

SUB-ENGINEERING.CTB

THE COLONY TREE HOUSE

SITE PLAN

SHEET INDEX

- 1 - COVER
- 2 - GENERAL NOTES
- 3 - MUD 1C8 FINAL PLAT (SHEET 1 OF 2)
- 4 - MUD 1C8 FINAL PLAT (SHEET 2 OF 2)
- 5 - EROSION CONTROL PLAN
- 6 - EROSION CONTROL NOTES
- 7 - OVERALL DRAINAGE PLAN
- 8 - LOCAL DRAINAGE PLAN
- 9 - GRADING PLAN
- 10 - SITE PLAN
- 11 - UTILITY PLAN
- 12 - FIRE PROTECTION PLAN
- 13 - TRAFFIC CONTROL PLAN
- 14 - SIGHT DISTANCE - RAINWATER DRIVE
- 15 - SIGHT DISTANCE - SAM HOUSTON DRIVE
- 16 - CONSTRUCTION DETAILS (1 OF 2)
- 17 - CONSTRUCTION DETAILS (2 OF 2)
- 18 - WALL DETAILS

SUBMITTED BY:


 CARLSON, BRIGANCE, & DOERING, INC. 11.01.2024
DATE

REVIEWED BY FOR CONSTRUCTION:

 BASTROP COUNTY APPROVED PERMIT _____
DATE

I, MAHER HARMOUCHE, DO HEREBY CERTIFY THAT THE INFORMATION CONTAINED IN THESE ENGINEERING DOCUMENTS IS COMPLETE, ACCURATE, AND ADEQUATE FOR THE INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION PRIOR TO FORMAL COUNTY APPROVAL.


 MAHER HARMOUCHE, P.E. 11.01.2024
DATE

AS OWNER OF THIS PROPERTY, I PROMISE TO DEVELOP AND MAINTAIN THIS PROPERTY AS DESCRIBED IN THIS PLAN.

 RICK NEFF OWNER TRUSTEE 13-Dec-22
DATE

OWNER: HUNT COMMUNITIES BASTROP, LLC. ENGINEER: CARLSON, BRIGANCE & DOERING, INC.
 A DELAWARE LIMITED CIVIL ENGINEERING & SURVEYING
 LIABILITY COMPANY C/O MR. MAHER HARMOUCHE, P.E.
 P.O. BOX 12220 5701 WEST WILLIAM CANNON DRIVE
 EL PASO, TEXAS 79913 AUSTIN, TEXAS 78749
 (915) 298-4226 (512) 280-5160

UTILITY PROVIDERS:

ELECTRIC: BLUEBONNET ELECTRIC
 (979) 542-3151

GAS: CENTER POINT ENERGY
 (830) 643-6936

PHONE: AT&T
 (512) 870-1450

WATER: COLONY 1C M.U.D.
 (512) 989-2200

WASTEWATER: COLONY 1C M.U.D.
 (512) 989-2200

CABLE: SPECTRUM CABLE
 1-800-222-5355

UTILITY OPERATOR: CROSSROADS UTILITIES
 (512) 246-1400

ORDINANCE CODE:
 REVIEWED FOR REQUIREMENTS OF THE THIRD AMENDMENT TO CONSENT AGREEMENT FOR THE COLONY MUNICIPAL UTILITY DISTRICT NO.1 AND SUCCESSOR DISTRICTS, RESOLUTION NO. R-2019-114, APPROVED NOVEMBER 12, 2019.

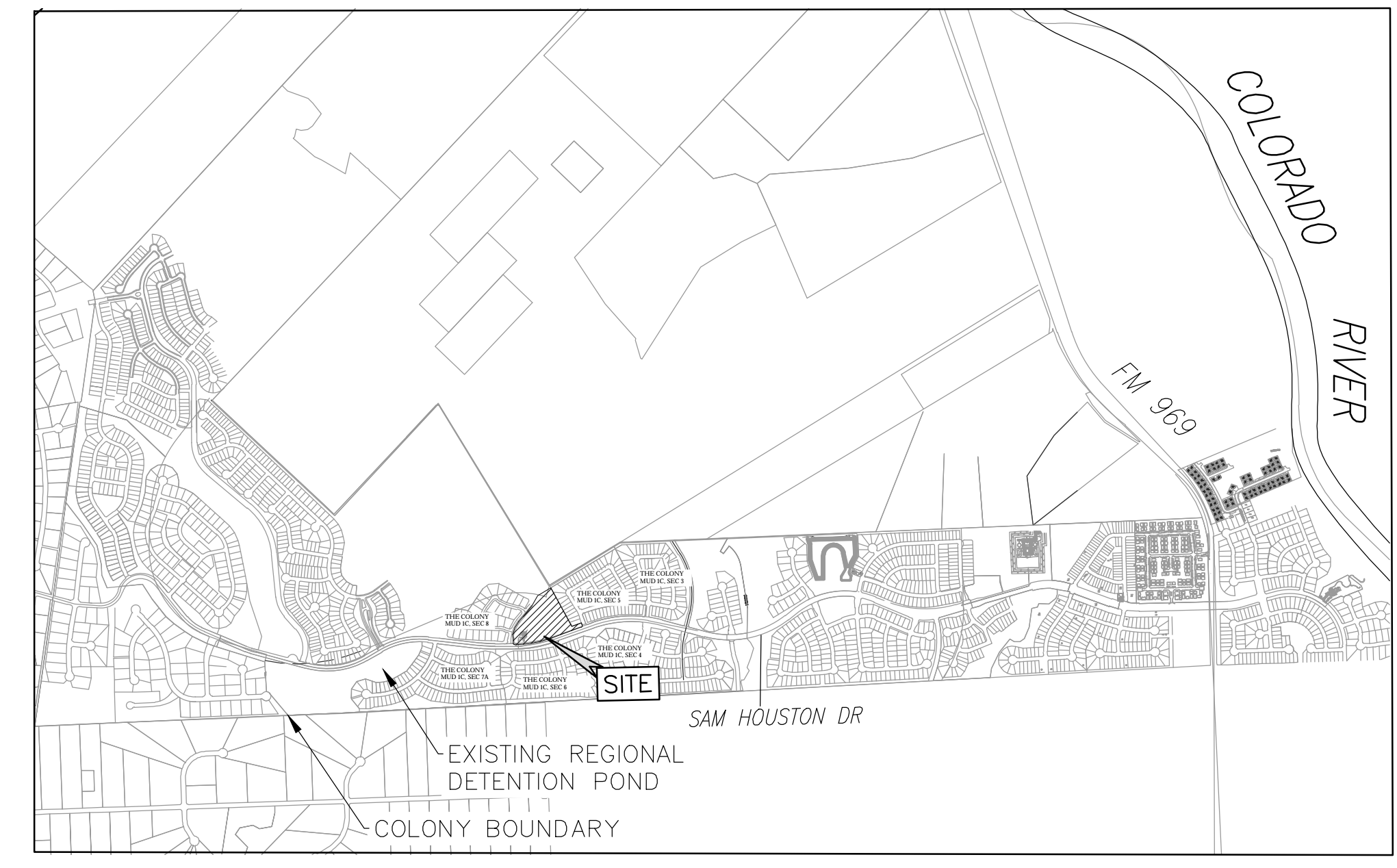
BENCHMARKS:

BENCHMARK INFORMATION:
 BM-1: CAPPED IRON ROD STAMPED "CONTROL"
 ELEVATION = 514.34' N:10020928.45' E:3226055.92'

BM-2: COTTON SPINDLE IN SIDEWALK SEAM
 ELEVATION = 464.07' N:10021244.44' E:3227675.13'

LOCATION MAP

N.T.S.



FIRE FLOW TEST RESULTS	
RESIDUAL HYDRANT LOCATION: RAINWATER CREEK / FIRETHORN LOOP	
FLOW HYDRANT LOCATION: FIRETHORN LOOP	
FLOW HYDRANT: PITOT READING:	40 PSI
	GPM: 1,061 GPM
TOTAL FLOW DURING TEST: 1,061 GPM	
TEST HYDRANT	
STATIC READING:	55 PSI
RESIDUAL READING:	45 PSI
FLOW: AT 20 PSI RESIDUAL 2,087 GPM	

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE ASSOCIATED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.



THIS PROJECT IS LOCATED IN THE COLORADO RIVER WATERSHED.

NO PORTION OF THIS TRACT LIES WITHIN A DESIGNATED FLOOD HAZARD AREA. THIS TRACT LIES IN ZONE X, AS SHOWN ON THE FEDERAL FLOOD INSURANCE ADMINISTRATION RATE MAP NO. 48021C0335F, FOR BASTROP COUNTY TEXAS, DATED MAY 09, 2023. COMMUNITY NUMBER 481193

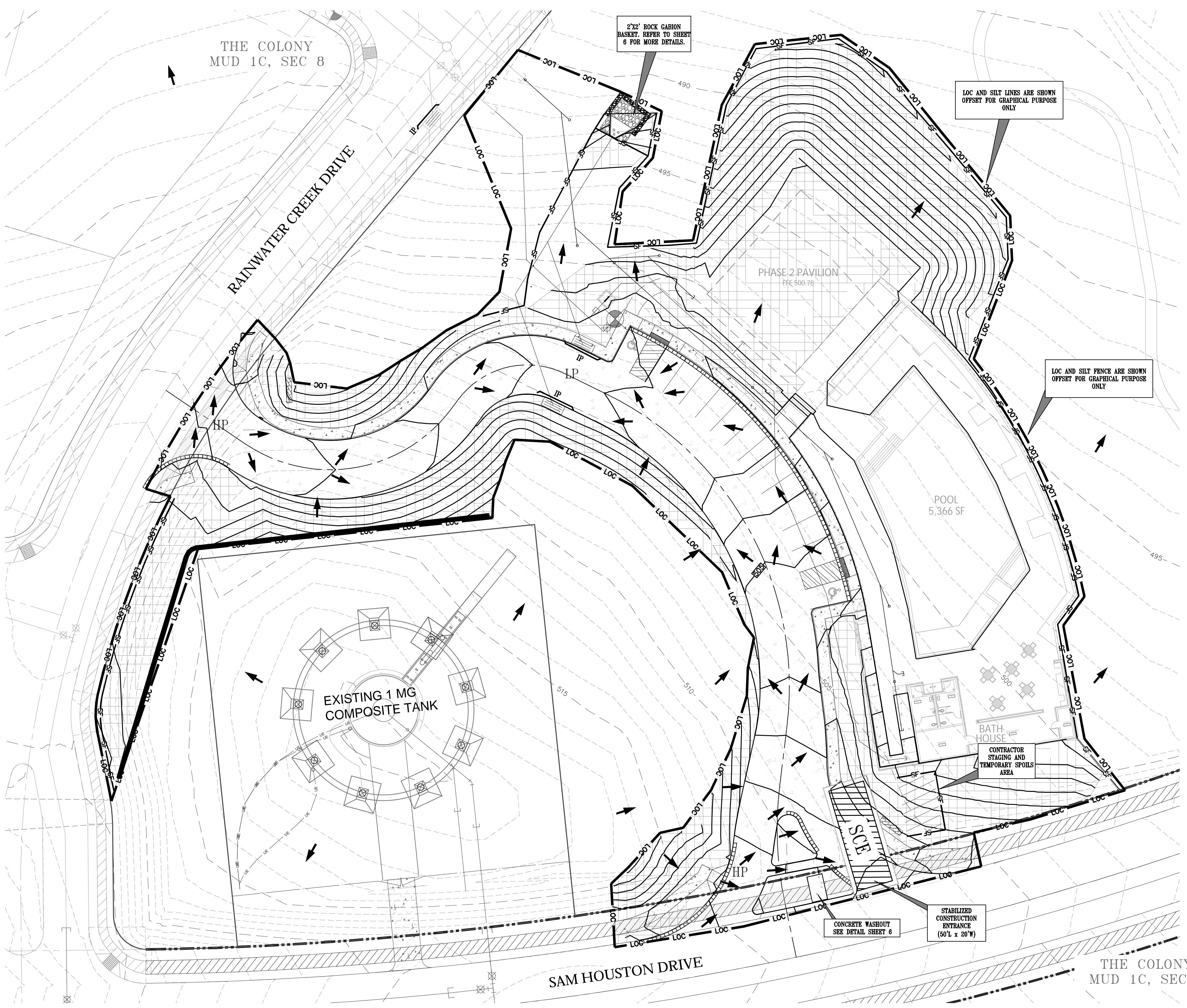
NOTE: ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY OF BASTROP MUST RELY UPON THE ADEQUACY OF THE DESIGN ENGINEER.

NO.	DESCRIPTION	REVISE (R) ADD (A) VOID (V) SHEET NO'S	CITY OF BASTROP APPROVAL/DATE	MUD APPROVAL	APPROVED BY

BASTROP FIRE DEPARTMENT	
FIRE DESIGN CODES	2018 INTERNATIONAL FIRE CODE WITH ADOPTED APPENDICES
FIRE FLOW DEMAND @ 20 PSI (GPM)	1,750 GPM FOR 2 HOURS
INTENDED USE	UTILITY AND MISCELLANEOUS
CONSTRUCTION CLASSIFICATION	BLDG. TYPE V-B
BUILDING FIRE AREA (S.F.)	4,888 S.F.
AUTOMATIC FIRE SPRINKLER SYSTEM TYPE (IF APPLICABLE)	N/A
REDUCED FIRE FLOW DEMAND @ 20 PSI FOR HAVING A SPRINKLER SYSTEM (GPM) (IF APPLICABLE)	N/A
FIRE HYDRANT FLOW TEST DATE	08/11/2023
FIRE HYDRANT FLOW TEST LOCATION	RAINWATER CREEK/FIRETHORN LOOP
ALTERNATIVE METHOD OF COMPLIANCE AMOC (IF APPLICABLE)	N/A

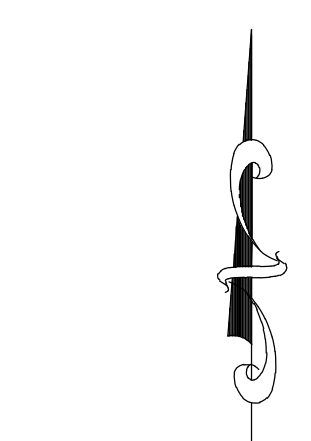
DESIGNED BY: NAME	DRAFTED BY: NAME	DATE	REVISION
 Carlson, Brigrance & Doering, Inc. Civil Engineering & Surveying Firm ID #13791 Main Office: 5501 West William Cannon Dr. Austin, Texas 78749 North Office: 12120 RR 620 N., Ste. 600 Austin, Texas 78750 Phone No. (512) 280-5160 www.cbdi.com			
SHEET NAME: COVER JOB NAME: THE COLONY TREE HOUSE PROJECT: SITE PLAN			
 MAHER HARMOUCHE 143982 LICENSED PROFESSIONAL ENGINEER CARLSON, BRIGANCE, & DOERING, INC. 0 # 13791 11.01.2024			
DATE: JAN 2023			
JOB NUMBER: 5469			
SHEET: 1 OF 18			

FILE PATH: J:\ACD\5469\dwg\5469_COVER.dwg - Nov 01, 2024 - 11:08am



LEGEND

- SILT FENCE
- LIMITS OF CONSTRUCTION
- J HOOK
- INLET PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE
- STAGING AND SPOILS AREA
- CONCRETE WASH AREA
- EXIST. MINOR CONTOUR
- EXIST. MAJOR CONTOUR
- PROPOSED GRADING
- ROCK BERM
- LOWPOINT/HIGHPOINT
- BERM
- FLOW ARROWS
- REVEG WITH SEED AND TOP SOIL (4:1 SLOPES TO INCLUDE EXCEL SS-2 EROSION CNTRL BLANKET)



SCALE: 1" = 20'

LIMITS OF CONSTRUCTION: 80,766.25 S.F. / 1.85 AC.
SILT FENCE: 957 L.F.

- NOTES:**
- ALL SLOPES 4:1 AND GREATER SHALL BE STRUCTURALLY STABILIZED;
 - STRUCTURALLY STABILIZE WITH EXCEL SS-2 EROSION CONTROL BLANKET, TOP SOIL, AND SEEDING PER GENERAL NOTES.
 - UPON PAVING CONTRACTOR SHALL REMOVE INLET PROTECTION DAMS AT LOW POINT INLETS
 - CONTRACTOR IS SOLELY RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION INCLUDING COMPLIANCE WITH SWPPP INSPECTION, REPORTING, NOI, AND NOT FILING. THE PLAN SHOWN IS THE MINIMUM REQUIRED AND THE CONTRACTOR SHALL MODIFY THE PLAN AS REQUIRED TO ELIMINATE SEDIMENT FROM LEAVING THE SITE.
 - ALTERNATE BID: CONTRACTOR TO MULCH TREES TO BE UTILIZED AS AN EROSION CONTROL MEASURE FOR DISTURBED AREAS.

DESIGNED BY:	DRAFTED BY:
NAME	NAME
DATE	
REVISION	

Carlson, Brigrance & Doering, Inc.
Civil Engineering & Surveying

CBD

FIRM ID #15791
Main Office: 5501 West William Cannon Dr., Austin, Texas 78750
North Office: 12120 RR 620 N., Ste. 600, Austin, Texas 78750
Phone No. (512) 286-5160
www.cbdlng.com

EROSION CONTROL PLAN

THE COLONY TREE HOUSE

SITE PLAN

SHEET NAME:

JOB NAME:

PROJECT:

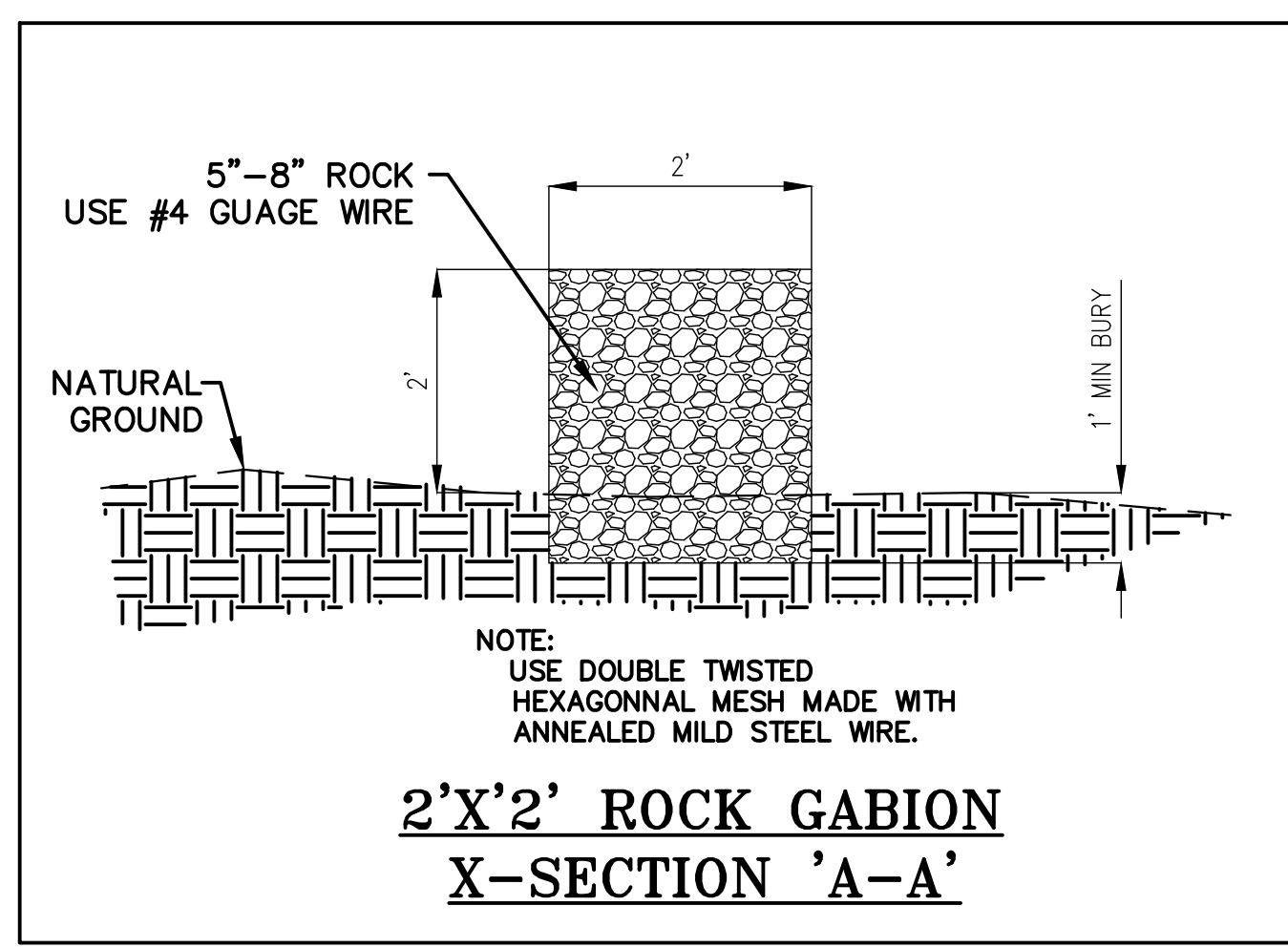
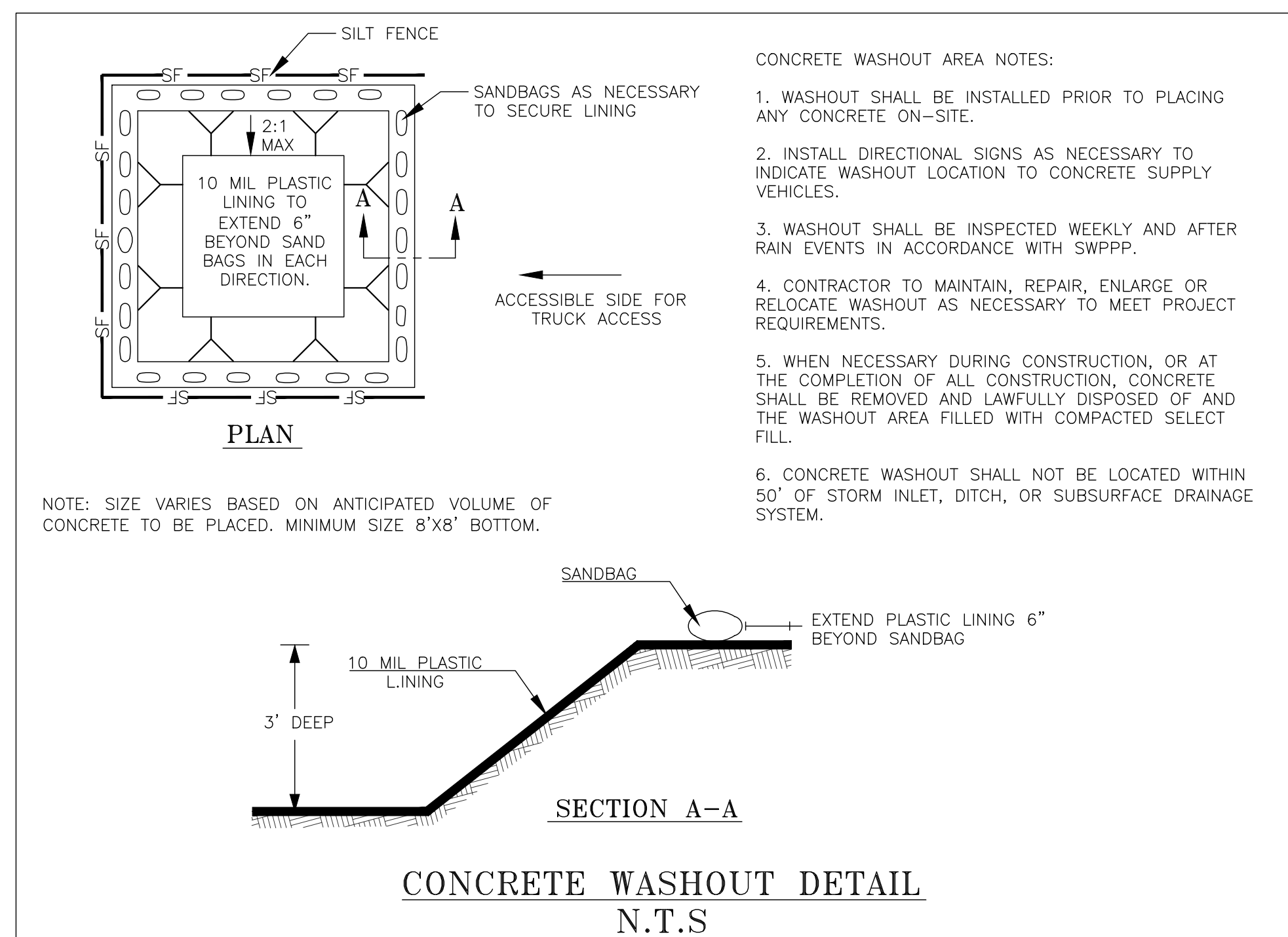
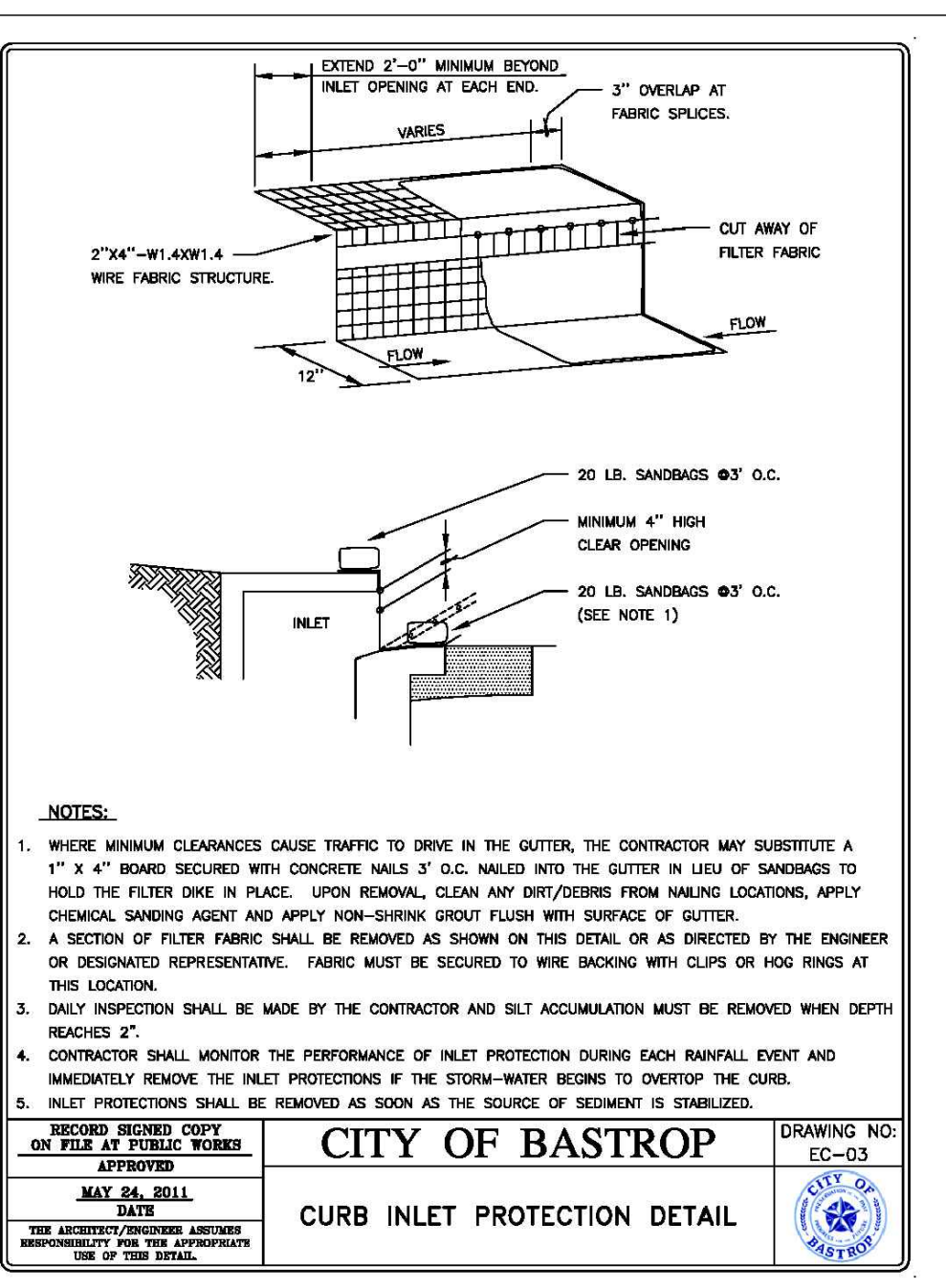
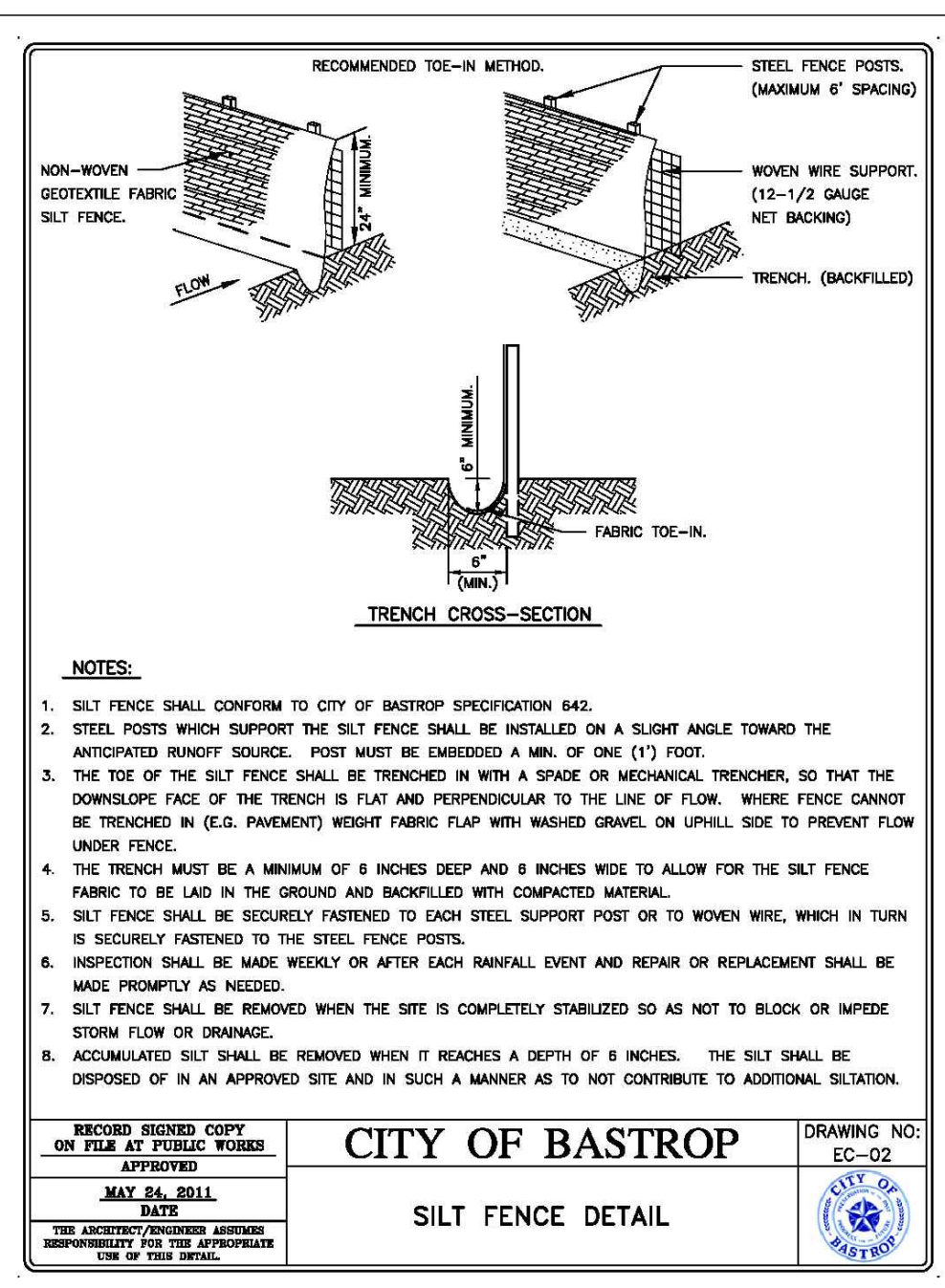
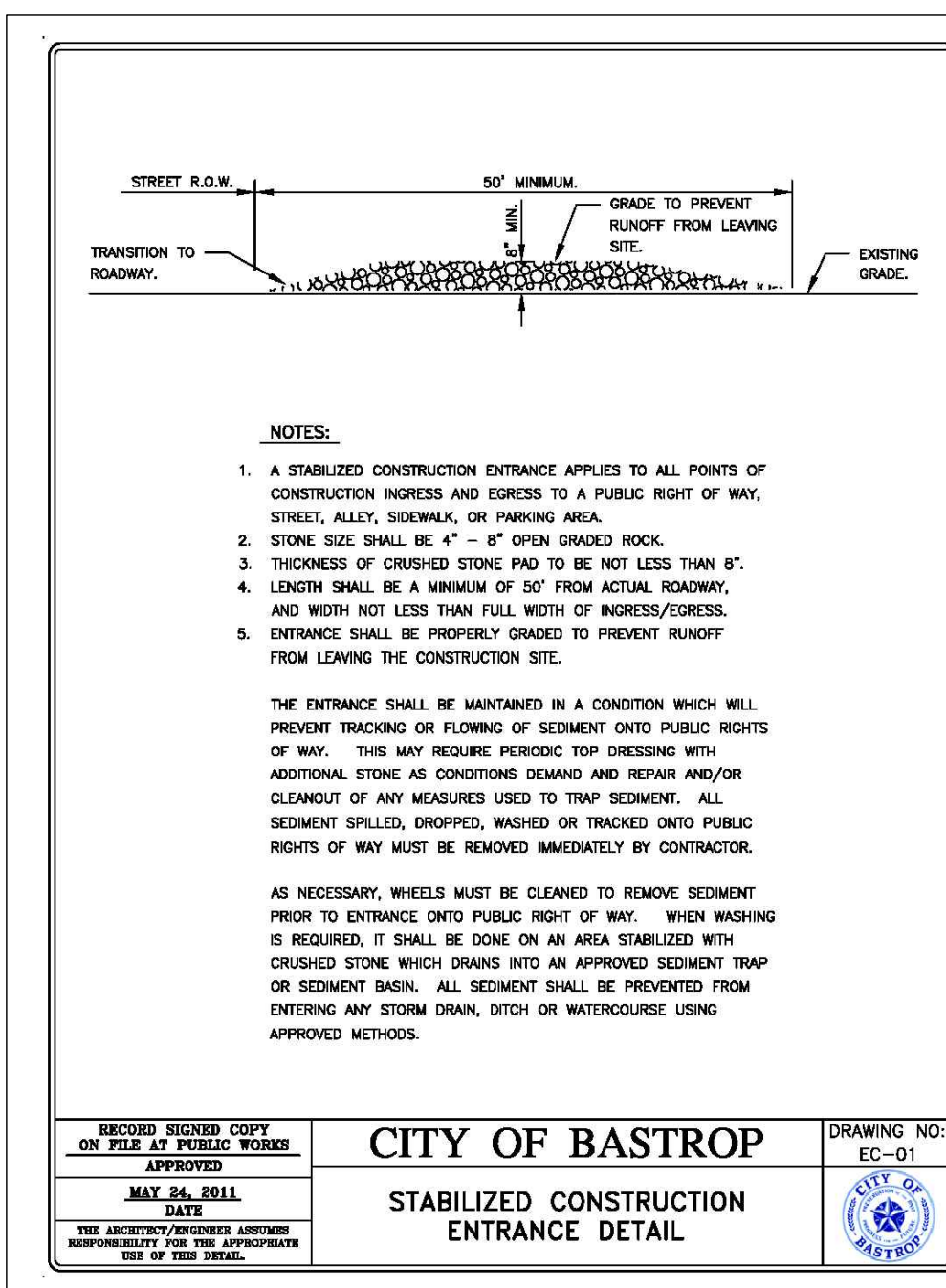
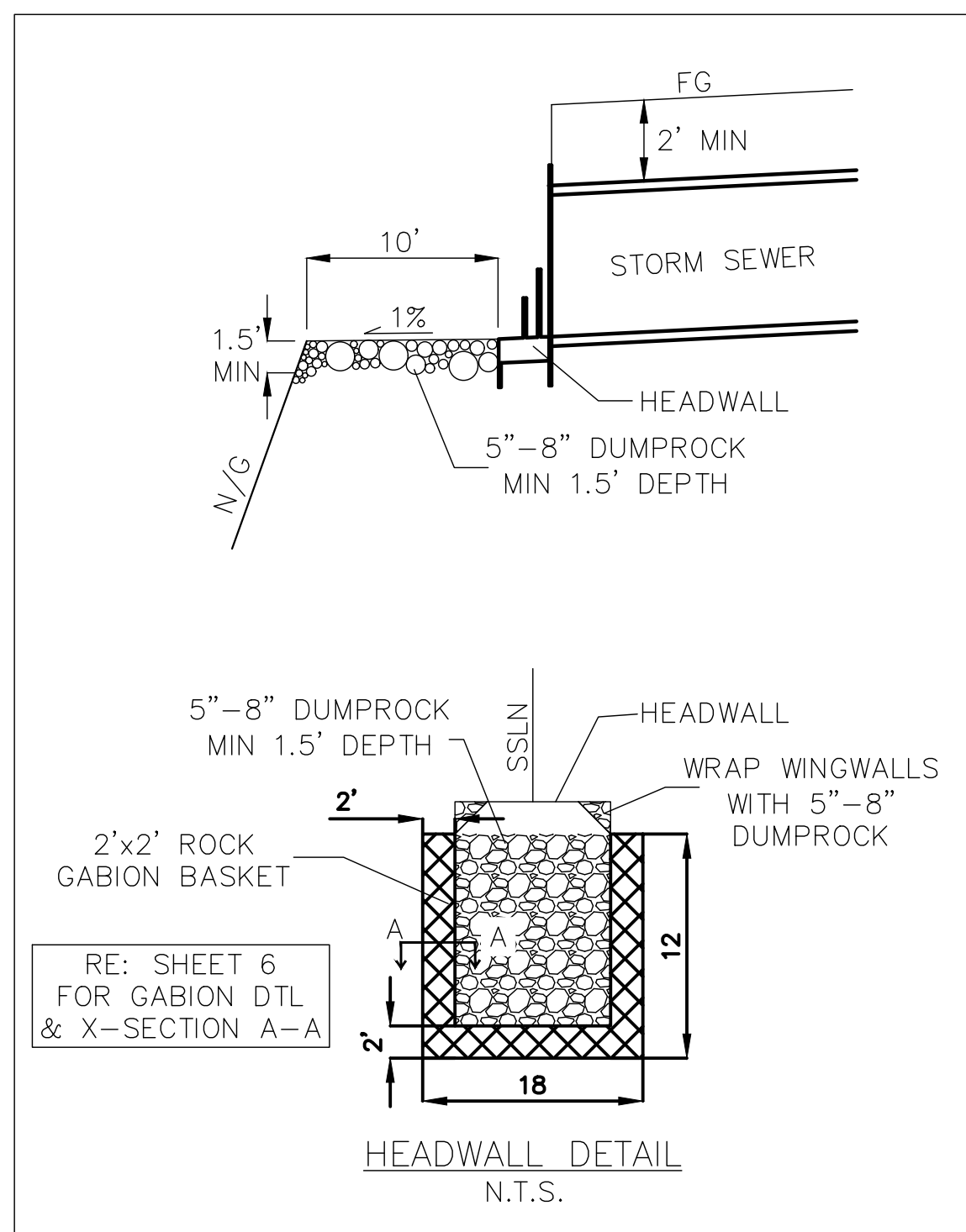


DATE: **11.01.2024**

JAN 2023

JOB NUMBER: 5469

SHEET: 5 OF 18



EROSION AND SEDIMENTATION CONTROL:

1. THE CONTRACTOR SHALL INSTALL EROSION/SEDIMENTATION CONTROLS AND FENCING FOR AREAS OUTSIDE OF THE CONSTRUCTION AREA PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR EXCAVATION).
2. THE CONTRACTOR IS REQUIRED TO INSPECT THE CONTROLS AND FENCES AT WEEKLY INTERVALS, AND AFTER SIGNIFICANT RAINFALL EVENTS TO INSURE THAT THEY ARE FUNCTIONING PROPERLY. THE PERSON(S) RESPONSIBLE FOR MAINTENANCE OF CONTROLS AND FENCES SHALL IMMEDIATELY MAKE ANY NECESSARY REPAIRS TO DAMAGED AREAS. SILT ACCUMULATION AT CONTROLS MUST BE REMOVED WHEN THE DEPTH REACHES SIX (6) INCHES.
3. PRIOR TO FINAL ACCEPTANCE, HAUL ROADS AND WATERWAY CROSSINGS CONSTRUCTED FOR TEMPORARY CONTRACTOR ACCESS MUST BE REMOVED, ACCUMULATED SEDIMENT REMOVED FROM THE WATERWAY AND THE AREA RESTORED TO THE ORIGINAL GRADE AND REVEGETATED. ALL LAND CLEARING DEBRIS SHALL BE DISPOSED OF IN APPROVED SPOIL DISPOSAL SITES.
4. ANY METHODS, STREET MARKINGS AND SIGNAGE NECESSARY FOR WARNING MOTORISTS, WARNING PEDESTRIANS OR DIVERTING TRAFFIC DURING CONSTRUCTION SHALL CONFORM TO THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, LATEST EDITION.
5. ALL PAVEMENT MARKINGS, MARKERS, PAINT, TRAFFIC BUTTONS, TRAFFIC CONTROLS AND SIGNS SHALL BE INSTALLED IN ACCORDANCE WITH THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS, BRIDGES, AND THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, LATEST EDITIONS.
6. EROSION CONTROL MEASURES, SITE WORK AND RESTORATION WORK SHALL BE IN ACCORDANCE WITH THE CITY OF BASTROP CODE OF ORDINANCES.
7. ALL SLOPES SHALL BE SODDED OR SEEDING WITH APPROVED GRASS, GRASS MIXTURES OR GROUND COVER SUITABLE TO THE AREA AND SEASON IN WHICH THEY ARE APPLIED.
8. SILT FENCES, ROCK BERMS, SEDIMENTATION BASINS AND SIMILARLY RECOGNIZED TECHNIQUES AND MATERIALS SHALL BE EMPLOYED DURING CONSTRUCTION TO PREVENT POINT SOURCE SEDIMENTATION LOADING OF DOWNSTREAM FACILITIES. SUCH INSTALLATION SHALL BE REGULARLY INSPECTED BY THE CITY OF BASTROP FOR EFFECTIVENESS. ADDITIONAL MEASURES MAY BE REQUIRED IF, IN THE OPINION OF THE CITY ENGINEER, THEY ARE WARRANTED.
9. ALL TEMPORARY EROSION CONTROL MEASURES SHALL NOT BE REMOVED UNTIL FINAL INSPECTION AND APPROVAL OF THE PROJECT BY THE CITY INSPECTOR. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ALL TEMPORARY EROSION CONTROL STRUCTURES AND TO REMOVE EACH STRUCTURE AS APPROVED BY THE CITY INSPECTOR. ALL MUD, DIRT, ROCKS, DEBRIS, ETC., SPILLED, TRACKED OR OTHERWISE DEPOSITED ON EXISTING.
10. PAVED STREETS, DRIVES AND AREAS USED BY THE PUBLIC SHALL BE CLEANED UP IMMEDIATELY.
11. PERMANENT EROSION CONTROL: ALL DISTURBED AREAS SHALL BE RESTORED AS NOTED BELOW:
 - A. A MINIMUM OF FOUR (4) INCHES OF TOPSOIL SHALL BE PLACED IN ALL DRAINAGE CHANNELS (EXCEPT ROCK), AND BETWEEN THE CURB AND RIGHT-OF-WAY.
 - B. THE SEEDING FOR PERMANENT EROSION CONTROL SHALL BE APPLIED OVER AREAS DISTURBED BY CONSTRUCTION AS FOLLOWS: BROADCAST SEEDING: (I) FROM OCTOBER TO FEBRUARY, SEEDING SHALL BE WITH ONE (1) POUND PER 1,000 SQUARE FEET OF UNHULLED BERMUDA OR THREE (3) POUNDS PER 1,000 SQ./FT. OF WINTER RYE, WITH A PURITY OF 95% WITH 90% GERMINATION. (II) FROM MARCH TO SEPTEMBER, SEEDING SHALL BE WITH HULLED BERMUDA AT A RATE OF ONE (1) POUND PER 1,000 SQUARE FEET, WITH A PURITY OF 95% WITH 85% GERMINATION. FERTILIZER SHALL BE SLOW RELEASE GRANULAR OR PALETTE TYPE, AND SHALL HAVE AN ANALYSIS OF 15-15-15, AND SHALL BE APPLIED AT THE RATE OF ONE (1) POUND PER 1,000 SQUARE FEET, ONCE AT THE TIME OF PLANTING, AND AGAIN ONCE DURING THE TIME OF ESTABLISHMENT. MULCH TYPE USED SHALL BE STRAW OR HAY APPLIED AT A RATE OF 45 POUNDS PER 1,000 SQUARE FEET. HYDRAULIC SEEDING: (I) FROM OCTOBER TO FEBRUARY, SEEDING SHALL BE WITH ONE (1) POUND PER 1,000 SQUARE FEET OF UNHULLED BERMUDA, OR THREE (3) POUNDS PER 1,000 SQUARE FEET OF WINTER RYE, WITH A PURITY OF 95% WITH 90% GERMINATION. (II) FROM MARCH TO SEPTEMBER, SEEDING SHALL BE WITH HULLED BERMUDA AT A RATE OF ONE (1) POUND PER 1,000 SQUARE FEET WITH A PURITY OF 95% WITH 85% GERMINATION. FERTILIZER SHALL BE A WATER SOLUBLE FERTILIZER WITH AN ANALYSIS OF 15-15-15 AT A RATE OF 1.5 POUNDS PER 1,000 SQUARE FEET. MULCH TYPE SHALL BE HAY, STRAW OR MULCH APPLIED AT A RATE OF 45 POUNDS PER 1,000 SQUARE FEET.
 - C. THE PLANTED AREA SHALL BE IRRIGATED OR SPRINKLED IN A MANNER THAT WILL NOT ERODE THE TOPSOIL, BUT WILL SUFFICIENTLY SOAK TO A DEPTH OF SIX (6) INCHES. THE IRRIGATION SHALL OCCUR AT 10-DAY INTERVALS DURING THE FIRST TWO (2) MONTHS. RAINFALL OCCURRENCES OF 1/2 INCH OR MORE SHALL POSTPONE THE WATERING SCHEDULE FOR TEN (10) DAYS.
 - D. RESTORATION SHALL BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1 INCH HIGH WITH 85 % COVERAGE, PROVIDED NO BARE SPOTS LARGER THAN 20 SQUARE FEET EXIST.

5. SOIL STABILIZATION: STABILIZATION OF DISTURBED AREAS MUST, AT A MINIMUM, BE INITIATED IMMEDIATELY WHENEVER ANY CLEARING, GRADING, EXCAVATING, OR OTHER EARTH DISTURBING ACTIVITIES HAVE PERMANENTLY CEASED ON ANY PORTION OF THE SITE, OR TEMPORARILY CEASED ON ANY PORTION OF THE SITE AND WILL NOT RESUME FOR A PERIOD EXCEEDING 14 CALENDER DAYS.

DESIGNED BY: NAME
 DRAFTED BY: NAME
 DATE
 REVISION
Carlson, Brigrance & Doering, Inc.
 Civil Engineering & Surveying
 FIRM ID #E3791
 Main Office: 12120 RR (20) N., Ste. 600
 Austin, Texas 78749
 Phone No. (512) 280-5160
 www.cbding.com

EROSION CONTROL NOTES
THE COLONY TREE HOUSE
SITE PLAN
 SHEET NAME:
 JOB NAME:
 PROJECT:

M. HARMOUCHE
 MAHER HARMOUCHE
 143982
 LICENSED PROFESSIONAL ENGINEER
 CARLSON, BRIGRANCE, & DOERING, INC.
 0 # 53791
11.01.2024
 DATE: JAN 2023
 JOB NUMBER: 5469
 SHEET: 6 OF 18



Specifications

Western Excelsior manufactures a full line of Rolled Erosion Control Products (RECPs). Excel SS-2 temporary Erosion Control Blanket is composed of a 100% certified weed free agricultural straw matrix mechanically (stitch) bound on two inch centers between two photodegradable, synthetic nets. Excel SS-2 is intended for use in channels or on slopes requiring erosion protection for a period up to twelve months. Actual field longevity is dependent on soil and climatic conditions. Each roll of EXCEL SS-2 is made in the USA and manufactured under Western Excelsior's Quality Assurance Program to ensure a continuous distribution of fibers and consistent thickness. Typical manufactured properties are provided in Table 1 and product characteristics are provided in Table 2.

Table 1 - Specified Expected Values

Tested Property	Test Method	Value
Tensile Strength (MD) x (TD)	ASTM D6818	10.0 lb/in (1.8 kN/m) x 6.2 lb/in (1.1 kN/m)
Elongation (MD) x (TD)	ASTM D6818	20 % x 26 %
Mass Per Unit Area	ASTM D6475	8.0 oz/yd ² (271 g/m ²)
Thickness	ASTM D6525	0.28 in (7 mm)
Light Penetration	ASTM D6567	22 % open
Water Absorption	ASTM D1117	450 %

Table 2 - Netting

Top Net Type	Synthetic, Photodegradable
Bottom Net Type	Synthetic, Photodegradable
Top Net Opening Dimensions	0.5 in (13 mm) x 0.5 in (13 mm)
Bottom Net Opening Dimensions	0.5 in (13 mm) x 0.5 in (13 mm)

Excel SS-2 is available in multiple roll sizes ranging in width from 8.0 ft to 16.0 ft. and 112.5 ft to 600 ft in length. Standard roll sizes are 100 square yards, measuring 8.0 ft wide by 112.5 ft long. Custom roll sizes are available upon request.

Document # WE_EXCEL_SS2_SPEC. This document has been developed to provide the characteristic properties of the product described. For questions, to request performance data or installation recommendations, contact Western Excelsior at 866-540-9810 or wexcotech@westernexcelsior.com. Updated 4/14/2014.

Area No.	Area (Acres)	T _c (Min.)	Perv. (%)	Imperv. (%)	C ₂₅	C ₁₀₀	I ₂₅ (In/Hr)	I ₁₀₀ (In/Hr)	Q ₂₅ (CFS)	Q ₁₀₀ (CFS)	C25°A	C100°A	AREA NO.
1	0.90	10.00	86	14	0.50	0.57	1.50	1.88	4.1	6.1	0.45	0.52	1
2	0.28	10.00	5	95	0.84	0.93	1.50	1.88	2.1	3.1	0.23	0.26	2
AREAS COMBINED 1-2					T _c (Min.)	C ₂₅ °A	C ₁₀₀ °A	I ₂₅ (In/Hr)	I ₁₀₀ (In/Hr)	Q ₂₅ (CFS)	Q ₁₀₀ (CFS)		
					10	0.68	0.77	9.01	11.82	6.2	9.2		

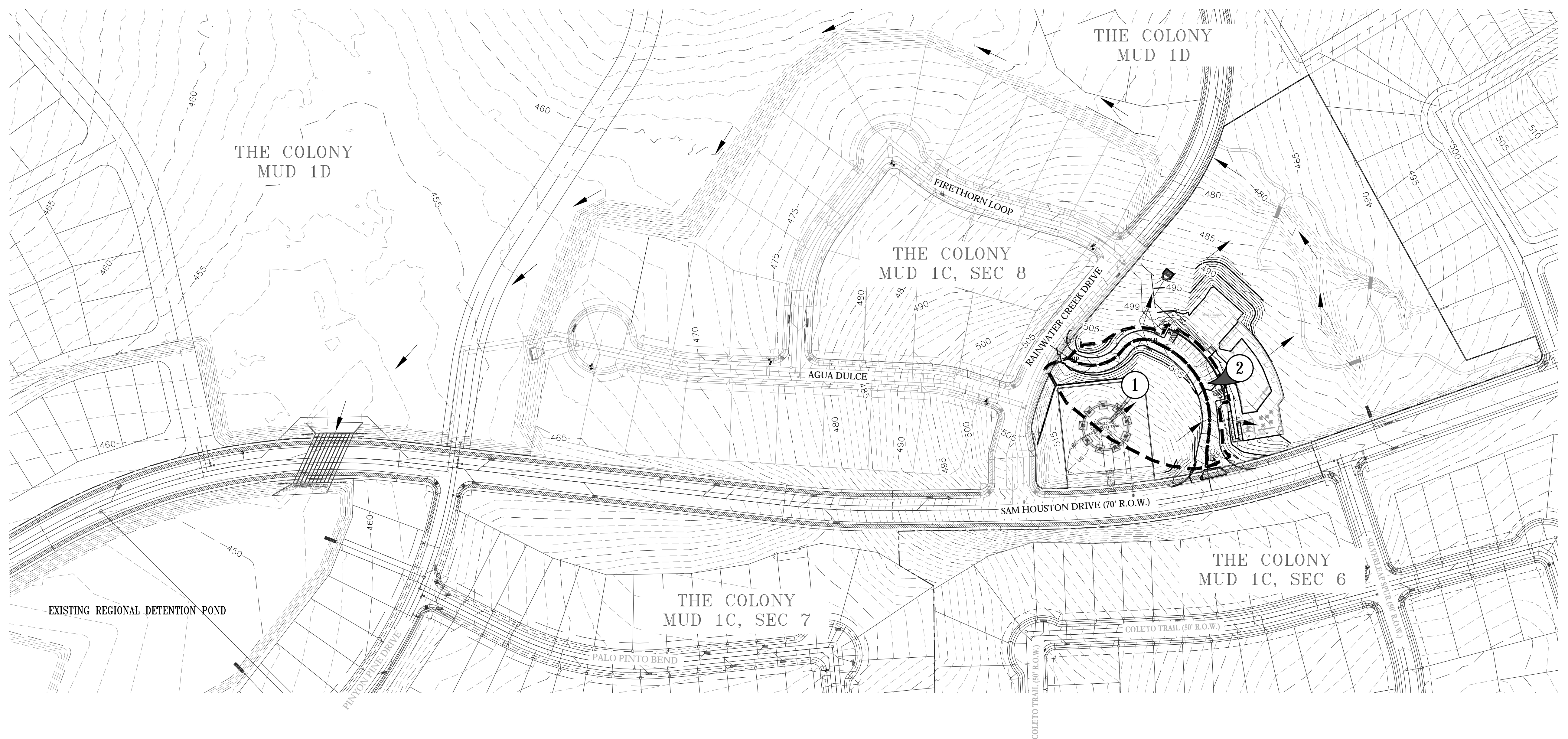
INLET NUMBER	DRAINAGE AREA NO.	Q (CFS)	Q PASS (CFS)	Q SPILL (CFS)	Q ADD (CFS)	Q TOTAL (QA) (CFS)	SLOPE (%)	a (FT)	Yo (FT)	PAVEMENT WIDTH	PONDED WIDTH	Qa/La	La (FT)	LENGTH (FT)	L/La	a/Yo	Q/Qa	REMARK
A-2	1	4.1	0.0	0.0	0.0	4.1	LP	0.42	0.26	26.00	-	-	-	10	-	-	1.00	
A-1	2	2.1	0.0	0.0	0.0	2.1	LP	0.42	0.17	26.00	-	-	-	10	-	-	1.00	

INLET NUMBER	DRAINAGE AREA NO.	Q (CFS)	Q PASS (CFS)	Q SPILL (CFS)	Q ADD (CFS)	Q TOTAL (QA) (CFS)	SLOPE (%)	a (FT)	Yo (FT)	PAVEMENT WIDTH	PONDED WIDTH	Qa/La	La (FT)	LENGTH (FT)	L/La	a/Yo	Q/Qa	REMARK
A-2	1	6.1	0.0	0.0	0.0	6.1	LP	0.42	0.35	26.00	-	-	-	10	-	-	1.00	
A-1	2	3.1	0.0	0.0	0.0	3.1	LP	0.42	0.22	26.00	-	-	-	10	-	-	1.00	

NOTE: RUNOFF FROM SITE IS CONVEYED TO EXISTING MUD 1C REGIONAL DETENTION POND

LEGEND

- - - - - EXISTING MINOR CONTOURS
- - - - - EXISTING MAJOR CONTOURS
- - - - - PROPOSED MINOR CONTOURS
- - - - - PROPOSED MAJOR CONTOURS
- - - - - DRAINAGE AREA BOUNDARY
- - - - - TIME OF CONCENTRATION PATH
- (A1) DRAINAGE AREA NUMBER
- LP | HP HIGH POINT / LOW POINT
- FLOW ARROW



0 100' 200'

SCALE: 1" = 100'

↑

DESIGNED BY: NAME	DRAFTED BY: NAME
DATE	
REVISION	

Carlson, Brigrance & Doering, Inc.
 Civil Engineering & Surveying
 FIRM ID #15791
 Main Office: 5501 West William Cannon Dr., Austin, Texas 78749
 North Office: 12129 RR 620 N., Ste. 600, Austin, Texas 78750
 Phone No. (512) 286-5160
 www.cbding.com

SHEET NAME: **OVERALL DRAINAGE PLAN**

JOB NAME: **THE COLONY TREE HOUSE**

PROJECT: **SITE PLAN**

M. Harmor

MAHER HARMOUCHE
 143982
 LICENSED PROFESSIONAL ENGINEER

DATE: **11.01.2024**

JAN 2023

JOB NUMBER: **5469**

SHEET: **7 OF 18**

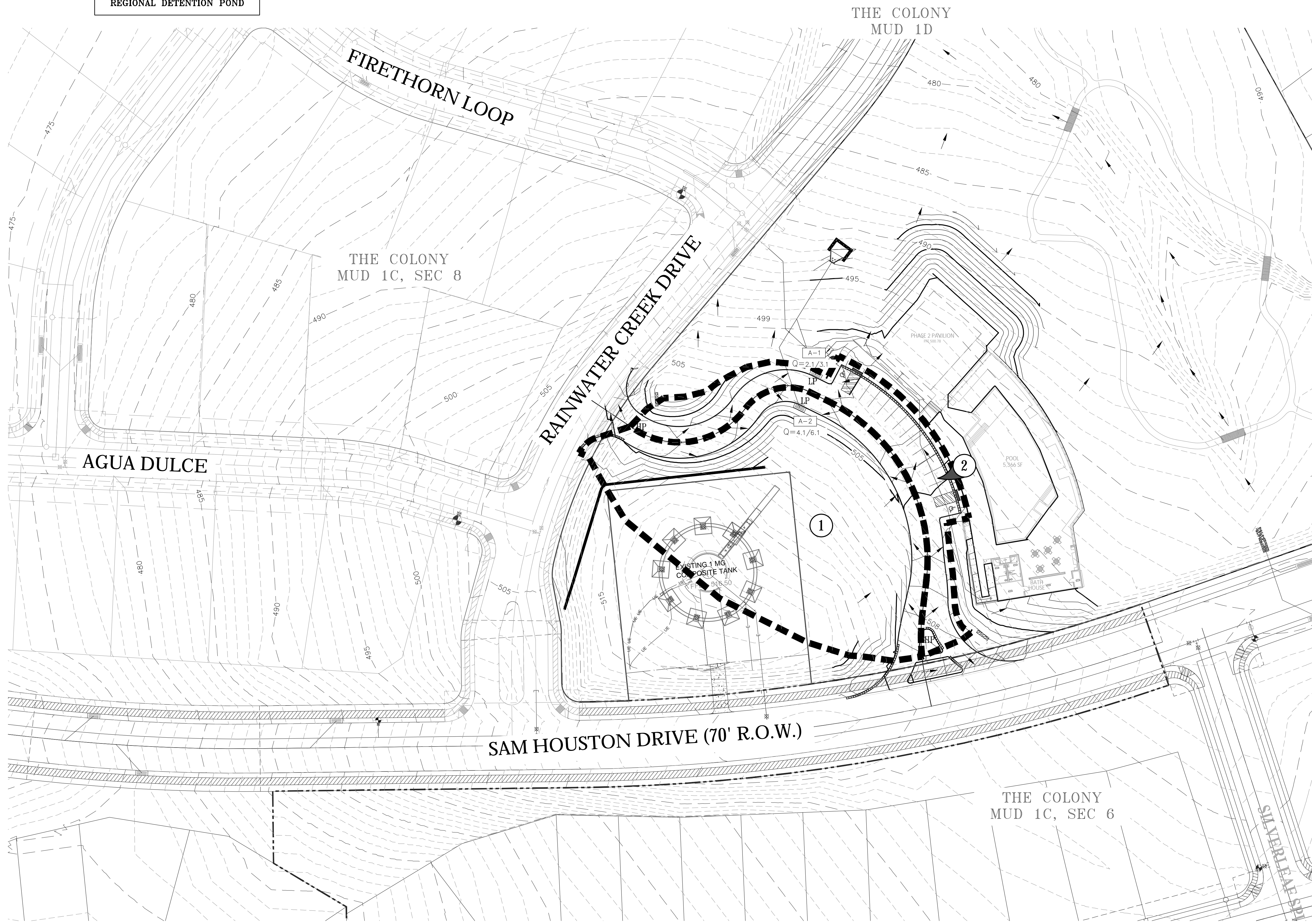
Area No.	Area (Acre)	T _c (Min.)	Perv. (%)	Imperv. (%)	C	C	I ₂₅ (In/Hr)	I ₁₀₀ (In/Hr)	Q ₂₅ (CFS)	Q ₁₀₀ (CFS)	C25°A	C100°A	AREA NO.
1	0.90	10.00	86	14	0.50	0.57	1.50	1.88	4.1	6.1	0.45	0.52	1
2	0.28	10.00	5	95	0.84	0.93	1.50	1.88	2.1	3.1	0.23	0.26	2

AREAS COMBINED	T _c (Min.)	C _{25°A}	C _{100°A}	I ₂₅ (In/Hr)	I ₁₀₀ (In/Hr)	Q ₂₅ (CFS)	Q ₁₀₀ (CFS)
1-2	10	0.68	0.77	9.01	11.82	6.2	9.2

NOTE: RUNOFF FROM SITE IS CONVEYED TO EXISTING MUD 1C REGIONAL DETENTION POND

INLET NUMBER	DRAINAGE AREA NO.	Q (CFS)	Q PASS (CFS)	Q SPILL (CFS)	Q ADD (CFS)	Q TOTAL (QA) (CFS)	SLOPE (%)	a (FT)	Y _o (FT)	PAVEMENT WIDTH	PONDED WIDTH	Q _a /L _a	L _a (FT)	LENGTH (FT)	L/L _a	a/Y _o	Q/Q _a	REMARK
A-2	1	4.1	0.0	0.0	0.0	4.1	LP	0.42	0.26	26.00	-	-	-	10	-	-	1.00	
A-1	2	2.1	0.0	0.0	0.0	2.1	LP	0.42	0.17	26.00	-	-	-	10	-	-	1.00	

INLET NUMBER	DRAINAGE AREA NO.	Q (CFS)	Q PASS (CFS)	Q SPILL (CFS)	Q ADD (CFS)	Q TOTAL (QA) (CFS)	SLOPE (%)	a (IN)	Y _o (FT)	PAVEMENT WIDTH	PONDED WIDTH	Q _a /L _a	L _a (FT)	LENGTH (FT)	L/L _a	a/Y _o	Q/Q _a	REMARK
A-2	1	6.1	0.0	0.0	0.0	6.1	LP	0.42	0.35	26.00	-	-	-	10	-	-	1.00	
A-1	2	3.1	0.0	0.0	0.0	3.1	LP	0.42	0.22	26.00	-	-	-	10	-	-	1.00	



LEGEND

- - - - - EXISTING MINOR CONTOURS
- - - - - EXISTING MAJOR CONTOURS
- - - - - PROPOSED MINOR CONTOURS
- 305 PROPOSED MAJOR CONTOURS
- DRAINAGE AREA BOUNDARY
- TC TIME OF CONCENTRATION PATH
- A1 DRAINAGE AREA NUMBER
- LP / HP HIGH POINT / LOW POINT
- ➔ FLOW ARROW

SCALE: 1" = 40'

DESIGNED BY:	DATE	DRAFTED BY:	DATE
NAME		NAME	

Carlson, Brigrance & Doering, Inc.
 Civil Engineering & Surveying
 FIRM ID #F5791
 Main Office: 5501 West William Cannon Dr., Austin, Texas 78750
 North Office: 12120 RR 620 N., Ste. 600, Austin, Texas 78750
 Phone No. (512) 286-5160
 www.cbding.com

LOCAL DRAINAGE PLAN
THE COLONY TREE HOUSE
SITE PLAN

SHEET NAME:
 JOB NAME:
 PROJECT:

M. Harnouch

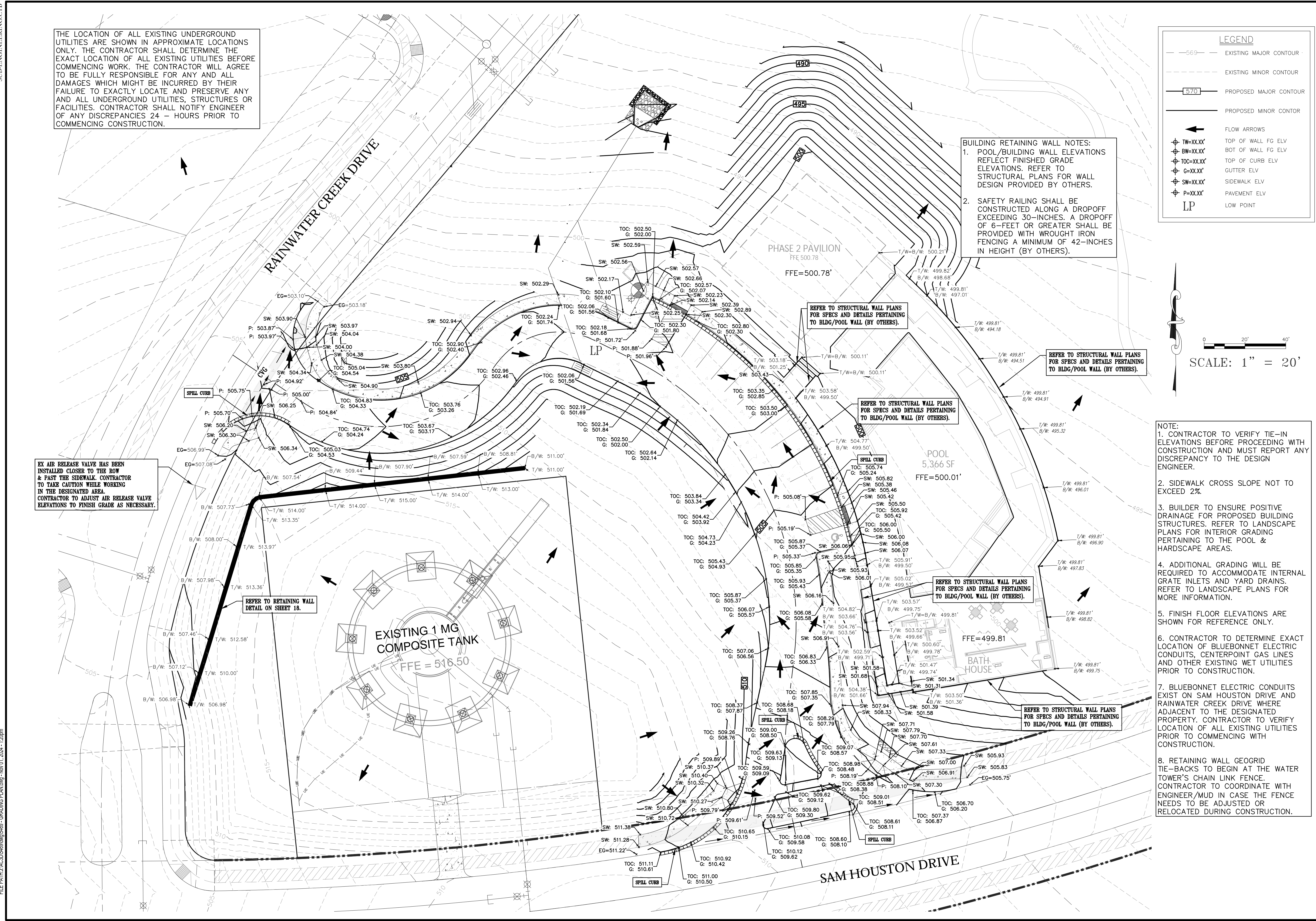
MAHER HARMOUCHE
 143982
 LICENSED PROFESSIONAL ENGINEER

CARLSON, BRIGRANCE, & DOERING, INC.
 P. E. # 13701

DATE: **11.01.2024**
 JAN 2023
 JOB NUMBER: 5469
 SHEET: 8 OF 18

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24 - HOURS PRIOR TO COMMENCING CONSTRUCTION.

EX AIR RELEASE VALVE HAS BEEN INSTALLED CLOSER TO THE ROW & PAST THE SIDEWALK. CONTRACTOR TO TAKE CAUTION WHILE WORKING IN THE DESIGNATED AREA. CONTRACTOR TO ADJUST AIR RELEASE VALVE ELEVATIONS TO FINISH GRADE AS NECESSARY.



BUILDING RETAINING WALL NOTES:
1. POOL/BUILDING WALL ELEVATIONS REFLECT FINISHED GRADE ELEVATIONS. REFER TO STRUCTURAL PLANS FOR WALL DESIGN PROVIDED BY OTHERS.
2. SAFETY RAILING SHALL BE CONSTRUCTED ALONG A DROPOFF EXCEEDING 30-INCHES. A DROPOFF OF 6- FEET OR GREATER SHALL BE PROVIDED WITH WROUGHT IRON FENCING A MINIMUM OF 42-INCHES IN HEIGHT (BY OTHERS).

REFER TO STRUCTURAL WALL PLANS FOR SPECS AND DETAILS PERTAINING TO BLDG/POOL WALL (BY OTHERS).

REFER TO STRUCTURAL WALL PLANS FOR SPECS AND DETAILS PERTAINING TO BLDG/POOL WALL (BY OTHERS).

REFER TO STRUCTURAL WALL PLANS FOR SPECS AND DETAILS PERTAINING TO BLDG/POOL WALL (BY OTHERS).

REFER TO STRUCTURAL WALL PLANS FOR SPECS AND DETAILS PERTAINING TO BLDG/POOL WALL (BY OTHERS).

REFER TO STRUCTURAL WALL PLANS FOR SPECS AND DETAILS PERTAINING TO BLDG/POOL WALL (BY OTHERS).

REFER TO RETAINING WALL DETAIL ON SHEET 18.

LEGEND

- 5.69- EXISTING MAJOR CONTOUR
- - - - EXISTING MINOR CONTOUR
- 5.70- PROPOSED MAJOR CONTOUR
- - - - PROPOSED MINOR CONTOUR
- ← FLOW ARROWS
- ⊕ TW=XX.XX' TOP OF WALL FG ELV
- ⊖ BW=XX.XX' BOT OF WALL FG ELV
- ⊕ TOC=XX.XX' TOP OF CURB ELV
- G=XX.XX' GUTTER ELV
- ⊕ SW=XX.XX' SIDEWALK ELV
- ⊕ P=XX.XX' PAVEMENT ELV
- LP LOW POINT

SCALE: 1" = 20'

- NOTE:**
- CONTRACTOR TO VERIFY TIE-IN ELEVATIONS BEFORE PROCEEDING WITH CONSTRUCTION AND MUST REPORT ANY DISCREPANCY TO THE DESIGN ENGINEER.
 - SIDEWALK CROSS SLOPE NOT TO EXCEED 2%.
 - BUILDER TO ENSURE POSITIVE DRAINAGE FOR PROPOSED BUILDING STRUCTURES. REFER TO LANDSCAPE PLANS FOR INTERIOR GRADING PERTAINING TO THE POOL & HARDSCAPE AREAS.
 - ADDITIONAL GRADING WILL BE REQUIRED TO ACCOMMODATE INTERNAL GRATE INLETS AND YARD DRAINS. REFER TO LANDSCAPE PLANS FOR MORE INFORMATION.
 - FINISH FLOOR ELEVATIONS ARE SHOWN FOR REFERENCE ONLY.
 - CONTRACTOR TO DETERMINE EXACT LOCATION OF BLUEBONNET ELECTRIC CONDUITS, CENTERPOINT GAS LINES AND OTHER EXISTING WET UTILITIES PRIOR TO CONSTRUCTION.
 - BLUEBONNET ELECTRIC CONDUITS EXIST ON SAM HOUSTON DRIVE AND RAINWATER CREEK DRIVE WHERE ADJACENT TO THE DESIGNATED PROPERTY. CONTRACTOR TO VERIFY LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING WITH CONSTRUCTION.
 - RETAINING WALL GEOGRID TIE-BACKS TO BEGIN AT THE WATER TOWER'S CHAIN LINK FENCE. CONTRACTOR TO COORDINATE WITH ENGINEER/MUD IN CASE THE FENCE NEEDS TO BE ADJUSTED OR RELOCATED DURING CONSTRUCTION.

DESIGNED BY:	NAME:	DRAFTED BY:	NAME:
DATE:			
REVISION:			

Carlson, Brigrance & Doering, Inc.
Civil Engineering & Surveying
FIRM ID #F5791
Main Office: North Office
5501 West William Cannon Dr. 12120 RR 620 N., Ste. 600
Austin, Texas 78749
Phone No. (512) 286-5160
www.cbding.com

GRADING PLAN
THE COLONY TREE HOUSE
SITE PLAN

SHEET NAME:
JOB NAME:
PROJECT:



11.01.2024
DATE:
JAN 2023
JOB NUMBER:
5469
SHEET:
9 OF 18

SUB-ENGINEERING.CTB

FILE PATH: J:\ACD\5469\469-5469-SITE PLAN.dwg - Nov 01, 2024 - 1:36pm

COLONY TREE HOUSE - CITY OF BASTROP ETJ & BASTROP COUNTY

ZONING:	COMMERCIAL
TOTAL SITE AREA:	280,526.40 SQFT 6.440 AC

IMPERVIOUS COVER SUMMARY

	EXISTING		PROPOSED		TOTAL IMPERVIOUS COVER %
	SQFT	ACRE	SQFT	ACRE	
PAVEMENT (CIVIL SCOPE)	0	0.00	17,222.77	0.395	6.14%
SIDEWALK (CIVIL SCOPE)	0	0.00	3,186.98	0.073	1.14%
CONCRETE TRAIL (BY OTHERS)	0	0.00	6,432.27	0.148	2.29%
HARDSCAPE AREAS AROUND POOL/BLDGS (BY OTHERS)	0	0.00	8,049.61	0.185	2.87%
PAVILION/BUILDINGS (BY OTHERS)	0	0.00	4,887.42	0.112	1.74%
POOL (BY OTHERS)	0	0.00	5,366.80	0.123	1.91%
TOTAL	0	0.00	45,145.84	1.036	16.09%

PERVIOUS COVER SUMMARY

	SQFT	ACRE	TOTAL PERVIOUS COVER %
PERVIOUS COVER	235,380.56	5.40	83.91%

PARKING SUMMARY

TYPE OF PARKING	TOTAL # OF SPACES
STANDARD UNCOVERED PARKING	12
ACCESSIBLE PARKING	2

THE COLONY
MUD 1D, SEC 5

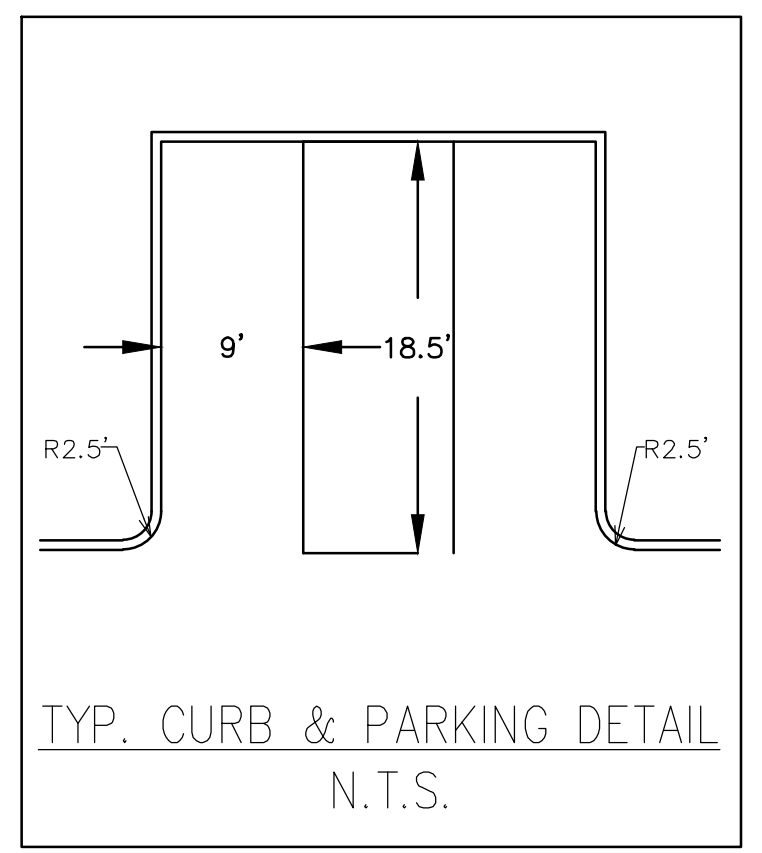
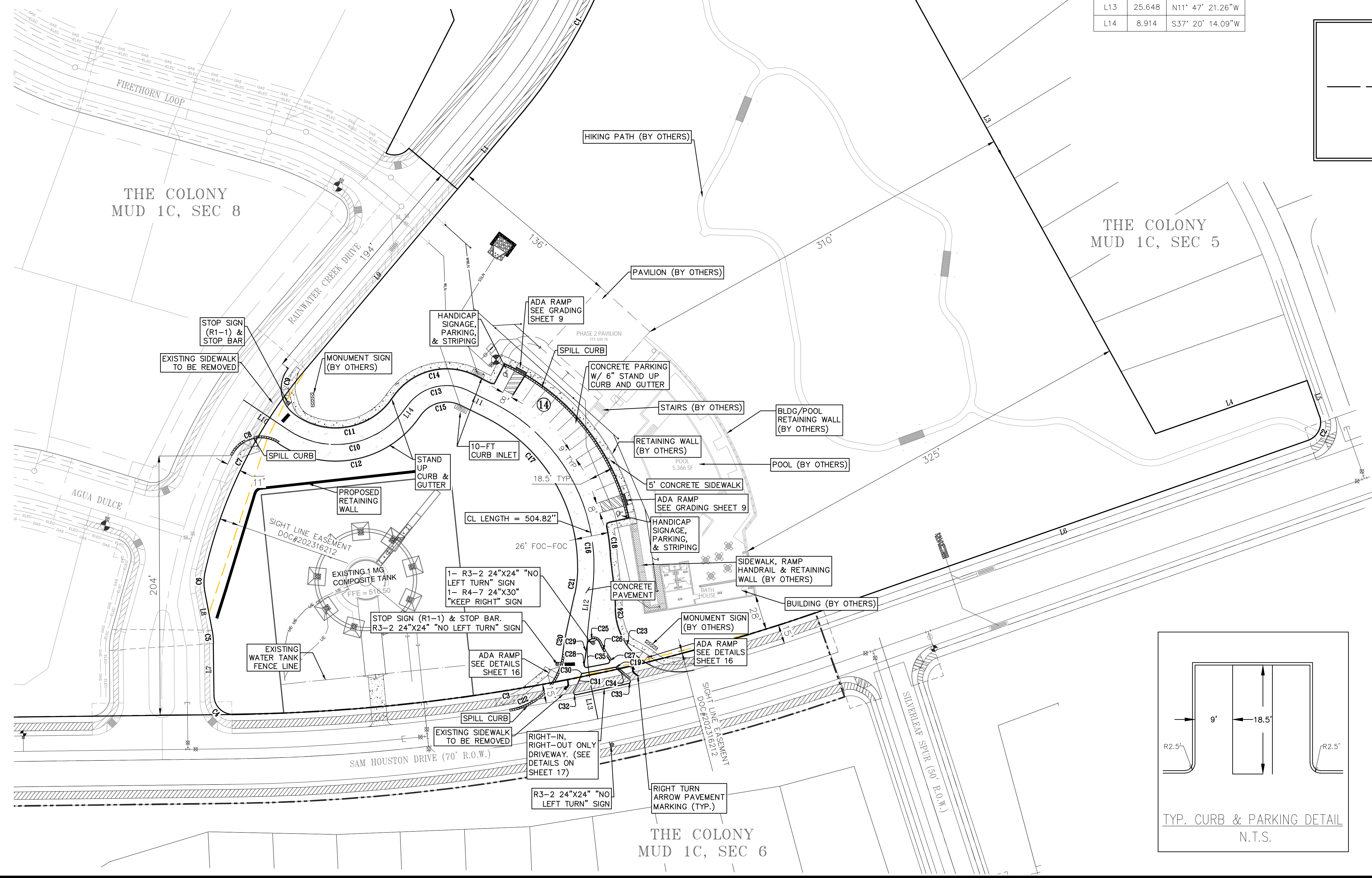
Line #	Length	Direction
L1	75.732	N40° 08' 42.48"E
L2	171.331	N58° 47' 24.27"E
L3	561.648	S28° 55' 39.65"E
L4	126.496	N70° 42' 24.59"E
L5	29.757	S19° 17' 35.41"E
L6	410.608	S70° 42' 32.16"W
L7	40.947	N00° 36' 28.60"W
L8	30.952	N10° 41' 29.28"W
L9	185.128	N40° 09' 38.20"E
L10	42.392	N56° 02' 19.80"W
L11	20.916	N63° 52' 07.80"W
L12	27.826	N06° 50' 10.48"E
L13	25.648	N11° 47' 21.26"W
L14	8.914	S37° 20' 14.09"W

SCALE: 1" = 40'

LEGEND

- STOP SIGN
- STOP BAR
- PROPERTY BOUNDARY
- PARKING COUNT
- L1** LINE NUMBER
- C1** CURVE NUMBER

Curve #	Length	Radius	Delta
C1	174.599	425.00	023.5384
C2	23.562	15.00	090.0000
C3	469.459	1465.00	018.3604
C4	23.601	15.00	090.1496
C5	10.559	60.00	010.0835
C6	16.095	39.00	023.6450
C7	179.552	376.00	027.3606
C8	42.394	25.00	097.1608
C9	41.419	25.00	094.9262
C10	98.328	67.00	084.0865
C11	82.280	54.00	087.3020
C12	121.896	80.00	087.3019
C13	52.708	38.00	079.4719
C14	70.689	51.00	079.4157
C15	34.676	25.00	079.4719
C16	177.701	144.00	070.7051
C17	148.082	131.00	064.7670
C18	22.474	157.00	008.2018
C19	1.985	2.00	056.8766
C20	19.387	200.00	005.5541
C21	20.157	100.00	011.5488
C22	64.484	50.00	073.8938
C23	89.867	50.00	102.9803
C24	89.867	50.00	102.9803
C25	12.782	5.00	146.4675
C26	15.447	68.00	013.0150
C27	4.035	2.00	115.6046
C28	3.929	2.00	112.5491
C29	10.483	182.00	003.3002
C30	2.100	2.00	060.1480
C31	13.907	68.00	011.7181
C32	4.612	2.00	132.1146
C33	4.612	2.00	132.1146
C34	13.239	68.00	011.1547
C35	50.387	155.00	018.6255

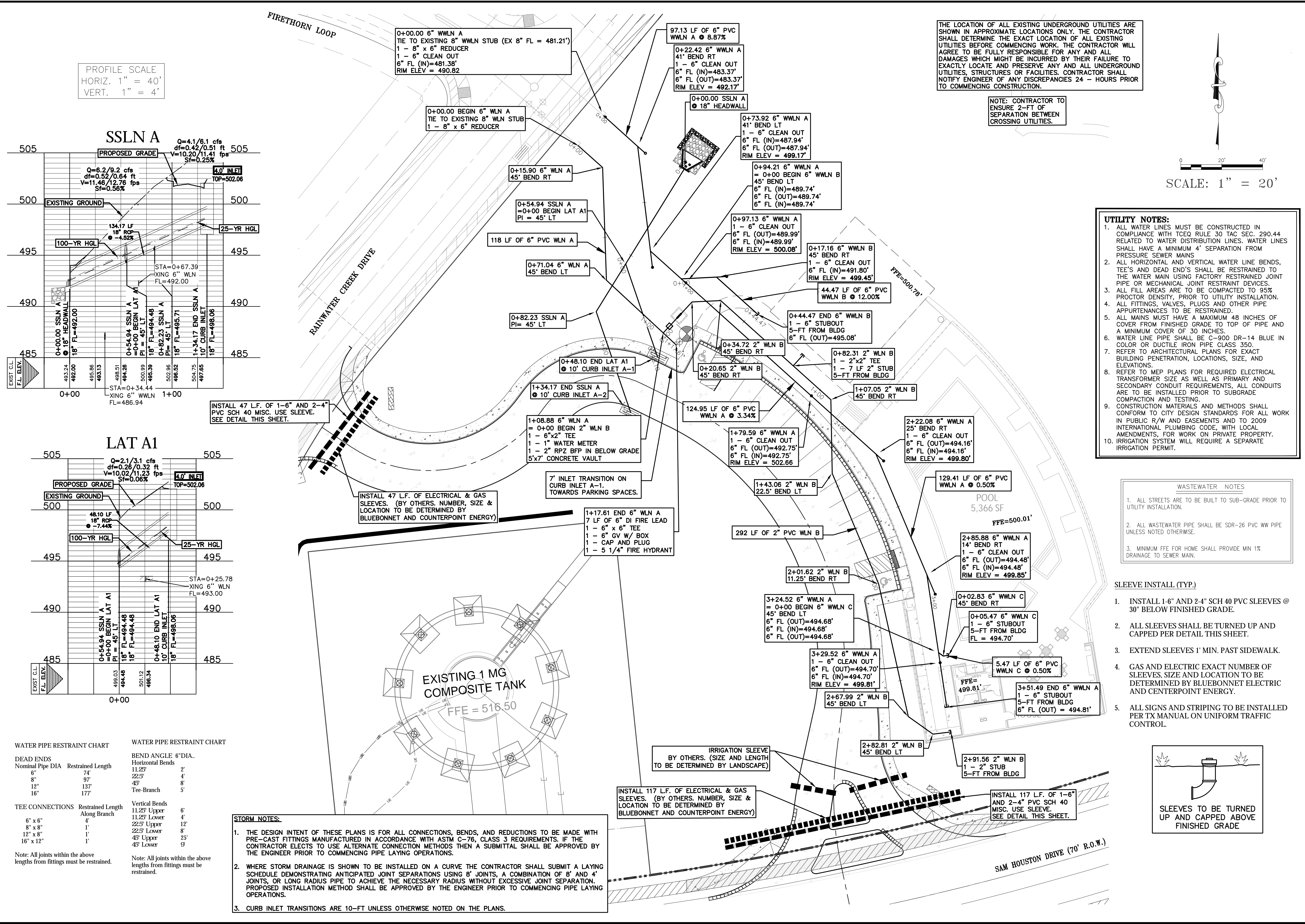


DESIGNED BY:	NAME	DRAFTED BY:	NAME
DATE			
REVISION			

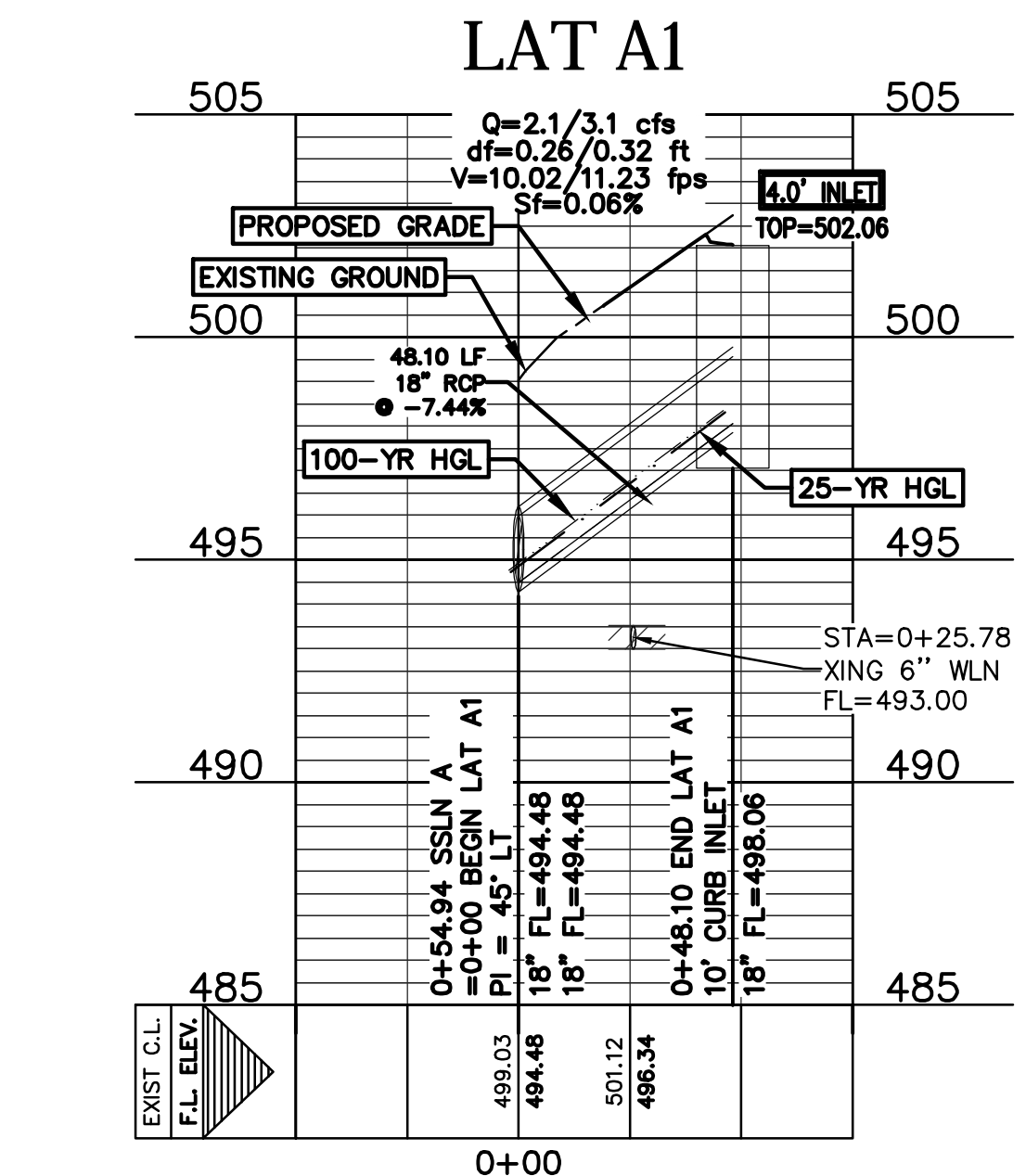
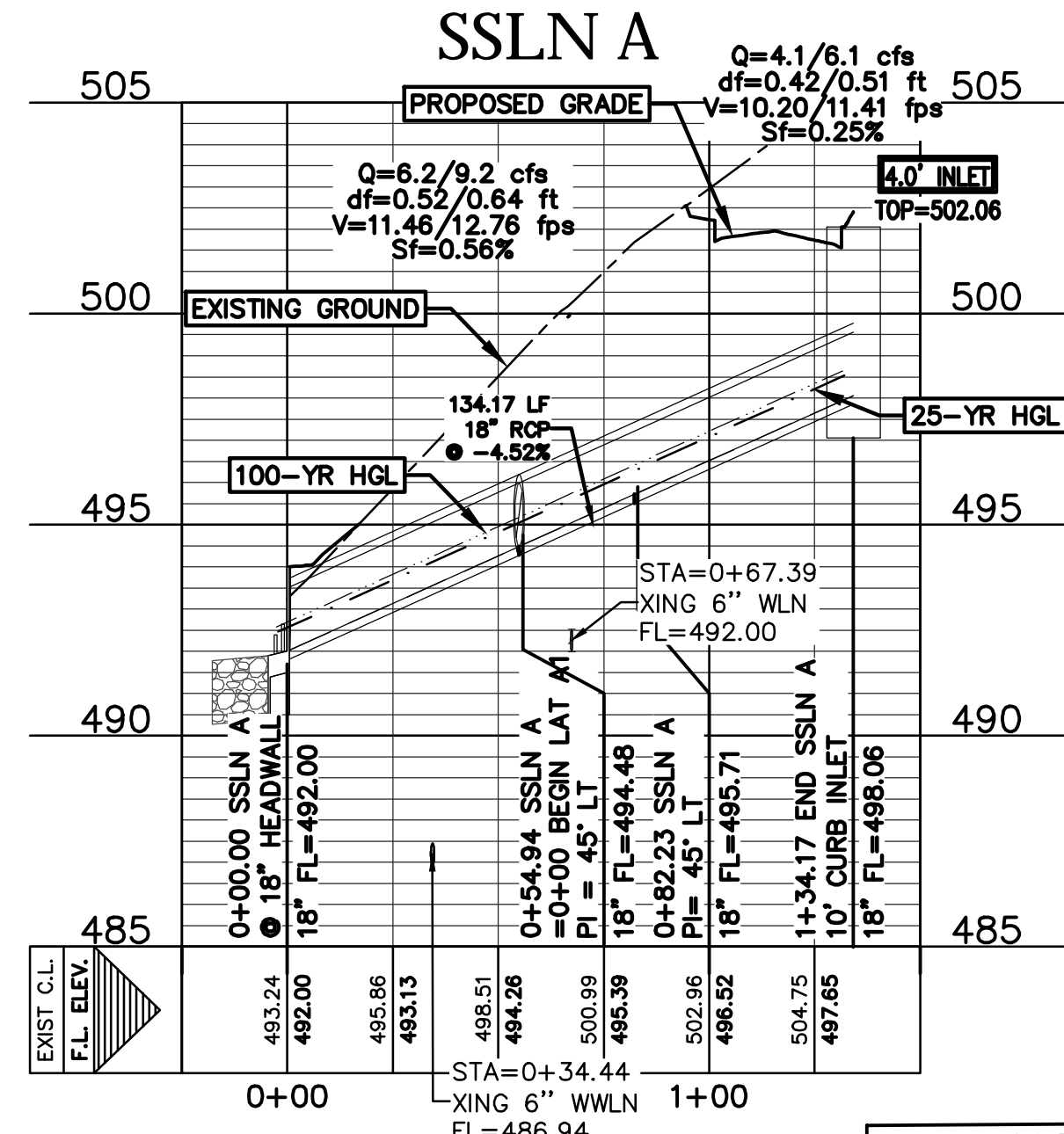
Carlson, Brigrance & Doering, Inc.
Civil Engineering & Surveying
FIRM ID #15791
Main Office: 5501 West William Cannon Dr., Austin, Texas 78750
North Office: 12129 RR 620 N., Ste. 600, Austin, Texas 78750
Phone No. (512) 286-5160
www.cbdi.com

SHEET NAME: **SITE PLAN**
JOB NAME: **THE COLONY TREE HOUSE**
PROJECT: **SITE PLAN**

SHEET NAME: *M. Harrouche*
JOB NAME: MAHER HARMOUCHE
PROJECT: LICENSED PROFESSIONAL ENGINEER
DATE: **11.01.2024**
JOB NUMBER: **5469**
SHEET: **10 OF 18**



PROFILE SCALE
HORIZ. 1" = 40'
VERT. 1" = 4'



WATER PIPE RESTRAINT CHART		WATER PIPE RESTRAINT CHART	
DEAD ENDS	Restrained Length	BEND ANGLE 6" DIA.	
Nominal Pipe DIA		Horizontal Bends	
6"	74'	11.25°	2'
8"	97'	22.5°	4'
12"	137'	45°	8'
16"	177'	Tee-Branch	5'
TEE CONNECTIONS		Vertical Bends	
	Restrained Length Along Branch	11.25° Upper	6'
6" x 6"	4'	11.25° Lower	4'
8" x 8"	1'	22.5° Upper	12'
12" x 8"	1'	22.5° Lower	8'
16" x 12"	1'	45° Upper	25'
		45° Lower	9'

Note: All joints within the above lengths from fittings must be restrained.

STORM NOTES:

- THE DESIGN INTENT OF THESE PLANS IS FOR ALL CONNECTIONS, BENDS, AND REDUCTIONS TO BE MADE WITH PRE-CAST FITTINGS MANUFACTURED IN ACCORDANCE WITH ASTM C-76, CLASS 3 REQUIREMENTS. IF THE CONTRACTOR ELECTS TO USE ALTERNATE CONNECTION METHODS THEN A SUBMITTAL SHALL BE APPROVED BY THE ENGINEER PRIOR TO COMMENCING PIPE LAYING OPERATIONS.
- WHERE STORM DRAINAGE IS SHOWN TO BE INSTALLED ON A CURVE THE CONTRACTOR SHALL SUBMIT A LAYING SCHEDULE DEMONSTRATING ANTICIPATED JOINT SEPARATIONS USING 8' JOINTS, A COMBINATION OF 8' AND 4' JOINTS, OR LONG RADIUS PIPE TO ACHIEVE THE NECESSARY RADIUS WITHOUT EXCESSIVE JOINT SEPARATION. PROPOSED INSTALLATION METHOD SHALL BE APPROVED BY THE ENGINEER PRIOR TO COMMENCING PIPE LAYING OPERATIONS.
- CURB INLET TRANSITIONS ARE 10-FT UNLESS OTHERWISE NOTED ON THE PLANS.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24 - HOURS PRIOR TO COMMENCING CONSTRUCTION.

NOTE: CONTRACTOR TO ENSURE 2-FT OF SEPARATION BETWEEN CROSSING UTILITIES.

UTILITY NOTES:

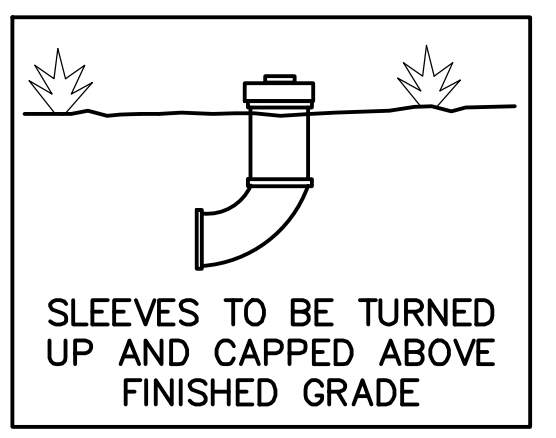
- ALL WATER LINES MUST BE CONSTRUCTED IN COMPLIANCE WITH TCEQ RULE 30 TAC SEC. 290.44 RELATED TO WATER DISTRIBUTION LINES. WATER LINES SHALL HAVE A MINIMUM 4' SEPARATION FROM PRESSURE SEWER MAINS.
- ALL HORIZONTAL AND VERTICAL WATER LINE BENDS, TEE'S AND DEAD END'S SHALL BE RESTRAINED TO THE WATER MAIN USING FACTORY RESTRAINED JOINT PIPE OR MECHANICAL JOINT RESTRAINT DEVICES.
- ALL FILL AREAS ARE TO BE PROCTOR TO 95% PROCTOR DENSITY, PRIOR TO UTILITY INSTALLATION.
- ALL FITTINGS, VALVES, PLUGS AND OTHER PIPE APPURTENANCES TO BE RESTRAINED.
- ALL MAINS MUST HAVE A MAXIMUM 48 INCHES OF COVER FROM FINISHED GRADE TO TOP OF PIPE AND A MINIMUM COVER OF 30 INCHES.
- WATER LINE PIPE SHALL BE C-900 DR-14 BLUE IN COLOR OR DUCTILE IRON PIPE CLASS 350.
- REFER TO ARCHITECTURAL PLANS FOR EXACT BUILDING PENETRATION, LOCATIONS, SIZE, AND ELEVATIONS.
- REFER TO MEP PLANS FOR REQUIRED ELECTRICAL TRANSFORMER SIZE AS WELL AS PRIMARY AND SECONDARY CONDUIT REQUIREMENTS. ALL CONDUITS ARE TO BE INSTALLED PRIOR TO SUBGRADE COMPACTION AND TESTING.
- CONSTRUCTION MATERIALS AND METHODS SHALL CONFORM TO CITY DESIGN STANDARDS FOR ALL WORK IN PUBLIC R/W AND EASEMENTS AND TO 2009 INTERNATIONAL PLUMBING CODE, WITH LOCAL AMENDMENTS, FOR WORK ON PRIVATE PROPERTY.
- IRRIGATION SYSTEM WILL REQUIRE A SEPARATE IRRIGATION PERMIT.

WASTEWATER NOTES

- ALL STREETS ARE TO BE BUILT TO SUB-GRADE PRIOR TO UTILITY INSTALLATION.
- ALL WASTEWATER PIPE SHALL BE SDR-26 PVC WW PIPE UNLESS NOTED OTHERWISE.
- MINIMUM FFE FOR HOME SHALL PROVIDE MIN 1% DRAINAGE TO SEWER MAIN.

SLEEVE INSTALL (TYP.)

- INSTALL 1-6" AND 2-4" SCH 40 PVC SLEEVES @ 30" BELOW FINISHED GRADE.
- ALL SLEEVES SHALL BE TURNED UP AND CAPPED PER DETAIL THIS SHEET.
- EXTEND SLEEVES 1' MIN. PAST SIDEWALK.
- GAS AND ELECTRIC EXACT NUMBER OF SLEEVES, SIZE AND LOCATION TO BE DETERMINED BY BLUEBONNET ELECTRIC AND CENTERPOINT ENERGY.
- ALL SIGNS AND STRIPING TO BE INSTALLED PER TX MANUAL ON UNIFORM TRAFFIC CONTROL.



DESIGNED BY:	NAME	DRAFTED BY:	NAME
DATE		REVISION	

Carlson, Brigrance & Doering, Inc.
Civil Engineering & Surveying
FIRM ID #F5791
Main Office: 5501 West William Cannon Dr., Austin, Texas 78749
North Office: 12120 R.R. 620 N., Ste. 600, Austin, Texas 78750
www.cbding.com

UTILITY PLAN
THE COLONY TREE HOUSE
SITE PLAN

SHEET NAME:
JOB NAME:
PROJECT:



DATE: JAN 2023
JOB NUMBER: 5469
SHEET: 11 OF 18

SUB-ENGINEERING.CTR

BASTROP FIRE DEPARTMENT

FIRE DESIGN CODES	2018 INTERNATIONAL FIRE CODE WITH ADOPTED APPENDICES
FIRE FLOW DEMAND @ 20 PSI (GPM)	1,750 GPM FOR 2 HOURS
INTENDED USE	UTILITY AND MISCELLANEOUS
CONSTRUCTION CLASSIFICATION	BLDG. TYPE V-B
BUILDING FIRE AREA (S.F.)	4,888 S.F.
AUTOMATIC FIRE SPRINKLER SYSTEM TYPE (IF APPLICABLE)	N/A
REDUCED FIRE FLOW DEMAND @ 20 PSI FOR HAVING A SPRINKLER SYSTEM (GPM) (IF APPLICABLE)	N/A
FIRE HYDRANT FLOW TEST DATE	08/11/2023
FIRE HYDRANT FLOW TEST LOCATION	RAINWATER CREEK/FIRETHORN LOOP
ALTERNATIVE METHOD OF COMPLIANCE AMOC (IF APPLICABLE)	N/A

FIRE FLOW TEST RESULTS

RESIDUAL HYDRANT LOCATION: RAINWATER CREEK / FIRETHORN LOOP
 FLOW HYDRANT LOCATION: FIRETHORN LOOP

FLOW HYDRANT: PITOT READING: 40 PSI
 GPM: 1,061 GPM
 TOTAL FLOW DURING TEST: 1,061 GPM

TEST HYDRANT
 STATIC READING: 55 PSI
 RESIDUAL READING: 45 PSI

FLOW: AT 20 PSI RESIDUAL 2,087 GPM

THE COLONY MUD 1D

THE COLONY MUD 1C, SEC 8

THE COLONY MUD 1C, SEC 6

WATER LEGEND

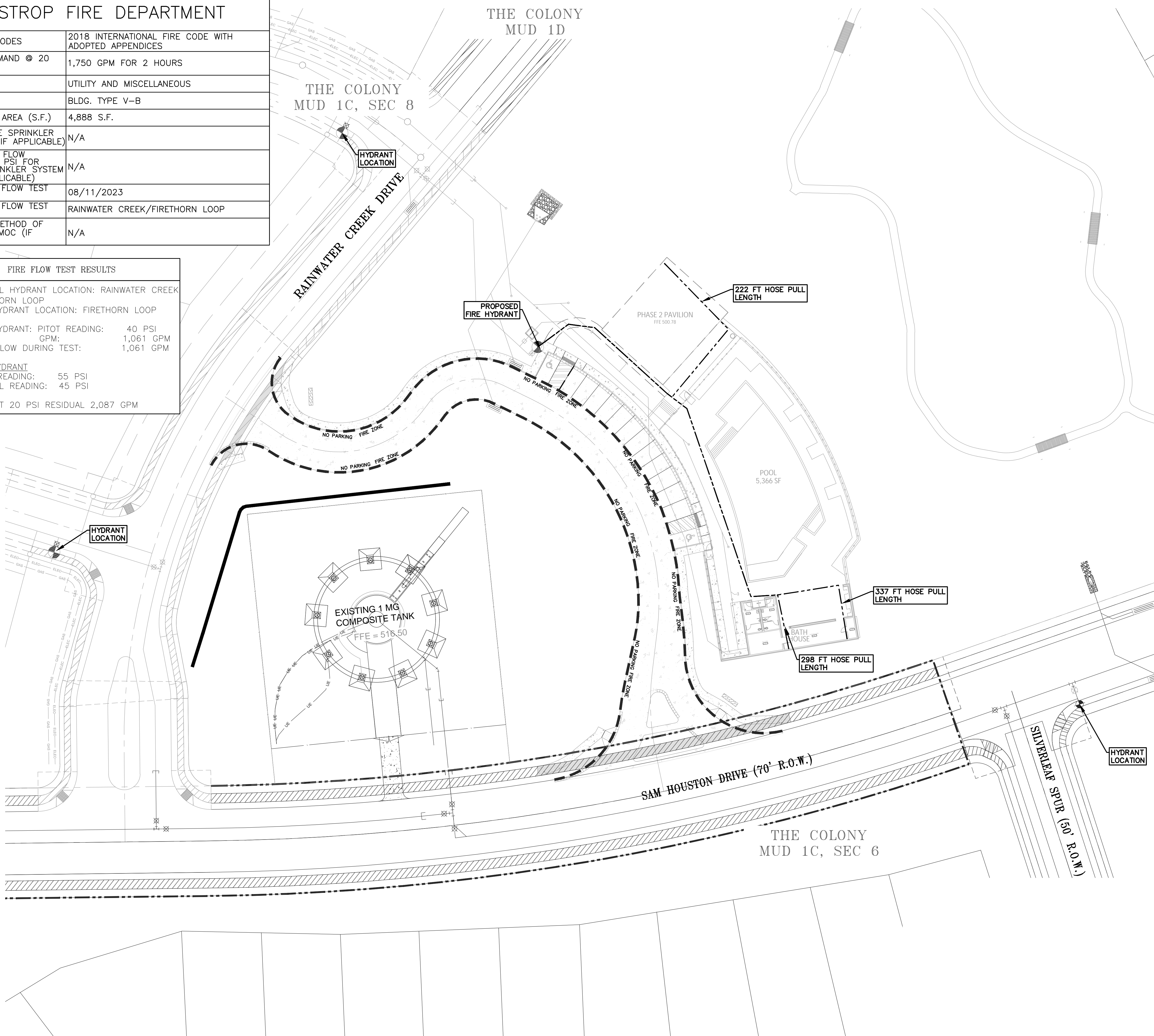
- PROPOSED FIRE HYDRANT
- PROPOSED GATE VALVE & BOX
- EXISTING FIRE HYDRANT
- EXISTING GATE VALVE & BOX
- MAXIMUM HOSE LAY TO BUILDING FACADE AT GRADE

0 30' 60'

SCALE: 1" = 30'

BASTROP FIRE DEPARTMENT GENERAL NOTES

- THE BASTROP FIRE DEPARTMENT REQUIRES FINAL ASPHALT OR CONCRETE PAVEMENT ON REQUIRED ACCESS ROADS PRIOR TO THE START OF COMBUSTIBLE CONSTRUCTION. ANY OTHER METHOD OF PROVIDING 'ALL-WEATHER DRIVING CAPABILITIES' SHALL BE REQUIRED TO BE DOCUMENTED AND APPROVED AS AN ALTERNATE METHOD OF CONSTRUCTION IN ACCORDANCE WITH THE APPLICABLE RULES FOR TEMPORARY ROADS.
- FIRE HYDRANTS SHALL BE INSTALLED WITH THE CENTER OF THE LARGE DIAMETER HOSE CONNECTION (STEAMER) LOCATED AT LEAST 18 INCHES ABOVE FINISHED GRADE. THE STEAMER OPENING OF FIRE HYDRANTS SHALL FACE THE APPROVED FIRE ACCESS DRIVEWAY OR PUBLIC-STREET AND SET BACK FROM THE CURB LINE(S) AN APPROVED DISTANCE, TYPICALLY THREE (3) TO SIX (6) FEET. THE AREA WITHIN THREE (3) FEET IN ALL DIRECTIONS FROM ANY FIRE HYDRANT SHALL BE FREE OF OBSTRUCTIONS AND THE AREA BETWEEN THE STEAMER OPENING AND THE STREET OR DRIVEWAY GIVING EMERGENCY VEHICLE ACCESS SHALL BE FREE OF OBSTRUCTIONS.
- TIMING OF INSTALLATIONS: WHEN FIRE PROTECTION FACILITIES ARE INSTALLED BY THE CONTRACTOR, SUCH FACILITIES SHALL INCLUDE SURFACE ACCESS ROADS. EMERGENCY ACCESS ROADS OR DRIVES SHALL BE INSTALLED AND MADE SERVICEABLE PRIOR TO AND DURING THE TIME OF CONSTRUCTION. WHEN THE FIRE DEPARTMENT APPROVES AN ALTERNATE METHOD OF PROTECTION, THIS REQUIREMENT MAY BE MODIFIED AS DOCUMENTED IN THE APPROVAL OF THE ALTERNATE METHOD.
- ALL EMERGENCY ACCESS ROADWAYS AND FIRE LANES, INCLUDING PVIOUS/DECORATIVE PAVING, SHALL BE ENGINEERED AND INSTALLED AS REQUIRED TO SUPPORT THE AXLE LOADS OF EMERGENCY VEHICLES. A LOAD CAPACITY SUFFICIENT TO MEET THE REQUIREMENTS FOR HS-20 LOADING (16 KIPS/WHEEL) AND A TOTAL VEHICLE LIVE LOAD OF 80,000 POUNDS IS CONSIDERED COMPLIANT WITH THIS REQUIREMENT.
- FIRE LANES DESIGNATED ON SITE PLANS SHALL BE REGISTERED WITH THE BASTROP FIRE DEPARTMENT AND INSPECTED FOR FINAL APPROVAL.
- THE MINIMUM VERTICAL CLEARANCE REQUIRED FOR EMERGENCY VEHICLE ACCESS ROADS OR DRIVES IS 13 FEET - 6 INCHES FOR THE FULL WIDTH OF THE ROADWAY OR DRIVEWAY.
- DUMPSTERS AND CONTAINERS WITH AN INDIVIDUAL CAPACITY OF 1.5 CUBIC YARDS OR MORE SHALL NOT BE STORED IN BUILDINGS OR PLACED WITHIN TEN FEET OF COMBUSTIBLE WALLS, OPENINGS, OR COMBUSTIBLE ROOF EAVE LINES.
- UNDERGROUND MAIN NOTES - TO BE PROVIDED ON THE UTILITY PLAN SHEET:
 - UNDERGROUND MAINS SUPPLYING NFPA 13 AND NFPA 13R SPRINKLER SYSTEMS MUST BE INSTALLED AND TESTED IN ACCORDANCE WITH NFPA 13 AND THE FIRE CODE, BY A LICENSED SPRINKLER CONTRACTOR HOLDING A SCR-U REGISTRATION THROUGH THE STATE FIRE MARSHAL'S OFFICE. THE ENTIRE MAIN MUST BE HYDROSTATICALLY TESTED AT ONE TIME, UNLESS ISOLATION VALVES ARE PROVIDED BETWEEN TESTED SECTIONS.
 - UNDERGROUND MAINS SUPPLYING PRIVATE HYDRANTS MUST BE INSTALLED AND TESTED IN ACCORDANCE WITH NFPA 24 AND THE FIRE CODE, BY A LICENSED SPRINKLER CONTRACTOR HOLDING A SCR-U REGISTRATION THROUGH THE STATE FIRE MARSHAL'S OFFICE. THE ENTIRE MAIN MUST BE HYDROSTATICALLY TESTED AT ONE TIME, UNLESS ISOLATION VALVES ARE PROVIDED BETWEEN TESTED SECTIONS.



DESIGNED BY:	NAME	DRAFTED BY:	NAME
DATE			
REVISION			

Carlson, Brigrance & Doering, Inc.
 Civil Engineering & Surveying
 FIRM ID #15791
 Main Office: 12120 RR 620 N., Ste. 600
 Austin, Texas 78749
 Phone No. (512) 286-5160
 www.cbding.com

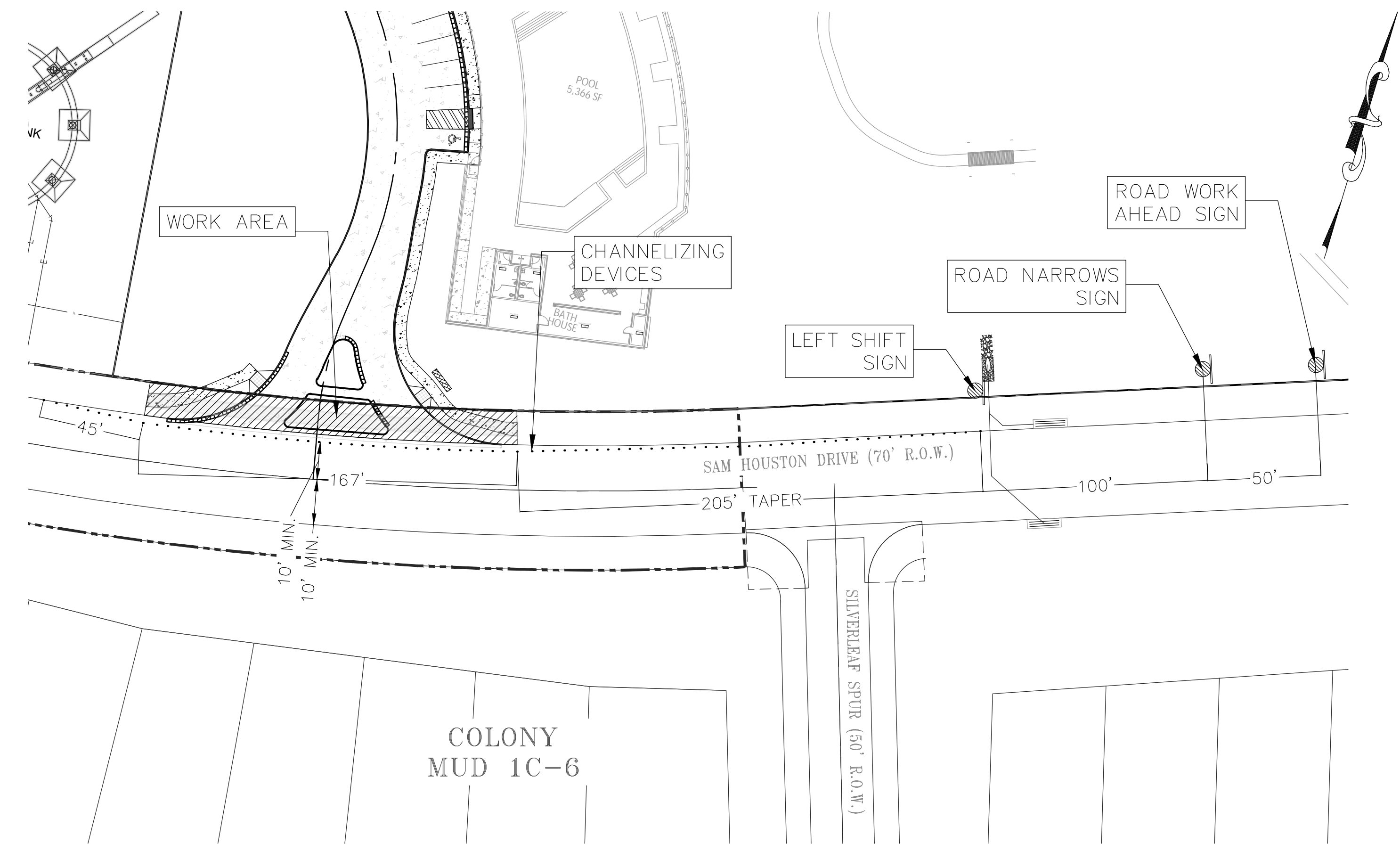
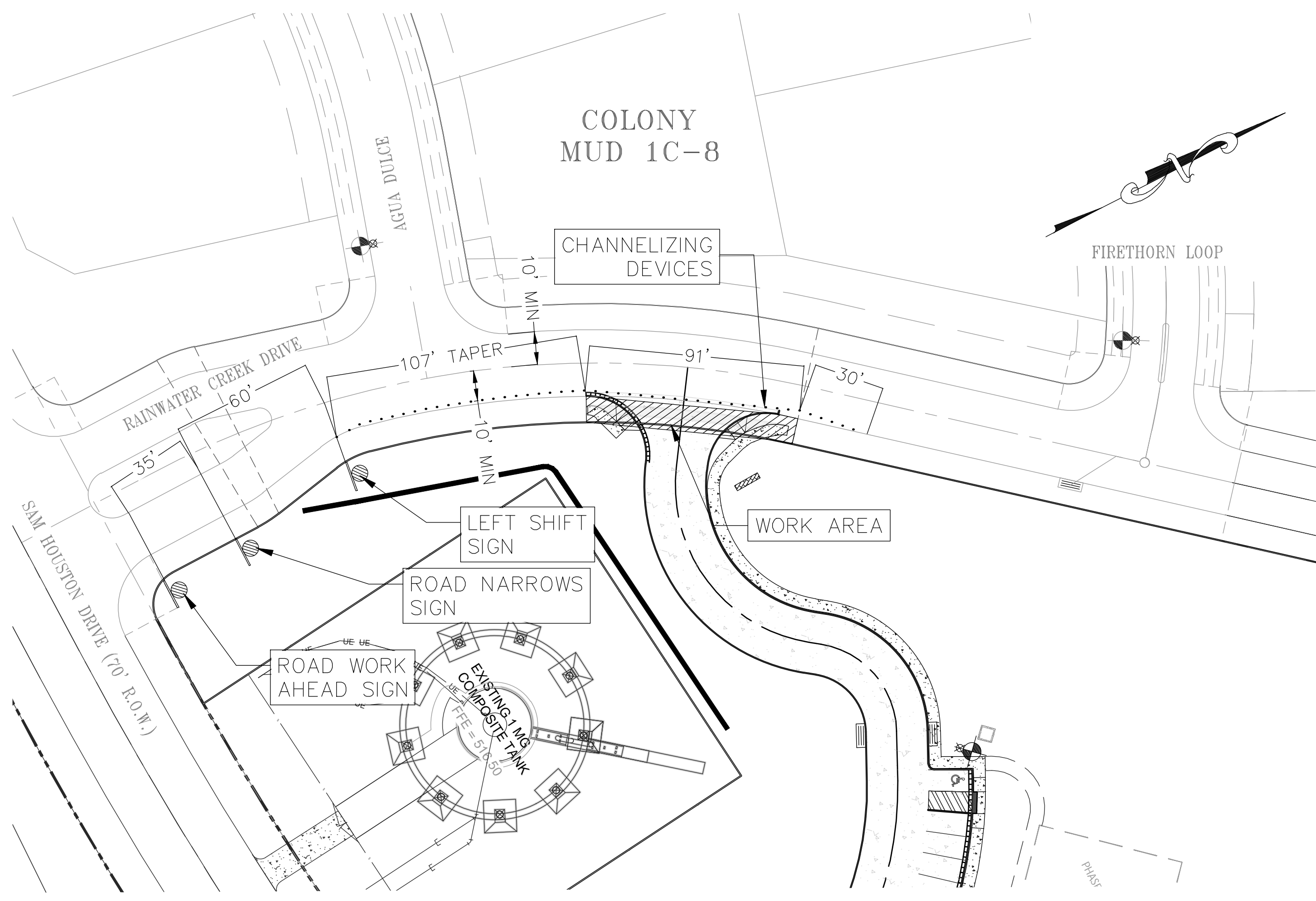
FIRE PROTECTION PLAN
THE COLONY TREE HOUSE
SITE PLAN

SHEET NAME:
 JOB NAME:
 PROJECT:

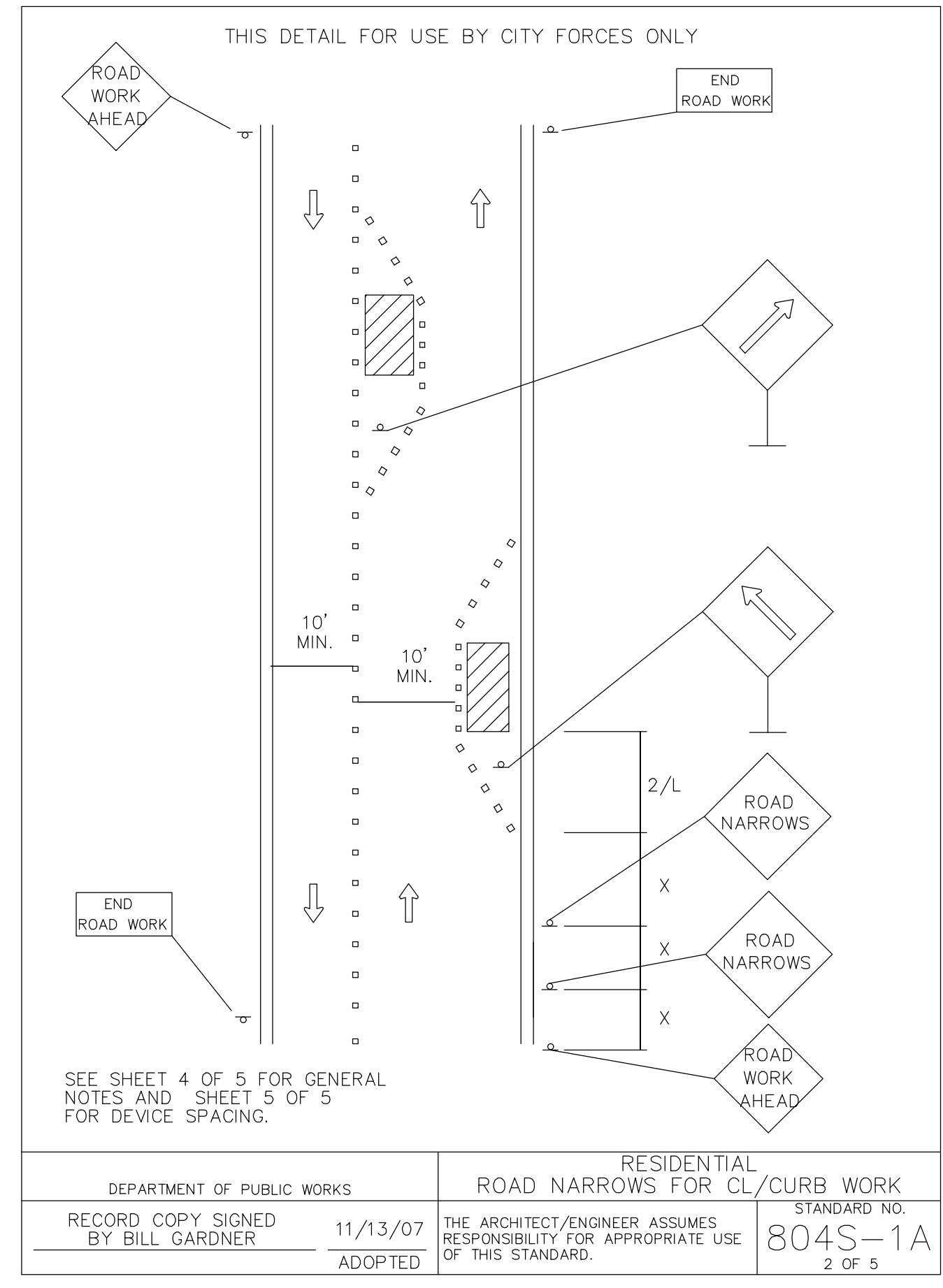
MAHER HARMOUCHE
 143982
 LICENSED PROFESSIONAL ENGINEER
 STATE OF TEXAS

11.01.2024
 DATE: JAN 2023
 JOB NUMBER: 5469
 SHEET: 12 OF 18

FILE PATH: J:\ACD\5469\5469 - FIRE PROTECTION PLAN.dwg - Nov 01, 2024 - 2:07pm



0 40' 80'
SCALE: 1" = 40'



- THIS DETAIL FOR USE BY CITY FORCES ONLY
- ALL SETUPS SHALL BE IN ACCORDANCE WITH THE CURRENT ADDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND THE CITY OF AUSTIN TRANSPORTATION CRITERIA MANUAL.
 - TO DETERMINE APPROPRIATE DEVICES AND SIGN SIZES TO BE USED, REFER TO STANDARD 804S-5, SHEETS 5, 6 AND 7 OF 11.
 - FOR INTERMEDIATE-TERM SITUATIONS, WHEN IT IS NOT FEASIBLE TO REMOVE AND RESTORE PAVEMENT MARKINGS, THE CHANNELIZATION MUST BE MADE DOMINANT BY USING A VERY CLOSE DEVICE SPACING. THIS IS ESPECIALLY IMPORTANT IN LOCATIONS OF CONFLICTING INFORMATION, SUCH AS WHERE TRAFFIC IS DIRECTED OVER A DOUBLE YELLOW CENTERLINE. IN SUCH LOCATIONS, A MAXIMUM CHANNELIZING DEVICE SPACING OF 3 m (10') IS REQUIRED.
 - FOR LONG TERM STATIONARY WORK, ALL CONFLICTING PAVEMENT MARKINGS MUST BE REMOVED AND CENTERLINE STRIPING PROVIDED WHERE TWO WAY TRAFFIC IS IN ADJACENT LANES.
 - FOR TEMPORARY PAVEMENT MARKING REQUIREMENTS SEE STANDARD 804S-3.
 - FOR ONE-WAY AND MULTI-LANE ROADWAYS THE "LANE BLOCKED" SIGN MAY BE USED IN LIEU OF THE "LANE CLOSED AHEAD" SIGN. THE NUMBER OF DIGITS ON THE SIGN SHALL NOT BE GREATER THAN THE NUMBER OF LANES PRESENT ON THE ROADWAY. THE "X" SHALL BE PLACED UNDER THE NUMBER OF LANE(S) BLOCKED.
 - FOR FLAGGING OPERATION REQUIREMENTS SEE STANDARD 804S-2.
 - CONTRACTOR SHALL PROVIDE SIDEWALK CLOSURES, CROSSWALK CLOSURES OR WALKWAY BYPASS WHEREVER PEDESTRIAN MOVEMENTS ARE AFFECTED BY CONSTRUCTION ACTIVITIES. ALL SIDEWALKS AND CROSSWALKS SHALL BE ACCESSIBLE WHEN CONTRACTOR IS NOT WORKING UNLESS APPROVED BY THE TRANSPORTATION DIVISION.
 - FOR EXCAVATION PROTECTION AND SAFETY FENCE REQUIREMENTS SEE STANDARD 804S-4.
 - THE USE OF ARROW DISPLAYS ARE REQUIRED ON ALL LANE CLOSURES. THE CONTRACTOR SHALL PROVIDE ONE (1) STAND-BY UNIT IN GOOD WORKING CONDITION AT THE JOB SITE, READY FOR USE IF THE OPERATION REQUIRES 24-HOUR A DAY LANE CLOSURE SET-UPS.
 - WHEN ACTIVITY ENCLOSES OR BLOCKS A BIKE LANE, SIGNS ARE REQUIRED TO INDICATE BIKE LANE CLOSURES.
- DEPARTMENT OF PUBLIC WORKS
RECORD COPY SIGNED BY BILL GARDNER 11/13/07 ADOPTED
- GENERAL NOTES
STANDARD NO. 804S-1A
4 OF 5
- THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.

THIS DETAIL FOR USE BY CITY FORCES ONLY

Typical Transition Lengths and Suggested Maximum Spacing of Devices

Speed KMPH	Posted Speed MPH	Formula	Minimum Desirable Taper Lengths (L) Meters (Feet)			On a taper Meters (feet)	On a tangent Meters (feet)	Suggested Max. Device Spacing Meters (Feet)	Suggested Sign Spacing Meters (Feet)
			Offset Meters (feet)	Offset Meters (feet)	Offset Meters (feet)				
50	30	L=WS ² /60	3.0(10)	3.3(11)	3.6(12)	9	15-20	40 (120)	40 (120)
			45 (150)	50 (165)	55 (180)				
			65 (205)	70 (225)	75 (245)				
55	35	L=WS ² /60	80 (265)	90 (295)	100 (320)	12 (40)	25-30 (80-100)	75 (240)	75 (240)
			135 (450)	150 (495)	165 (540)				
			150 (500)	165 (550)	180 (600)				
65	40	L=WS ² /60	165 (550)	185 (605)	200 (660)	16 (55)	35-40 (110-140)	150 (500)	150 (500)
			180 (600)	200 (660)	220 (720)				
			195 (650)	215 (715)	235 (780)				
70	45	L=WS ² /60	215 (700)	235 (770)	255 (840)	21 (70)	40-50 (130-165)	210 (700)	210 (700)
			215 (700)	235 (770)	255 (840)				
			215 (700)	235 (770)	255 (840)				
80	50	L=WS ² /60	215 (700)	235 (770)	255 (840)	21 (70)	45-55 (140-175)	240 (800)	240 (800)
			215 (700)	235 (770)	255 (840)				
			215 (700)	235 (770)	255 (840)				

LEGEND

- Channelizing devices
- Trailer mounted flashing arrow board
- Flagger

DEPARTMENT OF PUBLIC WORKS
RECORD COPY SIGNED BY BILL GARDNER 11/13/07 ADOPTED

DEVICE SPACING
STANDARD NO. 804S-1A
5 OF 5

THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.

DESIGNED BY: NAME	DRAFTED BY: NAME
DATE	
REVISION	

Carlson, Brigrance & Doering, Inc.
Civil Engineering & Surveying
FIRM ID #F5791
Main Office: 5501 West William Cannon Dr., Austin, Texas 78750
North Office: 12120 RR 620 N., Ste. 600, Austin, Texas 78750
Phone No. (512) 286-5160
www.cbding.com

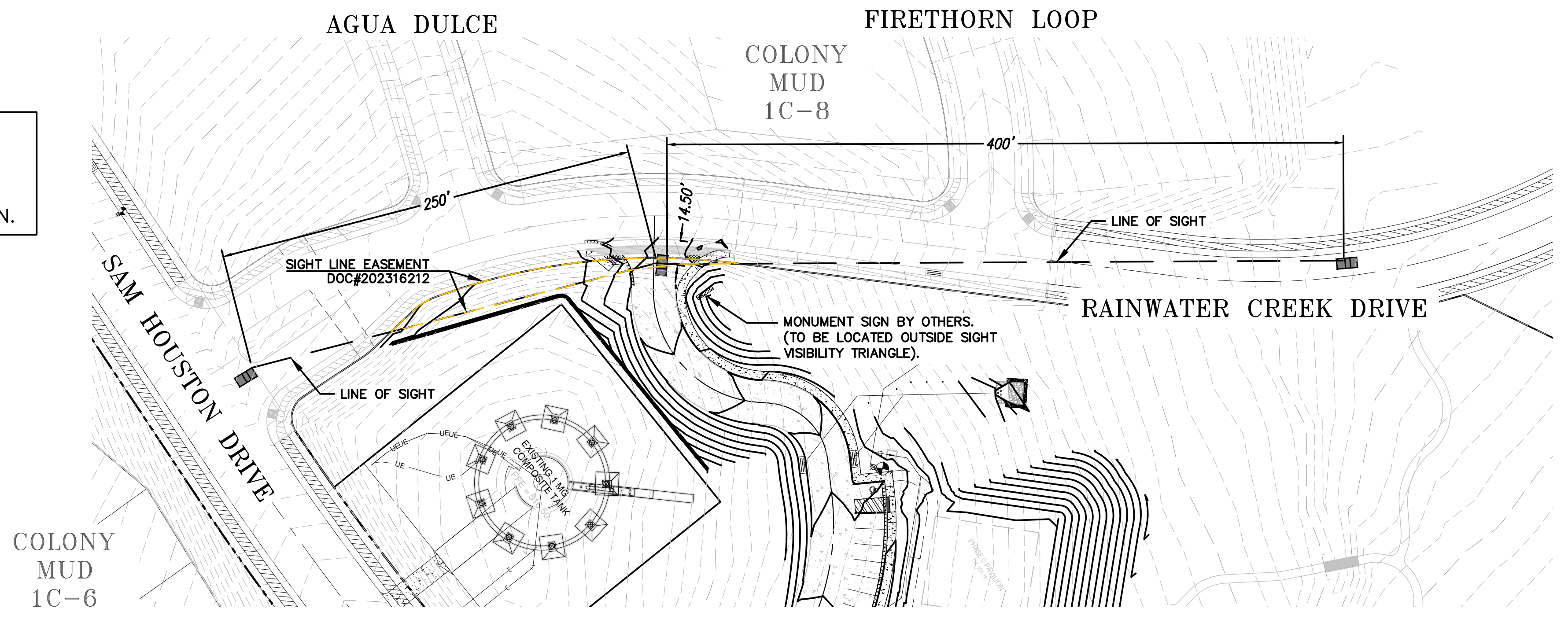
TRAFFIC CONTROL PLAN
THE COLONY TREE HOUSE
SITE PLAN

SHEET NAME:
JOB NAME:
PROJECT:



11.01.2024
DATE: JAN 2023
JOB NUMBER: 5469
SHEET: 13 OF 18

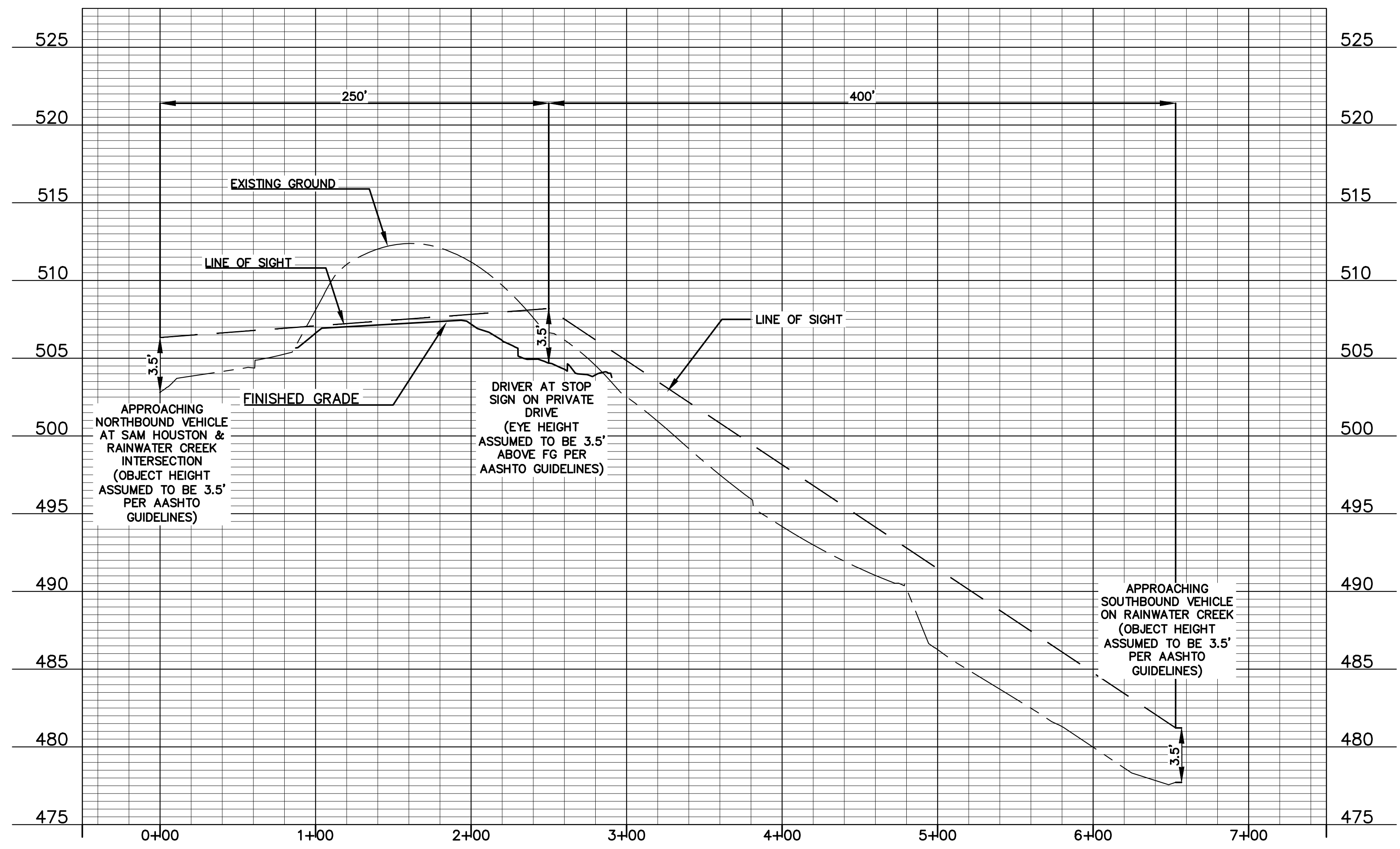
NOTE:
1. CONSTRUCTION PROHIBITED WITHIN SIGHT TRIANGLE AT INTERSECTION.



RAINWATER CREEK DRIVE / PRIVATE DRIVE PLAN VIEW
SCALE: 1" = 50'

PROFILE SCALE
HORIZ. 1" = 50'
VERT. 1" = 5'

PRIVATE DRIVE - RAINWATER CREEK SIGHT DISTANCE



DESIGNED BY: NAME	DRAFTED BY: NAME
DATE	
REVISION	

Carlson, Brigrance & Doering, Inc.
Civil Engineering & Surveying
FIRM ID #F5791
Main Office: 12120 RR 620 N., Ste. 600
Austin, Texas 78749
Phone No. (512) 280-5160
www.cbding.com

SHEET NAME: **SIGHT DISTANCE - RAINWATER DRIVE**
JOB NAME: **THE COLONY TREE HOUSE**
PROJECT: **SITE PLAN**

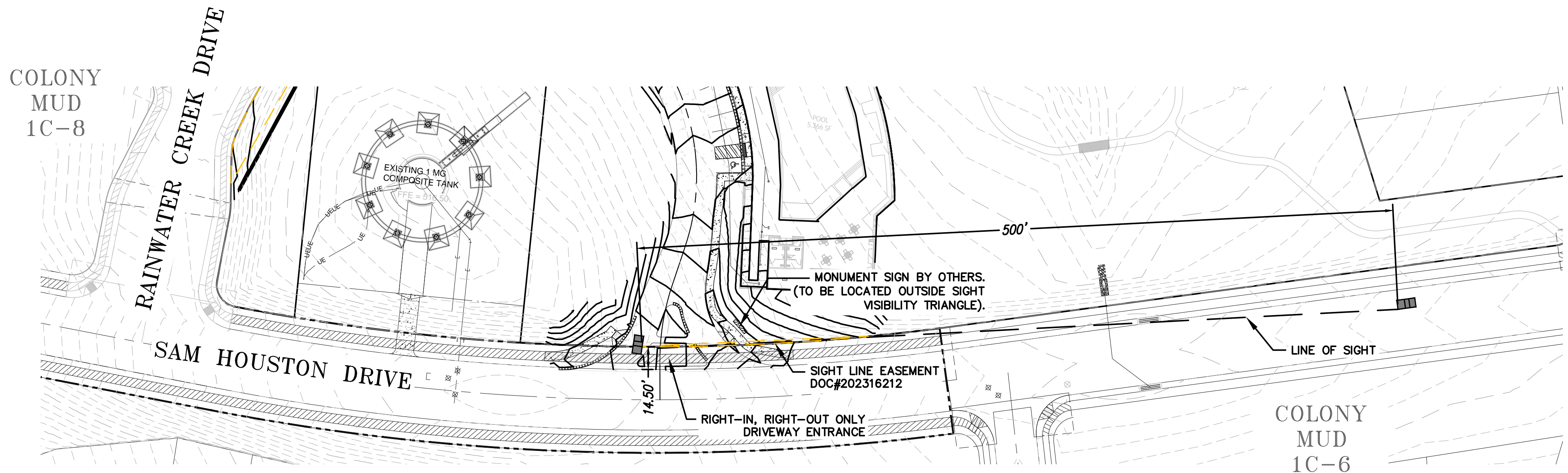
M. Harrouche

CARLSON, BRIGRANCE, & DOERING, INC.
P. # 5791
11.01.2024

DATE: **JAN 2023**
JOB NUMBER: **5469**
SHEET: **14 OF 18**

NOTE:

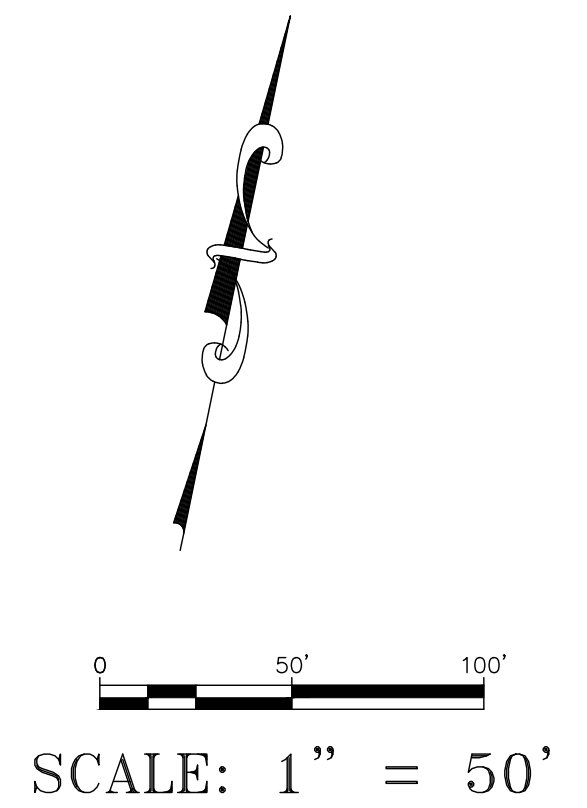
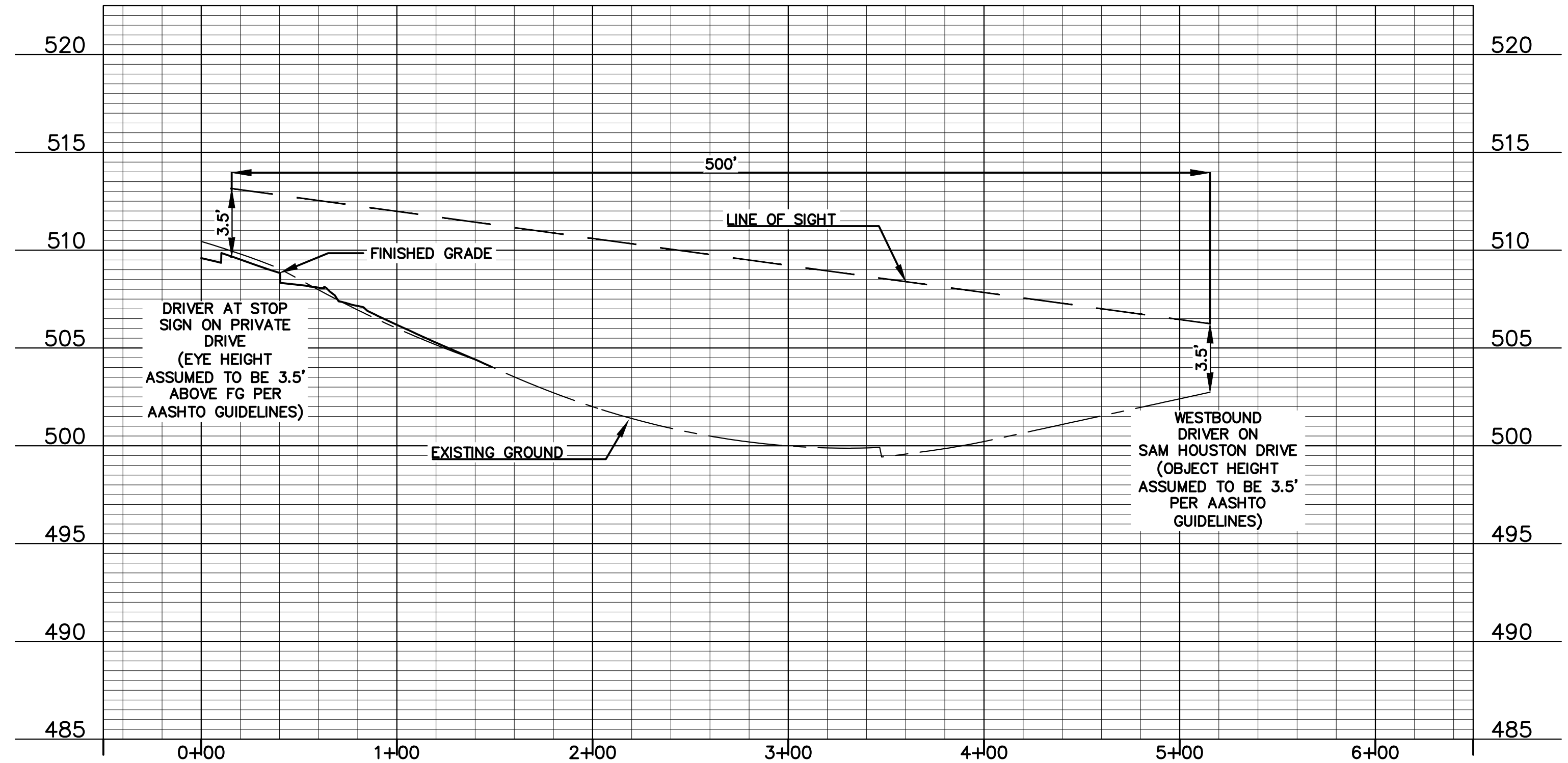
1. CONSTRUCTION PROHIBITED WITHIN SIGHT TRIANGLE AT INTERSECTION.
2. SINCE THIS IS A RIGHT-IN, RIGHT-OUT ONLY DRIVEWAY, INTERSECTION SIGHT DISTANCE AND LINE OF SIGHT EASEMENT ARE NOT REQUIRED LOOKING RIGHT FROM THE INTERSECTION.



SAM HOUSTON DRIVE / PRIVATE DRIVE PLAN VIEW
SCALE: 1" = 50'

PROFILE SCALE
HORIZ. 1" = 50'
VERT. 1" = 5'

PRIVATE DRIVE - SAM HOUSTON BLVD SIGHT DISTANCE



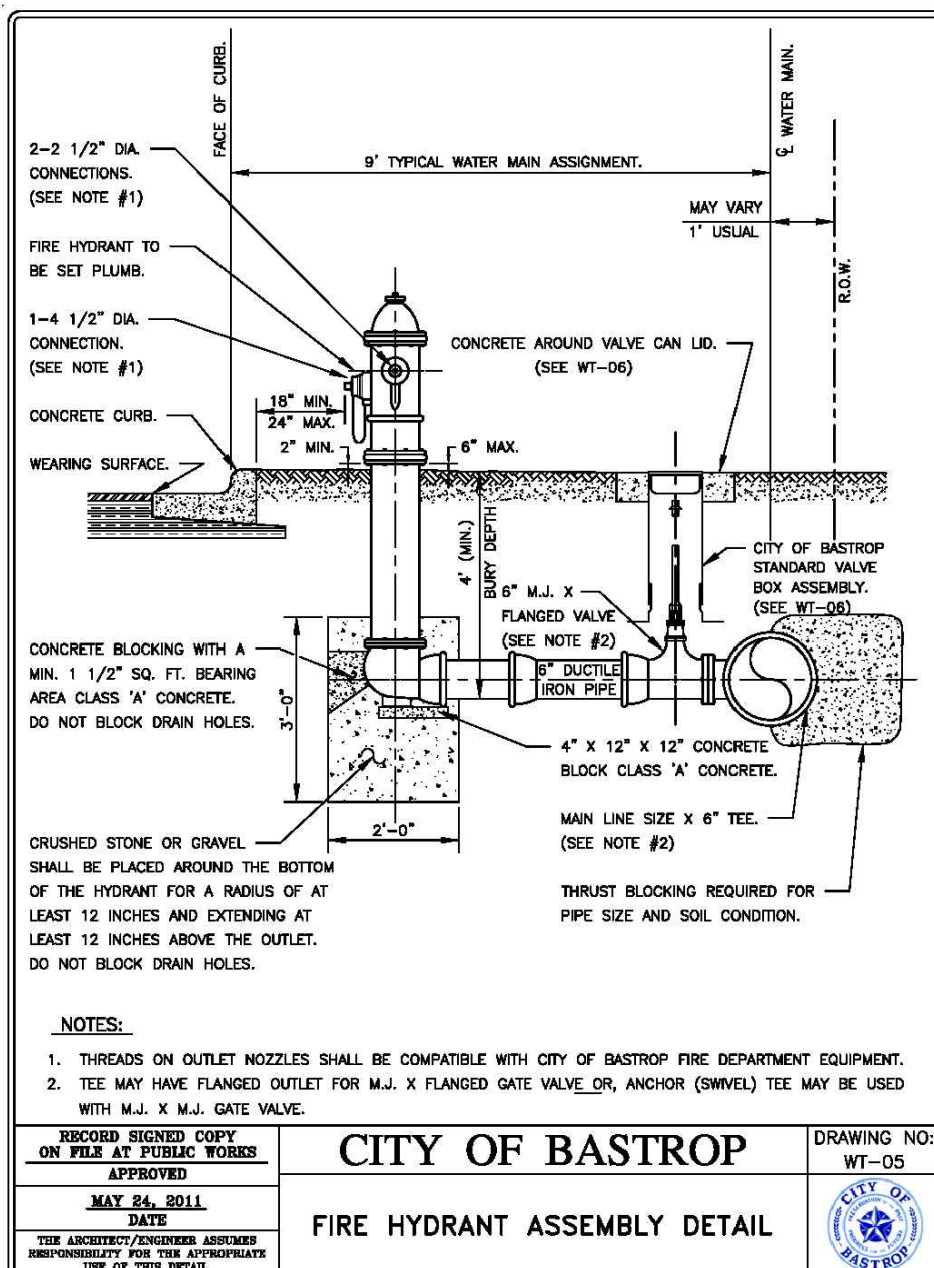
DESIGNED BY: NAME	DRAFTED BY: NAME
DATE	
REVISION	

Carlson, Brigrance & Doering, Inc.
Civil Engineering & Surveying
FIRM ID #F5791
Main Office: 12120 RR 620 N., Ste. 600
Austin, Texas 78749
Phone No. (512) 280-5160
www.cbding.com

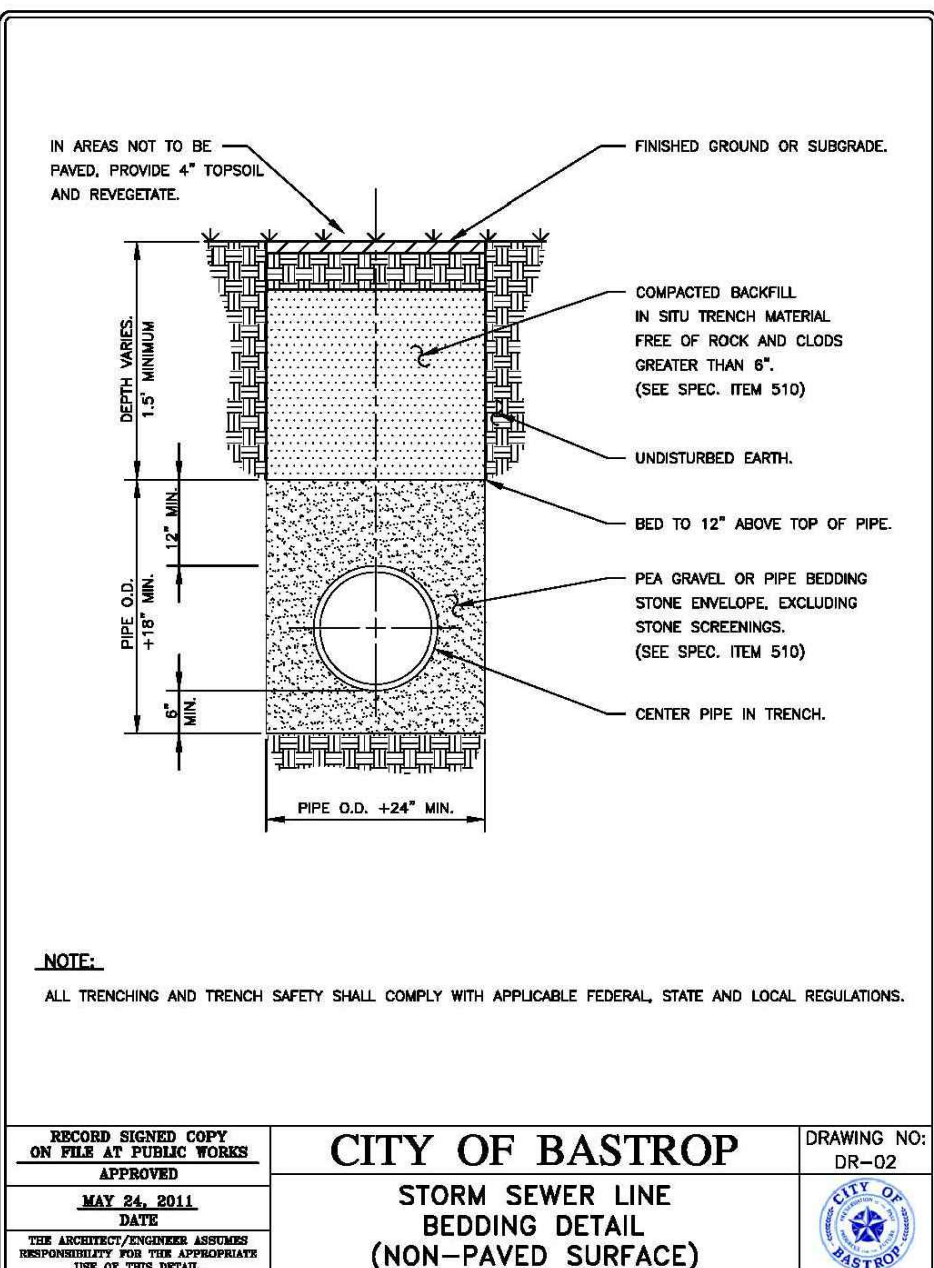
SHEET NAME: **SIGHT DISTANCE - SAM HOUSTON DRIVE**
JOB NAME: **THE COLONY TREE HOUSE**
PROJECT: **SITE PLAN**



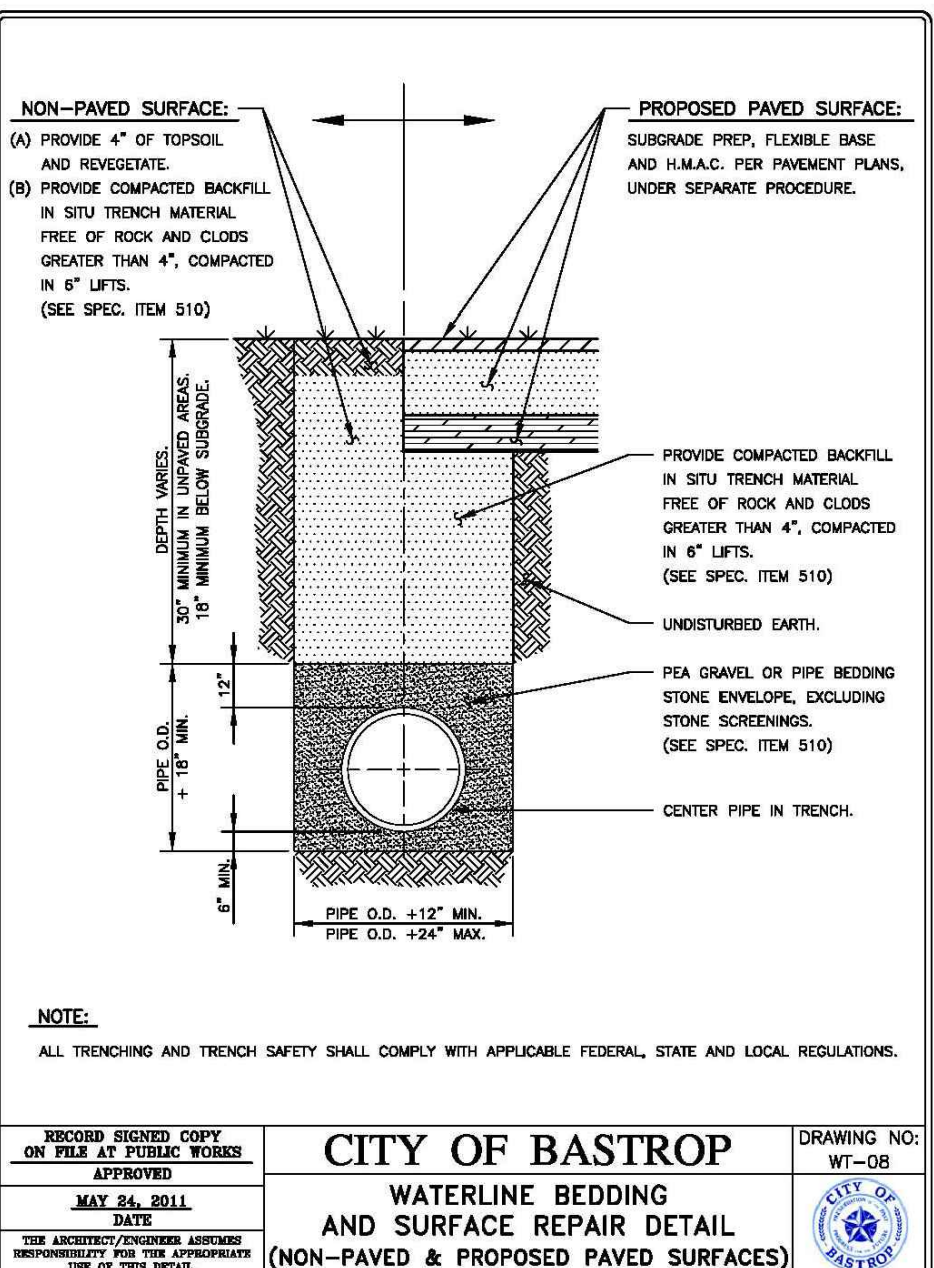
DATE: **11.01.2024**
JAN 2023
JOB NUMBER: **5469**
SHEET: **15 OF 18**



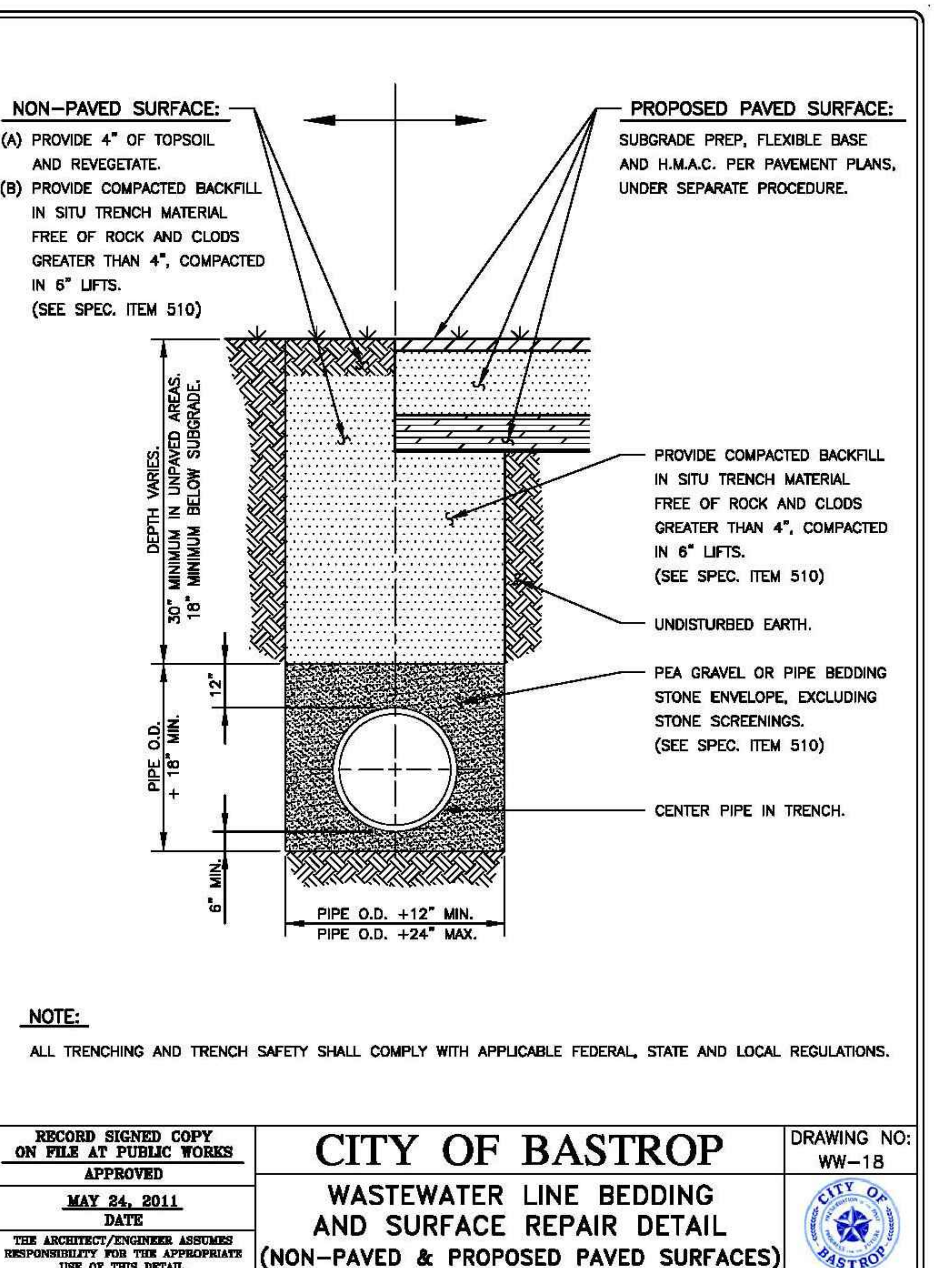
CITY OF BASTROP
DRAWING NO. ST-02
FIRE HYDRANT ASSEMBLY DETAIL



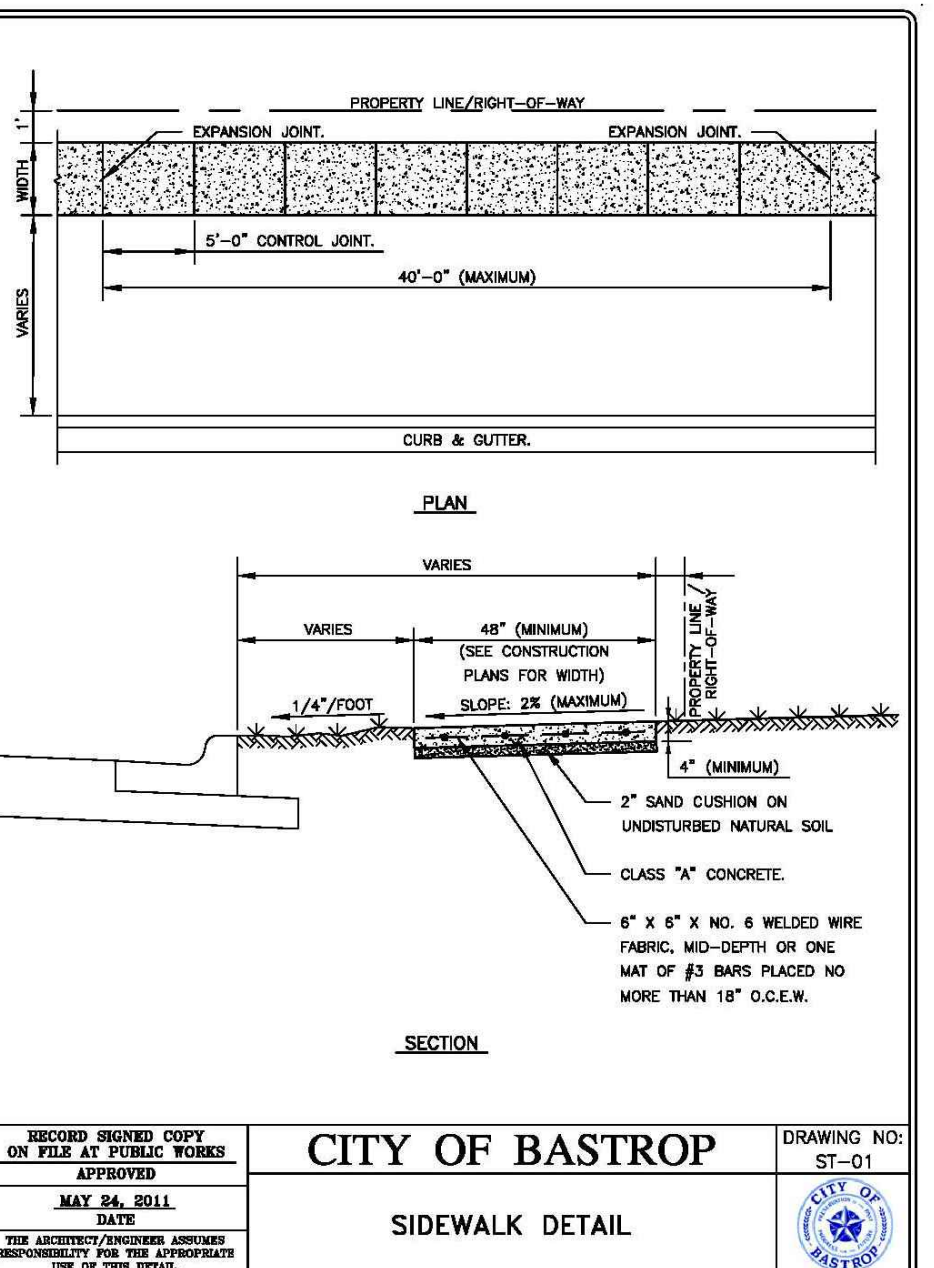
CITY OF BASTROP
DRAWING NO. ST-02
STORM SEWER LINE BEDDING DETAIL (NON-PAVED SURFACE)



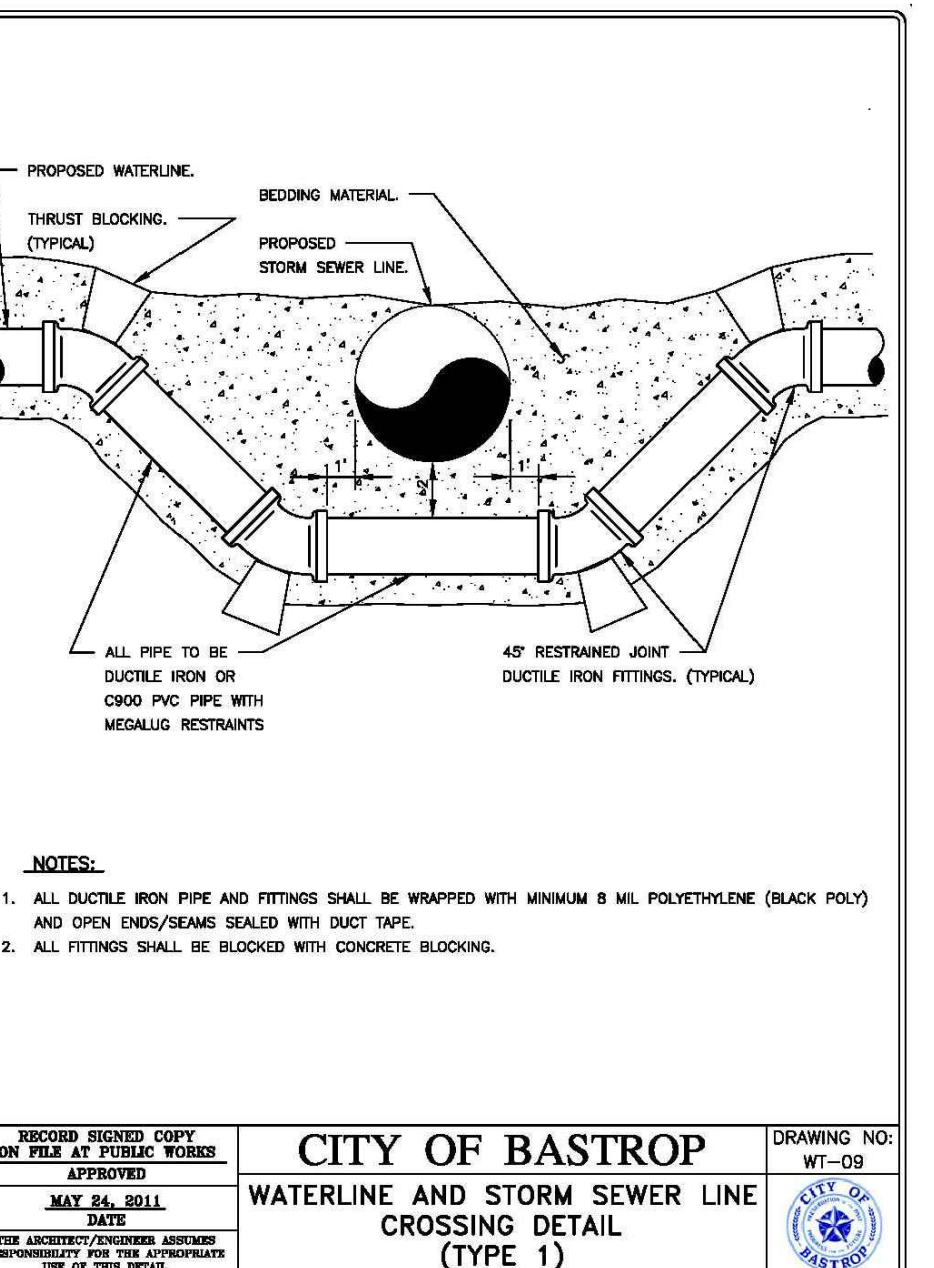
CITY OF BASTROP
DRAWING NO. ST-08
WATERLINE BEDDING AND SURFACE REPAIR DETAIL (NON-PAVED & PROPOSED PAVED SURFACES)



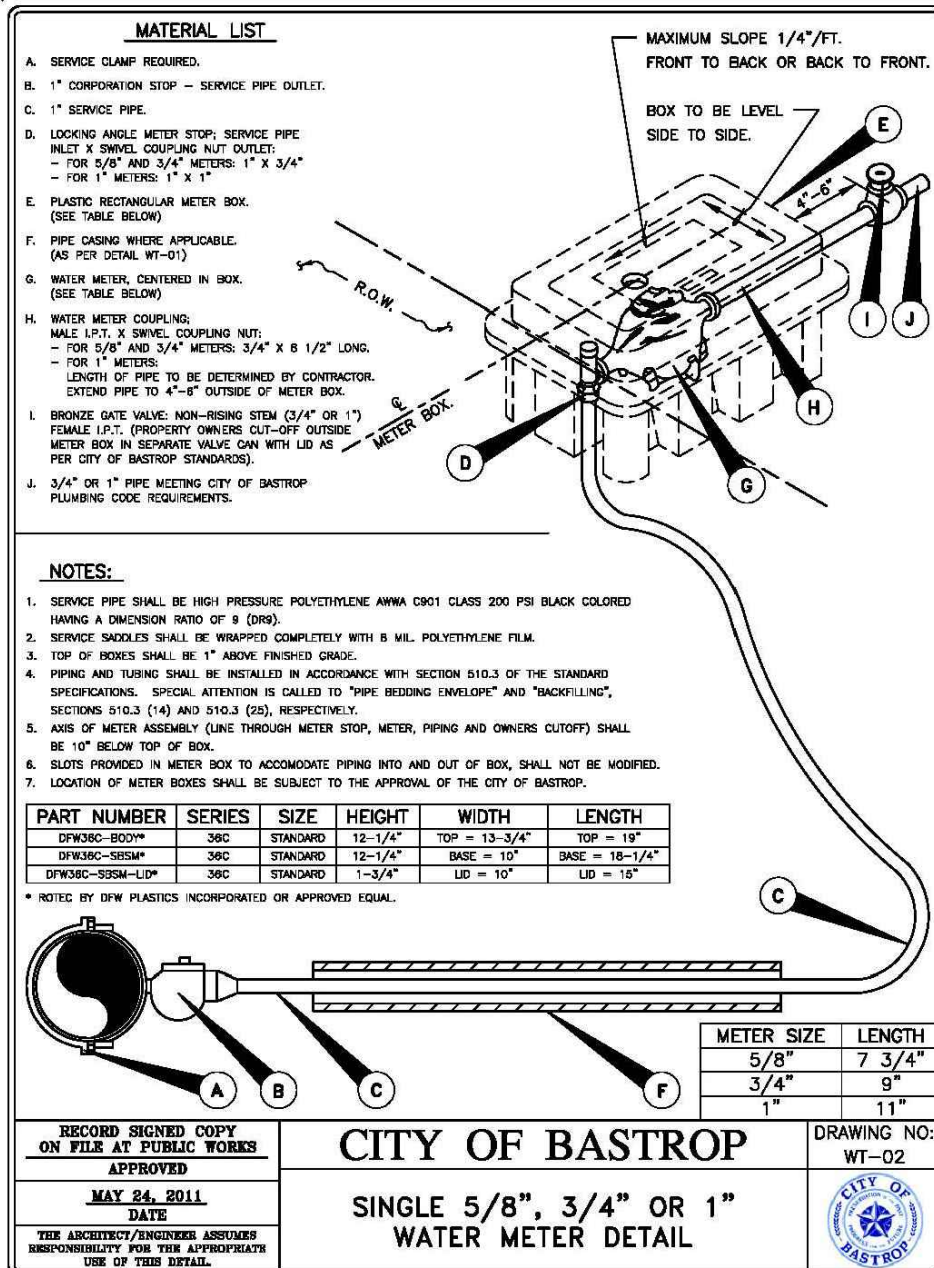
CITY OF BASTROP
DRAWING NO. ST-09
WASTEWATER LINE BEDDING AND SURFACE REPAIR DETAIL (NON-PAVED & PROPOSED PAVED SURFACES)



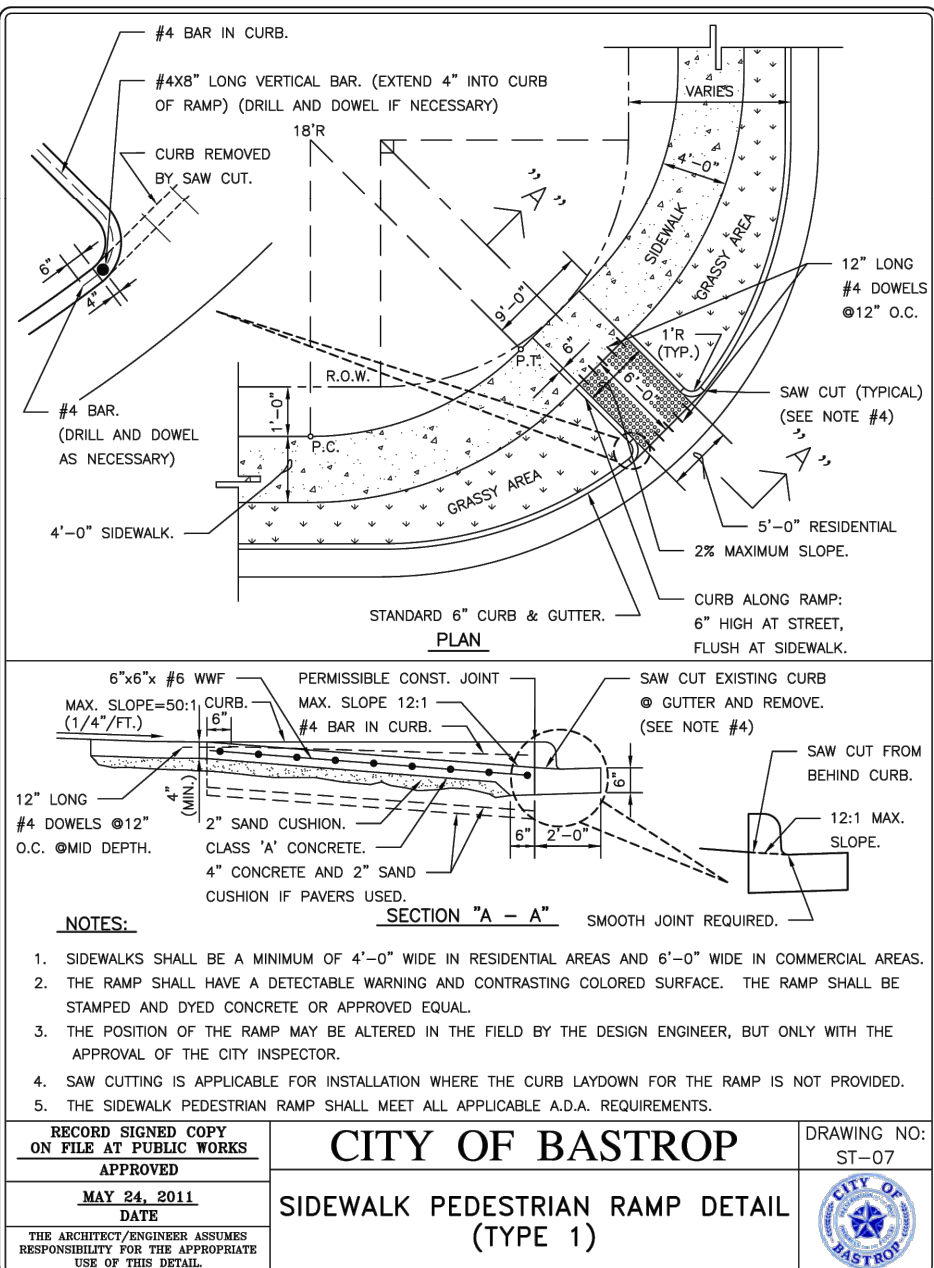
CITY OF BASTROP
DRAWING NO. ST-01
SIDEWALK DETAIL



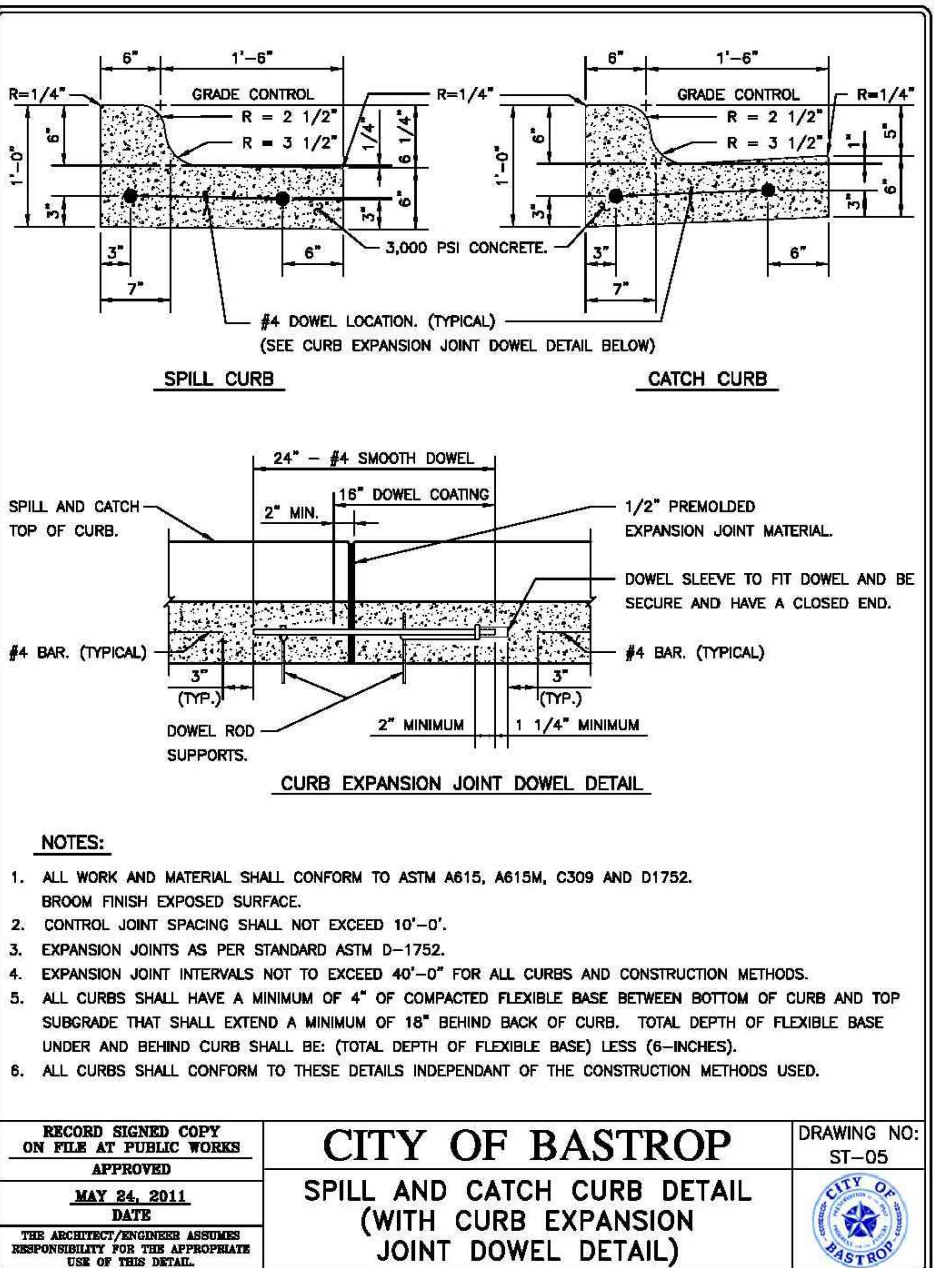
CITY OF BASTROP
DRAWING NO. ST-03
WATERLINE AND STORM SEWER LINE CROSSING DETAIL (TYPE 1)



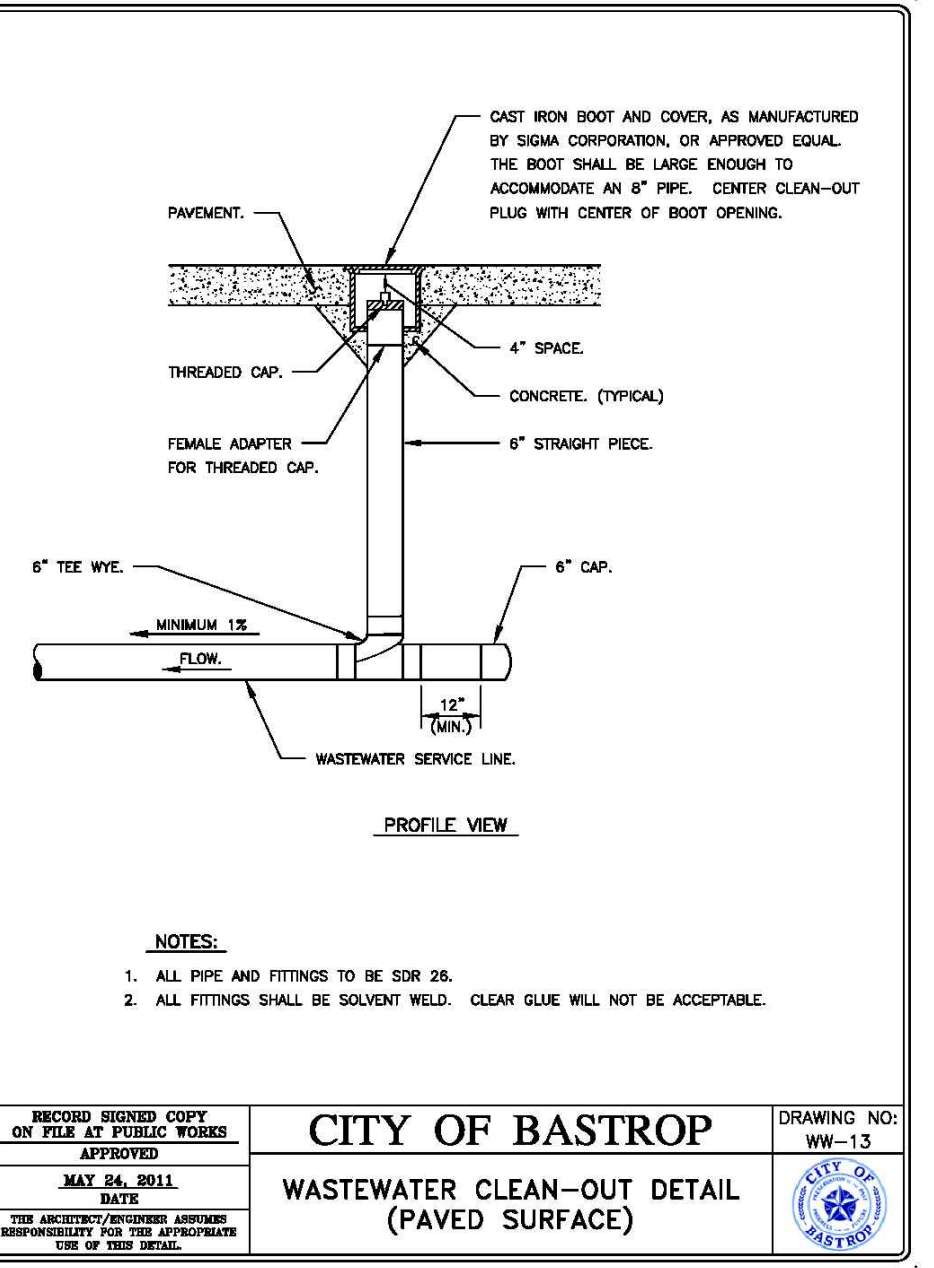
CITY OF BASTROP
DRAWING NO. ST-02
STORM SEWER LINE BEDDING DETAIL (TYPE 1)



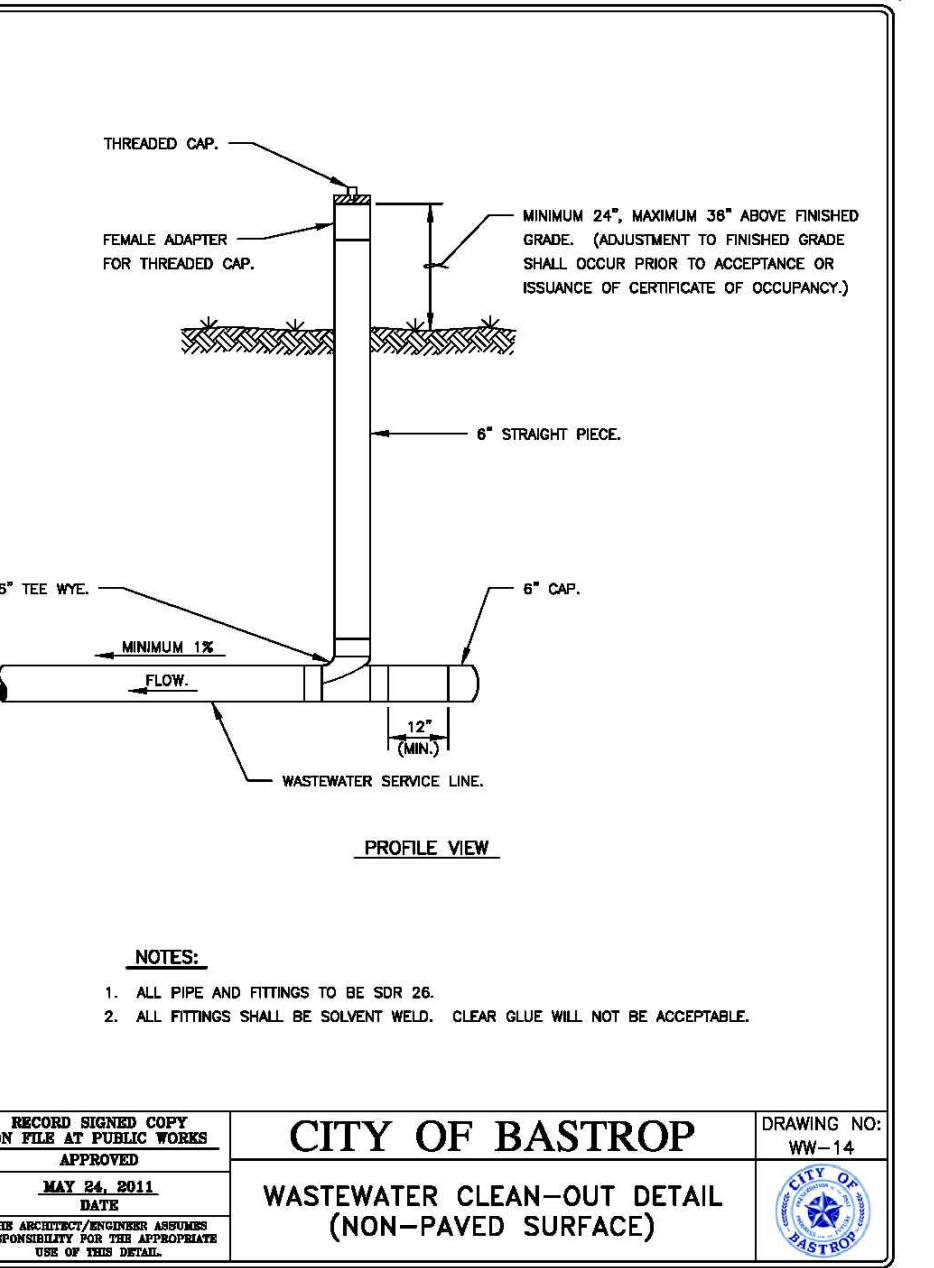
CITY OF BASTROP
DRAWING NO. ST-09
SPILL AND CATCH CURB DETAIL (WITH CURB EXPANSION JOINT DOWEL DETAIL)



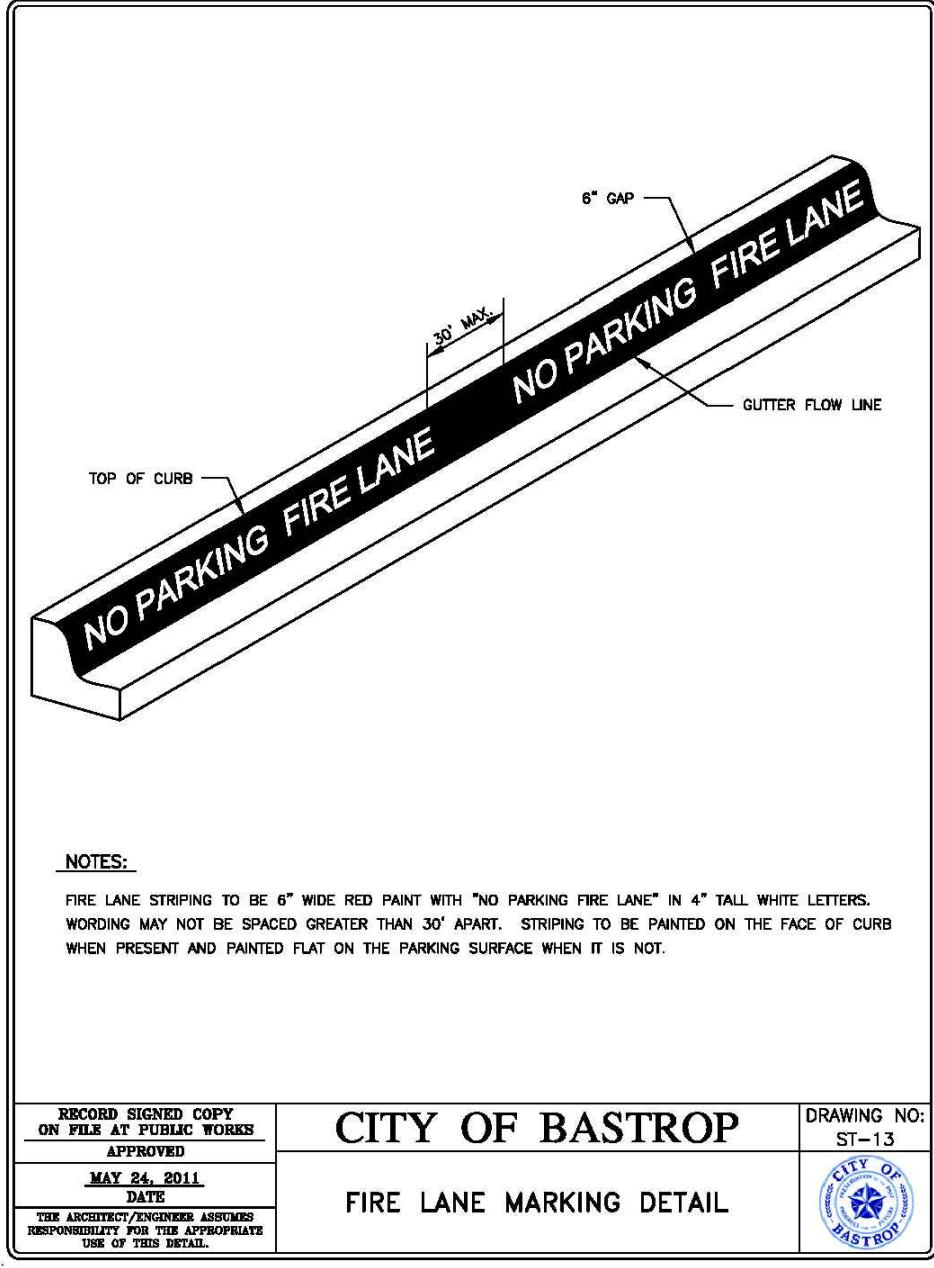
CITY OF BASTROP
DRAWING NO. WW-13
WASTEWATER CLEAN-OUT DETAIL (PAVED SURFACE)



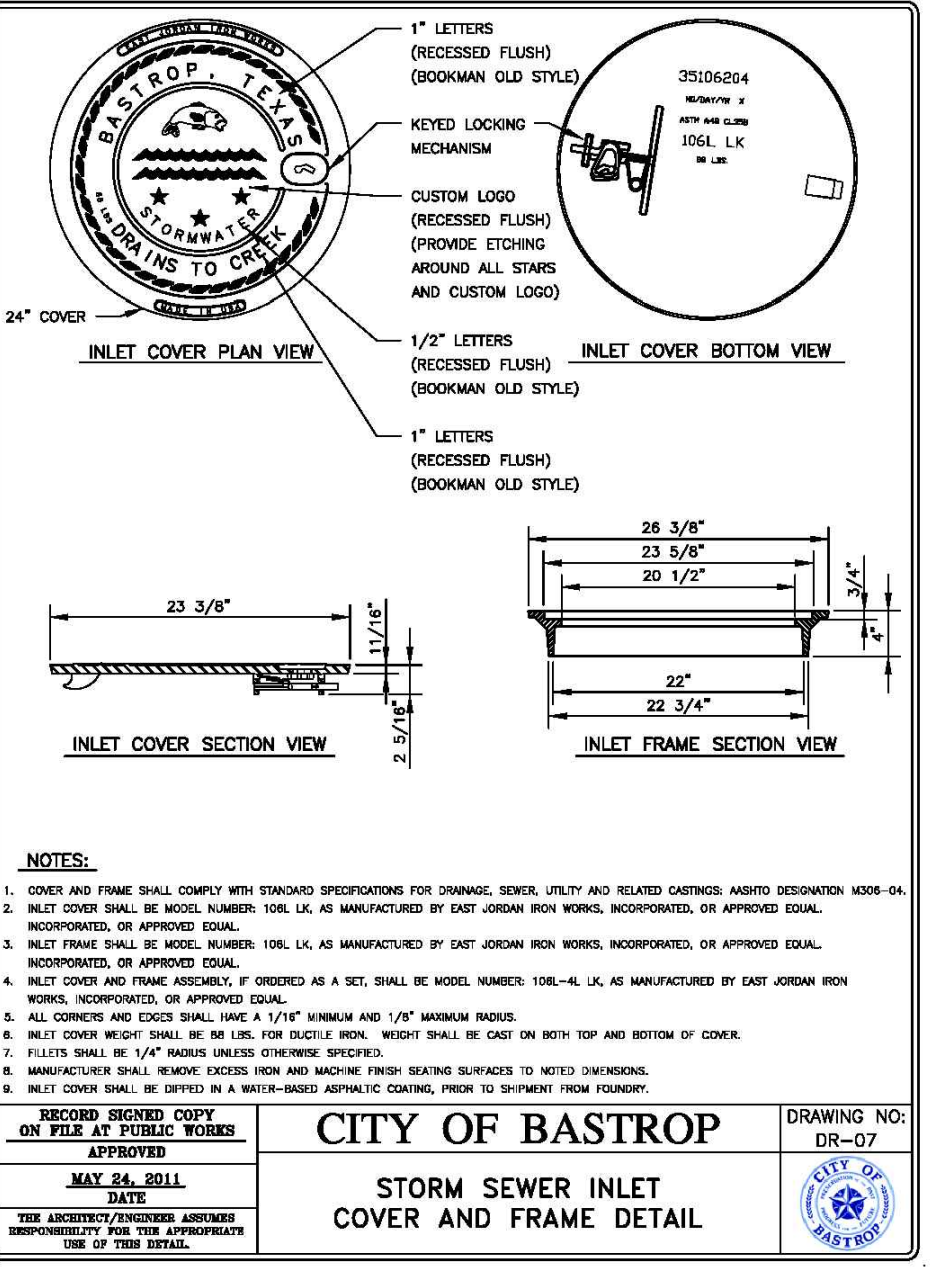
CITY OF BASTROP
DRAWING NO. WW-14
WASTEWATER CLEAN-OUT DETAIL (NON-PAVED SURFACE)



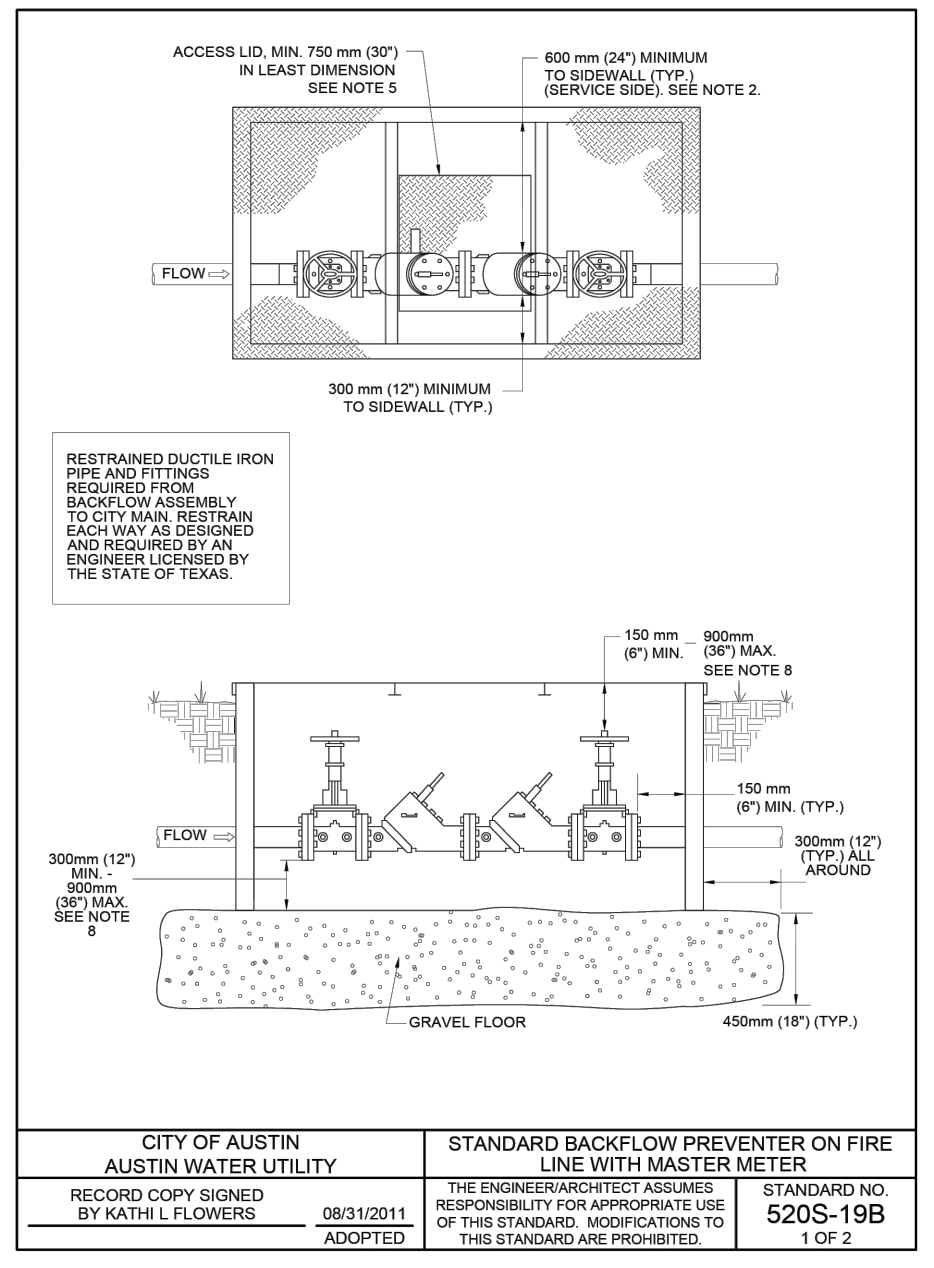
CITY OF AUSTIN
STANDARD NO. 6105-6
SLOPE PROTECTION AND TREE WELLS



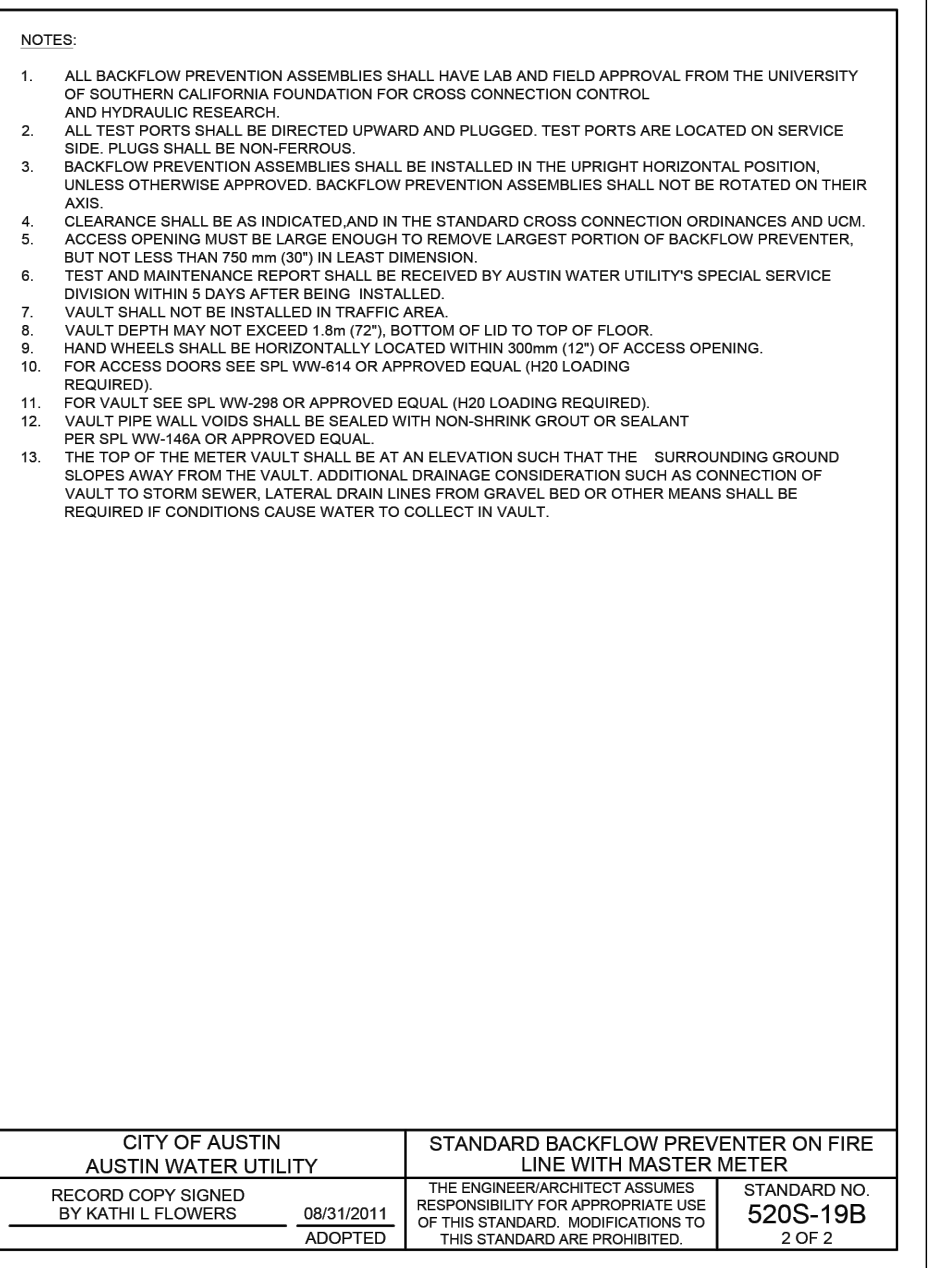
CITY OF BASTROP
DRAWING NO. ST-13
FIRE LANE MARKING DETAIL



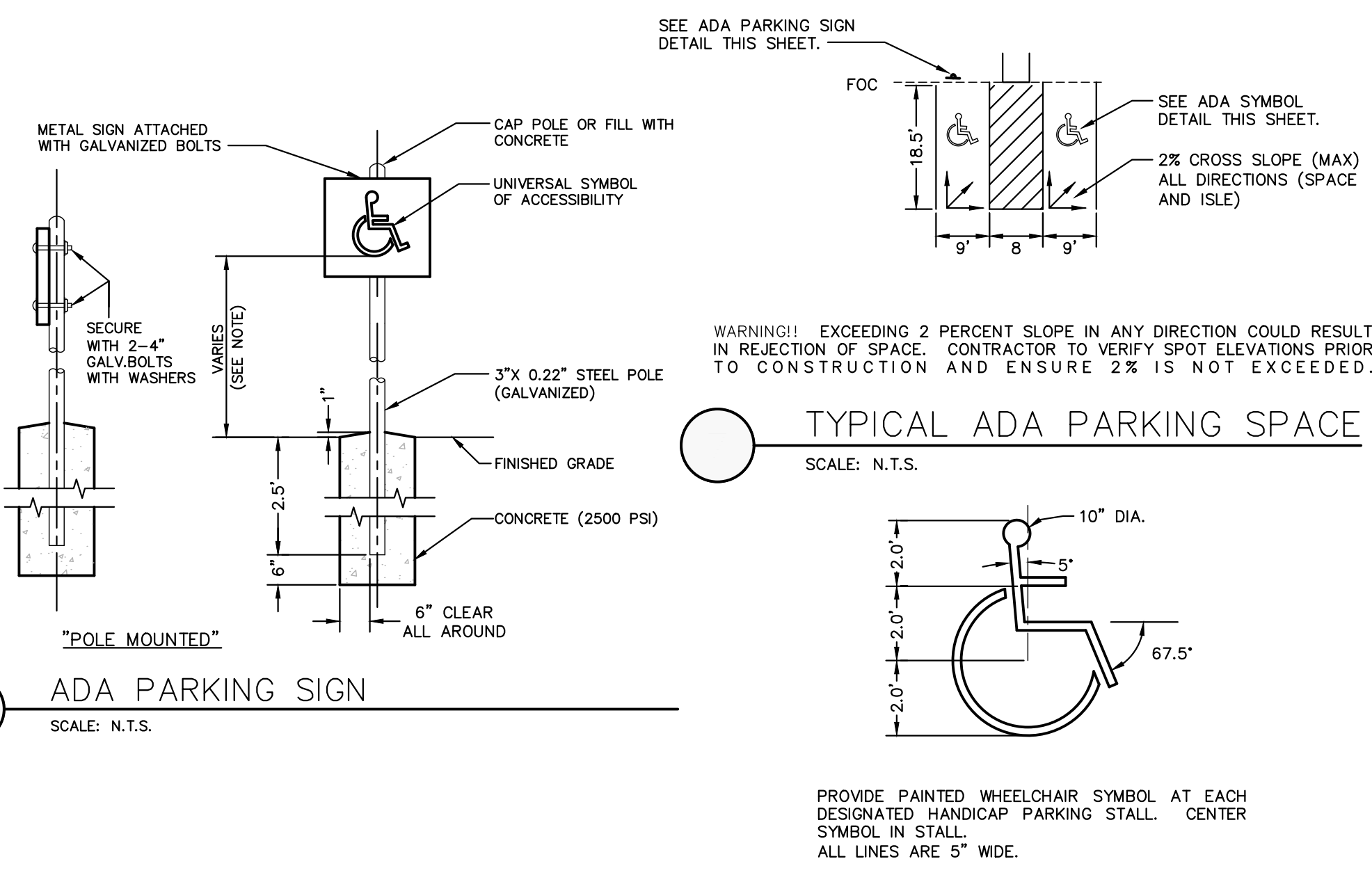
CITY OF BASTROP
DRAWING NO. DR-07
STORM SEWER INLET COVER AND FRAME DETAIL



CITY OF AUSTIN
STANDARD NO. 5205-19B
STANDARD BACKFLOW PREVENTER ON FIRE LINE WITH MASTER METER



CITY OF AUSTIN
STANDARD NO. 5205-19B
ADA PARKING SIGN



CITY OF AUSTIN
STANDARD NO. 6105-6
TYPICAL ADA PARKING SPACE

DESIGNED BY: NAME
DRAFTED BY: NAME
DATE: _____
REVISION: _____

Carlson, Brigrance & Doering, Inc.
Civil Engineering & Surveying
FIRM ID #E5791
Main Office: 12129 RR 201 N., Ste. 600 Austin, Texas 78749
Phone No. (512) 286-5160
www.cbding.com

CONSTRUCTION DETAILS (1 OF 2)
THE COLONY TREE HOUSE
SITE PLAN

SHEET NAME: _____
JOB NAME: _____
PROJECT: _____

M. HARMOUCHE
MAHER HARMOUCHE
143982
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGRANCE & DOERING, INC.
01/13/2024

DATE: **JAN 2023**
JOB NUMBER: **5469**
SHEET: **16 OF 18**

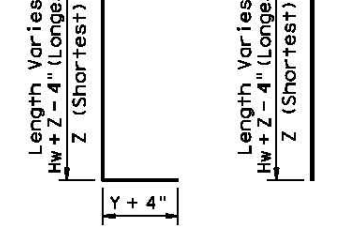
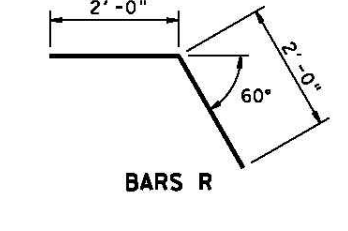
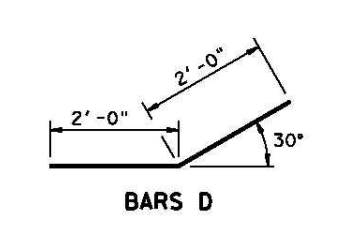
FILE PATH: J:\ACCS\5469\5469-CONSTRUCTION DETAILS.dwg - Nov 01, 2024 - 2:40pm

Dimensions	Variable Reinforcing	Estimated Quantities per ft of Wing Length (C-Wings)								
W	X	Y	Z	Bar Size No.	Spac.	Bar Size No.	Spac.	Reinf. Conc. (LB/FT)	Conc. (CY/FT)	
2'-6"	2'-5"	1'-0"	9"	7	#4	1'-0"	#4	1'-0"	33.73	0.248
3'-0"	2'-5"	1'-0"	9"	7	#4	1'-0"	#4	1'-0"	37.07	0.261
3'-6"	2'-5"	1'-0"	9"	7	#4	1'-0"	#4	1'-0"	37.74	0.273
4'-0"	2'-5"	1'-0"	9"	7	#4	1'-0"	#4	1'-0"	38.41	0.285
4'-6"	2'-5"	1'-0"	9"	7	#4	1'-0"	#4	1'-0"	41.75	0.330
5'-0"	3'-2"	1'-6"	1'-0"	7	#4	1'-0"	#4	1'-0"	45.09	0.343
5'-6"	3'-2"	1'-6"	1'-0"	7	#4	1'-0"	#4	1'-0"	45.75	0.355
6'-0"	3'-2"	1'-6"	1'-0"	7	#4	1'-0"	#4	1'-0"	46.42	0.367
7'-0"	3'-8"	1'-9"	1'-3"	7	#4	1'-0"	#4	1'-0"	52.77	0.414
8'-0"	4'-2"	2'-0"	1'-6"	8	#5	1'-0"	#4	1'-0"	60.19	0.486
9'-0"	4'-8"	2'-3"	1'-9"	8	#5	1'-0"	#4	1'-0"	61.49	0.535
10'-0"	5'-2"	2'-6"	2'-0"	8	#5	1'-0"	#4	1'-0"	67.25	0.584
11'-0"	5'-8"	2'-9"	2'-3"	8	#5	1'-0"	#4	1'-0"	73.65	0.634
12'-0"	6'-2"	3'-0"	2'-6"	9	#5	1'-0"	#4	1'-0"	81.29	0.721
13'-0"	6'-8"	3'-3"	2'-9"	11	#7	1'-0"	#5	1'-0"	118.80	0.856
14'-0"	7'-2"	3'-6"	3'-0"	11	#7	1'-0"	#5	1'-0"	126.78	0.959
15'-0"	7'-8"	4'-0"	3'-3"	11	#7	1'-0"	#5	1'-0"	133.06	1.068
16'-0"	8'-2"	4'-3"	3'-6"	11	#7	1'-0"	#5	1'-0"	139.22	1.174

Bar Size No.	Spac.	Reinf. Conc. (LB/FT)	Conc. (CY/FT)
#4	1'-0"	2.45	0.037

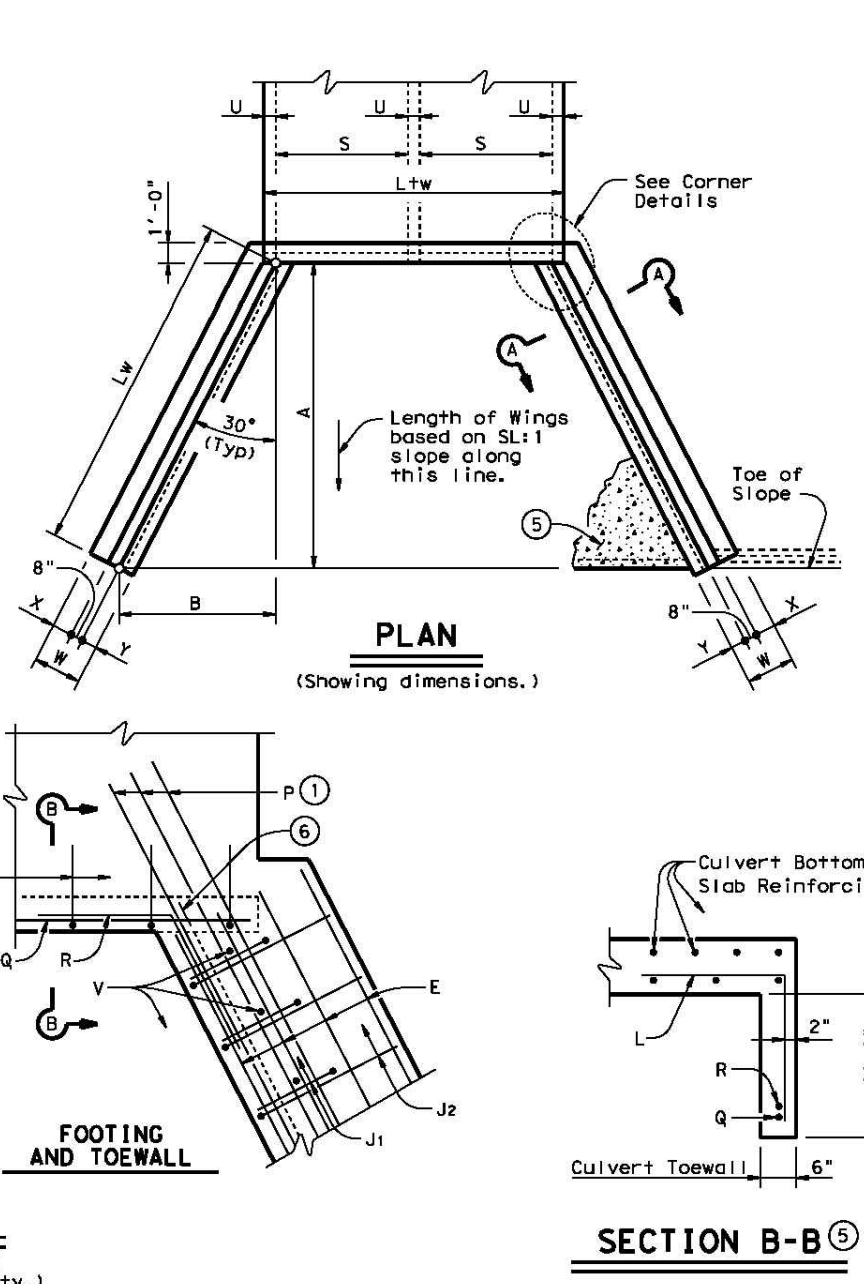
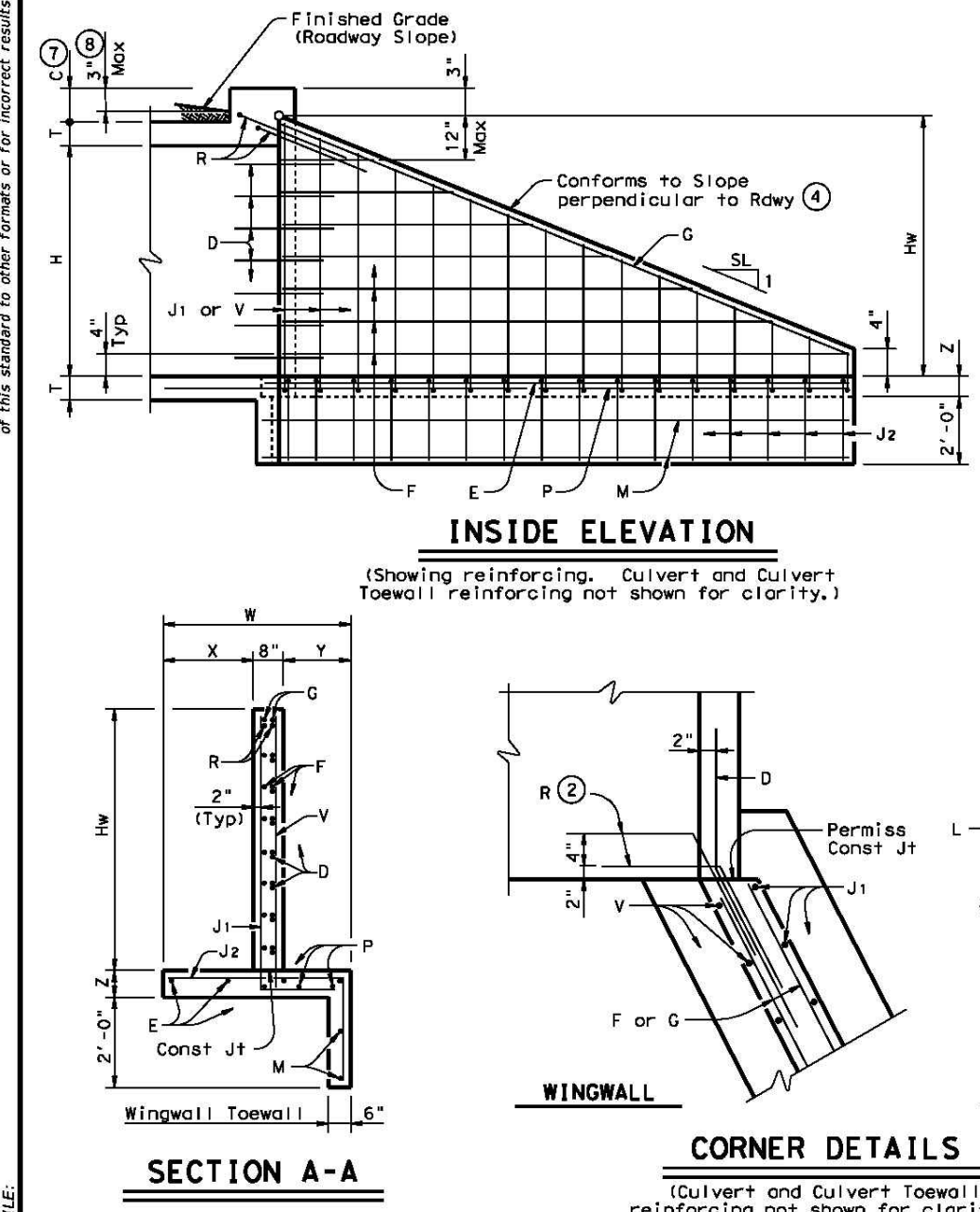
WING DIMENSION CALCULATIONS:

Formulas (All values are in feet):
 $H_w = H + T + C - 0.250'$
 $A = (H_w - 0.333') (SL)$
 $B = (A) \tan(30')$
 $L_w = (A) \times \cos(30')$
 For Cast-in-place culvert:
 $L_w = (N) (S) + (N+1) (U)$
 For Precast culvert:
 $L_w = (N) (2U+S) + (N+1) (0.500')$
 Total Wingwall Area (Two Wings - S.F.) = $(H_w + 0.333') (L_w)$



- Extend Bars P 3'-0" minimum into bottom slab of Box Culvert.
- Adjust to fit as necessary to maintain 1/4" clear cover and 4" minimum between bars.
- Quantities shown are based on an average wing height for two wings one structure end. To determine total quantities for two wings multiply the tabulated values by Lw.
- Recommended values of Slope are: 2:1, 3:1, 4:1, & 6:1.
- When shown elsewhere on the plans, a 5" deep concrete riprap shall be constructed. Riprap shall be as required by Item 432, "Riprap", unless otherwise shown on the plans or directed by the Engineer. The riprap shall have a 6" wide by 1'-6" deep reinforced concrete toewall along all edges adjacent to natural ground. The toewall shall be reinforced by extending typical riprap reinforcing into the toewall; construction joints or grooved joints, oriented in the direction of flow, shall extend the full distance of the riprap, at intervals of approximately 20'. When such riprap is provided, the culvert toewall shown in SECTION B-B will not be required.
- At Contractor's option, Culvert Toewall may be ended flush with Wingwall Toewall. Adjust reinforcing from that shown as necessary.
- 0' min to 5'-0" max. Estimated curb heights are shown elsewhere in the plans. For structures with pedestrian rail, bicycle rail or curbs taller than 1'-0", refer to ECD standards. For structures with 16 bridge rail, refer to 16-DM standards. For structures with traffic rail, other than 16, refer to BAC standard.
- For vehicle safety, curb heights and wall heights shall be reduced, if necessary, to provide a maximum 3" projection above finished grade. No changes will be made in quantities and no additional compensation will be allowed for this work.

GENERAL NOTES:
 Designed according to AASHTO LRFD Specifications. All reinforcing steel shall be grade 60. Synthetic fibers listed on the "Fibers for Concrete" Material Producer List (MPL) may be used in lieu of steel reinforcing in riprap concrete unless noted otherwise. All concrete shall be Class "C" and shall have a minimum compressive strength of 3600 psi. All reinforcing bars shall be adjusted to provide a minimum of 1/4" clear cover. When structure is founded on solid rock, depth of toewall for culverts and wingwalls may be reduced or eliminated as directed by the Engineer. See BCS sheet for additional dimensions and information. The quantities for concrete and reinforcing steel resulting from the formulas given on this sheet are for Contractor's information only.



CONCRETE WINGWALLS WITH FLARED WINGS FOR 0° SKEW BOX CULVERTS

FW-0

DATE: 12/12/2012

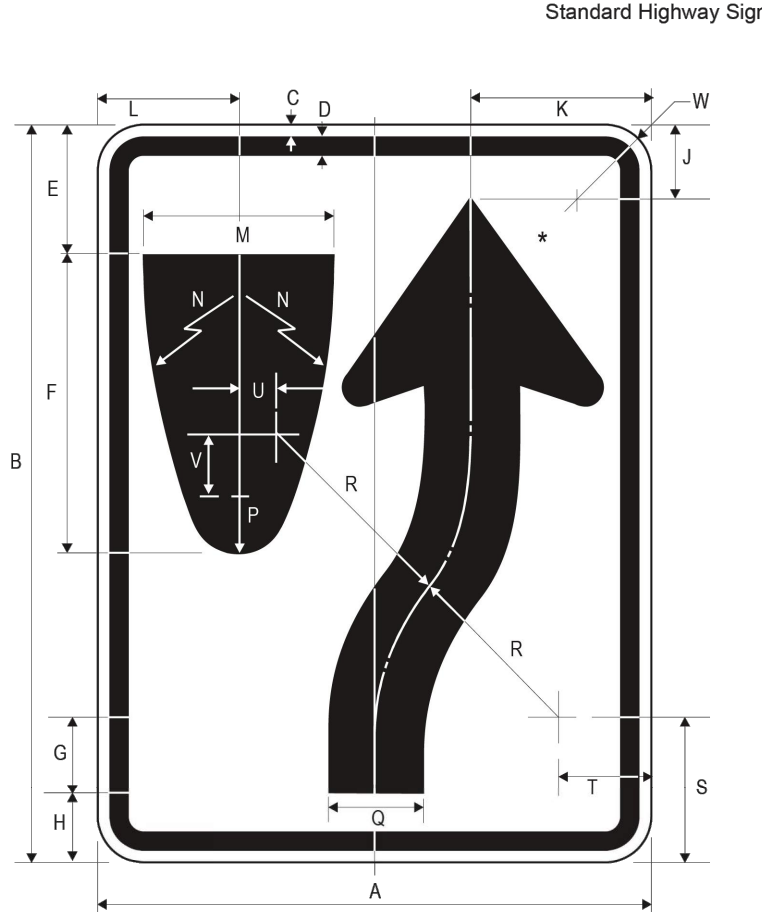
DESIGNED BY: [Blank]

CHECKED BY: [Blank]

DATE: [Blank]

PROJECT: [Blank]

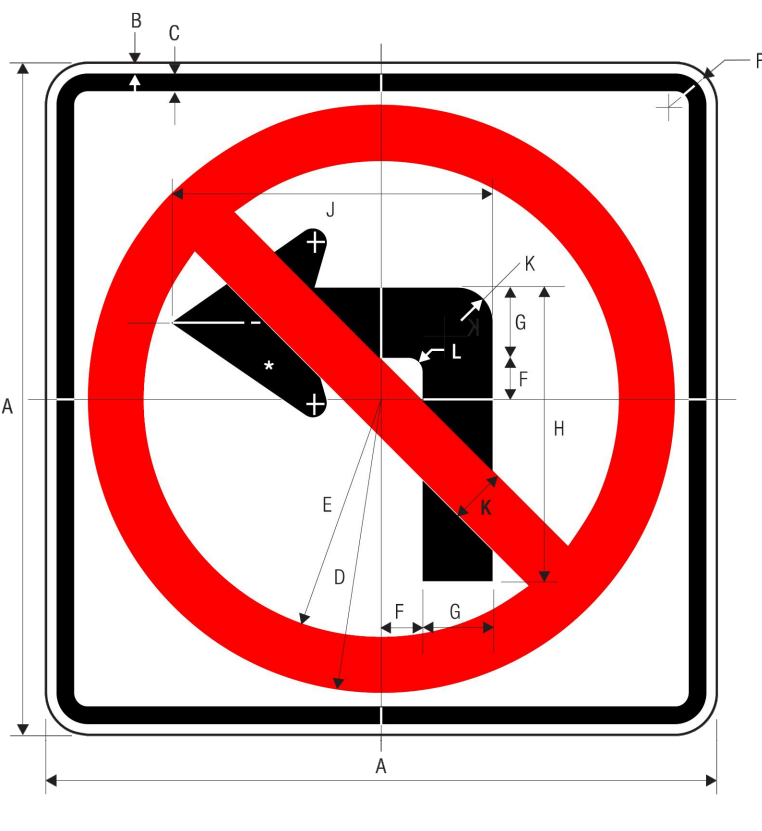
SHEET NO.: [Blank]



A * See Symbol section for arrow design

A	B	C	D	E	F	G	H	J	K	L	M
12	18	.375	.438	4	5.5	11	3.28	3.28	3.66	3.26	3.472
18	24	.375	.625	3.375	3.375	1.975	2.25	1.375	5.5	4.688	8
24	30	.375	.625	4.5	12.5	2.5	3	1.875	7.375	6.25	8
30	48	.625	.875	6.75	18.75	3.75	4.5	2.813	11.9375	9.375	12
48	60	.75	1.25	9	25	5	6	3.75	14.8	12.5	16
N	P	Q	R	S	T	U	V	W			
13	.831	1.75	4.212	4.38	1.826	.375	.5	1.5			
22.5	1.5	3	6.75	4.95	2.25	1.063	.438	1.5			
30	2	4	9	5.5	3	1.375	.2813	1.5			
45	3	6	13.5	8.25	4.5	2	.275	2.25			
60	4	8	18	11	6	2.688	.5	3			

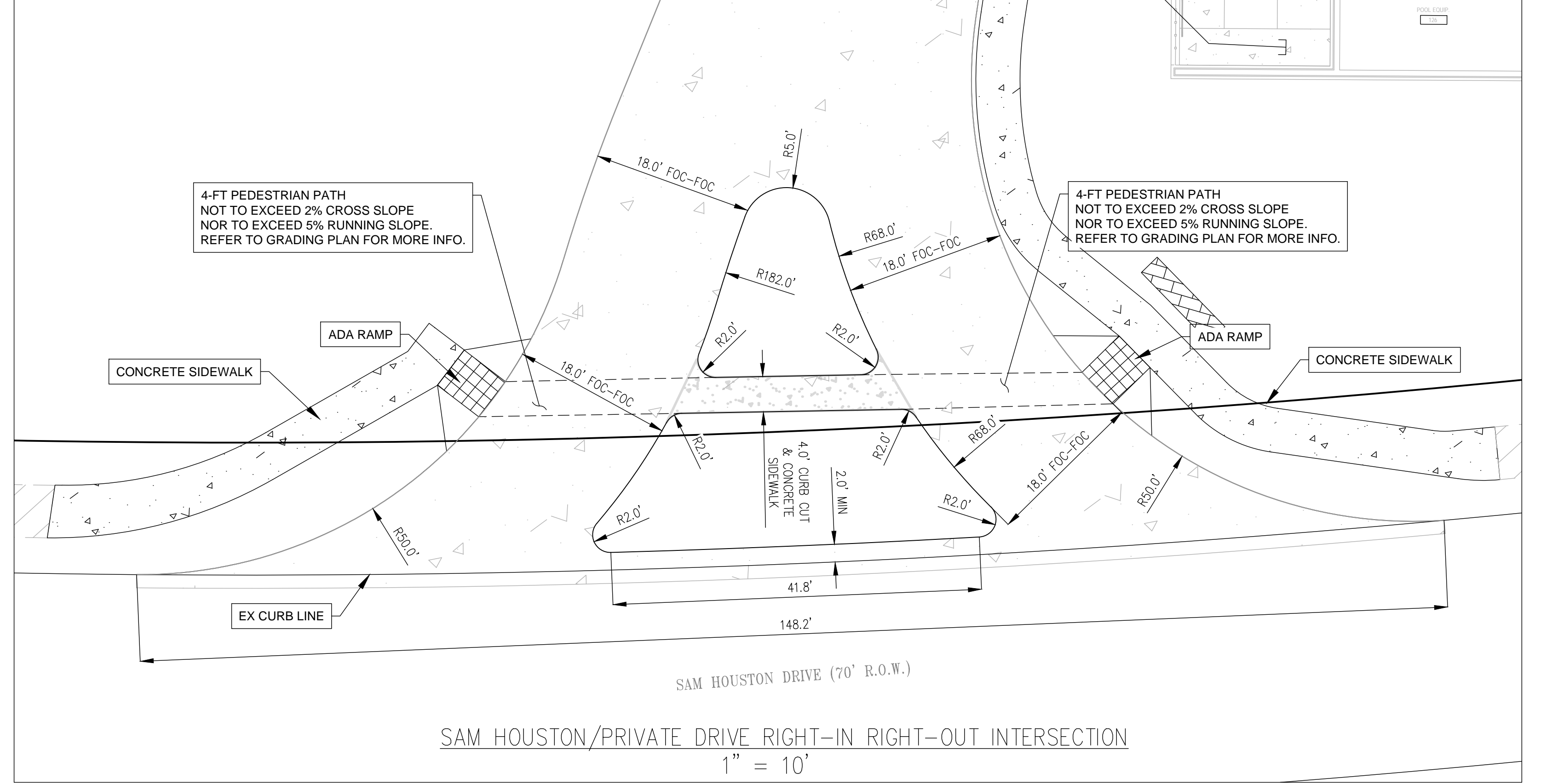
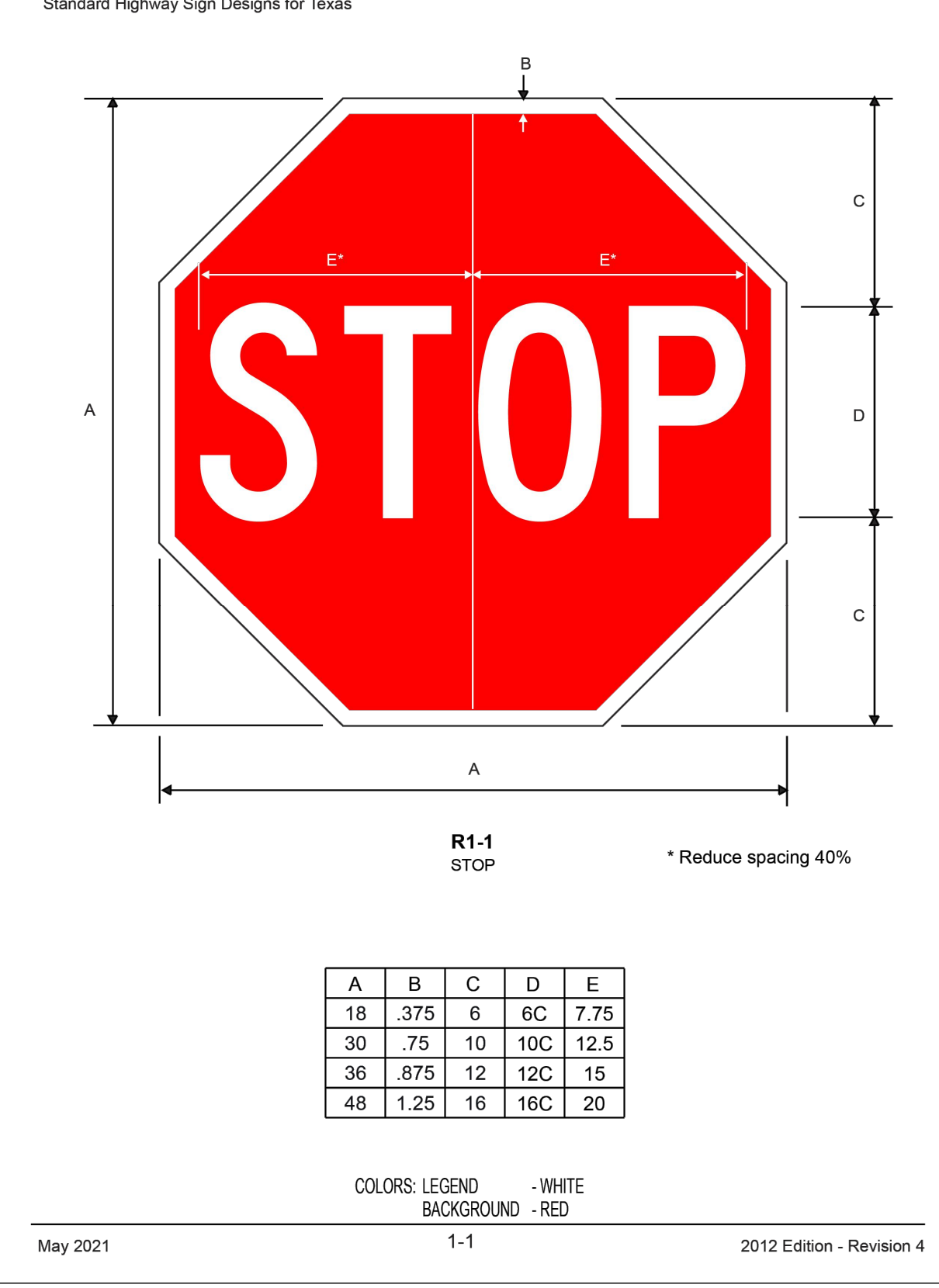
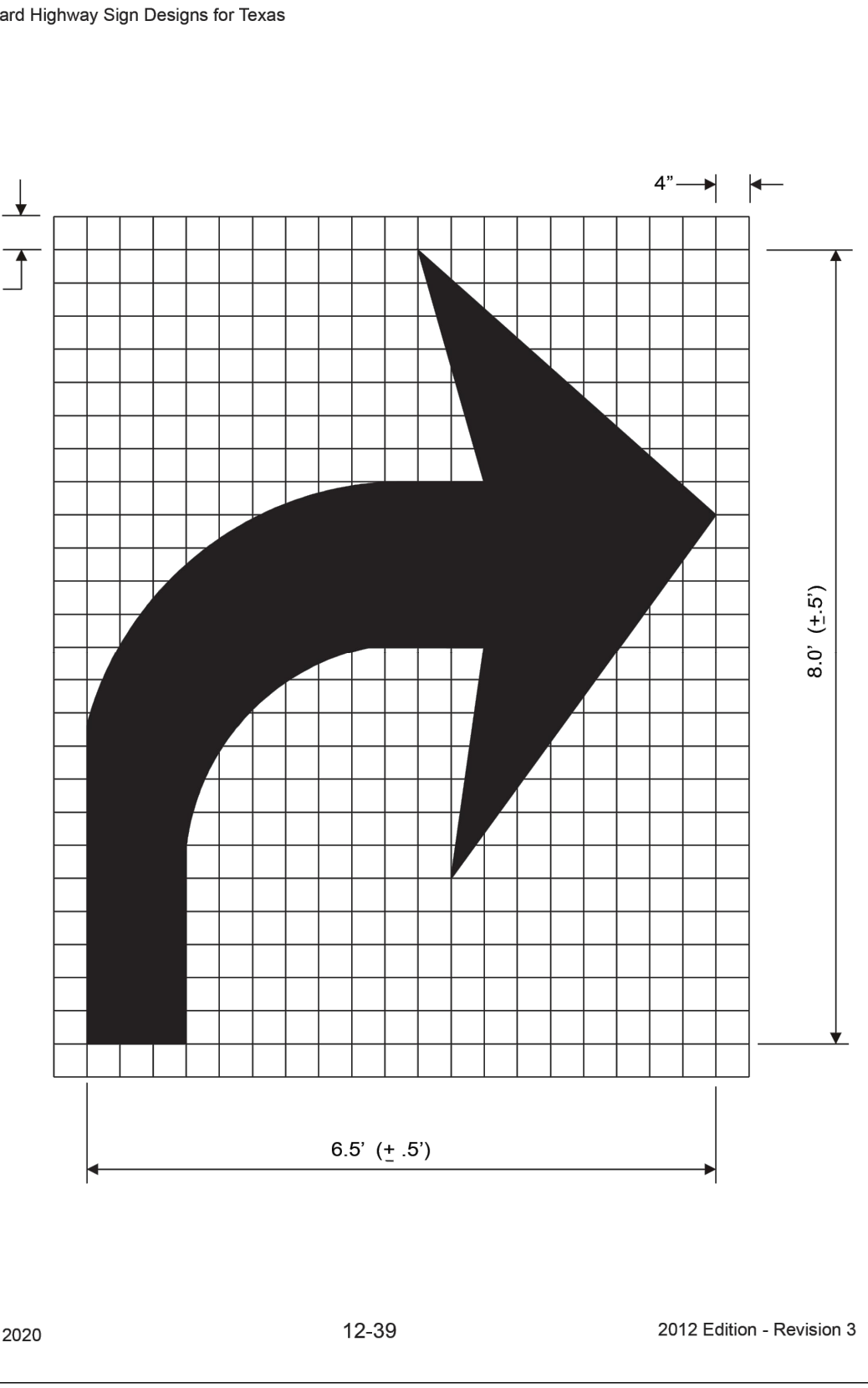
COLORS: LEGEND - BLACK BACKGROUND - WHITE



A * See Symbol section for arrow design

A	B	C	D	E	F	G	H	J	K	L
24	.375	.625	10.5	8.5	1.5	2.5	10.5	11.5	2	.5
36	.625	.875	15.75	12.75	2.25	3.75	15.75	17.25	3	.75
48	.75	1.25	21	17	3	5	21	23	4	1

COLORS: CIRCLE & DIAGONAL - RED SYMBOL & BORDER - BLACK BACKGROUND - WHITE



DESIGNED BY:	NAME
DRAFTED BY:	NAME
DATE:	
REVISION:	

Carlson, Brigrance & Doering, Inc.
 Civil Engineering & Surveying
 FIRM ID #15791
 Main Office: 12120 RR 620 N., Ste. 600, Austin, Texas 78749
 North Office: 12120 RR 620 N., Ste. 600, Austin, Texas 78750
 Phone No. (512) 280-5160
 www.cbding.com

CONSTRUCTION DETAILS (2 OF 2)
THE COLONY TREE HOUSE
SITE PLAN

SHEET NAME: [Blank]
 JOB NAME: [Blank]
 PROJECT: [Blank]

M. HARMOUCHE
 MAHER HARMOUCHE
 143982
 LICENSED PROFESSIONAL ENGINEER
 CARLSON, BRIGRANCE & DOERING, INC.
 ID # 15791

DATE:	JAN 2023
JOB NUMBER:	5469
SHEET:	17 OF 18

CONSTRUCTION NOTES

MATERIALS

- 1. BACKFILL SOILS / DRAINAGE STONE
- A. REINFORCED BACKFILL MATERIAL SPECIFIED BELOW SHALL BE FREE DRAINING. REINFORCED BACKFILL MATERIALS SHALL BE APPROVED BY THE OWNER OR OWNER'S REPRESENTATIVE AND SHALL MEET THE PHYSICAL PROPERTY REQUIREMENTS DEFINED IN SECTION 6.0. THE REINFORCED BACKFILL MATERIAL SHALL BE CRUSHED ANGULAR STONE MEETING THE FOLLOWING GRADATION:

SIEVE SIZE	PERCENT PASSING
2 INCH	100
1 INCH	30-100
3/4 INCH	10-70
1/2 INCH	0-40
NO. 4	0-10

- B. ON-SITE FILL: ON-SITE FILL MATERIAL SHALL BE ON-SITE OR IMPORTED COMPRESSIBLE SOIL CLASSIFIED PER THE UNIFIED SOIL CLASSIFICATION SYSTEM AS LOW PLASTICITY (MAX PI=25), COMPACTED TO 95% STD. PROCTOR DENSITY
- 2. THE PORTION OF THE REINFORCED BACKFILL MATERIAL PASSING THE NO. 40 SIEVE SHALL HAVE A LIQUID LIMIT OF LESS THAN 40 AND A PLASTICITY INDEX OF LESS THAN 20. REINFORCED BACKFILL MATERIAL SHALL BE CLASSIFIED PER THE UNIFIED SOIL CLASSIFICATION SYSTEM AS LOW PLASTICITY OR NON-PLASTIC SOILS.
- 3. GEOGRID REINFORCING SHALL BE TENSAR UX1400 UNIAXIAL GEOGRID AS MANUFACTURED BY THE TENSAR CORPORATION. DESIGNS PRESENTED HEREIN ARE VALID FOR TENSAR GEOGRIDS OR ENGINEER APPROVED EQUAL.
- 4. WALL FACING SHALL BE LIMESTONE BLOCK
- 5. GEOTEXTILE FABRIC SHALL BE MIRAFI 140N OR APPROVED EQUAL.
- 6. REINFORCING BARS SHALL BE ASTM A615, GRADE 60.

TECHNICAL REQUIREMENTS

- 1. PRIOR TO CONSTRUCTION OF THE GEOGRID REINFORCED WALL, THE CONTRACTOR SHALL CLEAR AND GRUB THE REINFORCED BACKFILL ZONE, REMOVING TOPSOILS, BRUSH, SOD OR OTHER ORGANIC OR DELETERIOUS MATERIALS. ANY SUITABLE SOILS SHALL BE OVER-EXCAVATED, REPLACED AND COMPACTED WITH REINFORCED BACKFILL MATERIAL TO PROJECT SPECIFICATIONS PR AS OTHERWISE DIRECTED BY THE OWNERS GEOTECHNICAL ENGINEER
- 2. FILL MATERIALS SHALL BE PLACED FROM THE BACK OF THE BLOCK FACING UNITS TOWARDS THE TAIL OF THE GEOGRID TO ENSURE FURTHER TENSIONING.
- 3. FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT EXCEEDING 8 INCHES IN COMPACTED THICKNESS FOR HEAVY COMPACTION EQUIPMENT. FILL SHALL BE COMPACTED AS SPECIFIED BY PROJECT SPECIFICATIONS OR TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED IN ACCORDANCE WITH TXDOT TEST METHOD TEX-114-E AT MOISTURE CONTENT NO GRATER THAN 2 PERCENTAGE POINTS ABOVE OR BELOW OPTIMUM.
- 4. ONLY HAND OPERATED EQUIPMENT SHALL BE ALLOWED WITHIN THREE FEET OF THE BACK FACE OF WALL AND FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED 6 INCHES IN UNCOMPACTED THICKNESS. COMPACTION SHALL BE ACHIEVED BY AT LEAST THREE PASSES OF A LIGHTWEIGHT MECHANICAL TAMPER, ROLLER OR VIBRATORY SYSTEM. THE SPECIFIED LIFT THICKNESS SHALL BE ADJUSTED AS WARRANTED BY THE TYPE OF COMPACTION EQUIPMENT ACTUALLY USED, BUT NO SOIL DENSITY TESTS NEED BE TAKEN WITHIN THIS AREA. CARE SHALL BE EXERCISED DURING THE COMPACTION PROCESS TO AVOID MISALIGNMENT OF THE BLOCK UNITS.
- 5. TESTING METHODS
 - A. TESTING METHODS, FREQUENCY AND VERIFICATION OF MATERIAL SPECIFICATIONS AND COMPACTION SHALL BE THE RESPONSIBILITY OF THE OWNER'S GEOTECHNICAL ENGINEER, UNDER THE DIRECTION OF THE OWNER.
 - B. DENSITY TESTING OF THE REINFORCED BACKFILL SHALL BE REQUIRED FOR EVERY 200 LINEAR FEET OF EACH LIFT OF BACKFILL. DENSITY TESTING SHALL BE IN ACCORDANCE WITH TXDOT TEST METHOD TEX-115-E.
 - C. TEST METHODS TEX-114-E AND TEX-115-E ARE NOT APPLICABLE IF 30 PERCENT OR MORE OF THE REINFORCED BACKFILL IS GREATER THAN 3/4 INCH IN SIZE. COMPACTION FOR THIS TYPE OF MATERIAL SHALL CONTINUE UNTIL THERE IS NO EVIDENCE OF FURTHER COMPACTION, AS DIRECTED BY THE OWNERS GEOTECHNICAL ENGINEER. PRIOR TO AND IN CONJUNCTION WITH THE ROLLING OPERATION, EACH LAYER SHALL BE KEPT LEVELLED WITH SUITABLE EQUIPMENT TO INSURE UNIFORM COMPACTION OVER THE ENTIRE LAYER. SHOULD THE SUBGRADE, FOR ANY REASON OR CAUSE, LOSE THE REQUIRED STABILITY OF FINISH, IT SHALL BE RECOMPACTED AND REFINISHED AT THE CONTRACTOR'S EXPENSE.
- 6. THE CONTRACTOR SHALL HAVE AN APPROVED SET OF CONSTRUCTION DRAWINGS AND CONTRACT SPECIFICATIONS ON-SITE AT ALL TIMES DURING CONSTRUCTION OF THE RETAINING WALL.

GEOGRID PLACEMENT

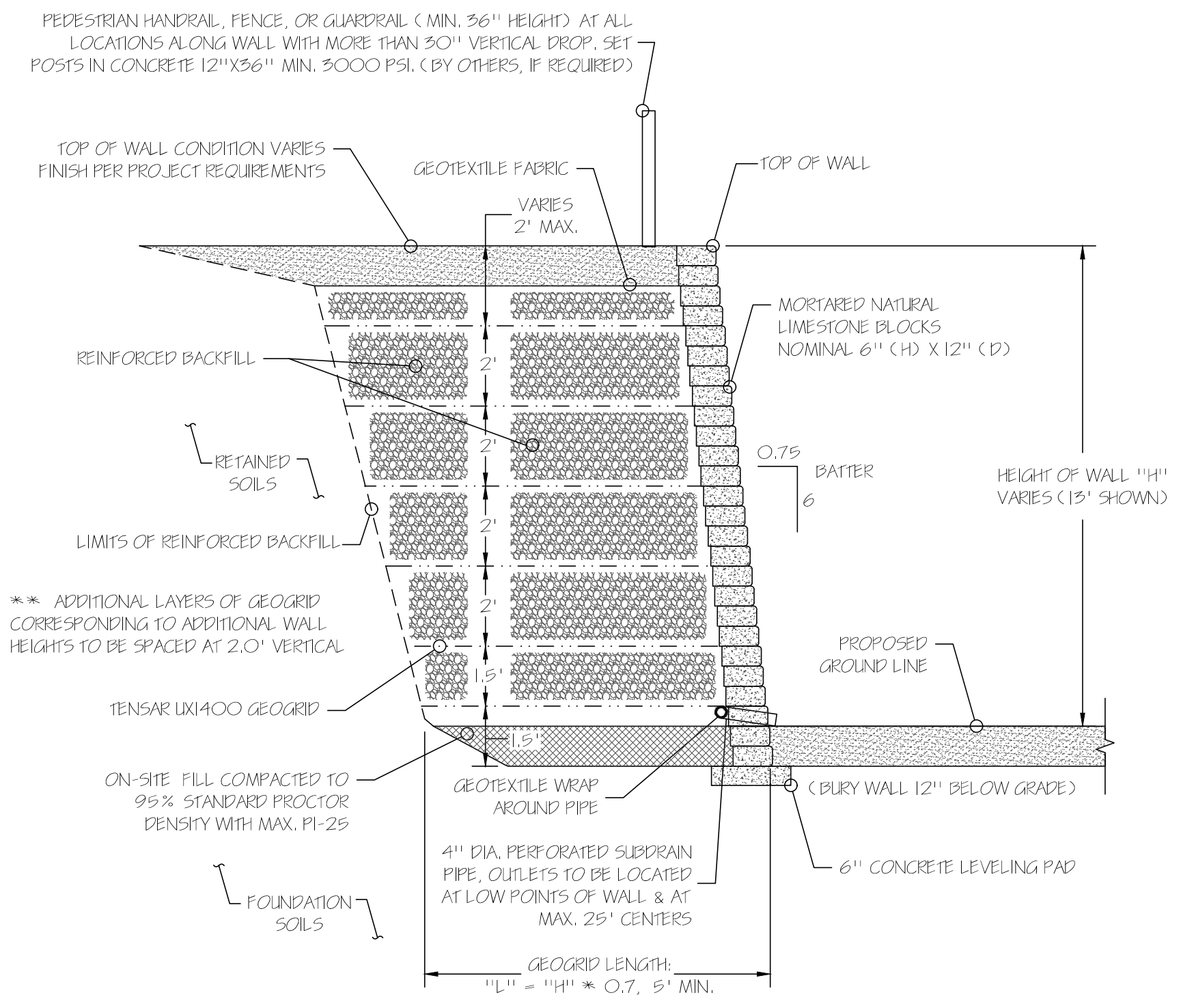
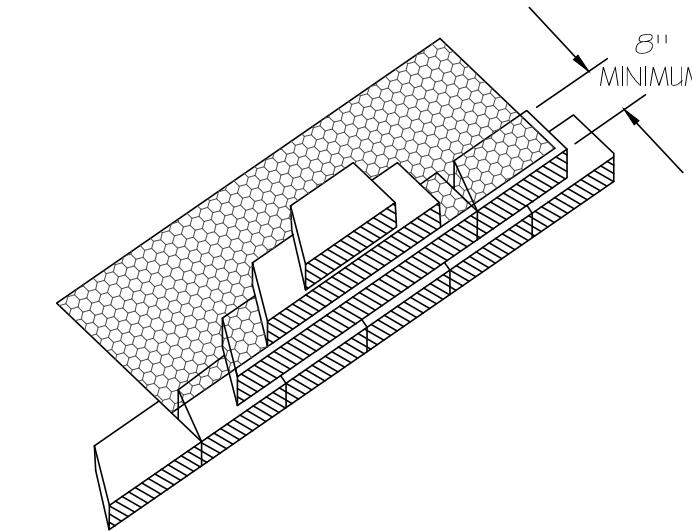
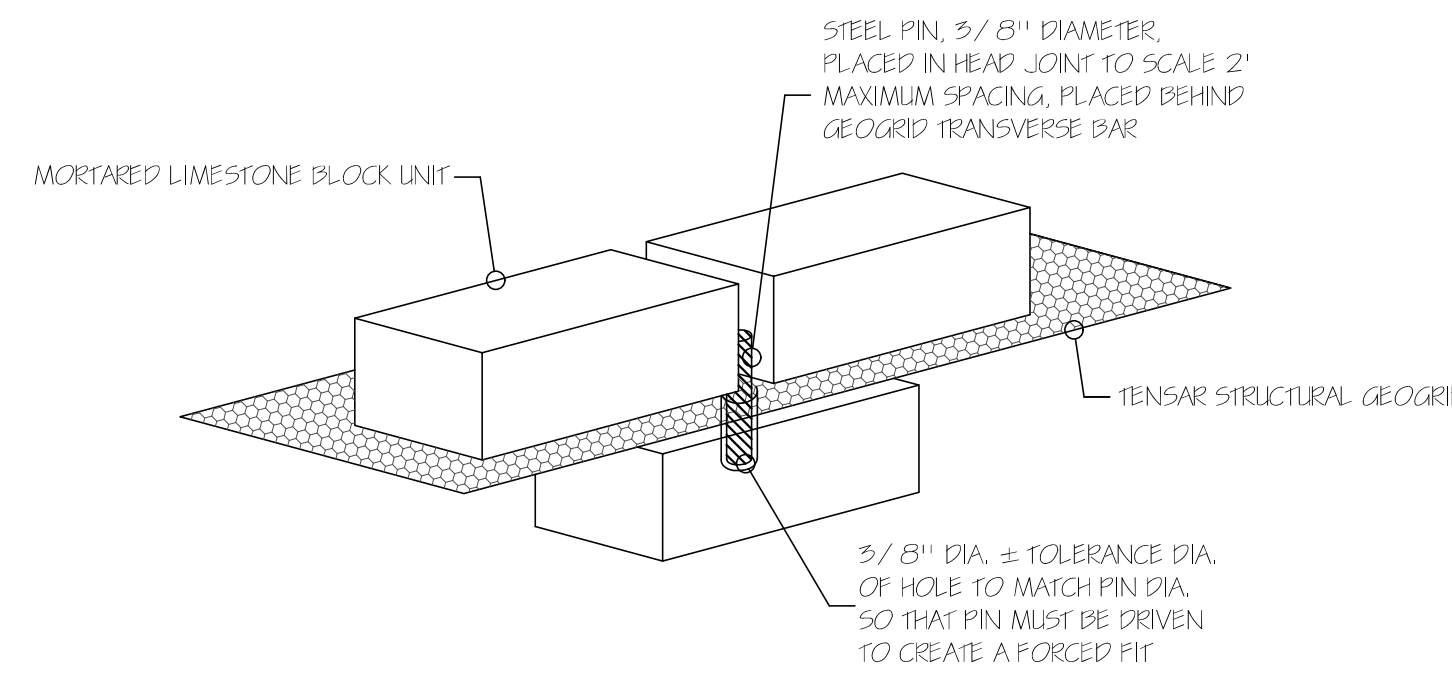
- 1. GEOGRID SHALL BE PLACED AT THE LOCATION SHOWN ON THE CONSTRUCTION DRAWINGS.
- 2. GEOGRID EMBEDMENT LENGTH (GEL) SHALL BE AS SHOWN ON THE CONSTRUCTION DRAWINGS. REINFORCED BACKFILL ZONE LENGTH IS MEASURED FROM THE FRONT FACE OF THE WALL EXTENDING TO THE TAIL OF THE GEOGRIDS.
- 3. GEOGRID REINFORCEMENT SHALL BE CONTINUOUS THROUGH OUT THE DESIGNATED EMBEDMENT CONNECTION.
- 4. THE CONNECTION OF THE GEOGRID TO THE BLOCK SHALL BE A POSITIVE-MECHANICAL CONNECTION.
- 5. TRACKED CONSTRUCTION EQUIPMENT SHALL NOT BE OPERATED DIRECTLY ON THE GEOGRID. A MINIMUM FILL THICKNESS OF SIX INCHES IS REQUIRED FOR OPERATION OF TRACKED VEHICLES OVER THE GEOGRID. TURNING OF TRACKED VEHICLES SHOULD BE KEPT TO A MINIMUM TO PREVENT TRACKS FROM DISPLACING THE FILL AND/OR THE GEOGRID.
- 6. RUBBER-TIRED VEHICLES MAY PASS OVER THE GEOGRID REINFORCEMENT AT SLOW SPEEDS, LESS THAN 10 MPH. SUDDEN BRAKING AND SHARP TURNING SHALL BE AVOIDED.
- 7. UNIAXIAL GEOGRID SHALL BE ROLLED OUT WITH THE LONG AXIS OF THE APERATURES (MACHINE DIRECTION) PERPENDICULAR TO THE WALL FACE.
- 8. UNIAXIAL GEOGRIDS SHALL BE CUT NEXT TO THE CROSS-MACHINE DIRECTION BAR. THE CROSS-MACHINE DIRECTION BAR SHALL BE PLACED AND PULLED TAUT PRIOR TO FILL PLACEMENT.
- 9. A MINIMUM OF 3 INCHES OF FILL MATERIAL SHALL BE REQUIRED BETWEEN LAYERS OF UNIAXIAL GEOGRID AND FILTER FABRIC UNLESS OTHERWISE SHOWN.

BLOCK PLACEMENT

- 1. THE ALLOWABLE HORIZONTAL AND VERTICAL TOLERANCE FOR THE ERECTION OF THE WALLS SHALL BE LIMITED TO 1.5 INCH IN 10.0 FEET OF LENGTH OR HEIGHT.

DRAINAGE

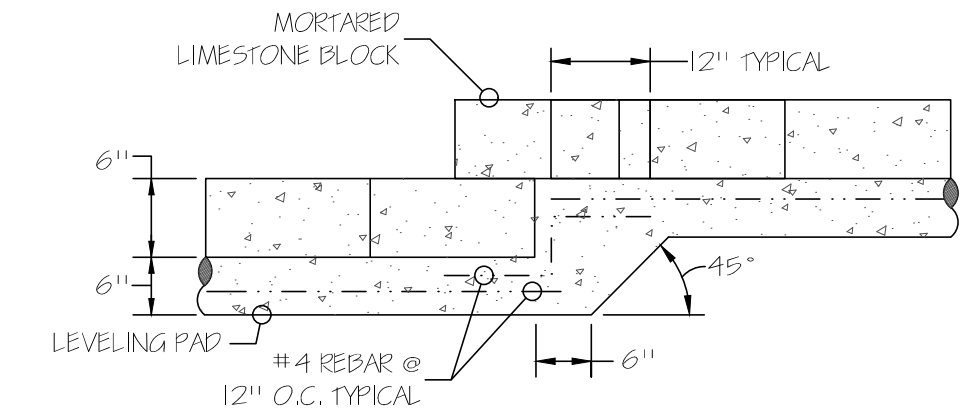
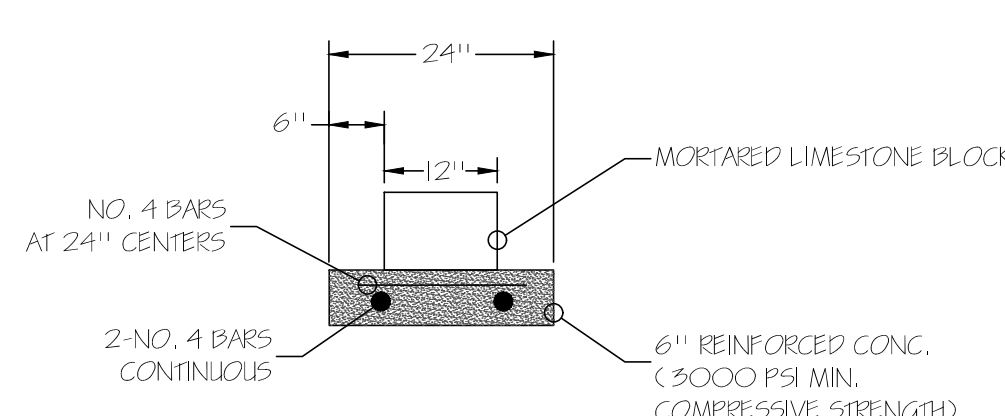
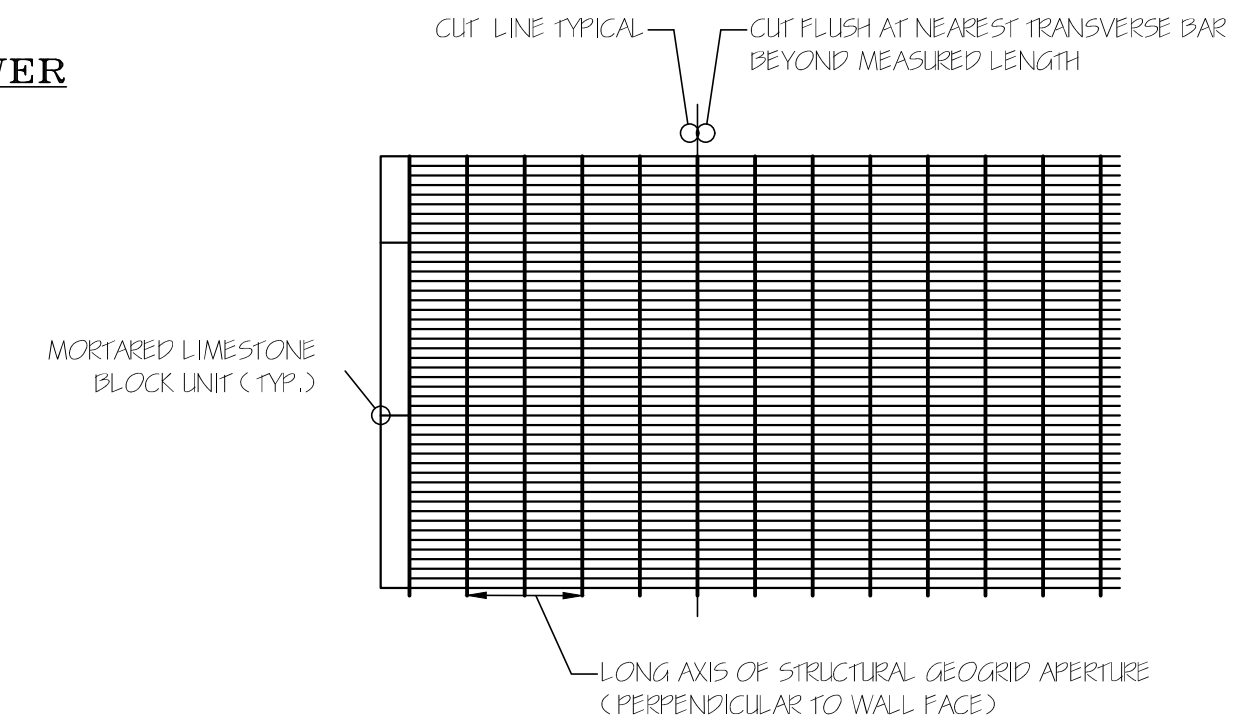
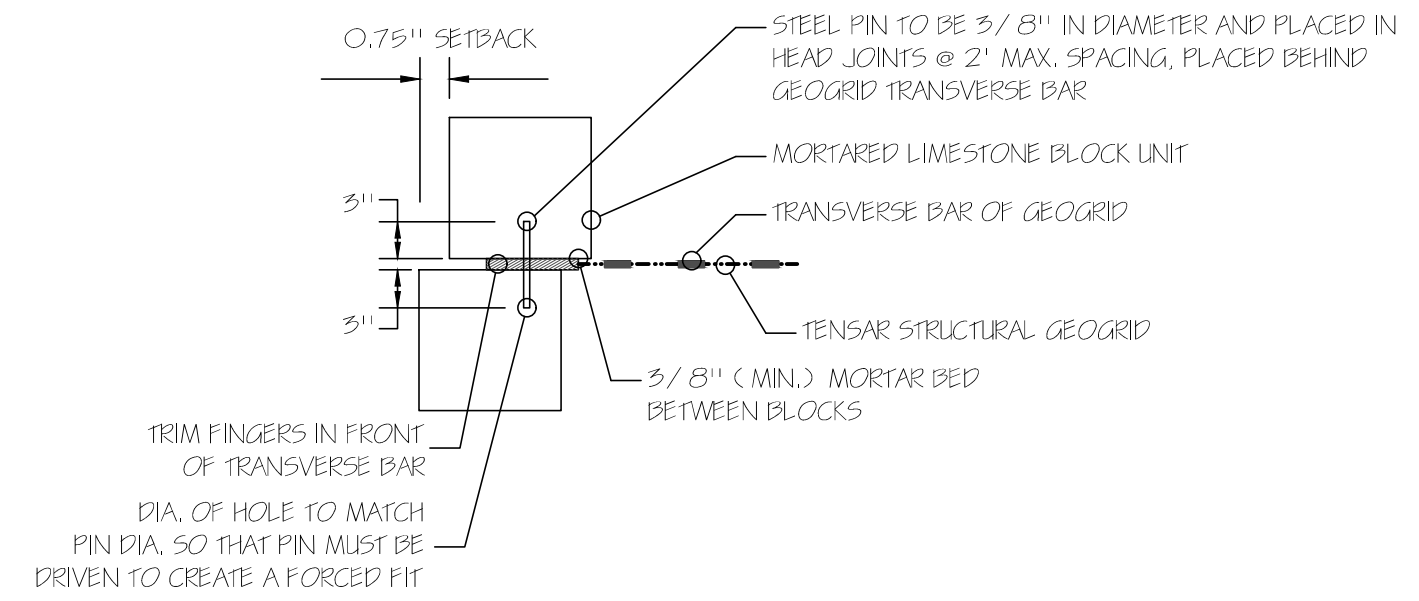
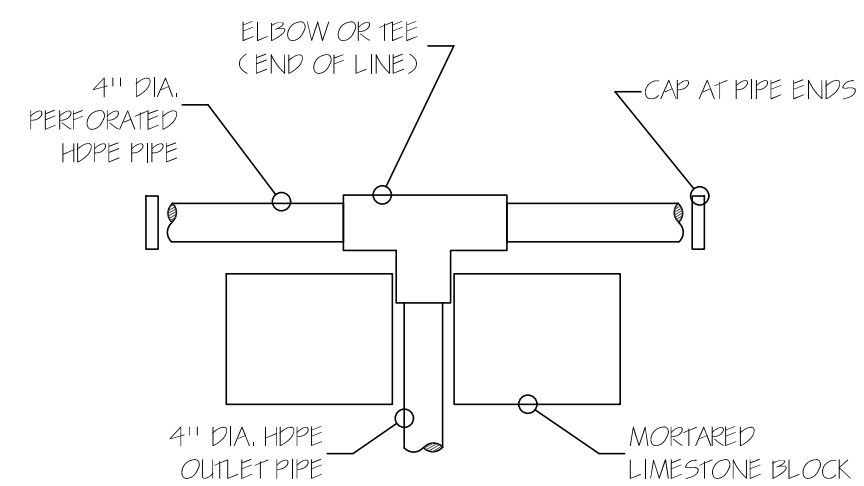
- 1. FOR WALLS NOT INCORPORATING FREE-DRAINING CRUSHED STONE BACKFILL THE BACKFILL SURFACE SHALL BE GRADED AWAY FROM THE WALL FACE A MINIMUM OF 2 PERCENT SLOPE AND A TEMPORARY SOIL BERM SHALL BE CONSTRUCTED NEAR THE WALL CREST TO PREVENT SURFACE WATER RUNOFF FROM OVERTOPPING THE WALL. GRADING SHALL BE PERFORMED AT THE END OF EACH WORK DAY.
- 2. AT THE END OF EACH WORKDAY, BACKFILL SURFACE SHALL BE COMPACTED WITH A SMOOTH WHEEL ROLLER TO MINIMIZE PONDING OF WATER AND SATURATION OF THE BACKFILL.
- 3. PERMANENT SURFACE WATER DIVERSION AND/OR COLLECTION SHALL BE AS REQUIRED AND PROVIDED BY THE OWNER OR OWNER'S REPRESENTATIVE.
- 4. THE RETAINING WALL HAS BEEN DESIGNED ON THE ASSUMPTION THAT THE REINFORCED BACKFILL MATERIAL SHALL BE FREE OF SUBSURFACE DRAINAGE OF WATER (SEEPAGE).
- 5. CARE SHALL BE TAKEN NOT TO CONTAMINATE THE GEO-TEXTILE FABRIC AND/OR DRAINAGE STONE WITH FINE-GRAINED SOILS OR OTHER DELETERIOUS MATERIALS.



GEOGRID SCHEDULE

HEIGHT "H" OF WALL	NUMBER OF LAYERS	GEOGRID EMBEDMENT LENGTH	GEOGRID TYPE
4.0'	2	5.0'	UX1400
5.0'	2	5.0'	UX1400
6.0'	3	5.0'	UX1400
7.0'	3	5.5'	UX1400
8.0'	4	6.0'	UX1400
9.0'	4	6.5'	UX1400
10.0'	5	7.0'	UX1400
11.0'	5	8.0'	UX1400
12.0'	6	8.5'	UX1400
13.0'	6	9.0'	UX1400

- NOTES:
A.) STEP TOP OF WALL TO CORRESPOND WITH SLOPE BEHIND WALL.
B.) MINIMUM 5' GEOGRID LENGTH.
C.) WALLS WITH "H" < 3.0' DO NOT REQUIRE GEOGRID.



DESIGNED BY:	DRAFTED BY:
NAME	NAME
DATE	
REVISION	

Carlson, Brigrance & Doering, Inc.
Civil Engineering & Surveying
FIRM ID #F5791
Main Office: 5501 West William Cannon Dr., Austin, Texas 78749
North Office: 12120 RR 620 N., Ste. 600, Austin, Texas 78750
www.cbding.com
Phone No. (512) 280-5160

WALL DETAILS
THE COLONY TREE HOUSE
SITE PLAN

SHEET NAME:
JOB NAME:
PROJECT:

M. HARMOUCHE
MAHER HARMOUCHE
143982
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGRANCE & DOERING, INC.
ID # F3791
11.01.2024
DATE:
JAN 2023
JOB NUMBER:
5469
SHEET:
18 OF 18