

PUBLIC NOTICE FOR THE  
MARYLAND DEPARTMENT OF TRANSPORTATION

BCS 2014-12

Traffic Control Engineering and Design Services

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NOTICE TO ARCHITECTS & ENGINEERS

TRANSPORTATION PROFESSIONAL SERVICES SELECTION BOARD

REQUEST FOR PROFESSIONAL SERVICES

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The Secretary of the Maryland Department of Transportation (MDOT) has certified to the Transportation Professional Services Selection Board the need to utilize the services of architects or engineers for the following project(s).

Firms interested in being considered for work on any Project must submit an Expression of Interest for that Project as set forth herein. The Expression of Interest shall be in an envelope marked with the specified contract number for the Project. The letter portion of the Expression of Interest shall indicate the firm's desire to perform services and indicate the specific tasks or areas of expertise, which will be subcontracted, and to whom. Interested firms must submit the material required herein or the interested firm will not be considered for the Project.

Of all the firms expressing interest in a Project, those adjudged most qualified shall be requested to submit Technical Proposals. Additional information will be supplied to the selected firms so that they can prepare such proposals for the Project. The firms that submit the highest rated Technical Proposal will be requested to submit Price Proposals. For projects that are 100% State funded, Price Proposal cost limitations such as, but not limited to, a payroll burden and overhead limitation of 130%, may apply. This project will be federally funded and Price Proposal cost limitations on payroll burden and overhead shall not apply. However, MDOT reserves the right to require that split payroll burden and overhead rates be submitted appropriate for the type of services to be provided (example, Office Rate for planning/design activities and Field Rate for construction inspection). If negotiations with the firm are timely and successful, a contract may be awarded to that firm. If an interested firm is requested to submit proposals, their proposals should substantially reflect the same composition and area of involvement as their Expression of Interest.

If a Joint Venture responds to a project advertisement, the Department of Transportation will not accept separate Expressions of Interest from the Joint Venture constituents. A firm will not be permitted to submit on more than one (1) Joint Venture for the same project advertisement. Also a firm that responds to a project advertisement as a prime or a prime joint venture constituent may not be included as a designated subcontractor to another firm that responds as a prime to the project advertisement. Multiple responses under any of the foregoing situations may cause the rejection of all responses of the firms involved. The above does not

preclude a firm from being set forth as a designated subcontractor to more than one (1) prime responding to the project advertisement.

**All questions concerning submissions and procedures must be submitted by email to [opcm@sha.state.md.us](mailto:opcm@sha.state.md.us) no later than 4:00 pm one (1) week prior to the due date.** The BCS number must be referenced in the email subject line. Problems submitting emails shall be reported to the Consultant Services Division (CSD) telephone number 410-545-0434.

**All addendums to this advertisement will be posted only on eMaryland Marketplace and on the Consultant Services Center page of the Maryland State Highway Administration's Webpage ([www.roads.maryland.gov](http://www.roads.maryland.gov)).**

Consultants shall have the ability to provide background investigation results for Consultant personnel assigned to work on Maryland State Highway Administration (SHA) projects.

Minority business enterprises are encouraged to respond to this solicitation notice.

**RESPOND TO:**

Norie A. Calvert  
MARYLAND STATE HIGHWAY ADMINISTRATION  
OFFICE OF PROCUREMENT AND CONTRACT MANAGEMENT  
Fourth Floor, Mail Stop C-405  
707 North Calvert Street  
Baltimore, Maryland 21202

## 1. Project Description:

To provide coordinated traffic control engineering and design services of Traffic Control Devices (TCD) for Signals, Signing, Lighting, Pavement Markings, and Coordinated Highway Action Response Team (CHART) and Intelligent Transportation Systems (ITS) devices, and staffing for on-site design support, statewide.

SHA anticipates awarding six (6) contracts for these services, each for a five (5) year duration and not to exceed Six Million dollars (\$6,000,000). SHA reserves the right to modify the number of contracts and the dollar value of each as deemed appropriate.

This contract will be administered solely by SHA's Office of Traffic and Safety (OOTS), to support the Architectural and Engineering needs of SHA, statewide, and will be funded with both State and Federal Funds. Assignments may be made anywhere in the state to support other SHA Offices with the prior approval of the SHA Deputy Administrator. In addition, this contract may be used to provide services to the Maryland Department of Transportation (MDOT), or any of the MDOT modal administrations, at the direction and with the express prior written authorization of the Secretary of Transportation or the Secretary's designee. Any tasks assigned under this contract must be for services as outlined in the contract scope of work and in conformance with all contract terms and conditions and payment provisions.

## 2. Consultant Services Required:

Firms with expertise in traffic engineering design principals; highway design expertise with an understanding of the workflow and target design milestones generated during a highway design project; traffic engineering design experience of highway projects which includes TCDs, structural design and utility designation.

Services to be provided include, but are not limited to:

- Research existing plans/studies, field investigations, existing right-of-way information, etc. concerning the project assignments;
- Prepare traffic engineering design packages and/or milestone review packages dependent upon the method selected for implementation or construction. Completed in accordance with schedules provided by State Highway Administration;
- Participate at all meetings deemed necessary by the Administration and prepare displays and materials for the meetings;
- Prepare minutes of all meetings, office/field reviews, plan reviews, etc. The Consultant shall also assist in the preparation of reports following preliminary field

investigation, utility review and final review. The Consultant shall also prepare the contents of letters from the Administration's personnel to other agencies, public officials, concerned citizens, etc.;

- The Consultant shall incorporate and make provisions in his design for all utilities, both existing and proposed. Prepare all utility attachments, coordinate all contacts with local utility companies including, attachment agreements, relocations, design request, etc. The consultant is responsible for applying for and designing power feed connections to TCD's;
- Prepare all data for and complete required permit applications for submittal by the Administration, if needed;
- Prepare metes and bounds right-of-way plats. The plats must be certified as correct by the Consultant. Each record plat shall contain the signature and seal of either a Professional Land Surveyor or Property Line Surveyor who is registered in the State of Maryland;
- Develop and review shop drawings, redesign under construction, red line revisions, and provisions for expert testimony;
- Analyzing design situations and development of the best acceptable solutions, taking into consideration the cost, time constraints, benefit and impact, is a part of the scope of work;
- If necessary, SHA may request that the consultant provide personnel for on-site design support and,
- Provide contract plans and documents in accordance with Specifications for Consulting Engineers' Services, Vol. II, April, 1986, and this project resume'.

Examples of work include but are not limited to:

- Develop and incorporate traffic control design (TCD) design, special provisions and estimates for every milestone phase of the project into the contract documents;
- Coordinate each design contract with possible adjoining design contracts as required by the Administration;
- Perform engineering computations for the total project;
- Submit and present Preliminary Review, submit Semi-Final Review, and submit Final Review Plans, Estimate and Special Provisions;
- Complete new TCD and/or upgrade highway design projects;
- Maintenance of Traffic;
- Review all shop drawings and/or catalog cuts for all structures and items related to constructing TCDs;
- Prepare "Red Line Revisions" and,
- Perform redesign under construction, if requested by SHA.

And all other architectural and/or engineering professional work related to traffic control engineering and design.

3. Potential Restrictions:

The firm(s) selected for a given Contract will be required to provide architectural and/or engineering services for any SHA design and construction project, including Design/Build projects. This may limit the firm's potential for pursuing work with a contractor on the same Design/Build project after advertisement. State Government Article 15-508 of the Annotated Code of Maryland will dictate the Consultant's eligibility to pursue work on Design/Build projects after advertisement.

As per State Finance & Procurement, State Government Article 17-701 – 17-707 of the Annotated Code of Maryland the firm(s) selected for a given Contract will be required to provide "Certification Regarding Investments in Iran". See below 4(f).

4. Required Information: The Consultant shall submit the following per the specified requirements listed below of:

- A Compact Disc (CD) in a protective case labeled with the BCS number, Project Title and Prime/JV's firm name to include: One (1) full pdf version of the Expression of Interest (EOI) submittal as well as Sub-Folders containing the associated individual pdf files for each Section required herein. Sub-Folders and Sections must be labeled to identify each accordingly. All pdf documents must follow the naming convention of (BCS #-Prime/JV Name-Name Identifying the Document (ie: BCS 2014-12Firm-Letter of Interest);
- One (1) original and five (5) copies of the EOI comprised of:
  - a. One (1) Letter of Interest - Limited to one (1) page which must contain information supporting the assertion that the Consultant has the financial capacity to provide the services requested, has measures in place to protect the State against errors and omissions, and provide the names, contact numbers and email addresses of the Primary Liaison, Disadvantaged Business Enterprise (DBE) Consultant Liaison Officer for Minority Affairs, and your firm's contact person for this procurement process. The Primary Liaison, DBE Liaison Officer, and the firm's procurement contact may be the same or different individuals.

**Note:** US Government forms are to be completed with standard size typing and are not to be photo reduced. Computer generated forms are acceptable; however, the format and spacing is to be identical to that of the Standard Forms (SF) 254 and 255 unless directed otherwise.

- b. One (1) SF 254 for each firm, including each subcontractor, proposed.
- c. One (1) SF 255.

The SF 255 must be completed paying special attention to the following:

- i. Item #4, Personnel by Discipline, the Consultant shall document personnel by discipline presently employed at the work location proposed. If more than one (1) location is being proposed by the Consultant, the Consultant must clearly document all locations proposed and show the total number of personnel by discipline for all locations proposed. Subcontractor personnel are not to be included.
- ii. Item #6, Outside Key Consultants (Sub-Consultants): Please follow the directions provided in Step 5. Special Requirements – DBE Provisions to complete Item #6 of the SF 255.
- iii. Item #7, Key Staff. Provide a brief resume for each of the Key Staff individuals outlined below, limited to two (2) Key Staff per page, not to exceed two (2) pages total. Key Staff individual experience shall be recent experience performed within the past five (5) years. The Consultant must document in writing in Item #7 that the Key Staff individuals meet the following requirements:
  - 1. **Key Staff 1:** A Professional Engineer (PE) registered in the State of Maryland with expertise in traffic engineering principles and design with a minimum of 10 years experience, employed by the Prime/JV; who will serve as the Project Manager and the Primary Liaison;
  - 2. **Key Staff 2:** A Professional Engineer (PE) registered in the State of Maryland with expertise in traffic engineering design with a minimum of 10 years experience, employed by the Prime/JV; who will serve as the secondary liaison;
  - 3. **Key Staff 3:** A Civil Engineer with expertise in Microstation/ CADD and Traffic Control Device Design experience with a minimum of 10 years experience, employed by the Prime/JV or any of the Subconsultants; and,
  - 4. **Key Staff 4:** A Professional Engineer (PE) registered in the State of Maryland with expertise in Structural Engineering with a minimum of 10 years experience, employed by the Prime/JV or any of the Subconsultants.

It is the Prime's responsibility to clearly and accurately represent all information for Key Staff individuals (education, years of highway and/or bridge inspection/engineering experience, and licenses/certifications listed).

SHA may request that the consultant provide personnel for on-site design support. For on-site design support staffing, personnel shall be equivalent

to SHA's specifications for a Transportation Engineer IV (TE IV), and Transportation Design Engineer IV (TDE IV).

**Please see E Maryland Marketplace or the SHA Web Page, Consultant Services Center for the job classification specifications attachments. These will not be included at the end of the advertisement.**

Where Maryland Registrations are required for the professional Key Staff, the Consultant shall include on line "f" of Item #7 of the SF 255 the words "Maryland Registered" and the Maryland License Registration Certificate Number for the individual. Failure of the Consultant to properly document Key Staff requirements in writing will result in the firm being precluded from further consideration for the Project.

- iv. Item #8, Similar Projects: Limited to five (5) similar projects, one (1) similar project per page for a total of not to exceed five (5) pages. The columns below the Similar Project Information entered under the Column A-E headers may be removed to create one large block to answer only Column B "Nature of the Firm's Responsibility." Photos are acceptable; however, all photos count in the overall space limitations for the page and are considered illustrations and not rated. The Similar Projects set forth shall be recent experience performed within the past five (5) years. (Information provided in this section shall become part of the rating/evaluation criteria for this project.)
- v. Item #9 and #10 are not required. Any information presented in Items #9 and #10 will not be reviewed or considered in the evaluation process.
- d. In addition to the Key Staff's brief resumes required in Item #7 of the SF 255, provide a one (1) page resume for each of the four (4) proposed Key Staff, outlined above in Section 4. c. iii. Format is at the firm's discretion.
- e. A copy of the firm's current certificate(s) of insurance.
- f. As per State Finance and Procurement, State Government Article 17-701 - 17-707 of the Annotated Code of Maryland, a firm engaging in investment activities with companies appearing on the Investment Activities in Iran list is ineligible for bid/proposal/award. The Investment Activities in Iran list is located at [www.bpw.state.md.us](http://www.bpw.state.md.us) of the Maryland Board of Public Works (BPW) web site. As per the BPW Advisory No.: 2013-11, Date Issued January 1, 2013, an officer of the firm shall provide a signed original certification as per language listed on the BPW Advisory page.
- g. The Consultant shall comply with the "Required Information" and "Special Requirements" set forth hereinafter when completing the aforesaid documentation.

5. Special Requirements - DBE Provisions:

The Maryland Department of Transportation (MDOT) hereby notifies all proposers that in regard to any contract entered into pursuant to this advertisement; DBEs will be afforded full opportunity to submit expressions of interest in response to this notice and will not be subject to discrimination on the basis of race, color, sex or national origin in consideration for an award.

It is the goal of MDOT that certified businesses participate in all contracts. Each contract may contain a goal for DBE participation, on a contract-by-contract basis. Consultants interested in submitting an Expression of Interest must comply with the "SPECIAL PROVISIONS, AFFIRMATIVE ACTION REQUIREMENTS, UTILIZATION OF DISADVANTAGED BUSINESSES, THE SURFACE TRANSPORTATION AND UNIFORM RELOCATION ASSISTANCE ACT OF 1987 AND ISTEA OF 1991, ATTACHMENT 6", as modified June 8, 2000, which is obtainable from the Consultant Services Division at the address or phone number noted herein.

To comply with the aforesaid SPECIAL PROVISIONS, Consultants who submit Expressions of Interest must clearly set forth the DBE Prime firm(s) or DBE subcontractor(s) proposed for goal attainment indicating:

- a. The proposed work,
- b. Percentage of total work,
- c. MDOT certification number, and
- d. Applicable NAICS Codes

for each DBE. **Said information shall be shown in Item #6 of the Federal Government SF 255 form.** Proposed DBE firms must be certified by MDOT to participate on federally funded Projects. If the proposed DBE firm is not certified by MDOT, the Consultant shall indicate the certification status of the proposed DBE firm in lieu of the certification number.

The Consultant's failure to submit all of the required DBE information, in the specified areas, will result in the Consultant being disqualified from further consideration for the Reduced Candidate List on this Project, unless it is in the best interest of the State to seek clarification or additional information from the Consultant.

#### CONTRACT GOALS

For the purpose of this contract, a goal of **Twenty-Five percent (25%)** has been established for DBEs. DBE proposers have to meet the established DBE goal by either their own forces or approved DBE subconsultant(s).

6. Additional Information: SHA reserves the right to develop multiple Reduced Candidate Lists from those firms responding to this advertisement or to make multiple selections from one (1) Reduced Candidate List.
7. Electronic Transfer: By submitting a response to this solicitation, the Consultant agrees to accept payments by electronic funds transfer unless the State Comptroller's Office grants an exemption. The selected Consultant shall register with the EFT Registration, General Accounting Division using the COT/GAD X-10 Vendor Electronic Funds (EFT) Registration Request Form, available at <http://compnet.comp.state.md.us/gad/pdf/GADX-10.pdf> . Any request for exemption must be submitted to the State Comptroller's Office for approval at the address specified on the COT/GAD X-10 form and must include the business identification information as stated on the form and include the reasons for the exemption.
8. Rating Criteria: The major factors/criteria for the establishment of a Reduced Candidate List for this Project, in descending order of importance, will be:
  - a. Key Staff;
  - b. Similar Project Experience;
  - c. Past Performance; (Shall be based on the past two (2) years performance rating for work performed for SHA. Firms with no ratings shall be given an average of all the firms rated.)
  - d. Capacity to accomplish proposed work in required time;
  - e. Compatibility of size of firm with size of proposed project;
  - f. Firm's location;
  - g. Financial Responsibility; and,
  - h. Consultant has measures of protection for the State against errors and omissions
9. Additional Information: SHA may carry forward Key Staff and Similar Projects submitted at the Expression of Interest (EOI) stage. Changes to Key Staff are allowed at any time. All Key Staff changes must be approved by SHA and substitutions will be evaluated using the same rating criteria.
10. Facsimile/e-mail copies of the Expression of Interest are not acceptable. No response received after 12:00 P.M. (NOON) on the date specified for a Project will be accepted, no matter how transmitted.

Respond by: **March 24**, 2015 prior to 12:00 P.M. (NOON)

RESPOND TO:

Norie A. Calvert

MARYLAND STATE HIGHWAY ADMINISTRATION

OFFICE OF PROCUREMENT AND CONTRACT MANAGEMENT

Fourth Floor, Mail Stop C-405  
707 North Calvert Street  
Baltimore, Maryland 21202



## **TRANSPORTATION DESIGN ENGINEER IV**

Code 7664

Salary Grade 0020

### **I. CLASSIFICATION DEFINITION:**

Transportation Design Engineer IV is licensed professional design engineering work at the first level of professional expertise. Employees are responsible for managing engineering projects of significant scope and importance involving a broad range of engineering disciplines, including some of the following: topographic and metes and bounds surveys, pavement design, structural design, hydraulic design, storm water management facilities, erosion and sediment control, environmental permitting, utility relocations, electrical design, mechanical design, and systems analysis and integration. Some employees in this classification do not manage projects, but function as senior staff specialists with advanced knowledge and skill within an area of technical specialization. Such positions provide technical guidance and assistance to personnel within other sections and divisions, outside agencies, consultants and contractors. Positions in this classification plan, develop, and coordinate engineering activities associated with the planning and design of transportation structures or facilities (e.g. bridges, highways, rails, buildings, airports, marine terminals, tunnels, or other major structures.) Employees apply engineering theories, principles and standards to a variety of complex engineering projects and processes including innovative contracting methods such as design build. Employees in this classification do not supervise other in-house, licensed professional engineers but may manage consultant engineers and/or review design plans prepared by consulting firms. Supervision may be provided to lower level engineers, engineering technicians and/or clerical staff.

Employees receive general supervision from a higher-level engineering manager or other designated official. Work is performed in an office setting and in the field. When performing fieldwork, employees may be required to wear safety equipment. Employees are occasionally required to work on different shifts, evenings, or on weekends, and may be required to be on call to respond to after-hour emergencies.

Employees assigned to the Transportation Design Engineer IV classification are distinguished from the Transportation Design Engineer III classification by the possession of a professional engineer's license and the responsibility for managing significant projects or functioning as a senior staff specialist. Transportation Design Engineer V is distinguished from the Transportation Design Engineer IV by the responsibility for providing supervision of in-house engineers and/or the management of consultant design engineering firms. Transportation Design Engineer V positions also function with a greater degree of independence of action and authority than positions at the Transportation Design Engineer IV level.

**II. MINIMUM QUALIFICATIONS:**

Possession of a Maryland Professional Engineer license, in the appropriate option, is required. Evidence of license must be presented at the time of appointment.

**Licenses, Registrations and Certificates:**

1. An applicant's current license as a Professional Engineer in a state with comparable requirements acceptable to the Maryland State Board for Professional Engineers, in the appropriate option for which application is made, will be accepted but the applicant must obtain a Maryland license within twelve (12) months of appointment. Evidence of out of state registration must be presented at time of appointment.
2. Employees in this classification may be assigned duties which require the operation of a motor vehicle. Employees assigned such duties will be required to possess a motor vehicle operator's license valid in the State of Maryland.

**Notes:**

1. Registration requirements are established under Title 14, Business Occupations and Professions Article of the Annotated Code of Maryland.
2. Employees at the Maryland Aviation Administration may be required to obtain and maintain an Airfield Operator Permit in accordance with the Code of Maryland Regulations 11.03.01.04, Control of Vehicular Traffic on the Air Operations Area.
3. Employees at the Maryland Aviation Administration will be required to obtain and maintain an Airport security badge in accordance with 49 CFR Part 1542.209, Criminal History Records Check.
4. Employees of the Maryland Department of Transportation assigned to especially sensitive locations or facilities may be required to obtain and maintain a special security badge.

**III. EXAMPLES OF WORK: (Examples are illustrative only)**

Serves as project manager on significant engineering projects (geometric design, topographic metes and bounds surveys, pavement design, hydraulic design, storm water management facilities, erosion and sediment control, environmental permitting, and utility relocations);  
Serves as senior staff specialist with advanced knowledge and skill within an area of technical specialization, providing guidance and advanced expertise to project managers and others within the organization;  
Conducts field work, survey, research, preliminary and final design; determines construction quantities; prepares right of way and easement descriptions;  
Writes engineering specifications, develops geometric improvements;  
Provides engineering detail for environmental impact statements;  
Manages project components from concept through design project completion, including project scope, schedule, cost, quality, human resources, liability, and procurement;

Plans, coordinates and creates engineering plans, cost estimates and specifications for significant capital design project(s), such as the construction/ rehabilitation of roads, bridges, storm drains, rail, buildings, tunnels, runways and other transportation facilities;

Prepares and manages the preparation of permit applications, requests for proposals, consultant and interagency agreements, public information, and other applicable project documentation;

Meets with consultants to resolve problems;

Develops engineering and structural solutions to problems arising from the use of land for construction purposes;

Writes contracts for engineering services; participates in selecting engineering consultants and contractors, prepares requests for proposals, support documentation and other procurement support materials;

Conducts studies and research to analyze and project present and future needs related to engineering designs and solutions for current and/or anticipated problems;

Ensures compliance with the NEPA, AASHTO, MDOT, and other applicable codes, policy, regulations, guidelines, and federal and State laws;

Conducts investigations of surface and subsurface conditions at proposed project sites, determines load-bearing capacity, and other conditions at the proposed sites;

Evaluates and selects available materials used in the construction of projects relative to foundations, landslides, and other potential conditions;

Prepares, reviews and approves preliminary budget estimates, work schedules and change orders for project(s); estimates costs and time requirements for current and projected construction project(s) and evaluates alternative project delivery methods;

Reviews submittals, shop drawings and requests for information; issues contract revisions during the construction phase of a project;

Represents MDOT to other agencies and the public regarding the development and delivery of project(s), including community involvement where applicable;

Answers inquiries from other agencies, interested parties and the public regarding engineering project(s);

Maintains and prepares project records and reports;

May oversee and monitor the performance of contractors and consultants to ensure that work is completed on schedule, within budget, and in accordance with the terms of the contracts;

May administer consultant contracts including approval of monthly invoices and progress payments;

May review and approve design concepts and design submissions from consulting engineers to ensure compliance with federal, State, and local standards and regulations, including National Environmental Policy Act (NEPA), American Association of State Highway Transportation Officials (AASHTO), and Maryland Department of Transportation (MDOT) standards;

May provide testimony at formal hearings or in court;

Performs other related duties.

**IV. REQUIRED KNOWLEDGE, SKILLS AND ABILITIES:**

Knowledge of principles, practices, and methods of civil and structural engineering relating to public works design and construction;

Knowledge of AASHTO, NEPA, and MDOT engineering and environmental standards;

Knowledge of field engineering, including surveying, inspection, and construction practices;

Knowledge of design principles, strength of materials and stress analysis required in planning construction/rehabilitation project(s);

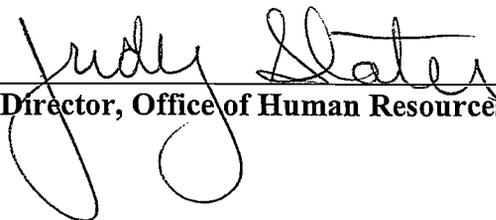
Knowledge of engineering specifications plans, contracts, materials, standards, and regulations;  
Knowledge of principles and practices of government budgeting and project management;  
Knowledge of computer aided design drafting, databases, spreadsheets, and related technical software;  
Knowledge of mathematics and physics applicable to civil engineering;  
Knowledge of federal and State procurement methods, rules, and regulations:  
Skill in reading and preparing plans, blueprints, specifications, cost estimates and engineering reports;  
Skill in making accurate engineering computations and drawings;  
Skill in the use of drafting tools and related engineering equipment;  
Ability to manage large and complex engineering projects and their components from concept through design completion, including project scope, schedule, cost, quality, human resources, liability, and procurement;  
Ability to oversee and monitor the performance of contractors and consultants to ensure that work is completed on schedule, within budget, and in accordance with the contract terms;  
Ability to analyze complex engineering projects and determine the most cost effective approach;  
Ability to identify the need for change orders and to evaluate the financial status of project(s);  
Ability to conduct engineering research and compile technical data;  
Ability to perform fieldwork and conduct inspections of job sites;  
Ability to prepare and clearly present detailed reports and recommendations on engineering problems;  
Ability to prepare structural layouts and designs;  
Ability to prepare contractual specifications and to review job estimates for structural layouts and designs;  
Ability to review specifications, design plans, and other supporting contract documents submitted by consulting engineers to determine compliance with sound engineering practices and established standards, codes, and regulations including AASHTO and NEPA;  
Ability to plan and coordinate the work of project team members;  
Ability to establish and maintain effective working relationships with other employees, engineers, architects and the public and to communicate effectively with same.

**V. SPECIAL REQUIREMENTS:**

1. Employees may be subject to emergency recall 24 hours a day and may be required to maintain a reliable communication link (telephone or pager) for the purpose of emergency call back requirements.
2. Eligible applicants may be subject to a background investigation under federal or State laws and regulations. A conviction is not an automatic disqualification to employment. Erroneous, misleading or fraudulent information on an application is sufficient grounds for rejection from the hiring process, removal from the list of eligibles, withdrawal of an offer for employment or immediate discharge.

**Date Adopted:** January 1, 2008

**APPROVED:**

  
**Director, Office of Human Resources**



**TRANSPORTATION ENGINEER IV**  
**Code 0516                      Salary Grade 0018**

**I.        CLASSIFICATION DEFINITION:**

This is senior or advanced level professional civil engineering work applying engineering theories, principles and standards to a variety of complex engineering projects and processes in highway, traffic, construction, structural, rail, port, airport, maintenance, materials, or other transportation areas. Employees in these positions may serve as project manager and provide guidance and direction to a project team and consultants, or supervise assigned engineering technicians or may apply advanced knowledge in a specialized technical area such as hydraulics or environmental design, or in a broad range of engineering areas. Positions assigned to this classification may serve as team leaders over lower level professional engineers, technicians, and/or consultants that perform engineering functions necessary to prepare construction plans, specifications and cost estimates.

Employees receive general supervision from a higher level engineer or manager. Work is generally performed in an office setting and in the field; work may require physical inspection of job sites.

Specific position allocation to this level is determined by application of the Position Appraisal Method of Job Evaluation and the point to grade conversion contained in the Transportation Engineer July 1, 2008 ASR classification standards.

**II.       MINIMUM QUALIFICATIONS:**

**Education:**    Possession of a bachelor's degree in engineering from an accredited college or university.

**Experience:**   Four years experience in professional engineering.

**Notes:**

1.        Additional work experience in professional engineering, or in technical engineering at the journey level or above, may be substituted on a year for year basis for the required education.
2.        Possession of a Master's Degree in engineering may be substituted for one year of the required experience.
3.        Persons currently registered as Professional Engineers in the State of Maryland, or in a State with comparable requirements, are considered to have met the education requirements.

**Licenses, Registrations and Certificates:**

1. Employees of the Maryland Transportation Authority may be required to possess an Engineer-In-Training License from the Department of Labor, Licensing and Regulation.
2. Employees in this classification may be assigned duties which require the operation of a motor vehicle. Employees assigned such duties will be required to possess a motor vehicle operator's license valid in the State of Maryland.

**III. EXAMPLES OF WORK: (Examples are illustrative only)**

Performs the most complex and varied engineering project coordination functions;  
Plans, organizes, coordinates, schedules, assigns and evaluates the work of subordinate engineers and technicians; provides training and work performance counseling as needed;  
Prepares engineering studies, designs, plans, specifications and cost estimates for the construction, rehabilitation or maintenance of roads, bridges, storm drains, rail, buildings and other transportation facilities; participates in public hearings, finalizes plans, drafts specifications, etc.;

Administers consultant contracts including approval of monthly invoices and progress payments;  
Reviews and comments on design submittals from consulting engineers to ensure compliance with standards and regulations; meets with consultants to resolve problems;  
Assists in and conducts the review and evaluation of Consultant Technical Proposals and Extra Work Requests;

Reviews plans and specifications for transportation facilities submitted for new construction, rehabilitation or improvements to ensure compliance with contracts, regulations and engineering standards;

Prepares and maintains a variety of engineering documents including plans, specifications, contracts, maps and standards;

Prepares designs, plans, specifications and cost estimates for communications and traffic management systems, or construction and maintenance equipment;

Serves as project manager on large and/or complex engineering projects; conducts field work, surveys, research, preliminary and final design; determines construction quantities; writes proposals; prepares contract documents, right of way and easement descriptions; provides engineering detail for environmental impact statements and develops cost estimates;

Coordinates projects among outside agencies, property owners and other divisions within the agency; prepares reports and memos describing the project; conducts inspections of work as needed;

Answers inquiries from other agencies, interested parties and the public regarding engineering projects;

Maintains and prepares public works installation and project records and reports;

Provides information to and works with architects, engineers, contractors and developers to ensure adherence to proper standards and codes;

Conducts research, evaluates and makes recommendations regarding proposed and existing laws, standards and policies; writes contracts for engineering services; prepares requests for proposals;

Participates in selecting engineering consultants and contractors;

Serves as project liaison with the project construction engineer during the construction phase; makes changes and additions to the construction plans as needed; Conducts studies and research to analyze and project present and future needs as they relate to engineering designs and solutions to current and anticipated problems; Provides data and other information to interested groups; Attends a variety of meetings; May provide testimony at formal hearings or in court; Performs other related duties.

**IV. REQUIRED KNOWLEDGE, SKILLS AND ABILITIES:**

Knowledge of professional civil engineering principles, practices and methods;  
Knowledge of design principles, strength of materials and stress analysis required in planning construction /rehabilitation projects;  
Knowledge of computer applications relative to engineering projects;  
Knowledge of construction standards and regulations;  
Knowledge of effective supervisory methods and practices;  
Skill in reading maps, deeds, plats and plans;  
Skill in preparing accurate plans, specifications, cost estimates and engineering reports;  
Skill in making accurate engineering computations and drawings;  
Ability to maintain a variety of technical records and adapt records systems for computerization;  
Ability to plan, organize, coordinate, assign and evaluate the work of lower level engineers, engineering technicians and other support staff;  
Ability to communicate effectively and to prepare technical reports;  
Ability to establish and maintain effective working relationships with other employees, engineers and architects and the general public;  
Ability to physically perform essential duties.

**V. SPECIAL REQUIREMENT:**

Applicants may be subject to a background check which may impact employment. A history of arrest or conviction is not an automatic disqualification to employment. Applicants, who are considered for work at the Maryland Aviation Administration, are subject to an extensive pre-employment security background check as required by the Federal Aviation Administration, Federal Aviation Regulation Part 107.

**Date Adopted:** July 1, 1997  
**Date Revised:** July 1, 2001  
**Date Revised:** July 1, 2008

**APPROVED:**   
**Director, Office of Human Resources**