Appendix A - Technical Specifications
99433 – Subsurface Utility Designate and Locate Services

1. Scope

The purpose of this specification is to establish a contract for subsurface utility designate and locate services generally located within the Nassau County, Duval County, and St. Johns County areas on an as-needed basis. No quantity of work is guaranteed. The purpose of the subsurface utility designate and locate services is to physically locate and identify underground utility lines. This informal bid will allow JEA to perform necessary locate work only during an interim basis until capital construction project workload increases and a formal bid is required.

The work is not to be performed by any architect, professional engineer, landscape architect, or registered surveyor.

The awarded Company shall be expected provide utility quality level type A information as described in ASCE Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data CI/ASCE 38-02. The Company shall produce a final report for each location investigated. The report shall include a record drawing showing a plan view of the location investigated and an elevation view of the identified utility. The report shall include any field notes or observations from the technicians performing the investigation. At minimum, the Company shall provide the following data:

Valves
1. Operating Nut Elevation (North American Vertical Datum of 1988, NAVD 88)
2. Final Grade Elevation (NAVD 88)
3. Latitude & Longitude (GPS coordinates)
4. Northing & Easting (State Plane Coordinate System)

Pipe
1. Crown Elevation (NAVD 88)
2. Final Grade Elevation (NAVD 88)
3. Latitude & Longitude (GPS coordinates)
4. Northing & Easting (State Plane Coordinate System)
5. Diameter (inches)
6. Material of Construction

For each Task Order, JEA will prepare a scope of work describing the extent of the area to be investigated. The scope will include a copy of any existing available records (utility quality type D information). The Company shall have seventy-two (72) hours to review the scope, initiate Sunshine State One Call and respond to JEA with a planned locate schedule and with any questions or clarifications needed regarding the scope. Field work is expected to start within three (3) weeks of initial notification.

1.1 General Requirements

The Company shall furnish all labor, supervision, tools, equipment, and transportation, as required, to perform and locate the underground utilities necessary for the performance of this Contract in the manner called for by the terms and conditions herein and to the satisfaction of the JEA.

The Company shall perform the work with the utmost regard for the public safety and welfare, taking necessary safety precautions as required by the local, state, and federal authorities to safeguard and protect the lives and property of all persons, when performing work under this Contract.

The Company shall obtain right of way permits as needed and coordinate their work with the appropriate City, County, or State agency. JEA will provide support documentation for the permit applications and send project representatives to coordination meetings.

The Company shall prepare temporary traffic control plans as needed based on their expected workflow and

equipment requirements. The Company shall provide and maintain, in good condition at all times, adequate traffic control devices including but not limited to, warning signs, cones, barricades, and provide certified flaggers for the maintenance and protection of the public and for the protection of the electric facilities and the facilities of other utilities during performance of this Contract. Under certain conditions and for additional safety, an off-duty police officer may be required and paid for by the Company and reimbursed via SWA.

The Company must understand that in some areas within the JEA service area, the working hours are from 9:00 a.m. to 4:00 p.m. in accordance with the City/County Ordinances. Also in a downtown area whenever it is necessary to close parking spaces, a parking rental fee for each parking space closed, may be assessed by the associated City/County Public Parking Division. Parking rental fee shall be paid for by the Company and reimbursed via SWA.

The Company shall contact the JEA at any time that it is necessary to gain access to the JEA's manholes, transformers, switching cabinets, or other JEA facilities.

The Company agrees that the safety of all persons employed by the Company and its subcontractors, agents, or any other persons who enter or are in the vicinity of the area where work is performed under the terms of this Contract, is the sole responsibility of the Company.

1.2 Unit Price Descriptions – Measurement and Payment

Unit prices shall include all associated costs including, but not limited to, performing appropriate surface geophysical methods and vacuum excavation, permits, permit fees, removal and replacement of asphalt-concrete-brick-grass-dirt-etc., including all restoration, and other charges not mentioned in the Contract. Bidder is to include the cost of Certified Flaggers as required to maintain traffic in typical City/County Right-of-ways in accordance with paragraphs 1.1 and 1.2. The SWA will only be used for additional MOT items as required for Arterial and FDOT Roadways as cited in specification Paragraph 1.8.
The Company is also required to determine, confirm, and record utility material, depth, diameter, location with dimensions, etc. All units are divided into following categories;

1.3 Base Bid (Appendix B - Bid Form Items 1-4)

The quantity to be paid for will be the number of test holes performed by designating and locating (located outside of pavement areas) where a subsurface utility is actually determined at the depth of test hole measured as specified. Information shall be obtained by designating and locating the subsurface utility by providing utility quality level type A information as described in ASCE Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data CI/ASCE 38-02. Depth shall be measured from the existing grade elevation to the bottom of the located utility. Payment for the work will be at the Contract Unit Price shown for each respective item and shall be full compensation for the item of work completed, including all required facility owners coordination; applying and obtaining any required permits including any associated fees; performing appropriate surface geophysical methods (i.e. Ground Penetrating radar, resistivity measurements, pipe and cable locators, metal detectors, terrain conductivity methods, etc.); removal of grassing; removal of lime-rock; exposing the subsurface utility to obtain locate information in three directions using least intrusive excavation methods such as vacuum excavation; native soil backfilling and compaction; disposal of unsuitable or excess excavated materials; locating; measuring and recording facility location, size, material type, condition; protecting existing structures, utilities and property both public and private; placing and removing all traffic signs and barriers and maintaining traffic; cleaning up the site; furnishing all material, labor, tools, and equipment; recording all data on formatted data sheet and delivering to JEA; and all incidental and related work required to complete the work of the item. Furnish and install a 3M 1404-XR four-inch ball marker in each test hole where a JEA sewer facility is located and a 3M 1403-XR four inch ball marker in each test hole that a JEA water facility is located.

To insure that the signal from the ball markers can be read, they should be placed no more than four feet (4') deep when filling in the test hole. Test holes where ball markers are placed should be noted on the data sheets provided to JEA. JEA current ball marker vendor is HD Supply, 3671 Old Winter Garden Rd. Orlando, FL 32805, telephone (407)317-2265. Payment for each test hole will be made only once. No payment shall be made for test holes where designate is performed but utility is not located.

- **Test holes that are up to and including four feet (4′) depth, VAC 0-4**
  This unit will be used for test hole up to four feet (4′) of depth for locating purposes. The diameter at the bottom of the excavation shall not exceed thirty-six inches (36″).

- **Test holes that are deeper than four feet (4′) but no greater than eight feet (8′) depth, VAC 0-8**
  This unit will be used to excavate a test hole deeper than four feet (4′) but no greater than eight feet (8′) of depth for locating purposes. The diameter at the bottom of the excavation shall not exceed thirty-six inches (36″).

- **Test holes that are deeper than eight feet (8′) but no greater than twelve feet (12′) depth, VAC 0-12**
  This unit will be used to excavate a test hole deeper than eight feet (8′) but no greater than twelve feet (12′) of depth for locating purposes. The diameter at the bottom of the excavation shall not exceed thirty-six inches (36″).

- **Test holes that are deeper than twelve feet (12′) but no greater than sixteen feet (16′) depth, VAC 0-16**
  This unit will be used to excavate a test hole deeper than twelve feet (12′) or deeper for locating purposes. The diameter at the bottom of the excavation shall not exceed thirty-six inches (36″).

1.4 Exploratory Test Trench (Appendix B - Bid Form Items 5-6)

- The quantity to be paid for will be the linear feet of exploratory test trench performed by locating (located outside of pavement areas) where a series of test holes are performed to form a trench at the depth of each test hole measured as specified. Depth shall be measured from the existing grade elevation to the bottom of the test hole or subsurface utility. Length shall be measured along the centerline of the trench. Payment for the work will be at the Contract Unit Price shown for each respective item and shall be full compensation for the item of work completed, including all required facility owners coordination; applying and obtaining any required permits including any associated fees; removal of grassing; removal of limerock; vacuum excavation; native soil backfilling and compaction; disposal of unsuitable or excess excavated materials; locating; measuring and recording each located facility, size, material type, condition; protecting existing structures, utilities and property both public and private; placing and removing all traffic signs and barriers and maintaining traffic; cleaning up the site; furnishing all material, labor, tools, and equipment; recording all required data on formatted data sheet and delivering to JEA; and all incidental and related work required to complete the work of the item. Payment for each test trench will be made only once.

1.5 **Exploratory test trench, VACE 0-4**
This unit will be used to excavate a test trench up to four feet (4′) of depth for exploration purposes. The diameter at the bottom of the excavation shall not exceed thirty-six inches (36″).

1.6 **Exploratory test trench, VACE 0-8**
This unit will be used to excavate a test trench deeper than four feet (4′) but no greater than eight feet (8′) of depth for exploration purposes. The diameter at the bottom of the excavation shall not exceed thirty-six inches (36″).

1.7 Base Bid Test Hole Additive Alternates (Appendix B - Bid Form Items 7-10)

- Additive alternates will be exercised in conjunction with associated Base Bid when the test holes are required to be made in pavement (all types – *e.g.,* Asphaltic concrete, Portland cement concrete, brick, or combination thereof, etc.). The quantity to be paid for will be the actual number of Base Bid test holes located in pavement. Depth shall be measured from the existing grade elevation to the bottom of the pavement. Pavement depth does not include limerock base, crushed concrete base, or stabilized subbase. Additive payment to the respective Base Bid Unit Price item of work will be at the Contract Unit Price shown for each respective item and shall be full compensation for

the item of work completed, including all required facility owners coordination; applying and obtaining any required permits including any associated fees; removal of pavement; vacuum excavation; cold mix asphalt backfill and compaction, or 3000 psi (min.) high early strength Portland cement concrete backfill replacement; disposal of unsuitable or excess excavated materials; locating; measuring and recording facility location, size, material type, condition; protecting existing structures, utilities and property both public and private; placing and removing all traffic signs and barriers; cleaning up the site; furnishing all material, labor, tools, and equipment; record all data on formatted data sheet and delivering to JEA; and all incidental and related work required to complete the work of the item. Payment for each test hole located in pavement will be made only once. Replacement of surface course shall match existing pavement type.

1.7.1 **Additive Alternate No. 1 – PAV 0-3**

Test holes where thickness of pavement is three inches (3″) and less in depth.

1.7.2 **Additive Alternate No. 2 – PAV 0-6**

Test holes where thickness of pavement is greater than three inches (3″) but not greater than six inches (6″) in depth.

1.7.3 **Additive Alternate No. 3 – PAV 0-12**

Test holes where thickness of pavement is greater than six inches (6″) but not greater than twelve inches (12″) in depth.

1.7.4 **Additive Alternate No. 4 – PAV+12**

Test holes where thickness of pavement is greater than twelve inches (12″) in depth.

1.8 Supplemental Work Authorization (SWA)

JEA shall provide funds as specified on the bid form to reimburse Company for SWAs. SWAs will be utilized at JEA's discretion to authorize the Company to do minor changes in the Work under the Contract. The Company and the JEA Representative will mutually agree to pricing of SWAs. Company shall not start on SWA Work until Company receives a fully authorized SWA form signed by the appropriate JEA personnel. SWAs will be issued-for unexpected or site specific Work such as, but not limited to:

1. Additional cost, beyond base bid, of Maintenance of Traffic for FDOT and arterial roads;
2. Milling and resurfacing of FDOT roadway areas as required by permit conditions;
3. Additional cost, beyond base bid, of Maintenance of Traffic associated with City/County lane closures.
4. Law Enforcement Services' costs;
5. Railroad Flagmen costs;
6. City/County parking rental fees within a parking space requiring it to be closed due to work in downtown core district;
7. Excavatable Flowable Fill; and,
8. Imported A-3 soil.