

General Notes

1.

The contractor shall verify control points for line and grade prior to construction.

2.

Location, elevation, and dimensions of existing utilities, structures, and other features are shown in accordance with the best information available at time of the preparation of these plans but do not purport to be absolutely correct. All existing features are based on the Boundary, Topographic, Tree & Improvements Survey prepared by American Surveying, Inc., project No. 04001623, dated 4-23-23.

3.

The contractor shall verify the location, elevation, and dimensions of all existing utilities, structures, and other features affecting his work and shall comply with all state, county, and local ordinances and obtain any necessary work permits that may be required prior to construction.

4.

The contractor shall be responsible for the complete coordination of construction scheduling between the contractor and all utility agencies. The contractor shall adjust his schedule to coincide with other required utilities.

5.

The engineer reserves the right to require quality assurance testing on all materials delivered to project.

6.

In the event unsuitable material is encountered during excavation it is to be removed from the site except that it may be used to flatten slopes in areas approved by the engineers.

7.

Overall cleanup shall be accomplished by the contractor in accordance with county standards or as directed by the engineer. Any and all expenses incurred for this work shall be included in the unit price bid for other items.

8.

The contractor shall endeavor to protect private property. Any damage caused by the contractor in the performance of his work shall be corrected to the satisfaction of the engineer at the contractor's expense. Payment shall not be made for this work.

9.

Any damage to state, county, or local roads caused by the contractor's equipment and operators shall be repaired by the contractor to the satisfaction of the engineer. Payment shall not be made for this work.

10.

Any U.S.C. and G.S. Monument within limits of construction shall be protected by the contractor. If in danger of damage, the contractor shall notify: Director, Charting & Geodetic Services 6001 Executive Blvd. Attn. C172 Rockville, Maryland 20852 Phone: (301) 433-8319

11.

Exterior sidewalks are to be constructed in County right-of-way as shown on these plans.

12.

Wherever material or construction item specifications are not specifically covered by these plans, City of Orlando, or directed by the engineer, "the Florida Department of Transportation standard specifications for road and bridge construction" latest edition, shall apply.

13.

All street and storm sewer construction to be in accordance with the current County standards and specifications.

14.

Florida statute requires a minimum of 2 days and a maximum of 5 days notice before a contractor may excavate. The contractor shall call SUNSHINE 1-800-432-4770 before excavation shall commence.

15.

Compaction for pipe backfill shall comply with AASHTO and City of Orlando unless otherwise noted.

16.

All fill up to the spring line of the pipe must be hand tamped.

17.

Contractor shall submit to the engineer and/or architect for review, 7 copies of shop drawings on bid items (fire hydrants, valves, pipes, inlets, manholes, pumps, control panels, light fixtures, plumbing fixtures, etc.). The contractor shall allow a minimum of 7 days for review of shop drawings. Approval of shop drawings is required prior to installation or construction. Substitution of specified items, if requested, will be evaluated by the project engineer.

18.

It shall be the contractor's responsibility to notify (48 hours in advance) the engineer, utility company and regulatory agency for all inspections. It shall be the contractor's responsibility to supply results of all tests, in accordance with the testing schedule to the engineer prior to commencing the next phase. The tests required shall be performed by an independent testing laboratory approved by the owner and cost for the testing shall be paid for by the contractor and said cost will be included in the bid price.

19.

The contractor shall contact the engineer's office immediately on any conflicts between what is shown herein and actual condition discovered during construction of any improvements shown on the drawings.

20.

Prior to beginning work, the contractor shall expose all existing utilities to be extended or crossed. Any conflicts and the contractor's proposed resolutions shall be brought to the engineer's attention for approval.

21.

All practicable effort shall be taken during construction to control and prevent erosion and transport of sediment materials to inlets, surface drains, wetlands and lake areas. The contractor shall be responsible for all restoration efforts that may be required. The silt fence shall be installed (as shown on these plans) and inspected as defined by the Florida Department of Environmental Protection rule 62-621.300(4), F.A.C.

22.

It is the responsibility of the owner / developer to insure the installation of adequate erosion control barriers prior to the commencement of any site work. These erosion control devices must be maintained in good condition throughout the construction process and until all loose soils have stabilized. All erosion control devices shall be regularly inspected during construction and modified if conditions warrant.

23.

The contractor is to control all fugitive dust originating on this project by watering or other methods as required.

24.

All disturbed areas shall be seeded and mulched, unless otherwise noted, after regrading.

25.

Contractor shall provide a (min.) 24 inch wide strip of sod adjacent to curb or pavement installations.

26.

It is the responsibility of the contractor to establish in the field right of way lines, base lines, bench marks (elev.), center lines, and stationing as required to construct this project.

27.

Contractor shall coordinate and reimburse the appropriate overhead utility company for required support of utility poles where construction may cause the pole to lose its self supporting ability.

28.

Special pipe foundations, if required, shall be determined in the field and the type required will be as directed by the engineer.

29.

Finished grade for ground elevations on drawings refer to grade after sod.

30.

All tests shall be witnessed by the engineer and the utility company representative.

31.

Proposed land alteration activities shall not unnecessarily remove existing vegetation or alter existing topography.

32.

Site preparation and fill placement shall be performed in accordance with the recommendations and procedures specified in the geotechnical reports prepared by Intertek PSI, project No. 07573047, dated 5-18-23.

33.

The Contractor shall protect all utilities and other improvements shown on these plans and all other utilities and other improvements not shown. The Contractor shall assume all responsibility for repairs of utilities and other improvements damaged during construction. The Contractor shall maintain sufficient protection to all utilities required to protect them from damage and to protect the public during construction. Any damage done to existing utilities shall be repaired by the contractor (at no additional expense) to a condition equal to or better than before the damage was done.

34.

Relocation of existing street light poles, power or telephone poles, existing utilities, irrigation systems, sidewalks, etc., necessary for completion of the work are the responsibility of the Contractor.

35.

Prior to construction, the Contractor shall obtain from the Engineer or Owner, a copy of all pertinent permits related to this project. It shall be the Contractor's responsibility to ensure that all construction activities are in compliance with the conditions of all permits and approvals. It shall be the Contractor's responsibility to verify that all required permits have been secured to complete the work depicted in these plans. A copy of all permits shall be kept on site at all times during construction.

General Notes (continued)

36.

All handicapped signage, ramps, accessible routes and related features shall conform to the Florida Accessibility Code for Building Construction (latest edition thereof) and the Americans with Disabilities Act, whichever is more restrictive. Should the contractor determine any of the foregoing is not in compliance with either document, he shall immediately notify the Engineer for guidance.

37.

It shall be the Contractor's responsibility to perform all necessary construction staging required to install the improvements shown on these drawings. Horizontal and vertical controls are shown on the boundary and topographic survey. Horizontal control shall be via an electronic file provided to the Contractor or his Surveyor. All documents, including original drawings, field notes, data and report originals are and shall remain the property of Planeng, Inc. as an instrument of service. If so requested in writing, the Contractor will be provided with reproducible drawings and other documents in consideration of which the Contractor agrees to use them without alteration solely in connection with the project.

38.

The Engineer shall be consulted to make any/all required interpretations of the plans; however, this in no way relieves the Contractor of his responsibility for constructing the project to accomplish the intent of the plans.

39.

Contractor to provide all warning signals, signs, lights, barricades, and flagman as required by applicable City, County or State regulations for construction adjacent to, or in public right-of-way.

40.

The Contractor shall notify the local Police Department and the local Fire Department before closing any street or making it impassable.

41.

It is suggested that the Contractor verify grading elevations prior to sodding or paving. Failure of adequate grading may result in resodding, regrading, and repaving if finished grades are incorrect. All proposed elevations are finished grades. As-built elevations and dimensions shall be certified by a professional land Surveyor registered in the State of Florida.

42.

Refer to Building drawings for specifications of fill material underneath building pads, footers and etc.

43.

All private and public property affected by this work shall be restored to a condition equal to or better than existed before commencing construction unless specifically exempted by the plans.

44.

If during construction activities any evidence of historic resources, including but not limited to aboriginal or historic pottery, prehistoric stone tools, bone or shell tools, historic trash pits, or historic building foundation, are discovered, work shall come to an immediate stop and the Florida Department of Historic Resources (State Historic Preservation Officer) and City of Orlando shall be notified within two working days of the resources found on the site.

45.

All construction shall comply with the 2021 Florida Fire Prevention Code 5th Edition and the 2023 Florida Building Code, 8th Edition.

46.

The use of aerial photographs in these plans is for informational purposes only and does not constitute a guarantee of the veracity of said aerial photographs.

47.

Asphalt and/or concrete mix design(s) shall be reviewed by a Geotechnical Engineer.

48.

Lift station power requirements (including single/three phase availability) shall be the responsibility of the contractor; contractor shall notify the EOR once power source and pump are selected.

Asphalt Paving Notes

Construction of asphalt paving shall be performed as follows:

1.

The areas to be paved shall be graded to provide necessary drainage and shall slope away from structures.

2.

The subgrade shall be compacted to provide a minimum compacted density of 98% of maximum density as determined by modified proctor (ASTM subgrade).

3.

The surface shall be clean and dry. Prime coat shall be approved cutback asphalt (RC-70 or RC-90) and temperature when applied by means of a pressure distributor at the rate of approximately 0.1 to 0.25 gallons per square yard.

4.

An asphalt concrete analysis to guarantee compliance with County specifications shall be conducted by an independent laboratory and the final report submitted prior to final acceptance.

5.

All asphalt work shall conform to City of Orlando standards.

6.

All roadway construction (including pavement marking and signage) and material testing shall comply with roadway standards and specifications of the City of Orlando land development regulations.

7.

Base and backfill materials shall be either of the same type and composition as the materials removed, or of equal or greater structural adequacy. Material contaminated with deleterious substances during excavation shall not be used.

8.

The area of the trench above the pipe zone and below the base course must be backfilled and compacted in layers not exceeding twelve inches, except that the last two lifts shall not exceed six inches per lift.

9.

If roadway section has a shoulder, shoulder to extend eight feet from edge of pavement. Use LBR 30 (or better) back-fill material in top 24 inches of trench.

Bidding Notes

1.

The contractor is to supply all construction stakeout and an as-built survey of project. The cost to prepare an as-built survey by a professional surveyor shall be included in the contractor's proposal. As-built shall consist of a complete set of record drawings prepared by a professional land surveyor and supplied by the contractor and shall include but not limited to: storm sewer system; inlets; manholes; piping locations; all pipe inverts; manhole and inlet tops; pipe inverts; roadway center line elevations; curb flow line elevations; any and all design spot elevations expressly shown on the paving, grading and drainage plan. Owner's surveyor will supply horizontal and vertical controls, only.

2.

The information provided in these plans is solely to assist the contractor in assessing the nature and extent of conditions which will be encountered during the course of the work. The contractors are directed, prior to bidding to conduct whatever investigations they deem necessary to arrive at their own conclusion regarding the actual conditions that will be encountered, and upon which their bids will be based.

3.

The contractor is responsible for the coordination and cost of all required testing and inspections of the project. Contractor shall notify owner and engineer of all inspection requested from City of Orlando, DEP or SWFWMD, as appropriate; 24 hours prior to request. The contractor shall invite the owner and the engineer to all scheduled inspections by any reviewing agency.

4.

Questions on quantities, quality, or materials which could change the contract price should be brought to the attention of the engineer prior to bidding. All questions will be answered and copied to all bidders.

5.

The contractor shall contract with and direct a local testing laboratory for all required on site tests such as: concrete strength, slump, densities, or lbs of roadbeds, etc.. Copies of all tests shall be sent to the engineer and owner within 72 hours of the test.

6.

The compaction of all lots in phases shall be tested at varying depths. The compaction testing of lots shall be performed on 1/4 of the lots at locations selected by the engineer. All lot fill shall meet 95 percent of the modified proctor.

7.

All slopes 4:1 or greater shall be sodded.

8.

Contractor shall supply all of the equipment, material and personnel required for all testing.

9.

Contractor shall be responsible for the engineer's cost(s) of re-inspections.

As-Built Notes

1.

The General Contractor shall be responsible for providing as-builts in accordance with the local municipality, water management district and other AHS.

2.

In addition to the above, the as-builts shall include other information designated by the Engineer of Record.

3.

If the Engineer of Record has not furnished the General Contractor with as-built requirements 10 (ten) weeks prior to the scheduled COC/TCO/CO date, the contractor shall immediately request said requirements no later than nine (9) weeks prior to the anticipated COC/TCO/CO date.

4.

For utilities, at a minimum, as-built information shall include data on pipe locations, sizes and materials. Said data SHALL be collected prior to pipes being covered and/or trenches backfilled.

5.

For stormwater, at a minimum, as-built information shall include pipe locations, sizes and materials. Said data SHALL be collected prior to pipes being covered and/or trenches backfilled.

6.

The collection of the data specified in note 4 and/or 5 does not relieve the General Contractor from collecting additional data as may be required by the AHS.

Testing Schedule

ITEM	TEST	TEST IDENTIFICATION	TEST REQUIREMENT	TEST FREQUENCY
EMBANKMENT	MAXIMUM DENSITY OPTIMUM MOISTURE	AASHTO T99 ASTM D1557	N/A	PER SOIL TYPE
	FIELD DENSITY	AASHTO T191, T204, T208 ASTM D1556, D2937, D2922	95% OF MAXIMUM DENSITY WITHIN 2 PERCENTAGE POINTS OF OPTIMUM MOISTURE	ONE PER 100 L.F. HORIZONTAL ALTERNATING LIFTS (1 FT)
BACKFILL OF STRUCTURES	MAXIMUM DENSITY OPTIMUM MOISTURE	AASHTO T99 ASTM D1557	N/A	PER SOIL TYPE
	FIELD DENSITY	AASHTO T191, T204, T208 ASTM D1556, D2937, D2922	98% OF MAXIMUM DENSITY	EVERY 2' VERTICALLY
ROADWAY SUBGRADE	BEARING VALUES	LBR-FLA, D.O.T.	LBR-40 MIN	ONE PER SOIL TYPE CHECK POINTS LBR AT 500 L.F. HORIZONTALLY
	MAXIMUM DENSITY OPTIMUM MOISTURE	AASHTO T190 ASTM D1557	N/A	ONE PER SOIL TYPE
BUILDING PADS	FIELD DENSITY & THICKNESS	AASHTO T191, T238 ASTM D1556, D2922	98% OF MAXIMUM DENSITY	ONE PER 100 L.F. HORIZONTALLY
	MAXIMUM DENSITY OPTIMUM MOISTURE	AASHTO T190 ASTM D1557	N/A	PER BUILDING PAD
ROADWAY BASE (UNWEAR, SHELL OR CRUSHED CONCRETE)	FIELD DENSITY	AASHTO T191, T204, T208 ASTM D1556, D2937, D2922	95% OF MAXIMUM DENSITY	AS DIRECTED BY SOILS ENGINEER
	BEARING VALUES	LBR-FLA, D.O.T.	100% LBR-FLA, D.O.T.	ONE PER SOURCE OR AS MATERIAL CHANGES OR FT, LBR AT 500 L.F. HORIZONTALLY
MAXIMUM DENSITY OPTIMUM MOISTURE	AASHTO T190 ASTM D1557	N/A	ONE PER SOURCE	
	FIELD DENSITY	AASHTO T191, T238 ASTM D1556, D2922	98% OF MAXIMUM DENSITY PER SPECIFICATIONS	ONE PER 100 L.F. HORIZONTALLY
SOIL CEMENT BASE (STANDARD)	MAXIMUM DENSITY OPTIMUM MOISTURE	AASHTO T134 ASTM C138, C143, C143.4	N/A	ONE PER SOIL TYPE MIN 1 DAILY
	COMPRESSIVE STRENGTH SPECIMENS	PORTLAND CEMENT ASSOC. SPECIFICATIONS	300 PSI AT 7 DAYS	ONE SET PER SOIL TYPE ONLY
FIELD DENSITY & THICKNESS	AASHTO T191, T238 ASTM D1556, D2922	95% OF MAXIMUM DENSITY	ONE PER 100 L.F. HORIZONTALLY	
	MATERIALS QUALITY	ASTM D2059-81	PER F.D.O.T. SPECIFICATIONS	ONE PER 100 L.F.
CURB & ROADWAY CONCRETE	SLUMP TEST	AASHTO T119-82 ASTM C143	PER SPECIFICATIONS	AS DEEMED NECESSARY BY SOILS ENGINEER. TESTS MAY BE RUN BY THE SOILS ENGINEER OR HIS REPRESENTATIVE.
	COMPRESSIVE STRENGTH CYLINDERS	AASHTO T23-80 ASTM C146	N/A	3000 PSI @ 28 DAYS

Utility Notes

1.

Existing above ground utility locations are based on information prepared by a licenses surveyor (as depicted on the attached survey). It is the Contractor's responsibility to verify the elevations and locations and report any conflicts and/or discrepancies [greater than one (1) ft. horizontally or one tenth of a (0.10') vertically] to the Engineer so that he may make any necessary revisions. The Contractor shall locate and expose all existing utilities to be connected sufficiently ahead of construction to allow redesign by the Engineer if such utilities are found to be different than shown on these plans.

2.

Locations 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 their accuracy. Prior to any start of construction activity, it shall be the Contractor's responsibility to call SUNSHINE and to notify various utilities to make necessary arrangement to any relocation of these utilities with the owner of the utility. The Contractor shall exercise caution when crossing the underground utilities, whether shown on the plans or located by the utility company. All utilities which interfere with the proposed construction shall be relocated by the respective utility company and the Contractor shall cooperate with them during relocation operations.

3.

All new or altered piping, including treatment plant processing piping and appurtenances conveying finished drinking water, shall be designed and constructed in accordance with Sections 8.0 through 8.5 and 8.7 through 8.11 in Recommended Standards for Water Works as incorporated into Rule 62-555.330, F.A.C., except that:

3.1

Asbestos cement water mains shall be pressure and leakage tested in accordance with American Water Works Association(AWWA) standard C603 as incorporated into Rule 62-555.330, F.A.C., and polyvinyl chloride water mains shall be pressure and leakage tested in accordance with AWWA Standard C605 as incorporated into the Rule 62-555.330, F.A.C. while all other types of water mains shall be pressure and leakage tested in accordance with AWWA Standard C600 as incorporated into the Rule 62-555.330 F.A.C

WATER LINE PRESSURE TEST PROCEDURE:

A.

Tests shall be conducted at 150 psi (Min.) for two hours except for fire lines, which shall be conducted at 200 psi (Min.)

B.

Contractor shall pretest lines prior to calling Engineer to witness test.

C.

Pump-up point and blow-off point shall be located at opposite ends of the line being tested.

D.

The Contractor shall pump-up each line to be tested individually and leave pump connected to line. Pump shall be connected to open drum or bucket. During pump-up, the Contractor shall leave the blow-off valve open until water flows from valve under pressure of pump. Contractor shall then begin closing blow-off valve SLOWLY to minimize trapped air. DISCONNECTION OF PUMP FROM PUMP-UP POINT PRIOR TO COMPLETION OF TEST WILL VOID TEST.

E.

Leakage volumes will be calculated from open drum or bucket only.

F.

All costs associated with retesting/reinspection shall be borne by the Utility Contractor. Minimum charge for each retest/reinspection shall be \$700.00. Charge shall be paid to Engineer prior to any retesting/reinspection.

4.

All water mains and appurtenances other than those that normally convey surface water, or ground water under the direct influence of surface water, and that are located upstream of all filtration and disinfection treatment facilities, shall be disinfected and bacteriologically evaluated in accordance with Rule 62-555.340, F.A.C.

Sanitary sewers, force mains, and storm sewers should always cross under water mains. Sanitary sewers, force mains and storm sewers crossing water mains shall be laid to provide a minimum vertical distance of 18 inches between the invert of the upper pipe and the crown of the lower pipe whenever possible.

Where sanitary sewers, force mains and storm sewers must cross a water main with less than 18 inches vertical distance, both the sewer and the water main shall be constructed of available in the size proposed.) Sufficient lengths of DIP must be used to provide a minimum separation of 10 feet between any two joints. All joints on the water main within 20 feet of the crossing must be leak free, and mechanically restrained. A minimum vertical clearance of 6 inches must be maintained at the crossing.

Where there is no alternative to sewer pipes crossing over the water main, the criteria for minimum separation of 18 inches between lines and 10 feet between joints shall be required.

All crossings shall be arranged so that the sewer pipe joints and the water main pipe joints are equidistant from the point of crossing (pipes centered on the crossing).

Where a new pipe conflicts with an existing pipe, the new pipe shall be constructed of DIP and the crossing shall be arranged to meet the requirements above.

A minimum 10 foot horizontal separation shall be maintained between any type of sewer and water main in parallel installations whenever possible.

In cases where it is not possible to maintain a 10 foot horizontal separation, the water main must be laid in a separate trench or on an undisturbed earth shelf located on one side of the sewer or force main at such an elevation that the bottom of the water main is at least 18 inches above the top of the sewer.

Where it is not possible to maintain a vertical distance of 18 inches in parallel installations, the water main shall be constructed of DIP and the sewer or the force main shall be constructed of DIP (if available in the size proposed) with a minimum vertical distance of 6 inches. The water main should always be above the sewer. Joints on the water main shall be located as far apart as possible from joints on the sewer or force main (staggered joints).

Water mains and service lines shall have three feet of cover over the tops of pipes.

5.

Contractor shall install all lines such that the bells of pipes do not coincide with pipe crossings.

6.

Backflow prevention assemblies/devices shall be provided in accordance with Rule 62-555.360, F.A.C., and the AWWA's manual M14, "Recommended Practice for Backflow Prevention and Cross-Connection Control".

Utility Notes (cont.)

7.

All new water services and plumbing shall be in conformance with the State plumbing code, fire & building codes (including portion of potable & fire lines from the check valves to the building) and contain no more than eight (8) percent lead. All solder and flux shall contain no more than 0.2 percent lead.

8.

All new water main pipe, valves, fittings, and fire hydrants shall be in conformance with applicable AWWA standards and shall contain no more than eight percent lead. All packing and joint materials used shall be in conformance with applicable AWWA standards.

9.

All backflow prevention assemblies will be installed in accordance with the manufacturer's installation instructions and the following requirements:

9.1.

Pipe lines should be thoroughly flushed to remove foreign material and debris before installing the assembly.

9.2.

If not already provided, shutoff valves should be installed at each end of the assembly for testing and servicing purposes. Only resilient type shutoff valves (ball valves, resilient wedge/seat gate valves, etc.) will be accepted on backflow prevention assemblies in accordance with national standards. The assembly should be placed in the horizontal position unless otherwise specified by manufacturer's instructions.

9.3.

The assembly should always be installed in an accessible location to facilitate testing and servicing.

9.4.

The assembly should be installed at least 18 inches above ground or maximum flood level, whichever is highest, in order to prevent any part of the assembly from becoming submerged.

9.5.

Assemblies installed in modified pits should have at least 2 feet of clearance on each side of the assembly to facilitate testing and servicing. Adequate drainage should be provided.

9.6.

The relief valve should never be plugged or solidly piped into the drainage ditch, sewer, or pump. The relief valve discharge pipe should be terminated a minimum of 12 inches above ground or maximum flood level and located so it is clearly visible and accessible.

9.7.

The assembly should be adequately supported to prevent it from sagging.

9.8.

The assembly should be approved by or meet the standards of the SBCC Standards Plumbing Code (ASSE Standard #1013) or AWWA Standard #C506-78.

10.

All PVC water lines shall be wrapped with a #12 tracer wire & stubbed at each end in accordance with City/County requirements.

11.

All proposed 8" PVC sanitary sewer lines shall be SDR26 PVC (green) and installed by an appropriately licensed contractor. The lines will need to be lamped.

12.

All public water system components, excluding fire hydrants, that will be installed under this project and that will come into contact with drinking water will conform to NSF International Standard 61 as adopted in Rule 62-555.335, F.A.C., or other applicable standards, regulations, or requirements referenced in paragraph 62-555.320(3)(b), F.A.C.; [F.A.C. 62-555.320(3)(b); exceptions allowed under FAC 62-555.320(3)(d)]

13.

All pipe and pipe fittings installed under this project will be color coded or marked in accordance with subparagraph 62-555.320(21)(b)3, F.A.C., using blue as a predominant color. (Underground plastic pipe will be solid wall blue pipe, will have a co-extruded blue external skin, or will be white or black pipe with blue stripes incorporated into, or applied to, the pipe wall; and underground metal or concrete pipe will have blue stripes applied to the pipe wall. Pipe striped during manufacturing of the pipe will have continuous stripes that run parallel to the axis of the pipe, that are located no greater than 90-degree intervals around the pipe, and that will remain intact during and after installation of the pipe. If tape or paint is used to stripe pipe during installation of the pipe, the tape or paint will be applied in a continuous line that runs parallel to the axis of the pipe and that is located along the top of the pipe; for pipe with an internal diameter of 24" or greater, tape or paint will be applied in continuous lines along each side of the pipe as well as along the top of the pipe. Above ground pipe will be painted blue or will be color coded or marked like underground pipe.) [FAC 62-555.320(21)(b)3]

14.

Appropriate deflection tests shall be made for all flexible pipe. Testing is required after the final backfill has been in place for 30 days to permit stabilization of the soil-pipe system. Testing requirements specify: 1) no pipe shall exceed a deflection of 5%; 2) using a rigid ball or mandrell for the deflection test with a diameter of not less than 95% of the base inside diameter or average inside diameter of the pipe, depending on which is specified in the ASTM specification, including the appendix, to which the pipe is manufactured; and 3) performing the test without mechanical pulling devices. [RSWF 33.85]

15.

Leakage tests: 1) the leakage exfiltration or infiltration does not exceed 0 gallons per inch of pipe diameter per mile per day for any section of the system; 2) exfiltration and infiltration tests performed with a minimum positive head of 2 feet; and 3) air tests, as a minimum, shall conform to the test procedure described in ASTM C-828 for clay pipe, ASTM C 924 for concrete pipe, ASTM F-1417 for plastic pipe, and for other materials appropriate test procedures. [RSWF 33.93, 33.94 and 33.95]

16.

A bench shall be provided on each side of any manhole channel when the pipe diameter(s) are less than the manhole diameter and no lateral sewer, service connection, or drop manhole pipe discharges onto the surface of the bench. [RSWF 34.5]

17.

a) manhole lift holes and grade adjustment rings shall be sealed with non-shrinking mortar or other appropriate material; b) inlet and outlet pipes shall be joined to the manhole with a gasketed flexible watertight connection or another watertight connection arrangement that allows differential settlement of the pipe and manhole wall; and c) watertight manhole covers shall be used wherever the manhole tops may be flooded by street runoff or high water. [RSWF 34.6]

18.

Manhole inspection and testing for watertightness or damage shall be performed prior to placing manhole into service. Air testing, if specified for concrete sewer manholes, shall conform to the test procedures described in ASTM C-1244. [RSWF 34.9]

19.

New or relocated underground water mains shall be laid to provide a horizontal distance of at least three feet between the outside of the water main and the outside of any existing or proposed vacuum-type sanitary sewer, storm sewer, stormwater force main, or pipeline conveying reclaimed water regulated under Part III of Chapter 62-610, F.A.C., a horizontal distance of at least six feet between the outside of the water main and the outside of any existing or proposed gravity-type sewer (or a horizontal distance of at least three feet between the outside of the water main and the outside of any existing or proposed gravity-type sanitary sewer if the bottom of the water main will laid at least six inches above the top of the sewer); a horizontal distance of at least six feet between the outside of the water main and the outside of any existing or proposed pressure-type sanitary sewer, wastewater force main, or pipeline conveying reclaimed water not regulated under Part III of Chapter 62-610, F.A.C.; and a horizontal distance of at least ten feet between the outside of the water main and all parts of any existing or proposed on site sewage treatment and disposal system." [FAC 62-555.314(1); exceptions allowed under FAC 62-555.314(5)]

20.

New or relocated underground water mains, that will cross any existing or proposed gravity or vacuum-type sanitary sewer or storm sewer, will be laid so the outside of the water main is at least six inches above the other pipeline or at least twelve inches below the other pipeline; and new or relocated underground water mains that will cross any existing or proposed pressure-type sanitary sewer, wastewater or stormwater force main, or pipeline conveying reclaimed water will be laid so the outside of the water main is at least twelve inches above or below the other pipeline. [FAC 62-555.314(2); exceptions allowed under FAC 62-555.314(5)]

21.

At the utility crossings described in Note 20 above, one full length of water main pipe will be centered above or below the other pipeline so the water main joints will be as the pipes will be arranged so that all water or far as possible from the other pipeline main joints are at least three feet from all joints in vacuum-type sanitary sewers, storm sewers, stormwater force mains, or pipelines conveying reclaimed water regulated under Part III of Chapter 62-610, F.A.C., and at least six feet from all joints in gravity or pressure-type sanitary sewers, wastewater force mains, or pipelines conveying regulated under Part III of Chapter 62-610, F.A.C. [FAC not reclaimed water 62-555.314(2); exceptions allowed under FAC 62-555.314(5)]

22.

Pavement restoration shall be carried out in accordance with the requirements of the authority having jurisdiction.

23.

The Contractor shall coordinate with the power company for size and location of electrical service components.

24.

The Contractor shall coordinate with the local telephone company for service.

25.

The Contractor shall coordinate with local gas company for service.

26.

All new water main pipe, valves, fittings, and fire hydrants shall be in conformance with applicable AWWA standards and shall contain no more than eight percent lead. All packing and jointing materials used shall be in conformance with applicable AWWA standards.

27.

The location of all newly installed fire hydrants shall be identified with a blue reflective pavement marker installed on the roadway, perpendicular to the fire hydrant. The reflective marker will be located in the center of the lane closest to the hydrant.

28.

The contractor will be responsible for the flow testing and color coding of all newly installed fire hydrants in the existing or proposed City of Tampa right-of-way and utility easements that are to be dedicated to City of Tampa prior to the final inspection of the project. The contractor shall refer to NFPA Standard 291 for flow testing and color coding methods and procedures.

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Issue / Revisions

1, 8-3-26, Revised per City of Orlando staff review comments.

Scale

NTS

PLANENG INC

Millenia Place Dr., Orlando, Florida

Deuk Spine of Orlando

Professional Engineer
No. 60679
STATE OF FLORIDA
Professional Engineer

Reviewed by
JMG/RMO

Plan Description
Notes

Sheet No.
C10

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