TREVOR FIELDS, UNIT 1

CITY OF SAN ANTONIO



LOCATION MAP
NOT-TO-SCALE

INDEX

SHEET TITLE	SHEET NUMBER
COVER SHEET	0.0
EXISTING CONDITIONS & DEMOLITION PLAN	1.0
OVERALL UTILITY PLAN (SHT 1 OF 2)	2.0
OVERALL UTILITY PLAN (SHT 2 OF 2)	2.1
MASTER DRAINAGE PLAN	3.0
FIRE PROTECTION PLAN (SHT 1 OF 2)	4.0
FIRE PROTECTION PLAN (SHT 2 OF 2)	4.1
OVERALL GRADING PLAN	5.0
DETAILED GRADING PLAN (SHT 1 OF 4)	5.1
DETAILED GRADING PLAN (SHT 2 OF 4)	5.2
DETAILED GRADING PLAN (SHT 3 OF 4)	5.3
DETAILED GRADING PLAN (SHT 4 OF 4)	5.4
DRAIN "A" PLAN & PROFILE (SHEET 1 OF 3)	6.0
DRAIN "A" PLAN & PROFILE (SHEET 2 OF 3)	6.1
DRAIN "A" PLAN & PROFILE (SHEET 3 OF 3)	6.2
DRAIN "B" & "C" PLAN & PROFILE	6.3
DRAIN "D" PLAN & PROFILE	6.4
DRAIN "E" PLAN & PROFILE	6.5
DRAIN "F" PLAN & PROFILE (SHEET 1 OF 2)	6.6
DRAIN "F" PLAN & PROFILE (SHEET 2 OF 2)	6.7
DETENTION BASIN PLAN	6.8
DETENTION BASIN DETAILS	6.9
STREET "A" & STREET "B" PLAN & PROFILE	7.0
STREET "C" PLAN & PROFILE	7.1
STREET "H" PLAN & PROFILE	7.2
STREET "I" & STREET "J" (SHT 1 OF 2) PLAN & PROFILE	7.3
STREET "J" (SHT 2 OF 2) PLAN & PROFILE	7.4
STREET "G" & STREET "D" PLAN & PROFILE	7.5
TYPICAL STREET DETAILS	7.6
WHEELCHAIR RAMP DETAILS	7.7
CONCRETE DRIVEWAY DETAILS	7.8
OVERALL SANITARY SEWER PLAN (SHT 1 OF 2)	8.0
OVERALL SANITARY SEWER PLAN (SHT 2 OF 2)	8.1
LINE "C" PLAN & PROFILE (SHT 1 OF 2)	8.2
LINE "C" (SHT 2 OF 2) & LINE "D" PLAN & PROFILE	8.3
LINE "E" & LINE "F" PLAN & PROFILE	8.4
SANITARY SEWER PLAN NOTES	8.5
SANITARY SEWER DETAILS (SHT 1 OF 2)	8.6
SANITARY SEWER DETAILS (SHT 2 OF 2)	8.7
WATER DISTRIBUTION PLAN (SHT 1 OF 2)	9.0
WATER DISTRIBUTION PLAN (SHT 2 OF 2)	9.1
STORM WATER POLLUTION PREVENTION PLAN	10.0
STORM WATER POLLUTION PREVENTION DETAILS	10.1
OVERALL SITE PLAN (SHT 1 OF 2)	11.0
OVERALL SITE PLAN (SHT 2 OF 2)	11.1
DIMENSIONAL CONTROL PLAN (SHT 1 OF 3)	12.0
DIMENSIONAL CONTROL PLAN (SHT 2 OF 3)	12.1
DIMENSIONAL CONTROL PLAN (SHT 3 OF 3)	12.2

Colliers
Engineering & Design
www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design. All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

811 PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

BID SET
NOT FOR
CONSTRUCTION

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 - TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE,
WATER,SANITARY SEWER &
UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

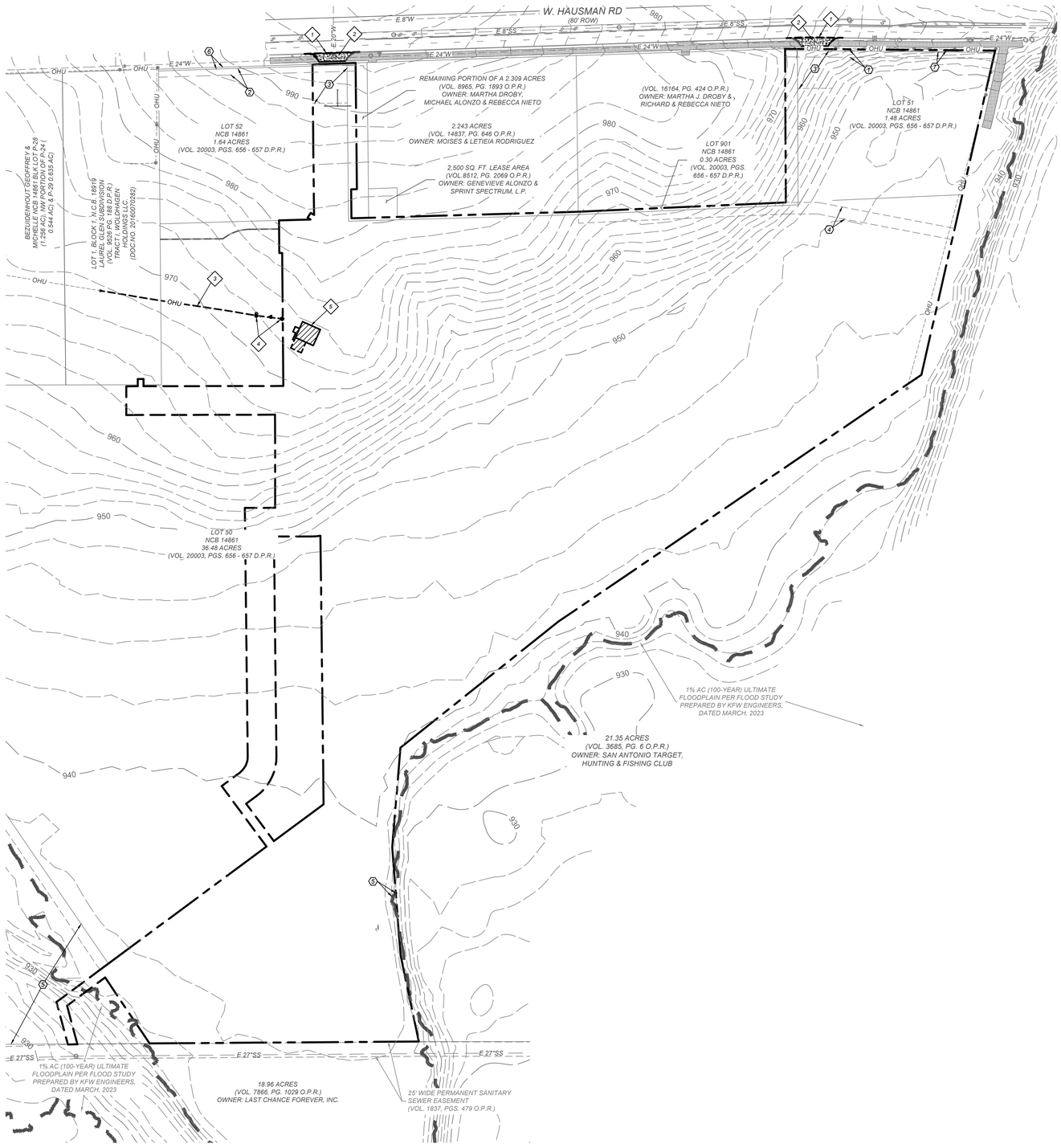
PROJECT NUMBER:	DRAWING NAME:
1065-13-03	CV10651303

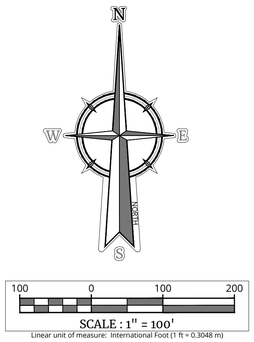
SHEET TITLE: COVER SHEET

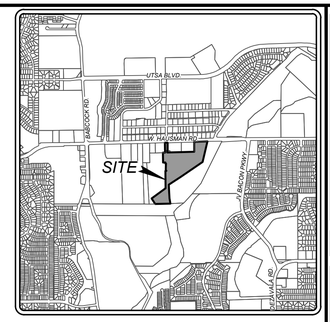
SHEET NUMBER: 0.0

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

CV:\CV10651303.dwg\0.0 COVER SHEET By: ABROWNE







LOCATION MAP
NOT-TO-SCALE

ITEMS TO BE REMOVED

1. EXISTING CURB
2. EXISTING CONCRETE SIDEWALK
3. EXISTING OVERHEAD UTILITY LINE
4. EXISTING POWER POLES TO BE REMOVED
5. EXISTING BUILDING

KEYNOTES

7. CPS VARIABLE WIDTH ELECTRIC AND GAS EASEMENT (VOL. 16724, PG. 434, O.P.R.)
2. CPS VARIABLE WIDTH ELECTRIC AND GAS EASEMENT (VOL. 16724, PG. 317, O.P.R.)
3. 60' SHARED CROSS-ACCESS EASEMENT (VOL. 20003, PGS. 656 D.P.R.)
4. 20' PRIVATE DRAINAGE EASEMENT (VOL. 20003, PGS. 656 D.P.R.)
5. VARIABLE WIDTH PUBLIC DRAINAGE EASEMENT (VOL. 20003, PGS. 656 D.P.R.)
6. 3' RIGHT-OF-WAY DEDICATION TO COSA (VOL. 20003, PGS. 656 D.P.R.)
7. 3' RIGHT-OF-WAY DEDICATION TO COSA (VOL. 20003, PGS. 656 D.P.R.)

LEGEND

- PROPERTY LINE
- EXISTING CONCRETE CURB
- EXISTING CONCRETE
- EXISTING CONTOUR — 677 —
- EXISTING FIRE HYDRANT
- EXISTING WATER MAIN — E.W —
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING SANITARY SEWER MAIN — E.SS —
- EXISTING SANITARY SEWER MANHOLE
- EXISTING OVERHEAD UTILITY W/POWER POLE — OHU —
- EXISTING GUY WIRE/OVERHEAD UTILITY LINE — OHU —
- EXISTING CURB TO BE REMOVED
- EXISTING CONCRETE TO BE REMOVED
- EXISTING BUILDING TO BE REMOVED
- EXISTING UTILITY LINE TO BE REMOVED

REV	DESCRIPTION	DRAWN BY	DATE

Colliers Engineering & Design

www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design. All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

811 PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 - TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

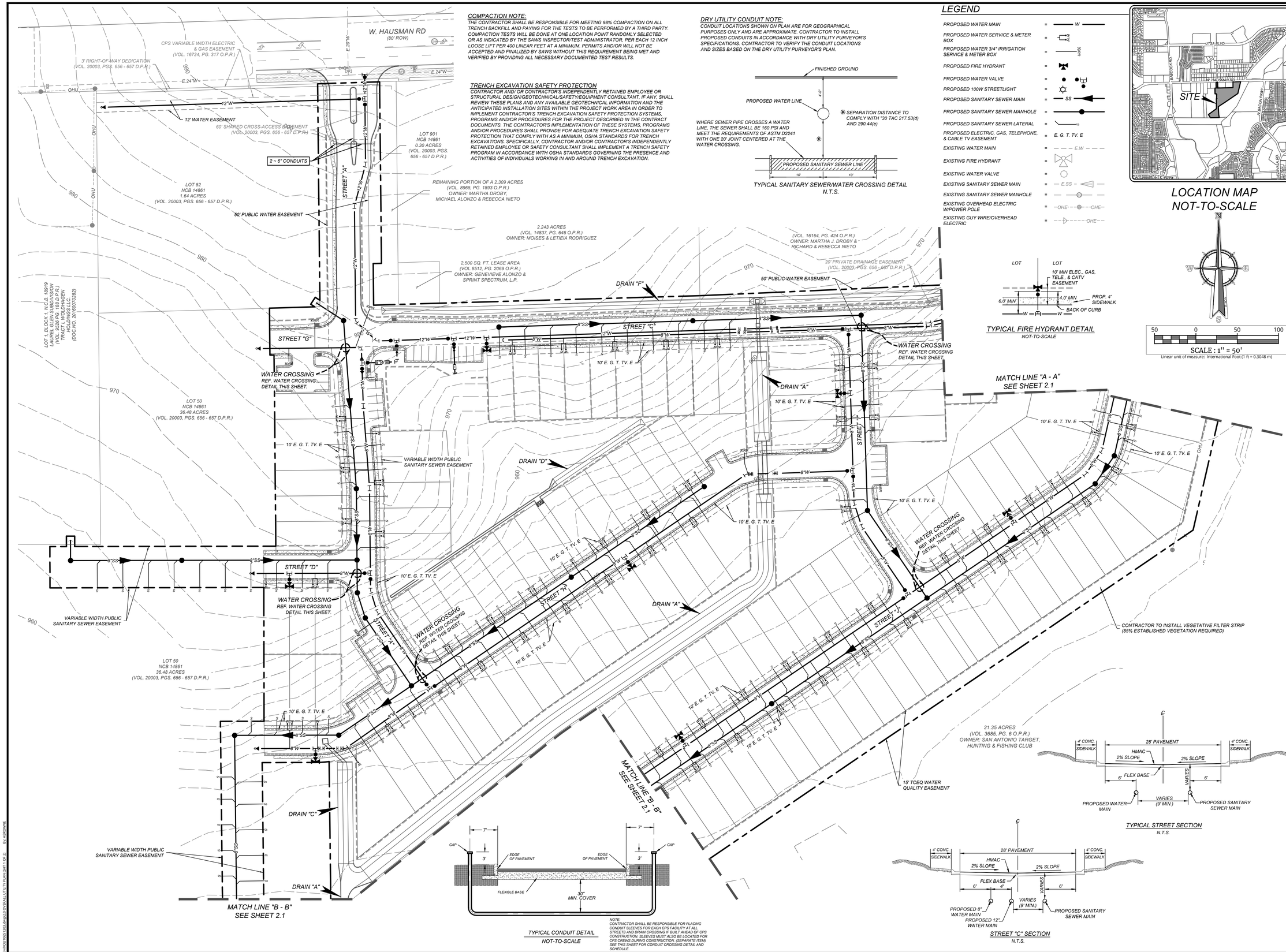
PROJECT NUMBER:	DRAWING NAME:
1065-13-03	DM10651303

SHEET TITLE:
EXISTING CONDITIONS & DEMOLITION PLAN

SHEET NUMBER:
1.0

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

Civil\DM10651303.dwg\1.0 EXISTING CONDITIONS & DEMOLITION PLAN By: ABROWNE



COMPACTION 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 TESTS 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. PERMITS AND/OR WILL NOT BE ACCEPTED AND FINALIZED BY SAWS WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.

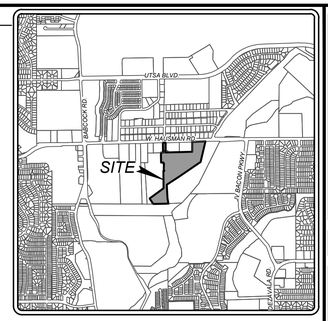
TRENCH EXCAVATION SAFETY PROTECTION
CONTRACTOR AND/ OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK 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.

DRY UTILITY CONDUIT NOTE:
CONDUIT LOCATIONS SHOWN ON PLAN ARE FOR GEOGRAPHICAL PURPOSES ONLY AND ARE APPROXIMATE. CONTRACTOR TO INSTALL PROPOSED CONDUITS IN ACCORDANCE WITH DRY UTILITY PURVEYOR'S SPECIFICATIONS. CONTRACTOR TO VERIFY THE CONDUIT LOCATIONS AND SIZES BASED ON THE DRY UTILITY PURVEYOR'S PLAN.

TYPICAL SANITARY SEWER/WATER CROSSING DETAIL
N.T.S.

LEGEND

PROPOSED WATER MAIN	=	W
PROPOSED WATER SERVICE & METER BOX	=	W M
PROPOSED WATER 3/4" IRRIGATION SERVICE & METER BOX	=	IWM
PROPOSED FIRE HYDRANT	=	
PROPOSED WATER VALVE	=	
PROPOSED 100W STREETLIGHT	=	
PROPOSED SANITARY SEWER MAIN	=	SS
PROPOSED SANITARY SEWER MANHOLE	=	
PROPOSED SANITARY SEWER LATERAL	=	S
PROPOSED ELECTRIC, GAS, TELEPHONE, & CABLE TV EASEMENT	=	E. G. T. TV. E
EXISTING WATER MAIN	=	E.W
EXISTING FIRE HYDRANT	=	
EXISTING WATER VALVE	=	
EXISTING SANITARY SEWER MAIN	=	E.SS
EXISTING SANITARY SEWER MANHOLE	=	
EXISTING OVERHEAD ELECTRIC W/POWER POLE	=	OHE
EXISTING GUY WIRE/OVERHEAD ELECTRIC	=	OHE



LOCATION MAP
NOT-TO-SCALE

TYPICAL FIRE HYDRANT DETAIL
NOT-TO-SCALE

TYPICAL CONDUIT DETAIL
NOT-TO-SCALE

NOTE:
CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING CONDUIT SLEEVES FOR EACH CPS FACILITY AT ALL STREETS AND DRAIN CROSSING IF BUILT AHEAD OF CPS CONSTRUCTION. SLEEVES MUST ALSO BE LOCATED FOR CPS CREWS DURING CONSTRUCTION. (SEPARATE ITEM) SEE THIS SHEET FOR CONDUIT CROSSING DETAIL AND SCHEDULE

TYPICAL STREET SECTION
N.T.S.

STREET "C" SECTION
N.T.S.

Colliers
Engineering & Design
www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

811 PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 - TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

PROJECT NUMBER:	DRAWING NAME:
1065-13-03	OU10651303

SHEET TITLE:
OVERALL UTILITY PLAN
(SHT 1 OF 2)

SHEET NUMBER:
2.0

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

C:\n2\D\10651303.dwg\2.0 OVERALL UTILITY PLAN (SHT 1 OF 2) By: ABROWNE

TRENCH EXCAVATION SAFETY PROTECTION

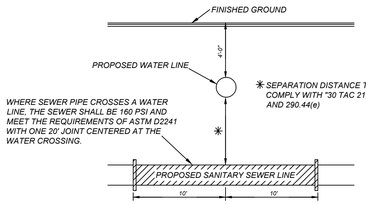
CONTRACTOR AND/ OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT. IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S 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.

COMPACTION NOTE:

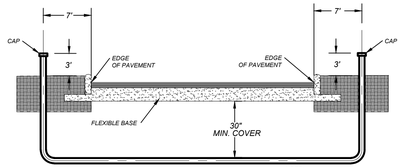
THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING 98% COMPACTION ON ALL TRENCH BACKFILL AND PAYING FOR THE TESTS TO BE PERFORMED BY A THIRD PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED OR AS INDICATED BY THE SAWS INSPECTOR/TEST ADMINISTRATOR, PER EACH 12 INCH LOOSE LIFT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

DRY UTILITY CONDUIT NOTE:

CONDUIT LOCATIONS SHOWN ON PLAN ARE FOR GEOGRAPHICAL PURPOSES ONLY AND ARE APPROXIMATE. CONTRACTOR TO INSTALL PROPOSED CONDUITS IN ACCORDANCE WITH DRY UTILITY PURVEYOR'S SPECIFICATIONS. CONTRACTOR TO VERIFY THE CONDUIT LOCATIONS AND SIZES BASED ON THE DRY UTILITY PURVEYOR'S PLAN.

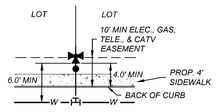


TYPICAL SANITARY SEWER/WATER CROSSING DETAIL
N.T.S.

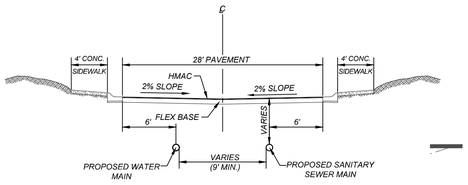


TYPICAL CONDUIT DETAIL
NOT-TO-SCALE

NOTE:
CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING CONDUIT SLEEVES FOR EACH CPS FACILITY AT ALL STREETS AND DRAIN CROSSING IF BUILT AHEAD OF CPS CONSTRUCTION. SLEEVES MUST ALSO BE LOCATED FOR CPS CREWS DURING CONSTRUCTION. (SEPARATE ITEM) SEE THIS SHEET FOR CONDUIT CROSSING DETAIL AND SCHEDULE.



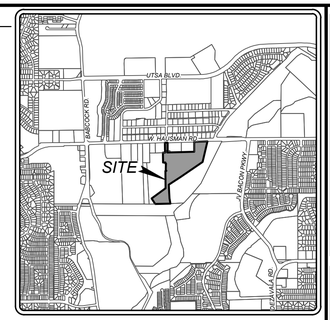
TYPICAL FIRE HYDRANT DETAIL
NOT-TO-SCALE



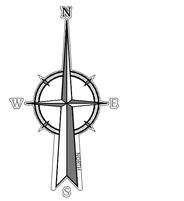
TYPICAL STREET SECTION
N.T.S.

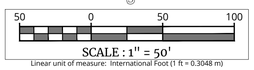
LEGEND

PROPOSED WATER MAIN	=	W
PROPOSED WATER SERVICE & METER BOX	=	W
PROPOSED WATER 3/4" IRRIGATION SERVICE & METER BOX	=	W
PROPOSED FIRE HYDRANT	=	
PROPOSED WATER VALVE	=	
PROPOSED 100W STREETLIGHT	=	
PROPOSED SANITARY SEWER MAIN	=	SS
PROPOSED SANITARY SEWER MANHOLE	=	
PROPOSED SANITARY SEWER LATERAL	=	
PROPOSED ELECTRIC, GAS, TELEPHONE, & CABLE TV EASEMENT	=	E. G. T. TV. E
EXISTING WATER MAIN	=	E.W
EXISTING FIRE HYDRANT	=	
EXISTING WATER VALVE	=	
EXISTING SANITARY SEWER MAIN	=	E.SS
EXISTING SANITARY SEWER MANHOLE	=	
EXISTING OVERHEAD ELECTRIC W/POWER POLE	=	OHE
EXISTING GUY WIRE/OVERHEAD ELECTRIC	=	OHE

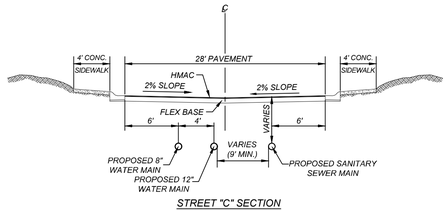


LOCATION MAP
NOT-TO-SCALE

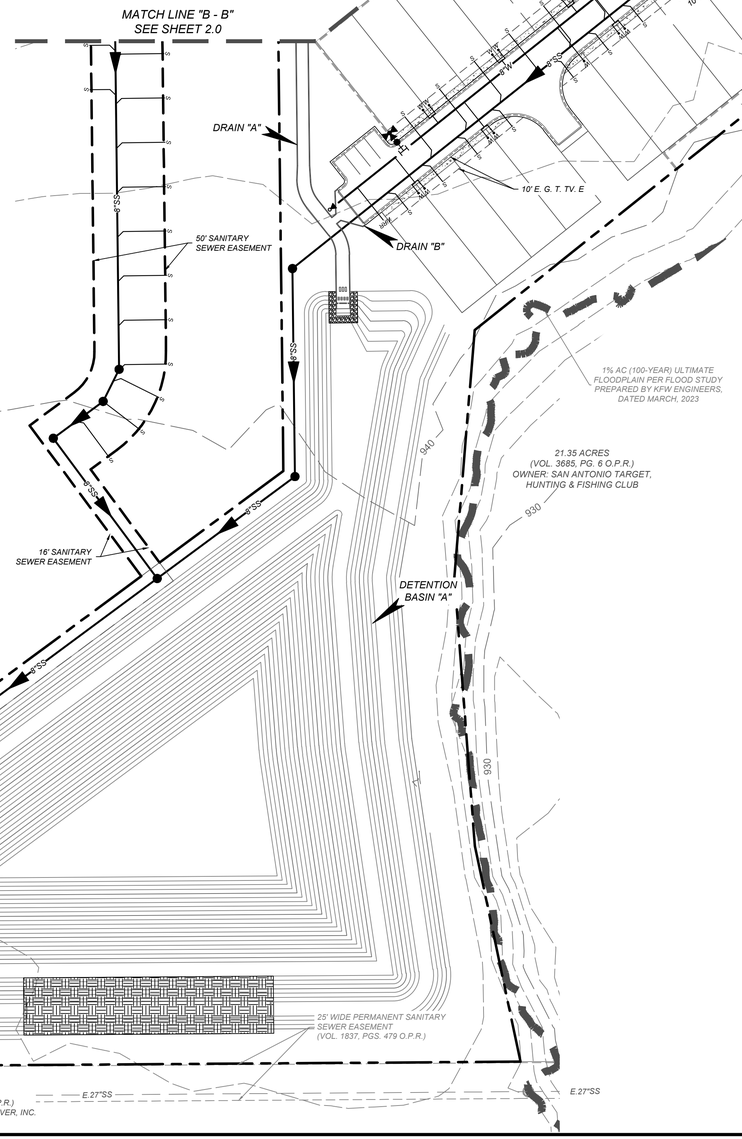


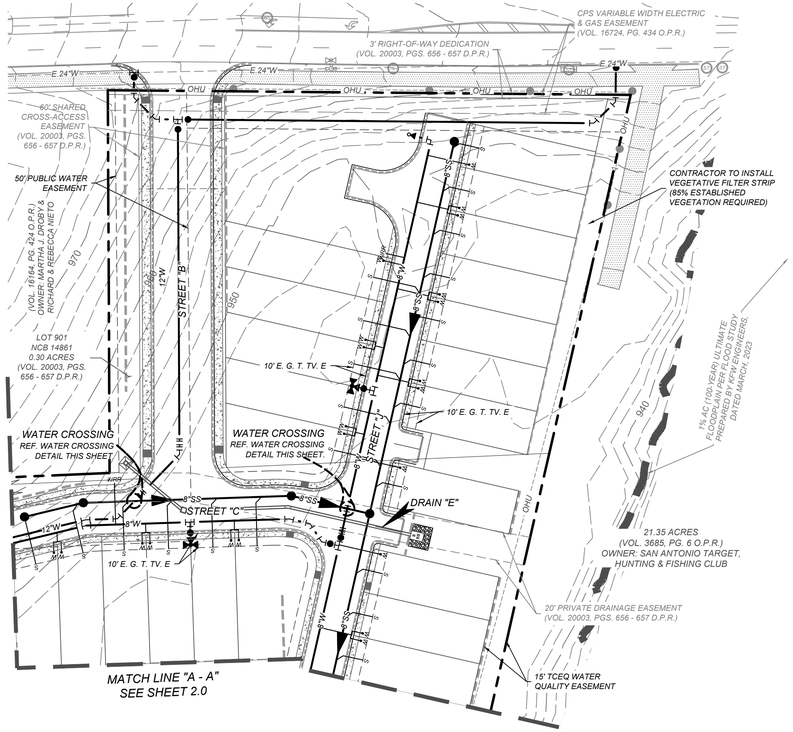


SCALE : 1" = 50'
Linear unit of measure: International Foot (1 ft = 0.3048 m)



STREET "C" SECTION
N.T.S.





REV	DATE	DRAWN BY	DESCRIPTION

Colliers Engineering & Design

www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE

FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 · TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

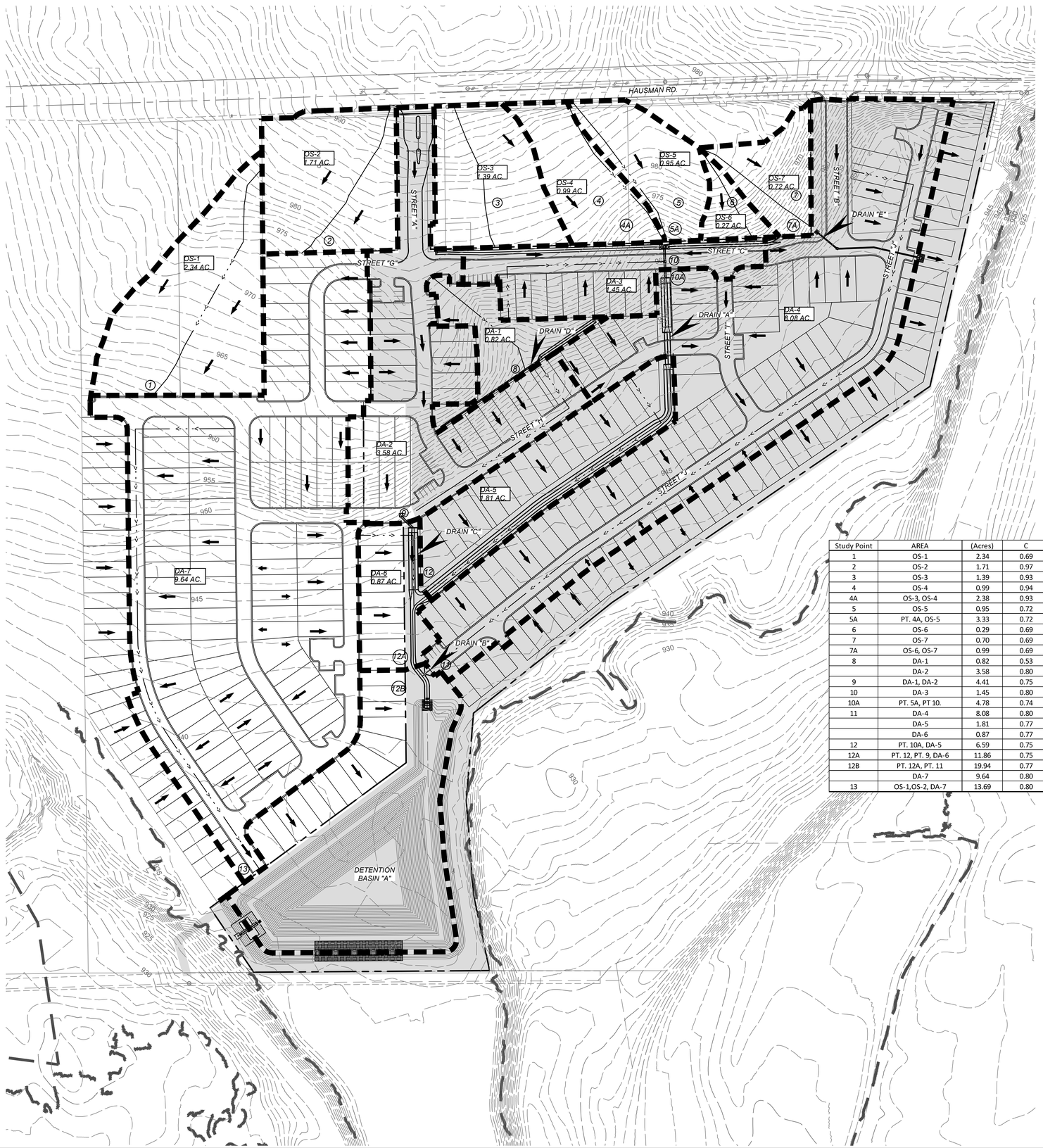
PROJECT NUMBER:	DRAWING NAME:
1065-13-03	OU10651303

SHEET TITLE:
OVERALL UTILITY PLAN (SHT 2 OF 2)

SHEET NUMBER:
2.1

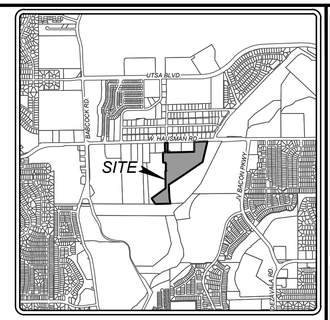
NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

CivilOU10651303.dwg(2.1 OVERALL UTILITY PLAN(SHT 2 OF 2)) By: ABRONNE

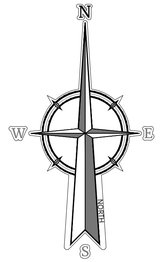


LEGEND

- STUDY POINT
- DRAINAGE AREA BOUNDARY
- 802 EXISTING CONTOURS
- PROPOSED UNIT
- FLOW ARROW
- FLOW PATH



LOCATION MAP
NOT-TO-SCALE



100 0 100 200

SCALE : 1'' = 100'

Linear unit of measure: International Foot (1 ft = 0.3048 m)

Study Point	AREA	(Acres)	C	T_{ovl}(min)	Carryover	T_{sc} (min)	T_{ch} (min)	T_{tot} (min)	I_5(in/hr)	I_{25}(in/hr)	I_{100} (in/hr)	Q_5 (ft^3/s)	Q_{25} (ft^3/s)	Q_{100} (ft^3/s)
1	OS-1	2.34	0.69	5.00		2.00	0.00	7	7.110	9.950	12.490	11.47	16.06	20.16
2	OS-2	1.71	0.97	5.00		1.00	0.00	6	7.450	10.430	13.080	12.37	17.32	21.72
3	OS-3	1.39	0.93	5.00		1.00	0.00	6	7.450	10.430	13.080	9.59	13.43	16.84
4	OS-4	0.99	0.94	5.00		1.00	0.00	6	7.450	10.430	13.080	6.94	9.72	12.19
4A	OS-3, OS-4	2.38	0.93	5.00	OS-3	1.00	0.00	6	7.450	10.430	13.080	16.54	23.15	29.03
5	OS-5	0.95	0.72	5.00		1.00	0.00	6	7.450	10.430	13.080	5.10	7.14	8.96
5A	PT. 4A, OS-5	3.33	0.72	5.00	PT. 4A	1.00	0.00	6	7.450	10.430	13.080	17.86	25.00	31.36
6	OS-6	0.29	0.69	5.00		0.00	0.00	5	7.880	11.000	13.790	1.60	2.23	2.80
7	OS-7	0.70	0.69	5.00		0.00	0.00	5	7.880	11.000	13.790	3.78	5.28	6.62
7A	OS-6, OS-7	0.99	0.69	5.00		0.00	0.00	5	7.880	11.000	13.790	5.38	7.51	9.42
8	DA-1	0.82	0.53	12.00		1.00	0.00	13	5.660	7.890	9.850	2.47	3.45	4.31
	DA-2	3.58	0.80	12.00		4.00	0.00	16	5.100	7.070	8.790	14.61	20.25	25.18
9	DA-1, DA-2	4.41	0.75	12.00	DA-1	4.00	0.00	16	5.100	7.070	8.790	16.84	23.34	29.02
10	DA-3	1.45	0.80	12.00		1.00	0.00	13	5.660	7.890	9.850	6.56	9.14	11.41
10A	PT. 5A, PT 10.	4.78	0.74	12.00	PT. 5A	1.00	0.00	13	5.660	7.890	9.850	20.13	28.06	35.03
11	DA-4	8.08	0.80	13.00		11.00	1.00	25	4.060	5.600	6.930	26.24	36.19	44.78
	DA-5	1.81	0.77	12.00		0.00	2.00	14	5.470	7.600	9.480	7.64	10.61	13.24
	DA-6	0.87	0.77	13.00		0.00	1.00	14	5.470	7.600	9.480	3.65	5.07	6.33
12	PT. 10A, DA-5	6.59	0.75	12.00	PT. 10A	1.00	3.00	16	5.100	7.070	8.790	25.26	35.01	43.53
12A	PT. 12, PT. 9, DA-6	11.86	0.75	12.00	PT. 12	1.00	3.00	16	5.100	7.070	8.790	45.50	63.07	78.42
12B	PT. 12A, PT. 11	19.94	0.77	13.00	PT. 11	11.00	1.00	25	4.060	5.600	6.930	62.46	86.15	106.61
	DA-7	9.64	0.80	13.00		7.00	0.00	20	4.540	6.280	7.790	35.01	48.43	60.07
13	OS-1,OS-2, DA-7	13.69	0.80	13.00	DA-7	7.00	0.00	20	4.540	6.280	7.790	49.87	68.99	85.58

DRAINAGE AREA	ZONING	AREA (AC.)	C-VALUE	WEIGHTED C-VALUE
OS-3	Average Residential Area (R-6)	0.20	0.69	0.93
	Commercial (O-1)	1.19	0.97	
OS-4	Average Residential Area (R-6)	0.11	0.69	0.94
	Commercial (O-1)	0.88	0.97	
OS-5	Average Residential Area (R-6)	2.12	0.69	0.72
	Commercial (O-1)	0.26	0.97	

Colliers
Engineering & Design

www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design. All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

811 PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 · TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

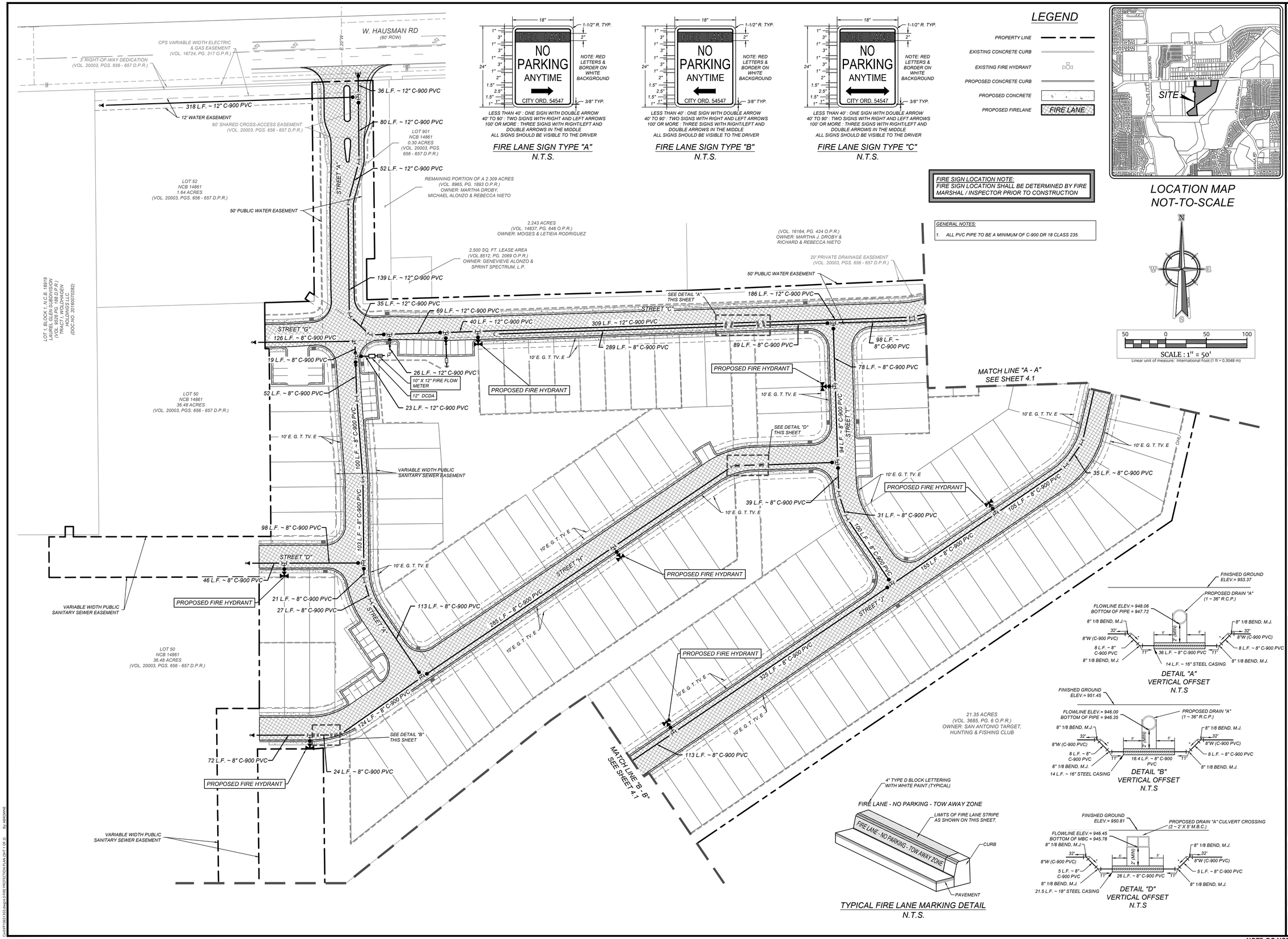
PROJECT NUMBER: 1065-13-03
DRAWING NAME: MD10651303

SHEET TITLE: MASTER DRAINAGE PLAN

SHEET NUMBER: 3.0

Civil\MD10651303.dwg\03 MASTER DRAINAGE PLAN By: ABROWNE

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



NOTE: RED LETTERS & BORDER ON WHITE BACKGROUND

LESS THAN 40' : ONE SIGN WITH DOUBLE ARROW
40' TO 90' : TWO SIGNS WITH RIGHT AND LEFT ARROWS
100' OR MORE : THREE SIGNS WITH RIGHT/LEFT AND DOUBLE ARROWS IN THE MIDDLE
ALL SIGNS SHOULD BE VISIBLE TO THE DRIVER

FIRE LANE SIGN TYPE "A"
N.T.S.

NOTE: RED LETTERS & BORDER ON WHITE BACKGROUND

LESS THAN 40' : ONE SIGN WITH DOUBLE ARROW
40' TO 90' : TWO SIGNS WITH RIGHT AND LEFT ARROWS
100' OR MORE : THREE SIGNS WITH RIGHT/LEFT AND DOUBLE ARROWS IN THE MIDDLE
ALL SIGNS SHOULD BE VISIBLE TO THE DRIVER

FIRE LANE SIGN TYPE "B"
N.T.S.

NOTE: RED LETTERS & BORDER ON WHITE BACKGROUND

LESS THAN 40' : ONE SIGN WITH DOUBLE ARROW
40' TO 90' : TWO SIGNS WITH RIGHT AND LEFT ARROWS
100' OR MORE : THREE SIGNS WITH RIGHT/LEFT AND DOUBLE ARROWS IN THE MIDDLE
ALL SIGNS SHOULD BE VISIBLE TO THE DRIVER

FIRE LANE SIGN TYPE "C"
N.T.S.

LEGEND

- PROPERTY LINE
- EXISTING CONCRETE CURB
- EXISTING FIRE HYDRANT
- PROPOSED CONCRETE CURB
- PROPOSED CONCRETE
- PROPOSED FIRELANE — FIRE LANE

FIRE SIGN LOCATION NOTE:
FIRE SIGN LOCATION SHALL BE DETERMINED BY FIRE MARSHAL / INSPECTOR PRIOR TO CONSTRUCTION

GENERAL NOTES:

1. ALL PVC PIPE TO BE A MINIMUM OF C-900 DR 18 CLASS 235.

LOCATION MAP
NOT-TO-SCALE

TYPICAL FIRE LANE MARKING DETAIL
N.T.S.

DETAIL "A"
VERTICAL OFFSET
N.T.S

DETAIL "B"
VERTICAL OFFSET
N.T.S

DETAIL "D"
VERTICAL OFFSET
N.T.S

Colliers
Engineering & Design
www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

811 PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 - TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

PROJECT NUMBER:	DRAWING NAME:
1065-13-03	FP10651303

SHEET TITLE:
FIRE PROTECTION PLAN (SHT 1 OF 2)

SHEET NUMBER:
4.0

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

CivilPP10651303.dwg\4.0 FIRE PROTECTION PLAN (SHT 1 OF 2) By: ABROWNE



LESS THAN 40' : ONE SIGN WITH DOUBLE ARROW
40' TO 90' : TWO SIGNS WITH RIGHT AND LEFT ARROWS
100' OR MORE : THREE SIGNS WITH RIGHT/LEFT AND DOUBLE ARROWS IN THE MIDDLE
ALL SIGNS SHOULD BE VISIBLE TO THE DRIVER

FIRE LANE SIGN TYPE "A"
N.T.S.



LESS THAN 40' : ONE SIGN WITH DOUBLE ARROW
40' TO 90' : TWO SIGNS WITH RIGHT AND LEFT ARROWS
100' OR MORE : THREE SIGNS WITH RIGHT/LEFT AND DOUBLE ARROWS IN THE MIDDLE
ALL SIGNS SHOULD BE VISIBLE TO THE DRIVER

FIRE LANE SIGN TYPE "B"
N.T.S.



LESS THAN 40' : ONE SIGN WITH DOUBLE ARROW
40' TO 90' : TWO SIGNS WITH RIGHT AND LEFT ARROWS
100' OR MORE : THREE SIGNS WITH RIGHT/LEFT AND DOUBLE ARROWS IN THE MIDDLE
ALL SIGNS SHOULD BE VISIBLE TO THE DRIVER

FIRE LANE SIGN TYPE "C"
N.T.S.

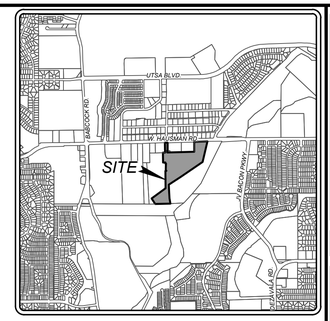
LEGEND

- PROPERTY LINE
- EXISTING CONCRETE CURB
- EXISTING CONCRETE
- EXISTING 6" D.I. WATER LINE — 6"DI — 6"DI
- EXISTING FIRE HYDRANT
- PROPOSED CONCRETE CURB
- PROPOSED CONCRETE
- PROPOSED FIRELANE — FIRE LANE

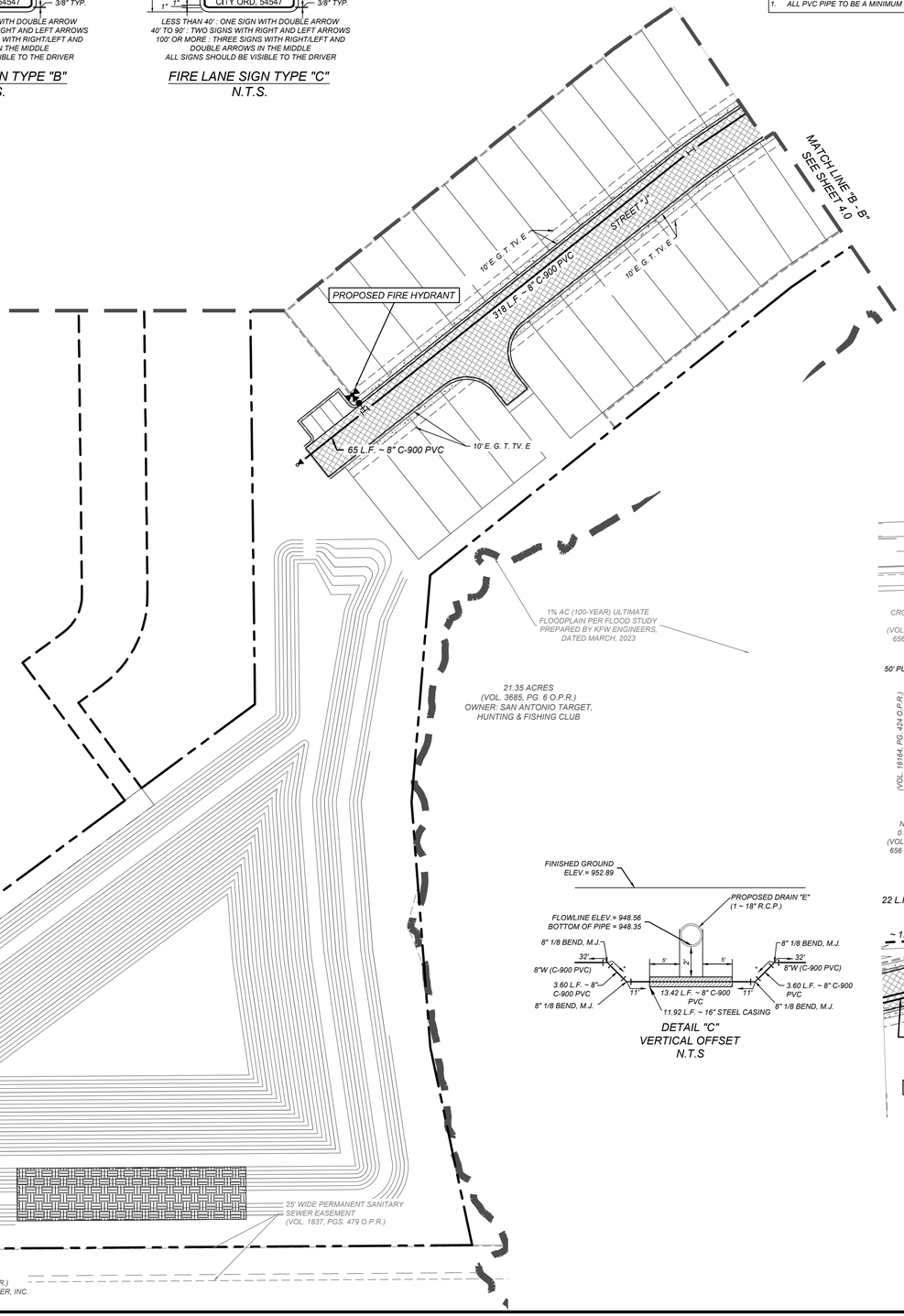
FIRE SIGN LOCATION NOTE:
FIRE SIGN LOCATION SHALL BE DETERMINED BY FIRE MARSHAL / INSPECTOR PRIOR TO CONSTRUCTION

GENERAL NOTES:

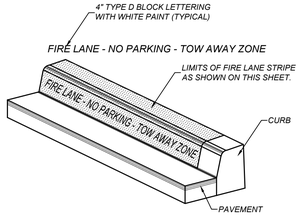
1. ALL PVC PIPE TO BE A MINIMUM OF C-900 DR 18 CLASS 235.



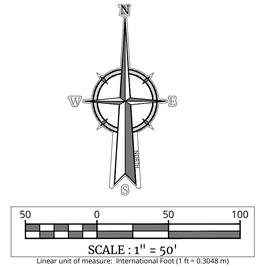
LOCATION MAP
NOT-TO-SCALE

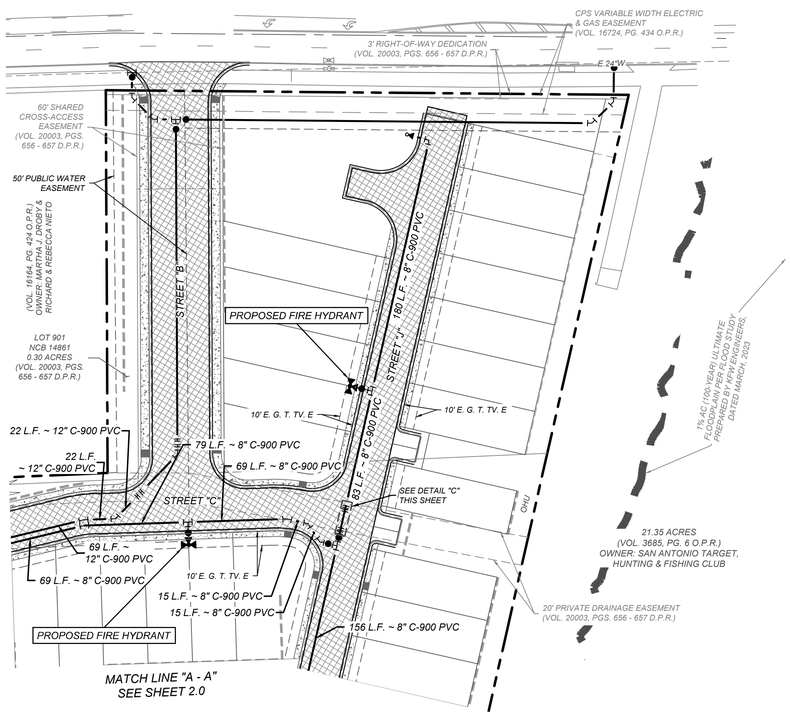


DETAIL "C"
VERTICAL OFFSET
N.T.S



TYPICAL FIRE LANE MARKING DETAIL
N.T.S.





MATCH LINE "A - A"
SEE SHEET 2.0

Colliers Engineering & Design

www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 - TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

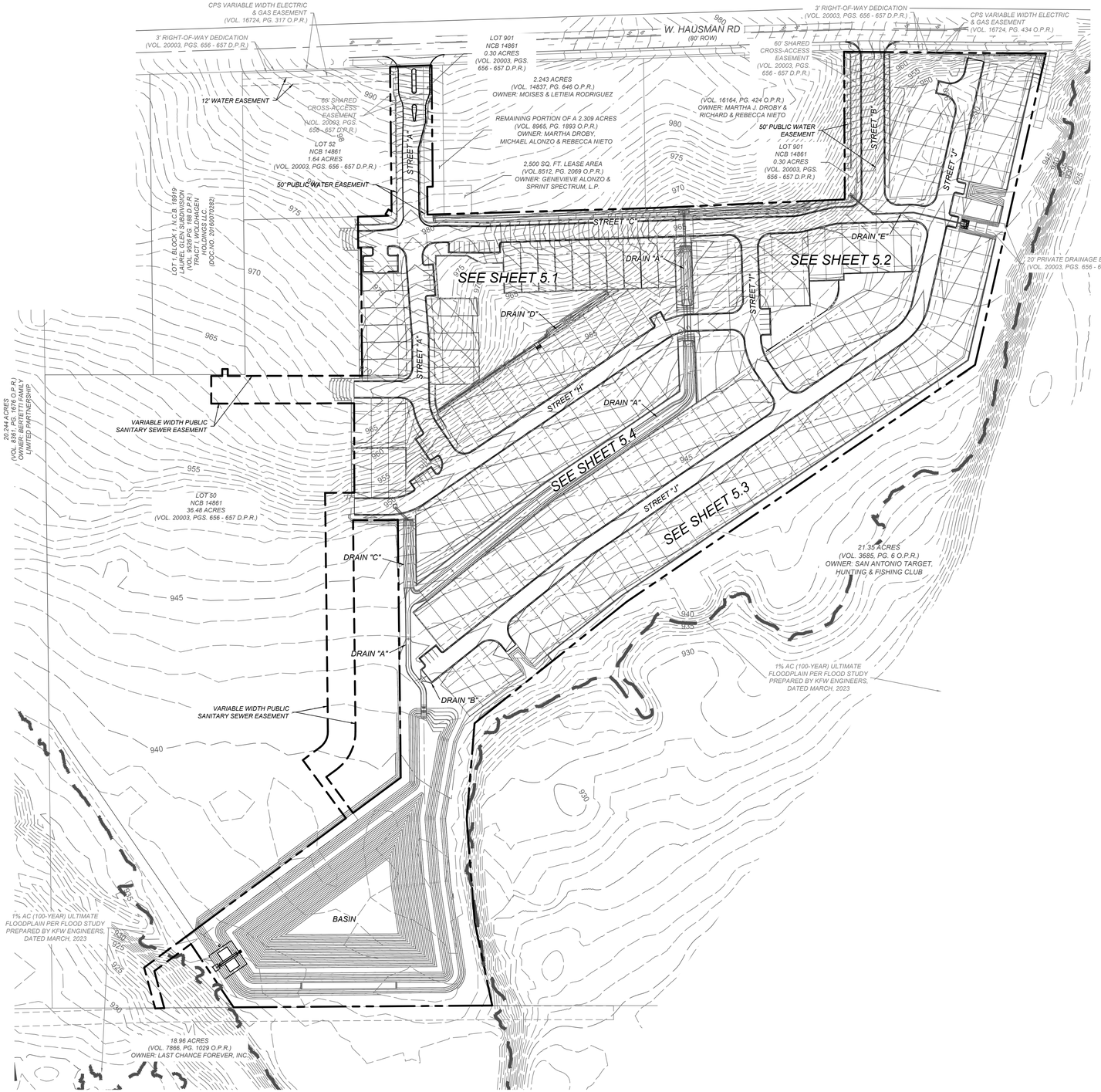
PROJECT NUMBER: 1065-13-03
DRAWING NAME: FP10651303

SHEET TITLE:
FIRE PROTECTION PLAN
(SHT 2 OF 2)

SHEET NUMBER:
4.1

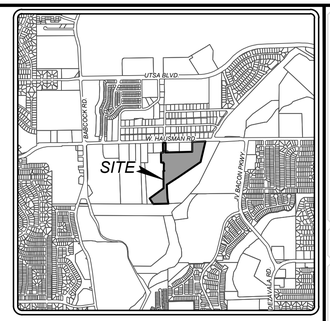
NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

C:\n\FP10651303.dwg|4. FIRE PROTECTION PLAN (SHT 2 OF 2)| By: ABSIDWINE



GENERAL NOTES:

1. *ELEVATION SHOWN ON FOUNDATION IS FOR FINISHED FLOOR.*
2. *CONTRACTOR SHALL PROVIDE OWNER ALL NECESSARY DENSITY TESTS FOR FILL LOTS AS REQUIRED BY HUD SPECIFICATIONS.*
3. *HOME BUILDER SHALL REFER TO THE APPROVED SUBDIVISION PLAT TO CONFIRM ALL BUILDING SETBACKS PRIOR TO ANY FOUNDATION WORK.*
4. *AS SOON AS PRACTICAL HOME BUILDER SHALL ESTABLISH VEGETATION (HYDROMULCH, SEEDING, SODDING, ETC...) TO PREVENT EROSION FROM OCCURRING.*
5. *CONTRACTOR SHALL CONTACT ENGINEER REGARDING ANY QUESTIONS ON THE INTENT OF THIS PLAN.*
6. *POSITIVE DRAINAGE SHALL BE MAINTAINED ON ALL SURFACE AREAS WITHIN THE SCOPE OF THIS PROJECT. DRAINAGE SHALL BE DIRECTED AWAY FROM ALL BUILDING FOUNDATIONS AND TOWARDS THE PROPER DRAINAGE EASEMENT OR STREET RIGHT OF WAY ACCORDING TO THE MASTER DRAINAGE PLAN FOR THE PROJECT. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW PONDING OF WATER.*
7. *ALL ELEVATIONS AND CONTOURS SHOWN ON THIS GRADING PLAN REFLECT FINISHED GRADES, THE THICKNESS OF PAVEMENT, CURBS, AND SIDEWALKS MUST BE SUBTRACTED TO OBTAIN SUBGRADE ELEVATIONS.*
8. *GRADING PLAN IS INTENDED FOR USE IN LOT GRADING ONLY. CONTRACTOR SHOULD REFER TO CONSTRUCTION DRAWINGS FOR ALL OTHER GRADES, INCLUDING, BUT NOT LIMITED TO, CHANNELS, ROADS, AND DETENTION PONDS.*
9. *CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE ALL SWALES.*

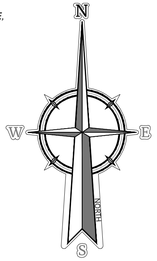


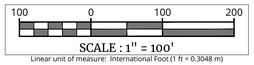
LOCATION MAP
NOT-TO-SCALE

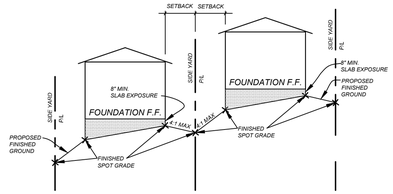
LEGEND

E, G, T, & TV. E. = GAS, ELECTRIC, TELEPHONE, CABLE T.V. EASEMENT

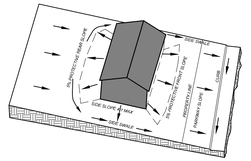
= FLOW ARROW

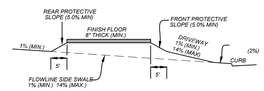




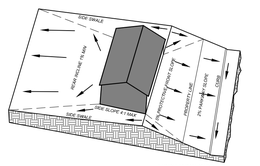


TYPICAL SIDE YARD GRADING
N.T.S.

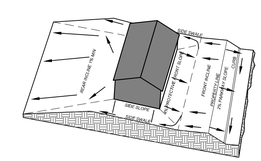




TYPE 'A' LOT GRADING



TYPE 'B' LOT GRADING



TYPE 'C' LOT GRADING

Colliers Engineering & Design

www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design. All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 - TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

PROJECT NUMBER: 1065-13-03
DRAWING NAME: GR10651303

SHEET TITLE:
OVERALL GRADING PLAN

SHEET NUMBER:
5.0

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

CivilGR10651303.dwg|5.0 OVERALL GRADING PLAN By:ABROWNE

MATCH LINE "A - A"
SEE THIS SHEET

LOT 52
NCB 14861
1.64 ACRES
(VOL. 20003, PGS. 656 - 657 D.P.R.)

LOT 901
NCB 14861
0.30 ACRES
(VOL. 20003, PGS.
656 - 657 D.P.R.)

REMAINING PORTION OF A 2.309 ACRES
(VOL. 8965, PG. 1893 O.P.R.)
OWNER: MARTHA DROBY,
MICHAEL ALONZO & REBECCA NIETO

2,500 SQ. FT. LEASE AREA
(VOL.8512, PG. 2069 O.P.R.)
OWNER: GENEVIEVE ALONZO &
SPRINT SPECTRUM, L.P.

2.243 ACRES
(VOL. 14837, PG. 646 O.P.R.)
OWNER: MOISES & LETIEIA RODRIGUEZ

(VOL. 16164, PG. 424 O.P.R.)
OWNER: MARTHA J. DROBY &
RICHARD & REBECCA NIETO

20' PRIVATE DRAINAGE EASEMENT
(VOL. 20003, PGS. 656 - 657 D.P.R.)

STREET "A"

STREET "G"

STREET "C"

STREET "D"

STREET "H"

STREET "I"

DRAIN "A"

DRAIN "D"

50' PUBLIC WATER EASEMENT

VARIABLE WIDTH PUBLIC
SANITARY SEWER EASEMENT

10' E. G. T. TV. E

MATCH LINE "B - B"
SEE SHEET 5.2

MATCH LINE "C - C"
SEE SHEET 5.4

MATCH LINE "A - A:
SEE THIS SHEET

W. HAUSMAN RD
(80' ROW)

3' RIGHT-OF-WAY DEDICATION
(VOL. 20003, PGS. 656 - 657 D.P.R.)

CPS VARIABLE WIDTH ELECTRIC
& GAS EASEMENT
(VOL. 16724, PG. 317 O.P.R.)

12' WATER EASEMENT

LOT 52
NCB 14861
1.64 ACRES
(VOL. 20003, PGS. 656 - 657 D.P.R.)

LOT 901
NCB 14861
0.30 ACRES
(VOL. 20003, PGS.
656 - 657 D.P.R.)

50' PUBLIC WATER EASEMENT

REMAINING PORTION OF A 2.309 ACRES
(VOL. 8965, PG. 1893 O.P.R.)
OWNER: MARTHA DROBY,
MICHAEL ALONZO & REBECCA NIETO

SETBACK SETBACK
SIDE YARD P/L
8" MIN. SLAB EXPOSURE
FOUNDATION F.F.
4' MAX.
1:3SS
FINISHED SPOT GRADE
PROPOSED FINISHED GROUND

TYPICAL SIDE YARD GRADING
N.T.S.

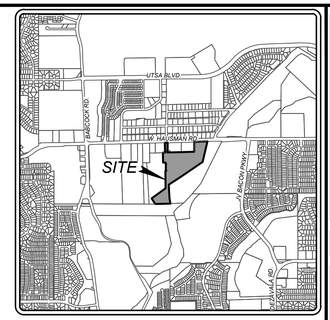
LEGEND

E, G, T, & TV. E. = GAS, ELECTRIC, TELEPHONE, CABLE T.V. EASEMENT

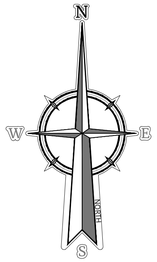
= FLOW ARROW

GENERAL NOTES:

1. ELEVATION SHOWN ON FOUNDATION IS FOR FINISHED FLOOR.
2. CONTRACTOR SHALL PROVIDE OWNER ALL NECESSARY DENSITY TESTS FOR FILL LOTS AS REQUIRED BY HUD SPECIFICATIONS.
3. HOME BUILDER SHALL REFER TO THE APPROVED SUBDIVISION PLAT TO CONFIRM ALL BUILDING SETBACKS PRIOR TO ANY FOUNDATION WORK.
4. AS SOON AS PRACTICAL HOME BUILDER SHALL ESTABLISH VEGETATION (HYDROMULCH, SEEDING, SODDING, ETC...) TO PREVENT EROSION FROM OCCURRING.
5. CONTRACTOR SHALL CONTACT ENGINEER REGARDING ANY QUESTIONS ON THE INTENT OF THIS PLAN.
6. POSITIVE DRAINAGE SHALL BE MAINTAINED ON ALL SURFACE AREAS WITHIN THE SCOPE OF THIS PROJECT. DRAINAGE SHALL BE DIRECTED AWAY FROM ALL BUILDING FOUNDATIONS AND TOWARDS THE PROPER DRAINAGE EASEMENT OR STREET RIGHT OF WAY ACCORDING TO THE MASTER DRAINAGE PLAN FOR THE PROJECT. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW PONDING OF WATER.
7. ALL ELEVATIONS AND CONTOURS SHOWN ON THIS GRADING PLAN REFLECT FINISHED GRADES. THE THICKNESS OF PAVEMENT, CURBS, AND SIDEWALKS MUST BE SUBTRACTED TO OBTAIN SUBGRADE ELEVATIONS.
8. GRADING PLAN IS INTENDED FOR USE IN LOT GRADING ONLY. CONTRACTOR SHOULD REFER TO CONSTRUCTION DRAWINGS FOR ALL OTHER GRADES, INCLUDING, BUT NOT LIMITED TO, CHANNELS, ROADS, AND DETENTION PONDS.
9. CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE ALL SWALES.

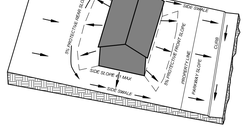


LOCATION MAP
NOT-TO-SCALE

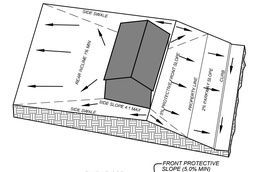




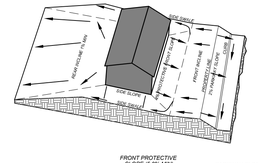
SCALE : 1" = 30'
Linear unit of measure: International Foot (1 ft = 0.3048 m)



TYPE 'A' LOT GRADING



TYPE 'B' LOT GRADING



TYPE 'C' LOT GRADING

Colliers
Engineering & Design
www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE

FOR STATE SPECIFIC DIRECT PHONE NUMBERS
VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED
PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 - TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER, SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

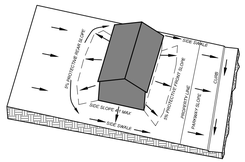
PROJECT NUMBER: 1065-13-03
DRAWING NAME: GR10651303

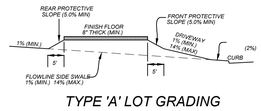
SHEET TITLE:
DETAILED GRADING PLAN
(SHT 1 OF 4)

SHEET NUMBER:
5.1

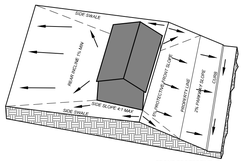
NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

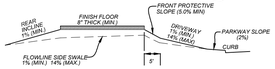
Civil\GR10651303.dwg\S-1 DETAILED GRADING PLAN (SHT 1 OF 4) By: ABROWNE



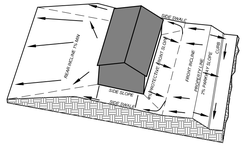


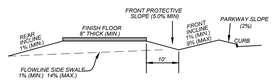
TYPE 'A' LOT GRADING





TYPE 'B' LOT GRADING

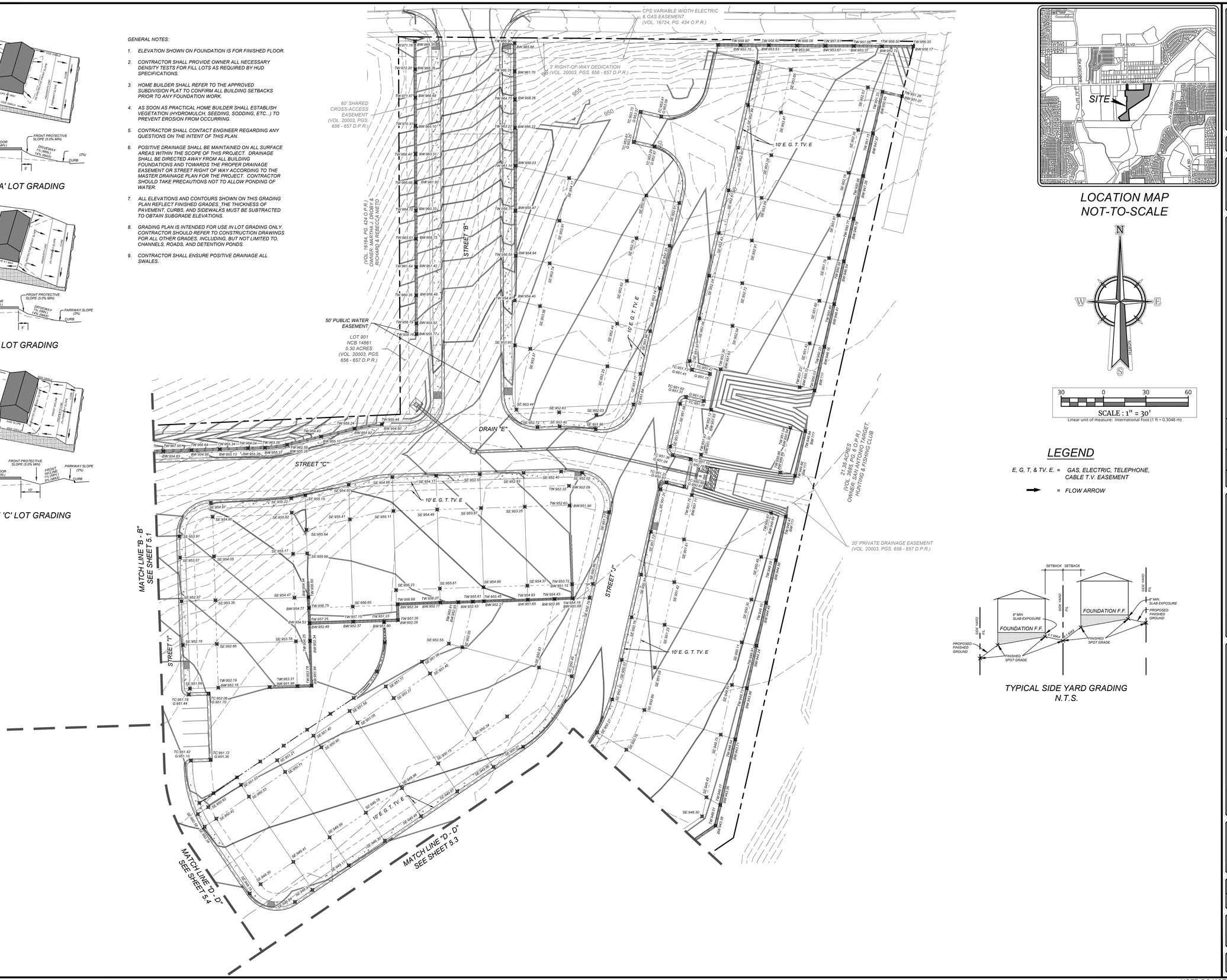




TYPE 'C' LOT GRADING

GENERAL NOTES:

1. *ELEVATION SHOWN ON FOUNDATION IS FOR FINISHED FLOOR.*
2. *CONTRACTOR SHALL PROVIDE OWNER ALL NECESSARY DENSITY TESTS FOR FILL LOTS AS REQUIRED BY HUD SPECIFICATIONS.*
3. *HOME BUILDER SHALL REFER TO THE APPROVED SUBDIVISION PLAT TO CONFIRM ALL BUILDING SETBACKS PRIOR TO ANY FOUNDATION WORK.*
4. *AS SOON AS PRACTICAL HOME BUILDER SHALL ESTABLISH VEGETATION (HYDROMULCH, SEEDING, SODDING, ETC...) TO PREVENT EROSION FROM OCCURRING.*
5. *CONTRACTOR SHALL CONTACT ENGINEER REGARDING ANY QUESTIONS ON THE INTENT OF THIS PLAN.*
6. *POSITIVE DRAINAGE SHALL BE MAINTAINED ON ALL SURFACE AREAS WITHIN THE SCOPE OF THIS PROJECT. DRAINAGE SHALL BE DIRECTED AWAY FROM ALL BUILDING FOUNDATIONS AND TOWARDS THE PROPER DRAINAGE EASEMENT OR STREET RIGHT OF WAY ACCORDING TO THE MASTER DRAINAGE PLAN FOR THE PROJECT. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW PONDING OF WATER.*
7. *ALL ELEVATIONS AND CONTOURS SHOWN ON THIS GRADING PLAN REFLECT FINISHED GRADES, THE THICKNESS OF PAVEMENT, CURBS, AND SIDEWALKS MUST BE SUBTRACTED TO OBTAIN SUBGRADE ELEVATIONS.*
8. *GRADING PLAN IS INTENDED FOR USE IN LOT GRADING ONLY. CONTRACTOR SHOULD REFER TO CONSTRUCTION DRAWINGS FOR ALL OTHER GRADES, INCLUDING, BUT NOT LIMITED TO, CHANNELS, ROADS, AND DETENTION PONDS.*
9. *CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE ALL SWALES.*



LOCATION MAP
NOT-TO-SCALE

LEGEND

E, G, T, & TV. E. = GAS, ELECTRIC, TELEPHONE, CABLE T.V. EASEMENT

= FLOW ARROW

TYPICAL SIDE YARD GRADING
N.T.S.

Colliers
Engineering & Design

www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design. All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

811 PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 - TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

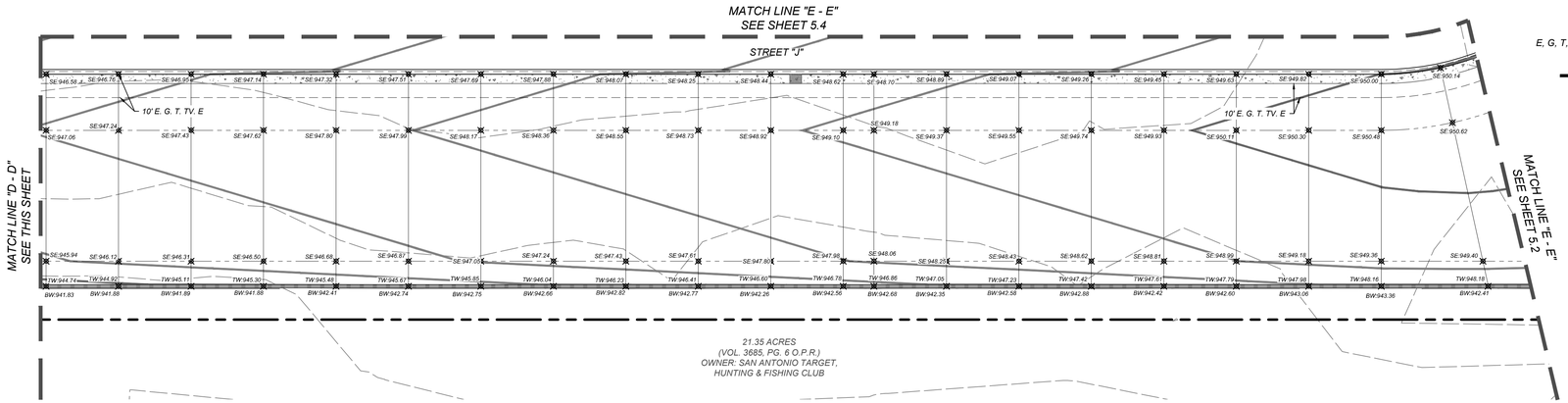
PROJECT NUMBER: 1065-13-03
DRAWING NAME: GR10651303

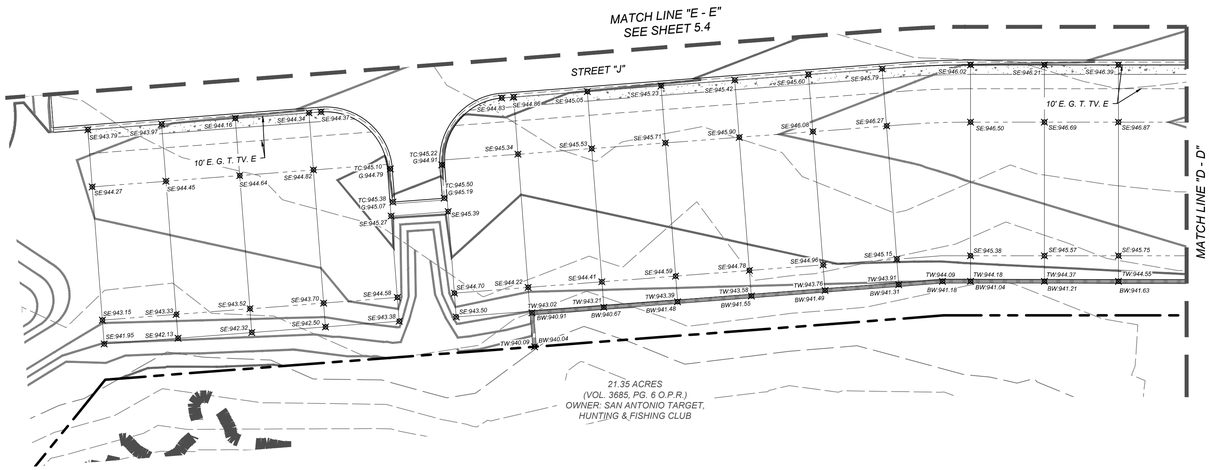
SHEET TITLE:
DETAILED GRADING PLAN (SHT 2 OF 4)

SHEET NUMBER:
5.2

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

CivilGR10651303.dwg(5.2 DETAILED GRADING PLAN (SHT 2 OF 4)) By: ABROWNE

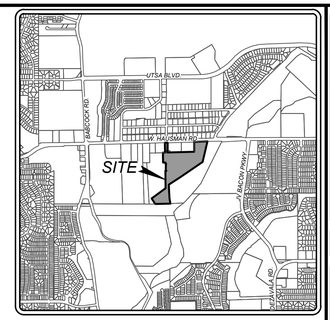




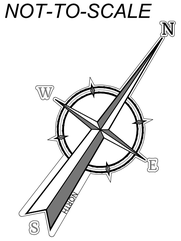
LEGEND

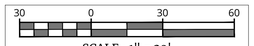
E, G, T, & TV. E. = GAS, ELECTRIC, TELEPHONE, CABLE T.V. EASEMENT

= FLOW ARROW



LOCATION MAP
NOT-TO-SCALE

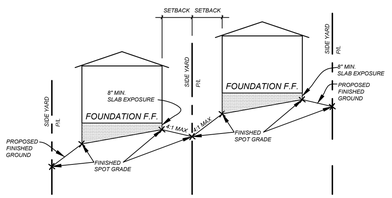




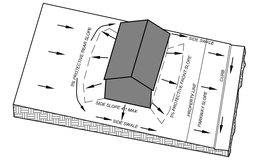
Linear unit of measure: International Foot (1 ft = 0.3048 m)

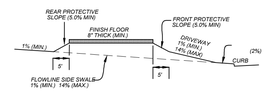
GENERAL NOTES:

1. ELEVATION SHOWN ON FOUNDATION IS FOR FINISHED FLOOR.
2. CONTRACTOR SHALL PROVIDE OWNER ALL NECESSARY DENSITY TESTS FOR FILL LOTS AS REQUIRED BY HUD SPECIFICATIONS.
3. HOME BUILDER SHALL REFER TO THE APPROVED SUBDIVISION PLAT TO CONFIRM ALL BUILDING SETBACKS PRIOR TO ANY FOUNDATION WORK.
4. AS SOON AS PRACTICAL HOME BUILDER SHALL ESTABLISH VEGETATION (HYDROMULCH, SEEDING, SODDING, ETC...) TO PREVENT EROSION FROM OCCURRING.
5. CONTRACTOR SHALL CONTACT ENGINEER REGARDING ANY QUESTIONS ON THE INTENT OF THIS PLAN.
6. POSITIVE DRAINAGE SHALL BE MAINTAINED ON ALL SURFACE AREAS WITHIN THE SCOPE OF THIS PROJECT. DRAINAGE SHALL BE DIRECTED AWAY FROM ALL BUILDING FOUNDATIONS AND TOWARDS THE PROPER DRAINAGE EASEMENT OR STREET RIGHT OF WAY ACCORDING TO THE MASTER DRAINAGE PLAN FOR THE PROJECT. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW PONDING OF WATER.
7. ALL ELEVATIONS AND CONTOURS SHOWN ON THIS GRADING PLAN REFLECT FINISHED GRADES, THE THICKNESS OF PAVEMENT, CURBS, AND SIDEWALKS MUST BE SUBTRACTED TO OBTAIN SUBGRADE ELEVATIONS.
8. GRADING PLAN IS INTENDED FOR USE IN LOT GRADING ONLY. CONTRACTOR SHOULD REFER TO CONSTRUCTION DRAWINGS FOR ALL OTHER GRADES, INCLUDING, BUT NOT LIMITED TO, CHANNELS, ROADS, AND DETENTION PONDS.
9. CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE ALL SWALES.

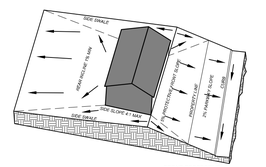


TYPICAL SIDE YARD GRADING
N.T.S.

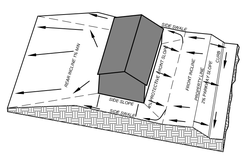




TYPE 'A' LOT GRADING



TYPE 'B' LOT GRADING



TYPE 'C' LOT GRADING

Colliers
Engineering & Design
www.colliersengineering.com
Copyright © 2024. Colliers Engineering & Design All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 - TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

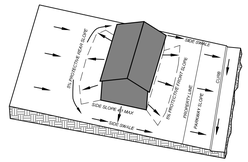
PROJECT NUMBER:	DRAWING NAME:
1065-13-03	GR10651303

SHEET TITLE:
DETAILED GRADING PLAN
(SHT 3 OF 4)

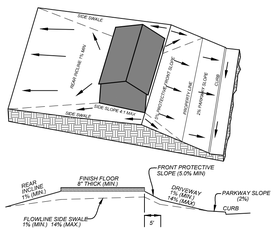
SHEET NUMBER:
5.3

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

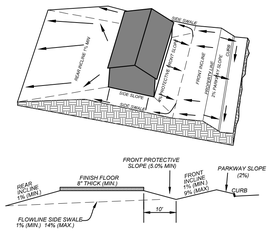
C:\n\GR10651303\Dwg\5.3 DETAILED GRADING PLAN (SHT 3 OF 4).dwg By: ABROWNE



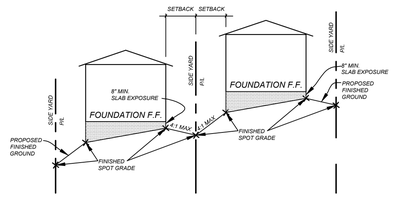
TYPE 'A' LOT GRADING



TYPE 'B' LOT GRADING



TYPE 'C' LOT GRADING



TYPICAL SIDE YARD GRADING
N.T.S.

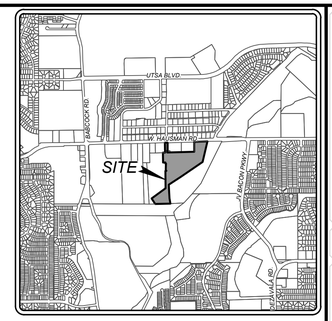
LEGEND

E, G, T, & TV. E. = GAS, ELECTRIC, TELEPHONE, CABLE T.V. EASEMENT

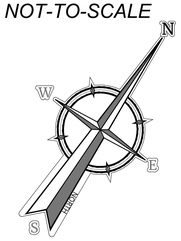
= FLOW ARROW

GENERAL NOTES:

1. ELEVATION SHOWN ON FOUNDATION IS FOR FINISHED FLOOR.
2. CONTRACTOR SHALL PROVIDE OWNER ALL NECESSARY DENSITY TESTS FOR FILL LOTS AS REQUIRED BY HUD SPECIFICATIONS.
3. HOME BUILDER SHALL REFER TO THE APPROVED SUBDIVISION PLAT TO CONFIRM ALL BUILDING SETBACKS PRIOR TO ANY FOUNDATION WORK.
4. AS SOON AS PRACTICAL HOME BUILDER SHALL ESTABLISH VEGETATION (HYDROMULCH, SEEDING, SODDING, ETC...) TO PREVENT EROSION FROM OCCURRING.
5. CONTRACTOR SHALL CONTACT ENGINEER REGARDING ANY QUESTIONS ON THE INTENT OF THIS PLAN.
6. POSITIVE DRAINAGE SHALL BE MAINTAINED ON ALL SURFACE AREAS WITHIN THE SCOPE OF THIS PROJECT. DRAINAGE SHALL BE DIRECTED AWAY FROM ALL BUILDING FOUNDATIONS AND TOWARDS THE PROPER DRAINAGE EASEMENT OR STREET RIGHT OF WAY ACCORDING TO THE MASTER DRAINAGE PLAN FOR THE PROJECT. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW PONDING OF WATER.
7. ALL ELEVATIONS AND CONTOURS SHOWN ON THIS GRADING PLAN REFLECT FINISHED GRADES, THE THICKNESS OF PAVEMENT, CURBS, AND SIDEWALKS MUST BE SUBTRACTED TO OBTAIN SUBGRADE ELEVATIONS.
8. GRADING PLAN IS INTENDED FOR USE IN LOT GRADING ONLY. CONTRACTOR SHOULD REFER TO CONSTRUCTION DRAWINGS FOR ALL OTHER GRADES, INCLUDING, BUT NOT LIMITED TO, CHANNELS, ROADS, AND DETENTION PONDS.
9. CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE ALL SWALES.



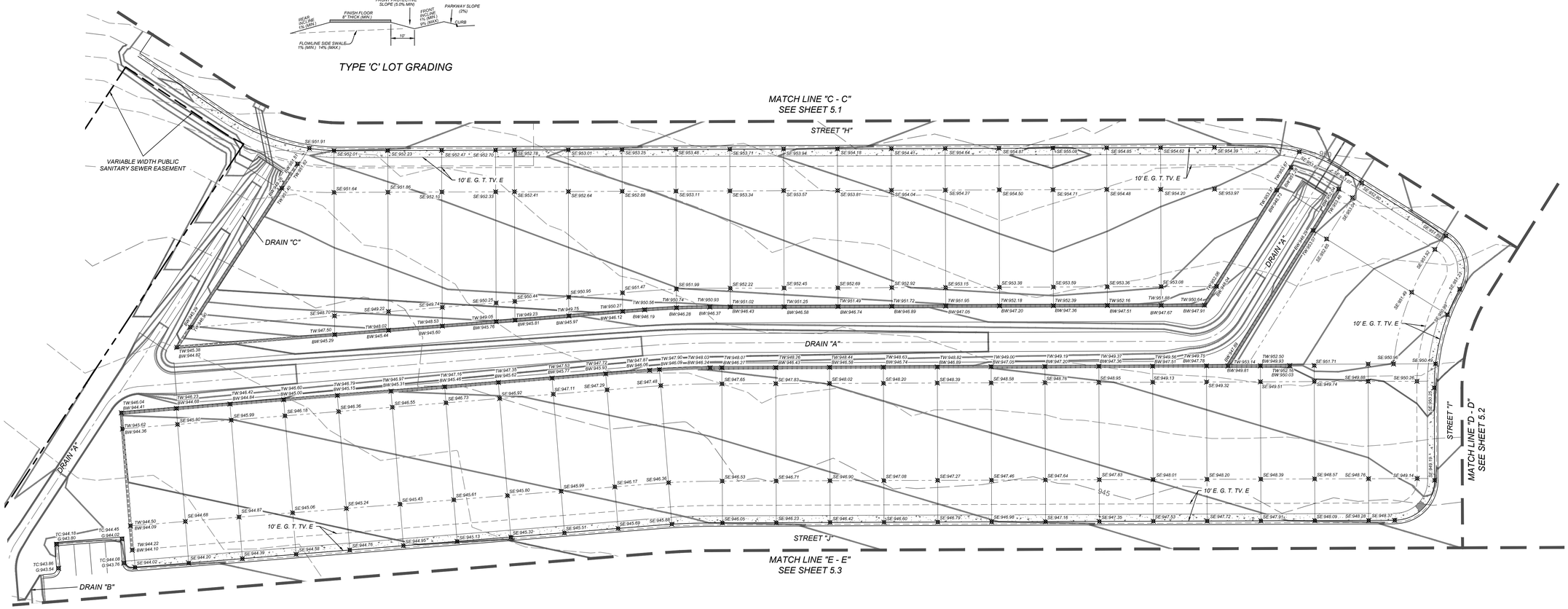
LOCATION MAP
NOT-TO-SCALE



30 0 30 60

SCALE : 1" = 30'

Linear unit of measure: International Foot (1 ft = 0.3048 m)



Colliers Engineering & Design

www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE

FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 · TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

PROJECT NUMBER: 1065-13-03
DRAWING NAME: GR10651303

SHEET TITLE:
DETAILED GRADING PLAN
(SHT 4 OF 4)

SHEET NUMBER:
5.4

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

By: ABROWNE

NOTE:

1. ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF NOT LESS THAN 3000 PSI IN 28 DAYS.

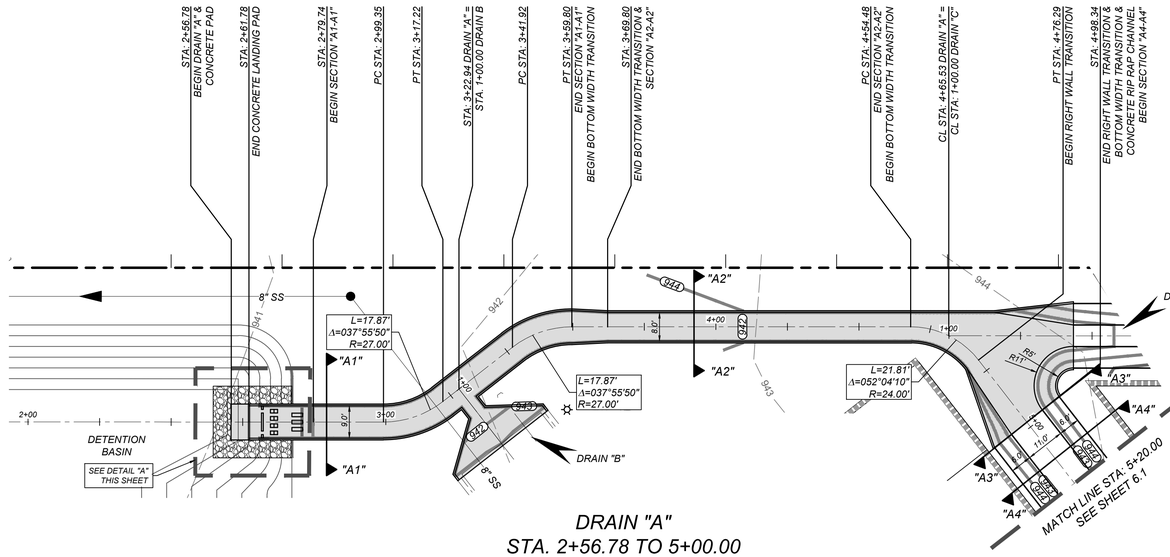
2. ANY DISTURBED AREAS WILL BE VEGETATED BY SEEDING OR SODDING. EIGHTY-FIVE PERCENT OF THE DISTURBED SURFACE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT.

TRENCH EXCAVATION SAFETY PROTECTION

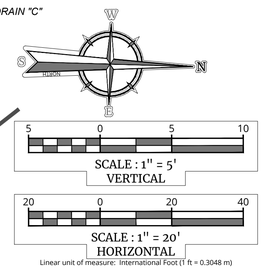
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES 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.

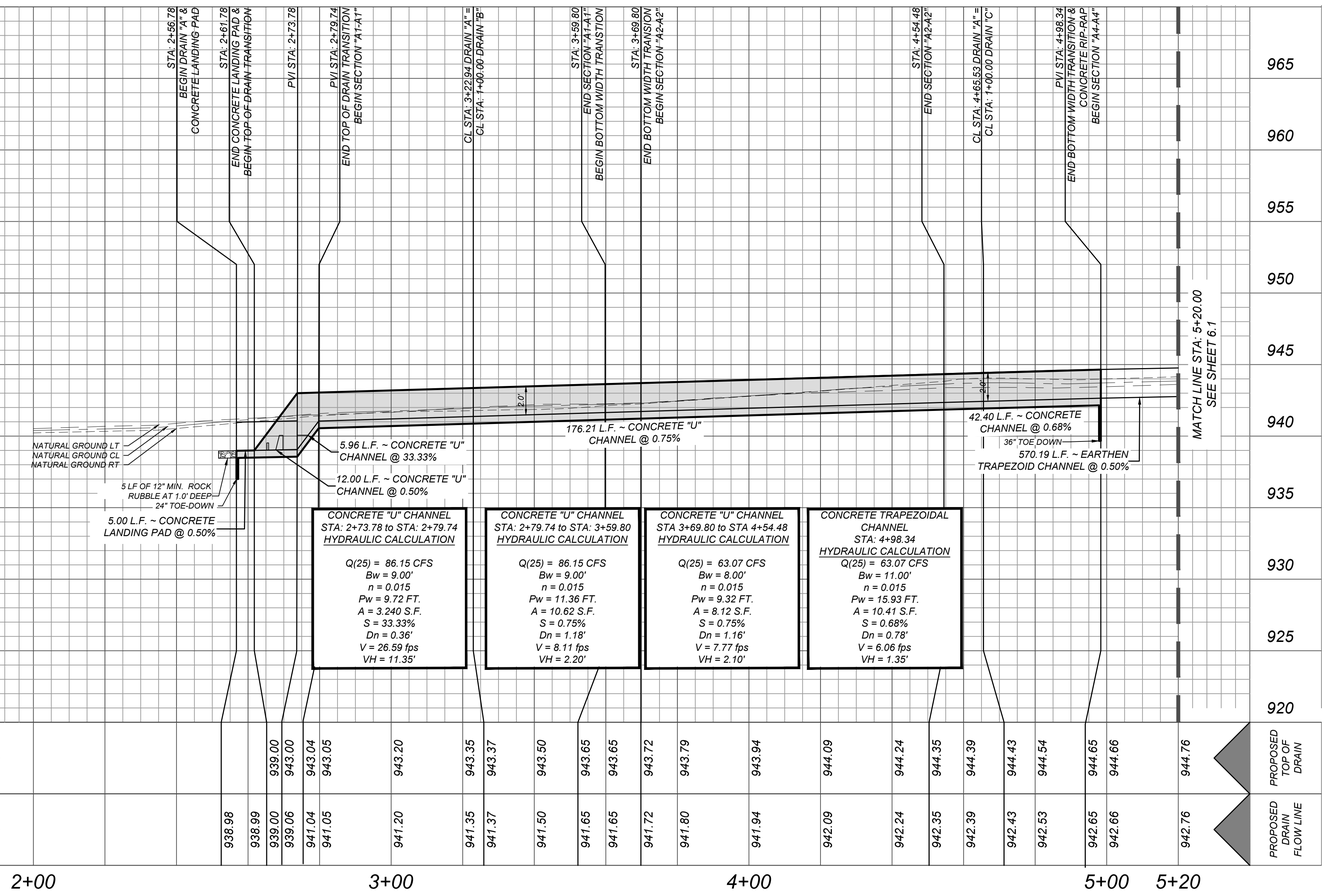
CAUTION!!:

THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED 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 1-800-DIG-TESS 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.



DRAIN "A"
STA. 2+56.78 TO 5+00.00





CONCRETE "U" CHANNEL
STA: 2+73.78 to STA: 2+79.74
HYDRAULIC CALCULATION

Q(25) = 86.15 CFS
Bw = 9.00'
n = 0.015
Pw = 9.72 FT.
A = 3.240 S.F.
S = 33.33%
Dn = 0.36'
V = 26.59 fps
VH = 11.35'

CONCRETE "U" CHANNEL
STA: 2+79.74 to STA: 3+59.80
HYDRAULIC CALCULATION

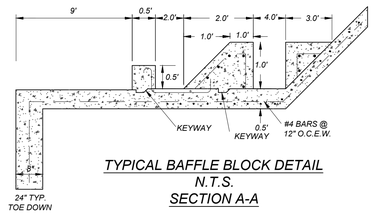
Q(25) = 86.15 CFS
Bw = 9.00'
n = 0.015
Pw = 11.36 FT.
A = 10.62 S.F.
S = 0.75%
Dn = 1.18'
V = 8.11 fps
VH = 2.20'

CONCRETE "U" CHANNEL
STA 3+69.80 to STA 4+54.48
HYDRAULIC CALCULATION

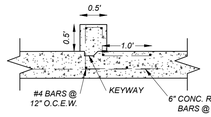
Q(25) = 63.07 CFS
Bw = 8.00'
n = 0.015
Pw = 9.32 FT.
A = 8.12 S.F.
S = 0.75%
Dn = 1.16'
V = 7.77 fps
VH = 2.10'

CONCRETE TRAPEZOIDAL CHANNEL
STA: 4+98.34
HYDRAULIC CALCULATION

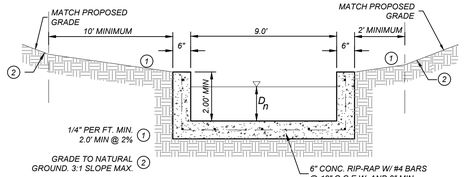
Q(25) = 63.07 CFS
Bw = 11.00'
n = 0.015
Pw = 15.93 FT.
A = 10.41 S.F.
S = 0.68%
Dn = 0.78'
V = 6.06 fps
VH = 1.35'



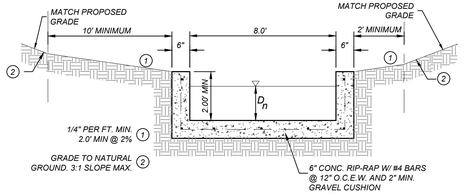
TYPICAL BAFFLE BLOCK DETAIL
N.T.S.
SECTION A-A



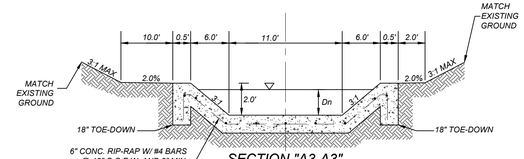
TYPICAL END SILL DETAIL
N.T.S.



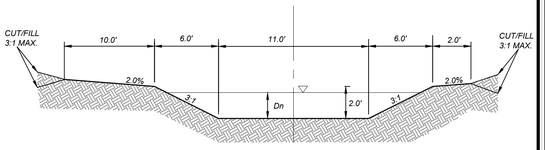
SECTION "A1-A1"
STA: 2+79.74 - STA: 3+59.80
N.T.S.



SECTION "A2-A2"
STA: 3+69.80 - STA: 4+54.48
N.T.S.



SECTION "A3-A3"
STA: 4+98.34
N.T.S.



SECTION "A4-A4"
STA: 4+98.34 - STA: 10+68.53
N.T.S.

BAFFLE BLOCK CALCULATIONS
(ST. ANTHONY FALLS METHOD)

Q25 = 86.15 CFS
BOTTOM WIDTH UPSTREAM = 9.0 FT
BOTTOM WIDTH DOWNSTREAM = 9.0 FT
Y1 = 0.36' (DEPTH BEFORE JUMP)
Y2 = 3.80' (DEPTH AFTER JUMP)

WIDTH OF BLOCKS = 0.75(Y1) = 0.27 FT. (USE 1.00 FT.)
SPACE BETWEEN BLOCKS = 0.75(Y1) = 0.27 FT. (USE 1.00 FT.)
HEIGHT OF BLOCKS = Y1 = 0.36 FT. (USE 1.00 FT.)
OF BLOCKS ACROSS BOTTOM = 4

% OF FLOOR COVERED WITH BLOCKS = 4 (1.00 FT) / 9 FT = 44.4%
(% MUST BE BETWEEN 40% AND 55%)

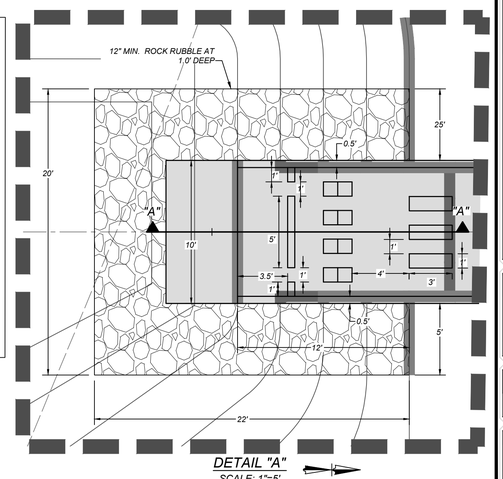
DEPTH OF TAILWATER (Y2)
FROUDE NUMBER BEFORE JUMP = F1 = 7.81
FROUDE NUMBER AFTER JUMP = F2 = 0.23

LENGTH OF BASIN = LB = 4.5(Y2)/F1^0.76 = 3.58 FT. (USE 8.5 FT.)

DISTANCE TO FLOOR BLOCKS = LB/3 = 1.19 FT. (USE 4 FT.)

HEIGHT OF MAX TAILWATER DEPTH:
Z = Y2/3 = 1.27 FT.
Y2' = 0.85 * Y2 = 3.23
H = Z + Y2' = 4.49 FT.

VELOCITY AFTER JUMP:
V = Q/A
A = Y2 * [(B + T) / 2]
A = 3.80" * [(9 + 9) / 2] = 34.2 SQ. FT.
V = 86.15 / 34.2 = 2.52 F.P.S.



DETAIL "A"
SCALE: 1"=5'

Colliers Engineering & Design
www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design. All Rights Reserved. This drawing and all of the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

811 PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 · TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

PROJECT NUMBER:	DRAWING NAME:
1065-13-03	DR10651303

SHEET TITLE:
DRAIN "A" PLAN & PROFILE (SHEET 1 OF 3)

SHEET NUMBER:
6.0

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

C:\nt\Drains\DR10651303.dwg\6.0 DRAIN "A" PLAN & PROFILE SHEET 1 OF 3) By: ABROWNE

NOTE:

1. ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF NOT LESS THAN 3000 PSI IN 28 DAYS.

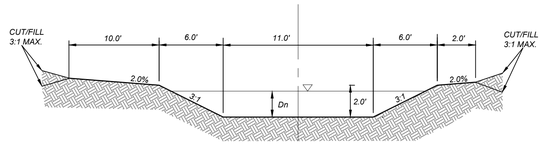
2. ANY DISTURBED AREAS WILL BE VEGETATED BY SEEDING OR SODDING. EIGHTY-FIVE PERCENT OF THE DISTURBED SURFACE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT.

TRENCH EXCAVATION SAFETY PROTECTION

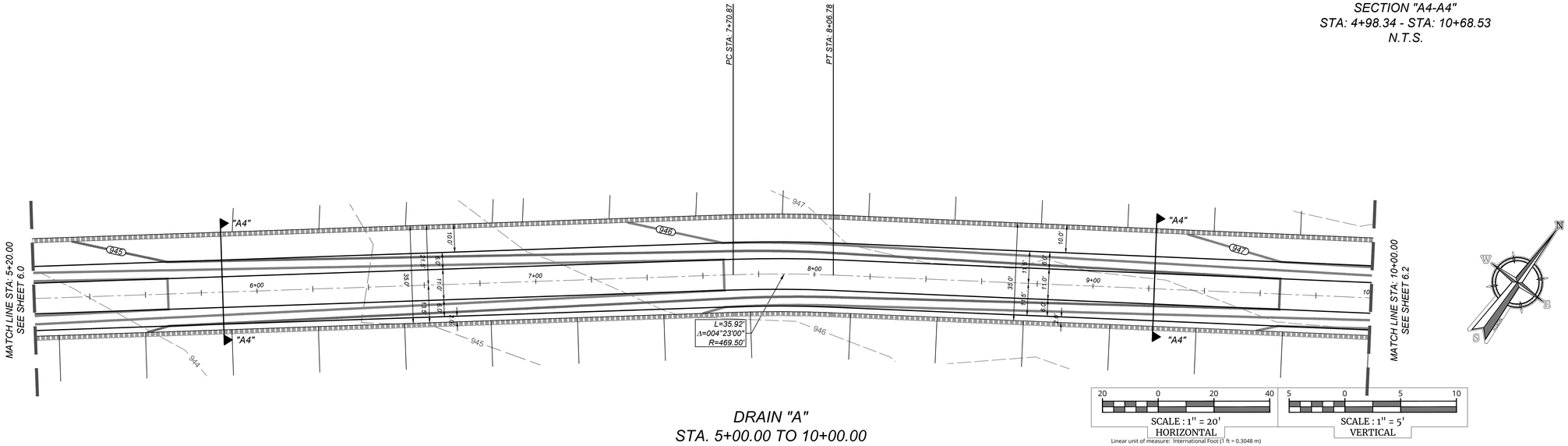
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES 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.

CAUTION!!:

THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED 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 1-800-DIG-TESS 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.



SECTION "A4-A4"
STA: 4+98.34 - STA: 10+68.53
N.T.S.

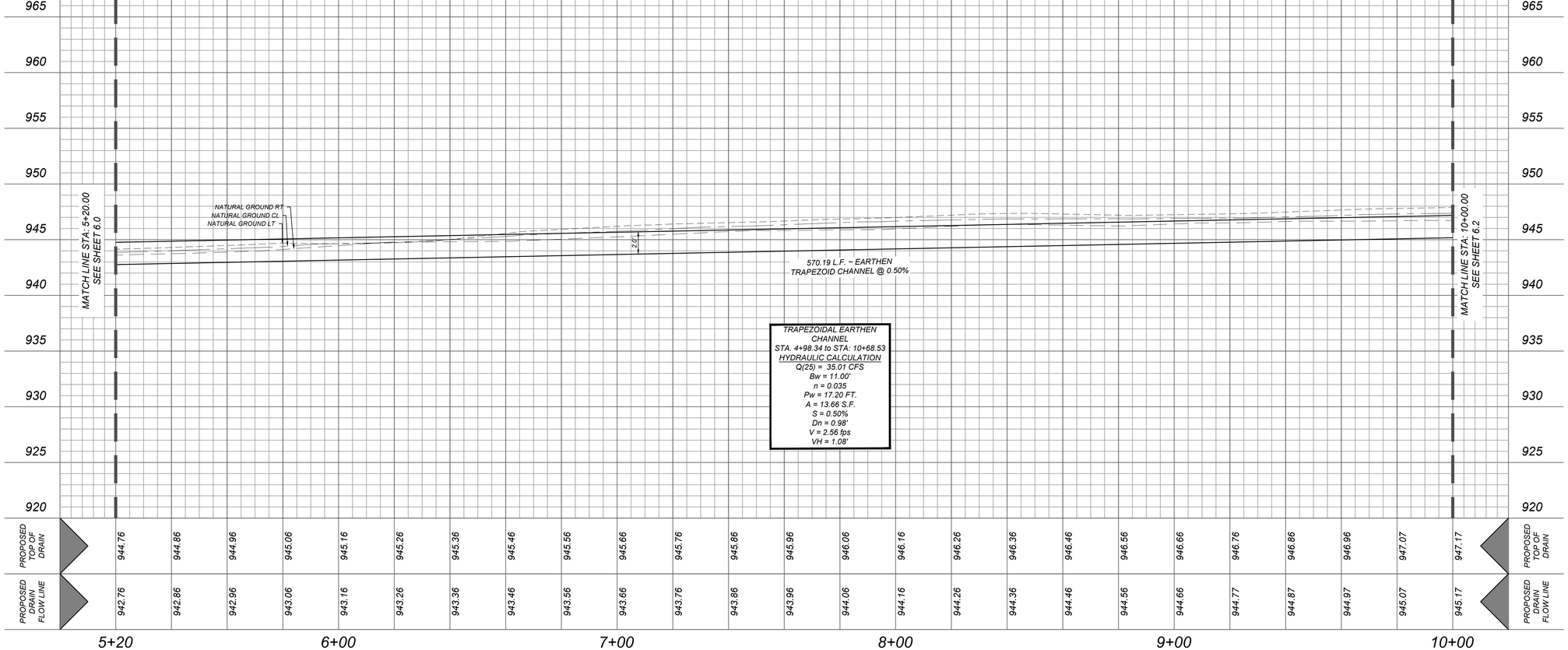


DRAIN "A"
STA. 5+00.00 TO 10+00.00

SCALE : 1" = 20'
HORIZONTAL

SCALE : 1" = 5'
VERTICAL

Linear unit of measure: International Foot (1 ft = 0.3048 m)



TRAPEZOIDAL EARTHEN CHANNEL
STA. 4+98.34 to STA: 10+68.53
HYDRAULIC CALCULATION
Q(25) = 35.01 CFS
Bw = 11.00'
n = 0.035
Pw = 17.20 FT.
A = 13.66 S.F.
S = 0.50%
Dn = 0.98'
V = 2.56 fps
VH = 1.08'

Colliers
Engineering & Design
www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 - TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

PROJECT NUMBER: 1065-13-03
DRAWING NAME: DR10651303

SHEET TITLE:
DRAIN "A" PLAN & PROFILE (SHEET 2 OF 3)

SHEET NUMBER:
6.1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

C:\KFD\Jobs\1065\1303.dwg\6.1 DRAIN "A" PLAN & PROFILE (SHEET 2 OF 3). By: ABROWNE

NOTE:

1. ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF NOT LESS THAN 3000 PSI IN 28 DAYS.

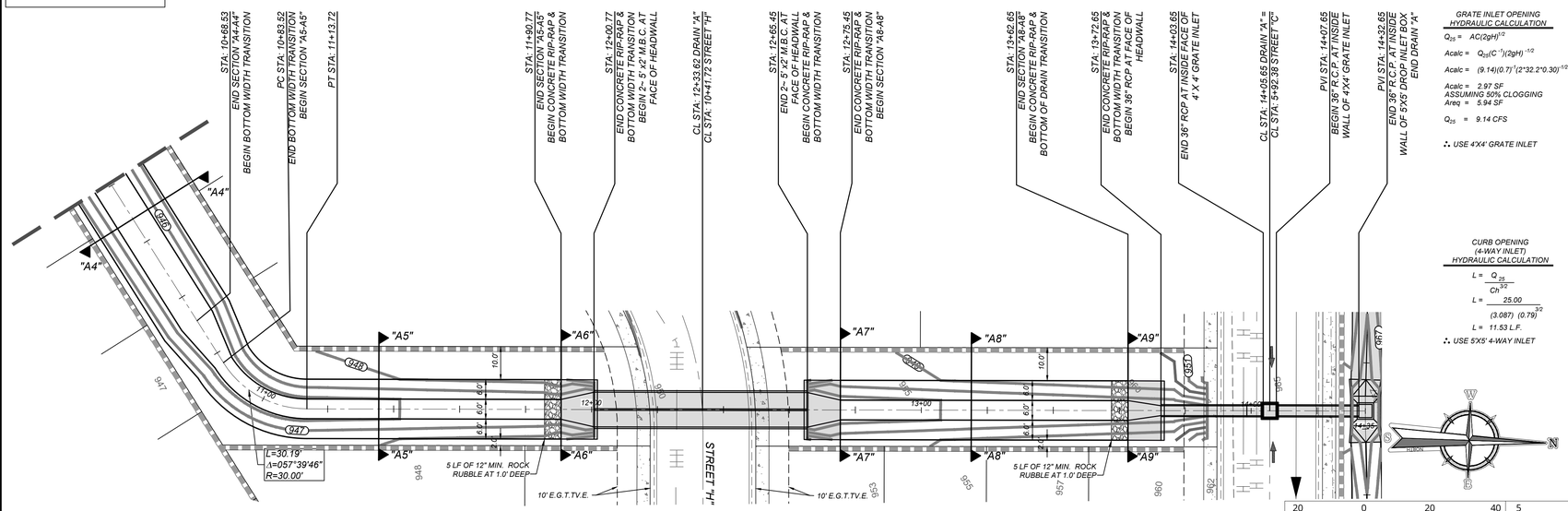
2. ANY DISTURBED AREAS WILL BE VEGETATED BY SEEDING OR SODDING. EIGHTY-FIVE PERCENT OF THE DISTURBED SURFACE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT.

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 AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES 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.

CAUTION!!:

THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED 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 1-800-DIG-TESS 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.



DRAIN "A"
STA. 10+00.00 TO END

GRATE INLET OPENING HYDRAULIC CALCULATION

$Q_{25} = AC(2gH)^{1/2}$

$Acalc = Q_{25}(C^{-1})(2gH)^{-1/2}$

$Acalc = (9.14)(0.7)^{-1}(2*32.2*0.30)^{-1/2}$

$Acalc = 2.97$ SF
ASSUMING 50% CLOGGING
$Areq = 5.94$ SF

$Q_{25} = 9.14$ CFS

∴ USE 4'X4' GRATE INLET

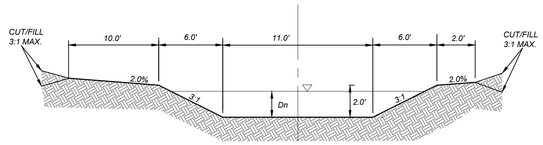
CURB OPENING (4-WAY INLET) HYDRAULIC CALCULATION

$L = \frac{Q_{25}}{Ch^{3/2}}$

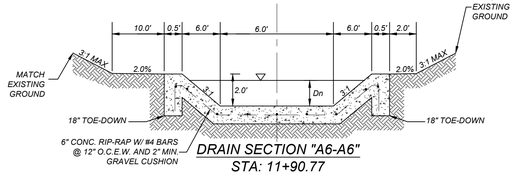
$L = \frac{25.00}{(3.087)(0.79)^{3/2}}$

$L = 11.53$ L.F.

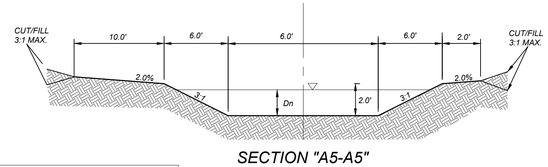
∴ USE 5'X5' 4-WAY INLET



SECTION "A4-A4"
STA: 4+85.03 - STA: 10+68.53
N.T.S.



DRAIN SECTION "A6-A6"
STA: 11+90.77
DRAIN SECTION "A7-A7"
STA: 12+75.45
DRAIN SECTION "A9-A9"
STA: 13+62.65
N.T.S.

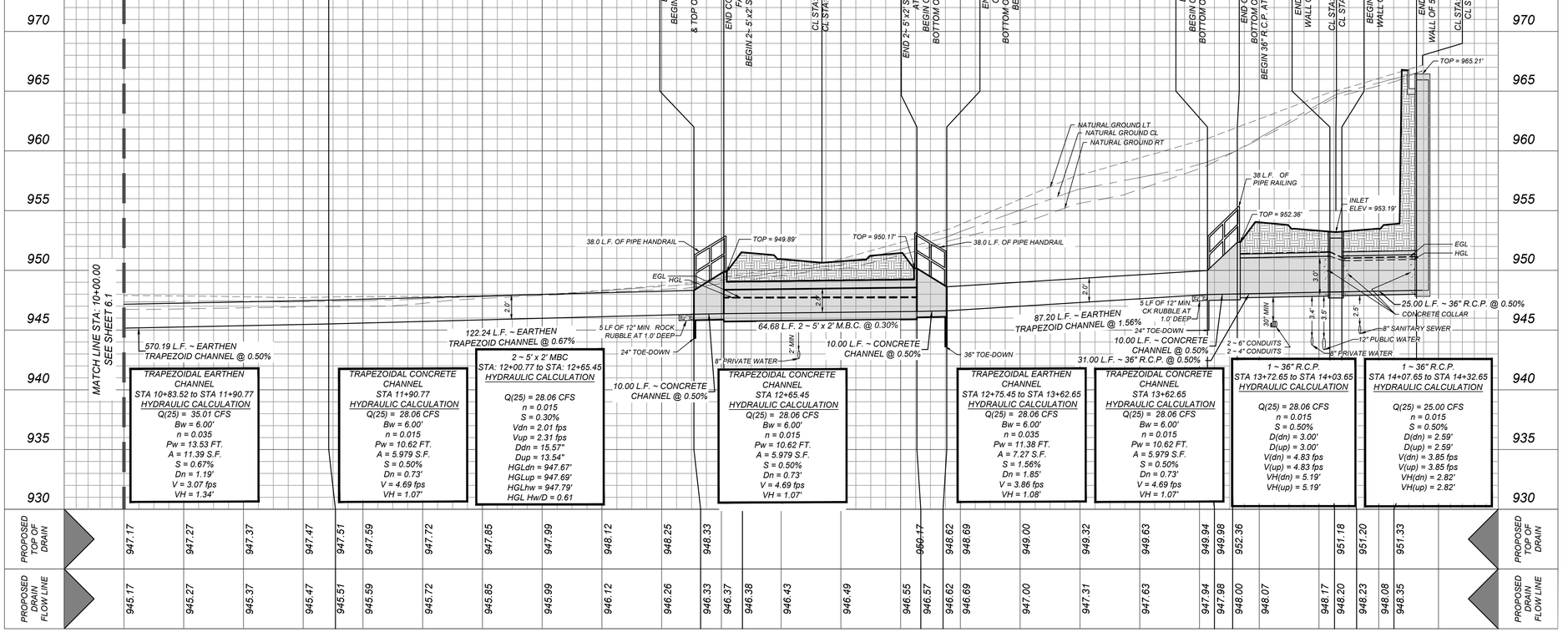


SECTION "A5-A5"
STA: 10+83.52 - STA: 11+90.77
SECTION "A8-A8"
STA: 12+75.45 - STA: 13+62.65
N.T.S.

SCALE : 1" = 20'
HORIZONTAL

SCALE : 1" = 5'
VERTICAL

Linear unit of measure: International Foot (1 ft = 0.3048 m)



| | | |

NOTE:

1. ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF NOT LESS THAN 3000 PSI IN 28 DAYS.

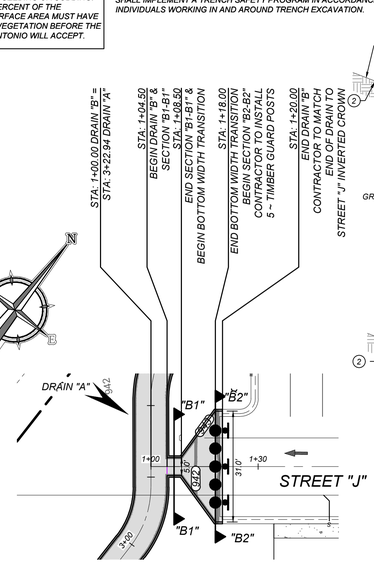
2. ANY DISTURBED AREAS WILL BE VEGETATED BY SEEDING OR SODDING. EIGHTY-FIVE PERCENT OF THE DISTURBED SURFACE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT.

TRENCH EXCAVATION SAFETY PROTECTION

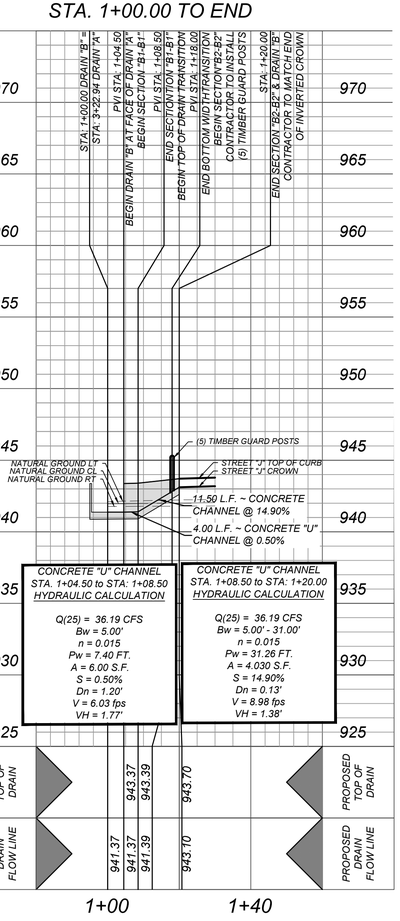
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES 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.

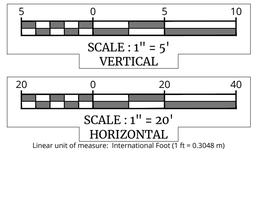
CAUTION!!:

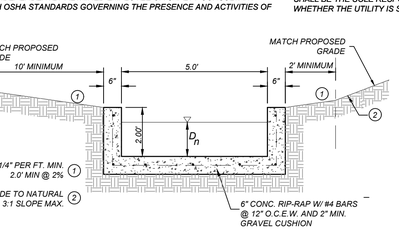
THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS 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.



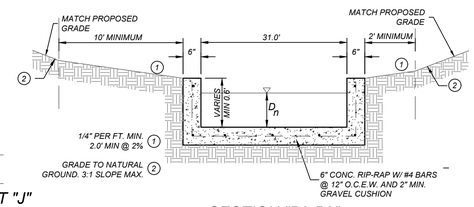
DRAIN "B"
STA. 1+00.00 TO END



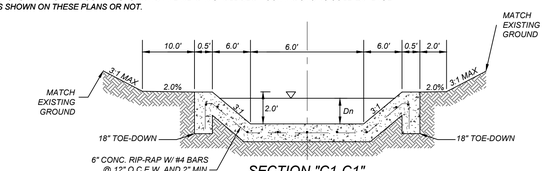




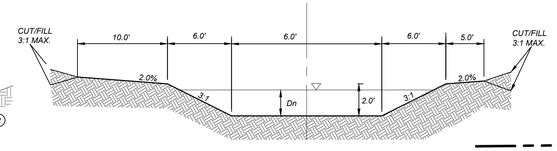
SECTION "B1-B1"
STA: 1+04.50 - STA: 1+08.50
N.T.S.



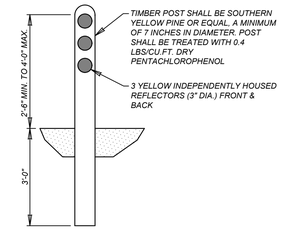
SECTION "B2-B2"
STA: 1+18.00 TO STA: 1+20.00
N.T.S.



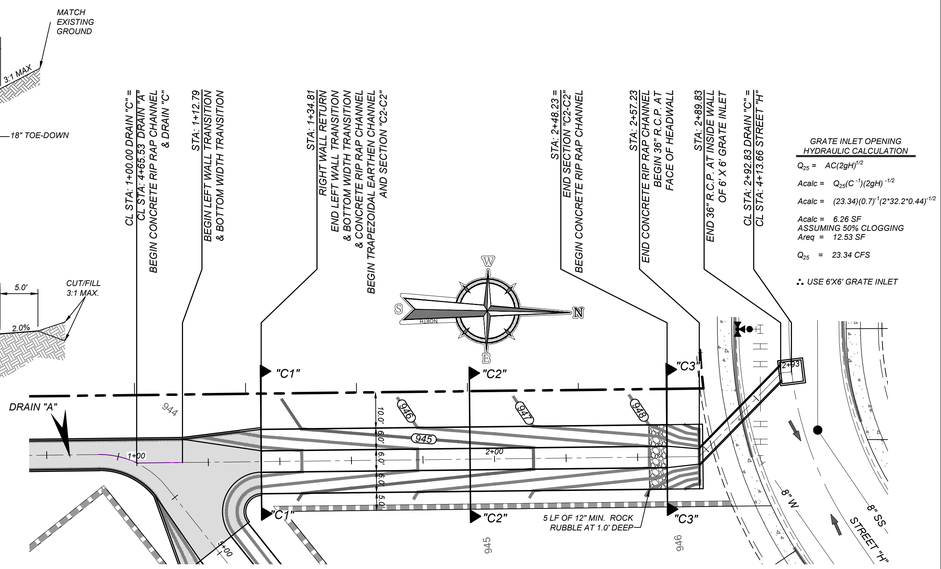
SECTION "C1-C1"
STA: 1+12.79
SECTION "C3-C3"
STA: 2+48.23
N.T.S.



SECTION "C2-C2""
STA: 1+34.81 - STA: 2+48.23



TIMBER GUARD POST DETAIL
NOT-TO-SCALE



GRATE INLET OPENING HYDRAULIC CALCULATION

$Q_{25} = AC(2gH)^{1/2}$

$Acalc = Q_{25}(C^{-1})(2gH)^{-1/2}$

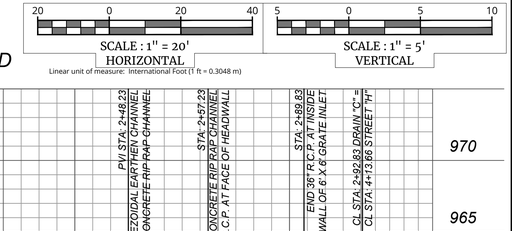
$Acalc = (23.34)(0.7)^{-1}(2*32.2*0.44)^{-1/2}$

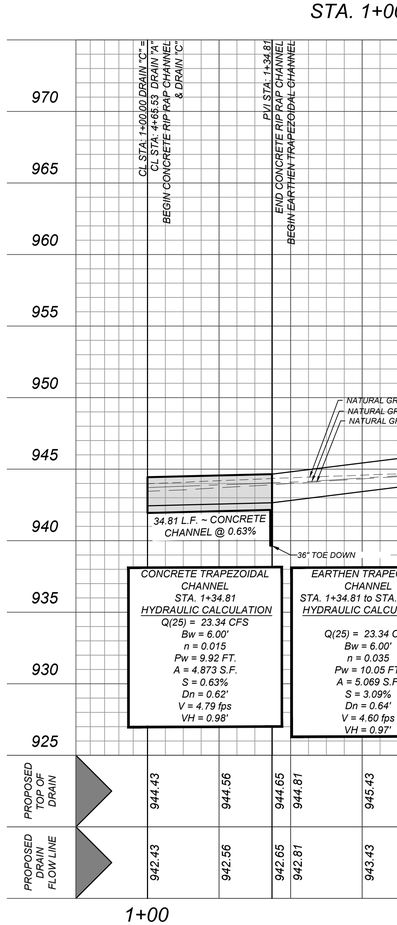
$Acalc = 6.26$ SF
ASSUMING 50% CLOGGING
$Areq = 12.53$ SF

$Q_{25} = 23.34$ CFS

∴ USE 6'X6' GRATE INLET

DRAIN "C"
STA. 1+00.00 TO END





Colliers Engineering & Design

www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design. All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

811 PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 - TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

PROJECT NUMBER: 1065-13-03
DRAWING NAME: DR10651303

SHEET TITLE:
DRAIN "B" & "C" PLAN & PROFILE

SHEET NUMBER:
6.3

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

C:\KFD\Projects\2021\1065.13.03\dwg\DL DRAIN "B" & "C" PLAN & PROFILE By, ABROWNE

NOTE:

1. ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF NOT LESS THAN 3000 PSI IN 28 DAYS.

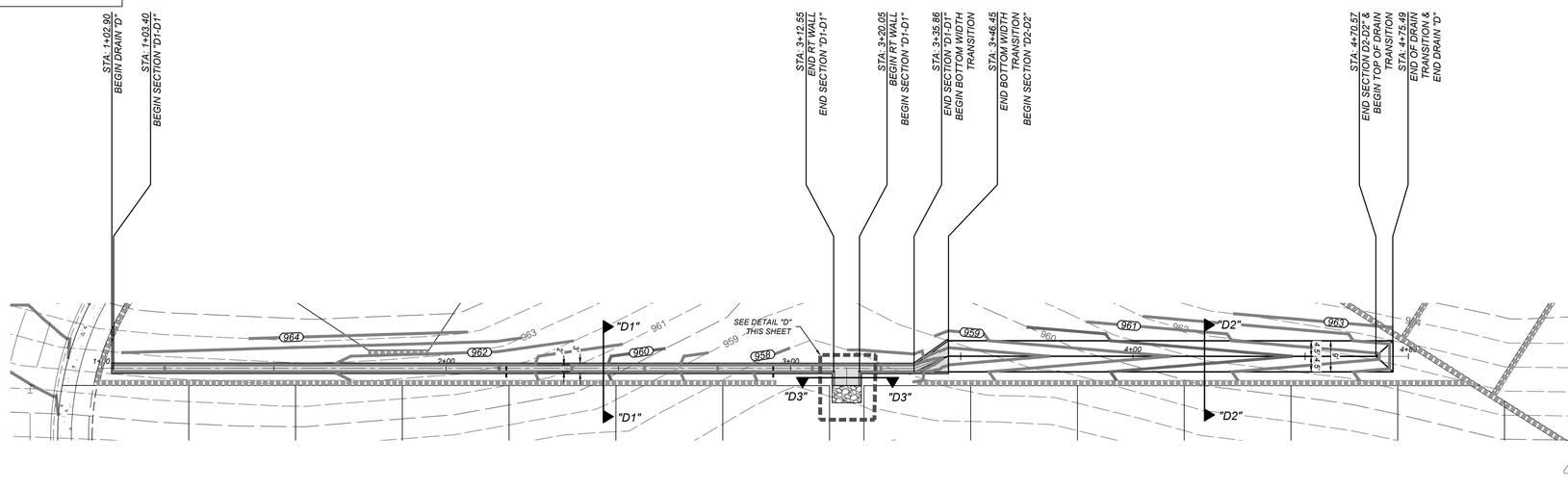
2. ANY DISTURBED AREAS WILL BE VEGETATED BY SEEDING OR SODDING. EIGHTY-FIVE PERCENT OF THE DISTURBED SURFACE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT.

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 AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES 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.

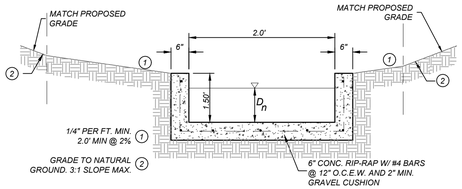
CAUTION!!:

THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED 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 1-800-DIG-TESS 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.

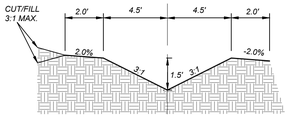


DRAIN "D"
STA. 1+00.00 TO END

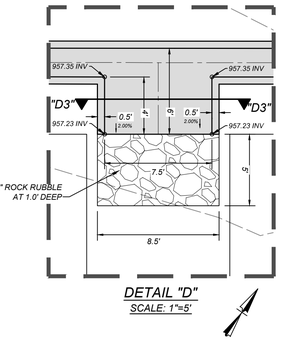
SCALE : 1" = 20' HORIZONTAL
SCALE : 1" = 5' VERTICAL
Linear unit of measure: International Foot (1 ft = 0.3048 m)



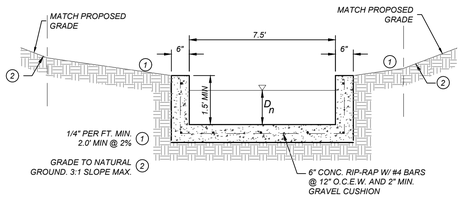
SECTION "D1-D1"
STA: 1+03.40 - STA: 3+12.55
STA: 3+20.05 - STA: 3+35.86
N.T.S.



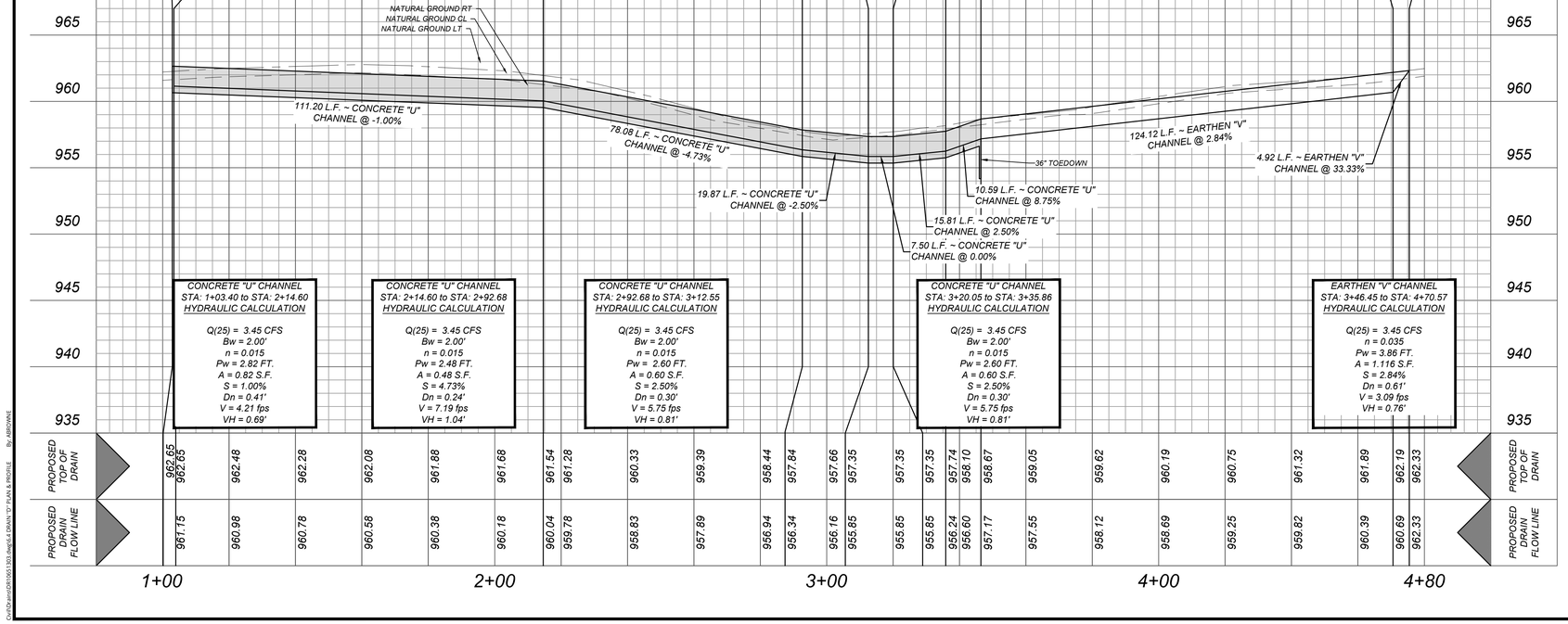
SECTION "D2-D2"
STA: 3+46.45 - STA: 4+70.57
N.T.S.



DETAIL "D"
SCALE: 1"=5'



SECTION "D3-D3"
N.T.S.



Colliers Engineering & Design
www.colliersengineering.com
Copyright © 2024. Colliers Engineering & Design. All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.
Formerly Known as KFW
PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 - TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

PROJECT NUMBER: 1065-13-03
DRAWING NAME: DR10651303

SHEET TITLE: DRAIN "D" PLAN & PROFILE

SHEET NUMBER: 6.4

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

By: ABROWNE
CivilDrawings\DR10651303.dwg\6.4 DRAIN "D" PLAN & PROFILE

NOTE:

1. ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF NOT LESS THAN 3000 PSI IN 28 DAYS.

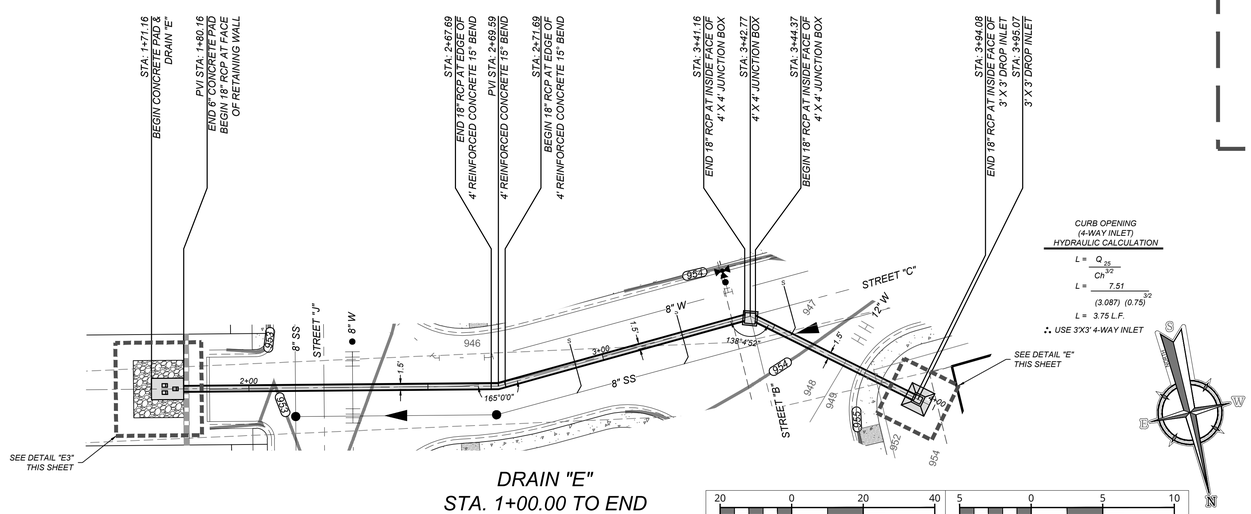
2. ANY DISTURBED AREAS WILL BE VEGETATED BY SEEDING OR SODDING. EIGHTY-FIVE PERCENT OF THE DISTURBED SURFACE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT.

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 AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES 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.

CAUTION!!:

THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED 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 1-800-DIG-TESS 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.



DRAIN "E"
STA. 1+00.00 TO END

CURB OPENING (4-WAY INLET) HYDRAULIC CALCULATION

$L = \frac{Q_{25}}{Ch^{3/2}}$

$L = \frac{7.51}{(3.087)\ (0.75)^{3/2}}$

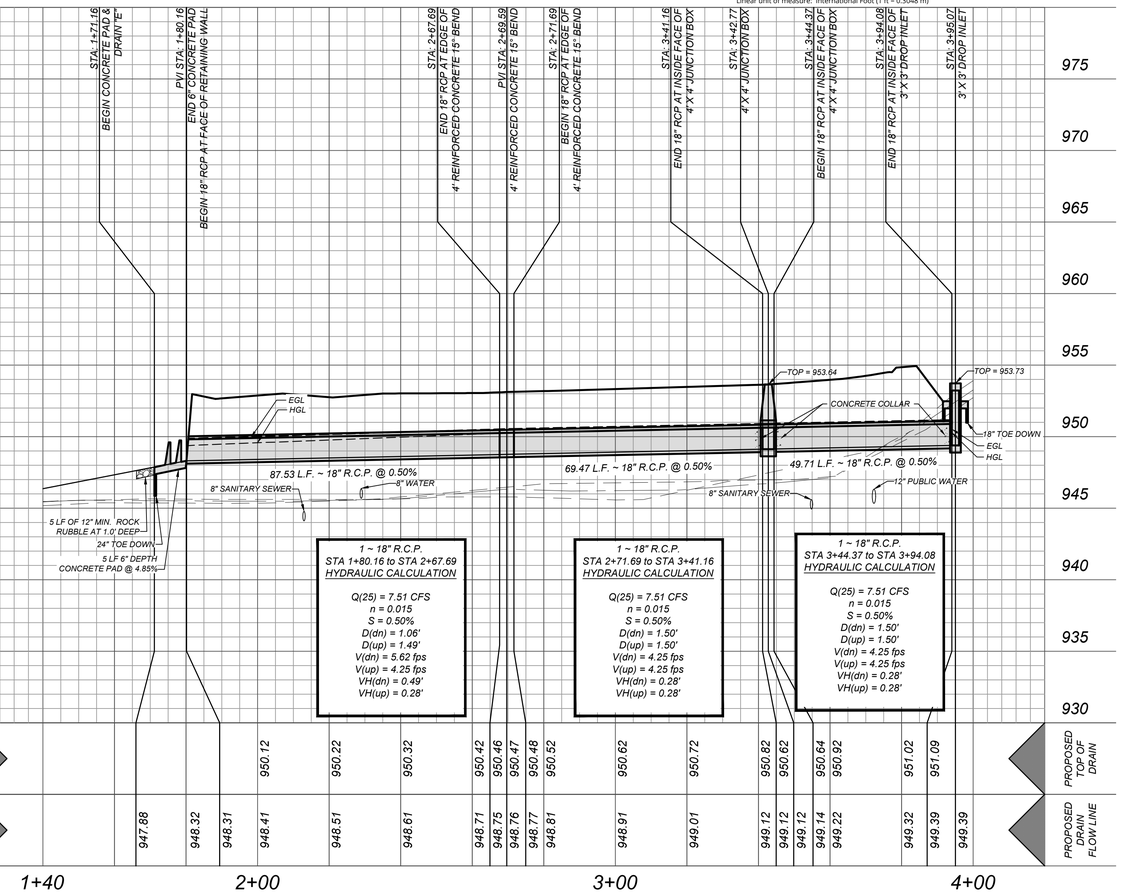
$L = 3.75$ L.F.

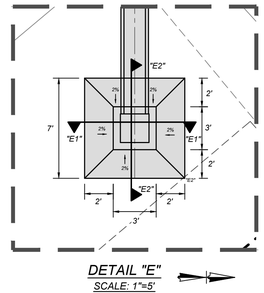
∴ USE 3'X3' 4-WAY INLET

SCALE : 1" = 20' HORIZONTAL

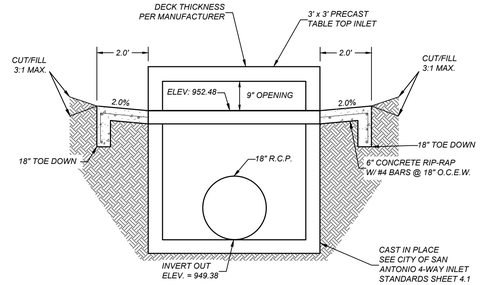
SCALE : 1" = 5' VERTICAL

Linear unit of measure: International Foot (1 ft = 0.3048 m)

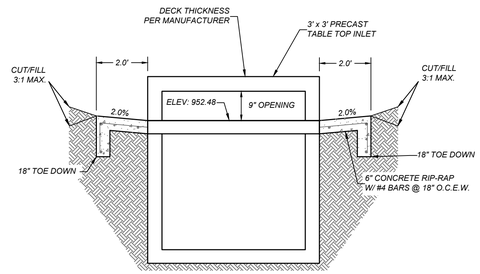




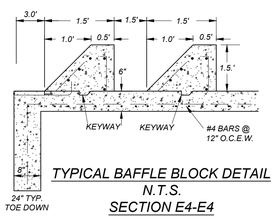
DETAIL "E"
SCALE: 1"=5'



DETAIL "E1-E1"
NOT-TO-SCALE



DETAIL "E2-E2"
NOT-TO-SCALE



TYPICAL BAFFLE BLOCK DETAIL
N.T.S.
SECTION E4-E4

BAFFLE BLOCK CALCULATIONS
(ST. ANTHONY FALLS METHOD)

Q25 = 7.51 CFS
BOTTOM WIDTH UPSTREAM = 1.5 FT
BOTTOM WIDTH DOWNSTREAM = 6.0 FT
Y1 = 1.06' (DEPTH BEFORE JUMP)
Y2 = 0.67' (DEPTH AFTER JUMP)

WIDTH OF BLOCKS = 0.75(Y1) = 0.80 FT. (USE 1.00 FT.)
SPACE BETWEEN BLOCKS = 0.75(Y1) = 0.80 FT. (USE 1.00 FT.)
HEIGHT OF BLOCKS = Y1 = 1.06 FT. (USE 1.50 FT.)
OF BLOCKS ACROSS BOTTOM = 3

% OF FLOOR COVERED WITH BLOCKS = 3 (1.00 FT) / 6 FT = 50%
(% MUST BE BETWEEN 40% AND 55%)

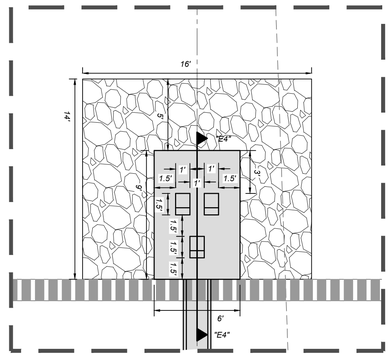
DEPTH OF TAILWATER (Y2)
FROUDE NUMBER BEFORE JUMP = F1 = 0.81
FROUDE NUMBER AFTER JUMP = F2 = 0.40

LENGTH OF BASIN = LB = 4.5(Y2)/F1^0.76 = 3.57 FT. (USE 9 FT.)

DISTANCE TO FLOOR BLOCKS = LB/3 = 1.19 FT. (USE FT.)

HEIGHT OF MAX TAILWATER DEPTH:
Z = Y2/3 = 0.22 FT.
Y2' = Y2(1.1 - (F1²/120)) = 0.73
H = Z + Y2' = 0.95 FT.

VELOCITY AFTER JUMP:
V = Q/A
A = Y2 * [(B + T) / 2]
A = 0.67 * [(9 + 9) / 2] = 2.53 SQ. FT.
V = 7.51/2.53 = 2.97 F.P.S.



DETAIL "E3"
SCALE: 1"=5'

Colliers
Engineering & Design
www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 · TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

PROJECT NUMBER: 1065-13-03
DRAWING NAME: DR10651303

SHEET TITLE:
DRAIN "E" PLAN & PROFILE

SHEET NUMBER:
6.5

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

C:\nt\Drains\DR10651303.dwg\6.5 DRAIN "E" PLAN & PROFILE By: ABROWNE

NOTE:

1. ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF NOT LESS THAN 3000 PSI IN 28 DAYS.

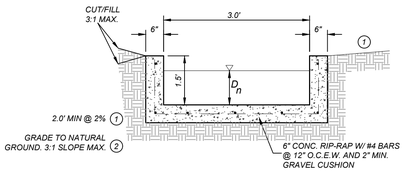
2. ANY DISTURBED AREAS WILL BE VEGETATED BY SEEDING OR SODDING. EIGHTY-FIVE PERCENT OF THE DISTURBED SURFACE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT.

TRENCH EXCAVATION SAFETY PROTECTION

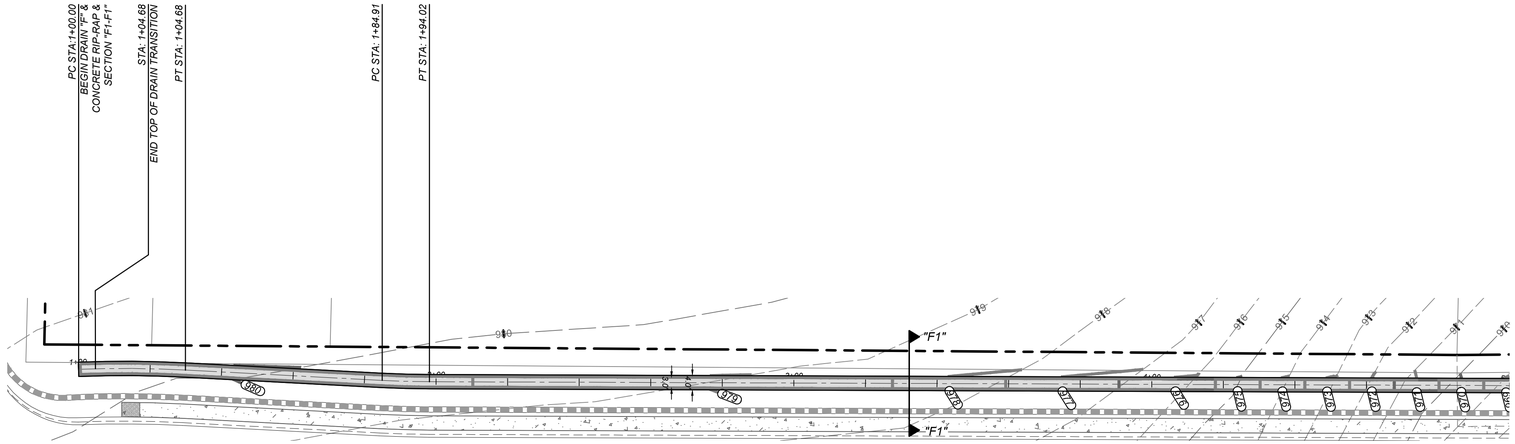
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES 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.

CAUTION!!:

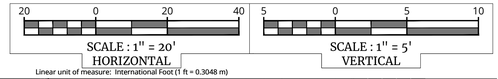
THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS 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.

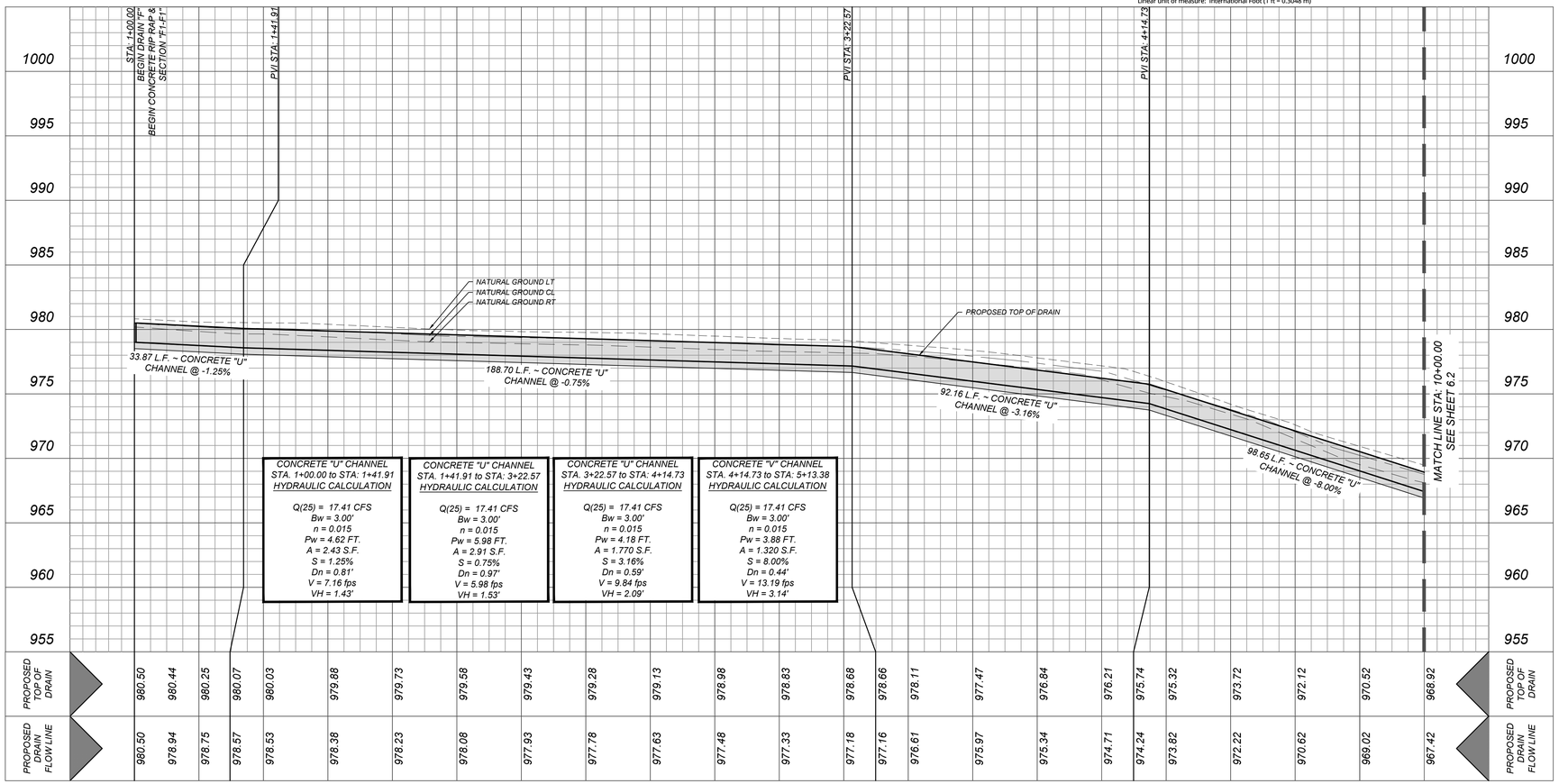


SECTION "F1-F1"
STA: 1+00.00 - STA: 5+45.07
N.T.S.



DRAIN "F"
STA. 1+00.00 TO 5+00.00





Colliers Engineering & Design
www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design. All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 · TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

PROJECT NUMBER: 1065-13-03
DRAWING NAME: DR1065130 3.DR F REV

SHEET TITLE:
DRAIN "F" PLAN & PROFILE (SHEET 1 OF 2)

SHEET NUMBER: 6.6

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

Civil3D Land\DR1065130 3.DR F Rev.dwg\6.6 DRAIN "F" PLAN & PROFILE (SHEET 1 OF 2) By: ABROWNE

NOTE:

1. ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF NOT LESS THAN 3000 PSI IN 28 DAYS.

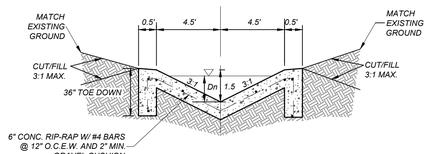
2. ANY DISTURBED AREAS WILL BE VEGETATED BY SEEDING OR SODDING. EIGHTY-FIVE PERCENT OF THE DISTURBED SURFACE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT.

TRENCH EXCAVATION SAFETY PROTECTION

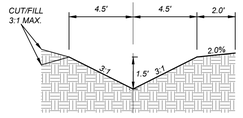
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES 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.

CAUTION!!:

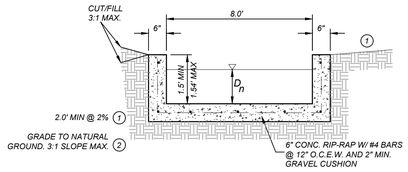
THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS 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.



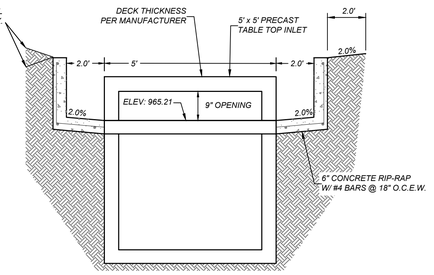
SECTION "F3-F3"
STA. 5+64.07
N.T.S.



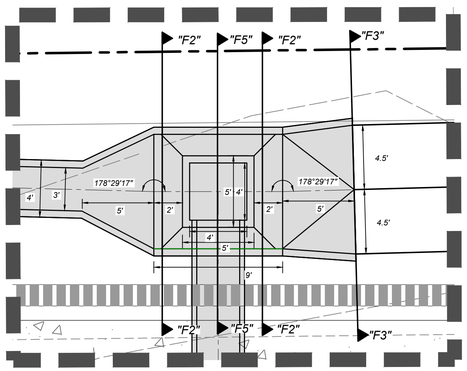
SECTION "F4-F4"
STA: 5+64.07 - 7+67.18
N.T.S.



SECTION "F2-F2"
STA: 5+50.07 - STA: 5+52.07
STA: 5+57.07 - STA: 5+59.07
N.T.S.



DETAIL "F5-F5"
STA: 5+52.07-5+57.07
NOT-TO-SCALE



DETAIL "F"
SCALE: 1"=5'

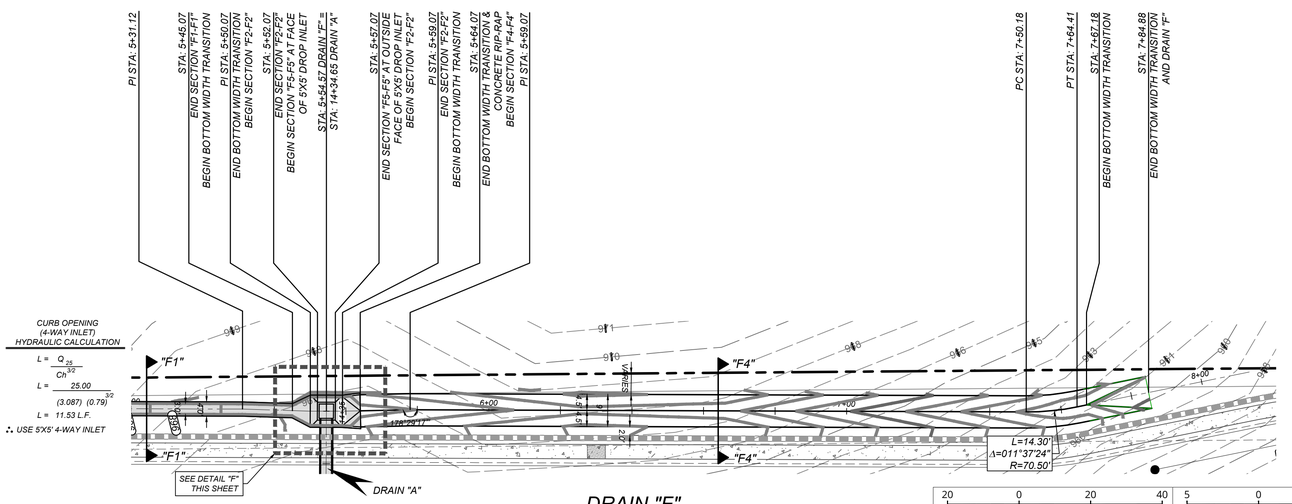
CURB OPENING (4-WAY INLET) HYDRAULIC CALCULATION

$L = \frac{Q_{25}}{Ch^{3/2}}$

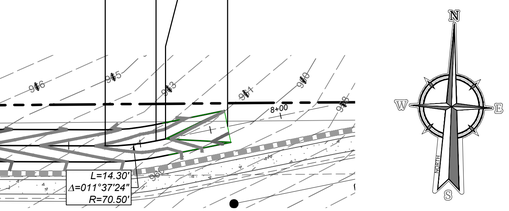
$L = \frac{25.00}{(3.087)\ (0.79)^{3/2}}$

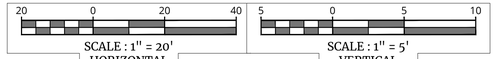
L = 11.53 L.F.

∴ USE 5'X5' 4-WAY INLET



DRAIN "F"
STA. 5+00.00 TO END





Linear unit of measure: International Foot (1 ft = 0.3048 m)

Colliers Engineering & Design
www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW ENGINEERS & SURVEYING

PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 - TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

PROJECT NUMBER: 1065-13-03
DRAWING NAME: DR10651303.DR F REV

SHEET TITLE:
DRAIN "F" PLAN & PROFILE (SHEET 2 OF 2)

SHEET NUMBER:
6.7

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

CivilDocs/dms/DR10651303.DR F Rev.dwg(6.7 DRAIN "F" PLAN & PROFILE SHEET 2 OF 2) By: ABROWNE

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 SITES 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.

COMPACTION 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 TESTS 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. PERMITS AND/OR WILL NOT BE ACCEPTED AND FINALIZED BY SAWS WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.

DRY UTILITY CONDUIT NOTE:

CONDUIT LOCATIONS SHOWN ON PLAN ARE FOR GEOGRAPHICAL PURPOSES ONLY AND ARE APPROXIMATE. CONTRACTOR TO INSTALL PROPOSED CONDUITS IN ACCORDANCE WITH DRY UTILITY PURVEYOR'S SPECIFICATIONS. CONTRACTOR TO VERIFY THE CONDUIT LOCATIONS AND SIZES BASED ON THE DRY UTILITY PURVEYOR'S PLAN.

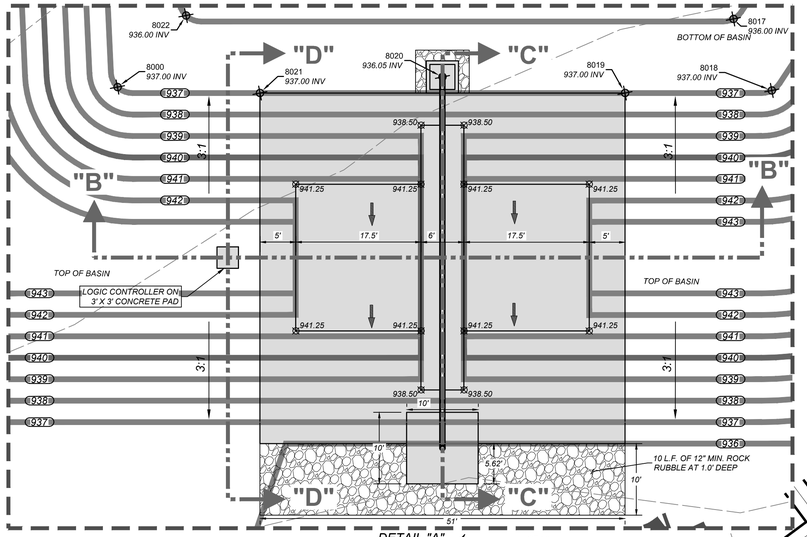
CAUTION!!:
THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS 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.

NOTE:

1. ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF NOT LESS THAN 3000 PSI IN 28 DAYS.
2. ANY DISTURBED AREAS WILL BE VEGETATED BY SEEDING OR SODDING. EIGHTY-FIVE PERCENT OF THE DISTURBED SURFACE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT.
3. ALL EARTHEN CHANNELS MUST NOT EXCEED 3:1 SIDE SLOPES (MAX).

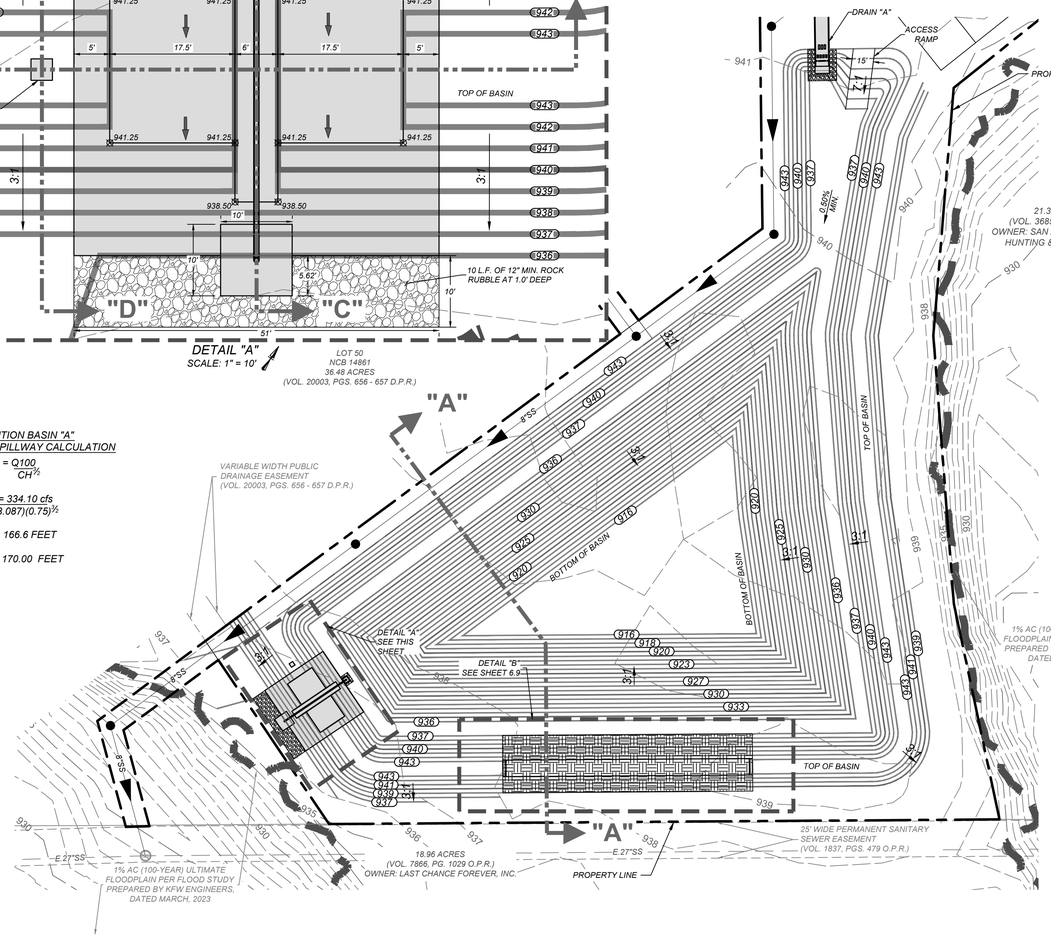
Point Table

Point #	Elevation	Northing	Easting
8000	937.00	13756525.78	2087875.47
8001	937.00	13756788.37	2088224.78
8002	937.00	13756911.52	2088225.64
8003	937.00	13756911.67	2088238.37
8004	937.00	13756887.82	2088251.11
8005	937.00	13756887.99	2088266.25
8006	936.00	13756776.25	2088232.24
8007	937.00	13756731.16	2088236.94
8008	936.00	13756731.62	2088226.95
8009	936.00	13756611.94	2088235.84
8010	937.00	13756613.06	2088245.78
8011	916.00	13756659.30	2088171.98
8012	916.00	13756521.19	2088188.60
8013	916.00	13756519.77	2087983.57
8014	916.00	13756605.23	2088176.22
8015	936.00	13756461.67	2088258.08



DETAIL "A"
SCALE: 1" = 10'

LOT 50
NCB 14861
36.48 ACRES
(VOL. 20003, PGS. 656 - 657 D.P.R.)



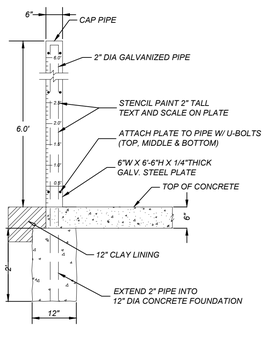
DETENTION BASIN "A" EMERGENCY SPILLWAY CALCULATION

$L = \frac{Q100}{CH^{1/2}}$

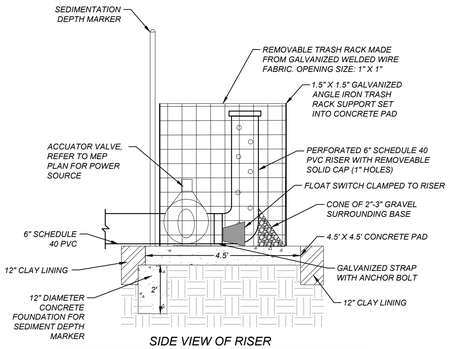
$L = \frac{334.10 \text{ cfs}}{(3.087)(0.75)^{1/2}}$

$L_{REQ.} = 166.6$ FEET

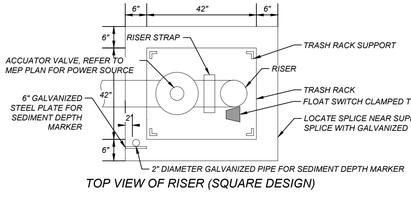
$L_{USED} = 170.00$ FEET



SEDIMENT DEPTH MARKER
NOT TO SCALE

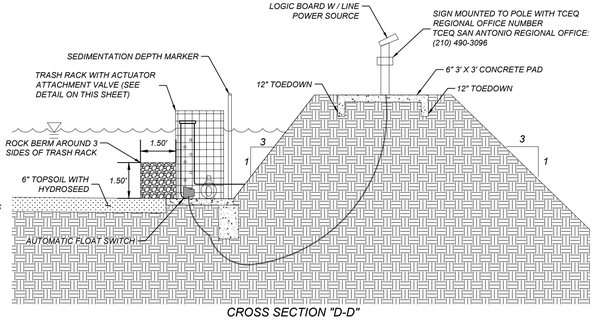


SIDE VIEW OF RISER
NOT-TO-SCALE

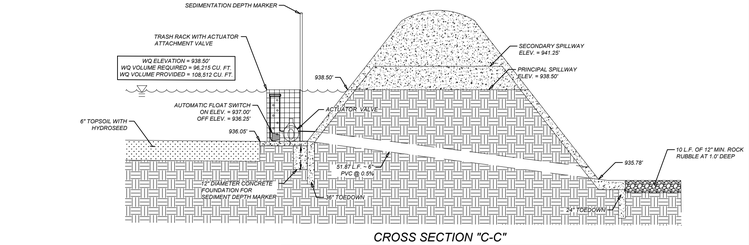


TOP VIEW OF RISER (SQUARE DESIGN)

RISER PIPE DETAIL
NOT-TO-SCALE



CROSS SECTION "D-D"
NOT-TO-SCALE



CROSS SECTION "C-C"
NOT-TO-SCALE

LEGEND

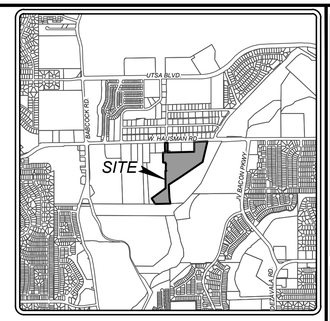
- FLOW ARROW
- 706 — EXISTING CONTOURS
- 707 — PROPOSED CONTOURS
- PROPERTY LINE
- POINT # 707.00 TOE — PROPOSED SPOT ELEVATION (TOE OF SLOPE)
- POINT # 707.00 INV — PROPOSED SPOT ELEVATION (INVERT OF CHANNEL)

SEQUENCE OF OPERATION:

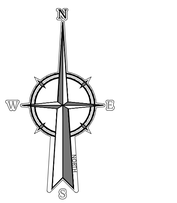
1. UPON ACTIVATION OF FLOAT SWITCH, DDC CONTROLLER TO START DETENTION TIMER #1.
2. DETENTION TIMER #1 TO BE MANUALLY SET TO 12 HOURS AND TO BE USER ADJUSTABLE VALUE.
3. WHEN DETENTION TIMER #1 HAS ELAPSED, A 6" BUTTERFLY VALVE IS TO OPEN AND RELEASE DETAINED WATER IN BASIN.
4. UPON DEACTIVATION OF FLOAT SWITCH, DDC CONTROLLER TO START DETENTION TIMER #2.
5. DETENTION TIMER #2 TO BE MANUALLY SET TO 2 HOURS AND TO BE USER ADJUSTABLE.
6. WHEN DETENTION TIMER #2 HAS ELAPSED, THE 6" BUTTERFLY VALVE IS TO CLOSE.
7. VALVE TO BE ACTUATED PERIODICALLY TO SHOW ACTIVE REGARDLESS OF FLOAT SWITCH OPERATION.

PROPOSED DISCHARGE								
Q5	=	57.40	WSEL5	=	940.90	VEL5	=	3.99
Q25	=	111.80	WSEL25	=	941.7	VEL25	=	3.20
Q100	=	181.60	WSEL100	=	942.1	VEL100	=	3.54

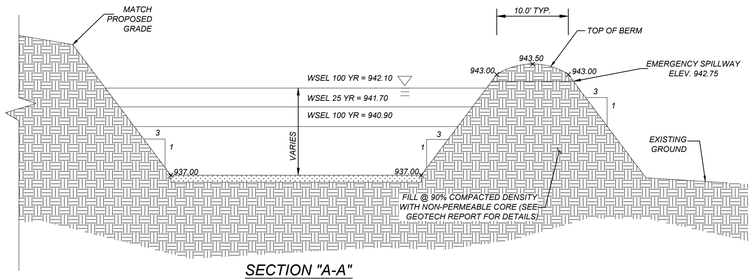
STAGE(FT)	STORAGE (SQFT)	ELEVATION	DISCHARGE (CFS)
0	0	936.00	0.00
0.05	0	936.05	0.00
1.00	81,541	937.00	0.00
2.00	86,143	938.00	0.00
3.00	90,844	939.00	6.30
4.00	95,643	940.00	30.00
5.00	100,526	941.00	62.50
6.00	105,516	942.00	167.40
6.10	105,599	942.10	181.60



LOCATION MAP
NOT-TO-SCALE

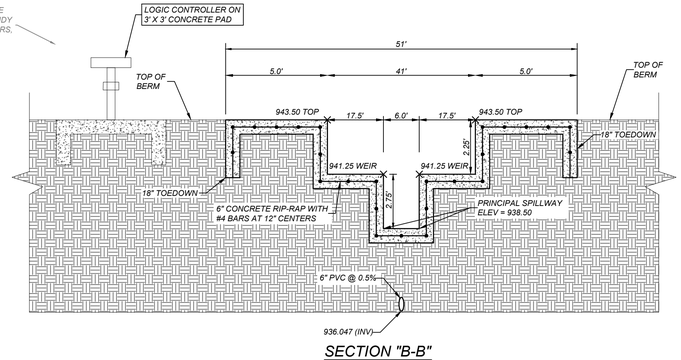


50 0 50 100
SCALE : 1" = 50'
Linear unit of measure: International Foot (1 ft = 0.3048 m)



SECTION "A-A"
NOT-TO-SCALE

1% AC (100-YEAR) ULTIMATE FLOODPLAIN PER FLOOD STUDY PREPARED BY KFW ENGINEERS, DATED MARCH, 2023



SECTION "B-B"
NOT-TO-SCALE

Colliers Engineering & Design
www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DESCRIPTION	DRAWN BY	DATE



CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 - TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

PROJECT NUMBER: 1065-13-03
DRAWING NAME: BA10651303

SHEET TITLE: DETENTION BASIN PLAN

SHEET NUMBER: 6.8

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

C:\KFD\Users\BA10651303.Beazer\6.4 DETENTION BASIN PLAN By: ABROWNE

Installation Guidelines for Landlok® 450

Turf Reinforcement Mat (TRM)

Thank you for purchasing the Landlok® 450 Turf Reinforcement Mat (TRM) by Propex Operating Company, LLC (Propex). This document provides installation and maintenance guidelines for Landlok 450 used as slope armoring to increase earthen slope resiliency. Landlok 450 provides permanent erosion protection on either the flood side and/ or protected side of an earthen slope.

Temporary securing pins (pins) are used during installation to hold Landlok 450 in place. Pins also promote vegetation establishment keeping Landlok 450 in intimate contact with the soil.

Landlok 450 is an engineered solution with a unique design for each specific project. While Propex has made every effort to ensure general validity, this information should not be used for a specific application without independent professional examination and verification of its suitability, applicability, and accuracy. The information provided herein is for general information only, and is intended to present installation guidance. Project specific contract documents take precedence when pin placements are different than what is represented in this document. Depending upon the critical nature of the structure to be armored, work restrictions may be in place such as limiting work based on growing seasons, weather patterns, etc. Work should be performed under the provisions set forth for the specific project. Propex Engineering Services is available for support during installation to consult for solving constructability issues encountered in specific applications. Please feel free to call our technical support hotline at (423) 553-2450.

BEFORE INSTALLATION BEGINS

- *Coordinate with a Propex Representative:* A pre-construction meeting is suggested with the construction team and a representative from Propex. This meeting should be scheduled by the contractor with at least a two week notice.
- *Gather the Tools Needed:* Tools that you will need to install Landlok 450 include a pair of industrial shears to cut Landlok 450, tape measure, and mallet or hammer.
- *Determine how to Establish Vegetation:* The method of vegetation establishment should be determined prior to the start of installation. Different vegetation establishment methods require different orders of installation. Refer to *Establish Vegetation* for further guidance.

PREPARE THE SITE

It is recommended during all stages of site preparation that disturbed soils remain unprotected for not more than a single day. Depending on project size this may require progressive site preparation during installation.

1. Grade and compact the area on the slope where Landlok 450 will be installed. The slope surface should be uniform and smooth, having all rocks, clods, vegetation or other objects removed so that during *Landlok 450 Laydown*, Landlok 450 comes in direct, intimate contact with the slope surface.
2. Prepare the area to be armored with Landlok 450 by loosening the topsoil to promote better vegetation establishment. This may be accomplished with a rotary tiller on slopes 3:1 or flatter. For slopes greater than 3:1, prepare topsoil in a safe manner.
3. Excavate a Crest of Slope (COS) trench 12 in x 12 in (300 mm x 300 mm) minimum at a distance of 3 ft (900 mm) from the crest of the slope. (Figure 1).

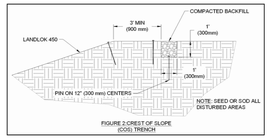


Figure 1: Crest of Slope (COS) Trench

4. Excavate a Toe of Slope (TOS) trench 12 in x 12 in (300 mm x 300 mm) minimum at a minimum distance of 5 ft (1.5 m) from the toe of the slope. (Figure 2)
5. If seeding, refer to *Vegetation Establishment* for additional considerations during site preparation.

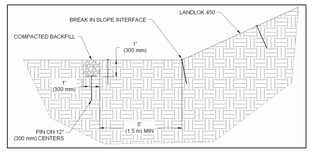


Figure 2: Toe of Slope (TOS) Trench

LANDLOK 450 LAYDOWN

1. Begin the Landlok 450 laydown process by starting with the downstream / downwind end of the site. To ensure proper pining of the overlapped areas the proceeding roll width must be laid out before the current roll width can be pinned with exception to the final roll width. For straight sections of a slope, Landlok 450 panel lengths should be long enough to construct COS and TOS trenches while also covering the surface of the slope being armored (Figure 12). Panel edges should rest approximately perpendicular to the slope center line. For best results, panels of Landlok 450 should be continuous and free from seams or roll end overlaps that are parallel to the centerline of the slope. Panel edge overlapping should follow a pattern of placing each proceeding panel's edge overtop the previous panel edge, shingling the panels in the direction of the water flow or prevailing wind.
2. Starting at the COS trench, lay Landlok 450 roll so that the roll ends point towards the crest of the slope (Figure 3), with a 3 inch (75 mm) overlap created at adjacent panel edge locations. Ensure that adjacent panel edges maintain a minimum 3 inch overlap during *Landlok 450 laydown.* (Figure 8)

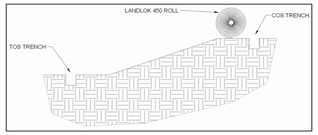


Figure 3: Crest of Slope (COS) Trench Alignment

3. Secure Landlok 450 with pins in the COS trench. Pins should be made of steel with a 0.20 in (5 mm) minimum diameter, having a 1.5 in (38mm) diameter washer at the head, and a length between 12 and 24 in (300-600 mm) with sufficient ground penetration to resist pullout (Figure 4). Longer pins may be required for looser soils. Heavier metal stakes may be required in rocky soils. Suggested placement of pins for the COS trench is along the bottom of the trench with pins on 12 in (300 mm) centers. Pins should also be installed on panel edge overlaps in the COS trench.

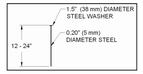


Figure 4: Securing Pin

4. Backfill and compact the COS trench in the location of the first Landlok 450 panel only (Figure 5).

- For slope lengths greater than 45 ft (13.7 m), install simulated check slots. This method includes placing two rows of pins 12 in (300 mm) apart on 12 in (300 mm) centers at 45 ft (13.7 m) maximum intervals or across the midpoint of the slope for slope lengths less than 60 ft (18.2 m) (Figure 10).
- At the break in slope interface towards the TOS, it is suggested that pins be installed on 4 ft (1.2 m) centers (Figure 11).

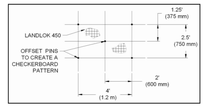


Figure 7: Example Pin Pattern

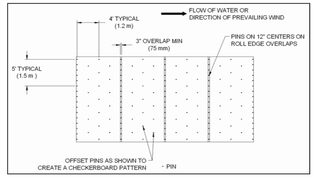


Figure 8: Example of Panel Overlap

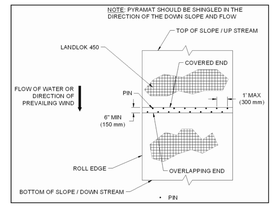


Figure 9: Roll End Overlap

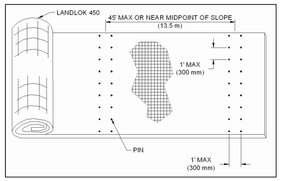


Figure 10: Simulated Check Slot

Figure 11: Break in Slope Interface

7. Secure Landlok 450 with pins in the TOS trench. Suggested placement of pins for the TOS trench is along the bottom of the trench with pins on 12 in (300 mm) centers (Figure 12).

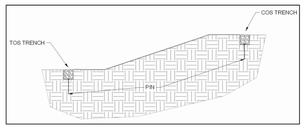


Figure 12: Crest of Slope (COS) Trench and Toe of Slope (TOS) Trench Complete

8. Backfill and compact the TOS trench. (Figure 12)
9. Continue to work down the length of the slope by repeating steps 1 through 8 overlapping each adjacent Landlok 450 panel by 3 inches (75 mm) (Figure 8). The last Landlok 450 panel should terminate on the Slope Armoring Edge (SAE) with pins on 12 in (300 mm) centers. At a minimum, Landlok 450 panels should be pinned entirely across the slope surface, pins should be installed in the trenches, and the trenches should be backfilled and compacted at the end of each day to minimize rework in the case of a major rain event. Specific project conditions may warrant further evaluation of installation order for ease.

An example isometric view (Figure 13) of a slope armored with Landlok 450 can be seen below for overall reference. Consult Propex Engineering Services at (423) 553-2450 with any questions that you may have.

Figure 13: Completed Slope Isometric View

ESTABLISH VEGETATION

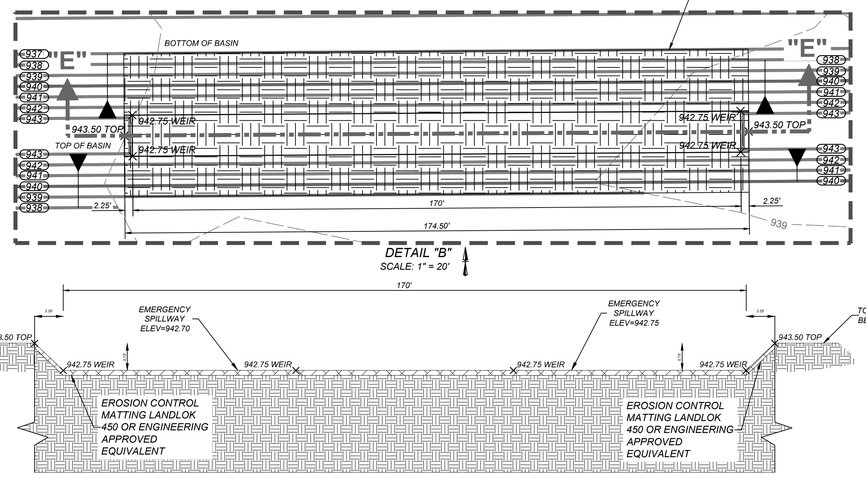
Vegetation can be established with Landlok 450 by broadcast seeding, hydraulic seed application (hydroseeding), or sodding. Seed application rate, seed type, sod type, and irrigation rate should be selected based on local or site specific knowledge and time of year. For best results, consider having a site specific soil test performed to help determine what soil amendments, such as lime and fertilizer, need to be incorporated into the soil to promote healthy vegetation.

WITH SEED

1. Determine the seed location. Seed can be placed entirely on top of soil filled Landlok 450, or alternatively 50% below Landlok 450 prior to pinning, with the remainder placed on top of soil filled Landlok 450. If a rain event occurs prior to vegetation establishment, having 50% of the seed below Landlok 450 ensures that some seed remains in place. Seed placed entirely on top of soil filled Landlok 450 will allow for faster vegetation establishment.
2. If seeding below Landlok 450, ensure 50% of the seed is placed prior to the installation of Landlok 450.
3. Once Landlok 450 is in place, distribute soil on top by filling the pyramid like projections of Landlok 450. The proper amount can be visually measured by making the top ridges of the pyramid projections barely visible, or is approximately 1 inch thick when measured. Soil filling can be accomplished manually or by using a small piece of equipment. Do not place excessive soil above Landlok 450. See *Consider Project Specific Needs* for guidance on driving equipment across Landlok 450.
4. After seed has been placed, for added protection, install a Landlok Erosion Control Blanket (ECB) above the soil-filled Landlok 450.
5. Irrigate as necessary to establish and maintain vegetation until 75% of vegetation has established and has reached a height of 2 inches. Frequent, light irrigation will need to be applied to seeded areas if natural rain events have not occurred within two weeks of seeding. When watering seeded areas, use a fine spray to prevent erosion of seeds or soil. Do not over irrigate. Proper irrigation guidance is provided under the Maintenance portion of this document.

WITH SOD

1. Sod will be always placed on top of Landlok 450.
2. Sod staples should be used to secure the sod against Landlok 450. During the placement of the sod, ensure that Landlok 450 is 100% covered by tightly adjoining rolls or squares of sod along edges. Any voids in between sod pieces should be filled with clean loose soil.
3. Irrigate as necessary. Proper irrigation guidance is provided under the Maintenance portion of this document.
4. Monitor to identify areas where browned/dead sod emerges. These areas may need to be addressed to ensure proper sod establishment.



CONSIDER PROJECT SPECIFIC NEEDS

1. For applications that require special transitions (i.e. connections to riprap, concrete, T-walls, etc.), refer to the project specific drawings or consult with Propex Engineering Services at (423) 553-2450.
2. A deeper terminal trench and/or hard armoring may be required when slopes have severe scour potential at the toe location.
3. For installing Landlok 450 panels around curved sections of a slope, trim panels at an angle so that no more than two layers of Landlok 450 overlap at any point in time. Additional pins may be needed to secure panel edges towards the toe of the slope depending upon the radius of the curved slope. Install pins as necessary to securely fasten Landlok 450 to the ground.
4. Allowable Vehicle Traffic:
   A. If using equipment on Landlok 450, it should be of the rubber-tired type and should avoid sharp turns. Tracked equipment is not permitted to drive over the Landlok 450 without vegetation at any time.
   B. Avoid any traffic over Landlok 450 if loose or wet soil conditions exist.
5. Disturbed areas should be reseeded. If ruts or depressions develop for any reason, rework soil until smooth and reseed such areas.
6. Do not mulch areas where Landlok 450 is to be placed.

SHORT-TERM AND LONG-TERM MAINTENANCE OF LANDLOK 450

The purpose of this section is to provide some general guidelines for performing short-term and long-term maintenance of Landlok 450 with respect to maintaining vegetation reinforced with Landlok 450, and patching of Landlok 450 (in the event it needs to be removed or replaced). These procedures are to be considered minimum guidelines for proper maintenance, and further maintenance techniques may be appropriate considering local practices and procedures.

LANDLOK 450 PROTECTED SLOPES

For Landlok 450 to be most effective, it is important to ensure that it is properly maintained both during construction and after construction. Identifying trouble areas is easy with Landlok 450, and it can make identifying potential threats much simpler and manageable. Look for areas with sparse, dying, or no vegetation as these are obvious signs that Landlok 450 is losing intimate contact with the slope surface. If loss of ground surface occurs, Landlok 450 will need to be removed and reinstalled as described in *Patching and Repairs* Section after the eroded area is backfilled with compacted soil that is similar to material of the slope. After Landlok 450 is reinstalled, re-establish vegetation on the newly installed Landlok 450 and disturbed areas. Monitor the sites to determine if frequent watering may be required to establish vegetation.

To minimize exposure to unwanted maintenance and repair, Landlok 450 armored slopes should be free of unauthorized vehicular traffic. Routine maintenance and slope inspections should be performed with rubber tired vehicles. Tracked equipment such as skid steers, excavators, or dozers should only be allowed to traffic over Landlok 450 in times of emergency after vegetation establishment is complete. Failure to control unauthorized traffic can result in Landlok 450 being damaged resulting in erosion below Landlok 450 during storm events. In addition, routine mowing maintenance should be used to keep the protected area free of unwanted brush, saplings, and trees. Selective herbicides that target only the unwanted plants can be used as long as the vegetation established with Landlok 450 is not impaired. Failure to control the sapling and tree growth can result in the trees being uprooted during a flood.

MAINTAINING VEGETATION

Good vegetative cover will ensure maximum performance of Landlok 450. Vegetative cover care starts before a project is complete and is ongoing until all Landlok 450 is installed. Vegetative cover should be given every opportunity to grow and establish well. This will require that a contractor periodically fertilize, water, and mow the grasses as needed until a project is complete in the short-term, with the owner of the slope fulfilling the maintenance of the slope in a similar fashion for the long-term. For the entire lifecycle of Landlok 450, every effort must be made to prevent unauthorized encroachments, grazing, vehicle traffic, the misuse of chemicals, or burning during inappropriate seasons.

1. After the installation of vegetation is complete, immediately water and soak the entire area using a fine spray to prevent erosion and loss of seeds. A suggested amount of water is identified below. Prior to installation if using sod, the sod pads in storage should be kept moist at all times and not stored for more than 24 hours from site arrival to installation. Warmer weather will necessitate more frequent applications than listed below.
   A. For each reach/segment of installed vegetation, watering shall be conducted immediately after each installation or the day's work.
   B. First 30 days, completed segments shall be watered daily with a minimum of 0.75 and a maximum of 1.0 inches per square foot per day (20,364 gallons minimum, 27,152 gallons maximum per acre per day).
   C. Second 30 days, the watering may be reduced to 0.50 inches per square foot per day (13,576 gallons maximum per acre per day) or as required based upon the condition of the sod.
   D. Avoid excessive application of water, so that surface runoff does not occur. Runoff should be prohibited. However, additional watering may be required for repaired or damaged areas.
4. Initial fertilizing should be applied 14 days after vegetation is placed, using 25-lbs per acre ammonium nitrate or ammonium sulfate. Post-fertilization should be conducted 30 to 45 days after installation, using an application rate of 25-lbs per acre (ammonium nitrate or ammonium sulfate). Application example: in order to apply ammonium nitrate or ammonium sulfate at a rate of 25-lbs per acre, 75 lbs of 33-0-0 is required.
5. Implement best practices for mowing over Landlok 450. While Landlok 450 is designed to withstand non-hydraulic stresses such as mowing, there are procedures to minimize exposure to unwanted damage.
   A. Immediately after installation, signage and post shall be installed stating that "Vehicles and Pedestrians are Prohibited from Access" on the slopes and the newly installed vegetation. Signage shall be posted every 1,500 lineal feet.
   B. Vegetated areas should be mowed to a height no less than 6 inches and no greater than 12 inches from natural ground after a period of 60 days of growth. The excessive grass clippings created from mowing shall be evenly spread on the slope section outside of the armored area. Periodic and final grass mowing should be performed until final inspection and acceptance of slope work. Monitor the vegetated areas throughout winter months and generate reports as needed, noting any issues that should be addressed.
   C. To prevent damage to the newly established vegetation, the mowing tractor should be fitted with 3-rib agriculture tires. Note that tractors with 8-foot flail mowers provide best results. Tractors with 15-foot brush hogs should avoid sharp turns up the slope to prevent damage to vegetation.
   D. Mowing should not take place for a minimum of 48 hours after a rainfall event of 2 inches or more to minimize the potential for rutting and/or damage to the slope surface. Maintenance mowing of the slope should be done on a consistent basis to prevent vegetation growing to more than 3 feet in height. This will minimize thatch thickness and potential damage to Landlok 450. If turn-around pads are present, operate mowing equipment utilizing the turn-around pads to the fullest extent. The mowing blade height over Landlok 450 should be a minimum of 8 inches. However, should vegetation grow to more than 3 feet in height, the mowing blade height for the condition should be a minimum of 12 inches.
6. Some special circumstances may exist. When mowing the crown of a slope with a crown or crest equal to or exceeding 20%, it should be mowed with articulating arm mower to minimize the potential for the mower blades to catch Landlok 450 at the slope surface. The articulating arm mower should be level on the surface with the articulating arm extending over the crown. **Pay close attention to areas where the slope changes.** The mower blades should be set at a minimum height of 8 inches. If Landlok 450 is damaged by the mowing blades at any time, mowing should stop immediately and further direction should be obtained to continue activity. Repair the damaged area as described in the *Patching and Repairs* section below.
7. Landlok 450 protected slopes are not as susceptible to animal burrowing due the tenacity of the Landlok 450; however, inspections to detect the presence of burrowing animal activity are generally most effective immediately after the slope has been mowed. Animal burrows that are identified should be thoroughly excavated and inspected, backfilled with compacted soil that is similar to material of the slope, and vegetation re-established. This will avoid the possibility of water piping through unfilled portions of the burrows. Should Landlok 450 be damaged, it is to be repaired as described *Patching and Repairs* section below.

PATCHING AND REPAIRS

Landlok 450 may require localized repair at times. For emergency repairs, an adequate supply of Landlok 450 should be maintained in inventory with the necessary tools to install. This will allow for a timely, instant repair of the system.

1. In order to identify areas in need of repair, the site should be patrolled immediately after mowing and after rain events of 2 inches or more. When patrolling look for areas of sparse vegetation, exposed edges of Landlok 450, and areas where direct contact between Landlok 450 and the slope surface is compromised. Landlok 450 should be rated as *Acceptable*, *Minimally Acceptable*, or *Unacceptable* during inspection.
   A. *Acceptable (A)* - The rated area is in satisfactory, acceptable condition, and will function as designed and intended during the rain event. Landlok 450 has no exposed edges, is installed tightly by maintaining direct contact to the slope surface with no rilling beneath, and has over 90% vegetation cover. There is no noticeable damage present.
   B. *Minimally Acceptable (M)* - The rated area has a minor deficiency that needs to be corrected. The minor deficiency will not seriously impair the functioning of the area during the next rain event; however, the overall reliability of the project will be lowered because of the minor deficiency. Landlok 450 has 75% vegetation cover with unvegetated patches as large as one square yard. Edges of Landlok 450 are exposed with noticeable damage. Minimal erosion has occurred underneath Landlok 450.
   C. *Unacceptable (U)* - The rated area is unsatisfactory. The deficiency is so serious that the area will not adequately function in the next rain event. Landlok 450 has been physically torn, ripped, or lifted from the slope surface. Less than 75% vegetation cover is present with un-vegetated patches being greater than 1 square yard, and there is evidence that erosion is occurring beneath Landlok 450.
2. Repair any raised or exposed edges of Landlok 450 by driving existing and additional pins along the edges as necessary to securely fasten to the ground. Inspect areas where the vegetation is not growing on top of Landlok 450. Many times this is an indicator that Landlok 450 has lost contact with the ground beneath. Check for voids beneath Landlok 450 and fill any holes, gullies, etc. with compacted fill material if possible. Replace Landlok 450 as described below.
3. To repair Landlok 450, cut out and remove damaged areas in a square configuration a minimum size of 2 ft by 2 ft. Remove all vegetation and debris atop of Landlok 450. Loosen the top 1 to 2 in of soil in the patch area then seed. The subgrade of area to be patched shall be prepared to be smooth and uniform and transition smoothly into the in-situ area. Cut a square Landlok 450 patch a minimum of 12 in greater than the damaged area for all four sides of the patch. Overlap the patch area in all directions a minimum of 12 in. The patch overlaps shall be tucked under the existing damaged Landlok 450 material (Figure 14 and Figure 15)

Figure 14: Landlok 450 Patch Cross Section

Figure 15: Landlok 450 Patch Plan View

4. Install pins on 6 in (150 mm) (max) centers. For larger areas of damage, pins should be installed to match existing pin pattern. Once Landlok 450 is in place, vegetate per project specifications.

SUMMARY

Maintenance should consist of watering and weeding, repair of all erosion, and any re-seeding as necessary to establish a uniform stand of vegetation during construction and beyond. A minimum of 70% of the armored area should be covered with no bare or dead spots greater than 10 ft² (1 m²). Establishing vegetation should not be mowed prior to 70% vegetative density and a minimum grass growth of 4 in (100 mm). Throughout the duration of the project, the contractor should be responsible for mowing to facilitate growth and should not let the vegetation in the armored areas exceed 18 in (450 mm). In addition, the Contractor should water all grassed areas as often as necessary to establish satisfactory growth and to maintain its growth throughout the duration of the project. After the project is complete, it is the responsibility of the Owner to maintain and upkeep all Landlok 450 installed areas for long term performance and best results as described herein for superior slope armoring.

Propex simplifying complexity
1110 Market Street
Suite 300
Chattanooga, TN 37402
Ph: 423 899 0444
Ph: 800 821 1273
FAX: 423 899 5005
www.propexglobal.com

Colliers Engineering & Design
www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

811 PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS · CLAYTON J. LINNEY · 111543 · LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 - TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

PROJECT NUMBER:	DRAWING NAME:
1065-13-03	BA10651303

SHEET TITLE:
DETENTION BASIN DETAILS

SHEET NUMBER:
6.9

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

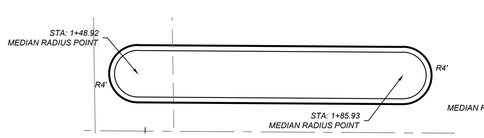
C:\Civil\Projects\BA10651303\Layout\6.9 DETENTION BASIN DETAILS By: ABBOVAYE

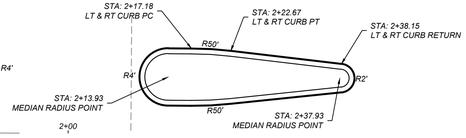
TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES 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.

CAUTION!!:

THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCT BANKS, 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 1-800-DIG-TESS 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.

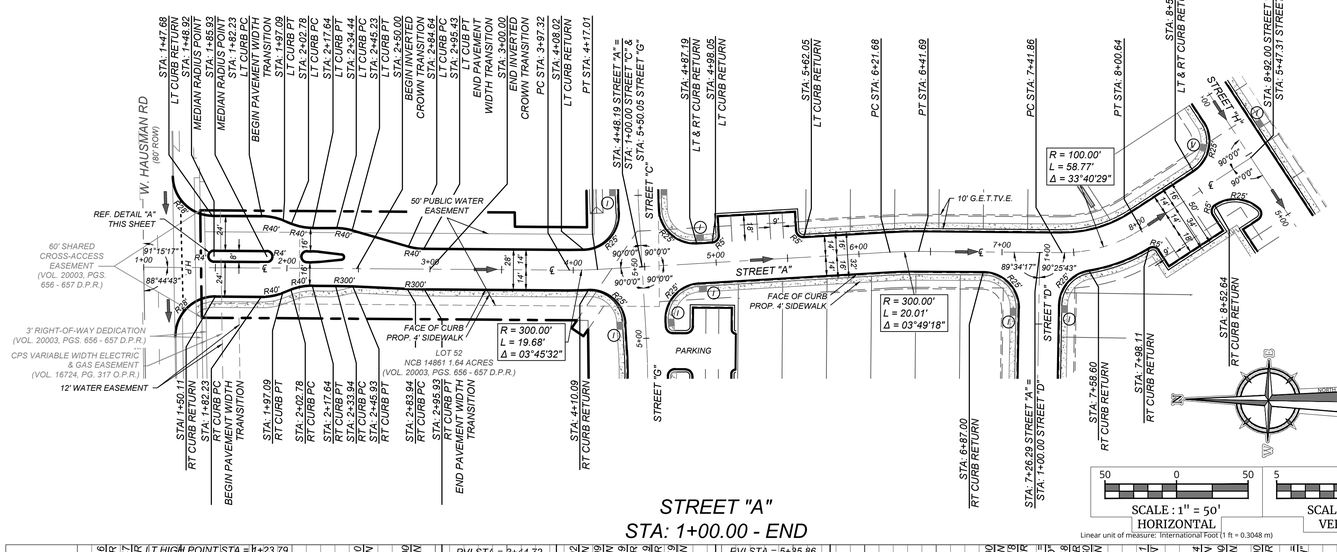




DETAIL "A"
SCALE: 1" = 10'

LEGEND

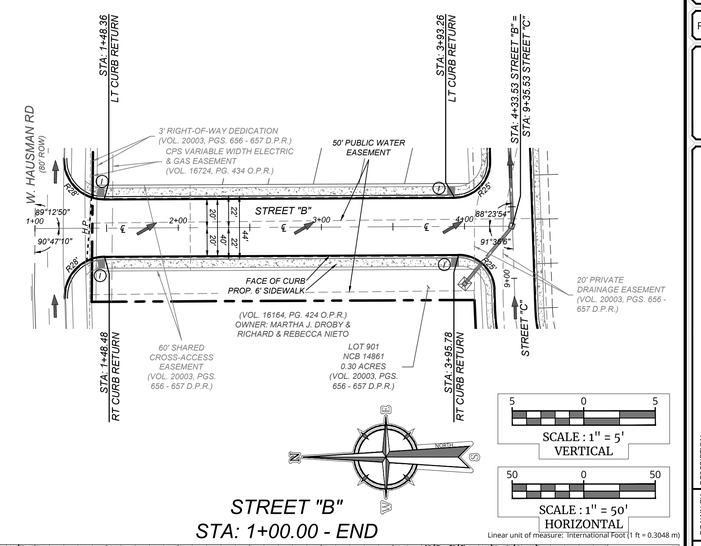
R.O.W.	= RIGHT OF WAY		= SIDEWALK TO BE BUILT AT THE TIME OF HOME CONSTRUCTION
G.E.T.TV.E.	= GAS, ELECTRIC, TELEPHONE & CABLE EASEMENT	H.P.	= HIGH POINT
	= FLOW ARROW	L.P.	= LOW POINT
(I)	= WHEELCHAIR RAMP TYPE I SEE SHEET 7.7	T/C	= TOP OF CURB
(II)	= WHEELCHAIR RAMP TYPE II SEE SHEET 7.7		
(V)	= WHEELCHAIR RAMP TYPE V SEE SHEET 7.7		



STREET "A"
STA: 1+00.00 - END

Linear unit of measure: International Foot (1 ft = 0.3048 m)

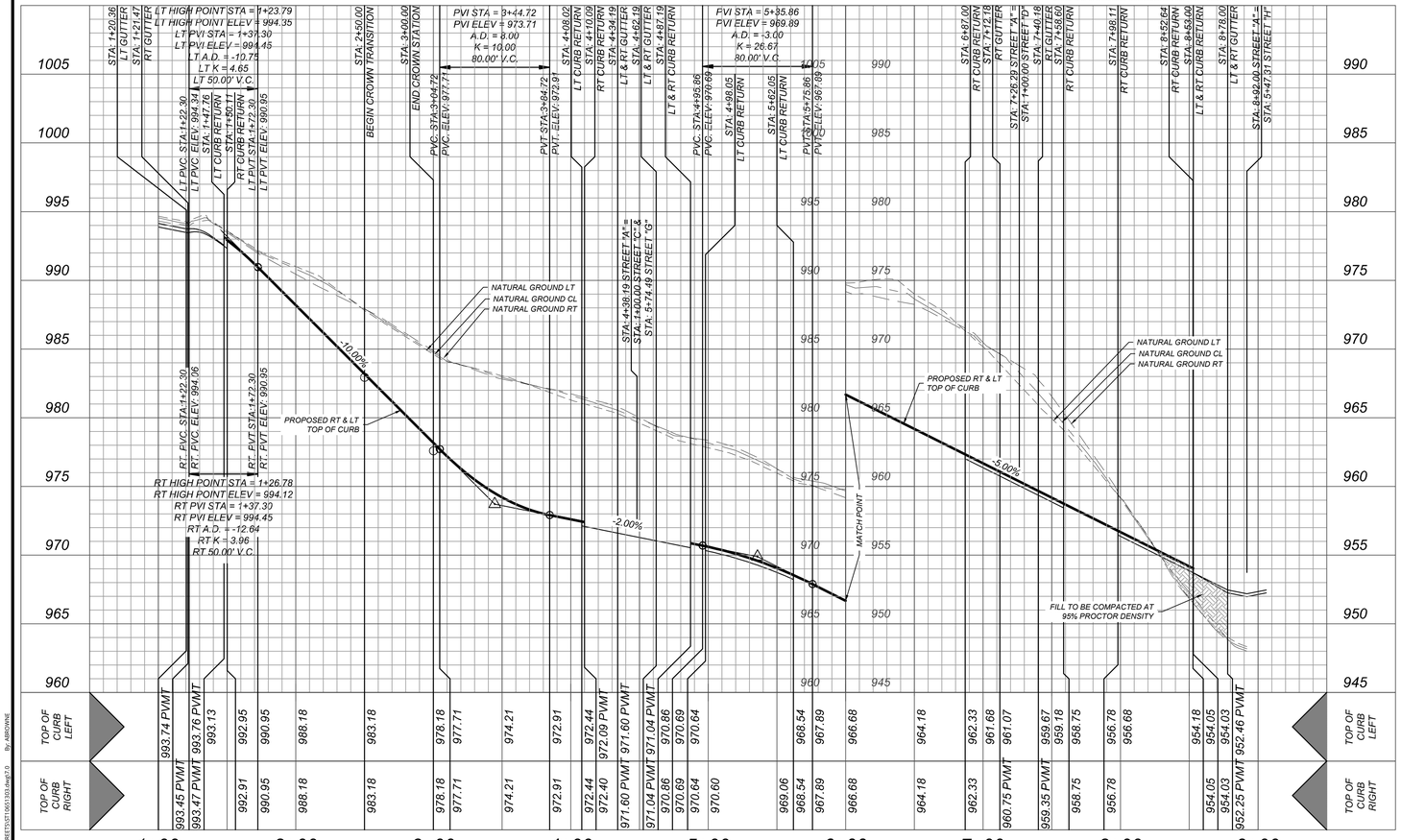
SCALE : 1" = 50' HORIZONTAL
SCALE : 1" = 5' VERTICAL

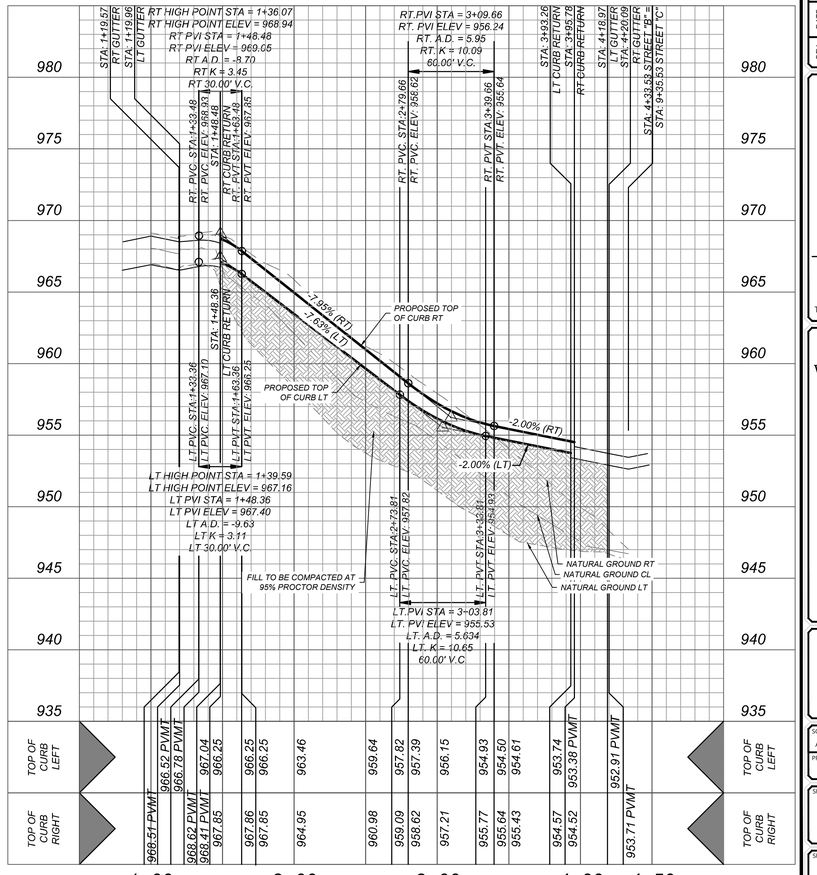


STREET "B"
STA: 1+00.00 - END

Linear unit of measure: International Foot (1 ft = 0.3048 m)

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





Colliers Engineering & Design

www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design. All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

811 PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DESCRIPTION	DRAWN BY

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 · TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

PROJECT NUMBER: 1065-13-03
DRAWING NAME: ST10651303

SHEET TITLE:
STREET "A" & STREET "B"
PLAN & PROFILE

SHEET NUMBER:
7.0

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

C:\vm\STREETS\ST10651303.dwg(7.0) By: JMBROWNE

TRENCH EXCAVATION SAFETY PROTECTION

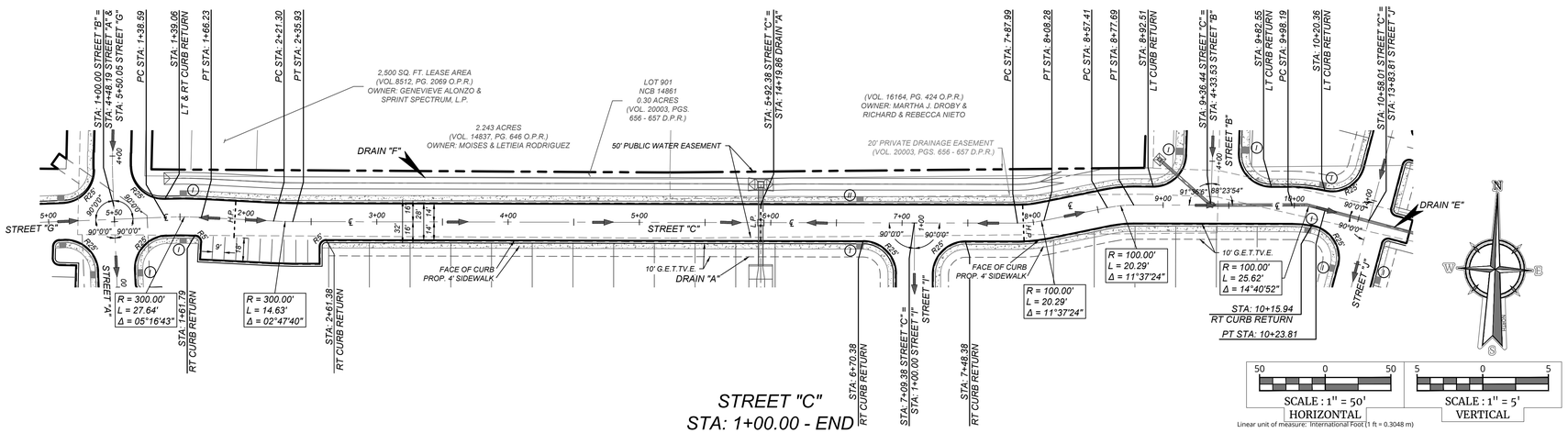
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES 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.

CAUTION!!:

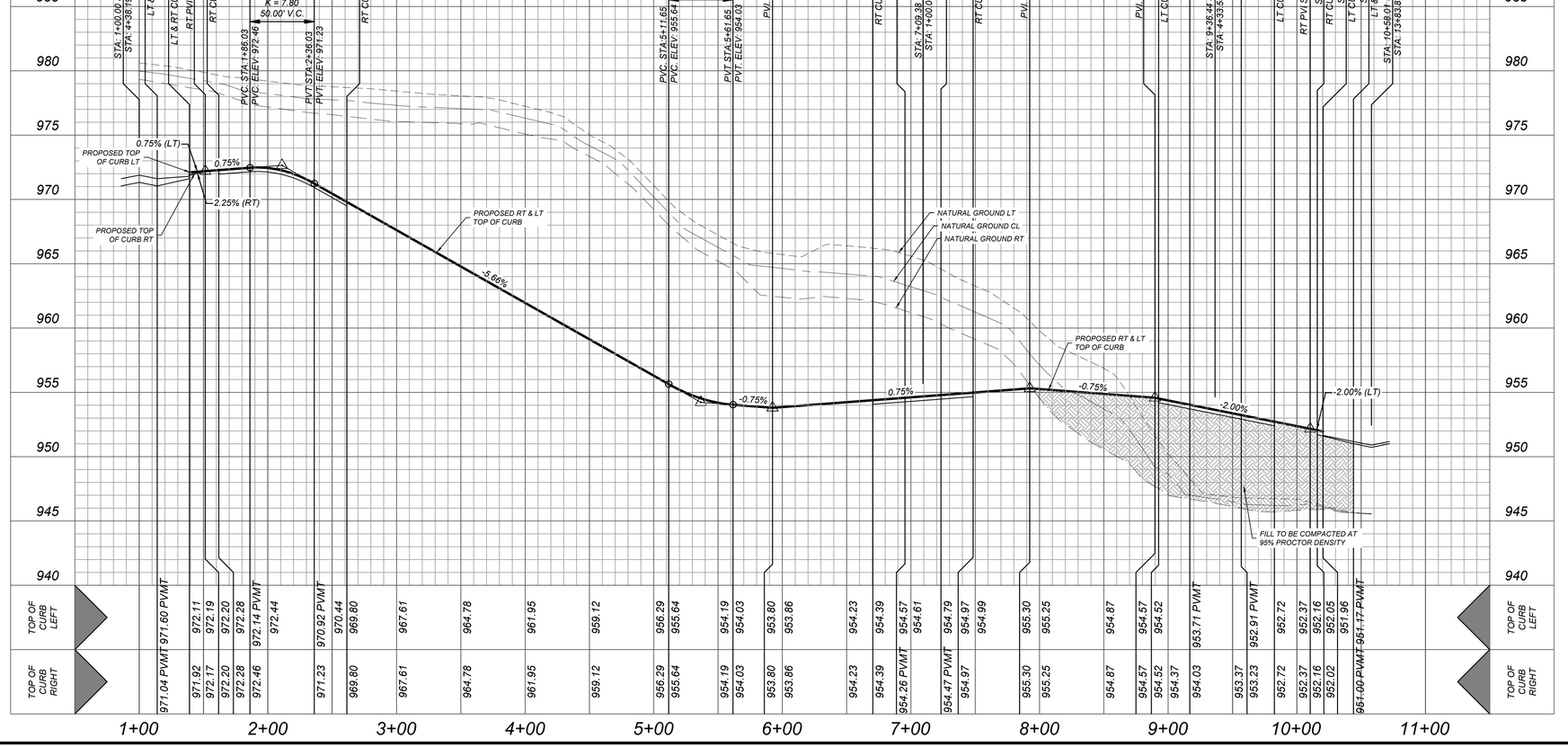
THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCT BANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS 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.

LEGEND

R.O.W.	=	RIGHT OF WAY
G.E.T.TV.E.	=	GAS, ELECTRIC, TELEPHONE & CABLE EASEMENT
→	=	FLOW ARROW
Ⓘ	=	WHEELCHAIR RAMP TYPE I SEE SHEET 7.7
Ⓘ	=	WHEELCHAIR RAMP TYPE II SEE SHEET 7.7
Ⓥ	=	WHEELCHAIR RAMP TYPE V SEE SHEET 7.7
	=	SIDEWALK TO BE BUILT AT THE TIME OF HOME CONSTRUCTION
H.P.	=	HIGH POINT
L.P.	=	LOW POINT
T/C	=	TOP OF CURB



STREET "C"
STA: 1+00.00 - END



Colliers Engineering & Design

www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design. All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE

FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 - TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

PROJECT NUMBER:	DRAWING NAME:
1065-13-03	ST10651303

SHEET TITLE:
STREET "C"
PLAN & PROFILE

SHEET NUMBER:
7.1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

CivilSTREETS\ST10651303.dwg[7.1 By: ABROWNE

TRENCH EXCAVATION SAFETY PROTECTION

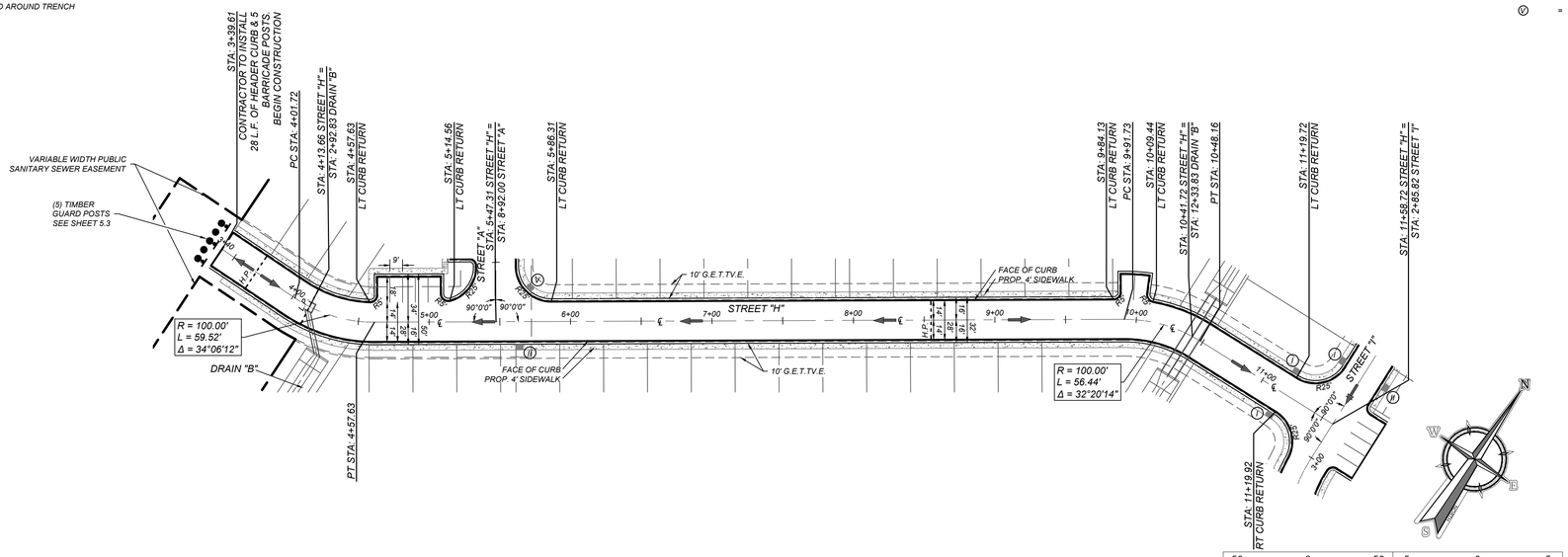
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES 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.

CAUTION!!:

THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCT BANKS, 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 1-800-DIG-TESS 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.

LEGEND

R.O.W.	=	RIGHT OF WAY
G.E.T.TV.E.	=	GAS, ELECTRIC, TELEPHONE & CABLE EASEMENT
	=	FLOW ARROW
Ⓘ	=	WHEELCHAIR RAMP TYPE I SEE SHEET 7.7
Ⓘ Ⓘ	=	WHEELCHAIR RAMP TYPE II SEE SHEET 7.7
Ⓥ	=	WHEELCHAIR RAMP TYPE V SEE SHEET 7.7
	=	SIDEWALK TO BE BUILT AT THE TIME OF HOME CONSTRUCTION
H.P.	=	HIGH POINT
L.P.	=	LOW POINT
T/C	=	TOP OF CURB

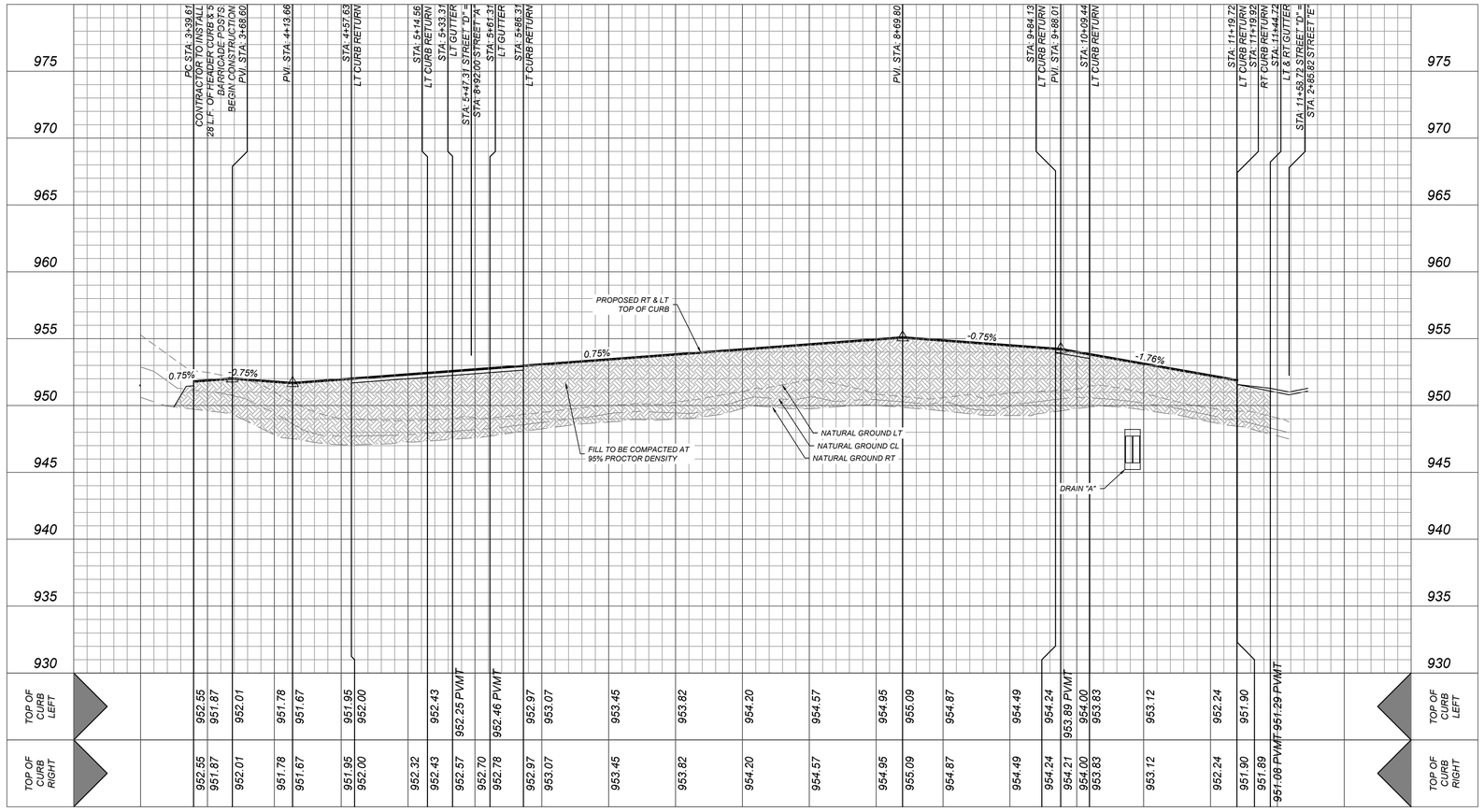


SCALE : 1" = 50' HORIZONTAL

SCALE : 1" = 5' VERTICAL

Linear unit of measure: International Foot (1 ft = 0.3048 m)

STREET "H"
STA: 4+39.38 - END



Colliers Engineering & Design

www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design. All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE

FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION
-	-	-	-

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 - TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

PROJECT NUMBER:	DRAWING NAME:
1065-13-03	ST10651303

SHEET TITLE:
STREET "H"
PLAN & PROFILE

SHEET NUMBER:
7.2

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

Civil\STREETS\ST10651303.dwg K7.2 By: ABROWNE

TRENCH EXCAVATION SAFETY PROTECTION

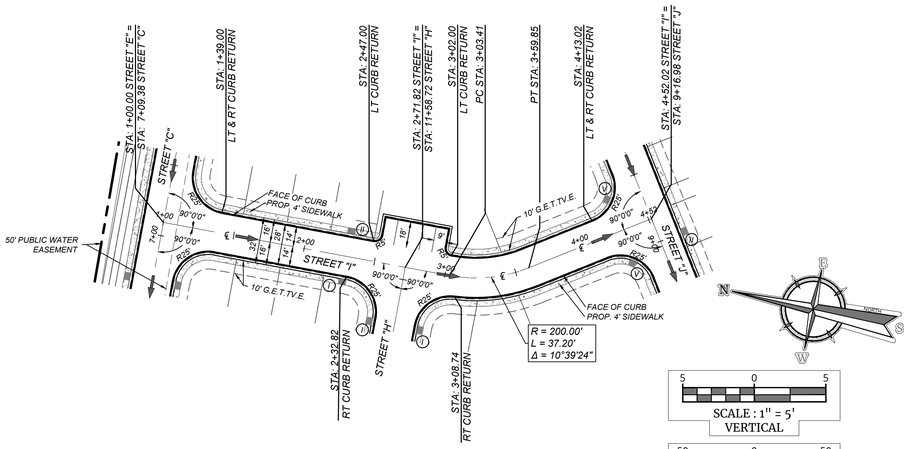
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES 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.

CAUTION!!:

THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCT BANKS, 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 1-800-DIG-TESS 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.

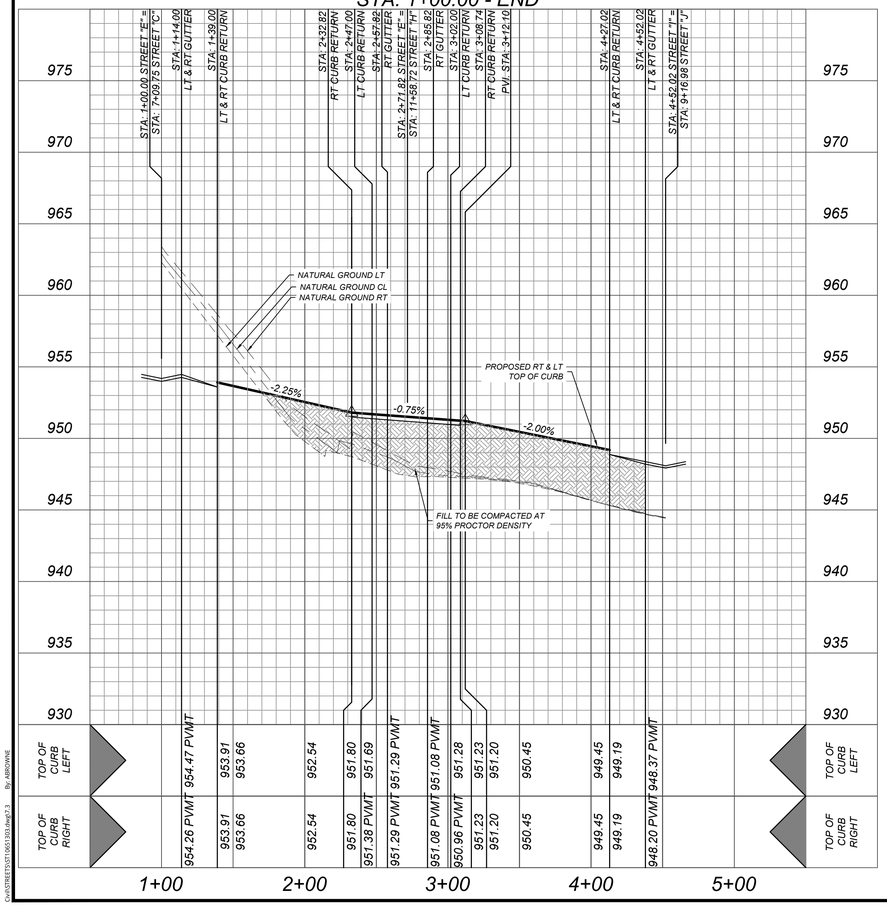
LEGEND

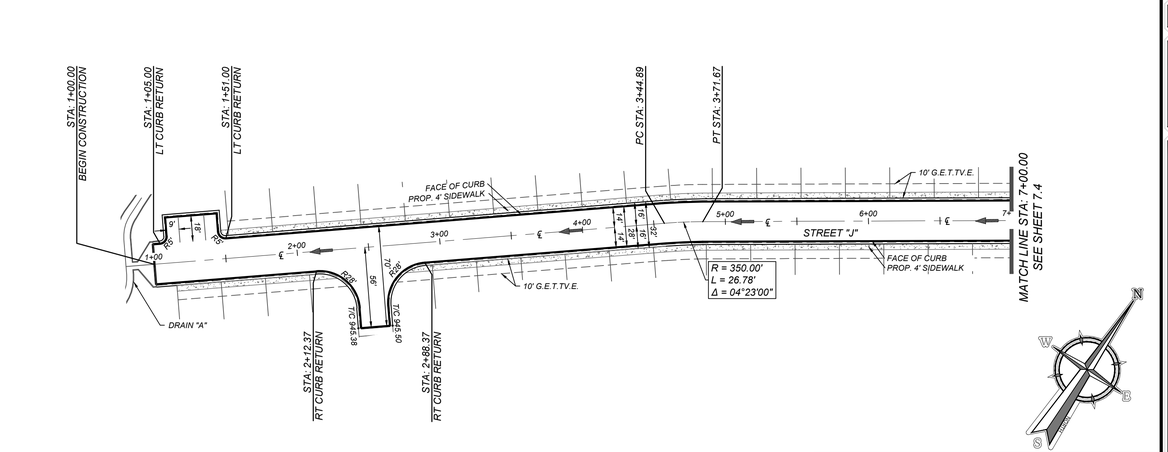
R.O.W.	=	RIGHT OF WAY
G.E.T.TV.E.	=	GAS, ELECTRIC, TELEPHONE & CABLE EASEMENT
	=	FLOW ARROW
(I)	=	WHEELCHAIR RAMP TYPE I SEE SHEET 7.7
(II)	=	WHEELCHAIR RAMP TYPE II SEE SHEET 7.7
(V)	=	WHEELCHAIR RAMP TYPE V SEE SHEET 7.7
	=	SIDEWALK TO BE BUILT AT THE TIME OF HOME CONSTRUCTION
H.P.	=	HIGH POINT
L.P.	=	LOW POINT
T/C	=	TOP OF CURB

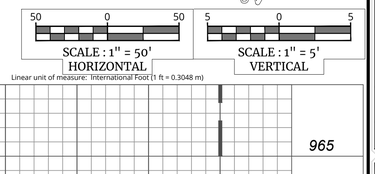


Linear unit of measure: International Foot (1 ft = 0.3048 m)

STREET "I"
STA: 1+00.00 - END

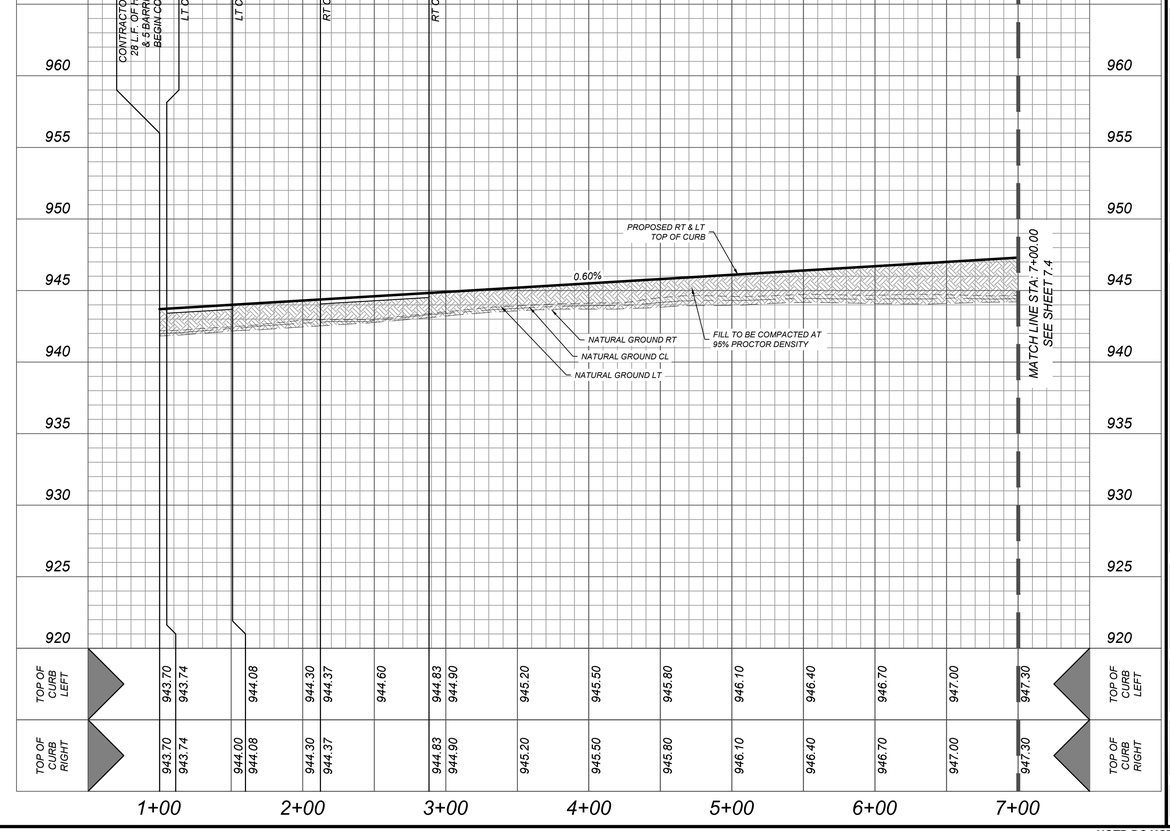






Linear unit of measure: International Foot (1 ft = 0.3048 m)

STREET "J"
STA: 1+00.00 - STA: 7+00.00



Colliers Engineering & Design

www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

811 PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 · TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

PROJECT NUMBER: 1065-13-03
DRAWING NAME: ST10651303

SHEET TITLE:
STREET "I" & STREET "J" (SHT 1 OF 2) PLAN & PROFILE

SHEET NUMBER: 7.3

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

By: ABROWNE
Civil\STREETS\ST10651303.dwg7.3

TRENCH EXCAVATION SAFETY PROTECTION

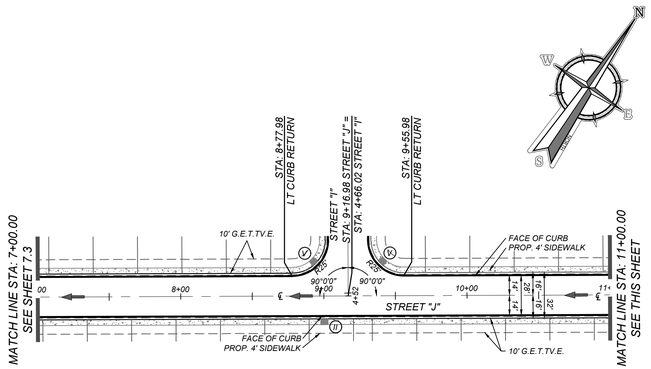
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES 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.

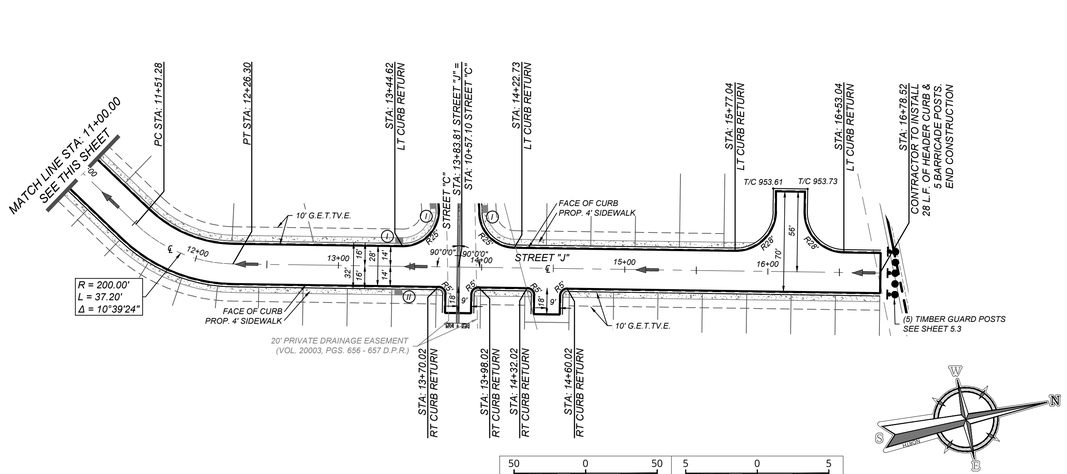
CAUTION!!:

THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCT BANKS, 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 1-800-DIG-TESS 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.

LEGEND

R.O.W.	=	RIGHT OF WAY
G.E.T.TV.E.	=	GAS, ELECTRIC, TELEPHONE & CABLE EASEMENT
	=	FLOW ARROW
(I)	=	WHEELCHAIR RAMP TYPE I SEE SHEET 7.7
(II)	=	WHEELCHAIR RAMP TYPE II SEE SHEET 7.7
(V)	=	WHEELCHAIR RAMP TYPE V SEE SHEET 7.7
	=	SIDEWALK TO BE BUILT AT THE TIME OF HOME CONSTRUCTION
H.P.	=	HIGH POINT
L.P.	=	LOW POINT
T/C	=	TOP OF CURB



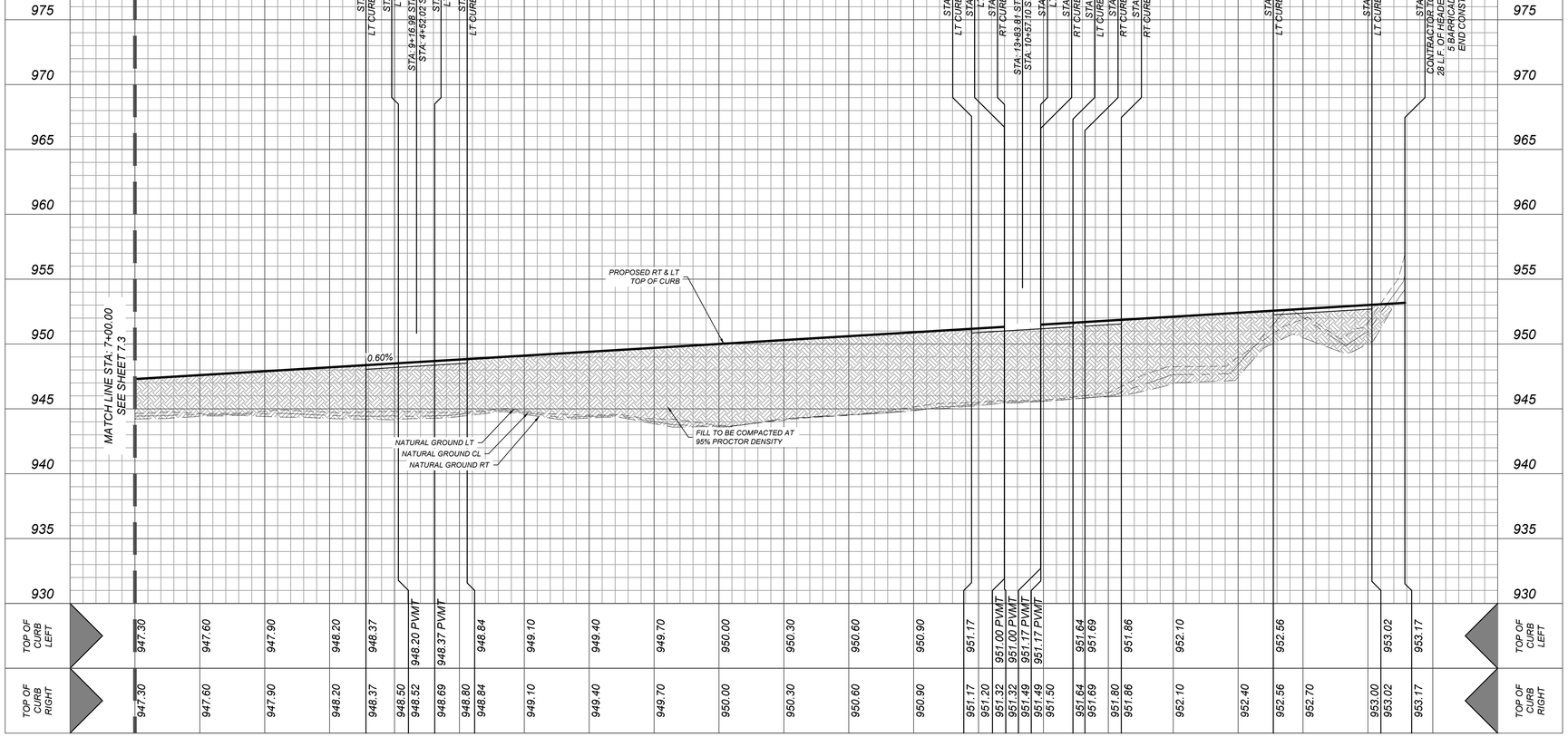


SCALE : 1" = 50' HORIZONTAL

SCALE : 1" = 5' VERTICAL

Linear unit of measure: International Foot(1 ft = 0.3048 m)

STREET "J"
STA: 7+00.00 - END



Colliers Engineering & Design

www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design. All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE

FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS · CLAYTON J. LINNEY · 111543 · LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 - TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

PROJECT NUMBER: 1065-13-03
DRAWING NAME: ST10651303

SHEET TITLE:
STREET "J" (SHT 2 OF 2)
PLAN & PROFILE

SHEET NUMBER: 7.4

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

Civil\STREETS\ST10651303.dwg(7.4 By: ABROWNE

TRENCH EXCAVATION SAFETY PROTECTION

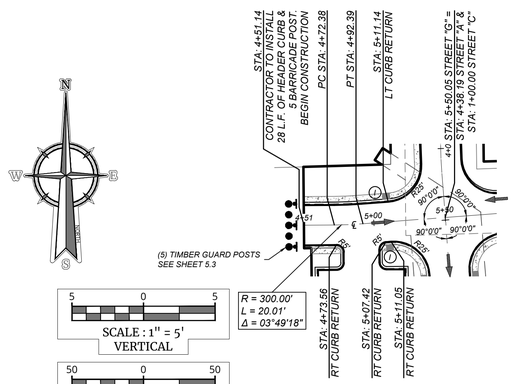
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES 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.

CAUTION!!:

THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCT BANKS, 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 1-800-DIG-TESS 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.

LEGEND

R.O.W.	=	RIGHT OF WAY
G.E.T.TV.E.	=	GAS, ELECTRIC, TELEPHONE & CABLE EASEMENT
	=	FLOW ARROW
(I)	=	WHEELCHAIR RAMP TYPE I SEE SHEET 7.7
(II)	=	WHEELCHAIR RAMP TYPE II SEE SHEET 7.7
(V)	=	WHEELCHAIR RAMP TYPE V SEE SHEET 7.7
	=	SIDEWALK TO BE BUILT AT THE TIME OF HOME CONSTRUCTION
H.P.	=	HIGH POINT
L.P.	=	LOW POINT
T/C	=	TOP OF CURB

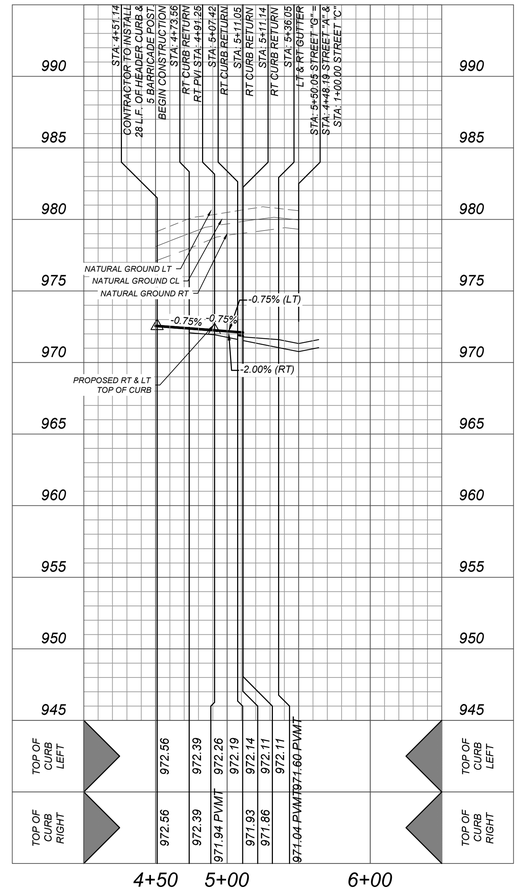


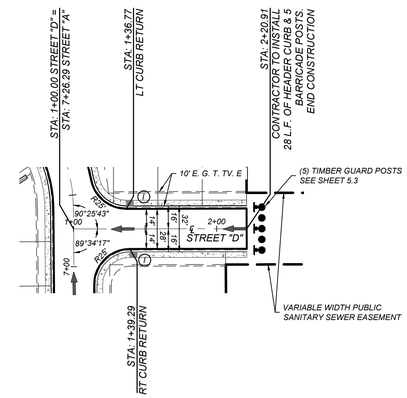
SCALE : 1" = 5' VERTICAL

SCALE : 1" = 50' HORIZONTAL

Linear unit of measure: International Foot (1 ft = 0.3048 m)

STREET "G"
STA: 7+00.00 - END



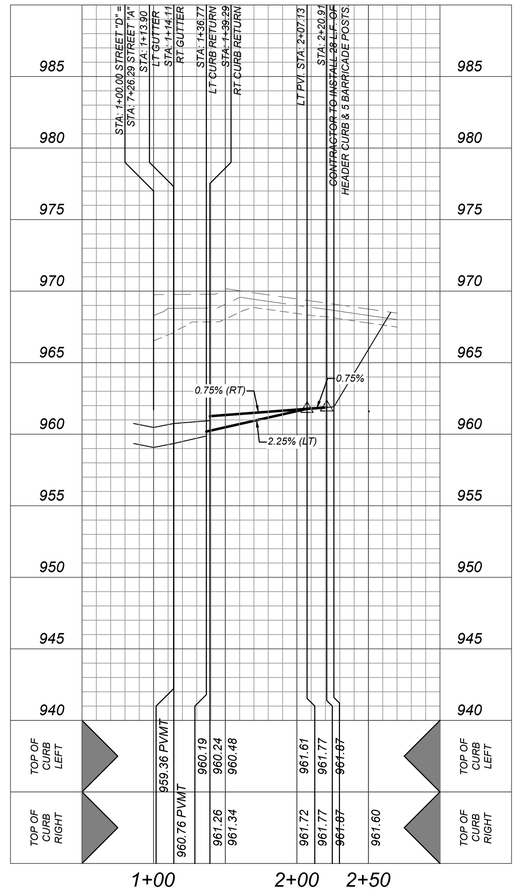


SCALE : 1" = 5' VERTICAL

SCALE : 1" = 50' HORIZONTAL

Linear unit of measure: International Foot (1 ft = 0.3048 m)

STREET "D"
STA: 7+00.00 - END



Colliers Engineering & Design

www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS · CLAYTON J. LINNEY · 111543 · LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 · TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

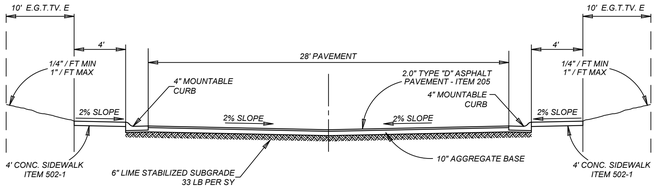
PROJECT NUMBER: 1065-13-03
DRAWING NAME: ST10651303

SHEET TITLE:
STREET "G" & STREET "D" PLAN & PROFILE

SHEET NUMBER: 7.5

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

C:\v3\STREETS\ST10651303.dwg7.5 By: ABROWNE

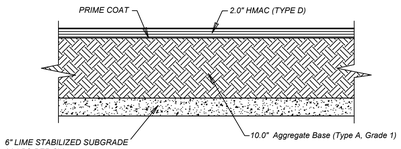


TYPICAL LOCAL "A" STREET SECTION WITH INVERTED CROWN

NOT TO SCALE

USE LOCAL "A" STREET SECTION FOR:
STREET "A" STA. 4+87.19 - END
ALL OF STREET "C"
ALL OF STREET "D"
ALL OF STREET "E"
ALL OF STREET "F"
ALL OF STREET "G"
ALL OF STREET "H"
ALL OF STREET "I"
ALL OF STREET "J"

Pavement Section
2.0" HMAC Type "D"
10.0" Aggregate Base (Type A, Grade 1)
6.0" Lime Stablized Subgrade (33 LBS PER SY)
Total: 18.0"
Structural No: 2.76
CBR: 2.5



ASPHALT PAVEMENT DETAIL

NOT-TO-SCALE

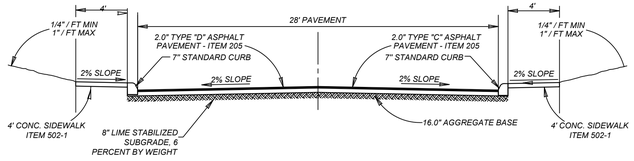
DETAIL FOR ALL LOCAL TYPE A WITH INVERTED CROWN

NOTES:
1. PAVEMENT DESIGN THICKNESS BASED ON GEOTECHNICAL REPORT BY INTEGRATED TESTING AND ENGINEERING COMPANY OF SAN ANTONIO, L.P. PROJECT NO. S231208-P DATED 9/11/2023

2. REFERENCE PROJECT GEOTECHNICAL REPORT AND PROJECT SPECIFICATION FOR ADDITIONAL REQUIREMENTS AND ALTERNATE PAVEMENT SECTIONS.

3. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING MATERIAL TESTING. TESTING TO BE PAID BY OWNER.

4. CONTRACTOR MAY LEAVE VERTICAL CUT BANKS AT R.O.W. LINE AND MEDIANS PROVIDED PROJECT GEOTECHNICAL ENGINEER DETERMINES ROCK IS COMPETENT TO STAND ON ITS OWN.

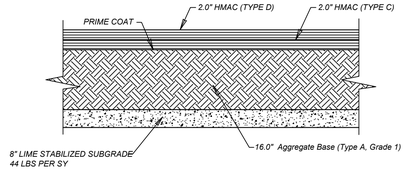


TYPICAL LOCAL "A" STREET SECTION WITH STANDARD CURB AND MODIFIED PAVEMENT SECTION

NOT TO SCALE

USE LOCAL "A" STREET SECTION FOR STREET "A" STA 1+47.76 TO STA 4+87.19

Pavement Section
2.0" HMAC Type "D"
2.0" HMAC Type "C"
16.0" Aggregate Base (Type A, Grade 1)
8.0" Lime Stablized Subgrade (44 LB / SY)
Total: 28.0"
Structural No: 4.64
CBR: 2.5



ASPHALT PAVEMENT DETAIL

NOT-TO-SCALE

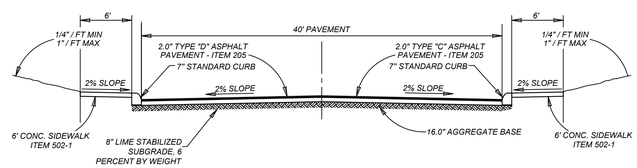
DETAIL FOR LOCAL TYPE A WITH MODIFIED PAVEMENT SECTION

NOTES:
1. PAVEMENT DESIGN THICKNESS BASED ON GEOTECHNICAL REPORT BY INTEGRATED TESTING AND ENGINEERING COMPANY OF SAN ANTONIO, L.P. PROJECT NO. S231208-P DATED 9/11/2023

2. REFERENCE PROJECT GEOTECHNICAL REPORT AND PROJECT SPECIFICATION FOR ADDITIONAL REQUIREMENTS AND ALTERNATE PAVEMENT SECTIONS.

3. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING MATERIAL TESTING. TESTING TO BE PAID BY OWNER.

4. CONTRACTOR MAY LEAVE VERTICAL CUT BANKS AT R.O.W. LINE AND MEDIANS PROVIDED PROJECT GEOTECHNICAL ENGINEER DETERMINES ROCK IS COMPETENT TO STAND ON ITS OWN.

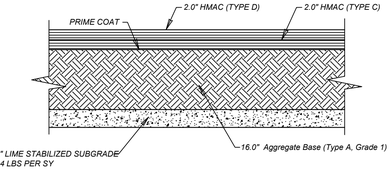


TYPICAL LOCAL "B" STREET SECTION WITH STANDARD CURB

NOT TO SCALE

USE LOCAL "B" STREET SECTION FOR STREET "B"

Pavement Section
2.0" HMAC Type "D"
2.0" HMAC Type "C"
16.0" Aggregate Base (Type A, Grade 1)
8.0" Lime Stablized Subgrade (44 LB / SY)
Total: 28.0"
Structural No: 4.64
CBR: 2.5



ASPHALT PAVEMENT DETAIL

NOT-TO-SCALE

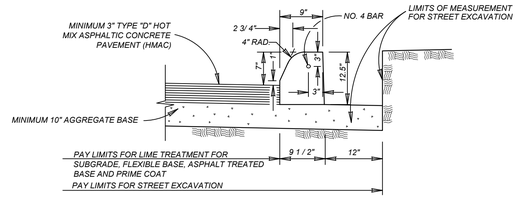
DETAIL FOR ALL LOCAL TYPE B

NOTES:
1. PAVEMENT DESIGN THICKNESS BASED ON GEOTECHNICAL REPORT BY INTEGRATED TESTING AND ENGINEERING COMPANY OF SAN ANTONIO, L.P. PROJECT NO. S231208-P DATED 9/11/2023

2. REFERENCE PROJECT GEOTECHNICAL REPORT AND PROJECT SPECIFICATION FOR ADDITIONAL REQUIREMENTS AND ALTERNATE PAVEMENT SECTIONS.

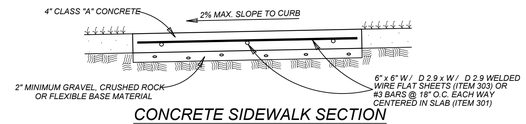
3. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING MATERIAL TESTING. TESTING TO BE PAID BY OWNER.

4. CONTRACTOR MAY LEAVE VERTICAL CUT BANKS AT R.O.W. LINE AND MEDIANS PROVIDED PROJECT GEOTECHNICAL ENGINEER DETERMINES ROCK IS COMPETENT TO STAND ON ITS OWN.



CONCRETE CURB

ITEM 500 ON ASPHALT TREATED BASE OR ASPHALTIC CONCRETE BASE
NOT TO SCALE

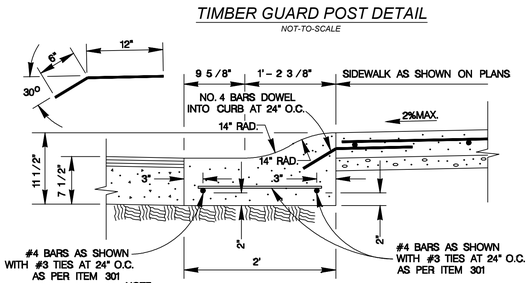


CONCRETE SIDEWALK SECTION

ITEM 502
NOT TO SCALE

TIMBER GUARD POST DETAIL

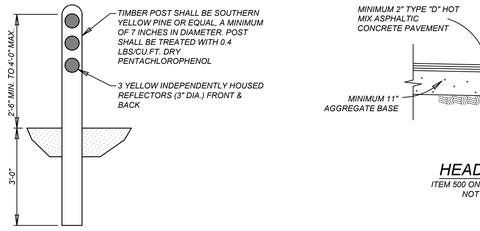
NOT-TO-SCALE

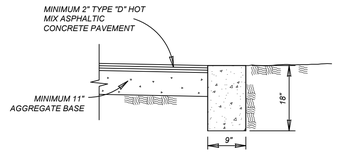


NOTE:
CURB TRANSITIONS SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN ITEM 500 CONCRETE CURBING

MOUNTABLE CURB

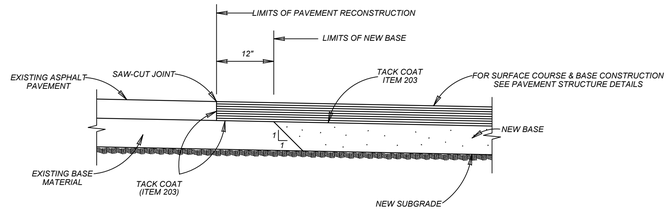
ITEM 500 ON COMPACTED SUBGRADE
SCALE : 1" – 2"





HEADER CURB

ITEM 500 ON SAND OR GRAVEL
NOT TO SCALE



PAVEMENT JUNCTION DETAILS

NOT TO SCALE

GENERAL NOTES:

1. *THE SUBGRADE SOILS SHOULD BE TESTED FOR SOLUBLE SULPHATE CONTENT PRIOR TO INSTALLATION OF THE LIME OR CEMENT.*

2. *THE APPLICATION RATE OF LIME SHALL BE DETERMINED BASED ON LABORATORY TESTING AND SHALL BE THE LOWEST PERCENTAGE OF LIME THAT PROVIDES AN UNCONFINED COMPRESSIVE STRENGTH (UCS) AT 7-DAYS OF AT LEAST 160 PSI IN ACCORDANCE WITH ASTM D5102 STANDARD TEST METHODS FOR UNCONFINED COMPRESSIVE STRENGTH OF COMPACTED SOIL-LIME MIXTURES (PROCEDURE B) (IN ADDITION, CURING SHOULD OCCUR FOR 7 DAYS AT 40° AND SPECIMENS SHOULD BE SUBJECT TO 24-HR CAPILLARY SOAK PRIOR TO TESTING.*

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

1. *AFTER INITIAL MIXING THE SOIL-LIME MIXTURE SHALL MELLOW FOR A PERIOD OF TWO TO THREE (2 - 3) DAYS. MAINTAIN MOISTURE DURING MELLOWING;*

2. *AFTER MELLOWING AND FINAL MIXING, THE PULVERIZATION SHALL BE CHECKED USING THE FOLLOWING CRITERIA (REMOVE NON-SLAKING AGGREGATES RETAINED ON THE ¾ INCH SIEVE FROM THE SAMPLE):*
   - *MINIMUM PASSING 1 ½" SIEVE 100*
   - *MINIMUM PASSING ¾" SIEVE 85*
   - *MINIMUM PASSING NO. 4 SIEVE 60*

3. *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 WITH PROCEDURE OUTLINED ABOVE FOR MIXTURE DESIGN.*

4. *COMPACT AND CHECK FIELD DENSITY (MINIMUM OF 95% OF MDD REQUIRED)*

5. *CURE FOR AN ADDITIONAL 2 TO 5 DAYS (TOTAL MELLOWING AND CURING TIME SHOULD TOTAL AT LEAST 5 DAYS).*

6. *VERIFY DEPTH OF LIME STABILIZED LAYER TO DEPTH AS NOTED ON PLAN TO WITHIN ± 1.0 INCH.*

NOTES:

ANY FILL USED TO RAISE THE SUBGRADE:
- *SHOUD NOT CONTAIN ANY DELETERIOUS MATERIAL.*
- *SHOULD HAVE A CBR VALUE OF 2.5 OR GREATER*
- *SHOULD NOT HAVE GRAVELS LARGER THAN 3 INCH IN SIZE*
- *SHOULD HAVE THE "LIME PERCENTAGE/APPLICATION RATE" RE-RUN PRIOR TO INSTALLATION*
- *PI SHOULD BE LESS THAN 20*

Colliers Engineering & Design
www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 · TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

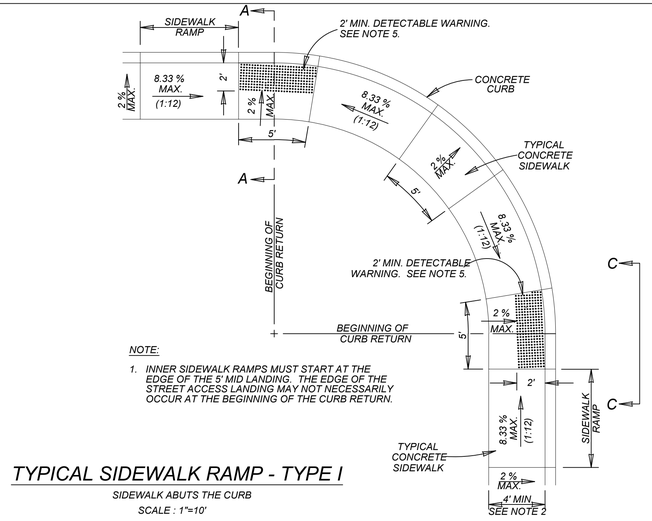
PROJECT NUMBER: 1065-13-03
DRAWING NAME: STDT10651303

SHEET TITLE: TYPICAL STREET DETAILS

SHEET NUMBER: 7.6

C:\civil\STREETS\STDT10651303.dwg7.6 TYPICAL STREET DETAILS By:ABROWNE

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



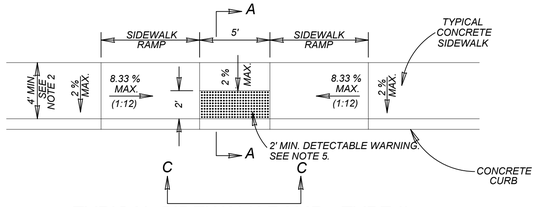
NOTE:

1. INNER SIDEWALK RAMPS MUST START AT THE EDGE OF THE 5' MID LANDING. THE EDGE OF THE STREET ACCESS LANDING MAY NOT NECESSARILY OCCUR AT THE BEGINNING OF THE CURB RETURN.

TYPICAL SIDEWALK RAMP - TYPE I

SIDEWALK ABUTS THE CURB

SCALE : 1"=10'



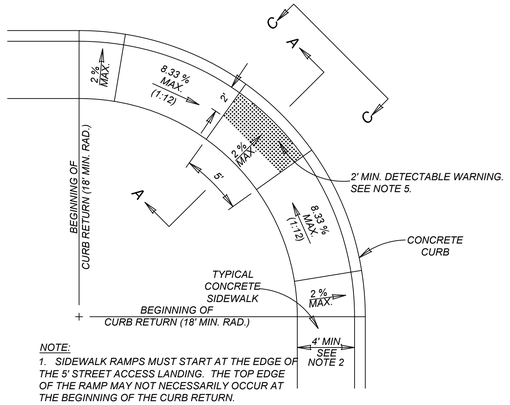
TYPICAL SIDEWALK RAMP - TYPE II

USED AT TEE INTERSECTIONS WHERE SIDEWALK ABUTS CURB

SCALE : 1"=10'

GENERAL NOTES

1. WHEN POSSIBLE SIDEWALKS SHOULD BE PLACED NEXT TO THE PROPERTY LINE, ALLOWING A MINIMUM OF 1 FOOT BUFFER. DEVIATION OF THE PATHWAY FROM A STRAIGHT LINE IS ENCOURAGED TO AVOID TREES OR OTHER OBSTRUCTIONS.
2. FOR LOCAL TYPE "A" STREETS, SIDEWALKS SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF 4' AND IF SEPARATED FROM THE CURB, THE SIDEWALK SHALL BE LOCATED A MINIMUM OF 3' FROM THE BACK OF CURB.
3. FOR OTHER THAN LOCAL TYPE "A" STREETS, SIDEWALKS SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF 4' AND SEPARATED A MINIMUM OF 3' FROM THE BACK OF CURB OR AS AN OPTION, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 6' WHEN LOCATED AT THE BACK OF CURB.
4. SIDEWALK RAMP LENGTHS PRESENTED IN TABLE 1 ARE GUIDELINES ONLY. SIDEWALK RAMP LENGTHS SHALL BE OF SUFFICIENT LENGTH TO MAINTAIN 8.33% (1:12) MAXIMUM SLOPE.
5. ALL CURB-RAMPS OR LANDINGS ABUTTING THE CROSSWALK SHALL HAVE A DETECTABLE WARNING 24 INCHES DEEP (IN THE DIRECTION OF PEDESTRIAN TRAVEL) AND EXTENDING THE FULL WIDTH OF THE CURB RAMP OR LANDING. THE DETECTABLE WARNING SHALL CONSIST OF RAISED TRUNCATED DOMES, ALIGNED IN A GRID PATTERN WITH A DIAMETER OF A NOMINAL 0.9 INCHES (23 MM), A HEIGHT OF NOMINAL 0.2 INCHES (5 MM) AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.35 INCHES (60 MM). THE DETECTABLE WARNING SURFACE SHALL BE PAVERS CONFORMING TO TXDOT STANDARD PED-05, PEDESTRIAN FACILITIES.
6. DETECTABLE WARNINGS SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT. THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE.
7. SIDEWALK RAMP TYPE V SHALL BE USED ONLY WHERE THERE IS SIGNIFICANT RESTRICTION WITHIN THE PARKWAY TO CONSTRUCT TYPE I OR TYPE III RAMPS.
8. CONSTRUCTION OF ALL WHEELCHAIR RAMPS TO BE INCLUDED UNDER ITEMS "500 - CONCRETE CURB, GUTTER, AND CONCRETE CURB AND GUTTER" AND / OR "502 - CONCRETE SIDEWALKS". RAMP SURFACE SHALL BE BRUSH
9. THESE DETAILS ARE FOR REFERENCE ONLY. ACTUAL LOCATIONS OF WHEELCHAIR RAMPS TO BE SHOWN ON CONSTRUCTION PLANS. CITY CONSTRUCTION INSPECTOR CAN ADJUST LOCATIONS FOR SAFETY OR
10. SIDEWALKS LESS THAN 5 FEET IN WIDTH SHALL BE PROVIDED WITH A PASSING SPACE AT A MAXIMUM
11. WHEELCHAIR RAMP SHALL BE CONSTRUCTED WITH 4" CLASS "A" CONCRETE AND 2" MINIMUM GRAVEL, CRUSHED ROCK OR FLEXIBLE BASE MATERIAL.
12. REINFORCING STEEL SHALL BE #3 BARS AT 18" O.C.E.W. OR 6" x 6" - W2.9 x W2.9 WIRE MESH.
13. SIDEWALK GRADES SHALL NOT EXCEED THE GRADE ESTABLISHED FOR THE ADJACENT ROADWAY. ANY SIDEWALK CONSTRUCTION THAT DEVIATES FROM THE NATURAL GRADE OF THE ROADWAY TO CREATE A GRADE STEEPER THAN THE EXISTING ROADWAY WILL REQUIRE RAMPS, HANDRAILS AND RESTING PLATFORMS TO BE CONSTRUCTED IN ACCORDANCE WITH ADA AND TAS STANDARDS.
14. SIDEWALK CROSS GRADE SHALL HAVE A MAXIMUM SLOPE OF 2%. LANDINGS SHALL HAVE A MAXIMUM SLOPE OF 2% IN ANY DIRECTION.
15. THE CHANGE OF GRADE BETWEEN ADJACENT SURFACES SHALL BE LESS THAN 11%. THE CHANGE OF GRADE SHALL BE DEFINED AS THE ALGEBRAIC DIFFERENCE OF THE ADJACENT SURFACE SLOPES. IN THE CASE OF A STREET ACCESS RAMP DESIGNED AT THE 8.33% MAXIMUM SLOPE, THE ADJACENT PAVEMENT CROSS SLOPE SHALL BE LESS THAN 2.67% (I.E. 8.33-(-2.67)=11). IN ADDITION, THE ADJACENT PAVEMENT CROSS SLOPE SHALL BE LESS THAN OR EQUAL TO 5%.
16. IF THE CHANGE OF GRADE BETWEEN ADJACENT SURFACES IS GREATER THAN OR EQUAL TO 11%, A LEVELING STRIP, 2 FEET IN LENGTH, SHALL BE PROVIDED TO TRANSITION THE ADJACENT SURFACES.
17. ADA COMPLIANCE IN ALTERATIONS INCLUDE ONLY THAT WORK WITHIN THE LIMITS, BOUNDARIES OR SCOPE OF A PLANNED PROJECT.



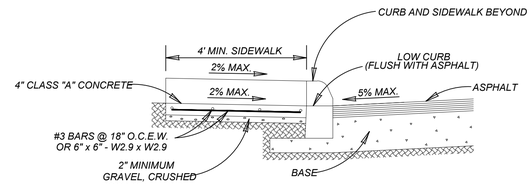
NOTE:

1. SIDEWALK RAMPS MUST START AT THE EDGE OF THE 5' STREET ACCESS LANDING. THE TOP EDGE OF THE RAMP MAY NOT NECESSARILY OCCUR AT THE BEGINNING OF THE CURB RETURN.
2. TYPE V RAMPS MUST HAVE 18' MIN. RADIUS.

TYPICAL SIDEWALK RAMP - TYPE V

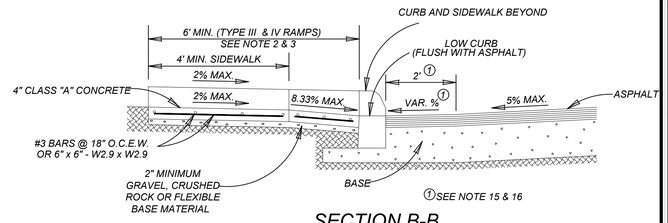
SIDEWALK ABUTS CURB

SCALE : 1"=10'



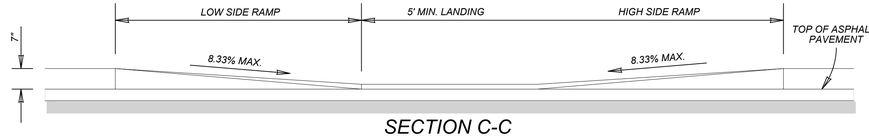
SECTION A-A

SCALE : 1"=4'



SECTION B-B

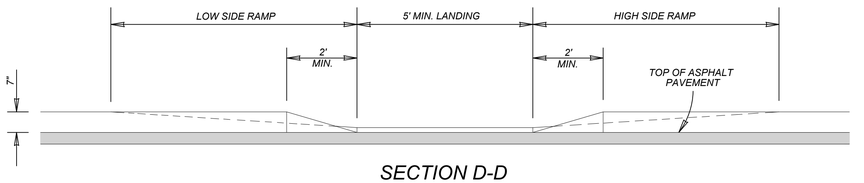
SCALE : 1"=4'



SECTION C-C

CURB PROFILE WHERE SIDEWALK ABUTS CURB

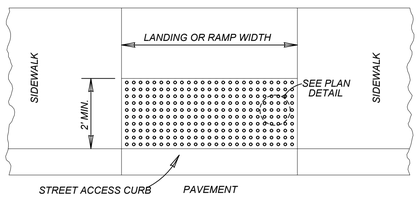
SCALE : 1"=4'



SECTION D-D

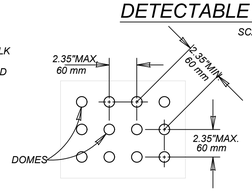
CURB PROFILE WHERE SIDEWALK IS SEPARATED FROM CURB

SCALE : 1"=4'



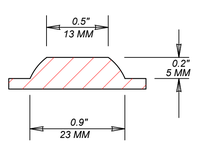
DETECTABLE WARNING SURFACE

SCALE : 1"=4'



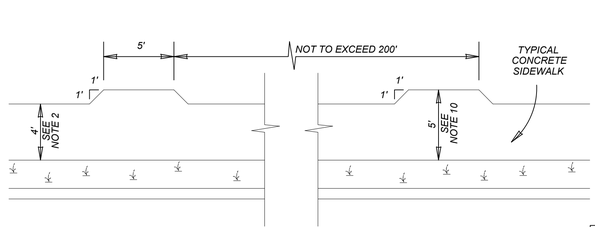
PLAN DETAIL

NO SCALE



DOME SECTION

NO SCALE



SIDEWALK PASSING SPACE

SCALE : 1"=10'

NOTE:

STAMPED CONCRETE TRUNCATED DOMES WILL NOT BE ALLOWED TO BE USED FOR DETECTABLE WARNING ON WHEELCHAIR RAMPS. CONTRACTOR MUST SUBMIT TRUNCATED DOME INFORMATION THAT IS TO BE USED ON WHEELCHAIR RAMPS TO THE PROJECT MANAGER FOR APPROVAL AT LEAST 30 DAYS PRIOR TO INSTALLATION.

TABLE 1 (SEE NOTE 4)		
GUTTER SLOPE	SIDEWALK RAMP LENGTH (1:12)	
	LOW SIDE	HIGH SIDE
1%	5'-6"	7'-2"
2%	5'-0"	8'-4"
3%	4'-6"	10'-0"
4%	4'-2"	12'-6"
5%	3'-10"	16'-8"

MAY 2009

CITY OF SAN ANTONIO

CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

WHEELCHAIR RAMP STANDARDS

% SUBMITTAL | PROJECT NO.: | DATE:

DRWN. BY: V. VASQUEZ | DSGN. BY: | CHKD. BY: R.S. HOSSEINI, P.E. | SHEET NO.: OF

Colliers Engineering & Design

www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

PROTECT YOURSELF

ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE

FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS — CLAYTON J. LINNEY — 111543 — LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 - TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

PROJECT NUMBER: 1065-13-03

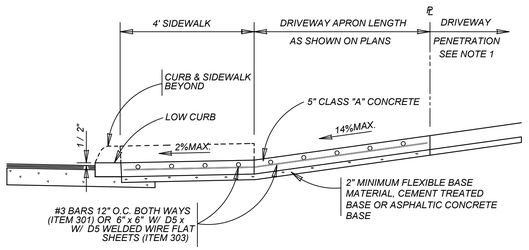
DRAWING NAME: STDT10651303

SHEET TITLE: WHEELCHAIR RAMP DETAILS

SHEET NUMBER: 7.7

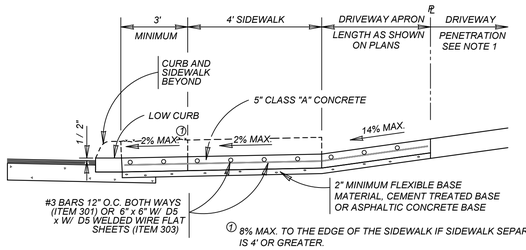
NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

CtvSTREETS\STDT10651303.dwg/7.7 WHEELCHAIR RAMP DETAILS By: ABROWNE



TYPICAL RESIDENTIAL DRIVEWAY SECTION

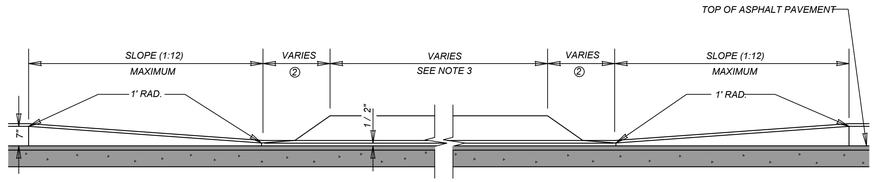
WITH SIDEWALK ABUTTING CURB
ITEM 503.1



TYPICAL RESIDENTIAL DRIVEWAY SECTION

WITH SIDEWALK SEPARATED FROM CURB
ITEM 503.1

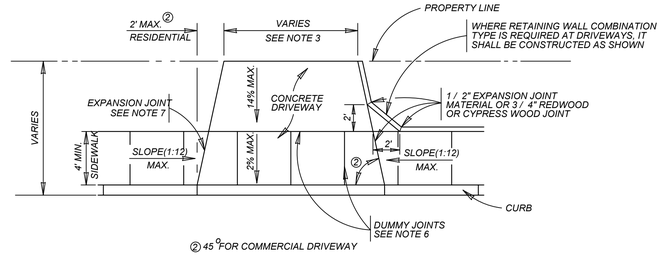
① 8% MAX. TO THE EDGE OF THE SIDEWALK IF SIDEWALK SEPARATION IS 4' OR GREATER.



② RESIDENTIAL : 2' MAXIMUM; COMMERCIAL: SEE PLAN VIEW

CURB PROFILE AT DRIVEWAY

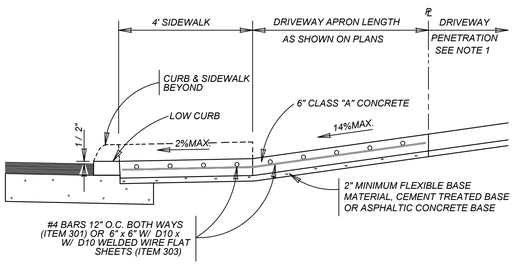
WITH SIDEWALK ABUTTING CURB



② 45° FOR COMMERCIAL DRIVEWAY

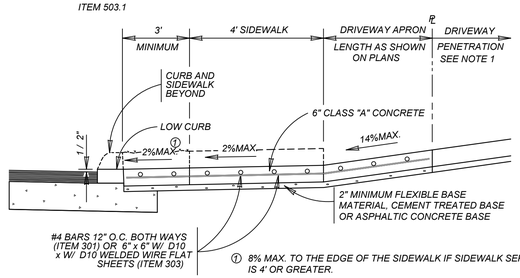
TYPICAL DRIVEWAY PLAN VIEW

WITH SIDEWALK ABUTTING CURB



TYPICAL COMMERCIAL DRIVEWAY SECTION

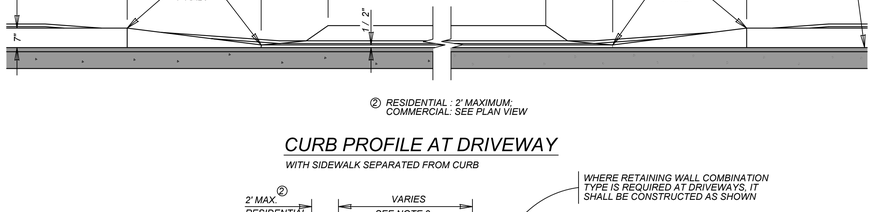
WITH SIDEWALK ABUTTING CURB
ITEM 503.2



TYPICAL COMMERCIAL DRIVEWAY SECTION

WITH SIDEWALK SEPARATED FROM CURB
ITEM 503.2

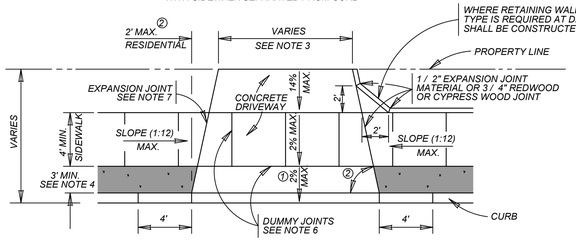
① 8% MAX. TO THE EDGE OF THE SIDEWALK IF SIDEWALK SEPARATION IS 4' OR GREATER.



② RESIDENTIAL : 2' MAXIMUM; COMMERCIAL: SEE PLAN VIEW

CURB PROFILE AT DRIVEWAY

WITH SIDEWALK SEPARATED FROM CURB

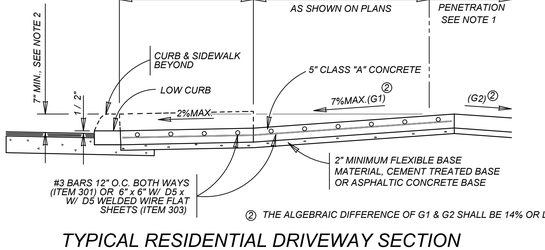


① 8% MAX. TO THE EDGE OF THE SIDEWALK IF SIDEWALK SEPARATION IS 4' OR GREATER.

② 45° FOR COMMERCIAL DRIVEWAY

TYPICAL DRIVEWAY PLAN VIEW

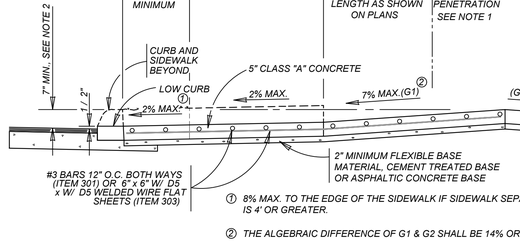
WITH SIDEWALK SEPARATED FROM CURB



② THE ALGEBRAIC DIFFERENCE OF G1 & G2 SHALL BE 14% OR LESS

TYPICAL RESIDENTIAL DRIVEWAY SECTION

WHERE PROPERTY IS LOWER THAN STREET & SIDEWALK IS ABUTTING CURB
ITEM 503.1



① 8% MAX. TO THE EDGE OF THE SIDEWALK IF SIDEWALK SEPARATION IS 4' OR GREATER.

② THE ALGEBRAIC DIFFERENCE OF G1 & G2 SHALL BE 14% OR LESS

TYPICAL RESIDENTIAL DRIVEWAY SECTION

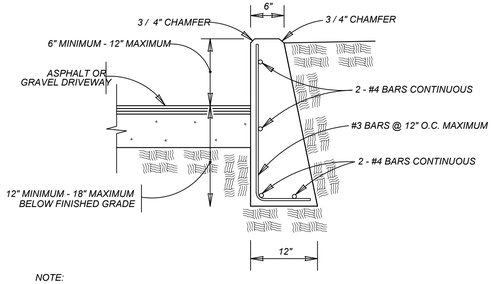
WHERE PROPERTY IS LOWER THAN STREET & SIDEWALK IS SEPARATED FROM CURB
ITEM 503.1

CONCRETE DRIVEWAY NOTES

1. DRIVEWAY PENETRATION REFERS TO A PORTION OF THE DRIVEWAY THAT MAY BE NECESSARY TO RECONSTRUCT WITHIN PRIVATE PROPERTY TO COMPLY WITH A MAXIMUM DRIVEWAY SLOPE. THIS PORTION OF THE DRIVEWAY SHALL BE PAID FOR UNDER THE FOLLOWING ITEMS AS MAY APPLY:
   A.) CONCRETE DRIVEWAY PAID FOR UNDER ITEM NO. 503.1 OR 503.2.
   B.) ASPHALTIC CONCRETE DRIVEWAY PAID FOR UNDER ITEM NO. 503.4 AND SHALL INCLUDE A MINIMUM OF 1" ASPHALT TYPE 'D' & 6" FLEXIBLE BASE
   C.) GRAVEL DRIVEWAY PAID FOR UNDER ITEM NO. 503.5 AND SHALL INCLUDE A MINIMUM OF 6" FLEXIBLE BASE
2. 7" MINIMUM HEIGHT WILL NOT NECESSARILY OCCUR AT THE PROPERTY LINE. IT MAY OCCUR WITHIN THE RIGHT OF WAY OR WITHIN THE DRIVEWAY PENETRATION ON PRIVATE PROPERTY.
3. THE PROPOSED DRIVEWAY SHOULD MATCH THE EXISTING WIDTH AT THE PROPERTY LINE BUT UNLESS AUTHORIZED BY THE CITY TRAFFIC ENGINEER, THE WIDTH SHALL BE WITHIN THE FOLLOWING VALUES:

TYPE	MINIMUM	MAXIMUM
RESIDENTIAL	10'	20'
COMMERCIAL - ONE WAY	12'	20'
COMMERCIAL - TWO WAY	24'	30'

4. FOR LOCAL TYPE "A" STREETS, SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 4' AND IF SEPARATED FROM THE CURB, THE SIDEWALK SHALL BE LOCATED A MINIMUM OF 3' FROM THE BACK OF CURB.
5. FOR OTHER THAN LOCAL TYPE "A" STREETS, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 4' AND SEPARATED A MINIMUM OF 3' FROM THE BACK OF CURB OR, AS AN OPTION, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 6' WHEN LOCATED AT THE BACK OF CURB.
6. DUMMY JOINTS PARALLEL TO THE CURB SHALL BE PLACED WHERE THE SIDEWALK MEETS THE DRIVEWAY. DUMMY JOINTS PERPENDICULAR TO THE CURB, AND WITHIN THE BOUNDARIES OF THE PARALLEL DUMMY JOINTS, SHALL BE PLACED AT INTERVALS EQUAL TO THE WIDTH OF THE SIDEWALK.
7. A MINIMUM OF TWO ROUND AND SMOOTH DOWEL BARS 3 /8" IN DIAMETER AND 18" IN LENGTH SHALL BE SPACED 18" APART AT EACH EXPANSION JOINT.
8. SIDEWALK RAMP LENGTHS SHALL BE OF SUFFICIENT LENGTH TO MAINTAIN 8.33% (1:12) MAXIMUM SLOPE. WHERE SIDEWALKS CROSS DRIVEWAYS, SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.
9. SIDEWALK RAMP SURFACE SHALL BE BRUSH FINISHED.



NOTE:
1. COST OF REINFORCEMENT TO BE INCLUDED IN UNIT COST OF ITEM 307.1.
2. CONCRETE RETAINING WALL COMBINATION TYPE SHALL BE USED FOR CONCRETE DRIVEWAYS.

DRIVEWAY - CONCRETE RETAINING WALL

ON COMPACTED SUBGRADE
ITEM 307.1

MAY 2009

CITY OF SAN ANTONIO

CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

CONCRETE DRIVEWAY STANDARDS

_____% SUBMITTAL	PROJECT NO.:_____	DATE:_____
DRWN. BY: V. VASQUEZ	DSGN. BY:_____	CHKD. BY: R.S. HOSSEINI, P.E.
		SHEET NO.:____OF____

Colliers Engineering & Design
www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design. All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS · CLAYTON J. LINNEY · 111543 · LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 - TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

PROJECT NUMBER: 1065-13-03
DRAWING NAME: STDT10651303

SHEET TITLE: CONCRETE DRIVEWAY DETAILS

SHEET NUMBER: 7.8

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

CivilSTREETS\STDT10651303.dwg\7.8 CONCRETE DRIVEWAY DETAILS By:ABROWNE

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 SITES 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.

COMPACTION 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 TESTS 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. PERMITS AND/OR WILL NOT BE ACCEPTED AND FINALIZED BY SAWS WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.

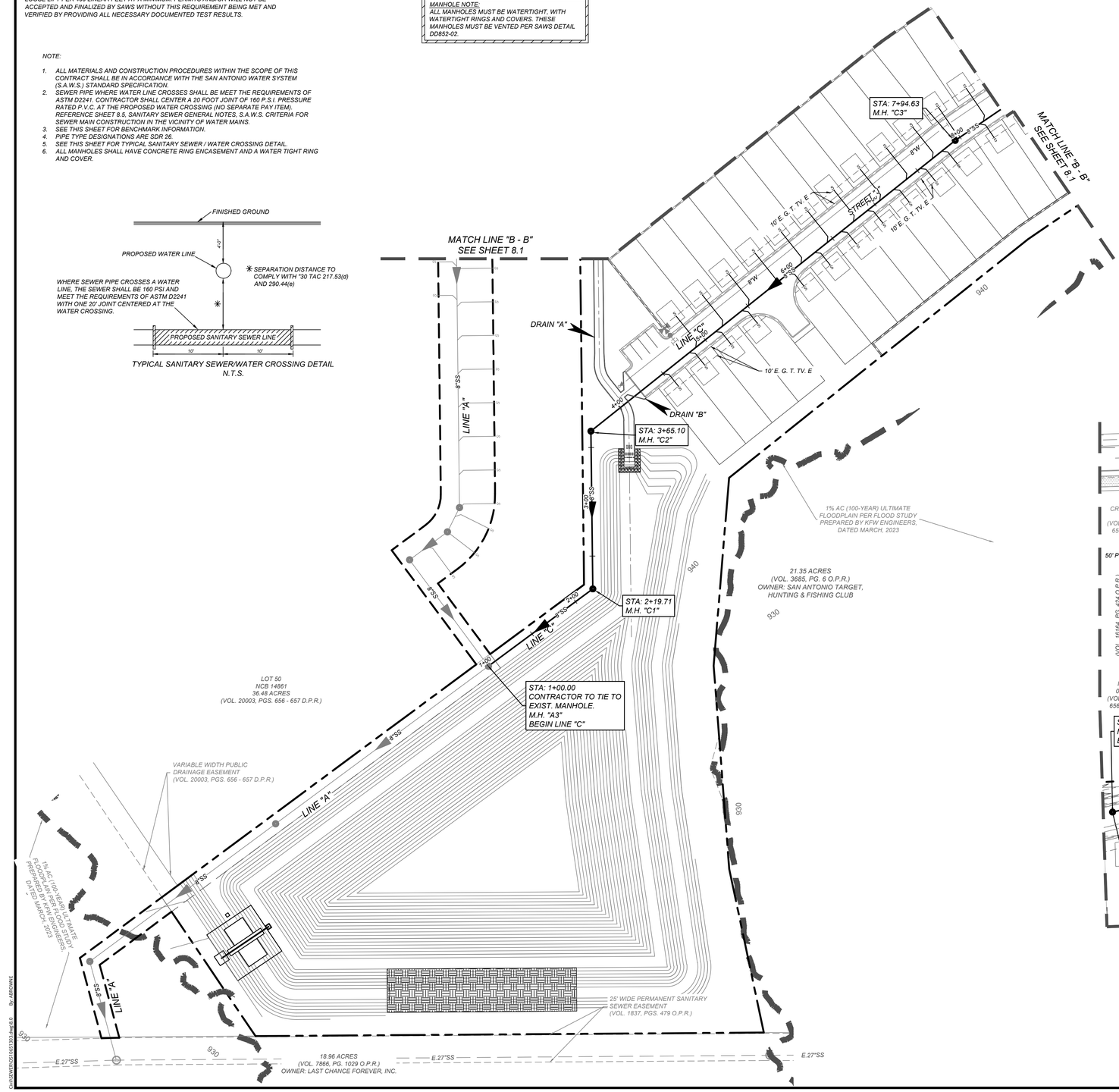
NOTE:

1. *ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE IN ACCORDANCE WITH THE SAN ANTONIO WATER SYSTEM (S.A.W.S.) STANDARD SPECIFICATION.*
2. *SEWER PIPE WHERE WATER LINE CROSSES SHALL BE MEET THE REQUIREMENTS OF ASTM D2241. CONTRACTOR SHALL CENTER A 20 FOOT JOINT OF 160 P.S.I. PRESSURE RATED P.V.C. AT THE PROPOSED WATER CROSSING (NO SEPARATE PAY ITEM). REFERENCE SHEET 8.5, SANITARY SEWER GENERAL NOTES, S.A.W.S. CRITERIA FOR SEWER MAIN CONSTRUCTION IN THE VICINITY OF WATER MAINS.*
3. *SEE THIS SHEET FOR BENCHMARK INFORMATION.*
4. *PIPE TYPE DESIGNATIONS ARE SDR 26.*
5. *SEE THIS SHEET FOR TYPICAL SANITARY SEWER / WATER CROSSING DETAIL.*
6. *ALL MANHOLES SHALL HAVE CONCRETE RING ENCASEMENT AND A WATER TIGHT RING AND COVER.*

TYPICAL SANITARY SEWER/WATER CROSSING DETAIL
N.T.S.

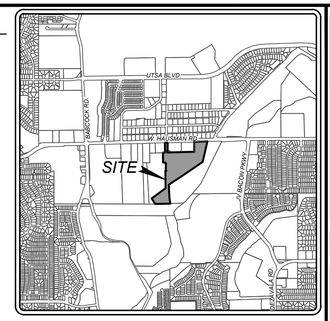
CAUTION!!: THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS 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.

MANHOLE NOTE:
ALL MANHOLES MUST BE WATERTIGHT, WITH WATERTIGHT RINGS AND COVERS. THESE MANHOLES MUST BE VENTED PER SAWS DETAIL DO852-02.

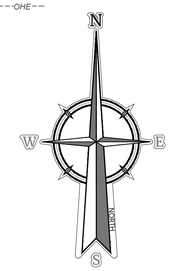


LEGEND

PROPOSED WATER MAIN	=	W
PROPOSED WATER SERVICE & METER BOX	=	
PROPOSED WATER 3/4" IRRIGATION SERVICE & METER BOX	=	
PROPOSED FIRE HYDRANT	=	
PROPOSED WATER VALVE	=	
PROPOSED SANITARY SEWER MAIN	=	SS
PROPOSED SANITARY SEWER MANHOLE	=	
PROPOSED SANITARY SEWER LATERAL	=	
PROPOSED ELECTRIC, GAS, TELEPHONE, & CABLE TV EASEMENT	=	E. G. T. TV. E
EXISTING WATER MAIN	=	E.W
EXISTING FIRE HYDRANT	=	
EXISTING WATER VALVE	=	
EXISTING SANITARY SEWER MAIN	=	E.SS
EXISTING SANITARY SEWER MANHOLE	=	
EXISTING OVERHEAD ELECTRIC W/POWER POLE	=	OHE
EXISTING GUY WIRE/OVERHEAD ELECTRIC	=	OHE



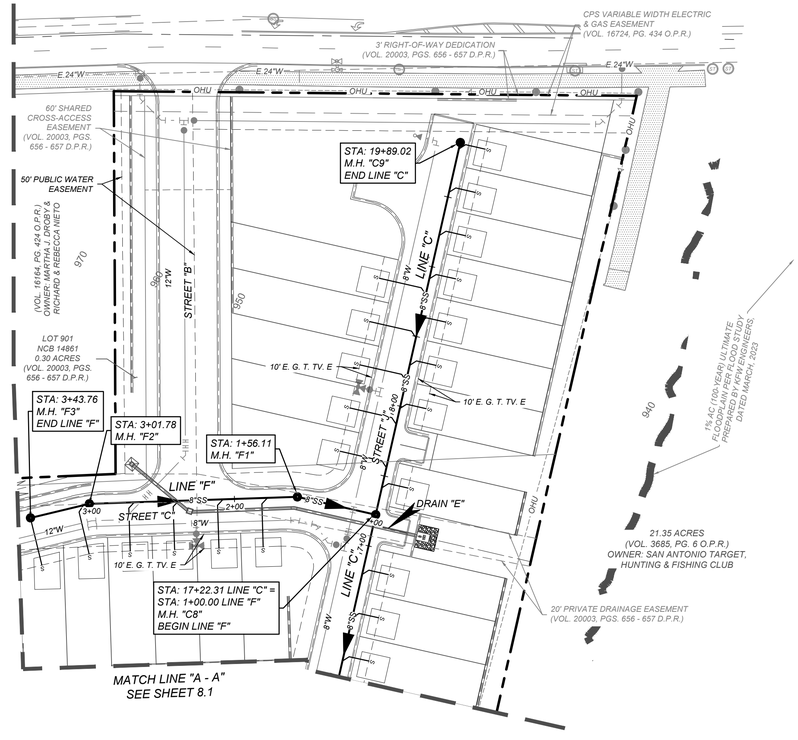
LOCATION MAP
NOT-TO-SCALE



50 0 50 100

SCALE : 1" = 50'

Linear unit of measure: International Foot (1 ft = 0.3048 m)



MATCH LINE "A - A"
SEE SHEET 8.1

Colliers
Engineering & Design
www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

811 PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 - TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1 STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS FOR BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

PROJECT NUMBER: 1065-13-03
DRAWING NAME: OS10651303

SHEET TITLE:
OVERALL SANITARY SEWER PLAN (SHT 1 OF 2)

SHEET NUMBER:
8.0

By: ABROWNE
Civil\SEWER\OS10651303.dwg\8.0

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

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 SITES 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.

COMPACTION 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 TESTS 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. PERMITS AND/OR WILL NOT BE ACCEPTED AND FINALIZED BY SAWS WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.

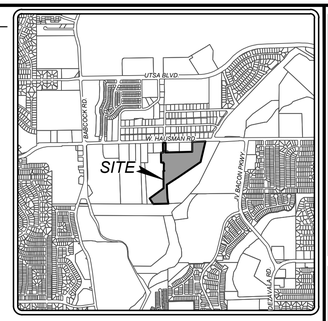
CAUTION!!! THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS 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.

MANHOLE NOTE:

ALL MANHOLES MUST BE WATERTIGHT, WITH WATERTIGHT RINGS AND COVERS. THESE MANHOLES MUST BE VENTED PER SAWS DETAIL DD852-02.

LEGEND

- PROPOSED WATER MAIN — W
- PROPOSED WATER SERVICE & METER BOX — W
- PROPOSED WATER 3/4" IRRIGATION SERVICE & METER BOX — W
- PROPOSED FIRE HYDRANT
- PROPOSED WATER VALVE
- PROPOSED SANITARY SEWER MAIN — SS
- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER LATERAL — SS
- PROPOSED ELECTRIC, GAS, TELEPHONE, & CABLE TV EASEMENT — E. G. T. TV. E
- EXISTING WATER MAIN — E.W
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING SANITARY SEWER MAIN — E.SS
- EXISTING SANITARY SEWER MANHOLE
- EXISTING OVERHEAD ELECTRIC W/POWER POLE — OHE
- EXISTING GUY WIRE/OVERHEAD ELECTRIC — OHE



LOCATION MAP
NOT-TO-SCALE

NOTE:

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE IN ACCORDANCE WITH THE SAN ANTONIO WATER SYSTEM (S.A.W.S.) STANDARD SPECIFICATION.
2. SEWER PIPE WHERE WATER LINE CROSSES SHALL BE MEET THE REQUIREMENTS OF ASTM D2241. CONTRACTOR SHALL CENTER A 20 FOOT JOINT OF 160 P.S.I. PRESSURE RATED P.V.C. AT THE PROPOSED WATER CROSSING (NO SEPARATE PAY ITEM). REFERENCE SHEET 8.5, SANITARY SEWER GENERAL NOTES, S.A.W.S. CRITERIA FOR SEWER MAIN CONSTRUCTION IN THE VICINITY OF WATER MAINS.
3. SEE THIS SHEET FOR BENCHMARK INFORMATION.
4. PIPE TYPE DESIGNATIONS ARE SDR 26.
5. SEE THIS SHEET FOR TYPICAL SANITARY SEWER / WATER CROSSING DETAIL.
6. ALL MANHOLES SHALL HAVE CONCRETE RING ENCASEMENT AND A WATER TIGHT RING AND COVER.

W. HAUSMAN RD (80' ROW)

CPS VARIABLE WIDTH ELECTRIC & GAS EASEMENT (VOL. 16724, PG. 317 O.P.R.)

3' RIGHT-OF-WAY DEDICATION (VOL. 20003, PGS. 656 - 657 D.P.R.)

E 24'W

E 20'W

12'W

12' WATER EASEMENT

60' SHARED CROSS-ACCESS EASEMENT (VOL. 20003, PGS. 656 - 657 D.P.R.)

LOT 901
NCB 14861
0.30 ACRES
(VOL. 20003, PGS. 656 - 657 D.P.R.)

REMAINING PORTION OF A 2.309 ACRES
(VOL. 8965, PG. 1893 O.P.R.)
OWNER: MARTHA DROBY,
MICHAEL ALONZO & REBECCA NIETO

LOT 52
NCB 14861
1.64 ACRES
(VOL. 20003, PGS. 656 - 657 D.P.R.)

50' PUBLIC WATER EASEMENT

STREET "A"

2.243 ACRES
(VOL. 14837, PG. 646 O.P.R.)
OWNER: MOISES & LETIEIA RODRIGUEZ

(VOL. 16164, PG. 424 O.P.R.)
OWNER: MARTHA J. DROBY &
RICHARD & REBECCA NIETO

20' PRIVATE DRAINAGE EASEMENT (VOL. 20003, PGS. 656 - 657 D.P.R.)

2,500 SQ. FT. LEASE AREA
(VOL.8512, PG. 2069 O.P.R.)
OWNER: GENEVIEVE ALONZO &
SPRINT SPECTRUM, L.P.

LOT 1, BLOCK 1, N.C.B. 18919
LAUREL GLEN SUBDIVISION
(VOL. 8526 PG. 188 D.P.R)
TRACT 1 - 0.0464 ACRE
HOLDINGS LLC
(DOC.NO. 20160070282)

STA: 9+03.20
M.H. "E4"
END LINE "E"

STA: 6+68.45
M.H. "E3"

STA: 4+64.70
M.H. "E2"

LINE "E"

STREET "C"

STREET "G"

WATER CROSSING
REF. WATER CROSSING DETAIL THIS SHEET.

10' E. G. T. TV. E

8"SS

8"W

12"W

LOT 50
NCB 14861
36.48 ACRES
(VOL. 20003, PGS. 656 - 657 D.P.R.)

VARIABLE WIDTH PUBLIC SANITARY SEWER EASEMENT

STA: 5+28.59
M.H. "D2"
END LINE "D"

STA: 2+28.12
M.H. "E1"

STA: 15+36.30
M.H. "C7"

STA: 14+95.31
M.H. "C6"

STA: 12+49.31 LINE "C" =
STA: 1+00.00 LINE "E"
M.H. "C5"
BEGIN LINE "E"

STA: 10+21.97
M.H. "C4"

LINE "C"

LINE "D"

STREET "D"

STREET "H"

STREET "A"

STREET "J"

STA: 3+33.88
M.H. "D1"

STA: 1+00.00
CONTRACTOR TO TIE TO
EXST. MANHOLE.
M.H. "A9"
BEGIN LINE "D"

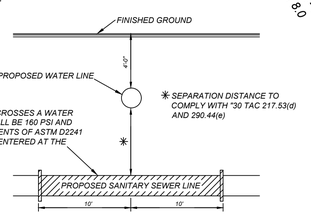
MATCH LINE "A - A"
SEE SHEET 8.0

MATCH LINE "B - B"
SEE SHEET 8.0

MATCH LINE "B - B"
SEE SHEET 8.0

21.35 ACRES
(VOL. 3685, PG. 6 O.P.R.)
OWNER: SAN ANTONIO TARGET,
HUNTING & FISHING CLUB

50 0 50 100
SCALE : 1'' = 50'
Linear unit of measure: International Foot (1 ft = 0.3048 m)



TYPICAL SANITARY SEWER/WATER CROSSING DETAIL
N.T.S.

Colliers Engineering & Design

www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

811 PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS · CLAYTON J. LINNEY · 111543 · LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 · TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

PROJECT NUMBER: 1065-13-03
DRAWING NAME: 0510651303

SHEET TITLE:
OVERALL SANITARY SEWER PLAN (SHT 2 OF 2)

SHEET NUMBER:
8.1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

Civil\SEWER\0510651303.dwg\8.1 By: ABROWNE

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 SITES 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.

COMPACTION NOTE:

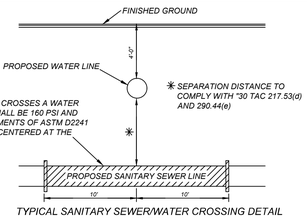
THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING 98% COMPACTION ON ALL TRENCH BACKFILL AND PAYING FOR THE TESTS TO BE PERFORMED BY A THIRD PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED OR AS INDICATED BY THE SAWS INSPECTOR/TEST ADMINISTRATOR, PER EACH 12 INCH LOOSE LIFT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

CAUTION!!: THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED 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 1-800-DIG-TESS 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.

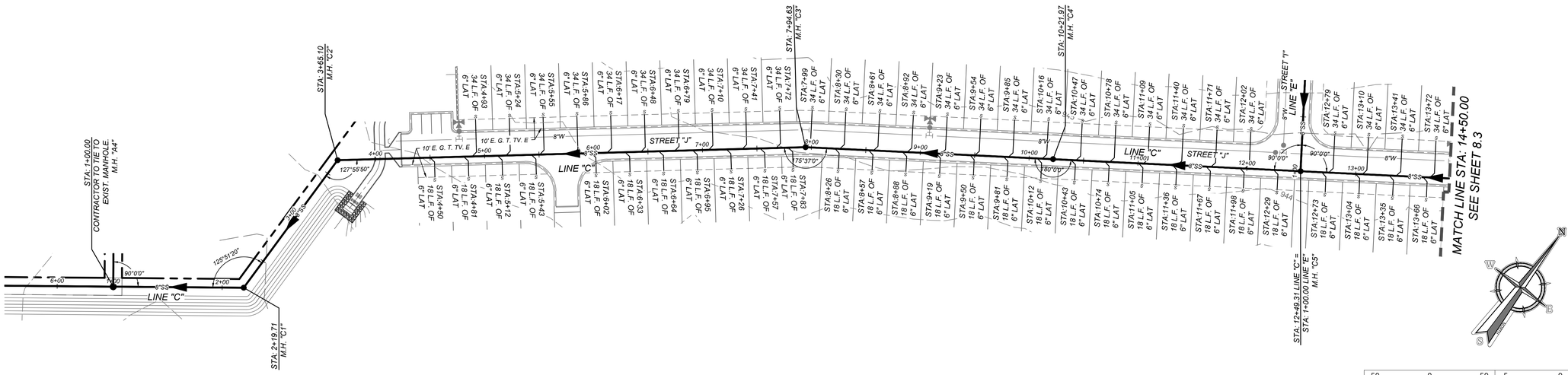
MANHOLE NOTE:
ALL MANHOLES MUST BE WATERTIGHT, WITH WATERTIGHT RINGS AND COVERS. THESE MANHOLES MUST BE VENTED PER SAWS DETAIL DD852-02.

NOTE:

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE IN ACCORDANCE WITH THE SAN ANTONIO WATER SYSTEM (S.A.W.S.) STANDARD SPECIFICATION.
2. SEWER PIPE WHERE WATER LINE CROSSES SHALL BE MEET THE REQUIREMENTS OF ASTM D2241, CONTRACTOR SHALL CENTER A 20 FOOT JOINT OF 160 P.S.I. PRESSURE RATED P.V.C. AT THE PROPOSED WATER CROSSING (NO SEPARATE PAY ITEM). REFERENCE SHEET ----, SANITARY SEWER GENERAL NOTES, S.A.W.S. CRITERIA FOR SEWER MAIN CONSTRUCTION IN THE VICINITY OF WATER MAINS.
3. SEE THIS SHEET FOR BENCHMARK INFORMATION.
4. PIPE TYPE DESIGNATIONS ARE SDR 26.
5. SEE THIS SHEET FOR TYPICAL SANITARY SEWER / WATER CROSSING DETAIL.
6. ALL MANHOLES SHALL HAVE CONCRETE RING ENCASEMENT AND A WATER TIGHT RING AND COVER.

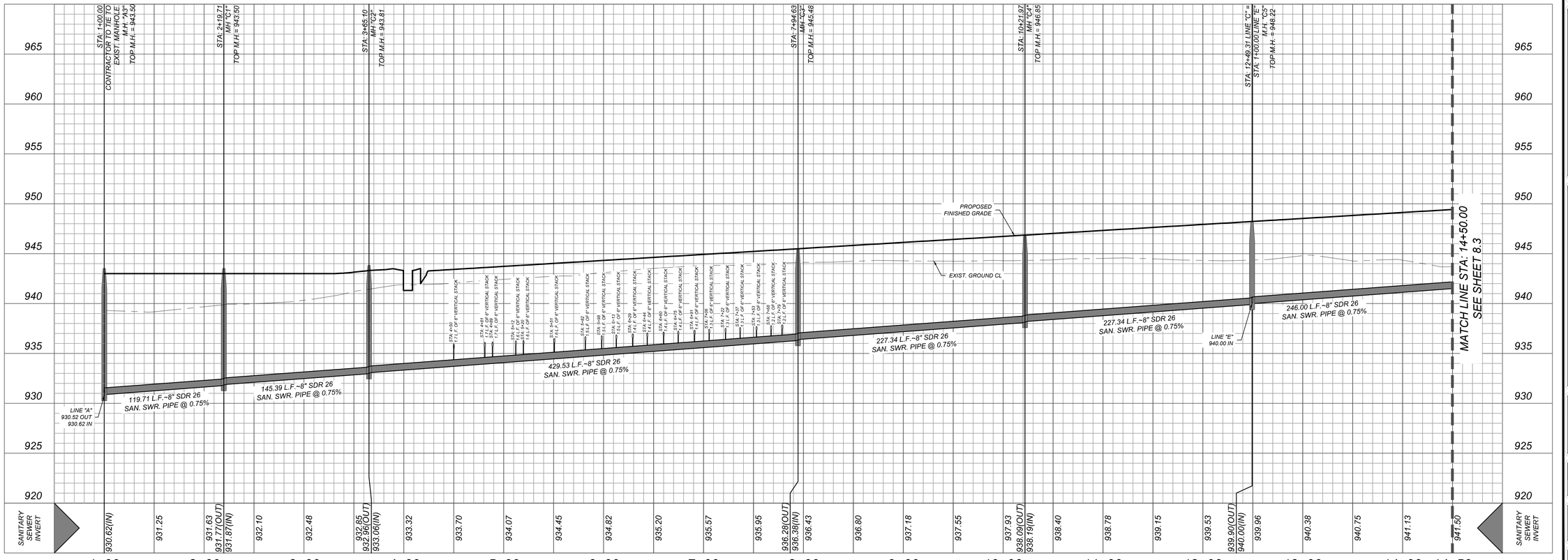


TYPICAL SANITARY SEWER/WATER CROSSING DETAIL
N.T.S.



LINE "C"
STA: 1+00.00 - STA: 14+50.00

SCALE : 1" = 50' HORIZONTAL
SCALE : 1" = 5' VERTICAL
Linear unit of measure: International Foot (1 ft = 0.3048 m)



Colliers Engineering & Design
www.colliersengineering.com
Copyright © 2024. Colliers Engineering & Design All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

811 PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 - TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

PROJECT NUMBER:	DRAWING NAME:
1065-13-03	SS10651303

SHEET TITLE:
LINE "C" PLAN & PROFILE (SHT 1 OF 2)

SHEET NUMBER:
8.2

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

CivilSDWR\SS10651303.dwg\8.2 LINE "C" PLAN & PROFILE (SHT 1 OF 2) By: ABROWNE

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 SITES 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.

COMPACTION NOTE:

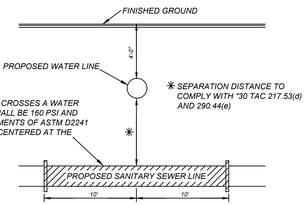
THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING 98% COMPACTION ON ALL TRENCH BACKFILL AND PAYING FOR THE TESTS TO BE PERFORMED BY A THIRD PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED OR AS INDICATED BY THE SAWS INSPECTOR/TEST ADMINISTRATOR, PER EACH 12 INCH LOOSE LIFT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

CAUTION!!: THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED 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 1-800-DIG-TESS 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.

MANHOLE NOTE:
ALL MANHOLES MUST BE WATERTIGHT, WITH WATERTIGHT RINGS AND COVERS. THESE MANHOLES MUST BE VENTED PER SAWS DETAIL DD852-02.

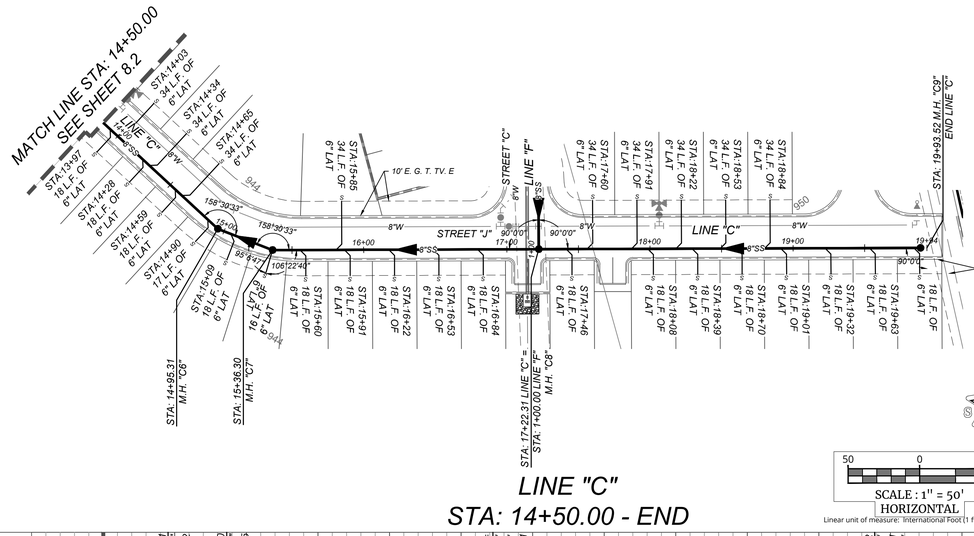
NOTE:

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE IN ACCORDANCE WITH THE SAN ANTONIO WATER SYSTEM (S.A.W.S.) STANDARD SPECIFICATION.
2. SEWER PIPE WHERE WATER LINE CROSSES SHALL BE MEET THE REQUIREMENTS OF ASTM D2241. CONTRACTOR SHALL CENTER A 20 FOOT JOINT OF 160 P.S.I. PRESSURE RATED P.V.C. AT THE PROPOSED WATER CROSSING (NO SEPARATE PAY ITEM). REFERENCE SHEET -----, SANITARY SEWER GENERAL NOTES, S.A.W.S. CRITERIA FOR SEWER MAIN CONSTRUCTION IN THE VICINITY OF WATER MAINS.
3. SEE THIS SHEET FOR BENCHMARK INFORMATION.
4. PIPE TYPE DESIGNATIONS ARE SDR 26.
5. SEE THIS SHEET FOR TYPICAL SANITARY SEWER / WATER CROSSING DETAIL.
6. ALL MANHOLES SHALL HAVE CONCRETE RING ENCASEMENT AND A WATER TIGHT RING AND COVER.

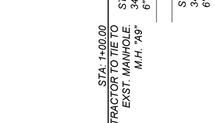


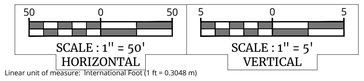
TYPICAL SANITARY SEWER/WATER CROSSING DETAIL
N.T.S.

DEVELOPER'S NAME: BEAZER HOMES
DEVELOPER'S ADDRESS: 11467 HUEBNER ROAD, SUITE 225
CITY: SAN ANTONIO STATE: TX ZIP: 78230
PHONE#: FAX#: TOTAL ACREAGE: AC.
SAWS BLOCK MAP#: 118630, 118632, 120630, 120632 TOTAL EDU'S:
TOTAL LINEAR FOOTAGE OF PIPE: 487.52 L.F. ~ SDR 26 PVC PLAT NO.:
NUMBER OF LOTS: SAWS JOB#:

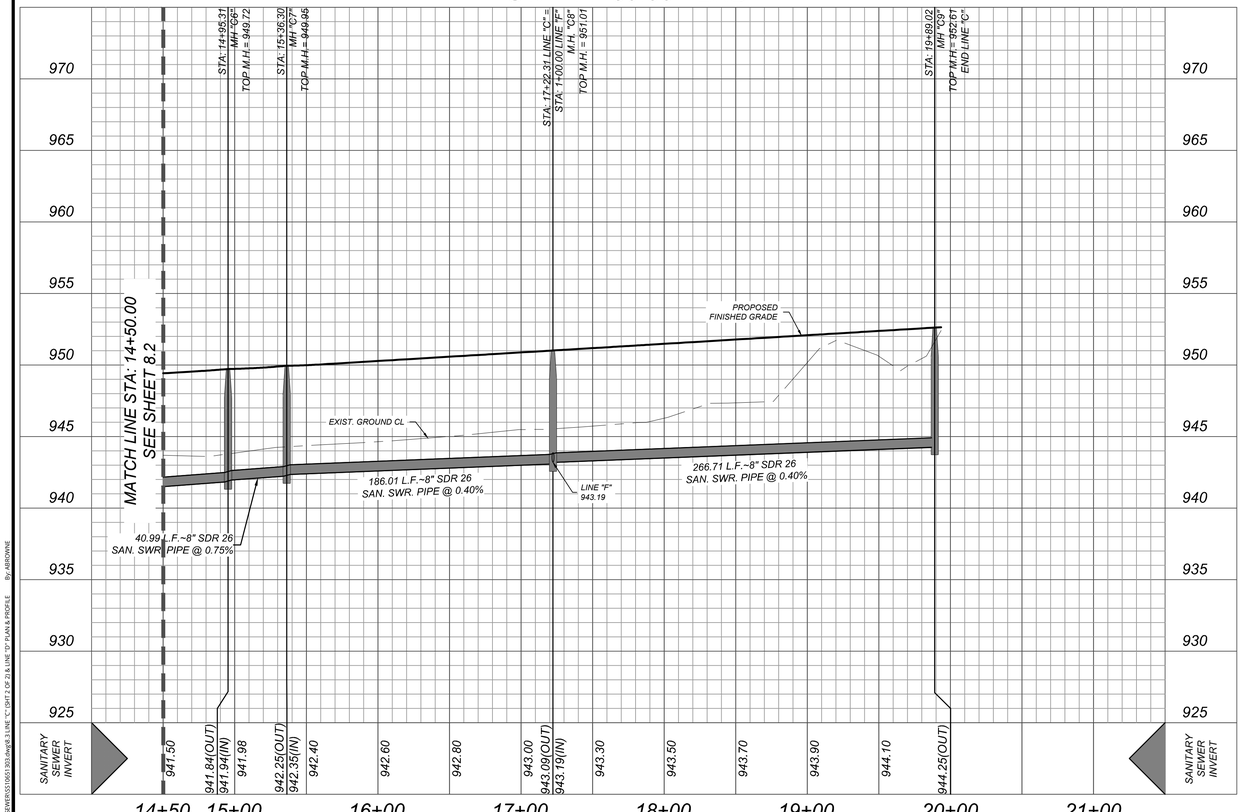


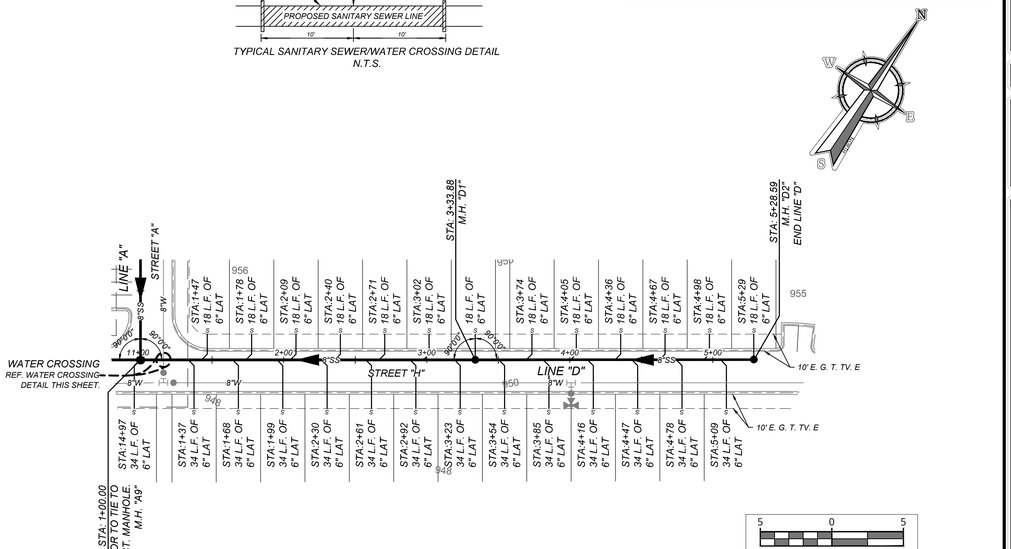
LINE "C"
STA: 14+50.00 - END



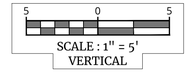


Linear unit of measure: International Foot (1 ft = 0.3048 m)

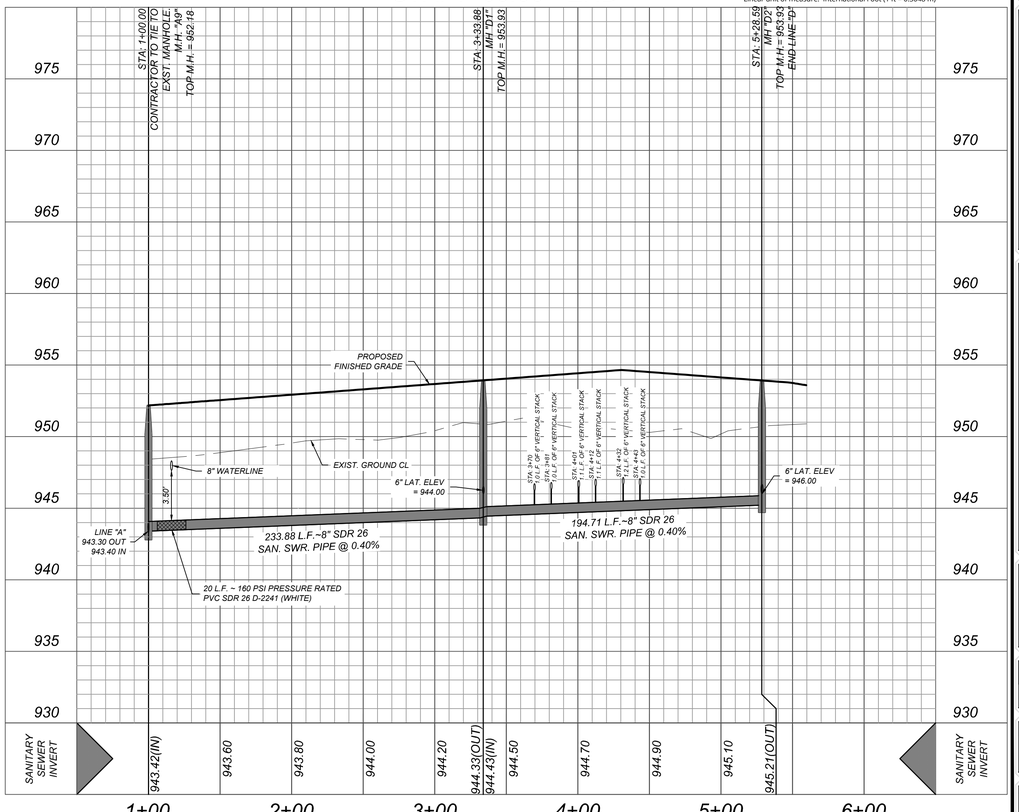




LINE "D"
STA: 1+00.00 - END



Linear unit of measure: International Foot (1 ft = 0.3048 m)



Colliers Engineering & Design
www.colliersengineering.com
Copyright © 2024. Colliers Engineering & Design All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

811 PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DESCRIPTION	DRAWN BY	DATE

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 · TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

PROJECT NUMBER: 1065-13-03
DRAWING NAME: SS10651303

SHEET TITLE:
LINE "C" (SHT 2 OF 2) & LINE "D" PLAN & PROFILE

SHEET NUMBER:
8.3

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

C:\in\SDWESS10651303.dwg(8.3 LINE "C" (SHT 2 OF 2) & LINE "D" PLAN & PROFILE By: ABROWNE

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 SITES 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.

COMPACTION NOTE:

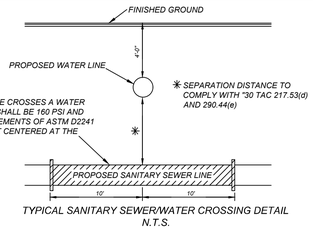
THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING 98% COMPACTION ON ALL TRENCH BACKFILL AND PAYING FOR THE TESTS TO BE PERFORMED BY A THIRD PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED OR AS INDICATED BY THE SAWS INSPECTOR/TEST ADMINISTRATOR, PER EACH 12 INCH LOOSE LIFT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

CAUTION!!! THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED 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 1-800-DIG-TESS 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.

MANHOLE NOTE:
ALL MANHOLES MUST BE WATERTIGHT, WITH WATERTIGHT RINGS AND COVERS. THESE MANHOLES MUST BE VENTED PER SAWS DETAIL DD852-02.

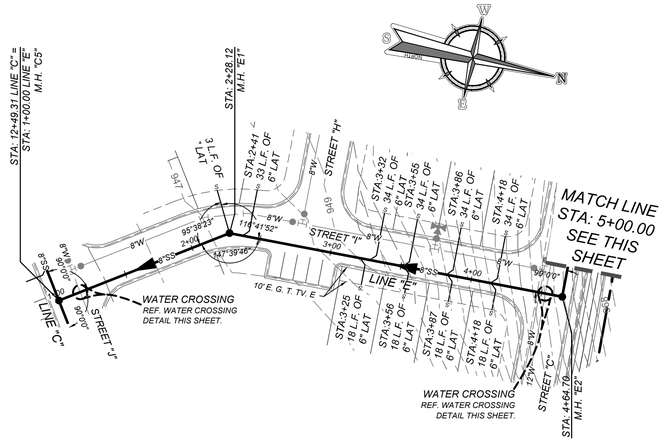
NOTE:

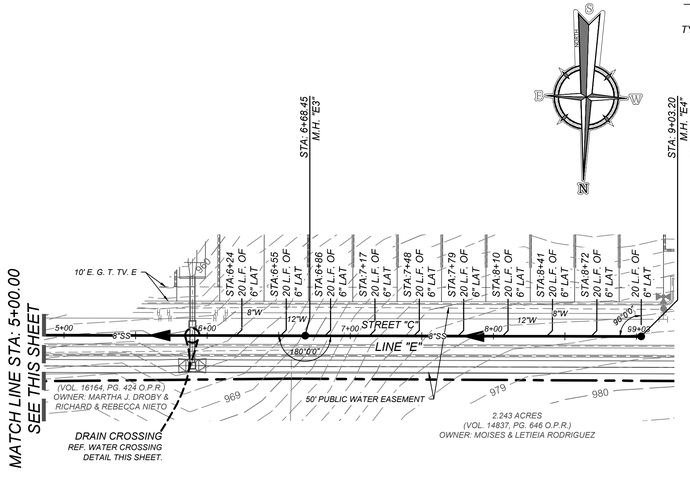
1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE IN ACCORDANCE WITH THE SAN ANTONIO WATER SYSTEM (S.A.W.S.) STANDARD SPECIFICATION.
2. SEWER PIPE WHERE WATER LINE CROSSES SHALL BE MEET THE REQUIREMENTS OF ASTM D2241. CONTRACTOR SHALL CENTER A 20 FOOT JOINT OF 160 P.S.I. PRESSURE RATED P.V.C. AT THE PROPOSED WATER CROSSING (NO SEPARATE PAY ITEM). REFERENCE SHEET ----, SANITARY SEWER GENERAL NOTES, S.A.W.S. CRITERIA FOR SEWER MAIN CONSTRUCTION IN THE VICINITY OF WATER MAINS.
3. SEE THIS SHEET FOR BENCHMARK INFORMATION.
4. PIPE TYPE DESIGNATIONS ARE SDR 26.
5. SEE THIS SHEET FOR TYPICAL SANITARY SEWER / WATER CROSSING DETAIL.
6. ALL MANHOLES SHALL HAVE CONCRETE RING ENCASEMENT AND A WATER TIGHT RING AND COVER.

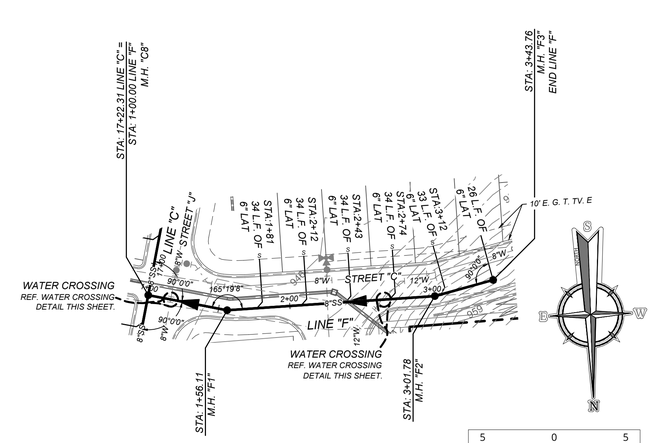


TYPICAL SANITARY SEWER/WATER CROSSING DETAIL
N.T.S.

DEVELOPER'S NAME: BEAZER HOMES			
DEVELOPER'S ADDRESS: 11467 HUEBNER ROAD, SUITE 225			
CITY: SAN ANTONIO	STATE: TX		ZIP: 78230
PHONE#:	FAX#:	TOTAL ACREAGE: AC.	
SAWS BLOCK MAP#: 118630, 118632, 120630, 120632		TOTAL EDU'S:	
TOTAL LINEAR FOOTAGE OF PIPE: 487.52 L.F. – SDR 26 PVC		PLAT NO.:	
NUMBER OF LOTS:	SAWS JOB#:		





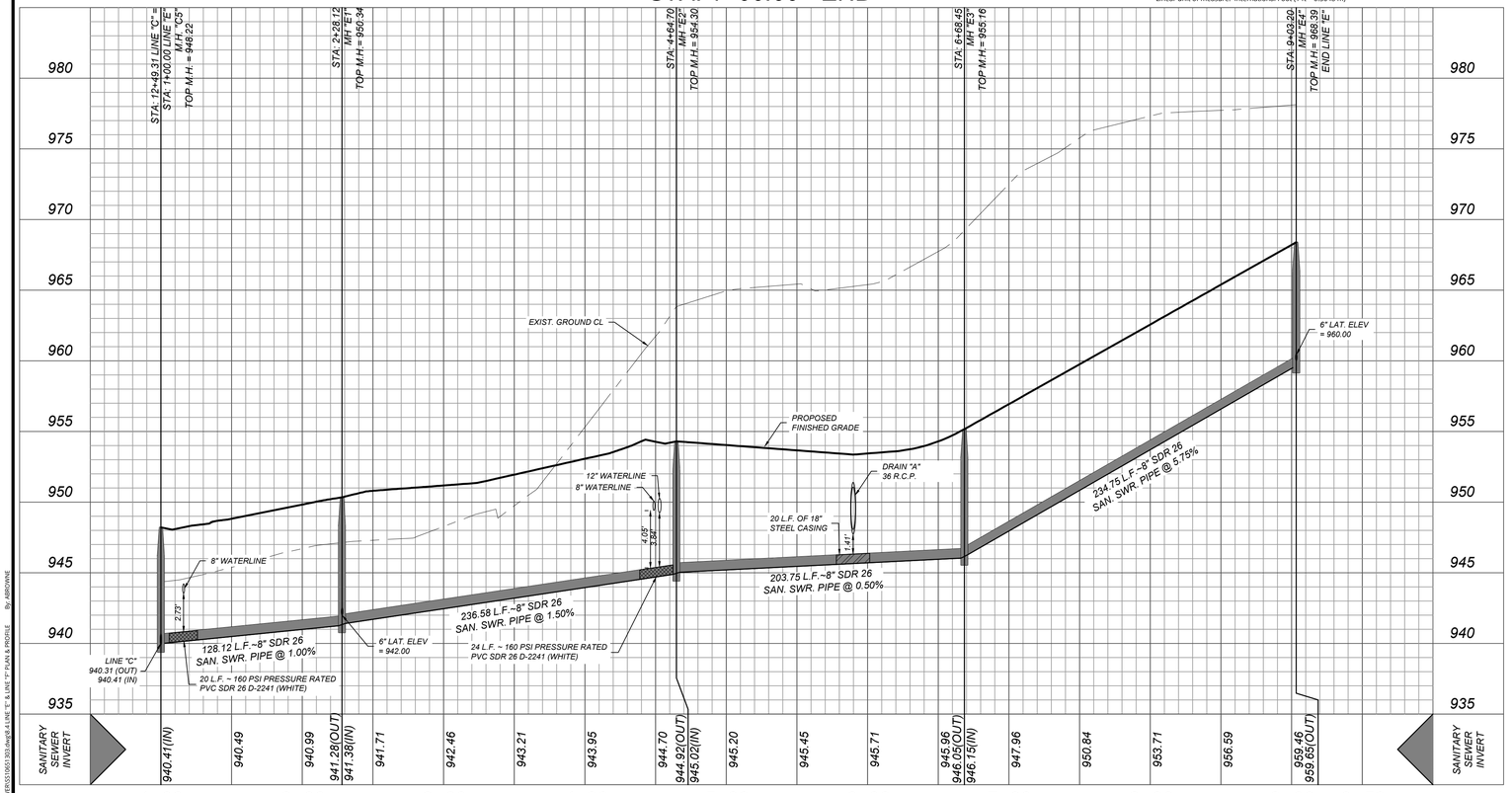


SCALE : 1" = 5'
VERTICAL

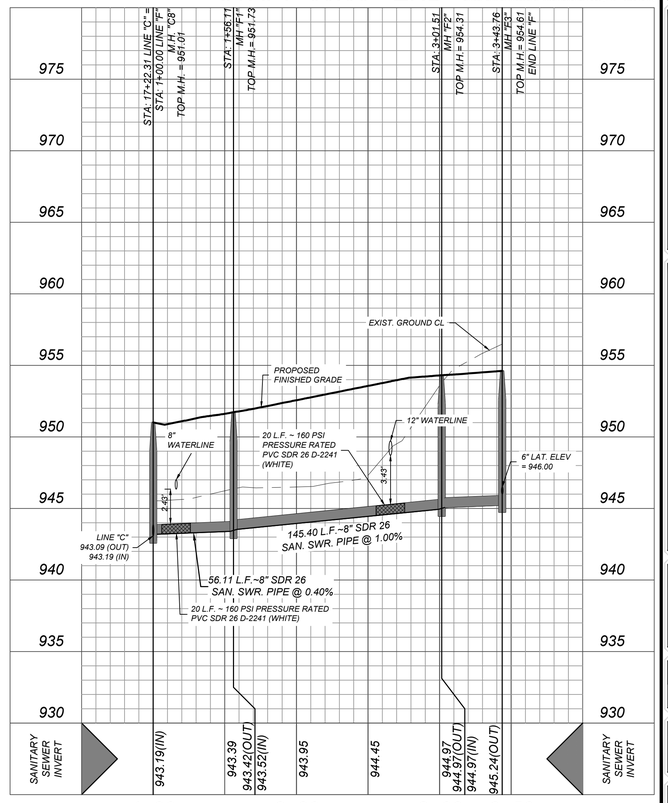
SCALE : 1" = 50'
HORIZONTAL

Linear unit of measure: International Foot (1 ft = 0.3048 m)

LINE "E"
STA: 1+00.00 - END



LINE "F"
STA: 1+00.00 - END



Colliers Engineering & Design
www.colliersengineering.com
Copyright © 2024. Colliers Engineering & Design All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

811 PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 · TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

PROJECT NUMBER:	DRAWING NAME:
1065-13-03	SS10651303

SHEET TITLE:
LINE "E" & LINE "F"
PLAN & PROFILE

SHEET NUMBER:
8.4

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

C:\nh\SDWERS\10651303.dwg[8.4 LINE "E" & LINE "F" PLAN & PROFILE By: JBROWNE

Texas Commission on Environmental Quality
Organized Sewage Collection System
General Construction Notes
TCEQ-0596 (Rev. July 15, 2015)

Edwards Aquifer Protection Program Construction Notes – Legal Disclaimer

The following/listed "construction notes" are intended to be advisory in nature only and do not constitute an approval or conditional approval by the Executive Director, nor do they constitute a comprehensive listing of rules or conditions to be followed during construction. Further actions may be required to achieve compliance with TCEQ regulations found in Title 30, Texas Administrative Code, Chapters 213 and 217, as well as local ordinances and regulations providing for the protection of water quality. Additionally, nothing contained in the following/listed "construction notes" restricts the powers of the Executive Director, the commission or any other governmental entity to prevent, correct, or curtail activities that result or may result in pollution of the Edwards Aquifer or hydrologically connected surface waters. The holder of any Edwards Aquifer Protection Plan containing "construction notes" is still responsible for compliance with Title 30, Texas Administrative Code, Chapters 213 or any other applicable TCEQ regulation, as well as all conditions of an Edwards Aquifer Protection Plan through all phases of plan implementation. Failure to comply with any condition of the Executive Director's approval, whether or not in contradiction of any "construction notes," is a violation of TCEQ regulations and any violation is subject to administrative rules, orders, and penalties as provided under Title 30, Texas Administrative Code § 213.10 (relating to Enforcement). Such violations may also be subject to civil penalties and injunction. The following/listed "construction notes" in no way represent an approved exception by the Executive Director to any part of Title 30 Texas Administrative Code, Chapters 213 and 217, or any other TCEQ applicable regulation.

1. This Organized Sewage Collection System (SCS) must be constructed in accordance with 30 Texas Administrative Code (TAC) §213.5(c), the Texas Commission on Environmental Quality's (TCEQ) Edwards Aquifer Rules and any local government standard specifications.

2. All contractors conducting regulated activities associated with this proposed regulated project must be provided with copies of the SCS plan and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractors must be required to keep on-site copies of the plan and the approval letter.

3. A written notice of construction must be submitted to the presiding TCEQ regional office at least 48 hours prior to the start of any regulated activities. This notice must include:
- *the name of the approved project;*
- *the activity start date; and*
- *the contact information of the prime contractor.*

4. Any modification to the activities described in the referenced SCS application following the date of approval may require the submittal of an SCS application to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval.

5. Prior to beginning any construction activity, all temporary erosion and sedimentation (E&S) control measures must be properly installed and maintained in accordance with the manufacturers specifications. These controls must remain in place until the disturbed areas have been permanently stabilized.

6. If any sensitive features are discovered during the wastewater line trenching activities, all regulated activities near the sensitive feature must be suspended immediately. The applicant must immediately notify the appropriate regional office of the TCEQ of the feature discovered. A geologist's assessment of the location and extent of the feature discovered must be reported to that regional office in writing and the applicant must submit a plan for ensuring the structural integrity of the sewer line or for modifying the proposed collection system alignment around the feature. The regulated activities near the sensitive feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the sensitive feature and the Edwards Aquifer from any potentially adverse impacts to water quality while maintaining the structural integrity of the line.

7. Sewer lines located within or crossing the 5-year floodplain of a drainage way will be protected from inundation and stream velocities which could cause erosion and scouring of backfill. The trench must be capped with concrete to prevent scouring of backfill, or the sewer lines must be encased in concrete. All concrete shall have a minimum thickness of 6 inches.

8. Blasting procedures for protection of existing sewer lines and other utilities will be in accordance with the National Fire Protection Association criteria. Sand is not allowed as bedding or backfill in trenches that have been blasted. If any existing sewer lines are damaged, the lines must be repaired and retested.

9. All manholes constructed or rehabilitated on this project must have watertight size on size resilient connectors allowing for differential settlement. If manholes are constructed within the 100-year floodplain, the cover must have a gasket and be bolted to the ring. Where gasketed manhole covers are required for more than three manholes in sequence or for more than 1500 feet, alternate means of venting will be provided. Bricks are not an acceptable construction material for any portion of the manhole.
The diameter of the manholes must be a minimum of four feet and the manhole for entry must have a minimum clear opening diameter of 30 inches. These dimensions and other details showing compliance with the commission's rules concerning manholes and sewer line/manhole inverts described in 30 TAC §217.55 are included on SAWS WEBSITE, HTTP://WWW.SAWS.ORG/BUSINESS_CENTER/SPECS.
It is suggested that entrance into manholes in excess of four feet deep be accomplished by means of a portable ladder. The inclusion of steps in a manhole is prohibited.

10. Where water lines and new sewer line are installed with a separation distance closer than nine feet (i.e., water lines crossing wastewater lines, water lines paralleling wastewater lines, or water lines next to manholes) the installation must meet the requirements of 30 TAC §217.53(d) (Pipe Design) and 30 TAC §290.44(e) (Water Distribution).

11. Where sewers lines deviate from straight alignment and uniform grade all curvature of sewer pipe must be achieved by the following procedure which is recommended by the pipe manufacturer: .
If pipe flexure is proposed, the following method of preventing deflection of the joint must be used: N/A.
Specific care must be taken to ensure that the joint is placed in the center of the trench and properly bedded in accordance with 30 TAC §217.54.

12. New sewage collection system lines must be constructed with stub outs for the connection of anticipated extensions. The location of such stub outs must be marked on the ground such that their location can be easily determined at the time of connection of the extensions. Such stub outs must be manufactured wyes or tees that are compatible in size and material with both the sewer line and the extension. At the time of original construction, new stub-outs must be constructed sufficiently to extend beyond the end of the street pavement. All stub-outs must be sealed with a manufactured cap to prevent leakage. Extensions that were not anticipated at the time of original construction or that are to be connected to an existing sewer line not furnished with stub outs must be connected using a manufactured saddle and in accordance with accepted plumbing techniques.
If no stub-out is present an alternate method of joining laterals is shown in the detail on SAWS WEBSITE, HTTP://WWW.SAWS.ORG/BUSINESS_CENTER/SPECS. (For potential future laterals).
The private service lateral stub-outs must be installed as shown on the plan and profile sheets on Plan Sheet 8.2 to 8.4 and marked after backfilling as shown in the detail on PSAWS WEBSITE, HTTP://WWW.SAWS.ORG/BUSINESS_CENTER/SPECS.

13. Trenching, bedding and backfill must conform with 30 TAC §217.54. The bedding and backfill for flexible pipe must comply with the standards of ASTM D-2321, Classes IA, IB, II or III. Rigid pipe bedding must comply with the requirements of ASTM C 12 (ANSI A 106.2) classes A, B or C.

14. Sewer lines must be tested from manhole to manhole. When a new sewer line is connected to an existing stub or clean-out, it must be tested from existing manhole to new manhole. If a stub or clean-out is used at the end of the proposed sewer line, no private service attachments may be connected between the last manhole and the cleanout unless it can be certified as conforming with the provisions of 30 TAC §213.5(c)(3)(E).

15. All sewer lines must be tested in accordance with 30 TAC §217.57. The engineer must retain copies of all test results which must be made available to the executive director upon request. The engineer must certify in writing that all wastewater lines have passed all required testing to the appropriate regional office within 30 days of test completion and prior to use of the new collection system. Testing method will be:
(a) For a collection system pipe that will transport wastewater by gravity flow, the design must specify an infiltration and exfiltration test or a low-pressure air test. A test must conform to the following requirements:
(1) Low Pressure Air Test.
(A) A low pressure air test must follow the procedures described in American Society For Testing And Materials (ASTM) C-828, ASTM C- 924, or ASTM F-1417 or other procedure approved by the executive director, except as to testing times as required in Table C.3 in subparagraph (C) of this paragraph or Equation C.3 in subparagraph (B)(ii) of this paragraph.
(B) For sections of collection system pipe less than 36 inch average inside diameter, the following procedure must apply, unless a pipe is to be tested as required by paragraph (2) of this subsection.
(i) A pipe must be pressurized to 3.5 pounds per square inch (psi) greater than the pressure exerted by groundwater above the pipe.
(ii) Once the pressure is stabilized, the minimum time allowable for the pressure to drop from 3.5 psi gauge to 2.5 psi gauge is computed from the following equation:

Equation C.3

Where:

$$T = \frac{0.085xDxK}{Q}$$

T = time for pressure to drop 1.0 pound per square inch gauge in seconds
K = 0.000419 X D X L, but not less than 1.0
D = average inside pipe diameter in inches
L = length of line of same size being tested, in feet
Q = rate of loss, 0.0015 cubic feet per minute per square foot internal surface
(C) Since a K value of less than 1.0 may not be used, the minimum testing time for each pipe diameter is shown in the following Table C.3:

PIPE DIAMETER (INCHES)	*MINIMUM TIME (SECONDS)*	*LENGTH FOR MINIMUM (FEET)*	*TIME FOR LONGER LENGTH (SECONDS/FOOT)*
6	*340*	*398*	*0.855*
8	*454*	*298*	*1.520*
10	*567*	*239*	*2.374*
12	*680*	*199*	*3.419*
15	*850*	*159*	*5.342*
18	*1020*	*133*	*7.693*
21	*1190*	*114*	*10.471*
24	*1360*	*100*	*13.676*
27	*1530*	*88*	*17.309*
30	*1700*	*80*	*21.369*
33	*1870*	*72*	*25.856*

(D) An owner may stop a test if no pressure loss has occurred during the first 25% of the calculated testing time.
(E) If any pressure loss or leakage has occurred during the first 25% of a testing period, then the test must continue for the entire test duration as outlined above or until failure.
(F) Wastewater collection system pipes with a 27 inch or larger average inside diameter may be air tested at each joint instead of following the procedure outlined in this section.
(G) A testing procedure for pipe with an inside diameter greater than 33 inches must be approved by the executive director.
(2) Infiltration/Exfiltration Test.
(A) The total exfiltration, as determined by a hydrostatic head test, must not exceed 50 gallons per inch of diameter per mile of pipe per 24 hours at a minimum test head of 2.0 feet above the crown of a pipe at an upstream manhole.
(B) An owner shall use an infiltration test in lieu of an exfiltration test when pipes are installed below the groundwater level.
(C) The total exfiltration, as determined by a hydrostatic head test, must not exceed 50 gallons per inch diameter per mile of pipe per 24 hours at a minimum test head of two feet above the crown of a pipe at an upstream manhole, or at least two feet above existing groundwater level, whichever is greater.
(D) For construction within a 25-year flood plain, the infiltration or exfiltration must not exceed 10 gallons per inch diameter per mile of pipe per 24 hours at the same minimum test head as in subparagraph (C) of this paragraph.
(E) If the quantity of infiltration or exfiltration exceeds the maximum quantity specified, an owner shall undertake remedial action in order to reducethe infiltration or exfiltration to an amount within the limits specified. An owner shall retest a pipe following a remediation action.
(b) If a gravity collection pipe is composed of flexible pipe, deflection testing is also required. The following procedures must be followed:
(1) For a collection pipe with inside diameter less than 27 inches, deflection measurement requires a rigid mandrel.
(A) Mandrel Sizing.
(i) A rigid mandrel must have an outside diameter (OD) not less than 95% of the base inside diameter (ID) or average ID of a pipe, as specified in the appropriate standard by the ASTMs, American Water Works Association, UNI-BELL, or American National Standards Institute, or any related appendix.
(ii) If a mandrel sizing diameter is not specified in the appropriate standard, the mandrel must have an OD equal to 95% of the ID of a pipe. In this case, the ID of the pipe, for the purpose of determining the OD of the mandrel, must equal be the average outside diameter minus two minimum wall thicknesses for OD controlled pipe and the average inside diameter for ID controlled pipe.
(iii) All dimensions must meet the appropriate standard.
(B) Mandrel Design.
(i) A rigid mandrel must be constructed of a metal or a rigid plastic material that can withstand 200 psi without being deformed.
(ii) A mandrel must have nine or more odd number of runners or legs.
(iii) A barrel section length must equal at least 75% of the inside diameter of a pipe.
(iv) Each size mandrel must use a separate proving ring.
(C) Method Options.
(i) An adjustable or flexible mandrel is prohibited.
(ii) A test may not use television inspection as a substitute for a deflection test.
(iii) If requested, the executive director may approve the use of a deflectometer or a mandrel with removable legs or runners on a case-by-case basis.
(2) For a gravity collection system pipe with an inside diameter 27 inches and greater, other test methods may be used to determine vertical deflection.
(3) A deflection test method must be accurate to within plus or minus 0.2% deflection.
(4) An owner shall not conduct a deflection test until at least 30 days after the final backfill.
(5) Gravity collection system pipe deflection must not exceed five percent (5%).
(6) If a pipe section fails a deflection test, an owner shall correct the problem and conduct a second test after the final backfill has been in place at least 30 days.

16. All manholes must be tested to meet or exceed the requirements of 30 TAC §217.58.
(a) All manholes must pass a leakage test.
(b) An owner shall test each manhole (after assembly and backfilling) for leakage, separate and independent of the collection system pipes, by hydrostatic exfiltration testing, vacuum testing, or other method approved by the executive director.
(1) Hydrostatic Testing.
(A) The maximum leakage for hydrostatic testing or any alternative test methods is 0.025 gallons per foot diameter per foot of manhole depth per hour.
(B) To perform a hydrostatic exfiltration test, an owner shall seal all wastewater pipes coming into a manhole with an internal pipe plug, fill the manhole with water, and maintain the test for at least one hour.
(C) A test for concrete manholes may use a 24-hour wetting period before testing to allow saturation of the concrete.
(2) Vacuum Testing.
(A) To perform a vacuum test, an owner shall plug all lift holes and exterior joints with a non-shrink grout and plug all pipes entering a manhole.
(B) No grout must be placed in horizontal joints before testing.
(C) Stub-outs, manhole boots, and pipe plugs must be secured to prevent movement while a vacuum is drawn.
(D) An owner shall use a minimum 60 inch/lb torque wrench to tighten the external clamps that secure a test cover to the top of a manhole.
(E) A test head must be placed at the inside of the top of a cone section, and the seal inflated in accordance with the manufacturer's recommendations.
(F) There must be a vacuum of 10 inches of mercury inside a manhole to perform a valid test.
(G) A test does not begin until after the vacuum pump is off.
(H) A manhole passes the test if after 2.0 minutes and with all valves closed, the vacuum is at least 9.0 inches of mercury.

17. All private service laterals must be inspected and certified in accordance with 30 TAC §213.5(c)(3)(I). After installation of and, prior to covering and connecting a private service lateral to an existing organized sewage collection system, a Texas Licensed Professional Engineer, Texas Registered Sanitarian, or appropriate city inspector must visually inspect the private service lateral and the connection to the sewage collection system, and certify that it is constructed in conformity with the applicable provisions of this section. The owner of the collection system must maintain such certifications for five years and forward copies to the appropriate regional office upon request. Connections may only be made to an approved sewage collection system.

Austin Regional Office
12100 Park 35 Circle, Building A
Austin, Texas 78753-1808
Phone (512) 339-2929
Fax (512) 339-3795

San Antonio Regional Office
14250 Judson Road
San Antonio, Texas 78233-4480
Phone (210) 490-3096
Fax (210) 545-4329

THESE GENERAL CONSTRUCTION NOTES MUST BE INCLUDED ON THE CONSTRUCTION PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.

I. WHERE A SEWER MAIN CROSSES OVER A WATER MAIN AND THE SEPARATION DISTANCE IS LESS THAN NINE (9) FEET, ALL PORTIONS OF THE SEWER MAIN WITHIN NINE (9) FEET OF THE WATER LINE SHALL BE CONSTRUCTED USING 150 PSI PRESSURE RATED DUCTILE IRON, CAST IRON OR PVC PIPE AND JOINED WITH EQUALLY PRESSURE RATED PRESSURE RING GASKET CONNECTIONS OR CORROSION PROTECTED MECHANICAL COUPLING DEVICES OF A CAST IRON OR DUCTILE IRON MATERIAL. A SECTION OF 150 PSI PRESSURE RATED PIPE AT LEAST EIGHTEEN (18) FEET IN LENGTH MAY BE CENTERED ON THE WATER MAIN IN LIEU OF PIPE CONNECTION REQUIREMENTS. (NO SEPARATE PAY ITEM.)

II. WHERE A SEMI-RIGID OR RIGID SEWER MAIN CROSSES UNDER A WATER MAIN AND THE SEPARATION DISTANCE IS LESS THAN NINE FEET BUT GREATER THAN TWO FEET, THE INITIAL BACKFILL SHALL BE CEMENT STABILIZED SAND (TWO OR MORE BAGS OF CEMENT PER CUBIC YARD OF SAND) FOR ALL SECTIONS OF THE SEWER WITHIN NINE FEET OF THE WATER MAIN.

III. WHERE A SEWER MAIN CROSSES UNDER A WATER MAIN AND THE SEPARATION DISTANCE IS LESS THAN TWO FEET, THE SEWER MAIN SHALL BE CONSTRUCTED OF CAST IRON, DUCTILE IRON, OR PVC WITH A MINIMUM PRESSURE RATING OF 150 PSI WITHIN NINE FEET OF THE WATER MAIN, SHALL HAVE A SEGMENT OF SEWER PIPE CENTERED ON THE WATER MAIN, SHALL BE PLACED NO CLOSER THAN SIX INCHES BETWEEN OUTER DIAMETERS, AND SHALL BE JOINED WITH PRESSURE RING GASKET CONNECTIONS OR CORROSION PROTECTED MECHANICAL COUPLING DEVICES OF A CAST IRON OR DUCTILE IRON MATERIAL. A SECTION CENTERED ON THE WATER MAIN IN LIEU OF PIPE CONNECTION REQUIREMENTS. (NO SEPARATE PAY ITEM)

IV. WHERE A SEWER MAIN PARALLELS A WATER MAIN AND THE SEPARATION DISTANCE IS LESS THAN NINE FEET, THE SEWER MAIN SHALL BE BELOW THE WATER MAIN, SHALL BE CONSTRUCTED OF CAST IRON, DUCTILE IRON, OR PVC WITH A MINIMUM PRESSURE RATING OF 150 PSI FOR BOTH PIPE AND JOINTS FOR A DISTANCE OF NINE FEET BEYOND THE POINT OF CONFLICT, SHALL MAINTAIN A MINIMUM SEPARATION DISTANCE BETWEEN OUTER DIAMETERS OF TWO FEET VERTICALLY AND FOUR FEET HORIZONTALLY, AND SHALL BE JOINED WITH PRESSURE RING GASKET CONNECTIONS OR CORROSION PROTECTED MECHANICAL COUPLING DEVICES OF A CAST IRON OR DUCTILE IRON MATERIAL.

V. SANITARY SEWER MANHOLES SHALL NOT BE INSTALLED ANY CLOSER THAN NINE FEET TO WATER MAINS.

30 TAC 217.58 "TESTING REQUIREMENTS FOR MANHOLES"

(a) All manholes must pass a leakage test.

(b) An owner shall test each manhole (after assembly and backfilling) for leakage, separate and independent of the collection system pipes, by hydrostatic exfiltration testing, vacuum testing, or other method approved by the executive director.

(1) Hydrostatic Testing.

(A) The maximum leakage for hydrostatic testing or any alternative test methods is 0.025 gallons per foot diameter per foot of manhole depth per hour.

(B) To perform a hydrostatic exfiltration test, an owner shall seal all wastewater pipes coming into a manhole with an internal pipe plug, fill the manhole with water, and maintain the test for at least one hour.

(C) A test for concrete manholes may use a 24-hour wetting period before testing to allow saturation of the concrete.

(2) Vacuum Testing.

(A) To perform a vacuum test, an owner shall plug all lift holes and exterior joints with a non-shrink grout and plug all pipes entering a manhole.

(B) No grout must be placed in horizontal joints before testing.

(C) Stub-outs, manhole boots, and pipe plugs must be secured to prevent movement while a vacuum is drawn.

(D) An owner shall use a minimum 60 inch/lb torque wrench to tighten the external clamps that secure a test cover to the top of a manhole.

(E) A test head must be placed at the inside of the top of a cone section, and the seal inflated in accordance with the manufacturer's recommendations.

(F) There must be a vacuum of 10 inches of mercury inside a manhole to perform a valid test.

(G) A test does not begin until after the vacuum pump is off.

(H) A manhole passes the test if after 2.0 minutes and with all valves closed, the vacuum is at least 9.0 inches of mercury.

COMPACTION 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 TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED OR AS INDICATED BY SAWS INSPECTOR/TEST ADMINISTRATOR, PER EACH 12 INCH LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM. PERMITS AND/OR WILL NOT BE ACCEPTED AND FINALIZED BY SAWS WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.

30 TAC 217.54 "PIPE BEDDING AND TRENCH REQUIREMENTS"

A. Pipe Embedment
1. A rigid pipe must be laid with the adequate bedding, haunching, and initial backfill to support the anticipated load. The bedding classes that are allowed are A, B, or C, as described in American Society for Testing and Materials (ASTM) C 12, American National Standards Institute (ANSI) A 106.2,Water Environment Federation Manual of Practice No. 9 or American Society of Civil Engineers (ASCE) MOP 37.
2. A flexible pipe must be laid with the adequate bedding, haunching, and initial backfill to support the anticipated load. The bedding classes that are allowed are IA, IB, II, or III, as described in ASTM D-2321 or ANSI K65.171.
3. Debris, large clods, or stones that are greater than six inches in diameter, organic matter, or other unstable materials are prohibited as bedding, haunching, or initial backfill.
4. Backfill must not disturb the alignment of a collection system pipe.
5. If trenching encounters significant fracture, fault zones, caves, or solutional modification to the rock strata, an owner must halt construction until an engineer prepares a written report detailing how construction will accommodate these site conditions.

B. Compaction
1. Compaction of an embedment envelope must meet the manufacturer's recommendations for the collection system pipe used in a project.
2. Compaction of an embedment envelope must provide the modulus of soil reaction for the bedding material necessary to ensure a wastewater collection system pipe's structural integrity as required by §217.53 of this title (relating to Pipe Design).
3. The placement of the backfill above a pipe must not affect the structural integrity of a pipe.

C. Envelope Size
1. A minimum clearance of 6.0 inches below and on each side of the bell of all pipes to the trench walls and floor is required.
2. The embedment material used for haunching and initial backfill must be installed to a minimum depth of 12 inches above the crown of a pipe.

D. Trench Width
1. The width of a trench must allow a pipe to be laid and jointed properly and must allow the backfill to be placed and compacted as needed.
2. The maximum and minimum trench width needed for safety and a pipe's structural integrity must be included in the report.
3. The width of a trench must be sufficient to properly and safely place and compact haunching materials.
4. The space between a pipe and a trench wall must be wider than the compaction equipment used in the pipe zone.

Colliers
Engineering & Design
www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

811 PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 · TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1 STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS FOR BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

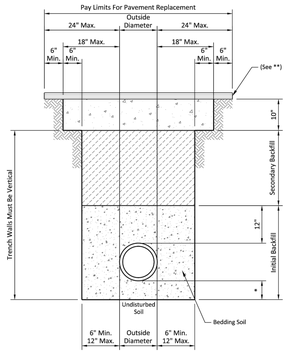
PROJECT NUMBER: 1065-13-03
DRAWING NAME: DTSS1065I1303

SHEET TITLE: SANITARY SEWER PLAN NOTES

SHEET NUMBER: 8.5

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

C:\n\DGN\DTSS1065I1303.dwg,8.1 SANITARY SEWER PLAN NOTES By: ABROWNE



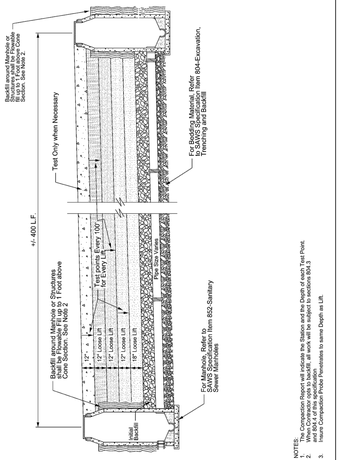
The Existing Material at the Bearing Level shall be Removed and Replaced to a Minimum Depth of 6-inches or ⅙ of the Outside Diameter of the Pipe, whichever is greater, with Bedding Material.

In Areas of over Excavation, Encasement shall extend from Trench Wall. Pay Limits shall not Exceed 12" Max. as shown on Detail. Additional Encasement shall be Incidental.

* Sewer Gravel 6" Min. or ⅙ O.D. of the Pipe, whichever is greater.
** Minimum 2" HMAC Type "D" for Trench Repair in Local/Residential Streets.
** Minimum 3" HMAC Type "C" for Trench Repair in Collector/Arterial Streets.

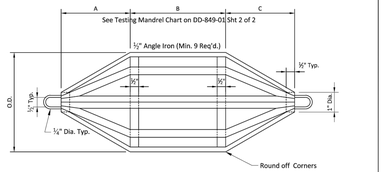
- Hot Mix Asphalt Concrete (HMAC)
- Asphalt Treated Base (A.T.B.)

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	SANITARY SEWER PIPE LAID IN TRENCH	MARCH 2008	AUG 2019
		DD-804-01	SHEET 1 OF 1

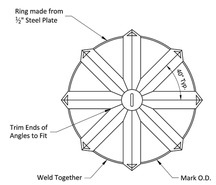


NOTES:
1. The Compaction Report will indicate the Station and the Depth of each Test Point, and Lift of this specification.
2. Failing Tests will require Retesting, all work will be subject to sections 804.3
3. Trench Compaction Protect Provisions for same Depth on Lift.

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	TRENCH COMPACTION DETAIL	MARCH 2018	AUG 2019
		DD 804-02	SHEET 1 OF 1



SIDE OR TOP VIEW



END VIEW

Note:
All Mandrels must be Approved by SAWS Construction Inspection Dept. and Stamped before Use.

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	GO, NO GO DEFLECTION TESTING MANDREL	March 2008	December 2019
		DD-849-01	SHEET 1 OF 2

SIZE	A	B*	MANDREL O.D. PVC (SDR -26)	RING O.D. PVC (SDR -26)
6"	4.0"	4.5"	5.50	4.79
8"	5.5"	6"	7.37	6.66
10"	7.0"	7.5"	9.21	8.50
12"	8.0"	9"	10.96	10.25
15"	10.0"	11"	13.42	12.71
18"	12.0"	13.5"	———	———
21"	14.0"	16"	———	———
24"	16.0"	18"	———	———
27"	18.0"	20"	———	———

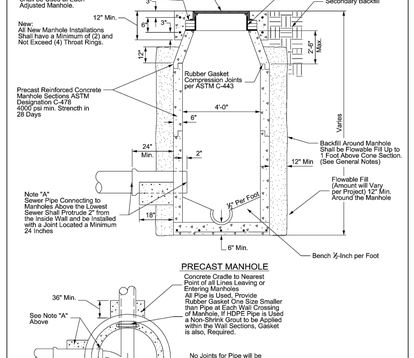
*Minimum Length

CHART

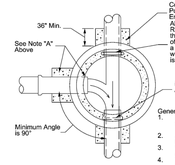
Notes:
PVC Pipes and Fittings 6" to 15" in Diameter shall Conform to ASTM D-2241
PVC Pipes and Fittings 18" to 27" in Diameter shall Conform to ASTM F-679

This information is provided as a reference. All deflection testing shall be done in accordance with TCEQ Capter 217.

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	GO, NO GO DEFLECTION TESTING MANDREL CHART	March 2008	December 2019
		DD-849-01	SHEET 2 OF 2



PRECAST MANHOLE



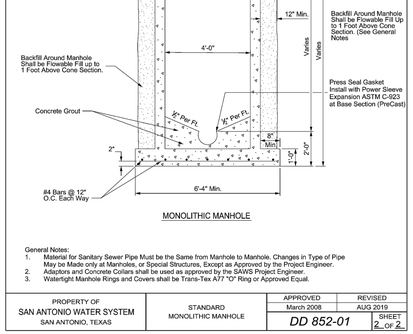
Concrete Cradle to Nearest Point of all Lines Leaving or Entering Manholes. All Pipe is Used, Provide Rubber Gasket One Size Smaller than Pipe at Each Wall Crossing of Manhole, if HDPE Pipe is Used a Non-Shrink Grout to be Applied within the Wall Sections, Gasket is also, Required.

No Joints for Pipe will be Allowed within Wall Section

General Notes:
1. Material for Sanitary Sewer Pipe must be the Same from Manhole to Manhole. Changes in Type of Pipe may be Made Only at Manholes, or Special Structures, except as Approved by the SAWS Inspector.
2. Adapters and Concrete Collars shall be Used as Directed and Approved by theSAWS Inspector.
3. Watertight Manhole Rings and Covers shall be Trans-Tex A77 "O" Ring or Approved Equal.
4. The Minimum Angle of Flow for a Connecting Sewer to the Direction of Flow Defined by a Collection System is 90 Degrees, unless Approved by the Engineer.

PRECAST MANHOLE

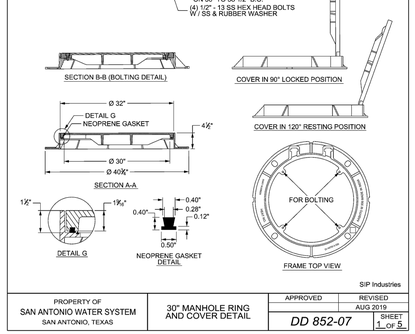
PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	STANDARD PRECAST MANHOLE	MAY 2013	AUG 2019
		DD-852-01	SHEET 1 OF 2



MONOLITHIC MANHOLE

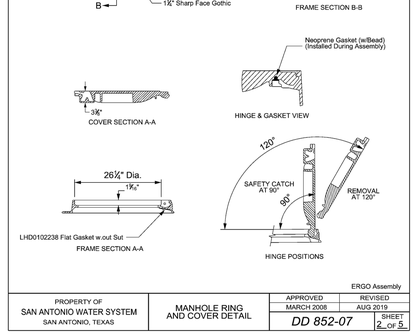
General Notes:
1. Material for Sanitary Sewer Pipe Must be the Same from Manhole to Manhole. Changes in Type of Pipe May be Made only at Manholes, or Special Structures, Except as Approved by the Project Engineer.
2. Adaptors and Concrete Collars shall be used as approved by the SAWS Project Engineer.
3. Watertight Manhole Rings and Covers shall be Trans-Tex A77 "O" Ring or Approved Equal.

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	STANDARD MONOLITHIC MANHOLE	March 2008	AUG 2019
		DD 852-01	SHEET 2 OF 2



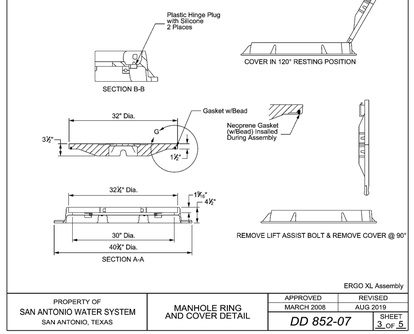
SIP Industries

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	30" MANHOLE RING AND COVER DETAIL	APPROVED	REVISED
		DD 852-07	SHEET 1 OF 5



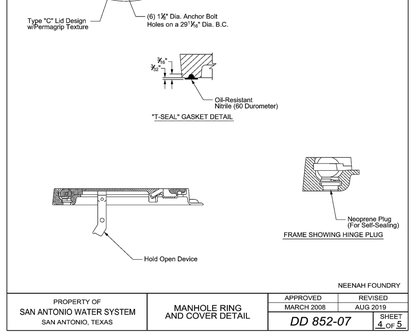
ERGO Assembly

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	MANHOLE RING AND COVER DETAIL	APPROVED	REVISED
		MARCH 2008	AUG 2019
		DD 852-07	SHEET 2 OF 5



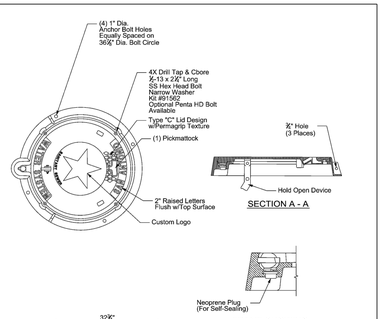
ERGO XL Assembly

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	MANHOLE RING AND COVER DETAIL	APPROVED	REVISED
		MARCH 2008	AUG 2019
		DD 852-07	SHEET 3 OF 5



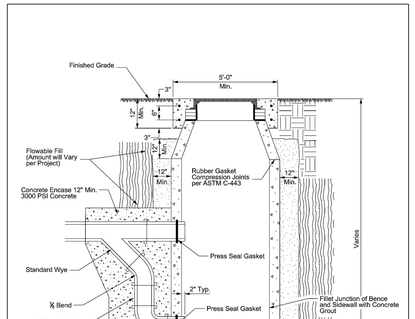
NEENAH FOUNDRY

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	MANHOLE RING AND COVER DETAIL	APPROVED	REVISED
		MARCH 2008	AUG 2019
		DD 852-07	SHEET 4 OF 5



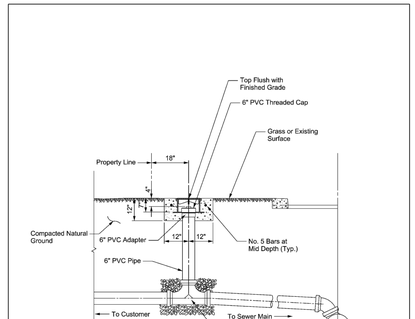
NEENAH FOUNDRY

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	MANHOLE RING AND COVER DETAIL	MARCH 2008	AUG 2019
		DD 852-07	SHEET 5 OF 5



NOTE: Price for Drop Fittings and Encasement to be Included with the Price of Manhole.

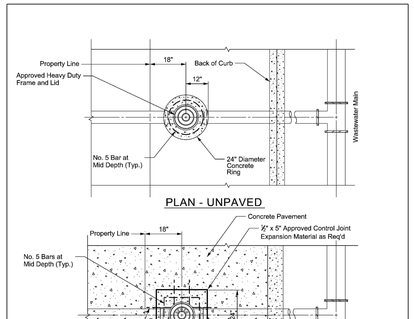
PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	DROP MANHOLE DETAIL	MARCH 2008	AUG 2019
		DD-852-08	SHEET 1 OF 1



*Approved Frame & Lid (Heavy Duty)

FOR NEW DEVELOPMENT CLEAN-OUTS MAY NOT BE PLACED IN PAVED AREAS I.E. SIDEWALKS, DRIVEWAYS, OR PARKING LOTS, AND MUST BE LOCATED A MINIMUM OF 6" FROM ALL PAVED AREAS.

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	TYPICAL CLEANOUT DETAIL	MARCH 2008	AUG 2019
		DD-854-02	SHEET 1 OF 3



*Approved Frame & Lid (Heavy Duty)

FOR NEW DEVELOPMENT CLEAN-OUTS MAY NOT BE PLACED IN PAVED AREAS I.E. SIDEWALKS, DRIVEWAYS, OR PARKING LOTS, AND MUST BE LOCATED A MINIMUM OF 6" FROM ALL PAVED AREAS.

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	TYPICAL CLEANOUT DETAIL	MARCH 2008	AUG 2019
		DD-854-02	SHEET 2 OF 3

Colliers Engineering & Design

www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

811 PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 - TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

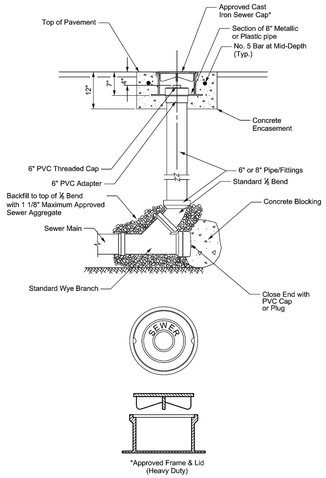
SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL
PROJECT NUMBER: 1065-13-03	DRAWING NAME: DTSS10651303		

SHEET TITLE:
SANITARY SEWER DETAILS (SHT 1 OF 2)

SHEET NUMBER:
8.6

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

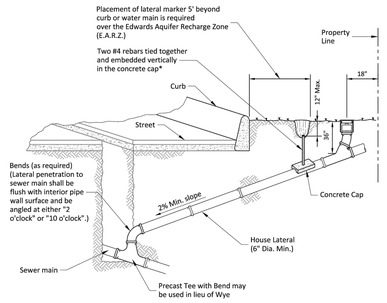
Civil\SEWER\DTSS10651303.dwg\8.6 SANITARY SEWER DETAILS (SHT 1 OF 2) By: ABROWNE



Note: Depending upon the type of service that an 8 inch lateral (on a dead end main) is providing, a standard manhole in lieu of this cleanout may be required. Consult with the SAWS Inspector.

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	TYPICAL CLEANOUT DETAIL (ON DEAD-END MAIN)	APPROVED	REVISED
		MARCH 2008	AUG 2019
		DD-854-02	SHEET 3 OF 3

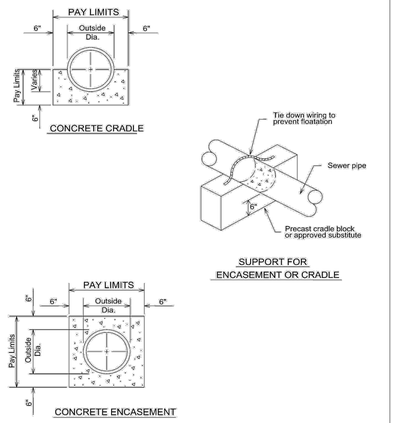
Depth and grade of service laterals as shown, are typical only. Actual depth, alignment and grade of service laterals shall be determined by the Engineer based on the elevations of the sewer main, street, natural ground and building to be serviced.



HOUSE LATERAL DETAIL

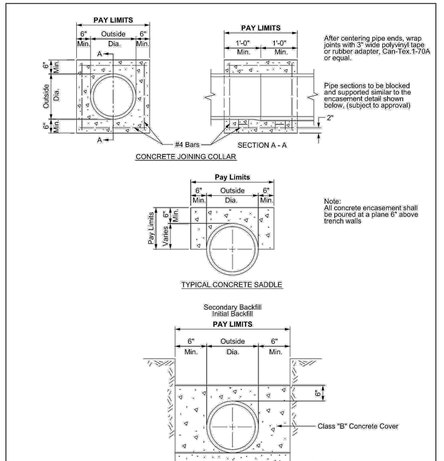
Note:
A minimum of 3' of cover to subgrade is necessary, otherwise concrete encasement will be required.

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	HOUSE LATERAL DETAIL (IN THE E.A.R.Z.)	APPROVED	REVISED
		March 2008	December 2018
		DD-854-EARZ	SHEET 1 OF 1

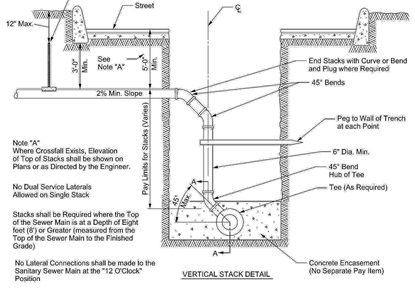


Notes:
1) All concrete encasement shall be poured at a plane 6" above the pipe between excavated trench walls.
2) All sewer pipe with less than 3' of cover to subgrade shall be concrete encased.
3) All Force mains shall be provided with thrust blocks, where changes in direction occur, at Tees, Bends, Crosses, changes in size, stops, or as directed by SAWS.

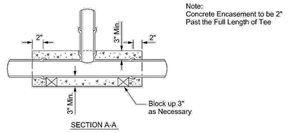
PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	TYPICAL CONCRETE ENCASEMENT DETAILS	APPROVED	REVISED
		March 2008	AUG 2019
		DD-858-01	SHEET 1 OF 1



PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	TYPICAL CONCRETE DETAILS	APPROVED	REVISED
		MARCH 2008	AUG 2019
		DD 858-02	SHEET 1 OF 1



VERTICAL STACK DETAIL



SECTION A-A

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	TYPICAL VERTICAL STACK DETAIL	APPROVED	REVISED
		MARCH 2008	AUG 2019
		DD 860-01	SHEET 1 OF 1

Colliers Engineering & Design

www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

811 PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 · TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

PROJECT NUMBER: 1065-13-03
DRAWING NAME: DTSS10651303

SHEET TITLE: SANITARY SEWER DETAILS (SHT 2 OF 2)

SHEET NUMBER: 8.7

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

C:\vm\SEWER\DTSS10651303.dwg 8.7 SANITARY SEWER DETAILS (SHT 2 OF 2) By: ABRONNE

CAUTION!!! THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED 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 1-800-DIG-TESS 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.

FIRE FLOW NOTE:

IN AN EFFORT TO MEET THE CITY OF SAN ANTONIO'S FIRE FLOW REQUIREMENTS FOR THE PROPOSED RESIDENTIAL DEVELOPMENT, THE PUBLIC WATER MAIN SYSTEM HAS BEEN DESIGNED FOR A MINIMUM FIRE FLOW DEMAND OF 1,500 GPM AT 25 PSI RESIDUAL PRESSURE. THE FIRE FLOW REQUIREMENTS FOR INDIVIDUAL STRUCTURES WILL BE REVIEWED DURING THE BUILDING PERMIT PROCESS IN ACCORDANCE WITH THE PROCEDURES SET FORTH BY THE CITY OF SAN ANTONIO DIRECTOR OF DEVELOPMENT SERVICES DEPARTMENT AND THE SAN ANTONIO FIRE DEPARTMENT FIRE MARSHAL.

WATER PLAN NOTES:

1. *ALL PVC PIPE TO BE A MINIMUM OF C-900 DR 18 CLASS 235.*
2. *FOR TYPICAL STREET SECTIONS SEE DETAIL THIS SHEET.*
3. *WATER METER BY LOCATIONS BY LOCATIONS ARE SHOWN SYMBOLICALLY TO SERVICE THE LOTS BUT SHALL BE LOCATED IN ACCORDANCE WITH THE STANDARD S.A.W.S. WATER DETAILS & SPECIFICATIONS.*
4. *WHERE WATER SERVICES AND LIGHT POLE FOUNDATIONS ARE PROPOSED TO BE AT THE SAME LOT CORNERS, SERVICE TAPS AND LEADS SHOULD BE AT LEAST 3 FEET FROM THE LIGHT POLE FOUNDATION.*
5. *ALL VALVES SHALL READ "OPEN RIGHT"*

SAWS NOTE:

1. *"SAWS REQUIRES GCPs AND COUNTER PERMIT TO USE LEAD FREE (<0.25% LEAD) FIRE HYDRANTS."*
2. *ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE IN ACCORDANCE WITH THE SAN ANTONIO WATER SYSTEM (S.A.W.S.) STANDARD SPECIFICATIONS.*

JOINT RESTRAINT NOTE:

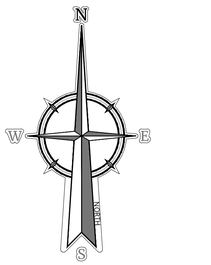
CONTRACTOR SHALL INSTALL RETAINER GLANDS AT ALL FITTINGS AND PROVIDE JOINT RESTRAINING HARNESS OR FIELD LOCK GASKETS AT ALL JOINTS WITHIN THE LENGTH SHOWN. CONTRACTOR SHALL INSURE THAT ALL TEES, BENDS, VALVES, ETC. HAVE A MINIMUM OF 5 FT OF PIPE WITH NO JOINTS ON EACH SIDE OF THE FITTING. JOINT RESTRAINTS AND RETAINER GLANDS SHALL BE CALCULATED BY SAWS APPROVED PROGRAMS. THERE WILL BE NO SEPARATE PAY ITEM FOR RETAINER GLANDS AND OTHER JOINT RESTRAINING HARNESS AND GASKETS, BUT SHALL BE SUBSIDIARY TO THE UNIT COST PER LINEAL FOOT OF PIPE INSTALLED.

LEGEND

PROPOSED WATER MAIN	=	W
PROPOSED WATER SERVICE & METER BOX	=	MW
PROPOSED WATER 3/4" IRRIGATION SERVICE & METER BOX	=	MW
PROPOSED FIRE HYDRANT	=	
PROPOSED WATER VALVE	=	
PROPOSED SANITARY SEWER MAIN	=	SS
PROPOSED SANITARY SEWER MANHOLE	=	
PROPOSED ELECTRIC, GAS, TELE., & CABLE TV EASEMENT	=	E, G, T, & TV ESMT
EXISTING WATER MAIN	=	E ?"W
EXISTING FIRE HYDRANT	=	
EXISTING WATER VALVE	=	
EXISTING SANITARY SEWER MAIN	=	E ?"SS
EXISTING SANITARY SEWER MANHOLE	=	
EXISTING OVERHEAD ELECTRIC W/POWER POLE	=	OHE OHE
EXISTING GUY WIRE/OVERHEAD ELECTRIC	=	OHE



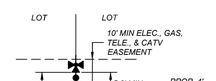
LOCATION MAP
NOT-TO-SCALE



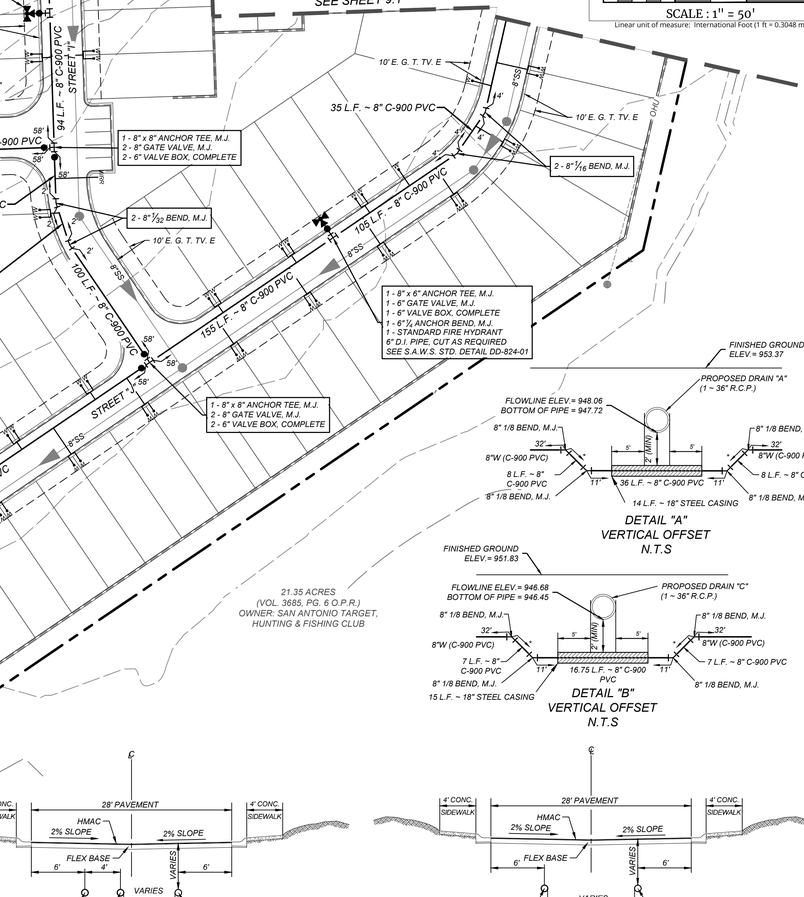
50 0 50 100

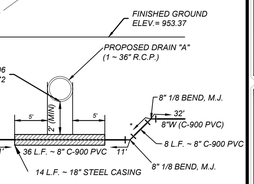
SCALE : 1" = 50'

Linear unit of measure: International Foot (1 ft = 0.3048 m)



TYPICAL FIRE HYDRANT DETAIL
NOT-TO-SCALE





DETAIL "A"
VERTICAL OFFSET
N.T.S

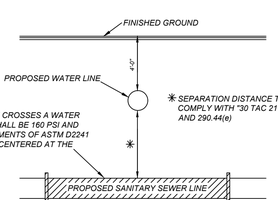
DETAIL "B"
VERTICAL OFFSET
N.T.S

COMPACTION NOTE:

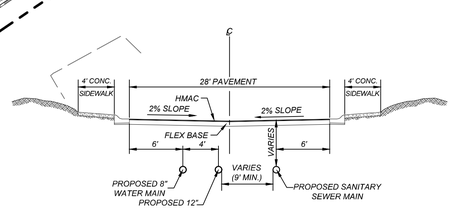
THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING 98% COMPACTION ON ALL TRENCH BACKFILL AND PAYING FOR THE TESTS TO BE PERFORMED BY A THIRD PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED OR AS INDICATED BY THE SAWS INSPECTOR/TEST ADMINISTRATOR. PER EACH 12 INCH LOOSE LIFT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

TRENCH EXCAVATION SAFETY PROTECTION

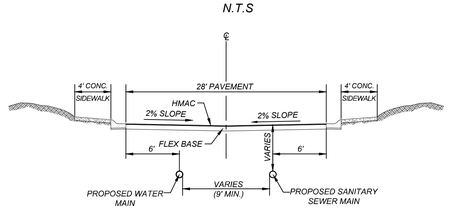
CONTRACTOR AND/ OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT. IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S 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.



TYPICAL SANITARY SEWER/WATER CROSSING DETAIL
N.T.S.



STREET "C" SECTION
N.T.S.



TYPICAL STREET SECTION
N.T.S.

Colliers Engineering & Design

www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

811 PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DESCRIPTION	DRAWN BY

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 - TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design

SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

PROJECT NUMBER: 1065-13-03
DRAWING NAME: OW10651303

SHEET TITLE:
WATER DISTRIBUTION PLAN (SHT 1 OF 2)

SHEET NUMBER:
9.0

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

C:\PROJECTS\OW10651303\Engr\DGN\WATER DISTRIBUTION PLAN (SHT 1 OF 2).dgn By: ABROWNE

CAUTION!!: THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED 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 1-800-DIG-TESS 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.

NOTE:

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE IN ACCORDANCE WITH THE SAN ANTONIO WATER SYSTEM (S.A.W.S.) STANDARD SPECIFICATION.
2. SEWER PIPE WHERE WATER LINE CROSSES SHALL BE MEET THE REQUIREMENTS OF ASTM D2241. CONTRACTOR SHALL CENTER A 20 FOOT JOINT OF 160 P.S.I. PRESSURE RATED P.V.C. AT THE PROPOSED WATER CROSSING (NO SEPARATE PAY ITEM). REFERENCE SHEET ---, SANITARY SEWER GENERAL NOTES, S.A.W.S. CRITERIA FOR SEWER MAIN CONSTRUCTION IN THE VICINITY OF WATER MAINS.
3. SEE THIS SHEET FOR BENCHMARK INFORMATION.
4. PIPE TYPE DESIGNATIONS ARE SDR 26.
5. SEE THIS SHEET FOR TYPICAL SANITARY SEWER / WATER CROSSING DETAIL.
6. ALL MANHOLES SHALL HAVE CONCRETE RING ENCASEMENT AND A WATER TIGHT RING AND COVER.

WATER PLAN NOTES:

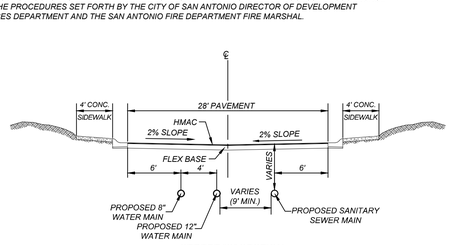
1. ALL PVC PIPE TO BE A MINIMUM OF C-900 DR 18 CLASS 235.
2. FOR TYPICAL STREET SECTIONS SEE DETAIL THIS SHEET.
3. WATER METER BY LOCATIONS BY LOCATIONS ARE SHOWN SYMBOLICALLY TO SERVICE THE LOTS BUT SHALL BE LOCATED IN ACCORDANCE WITH THE STANDARD S.A.W.S. WATER DETAILS & SPECIFICATIONS.
4. WHERE WATER SERVICES AND LIGHT POLE FOUNDATIONS ARE PROPOSED TO BE AT THE SAME LOT CORNERS, SERVICE TAPS AND LEADS SHOULD BE AT LEAST 3 FEET FROM THE LIGHT POLE FOUNDATION.
5. ALL VALVES SHALL READ "OPEN RIGHT"

SAWS NOTE:

1. "SAWS REQUIRES GCPs AND COUNTER PERMIT TO USE LEAD FREE (<0.25% LEAD) FIRE HYDRANTS."
2. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE IN ACCORDANCE WITH THE SAN ANTONIO WATER SYSTEM (S.A.W.S.) STANDARD SPECIFICATIONS.

FIRE FLOW NOTE:

IN AN EFFORT TO MEET THE CITY OF SAN ANTONIO'S FIRE FLOW REQUIREMENTS FOR THE PROPOSED RESIDENTIAL DEVELOPMENT, THE PUBLIC WATER MAIN SYSTEM HAS BEEN DESIGNED FOR A MINIMUM FIRE FLOW DEMAND OF 1,500 GPM AT 25 PSI RESIDUAL PRESSURE. THE FIRE FLOW REQUIREMENTS FOR INDIVIDUAL STRUCTURES WILL BE REVIEWED DURING THE BUILDING PERMIT PROCESS IN ACCORDANCE WITH THE PROCEDURES SET FORTH BY THE CITY OF SAN ANTONIO DIRECTOR OF DEVELOPMENT SERVICES DEPARTMENT AND THE SAN ANTONIO FIRE DEPARTMENT FIRE MARSHAL.



STREET "C" SECTION
N.T.S.

COMPACTION NOTE:

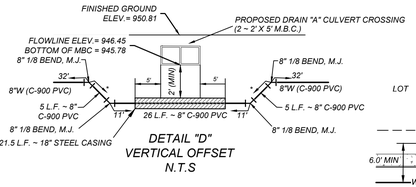
THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING 98% COMPACTION ON ALL TRENCH BACKFILL AND PAYING FOR THE TESTS TO BE PERFORMED BY A THIRD PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED OR AS INDICATED BY THE SAWS INSPECTOR/TEST ADMINISTRATOR, PER EACH 12 INCH LOOSE LIFT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

JOINT RESTRAINT NOTE:

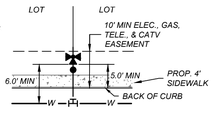
CONTRACTOR SHALL INSTALL RETAINER GLANDS AT ALL FITTINGS AND PROVIDE JOINT RESTRAINING HARNESS OR FIELD LOCK GASKETS AT ALL JOINTS WITHIN THE LENGTH SHOWN. CONTRACTOR SHALL INSURE THAT ALL TEES, BENDS, VALVES, ETC. HAVE A MINIMUM OF 5 FT OF PIPE WITH NO JOINTS ON EACH SIDE OF THE FITTING. JOINT RESTRAINTS AND RETAINER GLANDS SHALL BE CALCULATED BY SAWS APPROVED PROGRAMS. THERE WILL BE NO SEPARATE PAY ITEM FOR RETAINER GLANDS AND OTHER JOINT RESTRAINING HARNESS AND GASKETS, BUT SHALL BE SUBSIDIARY TO THE UNIT COST PER LINEAL FOOT OF PIPE INSTALLED.

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 SITES 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.



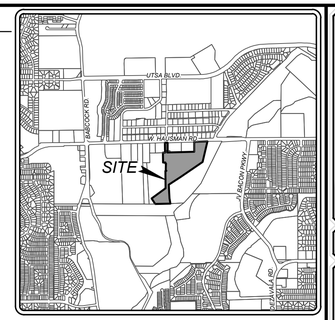
DETAIL "D"
VERTICAL OFFSET
N.T.S



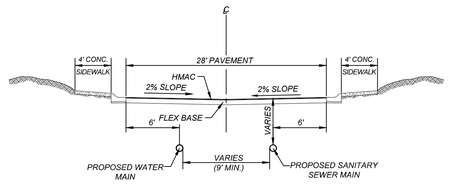
TYPICAL FIRE HYDRANT DETAIL
NOT-TO-SCALE

LEGEND

- PROPOSED WATER MAIN = W
- PROPOSED WATER SERVICE & METER BOX = W
- PROPOSED WATER 3/4" IRRIGATION SERVICE & METER BOX = W
- PROPOSED FIRE HYDRANT =
- PROPOSED WATER VALVE =
- PROPOSED SANITARY SEWER MAIN = SS
- PROPOSED SANITARY SEWER MANHOLE =
- PROPOSED ELECTRIC, GAS, TELE., & CABLE TV EASEMENT = E, G, T, & TV ESM'T
- EXISTING WATER MAIN = E ?"W
- EXISTING FIRE HYDRANT =
- EXISTING WATER VALVE =
- EXISTING SANITARY SEWER MAIN = E ?"SS
- EXISTING SANITARY SEWER MANHOLE =
- EXISTING OVERHEAD ELECTRIC W/POWER POLE = OHE
- EXISTING GUY WIRE/OVERHEAD ELECTRIC = OHE

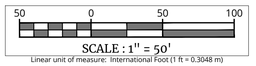


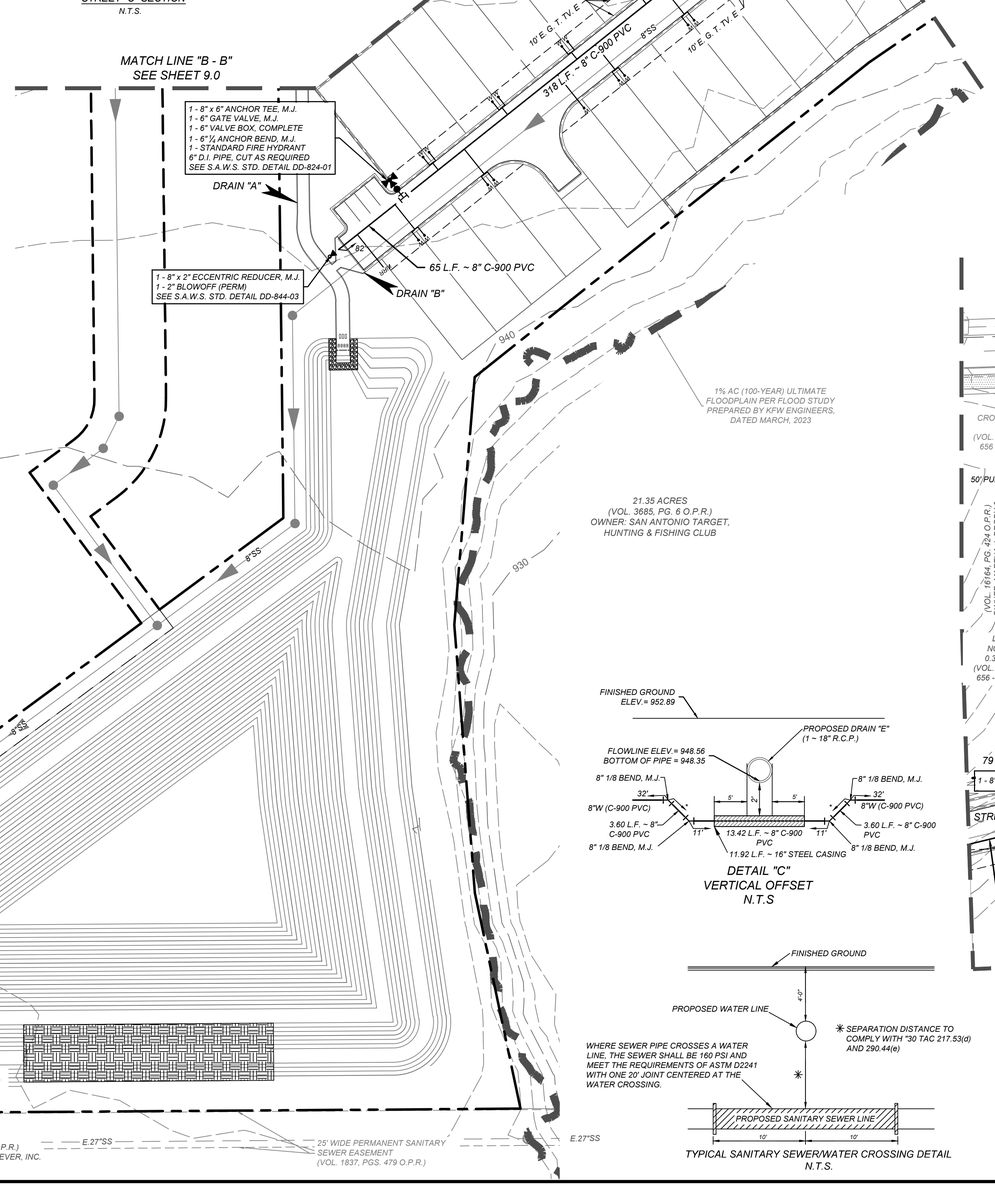
LOCATION MAP
NOT-TO-SCALE



TYPICAL STREET SECTION
N.T.S.

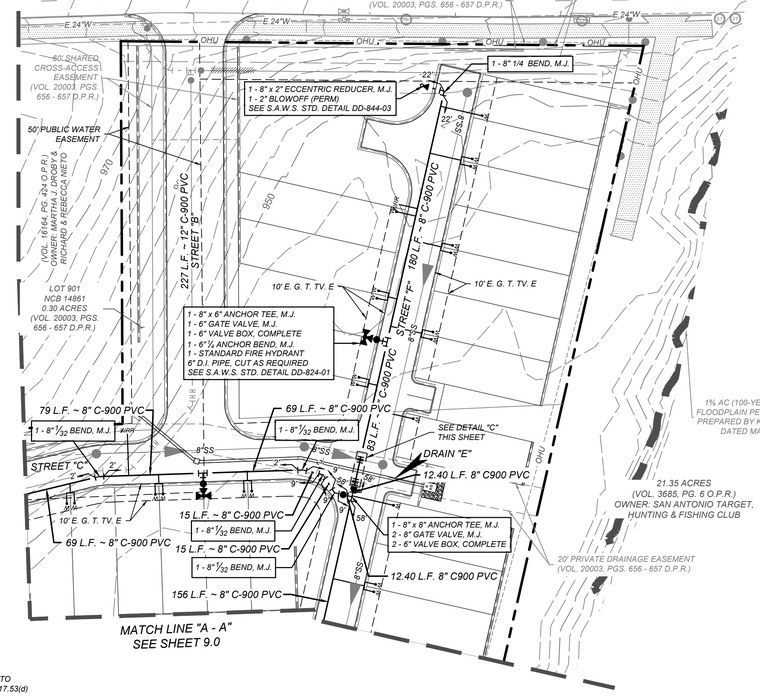






DETAIL "C"
VERTICAL OFFSET
N.T.S

TYPICAL SANITARY SEWER/WATER CROSSING DETAIL
N.T.S.



Colliers Engineering & Design

www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

811 PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS · CLAYTON J. LINNEY · 111543 · LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 · TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

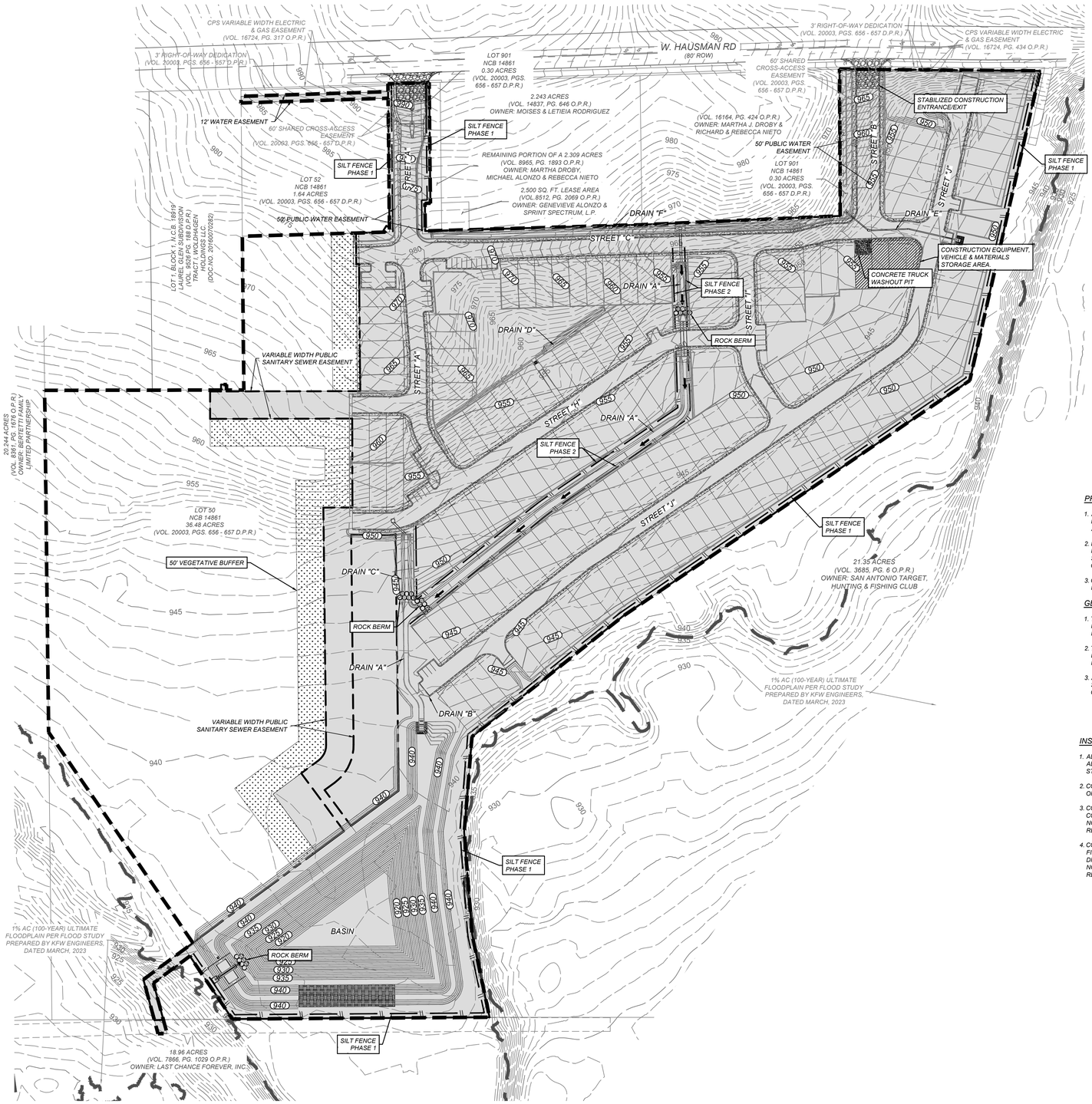
SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL
PROJECT NUMBER:	DRAWING NAME:		
1065-13-03	OW10651303		

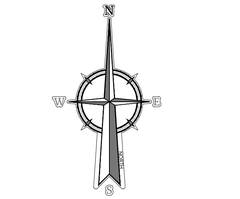
SHEET TITLE:
WATER DISTRIBUTION PLAN (SHT 2 OF 2)

SHEET NUMBER:
9.1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

C:\n\WATER\OW10651303.dwg\9.1 WATER DISTRIBUTION PLAN (SHT 2 OF 2) By: ABROWNE

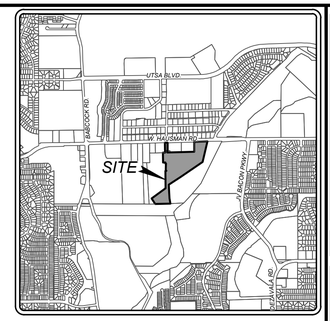




100 0 100 200

SCALE : 1" = 100'

Linear unit of measure: International Foot (1 ft = 0.3048 m)



LOCATION MAP
NOT-TO-SCALE

LEGEND

- LIMITS OF CONSTRUCTION
- 570 EXISTING CONTOURS
- 1008 PROPOSED CONTOURS
- FLOW ARROW
- STABILIZED CONSTRUCTION ENTRANCE/EXIT
- CONSTRUCTION EQUIPMENT, VEHICLE & MATERIALS STORAGE AREA.
- CONCRETE TRUCK WASHOUT PIT
- DISTURBED AREA
- ROCK BERM
- SILT FENCE PHASE 1 (SILT FENCE PHASE 2 ALONG THE FRONT OF LOTS TO BE INSTALLED AFTER PAVING)
- NATURAL VEGETATIVE BUFFER
- INLET WITH PROTECTION (GRAVEL FILTERS BAGS)

PROJECT COMPLETION:

1. ALL DISTURBED AREAS ARES NOT COVERED BY IMPERVIOUS COVER ARE TO BE STABILIZED PER THE SWPPP AND PROJECT SPECIFICATIONS PRIOR TO REMOVAL OF ANY BMP'S AND/OR PRIOR TO FILING A NOTICE OF TERMINATION (NOT).
2. BEST MANAGEMENT PRACTICES MAY BE REMOVED IN PHASES IF ALL UPGRADIENT AREAS HAVE BEEN STABILIZED PER SWPPP AND PROJECT SPECIFICATIONS. THIS PHASING SHOULD BE NOTED WITHIN THE MODIFICATIONS SECTION WITH THE SIGNATURE AND DATE OF THE RESPONSIBLE PARTY.
3. CONTRACTOR TO ENSURE THEY HAVE MET ALL REQUIREMENTS OF THE SWPPP BEFORE FILING A NOTICE OF TERMINATION (NOT).

GENERAL:

1. THIS EXHIBIT IS TO BE USED FOR THE PURPOSES OF STORMWATER POLLUTION PREVENTION ONLY. ALL OTHER CIVIL ENGINEERING INFORMATION SHOULD BE OBTAINED FROM THE APPROPRIATE CONSTRUCTION DOCUMENTS.
2. THE PURPOSE OF THE SIGNATURE AND SEAL OF THE ENGINEER ON THIS DOCUMENT IS TO DEMONSTRATE COMPLIANCE WITH THE TPDES STORMWATER POLLUTION PREVENTION PLAN REGULATIONS ONLY.
3. ALL OWNERS/OPERATORS ARE RESPONSIBLE FOR FAMILIARIZING THEMSELVES WITH THE STORMWATER POLLUTION PREVENTION PLAN AND COMPLYING WITH THE REGULATIONS CONTAINED WITHIN IT.

INSTALLATION:

1. ALL OPERATORS SHALL SUBMIT A NOTICE OF INTENT (NOI) AT LEAST 48 HOURS IN ADVANCE AND ALL BEST MANAGEMENT PRACTICES (BMP'S) SHALL BE IN PLACE PRIOR TO STARTING CONSTRUCTION ACTIVITIES.
2. CONTRACTOR TO ENSURE THAT STRUCTURAL BMP'S ARE INSTALLED WITHIN THE LIMITS OF THE SITE BOUNDARY.
3. CONTRACTOR MAY INSTALL THE BEST MANAGEMENT PRACTICES IN PHASES THAT COINCIDE WITH THE DISTURBANCE OF UP GRADIENT AREAS. THIS PHASING SHOULD BE NOTED WITHIN THE MODIFICATIONS SECTION WITH THE SIGNATURE AND DATE OF THE RESPONSIBLE PARTY.
4. CONTRACTOR TO VERIFY SUFFICIENT VEGETATION IN AREAS DENOTED AS VEGETATED FILTER STRIP. IF INSUFFICIENT VEGETATION EXISTS, CONTRACTOR SHALL IMPLEMENT A DIFFERENT BEST MANAGEMENT PRACTICE AND WILL SHOW IT ON THIS PLAN WITH NOTATION IN THE MODIFICATIONS SECTION WITH THE SIGNATURE AND DATE OF THE RESPONSIBLE PARTY.

MAINTENANCE AND INSPECTION:

1. CONTRACTOR SHOULD LIMIT CONSTRUCTION ACTIVITIES TO ONLY THOSE AREAS SHOWN TO BE DISTURBED ON THIS PLAN. IF ADDITIONAL VEGETATED AREAS ARE DISTURBED, THEY SHOULD BE PROTECTED WITH APPROPRIATE BEST MANAGEMENT PRACTICES UNTIL THE AREAS HAVE BEEN STABILIZED AS PER THE SPECIFICATIONS OF THE SWPPP. THE AREAS OF THIS ADDITIONAL SOIL DISTURBANCE AND THE MEASURES USED SHOULD BE SHOWN ON THE SITE PLAN AND NOTED WITHIN THE MODIFICATIONS SECTION WITH THE SIGNATURE AND DATE OF THE RESPONSIBLE PARTY.
2. CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE AND INSPECTION OF BMP'S AS PER THE SPECIFICATIONS OF THE SWPPP. THE CONTRACTOR MAY MODIFY THE CONTROLS AS NECESSARY TO PREVENT SEDIMENT RUNOFF. THESE MODIFICATIONS SHOULD BE SHOWN AND THE SITE PLAN AND NOTED WITHIN THE MODIFICATIONS SECTION WITH THE SIGNATURE AND DATE OF THE RESPONSIBLE PARTY.
3. LOCATION OF CONSTRUCTION ENTRANCE/EXIT, CONCRETE WASHOUT PIT, AND EQUIPMENT AND STORAGE ARE TO BE FIELD DETERMINED. LOCATIONS SHALL BE UPDATED ON THIS PLAN.

COORDINATION NOTE:

1. CONTACT TIME WARNER TO COORDINATE CABLE TV SERVICE. (210) 244-0500
2. CONDUIT FOR ELECTRICAL SERVICE. CONFIRM REQUIREMENTS AND COORDINATE WITH CPS FOR INSPECTION. (210) 353-2246.
3. CONTACT AT&T TO COORDINATE TELEPHONE SERVICE. 1-800-449-7928.
4. CONTRACTOR TO COORDINATE WITH CPS PRIOR TO CONSTRUCTION TO PLAN ELECTRIC SERVICE.
5. CONTRACTOR TO COORDINATE WITH SAWS TO PLAN WATER AND SANITARY SEWER SERVICES (210) 704-7297
6. CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.

SW3P MODIFICATIONS

DATE	SIGNATURE	DESCRIPTION

Colliers Engineering & Design

www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design. All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

811 PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED
PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 - TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

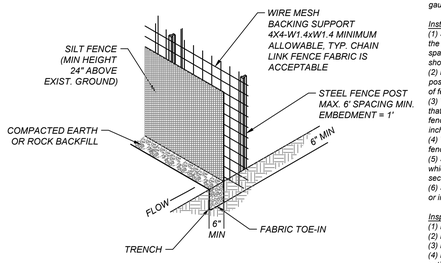
PROJECT NUMBER: 1065-13-03
DRAWING NAME: SWPPP10651303

SHEET TITLE: STORM WATER POLLUTION PREVENTION PLAN

SHEET NUMBER: 10.0

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

C:\e\SWPPP10651303.dwg\10.0 STORM WATER POLLUTION PREVENTION PLAN By: ABROWNE



ISOMETRIC PLAN VIEW

Materials:

(1) Silt fence material should be polypropylene, polyethylene or polyamide woven or nonwoven fabric. The fabric width should be 36 inches, with a minimum unit weight of 4.5 oz/yd, mullen burst strength exceeding 190 lb/in2, ultraviolet stability exceeding 70%, and minimum apparent opening size of U.S. Sieve No. 30.
(2) Fence posts should be made of hot rolled steel, at least 4 feet long with Tee or Ybar cross section, surface painted or galvanized, minimum nominal weight 1.25 lb/ft2, and Brindell hardness exceeding 140.
(3) Woven wire backing to support the fabric should be galvanized 2" x 4" welded wire, 12 gauge minimum.

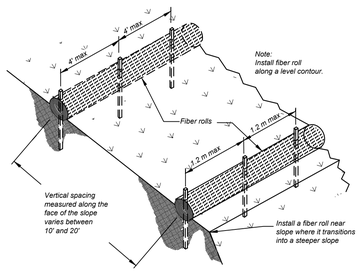
Installation:

(1) Steel posts, which support the silt fence, should be installed on a slight angle toward the anticipated runoff source. Post must be embedded a minimum of 1- foot deep and spaced not more than 8 feet on center. Where water concentrates, the maximum spacing should be 6 feet.
(2) Lay out fencing down-slope of disturbed area, following the contour as closely as possible. The fence should be sited so that the maximum drainage area is ¼ acre/l 00 feet of fence.
(3) The toe of the silt fence should be trenched in with a spade or mechanical trencher, so that the down- slope face of the trench is flat and perpendicular to the line of flow. Where fence cannot be trenched in (e.g., pavement or rock outcrop), weight fabric flap with 3 inches of pea gravel on uphill side to prevent flow from seeping under fence.
(4) The trench must be a minimum of 6 inches deep and 6 inches wide to allow for the silt fence fabric to be laid in the ground and backfilled with compacted material.
(5) Silt fence should be securely fastened to each steel support post or to woven wire, which is in turn attached to the steel fence post. There should be a 3-foot overlap, securely fastened where ends of fabric meet.
(6) Silt fence should be removed when the site is completely stabilized so as not to block or impede stone flow or drainage.

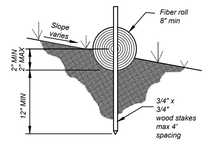
Inspection and Maintenance Guidelines:

(1) Inspect all fencing weekly, and after any rainfall.
(2) Remove sediment when buildup reaches 6 inches.
(3) Replace any torn fabric or install a second line of fencing parallel to the torn section.
(4) Replace or repair any sections crushed or collapsed in the course of construction activity. If a section of fence is obstructing vehicular access, consider relocating it to a spot where it will provide equal protection, but will not obstruct vehicles. A triangular filter dike may be preferable to a silt fence at common vehicle access points.
(5) When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation and the prior location of the silt fence should be revegetated. The fence itself should be disposed of in an approved landfill.

SILT FENCE



TYPICAL FIBER ROLL INSTALLATION
N.T.S.



ENTRENCHMENT DETAIL
N.T.S.

THE MATERIAL, INSTALLATION, INSPECTION, AND MAINTENANCE OF FIBER ROLLS WILL BE PER THE MANUFACTURE'S SPECIFICATIONS AND SHALL ALSO COMPLY WITH THE TEXAS COMMISSION OF ENVIRONMENTAL QUALITY CURRENT "TECHNICAL GUIDANCE ON BEST MANAGEMENT PRACTICES" AS NOTED BELOW.

Material:

(1) Core material: Core material should be biodegradable or recyclable. Material may be compost, mulch, aspen wood fibers, chipped site vegetation, agricultural rice or wheat straw, coconut fiber, 100% recyclable fibers, or similar materials.
(2) Containment Mesh: Containment mesh should be 100% biodegradable, photodegradable or recyclable such as burlap, twine, UV photodegradable plastic, polyester, or similar material. When the fiber role will remain in place as part of a vegetative system use biodegradable or photodegradable mesh. For temporary installation recyclable mesh is recommended.

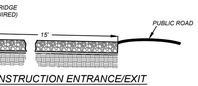
Implementation:

(1) Locate fiber rolls on level contours spaced as follows:
Slope inclination of 4:1 (H:V) or flatter: Fiber rolls should be placed at a maximum interval of 20 ft.
Slope inclination between 4:1 and 2:1 (H:V): Fiber Rolls should be placed at a maximum interval of 15 ft. (a closer spacing is more effective).
Slope inclination 2:1 (H:V) or greater: Fiber Rolls should be placed at a maximum interval of 10 ft. (a closer spacing is more effective).
(2) Turn the ends of the fiber roll up slope to prevent runoff from going around the roll.
(3) Stake fiber rolls into a 2 to 4 in. deep trench with a width equal to the diameter of the fiber roll.
(4) Drive stakes at the end of each fiber roll and spaced 4 ft maximum on center.
(5) Use wood stakes with a nominal classification of 0.75 by 0.75 in. and minimum length of 24 in.
(6) If more than one fiber roll is placed in a row, the rolls should be overlapped, not abutted.

Inspection and Maintenance Guidelines:

(1) Inspect prior to forecast rain, daily during extended rain events, after rain events, and weekly.
(2) Repair or replace split, torn, unraveling, or slumping fiber rolls.
(3) If the fiber roll is used as a sediment capture device, or as an erosion control device to maintain sheet flows, sediment that accumulates behind the role must be periodically removed in order to maintain its effectiveness. Sediment should be removed when the accumulation reaches one-half the designated sediment storage depth, usually one-half the distance between the top of the fiber roll and the adjacent ground surface. Sediment removed during maintenance may be incorporated into earthwork on the site or disposed of at an appropriate location.

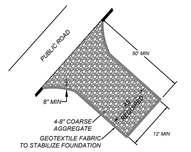
FIBER ROLL



CROSS-SECTION OF A CONSTRUCTION ENTRANCE/EXIT

Materials:

(1) The aggregate should consist of 4 to 8 inch washed stone over a stable foundation as specified in the plan.
(2) The aggregate should be placed with a minimum thickness of 8 inches.
(3) The geotextile fabric should be designed specifically for use as a soil filtration media with an approximate weight of 6 oz/yd2, a mullen burst rating of 140 lb/in2, and an equivalent opening size greater than a number 50 sieve.
(4) If a washing facility is required, a level area with a minimum of 4 inch diameter washed stone or commercial rack should be included in the plans. Divert wastewater to a sediment trap or basin.



TEMPORARY CONSTRUCTION ENTRANCE/EXIT

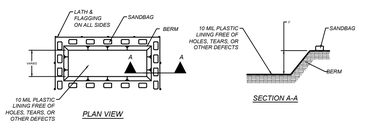
Installation: (North Carolina, 1993)

(1) Avoid curves on public roads and steep slopes. Remove vegetation and other objectionable material from the foundation area. Grade crown foundation for positive drainage.
(2) The minimum width of the entrance/exit should be 12 feet or the full width of exit roadway, whichever is greater.
(3) The construction entrance should be at least 50 feet long.
(4) If the slope toward the road exceeds 2%, construct a ridge, 6 to 8 inches high with 3:1 (H:V) side slopes, across the foundation approximately 15 feet from the entrance to divert runoff away from the public road.
(5) Place geotextile fabric and grade foundation to improve stability, especially where wet conditions are anticipated.
(6) Place stone to dimensions and grade shown on plans. Leave surface smooth and slope for drainage.
(7) Divert all surface runoff and drainage from the stone pad to a sediment trap or basin.
(8) Install pipe under pad as needed to maintain proper public road drainage.

Inspection and Maintenance Guidelines:

(1) The entrance should be maintained in a condition, which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment.
(2) All sediment spilled, dropped, washed or tracked onto public rights-of-way should be removed immediately by contractor.
(3) When necessary, wheels should be cleaned to remove sediment prior to entrance onto public right-of-way.
(4) When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin.
(5) All sediment should be prevented from entering any storm drain, ditch or water course by using approved methods.

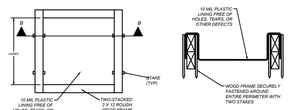
STABILIZED CONSTRUCTION ENTRANCE / EXIT



PLAN VIEW

SECTION A-A

TYPE "BELOW GRADE"



PLAN VIEW

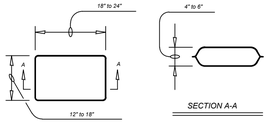
SECTION B-B

TYPE "ABOVE GRADE"

GENERAL NOTES:

- *DETAIL ABOVE ILLUSTRATES MINIMUM DIMENSIONS. PIT CAN BE INCREASED IN SIZE DEPENDING ON EXPECTED FREQUENCY OF USE.*
- *WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC.*
- *WASHOUT PIT SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION FROM STORM WATER RUNOFF AND AT LEAST 50 FEET FROM SENSITIVE FEATURES, STORM DRAINS, OPEN DITCHES, STREETS, OR STREAMS.*

CONCRETE TRUCK WASHOUT PIT

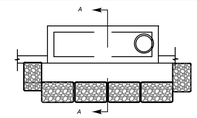


SECTION A-A

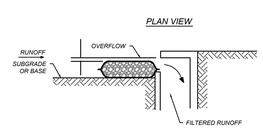
GENERAL NOTES:

- *THE FILTER BAG MATERIAL SHALL BE MADE OF POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN FABRIC, MIN UNIT WEIGHT OF 4 OUNCES/SY, MULLEN BURST STRENGTH EXCEEDING 300 PSI AND ULTRAVIOLET STABILITY EXCEEDING 70%.*
- *THE FILTER BAG SHALL BE FILLED WITH CLEAN, MEDIUM TO COARSE GRAVEL (0.31 TO 0.75 INCH DIAMETER).*

GRAVEL FILTER BAG DETAIL



PLAN VIEW

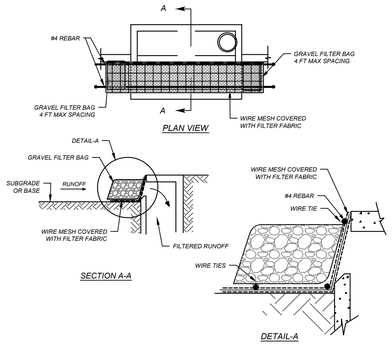


SECTION A-A

GENERAL NOTES:

- *ALL STORM DRAINAGE SYSTEMS INLETS SHOULD FILTER RUNOFF BEFORE THE WATER IS DISCHARGED INTO STREAMS OR ONTO ADJACENT PROPERTIES, UNLESS TREATMENT IS PROVIDED ELSEWHERE.*
- *IF NO ADDITIONAL DOWNSTREAM TREATMENT EXISTS, THE MAXIMUM DRAINAGE AREA TRIBUTARY TO AN AREA DRAIN INSTALLED WITH A GRAVEL FILTER SHOULD BE ONE ACRE.*
- *ALL CURB INLET GRAVEL FILTERS SHOULD BE INSPECTED AND REPAIRED AFTER EACH RUNOFF EVENT. SEDIMENT SHOULD BE REMOVED WHEN MATERIAL IS WITHIN THREE INCHES OF THE TOP OF THE CONCRETE BLOCKS. PERIODICALLY, THE GRAVEL SHOULD BE RAKED TO INCREASE INFILTRATION AND FILTERING OF RUNOFF WATERS.*

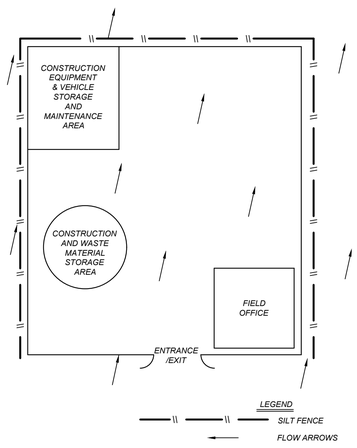
CURB INLET PROTECTION GRAVEL FILTER BAGS



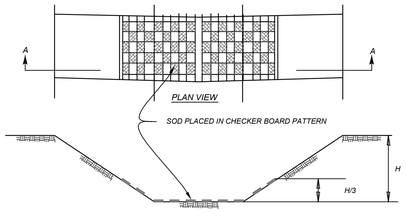
PLAN VIEW

SECTION A-A

CURB INLET PROTECTION (ALTERNATE)



TYPICAL CONSTRUCTION STAGING AREA

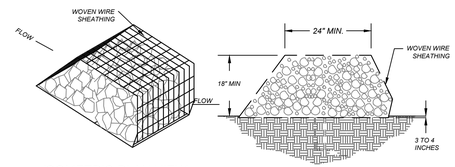


PLAN VIEW

SECTION A-A

- *CHANNEL TO BE STABILIZED WITH SOD PLACED IN A CHECKER BOARD PATTERN TON THE CHANNEL BOTTOM AND ON THE SIDES UP TO 1/3 THE DEPTH OF CHANNEL.*

CHANNEL LINING



ISOMETRIC PLAN VIEW

CROSS SECTION

Materials:

(1) The berm structure should be. secured with a woven wire sheathing having maximum opening of 1 inch and a minimum wire diameter of 20 gauge galvanized and should be secured with shoat rings.
(2) Clean, open graded 3- to 5-inch diameter rock should be used, except in areas where high velocities or large volumes of flow are expected, where 5- to 8-inch diameter rocks may be used.

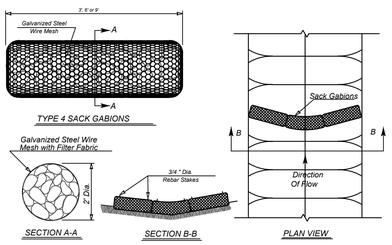
Installation:

(1) Lay out the woven wire sheathing perpendicular to the flow line. The sheathing should be 20 gauge woven wire mesh with 1 inch openings.
(2) Berm should have a top width of 2 feet minimum with side slopes being 2:1 (H:V) or flatter.
(3) Place the rock along the sheathing as shown in the diagram Figure 1-28), to a height not less than 18".
(4) Wrap the wire sheathing around the rock and secure with tie wire so that the ends of the sheathing overlap at least 2 inches, airl the berm retains its shape when walked upon.
(5) Berm should be built along the contour at zero percent grade or as near as possible.
(6) The ends of the berm should be tied into existing upslope grade and the berm should be buried in a trench approximately 3 to 4 inches deep to prevent failure of the control.

Inspection and Maintenance Guidelines:

(1) Inspection should be made weekly and after each rainfall by the responsible party. For installations in streambeds, additional daily inspections should be made.
(2) Remove sediment and other debris when buildup reaches 6 inches and dispose of the accumulated silt in an approved manner that will not cause any additional siltation.
(3) Repair any loose wire sheathing.
(4) The berm should be reshaped as needed during inspection.
(5) The berm should be replaced when the structure ceases to function as intended due to silt accumulation among the rocks, washout, construction traffic damage, etc.
(6) The rock berm should be left in place until all upstream areas are stabilized and accumulated silt removed.

ROCK BERM



TYPE 4 SACK GABIONS

SECTION A-A

SECTION B-B

PLAN VIEW

- *THE TOP OF THE SACK GABIONS SHOULD BE LEVEL AND ORIENTED PERPENDICULAR TO THE DIRECTION OF FLOW.*
- *FILTER FABRIC MATERIAL SHALL BE FASTENED TO WOVEN WIRE SUPPORT.*
- *FILTER FABRIC MATERIAL SHOULD MEET THE FOLLOWING SPECIFICATIONS: RESISTANT TO ULTRAVIOLET LIGHT, FABRIC SHOULD BE NON-WOVEN GEOTEXTILE WITH MINIMUM WEIGHT OF 3.5 OUNCES PER SQUARE YARD, MINIMUM MULLEN BURST STRENGTH OF 200 POUNDS PER SQUARE INCH AND A FLOW THRU RATE OF 120 GALLONS PER MINUTE PER SQUARE FOOT OF FRONTAL AREA.*
- *STONE SIZE: ±4"-8" OPEN GRADED CRUSHED LIMESTONE.*
- *INSPECT WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACE AS NEEDED.*
- *WHEN SILT REACHES A DEPTH OF 6 INCHES OR MORE ABOVE NATURAL GROUND, SILT SHALL BE REMOVED AND DISPOSED IN AN APPROVED MANNER THAT WILL NOT CONTRIBUTE TO RESILTATION. CONTAMINATED SEDIMENT MUST BE REMOVED AND DISPOSED OF OFF-SITE IN ACCORDANCE WITH APPLICABLE REGULATIONS.*

TYPE 4 SACK GABIONS

By: ABROWNE

CivilSWPPPDT10651303.dwg10/3 STORM WATER POLLUTION PRESENTION DETAILS

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

Colliers Engineering & Design

www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

811 PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 - TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

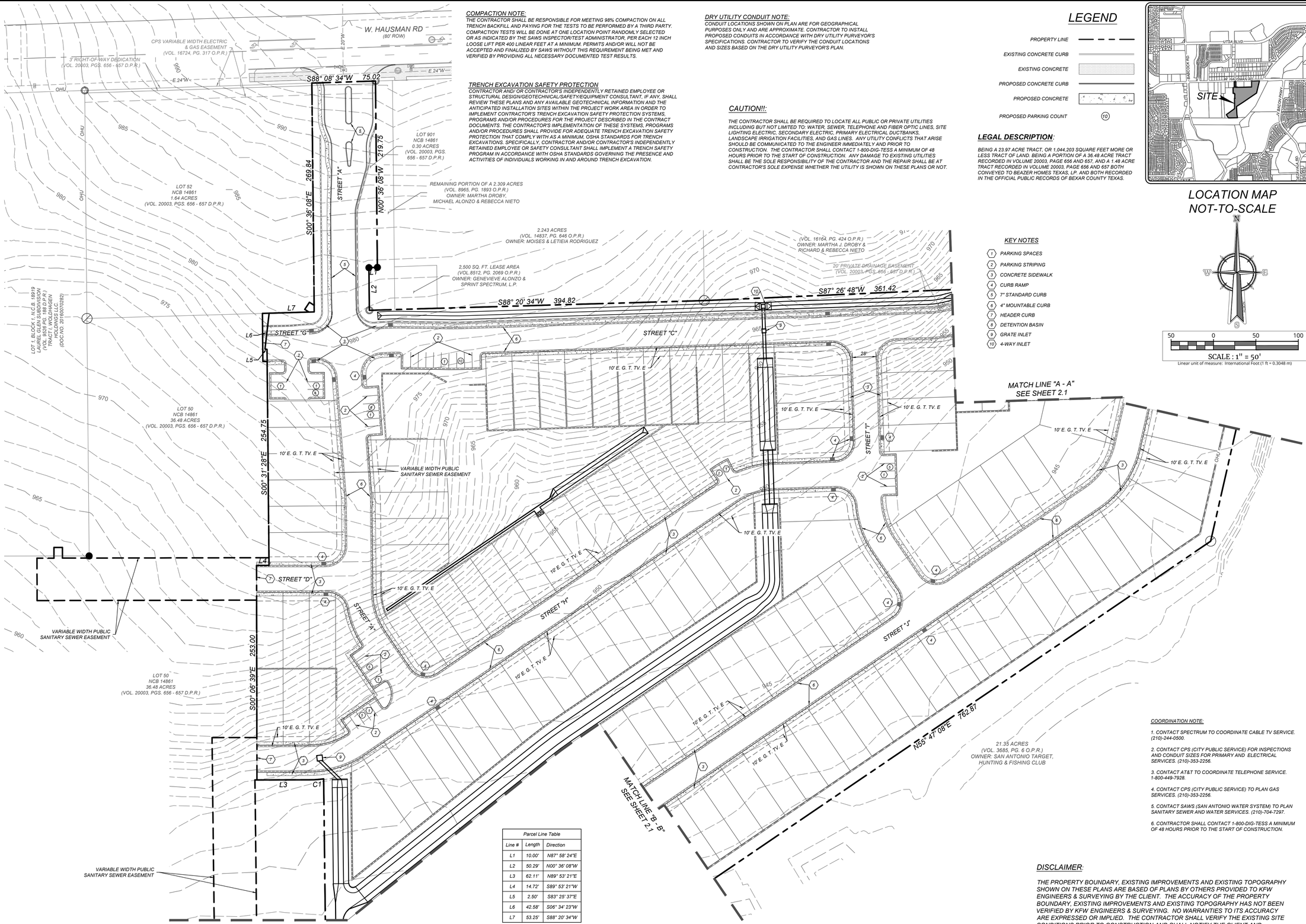
Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

PROJECT NUMBER: 1065-13-03
DRAWING NAME: SWPPPDT10651303

SHEET TITLE: STORM WATER POLLUTION PREVENTION DETAILS

SHEET NUMBER: 10.1



COMPACTION 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 TESTS 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. PERMITS AND/OR WILL NOT BE ACCEPTED AND FINALIZED BY SAWS WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.

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 SITES 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.

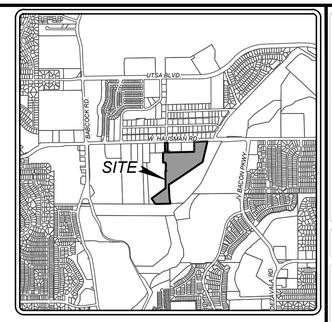
DRY UTILITY CONDUIT NOTE:
CONDUIT LOCATIONS SHOWN ON PLAN ARE FOR GEOGRAPHICAL PURPOSES ONLY AND ARE APPROXIMATE. CONTRACTOR TO INSTALL PROPOSED CONDUITS IN ACCORDANCE WITH DRY UTILITY PURVEYOR'S SPECIFICATIONS. CONTRACTOR TO VERIFY THE CONDUIT LOCATIONS AND SIZES BASED ON THE DRY UTILITY PURVEYOR'S PLAN.

CAUTION!!:
THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED 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 1-800-DIG-TESS 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.

LEGEND

- PROPERTY LINE
- EXISTING CONCRETE CURB
- EXISTING CONCRETE
- PROPOSED CONCRETE CURB
- PROPOSED CONCRETE
- PROPOSED PARKING COUNT (10)

LEGAL DESCRIPTION:
BEING A 23.97 ACRE TRACT, OR 1,044,203 SQUARE FEET MORE OR LESS TRACT OF LAND. BEING A PORTION OF A 36.48 ACRE TRACT RECORDED IN VOLUME 20003, PAGE 656 AND 657. AND A 1.48 ACRE TRACT RECORDED IN VOLUME 20003, PAGE 656 AND 657 BOTH CONVEYED TO BEAZER HOMES TEXAS, LP. AND BOTH RECORDED IN THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY TEXAS.



LOCATION MAP
NOT-TO-SCALE

50 0 50 100
SCALE : 1" = 50'
Linear unit of measure: International Foot (1 ft = 0.3048 m)

KEY NOTES

1. PARKING SPACES
2. PARKING STRIPING
3. CONCRETE SIDEWALK
4. CURB RAMP
5. 7" STANDARD CURB
6. 4" MOUNTABLE CURB
7. HEADER CURB
8. DETENTION BASIN
9. GRATE INLET
10. 4-WAY INLET

Parcel Line Table		
Line #	Length	Direction
L1	10.00'	N87° 58' 24"E
L2	50.29'	N00° 36' 08"W
L3	62.11'	N89° 53' 21"E
L4	14.72'	S89° 53' 21"W
L5	2.50'	S83° 25' 37"E
L6	42.58'	S06° 34' 23"W
L7	53.25'	S88° 20' 34"W

Curve Table					
Curve #	Length	Radius	Delta	Chord	Chord Bearing
C1	16.58'	125.00'	7°35'51"	16.56'	N86°05'25"E

COORDINATION NOTE:

1. *CONTACT SPECTRUM TO COORDINATE CABLE TV SERVICE. (210)-244-0500.*
2. *CONTACT CPS (CITY PUBLIC SERVICE) FOR INSPECTIONS AND CONDUIT SIZES FOR PRIMARY AND ELECTRICAL SERVICES. (210)-353-2256.*
3. *CONTACT AT&T TO COORDINATE TELEPHONE SERVICE. 1-800-449-7928.*
4. *CONTACT CPS (CITY PUBLIC SERVICE) TO PLAN GAS SERVICES. (210)-353-2256.*
5. *CONTACT SAWS (SAN ANTONIO WATER SYSTEM) TO PLAN SANITARY SEWER AND WATER SERVICES. (210)-704-7297.*
6. *CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.*

DISCLAIMER:
THE PROPERTY BOUNDARY, EXISTING IMPROVEMENTS AND EXISTING TOPOGRAPHY SHOWN ON THESE PLANS ARE BASED OF PLANS BY OTHERS PROVIDED TO KFW ENGINEERS & SURVEYING BY THE CLIENT. THE ACCURACY OF THE PROPERTY BOUNDARY, EXISTING IMPROVEMENTS AND EXISTING TOPOGRAPHY HAS NOT BEEN VERIFIED BY KFW ENGINEERS & SURVEYING. NO WARRANTIES TO ITS ACCURACY ARE EXPRESSED OR IMPLIED. THE CONTRACTOR SHALL VERIFY THE EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION AND SHALL NOTIFY THE CLIENT AND ENGINEER OF ANY DISCREPANCIES IMMEDIATELY AND PRIOR TO CONSTRUCTION.

Colliers
Engineering & Design
www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design. All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

811 PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 - TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

PROJECT NUMBER:	DRAWING NAME:
1065-13-03	OA10651303

SHEET TITLE:
OVERALL SITE PLAN (SHT 1 OF 2)

SHEET NUMBER:
11.0

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

C:\kfw\OA10651303\dwg\OVERALL SITE PLAN(SHT 1 OF 2).dwg By:ABROWNE

COMPACTION 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 TESTS 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. PERMITS AND/OR WILL NOT BE ACCEPTED AND FINALIZED BY SAWS WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.

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 SITES 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.

DRY UTILITY CONDUIT NOTE:

CONDUIT LOCATIONS SHOWN ON PLAN ARE FOR GEOGRAPHICAL PURPOSES ONLY AND ARE APPROXIMATE. CONTRACTOR TO INSTALL PROPOSED CONDUITS IN ACCORDANCE WITH DRY UTILITY PURVEYOR'S SPECIFICATIONS. CONTRACTOR TO VERIFY THE CONDUIT LOCATIONS AND SIZES BASED ON THE DRY UTILITY PURVEYOR'S PLAN.

DISCLAIMER:

THE PROPERTY BOUNDARY, EXISTING IMPROVEMENTS AND EXISTING TOPOGRAPHY SHOWN ON THESE PLANS ARE BASED OF PLANS BY OTHERS PROVIDED TO KFW ENGINEERS & SURVEYING BY THE CLIENT. THE ACCURACY OF THE PROPERTY BOUNDARY, EXISTING IMPROVEMENTS AND EXISTING TOPOGRAPHY HAS NOT BEEN VERIFIED BY KFW ENGINEERS & SURVEYING. NO WARRANTIES TO ITS ACCURACY ARE EXPRESSED OR IMPLIED. THE CONTRACTOR SHALL VERIFY THE EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION AND SHALL NOTIFY THE CLIENT AND ENGINEER OF ANY DISCREPANCIES IMMEDIATELY AND PRIOR TO CONSTRUCTION.

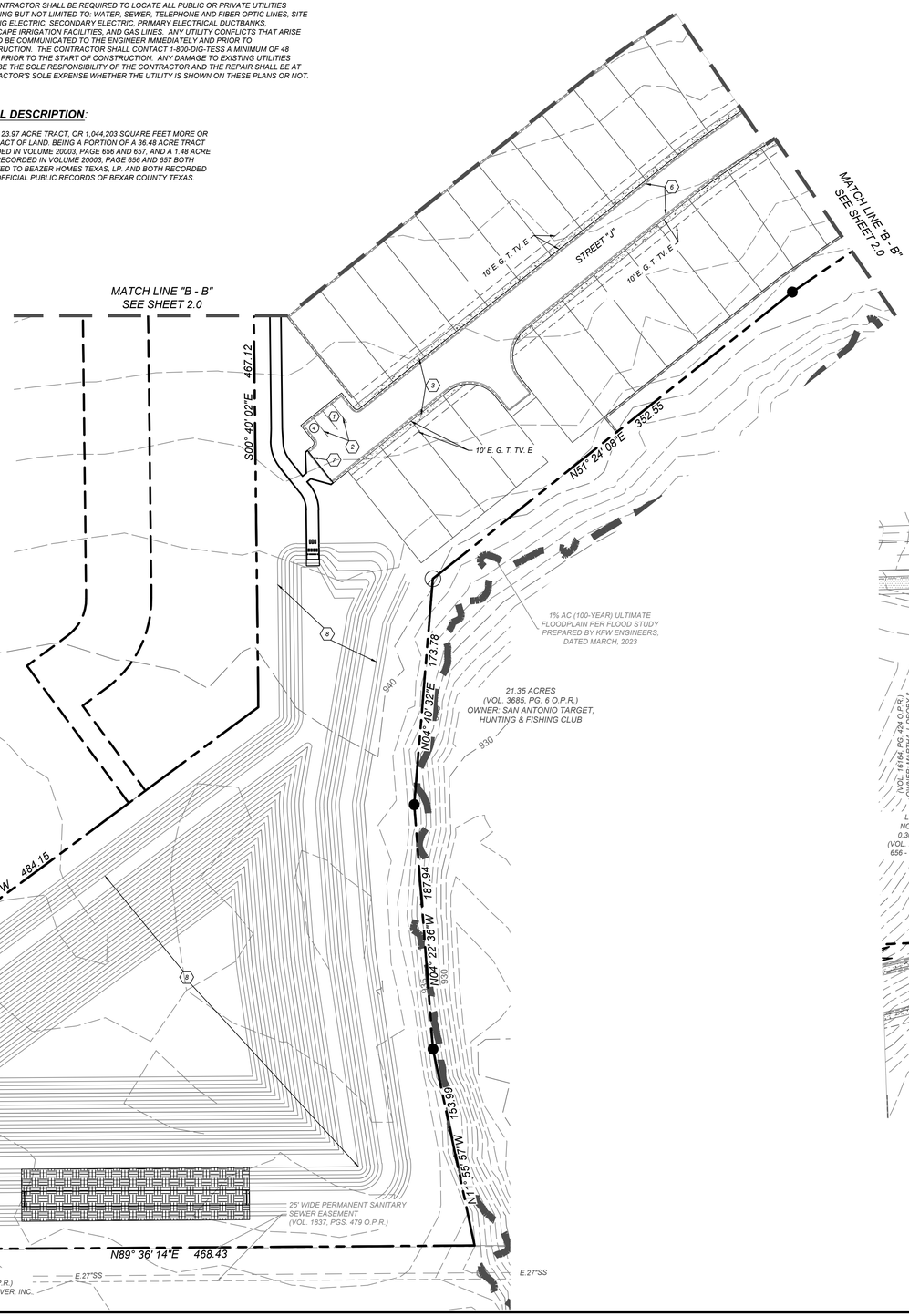
CAUTION!!:

THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED 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 1-800-DIG-TESS 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.

LEGAL DESCRIPTION:

BEING A 23.97 ACRE TRACT, OR 1,044,203 SQUARE FEET MORE OR LESS TRACT OF LAND. BEING A PORTION OF A 36.48 ACRE TRACT RECORDED IN VOLUME 20003, PAGE 656 AND 657, AND A 1.48 ACRE TRACT RECORDED IN VOLUME 20003, PAGE 656 AND 657 BOTH CONVEYED TO BEAZER HOMES TEXAS, LP. AND BOTH RECORDED IN THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY TEXAS.

PARKING / SIDEWALK SUMMARY TABLE Trevor Fields, Unit 1	
BUILDING USE	*DWELLING - 1 FAMILY*
PROPOSED UNITS	*158*
PARKING TOTALS	
MAXIMUM PARKING ALLOWED	*N/A*
MINIMUM PARKING REQUIRED	*158*
DWELLING GARAGE	*158*
DWELLING DRIVEWAY	*158*
OFF-STREET PARKING	*46*
TOTAL PARKING PROVIDED	*362*
BICYCLE RACKS	
REQUIRED AMOUNT OF BICYCLE RACKS	*N/A*
PROPOSED BICYCLE RACKS	*N/A*
WEST DRIVEWAY INFORMATION	
DRIVEWAY APPROACH WIDTH (FT.)	*40*
FLARE / RADIUS (FT.)	*28*
APPROACH AREA (S.F.)	*1,085*
EAST DRIVEWAY INFORMATION	
DRIVEWAY APPROACH WIDTH (FT.)	*40*
FLARE / RADIUS (FT.)	*28*
APPROACH AREA (S.F.)	*1,162*
PUBLIC SIDEWALK	
PUBLIC SIDEWALK WIDTH (FT.)	*N/A EXISTING*
PUBLIC SIDEWALK LENGTH (L.F.)	*N/A EXISTING*
PUBLIC SIDEWALK AREA (S.F.)	*N/A EXISTING*



LEGEND

- PROPERTY LINE
- EXISTING CONCRETE CURB
- EXISTING CONCRETE
- PROPOSED CONCRETE CURB
- PROPOSED CONCRETE
- PROPOSED PARKING COUNT (10)

KEY NOTES

1. PARKING SPACES
2. PARKING STRIPING
3. CONCRETE SIDEWALK
4. CURB RAMP
5. 7" STANDARD CURB
6. 4" MOUNTABLE CURB
7. HEADER CURB
8. DETENTION BASIN
9. GRATE INLET
10. 4-WAY INLET

COORDINATION NOTE:

1. CONTACT SPECTRUM TO COORDINATE CABLE TV SERVICE. (210)-244-0500.

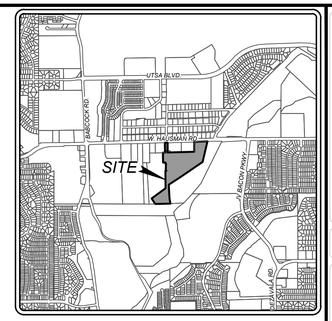
2. CONTACT CPS (CITY PUBLIC SERVICE) FOR INSPECTIONS AND CONDUIT SIZES FOR PRIMARY AND ELECTRICAL SERVICES. (210)-353-2256.

3. CONTACT AT&T TO COORDINATE TELEPHONE SERVICE. 1-800-449-7928.

4. CONTACT CPS (CITY PUBLIC SERVICE) TO PLAN GAS SERVICES. (210)-353-2256.

5. CONTACT SAWS (SAN ANTONIO WATER SYSTEM) TO PLAN SANITARY SEWER AND WATER SERVICES. (210)-704-7297.

6. CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.



LOCATION MAP
NOT-TO-SCALE



50 0 50 100

SCALE : 1" = 50'

Linear unit of measure: International Foot (1 ft = 0.3048 m)

Colliers Engineering & Design

www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design. All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW ENGINEERS & SURVEYING

811 PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED
PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 - TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

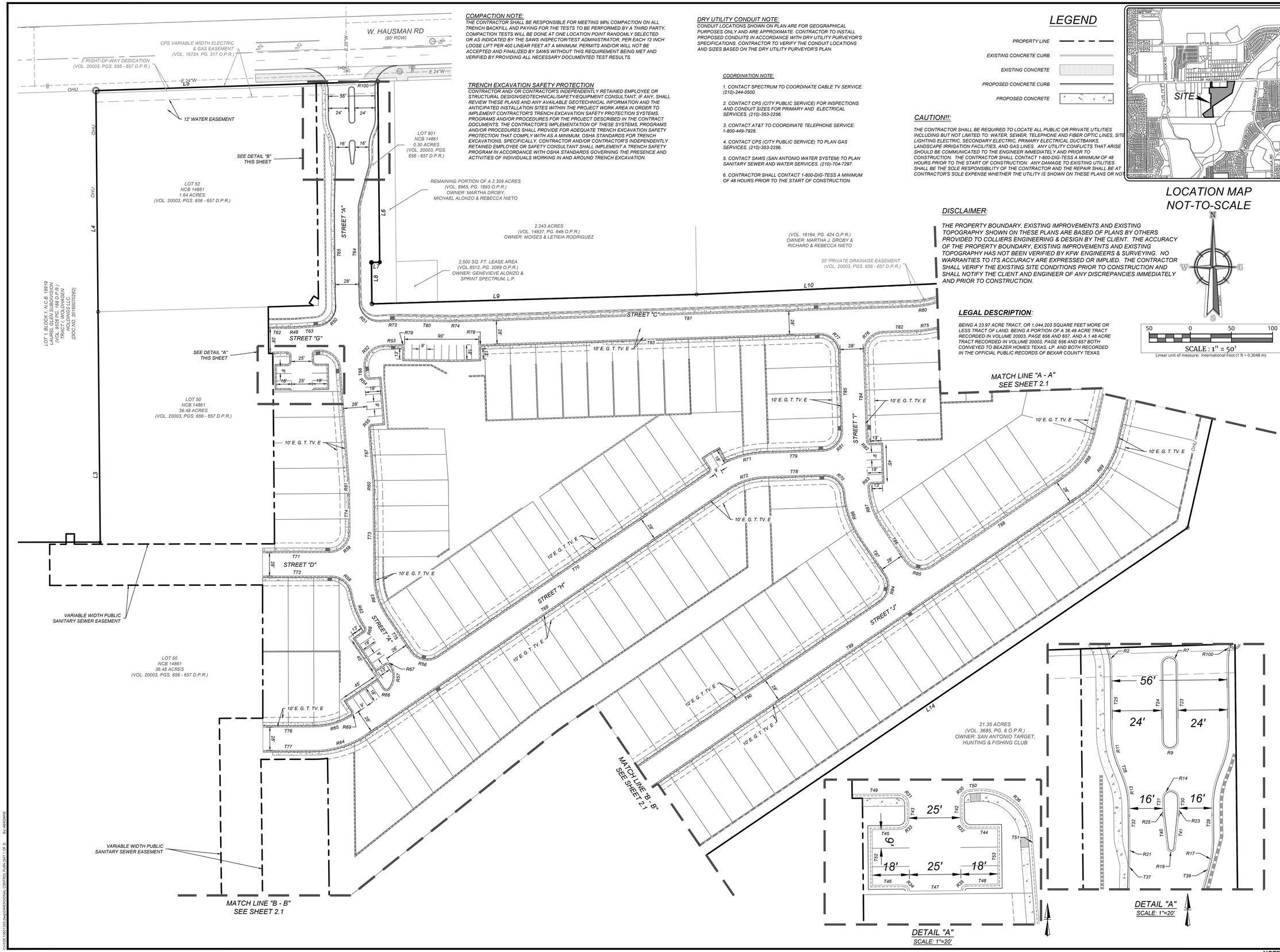
PROJECT NUMBER:	DRAWING NAME:
1065-13-03	OA10651303

SHEET TITLE:
OVERALL SITE PLAN
(SHT 2 OF 2)

SHEET NUMBER:
11.1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

C:\FOA\10651393.dwg[OVERALL SITE PLAN (SHT 2 OF 2)] By: ABROWNE



COMPACTION 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 TESTS 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. PERMITS AND/OR WILL NOT BE ACCEPTED AND FINALIZED BY SAWS WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.

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 SITES 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.

DRY UTILITY CONDUIT NOTE:

CONDUIT LOCATIONS SHOWN ON PLAN ARE FOR GEOGRAPHICAL PURPOSES ONLY AND ARE APPROXIMATE. CONTRACTOR TO INSTALL PROPOSED CONDUITS IN ACCORDANCE WITH DRY UTILITY PURVEYOR'S SPECIFICATIONS. CONTRACTOR TO VERIFY THE CONDUIT LOCATIONS AND SIZES BASED ON THE DRY UTILITY PURVEYOR'S PLAN.

COORDINATION NOTE:

1. CONTACT SPECTRUM TO COORDINATE CABLE TV SERVICE. (210)-244-0500.

2. CONTACT CPS (CITY PUBLIC SERVICE) FOR INSPECTIONS AND CONDUIT SIZES FOR PRIMARY AND ELECTRICAL SERVICES. (210)-353-2256.

3. CONTACT AT&T TO COORDINATE TELEPHONE SERVICE. 1-800-449-7928.

4. CONTACT CPS (CITY PUBLIC SERVICE) TO PLAN GAS SERVICES. (210)-353-2256.

5. CONTACT SAWS (SAN ANTONIO WATER SYSTEM) TO PLAN SANITARY SEWER AND WATER SERVICES. (210)-704-7297.

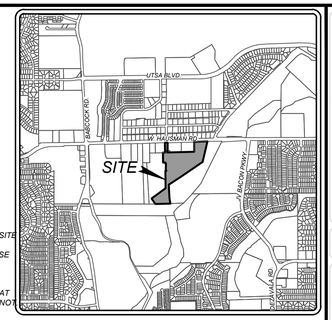
6. CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.

LEGEND

- PROPERTY LINE
- EXISTING CONCRETE CURB
- EXISTING CONCRETE
- PROPOSED CONCRETE CURB
- PROPOSED CONCRETE

CAUTION!!:

THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED 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 1-800-DIG-TESS 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.



LOCATION MAP
NOT-TO-SCALE

DISCLAIMER:

THE PROPERTY BOUNDARY, EXISTING IMPROVEMENTS AND EXISTING TOPOGRAPHY SHOWN ON THESE PLANS ARE BASED OF PLANS BY OTHERS PROVIDED TO COLLIERS ENGINEERING & DESIGN BY THE CLIENT. THE ACCURACY OF THE PROPERTY BOUNDARY, EXISTING IMPROVEMENTS AND EXISTING TOPOGRAPHY HAS NOT BEEN VERIFIED BY KFW ENGINEERS & SURVEYING. NO WARRANTIES TO ITS ACCURACY ARE EXPRESSED OR IMPLIED. THE CONTRACTOR SHALL VERIFY THE EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION AND SHALL NOTIFY THE CLIENT AND ENGINEER OF ANY DISCREPANCIES IMMEDIATELY AND PRIOR TO CONSTRUCTION.

LEGAL DESCRIPTION:

BEING A 23.97 ACRE TRACT, OR 1,044,203 SQUARE FEET MORE OR LESS TRACT OF LAND. BEING A PORTION OF A 36.48 ACRE TRACT RECORDED IN VOLUME 20003, PAGE 656 AND 657, AND A 1.48 ACRE TRACT RECORDED IN VOLUME 20003, PAGE 656 AND 657 BOTH CONVEYED TO BEAZER HOMES TEXAS, LP. AND BOTH RECORDED IN THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY TEXAS.

50 0 50 100

SCALE : 1" = 50'

Linear unit of measure: International Foot (1 ft = 0.3048 m)

Colliers Engineering & Design

www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE

FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DESCRIPTION	DRAWN BY	DATE

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 - TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

PROJECT NUMBER: 1065-13-03
DRAWING NAME: DC10651303

SHEET TITLE:
DIMENSIONAL CONTROL PLAN (SHT 1 OF 3)

SHEET NUMBER:
12.0

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

C:\dwg\DC10651303.dwg\DIMENSIONAL CONTROL PLAN (SHT 1 OF 3) By: ABROWNE

COMPACTION 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 TESTS 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. PERMITS AND/OR WILL NOT BE ACCEPTED AND FINALIZED BY SAWS WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.

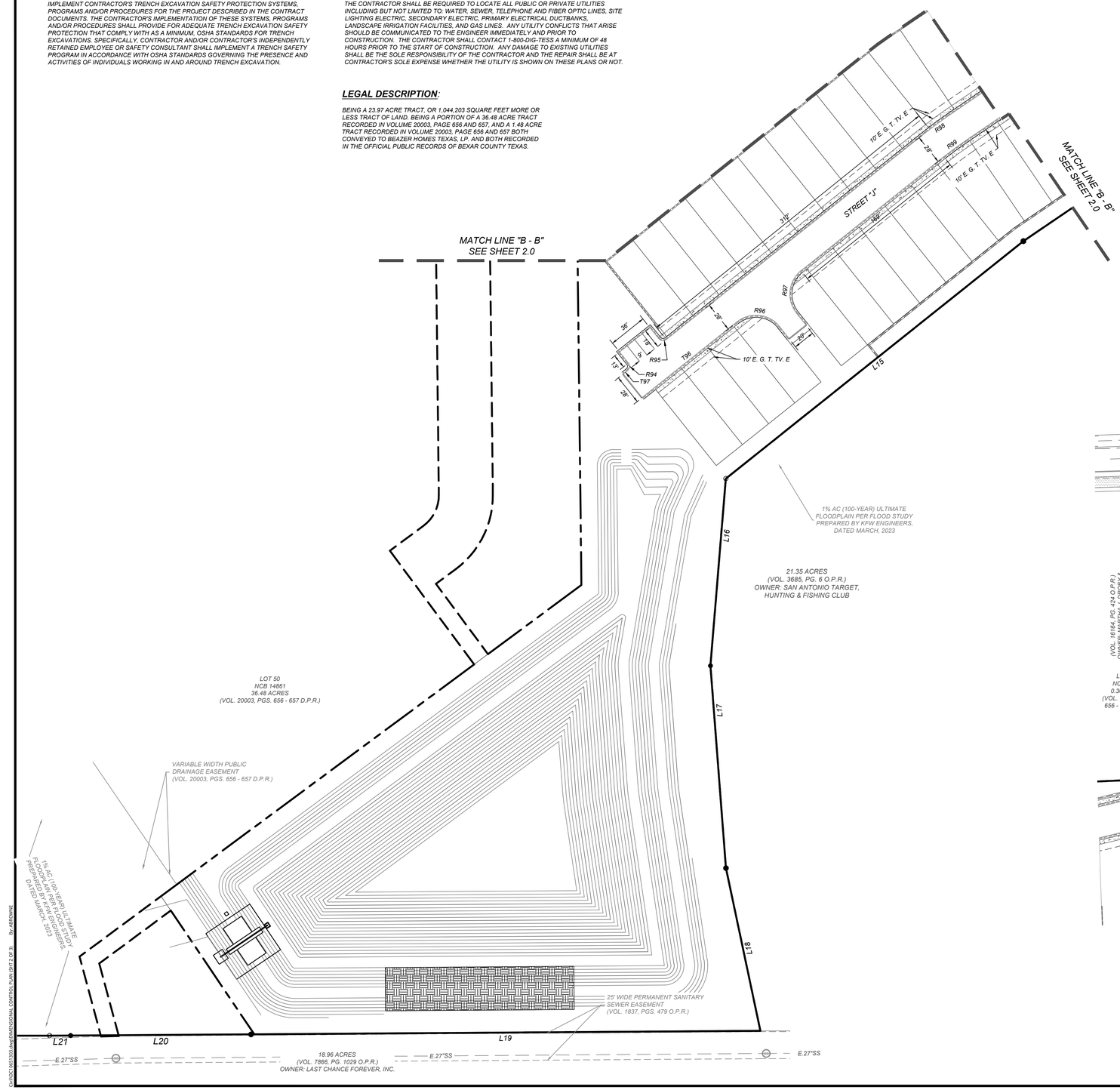
TRENCH EXCAVATION SAFETY PROTECTION
CONTRACTOR AND/ OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK 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.

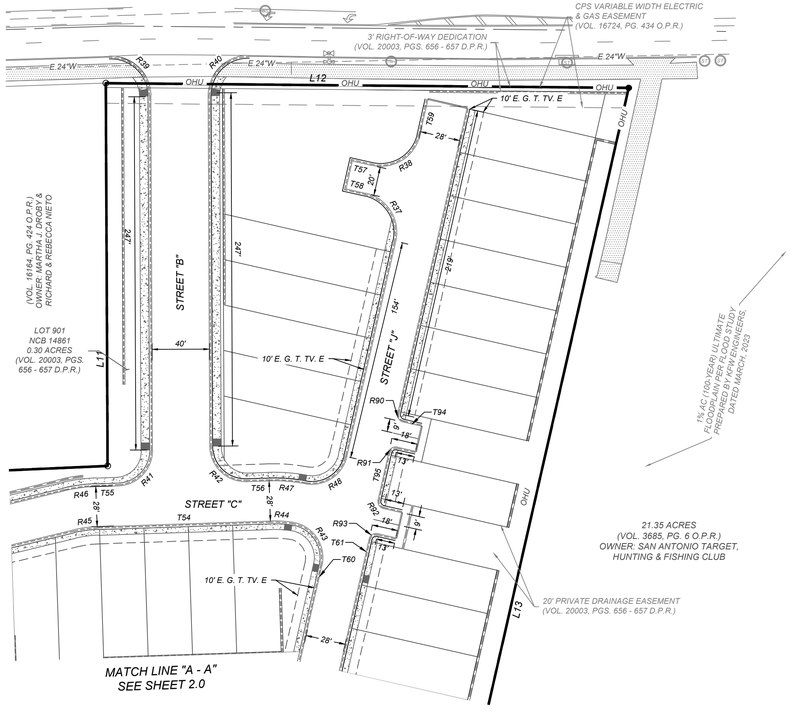
DRY UTILITY CONDUIT NOTE:
CONDUIT LOCATIONS SHOWN ON PLAN ARE FOR GEOGRAPHICAL PURPOSES ONLY AND ARE APPROXIMATE. CONTRACTOR TO INSTALL PROPOSED CONDUITS IN ACCORDANCE WITH DRY UTILITY PURVEYOR'S SPECIFICATIONS. CONTRACTOR TO VERIFY THE CONDUIT LOCATIONS AND SIZES BASED ON THE DRY UTILITY PURVEYOR'S PLAN.

CAUTION!!:
THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED 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 1-800-DIG-TESS 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.

DISCLAIMER:
THE PROPERTY BOUNDARY, EXISTING IMPROVEMENTS AND EXISTING TOPOGRAPHY SHOWN ON THESE PLANS ARE BASED OF PLANS BY OTHERS PROVIDED TO COLLIERS ENGINEERING & DESIGN BY THE CLIENT. THE ACCURACY OF THE PROPERTY BOUNDARY, EXISTING IMPROVEMENTS AND EXISTING TOPOGRAPHY HAS NOT BEEN VERIFIED BY KFW ENGINEERS & SURVEYING. NO WARRANTIES TO ITS ACCURACY ARE EXPRESSED OR IMPLIED. THE CONTRACTOR SHALL VERIFY THE EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION AND SHALL NOTIFY THE CLIENT AND ENGINEER OF ANY DISCREPANCIES IMMEDIATELY AND PRIOR TO CONSTRUCTION.

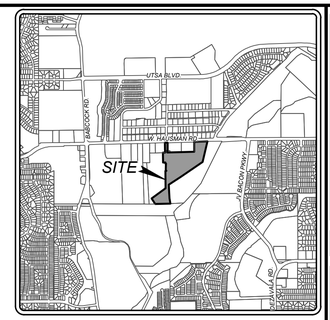
LEGAL DESCRIPTION:
BEING A 23.97 ACRE TRACT, OR 1,044,203 SQUARE FEET MORE OR LESS TRACT OF LAND. BEING A PORTION OF A 36.48 ACRE TRACT RECORDED IN VOLUME 20003, PAGE 656 AND 657, AND A 1.48 ACRE TRACT RECORDED IN VOLUME 20003, PAGE 656 AND 657 BOTH CONVEYED TO BEAZER HOMES TEXAS, LP. AND BOTH RECORDED IN THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY TEXAS.





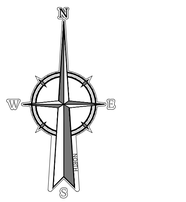
LEGEND

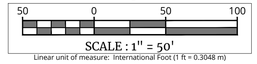
- PROPERTY LINE
- EXISTING CONCRETE CURB
- EXISTING CONCRETE
- PROPOSED CONCRETE CURB
- PROPOSED CONCRETE



LOCATION MAP
NOT-TO-SCALE

COORDINATION NOTE:
1. CONTACT SPECTRUM TO COORDINATE CABLE TV SERVICE. (210)-244-0500.
2. CONTACT CPS (CITY PUBLIC SERVICE) FOR INSPECTIONS AND CONDUIT SIZES FOR PRIMARY AND ELECTRICAL SERVICES. (210)-353-2256.
3. CONTACT AT&T TO COORDINATE TELEPHONE SERVICE. 1-800-449-7928.
4. CONTACT CPS (CITY PUBLIC SERVICE) TO PLAN GAS SERVICES. (210)-353-2256.
5. CONTACT SAWS (SAN ANTONIO WATER SYSTEM) TO PLAN SANITARY SEWER AND WATER SERVICES. (210)-704-7297.
6. CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.





Colliers Engineering & Design
www.colliersengineering.com
Copyright © 2024. Colliers Engineering & Design All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW

811 PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DESCRIPTION	DRAWN BY	DATE

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 · TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

PROJECT NUMBER:	DRAWING NAME:
1065-13-03	DC10651303

SHEET TITLE:
DIMENSIONAL CONTROL PLAN (SHT 2 OF 3)

SHEET NUMBER:
12.1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

Civil\DC10651303.dwg\DIMENSIONAL CONTROL PLAN (SHT 2 OF 3) By: ABROWNE

COMPACTION 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 TESTS 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. PERMITS AND/OR WILL NOT BE ACCEPTED AND FINALIZED BY SAWS WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.

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 SITES 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.

DRY UTILITY CONDUIT NOTE:

CONDUIT LOCATIONS SHOWN ON PLAN ARE FOR GEOGRAPHICAL PURPOSES ONLY AND ARE APPROXIMATE. CONTRACTOR TO INSTALL PROPOSED CONDUITS IN ACCORDANCE WITH DRY UTILITY PURVEYOR'S SPECIFICATIONS. CONTRACTOR TO VERIFY THE CONDUIT LOCATIONS AND SIZES BASED ON THE DRY UTILITY PURVEYOR'S PLAN.

CAUTION!!:

THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED 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 1-800-DIG-TESS 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.

LEGAL DESCRIPTION:

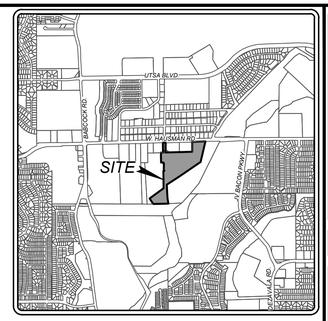
BEING A 23.97 ACRE TRACT, OR 1,044,203 SQUARE FEET MORE OR LESS TRACT OF LAND. BEING A PORTION OF A 36.48 ACRE TRACT RECORDED IN VOLUME 20003, PAGE 656 AND 657, AND A 1.48 ACRE TRACT RECORDED IN VOLUME 20003, PAGE 656 AND 657 BOTH CONVEYED TO BEAZER HOMES TEXAS, LP. AND BOTH RECORDED IN THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY TEXAS.

DISCLAIMER:

THE PROPERTY BOUNDARY, EXISTING IMPROVEMENTS AND EXISTING TOPOGRAPHY SHOWN ON THESE PLANS ARE BASED OF PLANS BY OTHERS PROVIDED TO COLLIERS ENGINEERING & DESIGN BY THE CLIENT. THE ACCURACY OF THE PROPERTY BOUNDARY, EXISTING IMPROVEMENTS AND EXISTING TOPOGRAPHY HAS NOT BEEN VERIFIED BY KFW ENGINEERS & SURVEYING. NO WARRANTIES TO ITS ACCURACY ARE EXPRESSED OR IMPLIED. THE CONTRACTOR SHALL VERIFY THE EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION AND SHALL NOTIFY THE CLIENT AND ENGINEER OF ANY DISCREPANCIES IMMEDIATELY AND PRIOR TO CONSTRUCTION.

LEGEND

- PROPERTY LINE
- EXISTING CONCRETE CURB
- EXISTING CONCRETE
- PROPOSED CONCRETE CURB
- PROPOSED CONCRETE



LOCATION MAP
NOT-TO-SCALE

COORDINATION NOTE:

1. CONTACT SPECTRUM TO COORDINATE CABLE TV SERVICE. (210)-244-0500.

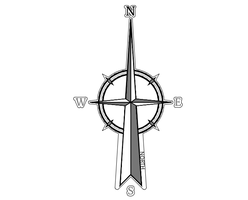
2. CONTACT CPS (CITY PUBLIC SERVICE) FOR INSPECTIONS AND CONDUIT SIZES FOR PRIMARY AND ELECTRICAL SERVICES. (210)-353-2256.

3. CONTACT AT&T TO COORDINATE TELEPHONE SERVICE. 1-800-449-7928.

4. CONTACT CPS (CITY PUBLIC SERVICE) TO PLAN GAS SERVICES. (210)-353-2256.

5. CONTACT SAWS (SAN ANTONIO WATER SYSTEM) TO PLAN SANITARY SEWER AND WATER SERVICES. (210)-704-7297.

6. CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.



50 0 50 100

SCALE : 1" = 50'

Linear unit of measure: International Foot (1 ft = 0.3048 m)

LINE TABLE		
Line #	Length	Direction
L1	1147.04'	S00° 40' 02"E
L2	362.65'	S89° 53' 21"W
L3	277.22'	S00° 32' 22"E
L4	271.71'	S00° 32' 17"E
L5	342.82'	S88° 08' 34"W
L6	219.75'	N00° 36' 08"W
L9	394.82'	S88° 20' 34"W
L10	361.42'	S87° 26' 48"W
L11	267.40'	S00° 16' 32"E
L12	365.34'	N89° 29' 22"W
L13	578.36'	N12° 48' 14"E
L14	762.87'	N55° 47' 08"E
L15	352.55'	N51° 24' 08"E
L16	173.78'	N04° 40' 32"E
L17	187.94'	N04° 22' 36"W
L18	153.99'	N11° 55' 57"W
L19	471.50'	N89° 36' 14"E

LINE TABLE		
Line #	Length	Direction
T23	37.01'	S00° 36' 08"E
T24	37.01'	S00° 36' 08"E
T25	32.12'	S00° 36' 08"E
T28	6.13'	S22° 24' 13"E
T29	16.80'	S00° 36' 08"E
T30	3.25'	S00° 36' 08"E
T31	3.25'	S00° 36' 08"E
T32	16.30'	S00° 36' 08"E
T37	38.04'	S01° 41' 18"W
T39	40.93'	N15° 02' 24"E
T40	15.58'	S06° 54' 15"E
T41	15.58'	S05° 41' 59"W
T42	9.09'	S00° 31' 28"E
T43	7.37'	S00° 31' 28"E
T44	13.00'	N89° 28' 32"E
T45	13.00'	N89° 27' 38"E
T46	15.00'	N89° 27' 38"E
T47	25.00'	N89° 27' 34"E
T49	21.25'	S89° 27' 38"W
T50	3.63'	S85° 38' 20"W
T51	134.49'	S04° 21' 40"E
T52	27.00'	S00° 31' 28"E

LINE TABLE		
Line #	Length	Direction
T53	26.99'	N00° 31' 28"W
T54	120.50'	S88° 07' 23"W
T55	14.82'	S88° 07' 23"W
T56	15.64'	S88° 07' 23"W
T57	14.00'	S77° 11' 46"E
T58	14.00'	S77° 11' 46"E
T59	25.48'	N12° 48' 14"E
T60	118.32'	S12° 48' 14"W
T61	143.72'	N12° 48' 14"E
T62	21.25'	S89° 27' 38"W
T63	18.75'	S85° 38' 20"W
T64	101.90'	S00° 36' 08"E
T65	101.39'	S00° 36' 08"E
T66	10.86'	S04° 21' 40"E
T67	59.63'	S04° 21' 40"E
T68	530.48'	N55° 47' 08"E
T70	397.82'	N55° 47' 08"E
T71	81.62'	N89° 53' 21"E
T72	84.14'	N89° 53' 21"E
T73	100.17'	N00° 32' 22"W
T74	45.30'	N00° 32' 22"W
T75	52.36'	S34° 12' 52"E

LINE TABLE		
Line #	Length	Direction
T76	62.11'	N89° 53' 21"E
T77	62.10'	N89° 53' 21"E
T78	71.75'	N88° 07' 23"E
T79	71.55'	N88° 07' 23"E
T80	55.07'	S89° 04' 57"E
T81	552.06'	S88° 07' 23"W
T82	39.60'	S88° 07' 23"W
T84	108.00'	S01° 52' 37"E
T85	93.82'	S01° 52' 37"E
T86	53.18'	S34° 12' 52"E
T87	53.18'	S34° 12' 52"E
T88	195.30'	N55° 47' 08"E
T89	667.09'	N55° 47' 08"E
T90	393.79'	N55° 47' 08"E
T94	13.00'	N77° 11' 46"W
T95	34.00'	N12° 48' 14"E
T96	112.37'	N51° 24' 08"E
T97	5.00'	N51° 24' 08"E

Curve Table					
Curve #	Length	Radius	Delta	Chord	Chord Bearing
R2	44.74'	28.00'	91°33'06"	40.13'	N46°22'42"W
R7	12.57'	4.00'	180°00'00"	8.00'	S89°23'52"W
R9	12.57'	4.00'	180°00'00"	8.00'	N89°23'52"E
R11	15.22'	40.00'	21°48'05"	15.13'	S11°30'11"E
R13	15.22'	40.00'	21°48'05"	15.13'	N11°30'11"W
R14	12.57'	4.00'	180°00'00"	8.00'	S89°23'52"W
R17	10.92'	40.00'	15°38'32"	10.89'	N07°13'08"E
R19	5.84'	2.00'	167°23'46"	3.98'	N89°23'52"E
R21	11.99'	300.00'	2°17'26"	11.99'	N00°32'35"E
R23	5.50'	50.00'	6°18'07"	5.50'	N02°32'55"E
R25	5.50'	50.00'	6°18'07"	5.50'	S03°45'12"E
R30	7.52'	5.00'	86°09'47"	6.83'	S42°33'26"W
R31	7.87'	5.00'	90°14'25"	7.09'	N45°38'40"W
R32	7.85'	5.00'	90°00'00"	7.07'	S45°31'28"E
R33	7.85'	5.00'	89°59'05"	7.07'	N44°28'05"E
R34	4.71'	3.00'	90°00'55"	4.24'	N45°31'55"W
R35	4.71'	3.00'	89°59'44"	4.24'	S44°27'46"W
R36	39.27'	25.00'	90°00'00"	35.36'	N49°21'40"W
R37	43.98'	28.00'	90°00'00"	39.60'	N32°11'46"W
R38	43.98'	28.00'	90°00'00"	39.60'	N57°48'14"E
R39	45.07'	28.00'	92°13'16"	40.36'	N46°23'10"W
R40	44.88'	28.00'	91°50'13"	40.23'	S45°38'35"W
R41	38.57'	25.00'	88°23'54"	34.86'	N43°55'25"E
R42	39.97'	25.00'	91°36'06"	35.85'	S46°04'35"E
R43	41.24'	25.00'	94°30'46"	36.72'	N34°27'09"W
R44	15.26'	86.00'	10°10'06"	15.24'	N86°47'35"W
R47	25.27'	114.00'	12°42'08"	25.22'	N85°31'33"W
R48	38.41'	25.00'	88°01'16"	34.74'	N56°48'52"E
R49	19.08'	286.00'	3°49'18"	19.07'	N87°32'59"E
R50	37.45'	24.20'	88°40'36"	33.82'	N41°18'02"E

Curve Table					
Curve #	Length	Radius	Delta	Chord	Chord Bearing
R51	39.98'	25.00'	91°37'37"	35.85'	S48°27'33"E
R52	39.31'	25.00'	90°05'21"	35.38'	S40°41'00"W
R54	7.85'	5.00'	90°00'00"	7.07'	S49°21'40"E
R55	7.85'	5.00'	90°00'00"	7.07'	S40°38'20"W
R56	39.27'	25.00'	90°00'00"	35.36'	S79°12'52"E
R57	32.95'	25.00'	75°31'21"	30.62'	N03°32'49"E
R58	34.90'	25.00'	79°59'03"	32.13'	N50°07'08"W
R59	39.46'	25.00'	90°25'43"	35.49'	N44°40'29"E
R60	20.94'	314.00'	3°49'18"	20.94'	N02°27'01"W
R61	19.08'	286.00'	3°49'18"	19.07'	N02°27'01"W
R62	45.05'	114.00'	22°38'35"	44.76'	S21°26'54"E
R63	50.55'	86.00'	33°40'29"	49.82'	S17°22'37"E
R64	67.85'	114.00'	34°06'12"	66.86'	N72°50'14"E
R65	48.08'	86.00'	32°01'53"	47.45'	N73°52'24"E
R66	9.12'	5.00'	104°28'39"	7.91'	S86°27'11"E
R67	7.85'	5.00'	90°00'00"	7.07'	N79°12'52"W
R68	7.73'	5.00'	88°33'19"	6.98'	N11°30'29"E
R69	8.03'	5.00'	92°04'19"	7.20'	N11°49'18"E
R70	37.94'	25.00'	86°56'30"	34.40'	N48°24'22"W
R71	44.15'	114.00'	22°11'15"	43.87'	S77°01'45"W
R72	48.54'	86.00'	32°20'14"	47.90'	S71°57'15"W
R73	28.44'	314.00'	5°11'24"	28.43'	S88°19'20"W
R74	13.95'	286.00'	2°47'40"	13.95'	N89°31'13"E
R75	23.13'	114.00'	11°37'24"	23.09'	N82°18'41"E
R76	39.27'	25.00'	90°00'00"	35.36'	S43°07'23"W
R77	39.27'	25.00'	90°00'00"	35.36'	N46°52'37"W
R78	7.85'	5.00'	90°00'00"	7.07'	S43°07'23"W
R79	7.93'	5.00'	90°50'57"	7.12'	N44°30'26"W
R80	17.45'	86.00'	11°37'24"	17.42'	N82°18'41"E
R81	39.27'	25.00'	90°00'00"	35.36'	N43°07'23"E

Curve Table					
Curve #	Length	Radius	Delta	Chord	Chord Bearing
R82	7.85'	5.00'	90°00'00"	7.07'	S46°52'37"E
R83	7.85'	5.00'	90°00'00"	7.07'	S43°07'23"W
R84	39.27'	25.00'	90°00'00"	35.36'	N10°47'08"E
R85	39.27'	25.00'	90°00'00"	35.36'	S79°12'52"E
R86	58.26'	114.00'	29°16'45"	57.62'	S19°34'29"E
R87	48.54'	86.00'	32°20'14"	47.90'	S18°02'45"E
R88	64.51'	86.00'	42°58'54"	63.01'	N34°17'41"E
R89	85.52'	114.00'	42°58'54"	83.53'	N34°17'41"E
R90	7.85'	5.00'	90°00'00"	7.07'	S32°11'46"E
R91	7.85'	5.00'	90°00'00"	7.07'	S57°48'14"W
R92	7.85'	5.00'	90°00'00"	7.07'	S32°11'46"E
R93	7.85'	5.00'	90°00'00"	7.07'	S57°48'14"W
R94	7.85'	5.00'	90°00'00"	7.07'	N06°24'08"E
R95	7.85'	5.00'	90°00'00"	7.07'	S83°35'52"E
R96	43.98'	28.00'	90°00'00"	39.60'	N83°35'52"W
R97	43.98'	28.00'	90°00'00"	39.60'	S06°24'08"W
R98	27.85'	364.00'	4°23'00"	27.84'	S53°35'38"W
R99	25.71'	336.00'	4°23'00"	25.70'	S53°35'38"W

Colliers Engineering & Design

www.colliersengineering.com

Copyright © 2024. Colliers Engineering & Design. All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the services were contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Formerly Known as KFW ENGINEERS & SURVEYING

811 PROTECT YOURSELF

ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE

FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS
CLAYTON J. LINNEY
111543
LICENSED PROFESSIONAL ENGINEER

CLAYTON J. LINNEY
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 111543
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909 - TBPLS Firm#: 10194550

TREVOR FIELDS, UNIT 1
STREET, DRAINAGE, WATER,SANITARY SEWER & UTILITY IMPROVEMENTS
FOR
BEAZER HOMES

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers Engineering & Design
SAN ANTONIO (KFW)
3421 Paesanos Parkway
San Antonio, TX 78231
Phone: 210.979.8444
COLLIERS ENGINEERING & DESIGN, INC.
TBPE Firm#: F-14909
TBPLS Firm#: 10194550

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	DEC - 2023	JA	CL

PROJECT NUMBER: 1065-13-03

DRAWING NAME: DC10651303

SHEET TITLE: DIMENSIONAL CONTROL PLAN (SHT 3 OF 3)

SHEET NUMBER: 12.2

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

Civil\DC10651303.dwg\DIMENSIONAL CONTROL PLAN (SHT 3 OF 3) By: ABROWNE