GENERAL NOTES:

1. ALL UTILITY INSTALLATION SHALL BE IN ACCORDANCE WITH CITY OF MADISON WATER AND SEWER STANDARDS AND SPECIFICATIONS. CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND REVIEWING SAID STANDARDS AND SPECIFICATIONS.
2. NOTIFY CITY OF MADISON INSPECTION 24 HRS BEFORE BEGINNING OF CONSTRUCTION.
3. CONTRACTOR SHALL THOROUGHLY REVIEW CONSTRUCTION PLANS AND BE FAMILIAR WITH EXISTING CONDITIONS BY SITE VISITATION, PRIOR TO FORMULATING BID.
4. CONTRACTOR SHALL VERIFY CONDITIONS AND DIMENSIONS BEFORE PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCY FOUND IN THIS SET SHALL BE REFERRED TO THE SITE DESIGN PROFESSIONAL BY THE CONTRACTOR FOR CLARIFICATION BEFORE PROCEEDING WITH THE WORK. CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR DISCREPANCIES WHICH ARE NOT REPORTED.
5. CONSTRUCTION SHALL MEET OR EXCEED CITY OF MADISON MINIMUM STANDARDS AND SPECIFICATIONS.
6. CONTRACTOR SHALL ADHERE TO NORMAL WORKING HOURS AS PER CITY OF MADISON ORDINANCES. CONSTRUCTION OUTSIDE OF NORMAL WORKING HOURS, MAY BE ALLOWED UPON PRIOR APPROVAL BY CITY OF MADISON .
7. THE CONTRACTOR SHALL DESIGN, CONSTRUCT AND MAINTAIN ALL SAFETY DEVICES, INCLUDING SHORING, AND SHALL ADHERE TO FEDERAL, STATE, COUNTY AND LOCAL LAWS, ORDINANCES, AND REGULATIONS WHICH IN ANY MANNER AFFECT THE CONDUCT OF WORK, INCLUDING, BUT NOT LIMITED TO, INITIATING, MAINTAINING, AND SUPERVISING SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK (I.E. THE REQUIREMENTS OF APPLICABLE REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)). CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD CITY OF MADISON AND ITS AGENTS, THE OWNER AND THE SITE DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN THE CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT.
8. THE CONTRACTOR SHALL BE RESPONSIBLE AND SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT PUBLIC TRESPASS ONTO AREAS WHERE IMPOUNDED WATER CREATES A HAZARDOUS CONDITION.
9. DO NOT BREAK THESE DOCUMENTS INTO PARTS AND SUB-PARTS. THE SITE DESIGN PROFESSIONAL AND OWNER ASSUMES NO RESPONSIBILITY FOR THE SEPARATION OF THESE DOCUMENTS BY ANY ENTITY OF THE CONTRACTING INDUSTRY. EACH CONTRACTING ENTITY SHALL BE RESPONSIBLE FOR ALL OF THE WORK RELATED TO THEIR TRADES WHEREVER IT MAY BE SHOWN WITHIN THE CONTRACT DOCUMENT PACKAGES.
10. NO WORK SHALL BE PERFORMED WITHIN GEORGIA DEPARTMENT OF TRANSPORTATION RIGHT OF WAY (IF APPLICABLE) UNTIL PERMIT(S) (INCLUDING GEORGIA DEPARTMENT OF TRANSPORTATION UTILITY ENCROACHMENT PERMIT) ARE OBTAINED FROM GEORGIA DEPARTMENT OF TRANSPORTATION AND ON SITE.
11. BARRICADES, SUFFICIENT LIGHTS, TRAFFIC SAFETY SIGNS, AND OTHER TRAFFIC CONTROL MEASURES AS DEEMED NECESSARY FOR THE PROTECTION AND SAFETY OF THE PUBLIC SHALL BE PROVIDED AND MAINTAINED THROUGHOUT CONSTRUCTION ON ROADS ACCESSED BY THE GENERAL PUBLIC.
12. SIGNS (LOCATION, NUMBER, AND SIZE) ARE NOT APPROVED UNDER THIS DEVELOPMENT PERMIT. A SEPARATE PERMIT IS REQUIRED FOR EACH SIGN.
13. NO CERTIFICATE OF OCCUPANCY SHALL BE ISSUED UNTIL SITE IMPROVEMENTS ARE COMPLETE.
14. ACCESS TO BUILDINGS DURING CONSTRUCTION SHALL BE MAINTAINED AND OPEN TO EMERGENCY VEHICLES AT ALL TIMES, THROUGH THE USE OF EXISTING OR TEMPORARY ROADS, DRIVES, AND/OR WALKS.
15. SITE LIGHTING SHALL BE FULLY SHIELDED. SITE LIGHTING IS TO BE DESIGNED BY OTHERS.
16. ALL WORK SHALL COMPLY WITH APPLICABLE FEDERAL, STATE, COUNTY, AND LOCAL CODES AND ALL NECESSARY LICENSES AND PERMITS SHALL BE OBTAINED BY CONTRACTOR.
17. CONTRACTOR IS RESPONSIBLE FOR QUANTITY TAKE OFFS AND ESTIMATING ALL QUANTITIES FOUND WITHIN THE SITE WORK CONSTRUCTION DRAWINGS. ANY QUANTITY TAKE OFFS OR ESTIMATES PROVIDED BY THE SITE DESIGN PROFESSIONAL ON THESE DOCUMENTS OR OTHERWISE SHALL BE VERIFIED BY THE CONTRACTOR BY PERFORMING HIS/HER OWN QUANTITY TAKE OFF AND/OR ESTIMATE. ANY COST FOR ANY DISCREPANCY IN QUANTITY TAKE OFF OR ESTIMATE PROVIDED BY SITE DESIGN PROFESSIONAL AND REQUIRED CONSTRUCTION QUANTITIES SHALL BE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR AT NO ADDITIONAL COST TO THE SITE DESIGN PROFESSIONAL AND/OR OWNER AND/OR OWNER'S REPRESENTATIVE.

DEMOLITION REQUIREMENTS:

1. THE CONTRACTOR SHALL INSPECT ALL STRUCTURES, FACILITIES, AND AREAS SLATED FOR DEMOLITION TO GAIN A FULL UNDERSTANDING OF THE WORK REQUIRED. THE CONTRACTOR SHALL TAKE WHATEVER MEASURES NECESSARY TO PROTECT THE SAFETY OF THE PUBLIC, HIS/HER EMPLOYEES AND AGENTS DURING THE INSPECTION AND SUBSEQUENT WORK. THE OWNER, CLIENT AND SITE DESIGN PROFESSIONAL ARE NOT RESPONSIBLE FOR THE CONDITION OF THE BUILDINGS, FACILITIES, OR OTHER AREAS SLATED FOR DEMOLITION.
2. THE CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION FROM THE OWNER TO DEMOLISH ANY STRUCTURE ON THE SITE BEFORE PROCEEDING WITH WORK.
3. ALL WORK PERFORMED ON THE SITE SHALL ADHERE TO ALL (OSHA) OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION SAFETY STANDARDS.
4. ALL MATERIALS NOT SLATED FOR REUSE SHALL BE DISPOSED OF OFF SITE IN A LEGAL MANNER. THE CONTRACTOR MAY SALVAGE ALL MATERIALS NOT DESIGNATED BY THE OWNER TO BE SAVED. THE CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE AND STORE SAFELY ALL MATERIALS SLATED TO BE SAVED OR REUSED. THE CONTRACTOR SHALL DOCUMENT EXISTING CONDITIONS USING PHOTOGRAPHS PRIOR TO START OF WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS TO REPAIR OR REPLACE MATERIALS DAMAGED DUE TO HIS WORK OR FAILURE TO PROTECT THROUGHOUT THE DURATION OF HIS CONTRACT.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH ALL APPROPRIATE UTILITY OWNERS, OPERATORS AND USERS PRIOR TO DISCONNECTION AND DEMOLITION. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE AUTHORITY HAVING JURISDICTION. ALL PLUGS, STOPS, AND CAPS SHALL BE PER AGENCIES REQUIREMENTS AND IF NONE EXIST THEN A 3000 PSI CONCRETE PLUG WITH A THICKNESS EQUAL TO THE DIAMETER OF THE PIPE SHALL BE USED.
6. THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY AND STOP ALL WORK IN AREAS WHERE HAZARDOUS MATERIALS ARE DISCOVERED. WHEN REQUIRED, THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE ENVIRONMENTAL AND HEALTH AGENCIES. THE CONTRACTOR SHALL FLAG OFF ALL ACCESS WITH SUFFICIENT FLAGGING THAT THERE IS AN APPARENT WARNING OF THE PRESENCE OF HAZARDOUS MATERIALS.
7. NO BURNING, EXPLOSIVES OR OTHER POTENTIALLY DANGEROUS METHODS OF DEMOLITION SHALL BE ALLOWED UNLESS WRITTEN PERMISSION IS GRANTED BY THE OWNER AND ALL APPROPRIATE PERMITS ARE GRANTED.
8. THE CONTRACTOR SHALL PROVIDE WHAT EVER SAFETY EQUIPMENT AND DEVICES ARE NECESSARY TO PROTECT THE ADJACENT PROPERTIES, STRUCTURES AND OTHER AREAS SLATED TO REMAIN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS TO REPAIR OR REPLACE ANY DAMAGE CAUSED BY HIS/HER WORK. THIS SHALL ALSO INCLUDE EROSION CONTROL, DUST CONTROL AND SETTLEMENT.
9. ALL AREAS SHALL BE BROUGHT BACK TO THEIR ORIGINAL GRADE OR THAT OF THE SURROUNDING AREA, WHICH EVER IS CLOSER TO THE FINAL GRADES OF THE PROJECT FOR THAT AREA. ALL TEMPORARY SLOPES SHALL NOT EXCEED 3 HORIZONTAL TO 1 VERTICAL. ALL AREAS REQUIRING FILL SHALL BE COMPACTED TO THE REQUIREMENTS OF THE AREA BUT IN NO CASE LESS THAN 90% OF MODIFIED PROCTOR (ASTM D 1557).
10. THE CONTRACTOR SHALL PROVIDE NECESSARY EROSION CONTROL MEASURES DURING THE DEMOLITION AND REMOVAL OF EXISTING SITE FEATURES.
11. THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AWAY FROM BUILDINGS AT ALL TIMES.
12. EXISTING BUILDINGS, APPURTENANCES, CANOPIES AND FOUNDATIONS ON THE PROPERTY SHALL BE PROTECTED UNLESS OTHERWISE NOTED.
13. THE CONTRACTOR SHALL MAINTAIN SAFE, CLEARLY MARKED PEDESTRIAN ACCESS ROUTES TO BUILDING ENTRANCES THROUGHOUT ALL PHASES OF CONSTRUCTION. ACCESS TO BUILDINGS SHALL BE MAINTAINED AT ALL TIMES.
14. SERVICES SHOWN ARE TO ASSIST CONTRACTOR IN LOCATING UTILITIES. ITEMS ARE SHOWN SCHEMATICALLY AND NEITHER THE ARCHITECT, SITE DESIGN PROFESSIONAL, NOR THE OWNER ASSUMES ANY RESPONSIBILITY FOR VARIANCES IN THE ACTUAL LOCATION OF THE EXISTING UTILITIES.
15. THE CONTRACTOR SHALL REPAIR OR REPLACE AS NECESSARY ANY UTILITIES DAMAGED, WHETHER SHOWN ON THESE PLANS OR NOT, AT NO ADDITIONAL COST TO THE CONTRACT.
16. EXISTING UTILITY APPURTENANCES (CLEAN OUTS, VALVE/METER BOXES AND/OR COVERS, MANHOLES, ETC.) LOCATED WITHIN THE LIMITS OF CONSTRUCTION SHALL BE RELOCATED AS NECESSARY OR ADJUSTED TO FINISHED GRADE AT THE EXPENSE OF THE CONTRACTOR.
17. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY PROVIDER OF DAMAGE TO ANY ACTIVE UTILITY AND PROVIDE CORRECTIVE MEASURES AS DIRECTED BY THE UTILITY PROVIDER AT NO ADDITIONAL COST TO THE CONTRACT.
18. EXISTING ITEMS TO REMAIN WITHIN THE PROJECT LIMITS SHALL BE RETAINED IN PLACE AND PROTECTED FROM DAMAGE DURING CONSTRUCTION, UNLESS OTHERWISE NOTED OR DIRECTED BY THE OWNER AND/OR THE OWNER'S REPRESENTATIVE.
19. ALL DISPOSAL SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL CODES.
20. THERE SHALL BE NO ON SITE BURIAL.
21. WORK DONE AHEAD OF SCHEDULE OR FOR TEMPORARY PROVISIONS SHALL HAVE EXISTING DISTURBED SURFACES PATCHED TO MATCH ORIGINAL CONDITIONS UNTIL NEW CONSTRUCTION REPLACES SUCH REPAIRS OR MODIFICATIONS.
22. PAVEMENT AREAS TO BE SAVED SHALL BE ABRASION SAW CUT PRIOR TO DEMOLITION. FAILURE TO PROVIDE A CLEAN EDGE MAY RESULT IN ADDITIONAL DEMOLITION AND NEW PAVEMENT INSTALLATION PAID FOR AND EXECUTED BY THE CONTRACTOR.
23. LIMITS OF CURB AND GUTTER DEMOLITION ARE SUBJECT TO THE NEAREST CONSTRUCTION JOINT. CURB AND GUTTER AND WALKS SHALL BE REPAIRED TO THE NEAREST CONSTRUCTION JOINT.
24. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER FOR THE REMOVAL OF EXISTING LANDSCAPE MATERIALS OR SITE FEATURES WHICH THE OWNER ELECTS TO RETAIN.
25. DEMOLITION WITHIN THE DRIP-LINE OF EXISTING SPECIMEN TREES SHALL BE ACCOMPLISHED UTILIZING MANUAL PROCEDURES WITHOUT DAMAGING THE ROOT SYSTEM OF THE TREE(S).
26. THE CONTRACTOR SHALL NOT CONSIDER DEMOLITION DESIGNATIONS AND NOTES TO BE ALL-INCLUSIVE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSPECT AND ASSESS EACH AREA AND TO PERFORM THE DEMOLITION AS REQUIRED TO ACCOMMODATE THE SCHEDULED NEW CONSTRUCTION.

STAKING REQUIREMENTS:

1. SURVEYING WORK PERFORMED BY THE CONTRACTOR SHALL BE SUFFICIENT AND ACCURATE TO CONSTRUCT THE WORK IN ACCORDANCE WITH THE SITE WORK CONSTRUCTION DRAWINGS. LAYOUT AND STAKING WORK SHALL BE IN ACCORDANCE WITH GENERAL ACCEPTED SURVEYING PRACTICES AND PROVISIONS OF THE CONTRACT.
2. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR ACTUAL BUILDING DIMENSIONS. CONTRACTOR SHALL NOT STAKE BUILDING DIMENSIONS FROM THE BUILDING(S) SHOWN ON THE SITE WORK CONSTRUCTION DRAWINGS. REFERENCES IN THESE DOCUMENTS TO BUILDING SQUARE FOOTAGES ARE FOR OWNER'S PURPOSES ONLY. DO NOT RELY ON THESE NUMBERS FOR ANY OTHER PURPOSE.
3. CONTRACTOR SHALL STAKE BUILDING CORNERS AND HAVE APPROVAL FROM THE ARCHITECT AND/OR SITE DESIGN PROFESSIONAL BEFORE COMMENCING THE CONSTRUCTION OF ANY FOOTINGS.
4. DIMENSIONS SHOWN ARE TO THE FACE OF CURB(S), UNLESS OTHERWISE NOTED. ANGLES ARE 90° (INCLUDING STREET CENTER-LINES) UNLESS NOTED OTHERWISE.
5. CURB AND GUTTER RADII ARE 5.0 FT. UNLESS OTHERWISE NOTED.
6. THE CONTRACTOR IS RESPONSIBLE FOR THE PRESERVATION AND OR PERPETUATION OF EXISTING RIGHT-OF-WAY MONUMENTS, BENCHMARKS CONTROL POINTS AND REFERENCE MARKS (AS APPLICABLE) WITHIN THE CONTRACTOR'S AREA OF WORK. THE CONTRACTOR SHALL NOT DISTURB OR REMOVE EXISTING RIGHT-OF-WAY MONUMENTS, BENCHMARKS CONTROL POINTS AND REFERENCE MARKS WITHOUT THE PERMISSION OF CITY OF MADISON, AND CONTRACTOR SHALL BEAR THE EXPENSE OF RESETTING EXISTING RIGHT-OF-WAY MONUMENTS, BENCHMARKS CONTROL POINTS AND REFERENCE MARKS WHICH MAY BE DISTURBED OR REMOVED WITH OR WITHOUT PERMISSION. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 15 WORKING DAYS NOTICE TO CITY OF MADISON PRIOR TO DISTURBANCE OR REMOVAL OF EXISTING RIGHT-OF-WAY MONUMENTS, BENCHMARKS CONTROL POINTS AND REFERENCE MARKS. THE CONTRACTOR SHALL UTILIZE THE SERVICES OF A GEORGIA LICENSED LAND SURVEYOR TO RESET DISTURBED OR REMOVED RIGHT-OF-WAY MONUMENTS, BENCHMARKS CONTROL POINTS AND REFERENCE MARKS OR PROVIDE WITNESS MONUMENTS, AND FILE THE REQUIRED DOCUMENTATION WITH CITY OF MADISON.
7. THE CONTRACTOR (UNLESS OTHERWISE INSTRUCTED BY THE OWNER) SHALL PROVIDE STAKING AND LAYOUT SERVICES, INCLUDING BUT NOT LIMITED TO, CENTERLINE STAKES, ADDITIONAL LINES, CONNECTIONS, RAMPS, SLOPE STAKES, GRADE STAKES, CONSTRUCTION BENCHMARKS AND REFERENCE STAKES LOCATING DRAINAGE, ROADWAY, AND UTILITIES NECESSARY FOR THE PROJECT. ALIGNMENT CONTROL ESTABLISHED BY THE CONTRACTOR SHALL BE REFERENCED, AND A COPY OF THE REFERENCES SHALL BE FURNISHED TO THE SITE DESIGN PROFESSIONAL.
8. THE CONTRACTOR SHALL VERIFY ALL INVERTS OF EXISTING STORM AND SANITARY SEWER TIE-INS AND ALL GRADES AT EXISTING PAVEMENT TIE-INS BEFORE PROCEEDING WITH ANY SITE WORK.
9. ALL CONTROL SHALL BE VERIFIED BEFORE PROCEEDING. SURVEYOR SHALL VERIFY INVERTS AT ALL GRAVITY STORM AND SEWER TIE IN POINTS BEFORE PROCEEDING. SURVEYOR SHALL VERIFY TIE POINT ELEVATIONS AT ALL ACCESS POINTS BEFORE PROCEEDING.

CLEAR AND GRUB REQUIREMENTS:

1. THE CONTRACTOR SHALL REVIEW PLANS AND IDENTIFY AND SAFELY MARK ALL PLANTS AND TREES TO BE SAVED. THE CONTRACTOR SHALL PROTECT ALL PLANTS AND TREES TO BE SAVED THROUGH OUT THE CONTRACT. THIS SHALL INCLUDE PROHIBITING ANY WORK WITHIN THE DRIP LINE OF THE TREE EXCEPT UNDER THE SUPERVISION OF A LICENSED LANDSCAPE ARCHITECT. THIS INCLUDES NOT PARKING ANY EQUIPMENT OR HAVING ANY STORAGE AREAS WITHIN THE DRIP LINE OF THE TREE EXCEPT UNDER THE SUPERVISION OF A LICENSED LANDSCAPE ARCHITECT.
2. ALL AREAS TO BE CLEARED AND GRUBBED SHALL BE SURVEYED IN THE FIELD TO ESTABLISH THE APPROPRIATE LIMITS OF WORK.
3. THE CONTRACTOR SHALL TAKE WHAT EVER MEASURES NECESSARY TO LOCATE AND PROTECT EXISTING UTILITIES, STRUCTURES, AND OTHER FACILITIES TO REMAIN.
4. ALL TREES, SHRUBS, STUMPS, ROOTS AND OTHER DEBRIS SHALL BE REMOVED FROM SITE AND DISPOSED OF IN A LEGAL MANNER.
5. NO BURNING SHALL BE ALLOWED ON THE SITE.

COMPACTION FOR UTILITY INSTALLATION:

1. ANALYTICAL COMPACTION RESULTS SHALL BE SUBMITTED TO CITY OF MADISON ENGINEERING DEPARTMENT (OR SIMILAR DEPARTMENT). THE FOLLOWING APPLIES TO STORMWATER, SANITARY SEWER, AND WATER:
   a. BACKFILL UNDER PERMANENT CONCRETE OR BITUMINOUS PAVEMENT, AND AS ELSEWHERE SPECIFIED OR INDICATED ON THE PLANS, SHALL BE APPROVED BANK-RUN SAND OR GRAVEL OR CRUSHED STONE FREE FROM LARGE STONES AND CONTAINING NOT MORE THAN TEN PERCENT (10%) BY WEIGHT OF LOAM OR CLAY. THIS BACKFILL SHALL BE COMPACTED TO ONE HUNDRED PERCENT (100%) AS DETERMINED BY THE MODIFIED PROCTOR TEST FROM PIPE BEDDING TO TWO (2) FEET BELOW TRENCH TOP. MECHANICAL VIBRATING EQUIPMENT SHALL BE USED TO ACHIEVE THE REQUIRED COMPACTION. PAVEMENT SHALL BE REPLACED IMMEDIATELY AFTER THE BACKFILLING IS COMPLETED.
   b. BACKFILL UNDER GRAVEL OR CRUSHED STONE SURFACED ROADWAYS SHALL BE THE APPROVED SUITABLE EXCAVATED MATERIAL PLACED IN SIX (6) INCH LAYERS THOROUGHLY COMPACTED FOR THE FULL DEPTH AND WIDTH OF THE TRENCH, CONFORMING TO THE COMPACTION, DENSITY COMPACTION METHOD AND MATERIALS AS SPECIFIED IN "2" ABOVE.
   c. BACKFILL IN UNPAVED AREAS SHALL BE COMPACTED WITH MECHANICAL VIBRATING EQUIPMENT TO NINETY PERCENT (90%) AS DETERMINED BY THE MODIFIED PROCTOR TEST. BACKFILL MATERIAL FROM PIPE BEDDING TO GROUND SURFACE SHALL BE EXCAVATED FREE FROM LARGE STONES & OTHER DEBRIS.

ALL UTILITY MATERIALS, INSTALLATION, TESTING, AND PROCEDURES SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS SET FORTH BY THE LOCAL AUTHORITY HAVING JURISDICTION. IF THERE IS A DISCREPANCY BETWEEN STATED STANDARDS AND SPECIFICATIONS ON THESE PLANS AND THE STATED STANDARDS AND SPECIFICATIONS OF THE LOCAL AUTHORITY HAVING JURISDICTION, THE CONTRACTOR SHALL ADHERE TO THE STANDARDS AND SPECIFICATIONS OF THE LOCAL AUTHORITY HAVING JURISDICTION.

CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING, READING, UNDERSTANDING, AND ADHERING TO THE THE MANUAL OF STANDARDS FOR DESIGN AND CONSTRUCTION SPECIFICATIONS IF THIS DOCUMENT IS PROVIDED FOR AT THE AGENCY HAVING JURISDICTION.

GRADING / EARTHWORK REQUIREMENTS:

1. PRIOR TO STARTING ANY CUTS OR FILLS, THE CONTRACTOR SHALL STRIP AND STOCKPILE ALL TOPSOIL. STRIPPING OF TOPSOIL CAN ONLY COMMENCE AFTER THE CLEAR AND GRUB OPERATIONS ARE COMPLETE IN THAT AREA. TOPSOIL SHALL BE STOCKPILED IN AREAS DESIGNATED ON THE PLANS OR APPROVED WITH THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL REVIEW THE SOILS REPORTS, BORING LOGS AND WHEN NECESSARY HIS OWN FIELD VERIFICATION SO AS TO BE FAMILIAR WITH THE DEPTH OF TOPSOIL. THE CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO PREVENT OVER AND UNDER REMOVAL.
2. UNLESS OTHERWISE NOTED, THE GRADES SHOWN ON THE PLANS ARE FINISHED GRADES. THEREFORE, PAVEMENT, FLOORS, SUBBASE AND OTHER IMPROVEMENTS MUST BE SUBTRACTED TO CALCULATE SUBGRADE ELEVATIONS. THE CONTRACTOR SHALL COORDINATE THE STAKING OF THE SITE GRADING WITH THE SURVEYOR AND ENGINEER OF RECORD BEFORE PROCEEDING WITH CONSTRUCTION STAKING.
3. THE CONTRACTOR SHALL MAINTAIN A SURVEY GRID OF NOT LESS THAN 100' X 100' OR OTHER MEANS ACCEPTABLE TO THE OWNER'S REPRESENTATIVE THAT SHALL INDICATE LOCATION AND AMOUNT OF CUT OR FILLS REMAINING. AT SUBGRADE THIS GRID SHALL BE 50' X 50' WITH LOCATION AND FINAL GRADE MARKED CLEARLY OR SURVEY SHALL BE COMPLETED DEMONSTRATING THAT THE SUBGRADE IS +/- 0.1 FEET OF REQUIRED SUBGRADE.
4. UNLESS OTHERWISE NOTED ON THE DRAWINGS OR IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL RETAIN AND PAY ALL COST FOR SOIL COMPACTION TESTING TO BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY. FOR EACH LIFT PLACED, COMPACTION TESTING SHALL BE DONE EVERY 2000 SQUARE FEET. IN TRENCHES, COMPACTION TESTING SHALL BE DONE EVERY OTHER LIFT WITH AT LEAST 1 TEST FOR EVERY 100 LINEAR FEET.
5. COMPACTION REQUIREMENTS SHALL BE THOSE OUTLINED IN THE GEOTECHNICAL EVALUATION. IF THE GEOTECHNICAL EVALUATION IS NOT CLEAR OR DOES NOT GIVE REQUIREMENTS THE FOLLOWING SHALL BE USED. UNDER AND TO 20 FEET OUTSIDE THE BUILDING ENVELOPE THE SOILS SHALL BE COMPACTED TO A MINIMUM OF 95% MAXIMUM DRY DENSITY PER ASTM D 1557 (MODIFIED PROCTOR). ALL LANDSCAPE AND LAWN AREAS SHALL BE COMPACTED TO 90% MAXIMUM DRY DENSITY PER ASTM D 1557 (MODIFIED PROCTOR). THE TESTING LAB SHALL TEST SOILS IN ACCORDANCE ASTM D 2922 (NUCLEAR METHOD) WITH PROCTORS FOR EACH SOIL TYPE.
6. UNLESS OTHERWISE NOTED IN THE GEOTECHNICAL REPORT OR ON THE DRAWINGS, THE ON SITE MATERIAL SHALL BE USED TO MAKE FILLS. ALL MATERIAL TO BE USED FOR FILL SHALL BE FREE OF ORGANICS, FROZEN MATERIALS, CONTAMINATED MATERIALS, DEBRIS AND ANY ROCKS LARGER THAN 4 INCHES. FOR FILL PLACEMENT WITHIN 1 FOOT OF SUBGRADE, NO ROCK SHALL BE GREATER THAN 2 INCHES IN DIAMETER. THE CONTRACTOR SHALL BEAR ALL COSTS ASSOCIATED WITH DRYING, SEGREGATING OR OTHER REQUIRED METHODS TO TREAT SOILS TO MEET COMPACTION AND OTHER REQUIREMENTS.
7. FILLS SHALL BE PLACED IN LIFTS NOT TO EXCEED 6 INCHES IN ALL AREAS.
8. IF IMPORTED MATERIAL IS REQUIRED, THE SOURCE AND A RANDOM COMPOSITE SAMPLE SHALL BE REVIEWED BY THE TESTING LABORATORY PRIOR TO BEING BROUGHT TO SITE. THE TESTING LABORATORY SHALL TEST FOR PERCENT PASSING THE 200 SIEVE THAT DOES NOT EXCEED THE EXISTING ON SITE MATERIAL OR IN NO CASE GREATER THAN 35%. THEY SHALL ALSO VERIFY CONSISTENCY WITH EXISTING ON SITE MATERIALS AND ALL OTHER REQUIREMENTS. WAIVERS TO THESE REQUIREMENTS CAN ONLY BE GIVEN JOINTLY BY OWNER AND THE GEOTECHNICAL ENGINEER THAT PREPARED THE GEOTECHNICAL REPORT.
9. THE TESTING LAB MAY RESTRICT SOME ON SITE MATERIALS FROM BEING USED AS FILL IN BUILDING OR PAVEMENT AREAS WHEN IT IS THEIR OPINION THAT THE MATERIAL WILL NOT MEET REQUIREMENTS STATED HERE OR IN THE GEOTECHNICAL REPORT. IF SUCH CONDITIONS DO EXIST AND OTHER MATERIAL IS NOT AVAILABLE ON SITE, THE OWNER'S REPRESENTATIVE MUST AUTHORIZE IN WRITING THE USE OF IMPORT MATERIAL UNLESS THERE WILL BE NO ADDITION COST TO THE CONTRACT.
10. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EARTHWORK OPERATIONS FROM WEATHER AND GROUND WATER INCLUDING KEEPING POSITIVE DRAINAGE, DIVERTING DRAINAGE, DEWATERING AND SEALING DISTURBED AREAS WITH A STEEL DRUM ROLLER PRIOR TO INCLEMENT WEATHER.
11. PRIOR PLACEMENT OF FILLS, IN AREAS WHERE THE FINAL DEPTH WILL BE LESS THAN 4 FEET, THE AREA SHALL BE PROOF ROLLED WITH A 10 TON ROLLER OR A LOADED 10 WHEEL DUMP TRUCK. SOFT AREAS SHALL BE SCARIFIED, DRIED AND RE-COMPACTED PRIOR TO FILL BEING PLACED. RETEST BY PROOF ROLL AS NECESSARY.
12. ALL FINAL SUBGRADE UNDER PROPOSED PAVEMENT, BUILDING OR OTHER STRUCTURE SHALL BE PROOF ROLLED AS DESCRIBED ABOVE FOR THE IDENTIFICATION OF SOFT AREAS. AREAS FOUND TO BE UNACCEPTABLE TO THE GEOTECHNICAL ENGINEER OR THE GEOTECHNICAL ENGINEER'S TECHNICIAN SHALL BE SCARIFIED, DRIED AND RECOMPACTED. RETEST BY PROOF ROLL AS NECESSARY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL PROOF ROLLS WITH THE GEOTECHNICAL ENGINEER AND SHALL HAVE THE GEOTECHNICAL ENGINEER OR THE GEOTECHNICAL ENGINEER'S TECHNICIAN ON SITE AT THE TIME OF ALL PROOF ROLLING.
13. TRENCH EXCAVATION REQUIRING SHEETING, SHORING OR OTHER STABILIZING DEVICES SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER AND MEET ALL O.S.H.A. REQUIREMENTS. ALL EXCAVATIONS SHALL MAINTAIN SAFE SIDE SLOPES IN ACCORDANCE WITH LOCAL, STATE, AND O.S.H.A. REQUIREMENTS. NO STOCKING OF MATERIAL CLOSE TO AN OPEN CUT OR STEEP SLOPE SHALL BE PERMITTED IN AN EFFORT TO PREVENT CAVE-INS.
14. TRENCH EXCAVATIONS SHALL BE MADE UNIFORM AND STRAIGHT TO WIDTHS DETERMINED BY CITY OF MADISON. IF NO GUIDELINES FROM CITY OF MADISON EXIST, THE FOLLOWING SHALL BE USED: (FOR PIPES 36 INCHES OR LESS THE TRENCH WIDTH SHALL BE THE DIAMETER PLUS 2 FEET), (FOR PIPES 36 INCHES OR GREATER THE WIDTH SHALL BE THE DIAMETER PLUS 3 FEET). ADDITIONAL WIDTH SHALL ONLY BE ALLOWED WHEN COMPACTION EQUIPMENT LIMITATIONS REQUIRE AND ONLY AFTER APPROVAL OF THE ENGINEER OF RECORD. NO MORE TRENCH SHALL BE OPEN IN ONE DAY THAN CAN BE PROPERLY BACKFILLED IN THAT SAME DAY TO MINIMIZE WEATHER AND SAFETY CONCERNS. WHEN BACKFILLING AROUND PIPES PROVIDE UNIFORM SUPPORT AT INVERT AND PROPER COMPACTION UNDER, ALONG AND OVER THE PIPE. CARE SHALL BE GIVEN WHILE BACKFILLING AROUND PIPES TO PREVENT DAMAGE TO THE PIPES INCLUDING: PLACING BACKFILL/BEDDING BY HAND, USING HAND OPERATED PLATE TAMPS OR JUMPING JACKS, AND OTHER LOAD RESTRICTIVE TECHNIQUES UNTIL FILLS ARE A MINIMUM OF 2 FEET OR MANUFACTURER'S RECOMMEND DEPTH, WHICH EVER IS GREATER, ABOVE THE TOP OF THE PIPE. COMPACTION REQUIREMENTS ARE NOT RELIEVED IN THESE AREAS AND SHALL REMAIN AS STATED ON THE DRAWINGS OR AS NOTED ABOVE.
15. IF ROCK IS ENCOUNTERED THAT WAS NOT INDICATED ON THE PLANS OR GEOTECHNICAL REPORT, THE AREA FOR REMOVAL SHALL BE MEASURED AND REVIEWED WITH THE OWNER'S REPRESENTATIVE PRIOR TO ROCK REMOVAL. ROCK WILL BE DEFINED AS THE NATURAL EARTH MATERIALS THAT CAN NOT BE REMOVED WITH A D9 DOZIER WITH A SINGLE TOOTH RIPPER.
16. WHERE ROCK IS ADJACENT TO A STRUCTURE OR UTILITY, THE ROCK SHALL BE REMOVED TO A MINIMUM OF 6 INCHES BELOW AND 1 TIMES THE DIAMETER, BUT NOT LESS THAN 1 FOOT OR GREATER THAN 3 FEET ON ANY SIDE.
17. NO EXPLOSIVES SHALL BE ALLOWED UNTIL ALL PERMITS ARE GRANTED AND THE OWNER HAS SIGNED OFF. PRE AND POST BLAST REPORTS SHALL BE KEPT AND RECORDED. ALL STRUCTURES WITHIN THE AREA OF THE BLAST SHALL RECEIVE A PRE-BLAST SURVEY. ALL BLASTING SHALL BE PERFORMED BY A LICENSED BLASTER.
18. UNLESS OTHERWISE NOTED ON THE DRAWINGS, THE CONTRACTOR SHALL REMOVE ALL EXCESS TOPSOIL, CUT MATERIAL OR WASTE MATERIAL FROM SITE AND DISPOSE OF IN A LEGAL MANNER.
19. NO FILL SHALL BE PLACED ON EXISTING GROUND WITHIN THE LIMITS OF DISTURBANCE UNTIL THE GROUND HAS BEEN CLEARED OF WEEDS, DEBRIS, TOPSOIL AND OTHER DELETERIOUS MATERIAL, SCARIFIED TO A MINIMUM DEPTH OF 6 INCHES OR TO A DEPTH RECOMMENDED BY THE GEOTECHNICAL REPORT AND INSPECTED BY THE GEOTECHNICAL ENGINEER PRIOR TO THE PLACING OF FILL. DELETERIOUS MATERIALS, I.E., LUMBER, LOGS, BRUSH, OR ANY OTHER ORGANIC MATERIALS OR RUBBISH SHALL BE REMOVED FROM AREAS TO RECEIVE COMPACTED FILL. UNSUITABLE MATERIALS, SUCH AS TOPSOIL, WEATHERED BEDROCK, ETC., SHALL BE REMOVED AS REQUIRED BY GEOTECHNICAL ENGINEER (AND ENGINEERING GEOLOGIST, WHERE EMPLOYED) FROM AREAS TO RECEIVE COMPACTED FILL OR DRAINAGE STRUCTURE(S). CONSTRUCT FILL TO GRADES OR SUBGRADES AS SHOWN WITH SELECT FILL MATERIAL COMPACTED TO 95% STANDARD PROCTOR (UNLESS OTHERWISE NOTED). PLACE AND COMPACT IN 6 INCH LIFTS. ALL SOILS WITHIN 12 INCHES OF PAVEMENT SUBGRADE SHALL BE COMPACTED TO AT LEAST 98% OF THEIR STANDARD PROCTOR MAXIMUM DRY DENSITY.
20. GRADED AREAS TO BE LANDSCAPED OR GRASSED SHALL BE BROUGHT TO THE ELEVATIONS SHOWN ON THE GRADING PLAN(S).
21. CONTRACTOR SHALL VERIFY DIMENSIONS, GRADES AND BENCHMARK(S) BEFORE BEGINNING ANY WORK.
22. THERE SHALL BE NO DISTURBANCE BEYOND PROPERTY LINES, UNLESS WRITTEN PERMISSION FROM ADJACENT PROPERTY OWNERS IS OBTAINED. EXISTING GRADES ALONG PROPERTY LINES SHALL BE MAINTAINED (UNLESS OTHERWISE NOTED).
23. THE MAX. SLOPES FOR CUT OR FILL SHALL BE 2H:1V, UNLESS OTHERWISE NOTED ON THE PLANS AND EXCEPT EARTHEN DAM EMBANKMENTS SHALL BE 3H:1V AND AS NOTED BELOW. THE SLOPE OF CUT OR FILL SHALL BE UNIFORM THROUGHOUT FOR EACH SECTION OF CUT OR FILL EXCEPT WHEN BENCHING IS APPROVED BY CITY OF MADISON. WHEN A CUT IS MADE IN ROCK THAT REQUIRES BLASTING, THE SLOPE MAY BE STEEPER IF PRE-SPLITTING IS EMPLOYED AND UPON SUBMISSION OF A GEOTECHNICAL REPORT WHICH SUBSTANTIATES THE INTEGRITY OF THE ROCK IN THE STEEPER CONDITION, SUBJECT TO THE REVIEW AND APPROVAL OF CITY OF MADISON AND/OR SITE DESIGN PROFESSIONAL. (NOTE: NO BLASTING SHALL OCCUR WITHOUT A VALID PERMIT ISSUED BY CITY OF MADISON AND THE OWNER HAS SIGNED OFF.)
24. EMBANKMENTS SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED A COMPACTED THICKNESS OF 6 INCHES PER LAYER AND SHALL BE COMPACTED TO A DENSITY OF 98% OF THE MAX. LABORATORY DRY WEIGHT PER CUBIC FOOT AS DETERMINED BY AASHTO METHOD T-99 IN AREAS WHERE STRUCTURES, PARKING LOTS AND DRIVES, STREETS AND UTILITIES ARE TO BE PLACED ABOVE OR BELOW THESE SLOPES.
25. CONTOURS AND SPOT ELEVATIONS SHOWN ARE ONLY CONTROLS AND THE PROFILES THEY FORM SHALL BE SMOOTH AND CONTINUOUS (PARTICULARLY IN PARKING AREAS AND DRIVES).
26. GRADING SHALL BE PERFORMED UNDER THE SUPERVISION OF A GEOTECHNICAL ENGINEER WHO SHALL CERTIFY THAT FILL HAS BEEN PROPERLY PLACED AND WHO SHALL SUBMIT A FINAL COMPACTION REPORT FOR FILLS OVER 1' DEEP.
27. CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AWAY FROM BUILDING(S) AT ALL TIMES.
28. ANALYTICAL COMPACTION RESULTS SHALL BE SUBMITTED TO CITY OF MADISON ENGINEERING DEPARTMENT (OR SIMILAR DEPARTMENT) AND TO THE GEOTECHNICAL ENGINEER OF RECORD.
29. ALL GRADING AND PIPE BED PREPARATION SHALL BE PERFORMED ACCORDING TO REQUIREMENTS SET FORTH BY THE GEOTECHNICAL ENGINEER OF RECORD.
30. CONTRACTOR SHALL OBTAIN A COPY OF THE GEOTECHNICAL REPORT FROM THE OWNER AND FOLLOW ALL RECOMMENDATIONS OF THE REPORT WHEN PERFORMING SITE WORK.
31. AT A MINIMUM, FOR TRENCH CONSTRUCTION, BACKFILL UNDER PERMANENT CONCRETE OR BITUMINOUS PAVEMENT AND AS ELSEWHERE SPECIFIED OR INDICATED ON THE PLANS, TRENCHES SHALL BE APPROVED BANK-RUN SAND OR GRAVEL OR CRUSHED STONE FREE FROM LARGE STONES AND CONTAINING NOT MORE THAN TEN PERCENT (10%) BY WEIGHT OF LOAM OR CLAY. THIS BACKFILL SHALL BE COMPACTED TO ONE HUNDRED PERCENT (100%) AS DETERMINED BY THE MODIFIED PROCTOR TEST FROM PIPE BEDDING TO TWO (2) FEET BELOW TRENCH TOP. MECHANICAL VIBRATING EQUIPMENT SHALL BE USED TO ACHIEVE THE REQUIRED COMPACTION. PAVEMENT SHALL BE REPLACED IMMEDIATELY AFTER THE BACKFILLING IS COMPLETED.
32. BACKFILL UNDER GRAVEL OR CRUSHED STONE SURFACED ROADWAYS SHALL BE THE APPROVED SUITABLE EXCAVATED MATERIAL PLACED IN SIX (6) INCH LAYERS THOROUGHLY COMPACTED FOR THE FULL DEPTH AND WIDTH OF THE TRENCH, CONFORMING TO THE COMPACTION, DENSITY COMPACTION METHOD AND MATERIALS AS SPECIFIED ABOVE.
33. BACKFILL IN UNPAVED AREAS SHALL BE COMPACTED WITH MECHANICAL VIBRATING EQUIPMENT TO NINETY PERCENT (90%) AS DETERMINED BY THE MODIFIED PROCTOR TEST. BACKFILL MATERIAL FROM PIPE BEDDING TO GROUND SURFACE SHALL BE EXCAVATED FREE FROM LARGE STONES & OTHER DEBRIS.

PAVEMENT AND STRUCTURAL BASE REQUIREMENTS:

1. THE TYPE OF SUBBASE REQUIRED FOR EACH USE SHALL BE CALLED OUT ON THE DRAWINGS. IF NO REFERENCE IS MADE ON THE DRAWINGS OR DETAILS TO THE TYPE OF SUBBASE REQUIRED THE FOLLOWING SHALL BE USED. THE SOURCE OF THE MATERIAL SHALL BE ONE OF APPROVED FOR USE BY THE GEORGIA DEPARTMENT OF TRANSPORTATION. THE MATERIAL SHALL BE A CRUSHED STONE CONFORMING TO AASHTO M 147-65 (1980 OR LATEST REVISION), GRADE A. GRAVEL OR OTHER MATERIALS CAN ONLY BE SUBSTITUTED FOR CRUSH STONE WHEN APPROVED IN WRITING BY THE OWNER AND SITE DESIGN PROFESSIONAL. MATERIAL SUPPLIED FOR USE AS SUBBASE SHALL HAVE 100% PASSING THE 2 INCH SIEVE, 30% TO 65% PASSING THE 3/8 INCH SIEVE, 25% TO 55% PASSING THE NO.4 SIEVE, 15% TO 40% PASSING THE NO. 40 SIEVE AND 2% TO 10% PASSING THE NO. 200 SIEVE.
2. SUBBASE SHALL BE PLACED IN LIFTS NOT TO EXCEED 6 INCHES AND COMPACTED TO THE REQUIREMENTS STATED IN THE GEOTECHNICAL REPORT. IF NOT STATED, THE COMPACTION REQUIREMENT SHALL BE 95% OF MAXIMUM DRY DENSITY PER ASTM D1557 (MODIFIED PROCTOR).
3. FINAL GRADING OF SUBBASE SHALL BE TO +/- 1 INCH OF THAT DESIGNATED ON THE DRAWINGS AND +/- 1 INCH OF THE REQUIRED THICKNESS OF 8 INCHES OR GREATER AND +/- 1/2 INCH FOR THICKNESS LESS THAN 8 INCHES.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS IN PREPARING THE SUBGRADE TO RECEIVE SUBBASE. THIS SHALL INCLUDE FINE GRADING AND COMPACTING AS NECESSARY TO MEET THE REQUIREMENTS STATED HERE AND UNDER "GRADING / EARTHWORK REQUIREMENTS".
5. THE AMOUNT OF TESTING REQUIRED TO VERIFY THE COMPACTION SHALL BE THE SAME AS STATED UNDER "GRADING / EARTHWORK REQUIREMENTS".
6. IF REQUIRED, STABILIZING FABRIC SHALL MEET THE FOLLOWING REQUIREMENTS "MODULUS (LOAD AT 10% ELONGATION) = 115LB PER ASTM D1682-64", "GRAB TENSILE STRENGTH 200LB PER ASTM D 1682-64"," MULLEN BURST STRENGTH = 400PSI PER ASTM D 3786-87","TRAPEZOID TEAR STRENGTH WHEN APPLICABLE = 115LB PER ASTM D 1117-80","COEFFICIENT OF PERMEABILITY K (CM/SEC) = 0.015 PER ASTM D 4491-85","WATER FLOW RATE (GPM/SF)= 60 PER ASTM D 4491-85". WHEN STABILIZING FABRIC IS USED IT SHALL BE PULLED TIGHT AND ALL WRINKLES REMOVED. OVERLAPS SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
7. IF REQUIRED, FILTER FABRIC SHALL MEET THE FOLLOWING REQUIREMENTS "GRAB TENSILE ELONGATION = 50% PER ASTM D1682-64", "GRAB TENSILE STRENGTH 70LB PER ASTM D 1682-64","MULLEN BURST STRENGTH = 200PSI PER ASTM D 3786-87","TRAPEZOID TEAR STRENGTH WHEN APPLICABLE = 35 LB PER ASTM D 1117-80","COEFFICIENT OF PERMEABILITY K (CM/SEC) = 0.2 PER ASTM D 4491-85","WATER FLOW RATE (GPM/SF) = 180 PER ASTM D 4491-85". WHEN FILTER FABRIC IS USED IT SHALL BE PULLED TIGHT AND ALL WRINKLES REMOVED. OVERLAPS SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

TRAFFIC SIGNAGE AND PAVEMENT MARKINGS:

1. PAVEMENT MARKINGS SHALL BE THE TYPE, COLOR, SIZE AND LOCATIONS SHOWN ON THE PLANS. IF THE INFORMATION ON THE PLANS IS NOT COMPLETE AND AUTHORITY HAVING JURISDICTION DOES NOT HAVE REQUIREMENTS REGARDING THIS, USE THE FOLLOWING. PAINT SHALL BE SUPPLIED IN ACCORDANCE WITH AASHTO: M 248 LATEST ADDITION. COLORS SHALL BE AS FOLLOWS (YELLOW-PARKING STALLS, HANDICAP PARKING AND CHARACTERS, PARKING ISLANDS, TRAFFIC CONTROL LETTERING AND CHARACTERS AND FIRE LANES) (WHITE - STOP BARS, PEDESTRIAN CROSSINGS AND STOP LETTERING).
2. THE PAVEMENT SHALL BE CLEAN AND FREE OF DIRT, DUST, MOISTURE, OILS AND OTHER FOREIGN MATERIALS. ANY OLD PAVEMENT MARKINGS SHALL BE REMOVED UNLESS PAINTS ARE COMPATIBLE AND OVERLAY IDENTICALLY. THE SURFACE OF THE PAVEMENT PRIOR TO APPLICATION SHALL BE 45 DEGREES F AND RISING UNLESS MANUFACTURE'S RECOMMENDATIONS ARE GREATER.
3. THE SIGNAGE SHALL BE THE TYPE AND LOCATED PER THE DRAWINGS. THE SIGNAGE SHALL BE PROVIDED IN ACCORDANCE WITH THE LOCAL HIGHWAY, COUNTY HIGHWAY AND STATE DEPARTMENT OF TRANSPORTATION. IF LOCAL, COUNTY OR STATE CODES DO NOT EXIST USE AASHTO: M268.
4. POSTS, BRACKETS AND FRAMES SHALL BE STEEL PER ASTM A-36, A-242, A-441, A-572, A588, GRADE 50 AND HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A123. ALL CUTTING, DRILLING OR OTHER POLE MODIFICATIONS SHALL BE PAINTED WITH GALVANIZING PAINT. ALL BOLTS, NUTS AND WASHERS SHALL BE STAINLESS STEEL.
5. POST HOLES SHALL BE A MINIMUM OF FOUR FEET DEEP AND 12 INCHES IN DIAMETER UNLESS POOR SOILS OR FROST CONDITIONS REQUIRE GREATER DEPTH. SIGN POSTS SHALL BE KEPT PLUMB, 6 INCHES OFF BOTTOM AND CENTERED AS 3000 PSI CONCRETE IS PLACED AROUND THE POST. THE OVERALL SIGN AND POST SYSTEM SHOULD BE ABLE TO WITHSTAND 33 POUNDS PER SQUARE FOOT.
6. CONTRACTORS CAN PLACE SIGNS ON POSTS AFTER CONCRETE HAS CURED FOR SEVEN DAYS OR ¾ STRENGTH IS ACHIEVED.
7. ALL HANDICAP STRIPING AND SIGNAGE SHALL MEET THE AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS. FIRE LANE STRIPING AND SIGNAGE SHALL MEET THE REQUIREMENTS OF THE LOCAL BUILDING INSPECTOR AND FIRE DEPARTMENT.
8. OULD HAVE TOOLED OR CUT JOINTS TO 1/3 THE DEPTH IN SQUARES OR AS CLOSE TO SQUARE AS POSSIBLE NOT EXCEEDING 5FT X5FT.

SITE CONCRETE - INCLUDING CURB, SIDEWALKS & GUTTERS:

1. THE DIMENSIONS SHALL BE THOSE SHOWN ON THE DRAWINGS. THE CONCRETE MIX SHALL BE 4000 PSI AT 28 DAYS MADE WITH TYPE I OR TYPE II CEMENT, PER ASTM C 150, AND AGGREGATES MEETING STATE DEPARTMENT OF TRANSPORTATION REQUIREMENTS. SLUMP FOR SLIP FORMING SHALL BE 1 INCH +/- ½ INCH AND FOR FORMED CONCRETE THE SLUMP SHALL BE 3 INCH +/- 1 INCH. AIR ENTRAINMENT MIXTURE SHALL MEET THE REQUIREMENTS OF ASTM C 260 4% +/- 1 ½% FOR SLIP FORM WORK AND 6% +/- 1 ½% FOR FORMED AND PLACED CONCRETE. WATER REDUCING AGENT SHALL CONFORM TO ASTM C 494, TYPE A. CURING COMPOUNDS SHALL CONFORM TO ASTM C309, TYPE I, CLASS A MOISTURE LOSS OF NOT MORE THAN .055 GR/SQ CM WHEN APPLIED AT 200 SQ FT PER GALLON.
2. CURBS AND GUTTERS SHALL BE PLACED ON COMPACTED SUBBASE, CONSISTENT WITH THE PAVEMENT SUBBASE, AS SHOWN ON THE DRAWINGS. WHEN SUBBASE DETAILS ARE MISSING AND NO AGENCY HAS JURISDICTION USE THE FOLLOWING: CURBS AND GUTTERS SHALL BE PLACED ON A MINIMUM OF 6 INCHES OF GAB ON 98% STANDARD PROCTOR SUBGRADE.
3. ALL FORMING, PLACEMENT, MATERIALS AND CURING SHALL CONFORM TO THE LATEST ADDITION OF ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" AND ALL SIMILAR STATE DEPARTMENT OF TRANSPORTATION REQUIREMENTS.
4. REINFORCING SHALL BE IN ACCORDANCE WITH THAT SPECIFIED ON THE DRAWINGS AND THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI) "MANUAL OF STANDARD PRACTICES". REINFORCING STEEL SHALL BE ASTM A 615, GRADE 60, DEFORMED. WELDED WIRE FABRIC SHALL BE ASTM A 185, WELDED WIRE STEEL FABRIC.
5. SIDEWALKS AND GUTTERS SHALL HAVE A BROOM FINISH PERPENDICULAR TO FLOW WITH A PICTURE FRAME EDGE JOINT ALL THE WAY AROUND. CURBS SHALL HAVE A SMOOTH FINISH OR LIGHT RUB FINISH, BUT CONSISTENT THROUGH OUT THE PROJECT.
6. EXPANSION JOINTS SHALL BE PLACED EVERY 40 FEET AND AT ADJOINING STRUCTURES SUCH AS WALLS, MANHOLES AND VAULTS. EXPANSION JOINT MATERIAL SHALL BE PREMOLDED, ½ INCH MATERIAL WITH ½ INCH CAP IN ACCORDANCE WITH ASTM D1751. AFTER CONCRETE HAS SET, THE CAP SHOULD BE REMOVED AND VOID FILLED WITH WATERPROOF JOINT FILLER. CURB AND GUTTER SHALL BE CUT OR TOOL JOINTED TO 1/3 THE DEPTH EVERY 10 FEET. SIDEWALKS SHOULD HAVE TOOLED OR CUT JOINTS TO 1/3 THE DEPTH IN SQUARES OR AS CLOSE TO SQUARE AS POSSIBLE NOT EXCEEDING 5FT X5FT.

ASPHALT PAVEMENT REQUIREMENTS:

1. ASPHALT SHALL BE THE TYPE(S) SPECIFIED ON THE DRAWINGS. REFER TO PAVING LEGEND AND PAVING DETAILS PROVIDED. ALL ASPHALT SHALL BE PRODUCED IN STATE APPROVED PLANTS WITH STATE APPROVED PRODUCTS.
2. ASPHALT SHALL ONLY BE PLACED WHEN THE OUTSIDE TEMPERATURE IS 45°F AND RISING. ASPHALT SHALL NEVER BE PLACED ON FROZEN MATERIAL, DURING ANY TYPE OF PRECIPITATION OR WHEN PRECEDING PRECIPITATION HAS SATURATED ANY PORTION OF THE SUBBASE AND/OR SUBGRADE.
3. SURFACES ABUTTING THE NEW ASPHALT SHALL BE TACK COATED PRIOR TO PLACEMENT OF ASPHALT INCLUDING CURBS, GUTTER, EXISTING AND NEW STRUCTURES. TACK COAT SHALL BE APPLIED NEATLY TO MATCH THE LINES AND GRADES OF THE PROPOSED ABUTTING ASPHALT AT A RATE OF 0.05 TO 0.15 GALLONS PER SQUARE YARD.
4. ASPHALT SHALL BE PLACED IN LAYERS EQUAL TO THOSE SPECIFIED ON THE PLANS. THE THICKNESS OF EACH LAYER OR THE THICKNESS OF ALL LAYERS COMBINED SHALL NOT VARY MORE THAN 1/4 INCH FOR THICKNESS OF 0 TO 4 INCHES AND 1/2 INCH FOR THICKNESS OF 4 INCHES OR GREATER, FROM THOSE SPECIFIED ON THE DRAWINGS. IF MORE THAN 60% OF TEST CORES SAMPLED FAIL TO EQUAL OR EXCEED THE REQUIRED DEPTH, THE PAVEMENT SHALL BE CONSIDERED FAILED AND BE SUBJECT TO REPAIRS, REPLACEMENT OR REASONABLE COMPENSATION OF WHICH THE CONTRACTOR SHALL BEAR ALL COSTS. THE ASPHALT SHALL ALSO BE TESTED FOR SMOOTHNESS BY LAYING A 16 FOOT STRAIGHT EDGE ON THE PAVEMENT AND VERIFYING THAT THERE ARE NO GAPS GREATER THAN 1/4 INCH IN ANY DIRECTION.
5. PLACEMENT AND COMPACTION REQUIREMENTS SHALL BE THE SAME AS THOSE SPECIFIED BY THE GEORGIA DEPARTMENT OF TRANSPORTATION. THE ROLLING SHALL BE DONE IN SUCH A MANNER THAT WILL MATCH JOINTS AND LEAVE A SMOOTH UNIFORM SURFACE, WHILE PROVIDING THE PROPER COMPACTION, WHICH SHALL BE 95% OF THE LABORATORY DENSITY.
6. WHEN MATCHING INTO EXISTING PAVEMENT ALL MATCH JOINTS SHALL BE SAW CUT TO PROVIDE A STRAIGHT SMOOTH JOINT. THE ASPHALT DEPTH AT THE MATCH POINT SHALL BE EQUAL TO THAT OF THE PROPOSED OR EXISTING WHICH EVER IS GREATER.
7. PAVING EQUIPMENT SHALL BE OF GOOD CONDITION AND QUALITY. ASPHALT SHALL BE PLACED BY MECHANICAL EQUIPMENT EXCEPT IN SMALL AREAS THAT ARE INACCESSIBLE TO A PAVER. ASPHALT SHALL BE TRANSPORTED IN COVERED TRUCKS AND SCHEDULED IN SUCH A MANNER THAT SHALL MAINTAIN ASPHALT TEMPERATURE. ASPHALT SHALL BE REJECTED WHEN THE TEMPERATURES FALL BELOW 250 DEGREES F OR THE MINIMUM TEMPERATURES SPECIFIED BY THE GEORGIA DEPARTMENT OF TRANSPORTATION, WHICHEVER IS HIGHER.
8. THE TYPE OF SUBBASE REQUIRED FOR EACH USE SHALL BE CALLED OUT ON THE DRAWINGS. IF NO REFERENCE IS MADE ON THE DRAWINGS OR DETAILS TO THE TYPE OF SUBBASE REQUIRED THE FOLLOWING SHALL BE USED. THE SOURCE OF THE MATERIAL SHALL BE ONE APPROVED FOR USE BY THE APPLICABLE STATE'S "DEPARTMENT OF TRANSPORTATION". THE MATERIAL SHALL BE A CRUSHED STONE CONFORMING TO AASHTO M 147-65 (1980 OR LATEST REVISION), GRADE A. GRAVEL OR OTHER MATERIALS CAN ONLY BE SUBSTITUTED FOR CRUSH STONE WHEN APPROVED IN WRITING BY THE OWNER AND ENGINEER. MATERIAL SUPPLIED FOR USE AS SUBBASE SHALL HAVE 100% PASSING THE 2 INCH SIEVE, 30% TO 65% PASSING THE 3/8 INCH SIEVE, 25% TO 55% PASSING THE NO. 4 SIEVE, 15% TO 40% PASSING THE NO. 40 SIEVE AND 2% TO 10% PASSING THE NO. 200 SIEVE.
9. SUBBASE SHALL BE PLACED IN LIFTS NOT TO EXCEED 6 INCHES AND COMPACTED TO THE REQUIREMENTS STATED IN THE SOILS REPORT. IF NOT STATED, THE COMPACTION REQUIREMENT SHALL BE 95% OF MAXIMUM DRY DENSITY PER ASTM D1557 (MODIFIED PROCTOR).
10. FINAL GRADING OF SUBBASE SHALL BE TO +/- 1 INCH OF THAT DESIGNATED ON THE DRAWINGS AND +/- 1 INCH OF THE REQUIRED THICKNESS FOR THICKNESS OF 8 INCHES OR GREATER AND +/- ½ INCH FOR THICKNESS LESS THAN 8 INCHES.
11. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL COSTS IN PREPARING THE SUBGRADE TO RECEIVE SUBBASE. THIS SHALL INCLUDE FINE GRADING AND COMPACTING AS NECESSARY TO MEET THE REQUIREMENTS STATED HERE AND UNDER "EARTHWORK".
12. THE AMOUNT OF TESTING REQUIRED TO VERIFY THE COMPACTION SHALL BE THE SAME AS STATED UNDER "EARTHWORK".
13. IF REQUIRED, STABILIZING FABRIC SHALL MEET THE FOLLOWING REQUIREMENTS "MODULUS (LOAD AT 10% ELONGATION) =115LB PER ASTM D1682-64", "GRAB TENSILE STRENGTH 200LB PER ASTM D 1682-64", "MULLEN BURST STRENGTH = 400PSI PER ASTM D 3786-87", "TRAPEZOID TEAR STRENGTH WHEN APPLICABLE = 115LB PER ASTM D1117-80", "COEFFICIENT OF PERMEABILITY K CM/SEC = .015 PER ASTM D 4491-85", "WATER FLOW RATE GPM/SF= 60 PER ASTM D 4491-85". WHEN STABILIZATION FABRIC IS USED IT SHALL BE PULLED TIGHT AND ALL WRINKLES REMOVED. OVERLAPS SHALL BE IN ACCORDANCE WITH MANUFACTURES RECOMMENDATIONS.
14. IF REQUIRED, FILTER FABRIC SHALL MEET THE FOLLOWING REQUIREMENTS "GRAB TENSILE ELONGATION =50% PER ASTM D1682-64", "GRAB TENSILE STRENGTH 70LB PER ASTM D 1682-64", "MULLEN BURST STRENGTH = 200PSI PER ASTM D 3786-87", "TRAPEZOID TEAR STRENGTH WHEN APPLICABLE = 35LB PER ASTM D1117-80", "COEFFICIENT OF PERMEABILITY K CM/SEC = .2 PER ASTM D 4491-85", "WATER FLOW RATE GPM/SF= 180 PER ASTM D 4491-85". WHEN FILTER FABRIC IS USED IT SHALL BE PULLED TIGHT AND ALL WRINKLES REMOVED. OVERLAPS SHALL BE IN ACCORDANCE WITH MANUFACTURES RECOMMENDATIONS.
15. DEBRIS AND OTHER FOREIGN MATTER. THE CONTRACTOR SHALL CLEAN ANY SECTIONS REQUIRING SUCH AT NO ADDITIONAL COST TO THE CONTRACT.

SEEDING & LANDSCAPING:

1. TOPSOIL SHALL BE REMOVED FROM STOCKPILES AND SPREAD IN THE AREAS SHOWN ON THE PLANS. THE DEPTH OF TOPSOIL SHALL BE AS SHOWN ON THE PLANS. IF THE DEPTH OF TOPSOIL IS NOT GIVEN THE FOLLOWING SHALL BE USED: "A MINIMUM OF 4 INCHES IN LAWN AREAS" AND "A MINIMUM OF 12 INCHES IN LANDSCAPE PLANTING AREAS".
2. AFTER THE TOPSOIL IS IN PLACE IT SHALL BE FINE GRADED REMOVING ALL ROOTS, STICKS, STONES AND DEBRIS GREATER THAN 2 INCHES IN ANY DIMENSION. THE TOPSOIL SHALL BE FINE GRADED TO THE LINES AND GRADES SHOWN ON THE PLANS.
3. THE TOPSOIL SOIL SHALL HAVE A PH OF 5.5 TO 7.6 AND AN ORGANIC CONTENT OF 3 TO 20%. THE GRADATION OF THE TOPSOIL SHALL BE 100% PASSING 2" SIEVE, 85 TO 100% PASSING THE 1 INCH SIEVE, 65 TO 100% PASSING THE ¼ INCH SIEVE AND 20 TO 80% PASSING THE NO. 200 SIEVE.
4. LIME OF TYPE RECOMMENDED FOR SOIL CONDITIONING SHALL BE USED TO TREAT ACIDIC SOILS.
5. LAWN FERTILIZER SHALL BE 55% NITROGEN, 10% PHOSPHORUS AND 10% POTASH WHERE 50% OF THE NITROGEN IS DERIVED FROM UREAFORM SOURCE.
6. LAWN SEED (WHEN NOT GIVEN ON THE PLANS) SHALL BE "50% BY WEIGHT, 85% PURITY, 85% GERMINATION OF PENNFINE PERENNIAL RYE"; "30% BY WEIGHT, 97% PURITY, 85% GERMINATION OF PENNLAWN RED FESCUE"; "20% BY WEIGHT, 85% PURITY, 80% GERMINATION OF COMMON KENTUCKY BLUEGRASS".
7. WHEN PLACING BY HYDROSEEDING, APPLICATION FERTILIZER SHALL BE PLACED AT 80 POUNDS PER ACRE, HYDROMULCH AT 1,200 POUNDS PER ACRE, WATER AT 500 GALLONS PER ACRE AND SEED AT A MINIMUM OF 220 POUNDS PER ACRE. ALL OVER SPRAY AREAS SHALL BE PROPERLY CLEANED AND RESTORED AT NO EXPENSE TO THE CONTRACT.
8. IF PLACING BY MECHANICAL MEANS, FERTILIZER SHALL BE PLACED AT 25 POUNDS PER 1,000 SQUARE FEET, SEED AT 5 POUNDS PER 1,000 SQUARE FEET, AND STRAW MULCH AT 2 TONS PER ACRE. PLACE FERTILIZER AND SEED, THEN LIGHTLY RAKE AND THE ROLL WITH 200 POUND ROLLER. MULCH THE AREA AND THEN WATER. STRAW MAY NEED TO BE SECURED TO PREVENT IT BLOWING AWAY.
9. WATER LAWN AREAS AS NEEDED TO PROMOTE GROWTH. THE CONTRACTOR WILL BE RESPONSIBLE TO WATER, RESEED OR WORK WHEN NECESSARY TO INSURE THE GROWTH OF THE LAWN UNTIL A COMPLETE AND UNIFORM STAND OF GRASS HAS GROWN AND BEEN CUT AT LEAST TWICE.
10. UNLESS OTHERWISE NOTED ON THE DRAWINGS, ALL AREAS NOT RECEIVING STRUCTURES, PAVEMENT, RIP RAP, LANDSCAPING OR OTHER IMPROVEMENTS OR FUTURE IMPROVEMENTS SHALL BE CONSIDERED LAWN AREAS AND RECEIVE TOPSOIL AND SEEDING PER DRAWINGS AND ABOVE STATED REQUIREMENTS.
11. PLANTINGS SHALL BE SUPPLIED IN ACCORDANCE WITH THE PLANS AND ANSI 260.1 "AMERICAN STANDARD FOR NURSERY STOCK" IN GOOD HEALTH, VIGOROUS, AND FREE OF INSECTS, LARVAE, EGGS, DEFECTS AND DISEASE.
12. PLANTING BEDS SHALL BE PREPARED BY LOOSENING THE TOP 1 FOOT OF TOPSOIL. PLANTS SHALL BE LOCATED PER THE PLANS. THE HOLES SHALL BE EXCAVATED (PER THE DETAILS ON THE DRAWINGS) WITH THE CENTER SLIGHTLY HIGHER TO PROMOTE DRAINAGE. USE A TOPSOIL BACKFILL MIX OF 4 PARTS TOPSOIL, 1 PART PEAT MOSS, 1/2 PART WELL ROTTED MANURE, AND 10 POUNDS 5-10-5 PLANTING FERTILIZER AND PROPERLY MIXED PER CUBIC YARD. BERM AROUND PLANTS TO FORM A BOWL SHAPE.
13. WEED BARRIER MADE FROM FIBERGLASS AND ULTRA-VIOLET LIGHT RESISTANT SHALL BE PLACE UNDER ALL PLANTING BEDS PRIOR MULCHING.
14. ALL TREES AND SHRUBS SHALL BE STAKED AS DETAILED ON THE DRAWINGS. TREE WRAPPING WILL BE PROVIDED AT THE BASE OF ALL TREES AS DETAILED.
15. MULCH SHALL BE 50% SHREDDED BARK AND 50% WOOD CHIPS, ¾ TO 2 INCH IN SIZE, UNIFORMLY MIXED AND FREE OF ELM WOOD. MULCH SHALL BE PLACED UNIFORMLY OVER THE PLANTING BED ALLOWING NO WEED BARRIER TO BE SEEN.
16. ALL LANDSCAPING SHALL BE GUARANTEED FOR ONE YEAR AFTER FINAL ACCEPTANCE. ANY PLANTINGS IN NEED OF REPLACEMENT WILL BE GUARANTEED FROM THE TIME OF REPLACEMENT IF AFTER FINAL ACCEPTANCE.

UTILITY REQUIREMENTS:

1. ALL REQUIRED R/W ENCROACHMENT PERMITS SHALL BE SECURED, BEFORE PROCEEDING WITH WORK.
2. THE CONTRACTOR SHALL NOTIFY EACH INDIVIDUAL UTILITY OWNER OF HIS/HER OPERATION PLAN IN THE AREA OF THE UTILITIES. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL CONTACT THE UTILITY OWNERS AND REQUEST THAT THEY PROPERLY LOCATE THEIR RESPECTIVE UTILITY ON THE GROUND. THIS NOTIFICATION SHALL BE GIVEN AT LEAST THREE (3) BUSINESS DAYS PRIOR TO COMMENCEMENT OF OPERATIONS AROUND THE UTILITY.
3. UNLESS OTHERWISE NOTED, UTILITY OWNERS ARE TO RESET, RELAY OR READJUST PUBLIC AND PRIVATE UTILITIES CONFLICTING WITH PROPOSED IMPROVEMENT, THE CONTRACTOR SHALL BE REQUIRED TO COOPERATE WITH THE OWNERS OF LOCAL UTILITIES IN THE ADJUSTMENT OF THEIR FACILITIES WHERE THEY INTERFERE WITH CONSTRUCTION. THE COSTS FOR THE WORK SHALL BE AT THE CONTRACTORS EXPENSE. CONTRACTOR SHALL COORDINATE THE REMOVAL AND/OR RELOCATION OF EXISTING GAS AND WATER METERS, VALVES, LINES, POWER, TELEPHONE, CABLE LINES, ETC. THAT SERVICE THE EXISTING BUILDINGS WITH THE APPROPRIATE UTILITY COMPANIES.
4. UTILITIES SHOWN ARE TO ASSIST THE CONTRACTOR IN LOCATING UTILITIES. ITEMS ARE SHOWN SCHEMATICALLY AND NEITHER THE ARCHITECT, SITE DESIGN PROFESSIONAL, NOR THE OWNER ASSUMES ANY RESPONSIBILITY FOR VARIANCES IN THEIR ACTUAL LOCATION. CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF UTILITIES PRIOR TO EXCAVATION OR DEMOLITION. ADDITIONAL UTILITIES MAY NOT BE SHOWN ON THESE PLANS. IF THE CONTRACTOR DAMAGES ANY EXISTING UTILITIES DURING CONSTRUCTION WHETHER SHOWN OR NOT IN THE SITE WORK CONSTRUCTION DRAWINGS, HE/SHE SHALL, AT HIS/HER EXPENSE, IMMEDIATELY REPLACE OR REPAIR THE UTILITIES TO THEIR ORIGINAL CONDITION AND QUALITY, AS APPROVED BY CITY OF MADISON AND REPRESENTATIVE OF THE APPROPRIATE UTILITY COMPANY. CONTRACTOR SHALL NOTIFY UTILITY PROVIDER AND THE SITE DESIGN PROFESSIONAL OF RECORD PRIOR TO PROCEEDING.
5. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONTACTING APPROPRIATE UTILITY PROVIDERS PRIOR TO SUBMITTING HIS/HER BID IN ORDER TO DETERMINE THE EXTENT TO WHICH UTILITY RELOCATIONS AND/OR ADJUSTMENT WILL AFFECT THE SCHEDULING OF WORK FOR THE PROJECT. SOME UTILITIES MAY NEED TO BE ADJUSTED CONCURRENTLY WITH THE CONTRACTORS OPERATIONS, WHILE SOME WORK MAY BE REQUIRED "AROUND" UTILITIES THAT REMAIN IN PLACE. THE CONTRACTOR SHALL RECEIVE NO ADDITIONAL COMPENSATION FOR ANY DELAYS OR INCONVENIENCE CAUSED BY THE UTILITY ADJUSTMENTS.
6. MATERIAL AND INSTALLATION SHALL BE IN COMPLIANCE WITH CITY OF MADISON REQUIREMENTS.
7. REFER TO ARCHITECTURAL AND M.E.P. PLANS FOR LOCATION OF WATER, SEWER AND GAS LINES WITHIN PROPOSED BUILDINGS. CONTRACTOR SHALL COORDINATE TIE-IN OF UTILITIES WITH ARCHITECTURAL PLANS AND M.E.P. REPRESENTATIVE.
8. EARTHWORK OPERATIONS SHALL COMPLY WITH REQUIREMENTS OF O.S.H.A. CONSTRUCTION STANDARDS, PART 1926, SUBPART P, EXCAVATIONS, TRENCHING, AND SHORING AND SUBPART O, MOTOR VEHICLES, MECHANIZED EQUIPMENT, AND MARINE OPERATIONS, AND SHALL BE CONDUCTED IN A MANNER ACCEPTABLE TO THE SITE DESIGN PROFESSIONAL.
9. A MINIMUM HORIZONTAL SEPARATION OF 10' SHALL BE MAINTAINED BETWEEN WATER LINES AND SANITARY SEWERS. AN 18 INCH MINIMUM VERTICAL SEPARATION SHALL BE MAINTAINED AT CROSSINGS. WHEN CROSSING A WATERLINE OR SEWER LINE, PIPE JOINTS SHALL BE PLACED AS FAR AWAY AS POSSIBLE FROM THE OTHER PIPE.
10. PEDESTRIAN AND LOCAL VEHICULAR TRAFFIC SHALL BE MAINTAINED FOR UTILITY WORK WITHIN PUBLIC RIGHT-OF-WAYS. SAFETY DEVICES AND FLAG MEN SHALL BE PROVIDED BY THE CONTRACTOR AT HIS/HER EXPENSE. WRITTEN PERMISSION TO CLOSE THE CONSTRUCTION AREA TO TRAFFIC SHALL BE OBTAINED FROM THE APPROPRIATE GOVERNMENT AGENCY PRIOR TO THE CLOSING.
11. CONTRACTOR SHALL MEET LOCAL UTILITY COMPANY REGULATIONS IN ANY READJUSTMENT OR RELOCATION OF EXISTING SERVICES. WHEN CONSTRUCTION INVOLVES THE REMOVAL OF FENCE, POLES, SIDEWALKS, DRIVE, TEMPORARY OR FIXED STRUCTURES; THE CONTRACTOR AT HIS/HER EXPENSE SHALL PROVIDE FOR TEMPORARY SERVICE OR CONTAINMENT TO THE AFFECTED PROPERTY, AND SHALL REPLACE SUCH ITEMS WITH SIMILAR OR BETTER MATERIALS AS SOON AS PRACTICAL OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE FOLLOWING UTILITY INSTALLATION.
12. USE OF PRECAST INVERT MANHOLES IS ACCEPTABLE PROVIDED INVERTS ARE NOT FIELD MODIFIED.
13. EXISTING PIPE CAN ONLY BE CUT IN THE PRESENCE OF CITY OF MADISON REPRESENTATIVE(S). CUT-IN MANHOLE IS REQUIRED UNLESS DOGHOUSE MANHOLE IS SPECIFICALLY APPROVED BY CITY OF MADISON PRIOR TO CONSTRUCTION.
14. NO TREES OR PERMANENT STRUCTURES SHALL BE ALLOWED IN SANITARY SEWER EASEMENT, UNLESS OTHERWISE APPROVED BY CITY OF MADISON.
15. SEWER MAINS AND LATERAL(S) SHALL HAVE TRACER WIRE INSTALLED TO THE STRUCTURE FOUNDATION, UNLESS OTHERWISE APPROVED BY CITY OF MADISON.
16. ALL UTILITIES, INCLUDING BUT NOT LIMITED TO WATER AND SANITARY SEWER UTILITIES AND STORM DRAIN FACILITIES SHALL BE INSTALLED AND THE TRENCHES BACKFILLED AND THOROUGHLY COMPACTED BEFORE ANY PAVEMENT OR BASE IS INSTALLED.
17. AUTHORIZED PUBLIC UNDERGROUND UTILITIES SHALL BE LOCATED WITHIN THE RIGHT-OF-WAY OF A PUBLIC STREET OR WITHIN AN EASEMENT DESIGNATED FOR SUCH USE. WITHIN PUBLIC STREET RIGHT-OF-WAY, PLACEMENT OF THE VARIOUS AUTHORIZED UTILITIES (POWER, GAS, CABLE TV, WATER AND SEWER) SHALL CONFORM TO THE SPECIFIC LOCATIONS DESIGNATED FOR SUCH USE BY CITY OF MADISON.
18. NO OTHER UNDERGROUND UTILITIES, SUCH AS PRIVATE LAWN SPRINKLER SYSTEMS, YARD LIGHTING, ETC., SHALL BE INSTALLED WITHIN A PUBLIC RIGHT-OF-WAY OR EASEMENT EXCEPT BY AUTHORIZATION OF CITY OF MADISON. SUCH AUTHORIZATION, IF ISSUED, SHALL REQUIRE THE APPLICANT TO ASSUME ALL REPAIR COSTS OF THE APPLICANT'S FACILITIES SHOULD THEY BE DAMAGED DURING THE COURSE OF INSTALLATION, MAINTENANCE OR REPAIR OF ANY OF THE PUBLIC UTILITIES AUTHORIZED TO OCCUPY SAID RIGHT-OF-WAY OR EASEMENT.
19. EXISTING UTILITY APPURTENANCES (CLEAN OUTS, VALVE/METER BOXES AND/OR COVERS, MANHOLES, ETC.) LOCATED WITHIN THE LIMITS OF CONSTRUCTION SHALL BE RELOCATED AS NECESSARY OR ADJUSTED TO FINISHED GRADE AT NO ADDITIONAL COST TO THE CONTRACT.
20. IF UNDERGROUND ABANDONED PIPES ARE DISCOVERED DURING CONSTRUCTION, CONTRACTOR SHALL REFER TO CITY OF MADISON FOR REMOVAL OR ABANDONMENT REQUIREMENTS. AT A MINIMUM, CONTRACTOR SHALL REMOVE OR ADEQUATELY PLUG ABANDONED UNDERGROUND PIPES, OR A COMBINATION OF BOTH, IF THESE MEASURES ARE APPROVED BY CITY OF MADISON.
21. CONTRACTOR SHALL SAWCUT ASPHALT ONLY IN SITUATIONS THAT DO NOT ALLOW FOR JACK AND BORE (CONTRACTOR SHALL OBTAIN NECESSARY PERMITS TO SAWCUT STREETS). CONTRACTOR MAY BE REQUIRED TO BACK TAP EXISTING WATER MAIN WITH DOMESTIC SERVICE TAP OR FIRE SERVICE TAP, IF SUFFICIENT CLEARANCE IS NOT AVAILABLE (SO THAT CURB AND GUTTER IS NOT DAMAGED). IF CURB AND GUTTER IS DAMAGED, CONTRACTOR SHALL REPLACE IT TO ORIGINAL CONDITION AT NO COST TO THE OWNER.
22. CONTRACTOR SHALL CONTACT CITY OF MADISON WATER DEPARTMENT AND HAVE CITY OF MADISON DEPARTMENT INSPECTOR PRESENT DURING TAPS.

EARTHWORK GENERAL NOTES – SOFT SOIL AND UNDERCUT

1. SUBGRADE PROTECTION: THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL EXPOSED SUBGRADES FROM MOISTURE INTRUSION AND DEGRADATION. PROPER DRAINAGE AND SOIL PROTECTION MEASURES SHALL BE MAINTAINED AT ALL TIMES.
2. MOISTURE ADJUSTMENT: CONTRACTOR SHALL SCARIFY, AERATE, AND RECOMPACT WET OR UNSTABLE SOILS AS NEEDED TO ACHIEVE SPECIFIED COMPACTION AND STABILITY. MOISTURE CONDITIONING OF SOILS IS CONSIDERED INCIDENTAL TO EARTHWORK AND NO ADDITIONAL COMPENSATION WILL BE PROVIDED.
3. PROOF-ROLLING: PROOF-ROLLING OF SUBGRADES IS REQUIRED PRIOR TO PLACEMENT OF BASE MATERIAL OR PAVEMENT. AREAS EXHIBITING RUTTING, PUMPING, OR DEFLECTION DURING PROOF-ROLLING SHALL BE REWORKED BY THE CONTRACTOR AT NO ADDITIONAL COST.
4. UNDERCUT PROCEDURE: IF, AFTER SCARIFYING AND DRYING EFFORTS, SUBGRADES REMAIN UNSTABLE, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND OWNER'S REPRESENTATIVE IMMEDIATELY. NO UNDERCUTTING OR REPLACEMENT SHALL BE PERFORMED WITHOUT PRIOR WRITTEN APPROVAL.
5. PAYMENT FOR UNDERCUT: UNDERCUT AND REPLACEMENT WITH GRADED AGGREGATE BASE (GAB) OR APPROVED MATERIAL WILL ONLY BE PAID IF AUTHORIZED IN WRITING BY THE ENGINEER OR OWNER. PAYMENT WILL BE BASED ON UNIT PRICES INCLUDED IN THE CONTRACT, APPROVED ALLOWANCE ITEMS, OR NEGOTIATED CHANGE ORDER.
6. FORESEEABLE CONDITIONS: SUBGRADES THAT BECOME UNSTABLE DUE TO NORMAL WEATHER CONDITIONS, EXPOSURE, OR LACK OF PROTECTION ARE CONSIDERED FORESEEABLE AND ARE THE CONTRACTOR'S RESPONSIBILITY TO CORRECT WITHOUT ADDITIONAL PAYMENT.
7. DOCUMENTATION: THE CONTRACTOR SHALL DOCUMENT AND REPORT ANY SUSPECTED UNSUITABLE SUBGRADE CONDITIONS PROMPTLY, INCLUDING PHOTOGRAPHS, WEATHER CONDITIONS, AND OBSERVED FIELD CONDITIONS, TO SUPPORT ANY REQUEST FOR ADDITIONAL WORK AUTHORIZATION.
8. OWNER'S RIGHT TO DIRECT MEANS: THE OWNER AND/OR ENGINEER RESERVES THE RIGHT TO DIRECT SCARIFYING, DRYING, OR OTHER REMEDIAL MEASURES IN LIEU OF UNDERCUTTING IF DEEMED FEASIBLE TO RESTORE SUBGRADE STABILITY.

PROPERTY LINE IDENTIFICATION

CONTRACTOR SHALL RETAIN A GEORGIA REGISTERED LAND SURVEYOR TO LOCATE AND MARK ALL PROPERTY AND EASEMENT LINES PRIOR TO ANY CONSTRUCTION ACTIVITY. WHERE CONSTRUCTION OCCURS WITHIN 25 FEET OF A PROPERTY LINE, THE LINE SHALL BE FIELD MARKED AT INTERVALS NOT TO EXCEED 50 FEET. THE CONTRACTOR SHALL PROTECT ALL AREAS OUTSIDE THE LIMITS OF DISTURBANCE AND RETURN ANY UNINTENTIONALLY DISTURBED AREAS TO EQUAL OR BETTER CONDITION.

FENCE PROTECTION AND RESTORATION

CONTRACTOR SHALL PROTECT ALL EXISTING FENCING WITHIN THE PROJECT LIMITS. WHERE TEMPORARY REMOVAL IS REQUIRED FOR ACCESS OR GRADING, CONTRACTOR SHALL REINSTALL FENCE IN ORIGINAL LOCATION USING EXISTING MATERIALS WHERE SALVAGEABLE. DAMAGED OR MISSING SECTIONS SHALL BE REPLACED TO MATCH EXISTING CONDITIONS OR AS DIRECTED BY OWNER. ALL COSTS TO BE INCLUDED IN THE BASE CONTRACT.

CONCRETE JOINT CONTROL

CONTRACTOR SHALL PROVIDE CONSTRUCTION JOINTS BETWEEN CONCRETE POUR SECTIONS, EXPANSION JOINTS BETWEEN CONCRETE POURS AND ANY ABUTTING STRUCTURAL ELEMENTS SUCH AS BUILDINGS, CURBING, WALLS, ETC., AND CONTROL JOINTS PER THE DETAILS ON THE DRAWINGS. FOR CONCRETE PAVING AREAS,, NOT INCLUDING SIDEWALKS, CONTRACTOR SHALL, CONTRACTOR SHALL SUBMIT TO ENGINEER A SUGGESTED JOINT PLAN FOR REVIEW AND COMMENTS/APPROVAL, PRIOR TO INSTALLATION OF PAVING.

STORM STRUCTURE ALIGNMENT

ALL CURB INLET OPENINGS SHALL ALIGN WITH THE FACE OF CURB. GRATES FOR COMBINATION CURB INLET STRUCTURES SHALL BE CENTERED WITHIN THE GUTTER FLOW LINE. END SECTIONS AND HEADWALLS SHALL BE INSTALLED RECESSED INTO THE SIDESLOPE OF DITCHES OR CHANNELS. CONTRACTOR SHALL COORDINATE STRUCTURE PLACEMENT TO MATCH GRADES AND DRAINAGE FLOWLINES IN THE FIELD.

SANITARY SEWER SYSTEM REQUIREMENTS:

1. THE SANITARY SEWER SYSTEM SHALL BE SUPPLIED AND PLACED IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL (HAVING JURISDICTION) REQUIREMENTS.
2. ALL SANITARY SEWER MATERIALS, SIZES, TYPES AND SPECIFICS ARE LISTED ON THE DRAWINGS. IF THE PLANS DO NOT LIST ALL INFORMATION OR ARE UNCLEAR, USE THE FOLLOWING:
   - SANITARY PIPE AND FITTINGS SHALL BE POLYVINYL CHLORIDE (PVC) PER ASTM D 3034, SDR 35, WITH GASKETS PER ASTM D 3212, ELASTOMERIC SEAL. THE PIPE SHALL BE BED 6 INCHES BELOW AND UP HALF ITS DIAMETER WITH CLEAN STONE OF A UNIFORM MIX RANGING IN SIZE OF 1/4 TO 3/4 INCH.
   - FORCEMAIN PIPE SHALL BE POLYVINYL CHLORIDE (PVC) PER ASTM D 2241, SDR 21 OR LOWER IF PRESSURES ARE HIGH IN SYSTEM WITH GASKETS PER ASTM D 3139, AND ELASTOMERIC SEAL. THE PIPE SHALL BE ENCLOSED IN A RUN OF CRUSH STONE GRAVEL MATERIAL WITH 100% PASSING THE 2" SIEVE AND 2 TO 10% PASSING THE 200 SIEVE.
   - MANHOLES SHALL BE PROVIDED PER ASTM C 478 WITH STEEL CORE POLYETHYLENE STEPS. GASKETS BETWEEN RISERS SHALL BE RUBBER PER ASTM C 443 AND MORTARED WATER TIGHT WITH A WATERPROOF/PLUG MORTAR. THE INVERT SHALL BE MADE WITH CONCRETE OR 1/2 ROUND SECTION OF PIPE. PIPE JOINTS SHALL BE PRESS WEDGE OR CAST IN PLACE BOOT. BOTH SHALL HAVE ADDITIONAL VOIDS FILLED WITH WATERPROOF/PLUG MORTAR. ADJUSTMENT RINGS SHALL BE PRECAST CONCRETE 4000 PSI AND 5 TO 8% AIR ENTRAINMENT. EXTERIOR MANHOLES SHALL BE COATED WITH A SEAL COAT ACCEPTABLE TO CITY OF MADISON.
   - CLEANOUTS SHALL BE MADE OF THE SAME PIPE MATERIAL AS THE CARRIER PIPE. A CAST IRON FRAME AND COVER SHALL BE PROVIDED FOR ACCESS AT GRADE AND DESIGNED FOR H-20 LOADING. THE CLEANOUT SHALL BE ENCASED IN STONE OF THE SAME TYPE AS THE BEDDING FOR THE FULL DEPTH OF THE CLEANOUT. CLEANOUTS SHALL BE NO MORE THAN 90 FEET APART ON LATERALS.
   - MANHOLE FRAMES AND COVERS SHALL BE PER ASTM A 48, CLASS 30B, FULLY COATED WITH THE LETTERING "SANITARY" CAST INTO IT. THE MINIMUM SIZE SHALL BE A 24 INCH INSIDE OPENING AND DESIGN FOR A MINIMUM OF H-20 LOADING.
3. ALL PIPE SHALL BE PLACED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS AND TO THE LINES AND GRADES SHOWN ON THE DRAWINGS. CARE SHALL BE GIVEN DURING BACKFILL OPERATIONS NOT TO MOVE OR DAMAGE PIPE OR APPURTENANCES WHILE ACHIEVING THE APPROPRIATE COMPACTION REQUIREMENTS.
4. ALL SYSTEMS SHALL BE VISUALLY INSPECTED FOR ALIGNMENT AND WORKMANSHIP. ALL DEBRIS, DIRT OR OTHER FOREIGN OBJECTS SHALL BE REMOVED AND THE SYSTEM FLUSHED CLEAN.
5. ALL TAPS TO MAIN LINES SHALL BE MADE WITH SADDLES WHEN THE TAP IS 1/2 THE DIAMETER OR LESS OF THE EXISTING PIPE BUT MADE WITH A SLEEVE WHEN THE TAP IS GREATER THAN 1/2 THE DIAMETER OR EQUAL TO THE EXISTING PIPE. IF CONNECTIONS ARE REQUIRED TO EQUAL SIZE PIPES OF 8 INCHES OR GREATER, A MANHOLE SHALL BE INSTALLED OVER THE CONNECTION POINT AND INVERTS FORMED. WHEN CONNECTING TO AN EXISTING MANHOLE, THE CONNECTING PIPE HOLE SHALL BE CORED AND A PRESS WEDGE INSTALLED. THE CONNECTION SHALL BE MORTARED UP WITH WATERPROOF/PLUG MORTAR. INSIDE THE EXISTING MANHOLE, THE EXISTING INVERT SHALL BE BROKE OUT IN A MANNER THAT PROTECTS FROM DEBRIS ENTERING THE LIVE SYSTEM, WHILE A NEW INVERT IS FORMED.
6. SANITARY MANHOLES SHALL BE VISUALLY LAMPED AFTER BACKFILL TO VERIFY ALIGNMENT, CLEANLINESS, AND THERE IS NO DAMAGE TO THE SYSTEM. AFTER THE SYSTEM HAS BEEN BACKFILLED FOR 30 DAYS, THE SYSTEM SHALL BE RELAMPED AND TESTED WITH A MANDREL SIZED AT 95% OF THE INTENDED INSIDE DIAMETER.
7. GRAVITY SYSTEMS SHALL BE AIR TESTED BETWEEN MANHOLES TO 3.5 PSI FOR 5 MINUTES PER ASTM F 1417 FOR PLASTIC PIPES.
8. MANHOLES SHALL BE TESTED SEPARATELY FOR LEAKAGE OR INFILTRATION USING ASTM C 969. THE ALLOWED LEAKAGE = 0.1 GALLONS / {(FEET OF DIAMTER)(FEET OF HEAD)(#OF HOURS)} AND THE TEST SHALL RUN FOR 24 HOURS.
9. WHEN NECESSARY TO VERIFY THE SYSTEM INTEGRITY, THE ENTIRE SYSTEM MAY BE TESTED FOR INFILTRATION AND EXFILTRATION USING ASTM C 969. THE SYSTEM SHALL BE BROKEN UP INTO SECTIONS WHEN NECESSARY TO CONSIDER GROUNDWATER DEPTH, LENGTH AND ELEVATION DIFFERENCES.
10. FAILURE OF ANY TESTING SHALL REQUIRE THE CONTRACTOR TO REPAIR OR REPLACE THE FAILED SECTION AT NO ADDITIONAL EXPENSE TO THE CONTRACT.
11. AFTER ALL TESTING IS COMPLETE AND BEFORE THE SYSTEM IS TURNED OVER TO CITY OF MADISON, THE SYSTEM SHALL BE CHECKED TO VERIFY IT IS CLEAN AND FREE OF DIRT, DEBRIS AND OTHER FOREIGN MATTER. THE CONTRACTOR SHALL CLEAN ANY SECTIONS REQUIRING SUCH AT NO ADDITIONAL COST TO THE CONTRACT.

STORM WATER SYSTEM:

1. THE STORM WATER SYSTEM SHALL BE SUPPLIED AND PLACED IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REQUIREMENTS. THE LOCAL STORM WATER AUTHORITY FOR THIS PROJECT IS CITY OF MADISON AND THE EROSION CONTROL AND RUN-OFF AUTHORITY IS CITY OF MADISON.
2. STORM DESIGN INCLUDES MANY VARIABLES, SUCH AS PIPE ROUGHNESS COEFFICIENT, THAT CAN AFFECT THE ACTUAL FINAL RUN-OFF. IF NO ALTERNATIVE MATERIALS ARE LISTED ON THE UTILITY DRAWINGS NO SUBSTITUTIONS MAY BE MADE BY THE CONTRACTOR UNLESS FIRST REVIEWED AND ACCEPTED BY THE ENGINEER.
3. ALL STORM MATERIAL SIZES, TYPES AND SPECIFICS ARE LISTED ON THE DRAWINGS.
4. WHENEVER CLEAN STONE IS USED FOR BEDDING, BACKFILL OR ENCASEMENT, FILTER FABRIC SHALL BE PLACED BETWEEN THE NATURAL AND BACKFILL SOILS TO PREVENT MIGRATION OF FINES INTO THE VOIDS, AS NECESSARY. ANTI-SEEP COLLARS SHALL ALSO BE INCORPORATED AT THE PROJECT LIMIT AND ALONG THE PIPE TO PREVENT WATER FLOW WITHIN THE STONE BEDDING OR ENCASEMENT. ANTI-SEEP COLLARS MAY NOT BE REQUIRED WHEN USING PERFORATED PIPE. ANTI-SEEP COLLARS SHALL BE INCORPORATED AT POND AND BASIN OUTLETS TO PREVENT WATER MIGRATION ALONG PIPE BEDDING OR ENCASEMENT MATERIAL.
5. END SECTIONS SHALL BE THE SAME MATERIAL AS THE PRECEDING PIPE AND APPROPRIATE COLLAR.
6. MANHOLES SHALL BE PROVIDED PER ASTM C 478 WITH STEEL CORE POLYETHYLENE STEPS. THE MANHOLE SHALL BE SIZED TO A MINIMUM OF 2 FOOT GREATER THAN THE LARGEST DIAMETER PIPE ENTERING OR EXISTING. INCREASE SIZE OF MANHOLE IF, IN THE SAME HORIZONTAL PLANE, THERE ARE TWO AREAS WHERE THE AREA BETWEEN TWO PIPES IS LESS THAN 8 INCHES OR HALVE OR THE CIRCUMFERENCE IS SUPPORTED BY LESS THAN 1/2 OF THE DIAMETER OF THE MANHOLE. INVERTS SHALL BE SMOOTH CAST IN PLACE CONCRETE. UNLESS OTHERWISE INDICATED, COVER 4 INCH WEEPS WITH FILTER FABRIC. 2 INCH STONE SHALL BE PROVIDED AT THE CROWN OF PIPES AND AT SUBGRADE ELEVATION. GASKETS BETWEEN RISERS SHALL BE RUBBER PER ASTM C 443. ADJUSTMENT RINGS SHALL BE PRECAST CONCRETE 4000 PSI AND 5 TO 8% AIR ENTRAINMENT.
7. INLETS SHALL MEET THE SAME REQUIREMENTS AS THOSE LISTED FOR MANHOLES.
8. GRATES SHALL BE RETICULINE AND GALVANIZED PER ASTM A123. MINIMUM GRATE OPENING SIZE WILL BE 18" X 24" AND DESIGN FOR A MINIMUM OF H-20 LOADING.
9. MANHOLE FRAMES AND COVERS SHALL BE PER ASTM A 48, CLASS 30B, FULLY COATED WITH THE LETTERING "STORM" CAST INTO IT. THE MINIMUM SIZE WILL BE A 24 INCH INSIDE OPENING AND DESIGN FOR A MINIMUM OF H-20 LOADING.
10. CLEANOUTS SHALL BE MADE OF THE SAME PIPE MATERIAL AS THE CARRIER PIPE. A CAST IRON FRAME AND COVER SHALL BE PROVIDED FOR ACCESS AT GRADE AND DESIGNED FOR H-20 LOADING. THE CLEANOUT SHALL BE ENCASED IN STONE OF THE SAME TYPE AS THE PIPE BEDDING FOR THE FULL DEPTH OF THE CLEANOUT.
11. RIP RAP SHALL BE PLACED AT THE END OF ALL OUTFALL STRUCTURES. UNLESS OTHERWISE NOTED, THE RIP RAP SHALL BE A CLEAN DURABLE STONE WITH AVERAGE WEIGHTS OF 100 POUNDS. THE RIP RAP SHALL BE PLACED ON 1 FOOT OF GRAVEL SUBBASE OR STABILIZING FABRIC.
12. DRY WELLS SHALL MEET THE SAME REQUIREMENTS AS THOSE LISTED FOR MANHOLES WITH THE ADDITION OF OPENINGS OF APPROXIMATELY 15% OF THE RINGS INTERIOR SURFACE. THE OPENINGS SHALL BE 1 X 3 INCH SLOTS OR 1 INCH DIAMETER ON THE INSIDE SURFACE. DRY WELLS SHALL BE BACKFILLED WITH A MINIMUM OF 1 FOOT OF CLEAN STONE SIZED BETWEEN 3 AND 4 INCHES. OUTSIDE THE STONE THE ENTIRE STRUCTURE SHALL BE WRAPPED IN FILTER FABRIC TO PREVENT OUTSIDE SOILS FROM ENTERING THE STONE AND DRY WELL.
13. UNLESS OTHERWISE NOTED, TRENCH DRAINS SHALL BE MADE WITH 4 INCH PERFORATED CORRUGATED POLYETHYLENE PIPE ENCASED IN CLEAN STONE SIZED BETWEEN 2 INCH AND ¼ INCH AND THEN WRAPPED IN FILTER FABRIC. OUTSIDE DIMENSIONS OF THE TRENCH DRAIN WILL NOT BE LESS THAN 1 FOOT.
14. ALL JOINTS BETWEEN PIPES AND PRECAST STRUCTURES SHALL BE MORTARED TIGHT.
15. ALL PIPE SHALL BE PLACED IN ACCORDANCE WITH THE MANUFACTURES RECOMMENDATION AND TO THE LINES AND GRADES SHOWN ON THE DRAWINGS. CARE SHALL BE GIVEN DURING BACKFILL OPERATIONS NOT TO MOVE OR DAMAGE PIPE OR APPURTENANCES WHILE ACHIEVING THE APPROPRIATE COMPACTION REQUIREMENTS.
16. ALL SYSTEMS SHALL BE VISUALLY INSPECTED FOR ALIGNMENT AND WORKMANSHIP. ALL DEBRIS, DIRT OR OTHER FOREIGN OBJECTS SHALL BE REMOVED AND THE SYSTEM FLUSHED CLEAN.
17. ANY PIPES FOUND WITH DIAMETER DEFLECTIONS GREATER THAN 5% OF THE SPECIFIED PIPE DIAMETER WILL BE REPAIRED OR REPLACED. ANY ALIGNMENT DIFFERENTIALS GREATER THAN 5% OF THE DIAMETER OF THE PIPE WILL BE CORRECTED OR REPLACED.
18. ANY CLEANING, REPAIRS OR REPLACEMENT REQUIRED, DUE TO FAILURE OF TESTING OR POOR WORKMANSHIP, SHALL BE DONE BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE CONTRACT.

WATER SYSTEM AND SERVICES REQUIREMENTS:

1. THE WATER SYSTEMS AND SERVICES SHALL BE SUPPLIED AND PLACED IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL (HAVING JURISDICTION) REQUIREMENTS.
2. IF CITY OF MADISON DOES NOT HAVE SPECIFIC REQUIREMENTS REGARDING MATERIALS AND PLACEMENT, THE FOLLOWING SHALL BE USED:
   - ALL WATER PIPING, FITTINGS AND APPURTENANCES SHALL BE PLACED A MINIMUM OF 6 INCHES BELOW FROST LINE OR 5 FEET WHICH EVER IS GREATER. PIPE SIZES 4 INCHES AND UP SHALL BE DUCTILE IRON OR POLYVINYL CHLORIDE AS INDICATED ON THE DRAWINGS (IF NOT SHOWN USE DUCTILE IRON). PIPE SIZES BELOW 4 INCHES SHALL BE COPPER OR POLYETHYLENE AS INDICATED ON THE DRAWINGS (IF NOT SHOWN USE COPPER).
   - THE MINIMUM SEPARATION BETWEEN WATER MAINS AND SERVICES AND SEWER MAINS AND LATERALS SHALL BE 18 INCHES MEASURED VERTICALLY FROM OUTSIDE TO OUTSIDE OF PIPES AT THE CROSSING. A STANDARD LENGTH OF WATER PIPE SHALL BE CENTERED AT THE CROSSING TO MAXIMIZE THE DISTANCE BETWEEN THE CROSSING AND THE NEAREST WATER MAIN OR SERVICE PIPE JOINT. WHEN THE WATER MAIN OR SERVICE RUNS UNDER THE SEWER LINE, A GRAVEL OR CRUSH STONE BACKFILL MEETING THE REQUIREMENTS OF SUBBASE SHALL BE PLACED AND COMPACTED AROUND THE WATER PIPE (UP TO HALF THE DIAMETER OF THE SEWER PIPE) TO PROVIDE ADEQUATE SUPPORT TO THE SEWER LINE. WATER MAINS AND SERVICES AND SEWER MAINS AND LATERALS RUNNING PARALLEL SHALL HAVE A MINIMUM HORIZONTAL SEPARATION OF 10 FEET MEASURED FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE.
   - DUCTILE IRON PIPE SHALL BE PROVIDED IN ACCORDANCE WITH AWWA C151, (6 INCH DIAMETER AND GREATER SHALL BE CLASS 50) AND (SMALLER THAN 6" SHALL BE CLASS 51). DUCTILE IRON PIPE SHALL BE LINED WITH A CEMENT MORTAR AND SEAL COATED IN ACCORDANCE WITH AWWA C104. GASKETS SHALL BE PROVIDED IN ACCORDANCE WITH AWWA C111. FITTINGS SHALL BE DUCTILE IRON IN ACCORDANCE WITH AWWA C153 COMPACT FITTINGS WITH A PRESSURE RATING OF 350 PSI.
   - STANDARD DUCTILE IRON OR CAST IRON FITTINGS SHALL BE SUPPLIED IN ACCORDANCE WITH AWWA C110 WITH A PRESSURE RATING OF 250 PSI. THE LINING AND GASKETS FOR THE FITTING SHALL MEET THE SAME REQUIREMENTS AS THE PIPE. PLASTIC WRAP PIPES IN ACCORDANCE WITH AWWA C105 AND TAR COAT ALL FITTING BOLTS WHEN EVER SOILS ARE PRIMARILY CLAY OR NOT PH BALANCED. SEE GEOTECHNICAL REPORT FOR SOILS TYPE AND RECOMMENDATIONS.
   - PVC (POLYVINYL CHLORIDE) PIPE SHALL BE FURNISHED IN ACCORDANCE WITH AWWA C900 FOR PIPE 4 INCHES OR GREATER AND ASTM D 1785, SCHEDULE 40, GASKETS PER ASTM F 477-ELASTOMERIC SEAL, SOLVENT CEMENT PER ASTM D 2564 FOR PIPES SMALLER THAN 4 INCHES. TEN GAUGE COPPER TRACE WIRE SHALL BE PLACED WITH ALL PIPE.
   - THRUST RESTRAINTS SHALL BE USED AT ALL FITTINGS, PLUGS, AND APPURTENANCES THAT CAUSE A CHANGE IN DIRECTION, FLOW OR ARE SUBJECT TO THRUST OR HAMMERING BY WATER FLOW. THRUST RESTRAINTS INCLUDE CONCRETE THRUST BLOCKS (3000 PSI), ANCHORING JOINTS AND TIE RODS. CONCRETE THRUST BLOCKS SHALL BE USED UNLESS SPACE, ACCESS OR MAINTENANCE PROHIBIT THEIR USE.
   - COPPER WATER PIPE SHALL BE SUPPLIED IN ACCORDANCE WITH ASTM B 88-TYPE K, SEAMLESS WITH FITTINGS PER AWWA C800.
   - PE (POLYETHYLENE) PIPE SHALL BE FURNISHED IN ACCORDANCE WITH AWWA C9010 AND ASTM D2737.
   - GATE VALVES SHALL BE NONRISING STEM, DOUBLE DISC, BRONZE DISC RESILIENT SEATED, CAST IRON OR DUCTILE IRON BODY AND BONNET IN ACCORDANCE WITH AWWA C509 AND PRESSURE RATED FOR 250 PSI. TEN GAUGE COPPER TRACER WIRE SHALL BE PLACED WITH ALL PIPES.
   - VALVE BOX SHALL BE CAST IRON WITH A BASE COMPATIBLE WITH VALVE, 5 INCHES IN DIAMETER, SCREW TYPE EXTENSION AT TOP AND A COVER THAT READS "WATER".
   - CURB STOPS SHALL HAVE A BRONZE BODY, GROUND KEY PLUG OR BALL WITH WIDE TEE HEAD. THE CURB STOP SHALL BE COMPATIBLE WITH ADJOINING PIPES. THE SERVICE BOX SHALL HAVE A TELESCOPING TOP SECTION WITH A LENGTH THAT PLACES THE ADJUSTMENT CENTERED WHEN BURIED TO THE APPROPRIATE DEPTH. THE SERVICE BOX SHALL BE OF A SIZE AND TYPE THAT IS COMPATIBLE WITH THE CURB STOP. THE COVER SHALL HAVE THE LETTERING "WATER".
3. ALL METERS, VAULTS AND BACKFLOW SHALL MEET THE REQUIREMENTS OF CITY OF MADISON.
4. FIRE HYDRANTS SHALL CONFORM TO THE REQUIREMENTS OF CITY OF MADISON AND AWWA C502. DRAIN STONE SHALL HAVE 100% PASSING THE 1-1/2 INCH SIEVE, 90-100% PASSING THE 1 INCH SIEVE, 35-95% PASSING THE 1/2 INCH SIEVE AND 0-15% PASSING THE 1/4 INCH SIEVE. ALL HYDRANTS SHALL INCLUDE A GATE VALVE AND BOX LOCATED AT THE HYDRANT BRANCH TO SHUT OFF THE HYDRANT LINE.
5. DUCTILE IRON PIPE SHALL BE INSTALLED IN ACCORDANCE WITH AWWA C600 AND BE ENCASED IN SELECT BACKFILL WHICH MEANS NO STONE OR OTHER MATERIAL GREATER THAN 2 INCHES IN ANY DIRECTION.
6. PVC, PE AND COPPER PIPE SHALL BE PLACED PER MANUFACTURERS RECOMMENDATIONS AND EMBEDDED IN A 6 INCH SAND ENCASEMENT MEASURED FROM OUTSIDE SURFACE OF THE PIPE TO THE OUTSIDE OF SAND ENCASEMENT.
7. ALL BEDDING AND ENCASEMENTS SHALL BE COMPACTED WITH CARE TO ACHIEVE PROPER COMPACTION WITHOUT DAMAGING THE PIPE, FITTINGS OR APPURTENANCES.
8. ALL WATER MAIN FITTINGS AND VALVES SHALL BE TESTED FOR PRESSURE AND LEAKAGE IN ACCORDANCE WITH AWWA C600. TEST WATER SHALL BE POTABLE. TEST PRESSURE SHALL NOT BE LESS THAN 1.25 TIMES THE WORKING PRESSURE AT THE HIGHEST POINT AND 1.5 TIMES THE WORKING PRESSURE AT THE TESTING POINT. THE PRESSURE MAY NOT DROP MORE THAN 5 PSI DURING THE 2 HOUR TEST. LEAKAGE SHALL NOT EXCEED MORE THAN (L={SD(P)^0.5}/133,200) WHERE "L= ALLOWABLE LEAKAGE, IN GALLONS PER HOUR" " S= LENGTH OF PIPE TESTED, IN FEET" " D= NOMINAL DIAMETER OF PIPE, IN INCHES" "P=AVERAGE TEST PRESSURE DURING TEST, IN POUNDS PER SQUARE INCH (GAUGE) DURING THE SAME 2 HOUR DURATION.
9. ALL TAP AND/OR CONNECTION MATERIAL AND WORK SHALL BE DONE IN ACCORDANCE WITH AND COORDINATED WITH CITY OF MADISON. WHEN THE AUTHORITY SO REQUIRES, THE TAPS AND/OR CONNECTIONS SHALL BE DONE BY THE AUTHORITY THEMSELVES AND PAID FOR BY THE CONTRACTOR.
10. OTHER FITTING AND APPURTENANCES NOT PART OF THE MAIN LINE TESTING SHALL BE TESTED BY VISUAL INSPECTION FOR LEAKAGE UNDER NORMAL WORKING PRESSURES.
11. ALL MAIN LINES AND APPROPRIATE APPURTENANCES SHALL BE FLUSHED AND DISINFECTED IN ACCORDANCE WITH AWWA C651 AND THE REQUIREMENTS OF THE APPROPRIATE HEALTH DEPARTMENT.
12. THE CONTRACTOR SHALL COORDINATE ALL TESTING AND DISINFECTING WITH CITY OF MADISON. IF PROFESSIONAL ENGINEER CERTIFICATION IS REQUIRED, THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE AT LEAST TEN DAYS PRIOR TO THE START OF WORK.
13. FAILURE OF ANY TESTING SHALL REQUIRE THE CONTRACTOR TO REPAIR OR REPLACED THE FAILED SECTION AT NO ADDITIONAL EXPENSE TO THE CONTRACT.

MINIMUM STORM PIPE COVER

UNLESS OTHERWISE NOTED, ALL STORM DRAIN PIPING SHALL BE INSTALLED WITH A MINIMUM OF 24 INCHES OF COVER. MINIMUM COVER SHALL BE MEASURED TO THE TOP OF PIPE EXCLUDING FLEXIBLE PAVEMENT (ASPHALT) THICKNESS. COMPACTED ROADWAY BASE MATERIAL AND CONCRETE MAY BE COUNTED TOWARD COVER DEPTH.

STORM SYSTEM CLEANING PRIOR TO ACCEPTANCE

CONTRACTOR SHALL THOROUGHLY CLEAN THE STORM DRAINAGE SYSTEM, INCLUDING ALL PIPING, INLETS, JUNCTION BOXES, AND OUTLET STRUCTURES PRIOR TO FINAL ACCEPTANCE. SEDIMENT, DEBRIS, AND POLLUTANTS SHALL BE REMOVED PRIOR TO REMOVAL OF TEMPORARY EROSION CONTROL MEASURES. STORM PONDS SHALL BE CLEANED OF CONSTRUCTION SEDIMENT PRIOR TO FINAL INSPECTION.

STORM POND MAINTENANCE

OPERATION AND MAINTENANCE OF ALL PRIVATE STORMWATER FACILITIES, INCLUDING PONDS, DRAINAGE STRUCTURES, RIPRAP, AND PIPES OUTSIDE THE PUBLIC RIGHT-OF-WAY, SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER. CONTRACTOR SHALL INFORM OWNER OF THIS RESPONSIBILITY PRIOR TO FINAL ACCEPTANCE.
FINAL GRADING TO PREVENT STANDING WATER
UPON COMPLETION OF FINAL GRADING AND PRIOR TO PERMANENT STABILIZATION, THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE TO REVIEW THE PREPARED SURFACE. THIS REVIEW IS TO OCCUR BEFORE ANY GRASSING OR STABILIZATION BEGINS. THE CONTRACTOR REMAINS FULLY RESPONSIBLE FOR ENSURING POSITIVE DRAINAGE AND PREVENTING STANDING WATER OUTSIDE OF DESIGNATED PONDING AREAS. NO FINAL ACCEPTANCE WILL BE GRANTED UNTIL POSITIVE DRAINAGE IS VERIFIED.

BACKFILL AND GENERAL FILL MATERIAL STANDARDS

ON-SITE MATERIALS USED FOR GENERAL FILL SHALL CONTAIN NO ROCK OR LUMPS GREATER THAN 6 INCHES. BACKFILL MATERIALS SHALL CONTAIN NO ROCK OR LUMPS GREATER THAN 1.5 INCHES. ALL FILL MATERIALS SHALL BE FREE OF ORGANIC MATTER, DEBRIS, METAL, PLASTIC, GLASS, WOOD, OR ANY OTHER NON-SOIL MATERIAL. FILL OR BACKFILL IMPORTED FROM OFF-SITE SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO DELIVERY. THE OWNER RESERVES THE RIGHT TO REJECT ANY MATERIAL THAT FAILS TO MEET THESE REQUIREMENTS.

georgia civil
CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
LAND SURVEYING

311 N. Main St, Ste. 101, Unit C
P.O. Box 896 | Madison, GA 30650
P: 706.342.1104
www.georgiacivil.com

Professional Seal

GEORGIA REGISTERED PROFESSIONAL ENGINEER JON P. BROWN — PRELIMINARY

Project Information

RFP 2027-3500-01

CITY OF MADISON FIRE STATION

1100 MARY MAGNAN BLVD
MADISON, GA 30650
ZONING: I1 - LIGHT INDUSTRIAL / LIMITED MANUFACTURING

DRAWING DATE:	7.1.26
DRAWN BY:	DBB
CHECKED BY:	JPB

REVISIONS	
DATE:	DESCRIPTION:

© Copyright 2026 georgia civil, inc.
This document and its reproduction are the property of Georgia Civil, Inc. and may not be reproduced, published, or used in whole or in part without the written consent of Georgia Civil, Inc.

Sheet Title

GENERAL NOTES

Sheet Number

C-1.0