC, OR A SINGLE LAYER OF DEFORMED BILLET-STEEL BARS. WELDED WIRE FABRIC SHALL BE COMPOSED OF TRANSVERSE AND LONGITUDINAL WIRES MEETING THE SPACING REQUIREMENTS OF 4.3, BELOW, AND SHALL CONTAIN SUFFICIENT LONGITUDINAL WIRES EXTENDING THROUGH THE ELEMENT TO MAINTAIN THE SHAPE AND POSITION OF THE REINFORCEMENT. LONGITUDINAL REINFORCEMENT MAY BE WELDED WIRE FABRIC OR DEFORMED BILLET-STEEL BARS AND SHALL MEET THE SPACING REQUIREMENTS OF 4.3, BELOW.
 - 4.2.4. PLACEMENT OF REINFORCEMENT FOR PRECAST FOUNDATION UNITS - THE COVER OF CONCRETE OVER THE BOTTOM REINFORCEMENT SHALL BE 3 INCHES MINIMUM. THE COVER OF CONCRETE FOR ALL OTHER REINFORCEMENT SHALL BE 2 INCHES MINIMUM. THE CLEAR DISTANCE FROM THE END OF EACH PRECAST ELEMENT TO THE END OF REINFORCING STEEL SHALL NOT BE LESS THAN 2 INCHES NOR MORE THAN 3 INCHES. REINFORCEMENT SHALL BE ASSEMBLED UTILIZING A SINGLE LAYER OF WELDED WIRE FABRIC OR A SINGLE LAYER OF DEFORMED BILLET-STEEL BARS. WELDED WIRE FABRIC SHALL BE COMPOSED OF TRANSVERSE AND LONGITUDINAL WIRES MEETING THE SPACING REQUIREMENTS OF 4.3, BELOW, AND SHALL CONTAIN SUFFICIENT LONGITUDINAL WIRES EXTENDING THROUGH THE ELEMENT TO MAINTAIN THE SHAPE AND POSITION OF THE REINFORCEMENT. LONGITUDINAL REINFORCEMENT MAY BE WELDED WIRE FABRIC OR DEFORMED BILLET-STEEL BARS AND SHALL MEET THE SPACING REQUIREMENTS OF 4.3, BELOW.
- 4.3. LAPS, WELDS, SPACING
 - 4.3.1. LAPS, WELDS, AND SPACING FOR PRECAST BRIDGE UNITS - TENSION SPLICES IN THE CIRCUMFERENTIAL REINFORCEMENT SHALL BE MADE BY LAPPING. LAPS MAY BE TACK WELDED TOGETHER FOR ASSEMBLY PURPOSES. FOR SMOOTH WELDED WIRE FABRIC, THE OVERLAP SHALL MEET THE REQUIREMENTS OF AASHTO 5.11.2.5.2 AND 5.11.6.2. FOR DEFORMED WELDED WIRE FABRIC, THE OVERLAP SHALL MEET THE REQUIREMENTS OF AASHTO 5.11.2.5.1 AND 5.11.6.1. THE OVERLAP OF WELDED WIRE FABRIC SHALL BE MEASURED BETWEEN THE OUTER-MOST LONGITUDINAL WIRES OF EACH FABRIC SHEET. FOR DEFORMED BILLET-STEEL BARS, THE OVERLAP SHALL MEET THE REQUIREMENTS OF AASHTO 5.11.2.1 FOR SPLICES OTHER THAN TENSION SPLICES. THE OVERLAP SHALL BE A MINIMUM OF 1'-0" FOR WELDED WIRE FABRIC OR DEFORMED BILLET-STEEL BARS. THE SPACING CENTER TO CENTER OF THE CIRCUMFERENTIAL WIRES IN A WIRE FABRIC SHEET SHALL BE NOT LESS THAN 2" NOR MORE THAN 4". THE SPACING CENTER TO CENTER OF THE LONGITUDINAL WIRES SHALL NOT BE MORE THAN 8". THE SPACING CENTER TO CENTER OF THE LONGITUDINAL DISTRIBUTION STEEL FOR EITHER LINE OF REINFORCING IN THE TOP SLAB SHALL BE NOT MORE THAN 1'-4".
 - 4.3.2. LAPS, WELDS, AND SPACING FOR PRECAST WINGWALLS, HEADWALLS AND FOUNDATIONS - SPLICES IN THE REINFORCEMENT SHALL BE MADE BY LAPPING. LAPS MAY BE TACK WELDED TOGETHER FOR ASSEMBLY PURPOSES. FOR SMOOTH WELDED WIRE FABRIC, THE OVERLAP SHALL MEET THE REQUIREMENTS OF AASHTO 5.11.2.5.2 AND 5.11.6.2. FOR DEFORMED WELDED WIRE FABRIC, THE OVERLAP SHALL MEET THE REQUIREMENTS OF AASHTO 5.11.2.5.1 AND 5.11.6.1. FOR DEFORMED BILLET-STEEL BARS, THE OVERLAP SHALL MEET THE REQUIREMENTS OF AASHTO 5.11.2.1. THE SPACING CENTER-TO-CENTER OF THE WIRES IN A WIRE FABRIC SHEET SHALL BE NOT LESS THAN 2" NOR MORE THAN 8".
- 4.4. CURING - THE PRECAST CONCRETE ELEMENTS SHALL BE CURED FOR A SUFFICIENT LENGTH OF TIME SO THAT THE CONCRETE WILL DEVELOP THE SPECIFIED COMPRESSIVE STRENGTH IN 28 DAYS OR LESS. ANY ONE OF THE FOLLOWING METHODS OF CURING OR COMBINATIONS THEREOF SHALL BE USED:
 - 4.4.1. STEAM CURING - THE PRECAST ELEMENTS MAY BE LOW-PRESSURE STEAM CURED BY A SYSTEM THAT WILL MAINTAIN A MOIST ATMOSPHERE.
 - 4.4.2. WATER CURING - THE PRECAST ELEMENTS MAY BE WATER CURED BY ANY METHOD THAT WILL KEEP THE SECTIONS MOIST.
 - 4.4.3. MEMBRANE CURING - A SEALING MEMBRANE CONFORMING TO THE REQUIREMENTS OF ASTM SPECIFICATION C309 MAY BE APPLIED AND SHALL BE LEFT INTACT UNTIL THE REQUIRED CONCRETE COMPRESSIVE STRENGTH IS ATTAINED. THE CONCRETE TEMPERATURE AT THE TIME OF APPLICATION SHALL BE WITHIN ± 10 DEGREES F OF THE ATMOSPHERIC TEMPERATURE. ALL SURFACES SHALL BE KEPT MOIST PRIOR TO THE APPLICATION OF THE COMPOUNDS AND SHALL BE DAMP WHEN THE COMPOUND IS APPLIED.
- 4.5. STORAGE, HANDLING & DELIVERY
 - 4.5.1. STORAGE - PRECAST CONCRETE BRIDGE ELEMENTS SHALL BE LIFTED AND STORED IN "AS-CAST" POSITION. PRECAST CONCRETE HEADWALL AND WINGWALL UNITS ARE CAST, STORED AND SHIPPED IN A FLAT POSITION. THE PRECAST ELEMENTS SHALL BE STORED IN SUCH A MANNER TO PREVENT CRACKING OR DAMAGE. STORE ELEMENTS USING TIMBER SUPPORTS AS APPROPRIATE. THE UNITS SHALL NOT BE MOVED UNTIL THE CONCRETE COMPRESSIVE STRENGTH HAS REACHED A MINIMUM OF 2500 PSI, AND THEY SHALL NOT BE STORED IN AN UPRIGHT POSITION.
 - 4.5.2. HANDLING - HANDLING DEVICES SHALL BE PERMITTED IN EACH PRECAST ELEMENT FOR THE PURPOSE OF HANDLING AND SETTING. SPREADER BEAMS MAY BE REQUIRED FOR THE LIFTING OF PRECAST CONCRETE BRIDGE ELEMENTS TO PRECLUDE DAMAGE FROM BENDING OR TORSION FORCES.
 - 4.5.3. DELIVERY - PRECAST CONCRETE ELEMENTS MUST NOT BE SHIPPED UNTIL THE CONCRETE HAS ATTAINED THE SPECIFIED DESIGN COMPRESSIVE STRENGTH, OR AS DIRECTED BY THE DESIGN ENGINEER. PRECAST CONCRETE ELEMENTS MAY BE UNLOADED AND PLACED ON THE GROUND AT THE SITE UNTIL INSTALLED. STORE ELEMENTS USING TIMBER SUPPORTS AS APPROPRIATE.
- 4.6. QUALITY ASSURANCE - THE PRECASTER SHALL DEMONSTRATE ADHERENCE TO THE STANDARDS SET FORTH IN THE NPCA QUALITY CONTROL MANUAL. THE PRECASTER SHALL MEET EITHER SECTION 4.6.1 OR 4.6.2.
 - 4.6.1. CERTIFICATION - THE PRECASTER SHALL BE CERTIFIED BY THE PRECAST/PRESTRESSED CONCRETE INSTITUTE PLANT CERTIFICATION PROGRAM OR THE NATIONAL PRECAST CONCRETE ASSOCIATION'S PLANT CERTIFICATION PROGRAM PRIOR TO AND DURING PRODUCTION OF THE PRODUCTS COVERED BY THIS SPECIFICATION.
 - 4.6.2. QUALIFICATIONS, TESTING AND INSPECTION
 - 4.6.2.1. THE PRECASTER SHALL HAVE BEEN IN THE BUSINESS OF PRODUCING PRECAST CONCRETE PRODUCTS SIMILAR TO THOSE SPECIFIED FOR A MINIMUM OF THREE YEARS. HE SHALL MAINTAIN A PERMANENT QUALITY CONTROL DEPARTMENT OR RETAIN AN INDEPENDENT TESTING AGENCY ON A CONTINUING BASIS. THE AGENCY SHALL ISSUE A REPORT, CERTIFIED BY A LICENSED ENGINEER, DETAILING THE ABILITY OF THE PRECASTER TO PRODUCE QUALITY PRODUCTS CONSISTENT WITH INDUSTRY STANDARDS.
 - 4.6.2.2. THE PRECASTER SHALL SHOW THAT THE FOLLOWING TESTS ARE PERFORMED IN ACCORDANCE WITH THE ASTM STANDARDS INDICATED. TESTS SHALL BE PERFORMED AS

INDICATED IN SECTION 8 OF THESE SPECIFICATIONS.

- 4.6.2.2.1. AIR CONTENT: C231 OR C173
- 4.6.2.2.2. COMPRESSIVE STRENGTH: C31, C99, C407
- 4.6.2.3. THE PRECASTER SHALL PROVIDE DOCUMENTATION DEMONSTRATING COMPLIANCE WITH THIS SECTION TO CONTECH ENGINEERED SOLUTIONS AT REGULAR INTERVALS OR UPON REQUEST.
- 4.6.2.4. THE OWNER MAY PLACE AN INSPECTOR IN THE PLANT WHEN THE PRODUCTS COVERED BY THIS SPECIFICATION ARE BEING MANUFACTURED.

4.6.3. DOCUMENTATION - THE PRECASTER SHALL SUBMIT PRECAST PRODUCTION REPORTS TO CONTECH® ENGINEERED SOLUTIONS AS REQUIRED.

5. PERMISSIBLE VARIATIONS

5.1. BRIDGE UNITS

- 5.1.1. INTERNAL DIMENSIONS - THE INTERNAL DIMENSION SHALL VARY NOT MORE THAN 1% FROM THE DESIGN DIMENSIONS NOR MORE THAN 1/2" WHICHEVER IS LESS.
- 5.1.2. SLAB AND WALL THICKNESS - THE SLAB AND WALL THICKNESS SHALL NOT BE LESS THAN THAT SHOWN IN THE DESIGN BY MORE THAN 1/2". A THICKNESS MORE THAN THAT REQUIRED IN THE DESIGN SHALL NOT BE CAUSE FOR REJECTION.
- 5.1.3. LENGTH OF OPPOSITE SURFACES - VARIATIONS IN LAYING LENGTHS OF TWO OPPOSITE SURFACES OF THE BRIDGE UNIT SHALL NOT BE MORE THAN 1/2" IN ANY SECTION, EXCEPT WHERE BEVELED ENDS FOR LAYING OF CURVES ARE SPECIFIED BY THE PURCHASER.
- 5.1.4. LENGTH OF SECTION - THE UNDERRUN IN LENGTH OF A SECTION SHALL NOT BE MORE THAN 1/2" IN ANY BRIDGE UNIT.
- 5.1.5. POSITION OF REINFORCEMENT - THE MAXIMUM VARIATION IN POSITION OF THE REINFORCEMENT SHALL BE ± 1/2" IN NO CASE SHALL THE COVER OVER THE REINFORCEMENT BE LESS THAN 1 1/2" FOR THE INSIDE CIRCUMFERENTIAL STEEL AS MEASURED TO THE EXTERNAL OR INTERNAL SURFACE OF THE BRIDGE. THESE TOLERANCES OR COVER REQUIREMENTS DO NOT APPLY TO MATING SURFACES OF THE JOINTS.
- 5.1.6. AREA OF REINFORCEMENT - THE AREAS OF STEEL REINFORCEMENT SHALL BE THE DESIGN STEEL AREAS AS SHOWN IN THE MANUFACTURER'S SHOP DRAWINGS. STEEL AREAS GREATER THAN THOSE REQUIRED SHALL NOT BE CAUSE FOR REJECTION. THE PERMISSIBLE VARIATION IN DIAMETER OF ANY REINFORCEMENT SHALL CONFORM TO THE TOLERANCES PRESCRIBED IN THE ASTM SPECIFICATION FOR THAT TYPE OF REINFORCEMENT.

5.2. WINGWALLS & HEADWALLS

- 5.2.1. WALL THICKNESS - THE WALL THICKNESS SHALL NOT VARY FROM THAT SHOWN IN THE DESIGN BY MORE THAN 1/2".
- 5.2.2. LENGTH OF WALL SECTIONS - THE LENGTH AND HEIGHT OF THE WALL SHALL NOT VARY FROM THAT SHOWN IN THE DESIGN BY MORE THAN 1/2".
- 5.2.3. POSITION OF REINFORCEMENT - THE MAXIMUM VARIATION IN THE POSITION OF THE REINFORCEMENT SHALL BE ± 1/2" IN NO CASE SHALL THE COVER OVER THE REINFORCEMENT BE LESS THAN 1 1/2".
- 5.2.4. SIZE OF REINFORCEMENT - THE PERMISSIBLE VARIATION IN DIAMETER OF ANY REINFORCING SHALL CONFORM TO THE TOLERANCES PRESCRIBED IN THE ASTM SPECIFICATION FOR THAT TYPE OF REINFORCING. STEEL AREA GREATER THAN THAT REQUIRED SHALL NOT BE CAUSE FOR REJECTION.

5.3. FOUNDATION UNITS

- 5.3.1. WALL THICKNESS - THE WALL THICKNESS SHALL NOT VARY FROM THAT SHOWN IN THE DESIGN BY MORE THAN 1/2".
- 5.3.2. LENGTH HEIGHT AND WIDTH OF FOUNDATION SECTIONS - THE LENGTH, HEIGHT AND WIDTH OF THE FOUNDATION UNITS SHALL NOT VARY FROM THAT SHOWN IN THE DESIGN BY MORE THAN 1/2".
- 5.3.3. POSITION OF REINFORCEMENT - THE MAXIMUM VARIATION IN THE POSITION OF THE REINFORCEMENT SHALL BE ± 1/2" IN NO CASE SHALL THE COVER OVER THE REINFORCEMENT BE LESS THAN 1 1/2".
- 5.3.4. SIZE OF REINFORCEMENT - THE PERMISSIBLE VARIATION IN DIAMETER OF ANY REINFORCING SHALL CONFORM TO THE TOLERANCES PRESCRIBED IN THE ASTM SPECIFICATION FOR THAT TYPE OF REINFORCING. STEEL AREA GREATER THAN THAT REQUIRED SHALL NOT BE CAUSE FOR REJECTION.

6. TESTING/INSPECTION

6.1. TESTING

- 6.1.1. TYPE OF TEST SPECIMEN - CONCRETE COMPRESSIVE STRENGTH SHALL BE DETERMINED FROM COMPRESSION TESTS MADE ON CYLINDERS OR CORES. FOR CYLINDER TESTING, A MINIMUM OF 4 CYLINDERS SHALL BE TAKEN FOR EACH BRIDGE ELEMENT. EACH ELEMENT SHALL BE CONSIDERED SEPARATELY FOR THE PURPOSE OF TESTING AND ACCEPTANCE.
- 6.1.2. COMPRESSION TESTING - CYLINDERS SHALL BE MADE AND TESTED AS PRESCRIBED BY THE ASTM C39 SPECIFICATION. CYLINDERS SHALL BE CURED IN THE SAME ENVIRONMENT AS THE BRIDGE ELEMENTS. CORES SHALL BE OBTAINED AND TESTED FOR COMPRESSIVE STRENGTH IN ACCORDANCE WITH THE PROVISIONS OF THE ASTM C42 SPECIFICATION.
- 6.1.3. ACCEPTABILITY OF CYLINDER TESTS - WHEN THE AVERAGE COMPRESSIVE STRENGTH OF ALL CYLINDERS TESTED IS EQUAL TO OR GREATER THAN THE DESIGN COMPRESSIVE

STRENGTH, AND NOT MORE THAN 10% OF THE CYLINDERS TESTED HAVE A COMPRESSIVE STRENGTH LESS THAN THE DESIGN CONCRETE STRENGTH, AND NO CYLINDER TESTED HAS A COMPRESSIVE STRENGTH LESS THAN 80% OF THE DESIGN COMPRESSIVE STRENGTH, THEN THE ELEMENT SHALL BE ACCEPTED. WHEN THE COMPRESSIVE STRENGTH OF THE CYLINDERS TESTED DOES NOT CONFORM TO THESE ACCEPTANCE CRITERIA, THE ACCEPTABILITY OF THE ELEMENT MAY BE DETERMINED AS DESCRIBED IN SECTION 8.1.4, BELOW.

- 6.1.4. ACCEPTABILITY OF CORE TESTS - THE COMPRESSIVE STRENGTH OF THE CONCRETE IN A BRIDGE ELEMENT IS ACCEPTABLE WHEN THE AVERAGE CORE TEST STRENGTH IS EQUAL TO OR GREATER THAN THE DESIGN CONCRETE STRENGTH. WHEN THE COMPRESSIVE STRENGTH OF A CORE TESTED IS LESS THAN THE DESIGN CONCRETE STRENGTH, THE PRECAST ELEMENT FROM WHICH THAT CORE WAS TAKEN MAY BE RE-CORED. WHEN THE COMPRESSIVE STRENGTH OF THE RE-CORED IS EQUAL TO OR GREATER THAN THE DESIGN CONCRETE STRENGTH, THE COMPRESSIVE STRENGTH OF THE CONCRETE IN THAT BRIDGE ELEMENT IS ACCEPTABLE.
 - 6.1.4.1. WHEN THE COMPRESSIVE STRENGTH OF ANY RE-CORE IS LESS THAN THE DESIGN CONCRETE STRENGTH, THE PRECAST ELEMENT FROM WHICH THAT CORE WAS TAKEN SHALL BE REJECTED.
 - 6.1.4.2. PLUGGING CORE HOLES - THE CORE HOLES SHALL BE PLUGGED AND SEALED BY THE MANUFACTURER IN A MANNER SUCH THAT THE ELEMENTS WILL MEET ALL OF THE TEST REQUIREMENTS OF THIS SPECIFICATION. PRECAST ELEMENTS SO SEALED SHALL BE CONSIDERED SATISFACTORY FOR USE.
 - 6.1.4.3. TEST EQUIPMENT - EVERY MANUFACTURER FURNISHING PRECAST ELEMENTS UNDER THIS SPECIFICATION SHALL FURNISH ALL FACILITIES AND PERSONNEL NECESSARY TO CARRY OUT THE TEST REQUIRED.

6.2. INSPECTION - THE QUALITY OF MATERIALS, THE PROCESS OF MANUFACTURE, AND THE FINISHED PRECAST ELEMENTS SHALL BE SUBJECT TO INSPECTION BY THE PURCHASER.

7. JOINTS

THE BRIDGE UNITS SHALL BE PRODUCED WITH FLAT BUTT ENDS. THE ENDS OF THE BRIDGE UNITS SHALL BE SUCH THAT WHEN THE SECTIONS ARE LAID TOGETHER THEY WILL MAKE A CONTINUOUS LINE WITH A SMOOTH INTERIOR FREE OF APPRECIABLE IRREGULARITIES. ALL COMPATIBLE WITH THE PERMISSIBLE VARIATIONS IN SECTION 5, ABOVE. THE JOINT WIDTH BETWEEN ADJACENT PRECAST UNITS SHALL NOT EXCEED 1/4".

8. WORKMANSHIP FINISH

THE BRIDGE UNITS, WINGWALLS, HEADWALLS AND FOUNDATION UNITS SHALL BE SUBSTANTIALLY FREE OF FRACTURES. THE ENDS OF THE BRIDGE UNITS SHALL BE NORMAL TO THE WALLS AND CENTERLINE OF THE BRIDGE SECTION, WITHIN THE LIMITS OF THE VARIATIONS GIVEN IN SECTION 5, ABOVE, EXCEPT WHERE BEVELED ENDS ARE SPECIFIED. THE FACES OF THE WINGWALLS AND HEADWALLS SHALL BE PARALLEL TO EACH OTHER, WITHIN THE LIMITS OF VARIATIONS GIVEN IN SECTION 5, ABOVE. THE SURFACE OF THE PRECAST ELEMENTS SHALL BE A SMOOTH STEEL FORM OR TROWELED SURFACE. TRAPPED AIR POCKETS CAUSING SURFACE DEFECTS SHALL BE CONSIDERED AS PART OF A SMOOTH, STEEL FORM FINISH.

9. REPAIRS

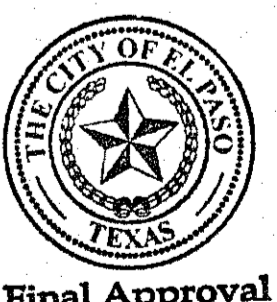
PRECAST ELEMENTS MAY BE REPAIRED, IF NECESSARY, BECAUSE OF IMPERFECTIONS IN MANUFACTURE OR HANDLING DAMAGE AND WILL BE ACCEPTABLE IF, IN THE OPINION OF THE PURCHASER, THE REPAIRS ARE SOUND, PROPERLY FINISHED AND CURED, AND THE REPAIRED SECTION CONFORMS TO THE REQUIREMENTS OF THIS SPECIFICATION.

10. REJECTION

THE PRECAST ELEMENTS SHALL BE SUBJECT TO REJECTION ON ACCOUNT OF ANY OF THE SPECIFICATION REQUIREMENTS. INDIVIDUAL PRECAST ELEMENTS MAY BE REJECTED BECAUSE OF ANY OF THE FOLLOWING:

- 10.1. FRACTURES OR CRACKS PASSING THROUGH THE WALL, EXCEPT FOR A SINGLE END CRACK THAT DOES NOT EXCEED ONE HALF THE THICKNESS OF THE WALL.
- 10.2. DEFECTS THAT INDICATE PROPORTIONING, MIXING, AND MOLDING NOT IN COMPLIANCE WITH SECTION 4 OF THESE SPECIFICATIONS.
- 10.3. HONEYCOMBED OR OPEN TEXTURE.
- 10.4. DAMAGED ENDS, WHERE SUCH DAMAGE WOULD PREVENT MAKING A SATISFACTORY JOINT.

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Final Approval

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CONSPAN
BRIDGE SYSTEMS

EXPRESS Foundations

PRELIMINARY
NOT FOR CONSTRUCTION

HIDDEN VILLAGE SUBDIVISION

42' SPAN X 10' RISE CON/SPAN PRECAST ARCH

WITH PRECAST EXPRESS FOUNDATION SYSTEM

EL PASO, TX

PROJECT No.: 572719	SEQ. No.: 010	DATE: 5/10/2018
DESIGNED: IK	DRAWN: IK	
CHECKED:	APPROVED:	
SHEET No.:	CT5 OF CT6	

VA0-C01TECH-CTL-CON/SPAN-BRIDGE SYSTEMS-DESIGN-572719-10-CON-SPAN-DRAWINGS-FR-DP05AL572719-10-PP-018-18-18-PM

SPECIFICATIONS FOR MANUFACTURE AND INSTALLATION OF CON/SPAN® BRIDGE SYSTEMS (CONT'D)

11. MARKING
EACH BRIDGE UNIT SHALL BE CLEARLY MARKED BY WATERPROOF PAINT, THE FOLLOWING SHALL BE SHOWN ON THE INSIDE OF THE VERTICAL LEG OF THE BRIDGE SECTION:
BRIDGE SPAN X BRIDGE RISE
DATE OF MANUFACTURE
NAME OR TRADEMARK OF THE MANUFACTURER

12. INSTALLATION PREPARATION
TO ENSURE CORRECT INSTALLATION OF THE PRECAST CONCRETE BRIDGE SYSTEM, CARE AND CAUTION MUST BE EXERCISED IN FORMING THE SUPPORT AREAS FOR BRIDGE UNITS, HEADWALL, AND WINGWALL ELEMENTS. EXERCISING SPECIAL CARE WILL FACILITATE THE RAPID INSTALLATION OF THE PRECAST COMPONENTS.

12.1. FOOTINGS
DO NOT OVER EXCAVATE FOUNDATIONS UNLESS DIRECTED BY SITE SOIL ENGINEER TO REMOVE UNSUITABLE SOIL.

THE SITE SOILS ENGINEER SHALL CERTIFY THAT THE BEARING CAPACITY MEETS OR EXCEEDS THE FOOTING DESIGN REQUIREMENTS, PRIOR TO THE CONTRACTOR POURING OF THE FOOTINGS.

THE BRIDGE UNITS AND WINGWALLS SHALL BE INSTALLED ON EITHER PRECAST OR CAST-IN-PLACE CONCRETE FOOTINGS. THE SIZE AND ELEVATION OF THE FOOTINGS SHALL BE AS DESIGNED BY THE ENGINEER. A KEYWAY SHALL BE FORMED IN THE TOP SURFACE OF THE BRIDGE FOOTING AS SPECIFIED ON THE PLANS. NO KEYWAY IS REQUIRED IN THE WINGWALL FOOTINGS, UNLESS OTHERWISE SPECIFIED ON THE PLANS.

THE FOOTINGS SHALL BE GIVEN A SMOOTH FLOAT FINISH AND SHALL REACH A COMPRESSIVE STRENGTH OF 2,000 PSI BEFORE PLACEMENT OF THE BRIDGE AND WINGWALL ELEMENTS. BACKFILLING SHALL NOT BEGIN UNTIL THE FOOTING HAS REACHED THE FULL DESIGN COMPRESSIVE STRENGTH.

THE FOOTING SURFACE SHALL BE CONSTRUCTED IN ACCORDANCE WITH GRADES SHOWN ON THE PLANS. WHEN TESTED WITH A 10'-0" STRAIGHT EDGE, THE SURFACE SHALL NOT VARY MORE THAN 1/4" IN 10'-0".

IF A PRECAST CONCRETE FOOTING IS USED, THE CONTRACTOR SHALL PREPARE A 4" THICK BASE LAYER OF COMPACTED GRANULAR MATERIAL THE FULL WIDTH OF THE FOOTING PRIOR TO PLACING THE PRECAST FOOTING.

THE FOUNDATIONS FOR PRECAST CONCRETE BRIDGE ELEMENTS AND WINGWALLS MUST BE CONNECTED BY REINFORCEMENT TO FORM ONE MONOLITHIC BODY. EXPANSION JOINTS SHALL NOT BE USED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONSTRUCTION OF THE FOUNDATIONS PER THE PLANS AND SPECIFICATIONS.

13. INSTALLATION

13.1. GENERAL - THE INSTALLATION OF THE PRECAST CONCRETE ELEMENTS SHALL BE AS EXPLAINED IN THE PUBLICATION CONSPAN BRIDGE SYSTEMS INSTALLATION HANDBOOK.

13.1.1. LIFTING - IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT A CRANE OF THE CORRECT LIFTING CAPACITY IS AVAILABLE TO HANDLE THE PRECAST CONCRETE UNITS. THIS CAN BE ACCOMPLISHED BY USING THE WEIGHTS GIVEN FOR THE PRECAST CONCRETE COMPONENTS AND BY DETERMINING THE LIFTING REACH FOR EACH CRANE UNIT. SITE CONDITIONS MUST BE CHECKED WELL IN ADVANCE OF SHIPPING TO ENSURE PROPER CRANE LOCATION AND TO AVOID ANY LIFTING RESTRICTIONS. THE LIFT ANCHORS OR HOLES PROVIDED IN EACH UNIT ARE THE ONLY MEANS TO BE USED TO LIFT THE ELEMENTS. THE PRECAST CONCRETE ELEMENTS MUST NOT BE SUPPORTED OR RAISED BY OTHER MEANS THAN THOSE GIVEN IN THE MANUALS AND DRAWINGS WITHOUT WRITTEN APPROVAL FROM CONTECH® ENGINEERED SOLUTIONS.

13.1.2. CONSTRUCTION EQUIPMENT WEIGHT RESTRICTIONS - IN NO CASE SHALL EQUIPMENT OPERATING IN EXCESS OF THE DESIGN LOAD (HL-93) BE PERMITTED OVER THE BRIDGE UNITS UNLESS APPROVED BY CONTECH® ENGINEERED SOLUTIONS.

13.1.2.1. IN THE IMMEDIATE AREA OF THE BRIDGE UNITS, THE FOLLOWING RESTRICTIONS FOR THE USE OF HEAVY CONSTRUCTION MACHINERY DURING BACKFILLING OPERATIONS APPLY:

- NO CONSTRUCTION EQUIPMENT SHALL CROSS THE BARE PRECAST CONCRETE BRIDGE UNIT.
- AFTER THE COMPACTED FILL LEVEL HAS REACHED A MINIMUM OF 4" OVER THE CROWN OF THE BRIDGE, CONSTRUCTION EQUIPMENT WITH A WEIGHT OF LESS THAN 10 TONS MAY CROSS THE BRIDGE.
- AFTER THE COMPACTED FILL LEVEL HAS REACHED A MINIMUM OF 1'-0" OVER THE CROWN OF THE BRIDGE, CONSTRUCTION EQUIPMENT WITH A WEIGHT OF LESS THAN 30 TONS MAY CROSS THE BRIDGE.
- AFTER THE COMPACTED FILL LEVEL HAS REACHED THE DESIGN COVER, OR 2'-0" MINIMUM, OVER THE CROWN OF THE PRECAST CONCRETE BRIDGE, CONSTRUCTION EQUIPMENT WITHIN THE DESIGN LOAD LIMITS FOR THE ROAD MAY CROSS THE PRECAST CONCRETE BRIDGE.

13.2. LEVELING PADS/SHIMS - THE BRIDGE UNITS AND WINGWALLS SHALL BE SET ON HARDBOARD SHIMS CONFORMING TO ASTM D1037 OR PLASTIC SHIMS (DAYTON SUPERIOR P-80, P-81 OR APPROVED EQUAL) MEASURING 5" x 5", MINIMUM, UNLESS SHOWN OTHERWISE ON THE PLANS. A MINIMUM GAP OF 1/4" SHALL BE PROVIDED BETWEEN THE FOOTING AND THE BOTTOM OF THE BRIDGE'S

VERTICAL LEGS OR THE BOTTOM OF THE WINGWALL. ALSO, A SUPPLY OF 1/4", 1/2" AND 3/4" THICK HARDBOARD OR PLASTIC SHIMS FOR VARIOUS SHIMMING PURPOSES SHALL BE ON SITE.

13.3. PLACEMENT OF BRIDGE UNITS - THE BRIDGE UNITS SHALL BE PLACED AS SHOWN ON THE ENGINEER'S PLAN DRAWINGS. SPECIAL CARE SHALL BE TAKEN IN SETTING THE ELEMENTS TO THE TRUE LINE AND GRADE. THE JOINT WIDTH BETWEEN ADJACENT PRECAST UNITS SHALL NOT EXCEED 3/8".

13.4. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE STRUCTURE SPAN DURING ALL PHASES OF INSTALLATION. DUE TO THE ARCH SHAPE, BRIDGE ELEMENTS WILL TEND TO SPREAD UNDER SELF-WEIGHT. IT IS IMPERATIVE THAT ANY LATERAL SPREADING OF THE BRIDGE ELEMENTS BE AVOIDED DURING AND AFTER THEIR PLACEMENT. GENERALLY, HORIZONTAL CABLE TIES OR TIE RODS ARE SHIPPED IN THE LARGER BRIDGE ELEMENTS TO ASSIST IN PREVENTING THIS SPREADING. CABLE TIES/TIE RODS SHALL NOT BE REMOVED UNTIL BRIDGE UNITS ARE GROUTED AND GROUT HAS CURED. IT IS RECOMMENDED THAT TEMPORARY HARDWOOD BLOCKS BE USED IN CONJUNCTION WITH THE CABLE TIES/TIE RODS TO MAINTAIN SPAN. IF, HOWEVER, DUE TO SITE RESTRICTIONS, THESE CABLE TIES/TIE RODS MUST BE REMOVED PRIOR TO PLACEMENT OF THE BRIDGE ELEMENTS, THE CONTRACTOR MUST NOTIFY CONTECH (MANUFACTURER) AND REQUEST A SUGGESTED INSTALLATION PROCEDURE.

IN ADDITION, IF THE CABLE TIES/TIE RODS MUST BE REMOVED PRIOR TO SETTING ARCH UNITS, THE FOLLOWING QUALITY CONTROL PROCEDURE MUST BE FOLLOWED:

- 1) FIND 'MEASURED SPAN' UPON ARCH UNIT'S DELIVERY TO SITE, PRIOR TO LIFTING FROM TRUCK AND REMOVING CABLE TIES/TIE RODS. 'MEASURED SPAN' SHALL BE THE AVERAGE OF (3) SPAN MEASUREMENTS ALONG THE LAY LENGTH OF THE ARCH UNIT.
- 2) AFTER SETTING OF BRIDGE UNIT ON THE FOUNDATION, VERIFY THE SPAN. THIS 'INSTALLED SPAN MEASUREMENT' SHALL NOT EXCEED THE MAXIMUM OF:
 - A) THE NOMINAL SPAN 1/4" OR
 - B) THE 'MEASURED SPAN'

IF THE 'INSTALLED SPAN MEASUREMENT' EXCEEDS THIS AMOUNT, THE ARCH UNIT SHALL BE LIFTED AND RE-SET UNTIL THE 'INSTALLED SPAN MEASUREMENT' MEETS THE LIMITS.

13.5. PLACEMENT OF WINGWALLS, HEADWALLS AND FOUNDATION UNITS - THE WINGWALLS, HEADWALLS AND FOUNDATIONS SHALL BE PLACED AS SHOWN ON THE PLAN DRAWINGS. SPECIAL CARE SHALL BE TAKEN IN SETTING THE ELEMENTS TO THE TRUE LINE AND GRADE.

13.6. WATERPROOFING/Joint PROTECTION AND SUBSURFACE DRAINAGE

13.6.1. EXTERNAL PROTECTION OF JOINTS - THE BUTT JOINT MADE BY TWO ADJOINING BRIDGE UNITS SHALL BE COVERED WITH A 3/8" x 1 1/2" PREFORMED BITUMINOUS JOINT SEALANT AND A MINIMUM OF A 9" WIDE JOINT WRAP. THE SURFACE SHALL BE FREE OF DIRT BEFORE APPLYING THE JOINT MATERIAL. A PRIMER COMPATIBLE WITH THE JOINT WRAP TO BE USED SHALL BE APPLIED FOR A MINIMUM WIDTH OF 9" ON EACH SIDE OF THE JOINT. THE EXTERNAL WRAP SHALL BE CS212 BY CONCRETE SEALANTS INC., EZ-WRAP RUBBER BY PRESS-SEAL GASKET CORPORATION, SEAL WRAP BY MAR MAC MANUFACTURING CO. INC. OR APPROVED EQUAL. THE JOINT SHALL BE COVERED CONTINUOUSLY FROM THE BOTTOM OF ONE BRIDGE SECTION LEG, ACROSS THE TOP OF THE BRIDGE AND TO THE OPPOSITE BRIDGE SECTION LEG. ANY LAPS THAT RESULT IN THE JOINT WRAP SHALL BE A MINIMUM OF 6" LONG WITH THE OVERLAP RUNNING DOWNHILL.

13.6.2. IN ADDITION TO THE JOINTS BETWEEN BRIDGE UNITS, THE JOINT BETWEEN THE END BRIDGE UNIT AND THE HEADWALL SHALL ALSO BE SEALED AS DESCRIBED ABOVE. IF PRECAST WINGWALLS ARE USED, THE JOINT BETWEEN THE END BRIDGE UNIT AND THE WINGWALL SHALL BE SEALED WITH A 2'-0" STRIP OF FILTER FABRIC. ALSO, IF LIFT HOLES ARE FORMED IN THE BRIDGE UNITS, THEY SHALL BE PRIMED AND COVERED WITH A 9" x 9" SQUARE OF JOINT WRAP.

13.6.3. DURING THE BACKFILLING OPERATION, CARE SHALL BE TAKEN TO KEEP THE JOINT WRAP IN ITS PROPER LOCATION OVER THE JOINT.

13.6.4. SUBSOIL DRAINAGE SHALL BE AS DIRECTED BY THE ENGINEER.

13.7. GROUTING

13.7.1. GROUTING SHALL NOT BE PERFORMED WHEN TEMPERATURES ARE EXPECTED TO GO BELOW 36° FOR A PERIOD OF 72 HOURS. FILL THE BRIDGE FOUNDATION KEYWAY WITH CEMENT GROUT (PORTLAND CEMENT AND WATER OR CEMENT MORTAR COMPOSED OF PORTLAND CEMENT, SAND AND WATER) WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI. VIBRATE AS REQUIRED TO ENSURE THAT THE ENTIRE KEY AROUND THE BRIDGE ELEMENT IS COMPLETELY FILLED. IF BRIDGE ELEMENTS HAVE BEEN SET WITH TEMPORARY TIES (CABLES, BARS, ETC.) GROUT MUST ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 1500 PSI BEFORE TIES MAY BE REMOVED.

13.7.2. ALL GROUT SHALL HAVE A MAXIMUM AGGREGATE SIZE OF 3/4".

13.7.3. LIFTING AND ERECTION ANCHOR RECESSES SHALL BE FILLED WITH GROUT.

13.7.4. AFTER GROUT HAS REACHED ITS DESIGN STRENGTH THE TEMPORARY HARDWOOD WEDGES SHALL BE REMOVED AND THEIR HOLES FILLED WITH GROUT.

13.8. BACKFILL

13.8.1. DO NOT PERFORM BACKFILLING DURING WET OR FREEZING WEATHER.

13.8.2. NO BACKFILL SHALL BE PLACED AGAINST ANY STRUCTURAL ELEMENTS UNTIL THEY HAVE BEEN APPROVED BY THE ENGINEER.

13.8.3. BACKFILL SHALL BE CONSIDERED AS ALL REPLACED EXCAVATION AND NEW EMBANKMENT ADJACENT TO THE PRECAST CONCRETE ELEMENTS. THE PROJECT CONSTRUCTION AND MATERIAL SPECIFICATIONS, WHICH INCLUDE THE SPECIFICATIONS FOR EXCAVATION FOR STRUCTURES AND ROADWAY EXCAVATION AND EMBANKMENT CONSTRUCTION, SHALL APPLY EXCEPT AS MODIFIED IN THIS SECTION.

13.8.4. BACKFILL ZONES:

- IN-SITU SOIL
- ZONE A: CONSTRUCTED EMBANKMENT OR OVERFILL
- ZONE B: FILL THAT IS DIRECTLY ASSOCIATED WITH PRECAST CONCRETE BRIDGE INSTALLATION
- ZONE C: ROAD STRUCTURE

13.8.5. REQUIRED BACKFILL PROPERTIES

13.8.5.1. IN-SITU SOIL - NATURAL GROUND IS TO BE SUFFICIENTLY STABLE TO ALLOW EFFECTIVE SUPPORT TO THE PRECAST CONCRETE BRIDGE UNITS. AS A GUIDE, THE EXISTING NATURAL GROUND SHOULD BE OF SIMILAR QUALITY AND DENSITY TO ZONE B MATERIAL FOR MINIMUM LATERAL DIMENSION OF ONE BRIDGE SPAN OUTSIDE OF THE BRIDGE FOOTING.

13.8.5.2. ZONE A - ZONE A REQUIRES FILL MATERIAL WITH SPECIFICATIONS AND COMPACTING PROCEDURES EQUAL TO THAT FOR NORMAL ROAD EMBANKMENTS.

13.8.5.3. ZONE B - GENERALLY, SOILS SHALL BE REASONABLY FREE OF ORGANIC MATTER, AND, NEAR CONCRETE SURFACES, FREE OF STONES LARGER THAN 3" IN DIAMETER. SEE CHARTS FOR DETAILED DESCRIPTIONS OF ACCEPTABLE SOILS.

13.8.5.4. ZONE C - ZONE C IS THE ROAD SECTION OF GRAVEL, ASPHALT OR CONCRETE BUILT IN COMPLIANCE WITH LOCAL ENGINEERING PRACTICES.

13.8.5.5. GEOTECHNICAL ENGINEER SHALL REVIEW GRADATIONS OF ALL INTERFACING MATERIALS AND, IF NECESSARY, RECOMMEND GEOTEXTILE FILTER FABRIC (PROVIDED BY CONTRACTOR)

13.8.6. PLACING AND COMPACTING BACKFILL DUMPING FOR BACKFILLING IS NOT ALLOWED ANY NEARER THAN 3'-0" FROM THE BRIDGE LEG.

THE FILL MUST BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8". THE MAXIMUM DIFFERENCE IN THE SURFACE LEVELS OF THE FILL ON OPPOSITE SIDES OF THE BRIDGE MUST NOT EXCEED 2'-0".

THE FILL BEHIND WINGWALLS MUST BE PLACED AT THE SAME TIME AS THAT OF THE BRIDGE FILL. IT MUST BE PLACED IN PROGRESSIVELY PLACED HORIZONTAL LAYERS NOT EXCEEDING 8" PER LAYER.

THE BACKFILL OF ZONE B SHALL BE COMPACTED TO A MINIMUM DENSITY OF 95% OF THE STANDARD PROCTOR, AS REQUIRED BY AASHTO T-99.

SOIL WITHIN 1'-0" OF CONCRETE SURFACES SHALL BE HAND-COMPACTED. ELSEWHERE, USE OF ROLLERS IS ACCEPTABLE. IF VIBRATING ROLLER-COMPACTORS ARE USED, THEY SHALL NOT BE STARTED OR STOPPED WITHIN ZONE B AND THE VIBRATION FREQUENCY SHOULD BE AT LEAST 30 REVOLUTIONS PER SECOND.

THE BACKFILL MATERIAL AND COMPACTING BEHIND WINGWALLS SHALL SATISFY THE CRITERIA FOR THE BRIDGE BACKFILL, ZONE B.

BACKFILL AGAINST A WATERPROOFED SURFACE SHALL BE PLACED CAREFULLY TO AVOID DAMAGE TO THE WATERPROOFING MATERIAL.

13.8.7. BRIDGE UNITS FOR FILL HEIGHTS OVER 12 FEET (AS MEASURED FROM TOP CROWN OF BRIDGE TO FINISHED GRADE), NO BACKFILLING MAY BEGIN UNTIL A BACKFILL COMPACTION TESTING PLAN HAS BEEN COORDINATED WITH AND APPROVED BY CONTECH® ENGINEERED SOLUTIONS.

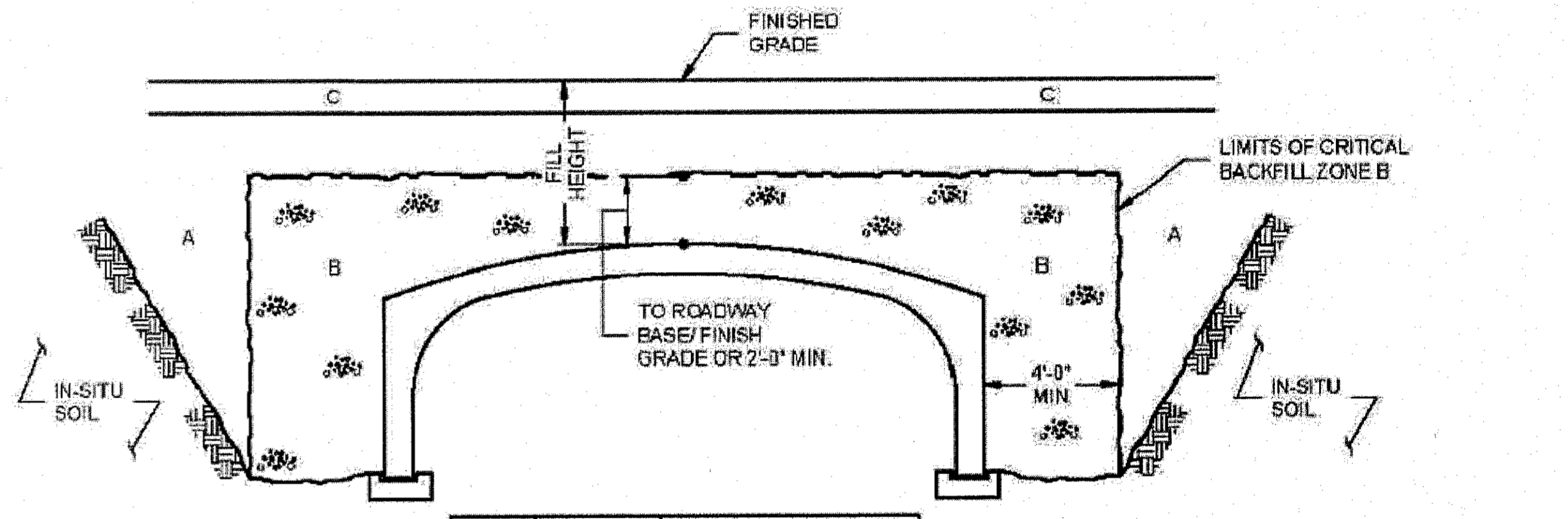
13.8.8. WINGWALLS BACKFILL IN FRONT OF WINGWALLS SHALL BE CARRIED TO GROUND LINES SHOWN IN THE PLANS.

13.8.9. MONITORING THE CONTRACTOR SHALL CHECK SETTLEMENTS AND HORIZONTAL DISPLACEMENT OF FOUNDATION TO ENSURE THAT THEY ARE WITHIN THE ALLOWABLE LIMIT PROVIDED BY THE ENGINEER. THESE MEASUREMENTS SHOULD GIVE AN INDICATION OF THE SETTLEMENTS AND DEFORMATIONS ALONG THE LENGTH OF THE FOUNDATIONS.

THE FIRST MEASUREMENT SHOULD TAKE PLACE AFTER THE ERECTION OF ALL PRECAST BRIDGE SYSTEM ELEMENTS, A SECOND AFTER COMPLETION OF BACKFILLING, AND A THIRD BEFORE OPENING OF THE BRIDGE TO TRAFFIC. FURTHER MEASUREMENTS MAY BE MADE ACCORDING TO LOCAL CONDITIONS.

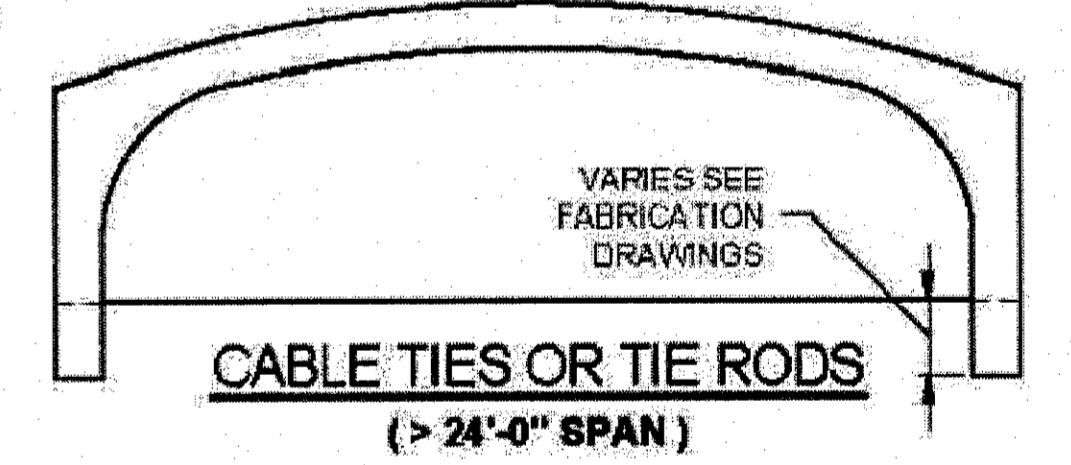
ACCEPTABLE SOILS FOR USE IN ZONE B BACKFILL

TYPICAL USCS MATERIALS	AASHTO GROUP	AASHTO SUBGROUP	PERCENT PASSING U.S. SIEVE NO.			CHARACTER OF FRACTION PASSING NO. 40 SIEVE		SOIL DESCRIPTION
			#10	#40	#200	LIQUID LIMIT	PLASTICITY INDEX	
GW, GP, SP	A1	A-1a	50 MAX	30 MAX	15 MAX	6 MAX	LARGELY GRAVEL BUT CAN INCLUDE SAND AND FINES	
GM, SW, SP, SM		A-1b	50 MAX 25 MAX		6 MAX			GRAVELLY SAND OR GRADED SAND, MAY INCLUDE FINES
GM, SM, ML, SP, GP	A2	A-2.4	35 MAX			40 MAX	10 MAX	
SC, GC, GM		A-2.5	35 MAX			41 MIN	10 MAX	SANDS, GRAVELS WITH PLASTIC SILT-FINES
SP, SM, SW	A3		51 MIN		10 MAX		NON-PLASTIC	FINE SANDS
ML, SM, SC	A4				38 MIN	40 MAX	10 MAX	LOW-COMPRESSIBILITY SILTS



SPAN	FILL HEIGHT	ACCEPTABLE MATERIAL INSIDE ZONE B
≤ 24'-0"	≥ 12'-0"	A1, A3
≤ 24'-0"	< 12'-0"	A1, A2, A3, A4
> 24'-0"	ALL	A1, A3

BACKFILL REQUIREMENTS



**PRELIMINARY
NOT FOR CONSTRUCTION**



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PROJECT No.: 572719	SEQ. No.: 010	DATE: 5/10/2018
DESIGNED: IK	DRAWN: IK	
CHECKED:	APPROVED:	
SHEET No.: CT6	OF CT6	