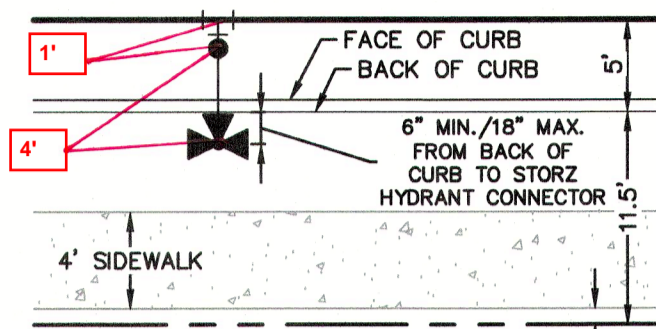


CAUTION!!!
THE LOCATIONS AND DEPTHS OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS OF UTILITIES MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.

NBU PRESSURE ZONE:
PROPOSED WATER MAIN IS WITHIN NBU PRESSURE ZONE 5.

NOTE:
FOR PAVEMENT DESIGN SECTION SEE GEOTECHNICAL ENGINEERING REPORT.



FIRE HYDRANT DETAIL
NOT-TO-SCALE

ITEM	UNIT	QUANTITY
8" WATER LINE	LF	1057
1" SINGLE SERVICE & 5/8" METER	EA	29
1" IRRIGATION SERVICE & 3/4" METER	EA	X
LUES	EA	34
FIRE HYDRANT	EA	2
6" GATE VALVE	EA	2
8" GATE VALVE	EA	5

Pipe Restraint Length Calculations
Source: EBAA Iron, Restraint Length Calculator v 7.1.2

Assumptions:
Soil Type: CH, Safety Factor: 1.5 to 1.0, Trench Type: 5, Depth of Bury: 4 ft, Test Pressure: 200 psi

Minimum Restraint Lengths in Feet

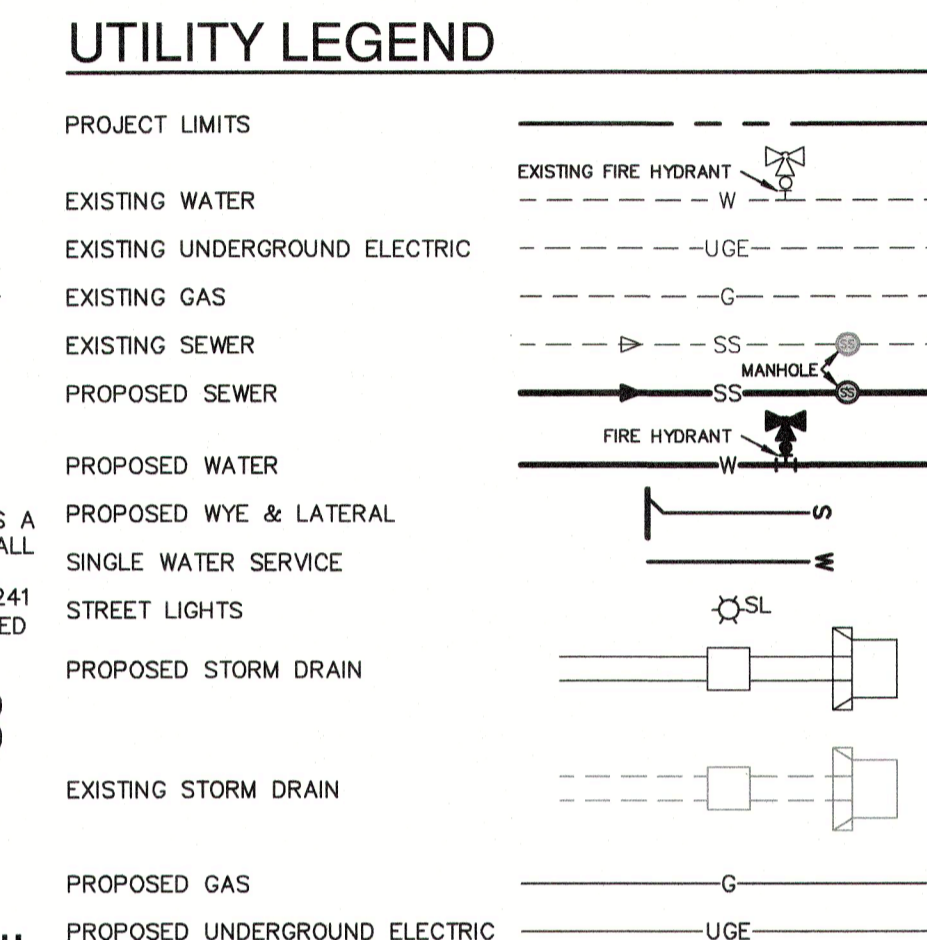
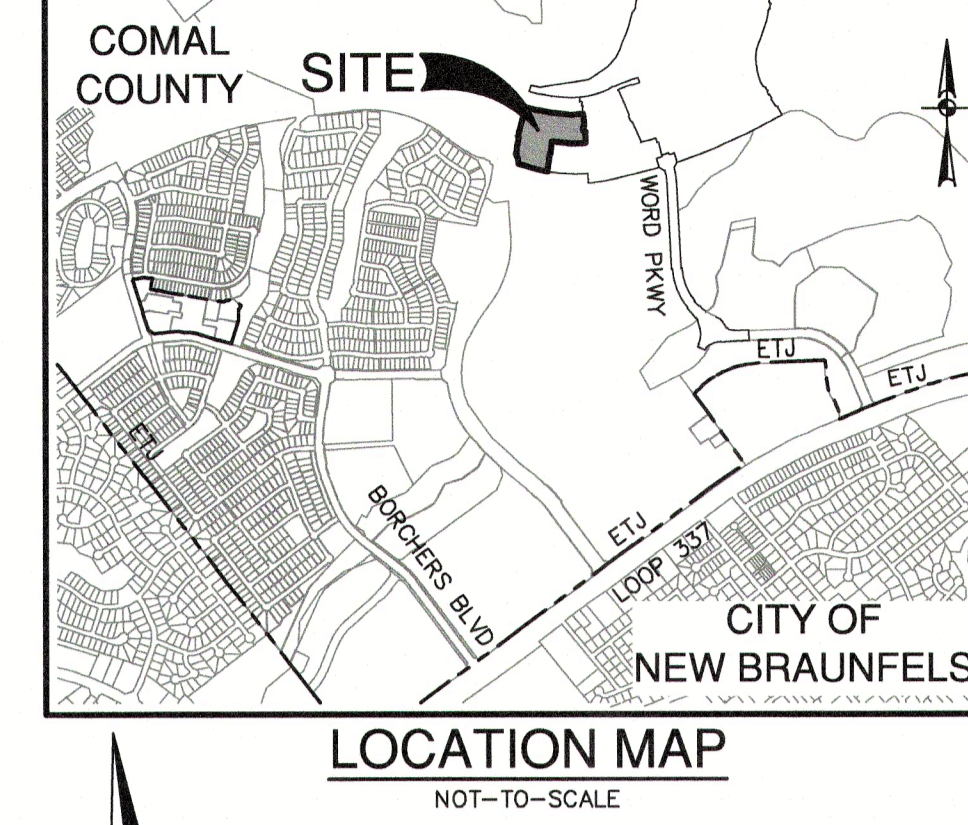
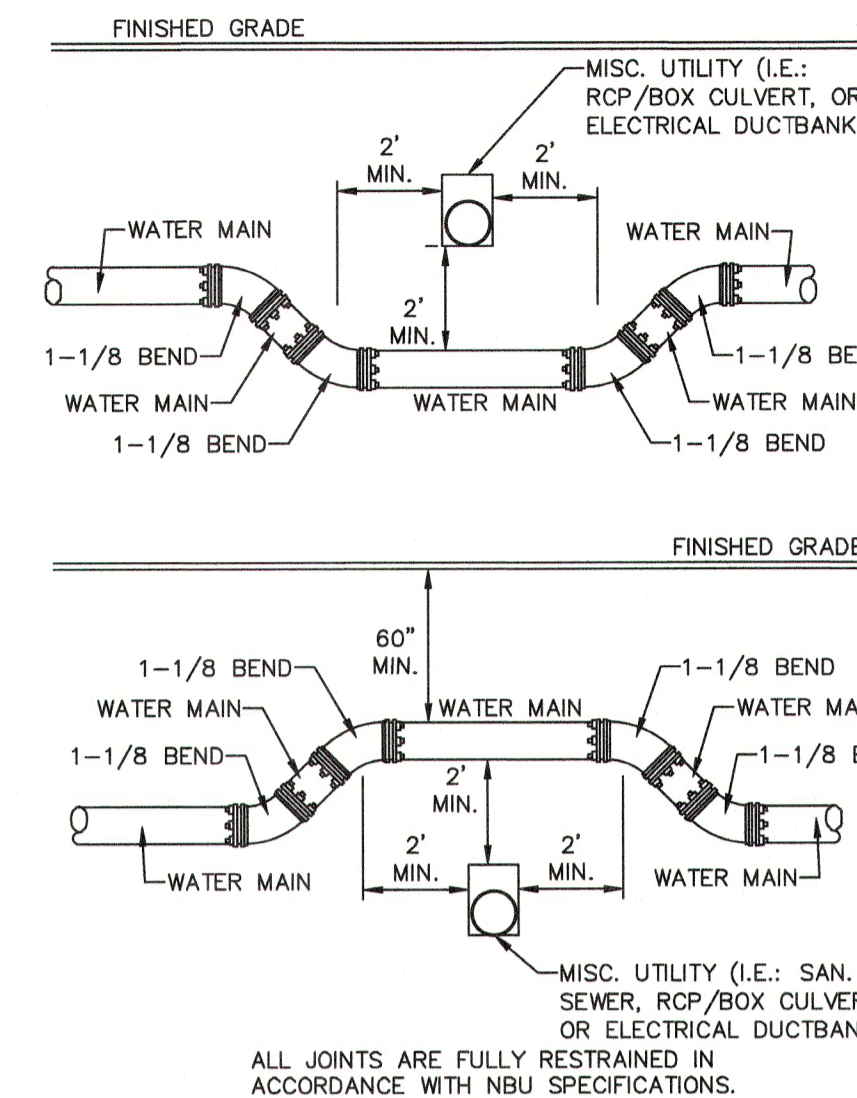
Horizontal Bends	8" Waterline	
	Main	Branch
11.25 Degrees	3	
22.5 Degrees	6	
45 Degrees	12	

Misc. Fittings

8"x6" Tee	59 (6" Branch)
8"x8" Tee	78
12"x6" Tee	78
12"x8" Tee	78
Dead End/ Gate Valve	78

Vertical Bends (assumes low side depth of 10)

	High Side	Low Side
11.25 Degrees	8	2
22.5 Degrees	16	3
45 Degrees	32	5



NOTE:

- ALL IRRIGATION SERVICES WITHIN RESIDENTIAL AREAS SHALL HAVE A REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLY (R/P) INSTALLED PRIOR TO PLACEMENT OF METER. ALL NEW FACILITIES ARE REQUIRED TO COMPLY WITH THE REQUIREMENTS OF THE LATEST NBU BACKFLOW POLICY.
- ALL GATE VALVES 16" AND SMALLER SHALL BE RESILIENT SEATED GATE VALVES.

CITY OF NEW BRAUNFELS NOTES

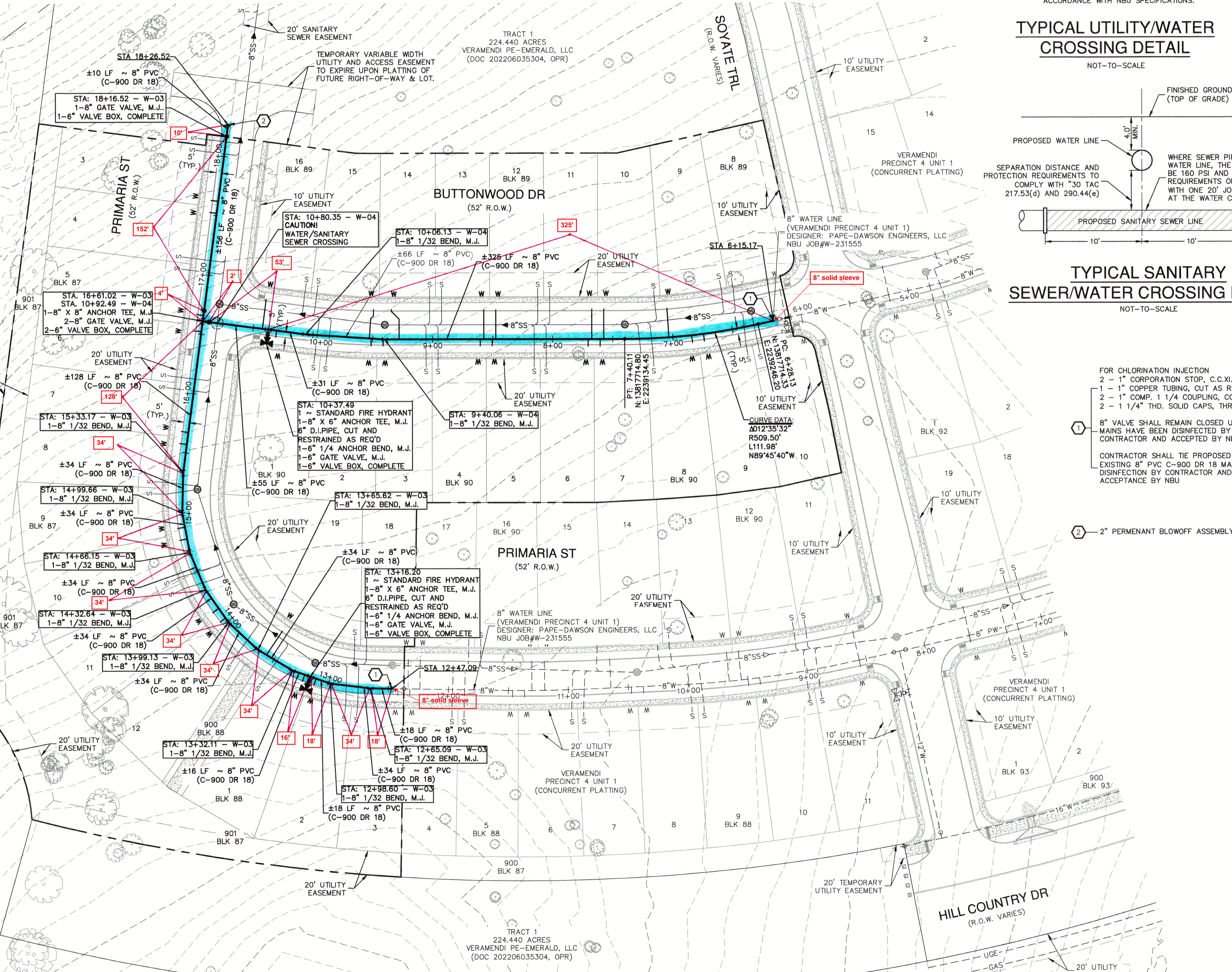
- NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.
- ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.
- THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5-FEET IN DEPTH. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS FOR TESTING AND COMPACTION WILL NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.
- UTILITY TRENCH COMPACTION - ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.

CAUTION!!!

CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING, ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT TEXAS 811 A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

TRENCH EXCAVATION SAFETY PROTECTION:

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/ GEOTECHNICAL/ SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE 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.



FOR CHLORINATION INJECTION
2 - 1" CORPORATION STOP, C.C.XIP
1 - 1" COPPER TUBING, CUT AS REQUIRED
2 - 1" COMP. 1/4 COUPLING, CORP. STOP
2 - 1 1/4" THD. SOLID CAPS, THR.

8" VALVE SHALL REMAIN CLOSED UNTIL NEW MAINS HAVE BEEN DISINFECTED BY CONTRACTOR AND ACCEPTED BY NBU

CONTRACTOR SHALL TIE PROPOSED 8" MAIN TO EXISTING 8" PVC C-900 DR 18 MAIN AFTER DISINFECTION BY CONTRACTOR AND ACCEPTANCE BY NBU

DATE: _____

NO. REVISION: _____

11-28-2023

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED PROFESSIONAL ENGINEER

Falschubing

PAPE-DAWSON ENGINEERS

1672 INDEPENDENCE DR. STE 102 | NEW BRAUNFELS, TX 78132 | 800.832.5683
TEXAS ENGINEERING FIRM #479 | TEXAS SURVEYING FIRM #1008890

VERAMENDI PRECINCT 4 - UNIT 2
NEW BRAUNFELS, TEXAS

OVERALL WATER DISTRIBUTION PLAN

PLAT NO. 30001-65
JOB NO. 09-05-2023
DATE 09-05-2023
DESIGNER GDL
CHECKED GDL DRAWN CA
SHEET C4.00

FOR PERMIT