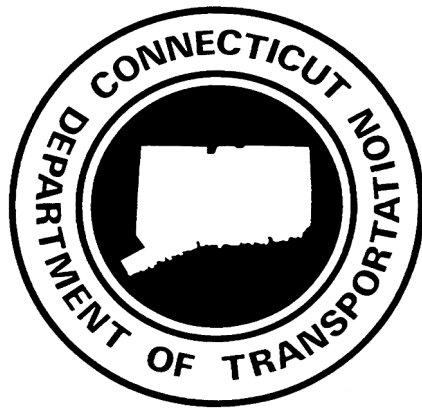


**CONSTRUCTION  
ENGINEERING AND  
INSPECTION**

**INFORMATION PAMPHLET FOR  
CONSULTING ENGINEERS**



**CONNECTICUT DEPARTMENT OF  
TRANSPORTATION**

**BUREAU OF ENGINEERING  
AND CONSTRUCTION**

**OFFICE OF  
CONSTRUCTION**

~ February, 2017 ~

# CE&I INFORMATION PAMPHLET FOR CONSULTING ENGINEERS

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## INTRODUCTION

This pamphlet is intended to describe the functions and responsibilities of Consulting Engineers (Consultant) performing Construction Engineering and Inspection (CE&I) services for the [Connecticut Department of Transportation \(Department\)](#).

As a duly-authorized representative of the Department, the Consultant is assigned to make inspections of the work performed and the materials furnished by the Contractor. To that end, the Consultant is tasked with carrying out the policies, procedures and practices as outlined in the Department's [Construction Manual](#), other publications and documents referenced in the Consultant Agreement (Agreement), as well as this pamphlet. In the event of a conflict, the provisions of the Agreement shall take precedence on all matters.

## SECTION I – GENERAL INFORMATION

### Scope of Work

The scope of the work will be discussed at the Assignment Meeting scheduled by the Department before the onset of the work. The Consultant shall perform all work under the direct control of the Department's designated Project Engineer. The Consultant shall provide sufficient, qualified staff to inspect the construction Contractor's operations in accordance with the plans and specifications governing the work (i.e. the "Contract"), as well as the established policies, procedures and practices of the Department.

In addition, the Consultant's staff, including home office personnel, shall provide any and all construction engineering services required for the project, including but not limited to the review of working drawings, rigging plans, change orders, substitutions, constructability, or any other issues that may arise and provide suitable engineering recommendations.

The Consultant shall organize their staff to provide all administrative functions required for the Project, including but not limited to the preparation of correspondence, construction orders, payment estimates, quantity computations, estimating, schedule reviews, material sampling and testing, Equal Employment Opportunity (EEO) and Disadvantaged Business Enterprise (DBE) or Small Business Enterprise (SBE) monitoring, final documentation, State and Federal reports, construction surveys, reviews and recommendations of all construction issues, claims analysis support and any other project related functions as directed by the Department or as included at the Assignment Meeting.

### Submittals

Prior to the start of CE&I services, the Consultant is required to submit the following to the District Engineer administering the Project:

- Proposed Staffing
- Company Personnel Policies and Procedures (e.g. paid time off, sick leave, vacation, overtime, holidays, etc.)
- Quality Management Plan
- Certificate of Insurance

### Sub-consultants

All agreements between the Prime Consultant and their sub-consultants shall be reviewed and approved by the Department. The Prime Consultant must perform the major part, at least 75 percent of the monetary value of the assignment, with their own forces unless otherwise noted in the Solicitation Letter. Sub-consultant agreements exceeding an aggregate value of 25 percent of the assignment shall not be permitted without prior written approval from the Department.

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As required by the Agreement, the Prime Consultant shall pay its sub-consultants within 30 days after the Prime Consultant receives payment from the Department for work performed by the subcontractor.

### **DBE/SBE**

Should the project have a DBE or SBE Contract goal associated with it, the Consultant shall document their good faith efforts to provide opportunities for DBE or SBE firms to participate in accordance with the Agreement. In order to be counted towards the Contract goal established in the Agreement, DBE/SBE subcontractors shall only be assigned to items of work that they are certified to perform and furthermore must fulfill a Commercially Useful Function (CUF) on the project, such that they utilize their own workforce and equipment; operate under their own power; and procure all their own materials or supplies.

The Department is committed to an effective implementation of a DBE program as defined in [49 Code of Federal Regulations Part 26](#) and a SBE program as defined in the [Connecticut General Statutes Section 4a-60g](#), and as required under the specific provisions of the Agreement. Implementation of the DBE or SBE Program is accorded the same priority as compliance with all other legal obligations incurred by the Department in its financial assistance agreements with the United States Department of Transportation.

The replacement of either DBE or SBE sub-consultants previously presented to the selection panel and or similarly included in the Agreement, requires the written approval of the Department.

### **Publications and Documents**

The following is listing of publications which the Consultant should have readily available, in paper or electronic format, at all times at the project office. The Resident Engineer shall ensure that staff is familiar with the relevant publications and documents for the work being performed.

1. DOT Consultant Agreement (Agreement)
2. [Engineering & Construction Directives](#)
3. [Construction Directives](#)
4. [Construction Bulletins](#)
5. [Pamphlet for Monitoring Consultant Performance and Payment Requests for Construction Engineering and Inspection Services](#)
6. [Department of Administrative Services State Travel Regulations](#)
7. [Department of Transportation Construction Manual](#)
8. Contract Plans and Special Provisions (Contract)
9. Environmental Permits
10. [Supplemental Standard Specifications](#)
11. [Standard Specifications for Roads, Bridges and Incidental Construction](#)
12. [Schedule of Minimum Requirements for Sampling Materials for Test](#)
13. Safety Policy Statements and Memoranda
14. All other publications provided to the Consultant by the Department

## SECTION 2 – PERSONNEL

### Project Staffing

The Consultant shall provide sufficient staff to properly inspect the Contractor's operations. The Consultant is required to submit a detailed Project Staffing Plan that shows how they propose to staff the project to meet the requirements of their Agreement with the Department. All staffing shall be approved by the District Engineer. The Consultant shall adjust the size of the on-site staff as required by the construction Contractor's operations and schedules with approval of the Project Engineer.

The Consultant's staff shall report to, accept and fulfill all orders, directives, and interpretations of the plans, specifications and special provisions as given by the Project Engineer. The Project Engineer will work under the supervision of the Transportation Supervising Engineer assigned to the project under the direction of the Assistant District Engineer. The District Engineer has overall responsibility for the work.

The Consultant shall provide a fully qualified Resident Engineer or Chief Inspector to supervise the administration and inspection of the work. Depending on project size and complexity, the Resident Engineer or Chief Inspector shall have under their supervision an inspection staff sufficient to thoroughly monitor the Contractor's principal operations and to perform the administrative tasks associated with the construction project, including but not limited to the preparation of all correspondence, construction orders, payment estimates, reports and project-related State and Federal forms. On some projects, various responsibilities may be combined under one classification (e.g., Office Engineer/Inspector) to economically provide the required service.

Survey work will be performed by Department personnel whenever possible, however, on projects which require a substantial effort, survey services may be provided by the Consultant.

During project shutdown periods, the Consultant is responsible for making certain that the project is appropriately staffed. On December 1<sup>st</sup> of each year, or as requested by the Project Engineer, the Consultant shall provide a schedule of work and personnel assignments in order to verify that sufficient work exists to support the level of staffing proposed during the winter period.

If at any time it is determined that the Consultant project staffing level is not appropriate for the work being performed, the Project Engineer shall direct the Consultant to make adjustments to their staff.

The Consultant shall provide written notification to the District Engineer when staff are scheduled to leave the project and shall coordinate with the Project Engineer the return, transfer or cancelling of all keys, badges, equipment (tablets, laptops, etc.), login credentials (windows, outlook, Site Manager, Contract Manager, Sharepoint, etc.) issued during the Project. If staff is transferring to another Department project, the consultant shall coordinate between both Project Engineers to request maintain any necessary credentials.

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### Classifications

The Consultant shall provide staff sufficiently experienced in highway, bridge, rail or facilities construction practices and procedures to perform construction engineering and inspection services as directed by the Project Engineer. All staff shall possess, at a minimum, the experience, credentials and qualifications as required by [Section 4 – Appendix: Qualifications](#). Any exceptions to these requirements shall be at the sole discretion of the District Engineer. Interviews and or additional information may be required to determine the suitability of any potential candidates. Specialty Inspectors for work such as deep foundations, geotechnical or movable structures for example will be indicated in the Solicitation Letter and whose qualifications will be determined on a case by case basis.

A minimum 21 days prior to assignment of any personnel to the project, the Consultant shall submit a [CE&I Proposed Staffing Application](#) form for every proposed staff member to the District Engineer for approval. The submittal shall include the name, position, current and proposed rate of compensation, benefit and overtime-exempt status, as well as documentation of all required experience, degrees, licenses or certifications, as appropriate. In no case will any personnel be assigned to a project without prior written approval of the District Engineer, nor will approvals be made retroactively. The Department reserves the right to require the replacement of any employee found not qualified, competent or suitable for the duties required of his or her position.

### Recommended Guidelines for Resident Engineer and Office Engineer Classifications

The Consultant shall provide a project lead (hereafter designated as the “Resident Engineer”) in one of the following classifications based upon the requirements of the District Engineer: Chief Inspector 1, Chief Inspector 2, Resident Engineer 1, or Resident Engineer 2. The following table provides recommended guidelines for determining the appropriate classification for this lead position, as well as recommendations on the use of the Office Engineer 1 and Office Engineer 2 classifications.

CLASSIFICATION	PROJECT COMPLEXITY	CONSTRUCTION COST
Resident Engineer 2	HIGH	> \$50MM
Resident Engineer 1	MODERATE	\$15MM TO \$60MM
Chief Inspector 2	AVERAGE	\$10MM TO \$20MM
Chief Inspector 1	LOW	<\$10MM
Office Engineer 2	HIGH	> \$50MM
Office Engineer 1	MODERATE	\$10MM TO \$60MM

## **Overtime**

The Consultant shall obtain authorization, in writing, for any overtime performed on the project from the Project Engineer. Unless an emergency situation exists, the authorization shall be obtained *prior* to the overtime work being performed. If the situation develops where advance authorization cannot be obtained, the Consultant shall inform the Project Engineer of the need for the overtime as soon as practical after the fact. A copy of the Consultant's overtime policy must be provided to the Department.

There may be times when the Contractor is working during periods that would be outside of an inspector's normal work shift (e.g., weekends, holidays, extended hours, etc.). In these instances, appropriate staffing levels will be determined by the Project Engineer.

Administrative and survey work do not require overtime coverage, except in emergency cases or situations where it is more economical to complete the work than to return the following day.

## **Shift Differential**

The Consultant shall provide the initiating unit with a copy of their company's policies and procedures at the project assignment meeting. No negotiations may take place until these policies and procedures have been received. Payment of a shift differential cannot be reimbursed unless it is a part of the Consultant's policies and procedures at the time of negotiations.

## **Cost of Living Increases/Promotions/New Classification**

Any requests for cost of living increases, promotions or new classifications to the Agreement shall be submitted to the District Engineer for approval and shall be in accordance with the [Engineering and Construction Directive Number 2015-2-EC – Construction Engineer Staff Wage Rate Changes Cost Plus Fixed Fee Agreements](#).

## **Timesheets**

As requested and in a manner acceptable to the Project Engineer, the Consultant shall provide a daily attendance log as well as weekly timesheets. Additionally, the Consultant shall provide reasonable advance notice of any planned absences, vacations, training, etc.



## Qualifications, Licenses, Certifications and Credentials

The Consultant shall provide staff that possesses qualifications, licenses, certifications and credentials from the following organizations below or as required by [Section 4 – Appendix: Qualifications](#).

### **AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA)**

Consultants performing construction engineering and inspection services on limited access expressway projects are required to have one person certified under the ATSSA or other program acceptable to the Department as a Traffic Control Supervisor.

### **AMERICAN CONCRETE INSTITUTE (ACI)**

Consultants performing any field sampling or testing of Portland Cement Concrete will be required to provide a minimum of one ACI Field Testing Technician – Grade I for each project. Concrete field sampling and testing shall be performed by certified personnel only. Some projects may require additional certified personnel due to multi-shift operations or other testing needs.

### **AMERICAN WELDING SOCIETY (AWS)**

Consultants performing the inspection of field welding, as required in the Solicitation Letter, will provide an AWS Certified Welding Inspector (CWI) for each project. Some projects may require additional certified personnel due to multi-shift operations or other testing needs.

### **CONSTRUCTION MANAGEMENT ASSOCIATION OF AMERICA (CMAA)**

As required, Consultants shall be CMAA Certified Construction Managers (CCM).

### **DEPARTMENT OF CONSUMER PROTECTION (DCP)**

As required, Consultants shall be licensed Professional Engineers, Land Surveyors, or Engineer-in-Training, registered in the State of Connecticut by the DCP.

### **EROSION, SEDIMENT AND STORMWATER INSPECTION**

Consultants performing construction engineering and inspection services on projects requiring a [General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities](#) are required to have one person certified as either a Qualified Compliance Inspector of Stormwater (QCIS) through [STORMWATERONE.COM](#); a Certified Erosion, Sediment and Stormwater Inspector (CESSWI) through [ENVIROCERT INTERNATIONAL, INC.](#); or “equal” certification program acceptable to the Department.

**NATIONAL INSTITUTE FOR CERTIFICATION IN ENGINEERING TECHNOLOGIES (NICET)**

As required, Consultants shall be NICET certified in Transportation Construction Inspection Levels 1 or 2 or Highway Construction Inspection Levels 3 or 4 (formerly Highway Construction levels 1, 2, 3, and 4) as appropriate.

**NACE INTERNATIONAL INSTITUTE SSPC: THE SOCIETY FOR PROTECTIVE COATINGS**

Consultants performing the inspection of bridge painting projects must be either NACE Coating Inspector Program or SSPC - Bridge Coating Inspector (BCI) certified at the appropriate level.

**NEW ENGLAND TRANSPORTATION TECHNICIAN CERTIFICATION PROGRAM (NETTCP)**

Consultants inspecting any concrete work or hot mix asphalt or are required to provide a minimum of one NETTCP certified Concrete Inspector (CI) and one NETTCP certified HMA Paving Inspector (HMAPI) for each project (the same individual may possess all certifications). Concrete field tests and HMA field tests shall be performed by certified personnel only. Some projects may require additional certified personnel due to multi-shift operations or other testing needs.

**NUCLEAR GAUGE MANUFACTURER'S TRAINING**

Consultants performing nuclear density testing must possess any certifications or training required by the Nuclear Regulatory Commission in accordance with the provisions of their NRC license, as applicable.

## SECTION 3 – CONSULTING ENGINEER RESPONSIBILITIES

### Roles and Responsibilities

The Consultant's Resident Engineer shall be responsible for the overall administration and construction inspection services of the Project. The Consultant shall work under the general supervision and direct control of the Project Engineer, and shall adhere to all policies, procedures and practices as described in the [Construction Manual](#), including but not limited to:

### Inspection of Contract Work

The Consultant shall inspect all construction within the project limits to ensure that the work conforms to the requirements of the Contract plans and specifications. They shall monitor and document all work performed by the Contractor, public utility companies, railroads, governmental agencies and other entities within the project limits or for work being billed to the project. The Resident Engineer shall ensure that all staff is thoroughly familiar with the project plans and specifications, and that inspections of the work performed and materials furnished are properly documented.

As a duly-authorized representative of the Engineer, the Consultant's authority is governed by Section 1.05.09—Authority of Inspectors, of the [Standard Specifications for Roads, Bridges and Incidental Construction](#), as stated below:

**1.05.09—Authority of Inspectors:** Inspectors employed by the Department are authorized to inspect all work done and all materials furnished for Project construction. Such inspection may extend to any part of the Project work and to the preparation or manufacture of the materials to be used for same. In case of any dispute arising between the Contractor and the inspector as to materials furnished or the manner of performing work, the inspector has the authority to reject material or stop the work until the question at issue can be referred to and decided by the Engineer. The inspector is not authorized to revoke, alter, enlarge, relax, or release any requirements of the Contract, nor to approve or accept any portion of the Contract work, nor to issue instructions contrary to the Contract. The inspector shall in no case act as a foreman, or fulfill other duties for the Contractor. Any advice that the inspector may give to the Contractor shall not be construed as binding the Department in any way, nor as releasing the Contractor from its obligation to fulfill the terms of the Contract.

## **Construction Survey**

The Consultant shall perform all construction survey work, if required, and negotiated as part of the Agreement, with the exception of that included in the construction contract to be performed by the Contractor. The Consultant shall check layout staking performed by the Contractor; perform survey work and measurements required for determination of quantities and preparation of as-built plans; surveying and construction staking for the accurate installation of fencing; verification of the highway line and the non-access taking line; and other project related survey work as directed by the Department.

Any survey equipment required, including, but not limited to, levels, transits, total stations, GPS survey equipment, other measuring devices, etc., shall be provided by the Consultant.

## **Materials Testing**

The Consultant shall sample all materials to be incorporated into the work as required by the Department's [Schedule of Minimum Requirements for Sampling Materials for Test](#). Sampling shall be performed in a timely manner so that materials can be tested prior to use. The Consultant shall prepare the Requests for Material Test (MAT-100) and shall maintain the testing logs in the project records. All sampling and field testing shall be performed in accordance with established Department's Division of Material Testing procedures.

Any field testing equipment required, including, but not limited to, nuclear density gauges, thermometers, measuring devices, etc., shall be provided by the Consultant.

## **Environmental Monitoring**

The Consultant shall be thoroughly knowledgeable of all environmental permits, permit applications and any other environmental conditions required by the Contract and shall monitor the Contractor's compliance with such, including, but not limited to their adherence to the Required Best Management Practices of the [Standard Specifications for Roads, Bridges and Incidental Construction](#); Soil and Erosion Control Plans; time of year restrictions; permissible noise limits; turbidity limits; diesel emission restrictions; site inspections, etc., and report to the Project Engineer and District Office Environmental Coordinator, as necessary. The Consultant shall prepare all reports required by environmental permits and Department procedures (e.g., project site environmental inspection report, stormwater monitoring report, etc.).

Any environmental testing equipment required, including, but not limited to, turbidity monitors, noise meters, rain gauges, etc., shall be provided by the Consultant.

## **Civil Rights, Labor and Contract Compliance**

The Consultant shall monitor the Contractor's adherence to Equal Employment Opportunity (EEO) and Affirmative Action rules and regulations; prevailing wage standards; DBE/SBE requirements and On the Job requirements (OJT) of the Contract and in conformance with the policies, procedures and practices of the Department's [Construction Manual](#). The Consultant shall monitor and review all required document submissions; monitor subcontracting requirements; review certified payrolls; perform labor wage checks; and verify that DBE/SBE subcontractors are performing a Commercial Useful Function (CUF) for work in which they are certified to perform. Additionally, the Consultant shall act as a liaison between the District's EEO Coordinator, the Office of Construction and the Office of Contract Compliance.

## **Traffic Control**

The Consultant shall monitor the Contractor's compliance with the Maintenance and Protection, Limitation of Operations and Traffic Control sections of the Contract and shall promptly report any deviations or corrective actions necessary to the Contractor. In the event that the Contractor fails to rectify the situation, the Consultant shall notify the Project Engineer immediately.

## **Coordination and Liaison**

The Consultant shall assist in the coordination and act as a liaison between all parties and stakeholders affected by the Project. This shall include conducting coordination and progress meeting as required; establishing and liaising with State Agencies, Municipalities, Utilities and Contractors affected by the work. The Consultant shall identify and clearly define any issues, concerns or problems as they arise and promptly report such to the Project Engineer. It is the responsibility of the Consultant to facilitate the resolution of such issues, or in the alternative, to recommend appropriate solutions to the Department.

## **Document Review**

The Consultant shall review the Contract plans and specifications and notify the Project Engineer of potential problems as soon as they are noted. They shall review alternatives and recommend solutions to construction issues as requested by the Project Engineer.

Additionally, before each new Contractor operation, the Consultant shall review relevant contract plans, shop drawings, working drawings, procedures and requirements so that they are thoroughly knowledgeable of the work to be performed and all inspection and testing requirements.

## Quality Management Plan

The Consultant is required to have a Quality Management Plan (QMP) to ensure that the work performed meets both the terms of the Agreement and the Department's standards and expectations for the quality of services provided. The Consultant must submit a QMP to the District Engineer for review prior to performing any work on the project. The QMP must conform to the Department's [Construction Manual](#) and at a minimum should include the following:

- An organizational chart showing how the proposed staff for the project will be organized. The chart must include both direct staff and any sub-consultants on the project. A description of the reporting relationships among the staff should accompany the chart.
- A description of field oversight procedures for:
  - Ensuring the quality of inspection. Include samples of any forms or reports used to monitor compliance.
  - The dissemination of information to project inspection staff, including correspondence, bulletins, directives and quality issues.
- A description of how the responsibility for making and checking payments under the construction contract will be delegated among the project staff.
- A description of the plan to monitor performance to meet the Consultant's DBE/SBE goal, as well as documentation of any good faith efforts, if required.
- A description of the correspondence and documentation procedures that will be utilized on the project including a description of a hierarchical filing system for project records.
- A plan for verification and maintenance of any required staff licenses and certifications. The plan must include provisions for the Consultant to notify the District Engineer, in writing, within 5 days, of any staff whose certifications, registrations or licenses have been suspended, revoked, expired or otherwise no longer in effect and to immediately replace such person with someone who both holds the proper credentials and meets the minimum qualifications for the position as detailed in [Section 4 – Appendix: Qualifications](#) of this pamphlet.
- A plan for the return, transfer or cancelling of all keys, badges, equipment (tablets, laptops, etc.), login credentials (windows, outlook, Site Manager, Contract Manager, Sharepoint, etc.) issued during the Project.
- A plan for the submission of annual/yearly documents for multi-year project. E.g. affirmative action plans, annual gift affidavit, insurance certificates, etc.
- An issue resolution procedure, addressing how unresolved quality issues will be escalated and resolved.
- The primary person responsible for implementing and monitoring compliance with the QMP.
- A description of the training the project staff will receive relative to the QMP.
- A status report shall be submitted to the Department's Project Engineer, noting any exceptions encountered and actions taken to address those exceptions on a quarterly basis, or sooner should a major deviation to the QMP occur.

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The QMP may include elements from a company-wide quality plan, but the details shall be tailored to the individual project and address any special conditions or requirements relative to the project. The QMP shall be updated at least **annually**, as well as whenever any significant changes to personnel or policies occur.

### Health and Safety

The Consultant is required to have a Health and Safety Plan (HASP) covering the activities of their own staff and any sub-consultants. The Consultant, at his own expense, shall provide all necessary training, supervision, equipment and programs to ensure that staff assigned to the Project will be protected from health and safety risks according to the current requirements of [OSHA](#), as well as all other applicable Federal, State and local laws, rules and regulations.

In addition, it is expected that the Consultant's staff comply with the most current version of the following Department policies and training topics:

- Policy Statement E&C – 32A (Protective Headgear)
- Policy Statement E&C – 32B (Protective Footgear-Steel Toe Shoes)
- Policy Statement E&C – 32C (Protective Clothing)
- Department's Safety Training Topic "Fall Protection in Construction"

### Equipment Procurement

Prior to purchasing any equipment which has been authorized by the Agreement as a direct cost to the Department, the Consultant shall obtain written approval for the purchase from the District Engineer. For equipment costing in excess of \$2,500.00, the Consultant shall obtain cost proposals from at least three (3) suppliers and submit the proposals and equipment catalog cuts for approval. All purchased equipment shall be tagged by the Department, maintained in good condition and shall be turned over to the State upon completion of the construction project.

### Mileage, Lodging and Subsistence

Employee travel expenses will be limited to on project related mileage. All other travel, lodging or subsistence expenses will only be reimbursed with prior approval from the Department and as allowed by the Agreement. Subsistence and lodging rates, when negotiated and approved by the Department, shall not exceed the rates currently in effect for State Manager's under [DAS State Travel Regulations](#). For company vehicles assigned for use on the project, reimbursement for mileage will be allowed only if the vehicle is not normally charged to the company's overhead. Reimbursement shall be made only for the percentage of

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on job and project-related use. The Consultant shall provide a monthly accounting of job related mileage, commutation mileage and other mileage usage and compute the proportional share of mileage to be charged as a direct cost in accordance with the Agreement (maximum is established per the [DAS - Travel Reimbursement Reference Chart \(Managerial\)](#)).

### Billing Procedures

In accordance with the [Pamphlet for Monitoring Consultant Performance and Payment Requests for Construction Engineering and Inspection Services](#), as well as the Agreement, the Consultant shall submit an [Invoice Summary and Processing \(ISP\) Form](#) on a monthly basis, including two copies of the certified payroll in effect at the time of the invoicing, as well as any other necessary supporting documentation. Examples of required supporting documentation include:

- Invoices and Receipts for Direct Costs
- Substantiation of Mileage Claimed and Paid
- Record of Daily Hours Worked by Each Employee
- Project Engineer Overtime Approval
- Invoices for Travel, Lodging or Subsistence, etc. (when authorized by the Agreement)

An ISP submitted with insufficient information, illegible documentation, or errors shall be returned to the Consultant for correction. Corrections should be made promptly so that the error does not carry over to future invoices. Delays in submission or the combining of several invoices into one submission can severely impact the review and approval process and may cause a delay in payment.

A payment log for each sub-consultant assigned to the project shall be submitted quarterly and at the completion of the project. Release of retainage shall occur after the final audit is performed.

### Consultant Performance Evaluations

Semi-annual consultant performance evaluation ratings shall be done for the following periods: January 1<sup>st</sup> through June 30<sup>th</sup> and July 1<sup>st</sup> through December 31<sup>st</sup>. A copy of the semi-annual evaluation will be sent to the Consultant.

Performance reviews may be conducted more frequently if determined necessary by the District Engineer.

When evaluations indicate improvement is needed or if the Consultant wishes to discuss the evaluation, they should contact the Project Engineer and arrange a meeting. These evaluations are used by the Consultant Selection Panel when evaluating firms for future project selections. Poor performance evaluations may prevent the Consultant from being selected for future assignments.



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**SECTION 4 - APPENDIX**

**Qualifications - Highway, Bridge, Rail or Facilities Construction**

CLASSIFICATION	MINIMUM CREDENTIALS	Minimum Experience (years)			EXPERIENCE
		General	Field Inspection	Supervisory	
Resident Engineer 2	PE	12	8	6	Individual must have considerable knowledge of highway, bridge, rail or facilities construction practices and procedures as required; ability to prepare correspondence, reports and recommendations concerning construction issues; demonstrated ability to deal effectively with others; supervisory ability; ability to establish and maintain project records.
Resident Engineer 1, or Assistant Resident Engineer*	PE	8	6	4	
	CCM	10			
Chief Inspector 2, or Chief Inspector 2 (MEP)	PE or CCM or EIT	6			
	NICET HCI Level 4	12			
Chief Inspector 1, or Chief Inspector 1 (MEP)	PE or CCM or EIT	5	4	2	
	NICET HCI Level 4	10			
	Trade License†				
Senior Inspector, or Senior Inspector (MEP)	BS	4	4	0	
	NICET HCI Level 3	6			
	Trade License†				
Inspector	BS	1	1	0	Considerable knowledge of construction materials, methods; ability to maintain field and office records; ability to perform complex quantity and engineering computations; ability to read and interpret plans and specifications; ability to deal effectively with people.
	NICET TCI Level 2	2	2	0	
Entry Level Inspector	BS or NICET TCI Level 1	0	0	0	None
Intern	BS Track	0	0	0	None
Office Engineer 2	BS	6	2	0	Ability to prepare change orders, material testing reports, filing and considerable knowledge in establishing and maintaining project records; ability to use applicable software and record keeping methods.
	NICET HCI Level 3	8			
Office Engineer 1, or Assistant Office Engineer**	BS	2	0	0	
	NICET TCI Level 2	4			
Admin Asst/Clerk/Secretary	None	0	0	0	
Scheduler	BS	6	0	0	Demonstrable ability in the preparation, modification, review and interpretation of Critical Path Method (CPM) schedules.
	PSP	4			
Building Inspector	BO/ABO	6	0	0	Individual must have considerable knowledge of construction practices and procedures for facilities construction and extensive knowledge of all relevant building codes and regulations.

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**Qualifications - Highway, Bridge, Rail or Facilities Construction (continued)**

CLASSIFICATION	CREDENTIALS	Minimum Experience (years)			EXPERIENCE
		General	Field Surveying	Supervisory	
Survey Party Chief	LS	4	3	0	Considerable knowledge of principles and methods of land surveying; knowledge of principles and practices of highway engineering; ability to keep and reduce field notes; ability to determine construction quantities and amounts on completed projects; ability to supervise the layout of limits of work and grades, ability to check contractor's survey layout for accuracy; ability to layout foundations, rail track layouts, abutments, culverts and pipe lines; ability to re-establish boundary lines and stake-taking lines; ability to prepare as-built plans and other related duties as required.
Instrument Person	None	0	0	0	None

\* Assistant Resident Engineer Classification can only be used on projects requiring a Resident Engineer 2

\*\* Assistant Office Engineer Classification can only be used on projects requiring an Office Engineer 2

† Appropriate Trade License for Mechanical/Electrical/Plumbing (MEP)

**Credentials:**

PE - Licensed Professional Engineering registered in the State of Connecticut

EIT –Engineer-in-Training registered in the State of Connecticut

NICET - Certified in Transportation Construction Inspection (TCI) Levels 1 or 2, or Highway Construction Inspection (HCI) Levels 3 or 4 by the National Institute for Certification in Engineering Technologies

CCM - Certified Construction Manager by the Construction Management Association of America (CMAA)

BS - Bachelor of Science Degree in a relevant field

PSP - Planning & Scheduling Professional certified by AACE International

BO/ABO - Building Official or Assistant Building Official License registered in the State of Connecticut

LS - Licensed Land Surveyor registered in the State of Connecticut

**CE&I INFORMATION PAMPHLET FOR CONSULTING ENGINEERS**

**Qualifications - Bridge Painting**

CLASSIFICATION	CREDENTIALS	Minimum Experience (years)		EXPERIENCE
		Coating Inspection	Supervisory	
Resident Engineer or Chief Inspector	NACE CIP Level 3 or SSPC - BCI Level 2	8	4	Considerable knowledge of coatings containment practices and procedures; lead monitoring; lead health and safety procedures; ability to prepare correspondence, reports, and recommendations concerning construction issues; demonstrated ability to deal effectively with others; ability to establish and maintain project records.
Inspector	NACE CIP Level 2 or SSPC - BCI Level 1	2	0	

**Credentials:**

NACE - Certified as a Level 2 or 3 by the NACE International Institute

SSPC - Certified as a Level 1 or 2 Bridge Coating Inspector (BCI) by the SSPC: The Society for Protective Coatings

**Acknowledgements**

**CE&I INFORMATION PAMPHLET UPDATE**  
**COMMITTEE MEMBERS**

Michael Mendick, PE, CCM	District 1A Construction (Chairman)
John Antonucci, PE	District 3A Construction
Joyce Famiglietti	Fiscal Management & Support
Steven Hebert	District 3 Construction
Dilraj Josen	District 1 Construction
Diane Lefrancois	Fiscal Management & Support
Donald Ward, PE	Office of Construction
Patrick Warzecha	District 2 Construction

Special Thanks to Tina Allen (District 1A Construction) and Julie Beers (District 4 Construction) for their help producing this pamphlet.

# CE&I PROPOSED STAFFING APPLICATION

PROJECT NO.: \_\_\_\_\_ DATE: \_\_\_\_\_  
 DESCRIPTION: \_\_\_\_\_  
 CONSULTANT: \_\_\_\_\_ SUB-CONSULTANT: \_\_\_\_\_  
 NAME: \_\_\_\_\_ PROPOSED START DATE: \_\_\_\_\_  
 PROPOSED CLASSIFICATION: \_\_\_\_\_ PROPOSED RATE: \_\_\_\_\_  
 CURRENT CLASSIFICATION: \_\_\_\_\_ CURRENT RATE: \_\_\_\_\_  
 IF PROPOSED CLASSIFICATION IS THE SAME AS CURRENT, RATE ONE YEAR PRIOR: \_\_\_\_\_  
 MAXIMUM RATE PER AGREEMENT FOR PROPOSED CLASSIFICATION: \_\_\_\_\_  
 BENEFIT STATUS: \_\_\_\_\_ OVERTIME STATUS: \_\_\_\_\_

## LICENSES, CERTIFICATIONS AND CREDENTIALS

	STATE:	LICENSE NO.:	EXPIRES:
		NO.:	EXPIRES:
<b>NICET LEVEL:</b>	PROGRAM:	CERT. NO.:	EXPIRES:
<b>COLLEGE DEGREE</b>	MAJOR:		GRADUATION DATE:
<b>TRADE LICENSE</b>	STATE:	LICENSE NO.:	EXPIRES:
<b>PLANNING &amp; SCHEDULING PROFESSIONAL (PSP)</b>		CERT. NO.:	EXPIRES:
	STATE:	LICENSE NO.:	EXPIRES:
	STATE:	LICENSE NO.:	EXPIRES:
<b>ACI CONCRETE FIELD TESTING TECHNICIAN - GRADE I</b>			EXPIRES:
<b>NETTCP Concrete Inspector</b>		CERT. NO.:	RECERT. DATE:
<b>NETTCP HMA Paving Inspector</b>		CERT. NO.:	RECERT. DATE:
<b>NETTCP Soils &amp; Aggregate Inspector</b>		CERT. NO.:	RECERT. DATE:
<b>NETTCP Driven Pile Inspector</b>		CERT. NO.:	RECERT. DATE:
<b>ATSSA TRAFFIC CONTROL SUPERVISOR</b>			EXPIRES:
<b>AWS CERTIFIED WELDING INSPECTOR</b>			EXPIRES:
<b>NACE CIP LEVEL:</b>		SPECIALTY:	EXPIRES:
<b>SSPC BCI LEVEL:</b>			EXPIRES:
<b>NUCLEAR GAUGE MANUFACTURER'S TRAINING</b>			DATE OF TRAINING:
<b>OSHA CONSTRUCTION SAFETY TRAINING COURSE</b>			DATE OF TRAINING:
<b>OTHER</b>			
<b>OTHER</b>			
<b>OTHER</b>			

GENERAL EXPERIENCE: \_\_\_\_\_ FIELD INSPECTION: \_\_\_\_\_ SUPERVISORY: \_\_\_\_\_  
 FIELD SURVEYING: \_\_\_\_\_ COATING INSPECTION: \_\_\_\_\_

DOES THE PROPOSED CANDIDATE MEET OR EXCEED THE QUALIFICATIONS?  
 IF NO, PLEASE EXPLAIN ANY EXCEPTIONS AND WHY THIS CANDIDATE IS SUITABLE FOR THE POSITION:

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**FOR DEPARTMENT USE ONLY**

RECOMMENDED/NOT RECOMMENDED (Please circle) BY PROJECT ENGINEER DATE: \_\_\_\_\_

REMARKS: \_\_\_\_\_

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_