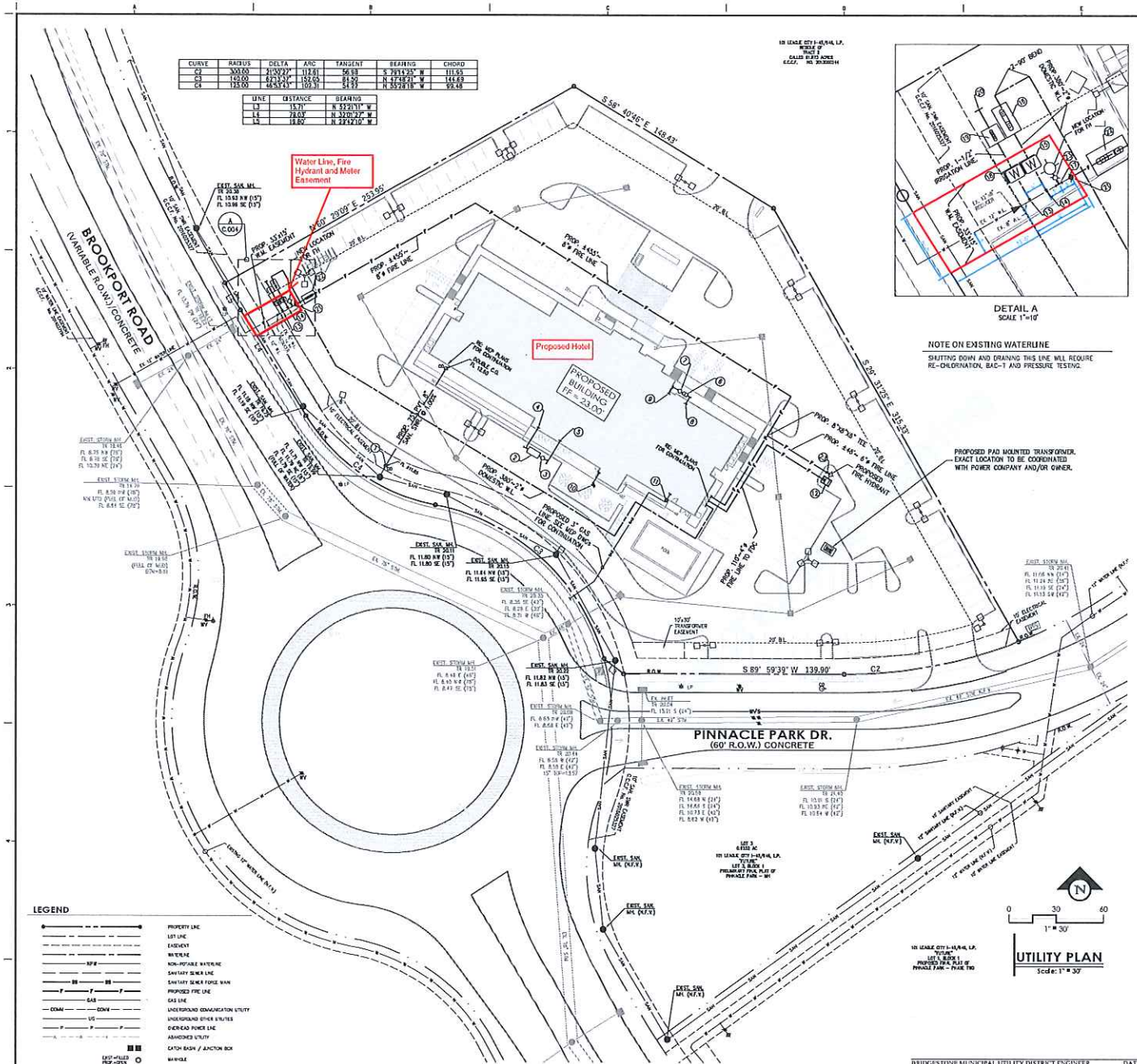
CURVE	RADIUS	DELTA	ARC	TANGENT	BEARING	CHORD
C2	300.00	21°59'27"	117.61	59.68	S 79°14'25" W	111.65
C3	140.00	62°13'37"	152.05	84.50	N 47°48'21" W	144.69
C4	125.00	46°57'41"	102.51	54.29	N 55°28'18" W	99.48

LINE	DISTANCE	BEARING
L3	15.71'	N 52°21'11" W
L4	28.03'	N 32°01'27" W
L5	19.80'	N 23°42'10" W



DETAIL A
SCALE 1"=10'

NOTE ON EXISTING WATERLINE

SHUTTING DOWN AND DRAINING THIS LINE WILL REQUIRE RE-CHLORINATION, BAC-T AND PRESSURE TESTING.

KEY NOTES:

1. PROPOSED CONNECTION TO EXISTING SANITARY SEWER STUB OUT. PROVIDE 6" CLEAN-OUT AT CONNECTION POINT. CONTRACTOR TO FIELD VERIFY EXISTING SIZE AND FLOW LINE PRIOR TO CONSTRUCTION & NOTIFY ENGINEER IMMEDIATELY OF ANY CONFLICT OR DIFFERENCE IN FLOWLINE.
2. PROP. 750 GAL GREASE INTERCEPTOR. SEE MEP PLANS FOR DETAILS AND CALCULATIONS
3. PROPOSED SAMPLE WELL. SEE MEP PLANS FOR DETAILS
4. PROPOSED 4" INLET GREASE LINE. SEE MEP PLANS FOR CONTINUATION
5. PROPOSED 4" OUTLET GREASE LINE TO BE CONNECTED TO MAIN SANITARY SEWER LINE. SEE MEP PLANS FOR CONTINUATION
6. PROP. LINT INTERCEPTOR. SEE MEP PLANS FOR DETAILS AND CALCULATIONS
7. PROPOSED SAMPLE WELL. SEE MEP PLANS FOR DETAILS
8. PROPOSED 4" INLET SANITARY SERVICE LINE. SEE MEP PLANS FOR CONTINUATION
9. PROPOSED 4" OUTLET SANITARY SERVICE LINE TO BE CONNECTED TO MAIN SANITARY SEWER LINE. SEE MEP PLANS FOR CONTINUATION
10. PROPOSED ¾" GAS LINE TO BBQ GRILL. SEE MEP PLANS FOR CONTINUATION
11. PROPOSED GAS METER.
12. PROPOSED FIRE DEPARTMENT CONNECTION ASSEMBLY W/ FDC RISER. (RE: FDC-1-LC)
13. PROPOSED 8"x1-1/2" WATER IRRIGATION CONNECTION
14. PROPOSED 8"x2" WATER SERVICE CONNECTION
15. PROPOSED 2" DOMESTIC WATER METER W/BOX AS COLC STANDARDS DETAIL
16. PROPOSED 2" REDUCED PRESSURE BACKFLOW PREVENTER (RE: DETAIL RPE-1)
17. PROPOSED 8"x8"x6" TEE
18. PROPOSED 1-1/2" IRRIGATION METER W/BOX AS COLC STANDARD DETAIL.
19. PROPOSED 1-1/2" PRESSURE VACUUM BREAKER BACKFLOW PREVENTER (RE: DET. PVBE)
20. PROPOSED 1-1/2" IRRIGATION LINE. CAP AND PLUG AT END.
21. EXISTING FIRE HYDRANT TO BE RELOCATED; PROVIDE 8" GATE VALVE AT THE END OF EXISTING PIPE. EXISTING 8" WATERLINE TO BE EXTENDED AS SHOWN.
22. PROPOSED 8" DOUBLE CHECK BACKFLOW PREVENTER (RE: DETAIL BP-1PAD)
23. PROPOSED 6" GATE VALVE W/BOX

GENERAL NOTES: SITE UTILITIES

(THESE NOTES CONTROL EXCEPT AS NOTED OTHERWISE IN PLANS & DETAILS)

1. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL UTILITY TIE IN LOCATIONS FOR MATERIAL, SIZE, ELEVATION, AND FIELD CONDITIONS. IN THE EVENT THE PLANS DO NOT REPRESENT FIELD CONDITIONS, THE CONTRACTOR IS TO CONTACT THE ENGINEER AND OWNER IMMEDIATELY AND PRIOR TO PERFORMING ANY WORK.
2. BACKFILL FOR UTILITY LINES SHOULD CONSIST OF LOW PLASTICITY CLAYS OR LIME-TREATED CLAYS. THESE SOILS SHOULD HAVE A LIQUID LIMIT OF LESS THAN 40 AND PLASTICITY INDEX (PI) BETWEEN 12 AND 20. UTILITY LINE ENTRANCE TO UNDER THE BUILDINGS SHALL BE SEALED WITH BENTONITE.
3. NO CONNECTIONS SHALL BE MADE TO EXISTING PUBLIC WATER LINES OR PUBLIC SANITARY SEWERS UNTIL ALL PROPOSED WATER OR SEWER LINES HAVE BEEN THOROUGHLY CLEANED, TESTED (AS REQUIRED) AND APPROVED BY THE APPROPRIATE AUTHORITIES.
4. UTILITIES THAT PENETRATE THROUGH BUILDINGS OR OTHER RIGID STRUCTURES SHOULD BE DESIGNED USING FLEXIBLE FITTINGS AND/OR SLEEVES. THESE DESIGN FEATURES WILL HELP REDUCE THE RISK OF DAMAGE TO THE UTILITIES IF VERTICAL MOVEMENTS IN THE SOIL OCCUR.
5. HORIZONTAL AND VERTICAL INFORMATION REGARDING UTILITY CONNECTIONS TO PROPOSED BUILDING ON THIS SET OF PLANS TERMINATE AT THREE (3) FEET FROM THE NEAREST BUILDING'S EXTERIOR WALL.
6. ALL UTILITY TRENCHES BELOW PROPOSED OR FUTURE PAVING SHALL BE BACKFILLED WITH CEMENT-STABILIZED SAND.
7. UTILITY TRENCHES ARE A COMMON SOURCE OF WATER INFILTRATION AND MIGRATION. ALL UTILITY TRENCHES THAT PENETRATE BENEATH THE BUILDING SHOULD EFFECTIVELY SEALED TO RESTRICT WATER INTRUSION AND FLOW THROUGH TRENCHES THAT COULD MIGRATE BELOW THE BUILDING. WE RECOMMEND CONSTRUCTING AN EFFECTIVE CLAY "TRENCH PLUG" THAT EXTENDS AT LEAST FIVE (5) FEET OUT FROM THE FACE OF THE BUILDING EXTERIOR. THE PLUG MATERIAL SHOULD CONSIST OF CLAY COMPACTED AT A WATER CONTENT AT OR ABOVE THE SOIL'S OPTIMUM WATER CONTENT. THE CLAY FILL SHOULD BE PLACED TO COMPLETELY SURROUND THE UTILITY LINE AND BE COMPACTED IN ACCORDANCE WITH RECOMMENDATIONS IN GEOTECHNICAL REPORT(S).
8. ALL MANHOLES ARE TO BE CONSTRUCTED TO ALLOW FOR A MINIMUM OF 1 FOOT OF VERTICAL ADJUSTMENT.
9. ANY USE OF AN EXISTING SEWER SERVICE CONNECTION MAY BE REQUIRED TO BE RECONSTRUCTED TO CURRENT STANDARDS IF NOT FOUND TO BE IN USABLE CONDITION.

SANITARY SEWER SYSTEM

1. ALL SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST COUNTY, MUD DISTRICT AND TCEQ CRITERIA.
2. PIPE MATERIAL:
   SANITARY SEWER PIPE USED FOR CONNECTION TO SEWER IN PUBLIC RIGHT-OF-WAY SHALL BE D500 P.V.C. PIPE MEETING ASTM SPECIFICATION D3034 WITH FLEXIBLE GASKET JOINTS. ALL OTHER PRIVATE SANITARY SEWER PIPE MATERIAL SHALL CONFORM TO THE FOLLOWING CRITERIA UNLO:
   A) POLYVINYL CHLORIDE (PVC) SCHEDULE 40 TO BE USED FOR PIPE SIZES 8 INCHES AND SMALLER.
   B) STANDARD DIMENSION RATIO (SDR) 35 PVC OR 26 PVC CAN BE USED FOR PIPE SIZES 8 INCHES AND LARGER. SEE NOTE BELOW REGARDING SDR 26 FITTINGS.
3. SDR 26 PVC PIPE USES "FULL BODIED" SDR 26 PVC FITTINGS OR D.I.P. FITTINGS WITH APPROPRIATE ADAPTERS. AWWA C-900 DR-18 PVC PIPE USES EITHER AWWA C-900 DR-18 PVC FITTINGS OR D.I.P. FITTINGS U.N.O.
4. PIPE SHALL BE BEDDED WITH A MINIMUM OF ONE FOOT OF CEMENT STABILIZED SAND. CEMENT STABILIZED SAND SHALL BE LAID IN 6" LIFTS COMPACTED TO 95% STANDARD PROCTOR OF MAXIMUM DRY DENSITY.
5. ALL SANITARY SEWERS AND WATER LINES CROSSINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY, COUNTY AND TCEQ REGULATIONS.
6. SANITARY SEWER MANHOLE RIMS OUTSIDE OF PROPOSED PAVING WILL BE SET 3" TO 6" ABOVE THE SURROUNDING LEVEL FINISHED GRADE AFTER PAVING AND GRADING OPERATIONS.
7. ALL SEWER LINES ENTERING A MANHOLE AT A FLOWLINE HIGHER THAN 2' OR 24" ABOVE THE MANHOLE INVERT MUST BE PROVIDED WITH A DROP PIPE OUTSIDE OF THE MANHOLE U.N.O.
8. PLACE IN-LINE CLEAN-OUT AT LEAST EVERY 80 FEET FOR PIPE SIZES 8"# OR SMALLER. CLEAN-OUT SHALL MATCH PIPE SIZE.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR SAFELY SHORING ALL TRENCHES, IN COMPLIANCE W/ OSHA.

DOMESTIC WATER SYSTEM

1. WATER LINES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST OWNING AUTHORITIES AND TCEQ REGULATIONS, STANDARD SPECIFICATIONS AND CONSTRUCTION DETAILS.
2. PIPE MATERIALS:
   A. 1" THRU 3" WATER LINES SHALL BE P.V.C. SCHEDULE 40 U.N.O.
   B. 4" THRU 12" WATER LINES SHALL BE P.V.C. CLASS 150 DR-18, AWWA C-900 U.N.O.
   C. 4" THRU 54" D.I.P. WATER LINES SHALL BE AWWA C151 (ANSI A21.51) AND DOUBLE WRAPPED IN 8-MIL POLYETHYLENE U.N.O. PIPE SHALL BE LINED IN ACCORDANCE WITH THE AWWA C104 (ANSI A21.4).
3. CONCRETE THRUST BLOCKS SHALL BE PROVIDED AS NECESSARY TO PREVENT PIPE MOVEMENT. WHERE PREVENTING MOVEMENT OF 16" OR GREATER PIPE IS NECESSARY DUE TO THRUST, USE RESTRAINED JOINTS.
4. ALL WATER LINES UNDER PROPOSED OR FUTURE PAVING AND TO A POINT ONE (1) FOOT BACK OF ALL PROPOSED OR FUTURE CURBS SHALL BE ENCASED IN BANK SAND TO 12 INCHES OVER PIPE AND BACKFILLED WITH CEMENT STABILIZED SAND TO WITHIN ONE (1) FOOT OF SUBGRADE U.N.O.
5. ALL WATER VALVES SHALL BE SUPPLIED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF AWWA C-500 AND SHALL BE OF THE RESILIENT SEAT TYPE U.N.O.
6. ALL BELOW GRADE VALVES SHALL BE EXPOSED, MUD-END CASE VALVES WITH A CAST IRON BOX, EXCEPT WHERE FLANGES ARE CALLED OUT ON THE PLANS.
7. 4" THRU 12" FITTINGS SHALL BE CEMENT MORTAR LINED COMPACT DUCTILE IRON PRESSURE FITTINGS PER AND A21.53, OR PUSH ON FITTINGS PER AND A21.10 PRESSURE RATED AT 250 PSIG U.N.O.
8. HYDROSTATIC TESTING: ALL WATER PIPE SHALL BE TESTED FOR LEAKAGE IN ACCORDANCE WITH THE LATEST CITY/ COUNTY, MUD DISTRICT AND TCEQ REQUIREMENTS. TESTS ARE TO BE PERFORMED ON THE TOTAL FOOTAGE OF WATER PIPE LINE INCLUDED IN THIS PROJECT.
9. ALL MAIN WATER LINES TO HAVE 4 FEET MINIMUM COVER TO FINISHED GRADE U.N.O. ALL WATER LINES INSTALLED OVER 8 FEET DEEP SHALL UTILIZE RESTRAINED JOINT FITTINGS.
10. CONTRACTOR SHALL KEEP WATER PIPE CLEAN AND CAP (OR OTHERWISE EFFECTIVELY COVER) OPEN PIPE ENDS TO EXCLUDE INSECTS, ANIMALS OR OTHER SOURCES OF CONTAMINATION FROM UNFINISHED PIPE LINES AT TIMES WHEN CONSTRUCTION IS NOT IN PROGRESS.
11. ALL PIPE LINES TO BE INSTALLED AND TESTED PER NFPA REGULATIONS.
12. WHERE A WATERLINE CROSSES ANOTHER UTILITY OTHER THAN A SANITARY SEWER, A MINIMUM OF TWELVE-INCHES (12") OF CLEARANCE MUST BE MAINTAINED BETWEEN THE OUTSIDE WALL OF THE WATERLINE AND THE OUTSIDE WALL OF THE UTILITY U.N.O.

BRIDGESTONE MUNICIPAL UTILITY DISTRICT ENGINEER — DATE
SIGNATURE VALID FOR ONE (1) YEAR

LEGAL DESCRIPTION

BEING A 2.420 ACRES OR 105,414 SQ. FT. OF LAND SITUATED IN THE STEPHEN F. AUSTIN SURVEY, TRACK 48-6, ABSTRACT No. 3, O.C.C.T. # 2017025948 IN GALVESTON COUNTY, TEXAS.

BENCHMARK DATA

LEAGUE CITY REFERNCE MARK LC-2003-127
FROM THE INTERSECTION OF F.M. 518 AND I-45, TRAVEL SOUTH ON I-45, 2.5 MILES TO EXIT 20 (F.M. 646). TAKE EXIT 20 AND GO 0.5 MILES TO F.M. 646. TRAVEL SOUTHERLY ON F.M. 646 0.2 MILES TO A GRAVEL DRIVE 230 FEET SOUTH OF MAGNOLIA BANDS. RM IS LOCATED JUST SOUTH OF A VALVE STATION.
ELEVATION = 16.07' (NAVD 1988, 2002 ADJUSTED)

TBM. CUT SQUARE ON TOP OF CURB OF INLET LOCATED ON BROOKPORT ROAD AT THE NORTHWESTERLY CORNER OF SUBJECT TRACT AS SHOWN HEREON.
ELEVATION = 18.66'

FLOOD PLAIN DATA

BY GRAPHING PLOTTING ONLY, WE DO NOT ASSUME RESPONSIBILITY FOR EXACT DETERMINATION.

MAP NUMBER: 48167C 0030-E
REVISED DATE: 09-22-99
ZONE: X
NEAREST B.F.E.: 15.00' (PER NFHL)

SURVEYOR

ALL EXISTING TOPOGRAPHIC DATA SHOWN HEREIN IS EXTRACTED DIRECTLY FROM SURVEY BY:

FIRM NAME: HOVIS SURVEYING COMPANY.
ADDRESS: 5000 CARRIAGE, SPRING, TEXAS, 77379
PHONE NO.: 281-370-5591
JOB NO.: 12-045-07

HouTex Tex Engineering, LLC.

STATE OF TEXAS
ZIAEDDIN MOHAMMADI
67639
REGISTERED PROFESSIONAL ENGINEER

8/17/2018

HOUTEX ENGINEERING, LLC
FIRM NUMBER: F-12522
Phone: (713) 973-1400 • (281) 888-9001
9111 Katy Freeway, Suite 226, Houston, Texas 77024
www.HoutexEngineering.com
email: info@HoutexEngineering.com

	DATE	REVISION
1		
2		
3		
4		

FAIRFIELD INN & SUITE

PROPOSED HOTEL
AT
1144 PINNACLE PARK DR.
LEAGUE CITY, TX 77573

UTILITY PLAN

SCALE: 1" = 30'

LAST SAVE: 8/17/2018
SHEET BY: HTX013 — CHECKED BY: HOB
CREATED BY: YOU — APPROVED BY: ZM

HOUTEX PROJECT NUMBER: HTX17-033

C.004 — 04 OF 18

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