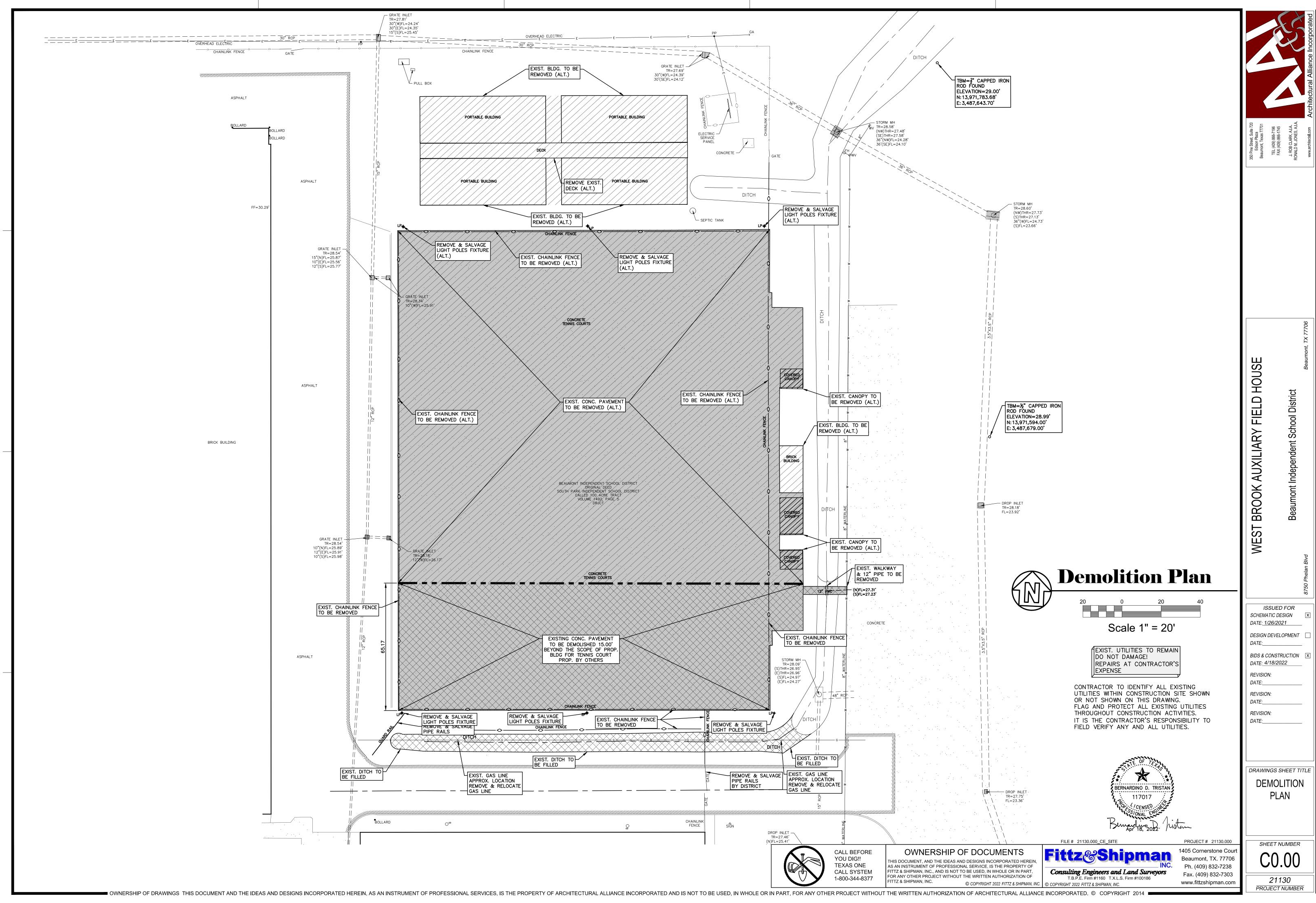
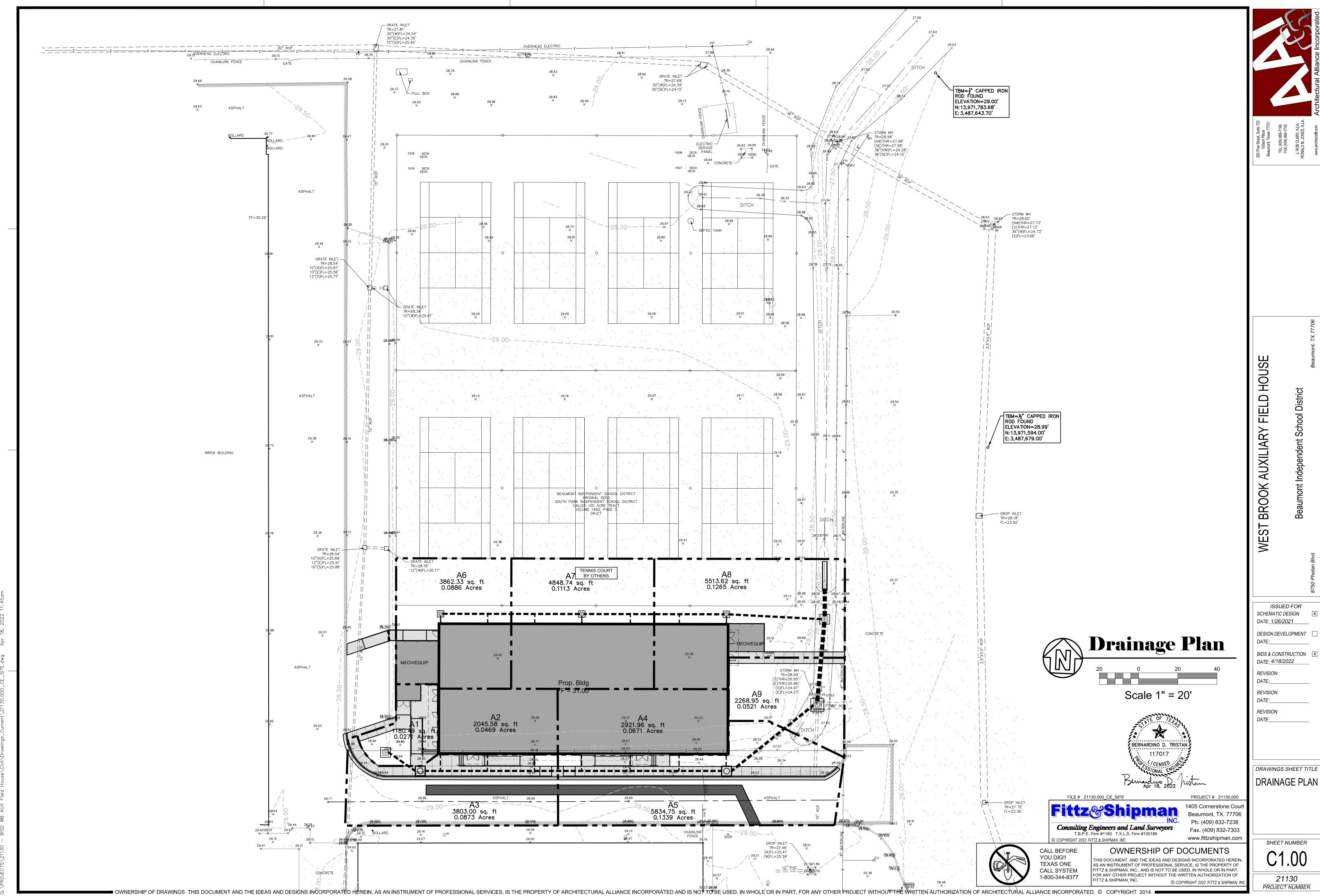


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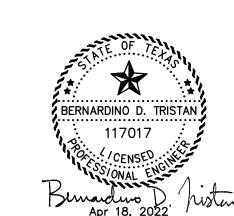




ST	ORM	COMPUTATIONS				Jefferson Co Atlas 14 Zone 1 2019	o. Fre	eq = 5 b= 80.22 d= 13.47 e= 0.772	l=b/(t+d)e Tc=10A^.1761+15			n=0.012 HDPE pipe n=0.030 earth ditch PIPE					
FROM NO.	ТО	Drainage Areas	TOTAL DA (Ac.)	TOTAL CA	LNGTH (ft.)	Time of Concentration Along sewer line		Inlet Time	Used in Design	∣ (in/hr)	Freq = Q (cfs)	No. (#)	Dia. (in.)	DESIGN Slope %	Cap. (cfs)	REMA Vel. (ft/sec)	ARKS +/- /\ Q
A1	А3	A1	0.03	0.02	20	+ 20 / 0.5	` /	0.7 20.3	20.3	5.30	0.13	1	12	0.35	2.29	2.91	2.16
A2 A3	A3 A5	A2 A1+A2+A3	0.05 0.16	0.05 0.15	10 155	+ 10 / 2.0 + 155 / 0.5	` '	0.1 20.8 5.2 22.3	20.8 22.3	5.24 5.08	0.24 0.75	3 1	6 12	0.50 0.35	1.29 2.29	2.19 2.91	1.05 1.53
A4	A5	A4	0.10	0.13	10	+ 10 / 2.0	, ,	0.1 21.2	21.2	5.20	0.73	4	6	0.50	1.72	2.19	1.38
A5	А9	A1->A5	0.36	0.33	58	155 / 2.9		0.9 23.4	23.4	4.96	1.66	1	15	0.35	4.15	3.38	2.49
A6	Α7	A6	0.09	0.08	72	+ 72 / 0.5	(60) =	2.4 21.5	21.5	5.16	0.43	1	12	0.35	2.29	2.91	1.86
Α7	A8	A6+A7	0.20	0.19	73	73 / 3.4	(60) =	0.4 22.5	22.5	5.05	0.94	1	12	0.35	2.29	2.91	1.34
A8	Α9	A6->A8	0.33	0.31	82	82 / 2.9	(60)=	0.5 23.2	23.2	4.98	1.52	1	24	0.35	14.53	4.63	13.02
А9	OUT	A1->A9	0.74	0.67	10	+ 10 / 0.5	(60)=	0.3 24.5	24.5	4.85	3.24	1	48	0.10	49.34	3.93	46.10

STORM COMPUTATIONS								Atlas 14 Zone 1 2019		= 105.57 = 12.99 = 0.687		l=b/(t+d)e Tc=10A^.1761+15			n=0.012 HDPE pipe n=0.030 earth ditch PIPE					
FROM NO.	ТО	Drainage Areas	TOTAL DA (Ac.)	TOTAL CA	Time of Co LNGAHong se (ft.)					Inlet Time	Used in Design	l (in/hr)	Freq = Q (cfs)	No. (#)	Dia. (in.)	DESIGN Slope %	Cap. (cfs)	REMA Vel. (ft/sec)	ARKS +/- /\ Q	
A1	А3	A1	0.03	0.02	20	+ 20	/ 0.5	(60)=	0.7	20.3	20.3	9.49	0.23	1	12	0.35	2.29	2.91	2.06	
A2	А3	A2	0.05	0.05	10	+ 10	/ 2.0	(60)=	0.1	20.8	20.8	9.39	0.43	3	6	0.50	1.29	2.19	0.86	
А3	A5	A1+A2+A3	0.16	0.15	155	+ 155	/ 0.5	(60) =	5.2	22.3	22.3	9.13	1.36	1	12	0.35	2.29	2.91	0.93	
A4	A5	A4	0.07	0.07	10	+ 10	/ 2.0	(60) =	0.1	21.2	21.2	9.32	0.61	4	6	0.50	1.72	2.19	1.12	
A5	Α9	A1->A5	0.36	0.33	58	155	/ 2.9	(60) =	0.9	23.4	23.4	8.94	2.99	1	15	0.35	4.15	3.38	1.16	
A6	Α7	A6	0.09	0.08	72	+ 72	/ 0.5	(60) =	2.4	21.5	21.5	9.26	0.77	1	12	0.35	2.29	2.91	1.52	
Α7	A8	A6+A7	0.20	0.19	73	73	/ 3.4	(60) =	0.4	22.5	22.5	9.08	1.70	1	12	0.35	2.29	2.91	0.59	
8A	Α9	A6->A8	0.33	0.31	82	82	/ 2.9	(60) =	0.5	23.2	23.2	8.96	2.74	1	24	0.35	14.53	4.63	11.80	
Α9	OUT	A1->A9	0.74	0.67	10	+ 10	/ 0.5	(60) =	0.3	24.5	24.5	8.75	5.86	1	48	0.10	49.34	3.93	43.48	

Jefferson Co. Freq = 100



Fittz@Shipman

Beaumont, TX. 77706

Ph. (409) 832-7238 Consulting Engineers and Land Surveyors

T.B.P.E. Firm #1160 T.X.L.S. Firm #100186

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DATE: <u>1/26/2021</u> DESIGN DEVELOPMENT BIDS & CONSTRUCTION X DATE: 4/18/2022

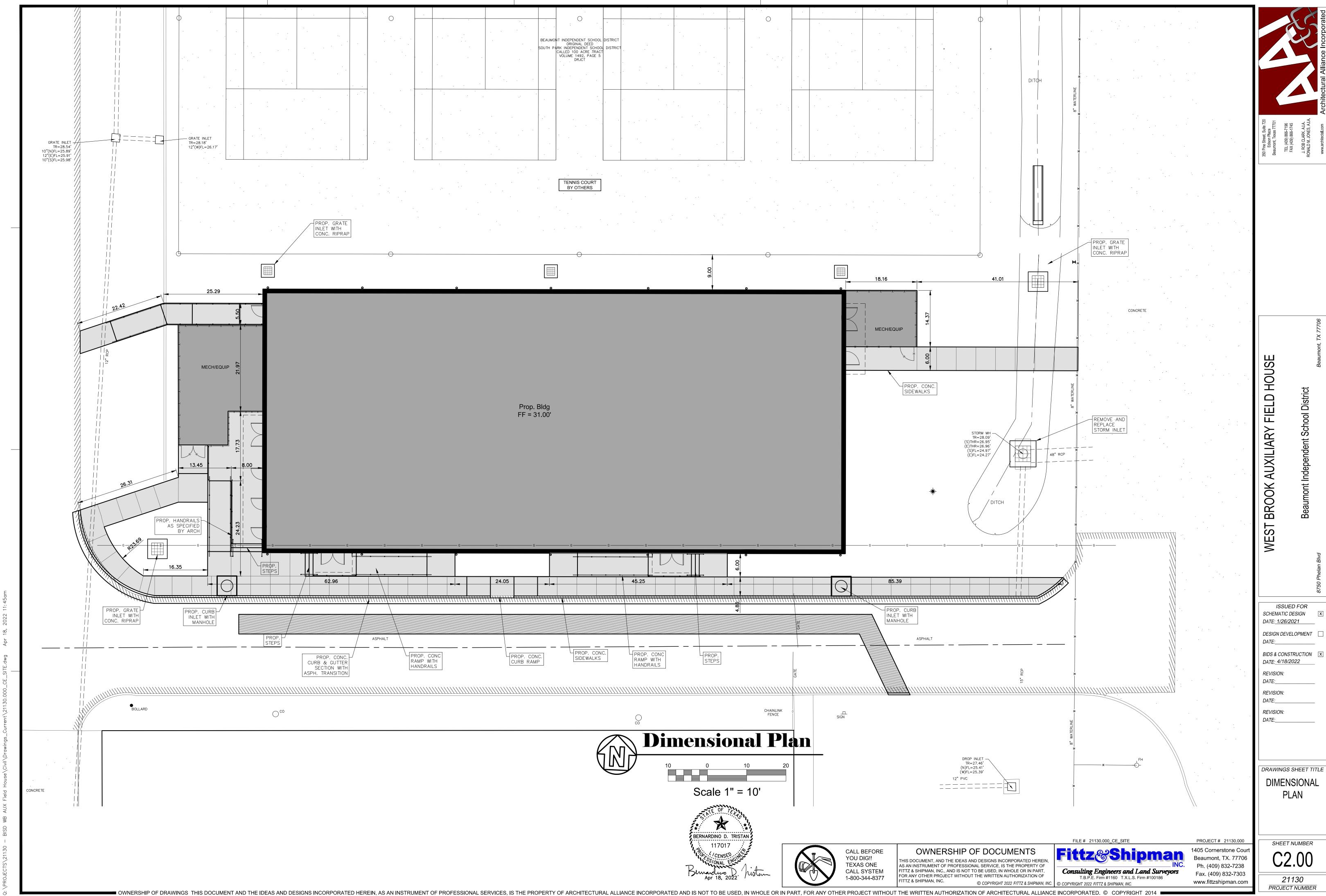
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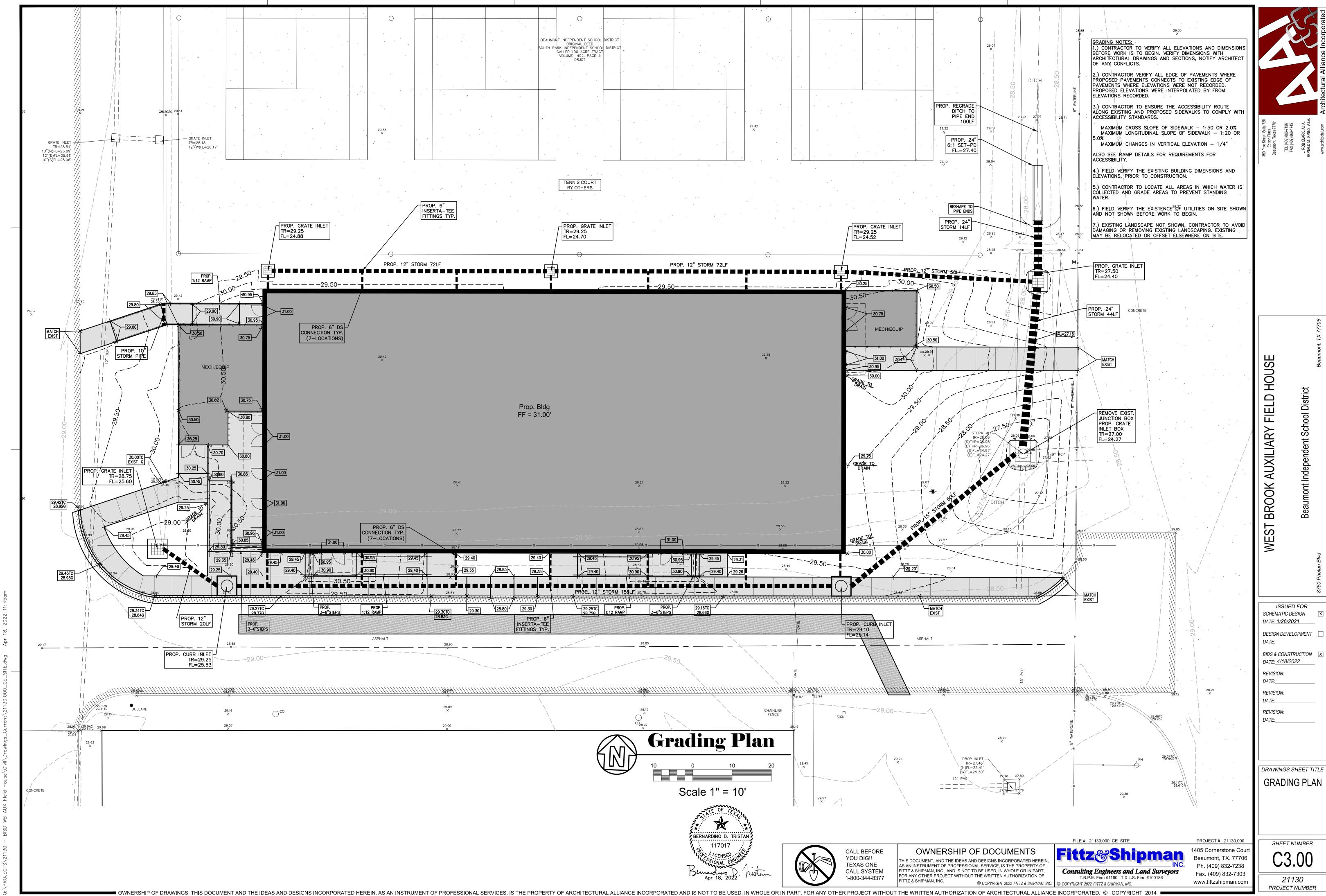
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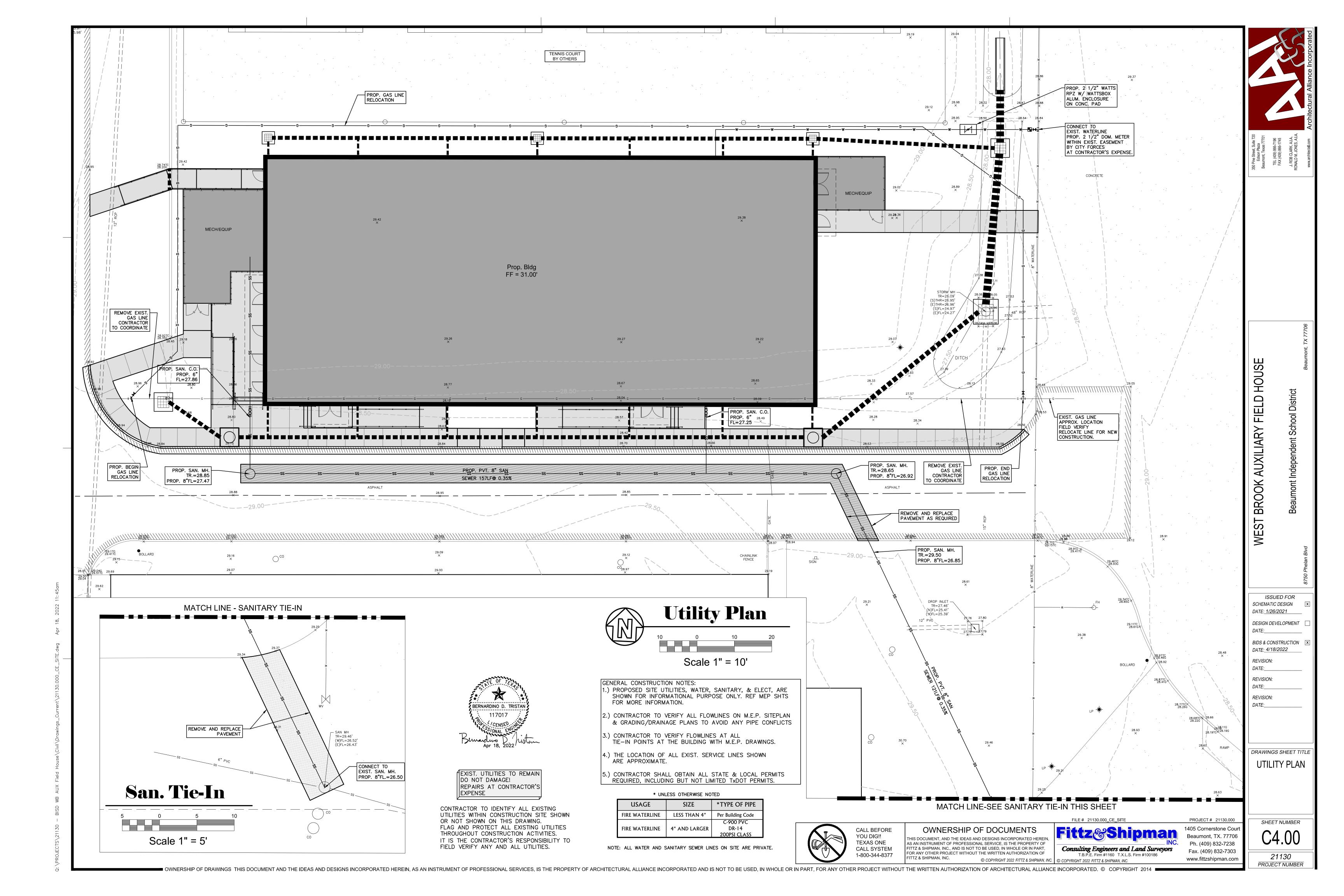
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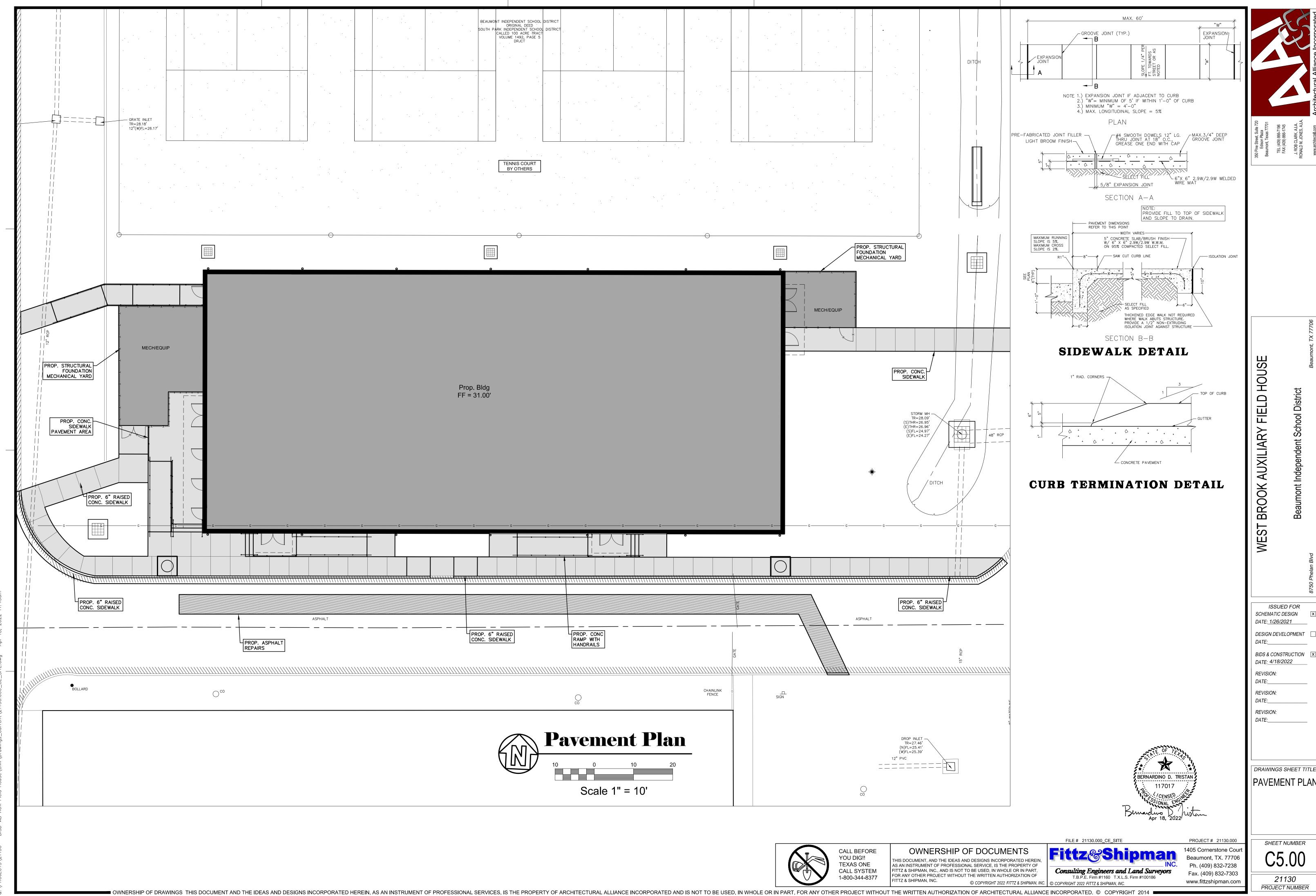
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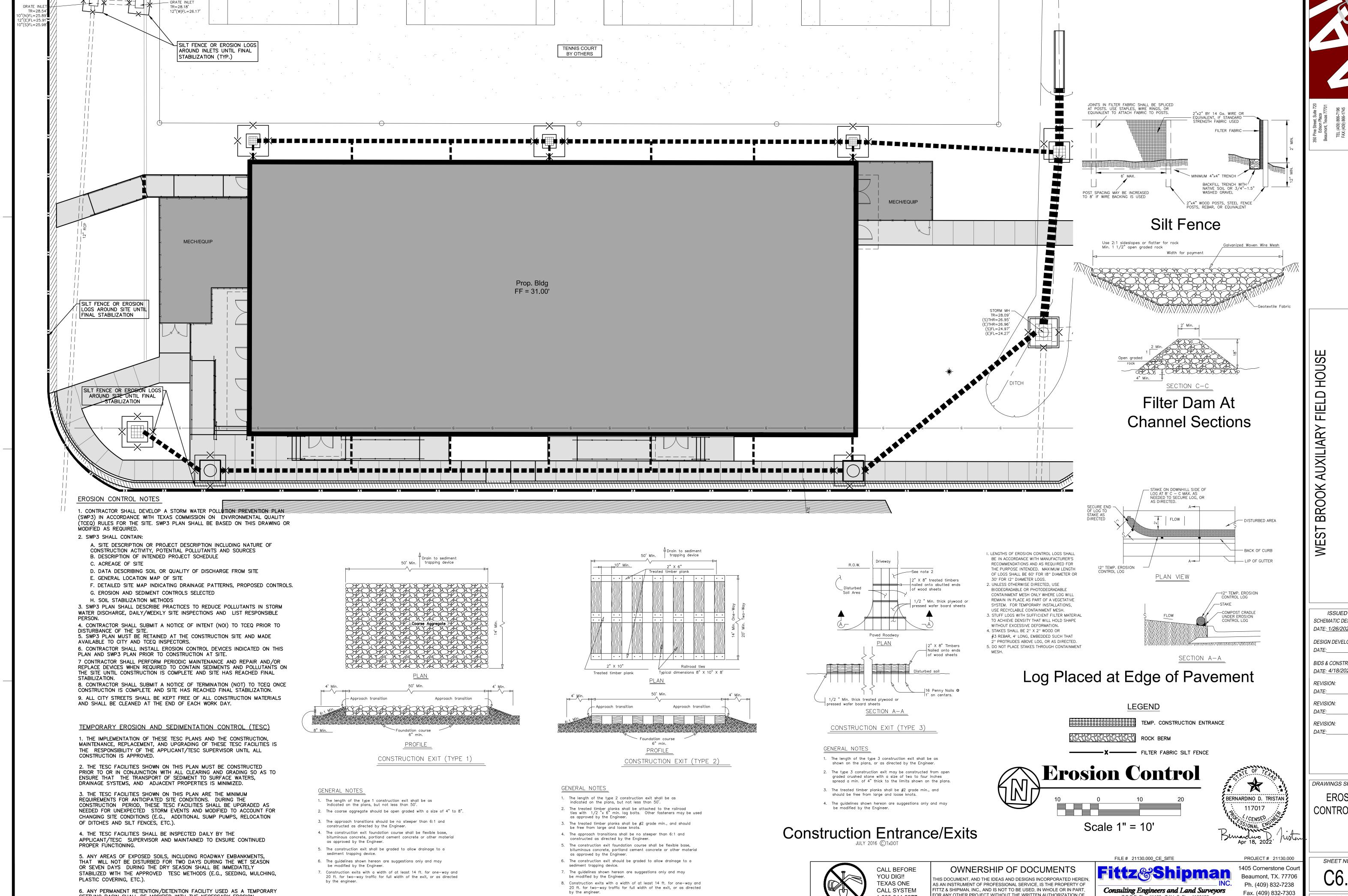






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SETTLING BASIN SHALL BE MODIFIED WITH THE NECESSARY EROSION

CONTROL MEASURES AND SHALL PROVIDE ADEQUATE STORAGE CAPACITY.

ISSUED FOR SCHEMATIC DESIGN DATE: 1/26/2021 DESIGN DEVELOPMENT

BIDS & CONSTRUCTION DATE: 4/18/2022

DRAWINGS SHEET TITLE **EROSION CONTROL PLAN**

SHEET NUMBER

21130 PROJECT NUMBER

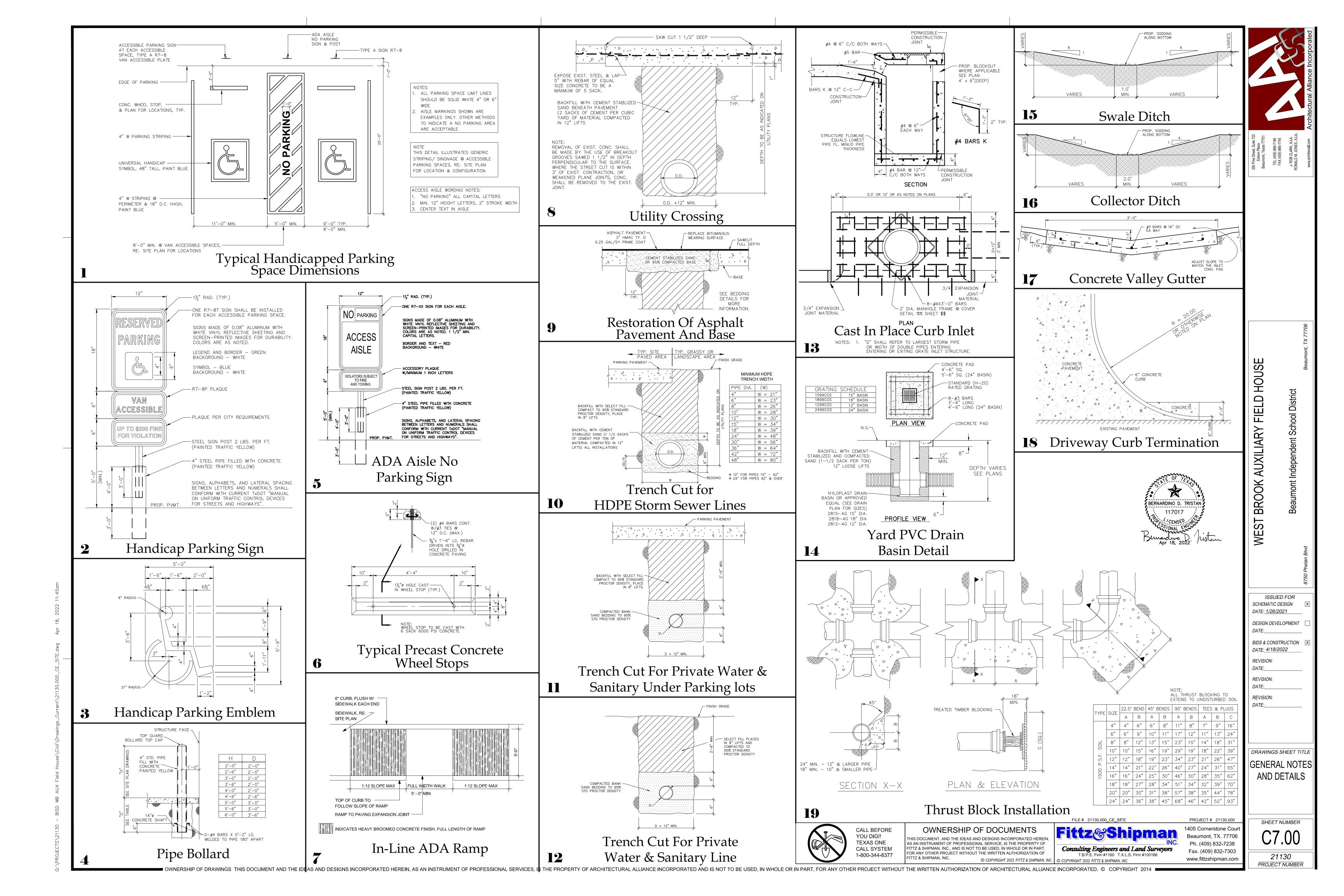
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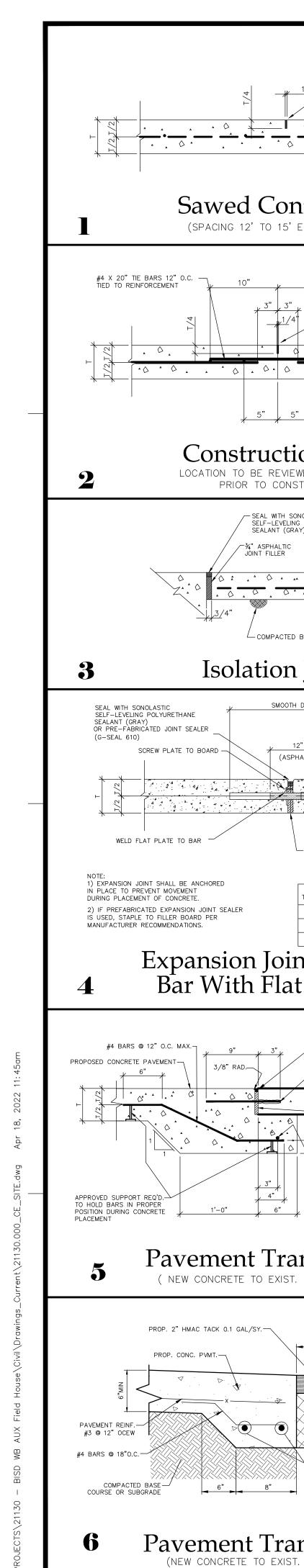
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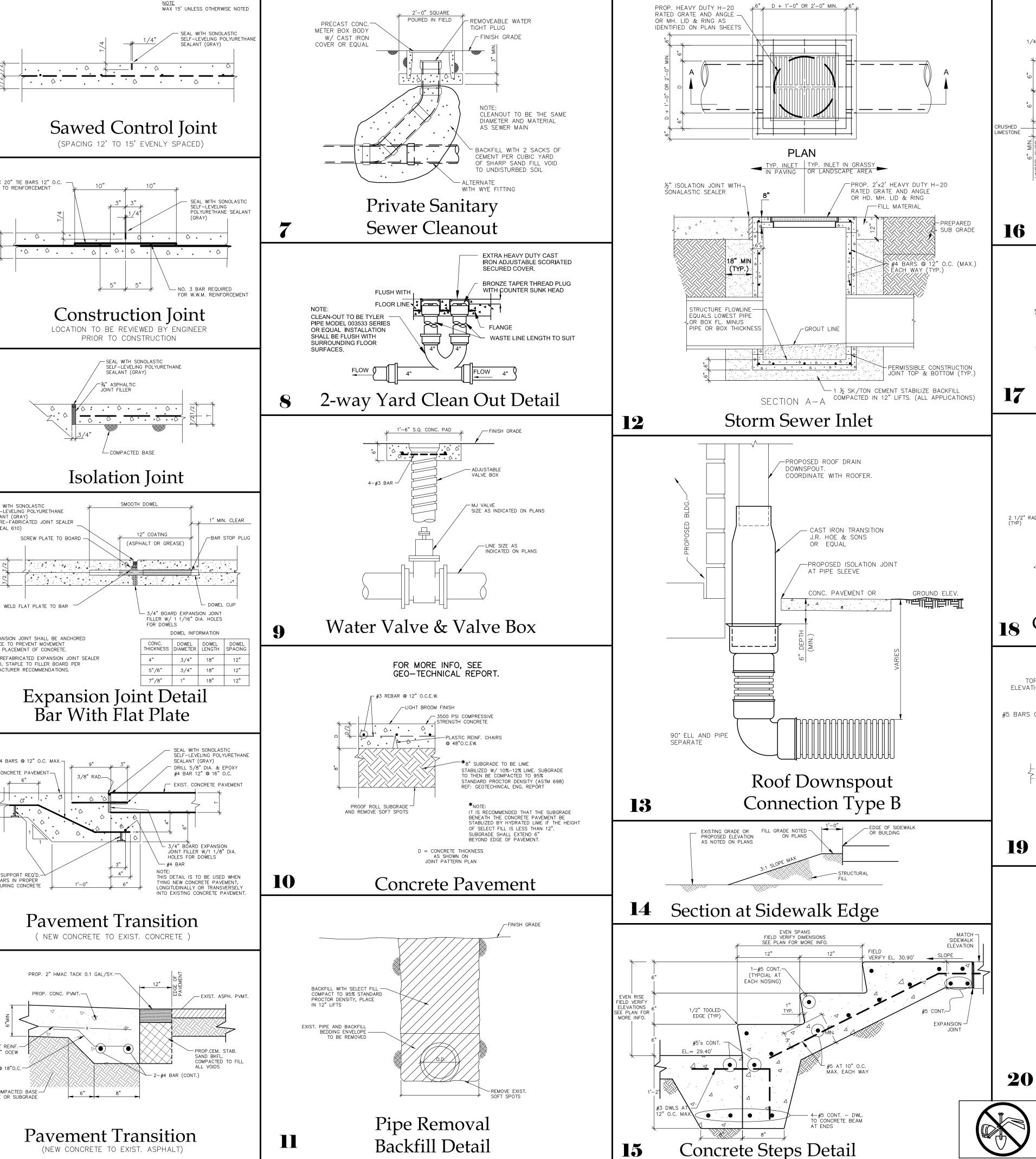
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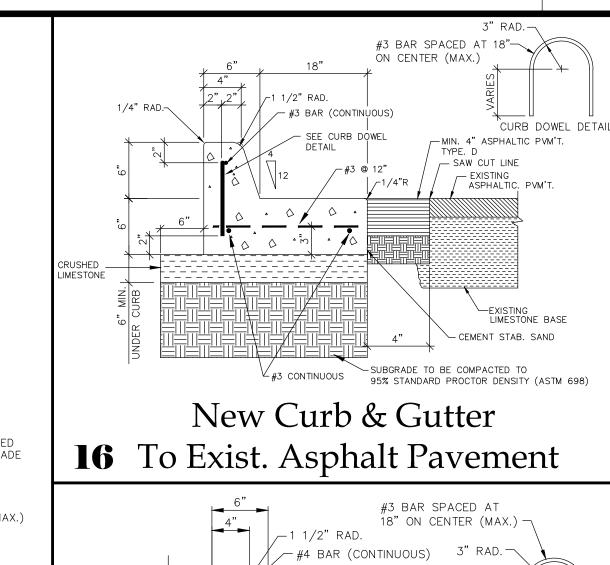
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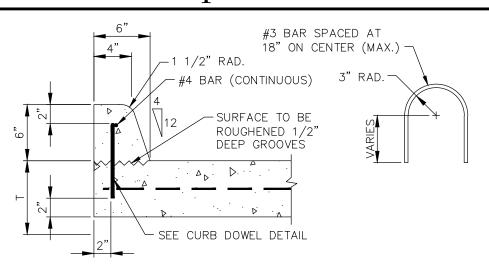




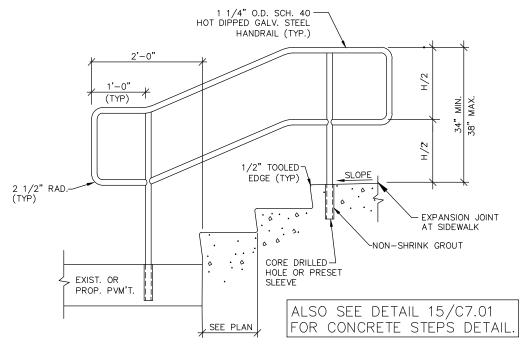


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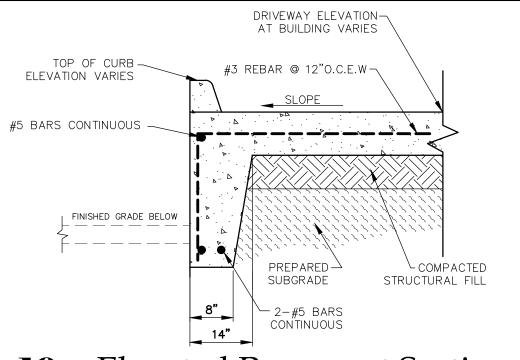




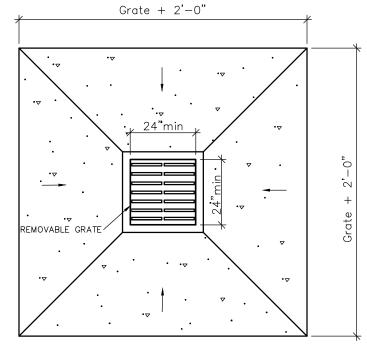
17 Curb on Existing Pavement



18 Concrete Steps With Handrail



Elevated Pavement Section



Conc. Rip Rap at

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Storm Inlets

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EXPANSION JOINTS TO BE PLACED @ ALL RADIUS RETURNS AND WHEN TYING INTO EXISTING PAVEMENTS.

RESPONSIBILITY FOR PROPER CONCRETE PAVEMENTS.

SPECIFICATION DATA

SCARIFY SUBGRADE TO A DEPTH OF 8 INCHES AND STABILIZE

CONTRACTOR'S EXPENSE. BEAM SAMPLES SHALL BE MADE FOR CONCRETE PAVEMENT TESTING.

STEEL REINFORCEMENT FOR PAVEMENT SHALL BE GRADE 60 STEEL

CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION OF

THE CONSTRUCTION PLANS AND SPECIFICATIONS. INSPECTION OF FORMS AND GRADING WILL BE CONDUCTED PRIOR TO PLACEMENT OF CONCRETE AND RANDOM CORE SAMPLES WILL BE

CONDUCTED AFTER COMPLETION PER SPECIFICATIONS TO MEASURE THICKNESS. CONTRACTOR WILL HAVE ULTIMATE

CONCRETE PAVEMENTS TO PROPER THICKNESS AS PROVIDED IN

2. ALL CONCRETE FOR PAVING TO BE 3500 PSI COMPRESSIVE STRENGTH @ 28 DAYS. SAWING OF JOINTS SHALL BEGIN

WITH 10%-12% HYDRATED LIME. COMPACT TO 95% STD PROCTOR DENSITY ASTM D-698 IN ACCORDANCE WITH TXDOT ITEM 260.

CONTRACTOR TO PERFORM SOIL DENSITY TESTING FOR ALL ROADWAYS AND BACKFILLING DRAINAGE DITCH AT 8" LIFTS. ALL TESTING TO BE

AS SOON AS WORKABLE AND SHALL BE COMPLETED BEFORE 24 HOURS HAVE ELAPSED. ANY RANDOM CRACKING OF THE PAVEMENT DUE TO INCOMPLETE SAWING OPERATIONS SHALL REQUIRE THE REMOVAL AND REPLACEMENT OF THE DAMAGED SECTION AT THE

#3 REBAR @ 12" O.C.E.W. WITH PLASTIC REINF. SUPPORTS @ 48" O.C.E.W.

PAVING & DRAINAGE

STORM SEWER & CULVERT PIPE SHALL BE OF THE FOLLOWING MATERIALS: A. AASHTO M294 SMOOTH WALL CORRUGATED POLYETHYLENE PIPE WITH LOCKING PUSH ON JOINTS SMOOTH INTERIOR WALL CORRUGATED POLYETHYLENE PIPE INSTALLED WITH BEDDING ACCORDING TO MANUFACTURERS RECOMMENDATIONS (8" - 42").

B. STORM PIPE, 12" DIAMETER OR SMALLER, CONNECTED TO ROOF DRAINS MAY BE SCHEDULE 40 PVC IN LIEU OF ADS N-12.

BACKFILL ALL HDPE PIPE ON SAME DAY AS INSTALLATION.

ALL EXPOSED CONCRETE CORNERS OF MANHOLES, INLETS, OR OTHER STRUCTURES SHALL BE CHAMFERED 1".

CONTRACTOR SHALL BACKFILL AROUND ALL MANHOLES, INLETS, AND CATCH BASINS, WITH CEMENT STABILIZED SAND COMPACTED TO FILL ALL VOID CEMENT STABILIZED SAND SHALL NOT CONTAIN LESS THAN 1 1/2 SACKS CEMENT PER TON OF TOTAL MIXTURE.

10. CONTRACTOR SHALL INCLUDE BACKFILL BEHIND CURB AND PROVIDE TOPSOIL FOR AREAS DISTURBED. THIS WORK WILL NOT BE PAID FOR DIRECTLY BUT SHALL BE SUBSIDIARY TO THE

EROSION CONTROL DEVICES TO CONTROL/CONTAIN SEDIMENT RUNOFF AND TO PREVENT TRACKING ONTO PUBLIC STREETS MUST BE PROPERLY INSTALLED AND MAINTAINED DURING ALL PHASES OF CONSTRUCTION AND MUST REMAIN IN PLACE UNTIL BUILDING ERECTION AND/OR PAVING WORK IS COMPLETE AND/OR ADEQUATE VEGETATION IS ESTABLISHED TO PREVENT EROSION OF SOILS INTO STREETS OR DRAINAGE SYSTEMS.

CONTRACTOR SHALL SUBMIT A TRAFFIC PLAN TO THE ENGINEER WHICH CONFORMS TO THE MOST CURRENT TMUTCD.

OWNER SHALL PROVIDE A MINIMUM OF 1 (ONE)
SET OF COMPRESSIVE STRENGTH TEST RESULT FOR EACH
100 CY. OF CONCRETE OR A FRACTION THEREOF. RE-TESTING FOR FAILED SAMPLES SHALL BE PAID FOR BY THE CONTRACTOR.

1. ALL WATER MAINS AND APPURTENANCES SHALL CONFORM TO THE CITY OF BEAUMONT SPECIFICATIONS AND STANDARDS

SPACING OF WATER LINES AND SANITARY SEWERS WILL BE IN ACCORDANCE WITH THE FOLLOWING:

30 T.A.C. SECTION 217.53 (d)(e)
30 T.A.C. SECTION 290.44 TEXAS COMMISSION ON ENVIRONMENTAL QUALITY WATER MAINS 4 INCH DIAMETER AND LARGER SHALL BE PVC PIPE AND SHALL CONFORM TO AWWA C-900, CLASS 150. WATER LINES LESS THAN 4 INCH DIAMETER SHALL BE PVC SDR-26 CLASS 160. WATER SERVICE LINES SHALL BE CLASS 200 PE TUBING. ALL FIRE WATER LINE SHALL BE RATED FOR 200 PSI.

4. VALVES SHALL BE AWWA C500 IRON -BODY GATE VALVES WITH NON-

RISING STEM. 5. FITTINGS SHALL BE DUCTILE IRON AND CONFORM TO AWWA C110.

6. PRESSURE RATING OF VALVES, FITTINGS AND APPURTENANCES IS TO EQUAL OR EXCEED PRESSURE RATING OF ADJACENT WATER LINE.

PROVIDE ADEQUATE THRUST BLOCKING TO WITHSTAND TEST PRESSURES. CONCRETE SHALL BE 5 SACK/C.Y. MIN 3,000 PSI @ 28 DAYS.

PRESSURE TESTING AND STERILIZATION OF WATER MAINS SHALL BE PERFORMED IN ACCORDANCE WITH CITY OF BEAUMONT ITEM 809 AND AWWA C651 UNDER SUPERVISION OF THE CITY OF BEAUMONT. CONTRACTOR SHALL GIVE MIN. 24 HOURS NOTICE TO THE CITY OF BEAUMONT AND SHALL PERFORM PRESSURE TESTS AND STERILIZATION AND FURNISH ALL MATERIALS AND EQUIPMENT FOR SAME. THE CITY WILL BE RESPONSIBLE FOR

BACTERIOLOGICAL SAMPLES AND TESTING ALL WATER TRENCHES CROSSING BENEATH THE PAVING SHALL BE BACKFILLED WITH A CEMENT STABILIZED BACKFILL MATERIAL FROM TOP OF SAND ENVELOPE ENCASEMENT TO THE BOTTOM OF PAVEMENT GRADE. CEMENT STABILIZED SAND SHALL NOT CONTAIN LESS THAN 2 SACKS PER CUBIC YARD OF TOTAL MIXTURE, PER CITY OF BEAUMONT SPECIFICATION ITEM 02317 SPECIFICATIONS FOR EXCAVATION & BACKFILL FOR UTILITIES.

10. PLUMBER TO MAKE FINAL TIE-IN TO METER.

11. ALL WATER AND SANITARY SEWER LINES WILL BE TESTED PRIOR TO CITY ACCEPTANCE.

12. ALL SERVICE LINES TO BE INSTALLED PER CITY OF BEAUMONT BUILDING CODES.

13. FIRE HYDRANTS TO BE AMERICAN DARLING B-84-B, PER CITY OF BEAUMONT SPECIFICATION ITEM 808, FIRE HYDRANTS. 14. WATER METER PROVIDED AND INSTALLED BY CITY OF BEAUMONT AT CONTRACTORS EXPENSE. CONTRACTOR SHALL STAKE LOCATION OF WATER METERS AS REQUIRED BY CITY OF BEAUMONT PRIOR TO

WASTEWATER

ALL SANITARY SEWER PIPE, MANHOLES, APPURTENANCES AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH BUILDING CODE REQUIREMENTS OF THE CITY OF BEAUMONT AND CITY OF BEAUMONT STANDARDS AND SPECIFICATIONS. 2. AN AIR PRESSURE TEST OF ALL SANITARY SEWER LINES WILL BE PERFORMED IN ACCORDANCE WITH THE CITY OF BEAUMONT SPECIFICATION ITEM 02317

SPECIFICATIONS FOR EXCAVATION AND BACKFILL FOR UTILITIES. THE CITY OF BEAUMONT SHALL BE GIVEN 24 HOURS ADVANCE NOTICE OF THE PRESSURE TESTS AND SHALL OBSERVE THE TESTS TO MEET THE REQUIREMENTS OF THE CITY OF BEAUMONT SPECIFICATIONS BEFORE SANITARY SEWER LINE IS CONSIDERED ACCEPTABLE. ALL SANITARY SEWER TRENCHES CROSSING BENEATH ROAD PAVING

SHALL BE BACKFILLED WITH CEMENT STABILIZED BACKFILL
MATERIAL FROM THE BOTTOM OF TRENCH TO THE BOTTOM OF
PAVEMENT GRADE. CEMENT STABILIZED SAND SHALL NOT
CONTAIN LESS THAN 2 SACKS CEMENT PER CUBIC YARD,
PER CITY OF BEAUMONT SPECIFICATION ITEM 02317 SPECIFICATIONS FOR EXCAVATION & BACKFILL FOR UTILITIES.

ALL CITY OF BEAUMONT COLLECTOR GRAVITY SEWER PIPE LINES SHALL BE ASTM D-3034, SDR-26 PVC PER CITY OF BEAUMONT STANDARD SPECIFICATION ITEM 702 SPECIFICATIONS FOR PVC GRAVITY SEWER PIPE AND FITTINGS. ALL SERVICE LINES SHALL BE SCH-40 PVC

ALL CONCRETE SHALL BE CLASS "A" (5 SACK, 3000 PSI @ 28 DAYS) ALL REINFORCING SHALL BE GRADE 60

CONTACT CITY OF BEAUMONT MINIMUM 48 HOURS FOR WATER & SEWER

CITY OF BEAUMONT WATER/SEWER CONTACTS: BLAINE DISHMAN (409) 785-3017 WATER/SEWER (409) 785-3019

PROJECT# 21130.000

1405 Cornerstone Cour Beaumont, TX. 77706

21130

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DATE: 4/18/2022

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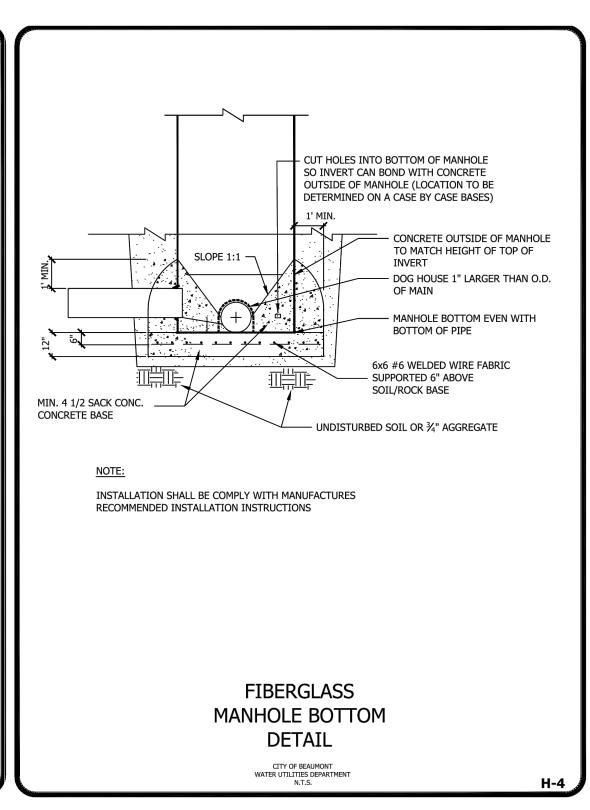
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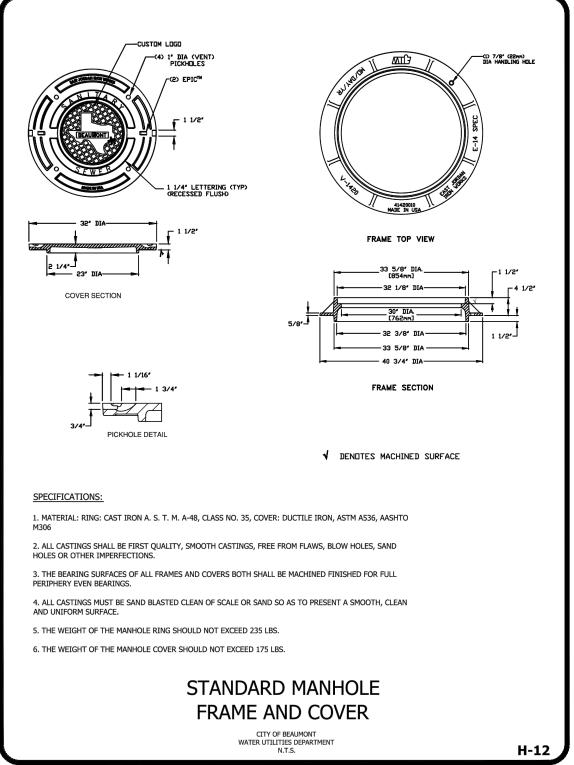
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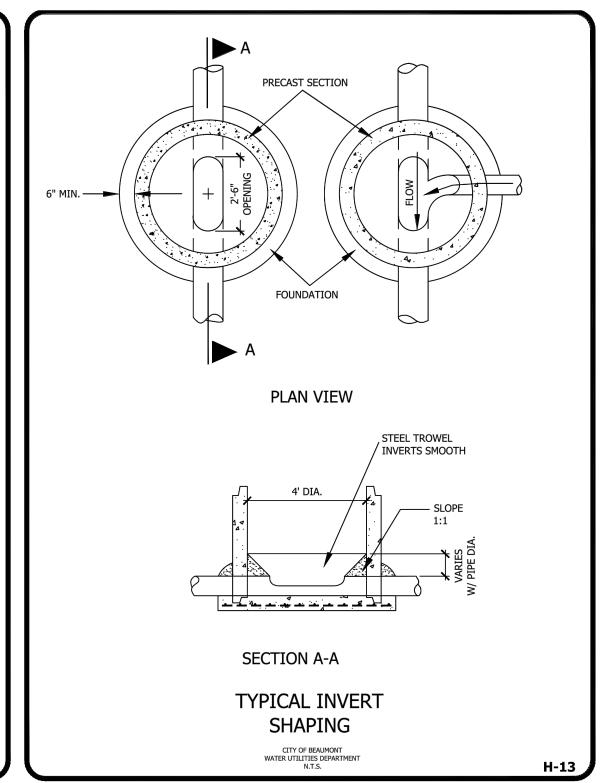
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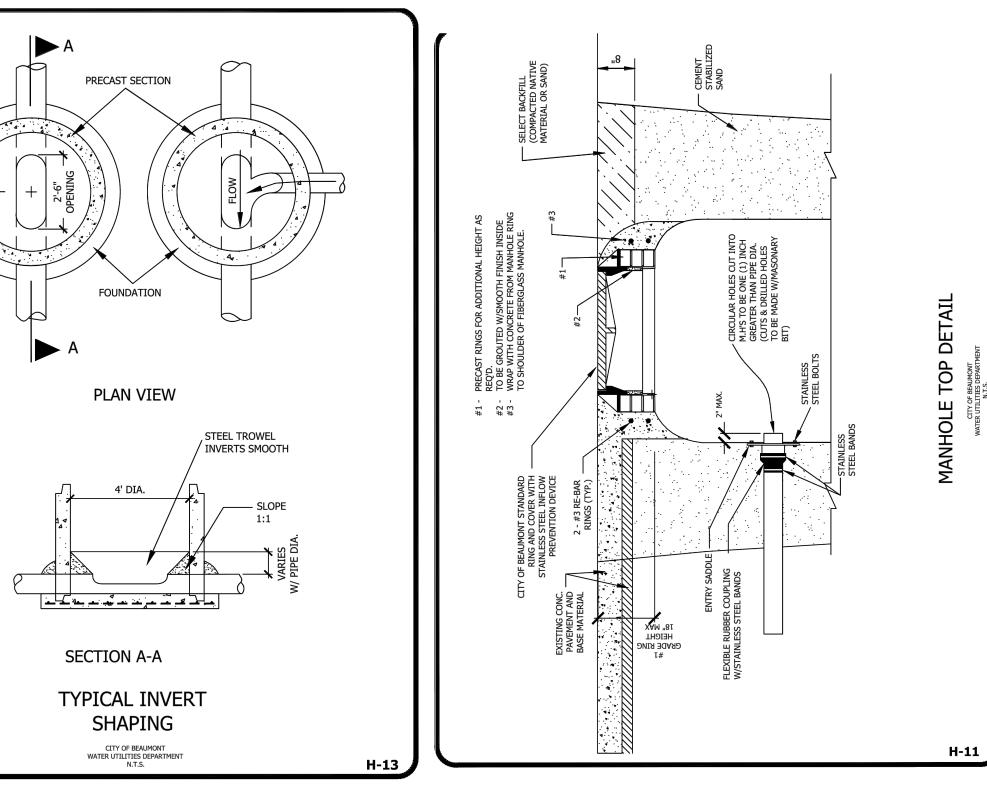
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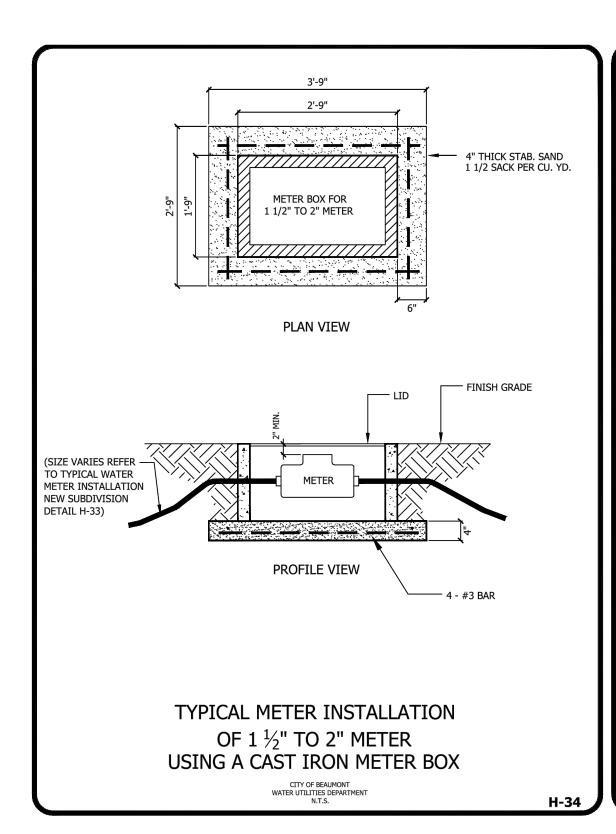
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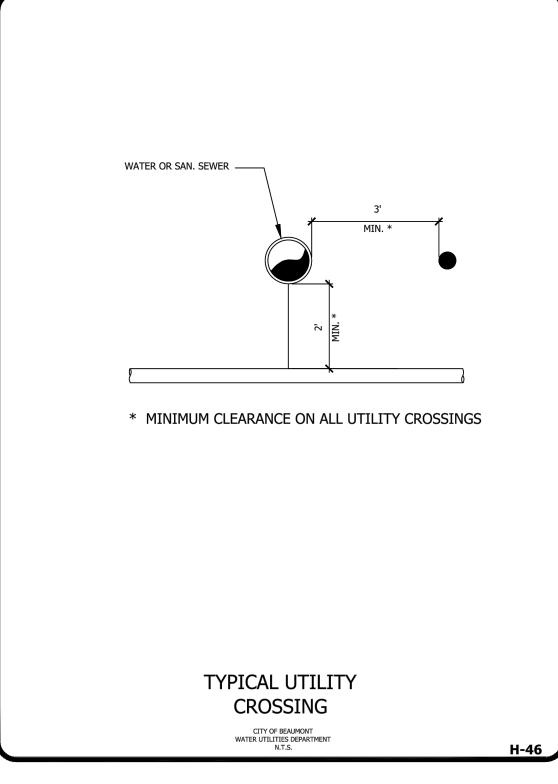


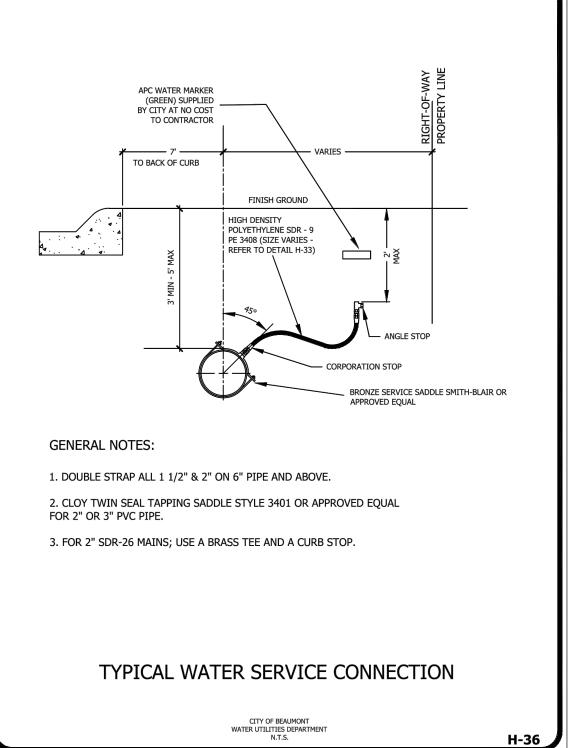


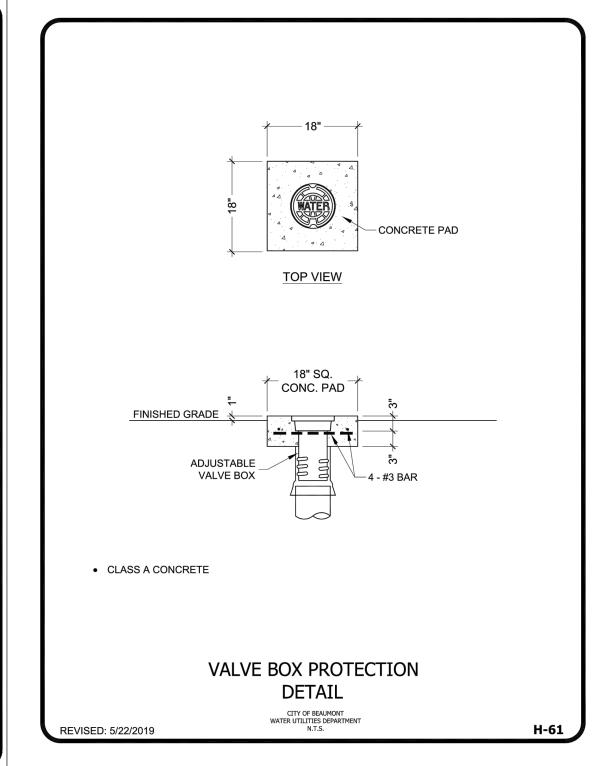


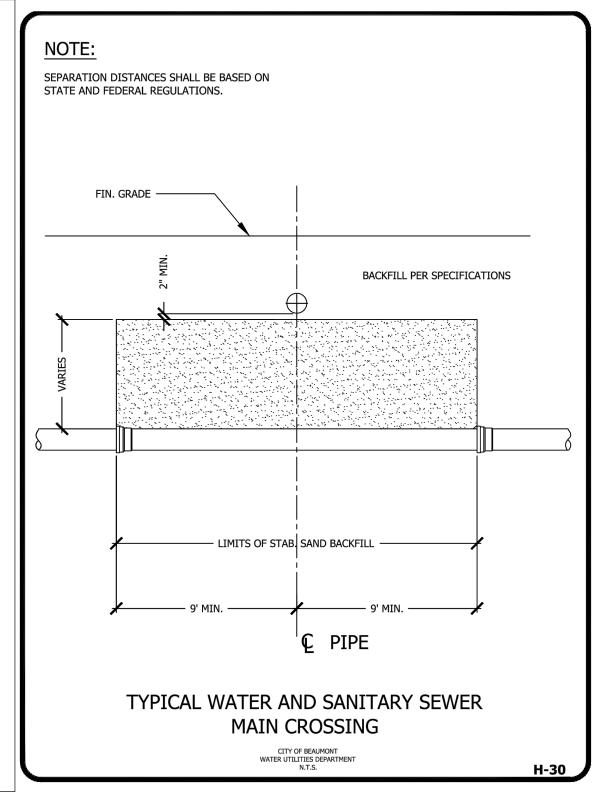














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SHEET NUMBER 21130

PROJECT NUMBER

DRAWINGS SHEET TITLE

CITY OF

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DETAILS

HOUSE

FIELD

BR

SCHEMATIC DESIGN

DESIGN DEVELOPMENT

BIDS & CONSTRUCTION

DATE: 1/26/2021

DATE: 4/18/2022

REVISION:

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DATE:_

DATE:

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