

GENERAL PROVISIONS

- 1. THE CONTRACTOR SHALL OBTAIN FROM THE OWNER COPIES OF ALL AVAILABLE REGULATORY AGENCY PERMITS AND LOCAL AGENCY PERMITS.
2. CONTRACTOR, AS PART OF THE BASE BID, SHALL FIELD LOCATE ALL UNDERGROUND UTILITIES WITHIN THE PROJECT AREA WITHIN THE 30 DAYS OF PROJECT AWARD. CONTRACTOR SHALL REVIEW THE PLANS AND SHALL NOTE ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.
3. CONTRACTORS, AS PART OF THE BASE BID, SHALL PROVIDE ALL COORDINATION WITH UTILITY PROVIDERS TO PROVIDE FOR THE MATERIALS AND WORK NEEDED TO PROVIDE SERVICES TO THE PROJECT.
4. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE FOR ALL DEMOLITION OF ABOVE GROUND AND UNDERGROUND IMPROVEMENTS IN ORDER TO CONSTRUCT THE PROPOSED IMPROVEMENTS NOTED ON THE PLANS. UNLESS APPROVED IN WRITING FROM THE OWNER, ALL MATERIALS SHALL BE REMOVED FROM THE SITE AS PART OF THE BASE BID.
5. ALL DETAILS AND REFERENCES TO FDOT REFER TO THE LATEST EDITION OF THE FDOT STANDARD PLANS.
6. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ACTUAL LOCATION OF ALL UTILITY ENTRANCES TO BLDG AND FIRE PROTECTION WATER SERVICE, ELECTRICAL, TELEPHONE AND GAS SERVICE. CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES, IN SUCH A MANNER AS TO AVOID CONFLICT AND ASSURE PROPER DEPTHS ARE ACHIEVED AS WELL AS COORDINATING WITH UTILITY REQUIREMENTS AS TO LOCATION AND SCHEDULING FOR THE IN-S/ CONNECTIONS PRIOR TO CONNECTING TO EXISTING UTILITIES.
7. CONTRACTOR AND HIS SURVEYOR SHALL NOTE THE PROJECT BENCHMARK INFORMATION PROVIDED IN THE PLANS AND VERIFY PRIOR TO CONSTRUCTION.
8. ALL CONSTRUCTION PROJECTS OR MORE ACRES IN SIZE THAT DISCHARGE TO OFFSITE AREAS ARE REQUIRED TO COMPLY WITH THE REQUIREMENTS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR STORMWATER DISCHARGE FROM SMALL AND LARGE CONSTRUCTION ACTIVITIES. IN ORDER TO MEET NPDES REQUIREMENTS, THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING, INSPECTING, MAINTAINING, AND REPORTING ON ALL ELEMENTS OF THE SWPPP, COMPLETING AND SUBMITTING THE REQUIRED NOTICE OF INTENT (NOI) AND NOTICE OF TERMINATION (NOT) FORMS AS THE OPERATOR, AND PAYING ALL ASSOCIATED FEES. FOR PROJECTS LESS THAN 1 ACRE IN SIZE THAT ARE NOT REQUIRED TO COMPLY WITH NPDES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO AND DURING CONSTRUCTION IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS.
9. UNLESS OTHERWISE NOTED ON THE PLANS, THE CONTRACTOR SHALL USE THE GEOMETRY PROVIDED ON THE CONSTRUCTION PLANS. BENCHMARK INFORMATION SHALL BE PROVIDED TO THE CONTRACTOR BY THE OWNER OR OWNER'S SURVEYOR. ANY DISCREPANCIES BETWEEN FIELD MEASUREMENTS AND CONSTRUCTION PLAN INFORMATION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.
10. BASE SURVEY INFORMATION INCLUDING BUT NOT LIMITED TO ELEVATIONS, EASEMENTS, RIGHTS OF WAY, AND OTHER TOPOGRAPHIC INFORMATION HAS BEEN PREPARED BY OTHER PROFESSIONALS. CPH, INC. ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS INFORMATION.
11. THIS SET OF PLANS MAY CONTAIN DRAWINGS PREPARED BY OTHER PROFESSIONALS, WHICH CONTAIN THE NAME, ADDRESS, AND LOGO OF THE PROFESSIONAL. CPH, INC. IS NOT RESPONSIBLE FOR DRAWINGS PREPARED BY OTHER PROFESSIONALS.
12. THE CONTRACTOR SHALL SUBMIT ONE ELECTRONIC COPY OF SHOP DRAWINGS TO THE ENGINEER TO KEEP FOR THEIR RECORDS. THE BIDDING AND APPROVAL OF SHOP DRAWINGS IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL MATERIALS FOR ACCURACY PRIOR TO ORDERING THE MATERIALS. ANY DISCREPANCIES IDENTIFIED BY THE CONTRACTOR SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.
13. PROTECT BENCHMARKS, PROPERTY CORNERS, AND OTHER SURVEY MONUMENTS FROM DAMAGE OR DISPLACEMENT. IF MARKER NEEDS TO BE REMOVED IT SHALL BE REFERENCED BY LICENSED LAND SURVEYOR AND REPLACED, AS NECESSARY, BY SAME.
14. THE CONTRACTOR IS RESPONSIBLE FOR ALL QUALITY CONTROL TESTING. AS A MINIMUM, TESTING SHALL INCLUDE (A) PIPING AND STRUCTURAL EXCAVATION, BEDDING AND BACKFILL MATERIALS AND DENSITY TESTS; (B) DETERMINATION OF COMPACTIVE EFFORT NEEDED FOR BEDDING AND BACKFILL OF CONCRETE AND ASPHALT; (C) TESTING OF CONCRETE AND ASPHALT; (D) PAVING QUALITY CONTROL, TESTING INCLUDING DESIGN MIX REVIEW, MATERIALS, FELD SLUMP AND AIR CONTENT, AND FIELD AND LAB CURED STRENGTH SAMPLES AND TESTING.
15. IN ADDITION TO QUALITY CONTROL TESTING, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REQUIRED TESTING OR APPROVALS FOR ANY WORK (OR ANY PART THEREOF) IF LAWS OR REGULATIONS OF ANY PUBLIC BODY HAVING JURISDICTION SPECIFICALLY REQUIRE TESTING, INSPECTIONS OR APPROVAL. THE CONTRACTOR SHALL PAY ALL COSTS IN CONNECTION THEREWITH AND SHALL FURNISH THE OWNER AND ENGINEER THE REQUIRED CERTIFICATES OF INSPECTION, TESTING OR APPROVAL.
16. ANY DESIGN OR TESTING LABORATORY UTILIZED BY THE CONTRACTOR SHALL BE AN INDEPENDENT LABORATORY ACCEPTABLE TO THE OWNER AND THE ENGINEER, APPROVED IN WRITING, AND COMPLYING WITH THE LATEST EDITION OF THE "RECOMMENDED REQUIREMENTS FOR INDEPENDENT LABORATORY QUALIFICATION", PUBLISHED BY THE AMERICAN COUNCIL OF INDEPENDENT LABORATORIES.
17. TESTING RESULTS SHALL BE PROVIDED TO THE OWNER/OPERATOR AND THE ENGINEER. ALL TEST RESULTS SHALL BE PROVIDED (PASSING AND FAILING) ON A REGULAR AND IMMEDIATE BASIS.
18. THE ENTIRE PROJECT SITE SHALL BE THOROUGHLY CLEANED AT THE COMPLETION OF THE WORK. CLEAN ALL INSTALLED PIPELINES, STRUCTURES, SIDEWALKS, PAVED AREAS, ACCUMULATED SILT IN PONDS, PLUS ALL ADJACENT AREAS AFFECTED BY CONSTRUCTION, AS DIRECTED BY THE OWNER OR JURISDICTIONAL AGENCY. EQUIPMENT TO CLEAN THESE SURFACES SHALL BE SUBJECT TO APPROVAL BY THE OWNER.
19. ALL DISTURBED AREAS WITHIN RIGHT OF WAYS SHALL BE SODED.
20. CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT WITH THE LATEST STANDARDS OF OSHA DIRECTIVES OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR SHALL USE SUPPORT SYSTEMS AND OTHER PROTECTIVE DEVICES TO PROTECT THE RIGHT OF WAY AND TO PREVENT COLLAPSE AND EGRESS FROM ALL EXCAVATION AND TRENCHING. CONTRACTOR IS RESPONSIBLE TO COMPLY WITH PERFORMANCE CRITERIA FOR OSHA.
21. THE CONTRACTOR SHALL RECOGNIZE AND ABIDE BY ALL OSHA EXCAVATION SAFETY STANDARDS, INCLUDING THE FLORIDA TRENCH SAFETY ACT (90-96, LAWS OF FLORIDA). ANY MATERIAL, CONSTRUCTION METHODS, OR MATERIAL COST TO COMPLY WITH THESE LAWS SHALL BE INCIDENTAL TO THE CONTRACT.
22. CONTRACTOR MUST STOP OPERATION AND NOTIFY THE OWNER FOR PROPER DIRECTION IF ANY ENVIRONMENTAL OR HEALTH RELATED CONTAMINATE IS ENCOUNTERED DURING EXCAVATION.

- 23. THE CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT WITH THE LATEST STANDARDS OF OSHA DIRECTIVES OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR SHALL USE SUPPORT SYSTEMS AND OTHER PROTECTIVE DEVICES TO PROTECT THE RIGHT OF WAY AND TO PREVENT COLLAPSE AND EGRESS FROM ALL EXCAVATION AND TRENCHING. CONTRACTOR IS RESPONSIBLE TO COMPLY WITH PERFORMANCE CRITERIA FOR OSHA.
24. THE CONTRACTOR SHALL RECOGNIZE AND ABIDE BY ALL OSHA EXCAVATION SAFETY STANDARDS, INCLUDING THE FLORIDA TRENCH SAFETY ACT (90-96, LAWS OF FLORIDA). ANY MATERIAL, CONSTRUCTION METHODS, OR MATERIAL COST TO COMPLY WITH THESE LAWS SHALL BE INCIDENTAL TO THE CONTRACT.
25. CONTRACTOR MUST STOP OPERATION AND NOTIFY THE OWNER FOR PROPER DIRECTION IF ANY ENVIRONMENTAL OR HEALTH RELATED CONTAMINATE IS ENCOUNTERED DURING EXCAVATION.

UTILITY GENERAL NOTES

- 1. THE UTILITY DATA SHOWN ON THESE PLANS WAS LOCATED BY THE RESPECTIVE UTILITY OR IS BASED ON UTILITY DRAWINGS, MAPS, OR FIELD RECONNAISSANCE.
2. THE LOCATION, MATERIAL, TYPE, AND SIZE OF ALL EXISTING UTILITIES SHOWN ON THE PLANS HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS INFORMATION PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE VARIOUS UTILITIES AND TO MAKE THE NECESSARY ARRANGEMENTS FOR ANY RELOCATIONS OF THESE UTILITIES WITH THE OWNER OF THE UTILITY. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN CROSSING AN UNDERGROUND UTILITY, WHETHER SHOWN ON THE PLANS OR LOCATED BY THE UTILITY COMPANY. ANY UTILITIES, WHETHER SHOWN ON THESE PLANS OR NOT, THAT INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE CLOSELY COORDINATED WITH THE ENGINEER AND THE RESPECTIVE UTILITY COMPANY FOR RELOCATION OR PROPER PROTECTION.
3. A SINGLE POINT UTILITY IDENTIFICATION SERVICE HAS BEEN SET UP FOR EXISTING UTILITIES. THE CONTRACTOR IS TO CONTACT THE SUNSHINE STATE ONE CALL CENTER BY DIALING "811" AT LEAST TWO (2) AND NOT MORE THAN FIVE (5) WORKING DAYS PRIOR TO THE SPECIFIC CONSTRUCTION ACTIVITY FOR FIELD LOCATION. NOTE THAT NOT ALL UTILITIES PARTICIPATE IN THIS PROGRAM. THE CONTRACTOR SHOULD CONTACT ALL NON-PARTICIPATING UTILITIES SEPARATELY FOR FIELD LOCATION OF THEIR FACILITIES AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.
4. THE UTILITY PROVIDERS NOTED ON THE COVER SHEET HAVE PREVIOUSLY INDICATED THAT THEY MAY HAVE FACILITIES IN THE VICINITY OF THE CONSTRUCTION AREA.
5. THE CONTRACTOR SHALL KEEP LOCATE TICKETS UP TO DATE AT ALL TIMES.
6. THE CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION WITH EACH UTILITY AND ALL COSTS ASSOCIATED WITH THE PROTECTION OF EXISTING FACILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL ALSO COORDINATE NECESSARY RELOCATIONS OR OTHER CONSTRUCTION RELATED MATTERS WITH EACH UTILITY.
7. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN IN SERVICE ALL EXISTING PIPING ENCOUNTERED DURING CONSTRUCTION UNLESS OTHERWISE INDICATED IN THE DRAWINGS. ANY PIPING WHICH CAN BE REMOVED DURING CONSTRUCTION WITHOUT UNDEE INTERRUPTION OF SERVICE MAY BE REMOVED AND REPLACED BY THE CONTRACTOR WITH THE PERMISSION OF THE OWNER AND THE ENGINEER.
8. TYPICAL DETAILS AND PROPOSED CONSTRUCTION AS SHOWN ILLUSTRATE THE ENGINEER'S INTENT AND ARE NOT PRESENTED AS A SOLUTION TO ALL CONSTRUCTION PROBLEMS ENCOUNTERED IN THE FIELD. THE CONTRACTOR MAY ALTER THE PROPOSED CONSTRUCTION TO SUIT FIELD CONDITIONS, PROVIDED IT COMPLIES WITH THE PROJECT SPECIFICATIONS AND APPROVAL IS RECEIVED FROM THE ENGINEER. THERE SHALL BE NO DEVIATIONS FROM THE FDEP CONSTRUCTION PERMIT, THEN SUCH REVISIONS WILL ALSO BE APPROVED BY THE ENGINEER.
9. FOR EACH RESPECTIVE PIPELINE CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE LOCATION, DEPTH, SIZE, MATERIAL, TYPE, AND ALIGNMENT OF ALL EXISTING PIPING. TABLES, ETC. TO BE RELOCATED OR CONNECTED TO. IF THE CONTRACTOR DEEMS NECESSARY (A) A CHANGE IN THE MINIMUM COVER DEPTH, OR THE NEED FOR ADDITIONAL FITTINGS, BENDS, OR COUPLINGS, WHICH REPRESENT A DEVIATION FROM THE PROJECT DRAWING, OR (B) A NEED FOR RELOCATION OF EXISTING UTILITIES, THEN THE DETAILS OF SUCH RELOCATION, INCLUDING ADDITIONAL FITTINGS, INCLUDING CHANGES IN RELATED PORTIONS OF THE PROJECT AND THE REASON THEREFOR, SHALL BE SUBMITTED WITH SHOP DRAWINGS. APPROVED DEPARTURES FROM THE PROJECT DRAWINGS SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER.
10. THE CONTRACTOR SHALL PROVIDE AT HIS OWN EXPENSE NECESSARY TEST PUMPING EQUIPMENT, WATER, WATER METERS, PRESSURE GAUGES, AND OTHER TEST MATERIAL AND FACILITIES REQUIRED FOR ALL HYDROSTATIC, LEAKAGE, AND PRESSURE TESTING. THE CONTRACTOR SHALL CONTACT THE ENGINEER AND THE OWNER IN WRITTEN FORM, FORTY-EIGHT (48) HOURS IN ADVANCE OF THE START OF PRESSURE TESTING. THE CONTRACTOR SHALL PERFORM SATISFACTORY PRE-TESTING PRIOR TO HYDROSTATIC TESTING.

BUILT DRAWING REQUIREMENTS

- 1. ALL DRAWINGS SHALL BE PROVIDED BY THE CONTRACTOR TO THE ENGINEER AT LEAST THREE WEEKS PRIOR TO FINAL ACTION. ALL AS-BUILT DATA SHALL BE PROVIDED BY A FLORIDA LICENSED SURVEYOR, SIGNED, SEALED AND DATED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE TO IDENTIFY ALL AS-BUILT REQUIREMENTS FOR THE PROJECT AND SUBMIT THE NECESSARY PERMITS PRIOR TO START OF CONSTRUCTION TO ENSURE THAT AS-BUILT INFORMATION IS PROVIDED FOR THE PROJECT.
2. ALL RECORD DRAWINGS SHALL BE PREPARED BY THE CONTRACTOR IN ACAD FORMAT USING CONSTRUCTION PLAN SHEETS PROVIDED BY THE ENGINEER. AS-BUILT INFORMATION SHALL BE FIELD VERIFIED, MEASURED, ADDED TO THE ACAD FILES OF THE PROJECT.

- 3. THE CONSTRUCTION PLAN SHEETS PROVIDED BY THE ENGINEER, AND CERTIFIED, SIGNED AND SEALED BY THE CONTRACTOR'S LICENSED SURVEYOR WHO WILL BE RESPONSIBLE FOR THE ACCURACY OF ALL DIMENSIONS AND ELEVATIONS.
4. THE AS-BUILT INFORMATION IS TO INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:
A. HORIZONTAL LOCATIONS AND VERTICAL ELEVATIONS FOR ALL UTILITY AND INVERT STRUCTURES INCLUDING BUT NOT LIMITED TO MANHOLES, INLETS AND CLEANOUTS, INCLUDING STRUCTURE TOP AND INVERT ELEVATIONS.
B. DISTANCE ALONG PIPELINES BETWEEN STRUCTURES.
C. STORMWATER POND TOP OF BERM AND POND BOTTOM ELEVATIONS AND HORIZONTAL DIMENSIONS MEASURED AT A MINIMUM OF TEN LOCATIONS PER POND. AT LOCATIONS DESIGNATED BY THE ENGINEER. TOP OF POND HORIZONTAL DIMENSIONS ARE ALSO TO BE TIED TO PROPERTY CORNERS, EASEMENTS, AND RIGHTS-OF-WAY.
D. STORMWATER CONTROL STRUCTURE DIMENSIONS AND ELEVATIONS, INCLUDING ALL WEIRS, SLOTS, ORIFICES, GRATES, AND SKIMMERS.
E. STORMWATER CONVEYANCE SYSTEMS INCLUDING DIMENSIONS, ELEVATIONS, CONTOURS, AND CROSS SECTIONS.
F. HORIZONTAL LOCATIONS AND VERTICAL ELEVATIONS OF ALL UTILITY VALVES, FITTINGS, CONNECTION POINTS, ETC.
G. VERTICAL ELEVATIONS OF ALL PIPELINES AT CROSSINGS OF POTABLE WATER MAINS (WHETHER THE WATER MAIN IS EXISTING OR NEW) IN ORDER TO DOCUMENT THAT THE MINIMUM REQUIRED VERTICAL SEPARATION HAS BEEN MET.
H. UTILITY PIPELINE TIED HORIZONTALLY TO EDGE OF PAVEMENT AND RIGHT-OF-WAY LINES, LOCATED EVERY 200-FT PLUS ALL CHANGES IN HORIZONTAL OFFSET.

- I. PAVEMENT WIDTH AND ELEVATIONS AT THE CENTERLINE AND EDGE OF PAVEMENT EVERY 200 FEET PLUS AT ALL CHANGES IN LONGITUDINAL SLOPE, CROSS SLOPE, INLET LOCATIONS, AND AT ALL DRIVEWAY AND STREET INTERSECTIONS. FOR PARKING LOTS, RECORD CENTERLINE AND EDGE OF PAVEMENT ELEVATIONS ALONG ALL DRIVE AISLES AND ISLANDS.
J. ALL PARKING AREAS AND SIDEWALK RAMPS DESIGNATED FOR HANDICAP ACCESS SHALL CONTAIN HORIZONTAL AND VERTICAL MEASUREMENTS IN ORDER TO VERIFY REQUIRED WIDTHS AND SLOPES HAVE BEEN MET.
K. HORIZONTAL AND VERTICAL DATA FOR ANY CONSTRUCTION THAT DEVIATES FROM THE APPROVED ENGINEERING DRAWINGS.
L. WHERE THE PLANS CONTAIN SPECIFIC HORIZONTAL LOCATION DATA, SUCH AS STATION AND OFFSET, THE AS-BUILT DRAWINGS ARE TO REFLECT THE ACTUAL HORIZONTAL LOCATION.
M. WHERE THE PLANS CONTAIN SPECIFIC VERTICAL ELEVATION DATA, THE AS-BUILT DRAWINGS ARE TO REFLECT THE ACTUAL MEASURED VERTICAL ELEVATION.
N. ANY ADDITIONAL INFORMATION REQUIRED BY GOVERNING AGENCIES.
O. IN CASES WHERE THE OWNER DETERMINES PARTIAL CLEARANCES FROM PERMITTING AGENCIES ARE BENEFICIAL TO THE OWNER FOR COMPLETED PORTIONS OF THE PROJECT, PROVIDE PRELIMINARY AS-BUILT DRAWINGS (ACAD FORMAT) TO THE ENGINEER FOR ITS USE IN PREPARING THE PARTIAL CLEARANCE APPLICATIONS FOR THE OWNER.
P. COMPLETE AS-BUILT DRAWINGS THAT ARE FOUND TO BE SATISFACTORY AS A RESULT OF THE ENGINEER'S REVIEW WILL BE USED AS THE BASIS FOR THE FINAL PROJECT RECORD DRAWINGS PREPARED BY THE ENGINEER USING THE CONTRACTOR PROVIDED AS-BUILT DRAWINGS PLUS ENGINEER ADDED INFORMATION.

TRAFFIC CONTROL

- 1. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING A MAINTENANCE OF TRAFFIC (M.O.T.) PLAN PRIOR TO CONSTRUCTION. THE M.O.T. PLAN SHALL SHOW ALL PROPOSED TRAFFIC CONTROL SIGNS, PAVEMENT MARKINGS, AND BARRICADES, AND SHALL DETAIL ALL PROPOSED CONSTRUCTION SEQUENCING. THE M.O.T. PLAN AND INSTALLED TRAFFIC CONTROL MEASURES SHALL BE APPROVED BY THE ENGINEER, OWNER, AND ROADWAY JURISDICTIONAL AGENCY PRIOR TO CONSTRUCTION. IN GENERAL, ROADWAY AND DRIVEWAY LANE CLOSURES ARE PROHIBITED DURING CONSTRUCTION UNLESS SPECIFICALLY DETAILED ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING AND MONITORING ALL TRAFFIC CONTROL MEASURES. THE CLOSURES SHALL BE RESTRICTED TO THE HOURS BETWEEN 9:00 A.M. AND 4:00 P.M. UNLESS OTHERWISE AUTHORIZED IN THE APPROVED M.O.T.
2. ALL TRAFFIC CONTROL MEASURES SHALL BE IN ACCORDANCE WITH FDOT STANDARD PLANS INDEX 102-800 AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL TRAFFIC CONTROL MEASURES SHALL BE INSTALLED PRIOR TO CONSTRUCTION AND MAINTAINED DURING CONSTRUCTION.
3. INSPECT TRAFFIC CONTROL DEVICES ON A DAILY BASIS TO ENSURE PLACEMENT OF BARRICADES AND FUNCTION OF LIGHTS IS MAINTAINED THROUGHOUT CONSTRUCTION.
4. CONTACT PROPERTY OWNERS AFFECTED BY CONSTRUCTION. COORDINATE TEMPORARY DRIVEWAY CLOSURES AND SEQUENCING. MAINTAIN ACCESS FOR ALL PROPERTY OWNERS DURING CONSTRUCTION.
5. WET UNSTABILIZED AREAS AS NECESSARY TO CONTROL DUST.
6. ADJUST TRAFFIC CONTROL DEVICES AS REQUIRED UNDER EMERGENCY CONDITIONS.
7. THE CONTRACTOR IS EXPECTED TO COORDINATE ITS ACTIVITIES WITH OTHER CONTRACTORS WHO MAY BE WORKING IN THE IMMEDIATE VICINITY.
8. WHEN WORK OCCURS WITHIN 15-FT OF ACTIVE ROAD TRAVEL LANES BUT NOT CLOSER THAN 2-FT FROM THE EDGE OF PAVEMENT, SIGNAGE AND WARNING DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH FDOT STANDARD PLANS INDEX 102-800 AND 102-802.
9. TYPE I OR TYPE II BARRICADES AT 20-FT CENTERS SHALL BE PLACED AND MAINTAINED ALONG THE EDGE OF THE DRIVEWAY UNLESS OTHERWISE AUTHORIZED BY THE CONTRACTOR OR AN HAZARD EXISTS AND TO BLOCK ENTRANCE INTO COMPLETED OR PARTIALLY COMPLETED AREAS. WHEN SUCH PAVEMENTS ARE OPEN TO PUBLIC USE.

SITE PREPARATION

- 1. UNLESS OTHERWISE DIRECTED BY THE OWNER OR ENGINEER, THE CONTRACTOR IS EXPECTED TO CONTAIN ALL CONSTRUCTION ACTIVITIES WITHIN THE PROPERTY, RIGHT-OF-WAY, AND EASEMENTS AS INDICATED ON THE PLANS. THE CONTRACTOR SHALL NOT DISTURB SURROUNDING PROPERTIES OR TRAVEL ON SURROUNDING PROPERTIES WITHOUT WRITTEN CONSENT FROM THE PROPERTY OWNER. ANY REPAIR OR RECONSTRUCTION OF DAMAGED AREAS IN SURROUNDING PROPERTIES SHALL BE REPAIRED BY THE CONTRACTOR ON AN IMMEDIATE BASIS. ALL COSTS FOR REPAIRS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND NO EXTRA COMPENSATION SHALL BE PROVIDED.
2. STAKE OUT THE CONSTRUCTION, ESTABLISH LINES AND LEVELS, TEMPORARY MARKS, BATTER BOARDS, CENTERLINES, BASELINES, AND REFERENCE POINTS FOR THE WORK, AND VERIFY ALL DIMENSIONS RELATING TO INTERSECTION WITH EXISTING FEATURES. REPORT ANY INCONSISTENCIES IN THE PROPOSED GRADES, LINES AND LEVELS, DIMENSIONS AND LOCATIONS TO THE ENGINEER BEFORE COMMENCING WORK.
3. PROTECT ALL TREES AND SHRUBS LOCATED OUTSIDE THE RIGHT-OF-WAY, EASEMENTS, AND OWNERS SECURED PROPERTY, PARTICULARLY THOSE TREES AND SHRUBS LOCATED ADJACENT TO WORK AREAS.
4. WITHIN THE RIGHT-OF-WAY, EASEMENTS, AND OWNER SECURED PROPERTY, THE INTENT IS TO ALLOW TREES AND SHRUBS TO REMAIN IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: NEW ROADWAY CONSTRUCTION - TREES AND SHRUBS TO REMAIN WHERE LOCATED MORE THAN 15 FEET FROM THE BACK OF CURB; TO EXCEED THE LIMITS OF EXCAVATION OR FILL AREAS, THE CONTRACTOR SHALL CONDUCT UTILITY FIELD CONSTRUCTION - TREES AND SHRUBS TO REMAIN OUTSIDE A 15 FOOT WIDE PATH, CENTERED ON THE PIPELINE.
5. TREES TO REMAIN IN PLACE SHALL BE PROTECTED BY BARRICADES, FENCED OR OTHERWISE PROTECTED IN ACCORDANCE WITH DETAILS ON THE PLANS. THE CONTRACTOR SHALL NOT PERMIT HEAVY EQUIPMENT OR STOCKPILES WITH BRANCH SPREAD INTO THESE AREAS.
6. AREAS TO BE CLEARED FOR GRUBBING SHALL INCLUDE ALL AREAS TO BE OCCUPIED BY THE PROPOSED IMPROVEMENTS. AREAS TO BE CLEARED SHALL INCLUDE ALL SITES, DRAINS, AND BORROW SITES. REMOVE TREES OUTSIDE OF THESE AREAS ONLY AS SHOWN ON THE DRAWINGS, AS APPROVED IN WRITING BY THE ENGINEER.
7. CLEARING SHALL CONSIST OF REMOVING TREES AND BRUSH AND DISPOSAL OF OTHER MATERIALS THAT ENROACH UPON OR INTERFERE WITH CONSTRUCTION WORK.
8. EXPOSED EARTH SHALL BE PROTECTED DURING THE CLEARING AND GRUBBING OPERATIONS. DO NOT DAMAGE EXISTING STRUCTURES, PIPES OR UTILITIES.
9. GRUBS SHALL CONSIST OF REMOVING AND DISPOSING OF STUMPS, ROOTS LARGER THAN 2" IN DIAMETER, AND MATTED ROOTS. REMOVE TO A DEPTH OF NOT LESS THAN 18" BELOW THE ORIGINAL SURFACE LEVEL OF THE GROUND.
10. ALL COMBUSTIBLE DEBRIS AND REFUSE FROM SITE PREPARATION OPERATIONS SHALL BE REMOVED TO LEGAL OFFSITE DISPOSAL AREAS.

DEWATERING

- 1. DESIGN AND PROVIDE A DEWATERING SYSTEM USING ACCEPTED AND PROFESSIONAL METHODS CONSISTENT WITH CURRENT INDUSTRY PRACTICE. PROVIDE A DEWATERING SYSTEM OF SUFFICIENT SIZE AND CAPACITY TO CONTROL GROUNDWATER IN A MANNER THAT PRESERVES STRENGTH OF FOUNDATION SOILS, DOES NOT CAUSE INSTABILITY OR RAVELING OR EXCAVATION SLOPES, AND DOES NOT RESULT IN DAMAGE TO EXISTING STRUCTURES. WHERE NECESSARY TO DO THESE PURPOSES, LOWER WATER LEVEL IN ADVANCE OF EXCAVATION, UTILIZING WELLS, WELL POINTS, OR SIMILAR POSITIVE METHODS. MAINTAIN THE GROUNDWATER LEVEL TO A MINIMUM OF 2 FEET BELOW EXCAVATIONS. PROVIDE PIEZOMETERS IF DIRECTED BY THE ENGINEER TO DOCUMENT THE GROUNDWATER LEVELS IS BEING MAINTAINED.
2. CONTROL, BY ACCEPTABLE MEANS, ALL WATER REGARDLESS OF SOURCE AND BE FULLY RESPONSIBLE FOR DISPOSAL OF THE WATER. NO ADDITIONAL PAYMENT WILL BE MADE FOR ANY SUPPLEMENTAL MEASURES TO CONTROL SEEPAGE, GROUNDWATER, OR ARTESIAN HEAD.
3. DEWATERING DISCHARGE FROM THE SITE SHALL COMPLY WITH ALL NPDES GENERAL PERMIT REQUIREMENTS AND STATE WATER QUALITY STANDARDS. PROVIDE ALL TESTING AND PERMITTING REQUIRED AND COMPLY WITH ALL TREATMENT OR DISPOSAL METHODS REQUIRED TO MEET ALL LOCAL, STATE AND FEDERAL REQUIREMENTS.
4. OPEN PUMPING WITH SUMPS AND DITCHES SHALL BE ALLOWED, PROVIDED IT DOES NOT RESULT IN BOLS, LOSS OF FINES, SOFTENING OF THE GROUND, OR INSTABILITY OF SLOPES. SUMPS SHALL BE LOCATED OUTSIDE OF LOAD BEARING AREAS SO THE BEARING SURFACES WILL NOT BE DISTURBED. WATER CONTAINING SILT IN SUSPENSION SHALL NOT BE PUMPED INTO SEWER LINES OR ADJACENT STREAMS. DURING NORMAL PUMPING, AND UPON DEVELOPMENT OF WELLS/IS, LEVELS OF FINE SAND OR SILT IN THE DISCHARGE WATER SHALL NOT EXCEED 5 PPM.
5. IF DEWATERING EQUIPMENT NEEDED EXCEEDS ANY OF THE FOLLOWING: 1) 6" PUMP VOLUME; 2) 100,000 GPD TOTAL 24 HOUR (1 DAY) DEWATERING; AND 3) 1,000,000 GPD PUMP CAPACITY, THE CONTRACTOR SHALL BE REQUIRED TO PERMIT THE DEWATERING SYSTEM WITH THE WATER MANAGEMENT DISTRICT.
6. CONTINUOUSLY MAINTAIN EXCAVATIONS IN A DRY CONDITION WITH POSITIVE DEWATERING METHODS DURING PREPARATION OF SUBGRADE, INSTALLATION OF PIPE, AND CONSTRUCTION OF STRUCTURES UNTIL THE CRITICAL PERIOD OF CONSTRUCTION AND/OR BACKFILL IS COMPLETED TO PREVENT DAMAGE OF SUBGRADE SUPPORT, PIPING, STRUCTURE, SIDE SLOPES, OR ADJACENT FACILITIES FROM FLOTATION OR OTHER HYDROSTATIC PRESSURE IMBALANCE.

GRADING

- 1. SMOOTH TRANSITIONS SHALL BE PROVIDED BETWEEN CONTOURS OR SPOT ELEVATIONS AS SHOWN ON THE PLANS TO ACCOMPLISH THE GRADING INTENT. ALL SLOPES SHALL BE STABILIZED IMMEDIATELY AFTER FINAL GRADING HAS BEEN COMPLETED. CONTRACTOR SHALL NOTIFY OWNER AND ENGINEER PRIOR TO DEMOBILIZATION OF GRADING EQUIPMENT TO DETERMINE THAT THE GRADING INTENT HAS BEEN ACHIEVED.
2. ALL PROPOSED ELEVATIONS ON THE PLANS WITHIN PAVED AREAS ARE SHOWN AT PAVEMENT, UNLESS OTHERWISE NOTED.
3. ALL PAVING SURFACES IN INTERSECTIONS AND ADJACENT SECTIONS SHALL BE GRADED TO DRAIN POSITIVELY AND TO PROVIDE A SMOOTHLY TRANSITIONED DRIVING SURFACE FOR VEHICLES WITH NO SHARP BREAKS IN GRADE, AND NO UNUSUALLY STEEP OR REVERSE CROSS SLOPES. THE STANDARD CROWN MAY HAVE TO BE CHANGED IN ORDER TO DRAIN POSITIVELY IN THE AREA OF INTERSECTIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOMPLISH THE ABOVE AND THE ENGINEER SHALL BE CONSULTED SO THAT HE MAY MAKE ANY AND ALL REQUIRED INTERPRETATIONS OF THE PLANS OR GIVE SUPPLEMENTARY INSTRUCTIONS TO ACCOMPLISH THE INTENT OF THE PLANS.
4. UNIFORMLY SMOOTH GRADE THE SITE. DEPRESSIONS FROM SETTLEMENT SHALL BE FILLED AND COMPACTED. TOPS OF EMBANKMENTS AND BREAKS IN GRADE SHALL BE ROUNDED. FINISHED SURFACES SHALL BE REASONABLY SMOOTH, COMPACTED, FREE FROM IRREGULAR SURFACE CHANGES AND COMPARABLE TO THE SMOOTHNESS OBTAINED BY BLADE-GRADER OPERATIONS.
5. NEWLY GRADED AREAS SHALL BE PROTECTED FROM TRAFFIC AND EROSION. ALL SETTLEMENT OR WASHING AREA THAT MAY OCCUR FROM ANY CAUSE PRIOR TO SEEDING OR ACCEPTANCE SHALL BE REPAIRED AND GRADES RE-ESTABLISHED TO THE REQUIRED ELEVATIONS AND SLOPES AT NO ADDITIONAL COST TO THE OWNER.

EXCAVATION, TRENCHING, AND FILL

- 1. THE CONTRACTOR SHALL RECOGNIZE AND ABIDE BY ALL OSHA EXCAVATION SAFETY STANDARDS, INCLUDING THE FLORIDA TRENCH SAFETY ACT (PL 95-583 80-563 64). ANY MATERIAL, CONSTRUCTION METHODS, OR MATERIAL COST TO COMPLY WITH THESE LAWS SHALL BE INCIDENTAL TO THE CONTRACT.
2. ROUGH EXCAVATE AND GRADE ANY PROPOSED STORMWATER PONDS AT THE START OF SITE GRADING ACTIVITIES. DIRECT SITE RUNOFF TO THE PONDS TO MINIMIZE RUNOFF TO OFFSITE AREAS.
3. POND CONSTRUCTION SHALL RESULT IN THE FINISHED POND HAVING SIDE SLOPES AND DIMENSIONS THAT ARE IN ACCORDANCE WITH THE CONSTRUCTION DRAWINGS. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO ENSURE THAT THESE SLOPES WILL BE MAINTAINED. IF THE CONSTRUCTED SIDE SLOPES ARE STEEPER THAN THE REQUIRED SIDE SLOPES, OR THE POND VOLUME IS NOT WITHIN THREE (3) PERCENT OF THE DESIGN VOLUME, THE CONTRACTOR SHALL BE REQUIRED TO MAKE CORRECTIONS TO THE POND AT NO ADDITIONAL COST TO THE OWNER.
4. FIELD DESIGN TESTING FREQUENCIES: A) ONE TEST FOR EACH 10,000 SQUARE FEET OR FRACTION THEREOF PER LIFT OF BACKFILL BACKFILL, MINIMUM 2 TESTS EACH LAYER; B) ONE TEST FOR EACH 100 SQUARE FEET OR FRACTION THEREOF GENERAL BACKFILL AROUND AND UNDER STRUCTURES; C) ONE TEST FOR EACH 300 LINEAL FEET OR FRACTION THEREOF PER LIFT PER GENERAL BACKFILLING IN THE PIPELINE TRENCH; D) ONE TEST PER LIFT PER EACH CHANGE IN TYPE OF FILL; E) ONE TEST PER 1000 SQUARE FEET OF PAVEMENT SUBGRADE, MINIMUM OF 2 TESTS.
5. IT IS INTENDED THAT PREVIOUSLY EXCAVATED MATERIALS CONFORMING TO THE FOLLOWING REQUIREMENTS BE REUSED WHEREVER POSSIBLE:
A. ACCEPTABLE MATERIALS: AASHTO M145 CLASSIFICATION A-1, A-3, A-2.4, A-2.6; ASTM D2487 CLASSIFICATION GW, GP, GM, GH, SP, UNLESS OTHERWISE DISAPPROVED WITHIN THE SOIL AND SUBSURFACE INVESTIGATION REPORTS. NO MORE THAN 1% ACCEPTABLE MATERIALS SHALL PASS THE NUMBER 20 SIEVE.
B. UNACCEPTABLE MATERIALS: AASHTO M145 CLASSIFICATION A-2.5, A-2.7, A-4, A-5, A-6, A-7, A-8; ASTM D2487 CLASSIFICATION GC, SC, MI, CH, CL, OH, PT, UNLESS OTHERWISE APPROVED WITHIN THE SOIL AND SUBSURFACE INVESTIGATION REPORTS.
6. PROVIDE BARRIERS, WARNING LIGHTS AND OTHER PROTECTIVE DEVICES AT ALL EXCAVATIONS.
7. SIDEWALKS, ROADWAYS, STREETS, AND PAVEMENTS SHALL NOT BE BLOCKED OR OBSTRUCTED BY EXCAVATED MATERIALS, EXCEPT AS AUTHORIZED BY THE ENGINEER, IN WHICH CASE ADEQUATE TEMPORARY PROVISIONS SHALL BE MADE FOR SATISFACTORY TEMPORARY PASSAGE OF PEDESTRIANS AND VEHICLES. MINIMIZE IMPEDANCE TO PUBLIC TRAVEL OR TO TENANTS OCCUPYING ADJOINING PROPERTY.
8. FURNISH, INSTALL, AND MAINTAIN, WITH ADDITIONAL CONSTRUCTION SHEETING, BRACING AND SHORING SUPPORT REQUIRED TO KEEP EXCAVATIONS WITHIN THE PROPERTY OF THE CONTRACTOR, TO SUPPORT THE SIDES OF THE EXCAVATION, AND TO PREVENT ANY MOVEMENT WHICH MAY DAMAGE EXISTING PAVEMENTS OR STRUCTURES, DAMAGE OR DELAY THE WORK, OR ENDANGER THE LIFE AND HEALTH OF PERSONS. THE REPORTS SHALL BE IMMEDIATELY FILLED AND COMPACTED.
9. SHEETING, SHORING, AND BRACING USED FOR THE SUPPORT OF EXCAVATIONS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF FLORIDA.
10. EXCAVATIONS SHALL BE KEPT OPEN CUT UNLESS OTHERWISE INDICATED. SLOPE SIDES OF TRENCHES IN REPOSE SHALL BE WITH CONFORMING WITH THE RECOMMENDATIONS CONTAINED WITHIN THE PROJECT GEOTECHNICAL REPORT.
11. EXCAVATE AND RESTORE TO ORIGINAL GRADE OR REPAIR FOR INDICATED FLOW LINES AND INVERT ELEVATIONS. OVER EXCAVATE THE AREA TO A MINIMUM OF 12 INCHES BELOW THE REQUIRED ELEVATIONS OCCUR WITHIN UNSUITABLE SOILS, AND REPLACE OVER EXCAVATED MATERIAL WITH SUITABLE SOILS.
12. TRENCH BOTTOMS AND THE BOTTOMS OF ALL STRUCTURES SHALL BE KEPT DRY, COMPACTED, AND STABLE TO A DEPTH TWO FEET BELOW THE BOTTOM OF THE TRENCH OR STRUCTURE.
13. BEDDING, FILL, AND BACKFILL MATERIAL SHALL BE SUITABLE SOILS OR FLOWABLE FILL, WHERE TRENCH OR EXCAVATION WITHIN THE INFLUENCE AREA OF ROADWAYS, STRUCTURES, FOUNDATIONS, OR SLABS, PLACE BACKFILL IN LAYERS OF 8 INCH LOOSE DEPTH. IN ALL OTHER AREAS, PLACE FILL AND BACKFILL IN LAYERS OF 12 INCH LOOSE DEPTH.
14. MINIMUM DENSITY REQUIREMENT (ASTM D1557 OR AASHTO T100): BACKFILL AND FILL UNDER AND WITHIN THE INFLUENCE AREA OF ROADWAYS, STRUCTURES, SLABS, FOUNDATIONS + 96 PERCENT; BACKFILL AND FILL PLACED WITHIN PUBLIC ROAD RIGHT-OF-WAY AND UTILITY EASEMENTS + 96 PERCENT; BACKFILL AND FILL PLACED WITHIN POND AND ROAD EMBANKMENT + 96 PERCENT; BACKFILL AND FILL PLACED IN ALL OTHER AREAS + 90 PERCENT.

RIPRAP

- 1. ALL RIPRAP CONSTRUCTION SHALL MEET THE REQUIREMENTS OF SECTION 530 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.

UTILITY SEPARATION REQUIREMENTS

- 1. THE HORIZONTAL SEPARATION BETWEEN WATER MAINS AND SANITARY SEWER, STORM SEWER, WASTEWATER FORCE MAINS, STORMWATER FORCE MAINS, RECLAIMED WATER MAINS AND ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
A. THE OUTSIDE OF WATER MAINS SHALL BE A MINIMUM OF FIVE FEET FROM THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, VACUUM TYPE SANITARY SEWER AND RECLAIMED WATER MAIN.
B. THE OUTSIDE OF WATER MAINS SHALL BE A MINIMUM OF TEN FEET FROM THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY SANITARY SEWER AND WASTEWATER FORCE MAIN. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN THE OUTSIDE OF WATER MAINS AND THE OUTSIDE OF GRAVITY SANITARY SEWERS CAN BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS AT LEAST EIGHTEEN INCHES ABOVE THE TOP OF THE SEWER.
C. THE OUTSIDE OF WATER MAINS SHALL BE A MINIMUM OF TEN FEET FROM ALL PARTS OF ANY EXISTING OR PROPOSED ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEM SUCH AS SEPTIC TANKS, DRAIN-FIELDS, AND GREASE TRAPS. ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS DO NOT INCLUDE PACKAGE SEWAGE TREATMENT FACILITIES AND PUBLIC WASTEWATER TREATMENT FACILITIES.
2. THE VERTICAL SEPARATION BETWEEN WATER MAINS AND SANITARY AND STORM SEWER, WASTEWATER OR STORMWATER FORCE MAINS, AND RECLAIMED WATER MAINS SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
A. WHEREVER POSSIBLE, WATER MAINS SHALL CROSS OVER EXISTING OR PROPOSED GRAVITY SANITARY SEWER, VACUUM TYPE SANITARY SEWER, AND STORM SEWER, SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES ABOVE THE OUTSIDE OF THE SEWER. WHERE IT IS NOT POSSIBLE FOR THE WATER MAIN TO CROSS OVER EXISTING OR PROPOSED GRAVITY SANITARY SEWER, VACUUM TYPE SANITARY SEWER, AND STORM SEWER, THEN THE WATER MAIN CAN CROSS UNDER THESE TYPES OF PIPELINE SYSTEMS PROVIDED THE OUTSIDE OF THE WATER MAIN IS AT LEAST 18 INCHES BELOW THE OUTSIDE OF THE PIPELINE. AT THE CROSSING, THE PROPOSED PIPE JOINTS SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST FIVE FEET FROM VACUUM TYPE SANITARY SEWER OR STORM SEWER JOINTS, AND AT LEAST TEN FEET FROM GRAVITY SANITARY SEWER JOINTS.
B. WHEREVER POSSIBLE, WATER MAINS SHALL CROSS OVER EXISTING OR PROPOSED RECLAIMED WATER MAINS, WASTEWATER FORCE MAINS AND STORMWATER FORCE MAINS. WHETHER THE WATER MAIN CROSSES OVER OR UNDER THESE TYPES OF PIPELINE SYSTEMS, THE OUTSIDE OF THE WATER MAIN SHALL BE AT LEAST 18 INCHES FROM THE OUTSIDE OF THE EXISTING OR PROPOSED RECLAIMED WATER MAIN, WASTEWATER FORCE MAIN AND STORMWATER FORCE MAIN. AT THE CROSSING, THE PROPOSED PIPE JOINTS SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST FIVE FEET FROM RECLAIMED WATER MAIN JOINTS AND STORMWATER FORCE MAIN JOINTS, AND AT LEAST TEN FEET FROM THE JOINTS OF WASTEWATER FORCE MAINS.
3. NO WATER MAIN SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF A SANITARY SEWER MANHOLE.
4. NEW OR RELOCATED FIRE HYDRANTS SHALL BE LOCATED SUCH THAT THE UNDERGROUND DRAIN (WEEP HOLE) IS AT LEAST:
A. FIVE FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, RECLAIMED WATER MAIN, OR VACUUM TYPE SANITARY SEWER.
B. TEN FEET FROM ANY EXISTING OR PROPOSED GRAVITY SANITARY SEWER AND WASTEWATER FORCE MAIN.
C. TEN FEET FROM ANY ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEM SUCH AS SEPTIC TANKS, DRAIN-FIELDS, AND GREASE TRAPS. ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS DO NOT INCLUDE PACKAGE SEWAGE TREATMENT FACILITIES AND PUBLIC WASTEWATER TREATMENT FACILITIES.
5. WATER AND RECLAIMED WATER DISTRIBUTION SYSTEMS
1. THE ENTITY THAT WILL OPERATE AND MAINTAIN THE WATER AND RECLAIMED WATER SYSTEMS SHOWN ON THESE PLANS IS JEA. THE CONTRACTOR SHALL MEET ALL THE REQUIREMENTS OF JEA.
2. INSTALL ALL WATER AND RECLAIMED MAINS AT A MINIMUM 36 INCHES OF COVER.

- 3. BURIED DUCTILE IRON PIPE SHALL COMPLY WITH THE FOLLOWING PRESSURE CLASS (PC) DESIGNATIONS UNLESS OTHERWISE INDICATED ON THE DRAWINGS: A) 12" DIAMETER AND SMALLER + PC 350; B) 14" THROUGH 24" DIAMETER + PC 250; C) 30" THROUGH 48" DIAMETER + PC 200.
4. DUCTILE IRON PIPE AND FITTINGS WITHIN 10 FEET OF GAS MAINS SHALL HAVE AN 8-MIL POLYETHYLENE WRAP IN ACCORDANCE WITH ANSI/AWWA C105A2.1.5.
5. PVC PIPE SHALL BE NATIONAL SANITATION FEDERATION (NSF) APPROVED. PIPE SHALL HAVE MARKINGS ON EACH SECTION SHOWING CONFORMANCE TO THE ABOVE SPECIFICATION. JOINTS SHALL BE RUBBER GASKETED CONFORMING TO AWWA C900 OR C905. THE BELL SHALL BE INTEGRAL WITH THE PIPE AND OF EQUAL OR GREATER PRESSURE RATING. THE BELL FACE AND FITTINGS USING PUSH-ON JOINTS SHALL HAVE AN INTEGRAL GROOVE TO RETAIN THE GASKET IN PLACE.
6. ALL FITTINGS SHALL BE MANUFACTURED OF DUCTILE IRON CONFORMING TO ANSI/AWWA C110A2.1.10 OR ANSI/AWWA C153A2.1.5.3. ALL FULL BODY (C110A2.1.10) FITTINGS SHALL BE PRESSURE RATED TO 250 PSI, MINIMUM. ALL COMPACT FITTINGS (C153A2.1.5.3) SHALL BE PRESSURE RATED TO 300 PSI, MINIMUM.
7. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE LINED AND COATED. INTERIOR LINING SHALL BE STANDARD THICKNESS CEMENT MORTAR LINING PER ANSI/AWWA C104A2.1.4. EXTERIOR COATING FOR BURIED PIPE AND FITTINGS SHALL BE A PETROLEUM ASPHALTIC COATING IN ACCORDANCE WITH ANSI/AWWA C110A2.1.10. EXTERIOR COATING OF EXPOSED PIPE AND FITTINGS SHALL BE FACTORY APPLIED RUST INHIBITING EPOXY PRIMER, MINIMUM 3 MILS DRY FILM THICKNESS. AFTER INSTALLATION, EXTERIOR SURFACES SHALL BE PAINTED WITH A TWO COAT SYSTEM. THE FIRST COAT (INTERMEDIATE COAT) SHALL BE 4.0-10.0 MIL DFT TNMERC COLOR H-BUILD EPOXOLINE II SERIES N69 OR APPROVED EQUAL, AND THE FINAL COAT SHALL BE 2.0-3.0 MIL DFT TNMERC ENDURASHIELD SERIES 73 OR APPROVED EQUAL. THE FINAL COAT PAINT COLOR SHALL BE AS SELECTED BY THE LOCAL UTILITY.
8. MECHANICAL AND PUSH ON JOINTS FOR DUCTILE IRON PIPE AND FITTINGS SHALL BE RUBBER GASKETED CONFORMING TO ANSI/AWWA C111A2.1.11. LUBRICANTS OTHER THAN THAT FURNISHED BY THE PIPE MANUFACTURER WITH THE PIPE SHALL NOT BE USED.
9. RESTRAINED JOINTS FOR DUCTILE IRON PIPE BELL JOINTS SHALL BE AMERICAN EAST GAST GASKET, MCWANE SURE GRIP 350 GASKET, U.S. PIPE FLD LOK 350 GASKET, OR EBAA IRON MEGA LUG SERIES 1000 RESTRAINED JOINTS FOR DUCTILE IRON PIPE AND FITTING MECHANICAL JOINTS SHALL BE EBAA IRON MEGA LUG SERIES 1000, STAR GRIP SERIES 2000, OR TYLER UNION TUF-GRIP SERIES 1200. LOCKING BELL JOINTS SHALL BE AMERICAN EAST GASKET, MCWANE SURE GRIP 350, OR U.S. PIPE TR-FLX. RESTRAINED JOINTS FOR PVC PIPE MECHANICAL JOINTS SHALL BE TYLER UNION SERIES 2000 TUF GRIP, JCM SUR-GRIP BELL RESTRAINER, FORD UNIFLANGE SERIES 1500 OR ELOCOM FORD UNIFLANGE IRON MEGA LUG SERIES 2000PV, RESTRAINED JOINTS FOR PVC PIPE PUSH ON JOINTS SHALL BE EBAA IRON MEGA LUG SERIES 1000 OR 3000 PVC, SERIES 2800 (C905 PVC), FORD UNIFLANGE SERIES 1500, OR FORD UNIFLANGE SERIES 165. PIPE JOINTS SHALL BE RESTRAINED UPSTREAM AND DOWNSTREAM CONNECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS OR THE TABLE SHOWN IN THE DRAWINGS, WHICH EVER IS GREATER.

- 10. POLYETHYLENE PIPE TUBING SHALL BE COLOR CODED BLUE (FOR WATER) OR PURPLE (RECLAIMED WATER). PIPE AND FITTINGS SHALL BE APPROVED FOR THE USE TO WHICH THEY ARE TO BE APPLIED. JOINTS IN SDR-PR PIPE SHALL BE EITHER HEAT OR SOCKET HEAT FUSION. FITTINGS SHALL BE MANUFACTURED OF THE SAME MATERIAL AS THE PIPE AND SHALL BE OF THE SAME SDR OR LESS. PIPE ADAPTERS AS REQUIRED TO JOIN PIPE TO PIPE, FITTINGS AND EQUIPMENT OF OTHER MATERIALS.
11. SERVICE VALVES SHALL MEET THE REQUIREMENTS OF AWWA C900 AND SHALL CONSIST OF EPOXY COATED DUCTILE IRON BODIES IN ACCORDANCE WITH AASHTO M145 DOUBLE STAINLESS STEEL STRAPS, BOLTS, WASHERS AND NUTS. STAINLESS STEEL SHALL MEET TYPE 304 AND SHALL BE TIE-ON COATED. THE DUCTILE IRON BODY IS TO BE FUSION BONDED NYLON GENERAL BACKFILLING IN THE PIPELINE TRENCH. DO ONE TEST PER LIFT PER EACH CHANGE IN TYPE OF FILL.
12. ALL VALVES SHALL MEET THE FOLLOWING: CURB STOPS, UNIONS AS REQUIRED, COPPERATION STOPS. CONFORMANCE WITH AWWA C900 AND C501 IS REQUIRED. THE CONTRACTOR SHALL CUT "W" IN THE TOP CURB OF EACH WATER SERVICE AND A "V" AT VALVE LOCATIONS. CUT WS AND VS SHALL BE HIGHLIGHTED WITH BLUE PAINT.
13. UNLESS OTHERWISE NOTED IN THE PLANS, THE UTILITY COMPANY SHALL PROVIDE AND INSTALL WATER METERS AND RECLAIMED WATER METERS. CONTRACTOR SHALL CONSTRUCT WATER SERVICE AND RECLAIMED WATER SERVICE TO THE COPPERATION STOP.
14. UNLESS OTHERWISE INDICATED OR SPECIFIED, ALL VALVES TWO INCHES AND SMALLER SHALL BE ALL BRASS OR BRONZE. VALVES OVER TWO INCHES SHALL BE IRON BODY, FULLY BRONZE OR BRONZE MOUNTED.
15. VALVES 4 INCHES AND LARGER SHALL BE LINED AND COATED. BURIED AND EXPOSED VALVES SHALL BE COATED INSIDE AND OUT WITH A RUST INHIBITING EPOXY PRIMER, FOLLOWED BY AN EPOXY COATING MEETING THE REQUIREMENTS OF AWWA C550, APPLIED AT THE FACTORY. THE INTERIOR OF VALVES WITH A CAST IRON OR DUCTILE IRON BODY SHALL BE COATED WITH AN EPOXY PRIMER. VALVE THROTTLES AND INTERNAL STANDARD B AND AWWA C550. AFTER INSTALLATION, EXTERIOR SURFACES SHALL BE PAINTED WITH A TWO COAT SYSTEM. THE FIRST COAT (INTERMEDIATE COAT) SHALL BE 4.0-10.0 MIL DFT TNMERC COLOR H-BUILD EPOXOLINE II SERIES N69 OR APPROVED EQUAL, AND THE FINAL COAT SHALL BE 2.0-3.0 MIL DFT TNMERC ENDURASHIELD SERIES 73 OR APPROVED EQUAL. THE FINAL COAT PAINT COLOR SHALL BE AS SELECTED BY THE LOCAL UTILITY.
16. ALL VALVES 12" AND SMALLER SHALL BE GATE VALVES UNLESS OTHERWISE INDICATED IN THE DRAWINGS. GATE VALVES 3 INCHES TO 12 INCHES SHALL CONFORM TO AWWA C509 OR AWWA C516. THE VALVES SHALL BE IRON BODY CAST IRON FULLY ENCAPSULATED MOLDED RUBBER GATE COMPLYING WITH ASTM D2000, NON-RISING STEM WITH O-RING SEALS. VALVES SHALL OPEN COUNTERCLOCKWISE.
17. TAPPING SLEEVES ARE TO BE 18-TYPE 304 STAINLESS STEEL AND STAINLESS STEEL OUTLET, AS MANUFACTURED BY JCM OR APPROVED EQUAL. TAPPING VALVES SHALL BE RESILIENT SEATED GATE VALVES AND SHALL CONFORM TO THE REQUIREMENTS OF AWWA C509. TAPPING VALVES SHALL BE AMERICAN FLOW CONTROL SERIES 2500, CLOW SERIES F-8100, OR MUELLER SERIES A3261.
18. VALVES 14" AND LARGER SHALL BE BUTTERFLY VALVES. BUTTERFLY VALVES SHALL MEET OR EXCEED THE DESIGN STRENGTH, TESTING AND PERFORMANCE REQUIREMENTS OF AWWA C504. CLASS 150 VALVE BODY SHALL BE MECHANICAL JOINT END TYPE VALVE CONSTRUCTED OF CAST IRON OR DUCTILE IRON. DISC SHALL BE ONE PIECE CAST DESIGN WITH NO EXTERNAL RIBS TRANSVERSE TO FLOW. DISC SHALL BE CAST IRON OR DUCTILE IRON. THE RESILIENT SEAT SHALL MATE WITH A 304 OR 316 STAINLESS STEEL SURFACE.
19. VALVE SEATS SHALL BE MECHANICALLY RETAINED, AND MAY BE INSTALLED ON EITHER THE BODY OR DISC. O-RING SEATS ON VALVE DISCS ARE UNACCEPTABLE. SEATS FOR VALVES 14" DIAMETER AND LARGER SHALL BE FULLY FIELD REPLACEABLE WITHOUT THE USE OF SPECIAL TOOLS.