

STATEMENT OF WORK

Application Developer For QA/QC Software

1.0 SUPPLIES OR SERVICES AND PRICE

The Office of Contracting and Procurement, on behalf of the District Department of Transportation's (DDOT) QA-QC Materials Testing Laboratory (QA-QC) seeks a consultant in SQL applications programming to develop, install, test and implement SQL software in order to construct an electronic method of tracking and reporting laboratory result data, and comparing those results to industry standards, thereby replacing the department's current paper-driven system. The required system shall be available on the internal DDOT Intra-Net website, and available on desktop application.

In addition, the contractor shall provide technical assistance to the QA-QC Division personnel in identifying the hardware, software and other ancillary equipment, materials and supplies required to install and implement the system. The contractor shall **train six** employees in the QA-QC Division in how to operate and generate reports from the system and provide four complete sets of System Operation and Users Manuals, as well as all source code.

1.1 CONTRACT TYPE

The District anticipates award of a fixed price contract.

1.2 PRICE SCHEDULE

1.2.1 BASIC PERIOD OF PERFORMANCE: (180 calendar days in duration)

| Contract Line Item No. (CLIN) | Item Description | Unit of Measure | Unit price per hour | Quantity | Extended Price |
|-------------------------------|---|-----------------|---------------------|------------|----------------|
| 001 | Software development, installation and training QA-QC personnel | HR. | | 1000 hours | \$ _____ |

1.2.2 OPTION PERIOD: (60 calendar days in duration)

| Contract Line Item No. (CLIN) | Item Description | Unit of Measure | Unit price per hour | Quantity | Extended Price |
|--------------------------------------|---|------------------------|----------------------------|-----------------|-----------------------|
| 001 | System maintenance and support services | HR. | | 200 hours | \$ _____ |

2.0 SPECIFICATIONS/WORK STATEMENT

2.1 SCOPE:

The District of Columbia Department of Transportation (DDOT) IPMA- QA-QC Division is seeking a consultant to develop SQL software for quality assurance and quality control in the QA-QC Materials Testing Laboratory. The contractor shall also provide maintenance support, and consultative assistance through the development of this application.

The Contractor shall address issues pertaining to the system's operations, setup, hardware, software, training required to operate the system and network access.

The software system should include Asphalt, Concrete, Soils, Cement, Thermo Plastic, Nuclear Density, and Independent Assurance Testing operations. See Attachment D for a list of the test the system must be programmed to perform. The COTR will provide the contractor with copies of the forms used to collect data which must be captured to conduct the test.

2.1.1 Tasks specific to the successful performance of this contract are:

- 2.1.1.1 Develop web-based and desktop applications;
- 2.1.1.2 Provide technical advice and expertise;
- 2.1.1.3 Prepare detailed functional specifications;
- 2.1.1.4 Participate in all phases of the Systems Development Lifecycle; and
- 2.1.1.5 Provide technical guidance and assistance to other staff members.

2.2 APPLICABLE DOCUMENTS

The Contractor shall perform work in accordance with the documents in the following table. The Contractor shall use the latest version of each of the documents in conducting the work. The Contractor shall be responsible for ensuring that it has and is using the latest version of these documents at the time that the affected work is being conducted. These documents are incorporated by reference and will be made a part of the contract.

| Item No. | Document Type | Title | Date |
|-----------------|----------------------|---|-------------------|
| 1 | Government | Standard Contract Provisions for Use With District of Columbia Government Supply and Service Contracts | March 2007 |
| 2 | Government | Standard Specifications for Highways and Structures (sections relevant to the materials to be tested) | 2007 |

2.3 DEFINITIONS

None

2.4 BACKGROUND

2.4.1 The QA/QC Division is responsible for the:

- 2.4.1.1 Evaluation and quality control of construction materials;
- 2.4.1.2 performance of engineering investigations of materials and related problems;
- 2.4.1.3 standardization and calibration of new materials and products intended for use on construction projects;
- 2.4.1.4 performance and coordination of Federally funded materials research studies;
- 2.4.1.5 investigation of citizen groundwater drainage and vehicle induced roadway vibration complaints; and
- 2.4.1.6 provision of oversight of the Contractor Plant Process Control Program for compliance to Standard Specification requirements to ensure that materials delivered to D.C. construction project sites meet standard specifications. This oversight includes day-to-day plant and site visits to assess: 1) the accuracy and quantity of ongoing testing; 2) whether proper plant materials handling and processing procedures are used; and 3) the accuracy of shipping application.

2.4.2 The Division provides geotechnical engineering services; collects and interprets pre construction information on capital projects; provides services required for the quality assurance of the various materials used in DDOT construction projects; provides materials sampling and testing services required for the quality control of construction materials used in the DDOT and other District Agency construction projects; conducts applied research; reviews project plans and specifications and updates the DDOT Materials Standard Specifications; conducts pavement skid resistance testing for the Pavement Safety Improvement Program; provides day-to-day oversight of asphalt and concrete production plants for compliance to process control requirements to ensure the delivery of quality materials to DDOT project sites.

2.4.3 The Division is organized into the following two sections:

2.4.3.1 Field Operations / Materials Research Section: The Field Operations / Materials Research Section is tasked with various materials related sampling, testing, and investigations of construction materials related problems. Additionally, this Section conducts and coordinates materials related Federal Highway Administration (FHWA)

funded demonstration, experimental, and research projects. It also supports project sampling and testing; conducts field investigations i.e., vibration, drainage, subsurface, bridge condition surveys; provide geotechnical engineering services; collect source approval samples; support field research work; review project plans and specifications; update DPW Standard Specifications. Also, the implementation of results from research studies; coordinate materials technology transfer; maintain a library of current standards; conduct pavement skid resistance for the Safety Improvement Progra10.

2.4.3.2 Materials Testing Section: The Materials Testing Section conducts laboratory testing in support of engineering, construction, pre-construction, and research; standardizes test methods; maintains and calibrates test equipment; coordinates materials source approvals, conducts AASHTO/AMRL ASTM/CCRL proficiency and independent assurance testing and maintains laboratory accreditation with AASHTO and ASTM Standards.

2.5 SYSTEM REQUIREMENTS:

The contractor shall perform the following tasks:

- 2.5.1 Conduct a requirements analysis;
- 2.5.2 at the COTR's request, conduct a GAP analysis to determine if there is a difference in the requirements and the proposed solution;
- 2.5.3 develop, test and fully implement DDOT web site (Intranet) for desk top application;
- 2.5.4 provide technical advice and expertise to QA-QC division personnel, regarding the development of the software;
- 2.5.5 prepare detailed functional specifications (system documentation, e.g., user guides, manuals, source code);
- 2.5.6 participate in all phases of the Systems Development Lifecycle;
- 2.5.7 provide an SQL system that meets the following performance specifications:
 - 2.5.7.1 Capability to enter data manually through Graphical User Interface;
 - 2.5.7.2 capability to select a specific test conducted in the field and the lab, including (but not limited to): Asphalt, Concrete, Soils, Aggregates, Cement, and Thermoplastic Paint. See Attachment F, "D.C. Department of Transportation IPMA QA-QC Division List of Test Performed";
 - 2.5.7.3 capability to generate reports from all tests;
 - 2.5.7.4 capability to create, edit and test forms;
 - 2.5.7.5 capability to assign unique laboratory numbers;
 - 2.5.7.6 allows access based on user access level or rights;
 - 2.5.7.7 capability to interact with other DDOT applications with minimal changes; and
 - 2.5.7.8 to generate monthly billing report for all projects.

- 2.5.8 meet bi-weekly with the COTR or his designee to discuss progress and performance under the contract; and
- 2.5.9 prepare written status report indicating accomplishments, work in progress, and work planned for next period, issues, and action items.

2.7 DISTRICT RESPONSIBILITIES

The District will provide the contractor with the following:

- 2.7.1 Office space, computer, access to the network, and office supplies; and
- 2.7.2 specific forms for each test listed in Attachment F. These forms will be the primary source of information and data.

3.0 DELIVERABLES

- 3.1 the software system itself; due within 3 months of contract award.
- 3.2 All system documentation including source code; due within 3 months of contract award. All source codes shall be delivered, and ownership of the application once it is tested and accepted will belong to DDOT and will not be a vendor-owned proprietary system. See Section 14, entitled "Rights in Data".
- 3.3 System test; due within 4 months of contract award
- 3.4 Full system implementation due within 6 months of contract award
- 3.5 Bi-weekly progress reports: The Application Developer will maintain a log of activities and submit a bi-weekly report along with the time sheet.
- 3.6 Monthly progress reports; and
- 3.7 Time sheets. The QA-QC supervising personnel must sign the time sheet weekly.

4.0 SCHEDULE

- 4.1 The hours required for this project are based on a 40-hour workweek unless previously approved by the Project Manager or COTR.
 - 4.1.1 The duration for the contract shall be for an initial period of 180 calendar days up to a maximum of 240 calendar days with initial funded hours of 1000 hours.

9. Organization and work that will be available for this project:

a. (1) Minimum number of employees: _____ and (2) Maximum number of employees: _____

b. Are employees regularly on your payroll: Y Yes Y No

c. Specify equipment available for this contract: _____

d. Estimate rate of progress below (such as 2.0 acres/man/day):

(1) Minimum progress rate: _____ and (2) Maximum progress rate: _____

10. List below the experience of the principal individuals of your business:

| INDIVIDUAL'S NAME | PRESENT POSITION | YEARS OF EXPERIENCE | MAGNITUDE AND TYPE OF WORK |
|-------------------|------------------|---------------------|----------------------------|
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11. **REMARKS - SPECIFY BOX NUMBERS** (Attach sheets if extra space is needed to fully answer any of the above questions.)

| | | |
|---|--|-----------------|
| <p align="center">CERTIFICATION</p> <p>I certify that all of the statements made by me are complete and correct to the best of my knowledge and that any persons named as references are authorized to furnish the District with any information needed to verify my capability to perform this project.</p> | 12a. CERTIFYING OFFICIAL'S NAME AND TITLE | |
| | 12B. SIGNATURE (Sign in ink) | 13. DATE |

RE: _____
(Contractor's name)

PAST PERFORMANCE EVALUATION FORM

(Check appropriate box)

| Performance Elements | Excellent | Good | Acceptable | Poor | Unacceptable |
|------------------------------|-----------|------|------------|------|--------------|
| Quality of Services/ Work | | | | | |
| Timeliness of Performance | | | | | |
| Cost Control | | | | | |
| Business Relations | | | | | |
| Customer Satisfaction | | | | | |

1. Name & Title of Evaluator: _____
2. Signature of Evaluator: _____
3. Name of Organization: _____
4. Telephone/Fax/Email Number of Evaluator: _____
5. State type of service received: _____
6. State Contract Number, Amount and period of Performance _____

7. Remarks on Excellent Performance: Provide data supporting this observation. Continue on separate sheet if needed)
8. Remarks on unacceptable performance: Provide data supporting this observation. (Continue on separate sheet if needed)

RATING GUIDELINES

Summarize Contractor performance in each of the rating areas. Assign each area a rating of 0 (Unacceptable), 1 (Poor), 2 (Acceptable), 3 (Good), 4(Excellent), or ++ (Plus). Use the following instructions a guidance in making these evaluations.

| | Quality Product/Service | Cost Control | Timeless of Performance | Business Relations |
|------------------------|--|---|--|--|
| | <ul style="list-style-type: none"> -Compliance with contract requirements -Accuracy of reports -Appropriateness of personnel -Technical excellence | <ul style="list-style-type: none"> -Within budget (over/ under target costs) -Current, accurate, and complete billings -Relationship of negated costs to actual -Cost efficiencies -Change order issue | <ul style="list-style-type: none"> -Meet Interim milestones -Reliable -Responsive to technical directions -Completed on time, including wrap-up and contract administration -No liquidated damages assessed | <ul style="list-style-type: none"> -Effective management -Businesslike correspondence -Responsive to contract requirements -Prompt notification of contract problems -Reasonable/cooperative -Flexible -Pro-active -effective contractor recommended solutions -Effective snail/small disadvantaged business Subcontracting program |
| 0. Zero | Nonconformances are comprises the achievement of contract requirements, despite use of Agency resources | Cost issues are comprising performance of contract requirements. | Delays are comprising the achievement of contract requirements, Despite use of Agency resources. | Response to inquiries, technical/ service/administrative issues is not effective and responsive. |
| 1, Unacceptable | Nonconformances require major Agency resources to ensure achievement of contract requirements. | Cost issues require major Agency resources to ensure achievement of contract requirements. | Delays require major Agency resources to ensure achievement of contract requirements. | response to inquiries, technical/ service/administrative issues is marginally effective and responsive. |
| 2. Poor | Nonconformances require minor Agency resources to ensure achievement of contract requirements. | Costs issues require minor Agency resources to ensure achievement of contract requirements. | Delays require minor Agency resources to ensure achievement of contract requirements. | Responses to inquiries, technical/ service/administrative issues is somewhat effective and responsive. |
| 3. Acceptable | Nonconformances do not impact achievement of contract requirements. | Cost issues do not impact achievement of contract requirements. | Delays do not impact achievement of contract requirements. | Responses to inquires, technical/ service/administrative issues is usually effective and responsive. |
| 4. Good | There are no quality problems. | There are no cost issues. | There are not delays. | Responses to inquiries, technical/ service/administrative issues is effective and responsive, |
| 5. Excellent | The contractor has demonstrated an exceptional performance level in some or all of the above categories. | | | |

GOVERNMENT OF THE DISTRICT OF COLUMBIA
OFFICE OF THE CHIEF FINANCIAL OFFICER
OFFICE OF TAX AND REVENUE



TAX CERTIFICATION AFFIDAVIT

THIS AFFIDAVIT IS TO BE COMPLETED ONLY BY THOSE WHO ARE REGISTERED TO CONDUCT BUSINESS IN THE DISTRICT OF COLUMBIA.

Date: _____

Name of Organization/Entity: _____

Address: _____

Business Telephone No.: _____

Principal Officer: _____

Name: _____ Title: _____

Social Security No.: _____

Federal Identification No.: _____

Contract No.: _____

Unemployment Insurance Account No.: _____

I hereby certify that:

1. I have complied with the applicable tax filing and licensing requirements of the District of Columbia.
2. The following information is true and correct concerning tax compliance for the following taxes for the past five (5) years:

| | <u>Current</u> | <u>Not Current</u> | <u>Not Applicable</u> |
|--------------------------|----------------|--------------------|-----------------------|
| District: Sales and Use | () | () | () |
| Employment Withholding | () | () | () |
| Ballpark Fee | () | () | () |
| Corporation Franchise | () | () | () |
| Unincorporated Franchise | () | () | () |
| Personal Property | () | () | () |
| Real Property | () | () | () |
| Individual Income | () | () | () |

The Office of Tax and Revenue is hereby authorized to verify the above information with the appropriate government authorities. The penalty for making false statements is a fine not to exceed \$5,000.00, imprisonment for not more than 180 days, or both, as prescribed by D.C. Official Code § 47-4106.

This affidavit must be notarized and becomes void if not submitted within 90 days of the date notarized.

Signature of Authorizing Agent

Title

Print Name

Notary: DISTRICT OF COLUMBIA, ss:

Subscribed and sworn before me this _____ day of _____ Month
and Year

Notary Public: _____

My Commission

Expires: _____

DDOT Title VI Assurance

During the performance of this Contract, the contractor, for itself, its assignees and successors in interest (hereinafter referred to as the “contractor”) agrees as follows:

(1) COMPLIANCE WITH REGULATIONS

The contractor shall comply with the Regulations relative to Non-Discrimination in Federally Assisted Programs of the Department of Transportation, Title 49, Code of Federal Regulations, Part 21, (hereinafter referred to as the “Regulations”), as they may be amended from time to time, which are incorporated by reference and made a part of this contract.

(2) NON-DISCRIMINATION

The contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, gender or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. A contractor shall not participate either directly or indirectly in the discrimination prohibited by section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.

(3) SOLICITATIONS FOR SUBCONTRACTORS, INCLUDING PROCUREMENTS OF MATERIALS AND EQUIPMENT

In all solicitations either by competitive bidding or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor’s obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, gender, or national origin.

(4) INFORMATION AND REPORTS

The contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto, and shall permit access to its books, records, accounts and other sources of information, and its facilities as may be determined by DDOT or the Federal Highway Administration to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information, the contractor shall so certify to DDOT, or the Federal Highway Administration, as appropriate, and shall set forth what efforts it has made to obtain the information.

(5) SANCTIONS FOR NON-COMPLIANCE

In the event of the contractor's non-compliance with non-discrimination provisions of this contract, DDOT shall impose such contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to:

- withholding of payments to the contractor under the contract until the contractor complies, and/or
- cancellation, termination, or suspension of the contract, in whole or in part.

(6) INCORPORATION OF PROVISIONS

The Contractor shall include the provisions of paragraphs (1) through (6) of this Assurance in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto.

The contractor shall take such action with respect to any subcontract or procurement as DDOT or FHWA may direct as a means of enforcing such provisions including sanctions for noncompliance provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of this direction, the contractor may request DDOT to enter into such litigation to protect the interests of DDOT, and in addition, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

Signature of Authorizing Agent Title

Print Name

Notary: DISTRICT OF COLUMBIA, ss:

Subscribed and sworn before me this _____ day of _____ Month
and Year

Notary Public: _____

My Commission

Expires: _____

D.C. Department of Transportation

IPMA QA-QC Division

List of Tests Performed

BITUMINOUS MATERIALS

1. Abson Recovery
2. Asphalt in Bituminous Mixes: by Solvent
by Nuclear
3. Asphalt Cement
4. ASTM Stripping (Indirect Tensile)
5. Bituminous Mix Design
6. Bituminous Mix Design Check
7. Bulk Specific Gravity
8. Core Thickness
9. Cutback Asphalt
10. Ductility
11. Emulsified Asphalt
12. Gradation of Extracted Aggregate
13. Indirect Tensile, Dry
14. Maximum Specific Gravity
15. Mineral Filler Sieve Analysis
16. Penetration
17. Recycled Bituminous Mix Design
18. Sample Preparation
Cores: Aggregate: Mixtures
19. Softening Point
20. Specific Gravity of Asphalt
21. Stability & Flow
22. Stripping by Boiling
23. Viscosity (AC) at 140F
24. Viscosity (AC) at 275F

CEMENT AND CONCRETE

25. Air Content of Hydraulic Cement
26. Blaine Fineness
27. Concrete Curing
28. Masonry Grout Testing
29. Cement (Physical)
30. Compressive Strength Cubes
31. Compressive Strength Cylinders
32. Grout Flow Rate
33. Concrete Beam Strength
34. Concrete Mix Design (Complete)
35. Concrete Mix Design (Check
36. Freeze Thaw Resistance
37. Humidity and Temperature Cure
38. Mortar Cube Prep.
39. Mortar Set Rate
40. Mortar Flow (each. water content)
41. Normal Consistency
42. Sample Preparation (Cement)
43. Set Time Initial
44. Set Time Final
45. Shrinkage (Autoclave)
46. Specific Gravity – Mortar
47. Specific Gravity – Cement
48. Unit Weight of Concrete
49. Absorption of Fine or Coarse
Aggregates
50. Adherent Coating on Coarse
Aggregates

Soils and Aggregates

51. Alkali/Aggregate Reactivity Bar Method
52. Apparent Specific Gravity
53. Bulk Specific Gravity
54. Clay Content in Coarse Aggregate, Incl. Hydrometer
55. Coarse Aggregate Degradation (2 min,) Due to Compaction
56. Hydrometer Analysis
57. Insoluble Residue in Carbonate Aggregates
58. L.A. Abrasion
59. Laboratory CBR
60. Agg. Lightweight Pcs.
61. Liquid Limit (3 points)
62. Max. Specific Gravity (only)
63. Organic Color
64. Organic Impurities (Conc. Sand)
65. Field Examination
66. Plastic Limit (3 points)
67. Proctor Moisture Density
68. Rodded Unit Weight
69. Sand Equivalency
70. Sieve Analysis of Fine and Coarse Aggregate
71. Magnesium Sulfate Soundness
72. Soils – Organic Matter
73. Top Soil (Complete)
74. Unconfined Compression

Miscellaneous

75. Curing Compound
76. Glass Bead Gradation
77. PH Liquid with Glass Electrode
78. Paint Testing
79. Thermoplastic Markers
80. Bricks Absorption
81. Bricks Compression
82. Bricks Sample Prep.
83. Expansion Joint Filler (Cork)
84. Steel Testing* (UDC)

Field Testing

85. British Pendulum Test
86. Concrete Chloride Samples
87. PCC In place Strength Smith Hamm
88. Galvanized Coating Thickness
89. Holiday Epoxy Coating – Steel Bar
90. Locate Steel in Concrete
91. Nuclear Density (Soils)
92. Nuclear Density (Asphalt Pavement)
93. Pavement Thickness
94. Paint Condition Survey
95. Plastic Portland Cement
96. Pavement Cores (Asphalt)
97. Pavement Cores (Concrete)
98. Preparation of Concrete Cylinders (Each)
99. Preparation of Beams
100. Power of Hand Auger
101. Sand Cone Density
102. Subsurface Cone Penetrometer
103. Strength by Windsor Probe

