

**Condensed Title:**

Request For Approval To Issue A Request For Qualifications (RFQ) For Geotechnical And Laboratory Services On An As-Need Basis.

**Key Intended Outcome Supported:**

Ensure well-maintained infrastructure

**Supporting Data (Surveys, Environmental Scan, etc.):** The 2009 Customer Satisfaction Survey indicated that 79% of businesses rated recently completed capital improvement projects as "excellent" or "good."

**Issue:**

Shall the Mayor and City Commission approve the issuance of the RFQ?

**Item Summary/Recommendation:**

Geotechnical, Soil Testing and/or Lab Testing Services are required steps in the proper pre-planning of construction projects for the City. Many of the City's CIP and Public Works projects will require, during one time or another, a Geotechnical, Soils or Lab Testing Report to validate either the City's Engineer's or any Architect's or Engineer of Records recommendations as to any site, building or any other project's unknown characteristics.

By issuing a Geotechnical Services RFQ and its subsequent Agreement(s), the City will be able to adequately plan and incorporate Geotechnical and Soil Testing Services as part of the pre-construction preparatory work, which is a phase that is part of every City construction project. In addition, the Geotechnical firm(s) would provide personnel that are qualified, trained and thoroughly familiar with the City's rules, policies, and procedures in inspection, sampling testing, and reporting various areas and stages of construction. The ability to have a rotating list of Geotechnical firms would enable the City to procure these services directly at a cost savings to the City. It will be the Administration's intent to select multiple firms to provide this service for the City.

It is the intent of the City of Miami Beach to select several firms under this RFQ, which will be contacted on an as-needed basis. This contract shall remain in effect for three (3) years from the date of contract execution by the Mayor and City Clerk and two (2), one (1) year renewal options at the sole discretion of the City Manager.

**Advisory Board Recommendation:**

N/A

**Financial Information:**

Source of Funds:	1	Amount	Account
OBPI	Total	N/A	

Financial Impact Summary: N/A

**City Clerk's Office Legislative Tracking:**

Fernando Vazquez ext. 6135

**Sign-Offs:**

Department Director			Assistant City Manager	City Manager
GL	FB	FV	DB	JMG

T:\AGENDA\2012\1-11-12\Consent\RFQ for Geotechnical and Lab Services - Summary.doc





## COMMISSION MEMORANDUM

TO: Mayor Matti Herrera Bower and Members of the City Commission

FROM: Jorge M. Gonzalez, City Manager

DATE: January 11, 2012

SUBJECT: **REQUEST FOR APPROVAL TO ISSUE A REQUEST FOR QUALIFICATIONS (RFQ) FOR CITYWIDE GEOTECHNICAL AND LABORATORY TESTING SERVICES ON AN AS-NEEDED BASIS.**

### ADMINISTRATION RECOMMENDATION

Approve issuance of the RFQ.

### ANALYSIS

Geotechnical, Soil Testing and/or Lab Testing Services are required steps in the proper pre-planning of construction projects for the City. Many of the City's CIP and Public Works projects will require, during one time or another, a Geotechnical, Soils or Lab Testing Report to validate either the City's Engineer's or any Architect's or Engineer of Records recommendations as to any site, building or any other project's unknown characteristics.

By issuing a Geotechnical Services RFQ and its subsequent Agreement(s), the City will be able to adequately plan and incorporate Geotechnical and Soil Testing Services as part of the pre-construction preparatory work, which is a phase that is part of every City construction project. In addition, the Geotechnical firm(s) would provide personnel that are qualified, trained and thoroughly familiar with the City's rules, policies, and procedures in inspection, sampling testing, and reporting various areas and stages of construction. The ability to have a rotating list of Geotechnical firms would enable the City to procure these services directly at a cost savings to the City. It will be the Administration's intent to select multiple firms to provide this service for the City.

It is the intent of the City of Miami Beach to select several firms under this RFQ, which will be contacted on an as-needed basis. This contract shall remain in effect for three (3) years from the date of contract execution by the Mayor and City Clerk and two (2), one (1) year renewal options at the sole discretion of the City Manager.

### SCOPE OF SERVICES

#### **Geotechnical Services**

- The Consultant shall provide all labor, materials, equipment, transportation, and other appurtenant work for performing subsurface explorations, obtaining representative samples, and performing all other geotechnical services.
- The Consultant shall comply with all federal, state, and local rules and regulations with regard to permits, bonds, drilling, plugging, and all other applicable aspects of drilling.
- The Consultant shall research and review all pertinent existing geologic and geotechnical data and information available from USGS, area development, and the company's own files.
- The Consultant shall review the proposed project information and requested scope of work indicated as a minimum level of services desired relative to the anticipated

subsurface conditions present. If localized subsurface conditions are expected to vary significantly, Consultant shall advise Owner of additional recommended services prior to commencing work.

- The Consultant shall be responsible for contacting the appropriate agencies (state/city utility check) for determining locations of utilities in the vicinity of the actual boring locations.
- Borings shall be backfilled to the original ground surface in accordance with all applicable local, state, and federal guidelines.
- Consultant shall perform the standard penetration test (SPT) in accordance with ASTM Designation D 1586.
- In soil that is predominantly cohesive (silty clays, sandy clays, and material with adhesive binder), Consultant shall use the thin-walled tube method for sampling in accordance with ASTM Designation D 1587.
- Rock coring shall be performed in accordance with ASTM Designation D 2113.
- Double-ring infiltration test shall be conducted in accordance with ASTM Designation D 5093.
- Laboratory tests shall be assigned and performed by the Consultant to classify soils and obtain geotechnical physical characteristics such as strength, compressibility, swell potential, compaction characteristics, and chemical characteristics such as corrosiveness. Perform laboratory testing consistent in quantity and quality with local geotechnical engineering practice to provide the required design parameters and recommendations. The quantity of tests to be performed will be dependent upon the type of soil and/or rock encountered during drilling and sampling with additional consideration of the foundation types that may be required to support the proposed structures.
- The Consultant shall prepare a geotechnical engineering report containing a discussion of the proposed construction, final boring logs, boring location plan, a description of the drilling and sampling program, a description of the geology and subsurface conditions encountered, groundwater conditions, laboratory test results, and foundation and earthwork recommendations and design parameters.

The following is a list of major items that shall appear in the geotechnical engineering report:

- Previous Construction Activity and Existing Fill (If present): A discussion of previous construction activity shall address any existing fills or subsurface openings, if encountered. Outline the engineering properties of any existing fills with regard to foundation design.
- Subsurface Conditions: Subsurface conditions encountered at the site shall be discussed, based upon stratigraphic sequence observed and local geology. Figures shall be provided displaying soil borings and generalized cross sections. A general description of the engineering properties or parameters determined from the investigation and applied to design recommendations shall be provided. Prevailing groundwater elevations observed and those recommended for design shall be noted.
- Site Preparation Recommendations: Provide grading and site preparation recommendations taking into consideration the conceptual grading plan for the site.
- Compaction Requirements: The report shall contain detailed and specific criteria for acceptable embankment, fill, or backfill materials and address whether the available borrow material on site is suitable for general or structural fill. The report shall contain recommendations for material usage at the site with regard to placement and compaction requirements as well as any recommended treatment. Compaction criteria, including acceptable gradations, moisture control, compactive effort, and need for proofrolling shall be discussed, including criteria for both granular and cohesive fill, if applicable. Preparation of subgrades for fill and backfill placement shall be discussed.

- **Foundation Design:** The geotechnical engineering report prepared by the Consultant will be used to size and structurally design stable foundations for the structures. To accomplish this task, the report shall contain recommendations in regard to the recommended foundation type for each structure, as loading and site conditions may require.

The report shall provide net allowable bearing pressures for shallow spread footings and mats, at recommended bearing depths, considering the types of materials supporting the mats, and note whether any overstressing is allowed under short-term loading such as dynamic, wind, or seismic loading conditions. If over-excavation of unsuitable materials and backfill with structural backfill are required to improve the foundation soils to allow the use of shallow foundations, provide estimated vertical and horizontal extent of the over-excavation and structural backfill. Provide estimated total and differential settlement for foundations using the recommended bearing pressures. Provide an estimate of the time of settlement. Note factors of safety included or recommended. Provide recommendations for resistance to lateral loads, such as passive earth pressures and sliding friction for the base of foundations. Provide recommended groundwater level for determination of buoyancy and means to resist buoyant forces, if needed.

Recommendations for deep foundations shall include diameter, depth, and any recommended installation requirements. Provide allowable design loading capacities for vertical downward loading, vertical upward loading, and horizontal loading, as appropriate to the site conditions.

Provide design parameters for analysis of laterally loaded drilled piers as required for input into lateral pile capacity software. All factors of safety utilized in developing the allowable load capacities shall be outlined in detail.

- **Slope Stability and Excavations:** The report shall address the recommended inclination of both temporary excavation and permanent slopes.
- **Excavation Requirements:** If necessary, a section of the report shall address the excavability of the soils and rock which may be exposed during foundation excavation and site grading. The effort and type of equipment utilized to perform excavations is dependent upon the size and depth of the excavation. Thus, the discussion shall be in regard to area-type excavations and confined excavations, such as utility trenches.
- **Dewatering:** Conditions present at the site requiring groundwater control, dewatering, or surface drainage during excavation for mats, footings, and other construction shall be discussed. Anticipated types of dewatering shall be described. Special consideration to exposed sub-soils within the bottom of excavations during construction shall be addressed.
- **Corrosion Potential and Chemical Attack to Concrete:** An evaluation of representative subsurface materials shall be performed to provide laboratory test results for chemical constituents, specifically pH, chloride ion, soluble sulfates, and sulfides as well as electrical resistivity. These parameters are required to evaluate the potential for corrosion to underground piping and grounding, and selection of cement type to resist potential sulfate attack.
- **Pavements and Roadway:** Provide typical pavement thickness suggestions in accordance with Miami Dade County and FDOT specifications.

Any other items of consideration as deemed necessary by the geotechnical company. The geotechnical engineering report shall be prepared by or under the direction of a Registered Professional Engineer registered under the regulatory laws of the State of Florida.

## **Roadway Reports**

Roadway reports shall include, but not be limited to:

- Copies of SCS and USGS maps with project limits.
- A report of tests sheet that summarizes the laboratory test results, the soil stratification (i.e., soils grouped into layers of similar materials) and construction recommendations relative to the current Standard Indices.
- Estimated seasonal high and/or low groundwater levels, and review with respect to proposed pavement grades.
- Recommend type of geosynthetic for various applications.
- The Design LBR results from 90% and mean methods.
- Permeability/infiltration parameters for water retention areas/exfiltration trenches/swales.
- A description of the site and subsoil conditions, design recommendations and a discussion of any special considerations (i.e., removal of unsuitable material, recompression of weak soils, estimated settlement time/amount, groundwater control etc.).
- An appendix which contains stratified soil boring profiles, laboratory test data sheets, Design LBR calculations/graphs, and any other pertinent information.

In addition to the roadway report, the Consultant will also provide stratified boring profiles to the Designer and review the entire set of plans for completeness before each submittal as requested by the Department. The Consultant shall assist the Designer with detailing limits on the cross-sections of subsoil excavation. Up to four draft roadway reports shall be submitted to the District Geotechnical Engineer for each review prior to incorporation of the Consultant's recommendations in the project design.

## **Permits**

The consultant is responsible for obtaining and maintaining all required City of Miami Beach and any Miami Dade County Public Works permits, including but not limited to, MOT, excavations, etc. Additionally, if required, the consultant shall be responsible for all special events permits from the City of Miami Beach and Miami Dade County Police Departments.

## **Additional Services**

Other geotechnical services to perform geotechnical investigation and/or construction material testing at other locations to be determined at a later date, may be required beyond the scope of this work. Compensation for such additional services shall be negotiated based on hourly rates contained in the Agreement awarded under this RFQ.

## **Materials Testing, Inspection, and Reporting**

The Consultant shall provide the City of Miami Beach with personnel that are qualified, trained and thoroughly familiar with the City's rules, policies, and procedures in inspection, sampling testing, and reporting in the following areas:

- Bituminous Construction Materials
- Sand, Coarse Aggregate, Limerock and Cemented Coquina Mine Inspection
- Base, Sub-Grade and Embankment Materials
- Pavement Parking Materials
- Portland Cement Concrete
- Precast Concrete Products
- Pre-Stressed Concrete Products

- Drilled Shaft Inspection
- Laboratory Information Management System (LIMS) Data Entry
- Pavement Coring Reporting (PCR) Data Entry
- Consultant Contract Project Management
- Construction Materials Investigations, Special Studies & Projects
- Miscellaneous Construction Related Activities
- Materials Inspection and Testing Related Maintenance Activities
- Asphalt Concrete Inspection/Evaluation

The Consultant shall provide (when required) qualified and experienced technicians in the following:

- Aggregate Field Testing
- Concrete Field Technician Level I and II
- Aggregate Laboratory Testing
- Concrete Laboratory Technician
- LBR Technician
- Asphalt Paving
- Asphalt Plant
- CTCI-Concrete Transportation Construction Inspections
- Pre-stress Inspector Technician
- Drilled Shaft Inspector
- Pile Driving Inspector

### **Laboratory Services**

The Consultant shall have a capable materials laboratory. The Consultant laboratory shall have a Quality Control Program that includes provisions for checking test equipment and lab personnel proficiency. The laboratory must keep up-to-date records of calibration checks.

### **MINIMUM REQUIREMENTS**

For purposes of compliance with this minimum experience requirement, the term "Proposer" is hereby defined to mean the firm and/or business entity which is submitting a proposal pursuant to this RFQ. Accordingly, the firm and/or business entity must meet the minimum requirements listed below in order to be deemed responsive. Non-responsive bids will be disqualified from consideration.

**Interested Firms shall address the following items in the RFQ response:**

- **Team's Experience**
  - Indicate the firm's number of years of experience in providing Geotechnical, Soil Testing, and Laboratory Testing Services for diversified projects for public agencies as well as private clients.
  - List all successfully completed projects undertaken in the past five (5) years. Describe the scope of each project in physical terms and by cost, describe the respondent's responsibilities, and provide the name and contact telephone number of an individual in a position of responsibility who can attest to respondent's activities in relation to the project. An SF254 can suffice this request.
  - Provide the name(s) of the person, within your organization who was most actively concerned with managing each project;
  - List and describe all legal claims against any member of the team alleging

errors and/or omissions, or any breach of professional ethics, including those settled out of court, during in the past five (5) years.

- **Project Manager’s Experience:** Provide a comprehensive summary of the experience and qualifications of the individual who will be selected to serve as the Project Manager. This individual must have a minimum of five (5) years experience in the preparation and coordination of geotechnical services to include, but not limited to, subsurface explorations, obtaining representative samples, materials testing, inspections and reporting, and performing any other geotechnical services as required under this RFQ. The Project Manager must provide documentation as to their past experience in providing as to his/her past experience in providing geotechnical services.
- **Previous Similar Projects:** Provide a list of a minimum of ten (10) projects which demonstrates the Team’s experience in providing the services outlined in this RFQ. Must provide the following information for each sample project.
  - Client name, address, phone number, email
  - Consultant name, address, phone number, fax and/or e-Mail address
  - Description of the scope of the work
  - Role of the firm and the responsibilities
  - Month and Year the project was started and completed
  - Total cost and/or fees paid to your firm
  - Total cost of the construction, estimated and actual
- **Qualifications of Project Team:** Provide a list of the personnel to be used on this project and their qualifications. A resume of each individual, including education, experience, and any other pertinent information shall be included for each team member to be assigned to this project.
- **Risk-Assessment Plan (RAP):** All Consultants must submit a Risk-Assessment Plan. The RAP must not be longer than two (2) pages front side of page only should be included within the RFQ response. The RAP should address the following items in a clear and generic language:
  - Potential project risks. (Areas that may cause the Contractor not to finish on time, not finish with budget, cause any change orders, or be a source of dissatisfaction with the owner)
  - Explanation of how the risks can be avoided/minimized
  - Propose any options that could increase the value of this project
  - Explain the benefits of the RAP. Address the quality and performance differences in terms of risk minimization that the City can understand and what benefits the option will provide to the user. No brochures or marketing pieces please.

## **RFQ PROCESS**

The procedure for response, evaluation and selection will be as follows:

1. RFQ issued
2. Pre-qualification meeting
3. Receipt of qualification packages
4. Opening and listing of all responses received.



5. An Evaluation Committee, appointed by the City Manager, shall meet to evaluate each response in accordance with the requirements of this RFQ. If further information is desired, respondents may be requested to make additional written submissions or oral presentations to the Evaluation Committee.
6. The Evaluation Committee will recommend to the City Manager the proposal(s) that the Evaluation Committee deem to be in the best interest of the City by using the following criteria for selection:

Total Points	Criteria
20	Risk Assessment Plan that reflects a clear understanding of project objectives; a thorough review of existing conditions; familiarity with the project site; a thorough understanding of all permitting and regulatory requirements and impacts; and other considerations that may impact the design and construction of the proposed improvements.
15	The experience, qualifications and portfolio of the Principal Firm
15	The experience, qualifications and portfolio of the Project Manager, as well as his/her familiarity with this project and a thorough understanding of the methodology and design approach to be used in this assignment.
15	Past performance based on quality of the Performance Evaluation Surveys and the Administration's due diligence based upon reference checks performed of the Firm(s) clients.
10	The experience and qualifications of the professional personnel assigned to the Project Team as well as their familiarity with this project and a thorough understanding of the methodology and design approach to be used in this assignment.
5	Willingness to meet time and budget requirements as demonstrated by past performance, methodology and approach
5	Certified minority business enterprise participation. Either the Prime Consultant or the sub-Consultant team may qualify for proof of certification for minority business enterprise participation. Accepted minority business enterprise certifications include the Small Business Administration (SBA), State of Florida, or Miami-Dade County.
5	Location
5	Recent, current and projected workloads of the firms
5	The volume of work previously awarded to each firm by the City, with the object of effecting an equitable distribution of contracts among qualified firms, provided such distribution does not violate the principle of selection of the most highly qualified firm.

7. The City Manager shall recommend to the City Commission the firm or firms, acceptance of which the City Manager deems to be in the best interest of the City.
8. The City Commission shall consider the City Manager's recommendation(s) in light of the recommendation(s) and evaluation of the Evaluation Committee and, if appropriate, approve the City Manager's recommendation(s). The City Commission may reject the City Manager's recommendation(s) and select another response or responses. In any case, City Commission shall select the response or responses, acceptance of which the City Commission deems to be in the best interest of the City. The City Commission may also reject all proposals.
9. Negotiations between the selected respondent and the City take place to arrive at agreement terms. If the City Commission has so directed, the City may proceed to negotiate an agreement with a respondent other than the top ranked respondent if the



- negotiations with the top ranked respondent fail to produce a mutually acceptable agreement within a reasonable period of time.
10. A proposed contract is recommended by the City Manager to the City Commission for approval.
  11. If and when a contract or contracts acceptable to the respective parties is approved by the City Commission, the Mayor and City Clerk sign the contract(s) after the selected respondent(s) has (or have) done so.

**CONCLUSION**

The Administration recommends that the Mayor and the City Commission authorize the issuance of a Request for Qualifications (RFQ) for geotechnical and laboratory services on an as-needed basis.

**THIS PAGE INTENTIONALLY LEFT BLANK**