UTILITY LEGEND

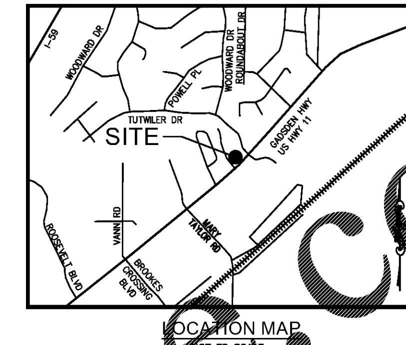
- (A) 6" LATERALS AT MINIMUM 1.0% SLOPE. COORDINATE WITH ARCHITECTURAL PLANS.
- (B) OMIT.
- (C) OMIT.
- (D) UNDERGROUND ELECTRIC SERVICE FROM POLE TO BUILDING, CONTRACTOR IS RESPONSIBLE FOR ALL TRENCHING, BEDDING, CONDUIT, CABLES, PULL WIRES, SECONDARY CONDUCTORS, TRACE TAPE, BACKFILL, ETC., WHICH MAY BE REQUIRED BY ELECTRIC COMPANY. CONTRACTOR SHALL COORDINATE SAID WORK WITH POWER COMPANIES, THE CONTRACTOR IN CONJUNCTION WITH THE UTILITY COMPANIES SHALL DETERMINE THE AMOUNT OF UTILITY LINE HE IS TO PROVIDE OUTSIDE THE UTILITY COMPANY'S ALLOWANCE.
- (E) PROPOSED LOCATION OF TRANSFORMER PAD. CONTRACTOR TO VERIFY EXACT LOCATION AND SIZE WITH POWER COMPANY PRIOR TO INSTALLATION. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF CONCRETE PAD, CONDUIT AND PIPE BOLLARDS AS REQUIRED BY THE ELECTRIC COMPANY. CONTRACTOR SHALL COORDINATE SAID WORK WITH THE ELECTRIC COMPANY.
- (F) UNDERGROUND TELEPHONE FROM POLE TO BUILDING TO BE EXTENDED BY TELEPHONE COMPANY. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY TRENCHING, BEDDING, CONDUIT, PULL WIRES, TRACE TAPE, BACKFILL, ETC., WHICH MAY BE REQUIRED BY TELEPHONE COMPANY. CONTRACTOR SHALL COORDINATE WITH TELEPHONE COMPANY FOR SAID WORK. PROVIDE CONDUITS AS SHOWN.
- (G) CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH THE UTILITY COMPANIES FOR THE INSTALLATION OF OVERHEAD/UNDERGROUND ELECTRIC AND TELEPHONE LINES TYPICAL. CONTRACTOR SHALL COORDINATE THE TYING OF INDIVIDUAL METER WITH THE ELECTRIC COMPANY. SEE NOTE D, E, & F FOR ADDITIONAL NOTES PERTAINING TO ELECTRIC AND TELEPHONE LINES.
- (H) DOMESTIC WATERLINE ENTRY WITH METER PER LOCAL WATER COMPANY REQUIREMENTS. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ANY APPURTENANCES ON THE DOMESTIC LINE. SUCH AS BACKFLOW PREVENTION DEVICES, GATE VALVES, ETC., WHICH MAY BE REQUIRED TO COORDINATE WITH WATER COMPANY.
- (I) EXISTING FIRE HYDRANT TO REMAIN, CONTRACTOR TO ADJUST TO GRADE IF REQUIRED.

STRUCTURE TABLE

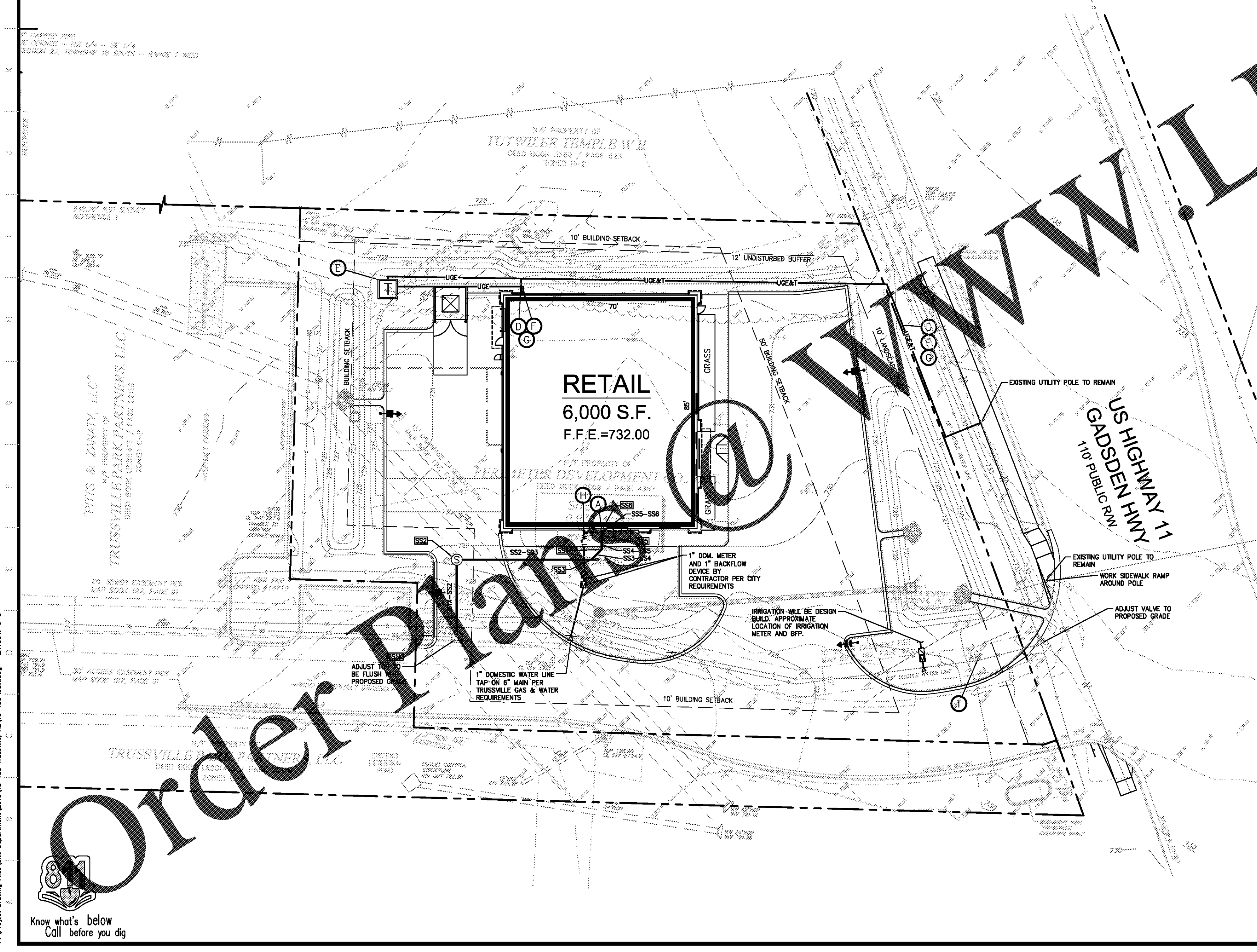
STRUCTURE #	STRUCTURE TYPE	TOP OF CASTING	INVERT OUT	INVERT IN
SS1X	EXISTING MANHOLE	726.86	719.50	721.39 (SS2) 719.68 (EX.)
SS2	MANHOLE	728.60	724.74	725.96 (SS3)
SS3	CLEANOUT	730.96	726.88	726.88 (SS4)
SS4	BEND		726.93	726.93 (SS5)
SS5	CLEANOUT	731.78	726.98	726.98 (SS6)
SS6	AT BUILDING		727.00	

PIPE TABLE

PIPE NAME	LENGTH	SIZE	SLOPE
SS1X–SS2	28	6	12.00%
SS2–SS3	49	6	1.90%
SS3–SS4	5	6	1.00%
SS4–SS5	5	6	1.00%
SS5–SS6	2	6	1.00%



LOCATION MAP
NOT TO SCALE



UTILITY PLAN LEGEND

Symbol	Description
UGE	ELECTRICAL CONDUIT
UGT	TELEPHONE CONDUIT
4"SS	SANITARY SEWER PIPE
8"W	WATER MAIN PIPE
3"W	DOMESTIC WATER PIPING
GAS	GAS PIPE
	TAPPING SLEEVE & VALVE
WV	WATER VALVE
	FIRE HYDRANT
	THRUST BLOCK
	WATER METER
	BACKFLOW PREVENTOR
PIV	POST INDICATOR VALVE
S	SANITARY SEWER MANHOLE
	POWER POLE
GM	GAS METER

SITE UTILITY NOTES

1. ALL FILL MATERIAL IS TO BE IN PLACE, AND COMPACTED BEFORE INSTALLATION OF PROPOSED UTILITIES.
2. CONTRACTOR SHALL NOTIFY THE UTILITY AUTHORITIES INSPECTORS 72 HOURS BEFORE CONNECTING TO ANY EXISTING LINE.
3. SANITARY SEWER PIPE SHALL BE AS FOLLOWS:
   DUCTILE IRON PIPE CLASS 52
4. WATER LINES SHALL BE AS FOLLOWS:
   A. PIPE SIZES LESS THAN 3-INCHES THAT ARE INSTALLED BELOW GRADE AND OUTSIDE BUILDING SHALL COMPLY WITH ONE OR A COMBINATION OF THE FOLLOWING:
      1. SEAMLESS COPPER TUBING: TYPE "K" SOFT COPPER, ASTM B 88.
         A. FITTINGS: WROUGHT COPPER (95-5 TIN ANTIMONY SOLDER JOINT), ASME B 16.22
      2. POLYVINYL CHLORIDE (PVC) WATER PIPE: PIPE, ASTM D 2241, WITH SDR 21 RATING, CONTINUALLY MARKED WITH MANUFACTURER'S NAME, PIPE SIZE, CELL CLASSIFICATION, SDR RATING, AND ASTM D 1784 MATERIAL CLASSIFICATION.
         A. PIPE JOINTS: INTEGRALLY MOLDED BELL ENDS, ASTM D 2672.
         B. CEMENT PRIMER: ASTM – F656
         C. SOLVENT CEMENT: ASTM – D 2564
   B. PIPE SIZES 3-INCHES AND LARGER THAT ARE INSTALLED BELOW GRADE AND OUTSIDE BUILDING SHALL COMPLY WITH ONE OR A COMBINATION OF THE FOLLOWING:
      1. DUCTILE IRON WATER PIPE: AWWA C151, THICKNESS CLASS 50.
         A. FITTINGS: EITHER MECHANICAL JOINT OR PUSH-ON JOINT, AWWA C110 OR AWWA C111.
      2. POLYVINYL CHLORIDE (PVC) WATER PIPE: PIPE, AWWA C900, RATED DR 18 (CLASS 150), CONTINUALLY MARKED AS REQUIRED.
         A. ELASTOMERIC GASKETS AND LUBRICANT: ASTM – F477 FOR SMALLER PIPES.
         B. PIPE JOINTS: INTEGRALLY MOLDED BELL ENDS, ASTM D 3139
5. MINIMUM TRENCH WIDTH SHALL BE 2 FEET.
6. ALL WATER JOINTS ARE TO BE MECHANICAL JOINTS WITH THRUST BLOCKING AS CALLED OUT IN SPECIFICATIONS AND PROVIDED AT ALL HORIZONTAL AND VERTICAL BENDS, TEES, & HYDRANTS. SEE DETAIL SHEET.
7. ALL UTILITIES SHOULD BE KEPT TEN (10') APART (PARALLEL) OR WHEN CROSSING 18" APART (OUTSIDE EDGE OF PIPE TO OUTSIDE EDGE OF PIPE).
8. CONTRACTOR SHALL MAINTAIN A MINIMUM OF 4'-0" COVER ON ALL WATERLINES.
9. IN THE EVENT OF A VERTICAL CONFLICT BETWEEN WATERLINES, SANITARY LINES, STORM LINES AND GAS LINES (EXISTING AND PROPOSED), THE SANITARY LINE SHALL BE DUCTILE IRON PIPE WITH MECHANICAL JOINTS AT LEAST 10 FEET ON BOTH SIDES OF CROSSING, THE WATERLINE SHALL HAVE MECHANICAL JOINTS WITH APPROPRIATE THRUST BLOCKING AS REQUIRED TO PROVIDE A MINIMUM OF 18" CLEARANCE MEETING REQUIREMENTS OF ANSI A21.10 OR ANSI 21.11 (AWWA C-151) (CLASS 50).
10. LINES UNDERGROUND SHALL BE INSTALLED, INSPECTED AND APPROVED BEFORE BACKFILLING.
11. TOPS OF EXISTING MANHOLES SHALL BE ADJUSTED AS NECESSARY TO BE FLUSH WITH PROPOSED ELEVATIONS, AND TO BE ONE FOOT ABOVE FINISHED GROUND ELEVATIONS WITH WATER TIGHT LIDS.
12. ALL CONCRETE FOR ENCASEMENTS SHALL HAVE A MINIMUM 28 DAY COMPRESSION STRENGTH AT 3000 P.S.I.
13. CONTRACTOR IS RESPONSIBLE FOR COMPLYING TO THE SPECIFICATIONS OF THE LOCAL AUTHORITIES WITH REGARDS TO MATERIALS AND INSTALLATION OF THE WATER AND SEWER LINES.
14. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES FOR INSTALLATION REQUIREMENTS AND SPECIFICATIONS.
15. CONTRACTOR TO PROVIDE TRENCHING, CONDUIT, PULL WIRE AND BACKFILL FOR TELEPHONE AND ELECTRIC LINES.
16. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM AND COORDINATE THE SCOPE OF WORK AND TIMING ASSOCIATED WITH ANY NEW UTILITY CONSTRUCTION OR RELOCATION WITH THE UTILITY COMPANY.
17. ALL CONSTRUCTION TO CONFORM TO APPLICABLE CITY/COUNTY SPECIFICATIONS AND IN ACCORDANCE WITH CITY/COUNTY ORDINANCES.
18. CONSTRUCTION SHALL COMPLY WITH ALL GOVERNING CODES & REQUIREMENTS. THE CONTRACTOR SHALL CONDUCT ALL REQUIRED TESTS TO THE SATISFACTION OF THE RESPECTIVE UTILITY COMPANIES & OWNERS INSPECTING AUTHORITIES.
19. CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO ANNOUNCED BUILDING POSSESSION AND THE FINAL CONNECTION OF SERVICES.
20. TRENCHES OF 20 FEET OR GREATER REQUIRES SHORING, DESIGN TO BE CERTIFIED BY A PROFESSIONAL ENGINEER. TRENCH SAFETY REQUIREMENTS WELL BE STRICTLY ENFORCED. CONTRACTOR TO MEET OR EXCEED ALL OSHA STANDARDS.
21. REFER TO ARCHITECTURAL PLANS FOR SITE LIGHTING AND ELECTRICAL PLANS.
22. CONTRACTOR TO REMOVE OR RELOCATE WHEN APPLICABLE, ALL EXISTING BUILDINGS, FOUNDATIONS, EASEMENTS, & CONNECTING IMPROVEMENTS, DRAIN PIPES, SANITARY SEWER PIPE, POWER POLES & GUY WIRES, WATER METERS & WATER LINES, WELLS, SIDEWALKS, SIGN POLES, UNDERGROUND GAS, SEPTIC TANKS, & ASPHALT, SHOWN & NOT SHOWN, WITHIN CONSTRUCTION LIMITS & WHERE NEEDED, TO ALLOW FOR FILL MATERIAL, UNLESS OTHERWISE DENOTED, TO BE REMOVED AS UNCLASSIFIED EXCAVATION.
23. CONTRACTOR IS RESPONSIBLE FOR REPAIRS OF DAMAGE TO ANY EXISTING IMPROVEMENTS TO REMAIN DURING CONSTRUCTION, SUCH AS, BUT NOT LIMITED TO, UTILITIES, PAVEMENT, STRIPING, CURBS, ETC. REPAIRS SHALL BE EQUAL TO OR BETTER THAN EXISTING CONDITIONS.
24. CONTRACTOR SHALL REFERENCE THE ARCHITECT PLANS FOR PRECISE LOCATION OF ALL BUILDING UTILITY ENTRANCES. CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES IN SUCH A MANNER AS TO AVOID CONFLICTS & ASSURE PROPER DEPTHS ARE ACHIEVED AS WELL AS COORDINATING WITH LOCAL UTILITY REQUIREMENTS AS TO LOCATIONS & SCHEDULING FOR TIE-INS/CONNECTIONS PRIOR TO CONNECTING EXISTING FACILITIES.
25. CONTRACTOR SHALL GROUT AROUND ALL PIPE ENTRANCES TO SANITARY SEWER MANHOLES WITH NON-SHRINKING GROUT TO ASSURE CONNECTION IS WATER TIGHT.
26. ALL PRIMARY & SECONDARY SERVICE LOCATIONS ARE APPROXIMATE & ARE SHOWN FOR COORDINATION PURPOSES ONLY. CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE POWER COMPANY, TO DETERMINE EXACT LOCATION & RESPONSIBILITIES INCLUDING COST.
27. DRAWINGS DO NOT PURPORT TO SHOW ALL EXISTING UTILITIES. THE INFORMATION SHOWN ON THESE PLANS RELATED TO THE EXISTING UTILITIES (AERIAL AND SUBSURFACE) IS BASED ON FIELD RUN SURVEY, AS-BUILT RECORDS AND/OR UTILITY COMPANY RECORDS AND IS CORRECT TO THE BEST KNOWLEDGE OF THE ENGINEER. EXISTING UTILITIES SHALL BE VERIFIED IN FIELD PRIOR TO INSTALLATION OF ANY NEW LINES.
28. THE EXISTING SUBSURFACE FACILITIES HAVE NOT BEEN EXPOSED AND VERIFIED AND THEREFORE THE INFORMATION PROVIDED IS NOT TO BE CONSIDERED PRECISE. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING THE EXACT LOCATION, SIZE, MATERIAL AND INVERT ELEVATION AT THE PROPOSED TIE-IN POINT(S) OF THE EXISTING SUBSURFACE UTILITIES PRIOR TO ORDERING MATERIALS TO INSTALL THE PROPOSED UTILITIES. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER IF CONDITIONS IDENTIFIED IN THE FIELD ARE SUBSTANTIALLY DIFFERENT THAN THOSE SHOWN ON THE PLANS. THE OWNER WILL NOT ACCEPT ANY CHANGE ORDERS ASSOCIATED WITH UNEXPECTED FIELD CONDITIONS THAT ARE NOT IDENTIFIED PRIOR TO ORDERING MATERIALS FOR PROPOSED CONSTRUCTION.
29. CONTRACTOR SHALL COORDINATE THE TIMING OF ALL UTILITY CONNECTIONS AND/OR RELOCATIONS WITH THE RESPECTIVE UTILITY SERVICE PROVIDERS. LINES TO BE RELOCATED SHALL REMAIN OPERATIONAL AT ALL TIMES UP UNTIL THE NEW SERVICE LINE BECOMES ACTIVE. CONNECTIONS BETWEEN EXISTING AND RELOCATED LINES THAT REQUIRE TEMPORARY INTERRUPTION OF SERVICE SHALL BE PERFORMED ONLY AT LOW DEMAND TIMES WHICH MAY REQUIRE WORK TO BE PERFORMED AT NIGHT AND/OR ON WEEKENDS. CONTRACTOR SHALL INCLUDE ALL COSTS FOR SUCH WORK IN THE BASE BID.
30. ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO ANNOUNCED BUILDING POSSESSION AND THE FINAL CONNECTION OF SERVICES.
31. ALL BENDS FOR POWER, TELEPHONE AND FIBER OPTIC CONDUITS TO UTILIZE SWEEPS A MIN. OF 10 TIMES PIPE DIAMETER.
32. ALL SANITARY SEWER LATERAL BENDS/ELBOWS SHALL BE NO GREATER THAN 45 DEGREES. 90 DEGREE BENDS SHOWN FOR SCHEMATIC PURPOSES ONLY.

NORTH

UTILITY PLAN

SCALE IN FEET
20' 10' 0 20' 40' 60'

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PROPOSED COMMERCIAL DEVELOPMENT
TRUSSVILLE, JEFFERSON COUNTY, AL

FOR: GEMCAP DEVELOPMENT
WINSTON-SALEM, NORTH CAROLINA

REVISION	BY

DRAWN	GDL
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ISSUED FOR	PERMIT REVIEW
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FILE	18-188 Main
SHEET	C-3

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