

STREET & DRAINAGE CONSTRUCTION PLANS

- C1 - CONSTRUCTION GENERAL NOTES
- C2 - OVERALL DRAINAGE MASTER PLAN
- C3 - STREET PLAN & PROFILE - SOLSTICE VIEW
- C4 - STREET PLAN & PROFILE - JUNO
- C5 - STREET PLAN & PROFILE - MILKY WAY
- C6 - STREET PLAN & PROFILE - AZURE WATERS & METIS
- C7 - TRAFFIC SIGNAGE PLAN
- C8 - STANDARD STREET DETAILS*
- C9 - SMALL ROADSIDE SIGNS GENERAL NOTES & DETAILS*
- C10 - TXDOT SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS*
- C11 - COSA DRIVEWAY & WHEELCHAIR RAMP STANDARDS*
- C12 - TXDOT PEDESTRIAN FACILITIES DETAILS CURB RAMPS*
- C13 - DRAIN PLAN & PROFILE - DRAIN 'A'
- C14 - DRAIN PLAN & PROFILE - DRAIN 'B'
- C15 - DRAIN PLAN & PROFILE - DRAIN 'C'
- C16 - DRAIN PLAN & PROFILE - DRAIN 'C' & DRAIN 'D'
- C17 - DRAIN INLET DETAILS - TYPE "C" (PRECAST)
- C17A - DRAIN INLET DETAILS - TYPE "C" (CAST-IN-PLACE)
- C17B - JUNCTION BOX DETAILS*
- C18 - DRAINAGE DETAILS*

* DENOTES STANDARD DETAILS ADOPTED FOR USE ON THIS PROJECT.

SANITARY SEWER CONSTRUCTION PLANS

- C19 - SANITARY SEWER GENERAL NOTES
- C20 - OVERALL SANITARY SEWER PLAN
- C21 - SANITARY SEWER PLAN & PROFILE LINE A
- C22 - SANITARY SEWER PLAN & PROFILE LINE B
- C23 - SANITARY SEWER STANDARD DETAILS*

* DENOTES STANDARD DETAILS ADOPTED FOR USE ON THIS PROJECT.

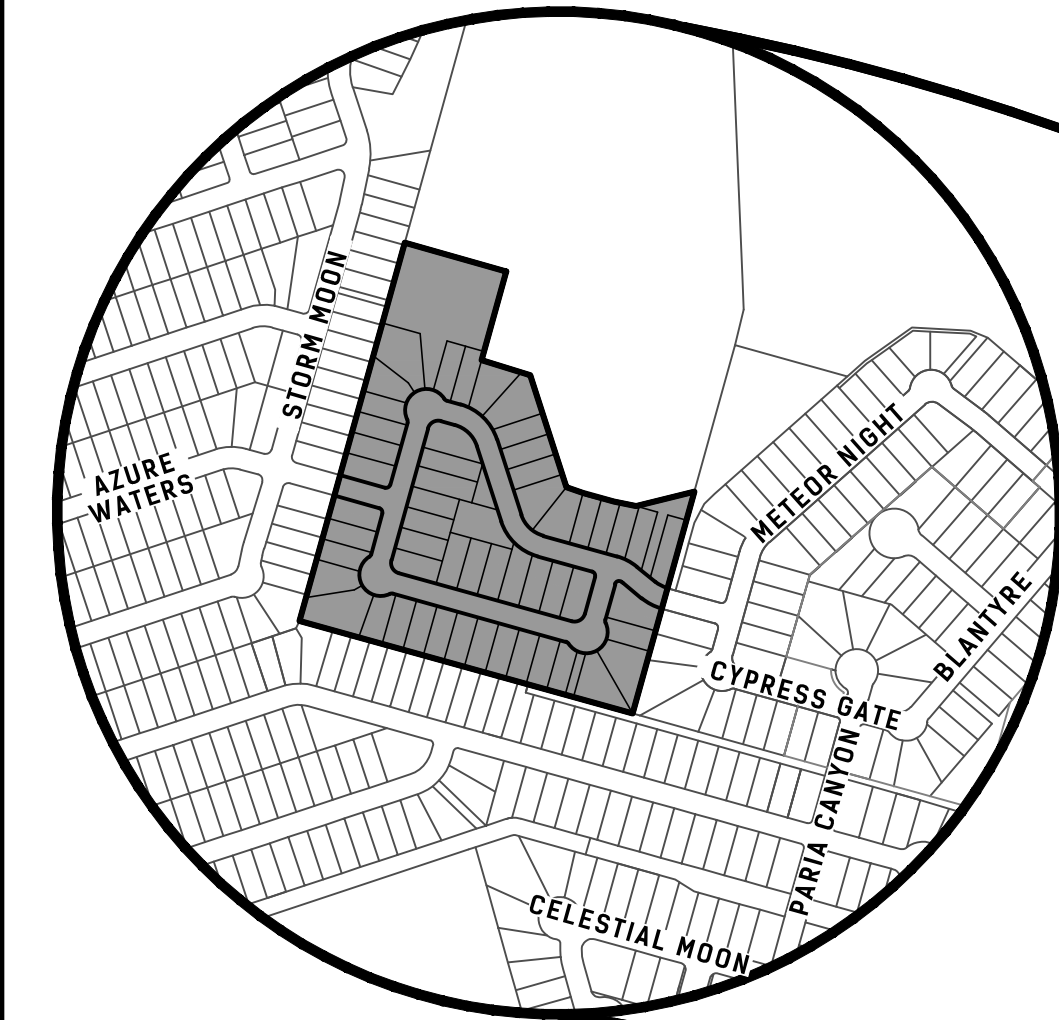
WATER DISTRIBUTION CONSTRUCTION PLANS

- C24 - WATER DISTRIBUTION PLAN
- C25 - WATER DISTRIBUTION STANDARD DETAILS*

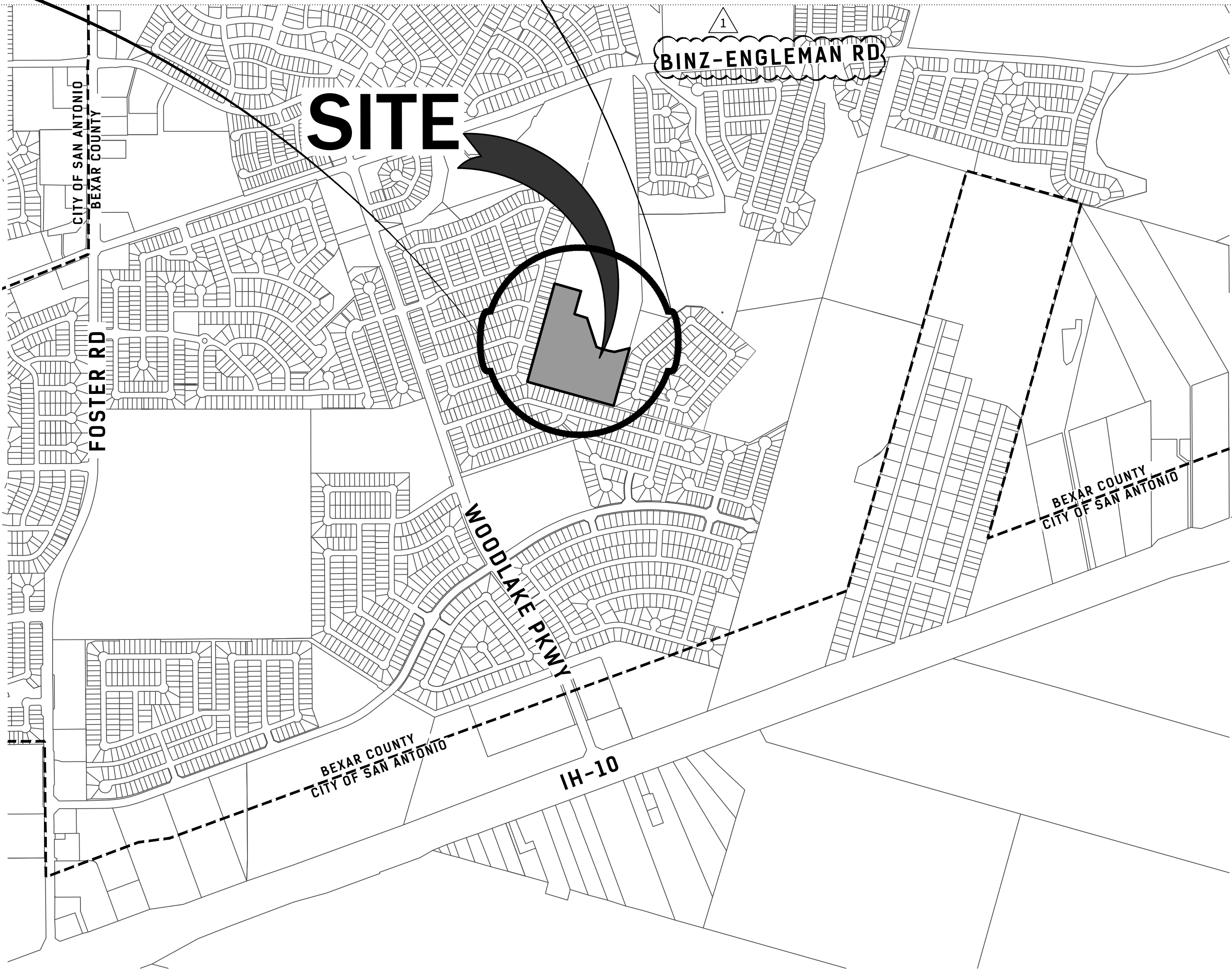
* DENOTES STANDARD DETAILS ADOPTED FOR USE ON THIS PROJECT.

MISCELLANEOUS CONSTRUCTION PLANS

- C26 - UTILITY PLAN
- C27 - STORM WATER POLLUTION PREVENTION PLAN



LOCATION MAP



VICINITY MAP

PRESSURE ZONE 1400 HGL			
Developer's Name L & F-1, L.L.C.			
Developer's Address 6735 IH 10 WEST, STE. 103			
City	SAN ANTONIO	State	TEXAS
Zip	78201		
Phone #	(210) 558-9899	Fax #	(210) 544-8775
SAWS Block Map #	208-590_508-592	Total EDU's	56
Total Linear Footage of Pipe	8" W - 2,488 L.F.	Plat No.	24-11800121
Number of Lots	54	SAWS Job No.	24-1115

- REVISIONS
1. 240706 - REVISED STREET NAME IN LOCATION MAP TO BE CORRECT, ADDED ADDITIONAL DRAINAGE DETAIL SHEETS
 2. 240822 - REMOVED COVER SHEET REFERENCED NUMBER, ADDED SAWS JOB NUMBER

PLAT NO.
24-11800121

SAWS WATER JOB NO.
24-1115

DEVELOPER /OWNER / APPLICANT

L & F-1, L.L.C.
CONTACT PERSON: FRED GHAVIDEL
6735 IH 10 WEST, STE. 103
SAN ANTONIO, TX 78201
TEL: (210) 558-9899
FAX: (210) 544-8775

4122 Pond Hill Road, Suite 101

San Antonio, Texas 78231

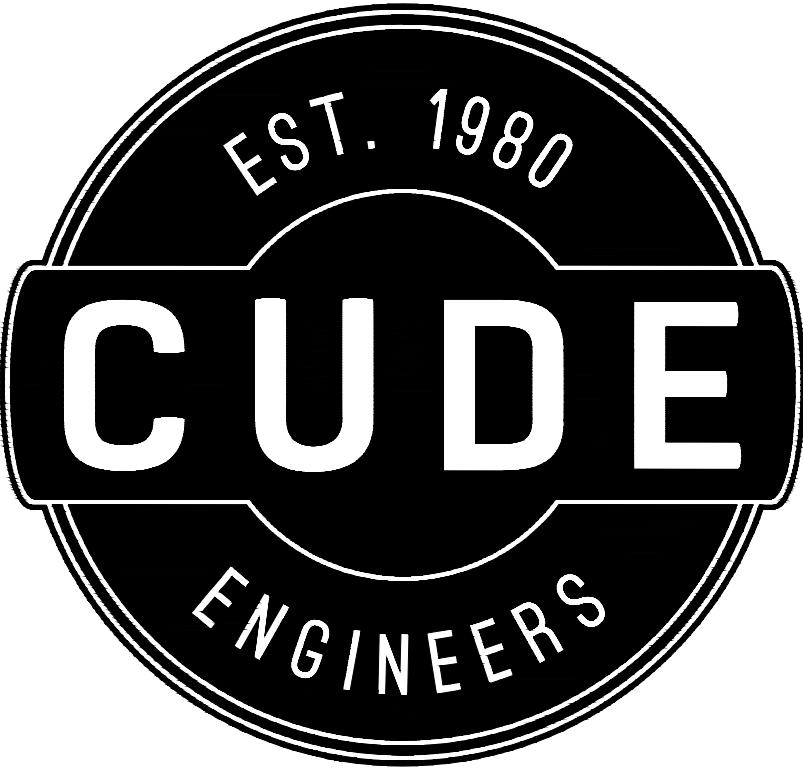
P:(210) 681.2951 F: (210) 523.7112

DRAWN BY
CG, XV

DATE
03/18/2025

CHECKED BY
XV, AL

PROJECT NO.
01792-742



ACKERMAN GARDENS

UNIT 7

CONSTRUCTION PLANS



CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

© 2024 A.W. CUDE ENGINEERS, LLC. THIS DOCUMENT, ANY PORTION THEREOF, AND ANY ASSOCIATED COPYRIGHTS SHALL REMAIN THE PROPERTY OF A.W. CUDE ENGINEERS, LLC. THIS DOCUMENT MAY NOT BE REPRODUCED, USED, OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS TO ANYONE FOR ANY OTHER ENDORSEMENT WITHOUT THE PRIOR WRITTEN CONSENT OF, AND ADAPTATION BY, A.W. CUDE ENGINEERS, LLC. THIS DOCUMENT IS NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR USE OTHER THAN AS ORIGINALLY INTENDED BY A.W. CUDE ENGINEERS, LLC AND ANY UNAUTHORIZED REPRODUCTION, USE OR DISTRIBUTION OF SAID DOCUMENTS WILL BE AT THE INFRINGING PARTY'S SOLE RISK, WITHOUT ANY LIABILITY TO A.W. CUDE ENGINEERS, LLC, AND WILL BE USED AGAINST ANY AND ALL PARTIES TO THE FULLEST EXTENT PERMITTED BY LAW.

GENERAL NOTES

- ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR CONSTRUCTION JUNE 2008, OR LATEST.
- NO EXTRA PAYMENT SHALL BE ALLOWED FOR WORK CALLED FOR ON THE PLANS, BUT NOT INCLUDED IN THE BID PROPOSAL. THIS INCIDENTAL WORK WILL BE REQUIRED AND SHALL BE INCLUDED IN THE PAY ITEM TO WHICH IT RELATES.
- THE CONTRACTOR SHALL PROVIDE ACCESS FOR THE DELIVERY OF MAIL BY THE U.S. POSTAL SERVICE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL OR BETTER CONDITION ANY DAMAGE DONE TO EXISTING FENCES, CONCRETE ISLANDS, STREET PAVING, CURBS, SHRUBS, BUSHES OR DRIVEWAYS. (NO SEPARATE PAY ITEM).
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL SIGNS AND BARRICADES ARE PROPERLY INSTALLED AND MAINTAINED. ALL LOCATIONS AND DISTANCES WILL BE DECIDED UPON IN THE FIELD BY THE CONTRACTOR, USING THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". THE CITY'S CONSTRUCTION INSPECTOR AND TRAFFIC ENGINEERING REPRESENTATIVE WILL ONLY BE RESPONSIBLE TO INSPECT BARRICADES AND SIGNS. IF, IN THE OPINION OF THE TRAFFIC ENGINEERING REPRESENTATIVE AND THE CONSTRUCTION INSPECTOR, THE BARRICADES AND SIGNS DO NOT CONFORM TO ESTABLISHED STANDARDS OR ARE INCORRECTLY PLACED OR ARE INSUFFICIENT IN QUANTITY TO PROTECT THE GENERAL PUBLIC, THE CONSTRUCTION INSPECTOR SHALL HAVE THE OPTION TO STOP OPERATIONS UNTIL SUCH TIME AS THE CONDITIONS ARE CORRECTED.
- IF THE NEED ARISES, ADDITIONAL BARRICADES AND DIRECTIONAL DEVICES MAY BE ORDERED BY THE TRAFFIC ENGINEERING REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.
- DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.171 C.P.S. MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
- CONTRACTOR SHALL NOTIFY THE CITY INSPECTOR TWENTY FOUR (24) HOURS PRIOR TO BACKFILL OF ANY UTILITY TRENCHES TO SCHEDULE FOR DENSITY TEST AS REQUIRED.
- CONTRACTOR SHALL PRESERVE ALL CONSTRUCTION STAKES, MARKS, ETC. IF ANY ARE DESTROYED OR REMOVED BY THE CONTRACTOR OR HIS EMPLOYEES, THEY SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION TO DETERMINE THE LOCATION OF EXISTING UTILITIES. CONTRACTOR SHALL NOTIFY THE FOLLOWING AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO EXCAVATION OPERATION:

SAN ANTONIO WATER SYSTEM (SAWS)	233-2010
BEXAR METROPOLITAN WATER DISTRICT (BEXAR MET)	354-6538 /357-5741
COSA DRAINAGE	207-8048
COSA SIGNAL OPERATIONS	207-7720 /207-7765
TEXAS STATE WIDE ONE CALL LOCATOR	1-800-344-8377
- CITY PUBLIC SERVICE ENERGY	
- TIME WARNER	
- AT&T	
- MCI	
- THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM AVAILABLE RECORDS AND ARE NOT GUARANTEED, BUT SHALL BE INVESTIGATED AND VERIFIED BY THE CONTRACTOR BEFORE STARTING WORK. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY DAMAGE TO AND FOR THE MAINTENANCE AND PROTECTION OF THE EXISTING UTILITIES EVEN IF THEY ARE NOT SHOWN ON THE PLANS. LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN HERE ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION AND HE SHALL BE RESPONSIBLE FOR PROTECTION OF SAME DURING CONSTRUCTION.
- ALL WASTE MATERIAL SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE HIS SOLE RESPONSIBILITY TO DISPOSE OF THIS MATERIAL OFF THE LIMITS OF THE PROJECT. NO WASTE MATERIAL SHALL BE PLACED IN EXISTING LOWS THAT WILL BLOCK OR ALTER FLOW LIMITS OF EXISTING ARTIFICIAL OR NATURAL DRAINAGE.
- THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIAL IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN DEVELOPMENT PERMIT.
- THE CONTRACTOR SHALL MAINTAIN ALL ADJOINING STREETS AND TRAVELED ROUTES FREE FROM SPILLED AND /OR TRACKED CONSTRUCTION MATERIALS AND /OR DEBRIS.
- IF THE CONTRACTOR ENCOUNTERS ANY ARCHAEOLOGICAL DEPOSITS DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR MUST STOP EXCAVATION IMMEDIATELY, CONTACT THE CITY INSPECTOR, AND CALL THE CITY HISTORIC PRESERVATION OFFICE AT 207-7306 OR 207-3327 FOR AN ARCHAEOLOGICAL INVESTIGATION. THE CONTRACTOR CANNOT BEGIN EXCAVATION AGAIN WITHOUT WRITTEN PERMISSION FROM THE CITY.
IF MORE THAN THREE (3) DAYS ARE REQUIRED FOR INVESTIGATION (NOT INCLUDING HOLIDAY AND WEEKENDS) AND IF THE CONTRACTOR IS UNABLE TO WORK IN OTHER AREAS, THEN THE CONTRACTOR WILL BE ALLOWED TO NEGOTIATE FOR ADDITIONAL CONSTRUCTION TIME UPON WRITTEN REQUEST WITHIN TEN (10) DAYS AFTER THE FIRST NOTICE TO THE CITY OF ARCHAEOLOGICAL INVESTIGATION FOR EACH EVENT.
IF THE TIME REQUIRED FOR INVESTIGATION IS LESS THAN OR EQUAL TO THREE (3) DAYS FOR EACH EVENT, CONTRACT DURATION WILL NOT BE EXTENDED.
- IF SUSPECTED CONTAMINATION IS ENCOUNTERED DURING CONSTRUCTION OPERATIONS, C.O.S.A. SHALL BE NOTIFIED IMMEDIATELY WHEN CONTAMINATED SOILS AND /OR GROUNDWATER ARE ENCOUNTERED AT LOCATIONS NOT IDENTIFIED IN THE PLANS. THE NOTIFICATION SHOULD INCLUDE THE STATION NUMBER, TYPE OF CONTAMINATED MEDIA, EVIDENCE OF CONTAMINATION AND MEASURES TAKEN TO CONTAIN THE CONTAMINATED MEDIA AND PREVENT PUBLIC ACCESS. THE CONTAMINATED SOIL AND /OR GROUNDWATER SHALL NOT BE REMOVED FROM THE LOCATION WITHOUT PRIOR C.O.S.A. APPROVAL.
THE CONTRACTOR MUST STOP THE EXCAVATION IMMEDIATELY AND CONTACT THE C.O.S.A. INSPECTOR. THE CONTRACTOR CANNOT BEGIN EXCAVATION ACTIVITIES WITHOUT WRITTEN PERMISSION FROM THE CITY.
- CONTRACTOR IS TO INCLUDE A MAILBOX POST BLOCKOUT FOR VACANT LOTS AND ALL RESIDENCES WHICH DO NOT HAVE MAILBOXES AT THE CURB. BLOCKOUTS ARE PROVIDED FOR FUTURE USE BY THE POST OFFICE.

- CONTRACTOR SHALL NOT REMOVE OR ADJUST ANY VIA FACILITIES. THE CONTRACTOR MUST CONTACT VIA FOURTEEN DAYS PRIOR, FOR THE REMOVAL OF BENCHES, STOP POLES OR ANY OTHER VIA FACILITIES THAT MAY BE PRESENT. PLEASE PROVIDE THIRTY DAYS PRIOR NOTICE FOR SHELTER REMOVAL (TELEPHONE NOS: (210) 362-2155 OR (210) 362-2096). THE CONTRACTOR WILL BE LIABLE FOR ANY DAMAGES TO VIA FACILITIES NOT REMOVED BY VIA. THE CONTRACTOR IS REQUIRED TO REPLACE ALL FLATWORK REMOVED OR DAMAGED IN THE COURSE OF EXECUTING THE CONTRACT UNLESS OTHERWISE NOTED BY VIA. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING VIA FACILITIES IF ADJACENT TO WORK AREA.

TREE PROTECTION AND PRESERVATION GENERAL NOTES

- NO UTILITY OR STREET EXCAVATION WORK SHALL BEGIN IN AREAS WHERE TREE PRESERVATION AND TREATMENT MEASURES HAVE NOT BEEN COMPLETED AND APPROVED.
- TREE PROTECTION FENCING SHALL BE REQUIRED. TREE PROTECTION FENCING SHALL BE INSTALLED, MAINTAINED AND REPAIRED BY THE CONTRACTOR DURING SITE CONSTRUCTION. DURING CONSTRUCTION ACTIVITY, AT LEAST A SIX-INCH LAYER OF COARSE MULCH SHALL BE PLACED AND MAINTAINED OVER THE ROOT PROTECTION ZONE (NO SEPARATE PAY ITEM).
- THE CONTRACTOR SHALL AVOID CUTTING ROOTS LARGER THAN ONE INCH IN DIAMETER WHEN EXCAVATING NEAR EXISTING TREES. EXCAVATION IN THE VICINITY OF TREES SHALL PROCEED WITH CAUTION. THE CONTRACTOR SHALL CONTACT THE CITY INSPECTOR FOR GUIDANCE.
- ROOTS WILL BE CUT WITH A ROCK SAW OR BY HAND, NOT BY AN EXCAVATOR OR OTHER ROAD CONSTRUCTION EQUIPMENT.
- ALL CURB AND SIDEWALK WORK SHALL USE ALTERNATIVE CONSTRUCTION METHODS TO MINIMIZE EXTENSIVE ROOT DAMAGE TO TREES (REFER TO DETAILS).
- EXPOSED ROOTS SHALL BE COVERED AT THE END OF THE DAY USING TECHNIQUES SUCH AS COVERING WITH SOIL, MULCH, OR WET BURLAP.
- NO EQUIPMENT, VEHICLES OR MATERIALS SHALL OPERATE OR BE STORED WITHIN THE ROOT PROTECTION ZONE OF ANY TREE NEAR THE PROJECT. ROOT PROTECTION ZONE IS 1 FOOT OF RADIUS PER INCH OF TREE'S DIAMETER. A 10-INCH DIAMETER TREE WOULD HAVE A 10 FOOT RADIUS ROOT PROTECTION ZONE AROUND THE TREE. ROOTS OR BRANCHES IN CONFLICT WITH THE CONSTRUCTION SHALL BE CUT CLEANLY ACCORDING TO PROPER PRUNING METHODS. OAK WOUNDS SHALL BE PAINTED OVER WITHIN 30 MINUTES TO PREVENT OAK WILT.
- SAPLINGS, SHRUBS OR BUSHES TO BE CLEARED FROM THE PROTECTED ROOT ZONE AREA OF A LARGE TREE SHALL BE REMOVED BY HAND AS DESIGNATED BY THE INSPECTOR.
- NO WIRES, NAILS OR OTHER MATERIAL MAY BE ATTACHED TO PROTECTED TREES.
- TREES, TREE LIMBS, BUSHES AND SHRUBS LOCATED IN THE CITY STREET OR ALLEY RIGHT-OF-WAY OR PERMANENT EASEMENTS WHICH INTERFERE WITH PROPOSED CONSTRUCTION ACTIVITIES SHALL BE PROPERLY PRUNED FOLLOWING THE ANSI A-300 STANDARDS FOR PRUNING. ALL TREE PRUNING SHALL BE COMPLETED BY A CITY OF SAN ANTONIO TREE MAINTENANCE LICENSED CONTRACTOR (ARTICLE 21-171, CITY CODE) ONLY AFTER APPROVAL FROM THE CAPITAL PROJECTS MANAGEMENT THROUGH THE INSPECTOR.
- NO EXCESSIVE TREE TRIMMING WILL BE PERMITTED.
- ALL DEBRIS GENERATED BY THE PRUNING AND TRIMMING OF THE TREES AND /OR BUSHES SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF PROPERLY (NO SEPARATE PAY ITEM).
- TREES MUST BE MAINTAINED IN GOOD HEALTH THROUGHOUT THE CONSTRUCTION PROCESS. MAINTENANCE MAY INCLUDE, BUT NOT LIMITED TO: WATERING THE ROOT PROTECTION ZONE, WASHING FOLIAGE, FERTILIZATION, PRUNING, ADDITIONAL MULCH APPLICATIONS AND OTHER MAINTENANCE AS NEEDED ON THE PROJECT.
- ANY TREE REMOVAL SHALL BE APPROVED BY THE CITY ARBORIST. (207-8053)
- TREES WHICH ARE DAMAGED OR LOST DUE TO THE CONTRACTOR'S NEGLIGENCE DURING CONSTRUCTION SHALL BE MITIGATED TO THE CITY'S SATISFACTION.
- TREE PLANTING FOR MITIGATION OR ENHANCEMENT: ALL PLANTED TREES SHALL BE MAINTAINED IN A HEALTHY CONDITION AT ALL TIMES. THIS INCLUDES IRRIGATION, FERTILIZING, PRUNING AND OTHER MAINTENANCE AS NEEDED ON THE PROJECT. TREES THAT DIE WITHIN TWELVE (12) MONTHS SHALL BE REPLACED WITH A TREE OF EQUAL SIZE AND SPECIES.

ACCESSIBILITY REQUIREMENTS

- THE CONTRACTOR SHALL PROVIDE AND MAINTAIN VEHICULAR AND PEDESTRIAN ACCESS AT ALL TIMES TO LOCAL RESIDENCES AND BUSINESSES.
- WHEN THE WORK REQUIRES THE EXCAVATION OF THE STREET AND THE REMOVAL OF THE EXISTING DRIVEWAY APPROACHES AND SIDEWALKS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY ALL-WEATHER ACCESS TO THE BUSINESSES AND RESIDENCES. THE TEMPORARY DRIVEWAY APPROACHES SHALL BE CONSTRUCTED WITH FLEXIBLE BASE OR GRAVEL MATERIAL AT NO SEPARATE COST TO THE CITY.
- PRIOR TO INITIATING THE CONSTRUCTION OF NEW DRIVEWAY APPROACHES, THE CONTRACTOR SHALL GIVE ADVANCE WARNING IN PERSON, OR IN WRITING, OF AT LEAST 48 HOURS TO EACH RESIDENCE THAT WILL BE IMMEDIATELY AFFECTED, SO THAT ALTERNATE PLANS MAY BE MADE BY THE RESIDENTS.
- FOR BUSINESSES WITH MORE THAN ONE DRIVEWAY, AT LEAST ONE DRIVEWAY SHALL REMAIN OPEN WHILE THE OTHER NEW DRIVEWAY APPROACHES ARE CONSTRUCTED. FOR BUSINESSES WITH ONLY ONE DRIVEWAY, THE NEW DRIVEWAY APPROACH SHALL BE CONSTRUCTED IN HALF WIDTHS, UNLESS A TEMPORARY ASPHALT DRIVEWAY IS FIRST INSTALLED AT NO SEPARATE COST TO THE CITY.

NOTE TO CONSULTANT

DO NOT MODIFY, DELETE OR ADD TO THE CITY OF SAN ANTONIO'S GENERAL NOTES STANDARD SHEET. IF MODIFICATIONS ARE REQUIRED, FOLLOW THE INSTRUCTIONS ON THE "SUPPLEMENTAL GENERAL NOTES" SHEET.

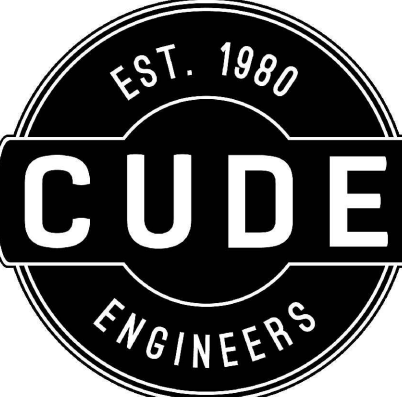
DECEMBER 2009

CITY OF SAN ANTONIO

CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

CITY OF SAN ANTONIO
GENERAL NOTES

% SUBMITTAL	PROJECT NO.:	DATE:
DRWN. BY:	DSGN. BY:	CHKD. BY:
SHEET NO.:		OF:



4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F:(210) 523.7112

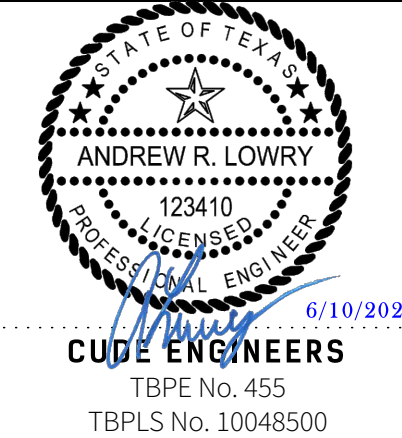
ACKERMAN GARDENS

UNIT 7

CONSTRUCTION GENERAL NOTES

DATE
06/10/2024
PROJECT NO.
01792.742
DRAWN BY
CG/TCD/XV
CHECKED BY
XV/AL

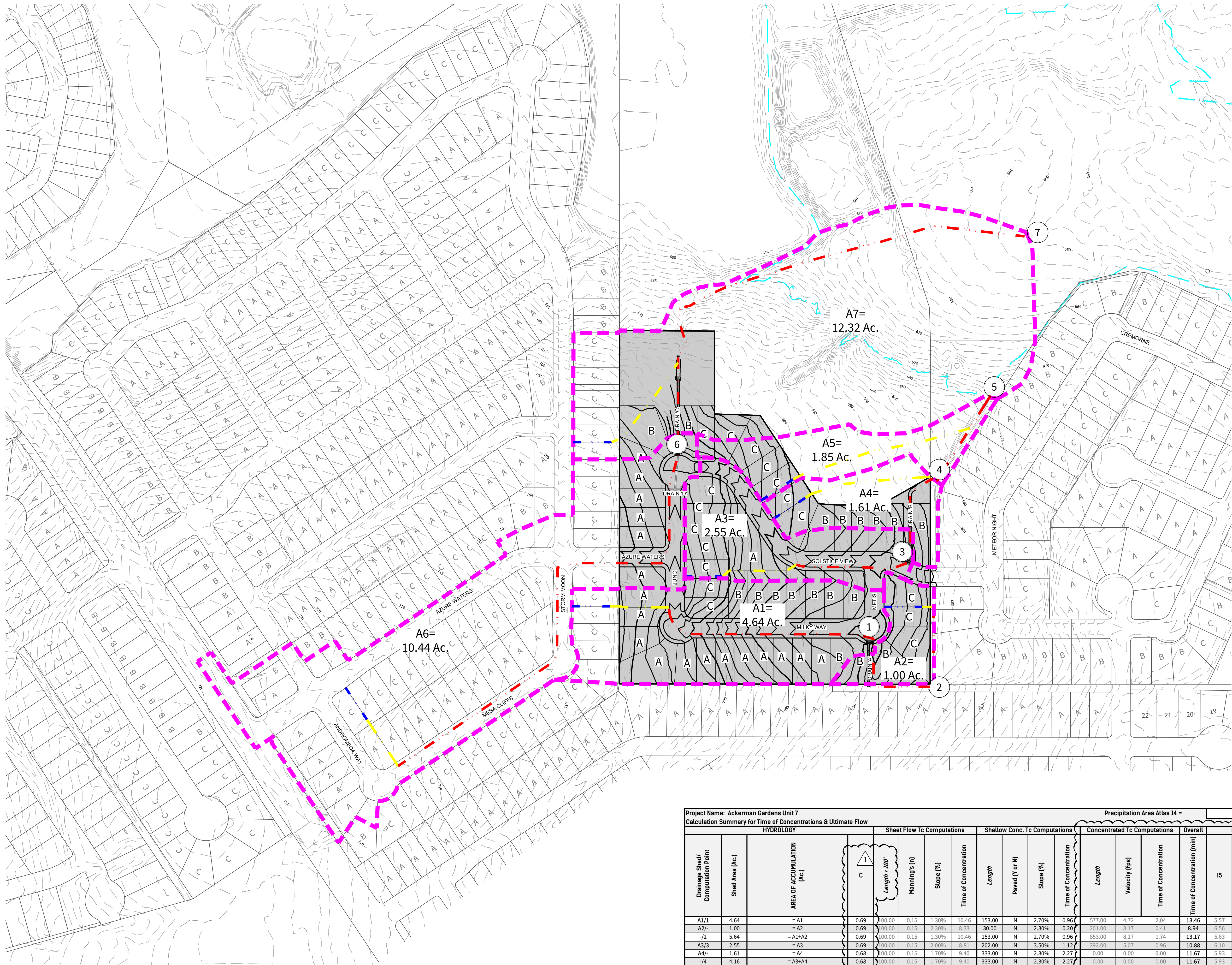
REVISIONS
DATE
1
2
3
4
5
6
7
8
9



PLAT NO.
24-11800121

C1

© 2024 K.W. CUDE ENGINEERS, LLC. THIS DOCUMENT, ANY PORTION THEREOF, AND ANY ASSOCIATED COPYRIGHTS SHALL REMAIN THE PROPERTY OF K.W. CUDE ENGINEERS, LLC. THIS DOCUMENT MAY NOT BE REPRODUCED, USED, OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS TO ANYONE FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF, AND ADAPTATION BY, K.W. CUDE ENGINEERS, LLC. THIS DOCUMENT IS NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR USE OTHER THAN AS ORIGINALLY INTENDED BY K.W. CUDE ENGINEERS, LLC AND ANY UNAUTHORIZED REPRODUCTION, USE OR DISTRIBUTION OF SAID DOCUMENTS WILL BE AT THE INFRINGING PARTY'S SOLE RISK, WITHOUT ANY LIABILITY TO K.W. CUDE ENGINEERS, LLC, AND WILL BE USED AGAINST ANY AND ALL PARTIES TO THE FULLEST EXTENT PERMITTED BY LAW.



SCALE: 1"=200'

200 100 0 200

LEGEND

UNIT BOUNDARY

DRAINAGE AREA BOUNDARY

SHEET FLOW Tc PATH

SHALLOW CONC. Tc PATH

CONCENTRATED Tc PATH

ACCUMULATION POINT

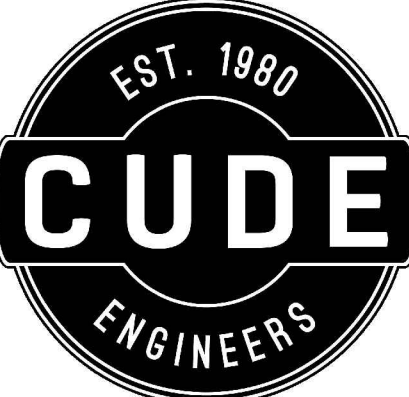
FLOW ARROWS

100 YEAR FEMA FLOODPLAIN

TYPICAL LOT SITE PLAN

N.T.S.

Project Name: Ackerman Gardens Unit 7										Precipitation Area Atlas 14 =					PA3									
Calculation Summary for Time of Concentrations & Ultimate Flow																								
HYDROLOGY				Sheet Flow Tc Computations				Shallow Conc. Tc Computations				Concentrated Tc Computations				Overall	INTENSITY				Q FLOW			
Drainage Shed/ Computation Point	Shed Area (Ac.)	AREA OF ACCUMULATION (Ac.)	<div><div>c</div><div>Length = 100'</div></div>	Manning's (n)	Slope (%)	Time of Concentration	Length	Paved (Y or N)	Slope (%)	Time of Concentration	Length	Velocity (fps)	Time of Concentration	Time of Concentration (min)	I5	I25	I100	Q5	Q25	Q100	Drainage Shed			
A1/1	4.64	= A1	0.69	100.00	0.15	1.30%	10.46	153.00	N	2.70%	0.96	577.00	4.72	2.04	13.46	5.57	7.76	9.68	17.83	24.84	30.99	A1/1		
A2/-	1.00	= A2	0.69	100.00	0.15	2.30%	8.33	30.00	N	2.30%	0.20	201.00	8.17	0.41	8.94	6.56	9.19	11.52	4.53	6.34	7.95	A2/-		
-/2	5.64	= A1+A2	0.69	100.00	0.15	1.30%	10.46	153.00	N	2.70%	0.96	853.00	8.17	1.74	13.17	5.63	7.84	9.79	21.91	30.51	38.10	-/2		
A3/3	2.55	= A3	0.69	100.00	0.15	2.00%	8.81	202.00	N	3.50%	1.12	292.00	5.07	0.96	10.88	6.10	8.53	10.69	10.73	15.01	18.81	A3/3		
A4/-	1.61	= A4	0.68	100.00	0.15	1.70%	9.40	333.00	N	2.30%	2.27	0.00	0.00	0.00	11.67	5.93	8.29	10.37	6.49	9.08	11.35	A4/-		
-/4	4.16	= A3+A4	0.68	100.00	0.15	1.70%	9.40	333.00	N	2.30%	2.27	0.00	0.00	0.00	11.67	5.93	8.29	10.37	16.77	23.45	29.33	-/4		
A5/-	1.85	= A5	0.68	100.00	0.15	2.24%	8.42	481.00	N	2.18%	3.37	100.00	3.36	0.50	12.28	5.81	8.10	10.13	7.31	10.19	12.74	A5/-		
-/5	6.01	= A4+A5	0.68	100.00	0.15	2.24%	8.42	481.00	N	2.18%	3.37	100.00	3.36	0.50	12.28	5.81	8.10	10.13	23.74	33.10	41.40	-/5		
A6/6	10.44	= A6	0.69	100.00	0.15	0.90%	12.12	145.00	N	2.70%	0.91	1211.00	4.78	4.22	17.26	4.90	6.79	8.43	35.30	48.91	60.73	A6/6		
A7/-	12.32	= A7	0.67	100.00	0.15	2.00%	8.81	273.00	N	2.80%	1.69	1069.00	6.66	2.68	13.17	5.63	7.84	9.79	46.47	64.71	80.81	A7/-		
-/7	28.77	= 5+A6+A7	0.67	100.00	0.15	0.90%	12.12	145.00	N	2.70%	0.91	2622.00	6.66	6.56	19.60	4.59	6.35	7.88	88.48	122.40	151.89	-/7		



4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F:(210) 523.7112

ACKERMAN GARDENS
UNIT 7

OVERALL DRAINAGE MASTER PLAN

DATE
01/24/2025

PROJECT NO.
01792.742

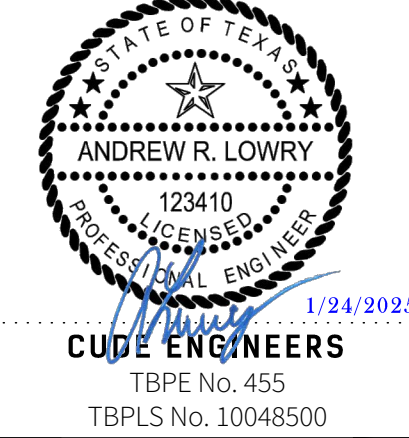
DRAWN BY
CG/TCD/XV

CHECKED BY
XV/AL

REVISIONS

DATE

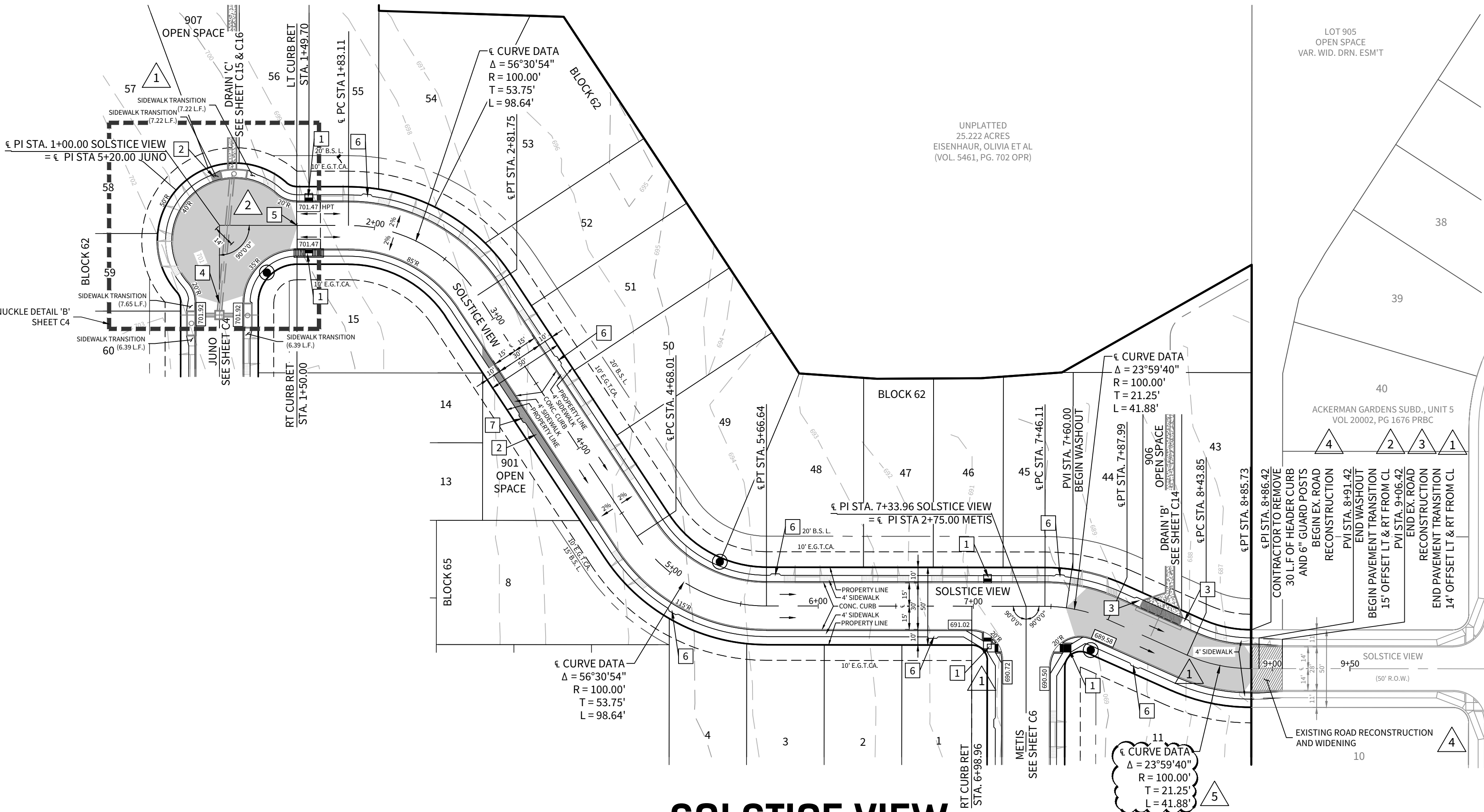
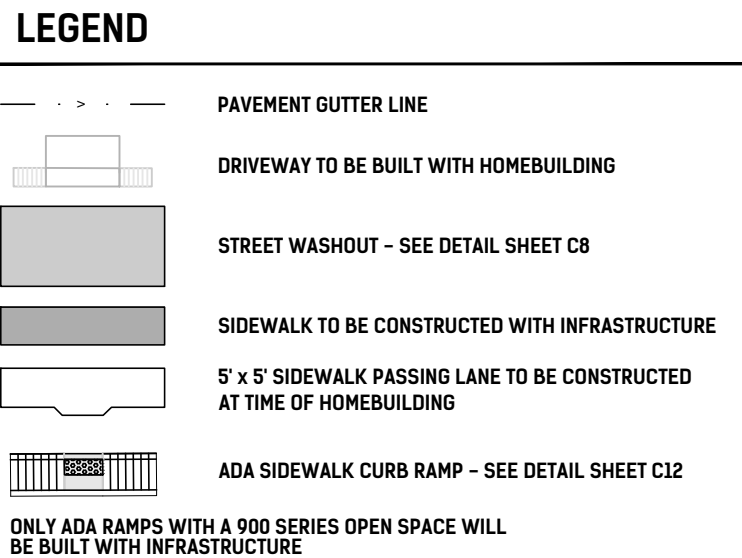
- | | | | |
|----|------------|-------------------------------|-----------|
| 1. | 2024-07-08 | REVISION SHEET LABELS | 1/24/2025 |
| 2. | 2024-11-11 | REVISION LOT LAYOUT | |
| 3. | 2025-01-23 | REVISION DRAINAGE MASTER PLAN | |



PLAT NO.
24-11800121

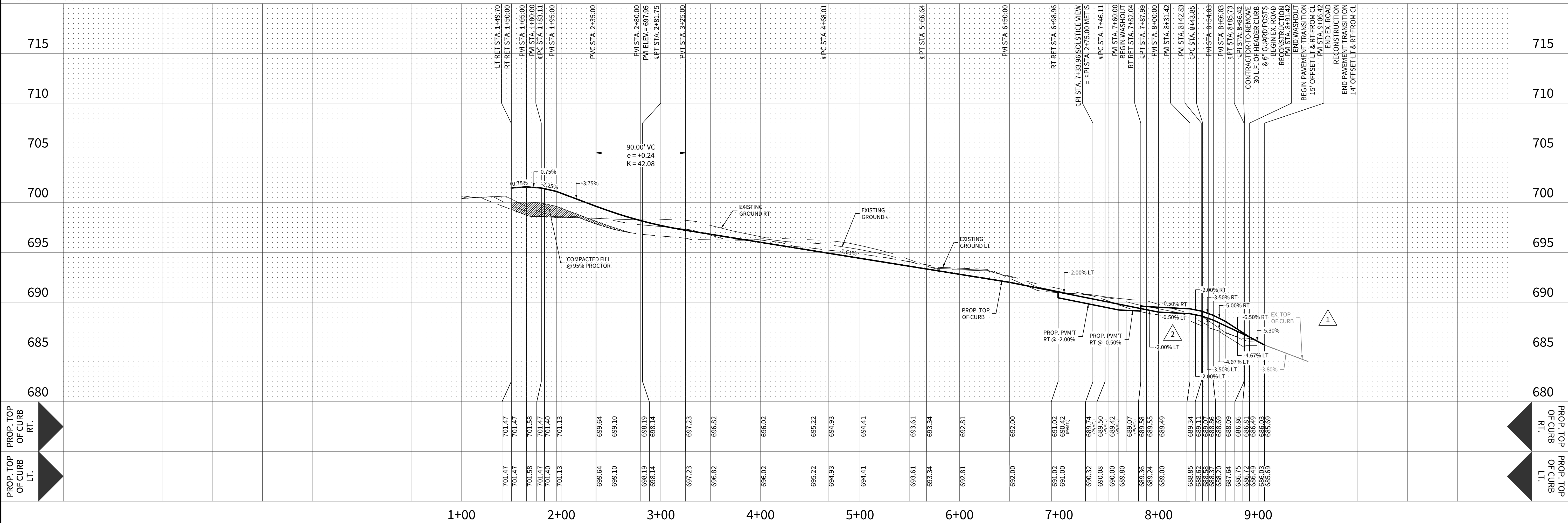
C2

- 1 ADA RAMP TO BE INSTALLED AT TIME OF HOMEBUILDING
- 2 CONTRACTOR TO INSTALL SIDEWALK WITH INFRASTRUCTURE
- 3 SIDEWALK TRANSITION (4.50 L.F.)
- 4 BEGIN WASHOUT JUNO STA. +470.00
- 5 END WASHOUT VIEW STA. 1+50.00
- 6 CONTRACTOR TO INSTALL 5' X 5' SIDEWALK PASSING SPACE WITH HOMEBUILDING
- 7 CONTRACTOR TO INSTALL 5' X 5' SIDEWALK PASSING SPACE WITH INFRASTRUCTURE

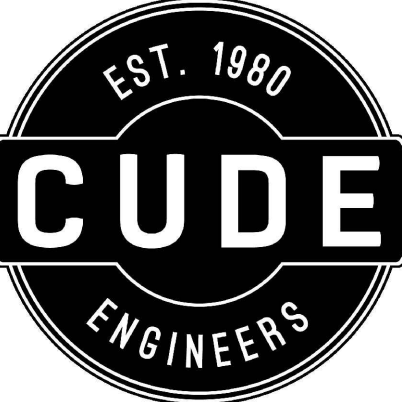


NOTE: A BEXAR COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN BEXAR COUNTY RIGHT OF WAY

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



CUDEENGINEERS.COM



4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
(210) 681.2951 F: (210) 523.7112

**ACKERMAN GARDENS
UNIT 7**

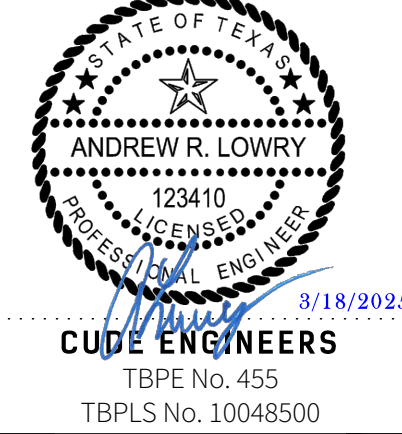
STREET PLAN & PROFILE - SOLSTICE VIEW

DATE
/18/2025
.....
PROJECT NO.
1792.742

DRAWN BY

CHECKED BY
XV/AL

#	DATE	REVISIONS
1.	2024-01-17	ADDED REMOTE, ADDED RE-KNOW WOTE, REY. CALLOUTS, REY. AND RAMP, REVISED EXHAUST, A. ADDED DETAIL, REY.
2.	2024-08-22	REMOVED DRAIN FROM PROFILE, ADDED REMOTE TO PROFILE, ADDED DETAIL TO EXHAUST, REY. DETAIL
3.	2024-11-07	ADDED CENTRALIZING OF SET
4.	2025-01-16	PERIODIC WORKING TO BE CORRECT
5.	2025-03-18	REVISED CURVE DATA LEAD IN TO BE SHOWN
6.		
7.		
8.		
9.		



PLAT NO.
4-11800121







C3

CUDEENGINEERS.COM



KNUCKLE BACK OF CURB ELEVATIONS	
NUMBER	TOC ELEV.
1	702.87
2	702.64
3	702.52
4	702.40
5	702.23
6	701.88
7	701.16

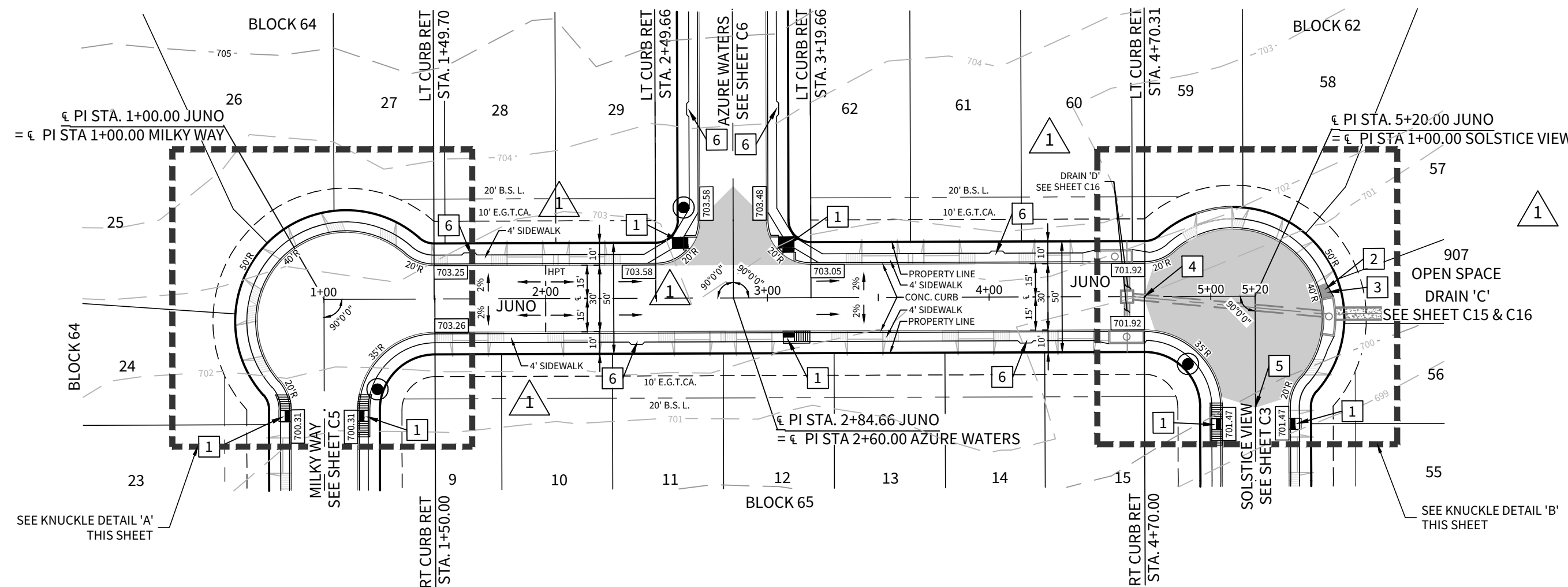
LEGEND

- | | |
|--|--|
|  | PAVEMENT GUTTER LINE |
|  | DRIVEWAY TO BE BUILT WITH HOMEBUILDING |
|  | STREET WASHOUT - SEE DETAIL SHEET C8 |
|  | SIDEWALK TO BE CONSTRUCTED WITH INFRASTRUCTURE |
|  | 5' x 5' SIDEWALK PASSING LANE TO BE CONSTRUCTED AT TIME OF HOMEBUILDING |
|  | ADA SIDEWALK CURB RAMP - SEE DETAIL SHEET C12 |

ONLY ADA RAMPS WITH A 900 SERIES OPEN SPACE WILL BE BUILT WITH INFRASTRUCTURE

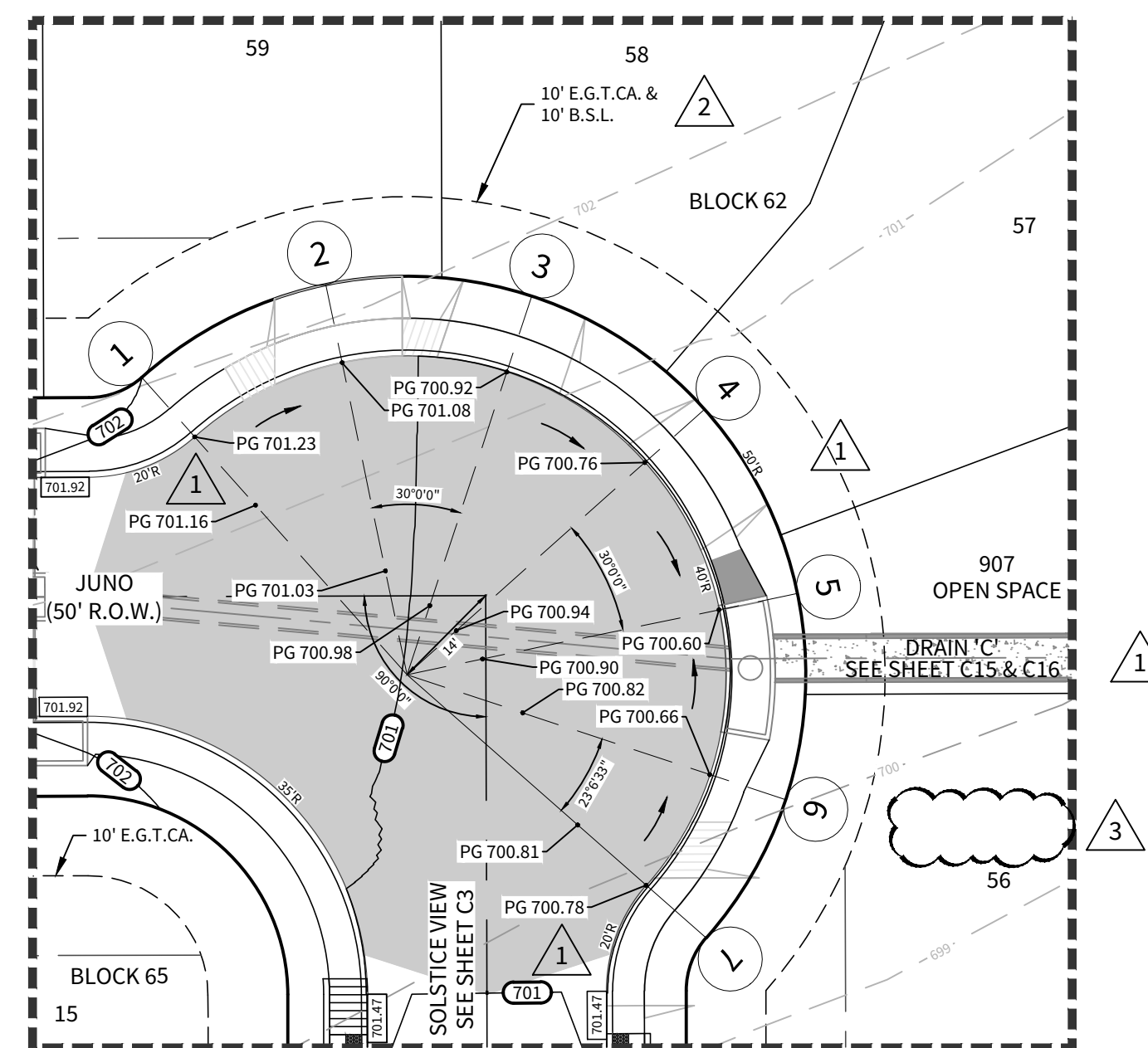
KEYNOTES

- | | | |
|---|--|--|
| 1 | ADA RAMP TO BE INSTALLED AT TIME OF HOMEBUILDING | |
| 2 | CONTRACTOR TO INSTALL SIDEWALK WITH INFRASTRUCTURE | 6 CONTRACTOR TO INSTALL 5' X 5' SIDEWALK PASSING SPACE WITH HOMEBUILDING |
| 3 | SIDEWALK TRANSITION (7.22 L.F.) | |
| 4 | BEGIN WASHOUT
JUNO STA. 4+70.00 | |
| 5 | END WASHOUT
SOLSTICE VIEW STA. 1+50.00 | |



JUNO

STA. 1+00.00 TO STA. END

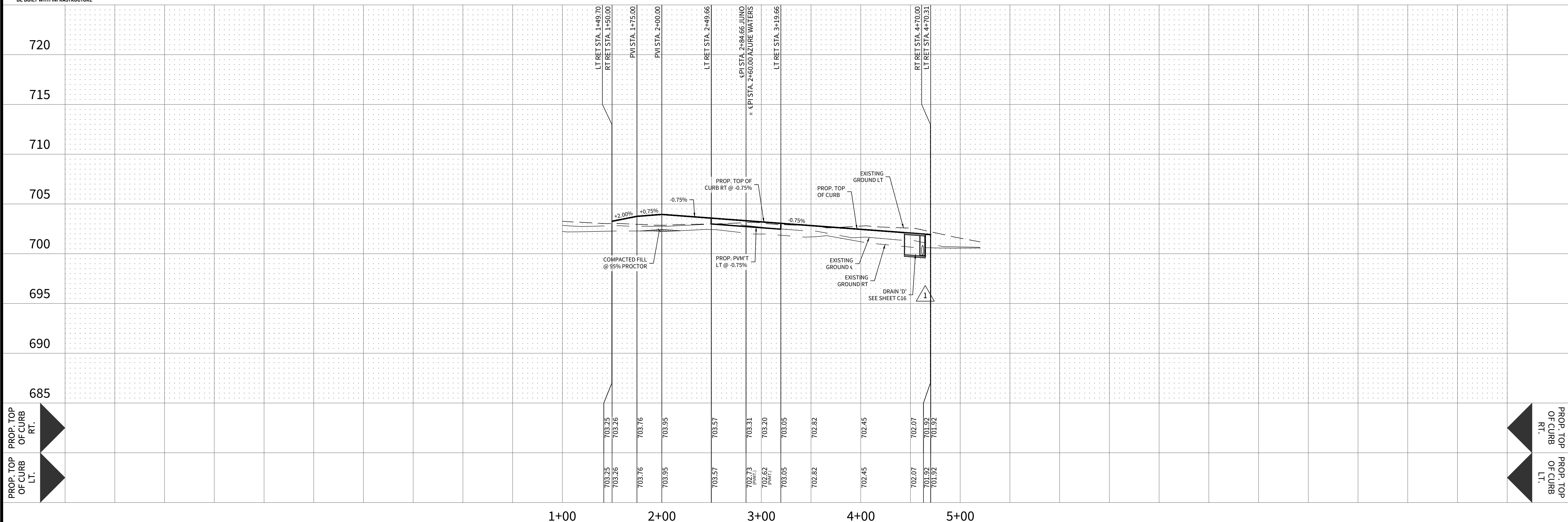


KNUCKLE DETAIL "B"

KNUCKLE BACK OF CURB ELEVATIONS	
NUMBER	TOC ELEV.
1	701.82
2	701.66
3	701.50
4	701.34
5	701.18
6	701.24
7	701.36

NOTE: A BEXAR COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN BEXAR COUNTY RIGHT OF WAY

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



© 2024 K.W. CUDE ENGINEERS, LLC. THIS DOCUMENT, ANY PORTION THEREOF, AND ANY ASSOCIATED COPYRIGHTS SHALL REMAIN THE PROPERTY OF K.W. CUDE ENGINEERS, LLC. THIS DOCUMENT MAY NOT BE REPRODUCED, USED, OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS TO ANYONE FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF K.W. CUDE ENGINEERS, LLC. THIS DOCUMENT IS NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR USE OTHER THAN AS ORIGINALLY INTENDED BY K.W. CUDE ENGINEERS, LLC AND ANY UNAUTHORIZED REPRODUCTION, USE OR DISTRIBUTION OF SAID DOCUMENTS WILL BE AT THE INFRINGING PARTY'S SOLE RISK, WITHOUT ANY LIABILITY TO K.W. CUDE ENGINEERS, LLC, AND WILL BE USED AGAINST ANY AND ALL PARTIES TO THE GREATEST EXTENT PERMITTED BY LAW.

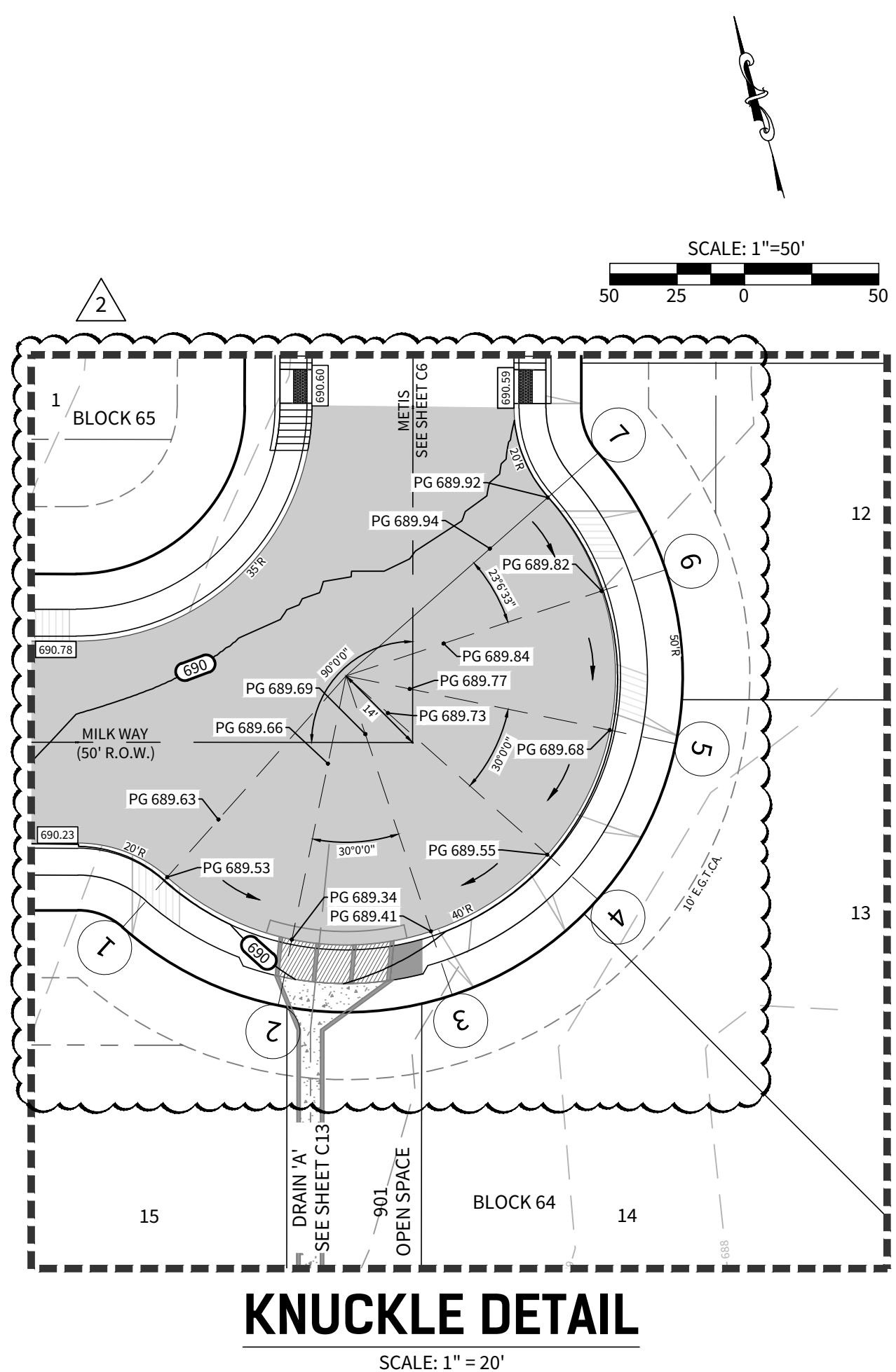
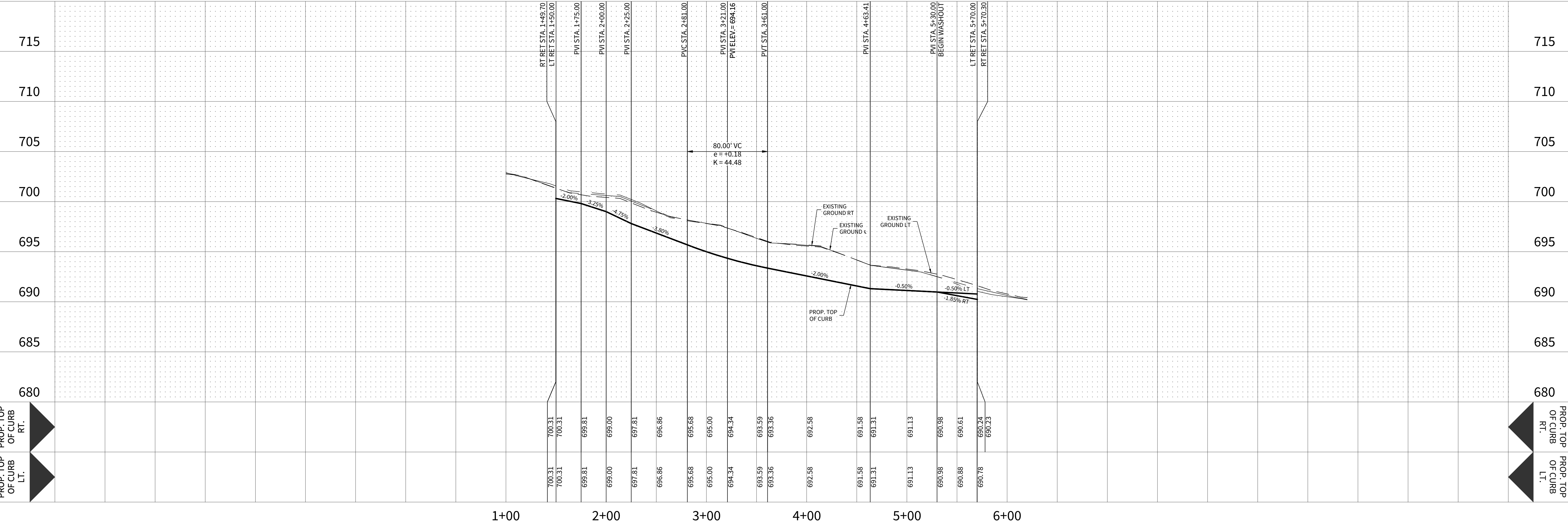
KEYNOTES:

- 1 ADA RAMP TO BE INSTALLED AT TIME OF HOMEBUILDING
- 2 CONTRACTOR TO INSTALL SIDEWALK WITH INFRASTRUCTURE
- 3 SIDEWALK TRANSITION (5.00 L.F.)
- 4 CONTRACTOR TO INSTALL 5' X 5' SIDEWALK PASSING SPACE WITH HOMEBUILDING

LEGEND

- PAVEMENT OUTER LINE
- DRIVEWAY TO BE BUILT WITH HOMEBUILDING
- STREET WASHOUT - SEE DETAIL SHEET C8
- SIDEWALK TO BE CONSTRUCTED WITH INFRASTRUCTURE
- 5' X 5' SIDEWALK PASSING LANE TO BE CONSTRUCTED AT TIME OF HOMEBUILDING
- ADA SIDEWALK CURB RAMP - SEE DETAIL SHEET C12

ONLY ADA RAMPS WITH A 900 SERIES OPEN SPACE WILL BE BUILT WITH INFRASTRUCTURE



KNUCKLE BACK OF CURB ELEVATIONS	
NUMBER	TOC ELEV.
1	690.11
2	689.91
3	689.99
4	690.12
5	690.26
6	690.40
7	690.50

NOTE: A BEXAR COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN BEXAR COUNTY RIGHT OF WAY
HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'

CUDEENGINEERS.COM

CUDE ENGINEERS
EST. 1980

4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P: (210) 681.2951 F: (210) 523.7112

ACKERMAN GARDENS
UNIT 7
STREET PLAN & PROFILE - MILKY WAY

DATE	11/14/2024
PROJECT NO.	01792.742
DRAWN BY	CG/TCD/XV
CHECKED BY	XV/AL

DATE	REVISIONS
2024-07-17	1. ADDED RT SIDEWALK
2024-11-07	2. SHOW WASHOUT IN MANHOLE DETAIL

STATE OF TEXAS
ANDREW R. LOWRY
123410
PROFESSIONAL ENGINEER
CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500
11/14/2024

PLAT NO.
24-11800121

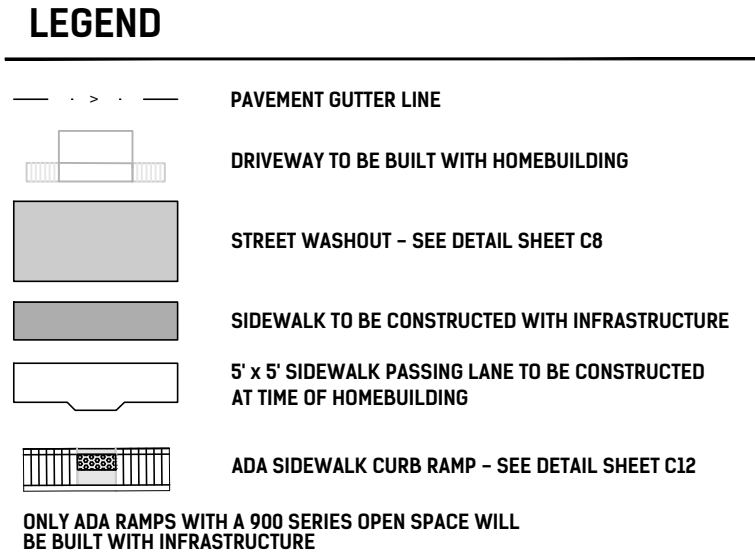
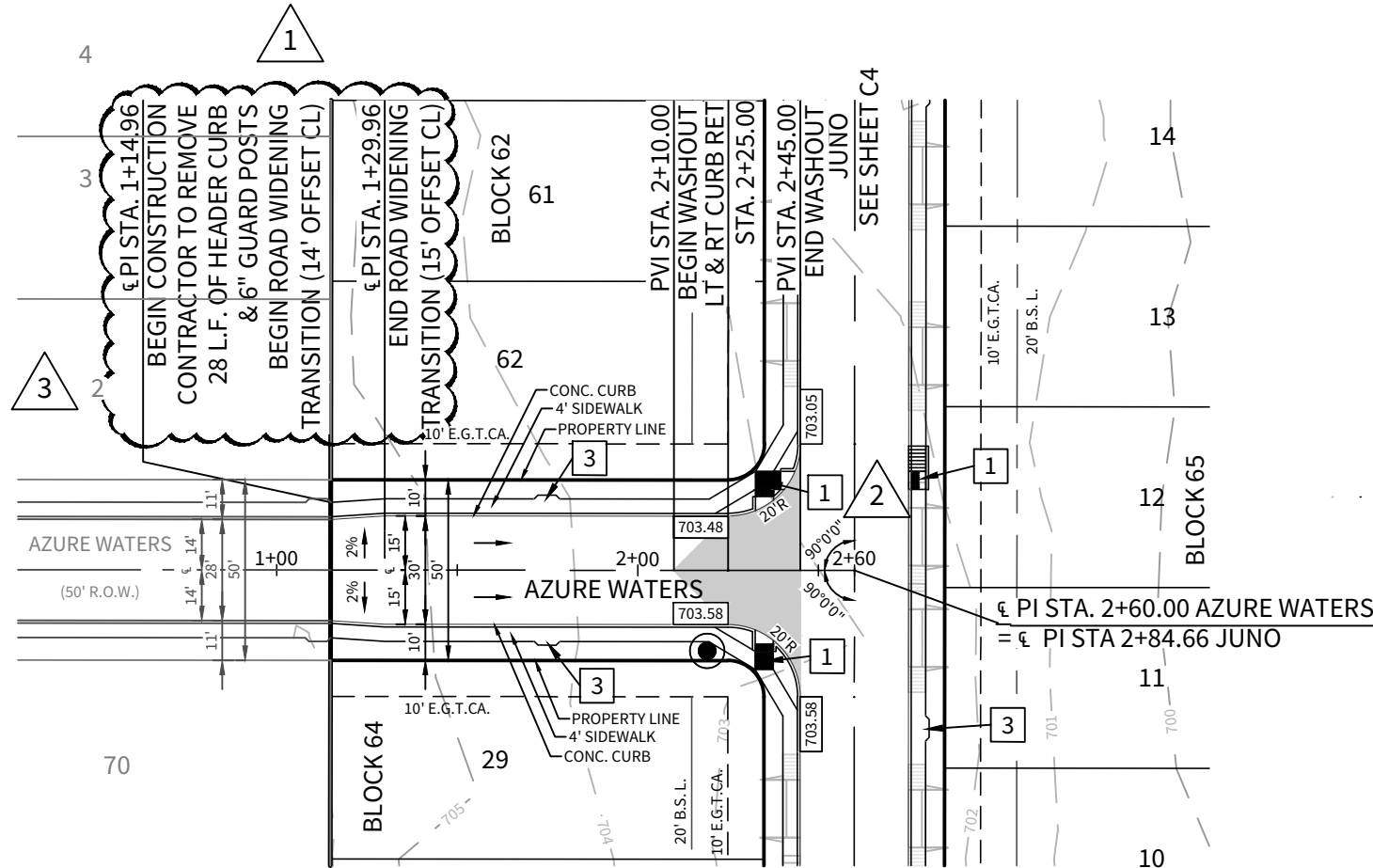
C5

CUDEENGINEERS.COM

© 2024 K.W. CUDE ENGINEERS, LLC. THIS DOCUMENT, ANY PORTION THEREOF, AND ANY ASSOCIATED COPYRIGHTS SHALL REMAIN THE PROPERTY OF K.W. CUDE ENGINEERS, LLC. THIS DOCUMENT MAY NOT BE REPRODUCED, USED, OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS TO ANYONE FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF K.W. CUDE ENGINEERS, LLC. THIS DOCUMENT IS NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR USE OTHER THAN AS ORIGINALLY INTENDED BY K.W. CUDE ENGINEERS, LLC AND ANY UNAUTHORIZED REPRODUCTION, USE OR DISTRIBUTION OF SAID DOCUMENTS WILL BE AT THE INFRINGING PARTY'S SOLE RISK, WITHOUT ANY LIABILITY TO K.W. CUDE ENGINEERS, LLC, AND WILL BE USED AGAINST ANY AND ALL PARTIES TO THE FULLEST EXTENT PERMITTED BY LAW.

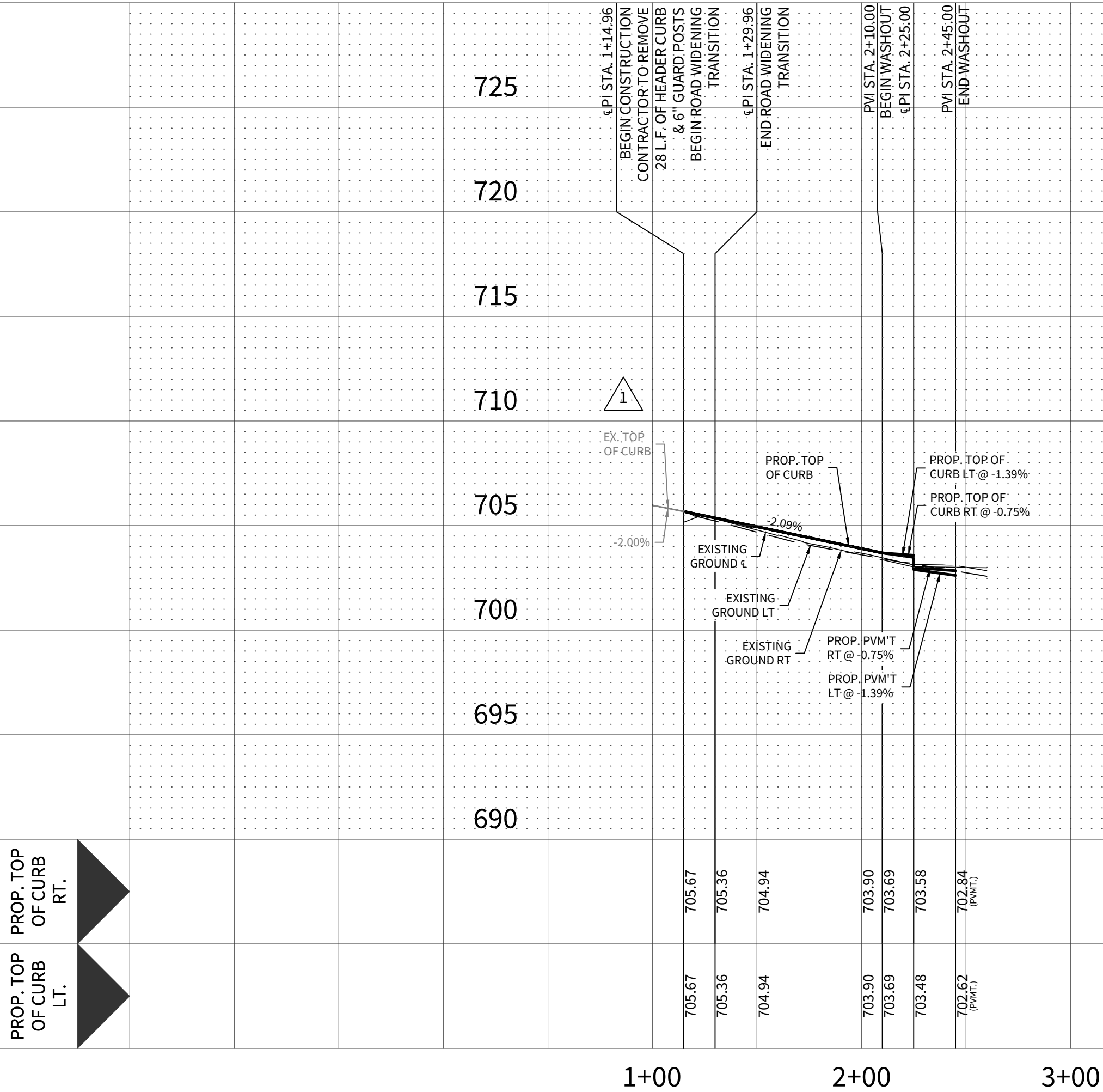
KEYNOTES:

- 1 ADA RAMP TO BE INSTALLED AT TIME OF HOMEBUILDING
- 2 CONTRACTOR TO INSTALL SIDEWALK WITH INFRASTRUCTURE
- 3 CONTRACTOR TO INSTALL 5' X 5' SIDEWALK PASSING SPACE WITH HOMEBUILDING



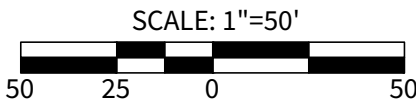
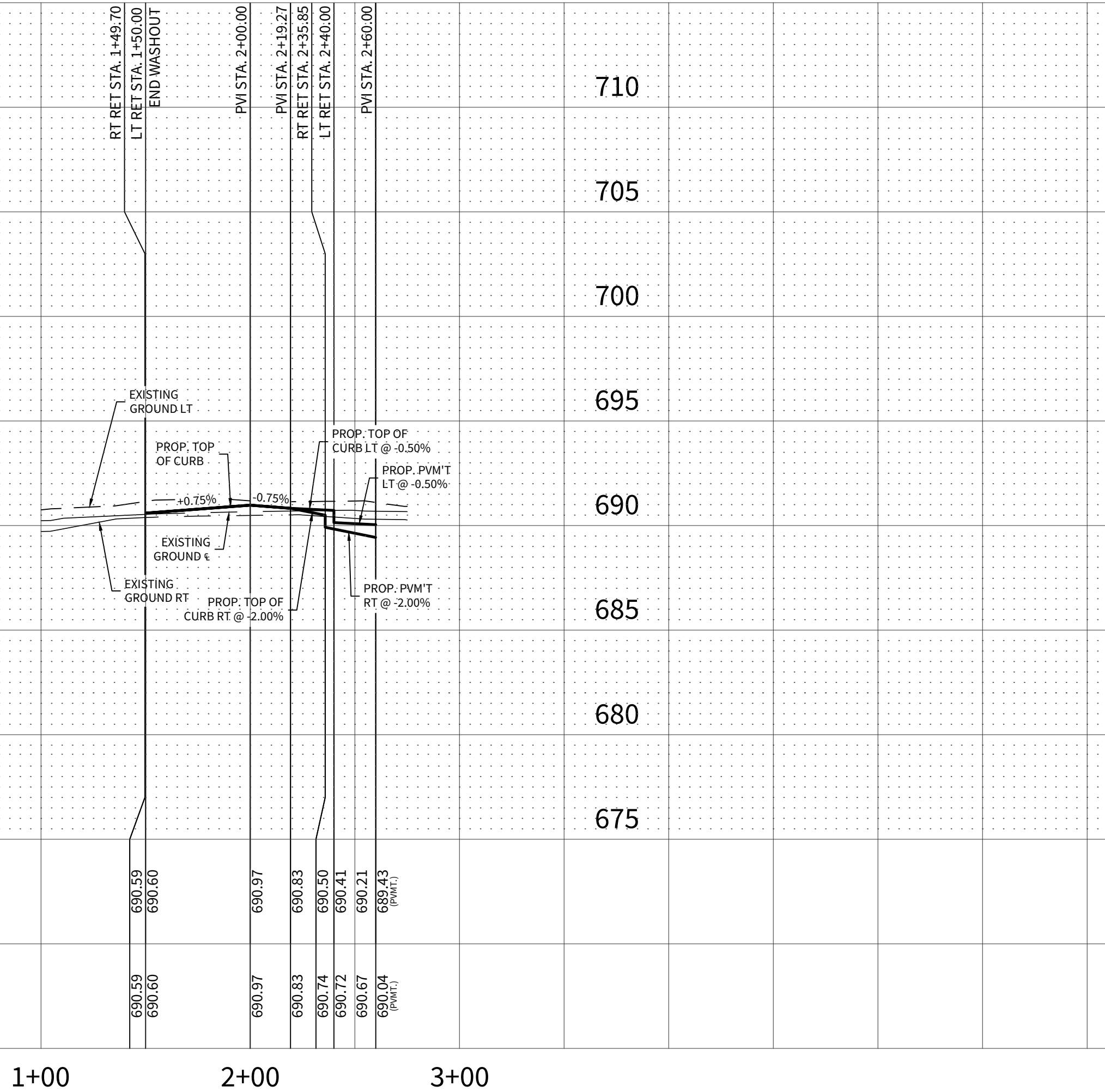
AZURE WATERS

STA. 1+00.00 TO STA. END



METIS

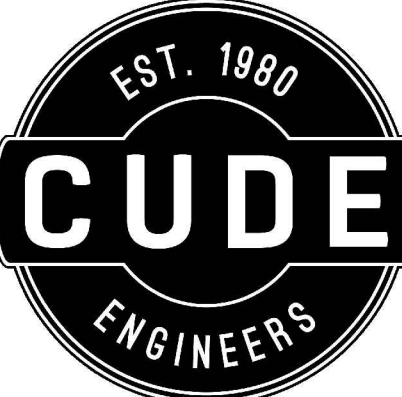
STA. 1+00.00 TO STA. END



NOTE: A BEXAR COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN BEXAR COUNTY RIGHT OF WAY

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'

CUDEENGINEERS.COM



4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F: (210) 523.7112

ACKERMAN GARDENS
UNIT 7
STREET PLAN & PROFILE - AZURE WATERS & METIS

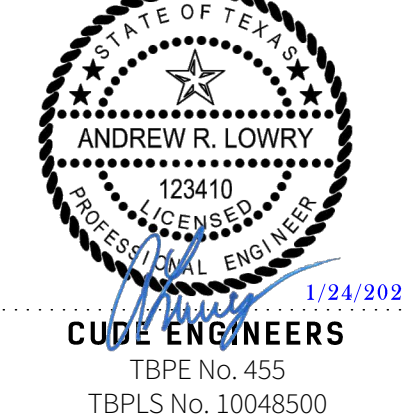
DATE
01/24/2025

PROJECT NO.
01792.742

DRAWN BY
CG/TCD/XV

CHECKED BY
XV/AL

DATE	REVISIONS
1. 2024-07-17	1. ADDED SHOWN AND NOT SHOWN
2. 2024-08-22	2. ADDED SHOWN AND NOT SHOWN
3. 2025-01-20	3. ADDED SHOWN AND NOT SHOWN
4. 2025-01-20	4. ADDED SHOWN AND NOT SHOWN
5. 2025-01-20	5. ADDED SHOWN AND NOT SHOWN
6. 2025-01-20	6. ADDED SHOWN AND NOT SHOWN
7. 2025-01-20	7. ADDED SHOWN AND NOT SHOWN
8. 2025-01-20	8. ADDED SHOWN AND NOT SHOWN
9. 2025-01-20	9. ADDED SHOWN AND NOT SHOWN



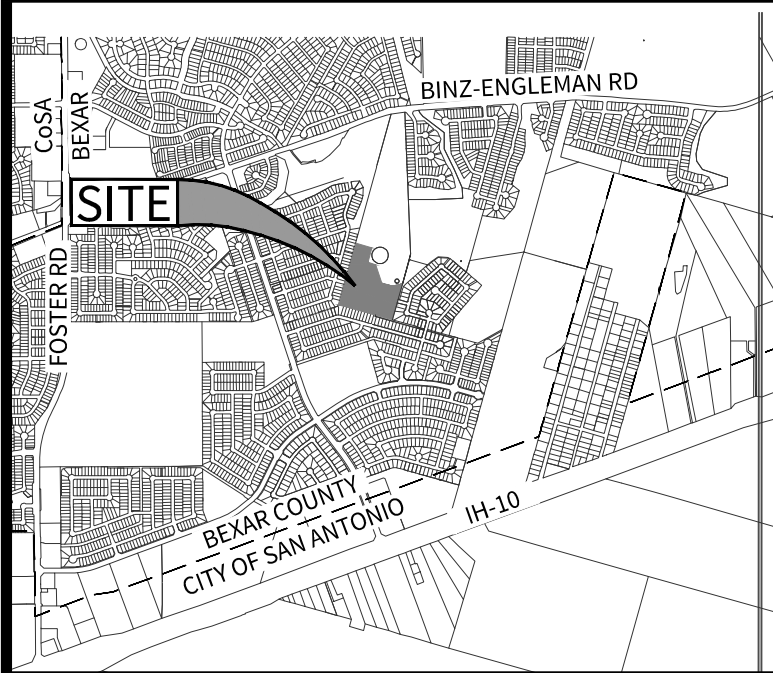
PLAT NO.
24-11800121

C6

CUDEENGINEERS.COM

REPRODUCTION OF THE ORIGINAL SIGNED AND SEALED PLAN AND/OR ELECTRONIC MEDIA MAY HAVE BEEN INADVERTENTLY ALTERED. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE SCALE OF THE DOCUMENT AND CONTACTING CUDE ENGINEERS TO VERIFY DISCREPANCIES PRIOR TO CONSTRUCTION.

© 2024 M.W. CUDE ENGINEERS, L.L.C. - THIS DOCUMENT, ANY PORTION THEREOF, AND ANY ASSOCIATED COPYRIGHTS SHALL REMAIN THE PROPERTY OF M.W. CUDE ENGINEERS, L.L.C. THIS DOCUMENT MAY NOT BE REPRODUCED, USED, OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS TO ANYONE FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF M.W. CUDE ENGINEERS, L.L.C. THIS DOCUMENT IS NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR USE OTHER THAN AS ORIGINALLY INTENDED BY M.W. CUDE ENGINEERS, L.L.C. AND ANY UNAUTHORIZED REPRODUCTION, USE, OR DISTRIBUTION OF THIS DOCUMENT WILL BE AT THE USER'S SOLE RISK, WITHOUT ANY LIABILITY TO M.W. CUDE ENGINEERS, L.L.C., AND WILL BE USED AGAINST ANY AND ALL PARTIES TO THE GREATEST EXTENT PERMITTED BY LAW.



LOCATION MAP
N.T.S.

OWNER/DEVELOPER:
L & F-1, L.L.C.
CONTACT PERSON: FRED GHAVIDEL
6735 IH 10 WEST, SUITE 103
SAN ANTONIO, TX 78201
TEL: (210) 558-9899

CIVIL ENGINEER:
M.W. CUDE ENGINEERS, L.L.C.
CONTACT PERSON: ANDREW R. LOWRY, P.E.
4122 POND HILL ROAD, SUITE 101
SAN ANTONIO, TX 78231
TEL: (210) 681-2951
FAX: (210) 523-7112

1

AZURE WATERS

D3-1 STREET NAME
AZURE WATERS
SIZE = 9"
ITEM# 531.57

STORM MOON

D3-1 STREET NAME
STORM MOON
SIZE = 9"
ITEM# 531.57

R1-1 STOP SIGN
"STOP"
SIZE = 30"x30"
ITEM# 531.3

AZURE WATERS

D3-1 STREET NAME
AZURE WATERS
SIZE = 9"
ITEM# 531.57

JUNO

D3-1 STREET NAME
JUNO
SIZE = 9"
ITEM# 531.57

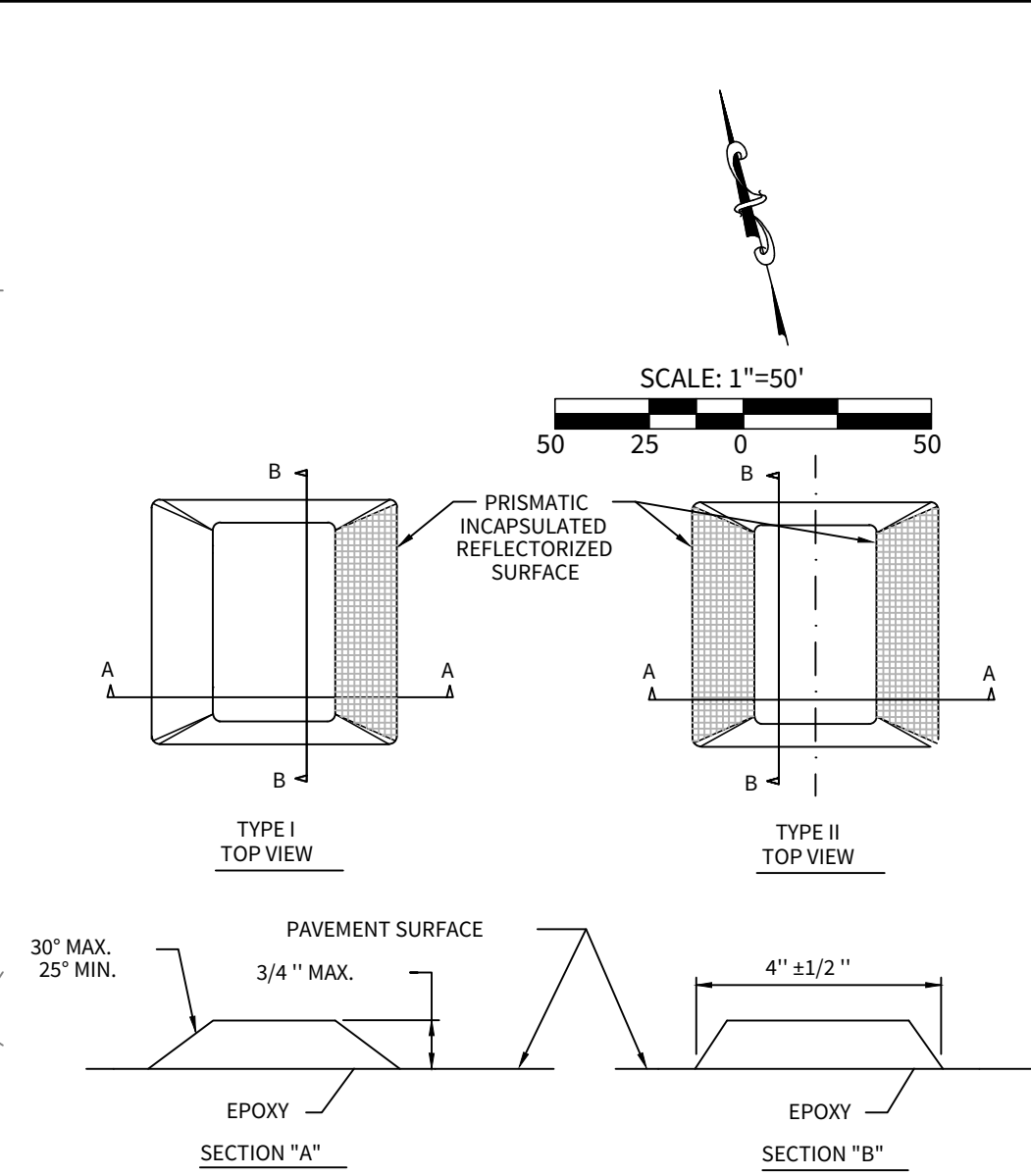
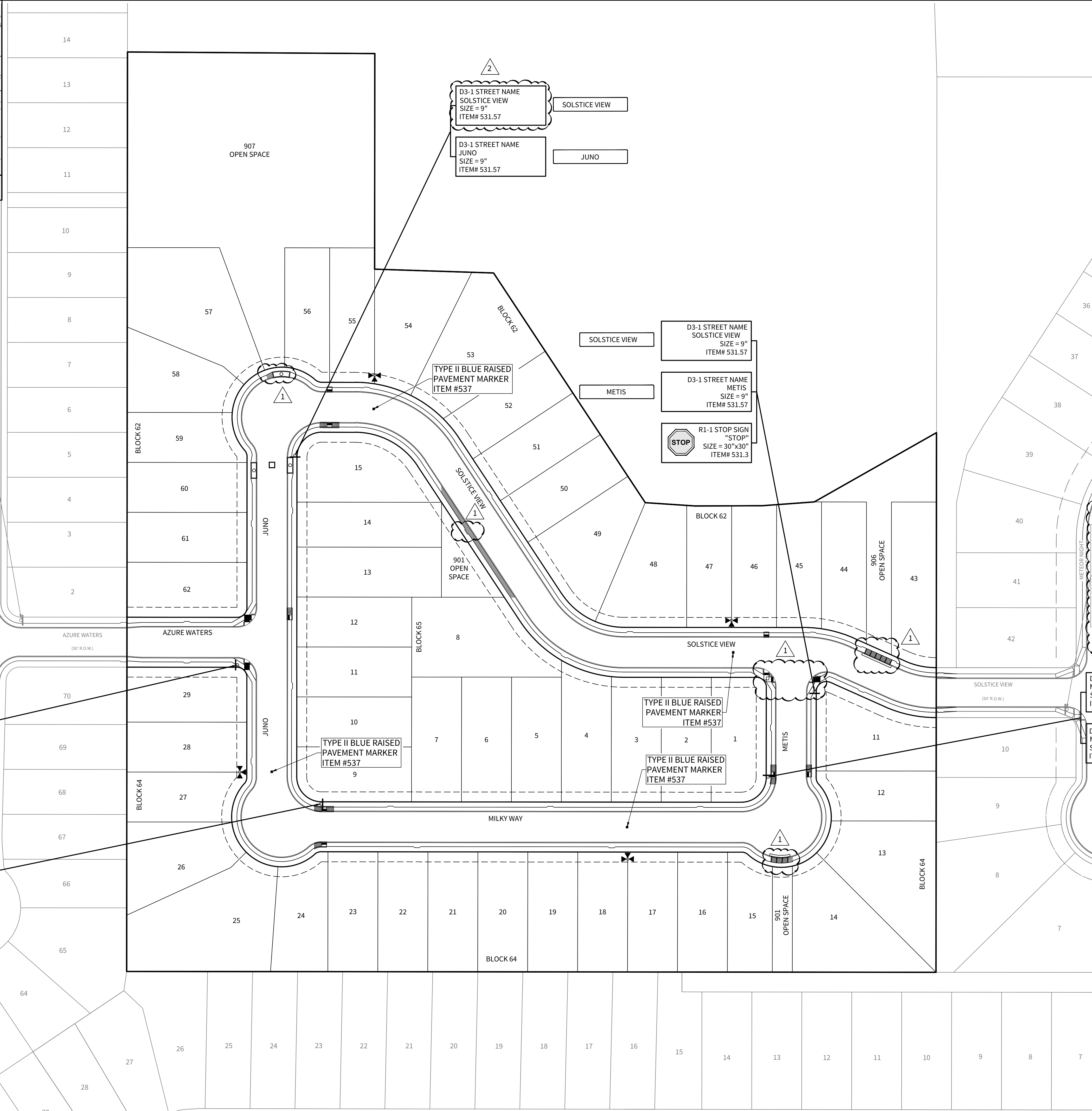
R1-1 STOP SIGN
"STOP"
SIZE = 30"x30"
ITEM# 531.3

MILKY WAY

D3-1 STREET NAME
MILKY WAY
SIZE = 9"
ITEM# 531.57

JUNO

D3-1 STREET NAME
JUNO
SIZE = 9"
ITEM# 531.57



- 1) REFLECTORIZED BLUE - FIRE HYDRANT
- 2) ADHESIVE SHALL BE APPLIED IN SUFFICIENT TO ENSURE THE FOLLOWING:
a) 100 PERCENT OF THE BONDING AREA OF RAISED PAVEMENT MARKERS SHALL BE IN CONTACT WITH THE ADHESIVE.
b) RAISED PAVEMENT MARKERS SHALL NOT BE IN CONTACT WITH THE PAVEMENT SURFACE, BUT SHALL BE SEATED ON A CONTINUOUS LAYER OF ADHESIVE.
c) BITUMINOUS ADHESIVE FOR MARKERS ON BITUMINOUS PAVEMENTS. EPOXY ADHESIVE FOR MARKERS ON PORTLAND CEMENT CONCRETE PAVEMENTS. EPOXY ADHESIVE SHALL BE MACHINE MIXED.
- 3) RAISED PAVEMENT MARKERS SHALL BE FREE OF RUST, SCALE, DIRT, OIL, GREASE, MOISTURE, OR CONTAMINATES WHICH MIGHT ADVERSELY AFFECT THE ADHESIVE BOND. ADHESIVE OR ANY OTHER MATERIAL THAT IMPAIRS THE FUNCTIONAL REFLECTIVITY WILL NOT BE ACCEPTABLE.
- 4) PLACEMENT OF RAISED PAVEMENT MARKERS SHALL BE 4 FEET OFF STREET CENTELINE TOWARD ITEM MARKED.

PAVEMENT REFLECTORS DETAIL
N.T.S.

1

D3-1 STREET NAME
METEOR NIGHT
SIZE = 9"
ITEM# 531.57

METEOR NIGHT

D3-1 STREET NAME
SOLSTICE VIEW
SIZE = 9"
ITEM# 531.57

SOLSTICE VIEW

R1-1 STOP SIGN
"STOP"
SIZE = 30"x30"
ITEM# 531.3

D3-1 STREET NAME
MILKY WAY
SIZE = 9"
ITEM# 531.57

MILKY WAY

D3-1 STREET NAME
METIS
SIZE = 9"
ITEM# 531.57

METIS

1

D3-1 STREET NAME
AZURE WATERS
SIZE = 9"
ITEM# 531.57

AZURE WATERS

D3-1 STREET NAME
JUNO
SIZE = 9"
ITEM# 531.57

JUNO

R1-1 STOP SIGN
"STOP"
SIZE = 30"x30"
ITEM# 531.3

1

D3-1 STREET NAME
AZURE WATERS
SIZE = 9"
ITEM# 531.57

AZURE WATERS

D3-1 STREET NAME
JUNO
SIZE = 9"
ITEM# 531.57

JUNO

R1-1 STOP SIGN
"STOP"
SIZE = 30"x30"
ITEM# 531.3

1

D3-1 STREET NAME
AZURE WATERS
SIZE = 9"
ITEM# 531.57

AZURE WATERS

D3-1 STREET NAME
JUNO
SIZE = 9"
ITEM# 531.57

JUNO

R1-1 STOP SIGN
"STOP"
SIZE = 30"x30"
ITEM# 531.3

NOTE: A BEXAR COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN BEXAR COUNTY RIGHT OF WAY

CUDEENGINEERS.COM

CUDE ENGINEERS
EST. 1980

4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F: (210) 523.7112

**ACKERMAN GARDENS
UNIT 7**

TRAFFIC SIGNAGE PLAN

DATE
11/14/2024

PROJECT NO.
01792.742

DRAWN BY
CG/TCD/XV

CHECKED BY
XV/AL

DATE	REVISIONS
1. 2024-07-17	1. ADDED GARDENS, SAN ANTONIO, TEXAS TO THE PROJECT
2. 2024-08-22	2. REVISED OVERLAPPING TEXT
3. 2024-09-22	3. REVISED OVERLAPPING TEXT
4. 2024-10-22	4. REVISED OVERLAPPING TEXT
5. 2024-11-14	5. REVISED OVERLAPPING TEXT
6. 2024-11-14	6. REVISED OVERLAPPING TEXT
7. 2024-11-14	7. REVISED OVERLAPPING TEXT
8. 2024-11-14	8. REVISED OVERLAPPING TEXT
9. 2024-11-14	9. REVISED OVERLAPPING TEXT

STATE OF TEXAS
ANDREW R. LOWRY
123410
PROFESSIONAL ENGINEER
11/14/2024
CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

PLAT NO.
24-11800121

C7

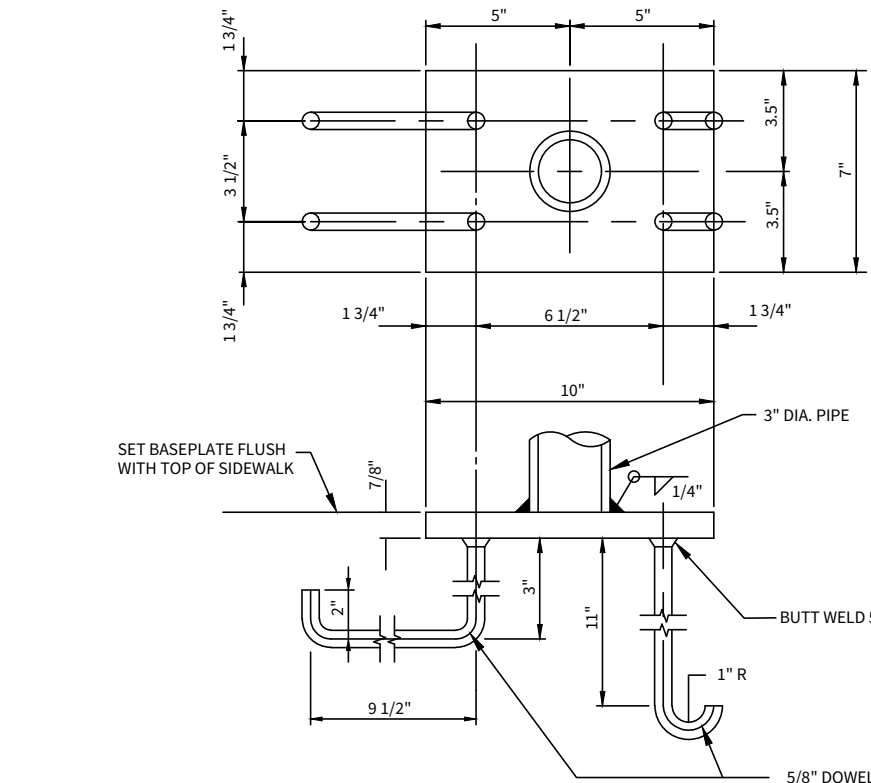
CUDEENGINEERS.COM

CUDE ENGINEERS, LLC - THIS DOCUMENT, ANY PORTION THEREOF, AND ANY ASSOCIATED COPYRIGHTS SHALL REMAIN THE PROPERTY OF A.W. CUDE ENGINEERS, LLC. THIS DOCUMENT MAY NOT BE REPRODUCED, USED, OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS TO ANYONE WITHOUT THE WRITTEN CONSENT OF A.W. CUDE ENGINEERS, LLC. THIS DOCUMENT IS NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR USE OTHER THAN AS ORIGINALLY INTENDED BY A.W. CUDE ENGINEERS, LLC AND ANY UNAUTHORIZED REPRODUCTION, USE OR DISTRIBUTION OF SAID DOCUMENTS WILL BE AT THE INFRINGING PARTY'S SOLE RISK, WITHOUT ANY LIABILITY TO A.W. CUDE ENGINEERS, LLC, AND WILL BE USED AGAINST ANY AND ALL PARTIES TO THE GREATEST EXTENT PERMITTED BY LAW.

GENERAL NOTES

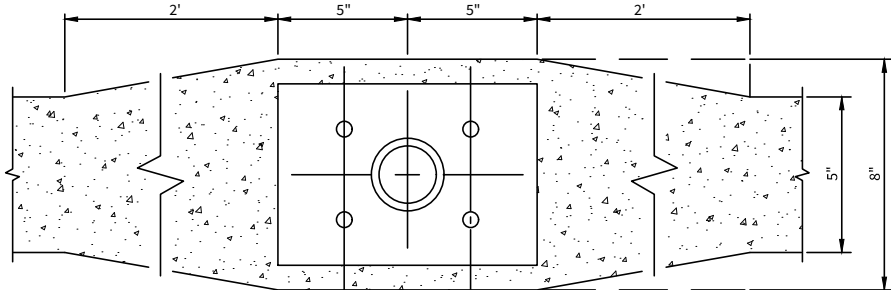
THE LOCATIONS AND DEPTHS OF ALL EXISTING UTILITIES, INCLUDING SERVICE LATERALS AND DRAINAGE STRUCTURES SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION AND DEPTHS OF UNDERGROUND UTILITIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION WHETHER SHOWN ON PLANS OR NOT, AND TO PROTECT THE SAME DURING CONSTRUCTION.

SAN ANTONIO WATER SYSTEM	233-2010
TEXAS STATE WIDE ONE CALL LOCATOR	1-800-545-6005
C.P.S. ENERGY	"
AT&T	"
TIME WARNER CABLE	"
VALERO ENERGY CO.	"
GREY FOREST UTILITIES	"



PIPE ANCHORAGE DETAILS

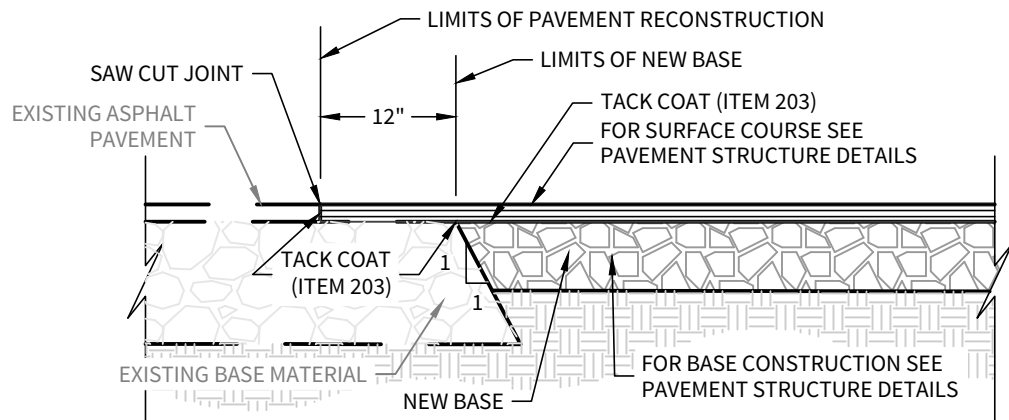
N.T.S.



CONCRETE RIP-RAP AT PIPE RAILING BASE PLATE DETAIL

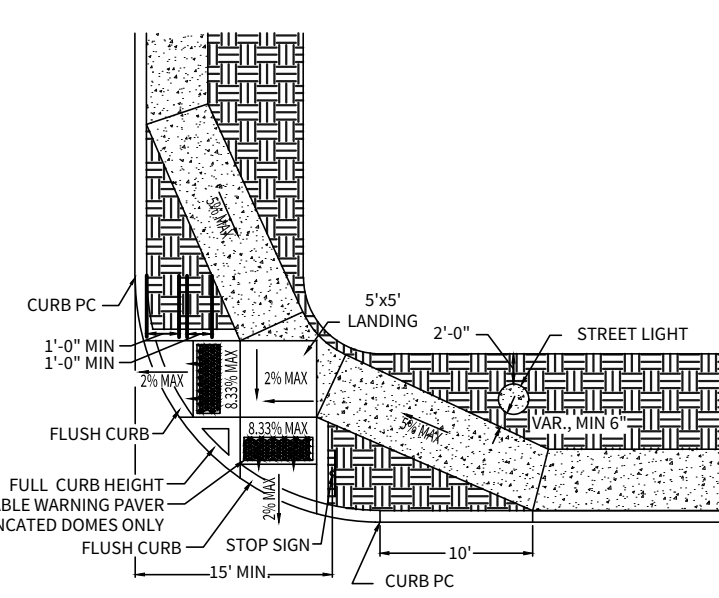
N.T.S.

- NOTES:
- CONTRACTOR TO FLARE CONCRETE RIP-RAP TO 8" AT PROPOSED PIPE RAILING BASE PLATE LOCATIONS.



PAVEMENT JUNCTION DETAILS

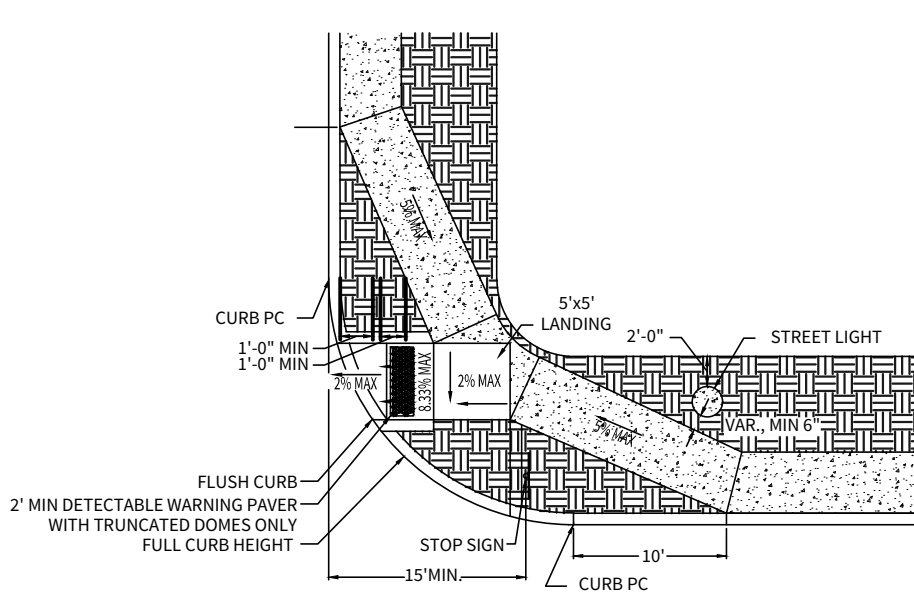
N.T.S.



ADA RAMP INTERSECTION LAYOUT DETAIL (TYPE 10 DIRECTIONAL RAMPS)

NOTES:

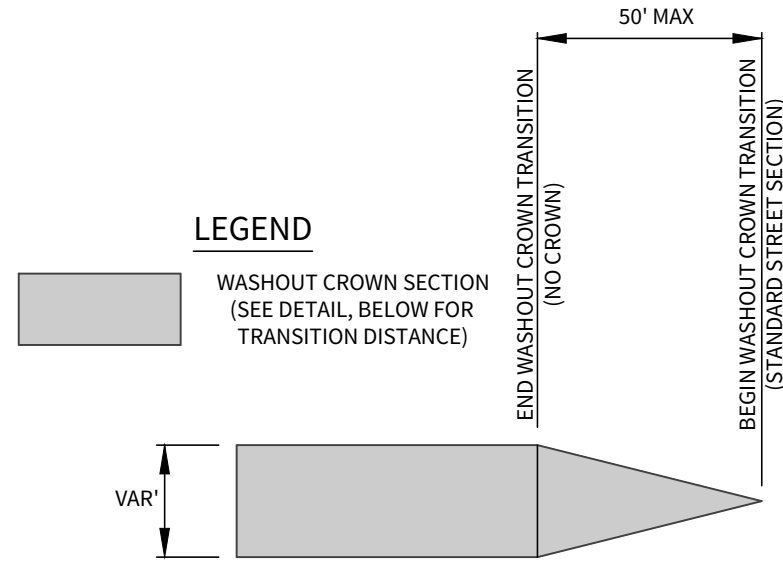
- STREET LIGHTS SHALL BE INSTALLED 2' WITHIN R.O.W. AND A MINIMUM DISTANCE OF 6' FROM THE PROPOSED SIDEWALK, AND A MINIMUM DISTANCE OF 4' FROM FACE OF CURB.
- FIRE HYDRANTS (AS APPLICABLE) SHALL BE INSTALLED WITHIN THE R.O.W. A MINIMUM OF 1' FROM THE BACK OF THE CURB AND A MINIMUM OF 1' AWAY FROM THE PROPOSED SIDEWALK.



ADA RAMP INTERSECTION LAYOUT DETAIL (TYPE 10 DIRECTIONAL RAMPS - SINGLE DIRECTION)

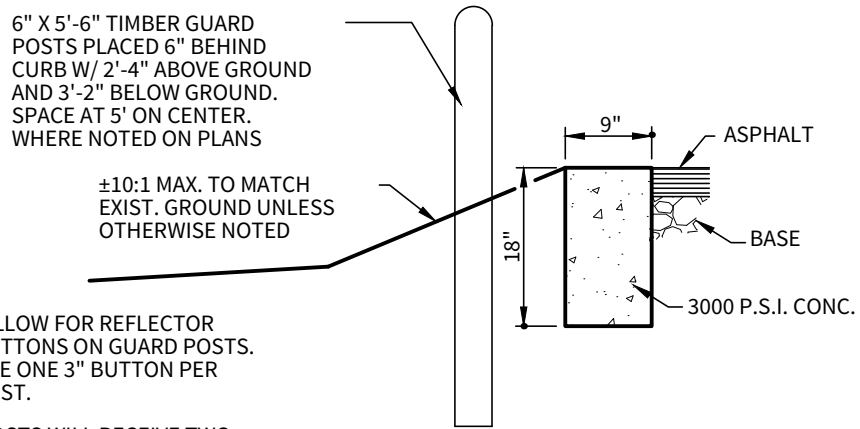
NOTES:

- STREET LIGHTS SHALL BE INSTALLED 2' WITHIN R.O.W. AND A MINIMUM DISTANCE OF 6' FROM THE PROPOSED SIDEWALK, AND A MINIMUM DISTANCE OF 4' FROM FACE OF CURB.
- FIRE HYDRANTS (AS APPLICABLE) SHALL BE INSTALLED WITHIN THE R.O.W. A MINIMUM OF 1' FROM THE BACK OF THE CURB AND A MINIMUM OF 1' AWAY FROM THE PROPOSED SIDEWALK.



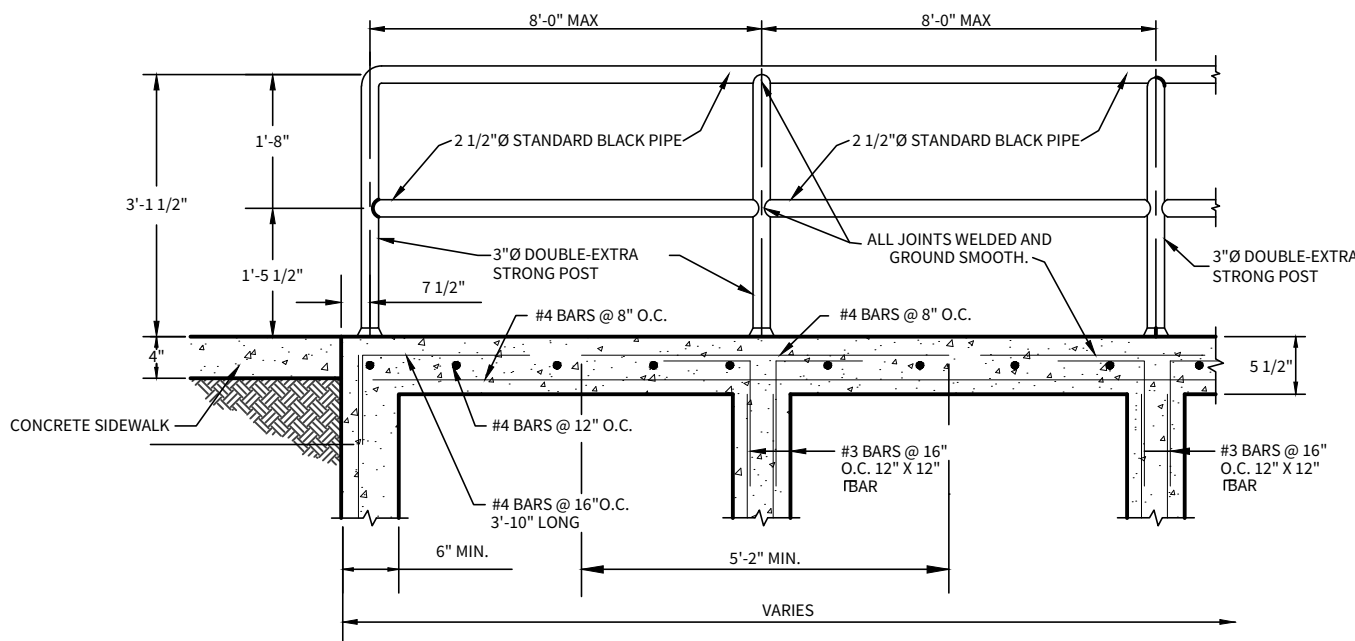
WASHOUT CROWN TRANSITION DETAIL

N.T.S.



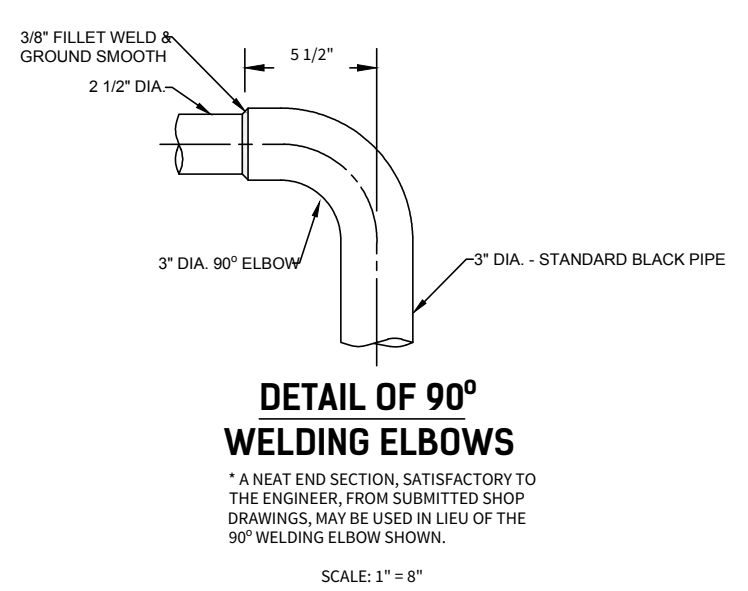
HEADER CURB DETAIL

N.T.S.



TYPICAL SIDEWALK BRIDGE SECTION AND SIDEWALK PIPE RAILING

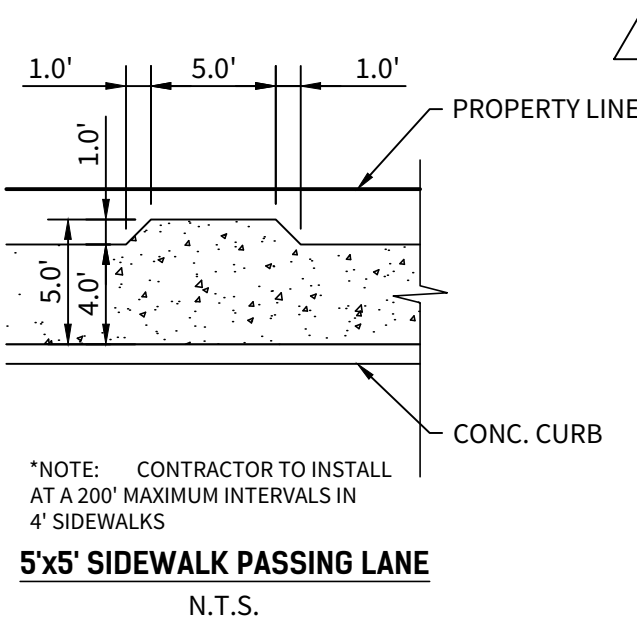
N.T.S.



DETAIL OF 90° WELDING ELBOWS

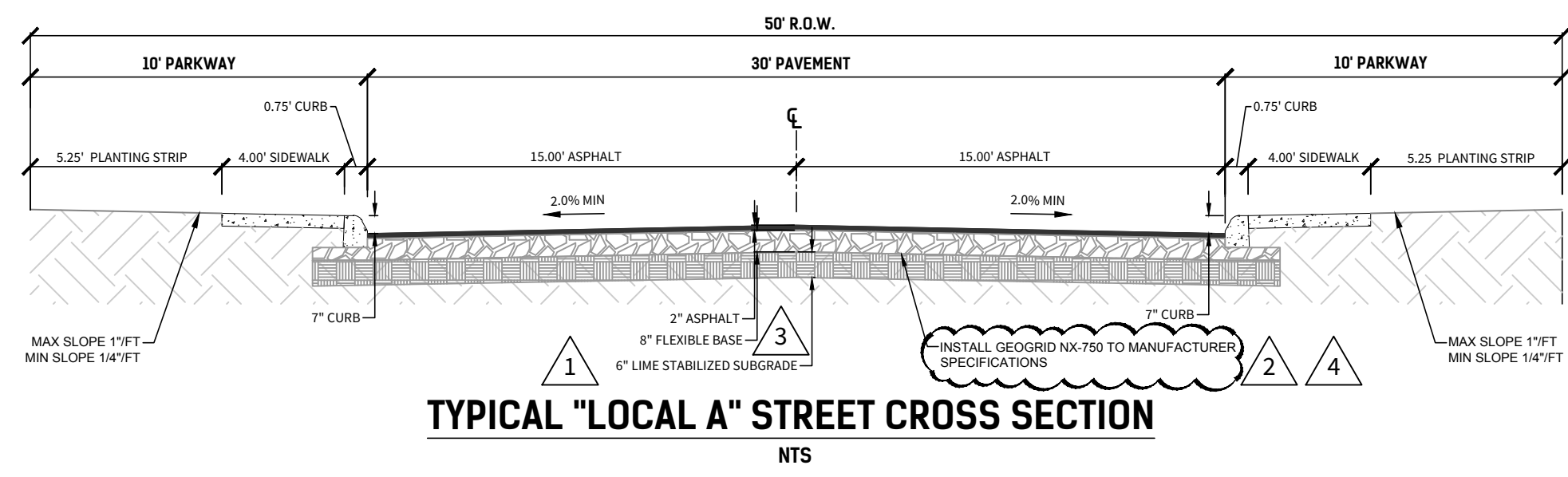
* A NEAT END SECTION, SATISFACTORY TO THE ENGINEER, FROM SUBMITTED SHOP DRAWINGS, MAY BE USED IN LIEU OF THE 90° WELDING ELBOW SHOWN.

SCALE: 1" = 8"



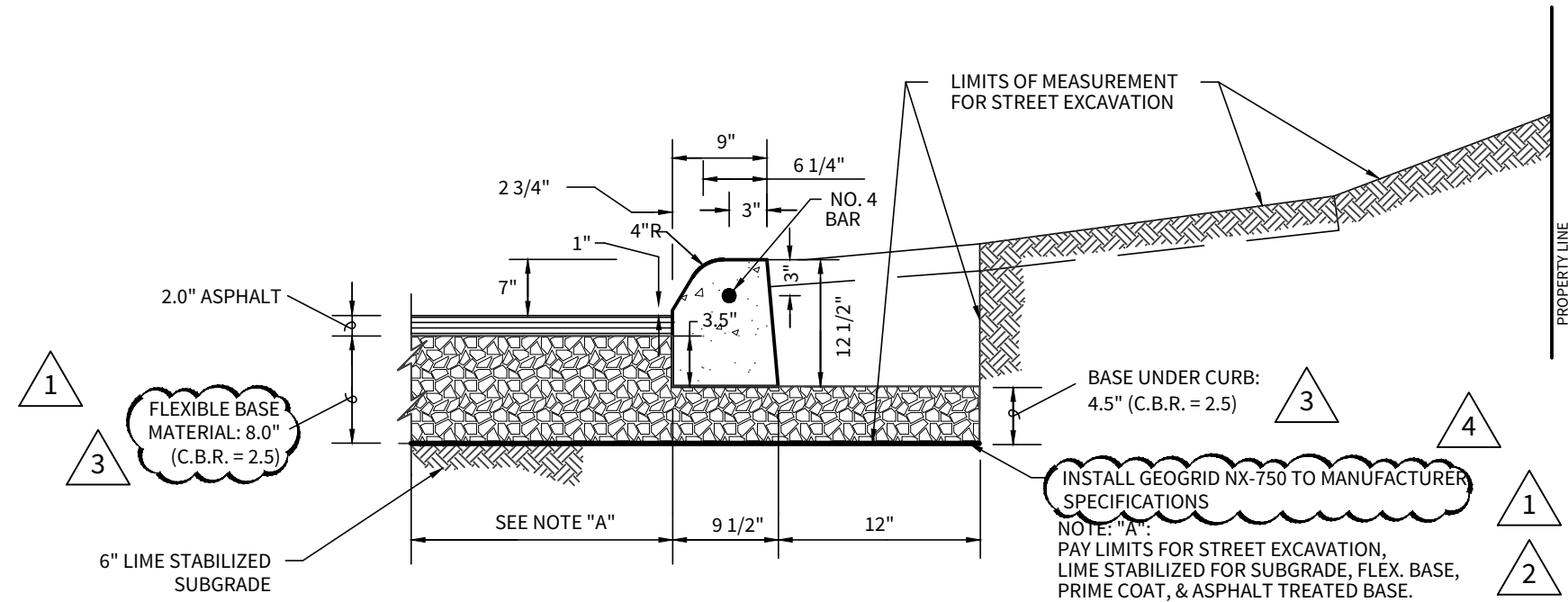
5'x5' SIDEWALK PASSING LANE

N.T.S.

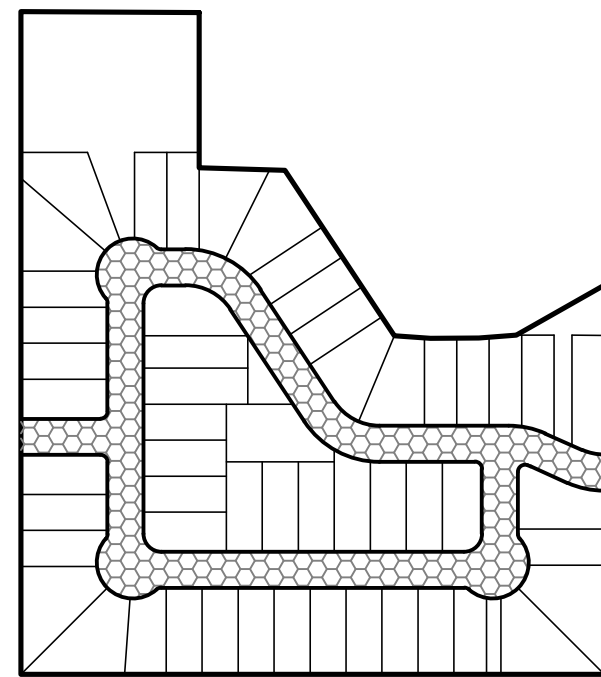


TYPICAL "LOCAL A" STREET CROSS SECTION

N.T.S.



LOCAL "A" STREET CROSS-SECTION DETAIL

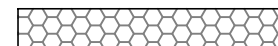


PAVEMENT DESIGN SCHEMATIC

N.T.S.

- NOTE:
- REFERENCE GEOTECHNICAL REPORT (FGS-G24102) FOR BORING INFORMATION AND CBR LOCATIONS.

LEGEND:



LOCAL "A" SOLSTICE VIEW	STA. 1+00.00 - 9+06.42
JUNO MILKY WAY	STA. 1+00.00 - 5+20.00
METIS	STA. 1+00.00 - 6+20.00
AZURE WATERS	STA. 1+00.00 - 2+75.00
	STA. 1+14.96 - 2+60.00

STREET TYPE	HMAC TYPE "D"	FLEXIBLE BASE (TY A GR 2)	LIME STABILIZED SUBGRADE	BASE UNDER CURB	TENSAR GEO-GRID
LOCAL "A" (C.B.R. = 2.5)	2.0"	8.0"	6.0" (23.0 LB/SY)	4.5"	NX-750

STREET PAVEMENT DESIGN OPTIONS (FGS-G24102)

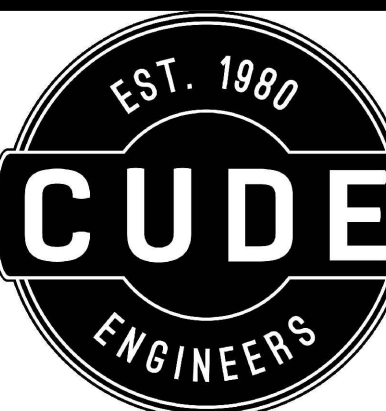
PAVEMENT MATERIAL SPECIFICATIONS:

- FILL MATERIAL - IF FILL IS USED TO RAISE THE GRADE, APPROVED FILL MATERIAL UNDERNEATH THE PAVEMENT SHOULD BE USED. THE FILL SHOULD BE FREE OF DELETERIOUS MATERIAL WITH A MINIMUM CBR VALUE OF 2.5 AND A PLASTIC INDEX BELOW 20. IF THE MATERIAL HAS A PI GREATER THAN 20 THE LIME APPLICATION RATES SHOULD BE RE-EVALUATED AND SULFATE CONTENT TESTED FOR THE FILL MATERIAL. THE MATERIAL SHOULD BE PLACED AS PER APPLICABLE CITY OR COUNTY GUIDELINES.
- HOT-MIX ASPHALTIC SURFACE COURSE - ASPHALTIC CONCRETE SHOULD BE PLANT MIXED, HOT LAID, TYPE D MEETING THE 2014 TX DOT STANDARD SPECIFICATION ITEM 340. MIX SHOULD BE COMPACTED TO BETWEEN 92 AND 97 PERCENT OF THE MAXIMUM THEORETICAL DENSITY AS DETERMINED BY TEX-227-F.
- ASPHALT TREATED BASE - ASPHALT TREATED BASE SHOULD BE PLACED IN MAXIMUM SIX (6) INCH COMPACTED LIFTS. THESE MATERIALS SHOULD CONFORM TO THE REQUIREMENTS OF THE 2014 TX DOT STANDARD SPECIFICATION ITEM 292, GRADE 1 OR ITEM 340 TYPE A, OR B.
- FLEXIBLE BASE COURSE - FLEXIBLE BASE MATERIALS SHOULD BE PLACED IN MAXIMUM EIGHT (8) INCH COMPACTED LIFTS. THE BASE MATERIALS SHOULD BE COMPACTED TO AT LEAST 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D 1557. FLEXIBLE BASE MATERIALS SHOULD BE MOISTURE CONDITIONED TO BETWEEN PLUS OR MINUS TWO (+-2) PERCENTAGE POINTS OF THE OPTIMUM MOISTURE CONTENT. FLEXIBLE BASE MATERIALS SHOULD MEET ALL REQUIREMENTS SPECIFIED IN 2014 TX DOT STANDARD SPECIFICATION ITEM 247, TYPE A OR B, GRADE 1 OR 2.
- LIME TREATED SUBGRADE - CLAY SUBGRADE (WITH P.I. VALUES GREATER THAN 20) SHOULD BE TREATED WITH HYDRATED LIME TO REDUCE ITS PLASTICITY AND IMPROVE ITS STRENGTH AND LOAD CARRYING ABILITY. HYDRATED LIME SHOULD BE MIXED WITH THE SUBGRADE SOILS IN ACCORDANCE WITH BEXAR COUNTY SPECIFICATIONS FOR LIME TREATMENT TO REDUCE THE P.I. VALUE TO 20 OR LESS.
- LIME STABILIZED SUBGRADE - CLAY SUBGRADE (WITH P.I. VALUES GREATER THAN 20) SHOULD BE STABILIZED WITH HYDRATED LIME TO REDUCE ITS PLASTICITY AND IMPROVE ITS STRENGTH AND LOAD CARRYING ABILITY. HYDRATED LIME SHOULD BE MIXED WITH THE SUBGRADE SOILS IN ACCORDANCE WITH BEXAR COUNTY SPECIFICATIONS FOR LIME STABILIZATION. WE ESTIMATE THAT APPROXIMATELY SIX (6) PERCENT (BY WEIGHT) HYDRATED LIME WILL BE REQUIRED TO PROPERLY STABILIZE THESE SOILS. THIS IS EQUIVALENT TO ABOUT 23 POUNDS OF HYDRATED LIME PER SQUARE YARD FOR A SIX (6) INCH DEPTH. THE OPTIMUM LIME CONTENT SHOULD RESULT IN A SOIL-LIME MIXTURE WITH A PH OF AT LEAST 12.4 WHEN TESTED IN ACCORDANCE WITH ASTM C 977, APPENDIX XI AND SHOULD REDUCE THE P.I. TO 20 OR LESS.
- 3 X 5 ROCK WRAPPED IN FILTER FABRIC - THE CITY MAY ALLOW 3 X 5 ROCK WRAPPED IN FILTER FABRIC INSTEAD OF LIME STABILIZATION, HOWEVER THE WRAPPING FABRIC MUST BE A #40 IRON FILTER FABRIC OR EQUAL, AND PRIOR APPROVAL MUST BE OBTAINED.
- GEOGRID - TENSAR NX-750 GEOGRID MAY BE USED TO PROVIDE ADDITIONAL STRUCTURAL SUPPORT TO FLEXIBLE BASE MATERIALS. THE GEOGRID SHOULD BE PLACED AS PER MANUFACTURER'S RECOMMENDATIONS AT THE INTERFACE BETWEEN THE FLEXIBLE BASE AND SUBGRADE.
- MOISTURE CONDITIONED SUBGRADE - EXPOSED SUBGRADE SOILS THAT DO NOT NEED TO BE STABILIZED OR TREATED SHOULD BE SCARIFIED AND MOIST LIME CONDITIONED TO BETWEEN PLUS OR MINUS THREE (+-3) PERCENTAGE POINTS OF OPTIMUM TO A DEPTH OF AT LEAST SIX (6) INCHES. THE SOILS SHOULD THEN BE COMPACTED TO AT LEAST 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D 698.
- ADDITIONAL FIELD VERIFICATION TESTING WILL BE REQUIRED DURING THE SUBGRADE STABILIZATION PROCESS ONCE THE PROJECT HAS STARTED.
- SUBGRADE SOILS SHOULD BE TESTED FOR SOLUBLE SULFATE CONTENT PRIOR TO INSTALLATION OF LIME OR CEMENT.

FOR CONSTRUCTION VERIFICATION THE FOLLOWING SHALL BE CONDUCTED IN THE FIELD:

- AFTER INITIAL MIXING THE SOIL-LIME MIXTURE SHALL MELLOW FOR A PERIOD OF TWO TO THREE (2-3) DAYS. MAINTAIN MOISTURE DURING MELLOWING;
- AFTER MELLOWING AND FINAL MIXING, THE PULVERIZATION SHALL BE CHECKED USING THE FOLLOWING CRITERIA (REMOVE NON-SLAKING AGGREGATES RETAINED ON THE 3/4 INCH SIEVE FOR THE SAMPLE):
 - MINIMUM PASSING 1-3/4" SIEVE 100
 - MINIMUM PASSING 3/4" SIEVE 85
 - MINIMUM PASSING NO. 4 SIEVE 60
- SAMPLE SOIL-LIME MIXTURE FOR DETERMINATION OF MAXIMUM DRY DENSITY (MDD). IN THE LABORATORY, MOLD SPECIMENS TO 95% OF MDD AT OPTIMUM MOISTURE CONTENT AND VERIFY UCS TO BE AT LEAST 160 PSI IN ACCORDANCE TO PROCEDURE OUTLINED ABOVE FOR MIXTURE DESIGN.
- COMPACT AND CHECK FIELD DENSITY (MINIMUM OF 95% OF MDD REQUIRED).
- CURE FOR ADDITIONAL 2 TO 5 DAYS (TOTAL MELLOWING AND CURING TIME SHOULD TOTAL AT LEAST 5 DAYS).
- VERIFY DEPTH OF LIME STABILIZED LAYER TO DEPTH AS NOTED ON PLAN TO WITHIN +/- 1.0 INCH.

CUDEENGINEERS.COM



4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F:(210) 523.7112

ACKERMAN GARDENS

UNIT 7

STANDARD STREET DETAILS

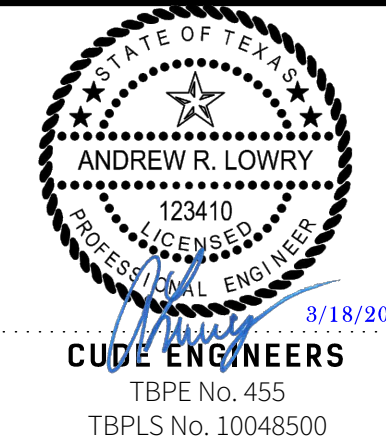
DATE
03/18/2025

PROJECT NO.
01792.742

DRAWN BY
CG/TCD/XV

CHECKED BY
XV/AL

DATE	REVISIONS
1. 2024-07-08	DESIGN TO REFLECT REVISIONS
2. 2024-11-07	IDENTIFIED GEOGRID WHERE APPLICABLE
3. 2025-01-16	ADDED MOISTURE CONTENT PER UNIT BASED ON GEOTECHNICAL REPORT
4. 2025-03-18	ADDED ADDITIONAL NOTES RE: GEOGRID TO BE CORRELATED WITHIN THE PROJECT



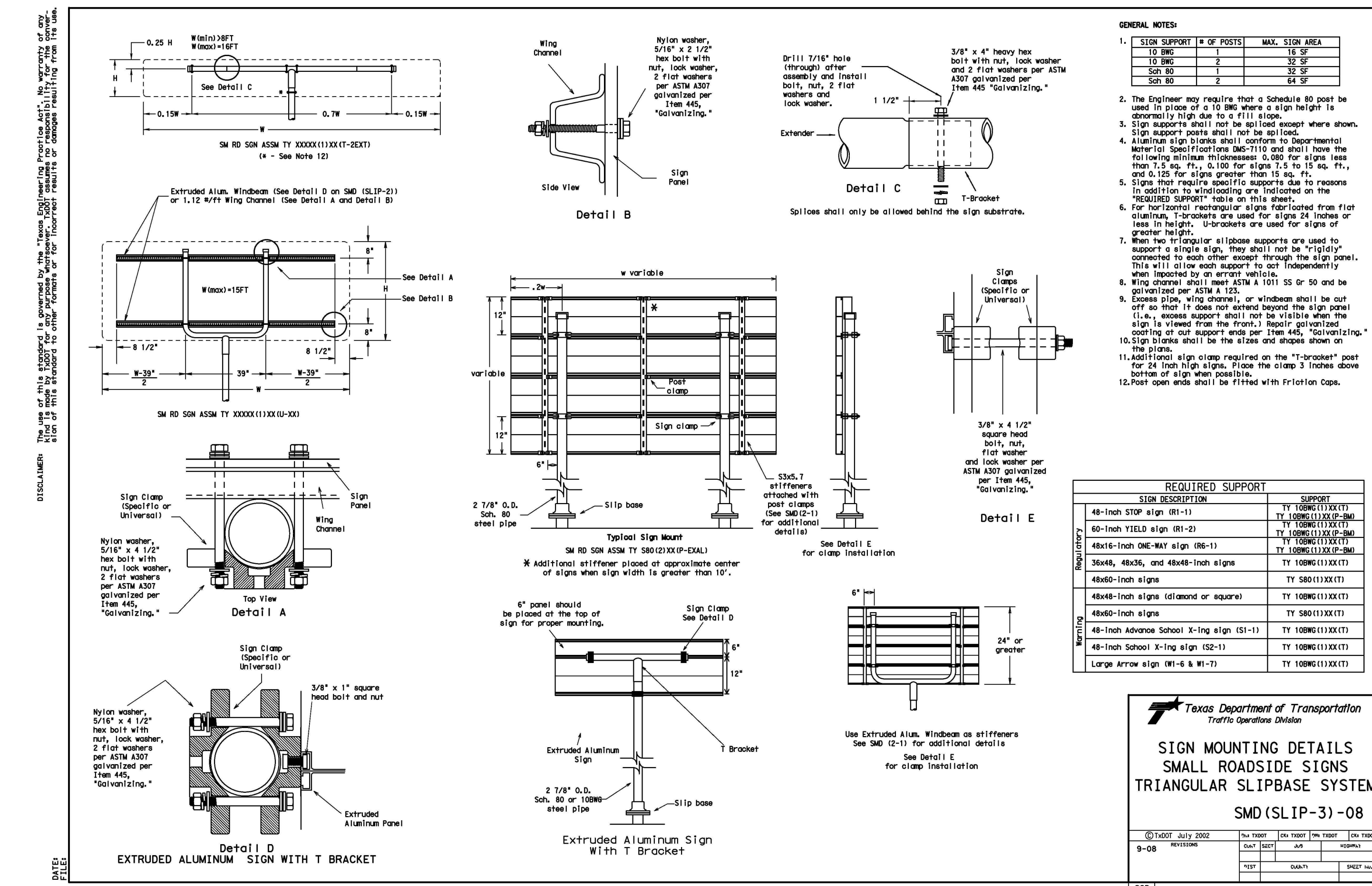
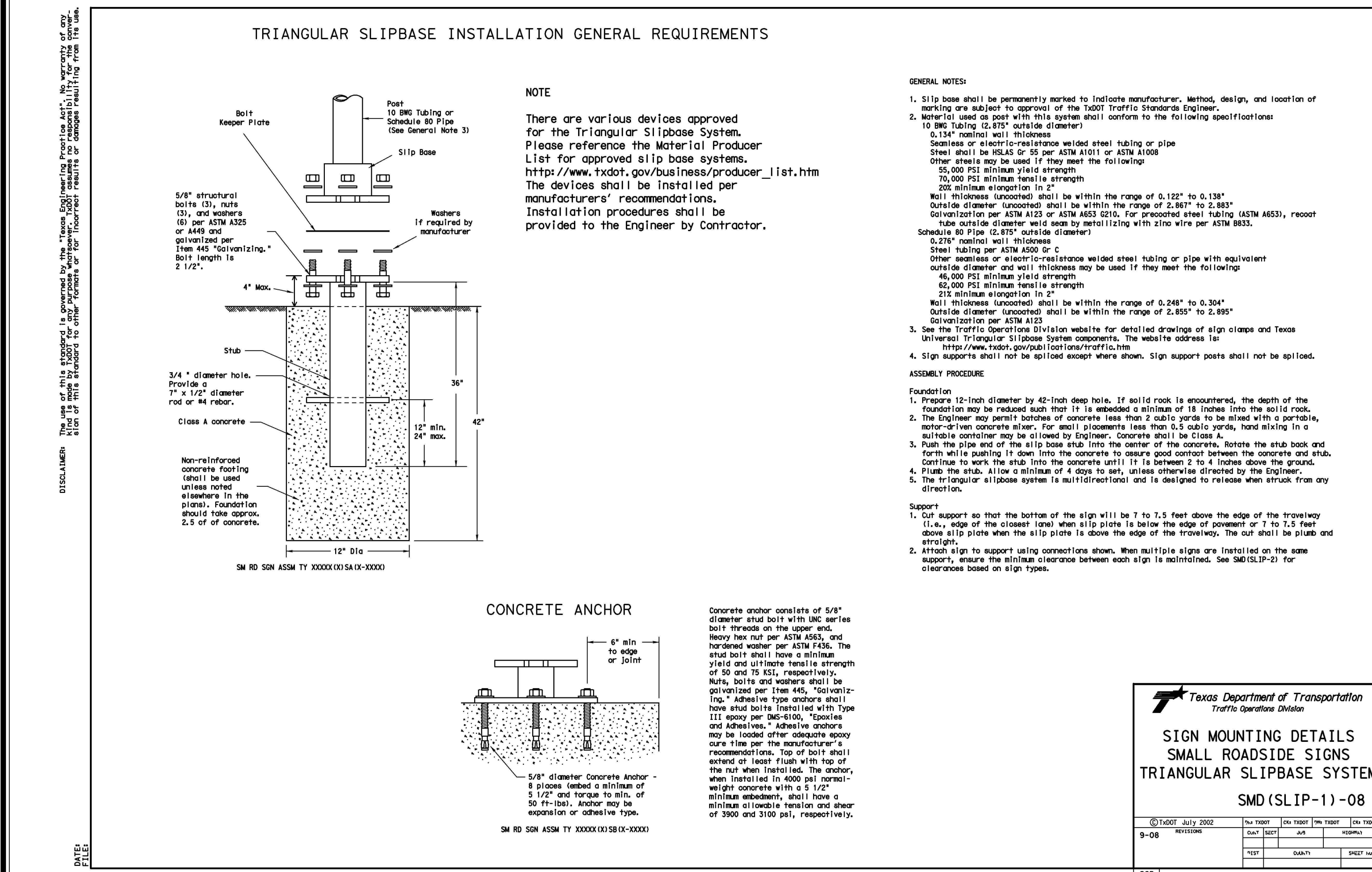
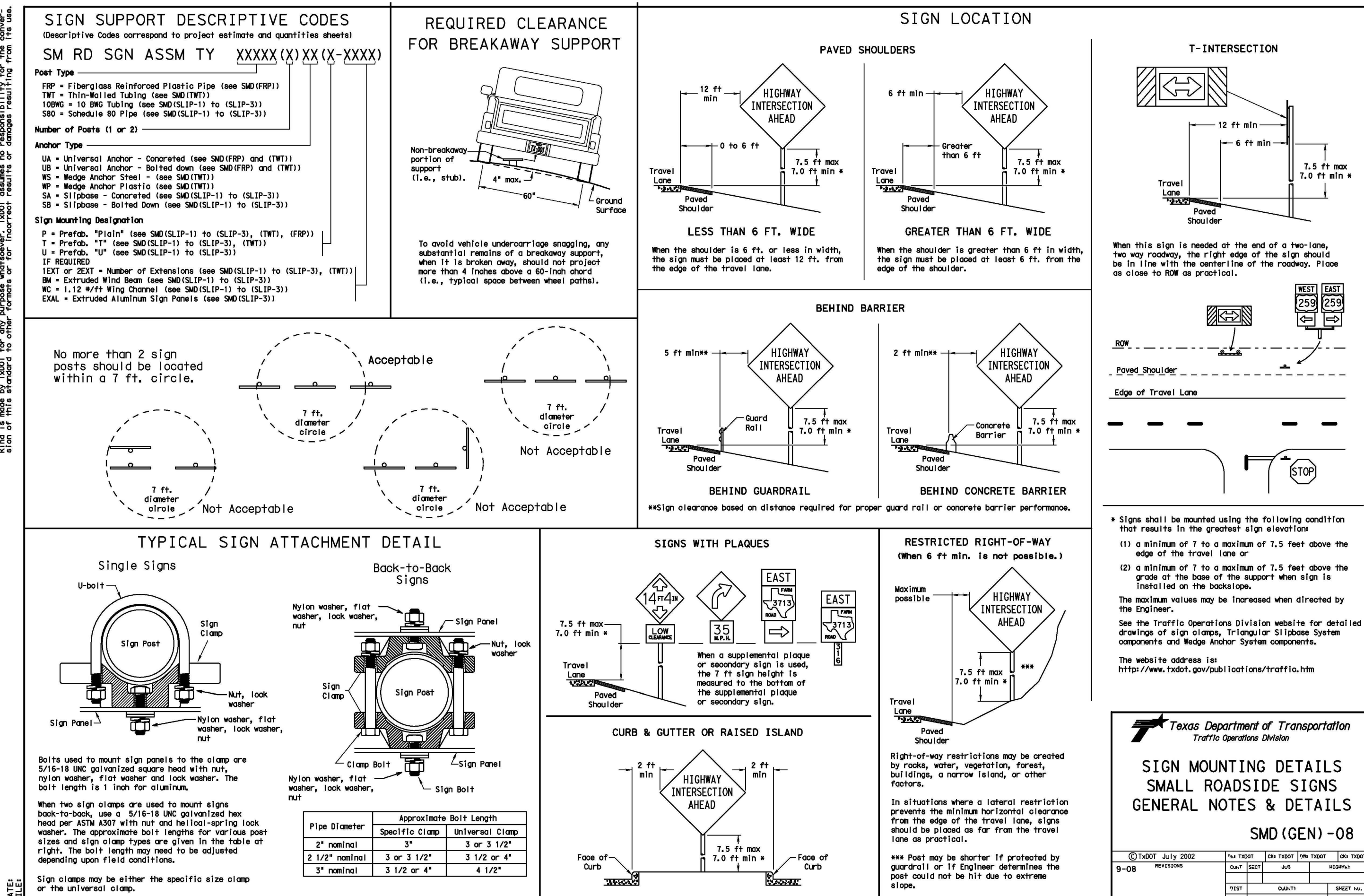
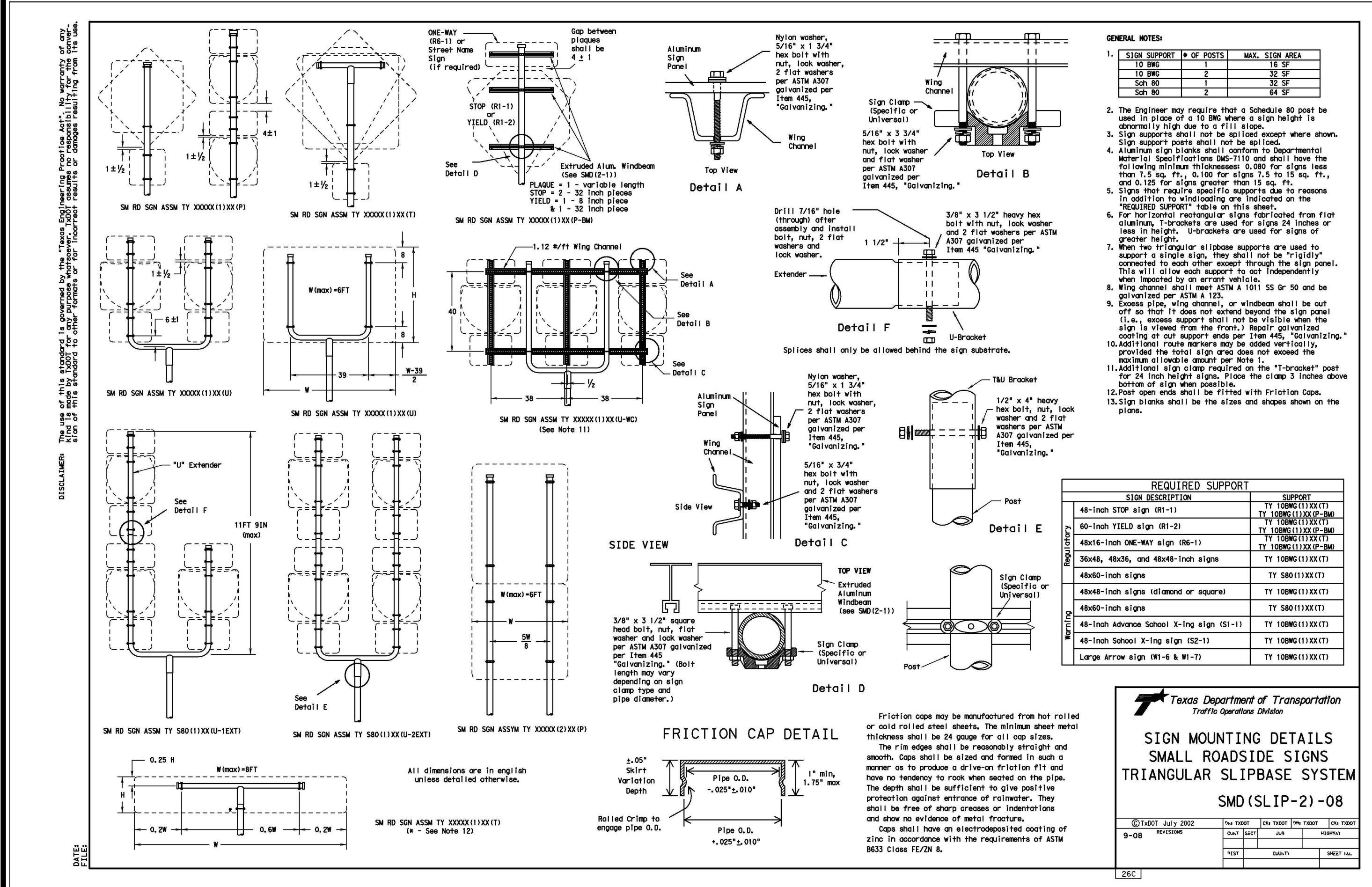
CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

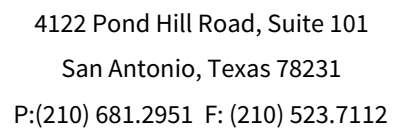
PLAT NO.
24-11800121

C8

CUDEENGINEERS.COM

REPRODUCTION OF THE ORIGINAL SIGNED AND SEALED PLAN AND/OR ELECTRONIC MEDIA MAY HAVE BEEN INADVERTENTLY ALTERED. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE SCALE OF THE DOCUMENT AND CONTACTING CUDE ENGINEERS TO VERIFY DISCREPANCIES PRIOR TO CONSTRUCTION.





UNIT 7

TXDOT SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS

PROJECT NO.
01792.742

DRAWN BY
CG/TCD/XV

CHECKED BY
XV/AL

DATE	:	:	REVISIONS
------	---	---	-----------

DATE _____

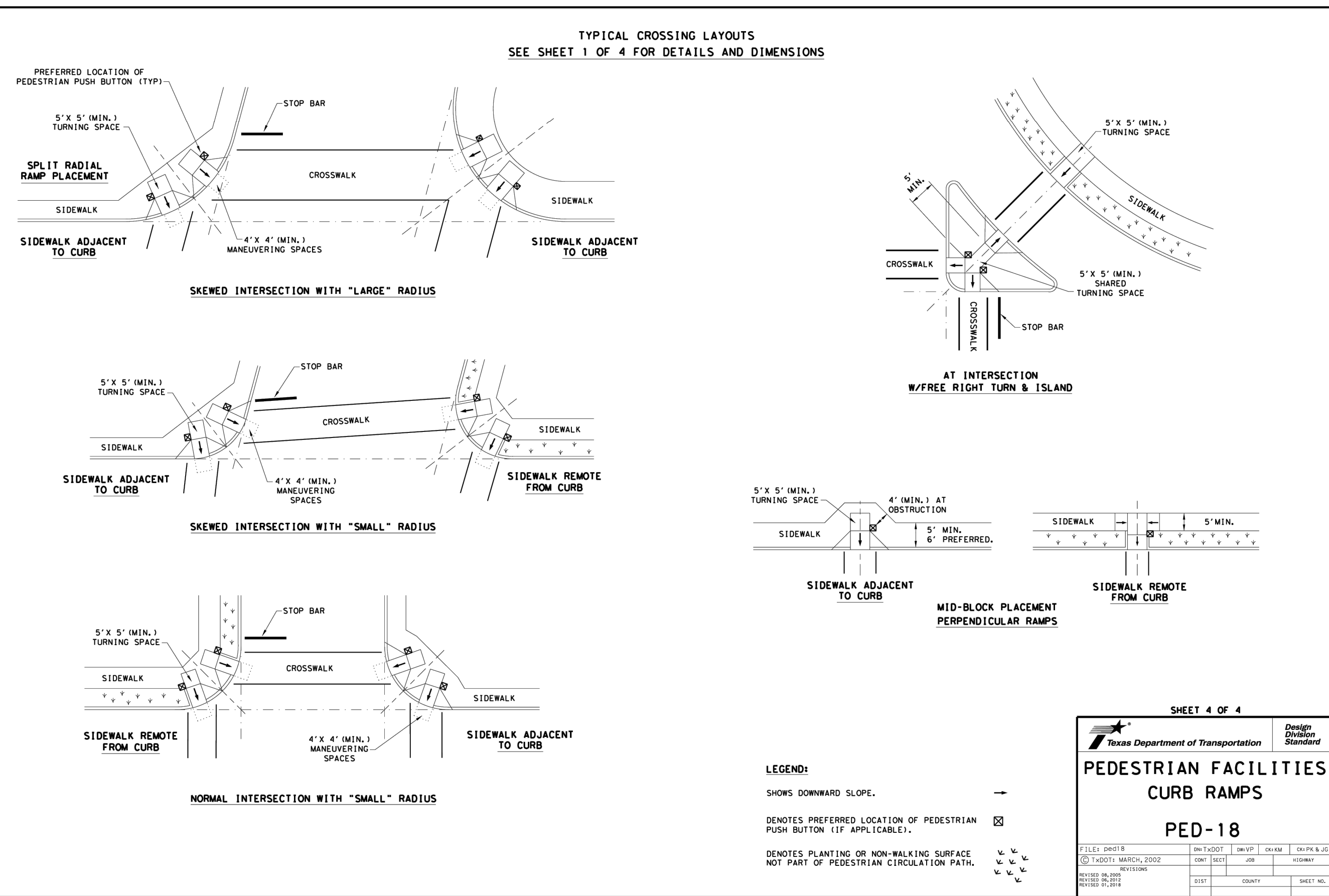
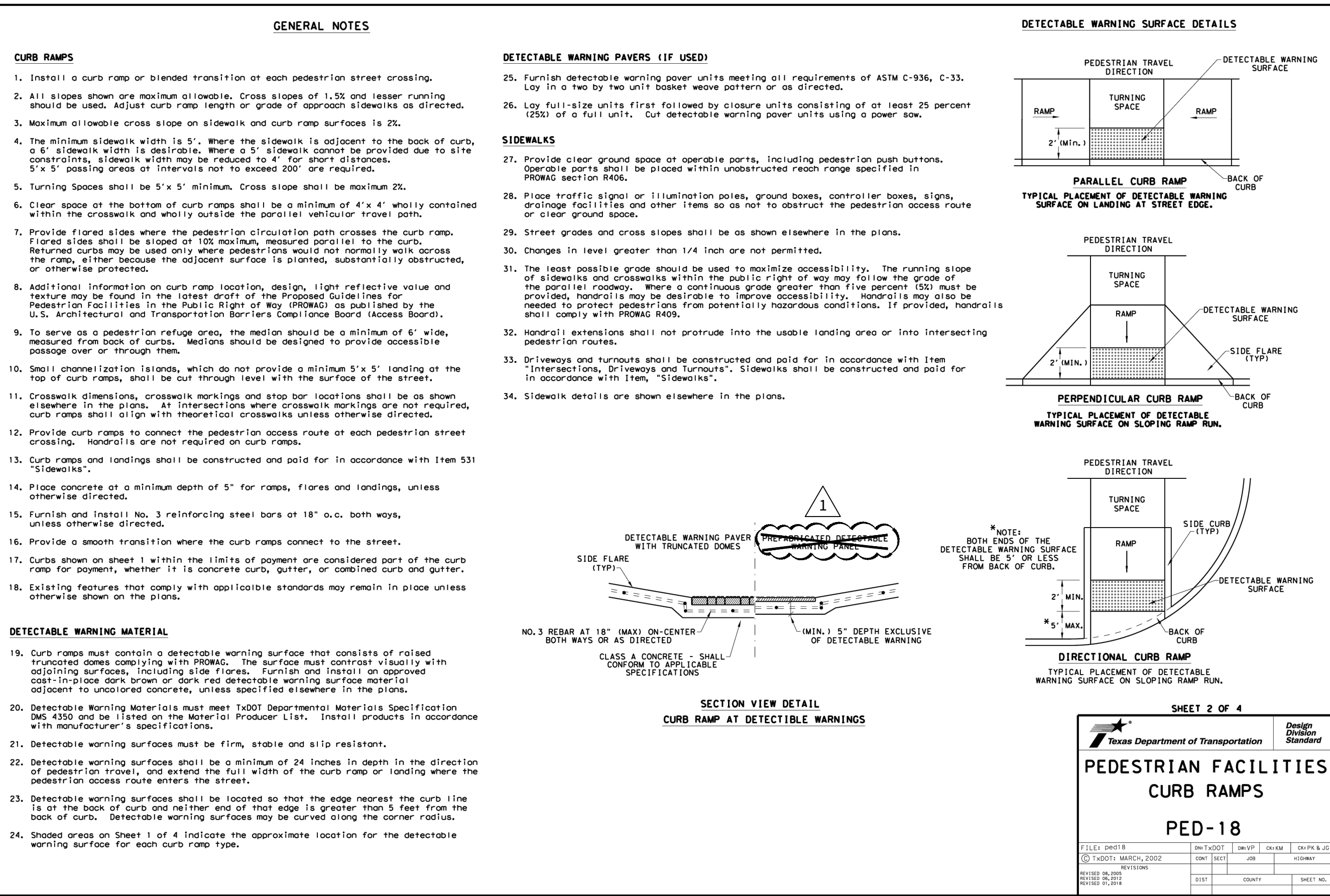
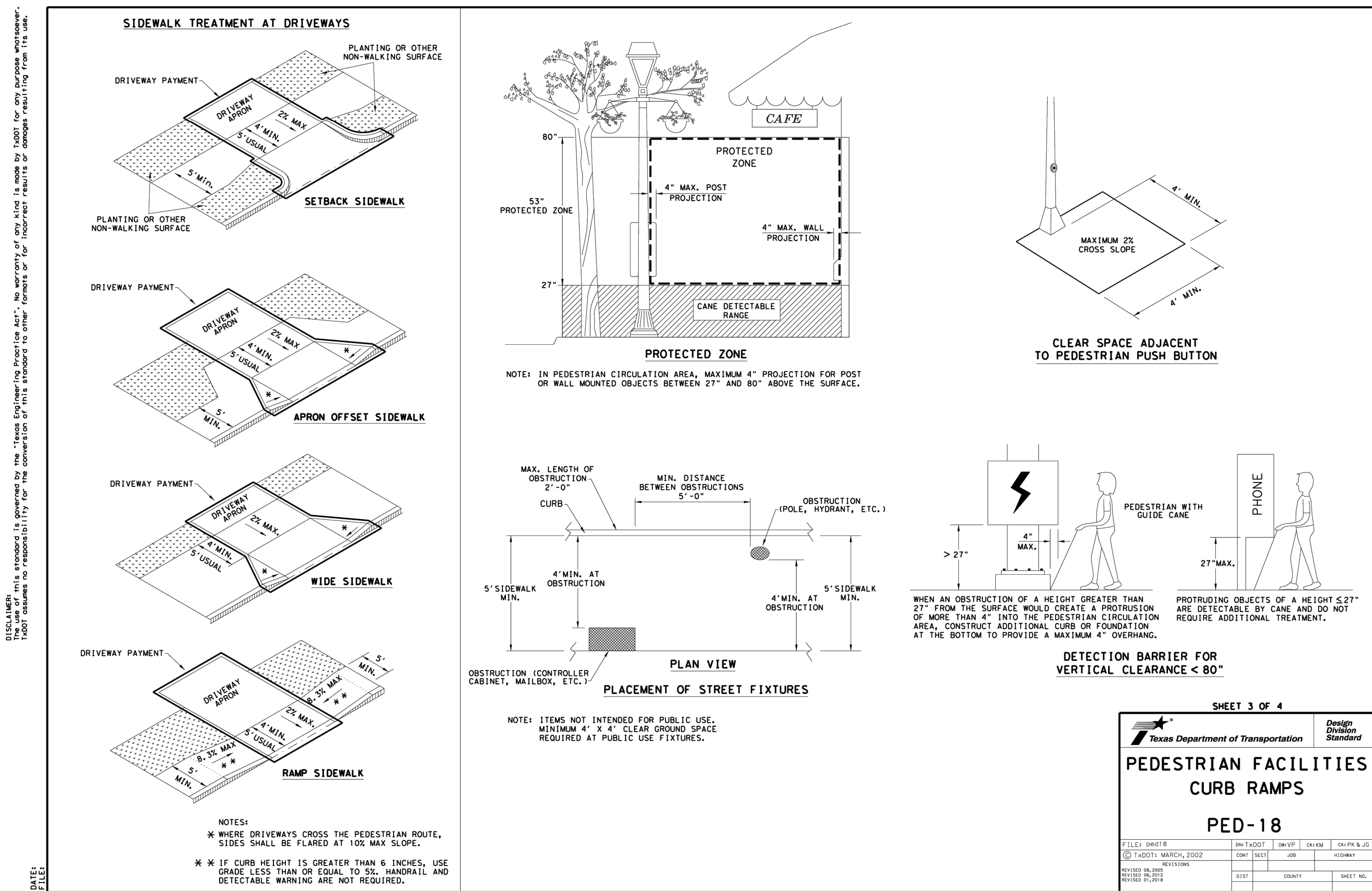
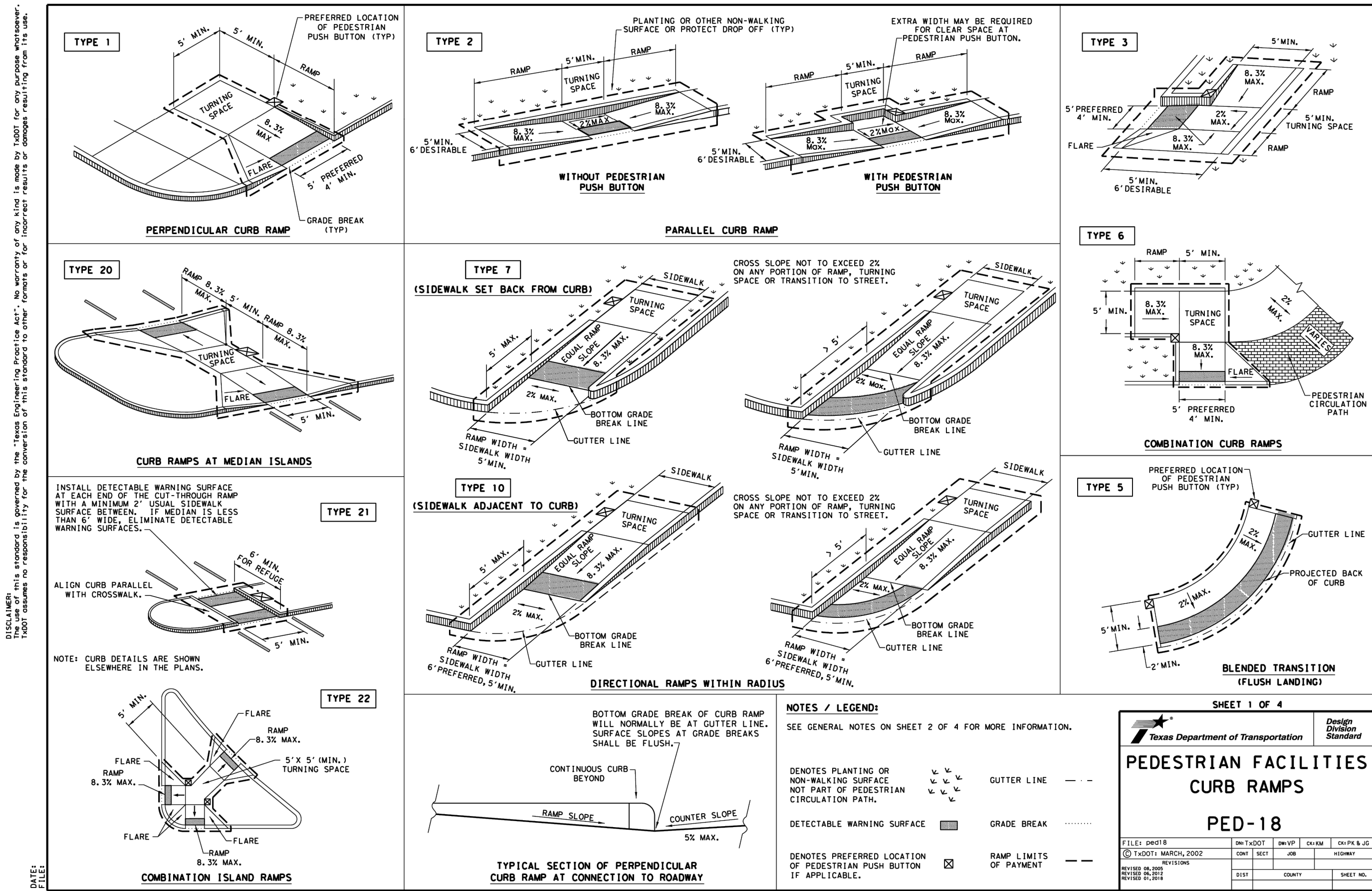


CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

PLAT NO.
24-11800121

C10

CUDEENGINEERS.COM



CUDEENGINEERS.COM

EST. 1980

CUDE

ENGINEERS

4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F:(210) 523.7112

ACKERMAN GARDENS

UNIT 7

TXDOT PEDESTRIAN FACILITIES DETAILS CURB RAMPS

DATE

08/05/2024

PROJECT NO.

01792.742

DRAWN BY

CG/TC/XV

CHECKED BY

XV/AL

REVISIONS

DATE

2024-07-17

1

2

3

4

5

6

7

8

9

STATE OF TEXAS

ANDREW R. LOWRY

123410

REGISTERED ENGINEER

CUDE ENGINEERS

TXPE No. 455

TBPLS No. 10048500

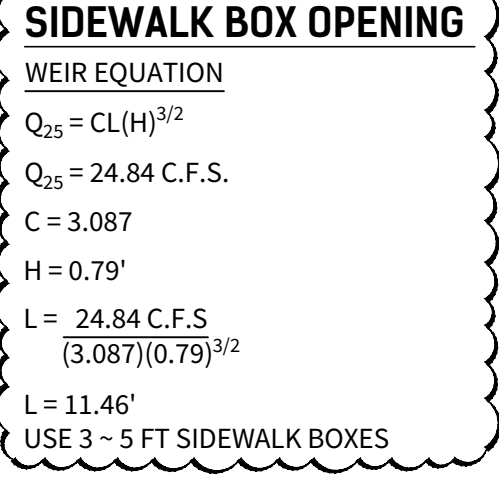
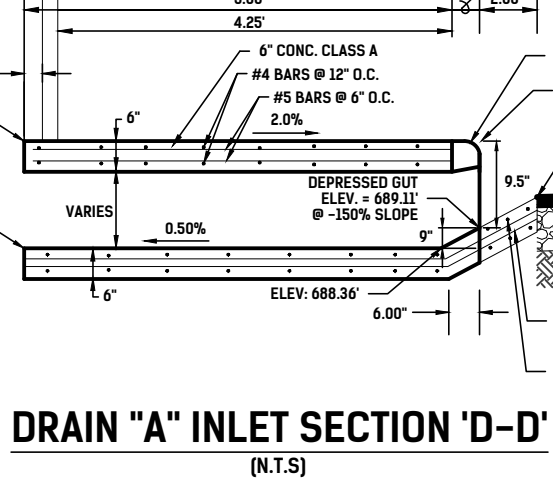
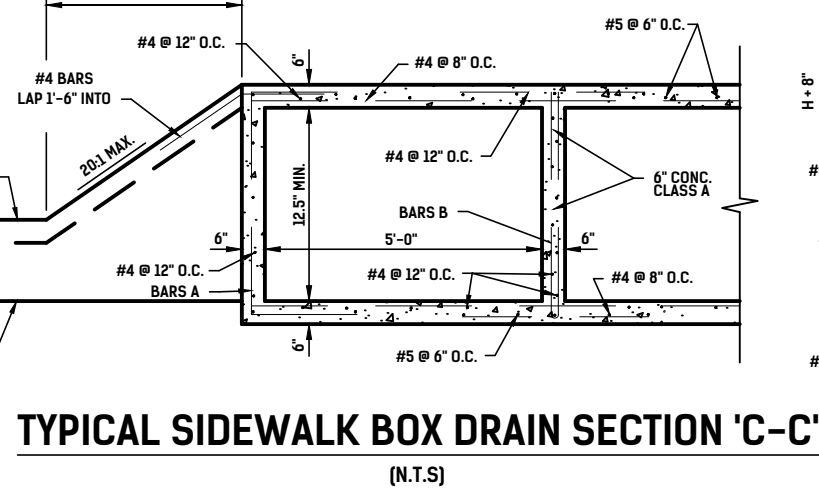
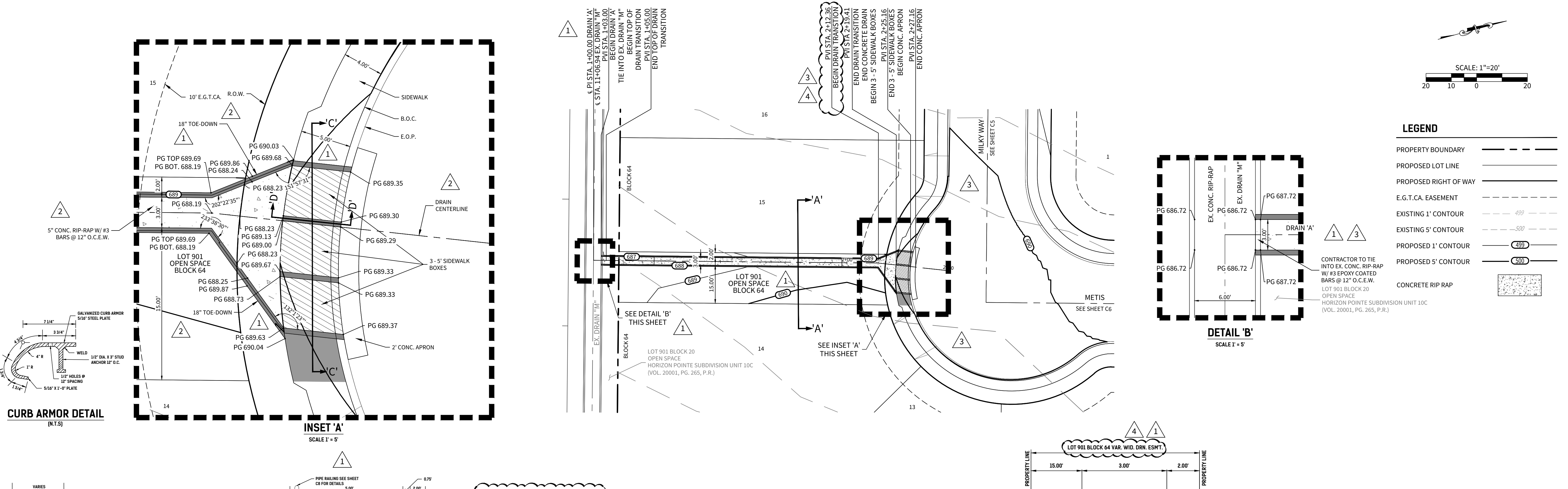
PLAT NO.

24-11800121

C12

CUDEENGINEERS.COM

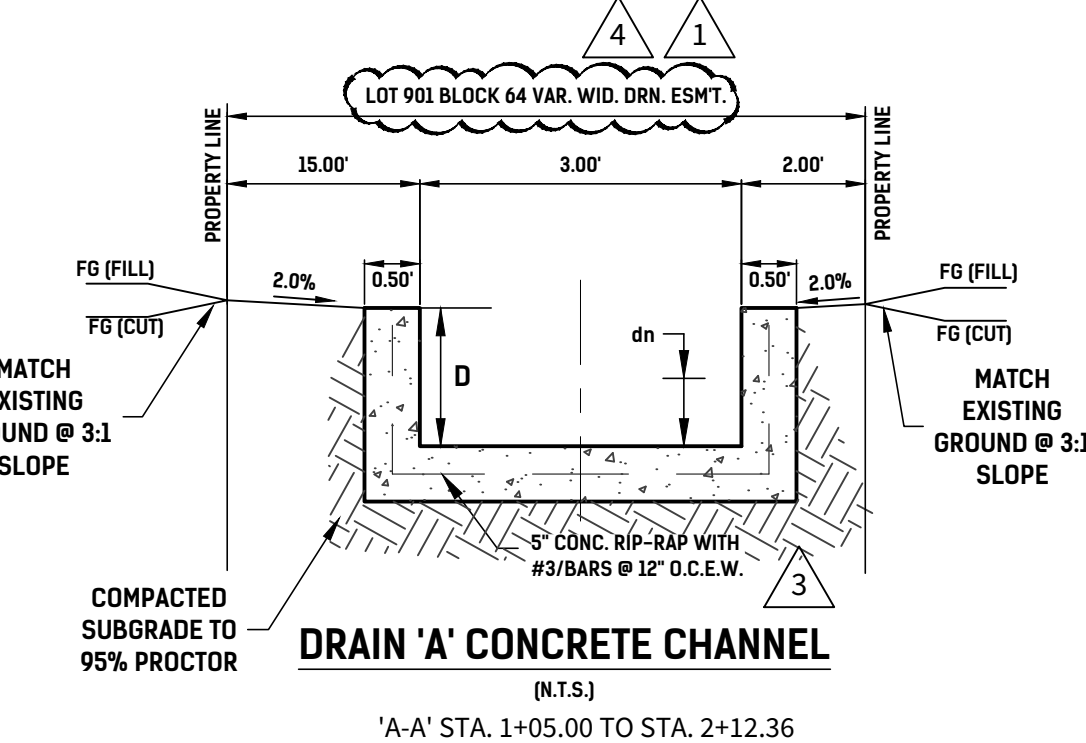
© 2024 A.W. CUDE ENGINEERS, LLC. THIS DOCUMENT, ANY PORTION THEREOF, AND ANY ASSOCIATED COPYRIGHTS SHALL REMAIN THE PROPERTY OF A.W. CUDE ENGINEERS, LLC. THIS DOCUMENT MAY NOT BE REPRODUCED, USED, OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS TO ANYONE FOR ANY OTHER EMBODIMENT WITHOUT THE PRIOR WRITTEN CONSENT OF, AND ADAPTATION BY, A.W. CUDE ENGINEERS, LLC. THIS DOCUMENT IS NOT INTENDED FOR USE OTHER THAN AS ORIGINALLY INTENDED BY A.W. CUDE ENGINEERS, LLC AND ANY UNAUTHORIZED REPRODUCTION, USE, OR DISTRIBUTION OF SAID DOCUMENTS WILL BE AT THE INFRINGING PARTY'S SOLE RISK, WITHOUT ANY LIABILITY TO A.W. CUDE ENGINEERS, LLC, AND WILL BE USED AGAINST ANY PARTY TO THE GREATEST EXTENT PERMITTED BY LAW.



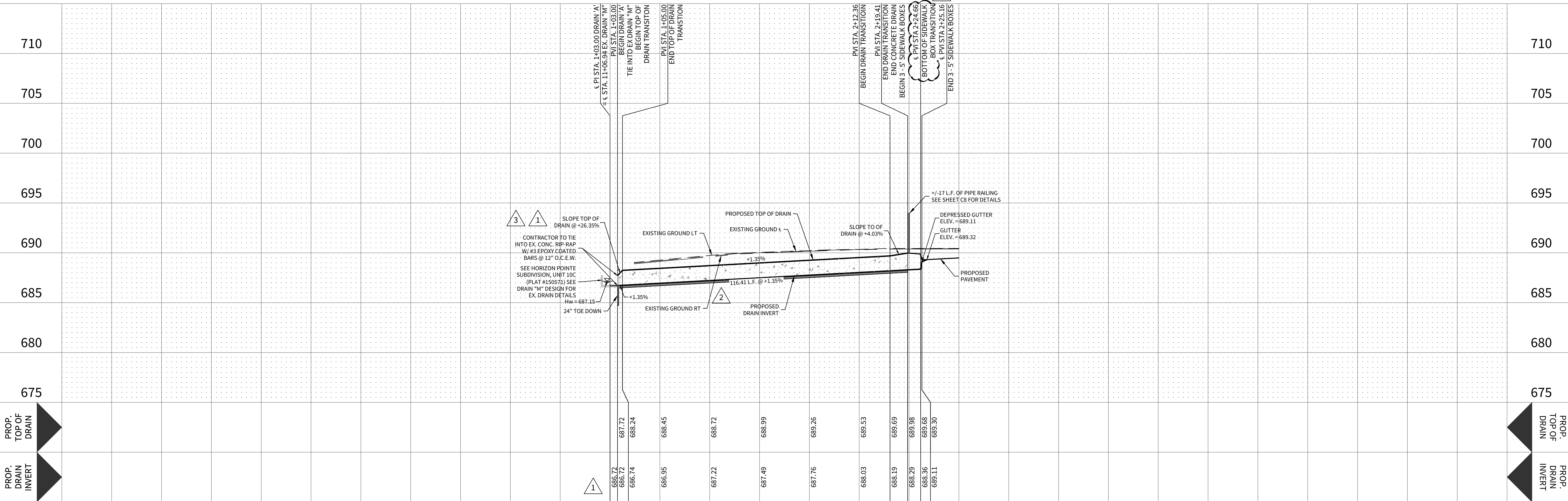
DRAIN 'A'

STA. 1+00.00 TO END

Q ₂₅ (cfs)	24.84
B _u (ft)	3.00'
n	0.015
D (ft)	1.50'
S (%)	1.35
d _s (ft)	1.00
V (fps)	8.17
T (lb/ft ²)	0.51

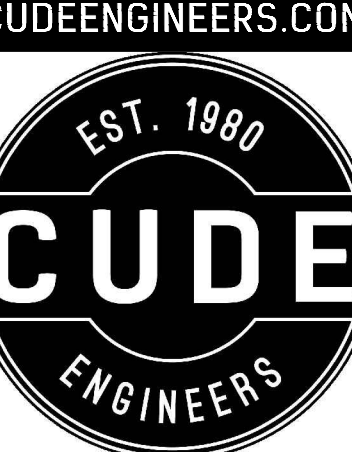


- NOTES
- ALL CONCRETE LINING SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI IN 28 DAYS.
 - IMPROVED EARTHEN CHANNELS AND DETENTION PONDS WILL BE VEGETATE BY SEEDING OR SODDING, EIGHT-FIVE PERCENT (85%) OF THE CHANNEL SURFACE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT THE CHANNEL FOR MAINTENANCE.
- HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 5'



PROP. TOP OF DRAIN
PROP. DRAIN INVERT

PROP. TOP OF DRAIN
PROP. DRAIN INVERT



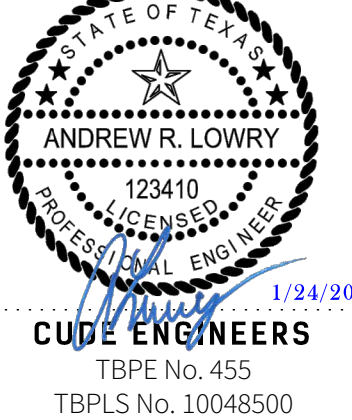
4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F:(210) 523.7112

ACKERMAN GARDENS UNIT 7

DRAIN PLAN & PROFILE - DRAIN 'A'

DATE
01/24/2025
PROJECT NO.
01792.742
DRAWN BY
CG/TCD/XV
CHECKED BY
XV/AL

DATE	REVISIONS
1	2024-07-08
2	2024-08-26
3	2024-11-07
4	2025-01-20
5	
6	
7	
8	
9	



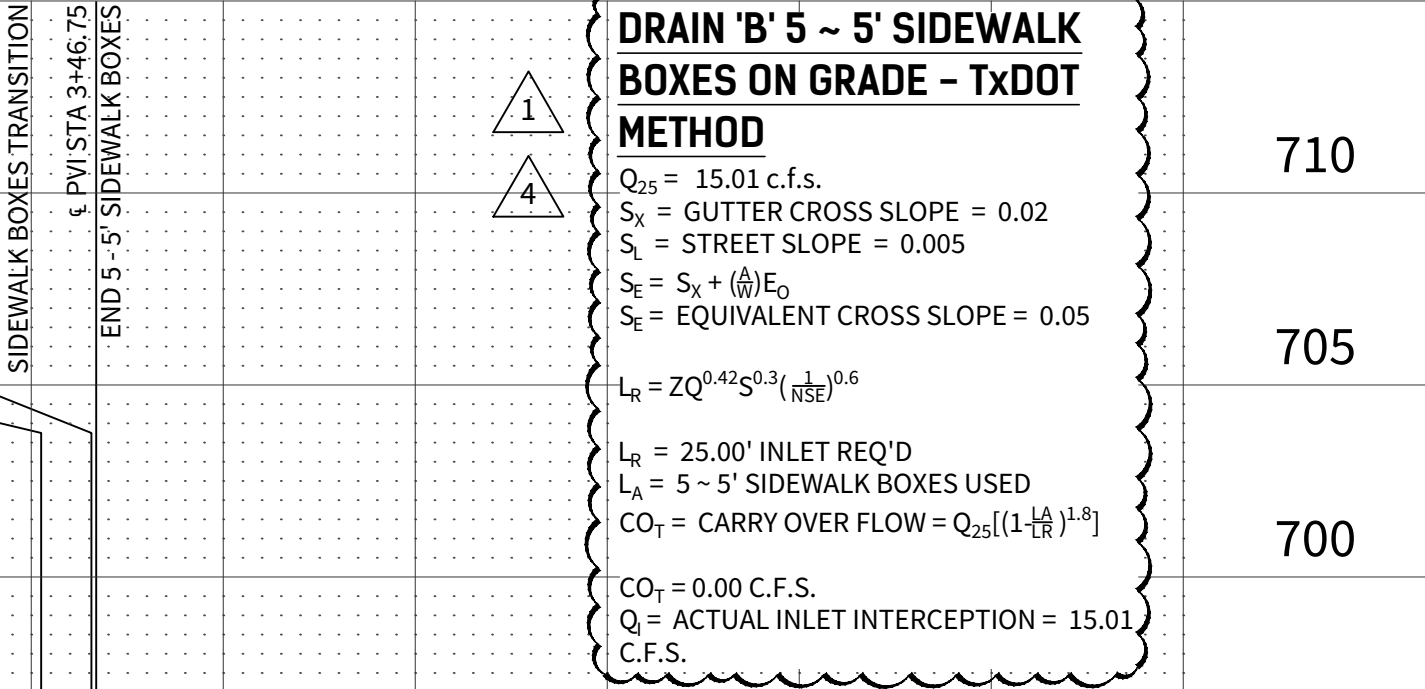
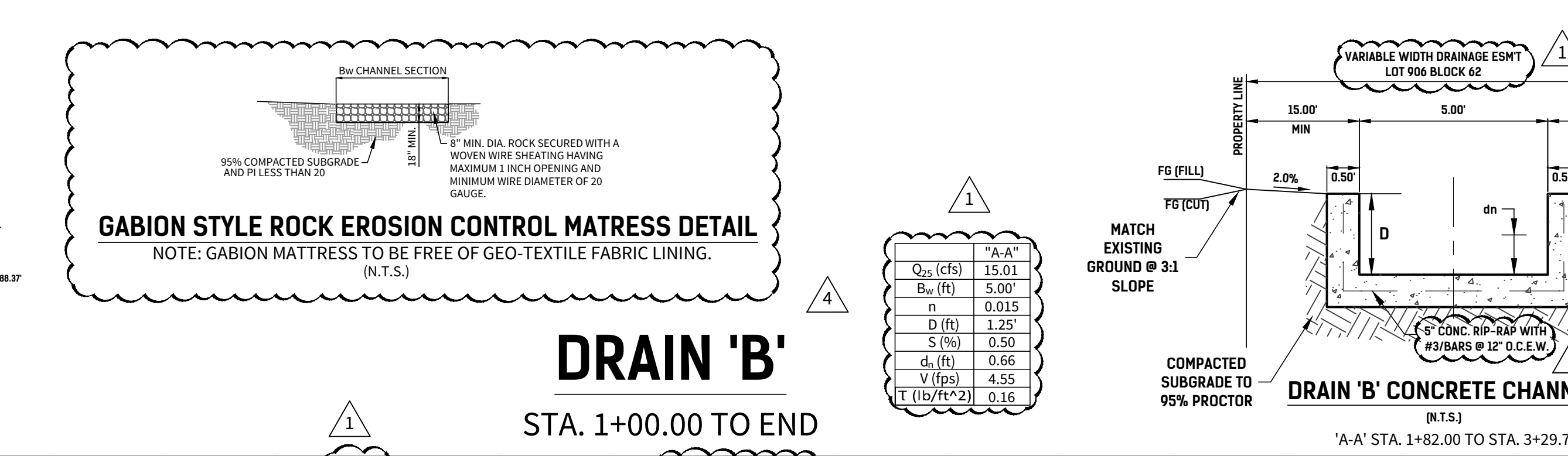
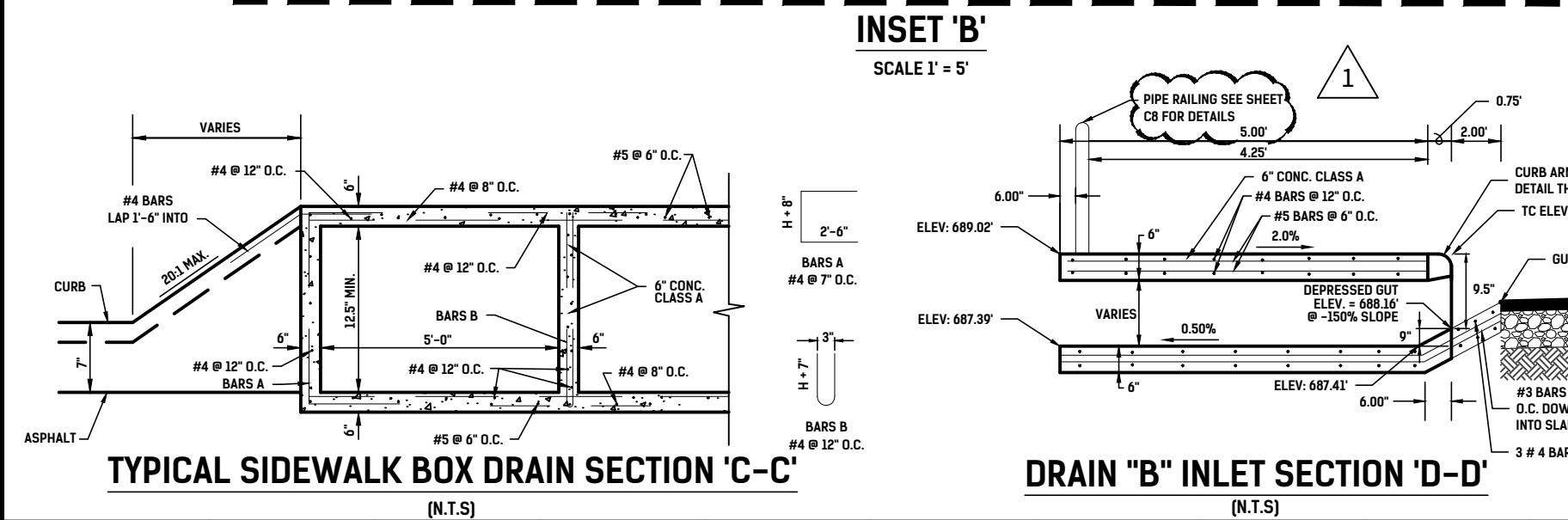
CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

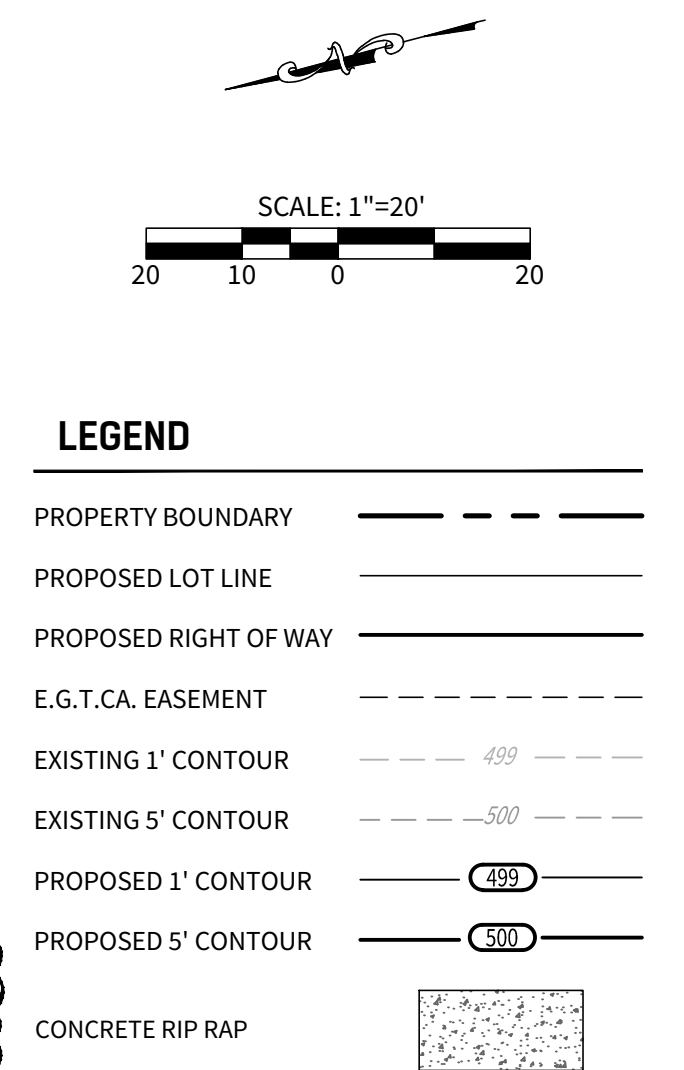
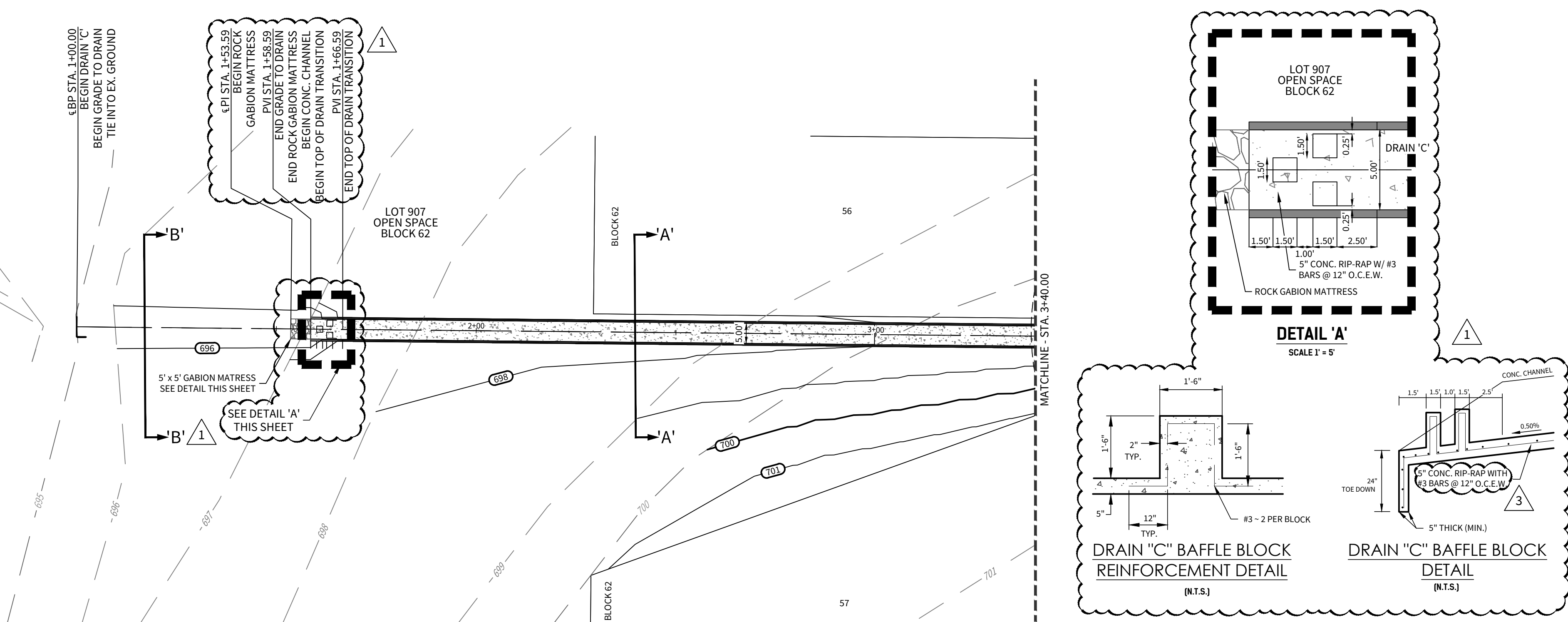
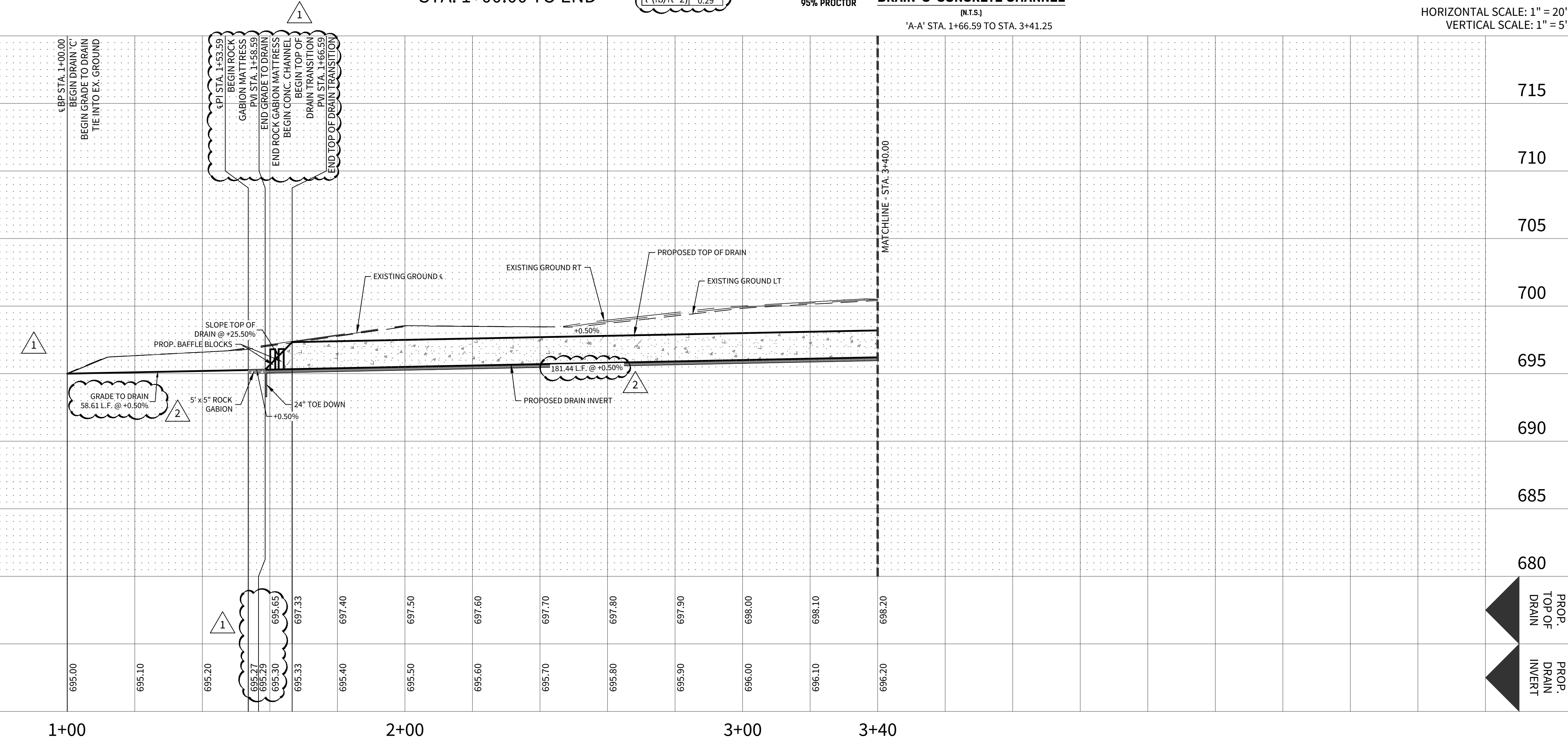
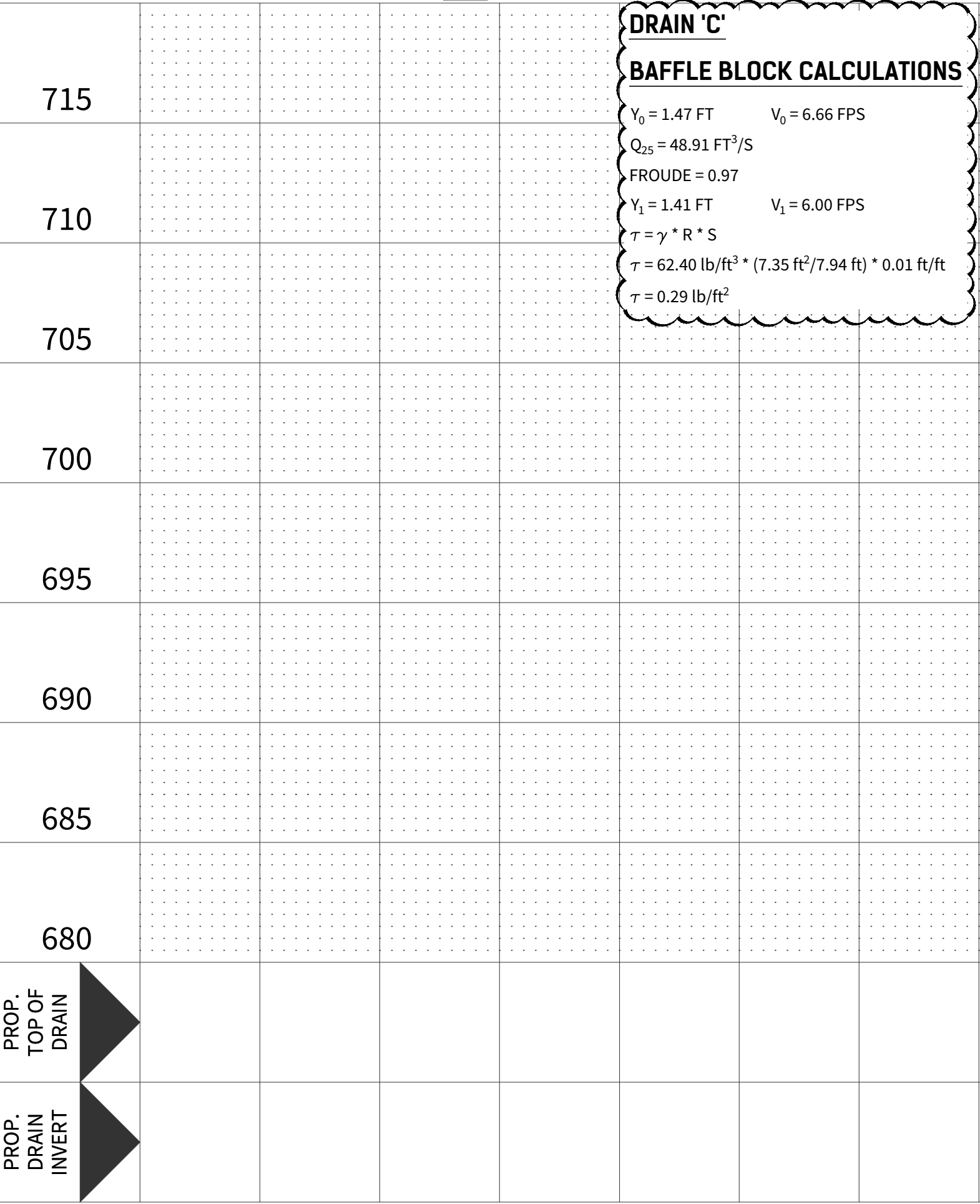
PLAT NO.
24-11800121

C13

CUDEENGINEERS.COM

REPRODUCTION OF THE ORIGINAL SIGNED AND SEALED PLAN AND/OR ELECTRONIC MEDIA MAY HAVE BEEN INADVERTENTLY ALTERED. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE SCALE OF THE DOCUMENT AND CONTACTING CUDE ENGINEERS TO VERIFY DISCREPANCIES PRIOR TO CONSTRUCTION.






1. ALL CONCRETE LINING SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI IN 28 DAYS
2. IMPROVED EARTHEN CHANNELS AND DETENTION PONDS WILL BE VEGETATE BY SEEDING OR SODDING, EIGHT-FIVE PERCENT (85%) OF THE CHANNEL SURFACE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT THE CHANNEL FOR MAINTENANCE

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 5'

CUDEENGINEERS.COM



4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P: (210) 681.2951 F: (210) 523.7112

ACKERMAN GARDENS
UNIT 7
DRAIN PLAN & PROFILE - DRAIN 'C'

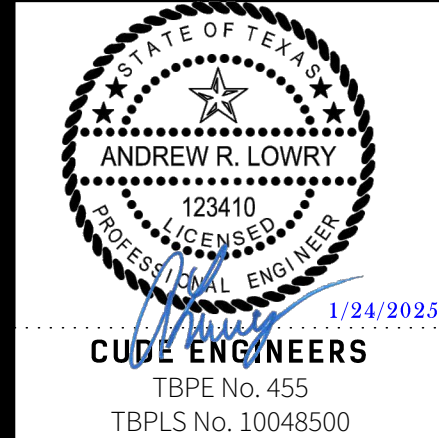
DATE
01/24/2025

PROJECT NO.
01792.742

DRAWN BY
CG/TCD/XV

CHECKED BY
XV/AL

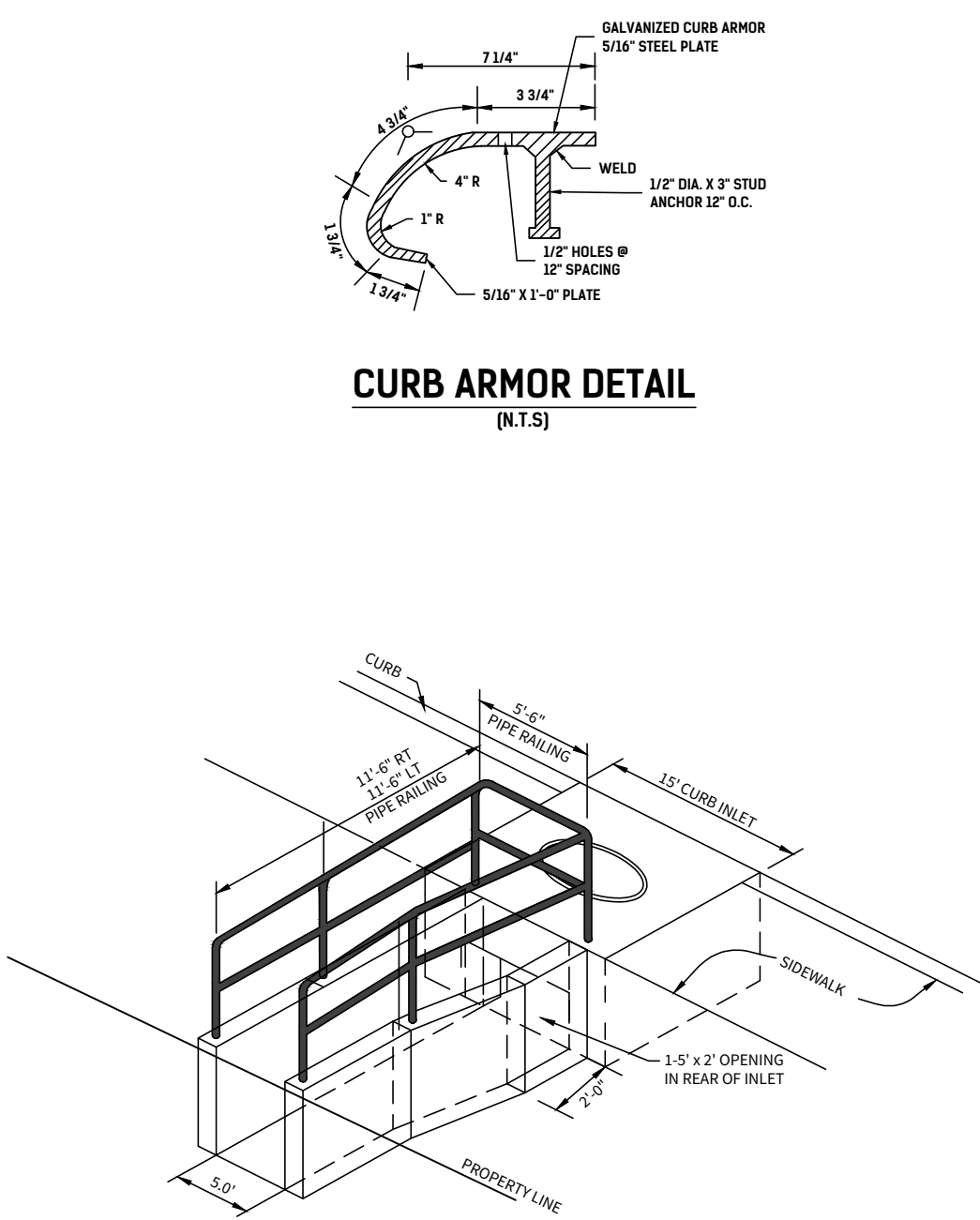
#	DATE	REVISIONS
1	2024-07-08	REVISED CALL OUTS - ADDED MATERIAL BLOCKS
2	2024-10-02	*REVISED CALL OUTS & ADDED DIMEN SECTION DETAIL
3	2024-11-07	*REVISED CONC. CALL OUTS, ADDED REEF PRO NOTE
4	2025-01-16	*UNBATED CONC REEF CHANNEL AND DRAIN TO GRADE
5		
6		
7		
8		
9		



PLAT NO.
24-11800121

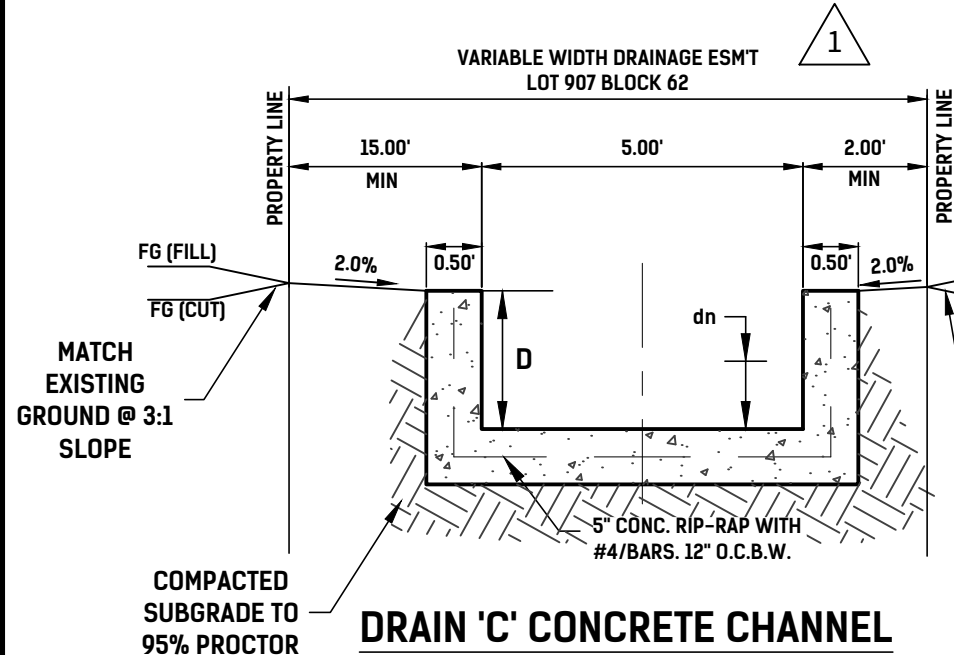
C15

© 2024 A.W. CUDE ENGINEERS, LLC. THIS DOCUMENT, ANY PORTION THEREOF, AND ANY ASSOCIATED COPYRIGHTS SHALL REMAIN THE PROPERTY OF A.W. CUDE ENGINEERS, LLC. THIS DOCUMENT MAY NOT BE REPRODUCED, USED, OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS TO ANYONE FOR ANY OTHER EMBODIMENT WITHOUT THE PRIOR WRITTEN CONSENT OF, AND ADAPTATION BY, A.W. CUDE ENGINEERS, LLC. THIS DOCUMENT IS NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR USE OTHER THAN AS ORIGINALLY INTENDED BY A.W. CUDE ENGINEERS, LLC AND ANY UNAUTHORIZED REPRODUCTION, USE OR DISTRIBUTION OF SAID DOCUMENTS WILL BE AT THE INFRINGING PARTY'S SOLE RISK, WITHOUT ANY LIABILITY TO A.W. CUDE ENGINEERS, LLC, AND WILL BE USED AGAINST ANY AND ALL PARTIES TO THE GREATEST EXTENT PERMITTED BY LAW.

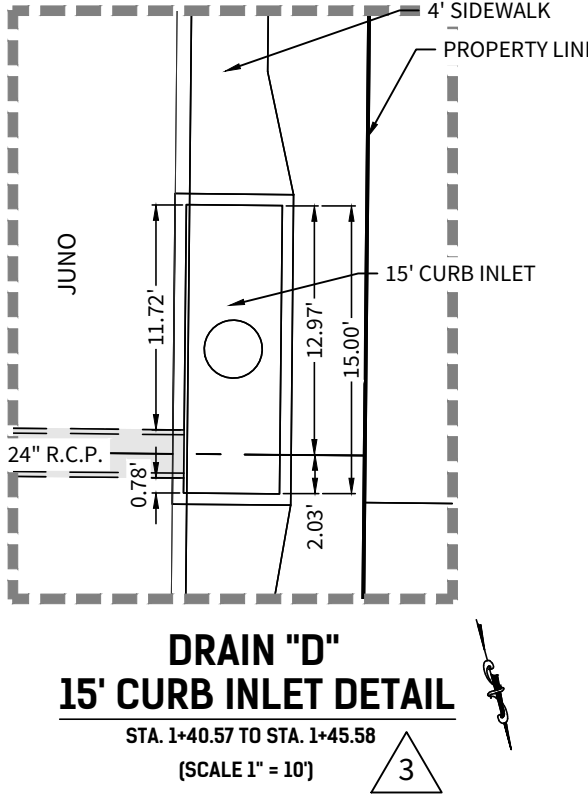
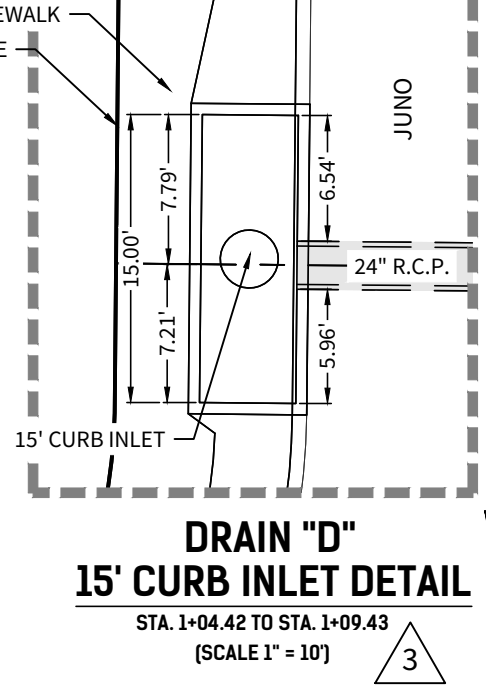
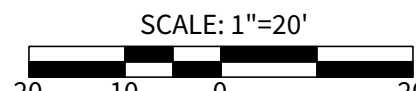
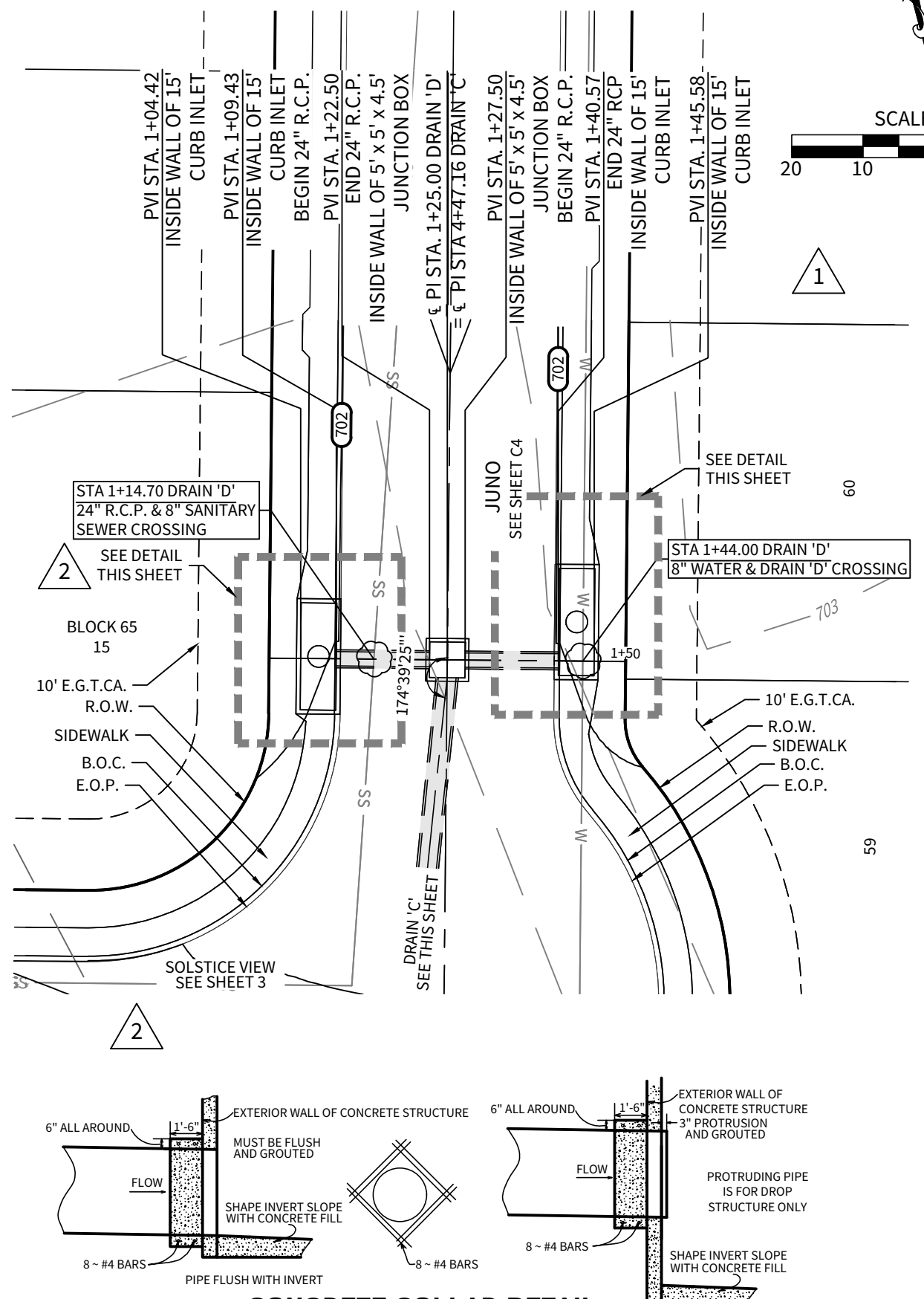
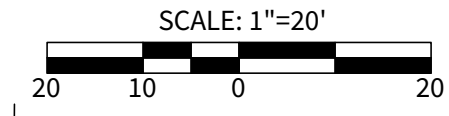
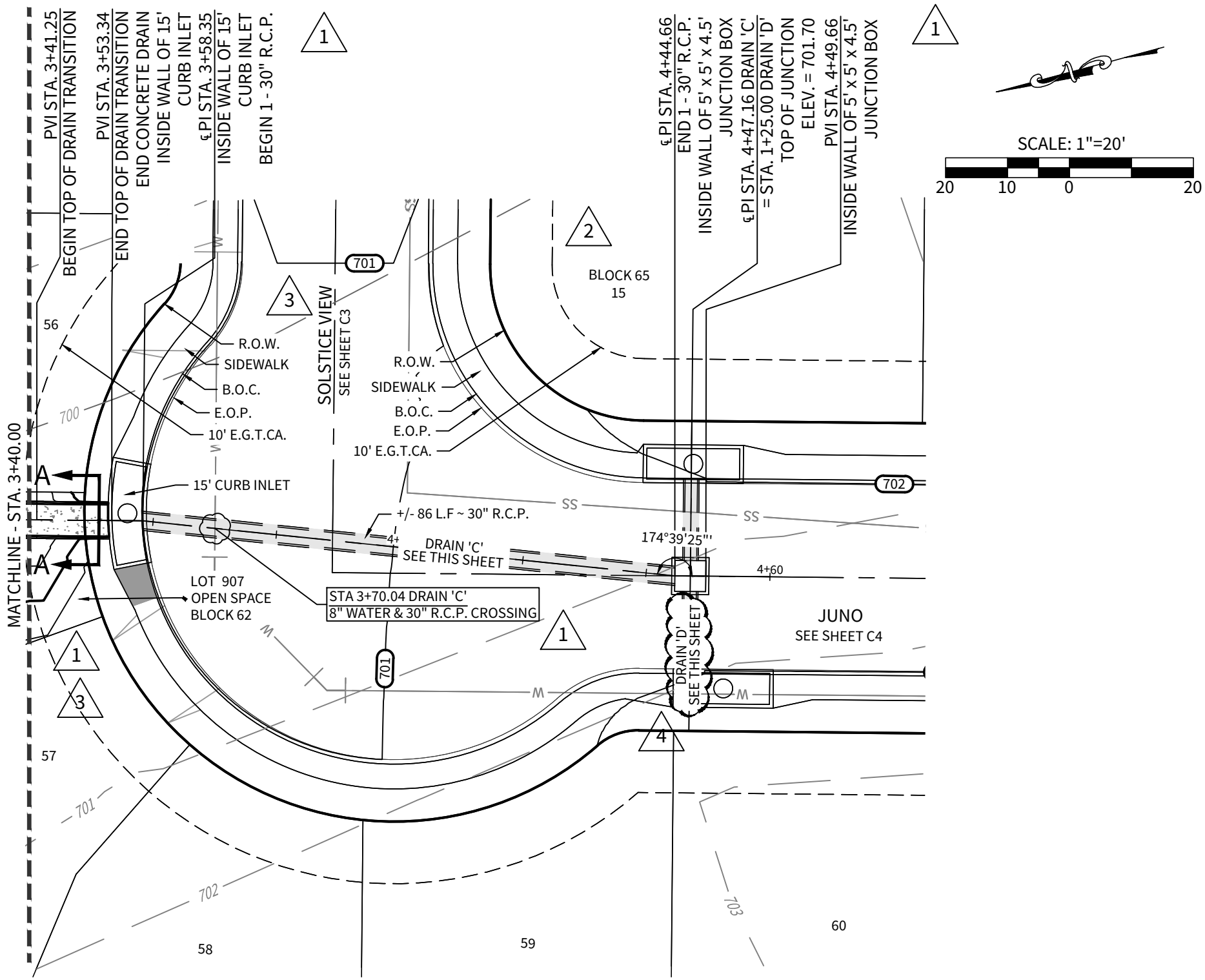


CURB "C" CURB INLET & CONC. DRAIN DETAIL
(N.T.S.)

NOTE: CONTRACTOR TO DOWEL CONC. DRAIN TO REAR OF INLET WITH #4 BARS @ 12" O.C.



"A-A"	
Q ₂₅ (cfs)	48.91
B _w (ft)	5.00'
n	0.015
D (ft)	2.00'
S (%)	0.50
d _s (ft)	1.47
V (fps)	6.67
T (lb/ft ² x 2)	0.29



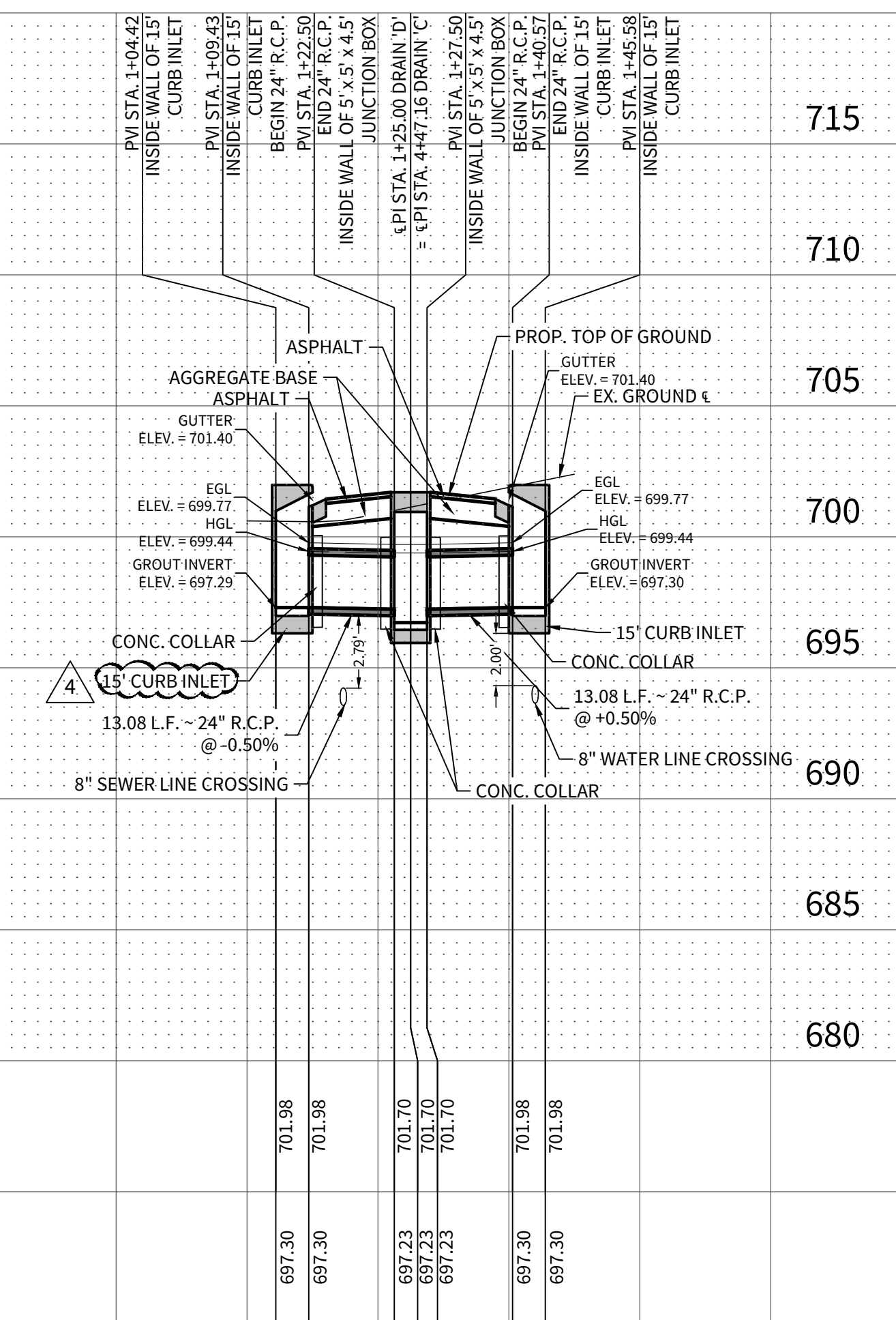
- LEGEND**
- PROPERTY BOUNDARY
 - PROPOSED LOT LINE
 - PROPOSED RIGHT OF WAY
 - E.G.T.CA. EASEMENT
 - EXISTING 1' CONTOUR
 - EXISTING 5' CONTOUR
 - PROPOSED 1' CONTOUR
 - PROPOSED 5' CONTOUR
 - CONCRETE RIP RAP

- NOTES**
- ALL CONCRETE LINING SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI IN 28 DAYS.
 - IMPROVED EARTHEN CHANNELS AND DETENTION PONDS WILL BE VEGETATED BY SEEDING OR SODDING. EIGHT-FIVE PERCENT (85%) OF THE CHANNEL SURFACE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT THE CHANNEL FOR MAINTENANCE.

DRAIN 'D'

STA. 1+04.42 TO END

1 2



DRAIN 'D' 15' CURB INLET ON GRADE - TxDOT METHOD

Q₂₅ = 24.46 c.f.s.
S_t = GUTTER CROSS SLOPE = 0.02
S_s = STREET SLOPE = 0.0075
S_e = S_x * ((h/E₀))^{0.6}
S_e = EQUIVALENT CROSS SLOPE = 0.05
L₀ = 2 * Q^{0.42} * S^{-0.31} * (1/n_{SE})^{0.6}
L₀ = 38.17' INLET REQ'D
L₀ = 15' CURB INLET USED
CO₁ = 9.97 C.F.S.
Q₁ = ACTUAL INLET INTERCEPTION = 14.49 C.F.S.

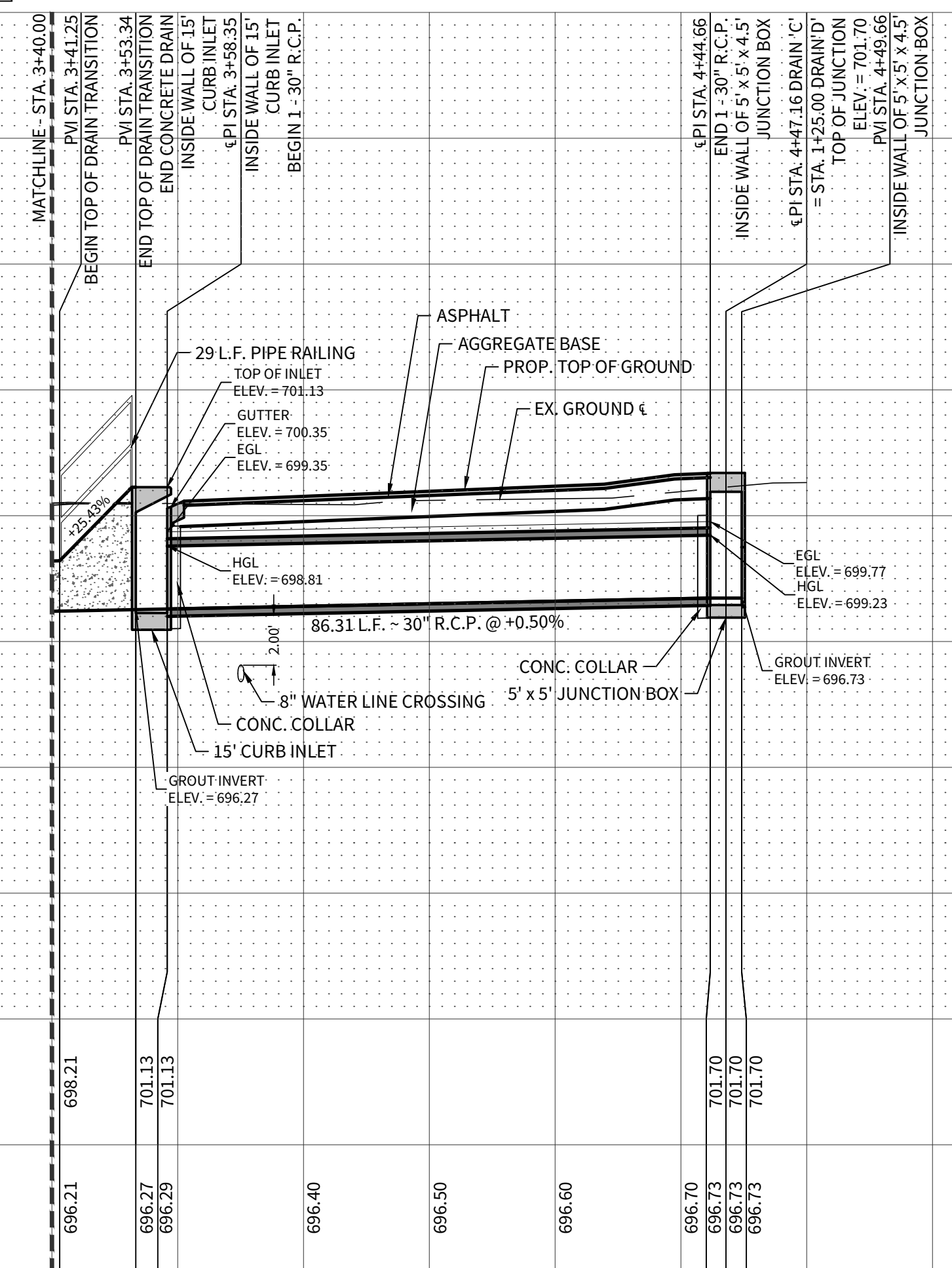
24\" R.C.P. DRAIN 'D'

PIPE SLOPE = 0.50%
Q₂₅ = 28.98 cfs
DEPTH OF FLOW = 2.00 ft
FLOW AREA = 3.14 ft²
% FULL = 100.00%
VELOCITY₂₅ = 4.61 ft/s
n = 0.013

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 5'

DRAIN 'C'

STA. 3+40.00 TO END



15' CURB INLET OPENING DRAIN C

Q₂₅ PROJECT = 19.93 c.f.s.
Q₂₅ ULTIMATE = 19.93 c.f.s.
L = Q / (C * w) * (2 * g * h)^(1/2) = 19.93 / (0.7 * 0.50 * (2 * 32.2 * 0.54)^(1/2)) = 9.66' INLET REQ'D.
USED - 15' INLET
A = 10.00 s.f. (1 - 5' x 2' OPENING(S))
V = 1.99 f.p.s.
Hv = 0.06'
1.5Hv = 0.09'
Hw = z + y + 1.5Hv
Hw = 696.27 + 2.0 + 0.09
Hw = 698.36
GUTTER = 700.55
RECOMMENDED CHANNEL WIDTH = 5.00'
CHANNEL WIDTH USED = 5.00'

30\" R.C.P. DRAIN 'C'

PIPE SLOPE = 0.50%
Q₂₅ = 28.98 cfs
DEPTH OF FLOW = 2.50 ft
FLOW AREA = 4.91 ft²
% FULL = 100.00%
VELOCITY₂₅ = 5.90 ft/s
n = 0.013

PROP. TOP OF DRAIN
PROP. DRAIN INVERT

PROP. TOP OF DRAIN
PROP. DRAIN INVERT

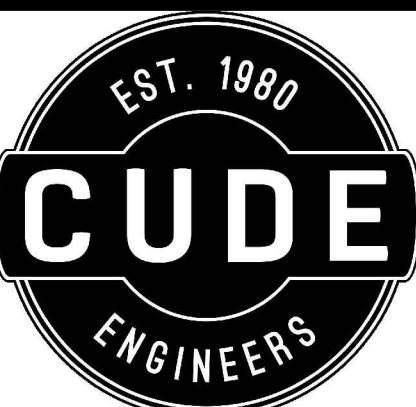
3+40

4+00

1+00

REPRODUCTION OF THE ORIGINAL SIGNED AND SEALED PLAN AND/OR ELECTRONIC MEDIA MAY HAVE BEEN INADVERTENTLY ALTERED. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE SCALE OF THE DOCUMENT AND CONTACTING CUDE ENGINEERS TO VERIFY DISCREPANCIES PRIOR TO CONSTRUCTION.

CUDEENGINEERS.COM



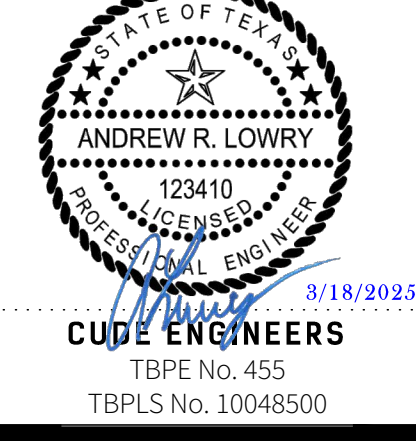
4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F:(210) 523.7112

**ACKERMAN GARDENS
UNIT 7**

DRAIN PLAN & PROFILE - DRAIN 'C' & DRAIN 'D'

DATE
03/18/2025
PROJECT NO.
01792.742
DRAWN BY
CG/TC/D/XV
CHECKED BY
XV/AL

DATE	REVISIONS
2024-07-08	ISSUED FOR CALC. AND SEALS
2024-10-03	ISSUED FOR CALC. AND SEALS
2024-11-07	ISSUED FOR CALC. AND SEALS
2025-01-16	ISSUED FOR CALC. AND SEALS
2025-03-18	ISSUED FOR CALC. AND SEALS



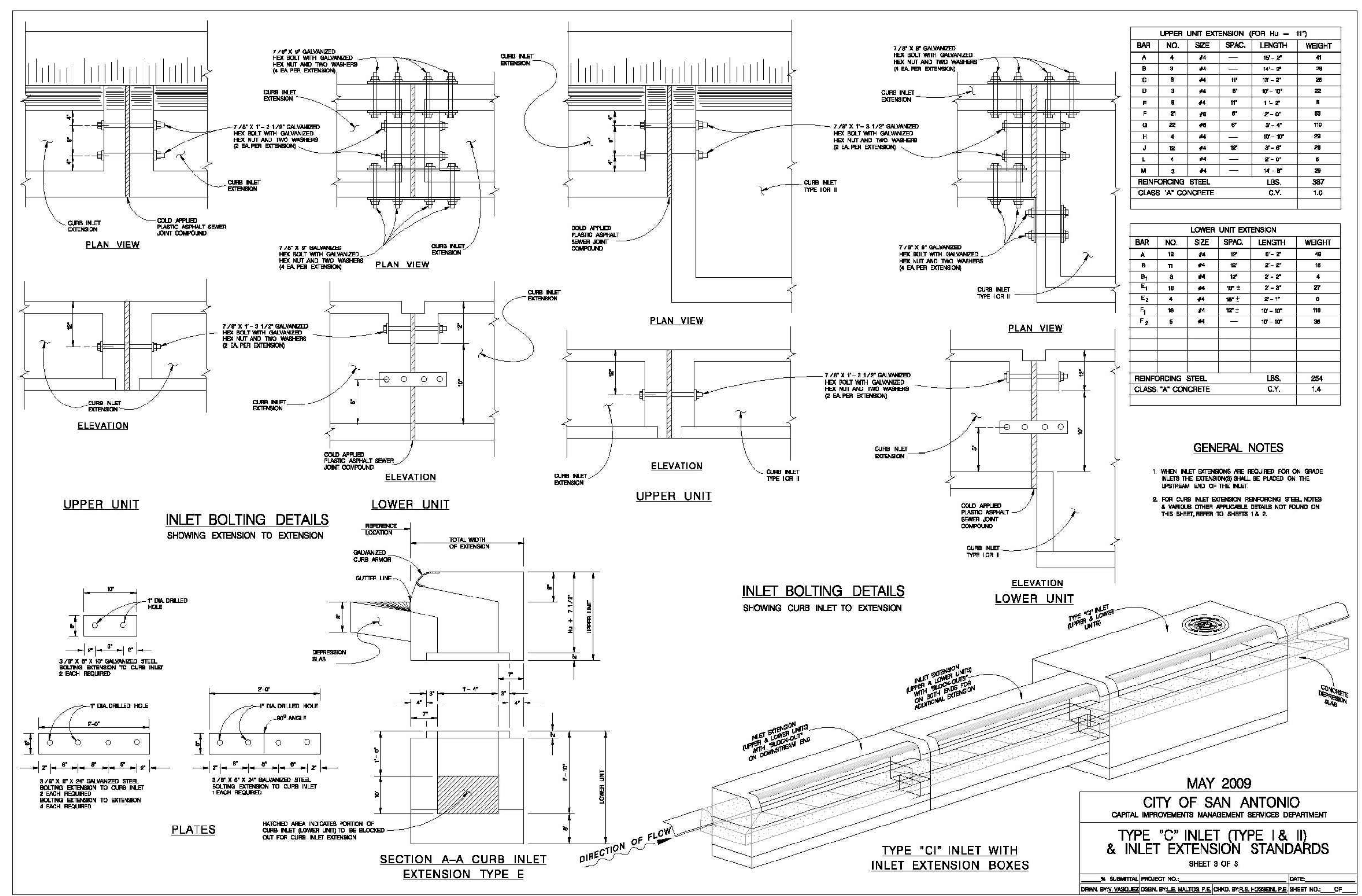
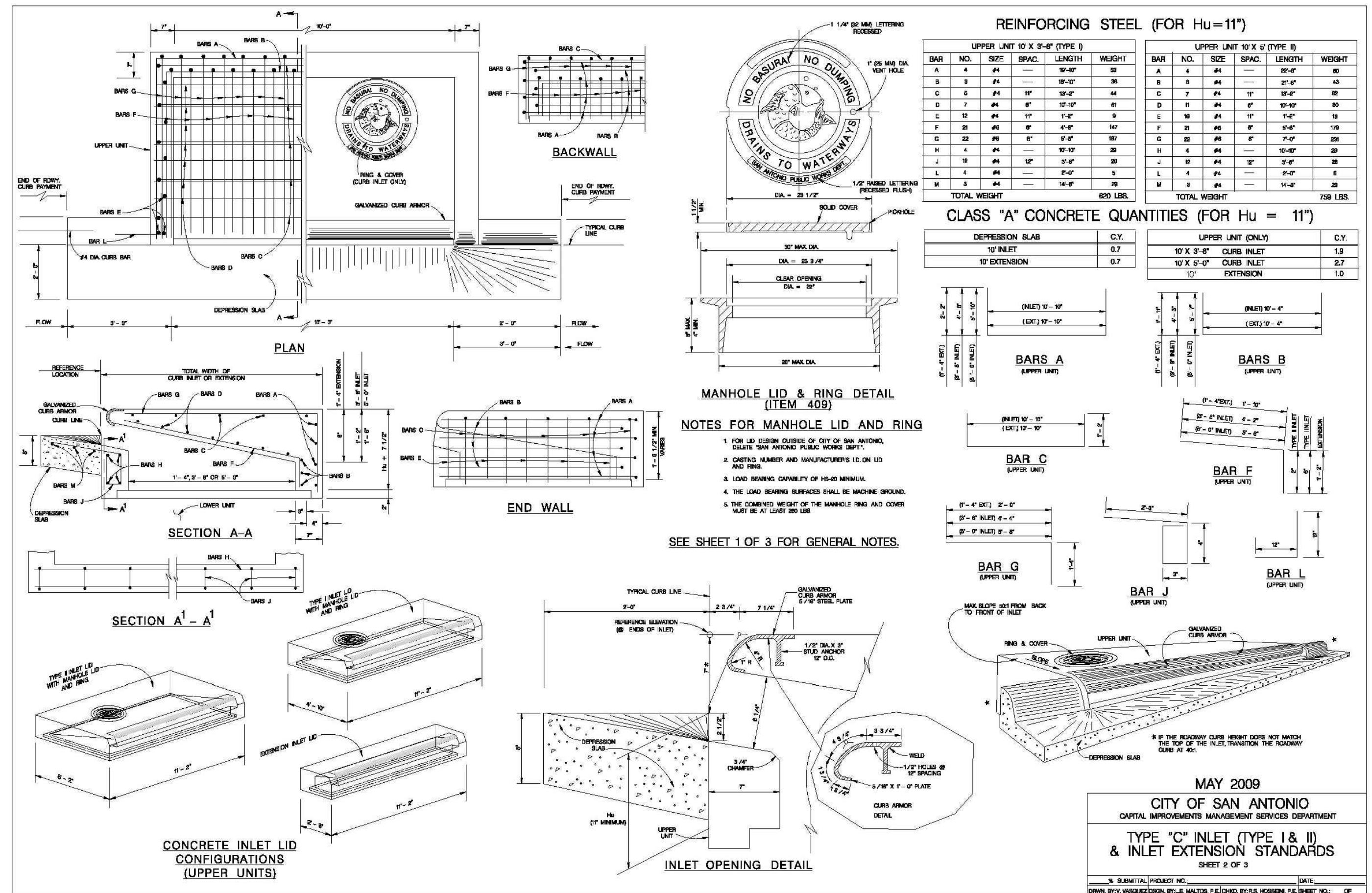
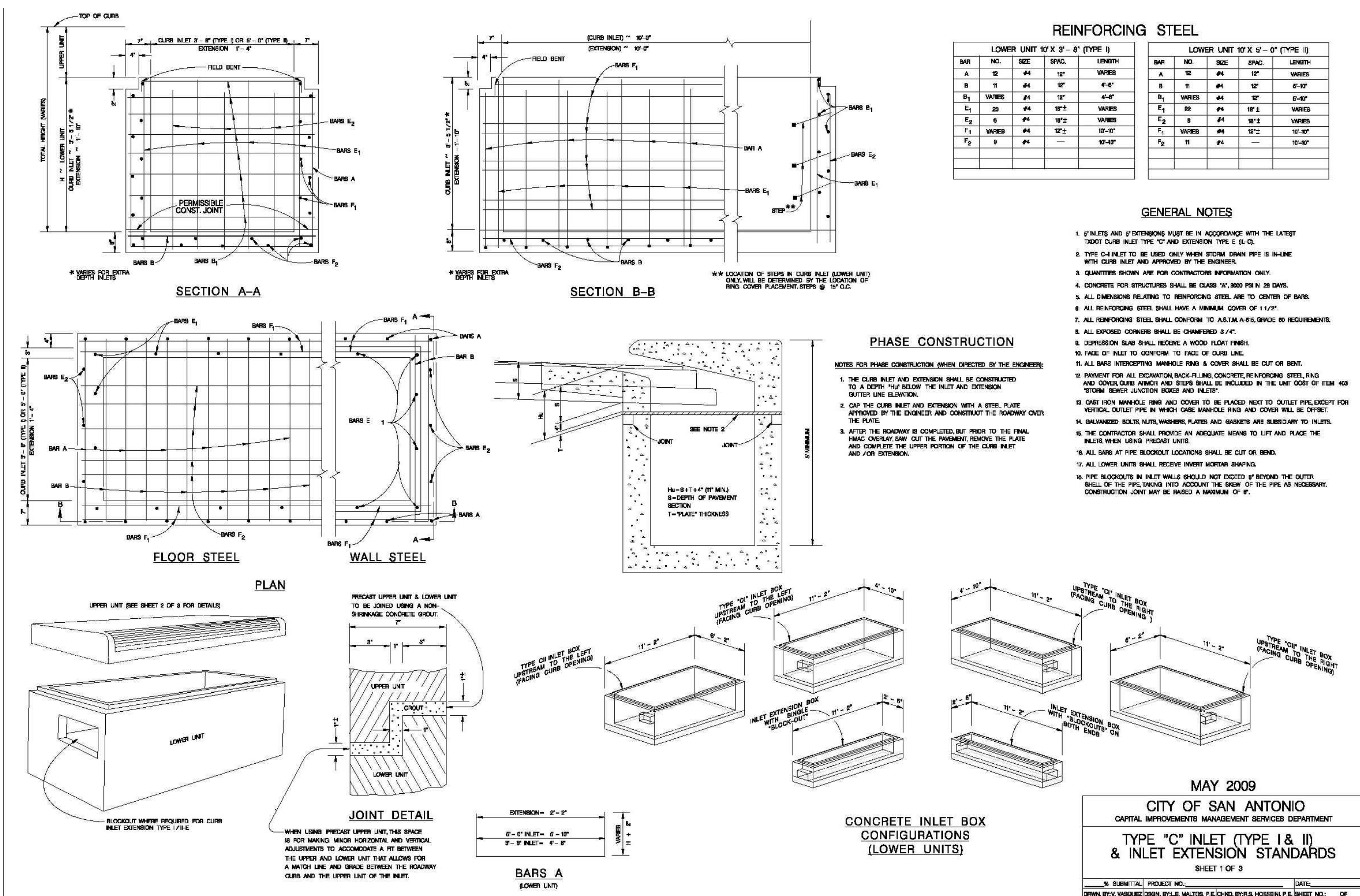
CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

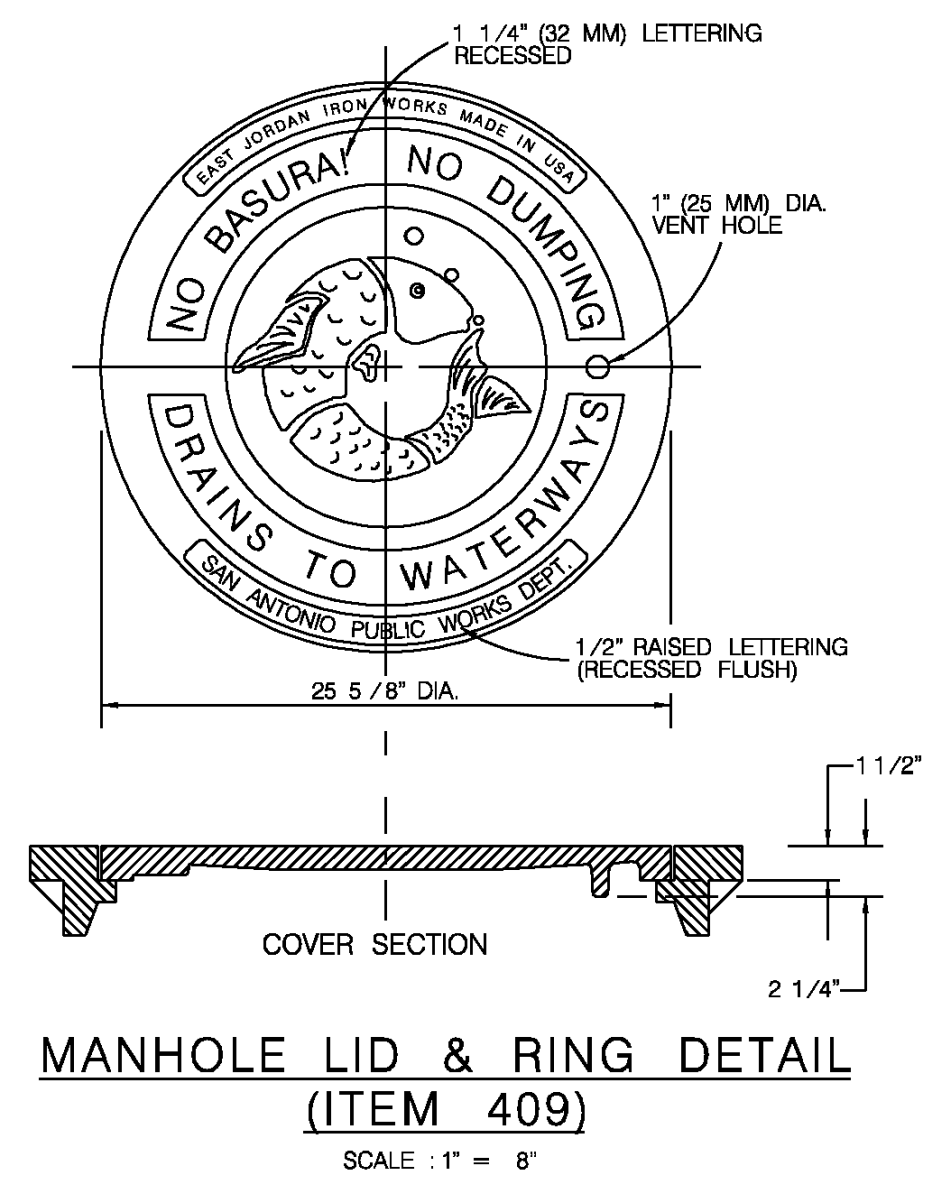
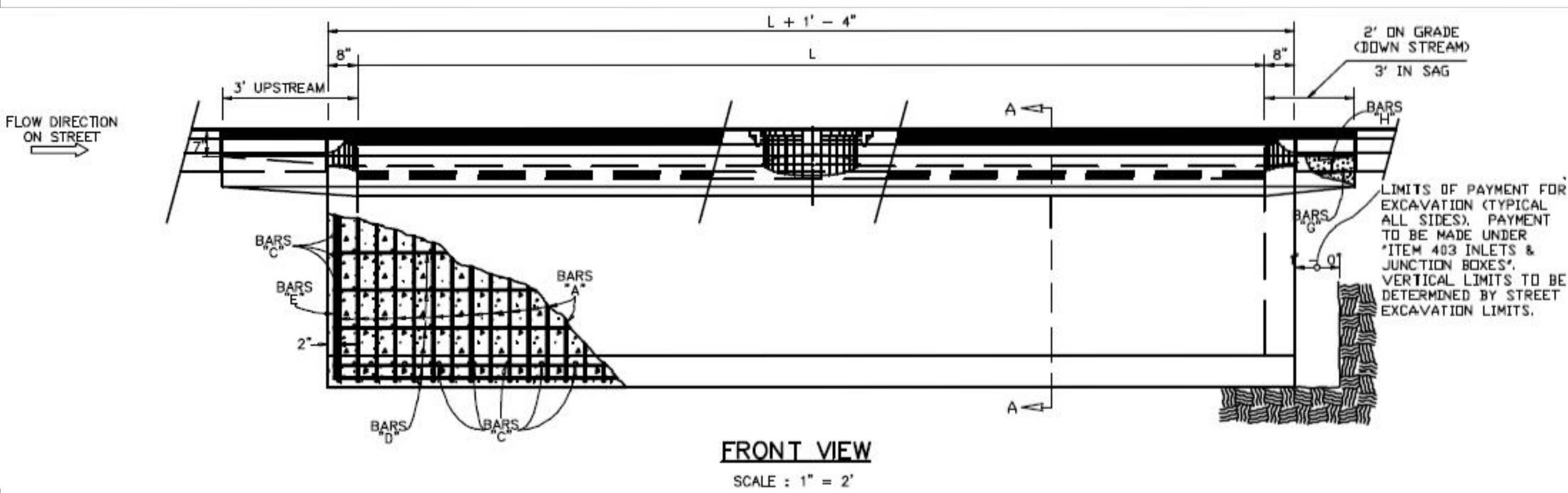
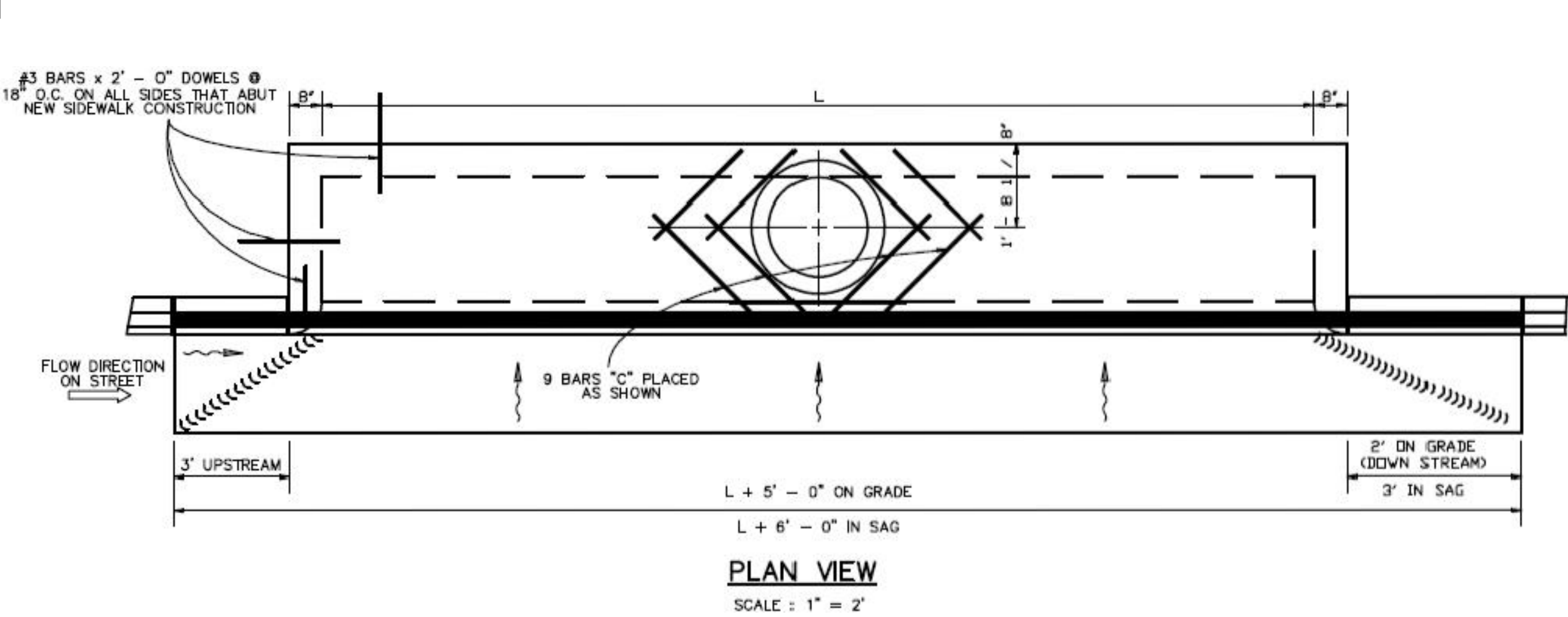
PLAT NO.
24-11800121

C16

CUDEENGINEERS.COM

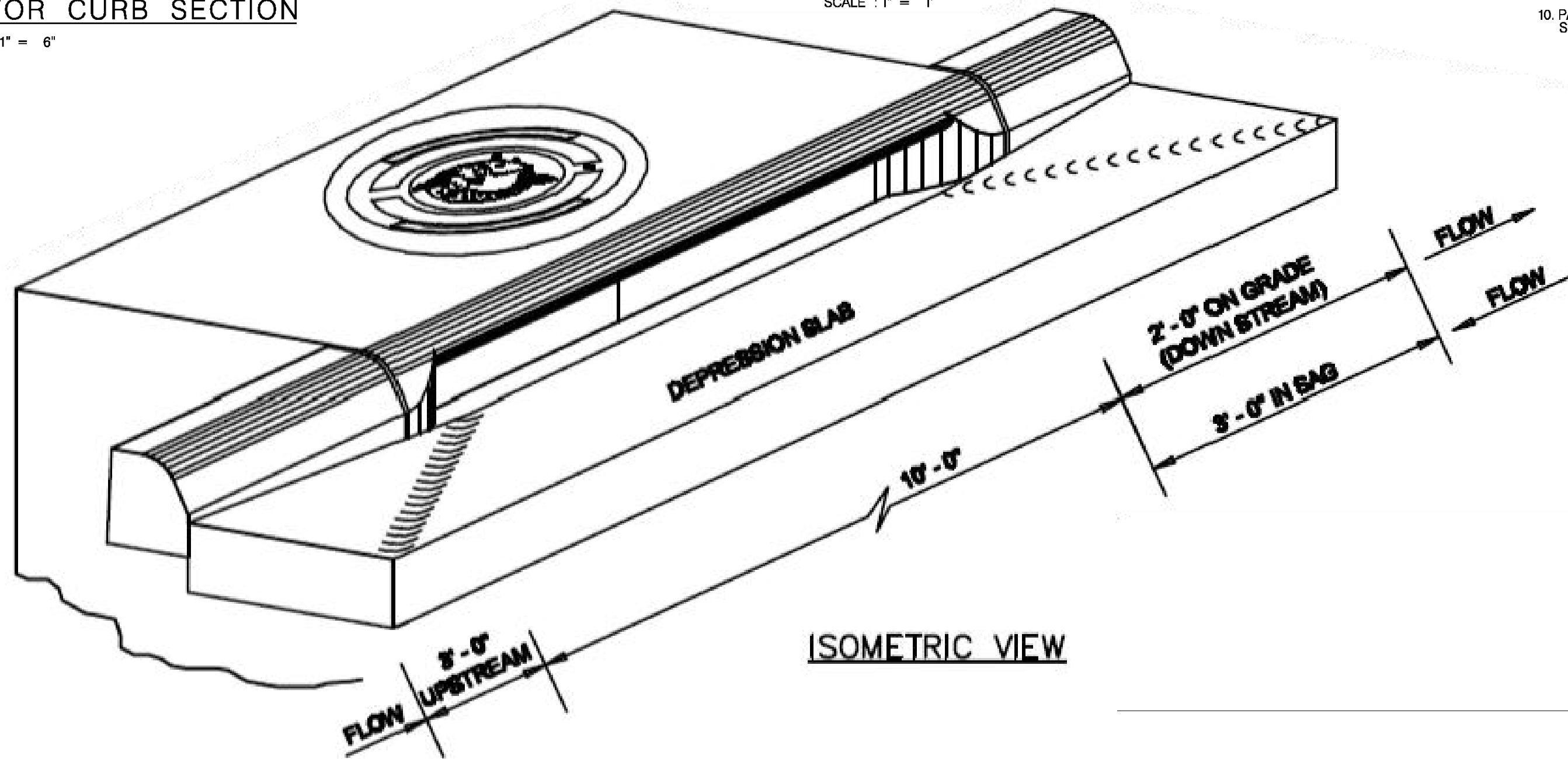
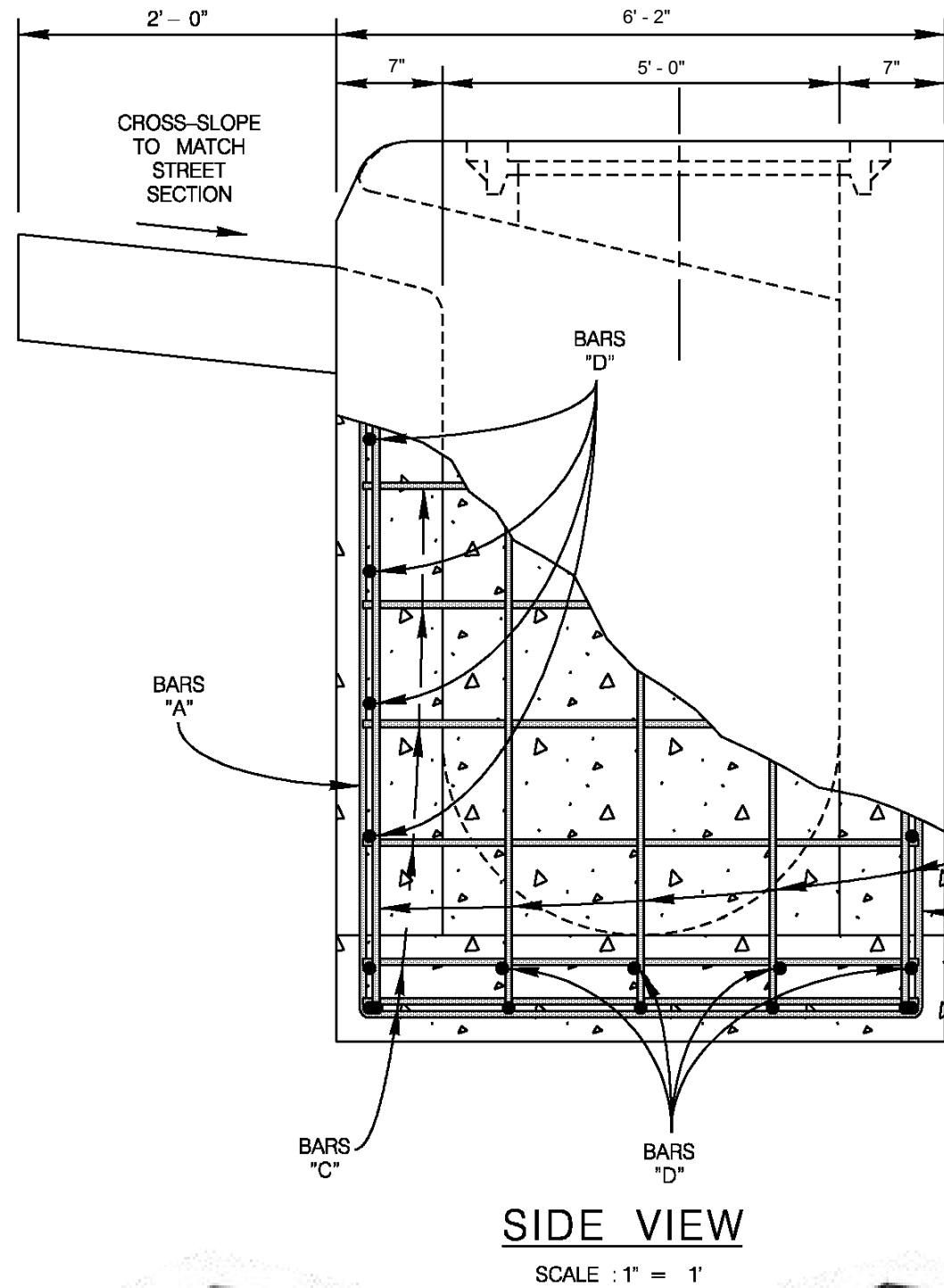
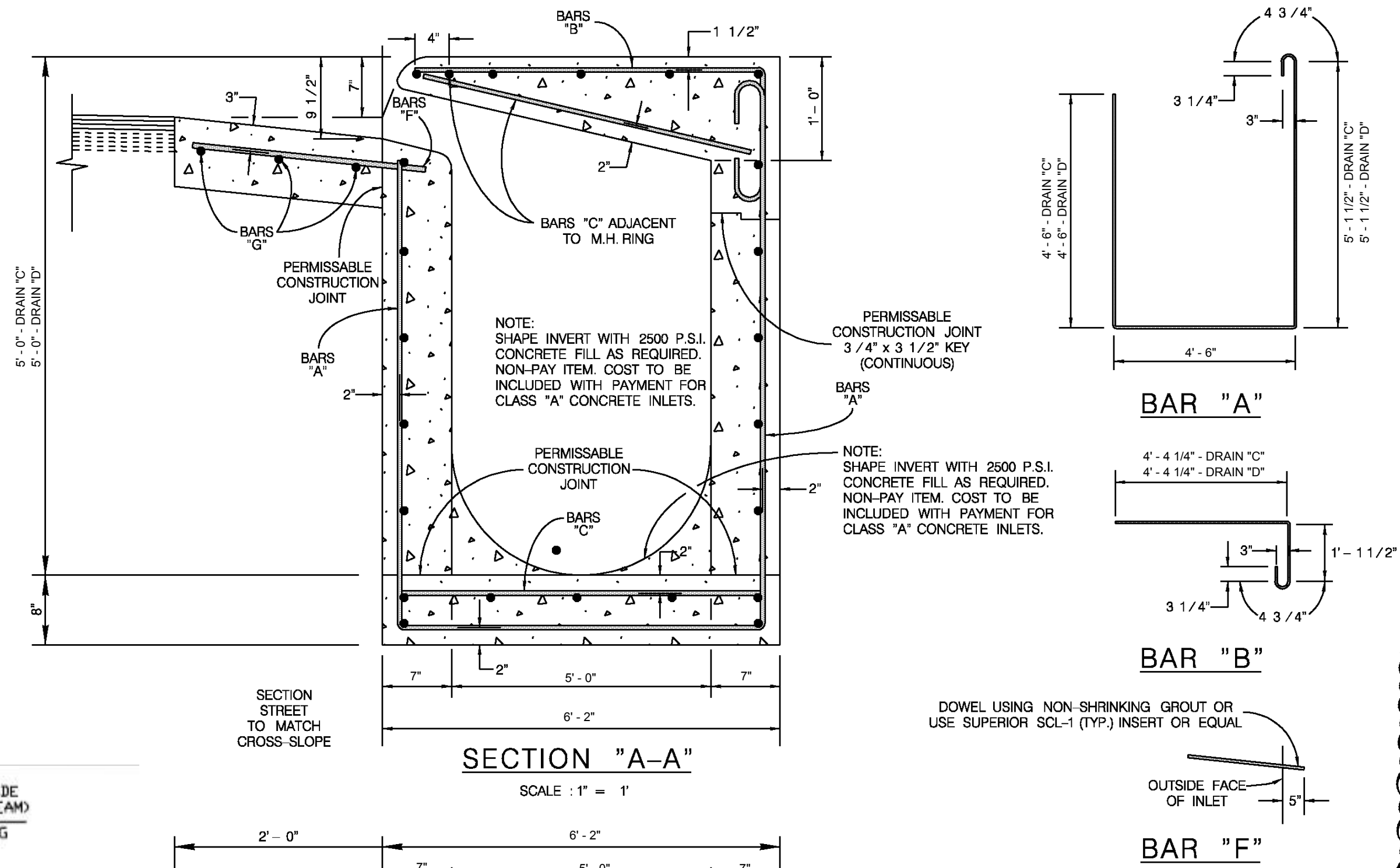
© 2024 A.W. CUDE ENGINEERS, LLC - THIS DOCUMENT, ANY PORTION THEREOF, AND ANY ASSOCIATED COPYRIGHTS SHALL REMAIN THE PROPERTY OF A.W. CUDE ENGINEERS, LLC. THIS DOCUMENT MAY NOT BE REPRODUCED, USED, OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS TO ANYONE FOR ANY OTHER ENGINEER WITHOUT THE PRIOR WRITTEN CONSENT OF, AND ADAPTATION BY, A.W. CUDE ENGINEERS, LLC. THIS DOCUMENT IS NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR USE OTHER THAN AS ORIGINALLY INTENDED BY A.W. CUDE ENGINEERS, LLC AND ANY UNAUTHORIZED REPRODUCTION, USE, OR DISTRIBUTION OF SAID DOCUMENTS WILL BE AT THE INFRINGING PARTY'S SOLE RISK, WITHOUT ANY LIABILITY TO A.W. CUDE ENGINEERS, LLC, AND WILL BE USED AGAINST ANY AND ALL PARTIES TO THE FULLEST EXTENT PERMITTED BY LAW.





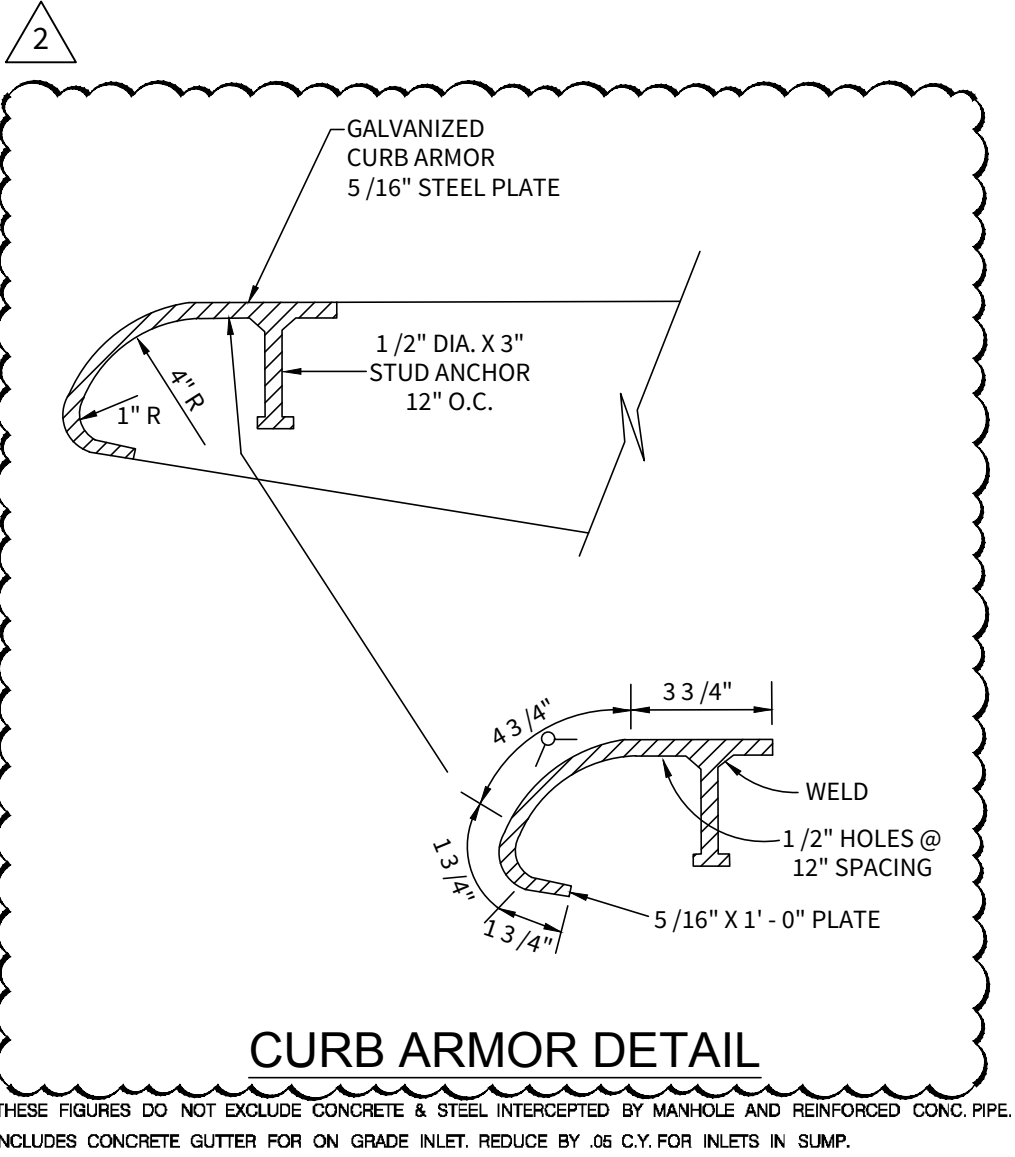
NOTES FOR MANHOLE LID AND RING

1. FOR LID DESIGN OUTSIDE OF CITY OF SAN ANTONIO, DELETE "SAN ANTONIO PUBLIC WORKS DEPT."
2. CASTING NUMBER AND MANUFACTURER'S I.D. ON LID AND RING.
3. LOAD BEARING CAPABILITY OF HS-20 MINIMUM.
4. THE LOAD BEARING SURFACES SHALL BE MACHINE GROUND.
5. THE COMBINED WEIGHT OF THE MANHOLE RING AND COVER MUST BE AT LEAST 260 LBS.



INLET LENGTH		REINFORCING STEEL SCHEDULE				
	BAR	No.	Size	Spa.	Length	Weight lbs.
DRAIN "C" L = 15' DEPTH = 5'	A	30	4	5" c.c.	4' 1 1/2"	385 lbs.
	B	39	4	5" c.c.	6' 1 3/4"	500 lb.
	C	43	4	9"	4' 6"	129.26
	D	24	4	10"	10' 1"	257.85
	E	12	4	10"	6' 10"	150.78
	F	17	5	12"	2' 3"	39.89
	G	3	5	12"	10' 8"	39.41
	H	5	5	12"	1' 8"	8.69
*Concrete Total = 87.2 Cy.		Nanhole Casting = 260 lbs.		Steel Total = 1,335.34 lbs.		

INLET LENGTH		REINFORCING STEEL SCHEDULE				
DRAIN "D" L= 15' DEPTH= 5'	BAR	NO.	Size	Spa.	Length	Weight lbs.
	A	39	4	5" c	14' 9 1/2"	385.35
	B	59	4	4" c	6' 13 1/4"	160.11
	C	43	4	9"	4' 6"	129.26
	D	24	4	10"	16' 1"	257.85
	E	12	4	10 1/2"	6' 10"	54.78
	F	17	5	12"	2' 3"	39.89
	G	3	4	12"	19' 8"	39.41
	H	5	5	12"	1' 8"	8.69
*Concrete Total = 87.2 CY		Manhole Casting = 260 lbs.			Steel Total = 1335.34 lbs.	



GENERAL NOTES

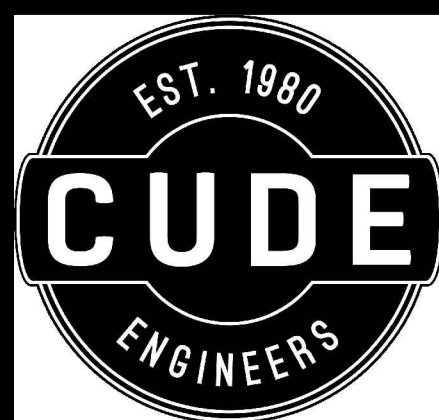
1. ALL BARS INTERCEPTING MANHOLE RING & REINFORCING CONCRETE PIPE SHALL BE FIELD CUT.
2. CONCRETE FOR STRUCTURES SHALL BE CLASS "A", 3000 PSI IN 28 DAYS.
3. ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER BARS.
4. ALL EXPOSED CORNERS SHALL BE CHAMFERED TO 3/4"
5. CONSTRUCTION JOINT SHOWN AT FLOWLINE MAY BE ASED A MAXIMUM OF 6" AT THE CENTER OF THE JOINT. MINIMUM JOINT LENGTH OF 12" VERTICAL STEEL IS REQUIRED.
6. ALL REINFORCING STEEL SHALL CONFORM TO A.S.T.M. A-615, GRADE 60 REQUIREMENTS.
7. INVERT OF DROP INLET TO BE SHAPED WITH CONCRETE FILL TO AFFECT DRAINAGE TO OUTLET PIPE.
8. DELETE 4 "C" BARS FROM SCHEDULE QUANTITIES IF MANHOLE RING AND COVER ARE PLACED AT END OF PIPE.
9. CAST IRON MANHOLE RING AND COVER TO BE PLACED NEXT TO OUTLET PIPE EXCEPT FOR VERTICAL OUTLET PIPE IN WHICH CASE MANHOLE RING AND COVER WILL BE OFFSET.
10. PAYMENT FOR ALL EXCAVATION BACK FILLING, CONCRETE REINFORCING STEEL RING AND COVER SHALL BE INCLUDED IN THE UNIT COST OF ITEM 403 "STORM SEWER JUNCTION BOXES AND INLETS".

JANUARY 2005

STANDARD PLANS
CITY OF SAN ANTONIO, TEXAS
DEPARTMENT OF PUBLIC WORKS

TYPE "C" INLET DETAILS

DRAWN BY: V. VASQUEZ	DATE	REVISIONS	SCALE: SEE ABOVE
			DATE:
CHECKED BY: NAT HARDY, P.E.			SHEET: OF



4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F: (210) 523.7112

ACKERMAN GARDENS

UNIT 7

DRAIN INLET DETAILS - TYPE "C" (CAST-IN-PLACE)

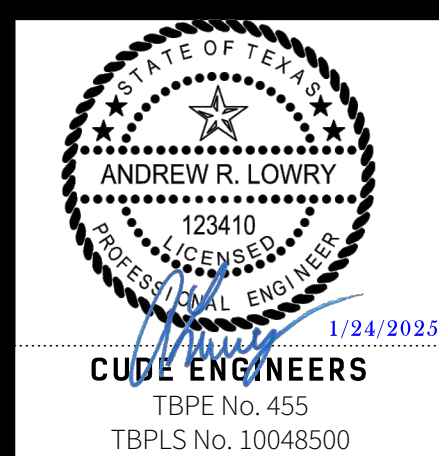
DATE
1/24/2025

PROJECT NO.
01792.742

DRAWN BY

CHECKED BY
XV/AL

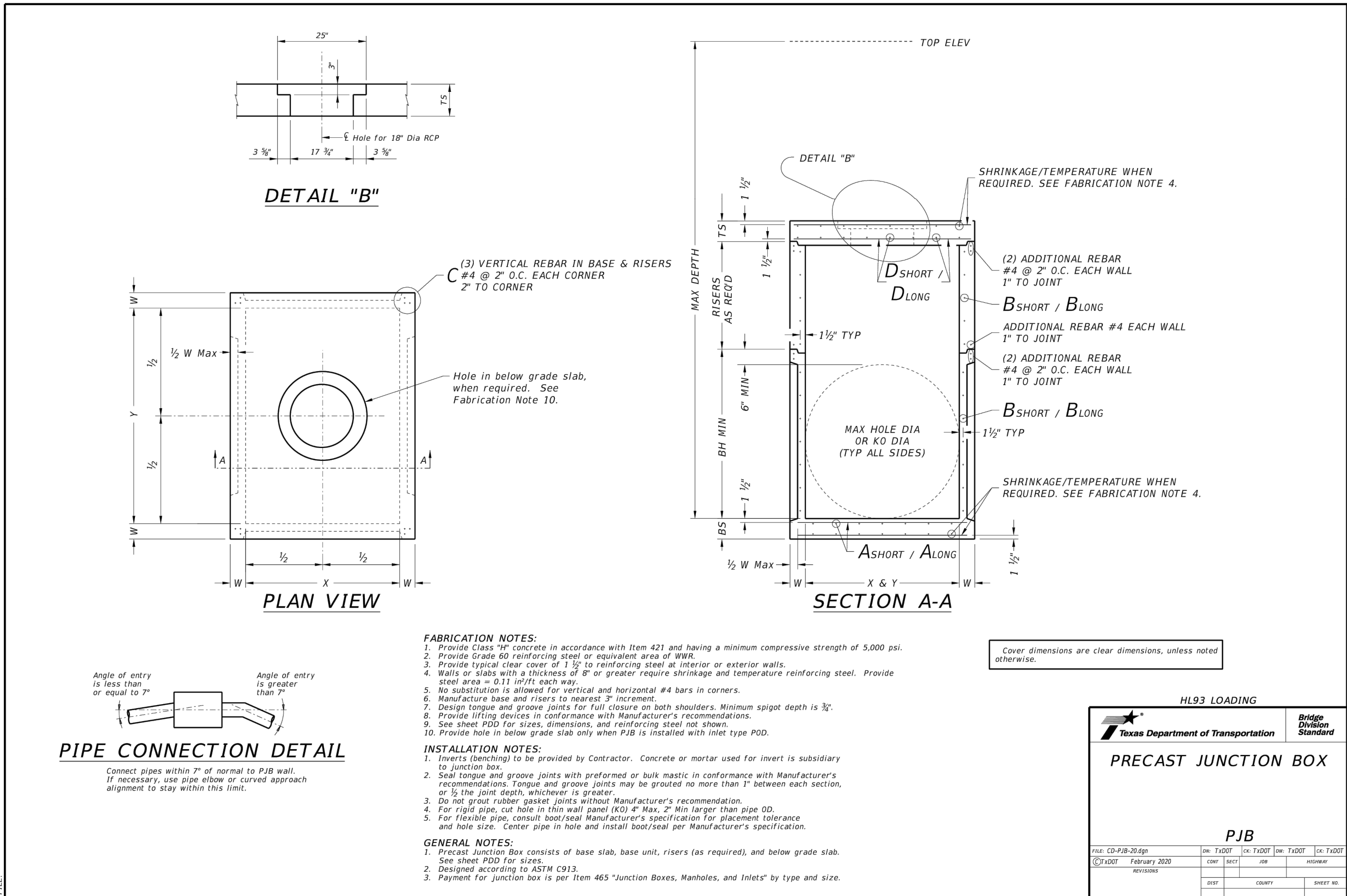
#	DATE	REVISIONS
1.	2024-03-17	REVISIONS FOR THE 2024-2025 FISCAL YEAR
2.	2025-01-20	REVISED CUBS JANUARY PAY
3.		
4.		
5.		
6.		
7.		
8.		
9.		



C17A

DISCLAIMER:
The use of this standard is governed by the Texas Engineering Practice Act. No warranty of any kind is made by CUDE for any purpose whatsoever. CUDE assumes no responsibility for the accuracy or the use of this standard or for the accuracy or the use of this standard or for the accuracy or the use of this standard.

DATE: FILE:



DISCLAIMER:
The use of this standard is governed by the Texas Engineering Practice Act. No warranty of any kind is made by CUDE for any purpose whatsoever. CUDE assumes no responsibility for the accuracy or the use of this standard or for the accuracy or the use of this standard or for the accuracy or the use of this standard.


DATE: FILE:

	Size	MAX DEPTH = 15 ft. to top of BASE SLAB												MAX DEPTH = 25 ft. to top of BASE SLAB												New PDD (w/Note 3)	New PDD (w/Note 2)	New PDD (w/Note 1)
		Base Slab						Base Unit or Riser Walls						Base Slab						Base Unit or Riser Walls								
		Short Span Slab Area	Long Span Slab Area	Thickness	Short Span Slab Area	Long Span Slab Area	Thickness	Reduced Slab Area (w/PS)	Short Span Slab Area	Long Span Slab Area	Thickness	Reduced Slab Area (w/PS)	Short Span Slab Area	Long Span Slab Area	Thickness	Reduced Slab Area (w/PS)	Short Span Slab Area	Long Span Slab Area	Thickness									
	X x Y	Ashort	Along	BS	Bshort	Blong	W	RISER/SL or ID	Dshort	Dlong	TS	Ashort	Along	BS	Bshort	Blong	W	RISER/SL or ID	Dshort	Dlong	TS	BH MIN	HOLE DIA	KO DIA				
		ft.	in/ft	in/ft	in.	in/ft	in/ft	in.	ft. **	in/ft	in/ft	in.	ft. **	in/ft	in/ft	in.	ft. **	in/ft	in/ft	in.	ft. **	in/ft	in/ft	in.	ft.	in.		
Precast Junction Box (PJB)	3x3	0.23	0.23	6	0.19	0.19	6	N/A	0.37	0.37	9	0.29	0.29	6	0.24	0.24	6	N/A	0.37	0.37	9	3.5	36	36				
	4x4	0.29	0.29	6	0.24	0.24	6	N/A	0.41	0.41	9	0.47	0.47	6	0.38	0.38	6	N/A	0.41	0.41	9	4.5	48	48				
	3x5	0.29	0.18	6	0.19	0.35	6	N/A	0.48	0.48	9	0.39	0.18	6	0.23	0.59	6	N/A	0.48	0.48	9	3.5	36/60	36/60				
	4x5	0.36	0.18	6	0.22	0.34	6	N/A	0.42	0.42	9	0.53	0.26	6	0.39	0.59	6	N/A	0.42	0.42	9	4.5	48/60	48/60				
	5x5	0.36	0.36	6	0.34	0.34	6	N/A	0.43	0.43	9	0.62	0.62	6	0.59	0.59	6	N/A	0.43	0.43	9	5.5	60	60				
	5x6	0.27	0.27	9	0.34	0.45	6	N/A	0.48	0.48	9	0.47	0.45	9	0.38	0.54	8	N/A	0.48	0.48	9	5.5	60/72	60/72				
	6x6	0.27	0.27	9	0.45	0.45	6	N/A	0.56	0.56	9	0.52	0.52	9	0.54	0.54	8	N/A	0.56	0.56	9	6.5	72	72				
	8x8	0.46	0.46	9	0.51	0.51	8	N/A	0.45	0.45	12	0.87	0.87	9	0.59	0.59	10	N/A	0.45	0.45	12	8.5	96	72				
	3x3	0.23	0.23	6	0.19	0.19	6	N/A	N/A	N/A	N/A	0.29	0.29	6	0.24	0.24	6	N/A	N/A	N/A	N/A	3.5	36	36				
Precast Base (PB)	4x4	0.29	0.29	6	0.24	0.24	6	N/A	N/A	N/A	N/A	0.47	0.47	6	0.38	0.38	6	N/A	N/A	N/A	N/A	4.5	48	48				
	3x5	0.29	0.18	6	0.19	0.35	6	3x3	0.30	0.34	9	0.39	0.18	6	0.23	0.59	6	3x3	0.40	0.40	9	3.5	36/60	36/60				
	4x5	0.36	0.18	6	0.22	0.34	6	3x3	0.30	0.30	9	0.53	0.26	6	0.39	0.59	6	3x3	0.46	0.37	9	4.5	48/60	48/60				
	4x5	0.36	0.18	6	0.22	0.34	6	4x4	0.30	0.30	9	0.53	0.26	6	0.39	0.59	6	4x4	0.39	0.39	9	4.5	48/60	48/60				
	4x5	0.36	0.18	6	0.22	0.34	6	48"	0.39	0.39	9	0.53	0.26	6	0.39	0.59	6	48"	0.47	0.47	9	4.5	48/60	48/60				
	4x5	0.36	0.18	6	0.22	0.34	6	3x5	0.33	0.40	9	0.53	0.26	6	0.39	0.59	6	3x5	0.48	0.48	9	4.5	48/60	48/60				
	5x5	0.36	0.36	6	0.34	0.34	6	3x3	0.34	0.34	9	0.62	0.62	6	0.59	0.59	6	3x3	0.53	0.53	9	5.5	60	60				
	5x5	0.36	0.36	6	0.34	0.34	6	4x4	0.36	0.36	9	0.62	0.62	6	0.59	0.59	6	4x4	0.64	0.64	9	5.5	60	60				
	5x5	0.36	0.36	6	0.34	0.34	6	48"	0.36	0.36	9	0.62	0.62	6	0.59	0.59	6	48"	0.64	0.64	9	5.5	60	60				
	5x5	0.36	0.36	6	0.34	0.34	6	3x5	0.34	0.40	9	0.62	0.62	6	0.59	0.59	6	3x5	0.53	0.53	9	5.5	60	60				
	5x6	0.31	0.31	9	0.34	0.45	6	3x3	0.34	0.34	9	0.47	0.45	9	0.38	0.54	8	3x3	0.61	0.50	9	5.5	60/72	60/72				
	5x6	0.27	0.27	9	0.34	0.45	6	4x4	0.36	0.45	9	0.47	0.45	9	0.38	0.54	8	4x4	0.74	0.57	9	5.5	60/72	60/72				
	5x6	0.29	0.29	9	0.34	0.45	6	48"	0.36	0.45	9	0.47	0.45	9	0.38	0.54	8	48"	0.74	0.57	9	5.5	60/72	60/72				
	5x6	0.29	0.29	9	0.34	0.45	6	3x5	0.45	0.45	9	0.47	0.45	9	0.38	0.54	8	3x5	0.61	0.61	9	5.5	60/72	60/72				
	6x6	0.29	0.29	9	0.45	0.45	6	3x3	0.41	0.41	9	0.52	0.52	9	0.54	0.54	8	3x3	0.74	0.74	9	6.5	72	72				
	6x6	0.27	0.27	9	0.45	0.45	6	4x4	0.41	0.41	9	0.52	0.52	9	0.54	0.54	8	4x4	0.87	0.87	9	6.5	72	72				
6x6	0.29	0.29	9	0.45	0.45	6	48"	0.45	0.45	9	0.52	0.52	9	0.54	0.54	8	48"	0.87	0.87	9	6.5	72	72					
6x6	0.29	0.29	9	0.45	0.45	6	3x5	0.45	0.45	9	0.52	0.52	9	0.54	0.54	8	3x5	0.87	0.87	9	6.5	72	72					
8x8	0.52	0.52	9	0.51	0.51	8	3x3	0.61	0.61	12	0.91	0.91	9	0.70	0.70	10	3x3	0.85	0.85	12	8.5	96	72					
8x8	0.52	0.52	9	0.51	0.51	8	4x4	0.70	0.70	12	0.87	0.87	9	0.70	0.70	10	4x4	1.01	1.01	12	8.5	96	72					
8x8	0.52	0.52	9	0.51	0.51	8	48"	0.70	0.70	12	0.87	0.87	9	0.70	0.70	10	48"	1.01	1.01	12	8.5	96	72					
8x8	0.52	0.52	9	0.51	0.51	8	3x5	0.70	0.85	12	0.87	0.87	9	0.70	0.70	10	3x5	1.01	1.01	12	8.5	96	72					

FABRICATION NOTES:
1. Maximum spacing of reinforcement is 8".
2. At manufacturer's option, provide cast or cured holes or thin wall panels (KO) to the maximum diameter shown for each. When no penetration is required, it is acceptable to provide a wall with no sectional reduction.

GENERAL NOTES:
1. Precast Junction Box consists of base slab, base unit, risers (as required), and below grade slab. See sheet PJB for details.
2. Precast Base consists of base slab, base unit, risers (as required), reducing slab (as required), and reduced risers (as required). See sheet PB for details.
3. Min Height shown is for stock base units. Use stock base units whenever practical. Smaller height base units can be used in special installations as shown in detail noted elsewhere in the plans. Absolute minimum height of base units is 2'-6".

HL93 LOADING

Texas Department of Transportation

Bridge Design Standard

DESIGN DATA FOR
PRECAST BASE AND
JUNCTION BOX

PDD

FILE: CD-PDD-26-00

DATE: FEBRUARY 2020

REVISION:

DATE: FEBRUARY 2020

DESIGN: JRM

CHECK: JRM

APPROVE:

STATE:

COUNTY:

SHEET:

** Unless otherwise indicated.


FABRICATION NOTES:

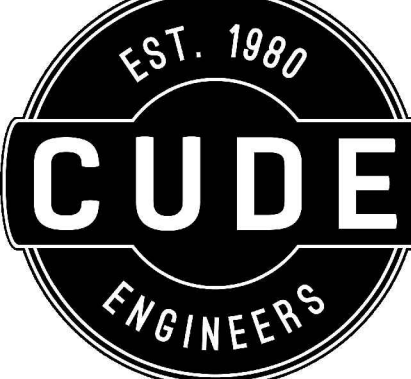
- Maximum spacing of reinforcement is 8".
- At manufacturer's option, provide cast or corod holes or thin wall panels (KO) to the maximum diameter shown for each. When no penetration is required, it is acceptable to provide a wall with no sectional reduction.

GENERAL NOTES:

- Precast Junction Box consists of base slab, base unit, risers (as required), and below grade slab. See sheet PJB for details.
- Precast Base consists of base slab, base unit, risers (as required), reducing slab (as required), and reduced risers (as required). See sheet PB for details.
- Min Height shown is for stock base units. Use stock base units whenever practical. Smaller height base units can be used in special installation circumstances, when noted elsewhere in the plans. Absolute minimum height of base units is 2'-6".

HL93 LOADING

 Texas Department of Transportation		Bridge Division Standard	
DESIGN DATA FOR PRECAST BASE AND JUNCTION BOX			
PDD			
HAUL CD-PDD-28.00		IN TADOT	IN TADOT
CD TADOT February 2020		DATE	REVISED
REVISED		COUNTY	SHEET NO.



4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F:(210) 523.7112

ACKERMAN GARDENS
UNIT 7

JUNCTION BOX DETAILS

DATE
08/05/2024
PROJECT NO.
01792.742

DRAWN BY
CG/TC/XV

CHECKED BY
XV/AL

REVISIONS

DATE
2024-07-17

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

47

48

49

50

51

52

53

54

55

56

57

58

59

60

61

62

63

64

65

66

67

68

69

70

71

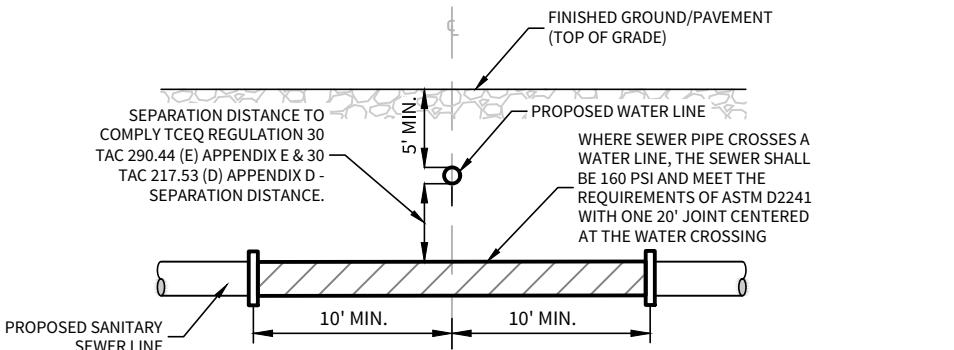
72

73

74

75

7



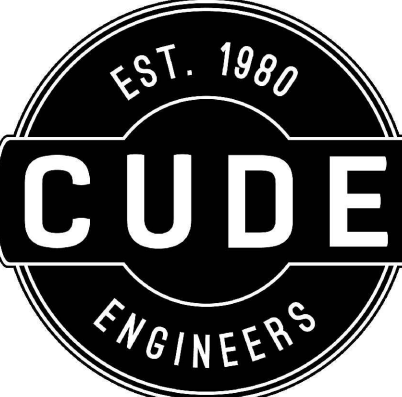
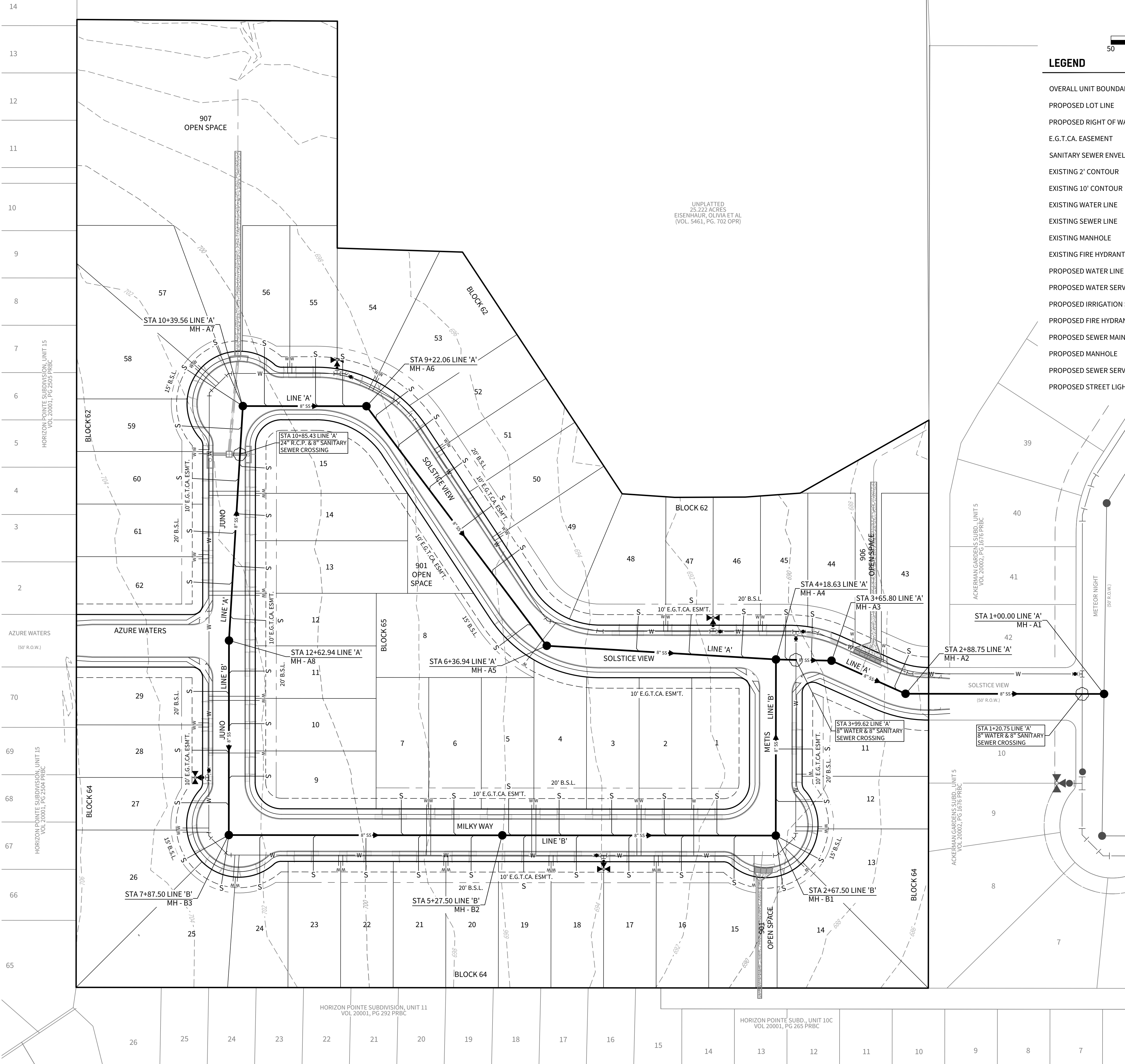
TRENCH EXCAVATION PROTECTION

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

NOTES:

1. THE LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN ON THE PLANS OR MARKED IN THE FIELD ARE UNDERSTOOD TO BE APPROXIMATE ONLY AND ALL UTILITIES MAY NOT BE SHOWN. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION AND DEPTHS OF ALL UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF ALL UTILITIES DURING CONSTRUCTION AND SHALL REPAIR ANY DAMAGE TO ANY UTILITY AT THEIR OWN EXPENSE. THE TEXAS UTILITY CODE REQUIRES THE CONTRACTOR TO CONTACT A NOTIFICATION CENTER AT LEAST 48 BUSINESS HOURS PRIOR TO DIGGING DEEPER THAN 16 INCHES, WITH LIMITED EXCEPTIONS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING 98% COMPACTION ON ALL TRENCH BACKFILL AND PAYING FOR THE TESTS TO BE PERFORMED BY A THIRD PARTY. COMPACTION TESTING WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED OR AS INDICATED BY THE SAWS INSPECTOR/TEST ADMINISTRATOR, PER EACH 12 INCH LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM. THE PROJECT WILL NOT BE ACCEPTED AND FINALIZED BY SAWS WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.
3. CONTRACTOR SHALL PRESERVE ALL CONSTRUCTION STAKES, MARKS, ETC., IF ANY STAKE, MARK, ETC. IS DESTROYED OR REMOVED BY THE CONTRACTOR OR THEIR EMPLOYEES, THEY WILL BE REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
4. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ANY AND ALL PERMITS NECESSARY FOR THE CONSTRUCTION OF THE PROJECT. SUCH PERMITS MAY INCLUDE RIGHT OF WAY PERMITS, UTILITY PERMITS, FLOODPLAIN PERMITS, TRAFFIC CONTROL PLAN PERMITS, ETC.
5. WHENEVER POWER POLES ARE ADJACENT TO THE PROPOSED TRENCH, THE CONTRACTOR SHALL PROVIDE PROPER SHORING OR BRACING DURING CONSTRUCTION OF THE TRENCH ACCORDING TO THE METHODS APPROVED BY THE APPROPRIATE UTILITY COMPANY. ANY DAMAGES INCURRED SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE AND RESTORED TO ITS ORIGINAL OR IMPROVED CONDITION TO THE SATISFACTION OF THE UTILITY OWNER.
6. A WATERTIGHT AND VENTED MANHOLE WILL BE REQUIRED AT A MINIMUM OF EVERY 1,500 LINEAR FEET AND AT THE END OF EVERY LINE FOR PROJECTS WITHIN THE EDWARDS AQUIFER RECHARGE ZONE.
7. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE PROPER CLEARANCE REQUIRED BY THE NATIONAL ELECTRICAL CODE, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), TEXAS STATE LAW VERNON'S ANNOTATED TEXAS STATUTES ARTICLE 1436 (C) PERTAINING TO CLEARANCES WHEN WORKING IN CLOSE PROXIMITY TO OVERHEAD ELECTRICAL LINES AND EQUIPMENT, AND TEXAS STATE LAW HEALTH AND SAFETY CODE CHAPTER 752 - HIGH VOLTAGE OVERHEAD LINES.
8. THE CONTRACTOR'S STORM WATER POLLUTION PREVENTION PLAN (SWPPP) SHALL INCLUDE EROSION AND SEDIMENTATION CONTROLS FOR ALL SOIL STAGING AND STORAGE AREAS.
9. THE CONTRACTOR SHALL HAVE ALL EROSION AND SEDIMENTATION CONTROL IN PLACE PRIOR TO THE START OF CONSTRUCTION.
10. THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL SWPPP MEASURES AFTER EVERY RAINFALL EVENT OR EVERY 2 WEEKS.
11. FOR ALL WATER MAIN CROSSINGS, THE CONTRACTOR SHALL INSTALL THE SEWER MAIN AND LATERALS IN ACCORDANCE WITH 30 TAC TITLE 30 CHAPTER 27 SUBCHAPTER C.
12. DROP MANHOLES MUST BE INSTALLED PER 30 TAC 217.55 (K)(2)(G)-(H).
13. ALL MANHOLES DEEPER THAN 20 FEET SHALL BE INSTALLED WITH A 6 FOOT WIDE MANHOLE IN ACCORDANCE WITH SAWS UTILITY SERVICE REGULATIONS.
14. SEWER LATERALS MUST BE A MINIMUM OF SIX INCHES WITH FULL BODY FITTINGS, EXTRUDED OR FACTORY-FABRICATED, WITH A MINIMUM 2.0% SLOPE.
15. CONTRACTOR TO INSTALL CONCRETE SADDLE ON EXISTING SANITARY SEWER LINE AT EVERY PROPOSED LATERAL PER SAWS SPECIFICATIONS.
16. WITHIN PAVED (OR FUTURE PAVED) AREAS, MANHOLES MUST BE EITHER FIBERGLASS OR PRE-CAST CONCRETE, PER SAWS STANDARD DETAILS. PRE-CAST MANHOLES MUST CONFORM TO THE LATEST ASTM REQUIREMENTS.
17. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT NO OVERFLOWS OR SPILLAGE OF SEWAGE OCCURS. THE PERSON IDENTIFIED WITH THIS RESPONSIBILITY SHALL BE ON-SITE WHEN ACTIVITIES THAT COULD RESULT IN A SPILL OR OVERFLOW ARE BEING PERFORMED. THE CONTRACTOR SHALL NOTIFY THE UTILITY PROVIDER. SHOULD AN OVERFLOW OR SPILL OCCUR CLEAN UP SHALL BE IN CONFORMANCE WITH TCEQ REGULATIONS.
18. THE CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN CONTINUOUS SEWER SERVICE FOR ALL ACTIVE SERVICE CONNECTIONS DURING CONSTRUCTION. WHEN BYPASS PUMPING IS NECESSARY, THE CONTRACTOR SHALL PROVIDE IN ACCORDANCE WITH SAWS ITEM NO. 864.
19. FOR MANHOLES WITHIN THE 5 YEAR FLOODPLAIN, MANHOLES MUST BE SHALLOW PROFILE, MONOLITHIC STRUCTURED AND ANCHORED TO SUBGRADE.
20. ALL MATERIALS AND APPURTENANCES MUST CONFORM TO SAWS' SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION AND SAWS AMTERIAL SPECIFICATIONS. PVC WASTEWATER MAINS MUST BE A MINIMUM SDR 26 (ASTM D3034).
21. WHERE A MINIMUM COVER FROM THE TOP OF THE SEWER PIPE TO THE SURFACE OF THE GROUND IS LESS THAN THREE FEET, THE WASTEWATER MAIN MUST BE ENCASED WITH 2000 PSI CONCRETE WITH A MINIMUM THICKNESS OF SIX INCHES.
22. CONTRACTOR SHALL NOTIFY THE ENGINEER A MINIMUM OF 72 HOURS PRIOR TO ANY CONSTRUCTION STAKING, MANHOLE OR SEWER MAIN TESTING.
23. ANY CAVES OR SENSITIVE GEOLOGICAL FEATURES FOUND DURING CONSTRUCTION MUST BE REPORTED TO THE ENGINEER WITHIN 24 HOURS AND TEMPORARY BMPs MUST BE INSTALLED IMMEDIATELY AROUND THE FEATURE.
24. THE CONTRACTOR SHALL REFERENCE THE APPROVED TREE PLAN FOR INFORMATION ABOUT THE PRESERVATION AND REMOVAL OF TREES IN THE VICINITY OF THE PROJECT WORK AREAS. THE CONTRACTOR IS REQUIRED TO CONDUCT ANY AND ALL PRECONSTRUCTION MEETINGS AND INSTALL ALL APPROPRIATE PROTECTION FENCING PRIOR TO THE START OF CONSTRUCTION.
25. THE CONTRACTOR IS REQUIRED TO PROVIDE ACCESS TO ALL ADJACENT HOMEOWNERS AND DRIVEWAYS AT ALL TIMES.
26. THE CONTRACTOR IS REQUIRED TO NOTIFY INDIVIDUAL PROPERTY OWNERS A MINIMUM OF 48 HOURS PRIOR TO ACCESSING THEIR PROPERTY WITHIN THE PROJECT EASEMENT.
27. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING 85% REVEGETATION OF ALL LIMITS OF THE PROJECT EASEMENT AND/OR RIGHT OF WAY DISTURBED LIMITS. PLEASE REFERENCE ITEM 520 HYDROMULCHING FROM THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR CONSTRUCTION.
28. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING POSITIVE DRAINAGE AT ALL TIMES DURING CONSTRUCTION.
29. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL OR BETTER CONDITION, ANY DAMAGES DONE TO EXISTING FENCES, CONCRETE ISLANDS, STREET PAVING, CURBS, LANDSCAPING OR DRIVEWAYS, FIRE HYDRANTS, VALVES, RIGHT WAY MONUMENTS, GATES, ETC.
30. THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING THE TRAFFIC CONTROL PLAN IN ACCORDANCE WITH MUTCD STANDARDS. THE CONTRACTOR SHALL COORDINATE WITH THE JURISDICTIONAL INSPECTOR TO DETERMINE PROJECT WORK HOURS PRIOR TO THE START OF CONSTRUCTION WITHIN THE RIGHT OF WAY.
31. EDWARDS AQUIFER RECHARGE ZONE AND CONTRIBUTING ZONE BOUNDARIES SHOWN ARE BASED ON GIS DATA PROVIDED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

SAN ANTONIO WATER SYSTEM	233-2010
COSA DRAINAGE	207-2800
CITY SIDEWALK AND TRENCHING DIVISION	821-3240
COSA TRAFFIC SIGNAL OPERATIONS	207-7765
TEXAS STATE WIDE ONE CALL LOCATOR	1-800-545-6005
CITY PUBLIC SERVICE	-
AT&T	-
TIME WARNER CABLE	-
VALEKO ENERGY CO.	-
GREY FOREST UTILITIES	-



4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F:(210) 523.7112

ACKERMAN GARDENS

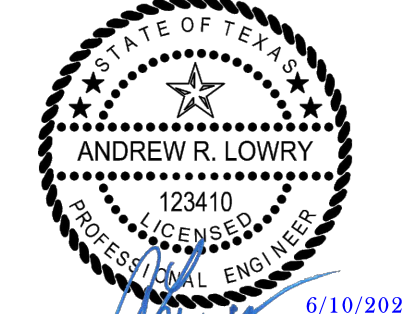
UNIT 7

OVERALL SANITARY SEWER PLAN

REVISIONS

DATE

1 2 3 4 5 6 7 8 9

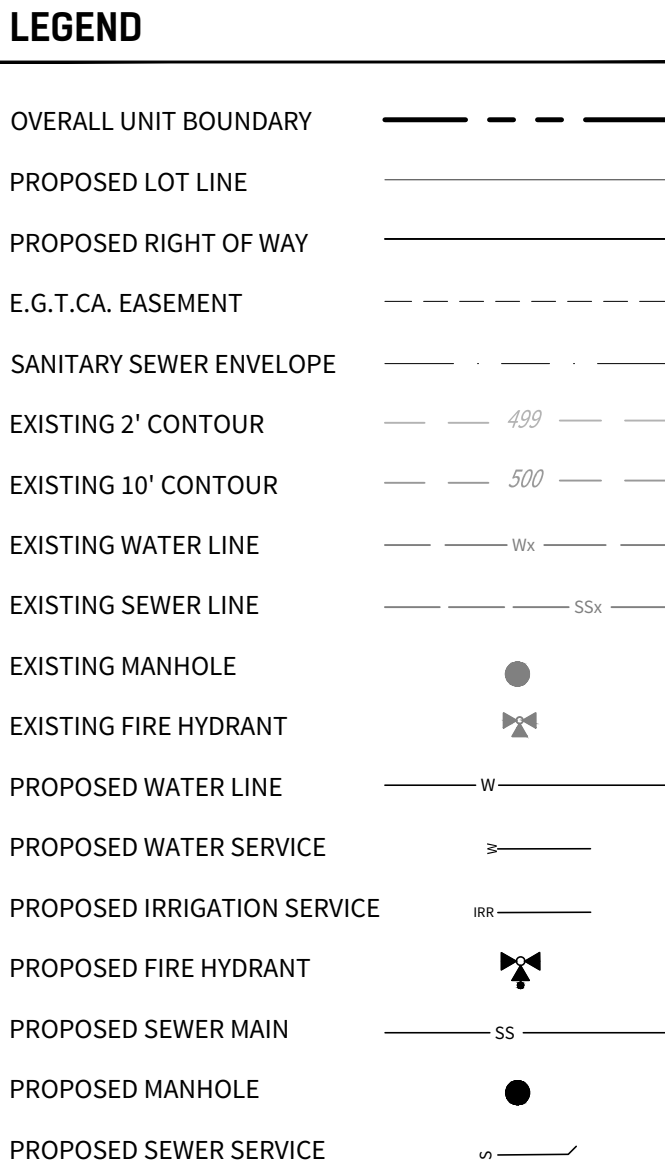
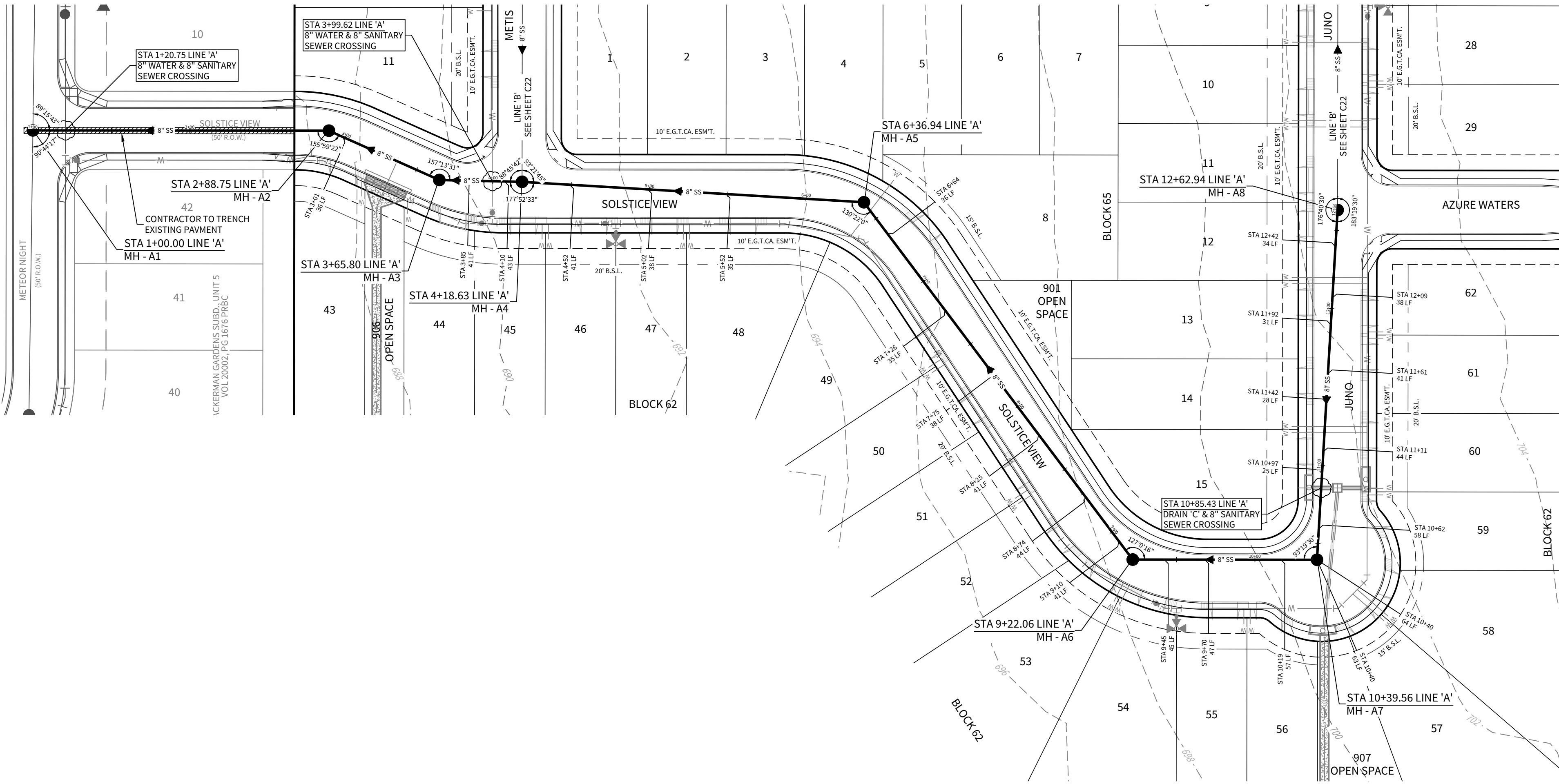
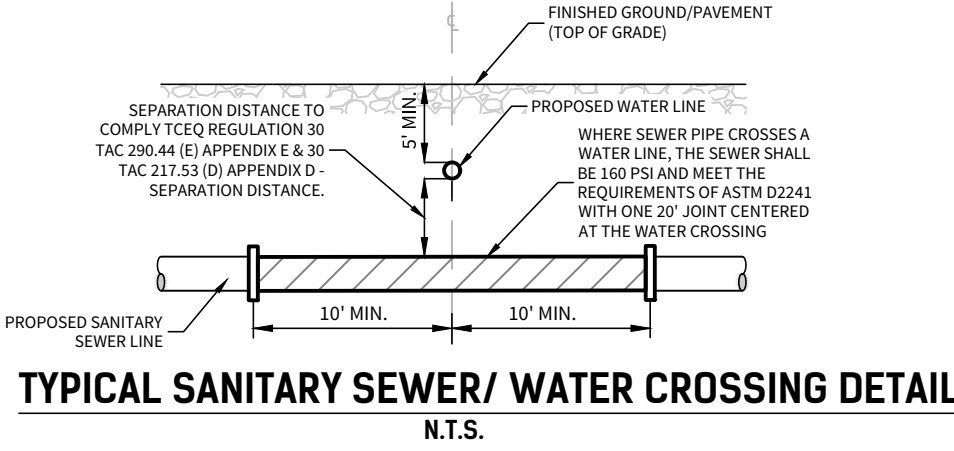


CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

PLAT NO.
24-11800121

C20

© 2024 A.W. CUDE ENGINEERS, LLC. THIS DOCUMENT, ANY PORTION THEREOF, AND ANY ASSOCIATED COPYRIGHTS SHALL REMAIN THE PROPERTY OF A.W. CUDE ENGINEERS, LLC. THIS DOCUMENT MAY NOT BE REPRODUCED, USED, OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS TO ANYONE FOR ANY OTHER ENDORSEMENT WITHOUT THE PRIOR WRITTEN CONSENT OF, AND ADAPTATION BY, A.W. CUDE ENGINEERS, LLC. THIS DOCUMENT IS NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR USE OTHER THAN AS ORIGINALLY INTENDED BY A.W. CUDE ENGINEERS, LLC AND ANY UNAUTHORIZED REPRODUCTION, USE OR DISTRIBUTION OF SAID DOCUMENTS WILL BE AT THE INFRINGING PARTY'S SOLE RISK, WITHOUT ANY LIABILITY TO A.W. CUDE ENGINEERS, LLC, AND WILL BE USED AGAINST ANY AND ALL PARTIES TO THE FULLEST EXTENT PERMITTED BY LAW.

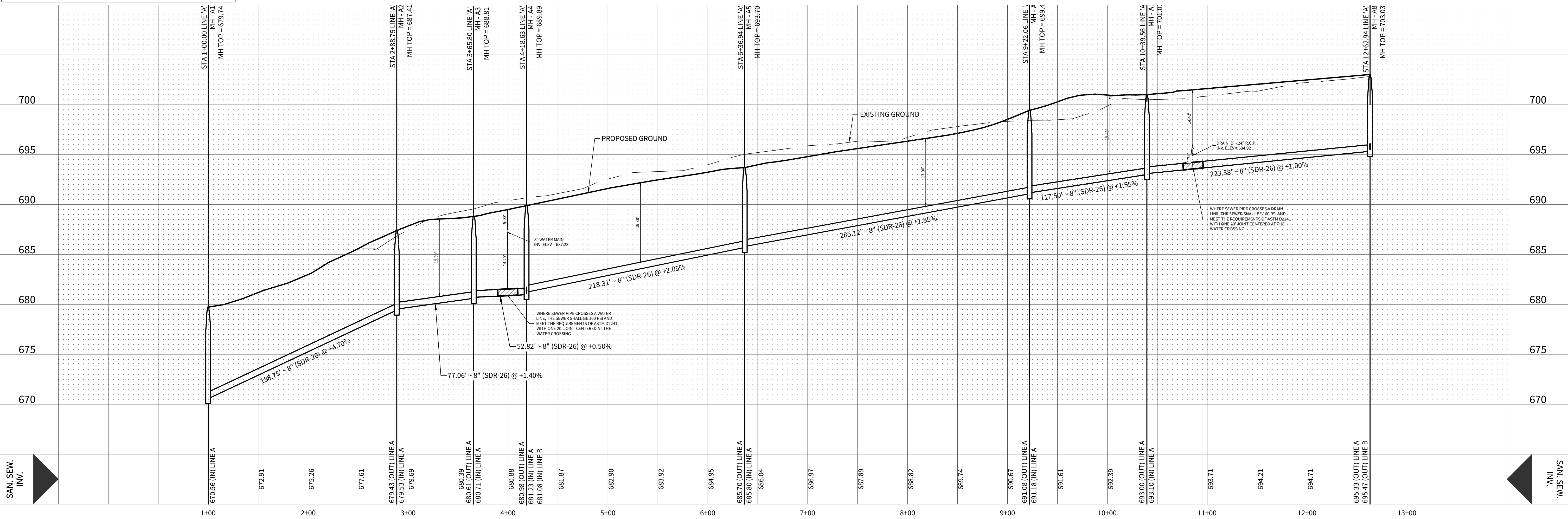


TRENCH EXCAVATION PROTECTION

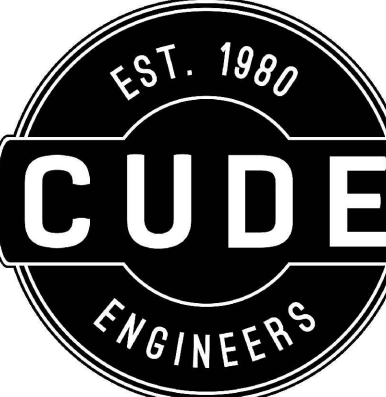
CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEES OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

LINE A

STA. 1+00.00 TO STA. 12+62.94



CUDEENGINEERS.COM



4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F:(210) 523.7112

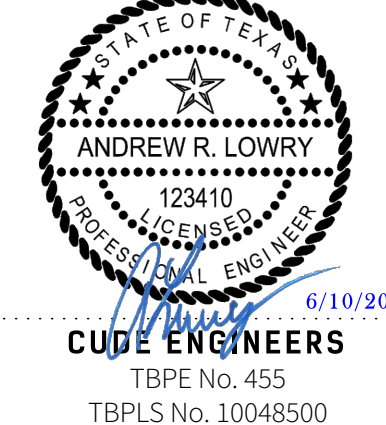
ACKERMAN GARDENS

UNIT 7

SANITARY SEWER PLAN & PROFILE LINE A

DATE
06/10/2024
PROJECT NO.
01792.742
DRAWN BY
CG/TCD/XV
CHECKED BY
XV/AL

REVISIONS
DATE
1 2 3 4 5 6 7 8 9



CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

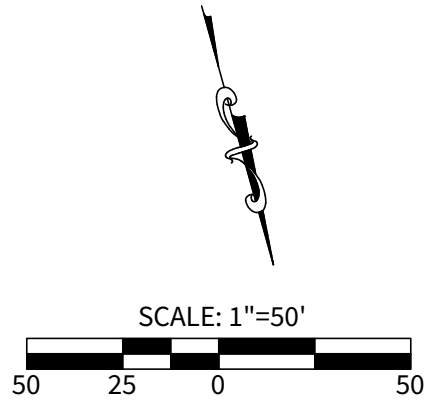
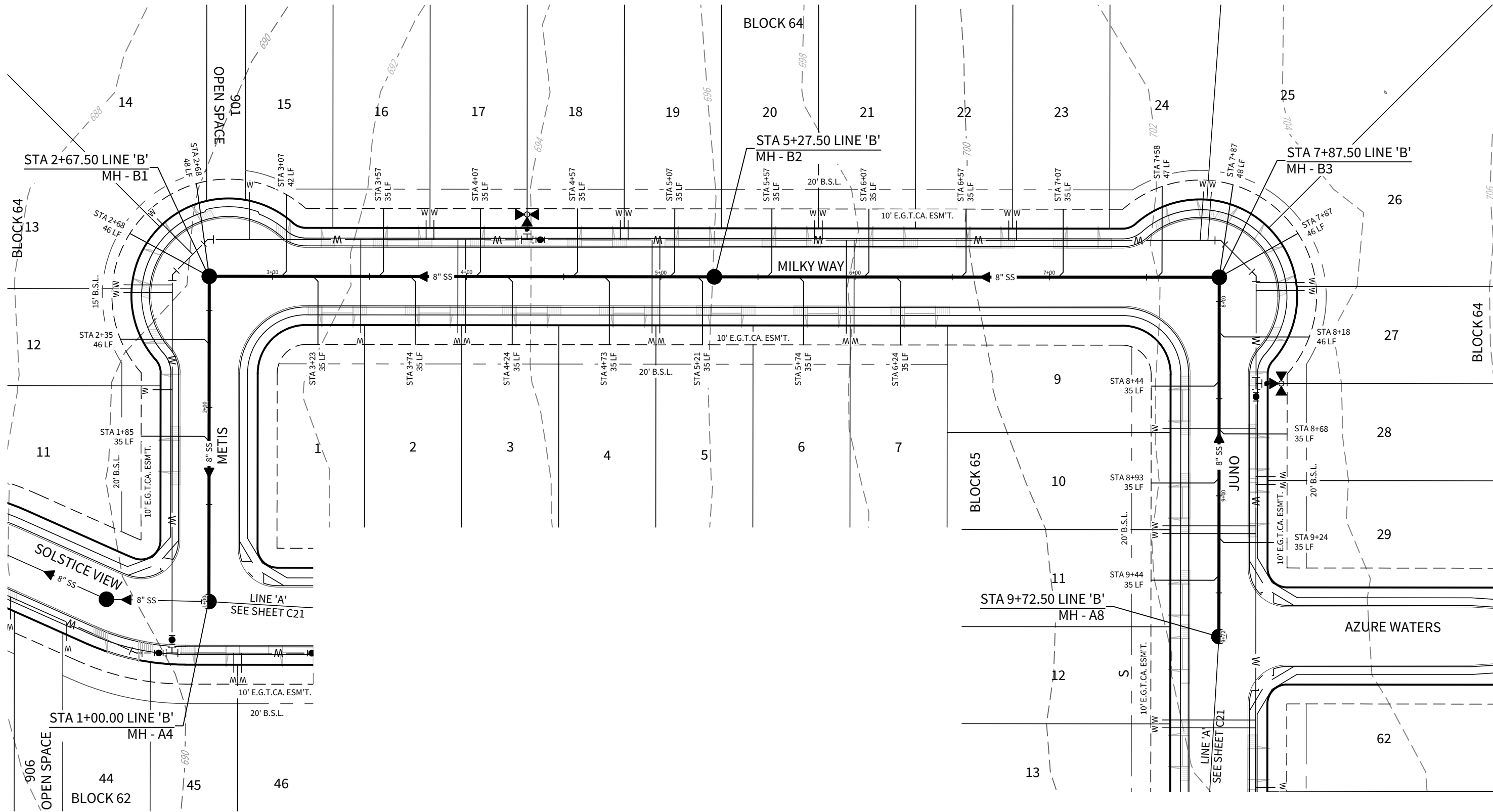
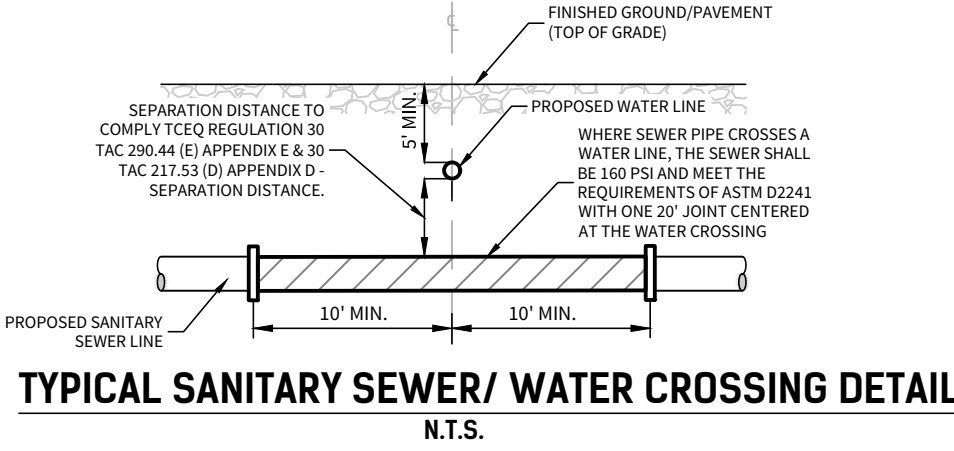
PLAT NO.
24-11800121

C21

CUDEENGINEERS.COM

REPRODUCTION OF THE ORIGINAL SIGNED AND SEALED PLAN AND/OR ELECTRONIC MEDIA MAY HAVE BEEN INADVERTENTLY ALTERED. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE SCALE OF THE DOCUMENT AND CONTACTING CUDE ENGINEERS TO VERIFY DISCREPANCIES PRIOR TO CONSTRUCTION.

© 2024 A.W. CUDE ENGINEERS, LLC - THIS DOCUMENT, ANY PORTION THEREOF, AND ANY ASSOCIATED COPYRIGHTS SHALL REMAIN THE PROPERTY OF A.W. CUDE ENGINEERS, LLC. THIS DOCUMENT MAY NOT BE REPRODUCED, USED, OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS TO ANYONE FOR ANY OTHER ENDORSEMENT WITHOUT THE PRIOR WRITTEN CONSENT OF, AND ADAPTATION BY, A.W. CUDE ENGINEERS, LLC. THIS DOCUMENT IS NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR USE OTHER THAN AS ORIGINALLY INTENDED BY A.W. CUDE ENGINEERS, LLC AND ANY UNAUTHORIZED REPRODUCTION, USE OR DISTRIBUTION OF SAID DOCUMENTS WILL BE AT THE INFRINGING PARTY'S SOLE RISK, WITHOUT ANY LIABILITY TO A.W. CUDE ENGINEERS, LLC, AND WILL BE USED AGAINST ANY AND ALL PARTIES TO THE GREATEST EXTENT PERMITTED BY LAW.



LEGEND	
OVERALL UNIT BOUNDARY	---
PROPOSED LOT LINE	---
PROPOSED RIGHT OF WAY	---
E.G.T.CA. EASEMENT	---
SANITARY SEWER ENVELOPE	---
EXISTING 2' CONTOUR	---
EXISTING 10' CONTOUR	---
EXISTING WATER LINE	---
EXISTING SEWER LINE	---
EXISTING MANHOLE	●
EXISTING FIRE HYDRANT	⋈
PROPOSED WATER LINE	W
PROPOSED WATER SERVICE	---
PROPOSED IRRIGATION SERVICE	IRR
PROPOSED FIRE HYDRANT	⋈
PROPOSED SEWER MAIN	SS
PROPOSED MANHOLE	●
PROPOSED SEWER SERVICE	---
PROPOSED STREET LIGHT	⦿

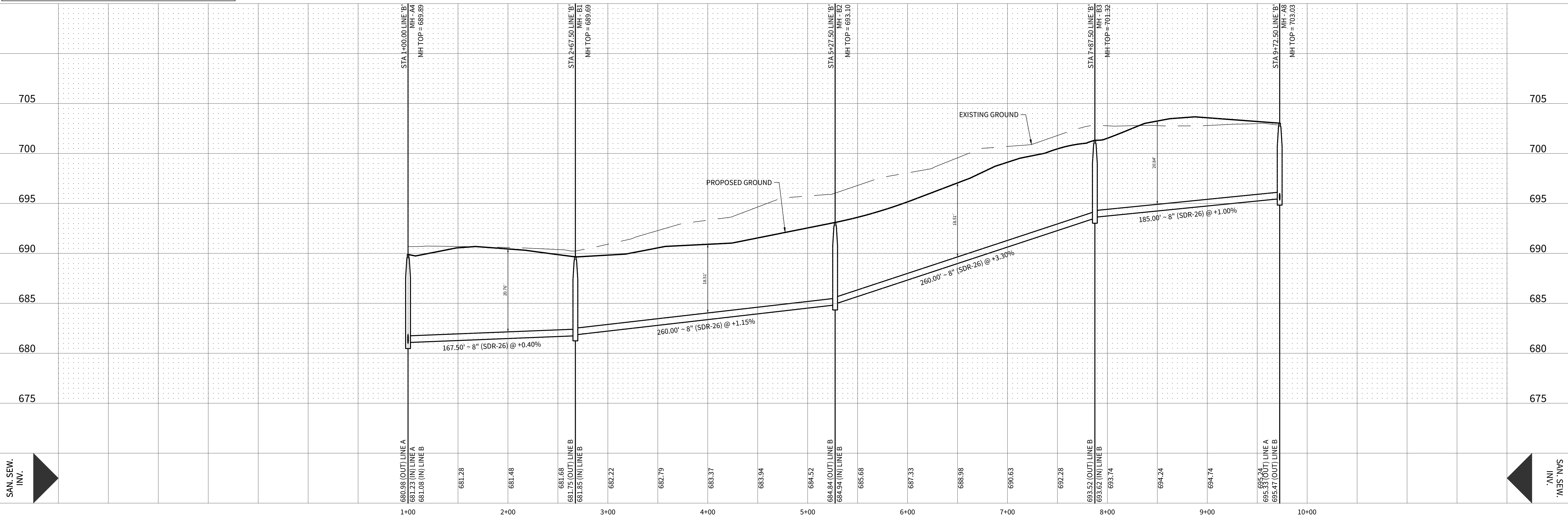
TRENCH EXCAVATION PROTECTION

CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

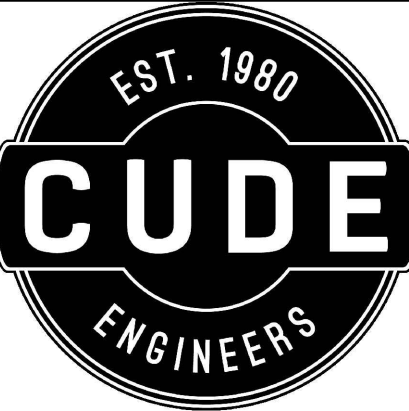
LINE B

STA. 1+00.00 TO STA. 9+72.50

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



CUDEENGINEERS.COM



4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F:(210) 523.7112

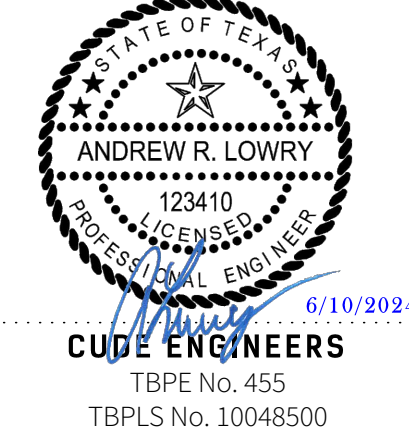
ACKERMAN GARDENS

UNIT 7

SANITARY SEWER PLAN & PROFILE LINE B

DATE	06/10/2024
PROJECT NO.	01792.742
DRAWN BY	CG/TCD/XV
CHECKED BY	XV/AL

REVISIONS	DATE
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9



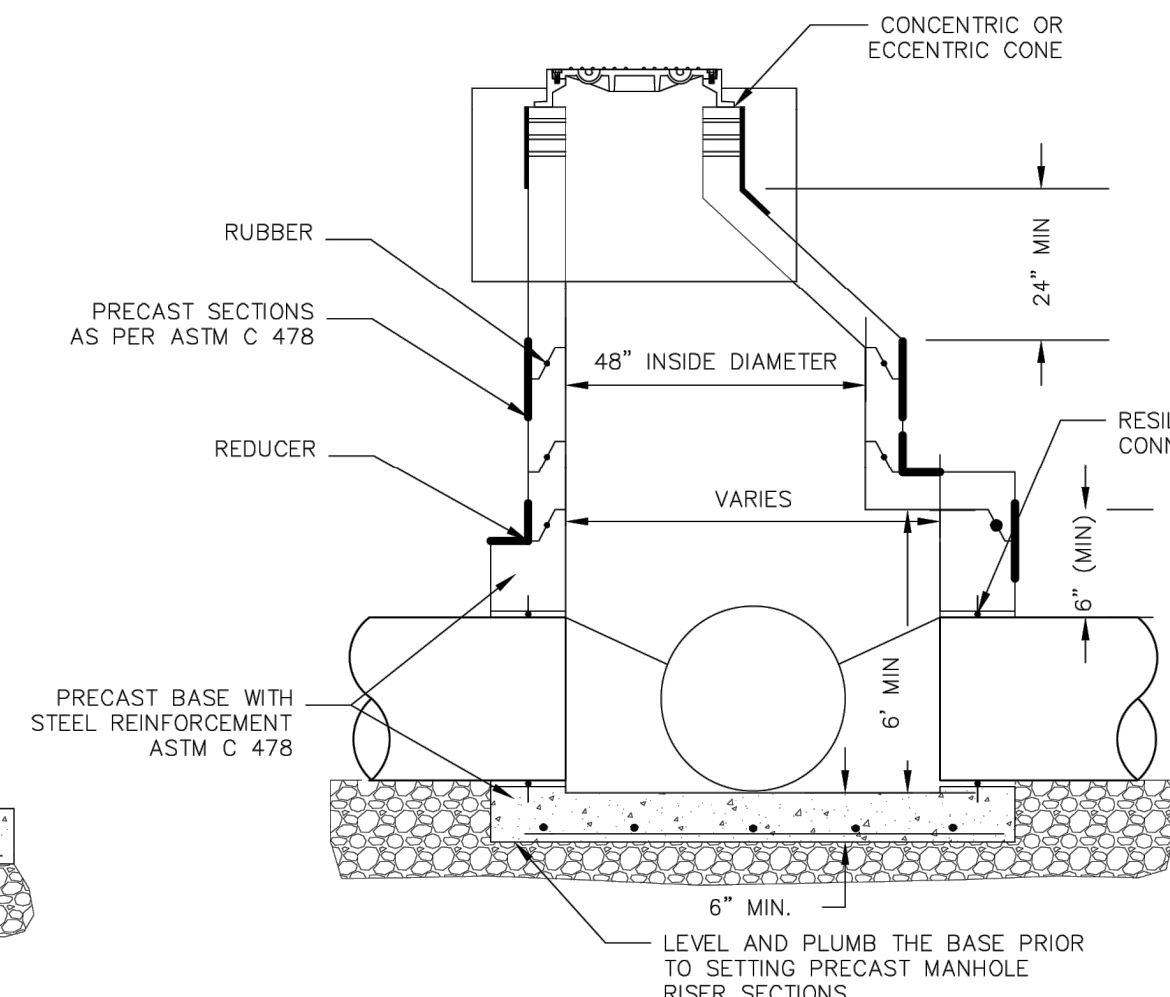
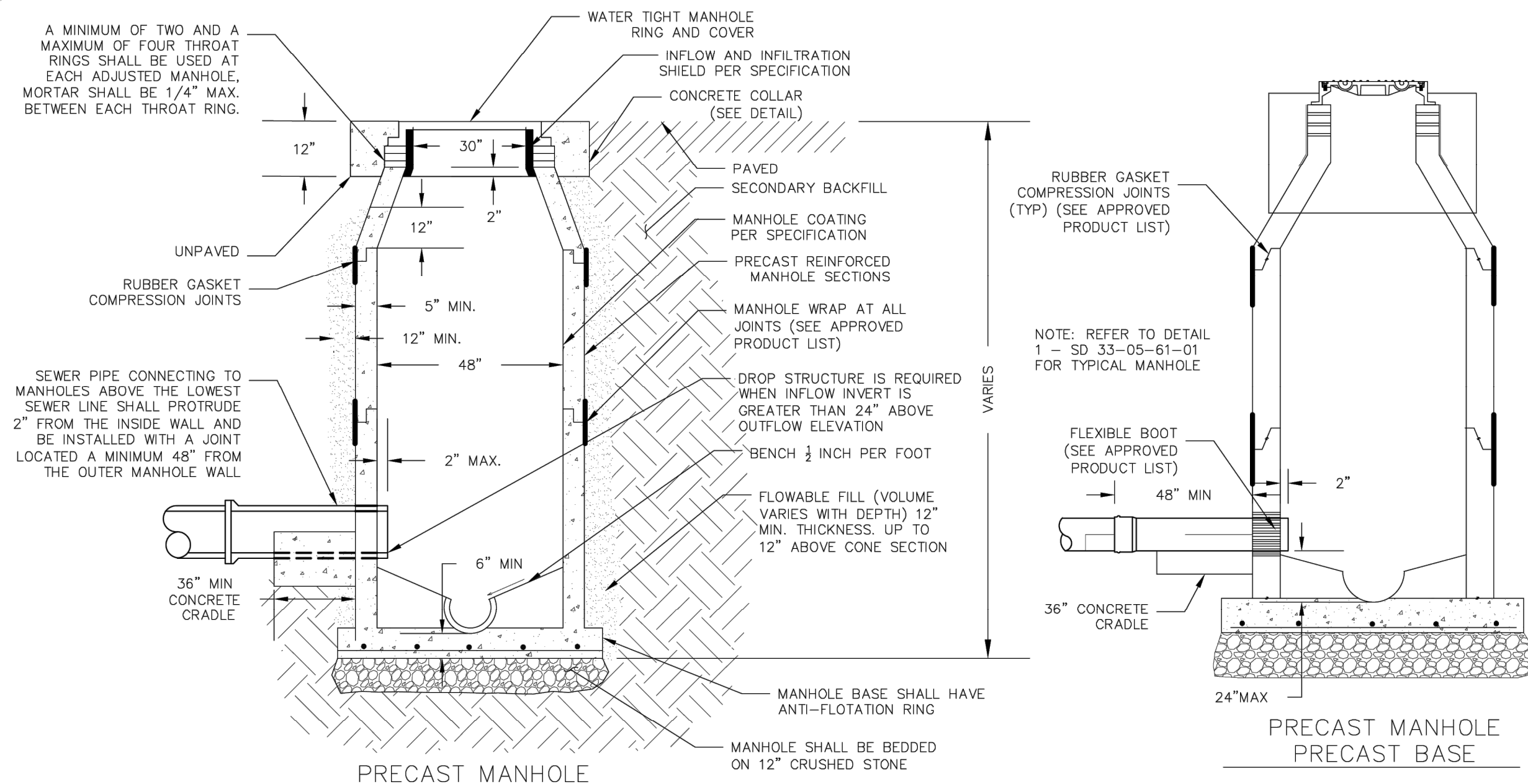
CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

PLAT NO.
24-11800121

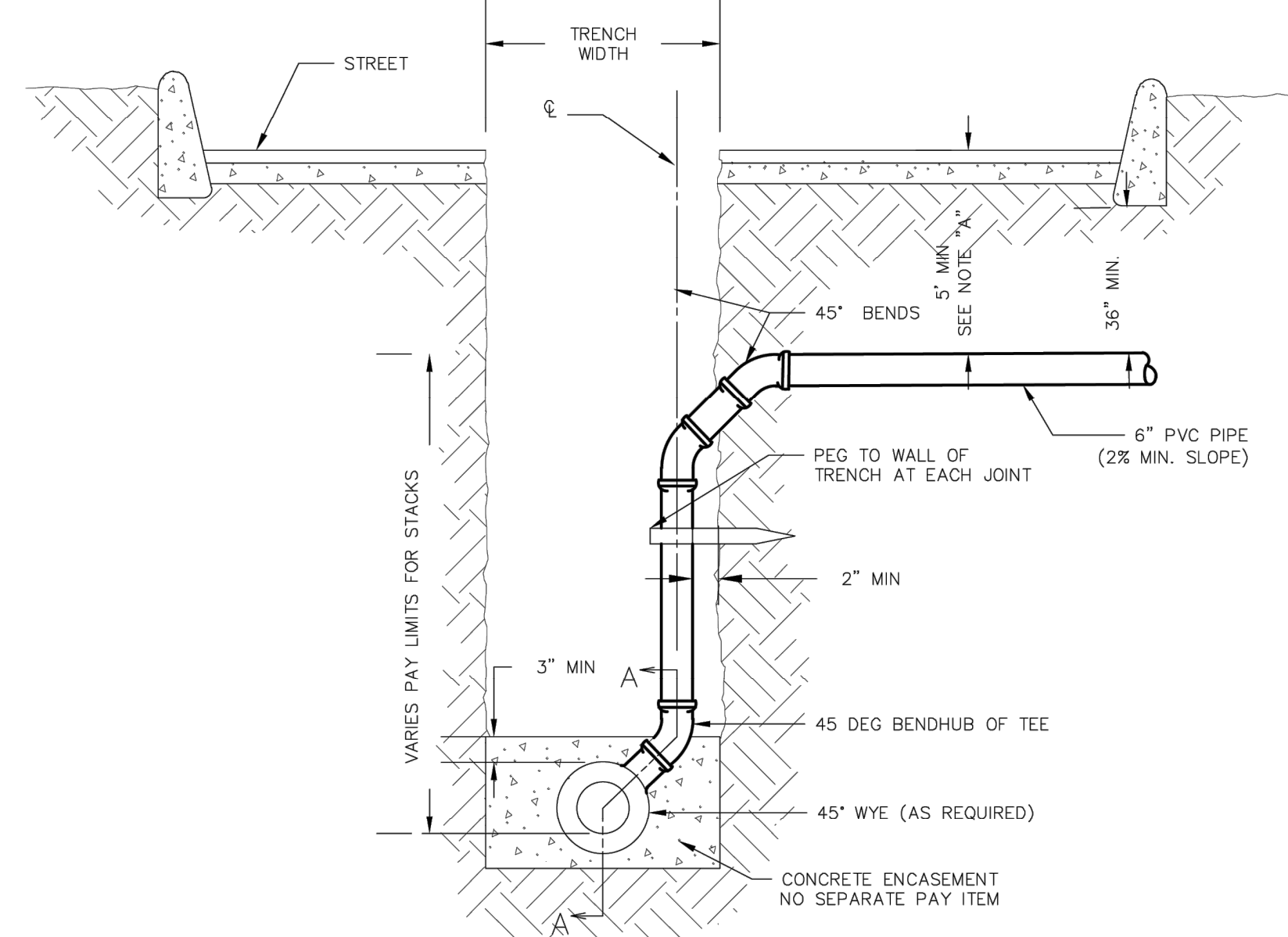
C22

CUDEENGINEERS.COM

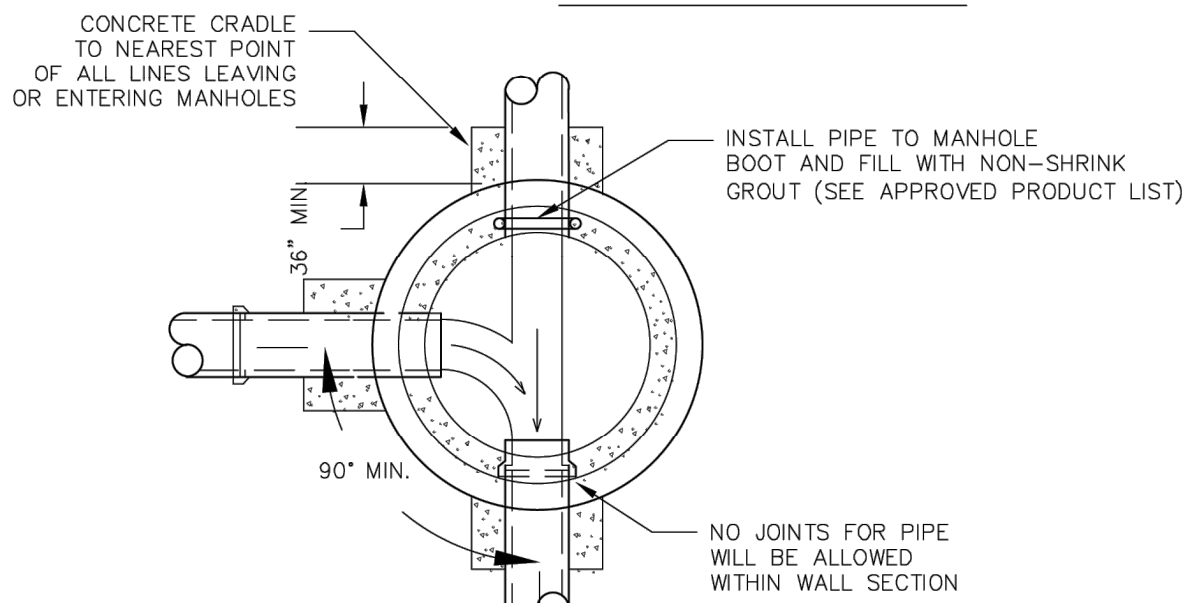
REPRODUCTION OF THE ORIGINAL SIGNED AND SEALED PLAN AND/OR ELECTRONIC MEDIA MAY HAVE BEEN INADVERTENTLY ALTERED. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE SCALE OF THE DOCUMENT AND CONTACTING CUDE ENGINEERS TO VERIFY DISCREPANCIES PRIOR TO CONSTRUCTION.



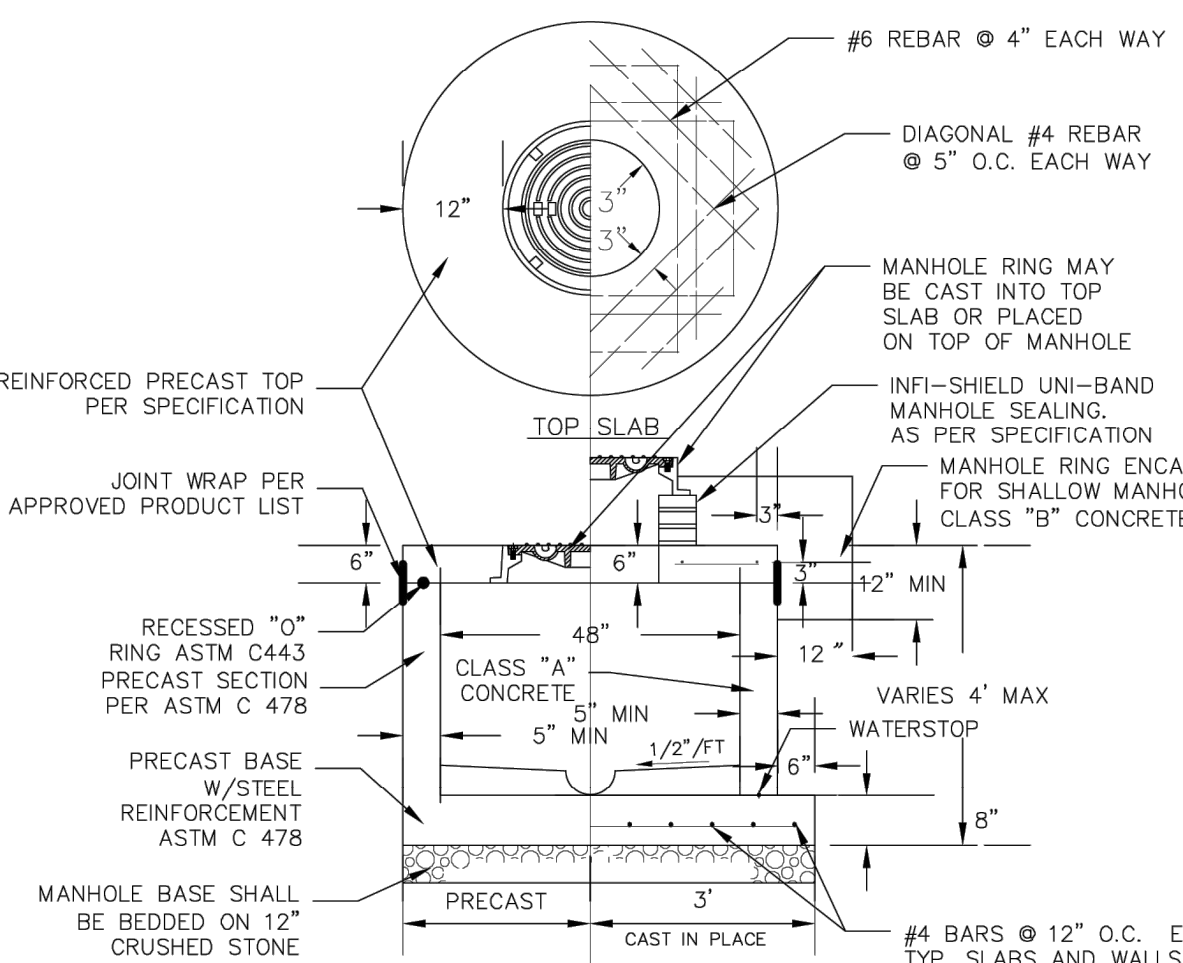
PRECAST MANHOLE ON PRECAST BASE
FOR PIPE SIZES 24" AND LARGER



VERTICAL STACK DETAIL



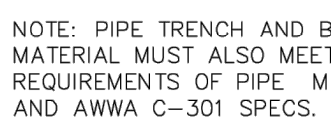
MANHOLE FLOOR PLAN



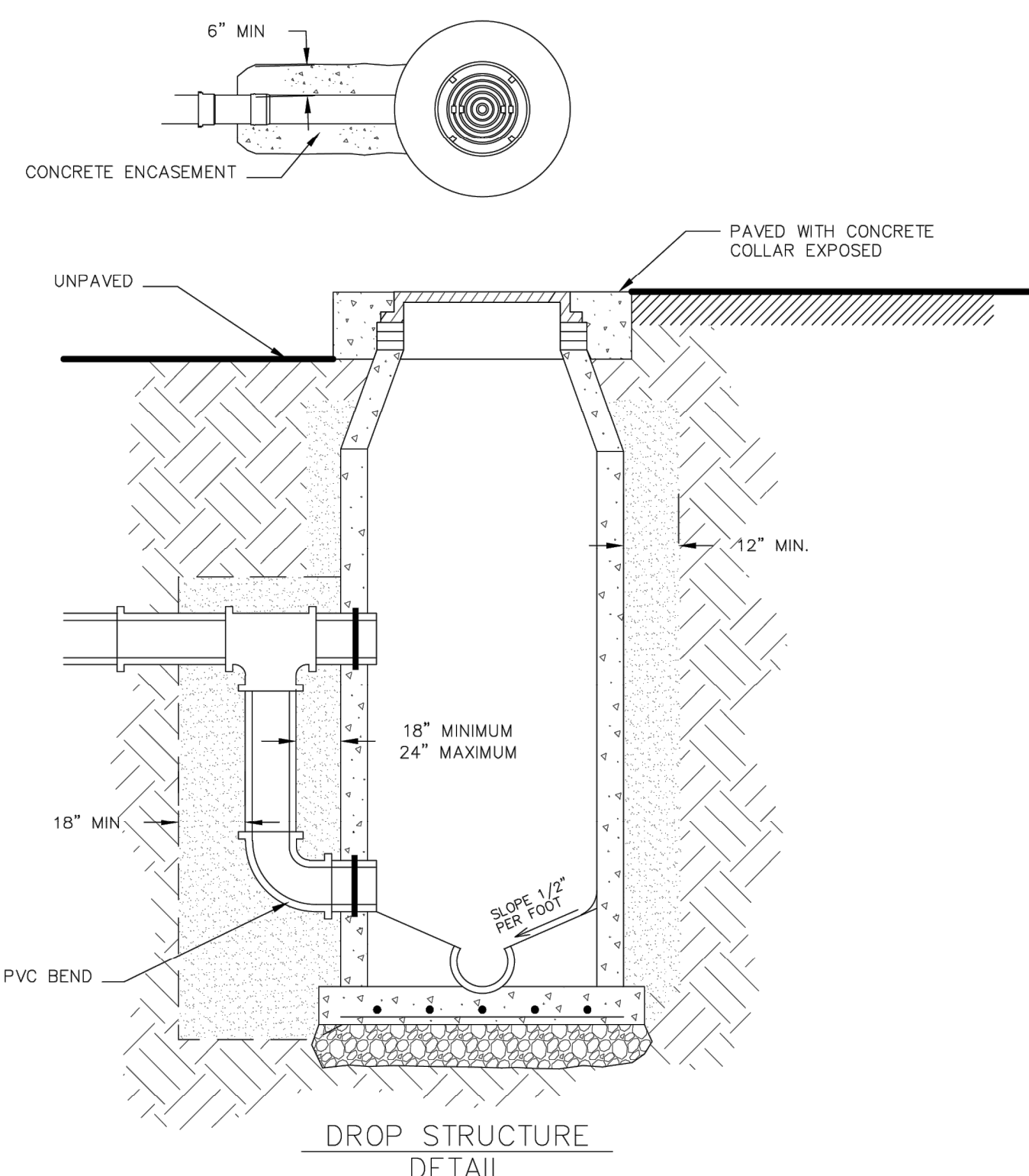
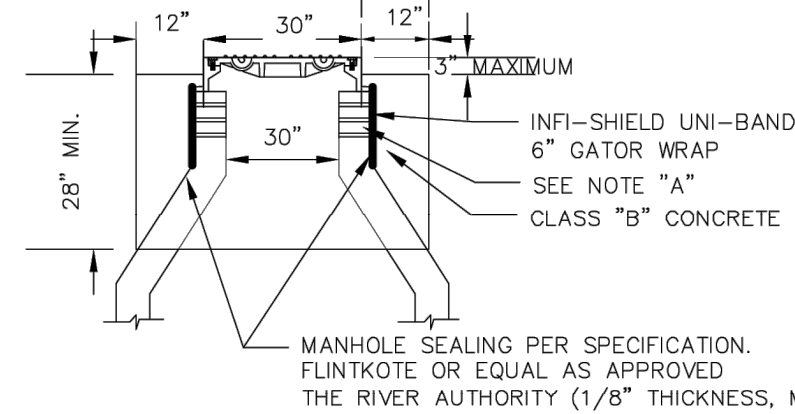
SHALLOW MANHOLE

MANHOLE DIA	0\"/>
-------------	-------

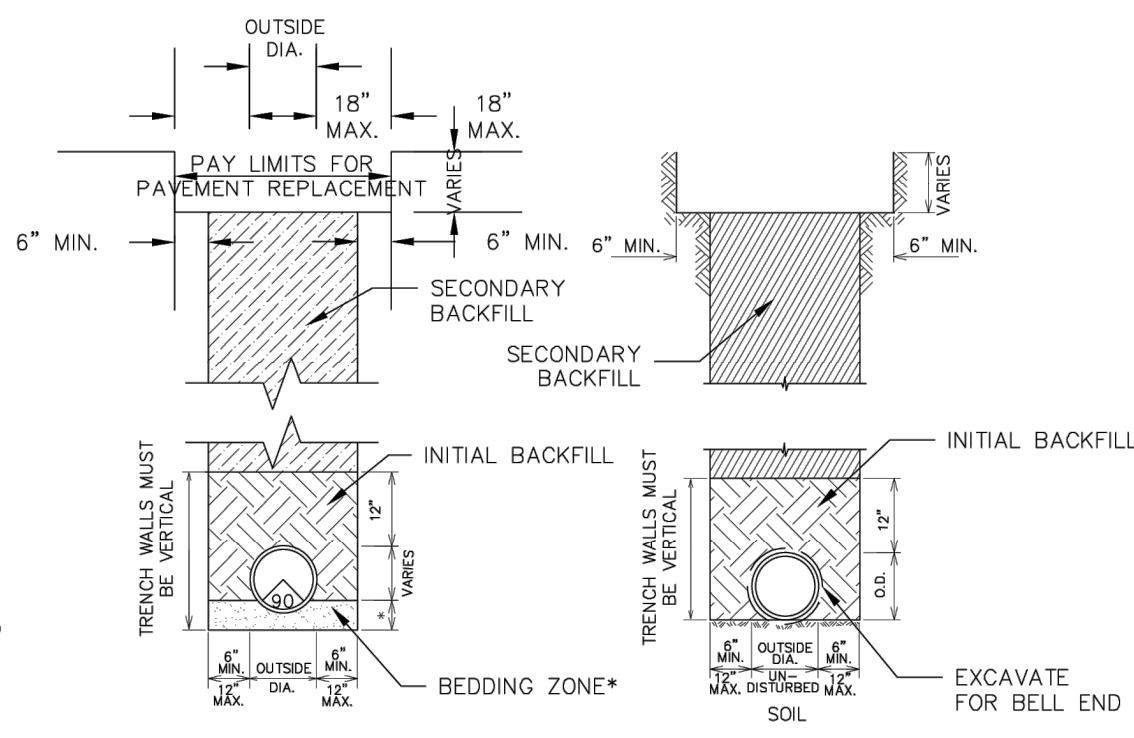
PRECAST MANHOLE ON
PRECAST BASE-PLAN



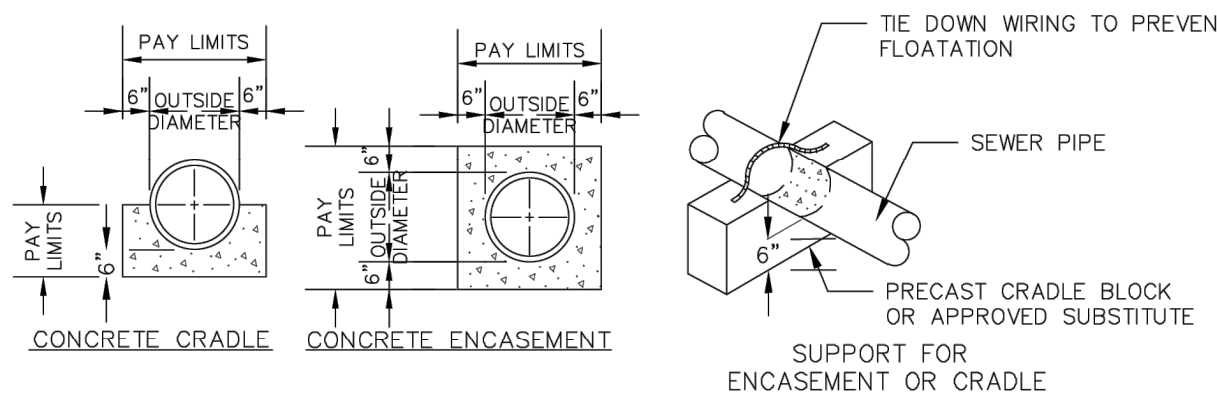
NOTE: PIPE TRENCH AND BEDDING MATERIAL MUST ALSO MEET ANY REQUIREMENTS OF PIPE MANUFACTURER AND AWWA C-301 SPECS.



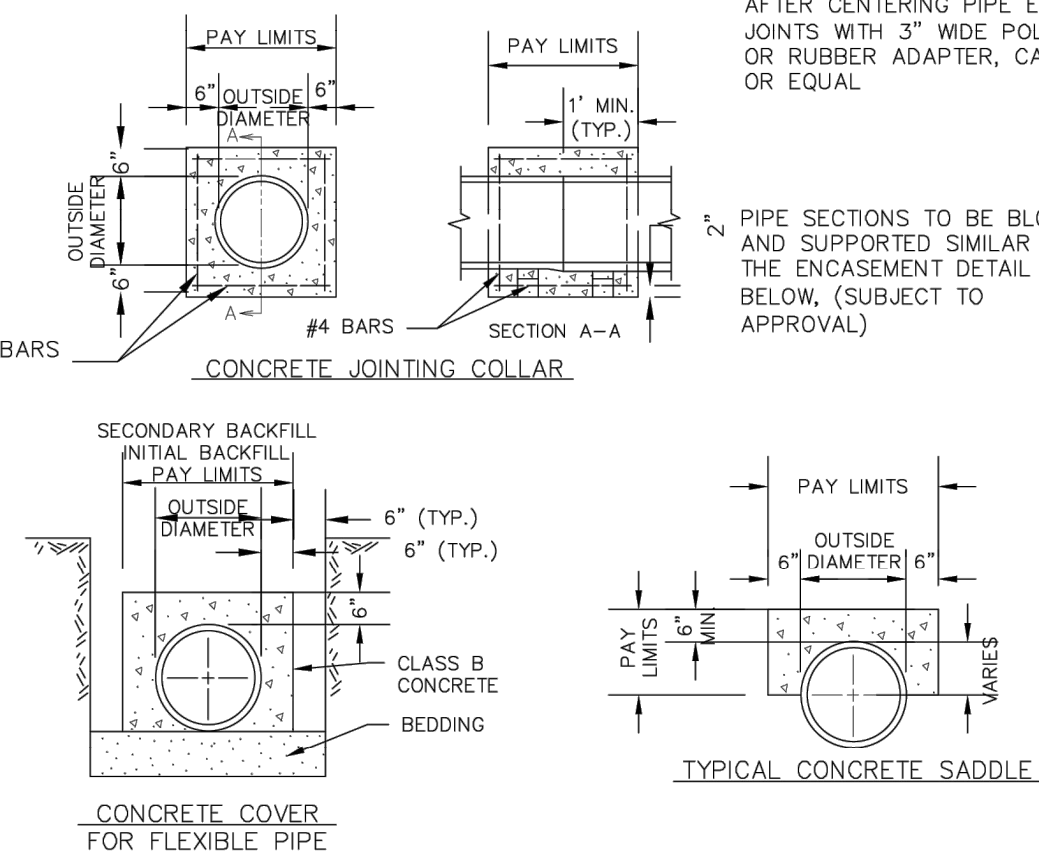
DROP STRUCTURE
DETAIL



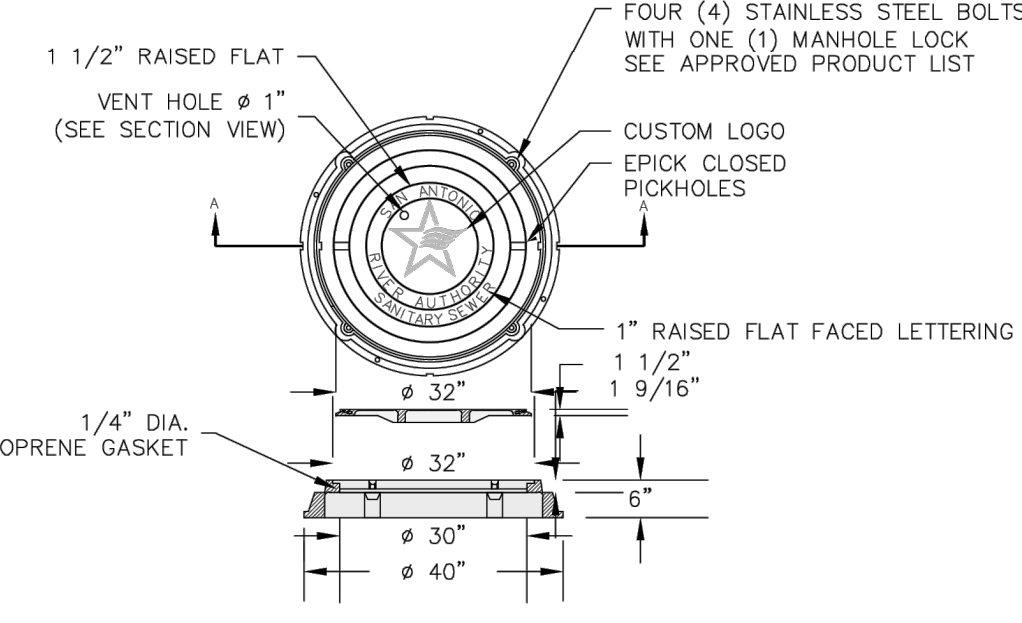
- * SEWER GRAVEL 12" MIN. OR 1/8 O.D. OF THE PIPE, WHICHEVER IS GREATER AS DIRECTED BY THE RIVER AUTHORITY
- 1) RIGID PIPE - UNSTABLE OR UNACCEPTABLE CONDITIONS FLEXIBLE PIPE - ALL CONDITIONS
- * IN AREAS OF OVER EXCAVATION, ENCASEMENT SHALL EXTEND FROM TRENCH WALL TO TRENCH WALL. PAY LIMITS SHALL NOT EXCEED 12" MAX. AS SHOWN ON DETAIL. ADDITIONAL ENCASEMENT SHALL BE INCIDENTAL.
- 2) RIGID PIPE - EXISTING STABLE BEDDING CONDITIONS



- NOTES:
- 1) ALL CONCRETE ENCASEMENT SHALL BE POURED AT A PLANE 6" ABOVE THE PIPE BETWEEN EXCAVATED TRENCH WALLS.
- 2) ALL SEWER PIPE WITH LESS THAN 3' OF COVER TO SUBGRADE SHALL BE CONCRETE ENCASED.
- 3) ALL FORCE MAINS SHALL BE PROVIDED WITH THRUST BLOCKS, WHERE CHANGES IN DIRECTION OCCUR, AT TEES, BENDS, CROSSES, CHANGES IN SIZE, STOPS, OR AS DIRECTED BY SARA.

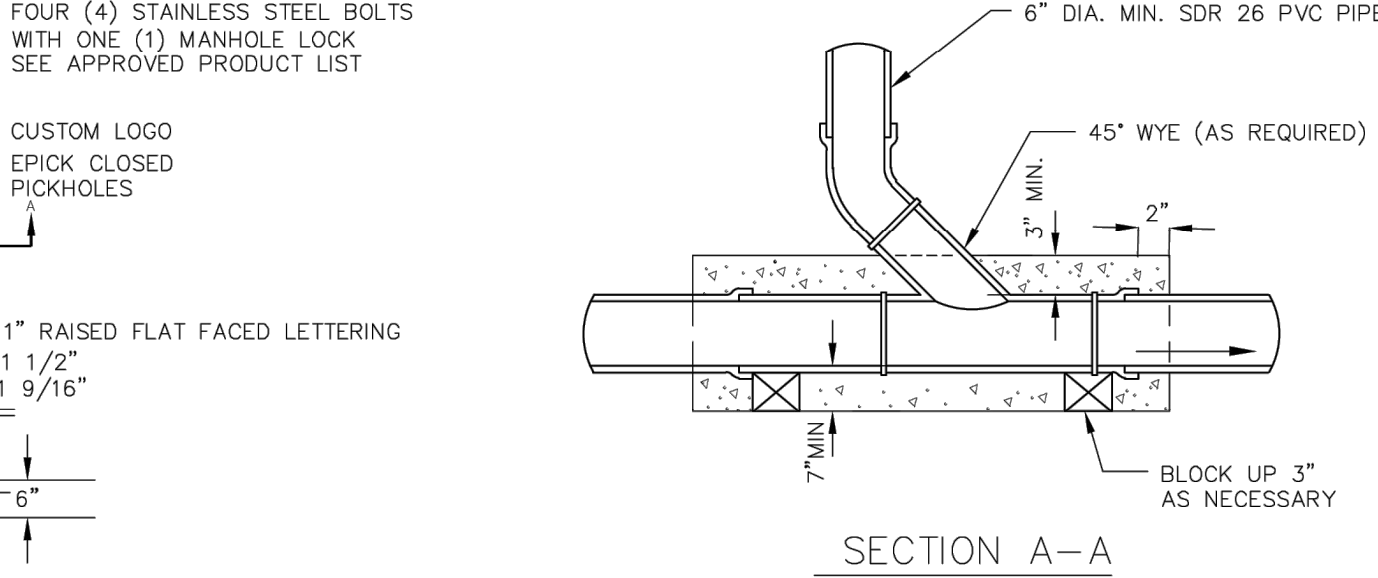


TO BE USED WHEREVER TRENCH WIDTH IS GREATER THAN TWO FEET (2') PLUS O.D.



WATERTIGHT MANHOLE
INSERT DETAIL

- NOTES:
- 1. DEPTH OF HOUSE LATERAL SHALL FOLLOW ALL APPLICABLE LOCAL BUILDING REQUIREMENTS WITHIN PRIVATE PROPERTY. DEPTH SHALL BE 36" MINIMUM IN PUBLIC RIGHT OF WAY. IF COVER CANNOT BE MAINTAINED, LATERALS SHALL BE CONCRETE ENCASED.
- 2. DEPTH AND GRADE OF SERVICE LATERALS AS SHOWN, ARE NOT TO SCALE. ACTUAL DEPTH, ALIGNMENT AND GRADE OF SERVICE LATERALS SHALL BE DETERMINED BY THE ENGINEER BASED ON THE ELEVATIONS OF THE SEWER MAIN, STREET, NATURAL GROUND AND BUILDING TO BE SERVICED.



SECTION A-A

NOTE:

- 1. MANHOLE RING ENCASEMENT (COLLAR) REQUIRED ON ALL MANHOLES. SEE DETAIL.

SAN ANTONIO
RIVER AUTHORITY
100 F. CUENTER STREET
SAN ANTONIO, TEXAS 78283



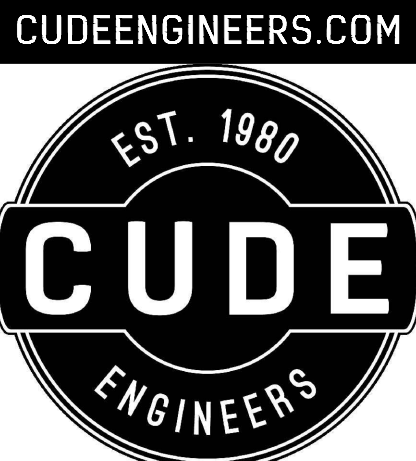
DESIGNED BY: _____
DRAWN BY: _____
CHECKED BY: _____
APPROVED BY: _____
DATE: _____ FILE: _____

NO.	REVISION	DATE	BY

REVISED
10/2/2023

STANDARD
SANITARY
SEWER DETAILS

SHEET
5 OF 5

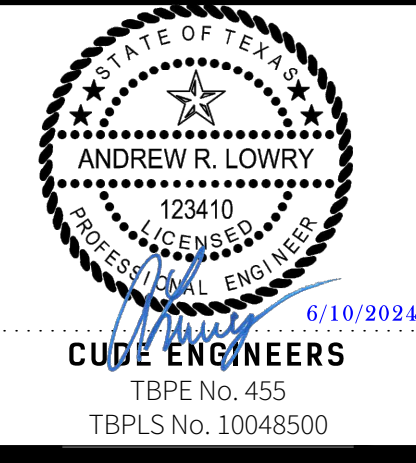


4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F:(210) 523.7112

ACKERMAN GARDENS
UNIT 7
SANITARY SEWER STANDARD DETAILS

DATE
06/10/2024
PROJECT NO.
01792.742
DRAWN BY
CG/TCD/XV
CHECKED BY
XV/AL

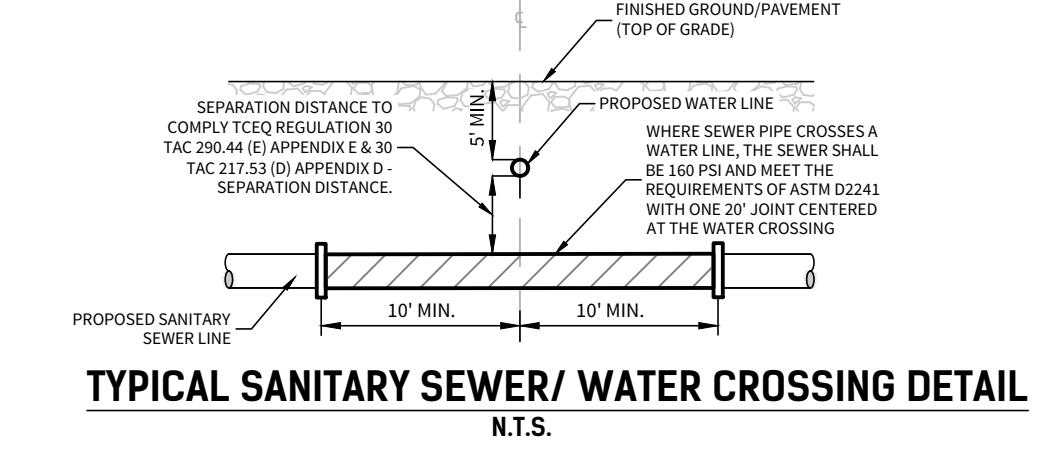
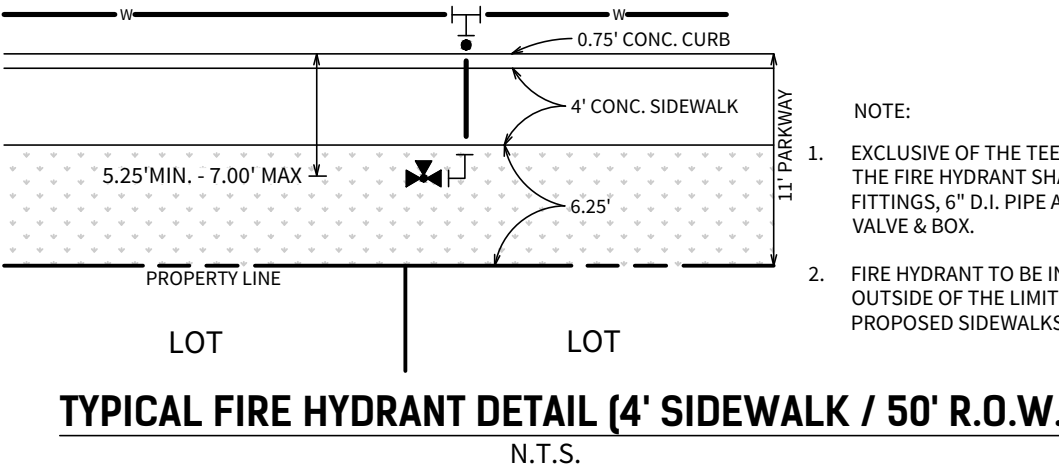
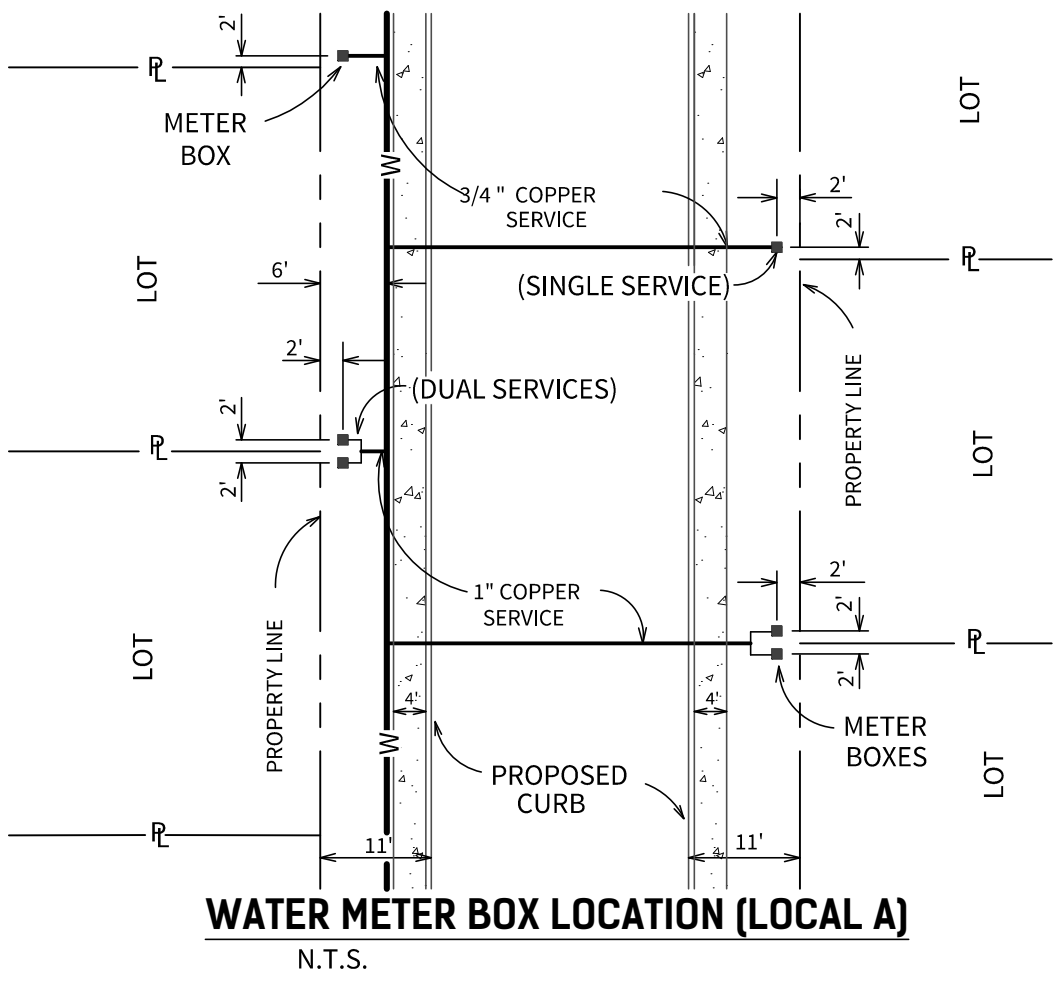
DATE	REVISIONS



PLAT NO.
24-11800121

C23

CUDEENGINEERS.COM



NOTES

STRUCTURES SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION AND DEPTHS OF UNDERGROUND UTILITIES AT LEAST 48 HOURS PRIOR TO

SAN ANTONIO WATER SYSTEM	233-2010
COSA DRAINAGE	207-2800
CITY SIDEWALK AND TRENCHING DIVISION	821-3240
COSA TRAFFIC SIGNAL OPERATIONS	207-7765
TEXAS STATE WIDE ONE CALL LOCATOR	1-800-545-6005
C.P.S. ENERGY	*****
TIME WARNER CABLE	*****
VALERO ENERGY CO.	*****

AT&T AND TIME WARNER CABLE LINES TO GO IN JOINT TRENCH WITH C.P.S. ENERGY LOTS WITH SHALL HAVE WATER METER PLACED 5' FROM PROPERTY LINE WHERE THE CONFLICT OCCURS.

NOTE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING 98% COMPACTION ON ALL TRENCH BACKFILL AND PAYING FOR THE TESTS TO BE PERFORMED BY A THIRD PARTY. COMPACTION TEST WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED OR AS INDICATED BY THE SAWS INSPECTOR/TEST ADMINISTER, PER EACH 12-INCH LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM. THIS PROJECT WILL NOT BE ACCEPTED AND FINALIZED BY SAWS WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.

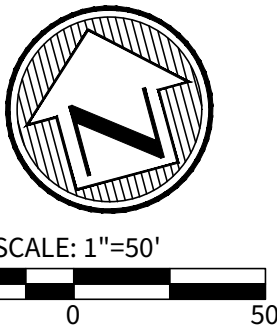
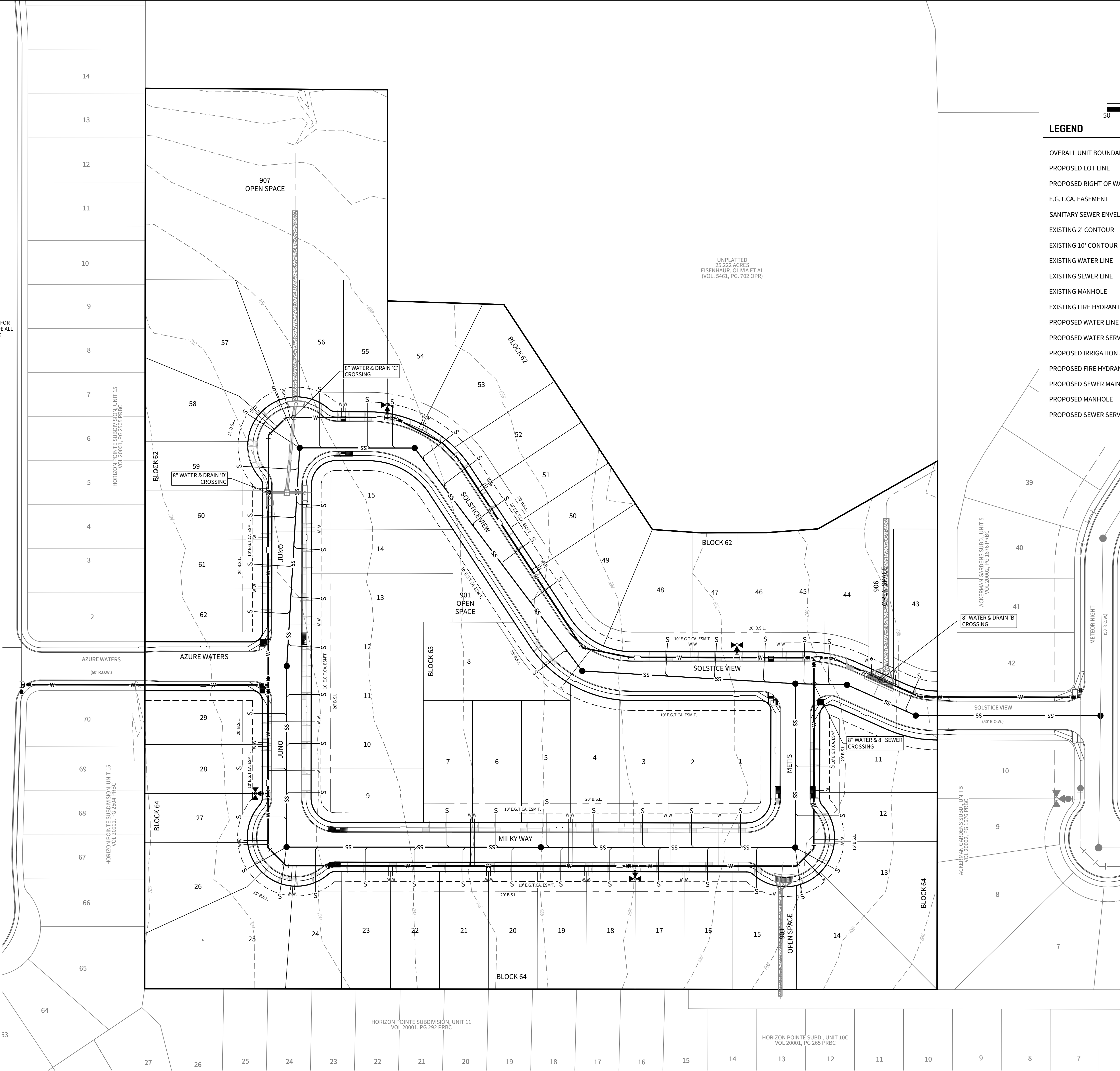
TRENCH EXCAVATION PROTECTION
CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

NOTE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING 98% COMPACTION ON ALL TRENCH BACKFILL AND PAYING FOR THE TESTS TO BE PERFORMED BY A THIRD PARTY. COMPACTION TEST WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED OR AS INDICATED BY THE SAWS INSPECTOR/TEST ADMINISTER, PER EACH 12-INCH LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM. THIS PROJECT WILL NOT BE ACCEPTED AND FINALIZED BY SAWS WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.

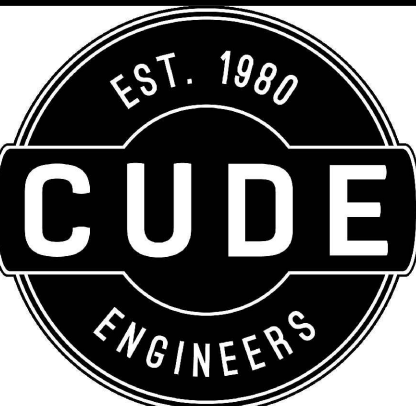
* CONDUIT ONLY TO BE INSTALLED IF:

- 1) STREET BASE AND DRAINAGE COMPLETION PRECEDES CPS UTILITY LINE INSTALLATION.
- 2) INSTALLATION IS AUTHORIZED BY THE DEVELOPER.



LEGEND

OVERALL UNIT BOUNDARY	---
PROPOSED LOT LINE	---
PROPOSED RIGHT OF WAY	---
E.G.T.CA. EASEMENT	---
SANITARY SEWER ENVELOPE	---
EXISTING 2' CONTOUR	---
EXISTING 10' CONTOUR	---
EXISTING WATER LINE	---
EXISTING SEWER LINE	---
EXISTING MANHOLE	●
EXISTING FIRE HYDRANT	✕
PROPOSED WATER LINE	W
PROPOSED SEWER SERVICE	SS
PROPOSED IRRIGATION SERVICE	IR
PROPOSED FIRE HYDRANT	✕
PROPOSED SEWER MAIN	SS
PROPOSED MANHOLE	●
PROPOSED SEWER SERVICE	SS

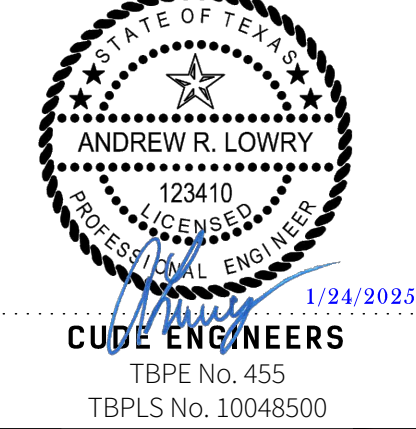


4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F:(210) 523.7112

ACKERMAN GARDENS UNIT 7 UTILITY PLAN

DATE	01/24/2025
PROJECT NO.	01792.742
DRAWN BY	CG/TC/XV
CHECKED BY	XV/AL

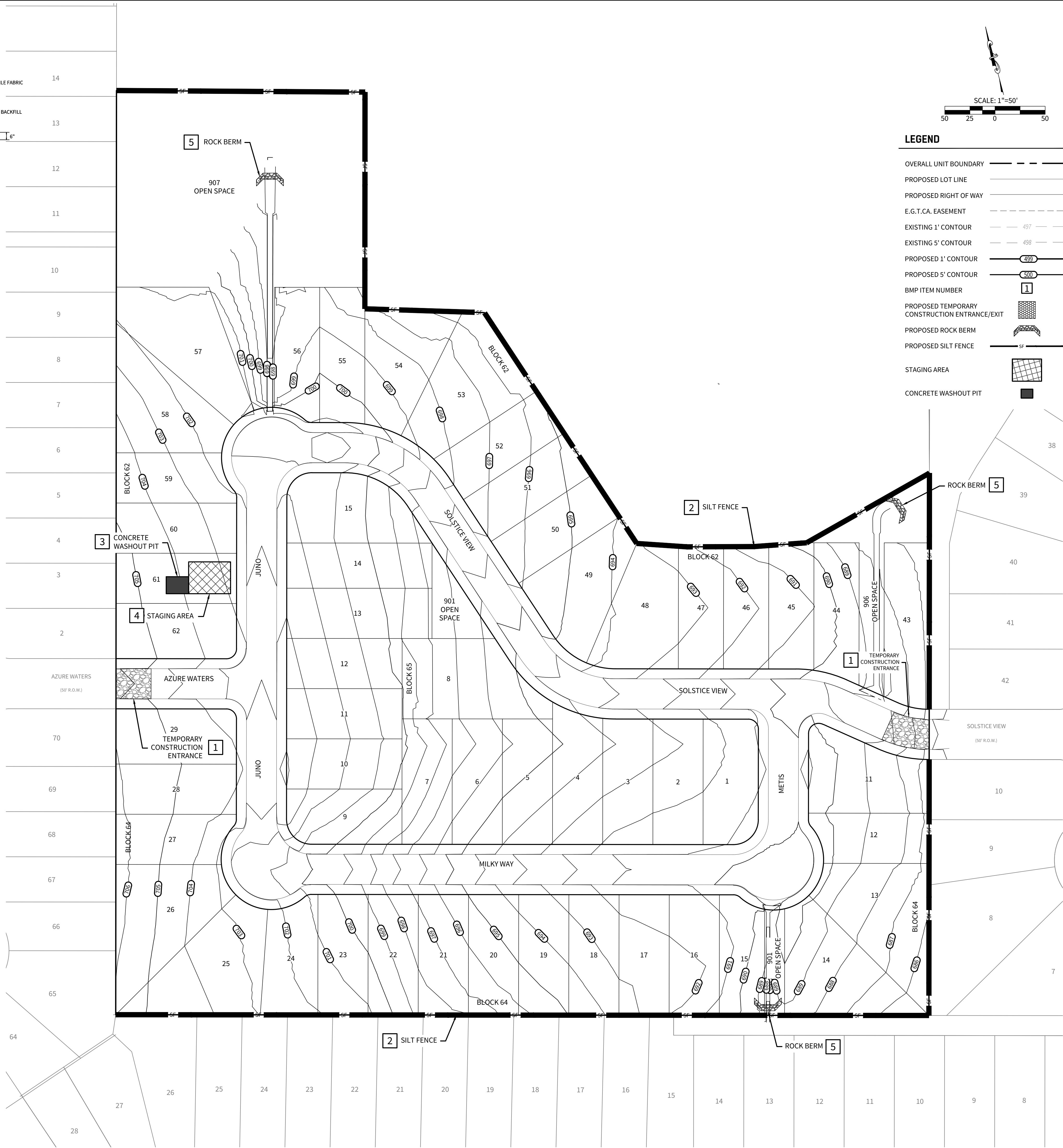
REVISIONS	
DATE	1 2 3 4 5 6 7 8 9



CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

PLAT NO.
24-11800121

C26



REPRODUCTION OF THE ORIGINAL SIGNED AND SEALED PLAN AND/OR ELECTRONIC MEDIA MAY HAVE BEEN INADVERTENTLY ALTERED. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE SCALE OF THE DOCUMENT AND CONTACTING CUDE ENGINEERS TO VERIFY DISCREPANCIES PRIOR TO CONSTRUCTION.