

VERMONT

PROJECT  
Middlebury RS 0174 (8)

VERMONT  
AGENCY OF TRANSPORTATION  
PROPOSAL

STANDARD SPECIFICATIONS FOR CONSTRUCTION  
DATED 2011 SHALL APPLY TO THIS CONTRACT

SPECIAL PROVISIONS  
SUPPLEMENTAL SPECIFICATIONS  
SCHEDULE OF ITEMS

**ELECTRONIC BID BOND** to be submitted in the amount of 5% of the Contractor's bid.

**BIDDING PROCEDURE**

Bid Proposals will not be read unless accompanied by an electronic bid bond, and they may be rejected as irregular if they are not in compliance with Agency specifications.

**NOTE: All bid proposals shall be properly filled out and submitted electronically utilizing Bid Express services.**

## SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS

Vermont Project Middlebury RS 0174 (8) in the town of Middlebury.

The following provisions and supplemental specifications are included in this proposal and are effective for this contract.

Proposal holders are reminded of their responsibility to check the contents of this proposal against the following index. In the event that you suspect or determine the proposal is incomplete, notify the Agency's Contracts and Specifications Engineer immediately [(802)828-2641].

Proposal holders are also reminded of their other responsibilities to carefully examine all other information which affects the bidding process.

Required Contract Provisions for Federal-Aid Construction  
Standard Federal EEO Specifications  
Vermont Agency of Transportation Contractor Workforce Reporting Requirements  
Workers' Compensation; State Contracts Compliance Requirement  
General Special Provisions dated July 2, 2013  
Bulletin 3.5 Attachment C: Standard State Provisions for Contracts and Grants  
Special Provisions  
Vermont Minimum Labor & Truck Rates  
Disadvantaged Business Enterprise (DBE) Policy Contract Requirements  
US Department of Labor Davis – Bacon Wage Rates  
Asphalt Price Adjustment Provisions dated April 6, 2010  
Section 520 - Membrane Waterproofing, Spray Applied dated August 6, 2013  
Certification for Federal-Aid Contracts  
Schedule of Items  
Contractor's EEO Certification Form  
Debarment & Non-Collusion Affidavit

**REQUIRED CONTRACT PROVISIONS  
FEDERAL-AID CONSTRUCTION CONTRACTS**

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- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

**ATTACHMENTS**

- A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

- I. **GENERAL**

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.
3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.
4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

## II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. **Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:
  - a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.
  - b. The contractor will accept as its operating policy the following statement:
 

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."
2. **EEO Officer:** The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.
3. **Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:
  - a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.
  - b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

- c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.
  - d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.
  - e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.
4. **Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.
- a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.
  - b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.
  - c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.
5. **Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:
- a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.
  - b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.
  - c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.
  - d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.
6. **Training and Promotion:**
- a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

- b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).
  - c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.
  - d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.
7. **Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:
- a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.
  - b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.
  - c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.
  - d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.
8. **Reasonable Accommodation for Applicants / Employees with Disabilities:** The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.
9. **Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.
- a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.
  - b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.
10. **Assurance Required by 49 CFR 26.13(b):**
- a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

- b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. **Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

- (1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;
- (2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and
- (3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

### III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

### IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

## 1. Minimum wages

- a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

- b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:
- (i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
  - (ii) The classification is utilized in the area by the construction industry; and
  - (iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.
- (2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.
- (3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.
- (4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

- c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.
- d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

## 2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

## 3. Payrolls and basic records

- a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.
- b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee ( e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency.

- (2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:
- (i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;
  - (ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;
  - (iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.
- (3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.
- (4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.
- c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

#### 4. Apprentices and trainees

##### a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job-site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. **Compliance with Copeland Act requirements.** The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. **Subcontracts.** The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. **Contract termination: debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.
8. **Compliance with Davis-Bacon and Related Act requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.
9. **Disputes concerning labor standards.** Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.
10. **Certification of eligibility.**
  - a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
  - b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
  - c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

#### V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. **Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.
2. **Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.
3. **Withholding for unpaid wages and liquidated damages.** The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.
4. **Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

## VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).
  - a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:
    - (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
    - (2) the prime contractor remains responsible for the quality of the work of the leased employees;
    - (3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
    - (4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.
  - B "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.
2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.
3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.
4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.
5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

## VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).
3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

#### **VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

#### **IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

## X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

### 1. Instructions for Certification – First Tier Participants:

- a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.
- b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.
- c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.
- d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
- e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).
- f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.
- g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.
- h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.
- i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

- j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

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2. **Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:**

- a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:
- (1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;
  - (2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
  - (3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and
  - (4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.
- b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. **Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

- a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.
- b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.
- c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.
- d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

- e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.
- f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.
- g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.
- h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
- i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

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#### **Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:**

- 1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.
- 2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

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#### **XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

- 1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:
  - a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

- b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.
3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS**

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:
  - a. To the extent that qualified persons regularly residing in the area are not available.
  - b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.
  - c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.
2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.
3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.
4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.
5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.
6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

**STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY**  
**CONSTRUCTION CONTRACT SPECIFICATIONS**  
**(EXECUTIVE ORDER 11246)**

1. As used in these specifications:
  - a. "Covered Area" means the geographical area described in the solicitation from which this contract resulted.
  - b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority.
  - c. "Employer Identification Number" means the Federal Social Security Number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.

A Minority Group Member is:

- ...American Indian or Alaskan Native  
consisting of all persons having origins in any of the original people of North American and who maintain cultural identification through tribal affiliations or community recognition.
- ...Black  
consisting of all persons having origins in any of the Black racial groups of Africa.
- ...Asian or Pacific Islander  
consisting of all persons having origins in any of the original people of the Far East, Southeast Asia, the Indian Sub-Continent or the Pacific Islands. This area includes China, India, Japan, Korea, the Philippines and Samoa.
- ...Hispanic  
consisting of all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin.
- ...Cape Verde an  
consisting of all persons having origins in the Cape Verde Islands.
- ...Portuguese  
consisting of all persons of Portuguese, Brazilian or other Portuguese culture or origin.

2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000.00 the provisions of these specifications and the notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in the Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or subcontract participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. the overall good faith performance by other Contractors or subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or subcontractor's failure to make good faith efforts to achieve the Plan goals and timetables.
4. The Contractor shall implement the specific affirmative action standards provided in Paragraphs 7a through p of these specifications. The goals set for the Contractor in the solicitation from which this contract resulted are expressed as percentages in the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. The Contractor is expected to make substantially uniform progress toward its goals in each craft during the period specified.
5. Neither the provisions of any collective bargaining agreement nor the failure by a union with whom the Contractor has a collective bargaining agreement to refer either minority or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.
6. In order for the non-working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.
7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity . The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully and shall implement affirmative action steps at least as extensive as the following:
  - a. Ensure and maintain a working environment free of harassment, intimidation and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment with specific attention to minority or female individuals working at such sites or in such facilities.
  - b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available and maintain a record of the organizations' responses.

- c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.
- d. Provide immediate written notifications to the Regional Director when the union or unions, with which the Contractor has a collective bargaining agreement, have not referred to the Contractor a minority person or woman sent by the Contractor or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
- e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under Paragraph 7b above.
- f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction is performed.
- g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, Supervisors etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
- h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, and providing written notification to, and discussing the Contractor's EEO policy with, other Contractors and subcontractors with whom the Contractor anticipates doing business.
- i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notifications to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

- j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's workforce.
  - k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
  - l. Conduct, at least annually, an inventory and evaluation of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
  - m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment-related activities to ensure that the EEO policy and Contractor's obligations under these specifications are being carried out.
  - n. Ensure that all facilities and company activities are non-segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
  - o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
  - p. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (Paragraph 7a through p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the Contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under Paragraph 7a through p of these Specifications provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's, and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's non-compliance.
9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is under-utilized).

10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex or national origin.
11. The Contractor shall not enter into any subcontract with any person for firm debarred from Government contracts pursuant to Executive Order 11246.
12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, terminations and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in Paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.
14. The Contractor shall designate a responsible official to monitor all employment-related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.
15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application or requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

**NOTICE OF REQUIREMENTS FOR AFFIRMATIVE ACTION TO ENSURE EQUAL  
EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)**

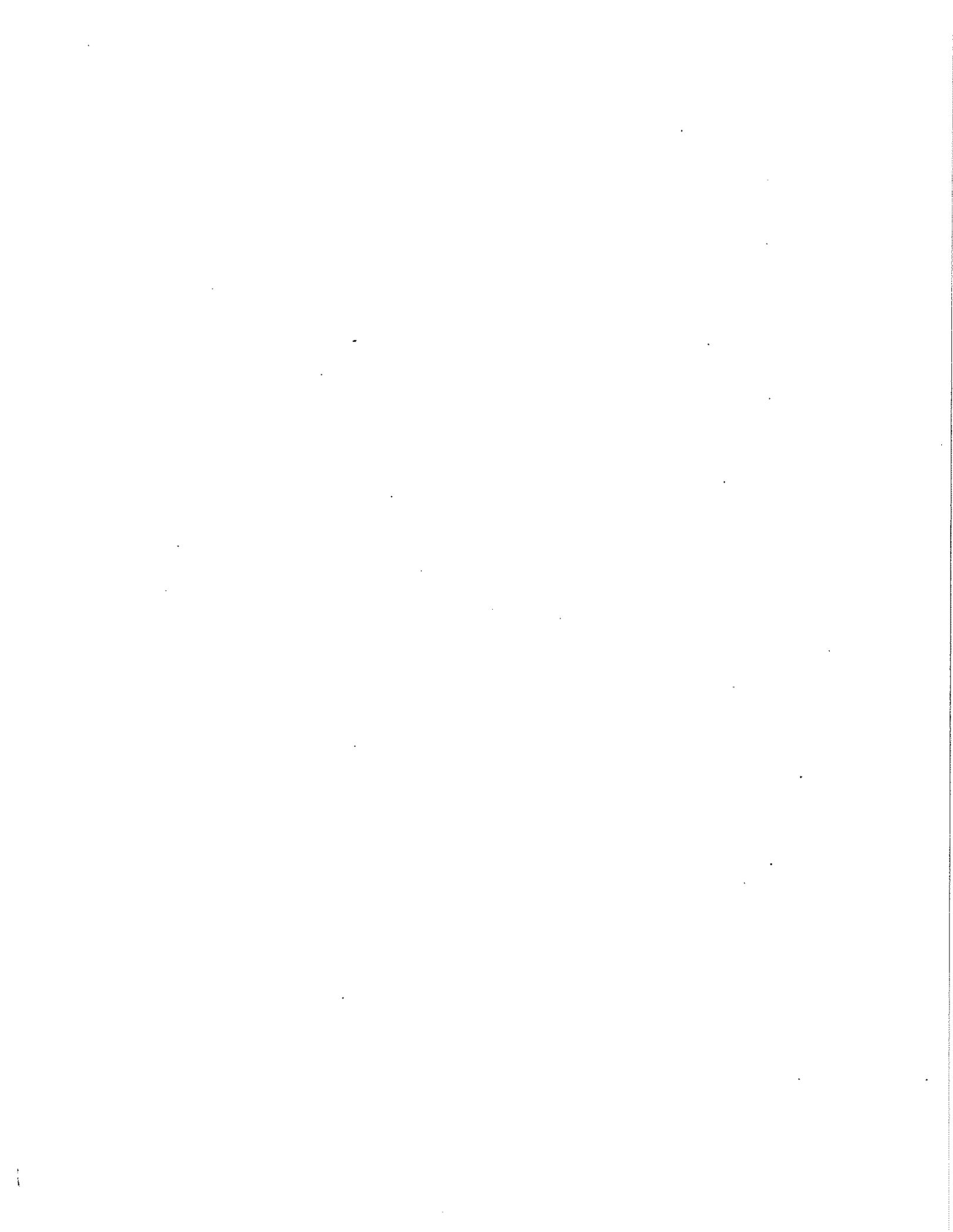
1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Economic Areas	Timetables	Goals for Minority participation for each trade (%)	Goals for Female Participation in each trade (%)
<b>Entire State of Vermont:</b>			
<u>Vermont</u> 003 Burlington, VT Non-SMSA Counties NH Coos; NH Grafton; NH Sullivan; VT Addison; VT Caledonia; VT Chitten- den; VT Essex; VT Frank- lin; VT Grand Isle; VT Lamoille; VT Orange; VT Orleans; VT Rutland; VT Washington; VT Windsor	Indefinite	0.8	6.9
<u>Connecticut (Mass)</u> 006 Hartford - New Haven Springfield, CT-MA Non-SMSA Counties CT Litchfield; CT Windham; MA Franklin; NH Cheshire; VT Windham	Indefinite	5.9	
<u>New York</u> 007 Albany - Schneck- tady - Troy, NY Non-SMSA Counties NY Clinton; NY Columbia; NY Essex; NY Fulton; NY Greene; NY Hamilton; NY Schoharie; NY Warren; NY Washington; VT Bennington	Indefinite	2.6	

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulation in CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3 (a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

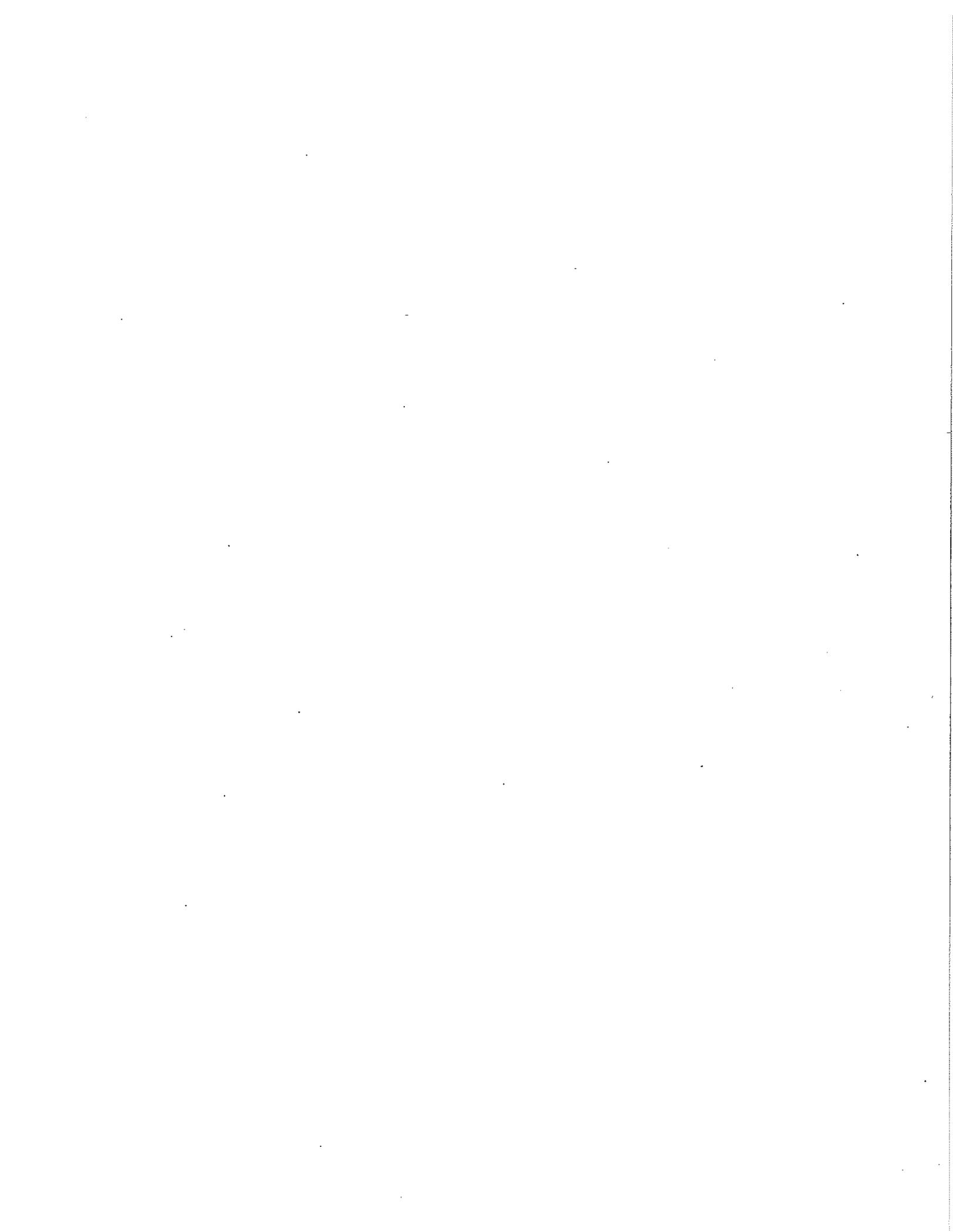
3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within ten working days of award of any construction subcontract in excess of \$10,000.00 at any tier for construction work under the contract resulting from this solicitation. The notifications shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; and the geographical area in which the subcontract is to be performed.
4. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is (insert description of the geographical areas where the contract is to be performed giving the state, county and city, if any)



**VERMONT AGENCY OF TRANSPORTATION  
CONTRACTOR WORKFORCE REPORTING REQUIREMENTS**

The Contractor/Subcontractor shall submit to the State Resident Engineer assigned to this project, monthly and cumulative workforce information, on reporting forms provided herein. The monthly and cumulative workforce information shall be listed by construction trade category with the percentage of minority and female project hours in each category indicated. Failure to provide this information to the Resident Engineer on a monthly basis will result in suspension of bi-weekly progress payments, or part thereof due under the contract, until such time as the Contractor or Subcontractor demonstrates compliance with these contract terms.

**Note:** In lieu of using the reporting forms provided herein, the Contractor may use U.S. Department of Labor form CC-257, "Monthly Employment Utilization Report".





INSTRUCTIONS FOR FILING  
MONTHLY EMPLOYMENT UTILIZATION REPORT

1. **PROJECT NAME AND NUMBER**  
Complete project name and number as assigned by the Vermont Agency of Transportation.
2. **CONTRACTOR'S NAME AND ADDRESS**  
Indicate the name and address of the *PRIME CONTRACTOR* with a construction contract funded in whole or in part with Federal funds.
3. **CURRENT GOALS**  
See section of contract regarding requirement for Affirmative Action (Executive Order 11246).
4. **REPORTING PERIOD**  
Monthly, beginning with the effective date of the contract.
5. **CONSTRUCTION TRADE CLASSIFICATION**  
Indicate only those classifications used on this contract.
6. **TOTAL NUMBER – ALL WORK HOURS OF EMPLOYEES BY TRADE**  
Indicate the total number of hours (male and female *combined*) worked by employees in each trade classification.
7. **BLACK,/HISPANIC/ASIAN/AMERICAN INDIAN/WHITE CATEGORIES**  
Indicate the total number of hours (male and female *separated*) worked by each specified ethnic group of employees in each classification.
8. **PERCENTAGE OF TOTAL WORK HOURS - MINORITY**  
Indicate the PERCENTAGE of total minority work hours (male and female *MINORITIES combined*) of all work hours (the sum of the BLACK, HISPANIC, ASIAN, and AMERICAN INDIAN columns divided by the sum of TOTAL NUMBER OF ALL WORK HOURS - just one figure for each construction trade.)
9. **PERCENTAGE OF TOTAL WORK HOURS - FEMALE**  
Divide the TOTAL NUMBER – ALL WORK HOURS OF EMPLOYEES BY TRADE for each classification by the total number of females reported in BLACK, HISPANIC, ASIAN, AMERICAN INDIAN and WHITE for each classification.
10. **TOTAL NUMBER OF EMPLOYEES**  
Indicate the total number of male employees and the total number of female employees working in each classification in the contractor's work force during the reporting period.
11. **TOTAL NUMBER OF MINORITY EMPLOYEES**  
Indicate the total number of male *MINORITY* employees and the total number of female *MINORITY (non-white)* employees working in each classification in the contractor's work force during the reporting period.
12. **COMPLETE THE FORM: SIGNATURE, TITLE, PHONE NUMBER, DATE, PAGE \_\_\_\_ OF \_\_\_\_.**
13. **AT THE END OF EACH MONTH, SUBMIT** the completed Monthly Employment Utilization Report Form to the State Resident Engineer on the project site. One of these forms should be completed for each month of the contract.

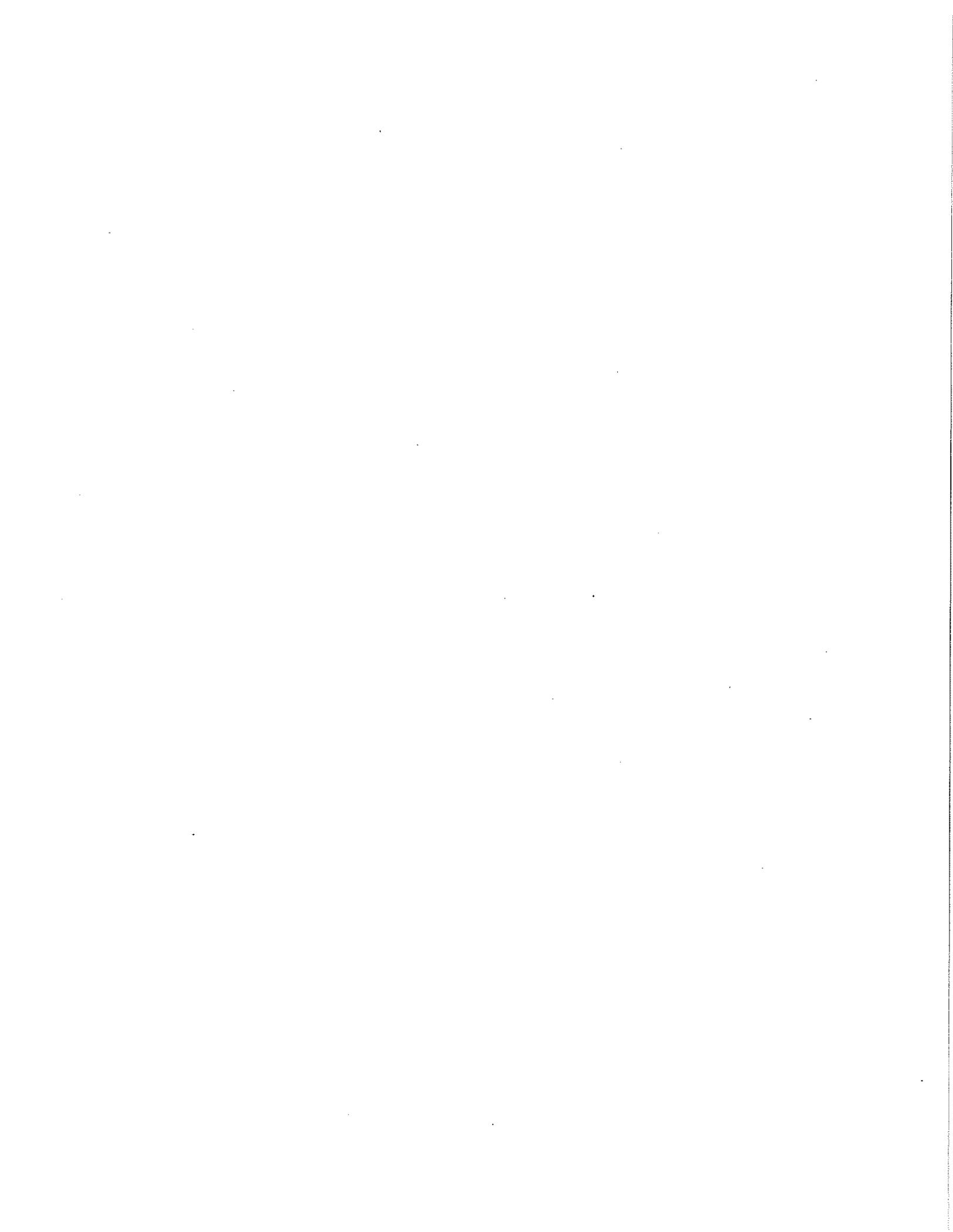


INSTRUCTIONS FOR FILING  
CUMULATIVE MONTHLY EMPLOYMENT UTILIZATION REPORT

*[Using the Monthly Employment Utilization Reports collected from the subcontractors on the job, COMBINE all the information to complete the CUMULATIVE Monthly Employment Utilization Report Form and submit to the State Resident Engineer on the project each month.]*

1. **PROJECT NAME AND NUMBER**  
Complete project name and number as assigned by the Vermont Agency of Transportation.
2. **CONTRACTOR'S NAME AND ADDRESS**  
Indicate the name and address of the *PRIME CONTRACTOR* with a construction contract funded in whole or in part with Federal funds.
3. **CURRENT GOALS**  
See section of contract regarding requirement for Affirmative Action (Executive Order 11246).
4. **REPORTING PERIOD**  
Monthly, beginning with the effective date of the contract.
5. **CONSTRUCTION TRADE CLASSIFICATION**  
Indicate only those classifications used on this contract.
6. **TOTAL NUMBER – ALL WORK HOURS OF EMPLOYEES BY TRADE**  
Indicate the total number of hours (male and female *combined*) worked by employees in each trade classification.
7. **BLACK,/HISPANIC/ASIAN/AMERICAN INDIAN/WHITE CATEGORIES**  
Indicate the total number of hours (male and female *separated*) worked by each specified ethnic group of employees in each classification.
8. **PERCENTAGE OF TOTAL WORK HOURS - MINORITY**  
Indicate the PERCENTAGE of total minority work hours (male and female MINORITIES *combined*) of all work hours (the sum of the BLACK, HISPANIC, ASIAN, and AMERICAN INDIAN columns divided by the sum of TOTAL NUMBER OF ALL WORK HOURS - just one figure for each construction trade.)
9. **PERCENTAGE OF TOTAL WORK HOURS - FEMALE**  
Divide the TOTAL NUMBER – ALL WORK HOURS OF EMPLOYEES BY TRADE for each classification by the total number of females reported in BLACK, HISPANIC, ASIAN, AMERICAN INDIAN and WHITE for each classification.
10. **TOTAL NUMBER OF EMPLOYEES**  
Indicate the total number of male employees and the total number of female employees working in each classification in the contractor's work force during the reporting period.
11. **TOTAL NUMBER OF MINORITY EMPLOYEES**  
Indicate the total number of male *MINORITY* employees and the total number of female *MINORITY (non-white)* employees working in each classification in the contractor's work force during the reporting period.
12. **COMPLETE THE FORM: SIGNATURE, TITLE, PHONE NUMBER, DATE, PAGE \_\_\_\_ OF \_\_\_\_.**
13. **AT THE END OF EACH MONTH, SUBMIT** the completed CUMULATIVE Monthly Employment Utilization Report Form to the State Resident Engineer on the project site. One of these forms should be completed for each month of the contract.







- (3) Hauling or operation of said vehicles or equipment over any permanent course of any bituminous pavement or any structure during active construction will not be permitted.
  - (4) No loads of any category will be permitted on a concrete pavement or concrete structure prior to expiration of the curing period and until the concrete reaches its specified 28-day compressive strength.
  - (5) Notwithstanding those restrictions above, the Contractor shall be responsible for any and all damages incurred to any public roadway as defined in Title 23 due to the use of any equipment or vehicles related to project activities.
8. 105.26 OPENING WASTE, BORROW, AND STAGING AREAS, part (f), is hereby corrected by deleting punctuation "." at the end of the paragraph.

SECTION 108 - PROSECUTION AND PROGRESS

9. 108.09 TEMPORARY SUSPENSION OF THE WORK, part (d) Seasonal Closure, is hereby modified by deleting the phrase "of the Engineer, and only under such conditions as specified therein" and replacing it with the phrase "from the Regional Construction Engineer" in the first sentence.
10. 108.09 TEMPORARY SUSPENSION OF THE WORK, part (d) Seasonal Closure, is hereby further modified by adding the following:

Permission will only be granted for work which will result in a direct benefit to the State or the traveling public. Items which may be considered as a benefit include but are not limited to shorter Contract duration, a cost savings, increased safety for the traveling public, and an ability to ensure the quality of work. The Contractor shall request permission in writing, detailing what Contract items may be affected, a schedule of work, and the benefits to the State or traveling public.

11. 108.11 DETERMINATION OF EXTENSION OF CONTRACT TIME FOR COMPLETION, part (b) Determination of Contract Completion Date Extension, subpart (8), is hereby modified by deleting the phrase ", delays in submittals, errors in submittals, and the Contractor's means and methods of construction".
12. 108.11 DETERMINATION OF EXTENSION OF CONTRACT TIME FOR COMPLETION, part (b) Determination of Contract Completion Date Extension, subpart (9), is hereby modified by deleting the phrase ", including but not limited to the Contractor's means and methods of construction".
13. 108.11 DETERMINATION OF EXTENSION OF CONTRACT TIME FOR COMPLETION, part (b) Determination of Contract Completion Date Extension, subpart (11), is hereby modified by being deleted in its entirety.
14. 108.11 DETERMINATION OF EXTENSION OF CONTRACT TIME FOR COMPLETION, part (b) Determination of Contract Completion Date Extension, subpart (13), is hereby modified by adding the following as the first sentence:

Industry-wide material or supply shortages not reasonably anticipated by the Contractor at the time the Contract was entered.

15. 108.11 DETERMINATION OF EXTENSION OF CONTRACT TIME FOR COMPLETION, part (b) Determination of Contract Completion Date Extension, subpart (13), is hereby further modified by changing the word "Delay" to the word "Delays" at the beginning of the second sentence.

SECTION 109 - MEASUREMENT AND PAYMENT

16. SECTION 109 - MEASUREMENT AND PAYMENT, is hereby corrected by deleting pages 1-141 and 1-142 in their entirety.

SECTION 203 - EXCAVATION AND EMBANKMENTS

17. 203.01 DESCRIPTION, is hereby modified by adding the phrase "performing test borings for the purpose of determining areas of roadway and embankment subsurface voids;" after the phrase "trimming and shaping of slopes;" in the first sentence of the first paragraph.

18. 203.01 DESCRIPTION, is hereby further modified by adding the following new part (1):

(1) Test Borings. Test Borings shall consist of an investigative and planned approach to determining areas of roadway and embankment subsurface voids and repairing bored areas.

19. 203.02 MATERIALS, is hereby modified by adding the following to the Subsection listing:

PVC Plastic Pipe.....710.06

20. 203.02 MATERIALS, is hereby further modified by adding the following paragraphs:

Concrete for backfilling subsurface voids shall meet the requirements of Controlled Density (Flowable) Fill of Section 541.

Bituminous concrete pavement shall conform to the requirements of Section 406 or 490, as applicable for the Contract, with the exception that the mix design submittal and plant inspection requirements set forth in Section 406 or 490 will not apply.

21. 203.03 GENERAL CONSTRUCTION REQUIREMENTS, is hereby modified by adding the following as the eighth paragraph:

Prior to the construction of Test Borings and the placement of Controlled Density (Flowable) Fill, the Contractor shall submit to the Engineer site-specific plans, detailing the schedule of work (for these two items), type and location of drilling, sleeve installation, pumping system, confirmatory boring operation, method of filling bore hole (with or without voids being encountered), and repair of the roadway section (sand, gravel, and pavement).

22. 203.11 EMBANKMENTS, is hereby modified by adding the following new part (e):

(e) Test Borings. Test borings shall be performed at the approximate locations indicated in the Plans and/or as directed by the Engineer.

When used adjacent to culverts, test borings shall extend to a depth equal to the bottom of the culvert using casing advanced drilling methods. Alternate drilling equipment that provides a suitably clean, open hole may be submitted to the Engineer for approval.

If void(s) are encountered, Controlled Density (Flowable) Fill shall be placed to completely fill the void(s). Confirmatory borings shall be performed in these locations as directed by the Engineer.

The roadway surface at boring hole locations shall be backfilled and then patched using Bituminous Concrete Pavement.

23. 203.13 METHOD OF MEASUREMENT, is hereby modified by adding the following new part (e):

(e) Test Borings. The quantity of Test Borings to be measured for payment will be the number of meters (linear feet) of test boring performed in the complete and accepted work.

24. 203.14 BASIS OF PAYMENT, is hereby modified by adding the phrase "and Test Borings" after the phrase "Shoulder Berm Removal" in the first sentence of the first paragraph.

25. 203.14 BASIS OF PAYMENT, is hereby further modified by adding the phrase "submitting site-specific plans as required, performing test borings, installing sleeves, backfilling, patching with bituminous concrete pavement," after the phrase "work specified," in the second sentence of the first paragraph.

26. 203.14 BASIS OF PAYMENT, is hereby corrected by adding a period at the end of the sixth paragraph.

27. 203.14 BASIS OF PAYMENT, is hereby still further modified by adding the following paragraph and pay item:

Filling of subsurface voids encountered in performing Test Borings will be paid for under Contract item 541.45.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
203.45 Test Borings	Meter (Linear Foot)

SECTION 406 - MARSHALL BITUMINOUS CONCRETE PAVEMENT

28. 406.03 COMPOSITION OF MIXTURE, part (f) Boxed Samples, is hereby corrected by adding the word "Engineer" to the end of the second (last) sentence.
29. 406.16 SURFACE TOLERANCE, is hereby modified by adding the phrase ", with the exception of all limited access highway on and off ramps," after the phrase "miscellaneous mix" in the second (last) sentence of the sixth (last) paragraph.

SECTION 490 - SUPERPAVE BITUMINOUS CONCRETE PAVEMENT

30. 490.14 COMPACTION, part (c) Coring Protocol, is hereby corrected by deleting text "0" and replacing it with text ")" in the first sentence of the seventh paragraph.
31. 490.16 SURFACE TOLERANCE, is hereby modified by adding the phrase ", with the exception of all limited access highway on and off ramps," after the phrase "miscellaneous mix" in the second (last) sentence of the sixth (last) paragraph.

SECTION 501 - HPC STRUCTURAL CONCRETE

32. 501.03 CLASSIFICATION AND PROPORTIONING, TABLE 501.03A (Metric), is hereby modified by deleting the fourth column (with header "Max. Slump (mm)") in its entirety and replacing it with the following:

Max. <sup>7</sup> Slump (mm)
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N/A.
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33. 501.03 CLASSIFICATION AND PROPORTIONING, TABLE 501.03A (Metric), is hereby further modified by adding the following footnote:

<sup>7</sup> The mix shall not exhibit segregation at the slump/spread used at placement. If the Engineer suspects there is segregation, the Engineer will require a slump/spread test be performed by the Contractor to visually observe the characteristics of the mix. If in the opinion of the Engineer the mix does exhibit segregation, the load will be rejected and subsequent load(s) shall be tested, at a minimum of 3 loads or until the problem is corrected.

If the Contractor needs a concrete with a slump greater than 200 mm, the Contractor shall propose to the Engineer to use an SCC mix, which shall be submitted to the Engineer for review and acceptance.

34. 501.03 CLASSIFICATION AND PROPORTIONING, TABLE 501.03A (English), is hereby modified by deleting the fourth column (with header "Max. Slump (in)") in its entirety and replacing it with the following:

Max. <sup>7</sup> Slump (mm)
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N/A
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35. 501.03 CLASSIFICATION AND PROPORTIONING, TABLE 501.03A (English), is hereby corrected by deleting text "700 mm" and replacing it with text "28 inches" in footnote 4.

36. 501.03 CLASSIFICATION AND PROPORTIONING, TABLE 501.03A (English), is hereby further modified by adding the following footnote:

<sup>7</sup> The mix shall not exhibit segregation at the slump/spread used at placement. If the Engineer suspects there is segregation, the Engineer will require a slump/spread test be performed by the Contractor to visually observe the characteristics of the mix. If in the opinion of the Engineer the mix does exhibit segregation, the load will be rejected and subsequent load(s) shall be tested, at a minimum of 3 loads or until the problem is corrected.

If the Contractor needs a concrete with a slump greater than 8 inches, the Contractor shall propose to the Engineer to use an SCC mix, which shall be submitted to the Engineer for review and acceptance.

37. 501.03 CLASSIFICATION AND PROPORTIONING, is hereby corrected by deleting the phrase "1716 Barre-Montpelier Rd., Berlin, Vermont 05602" and replacing it with the phrase "2178 Airport Road Unit B, Berlin, Vermont 05641" in the second sentence of the ninth paragraph (beginning "A minimum of thirty (30)...").

38. 501.11 DEPOSITING CONCRETE UNDERWATER, part (a) General, subpart (1), is hereby corrected by deleting the phrase "1716 Barre-Montpelier Rd., Berlin, Vermont 05602" and replacing it with the phrase "2178 Airport Road Unit B, Berlin, Vermont 05641" in the second sentence of the second paragraph.

SECTION 505 - PILING

39. 505.09 BASIS OF PAYMENT, is hereby modified by adding the following pay item:

<u>Pay Item</u>	<u>Pay Unit</u>
505.12 Steel Piling, HP 250 x 85 (HP 10 x 57)	Meter (Linear Foot)

SECTION 506 - STRUCTURAL STEEL

40. 506.19 BOLTING AND CONNECTIONS, part (c) Installation, is hereby modified by deleting the tenth paragraph (Beginning "Bolts shall be tightened...") in its entirety and replacing it with the following:
- Bolts shall be tightened to develop a tension not less than 5 percent in excess of the minimum bolt tension specified in Table 506.19A. Bolts shall not be tightened to more than the maximum tension specified in Table 506.19A.
41. 506.19 BOLTING AND CONNECTIONS, part (c) Installation, is hereby further modified by deleting subparts (1) Calibrated Wrench Method, (2) Turn of the Nut Method, and (3) Torque Method in their entirety.
42. 506.19 BOLTING AND CONNECTIONS, part (c) Installation, subpart (4) Tension Control Assembly Method, is hereby modified by being re-designated as part (1).
43. 506.19 BOLTING AND CONNECTIONS, part (c) Installation, subpart (5) Direct Tension Indicator Method, is hereby modified by being re-designated as part (2).
44. 506.19 BOLTING AND CONNECTIONS, part (c) Installation, is hereby still further modified by deleting TABLE 506.19B (including associated paragraphs) in its entirety.
45. 506.19 BOLTING AND CONNECTIONS, part (d) Acceptance of Bolt Tensioning, is hereby modified by deleting the second and third sentences of the first paragraph.
46. 506.19 BOLTING AND CONNECTIONS, part (d) Acceptance of Bolt Tensioning, is hereby further modified by deleting the fourth, fifth, ninth, eleventh, and twelfth paragraphs in their entirety.

SECTION 507 - REINFORCING STEEL

47. 507.01 DESCRIPTION, is hereby modified by adding the phrase "of the level specified" after the phrase "bar reinforcement".
48. 507.01 DESCRIPTION, is hereby further modified by adding the following paragraphs:

Levels and associated types of reinforcing steel are specified as follows:

- (a) Level I (Limited Corrosion Resistance). Level I reinforcing includes plain, low alloy, and epoxy coated reinforcing steel.
- (b) Level II (Improved Corrosion Resistance). Level II reinforcing includes stainless clad and dual-coated reinforcing steel.
- (c) Level III (Exceptional Corrosion Resistance). Level III reinforcing includes solid stainless reinforcing steel.

The location, level, and when specified, type of reinforcing shall be as indicated in the Plans. Reinforcing supplied shall meet the requirements of the level specified or any higher level. Only one type of reinforcing steel shall be used for each level for the Contract work, unless permitted in writing by the Engineer.

49. 507.02 MATERIALS, is hereby modified by deleting the sixth (final) entry in the Subsection listing.
50. 507.03 FABRICATION AND SHIPMENT, part (a) General, is hereby modified by adding the phrase "deformed bar" after the phrase "shall be" in the first paragraph.
51. 507.03 FABRICATION AND SHIPMENT, part (a) General, is hereby corrected by deleting punctuation ".." and replacing it with punctuation "." at the end of the first paragraph.
52. 507.04 PROTECTION OF MATERIAL, is hereby modified by adding the following as the second sentence in the first paragraph:

When multiple levels of reinforcing steel are used on a project, they shall be stored separately, including during transport in order that there is no direct contact between the bars.

53. 507.04 PROTECTION OF MATERIAL, is hereby further modified by deleting the phrase "The epoxy coating" and replacing it with the word "Coatings" in the third sentence of the third paragraph.
54. 507.04 PROTECTION OF MATERIAL, is hereby still further modified by deleting the phrase "as required for damaged areas" and replacing it with the phrase "per the coating manufacturer's recommendations and to the satisfaction of the Engineer" in the third sentence of the fifth (last) paragraph.
55. 507.04 PROTECTION OF MATERIAL, is hereby still further modified by adding the following paragraph:

All ends of Level II reinforcement where the mild steel core is exposed shall be capped in accordance with one of the following:

- (a) Heat-shrink cap applied in accordance with the cap manufacturer's instructions.
  - (b) Neoprene cap adhered with silicone or epoxy sealant.
  - (c) Stainless steel cap epoxied in place.
  - (d) Stainless steel seal weld.
56. 507.05 PLACING AND FASTENING REINFORCING STEEL, is hereby modified by deleting the sixth paragraph in its entirety and replacing it with the following:

Tie wires and supports used for installation of reinforcement shall be composed of the same material as any steel being contacted or shall be plastic. When forms are to be removed in their entirety, uncoated steel chairs equipped with snug-fitting, high-density, polyethylene tips which provide 3 mm (1/4 inch) clearance between the metal and any exposed surface may be used.

57. 507.10 METHOD OF MEASUREMENT, is hereby modified by deleting the phrase ", Epoxy Coated Reinforcing Steel, and Galvanized Reinforcing Steel" and replacing it with the phrase "of the type and size specified" in the first paragraph.

58. 507.10 METHOD OF MEASUREMENT, is hereby further modified by adding the phrase "of the type specified" at the end of the second paragraph (beginning "The quantity of Drilling and Grouting Dowels...").
59. 507.11 BASIS OF PAYMENT, is hereby modified by deleting the following pay items:

<u>Pay Item</u>	<u>Pay Unit</u>
507.15 Reinforcing Steel	Kilogram (Pound)
507.17 Epoxy Coated Reinforcing Steel	Kilogram (Pound)
507.18 Galvanized Reinforcing Steel	Kilogram (Pound)

60. 507.11 BASIS OF PAYMENT, is hereby further modified by adding the following pay items:

<u>Pay Item</u>	<u>Pay Unit</u>
507.11 Reinforcing Steel, Level I	Kilogram (Pound)
507.12 Reinforcing Steel, Level II	Kilogram (Pound)
507.13 Reinforcing Steel, Level III	Kilogram (Pound)

SECTION 516 - EXPANSION DEVICES

61. 516.01 DESCRIPTION, is hereby modified by adding the phrase ", or partially removing and modifying," after the word "installing".
62. 516.05A PARTIAL REMOVAL AND MODIFICATION, is hereby made a new Subsection of the Standard Specifications as follows:

516.05A PARTIAL REMOVAL AND MODIFICATION. The Contractor shall partially remove and modify the existing bridge joint at the locations indicated in the Plans and as directed by the Engineer.

Steel for new joint plates shall meet the requirements of Subsection 714.02.

The Contractor shall remove and dispose of existing joint plates, drain troughs, and associated hardware.

The Contractor shall grind existing steel plates and/or shoulder concrete to the configuration shown on the Plans. The final surface shall be to the satisfaction of the Engineer.

63. 516.06 METHOD OF MEASUREMENT, is hereby modified by adding the following paragraph:

The quantity of Partial Removal and Modification of Bridge Joint to be measured for payment will be the number of meters (linear feet) of bridge joint removed and modified in the complete and accepted work, measured along its centerline.

64. 516.07 BASIS OF PAYMENT, is hereby modified by adding the following paragraph and pay item:

The accepted quantity of Partial Removal and Modification of Bridge Joint will be paid for at the Contract unit price per meter (linear foot). Payment will be full compensation for partially removing and modifying the existing joint as specified and as detailed in the Plans, and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
516.20 Partial Removal and Modification of Bridge Joint	Meter (Linear Foot)

SECTION 525 - BRIDGE RAILINGS

65. 525.02 MATERIALS, is hereby modified by adding the following as the third entry in the Subsection listing:

Structural Steel.....714.02

66. 525.06 INSTALLATION, part (a) General, is hereby modified by adding the following as the sixth (last) paragraph:

Concrete railing shall receive an aesthetic finish in accordance with Subsection 501.16. Cracks in concrete railing shall be repaired by a method approved by the Engineer. Cracks in concrete greater than 0.25 mm (0.01 inch) may be cause for rejection.

67. 525.08 BASIS OF PAYMENT, is hereby modified by adding the phrase "for furnishing all forms, joint filler, admixtures, trial batches, and connection plates for approach railing terminal connectors; for satisfactory completion of any necessary repairs, surface finishing, and curing;" after the phrase "for all work necessary for verifying and adjusting post height and/or bolt spacing of existing posts;" in the second (last) sentence of the third paragraph.

68. 525.08 BASIS OF PAYMENT, is hereby further modified by adding the following pay item:

<u>Pay Item</u>	<u>Pay Unit</u>
525.45 Bridge Railing, Galvanized Steel Tubing/ Concrete Combination	Meter (Linear Foot)

SECTION 531 - BRIDGE BEARING DEVICES

69. 531.04 FABRICATION, part (b) Surface Protection, is hereby corrected by deleting punctuation ",." at the end of the paragraph and replacing it with punctuation ".".

SECTION 540 - PRECAST CONCRETE

70. 540.02 MATERIALS, is hereby modified by deleting the fourteenth entry (beginning "Coated Bar Reinforcement...") in the Subsection listing.

71. 540.02 MATERIALS, is hereby further modified by adding the following as the twenty-eighth entry in the Subsection listing:

Sheet Membrane Waterproofing, Preformed Sheet.....726.11

72. 540.07 FABRICATION, part (e) Placing Concrete, is hereby modified by deleting the phrase "done with care" and replacing it with the phrase "performed in accordance with Subsection 501.10(f)" in the third (last) sentence.

73. 540.10 INSTALLATION, is hereby modified by adding the following new part (c):

- (c) Sheet Membrane Waterproofing. A reinforced asphalt, synthetic resin, or coal-tar based preformed sheet membrane shall be placed over the joints of precast concrete units in accordance with the Contract Documents. All work performed shall be in accordance with the manufacturer's recommendations.

Material for membrane shall meet the requirements of Subsection 726.11.

Waterproofing shall not be performed in wet weather or when the temperature is below 5°C (40°F), without the authorization of the Engineer.

The concrete surfaces that are to be waterproofed shall be reasonably smooth and free from projections or holes and shall be cleaned of dust and loose material. The surfaces shall be visibly dry prior to and during application of the membrane system.

74. 540.14 BASIS OF PAYMENT, is hereby modified by adding the following paragraph:

Furnishing and placing preformed sheet membrane waterproofing, including primer, mastic, polyurethane membrane sealant, and surface preparation, is considered incidental to the work for Precast Concrete Structure.

#### SECTION 541 - STRUCTURAL CONCRETE

75. 541.03 CLASSIFICATION AND PROPORTIONING, TABLE 541.03A (Metric), is hereby modified by deleting footnote designation "\*" in the first and fourth entries of the third row (for "Class A" concrete).

76. 541.03 CLASSIFICATION AND PROPORTIONING, TABLE 541.03A (Metric), is hereby further modified by deleting footnote "\*" and associated text (beginning "\* When this class of concrete...").

77. 541.03 CLASSIFICATION AND PROPORTIONING, TABLE 541.03A (Metric), is hereby still further modified by deleting the fourth (with header "Range in Slump (mm)") and fifth (with header "Air Cont. (%)") columns in their entirety and replacing them with the following:

Range* in Slump (mm)	Air Content (%)
---	7.0 ± 1.5
---	7.0 ± 1.5
---	7.0 ± 1.5
---	5.5 ± 1.5
---	5.5 ± 1.5
---	7.0 ± 1.5

78. 541.03 CLASSIFICATION AND PROPORTIONING, TABLE 541.03A (Metric), is hereby still further modified by adding the following footnote:

\* The mix shall not exhibit segregation at the slump/spread used at placement. If the Engineer suspects there is segregation, the Engineer will require a slump/spread test be performed by the Contractor to visually observe the characteristics of the mix. If in the opinion of the Engineer the mix does exhibit segregation, the load will be rejected and subsequent load(s) shall be tested, at a minimum of 3 loads or until the problem is corrected.

If the Contractor needs a concrete with a slump greater than 200 mm, the Contractor shall propose to the Engineer to use an SCC mix, which shall be submitted to the Engineer for review and acceptance.

79. 541.03 CLASSIFICATION AND PROPORTIONING, TABLE 541.03A (English), is hereby modified by deleting footnote designation "\*" in the first and fourth entries of the third row (for "Class A" concrete).
80. 541.03 CLASSIFICATION AND PROPORTIONING, TABLE 541.03A (English), is hereby further modified by deleting footnote "\*" and associated text (beginning "\*\* When this class of concrete...").

81. 541.03 CLASSIFICATION AND PROPORTIONING, TABLE 541.03A (English), is hereby still further modified by deleting the fourth (with header "Range in Slump (in.)") and fifth (with header "Air Cont. (%)") columns in their entirety and replacing them with the following:

Range* in Slump (mm)	Air Content (%)
---	7.0 ± 1.5
---	7.0 ± 1.5
---	7.0 ± 1.5
---	5.5 ± 1.5
---	5.5 ± 1.5
---	7.0 ± 1.5

82. 541.03 CLASSIFICATION AND PROPORTIONING, TABLE 541.03A (English), is hereby still further modified by adding the following footnote:

\* The mix shall not exhibit segregation at the slump/spread used at placement. If the Engineer suspects there is segregation, the Engineer will require a slump/spread test be performed by the Contractor to visually observe the characteristics of the mix. If in the opinion of the Engineer the mix does exhibit segregation, the load will be rejected and subsequent load(s) shall be tested, at a minimum of 3 loads or until the problem is corrected.

If the Contractor needs a concrete with a slump greater than 8 inches, the Contractor shall propose to the Engineer to use an SCC mix, which shall be submitted to the Engineer for review and acceptance.

83. 541.03 CLASSIFICATION AND PROPORTIONING, TABLE 541.03A (Metric) is hereby modified by adding the following as the eighth (bottom) row with the included footnotes:

Controlled Density (Flowable) Fill	To be designed ***	To be designed ****	To be designed *****	10 min.	704.01 (Fine Aggregate)	0.85 max. *****	---
---	--------------------------	---------------------------	----------------------------	------------	-------------------------------	-----------------------	-----

- \*\*\* A mineral admixture may be used to replace a portion of the cement.
- \*\*\*\* The minimum amount of water shall be used to produce the desirable flow for the intended use without showing segregation.
- \*\*\*\*\* The slump (flowability) shall be such that material is able to completely fill the voids or area as needed without segregation.
- \*\*\*\*\*A minimum of 3 cylinders per test age required to constitute a test. If average strength at 28 days exceeds 115% of max. strength, then payment for Contract item 541.45 will be 85% of the Contract bid price.

84. 541.03 CLASSIFICATION AND PROPORTIONING, TABLE 541.03A (English) is hereby modified by adding the following as the eighth (bottom) row with the included footnotes:

Controlled Density (Flowable) Fill	To be designed ***	To be designed ****	To be designed *****	10 min.	704.01 (Fine Aggregate)	125 max. *****	---
---	--------------------------	---------------------------	----------------------------	------------	-------------------------------	----------------------	-----

\*\*\* A mineral admixture may be used to replace a portion of the cement.

\*\*\*\* The minimum amount of water shall be used to produce the desirable flow for the intended use without showing segregation.

\*\*\*\*\* The slump (flowability) shall be such that material is able to completely fill the voids or area as needed without segregation.

\*\*\*\*\*A minimum of 3 cylinders per test age required to constitute a test. If average strength at 28 days exceeds 115% of max. strength, then payment for Contract item 541.45 will be 85% of the Contract bid price.

85. 541.10 PLACING CONCRETE, part (c) Placement Limitations, is hereby modified by adding the following paragraphs:

Flowable fill shall be applied to voids and other locations as specified in the Contract Documents and as directed by the Engineer. Flowable fill shall be able to completely fill the existing voids.

If voids are discovered, the Engineer may direct the Contractor to submit a plan for filling the remaining voids. This work, including preparing and submitting the plan and filling any remaining voids, will be at the Contractor's expense.

86. 541.11 DEPOSITING CONCRETE UNDERWATER, part (a) General, subpart (1), is hereby corrected by deleting the phrase "1716 Barre-Montpelier Rd., Berlin, Vermont 05602" and replacing it with the phrase "2178 Airport Road Unit B, Berlin, Vermont 05641" in the second sentence of the second paragraph.

87. 541.19 METHOD OF MEASUREMENT, is hereby modified by deleting the phrase "or LW" and replacing it with the phrase "LW, or Flowable Fill" in the first sentence of the first paragraph.

88. 541.20 BASIS OF PAYMENT, is hereby modified by adding the following pay item:

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
541.45 Controlled Density (Flowable) Fill	Cubic Meter (Cubic Yard)

SECTION 580 - STRUCTURAL CONCRETE REPAIR

89. 580.02 MATERIALS, is hereby modified by adding the following to the Subsection listing:

Polymer Concrete Repair Material.....780.05

90. 580.03 PROPORTIONING AND MIXING, is hereby modified by deleting the last sentence of the first paragraph in its entirety and replacing it with the following:

The product shall not be extended with sand or gravel, except for Rapid Setting Concrete Repair Material with Coarse Aggregate and Polymer Concrete Repair Material when mixed with approved aggregates in conformance with the manufacturer's recommendations.

91. 580.04 SURFACE PREPARATION FOR REPAIRS, OVERLAYS AND MEMBRANES, is hereby modified by adding the word "abrasive" after the phrase "shall be" and before the phrase "blast cleaned" in the first sentence of the third paragraph.

92. 580.04 SURFACE PREPARATION FOR REPAIRS, OVERLAYS AND MEMBRANES, is hereby further modified by adding the phrase ", or Polymer Concrete Repair Material," after the word "Aggregate" in the sixth paragraph.

93. 580.08 METHOD OF MEASUREMENT, is hereby modified by deleting the phrase "and not for new patches, which will be the responsibility of the Contractor" and replacing it with the phrase ", with no deductions made for areas of new patches" in the second sentence of the ninth paragraph.

94. 580.08 METHOD OF MEASUREMENT, is hereby further modified by adding the phrase ", and Polymer Concrete Repair Material" after the word "Aggregate" in the first sentence of the tenth paragraph.

95. 580.09 BASIS OF PAYMENT, is hereby modified by adding the phrase ", and Polymer Concrete Repair Material" after the word "Aggregate" in the seventh paragraph.

96. 580.09 BASIS OF PAYMENT, is hereby further modified by adding the following pay item:

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
580.21 Polymer Concrete Repair Material	Cubic Meter (Cubic Yard)

SECTION 601 - CULVERTS AND STORM DRAINS

97. 601.02 MATERIALS, is hereby modified by adding the following as the sixth entry in the Subsection listing:

Corrugated Polypropylene Pipe.....710.07

98. 601.07 JOINING PIPE, is hereby modified by adding the following new part (d) as follows:

(d) Corrugated Polypropylene Pipe. Corrugated Polypropylene pipe shall be joined by a system designed and approved by the pipe manufacturer. Couplings and fittings shall provide sufficient longitudinal strength to preserve pipe alignment and prevent separation at the joints.

99. 601.11 BASIS OF PAYMENT, is hereby modified by changing the end of the pay item number range for CPEP Elbow from 601.5999 to 601.5899.

100. 601.11 BASIS OF PAYMENT, is hereby further modified by adding the following pay items:

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
601.2800 to 601.2999 CPPP(SL)	Meter (Linear Foot)
601.5900 to 601.5999 CPPP Elbow	Each
601.7100 to 601.7199 CPPPES	Each

SECTION 608 - EQUIPMENT RENTAL

101. 608.02 GENERAL REQUIREMENTS, is hereby modified by adding the following new part (i):

(i) Truck-Mounted Attenuator, Advanced Warning Vehicle/Protection Vehicle (AWV/PV). Truck-Mounted Attenuator, AWV/PV shall consist of a Truck-Mounted Attenuator meeting the requirements of Subsection 608.02(h) and be equipped with a Changeable Message Sign in accordance with the MUTCD. The Changeable Message Sign shall be mounted so as to be clearly visible to the traveling public and shall be capable of being controlled from inside the cab of the vehicle, with capable controls including but not limited to turning the sign on and off, changing between preset messages, and inserting new messages when approved by the Engineer. Phases of signing shall have the ability to change automatically when required.

102. 608.04 BASIS OF PAYMENT, is hereby modified by changing the word "item" to "items" and by adding the phrase "and Truck-Mounted Attenuator, AWV/PV" after the phrase "Truck-Mounted Attenuator" in the second (last) paragraph.

103. 608.04 BASIS OF PAYMENT, is hereby further modified by adding the following pay item:

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
608.50 Truck-Mounted Attenuator, AWV/PV	Hour

SECTION 613 - STONE FILL, RIPRAP, AND SLOPE PAVING

104. 613.02 MATERIALS, is hereby modified by adding the following to the Subsection listing:

Rock Fill for Gabions.....	706.06
Gabion Baskets.....	712.04

105. 613.04 PLACING, is hereby modified by adding the following new part (d):

- (d) Rock Fill for Gabions. The furnishing and installing of gabion baskets shall be performed in accordance with the manufacturer's recommendations.

The Contractor should expect to perform some manual stone placement to minimize voids and to create a neat, flat vertical surface of gabions.

106. 613.05 METHOD OF MEASUREMENT, is hereby modified by adding the following paragraph:

The quantity of Gabion Wall to be measured for payment will be the number of cubic meters (cubic yards) of Rock Fill for Gabions placed in the complete and accepted work.

107. 613.06 BASIS OF PAYMENT, is hereby modified by adding the phrase "and Gabion Wall" after the word "specified" in the first sentence of the first paragraph.

108. 613.06 BASIS OF PAYMENT, is hereby modified by adding the phrase ", including gabion baskets," after the word "material" in the third (last) sentence of the first paragraph.

109. 613.06 BASIS OF PAYMENT, is hereby still further modified by adding the phrase "or rock" after the word "stone" in the first sentence of the second paragraph.

110. 613.06 BASIS OF PAYMENT, is hereby still further modified by adding the following paragraph:

Geotextile fabric and bedding material for Gabion Wall will be paid for under the appropriate Contract items.

111. 613.06 BASIS OF PAYMENT, is hereby still further modified by adding the following pay item:

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
613.25 Gabion Wall	Cubic Meter (Cubic Yard)

SECTION 616 - CURBS AND GUTTERS

112. 616.05 REPOINTING GRANITE BRIDGE CURB, is hereby made a new Subsection of the Standard Specifications as follows:

616.05 REPOINTING GRANITE BRIDGE CURB. The existing mortar bed and vertical curb joints shall be repointed as shown on the Plans. Mortar shall meet the requirements of Subsection 707.01.

113. 616.14 METHOD OF MEASUREMENT, is hereby modified by adding the following as the second paragraph:

The quantity of Repointing Granite Bridge Curb to be measured for payment will be the number of liters (gallons) of mortar applied in the completed and accepted work, measured to the nearest liter (gallon).

114. 616.14 METHOD OF MEASUREMENT, is hereby corrected by changing the word "portland" to "Portland" in the fifth (last) paragraph.

115. 616.15 BASIS OF PAYMENT, is hereby modified by adding the following as the second paragraph:

The accepted quantity of Repointing Granite Bridge Curb will be paid for at the Contract unit price per liter (gallon). Payment will be full compensation for furnishing, transporting, handling, and placing the material specified and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

116. 616.15 BASIS OF PAYMENT, is hereby corrected by changing the word "portland" to "Portland" in the fourth paragraph.

117. 616.15 BASIS OF PAYMENT, is hereby further modified by adding the following pay item:

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
616.225 Repointing Granite Bridge Curb	Liter (Gallon)

SECTION 621 - TRAFFIC BARRIERS

118. 621.01 DESCRIPTION, is hereby modified by adding the phrase "repairing," after the phrase "removing,".

119. 621.02 MATERIALS, is hereby modified by adding the following as the fifth entry in the Subsection listing:

Wire Rope or Cable.....713.03

120. 621.13 REPLACEMENT, ADJUSTMENT, REMOVAL, AND DISPOSAL OF GURADRAIL OR GUIDE POSTS, is hereby modified by deleting the phrase "post assemblies and panel units" and replacing it with the phrase "guardrail components" in the second sentence of the first paragraph.

121. 621.13 REPLACEMENT, ADJUSTMENT, REMOVAL, AND DISPOSAL OF GUARDRAIL OR GUIDE POSTS, is hereby further modified by deleting the phrase "post assembly replacement or guardrail beam replacement occur" and replacing it with the phrase "guardrail component replacement occurs" in the fourth paragraph.

122. 621.13 REPLACEMENT, ADJUSTMENT, REMOVAL, AND DISPOSAL OF GURADRAIL OR GUIDE POSTS, is hereby still further modified by adding the following as the sixth and seventh paragraphs:

Offset blocks designated for replacement shall be replaced in-kind. Materials shall be in conformance with the applicable requirements of Subsection 728.01 for either wood, steel, or alternative blockouts.

Cable guardrail repair shall be performed in accordance with VTrans Standard Drawing G-6 and as directed by the Engineer.

123. 621.14 METHOD OF MEASUREMENT, is hereby modified by adding the following as the fourth and fifth paragraphs of the Subsection text:

The quantities of Cable Guardrail J-Bolt, Galvanized and Cable Guardrail Splice Unit to be measured for payment will be the number of units installed in the complete and accepted work.

The quantity of Replacement of Guardrail Cable to be measured for payment will be the number of meters (linear feet) installed in the complete and accepted work.

124. 621.14 METHOD OF MEASUREMENT, is hereby further modified by adding the following as the eighth paragraph of the Subsection text:

The quantities of Steel Beam Guardrail Delineator and Steel Beam Guardrail Offset Block to be measured for payment will be the number of each component replaced in the complete and accepted work.

125. 621.15 BASIS OF PAYMENT, is hereby modified by adding the following as the second, third, and fourth paragraphs of the Subsection text:

The accepted quantities of Cable Guardrail J-Bolt, Galvanized and Cable Guardrail Splice Unit will be paid for at the Contract unit price for each.

The accepted quantity of Replacement of Cable Guardrail will be paid for at the Contract unit price per meter (linear foot).

The accepted quantities of Steel Beam Guardrail Delineator and Steel Beam Guardrail Offset Block will be paid for at the Contract unit price for each.

126. 621.15 BASIS OF PAYMENT, is hereby further modified by adding the phrase "removing and disposing of damaged guardrail component(s)," after the phrase "specified," in the first sentence of the tenth paragraph.

127. 621.15 BASIS OF PAYMENT, is hereby still further modified by adding the following pay items:

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
621.173 Cable Guardrail J-Bolt, Galvanized	Each
621.174 Cable Guardrail Splice Unit	Each
621.175 Replacement of Guardrail Cable	Meter (Linear Foot)
621.218 Steel Beam Guardrail Delineator	Each
621.219 Steel Beam Guardrail Offset Block	Each
621.70 Guardrail Approach Section, Galvanized Type I	Each
621.71 Guardrail Approach Section, Galvanized Type II	Each
621.726 Guardrail Approach Section, Galvanized 3 Rail Box Beam w/Curb	Each
621.735 Guardrail Approach Section, Steel Beam	Each
621.736 Guardrail Approach Section, Steel Beam w/2.4 m (8 feet) Posts	Each
621.737 Guardrail Approach Section; Galvanized HD Steel Beam	Each
621.738 Guardrail Approach Section, Galvanized HD Steel Beam w/2.4 m (8 feet) Posts	Each
621.748 Guardrail Approach Section to Concrete Combination Bridge Railing, TL-3	Each

SECTION 641 - TRAFFIC CONTROL

128. 641.02 GENERAL CONSTRUCTION REQUIREMENTS, is hereby modified by adding the phrase "implement that plan or" after the phrase "the Contractor may" in the first sentence of the fourth paragraph.

129. 641.02 GENERAL CONSTRUCTION REQUIREMENTS, is hereby further modified by adding the following as the second sentence of the fourth paragraph:

When the Contractor will implement an Agency-designed traffic control plan, written certification shall be submitted to the Engineer indicating that traffic control will be performed in accordance with the Agency design.

130. 641.02 GENERAL CONSTRUCTION REQUIREMENTS, is hereby still further modified by changing the word "This" to the word "An" in the third sentence of the fourth paragraph.
131. 641.02 GENERAL CONSTRUCTION REQUIREMENTS, is hereby still further modified by adding the following paragraph:

When the Contract Documents specify that a site-specific traffic control plan be submitted by the Contractor, Construction Drawings shall be submitted in accordance with Section 105. The submitted site-specific plan shall include, for each phase of construction requiring a significant change in temporary traffic control, a narrative description of the proposed temporary traffic control for each phase (including pedestrian accommodations where appropriate) and the major work activities to be completed in each phase; and a layout for each phase of construction showing existing lane configurations, existing traffic control devices (signs, signals, and pavement markings), driveways, ramps, and highway intersections, and the location of all proposed temporary traffic control devices, flaggers, and UTO's. All pertinent dimensions, such as taper lengths, sign spacing, temporary lane widths, and distance(s) from existing traffic control devices shall be labeled.

SECTION 653 - EROSION PREVENTION AND SEDIMENT CONTROL MEASURES

132. 653.15 BIOTECHNICAL SLOPE PROTECTION, part (a) Erosion Logs, is hereby modified by being deleted in its entirety and replaced with the following:

- (a) Erosion Logs. Erosion logs shall be installed to intercept water flow and collect sediment and associated pollutants by settling and filtering. Erosion logs may be placed over bare or mulched soils or rolled erosion control products; around inlet and outlets; as check dams in unvegetated ditches, slope interrupters on steep slopes, and perimeter control; and along stream banks as a base for plantings. Some types of erosion logs (typically those with a heavier filtering medium such as compost) can be used in applications where underlying conditions are unsuitable (frozen ground, paved surfaces, sensitive plantings areas, etc.) for trenching.

Prior to placing erosion logs, the ground surface shall be properly graded and compacted and free of depressions or obstructions such as tree roots, protruding stones, or other foreign matter.

Erosion logs shall be installed in accordance with the manufacturer's installation guidelines, staking pattern guide, and details based upon the intended use on the construction site.

The Contractor shall remove accumulated sediment when it has reached 1/2 of the effective height of the log, or as directed by the Engineer. Alternatively, a new erosion log may be placed on top of and slightly behind the original one creating more sediment storage capacity. Erosion logs shall be maintained until disturbed area above the device has been permanently stabilized and construction activity has ceased.

When used as a temporary erosion prevention and sediment control measure, erosion logs may be cut open and left in place, but only if the fill material and netting are 100% biodegradable and the material is spread or graded flat so as to not cause concentration of future surface runoff.

SECTION 677 - OVERHEAD TRAFFIC SIGN SUPPORTS

133. 677.01 DESCRIPTION, is hereby modified by adding the phrase "and removing and disposing of existing overhead traffic sign supports," after the phrase "supports,".

134. 677.03 GENERAL, is hereby modified by adding the following paragraph:

Where existing overhead traffic sign supports are to be removed, the Contractor shall remove and dispose of the entire sign assembly, including concrete footings, to a depth of 450 mm (18 inches) below existing grade. Areas of ground disturbance shall be restored to the satisfaction of the Engineer.

135. 677.05 METHOD OF MEASUREMENT, is hereby modified by adding the following paragraph:

The quantity of Remove Existing Overhead Sign Assembly of the type specified to be measured for payment will be the number of each assembly removed in the complete and accepted work.

136. 677.06 BASIS OF PAYMENT, is hereby modified by adding the following paragraphs and pay items:

The accepted quantity of Remove Existing Overhead Sign Assembly of the type specified will be paid for at the Contract unit price per each. Payment will be full compensation for removing and disposing of assembly components, including concrete footings; for performing any excavation necessary; for restoring areas of ground disturbance; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Costs associated with providing traffic control and/or flaggers for performing the work will be paid under the appropriate Contract item(s).

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
677.30 Remove Existing Overhead Sign Assembly, Cantilever	Each
677.35 Remove Existing Overhead Sign Assembly, Multi-Support	Each

SECTION 678 - TRAFFIC CONTROL SIGNALS

137. 678.01 DESCRIPTION, is hereby modified by adding the phrase ", and removing existing traffic control systems" after the word "system" in the first paragraph.

138. 678.02 MATERIALS, is hereby corrected by deleting "convers" and replacing it with the word "covers" in the second sentence of the last paragraph of the Subsection text.

139. 678.11 INSTALLATION, sixteenth paragraph, part (a), is hereby modified by adding the following as the third sentence:

The Contractor shall remove any equipment to be salvaged or reused in such a manner that the equipment is not damaged.

140. 678.13 METHOD OF MEASUREMENT, is hereby modified by adding the following paragraph:

The quantity of Removal of Existing Traffic Control Signal System to be measured for payment will be for each traffic control signal system removed in the complete and accepted work.

141. 678.14 BASIS OF PAYMENT, is hereby modified by adding the phrase "all removal, disposal, and salvage and/or reuse of existing system equipment and components," after the phrase "Electrical Wiring," in the second sentence of the first paragraph.

142. 678.14 BASIS OF PAYMENT, is hereby further modified by adding the following paragraph and pay item:

The accepted quantity of Removal of Existing Traffic Control Signal System will be paid for at the Contract unit price per each. Payment will be full compensation for removing and handling the existing traffic control signal system components as specified in the Contract Documents and for furnishing all labor, materials, tools, equipment, and incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
678.45 Removal of Existing Traffic Control Signal System	Each

SECTION 700 GENERAL

143. 700.01 GENERAL STATEMENT, is hereby corrected by deleting punctuation "...," at the end of the first sentence of the fourth paragraph and replacing it with punctuation ".".

SECTION 708 - PAINTS, STAINS, AND TRAFFIC MARKING MATERIALS

144. 708.08 PAINT FOR PAVEMENT MARKINGS, part (b) Low VOC Traffic Paint, subpart (4) Sampling and Testing, c. Sample Delivery, is hereby corrected by deleting the phrase "1716 Barre-Montpelier Road, Berlin, VT 05602" and replacing it with the phrase "2178 Airport Road Unit B, Berlin, Vermont 05641" in the first paragraph.
145. 708.08 PAINT FOR PAVEMENT MARKINGS, part (d) Waterborne Traffic Paint, subpart (4) Sampling and Testing, c. Sample Delivery, is hereby corrected by deleting the phrase "1716 Barre-Montpelier Road, Berlin, VT 05602" and replacing it with the phrase "2178 Airport Road Unit B, Berlin, Vermont 05641" in the first paragraph.

SECTION 710 - CULVERTS, STROM DRAINS, AND SEWER PIPES, NONMETAL

146. 710.03 CORRUGATED POLYETHYLENE PIPE, is hereby modified by adding the following as the last sentence:

In order to maintain approval status, polyethylene pipe manufacturers must participate in, and maintain compliance with, the AASHTO National Transportation Product Evaluation Program (NTPEP), which audits producers of the pipe.

147. 710.07 CORRUGATED POLYPROPYLENE PIPE, is hereby made a new Subsection of the Standard Specifications as follows :
148. 710.07 CORRUGATED POLYPROPYLENE PIPE. Corrugated polypropylene pipe and fittings shall conform to the latest revisions of AASHTO M 330, Type S. Acceptable corrugated polypropylene pipe shall be one of the corrugated polypropylene pipe products on the Approved Products List on file with the Agency's Materials and Research Section. In order to maintain approval status, polypropylene pipe manufacturers must participate in, and maintain compliance with, the AASHTO National Transportation Product Evaluation Program (NTPEP), which audits producers of the pipe.

SECTION 713 - REINFORCING STEEL, WELDED WIRE REINFORCEMENT, AND REINFORCING STRAND

149. 713.01 BAR REINFORCEMENT, is hereby modified by deleting the phrase "conforming to AASHTO M 31M/M 31, including supplementary requirements" and replacing it with the phrase ", unless otherwise specified in the Contract Documents" in the first paragraph.
150. 713.01 BAR REINFORCEMENT, is hereby further modified by adding the following new parts (a)-(f) and associated paragraphs:
- (a) Plain Reinforcing Steel. Plain reinforcing steel shall conform to AASHTO M 31M/M 31, including supplementary requirements.
- (b) Low Alloy Reinforcing Steel. Low alloy reinforcing steel shall conform to ASTM A 706/A 706M.

- (c) Epoxy Coated Reinforcing Steel. Epoxy coated reinforcing steel shall have an electrostatically applied organic epoxy protective coating, which has been prequalified, fabricated, tested, and installed in accordance with AASHTO M 284M/M 284.
- (d) Stainless Clad Reinforcing Steel. Stainless clad reinforcing steel shall meet the requirements of AASHTO M 329M/M 329.
- (e) Dual-Coated Reinforcing Steel. Dual-coated reinforcing steel shall meet the requirements of ASTM A 1055/A 1055M.
- (f) Solid Stainless Reinforcing Steel. Solid stainless reinforcing steel shall meet the requirements of ASTM A 955/A 955M with one of the following UNS designations: S24100, S30400, S31603, S31653, S32101, S32201, S32205, or S32304. Different designations shall not be mixed within the same project.

Where no core steel requirements are specified in the above specifications, the steel core of the bar reinforcement shall meet the requirements of plain reinforcing steel.

Certification. A Type D Certification shall be furnished in accordance with Subsection 700.02. Certification for Epoxy Coated Reinforcing Steel shall include the coating and coating process.

- 151. 713.07 COATED BAR REINFORCEMENT, is hereby modified by being deleted in its entirety.

#### SECTION 714 - STRUCTURAL STEEL

- 152. 714.08 ANCHOR BOLTS, BEARING DEVICES, is hereby corrected by deleting ".F" and replacing it with "F" in the first sentence of the first paragraph.
- 153. 714.08 ANCHOR BOLTS, BEARING DEVICES, is hereby further corrected by deleting punctuation ".,," and replacing it with punctuation "." at the end of the second sentence of the first paragraph.

#### SECTION 726 - PROTECTIVE COATINGS AND WATERPROOFING MATERIALS

- 154. 726.10 CONCRETE STAINING AND SEALING SYSTEMS, is hereby made a new Subsection of the Standard Specifications as follows:

726.10 CONCRETE STAINING AND SEALING SYSTEMS. Approved Concrete Staining and Sealing Systems shall be one of the Concrete Staining and Sealing Systems on the Approved Products List on file with the Agency's Materials and Research Section.

- 155. 726.11 SHEET MEMBRANE WATERPROOFING, PREFORMED SHEET, is hereby made a new Subsection of the Standard Specifications as follows:

726.11 SHEET MEMBRANE WATERPROOFING, PREFORMED SHEET. Approved Preformed Sheet Membrane Waterproofing Systems shall be one of the Preformed Sheet Membrane Waterproofing Systems on the Approved Products List on file with the Agency's Materials and Research Section.

SECTION 731 - BEARING PADS FOR STRUCTURES

156. 731.03 ELASTOMERIC MATERIAL, is hereby modified by deleting the second and third paragraphs in their entirety and replacing them with the following:

Unless noted otherwise, elastomer shall have a design hardness of 50 points and a design shear modulus of 0.8 MPa (110 psi).

Testing of elastomeric material shall be waived for bearings that will be encased in concrete in the final work. All other bearings shall be tested in accordance with the following table:

TABLE 731.03A - REQUIRED TESTS

Material Property	Test Method	Required Result
Hardness	ASTM D 2240	design hardness +/- 5 points
	or	
Shear Modulus	ASTM D 412 with AASTHO M 251 Section 8.8.4	design shear modulus +/- 15%
Low Temperature Brittleness	ASTM D 746 Procedure B	Pass Grade 4 test
Shear Bond Strength	AASHTO M 251 Annex A2 or Appendix X2	Pass
Min Tensile Strength	ASTM D 412	15.6 MPa (2250 psi)
Min Ultimate Elongation	ASTM D 412	(650 - 5 X design hardness)%

SECTION 755 - LANDSCAPING MATERIALS

157. 755.17 EROSION LOGS, is hereby modified by being deleted in its entirety and replaced with the following:

Erosion logs are available in varying diameters. The Contractor shall follow the manufacturer's recommendations for the material type and size based on the intended use.

Erosion logs shall be composed of weed-seed-free coir, straw, excelsior, compost, or other biodegradable filtering medium encased in a photo-degradable and/or biodegradable netting or mesh.

Netting shall have openings of 13 to 25 mm (1/2 to 1 inch), with the exception of compost filled logs which should be 3 to 10 mm (1/8 to 3/8 inch) or as recommended by the manufacturer and accepted by the Engineer.

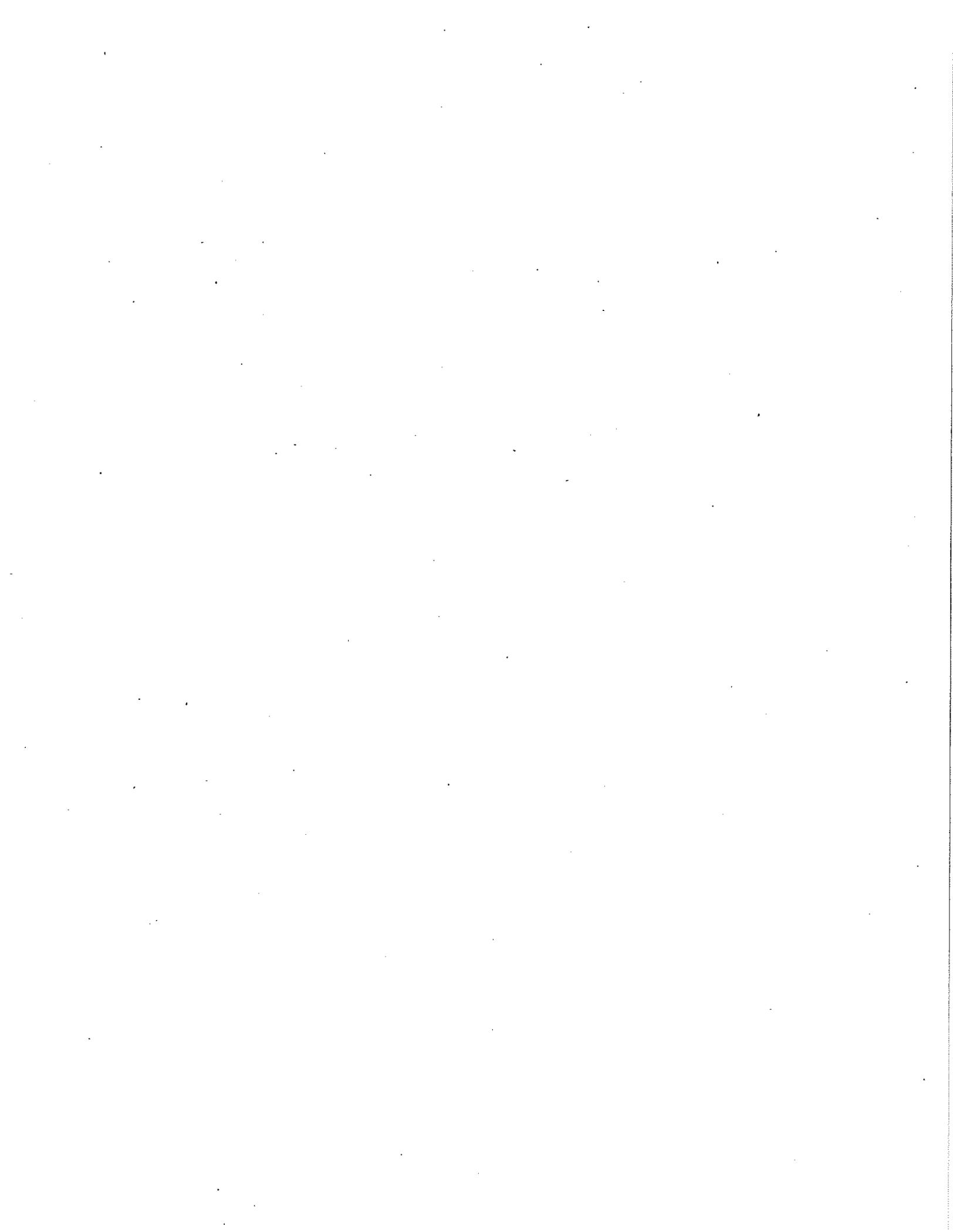
Anchors for erosion logs shall be wooden stakes, U-shaped wire or earth anchors, or rebar stakes; the size and length shall be as recommended by the manufacturer.

Compost shall meet the requirements of Table 755.05A, with the exception that particle size shall be 99% < 50 mm (2 inches) and maximum 30% < 10 mm (3/8 inch).

SECTION 780 - CONCRETE REPAIR MATERIALS

158. 780.05 POLYMER CONCRETE REPAIR MATERIAL, is hereby made a new Subsection of the Standard Specifications as follows:

780.05 POLYMER CONCRETE REPAIR MATERIAL. Approved Polymer Concrete Repair Materials shall be one of the Polymer Concrete Repair Materials on the Approved Products List on file with the Agency's Materials and Research Section.



**ATTACHMENT C: STANDARD STATE PROVISIONS  
FOR CONTRACTS AND GRANTS**

1. **Entire Agreement:** This Agreement, whether in the form of a Contract, State Funded Grant, or Federally Funded Grant, represents the entire agreement between the parties on the subject matter. All prior agreements, representations, statements, negotiations, and understandings shall have no effect.
2. **Applicable Law:** This Agreement will be governed by the laws of the State of Vermont.
3. **Definitions:** For purposes of this Attachment, "Party" shall mean the Contractor, Grantee or Subrecipient, with whom the State of Vermont is executing this Agreement and consistent with the form of the Agreement.
4. **Appropriations:** If this Agreement extends into more than one fiscal year of the State (July 1 to June 30), and if appropriations are insufficient to support this Agreement, the State may cancel at the end of the fiscal year, or otherwise upon the expiration of existing appropriation authority. In the case that this Agreement is a Grant that is funded in whole or in part by federal funds, and in the event federal funds become unavailable or reduced, the State may suspend or cancel this Grant immediately, and the State shall have no obligation to pay Subrecipient from State revenues.
5. **No Employee Benefits For Party:** The Party understands that the State will not provide any individual retirement benefits, group life insurance, group health and dental insurance, vacation or sick leave, workers compensation or other benefits or services available to State employees, nor will the state withhold any state or federal taxes except as required under applicable tax laws, which shall be determined in advance of execution of the Agreement. The Party understands that all tax returns required by the Internal Revenue Code and the State of Vermont, including but not limited to income, withholding, sales and use, and rooms and meals, must be filed by the Party, and information as to Agreement income will be provided by the State of Vermont to the Internal Revenue Service and the Vermont Department of Taxes.
6. **Independence, Liability:** The Party will act in an independent capacity and not as officers or employees of the State.

The Party shall defend the State and its officers and employees against all claims or suits arising in whole or in part from any act or omission of the Party or of any agent of the Party. The State shall notify the Party in the event of any such claim or suit, and the Party shall immediately retain counsel and otherwise provide a complete defense against the entire claim or suit.

After a final judgment or settlement the Party may request recoupment of specific defense costs and may file suit in Washington Superior Court requesting recoupment. The Party shall be entitled to recoup costs only upon a showing that such costs were entirely unrelated to the defense of any claim arising from an act or omission of the Party.

The Party shall indemnify the State and its officers and employees in the event that the State, its officers or employees become legally obligated to pay any damages or losses arising from any act or omission of the Party.

7. **Insurance:** Before commencing work on this Agreement the Party must provide certificates of insurance to show that the following minimum coverages are in effect. It is the responsibility of the Party to maintain current certificates of insurance on file with the state through the term of the Agreement. No warranty is made that the coverages and limits listed

herein are adequate to cover and protect the interests of the Party for the Party's operations. These are solely minimums that have been established to protect the interests of the State.

Workers Compensation: With respect to all operations performed, the Party shall carry workers' compensation insurance in accordance with the laws of the State of Vermont.

General Liability and Property Damage: With respect to all operations performed under the contract, the Party shall carry general liability insurance having all major divisions of coverage including, but not limited to:

Premises - Operations  
Products and Completed Operations  
Personal Injury Liability  
Contractual Liability

The policy shall be on an occurrence form and limits shall not be less than:

\$1,000,000 Per Occurrence  
\$1,000,000 General Aggregate  
\$1,000,000 Products/Completed Operations Aggregate  
\$ 50,000 Fire/ Legal/Liability

Party shall name the State of Vermont and its officers and employees as additional insureds for liability arising out of this Agreement.

Automotive Liability: The Party shall carry automotive liability insurance covering all motor vehicles, including hired and non-owned coverage, used in connection with the Agreement. Limits of coverage shall not be less than: \$1,000,000 combined single limit.

Party shall name the State of Vermont and its officers and employees as additional insureds for liability arising out of this Agreement.

8. **Reliance by the State on Representations:** All payments by the State under this Agreement will be made in reliance upon the accuracy of all prior representations by the Party, including but not limited to bills, invoices, progress reports and other proofs of work.
9. **Requirement to Have a Single Audit:** In the case that this Agreement is a Grant that is funded in whole or in part by federal funds, the Subrecipient will complete the Subrecipient Annual Report annually within 45 days after its fiscal year end, informing the State of Vermont whether or not a single audit is required for the prior fiscal year. If a single audit is required, the Subrecipient will submit a copy of the audit report to the granting Party within 9 months. If a single audit is not required, only the Subrecipient Annual Report is required.

A single audit is required if the subrecipient expends \$500,000 or more in federal assistance during its fiscal year and must be conducted in accordance with OMB Circular A-133. The Subrecipient Annual Report is required to be submitted within 45 days, whether or not a single audit is required.

10. **Records Available for Audit:** The Party will maintain all books, documents, payroll papers, accounting records and other evidence pertaining to costs incurred under this agreement and make them available at reasonable times during the period of the Agreement and for three years thereafter for inspection by any authorized representatives of the State or Federal Government. If any litigation, claim, or audit is started before the expiration of the three year period, the records shall be retained until all litigation, claims or audit findings

involving the records have been resolved. The State, by any authorized representative, shall have the right at all reasonable times to inspect or otherwise evaluate the work performed or being performed under this Agreement.

**11. Fair Employment Practices and Americans with Disabilities Act:** Party agrees to comply with the requirement of Title 21V.S.A. Chapter 5, Subchapter 6, relating to fair employment practices, to the full extent applicable. Party shall also ensure, to the full extent required by the Americans with Disabilities Act of 1990, as amended, that qualified individuals with disabilities receive equitable access to the services, programs, and activities provided by the Party under this Agreement. Party further agrees to include this provision in all subcontracts.

**12. Set Off:** The State may set off any sums which the Party owes the State against any sums due the Party under this Agreement; provided, however, that any set off of amounts due the State of Vermont as taxes shall be in accordance with the procedures more specifically provided hereinafter.

**13. Taxes Due to the State:**

- a. Party understands and acknowledges responsibility, if applicable, for compliance with State tax laws, including income tax withholding for employees performing services within the State, payment of use tax on property used within the State, corporate and/or personal income tax on income earned within the State.
- b. Party certifies under the pains and penalties of perjury that, as of the date the Agreement is signed, the Party is in good standing with respect to, or in full compliance with, a plan to pay any and all taxes due the State of Vermont.
- c. Party understands that final payment under this Agreement may be withheld if the Commissioner of Taxes determines that the Party is not in good standing with respect to or in full compliance with a plan to pay any and all taxes due to the State of Vermont.
- d. Party also understands the State may set off taxes (and related penalties, interest and fees) due to the State of Vermont, but only if the Party has failed to make an appeal within the time allowed by law, or an appeal has been taken and finally determined and the Party has no further legal recourse to contest the amounts due.

**14. Child Support:** (Applicable if the Party is a natural person, not a corporation or partnership.) Party states that, as of the date the Agreement is signed, he/she:

- a. is not under any obligation to pay child support; or
- b. is under such an obligation and is in good standing with respect to that obligation; or
- c. has agreed to a payment plan with the Vermont Office of Child Support Services and is in full compliance with that plan.

Party makes this statement with regard to support owed to any and all children residing in Vermont. In addition, if the Party is a resident of Vermont, Party makes this statement with regard to support owed to any and all children residing in any other state or territory of the United States.

**15. Sub-Agreements:** Party shall not assign, subcontract or subgrant the performance of his Agreement or any portion thereof to any other Party without the prior written approval of

the State. Party also agrees to include in all subcontract or subgrant agreements a tax certification in accordance with paragraph 13 above.

**16. No Gifts or Gratuities:** Party shall not give title or possession of any thing of substantial value (including property, currency, travel and/or education programs) to any officer or employee of the State during the term of this Agreement.

**17. Copies:** All written reports prepared under this Agreement will be printed using both sides of the paper.

**18. Certification Regarding Debarment:** Party certifies under pains and penalties of perjury that, as of the date that this Agreement is signed, neither Party nor Party's principals (officers, directors, owners, or partners) are presently debarred, suspended, proposed for debarment, declared ineligible or excluded from participation in federal programs, or programs supported in whole or in part by federal funds.

Party further certifies under pains and penalties of perjury that, as of the date that this Agreement is signed, Party is not presently debarred, suspended, nor named on the State's debarment list at: <http://bgs.vermont.gov/purchasing/debarment>

**19. Certification Regarding Use of State Funds:** In the case that Party is an employer and this Agreement is a State Funded Grant in excess of \$1,001, Party certifies that none of these State funds will be used to interfere with or restrain the exercise of Party's employee's rights with respect to unionization.

(End of Standard Provisions)

Special Provisions for: Middlebury RS 0174(8)

1. LABOR SUPPLY. Available workers for this Contract may be obtained from Manager, Employment & Training, Middlebury, VT. The latest edition of the DBE Registry can be obtained from the Office of Civil Rights and Labor's Webpage at the following address: [www.aot.state.vt.us/CivilRights/default.htm](http://www.aot.state.vt.us/CivilRights/default.htm). Contractors that do not have access to the internet may obtain a copy from the Office of Contract Administration upon request.
2. CONTRACT COMPLETION DATE. This Contract shall be completed on or before August 22, 2014.
3. NOTICE TO BIDDERS. U.S. Department of Labor Davis-Bacon wage rates are applicable to this Contract. Copies of the applicable rates are included in this proposal.
4. CONTACT WITH THE AGENCY. From the time of advertising until the actual bid opening for this Contract, all prospective Contractors, subcontractors, and suppliers shall direct all inquiries related to this project solely to the Agency's Office of Contract Administration at (802) 828-2641. This number may also be accessed via the Agency's TTY/TDD Telecommunications Relay Service at 1-800-253-0191.  
  
*The deadline for submitting inquiries related to this project to the Office of Contract Administration is 4:30 p.m. Eastern Standard Time on September 27, 2013. No exceptions will be made to this requirement.*
5. NOTICE TO BIDDERS. The Contractor is hereby notified that in the absence of the Engineer, the Agency's Safety Officer and the Agency's Hazardous Materials and Waste Coordinator shall each have the authority to suspend work when they determine that a serious safety or environmental violation exists on the job site. The period of time work is suspended due to a serious safety or environmental violation will not be justification for an extension of time.
6. STANDARD SPECIFICATIONS. The provisions of the 2011 STANDARD SPECIFICATIONS FOR CONSTRUCTION, as modified herein, shall apply to this Contract.

7. SUPPLEMENTAL SPECIFICATIONS AND CONTRACT REQUIREMENTS. The Contractor's attention is directed to the following specifications and contract requirements included in the Proposal form and effective for this Contract:

Required Contract Provisions for Federal-Aid Construction  
 Standard Federal EEO Specifications  
 VT Agency of Transportation Contractor Workforce Reporting Requirements  
 Workers' Compensation; State Contracts Compliance Requirement  
 General Special Provisions dated July 2, 2013  
 Bulletin 3.5 Attachment C: Standard State Provisions for Contracts and Grants  
 Vermont Minimum Labor & Truck Rates  
 Disadvantaged Business Enterprise (DBE) Policy Contract Requirements  
 U.S. Department of Labor Davis-Bacon Wage Rates  
 Asphalt Price Adjustment Provisions dated April 6, 2010  
 Section 520 - Membrane Waterproofing, Spray Applied dated August 6, 2013  
 Certification for Federal-Aid Contracts  
 Contractor's EEO Certification Form  
 Debarment & Non-Collusion Affidavit

8. NOTICE TO BIDDERS - CONTRACT INSURANCE REQUIREMENTS. The Contractor is hereby notified that in the event of a discrepancy between the stated insurance requirements of Bulletin 3.5 Attachment C: Standard State Provisions for Contracts and Grants and those of Subsection 103.04 of the Standard Specifications for Construction, the requirements of Subsection 103.04 of the Standard Specifications for Construction shall govern.
9. NOTICE TO BIDDERS - ADDITIONAL CONTRACT REQUIREMENT. For construction and transportation projects over \$250,000.00, a payroll process by which during every pay period the Contractor collects from the subcontractors or independent contractors a list of all workers who were on the jobsite during the pay period, the work performed by those workers on the jobsite, and a daily census of the jobsite. This information, including confirmation that Contractors, subcontractors, and independent contractors have the appropriate workers' compensation coverage for all workers at the jobsite, and similar information for the subcontractors regarding their subcontractors shall also be provided to the Department of Labor and to the Department of Banking, Insurance, Securities, and Health Care Administration, upon request, and shall be available to the public.
10. NOTICE TO BIDDERS - CONCURRENT CONSTRUCTION. The Contractor is made aware of concurrent Agency construction projects expected to be in progress within the area of this project during 2014.

Project	Contractor
Rochester ER STP 0162(19), BRF 0162(16), BRF 0162(17) and ER BRF 0162(18)	TBD
Warren BRF 013-4(32)	TBD

There will be no extra compensation paid to the Contractor for any inconvenience caused by working around these or other projects.

11. NOTICE TO BIDDERS - INCENTIVE/DISINCENTIVE (I/D). The Agency's intent is to have the bridge closure period (BCP) be as short a duration as possible. To encourage the Contractor to provide a maximum effort to complete the Identified Work for I/D within the period as defined below, the Agency is willing to pay an incentive.

- (a) Dates. The allowable BCP is forty-five (45) consecutive calendar days, herein defined as the I/D period, and for the purposes of this Contract as the period from 7:00 a.m. on the first day of bridge closure to 11:59 p.m. on the last day of bridge closure.

The Contractor shall choose one of the following BCP work windows in calendar year 2014:

- (1) BCP-1: April 19th to June 2nd, inclusive
- (2) BCP-2: April 26th to June 9th, inclusive
- (3) BCP-3: May 3rd to June 16th, inclusive

In accordance with the requirements for bridge closure, and with reference to Subsection 108.09(d), work will be allowed during the seasonal closure period from March 24, 2014 to April 14, 2014.

During the BCP, the Contractor will be allowed to work 7 days per week, including holiday periods.

Night work will be allowed during the BCP. See Special Provision No. 12 NOTICE TO BIDDERS - REQUIREMENTS FOR NIGHTTIME WORK for additional information and requirements.

Upon any Contractor's receipt of the VAOT Contract award letter, the Contractor shall submit to the VAOT Construction Section for review and approval a certified letter indicating the BEGIN CONSTRUCTION DATE for the BCP work. This letter shall be received by the Construction Section a minimum of seven (7) calendar days prior to the BEGIN CONSTRUCTION DATE indicated in the letter. The BEGIN CONSTRUCTION DATE shall be determined by the Contractor.

The I/D period as established above for this Contract is absolutely fixed and will not be changed for any Act of God, omission, improper action, direction of the Engineer, or any other reason unless done so by the Secretary and only under extreme conditions as determined by the Secretary.

- (b) Identified Work. All work required to open the bridge to two-way traffic during non-working hours including:

- Bridge superstructure complete, including sidewalk and bridge railing;
- Spray applied membrane installed;
- Base course and protective barrier on approaches; and
- Centerline of approaches marked with line striping targets.

Following opening of the bridge to two-way traffic, temporary lane closure(s) will be allowed. The Contractor shall submit a temporary traffic control plan for the Engineer's approval prior to closing any lane. Wherever one-way traffic is maintained by the Contractor, the traveling public shall not be delayed more than 10 minutes unless otherwise directed by the Engineer.

- (c) Pay Schedule. The Contractor will receive a lump sum compensation for completing the Identified Work on or before the end of the I/D Period (allowable BCP), in accordance with the following:

BCP Work Window	Lump Sum Compensation
BCP-1	\$88,000
BCP-2	\$56,000
BCP-3	\$24,000

In addition, the Contractor will be compensated at a rate of thirty-two thousand dollars (\$32,000) per day that the Identified Work is completed before the end of the I/D Period (allowable BCP), up to a maximum total payment as specified herein. Only full days where the bridge is opened by 7:00 a.m. will count toward this extra incentive payment.

The maximum amount payable under the incentive clause shall be one-hundred twenty thousand dollars (\$120,000) (including the lump sum payment).

For each day after the I/D period (allowable BCP) that the Identified Work remains uncompleted, the Contractor will be assessed a disincentive at a rate of thirty-two thousand dollars (\$32,000) per day. The full daily disincentive amount will be assessed for each day that traffic is not allowed on the bridge for any portion of the day. There shall be no maximum on the disincentive amount.

This assessed disincentive is separate from, and will be imposed in addition to, liquidated damages which may be imposed for failure to complete the Contract on time.

- (d) Underruns and Overruns. The proposal indicates an estimated quantity for each Contract pay item. The fact that the actual amounts used in the construction of this project may vary from the estimate will not be a basis or cause for changing any of the conditions for I/D.

The Agency recognizes that additional work beyond the work indicated in the Plans is always possible in any construction contract. The Agency is willing to pay for necessary additional work in accordance with the terms and requirements of the Contract and the Standard Specifications for Construction, however, the Contractor shall absorb any resulting construction time within the original project and CPM Schedules, and there will be no adjustments or changes to the I/D dates or I/D conditions.

(e) Payment. Payment will be made as specified in Section 900.

12. NOTICE TO BIDDERS - REQUIREMENTS FOR NIGHTTIME WORK. The Contractor is hereby notified that night work will be allowed within the bridge closure period. For the purposes of this Contract, "night" shall mean from the hours of 7:00 p.m. until 6:00 a.m. of the following day. The Engineer may abbreviate this time period as necessary for safety considerations.

Night work shall be performed in accordance with the National Cooperative Highway Research Program (NCHRP) Report 476 - "Guidelines for Design and Operation of Nighttime Traffic Control for Highway Maintenance and Construction". A copy of this guideline specification may be downloaded from the following website: [http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp\\_rpt\\_476.pdf](http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_476.pdf).

Prior to beginning night work, the Contractor shall design a lighting system and present it to the Engineer for approval. The Contractor shall not perform any night work or activities within the project limits until the lighting system has been fully approved and is in place on the project.

The designed lighting system shall be mobile, shall be mounted separately from other construction equipment, shall illuminate the entire work area to daylight intensity with minimal glare, and shall be a surrounding design that minimizes shadows in the work area as much as possible.

The locations at which Flaggers and/or Uniformed Traffic Officers are stationed, whether within, on the edge of, or outside of the work area, shall be separately illuminated to the same intensity, minimal glare, and minimal shadow requirements as the work area.

All costs associated with the lighting system will be considered incidental to Contract item 641.10.

13. NOTICE TO BIDDERS - BUILDING INSPECTION. For the protection of the Contractor and all property owners, before beginning any construction activities, the Contractor shall deliver to the Engineer a copy of the Contractor's Insurer Inspection Report, inside and out, of buildings within 100 feet of the project limits that may be affected by any construction operations. Included with the Report will be a copy of a complete video CD record of the buildings made as part of the inspection.

Upon completion of project construction, the Contractor's insurer shall again completely inspect, inside and out, and make a complete video CD record of all buildings as part of the inspection. A written copy of the complete inspection report and a copy of the complete video CD record shall be delivered to the Engineer by the Contractor.

The Agency will not accept the project until the Engineer has received all reports and all video CDs. The Engineer will forward the reports and the video CDs to the Project Manager for safe-keeping.

All members of the insurer inspection team shall personally identify themselves to the Engineer prior to beginning each inspection.

All costs involved in performing this work and materials shall be considered incidental to all other Contract items.

14. NOTICE TO BIDDERS. All temporary construction signs shall meet the following requirements:
- A. Where sign installations are not protected by guardrail or other approved traffic barriers, all sign stands and post installations shall meet National Cooperative Highway Research Program (NCHRP) Report 350 or the AASHTO Manual for Assessing Safety Hardware (MASH). The appropriate resource shall be determined as described in the MASH publication. No sign posts shall extend over the top of the sign installed on said post(s). When anchors are installed, stub shall not be greater than 100 mm (4 inches) above existing ground.
  - B. As a minimum, roll up sign material shall have ASTM D 4956 Type VI fluorescent orange retroreflective sheeting.
  - C. All post-mounted signs and solid substrate portable signs shall have ASTM D 4956 Type VII, Type VIII, or Type IX fluorescent orange retroreflective sheeting.
  - D. All retroreflective sheeting on traffic cones, barricades, and drums shall be at a minimum ASTM D 4956 Type III sheeting.
  - E. All stationary signs shall be mounted on two 4.5 kg/m (3 lb/ft) flanged channel posts or 51 mm (2 inch) square steel inserted in 57 mm (2 ¼") galvanized square steel anchors. No sign posts shall extend over the top edge of sign installed on said posts.
  - F. Prior to placing temporary work zone signs on the project, the Contractor must furnish for the Engineer's approval a detail for temporary work zone signs on steel posts showing stubs projecting a maximum of 100 mm (4 inches) above ground level and bolts for sign post.
  - G. Construction signs shall be installed so as to not interfere with nor obstruct the view of existing traffic control devices, stopping sight distance, and corner sight distance from drives and town highways.
  - H. Speed zones, if used, should be a maximum of 16 kph (10 mph) below existing posted speeds. Temporary speed limit certificates must be approved by the Director of Program Development.
15. NOTICE TO BIDDERS. All retroreflective sheeting on permanent signs (signs to remain after the project is completed) shall be at a minimum ASTM D 4956 Type III sheeting, unless otherwise shown on the Plans.

16. ENVIRONMENTAL.

(a) Archaeological.

- (1) Temporary fencing will be placed along the project limits outside the archaeology site on the northwest quad to protect the known archaeological site known as the East Middlebury Iron Works Site (VT-AD-299) during construction.
- (2) During installation of the guy-wire at Sta. 135+50.00 the Contractor will not impact the stone wall located in this area. Access can be achieved by using a boom over the wall or by transporting equipment around the western end of the wall.

(b) Biological. Debris from the bridge construction and removal of the old bridge should not be allowed to enter the Middlebury River.

17. UTILITIES. Existing aerial facilities owned by Green Mountain Power, Telephone Operating Co. of VT (FairPoint), Teljet Longhaul, and Comcast Communications will be adjusted, as necessary, by employees or agents of the above companies in accordance with the relocation route shown on the Plans. Those portions of the utility relocation which have already been completed by the above mentioned utility companies shall be protected by the Contractor from damage. The Contractor is advised to use caution while working around aerial utility lines.

Existing underground facilities owned by the East Middlebury Fire District will be adjusted, to include the construction of a new water main and associated apparatuses, by the Contractor in accordance with the details and pay items included in the Plans and all pertinent project specifications. The Contractor must coordinate with the East Middlebury Fire District for inspection and testing.

Existing water shutoff valves owned by the East Middlebury Fire District may require adjustments to match the new finished pavement elevation. Necessary elevation adjustment to these facilities will be performed by the Contractor in accordance with Contract item 629.20.

Contacts for the above listed companies are as follows:

East Middlebury Fire District #1:	Eli Erwin	- (802)465-4864
Green Mountain Power:	Larry Fusco	- (802)747-5460
Telephone Operating Co of VT:	Tucker Peterson	- (802)747-1071
Teljet Longhaul:	Bill Gray	- (802)373-4319
Comcast Communications:	Jeremy Cota	- (603)234-3082

All Contractors, subcontractors, or material suppliers involved in any project-related activity shall comply with all applicable codes and regulations related to working around live electrical lines; including, but not limited to maintaining the required minimum clear distance from an electrical utility facility. The Contractor's Competent Safety Officer shall be well versed in OSHA and VOSHA regulations, and shall be capable of implementing a plan to conform to these regulations during prosecution of work.

Employees or agents of the above listed companies are to be allowed free and full access within the project limits with the tools, materials, and equipment necessary to install, operate, maintain, place, replace, relocate, and remove their facilities.

There will be no extra compensation paid to the Contractor for any inconvenience caused by working around and with the companies.

The Contractor is advised that exploratory excavation to locate existing underground facilities may be necessary to protect these facilities from damage. Where approved by the Engineer, these utilities shall be located and/or exposed by methods such as air/vacuum excavation and/or hand digging to determine their exact location. This exploratory work shall be classified as Trench Excavation of Earth, Exploratory and payment will be made under Contract item 204.22.

Act No. 86 of 1987 (30 VSA Chapter 86) ("Dig Safe") requires that notice be given prior to making an excavation. It is suggested that the Permit Holder or his/her contractor telephone 1-888-344-7233 at least 48 hours before, and not more than 30 days before, beginning any excavation at any location.

Should the Contractor desire additional adjustments of the utility facilities for his/her convenience, proper arrangements shall be made in conformance with Subsection 105.07 of the Standard Specifications for Construction.

18. NOTICE TO BIDDERS - SALVAGED MATERIALS. The Contractor is hereby notified that all existing guardrail, signs, and sign posts removed and not re-used on the project, and deemed re-usable by the Agency, shall remain the property of the State.

The Contractor shall remove these materials in such a manner that salvageable components are not damaged.

All salvageable guardrail shall be disassembled to its basic component (rail, post, offset block, and end terminal) parts.

The Contractor shall load these salvaged materials onto suitable transport and deliver them to the VTrans Maintenance Facility located at 341 Creek Road in Middlebury, VT. The State will provide equipment and personnel to unload and stockpile these materials. Component materials not designated to be retained by the State shall be disposed of by the Contractor to the satisfaction of the Engineer.

The Contractor shall contact David Blackmore of VTrans Transportation District #5 [Tel.: (802)655-1580] a minimum of two (2) weeks prior to beginning delivery to the designated location.

All costs for loading and delivering these salvaged materials will be incidental to the Contract items under which they are removed.

19. HIGHWAY PARKING RESTRICTIONS. Only such trucks and equipment as are necessary for the construction of this project will be permitted to stop or park on the shoulders or right-of-way of the highway or intersecting highways. All trucks or equipment so stopped or parked shall be at least 1.2 m (4 feet) from the edge of the thru traffic lanes. Parking or stopping on the traveled portion of the roadway will not be permitted unless authorized by the Engineer to meet field conditions.

Private automobiles of workers will not be permitted to stop or park on the shoulders or right-of-way of the highway or intersecting highways.

Each of the Contractor's trucks or equipment used for the construction of this project and permitted to park or stop as provided above shall be equipped with flashing light signals on the front and rear and the signals shall be operating at all times when parked or stopped on the highway unless otherwise authorized by the Engineer.

The flashing light signals shall be visibly distinct from and physically separate from the hazard warning system required by Federal and State motor vehicle laws and regulations. At least one of these flashing light signals shall be visible to traffic approaching from any angle at all times.

Qualified traffic control personnel shall be employed whenever the Contractor's vehicles or equipment (including that which belongs to the individual workers) enter or leave the traffic flow. All movement, in or out of the traffic flow, shall be with the flow of traffic.

20. SPECIAL CONSTRUCTION REQUIREMENTS.

- A. Unless otherwise permitted in writing by the Engineer, and except as otherwise allowed under Special Provision No. 11(a), the Contractor shall not work during the holiday periods for Memorial Day, July Fourth, Labor Day, Veterans Day, and Thanksgiving Day. The Engineer shall give a written order designating the time of observance of these holidays and of any additional holidays required by the season, anticipated traffic, and local custom. As specified in Subsection 105.14, construction operations shall not be performed on any Sunday without the specific authorization of the Engineer.

Designated holiday periods shall begin at 12:00 noon on the day before the weekend or holiday, whichever applies, and shall end at 7:00 a.m. on the day after the holiday or the weekend, as appropriate.

- B. The Contractor shall maintain a safe access to all drives and intersecting side roads at all times during the construction of this project.
- C. Two-way radios shall be provided by the Contractor when requested by the Engineer for use by traffic control personnel. All costs for furnishing and using two-way radios will not be paid for directly, but will be considered incidental to Contract item 641.10.

- D. The Contractor shall have available on the project the current editions of the Manual on Uniform Traffic Control Devices (MUTCD) and the Standard Highway Signs and Markings (SHSM) Book. Information for obtaining these publications may be found at: <http://mutcd.fhwa.dot.gov/index.htm>.

#### ASPHALT PRICE ADJUSTMENT

21. SUPPLEMENTAL SPECIFICATION - ASPHALT PRICE ADJUSTMENT, dated April 6, 2010, is hereby made a new Subsection of the Specifications, superseding all previous editions and their modifications.
22. SUPPLEMENTAL SPECIFICATION - ASPHALT PRICE ADJUSTMENT, dated April 6, 2010, GENERAL REQUIREMENTS AND CONDITIONS, part (b) text, is hereby modified by being deleted in its entirety and replaced with text "NOT USED".

The index price for asphalt cement is \$597.00 per ton.

In addition to materials produced under Contract pay item(s) as allowed in GENERAL REQUIREMENTS AND CONDITIONS, part (a) of the Supplemental Specification, asphalt cement produced under Contract item 900.680 Special Provision (Bituminous Concrete Pavement, Small Quantity) will be included for adjustment.

If an emulsified asphaltic liquid is used in the Contract work under any Contract item subject to the Asphalt Price Adjustment provisions and that liquid is not included in the table under subpart (5) of PRICE ADJUSTMENT PROCEDURES of the Supplemental Specification, the ACEA as defined in subpart (5) for that liquid will be that as determined by averaging Contractor certified test results for the project.

#### SECTION 108 - PROSECUTION AND PROGRESS

23. 108.11 DETERMINATION OF EXTENSION OF CONTRACT TIME FOR COMPLETION, part (b) Determination of Contract Completion Date Extension, is hereby modified by adding new subpart (11) as follows:

- (11) The days from April 15th to December 1st, inclusive, on which the weather or condition of the ground caused suspension of the work.

#### SECTION 203 - EXCAVATION AND EMBANKMENTS

24. 203.04 EXCAVATION, is hereby modified by adding the following paragraph:

Drilling and blasting, where required for performing Solid Rock Excavation, shall be performed in accordance with DRILLING AND BLASTING of Section 900.

#### SECTION 205 - DRILLING AND BLASTING

25. 205.02 DRILLING AND BLASTING OF SOLID ROCK, is hereby modified by adding the following paragraph:

Drilling and blasting, where required for performing Drilling and Blasting of Solid Rock, shall be performed in accordance with DRILLING AND BLASTING of Section 900.

SECTION 490 - SUPERPAVE BITUMINOUS CONCRETE PAVEMENT

26. 490.03 COMPOSITION OF MIXTURE, part (b) Design Criteria, TABLE 490.03B - DESIGN CRITERIA is hereby modified by deleting the fourth row (for "Dust Proportion") in its entirety and replacing it with the following:

Dust Proportion (Filler/Asphalt Ratio)	0.60 - 1.20 (Wet Sieve) (Dry Sieve for Production - Types IS and IIS: 0.50 - 1.20 Types IIIS, IVS, and VS: 0.50 - 1.00)
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27. 490.03 COMPOSITION OF MIXTURE, part (b) Design Criteria, TABLE 490.03B - DESIGN CRITERIA is hereby further modified by deleting the sixth row (for "Voids in Mineral Aggregate") in its entirety and replacing it with the following:

Voids in Mineral Aggregate (VMA)%	12.5 min.	13.5 min.	14.5 min.	15.5 min.	16.5 min.	17.5 min.
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28. 490.03 COMPOSITION OF MIXTURE, part (b) Design Criteria, TABLE 490.03B - DESIGN CRITERIA is hereby still further modified by deleting the ninth row (for "Voids Filled With Asphalt") in its entirety.
29. 490.03 COMPOSITION OF MIXTURE, part (b) Design Criteria, TABLE 490.03B - DESIGN CRITERIA is hereby still further modified by deleting footnotes (3), (4), and (5) in their entirety.
30. 490.03 COMPOSITION OF MIXTURE, part (b) Design Criteria, is hereby modified by deleting the heading "Voids Filled With Asphalt (VFA)" and the equation " $VFA = 100 \times ((VMA - V_a)/VMA)$ " in the second paragraph.
31. 490.03 COMPOSITION OF MIXTURE, part (c) Mix Design, is hereby modified by deleting the phrase ", and a single percentage for VFA" in the first sentence of the third paragraph.
32. 490.03 COMPOSITION OF MIXTURE, part (d) Control of Mixtures, TABLE 490.03C - PRODUCTION TESTING TOLERANCES is hereby modified by deleting the seventh (last) row (for "VFA") in its entirety.
33. 490.03 COMPOSITION OF MIXTURE, part (d) Control of Mixtures, TABLE 490.03C - PRODUCTION TESTING TOLERANCES is hereby further modified by deleting footnote 2 in its entirety.

SECTION 501 - HPC STRUCTURAL CONCRETE

34. 501.02 MATERIALS, is hereby modified by adding the following:

Where a shrinkage admixture will be used in placing concrete as allowed by the Contract Documents, the following requirements shall be met:

A shrinkage compensating admixture shall be added during the initial concrete mixing phase or as recommended by the chemical manufacturer product representative. The shrinkage compensating admixture shall be one of the products listed below. The final dosage rate will be determined by the product representative and the concrete producer. The dosage rate volume is computed into the final water/cementitious ratio.

Manufacturer: Sika Construction Product Division  
Product name: - Sika Control 40  
Tel.: 1-800-933-7452  
Website: <http://www.sikaconstruction.com/tds-cpd-SikaControl40-us.pdf>

Manufacturer: The Euclid Chemical Company  
Product name: Eucon SRA  
Tel.: 1-800-321-7628  
Website: <http://www.euclidchemical.com/fileshare/ProductFiles/techdata/euconsra.pdf>

Manufacturer: BASF (Master Builders)  
Product name: Tetraguard AS20  
Tel.: 1-800-628-9900  
Website: <http://www.basf-admixtures.com/NR/rdonlyres/84C7EC12-F527-44FD-A8B9-3A007609FF76/0/TETRAGUARD AS20 DS307.pdf>

Manufacturer: Grace Construction Products  
Product name: Eclipse Plus  
Tel.: 1-877-423-6491  
Website: <http://www.na.graceconstruction.com/concrete/download/EC-13B 2.pdf>

SECTION 520 - MEMBRANE WATERPROOFING, SPRAY APPLIED

35. SUPPLEMENTAL SPECIFICATION SECTION 520 - MEMBRANE WATERPROOFING, SPRAY APPLIED, dated August 6, 2013 is hereby made a new Section of the Specifications, superseding all previous editions and their modifications.

SECTION 652 - EROSION PREVENTION & SEDIMENT CONTROL PLAN

36. SECTION 652 - EROSION PREVENTION & SEDIMENT CONTROL PLAN, is hereby made a new Section of the Specifications as follows:
37. 652.01 DESCRIPTION. This work shall consist of designing, furnishing, and submitting for acceptance modifications to the Contract Erosion Prevention & Sediment Control Plan (hereinto known as the EPSC Plan), becoming a co-permittee with the Agency of Transportation, State of Vermont on associated permits, monitoring the EPSC Plan using an On-Site Plan Coordinator, and maintaining the erosion prevention and sediment control measures to ensure the effectiveness of the EPSC Plan.
38. 652.02 MATERIALS. Materials required for the field work maintenance of the EPSC Plan shall meet all requirements of the appropriate Section of the VAOT Standard Specifications for Construction.

Materials including manuals, checklists, forms, and other supporting documentation necessary to meet the requirements of these provisions and maintain compliance with associated permits shall be made available to the Engineer by the Contractor and maintained on site by the Contractor. Supporting documents associated with the requirements of General Permit 3-9020 are available upon request to ANR or from the ANR Stormwater web page. The VTrans Erosion Prevention and Sediment Control Plan Contractor Checklist and Low Risk Site Inspection Form are available from the VTrans Construction Environmental Engineer.

39. 652.03 QUALIFICATIONS. Modifications to the EPSC Plan shall be prepared and signed by a Licensed Professional Civil Engineer registered in the State of Vermont or a qualified professional in erosion prevention and sediment control, certified by CPESC, Inc. or equivalent, hereinafter called the "Preparer."
40. 652.04 EROSION PREVENTION & SEDIMENT CONTROL PLAN. The EPSC Plan, developed using a combination of structural, non-structural, and vegetative practices to adequately prevent erosion and control sedimentation, and meeting the requirements of the VTrans Erosion Prevention & Sediment Control Plan Designer Checklist (Non-Jurisdictional and Low Risk) or the Vermont Standards & Specifications for Erosion Prevention & Sediment Control based on area of disturbance and risk, has been included in the Contract Documents.

The Contractor shall use the EPSC Plan included in the Contract and, at the onset of construction as well as throughout the duration of the project, modify it to describe changing conditions and illustrate how the criteria of the determined risk will be upheld. For Non-Jurisdictional and Low Risk projects, the Contractor shall use the VTrans Erosion Prevention and Sediment Control Plan Contractor Checklist. For Moderate Risk projects, the Contractor shall modify the Contract EPSC Plan in accordance with the General Permit 3-9020 Parts 4 through 6. If a modification to the EPSC Plan at a Low or Moderate Risk project alters any criteria of the determined risk, an updated Risk Evaluation shall be prepared.

The Contractor may use the Agency's EPSC Plan sheet(s) as a basis for necessary modifications; however, if necessary to convey the sequential nature and phases of construction activities and associated erosion prevention and sediment control measures, several plan sheets showing successive site conditions are recommended.

All work shown in the EPSC Plan shall be included in the Contractor's CPM Progress Schedule, as required by Subsection 108.03.

41. 652.05 SUBMITTALS. Three sets of the modified EPSC Plan as well as the updated Risk Evaluation, stamped and signed by the Preparer, shall be submitted to the Construction Engineer as Construction Drawings in accordance with Section 105. Submittals shall occur after award of the Contract but not later than the Pre-Construction Conference to allow time for review by the Agency. An Acceptance Memo or comments will be provided to the Contractor within 10 working days.

The Contractor shall respond to comments as soon as possible, but not more than 10 days after the date of VTrans initial correspondence. Agency review time for response to comments will be completed within an additional 10 working days. Modifications or additions to the EPSC Plan will not be considered as an acceptable delay of the work under Subsection 108.11.

All subsequent modifications to the EPSC Plan and updates to the Risk Evaluation will be reviewed and forwarded to the ANR by the Agency as appropriate.

Construction activities for EPSC Plan modifications that do not require authorization from the ANR shall commence only after the EPSC Plan has been accepted by the Agency. Construction activities for EPSC Plan modifications that do require authorization from the ANR shall commence only after that authorization has been granted.

42. 652.06 MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN. The Contractor shall designate a person (On-Site Plan Coordinator) who is directly responsible for the on-site implementation of the EPSC Plan. This person shall generally be on-site on a daily basis during active construction and have the authority to halt construction activities if necessary. The On-Site Plan Coordinator shall have demonstrated experience in construction practices as they relate to erosion prevention and sediment control as well as a general understanding of State and Federal environmental regulations and permits pertaining to the National Pollutant Discharge Elimination System Construction Program. The On-Site Plan Coordinator shall be proficient at reading and interpreting engineering and EPSC plans. Preference will be given to a Licensed Professional Civil Engineer registered in the State of Vermont or a qualified professional in erosion prevention and sediment control, certified by CPESC, Inc. or equivalent. The qualifications of the On-Site Plan Coordinator shall be included in the EPSC Plan. The Engineer, if not satisfied with the performance of this individual, may at any time request a replacement.

During active construction and periods of inactivity, the On-Site Plan Coordinator shall be responsible for inspections and reporting.

- (a) Active Construction. Inspections shall occur once every seven calendar days and within 24 hours of the end of a storm event that results in a discharge of stormwater from the site. During the winter construction season (October 15<sup>th</sup> to April 15<sup>th</sup>, inclusive), inspections at all sites shall occur daily.

For Non-Jurisdictional and Low Risk projects, inspections shall be conducted using the Agency's EPSC Plan Inspection Report (Non-Jurisdictional and Low Risk Projects).

For Moderate Risk projects, inspections shall be conducted using the General Permit 3-9020 Inspection Report for Moderate Risk Projects referenced in the Permit and available upon award of the Contract.

Immediate action shall be taken to correct the discharges of sediment, including halting or reducing construction activities as necessary, until the discharge and/or the condition is fully corrected. Corrective actions shall be recorded on the monitoring reports and shown on the EPSC Plan. Each report shall be signed by the On-Site Plan Coordinator.

- (b) Inactive Construction. Periods such as shutdown during the winter season shall require inspection and reporting of erosion prevention and sediment control measures. The Contractor shall contact the Engineer prior to conducting any inspections. The inspections shall be conducted at least once every 30 days and within 24 hours of any storm or significant snow melt event that may cause stormwater runoff to leave the construction site. The Contractor shall provide, within 24 hours, the necessary personnel, equipment, and materials to repair or correct any deficiencies identified during inspection. All deficiencies and corrective measures taken shall be documented on the reports.

Copies of all reports shall be submitted to the Engineer within 24 hours of inspection or when corrective measures were taken. Copies of all reports shall be kept on site in the Contractor's project files.

43. 652.07 MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN. This work shall consist of providing all labor and equipment necessary for field maintenance of erosion prevention and sediment control items in the Contract, and providing materials and labor necessary for installing, monitoring, maintaining and, where necessary, removing additional measures needed to correct deficiencies that develop during construction that lessen the performance of the EPSC Plan. Erosion prevention and sediment control measures shall be maintained by the Contractor and removed when authorized by the Engineer. The Contractor shall establish vegetation in all areas disturbed during removal of the erosion prevention and sediment control measures.

Any maintenance required due to the failure of the Contractor to follow the EPSC Plan in its accepted form shall be performed at no additional cost to the Agency.

44. 652.08 METHOD OF MEASUREMENT. The quantity of EPSC Plan to be measured for payment will be on a lump sum basis in the complete and accepted work.

The quantity of Monitoring EPSC Plan will be measured to the nearest 1/4 hour for the actual number of authorized hours spent monitoring, reviewing, and reporting on the construction site(s), including waste, borrow and staging areas or other support activities, as it relates to the EPSC Plan. Travel time and other time not spent at the construction site(s) or time not authorized will not be measured for payment (i.e. travel expenses, clerical staff time, copying, miscellaneous expenses, overhead, etc.).

The quantity of Maintenance of EPSC Plan will be on a lump unit basis for all such field maintenance provided for in the Contract, excluding waste, borrow and staging areas or other support activities.

45. 652.09 BASIS OF PAYMENT. The accepted quantity of EPSC Plan will be paid for at the Contract lump sum price. Payment will be full compensation for the initial preparation of modifications, submittals, and all incidentals necessary to complete the work. Subsequent modifications to the EPSC Plan during Construction will be considered incidental to Contract item 652.10.

Partial payments will be made as follows:

- (a) The first payment of 50 percent of the lump sum price for the EPSC Plan will be paid for upon acceptance of the EPSC Plan for the entire project.
- (b) The second payment of 35 percent of the lump sum price for the EPSC Plan will be made on the first estimate following the completion of 50 percent of the project.
- (c) The third payment of 15 percent of the lump sum price for the EPSC Plan will be made when the project is substantially complete.

The accepted quantity of Monitoring EPSC Plan will be paid for at the Contract unit price per hour. Payment will be full compensation for performing the work specified. Payment will not be made unless a report for the monitoring is submitted to and accepted by the Engineer.

The accepted quantity of Maintenance of EPSC Plan will be paid for as specified for force account work in Subsection 109.06. Payments will be drawn against the Contract Lump Unit amount. To provide a common proposal for all bidders, the Agency has entered an amount in the proposal to become part of the Contractor's total bid. Maintenance related to material supply and disposal areas shall be performed in accordance with Subsection 105.29.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
652.10 EPSC Plan	Lump Sum
652.20 Monitoring EPSC Plan	Hour
652.30 Maintenance of EPSC Plan (N.A.B.I.)	Lump Unit

SECTION 690 - FUEL PRICE ADJUSTMENT

46. In addition to materials produced under Contract pay item(s) included in Table 1 Pay Item Fuel Usage Factors and Quantity Thresholds as allowed under this Section, fuel usage under Contract item 900.680 Special Provision (Bituminous Concrete Pavement, Small Quantity) will be included for adjustment, utilizing the Fuel Usage Factors for item 490.30 in Table 1.
47. SECTION 690 - FUEL PRICE ADJUSTMENT, is hereby made a new Section of the Specifications as follows:
48. 690.01 GENERAL REQUIREMENTS AND CONDITIONS
  - (a) This specification contains price adjustment provisions for fuel used on Vermont Agency of Transportation (Agency) construction projects. This price adjustment clause is being inserted in this Contract to provide for either additional compensation to the Contractor or a payment to the Agency, depending upon an increase or decrease in the average price of diesel fuel or gasoline during the construction of this project.
  - (b) These provisions apply to this Contract only as specified herein through the fuel usage factors set forth in Table 1. No further fuel price adjustments will be allowed under this Contract.
  - (c) It is understood by the Contractor that a price adjustment increase may cause the Agency to decrease the quantities of the Contract pay items subject to adjustment under these provisions. Provisions providing for decreased quantities and item cancellation in this paragraph are separate and take precedence, notwithstanding any other provisions of this Contract.
  - (d) No price adjustment will be paid for work performed after the Contract Completion Date, as modified by Change Order, if applicable.

- (e) Price Adjustment, Fuel will be determined for a pay item if each of the following criteria is met:
  - (1) the pay item is included in the original awarded Contract;
  - (2) the original awarded Contract bid quantity for the pay item equals or exceeds the quantity threshold indicated in Table 1.
- (f) Any increase in the total Contract amount due to fuel price adjustment will not be justification for an extension of time under Subsection 108.11.

49. 690.02 PRICE ADJUSTMENT PROCEDURES

- (a) Prior to advertising for bids, Index Prices for both a gallon of diesel fuel and a gallon of gasoline will be established by the Agency using retail prices reported by the Energy Information Administration (EIA) for the New England Region. The Index Prices will be set monthly using the first EIA posting falling either on or after the 1<sup>st</sup> calendar day of that month. The Contract Index Prices will be the most recent Index Prices set by the Agency at the time of advertising for bids. These prices are included below and will be the base from which price adjustments are computed.

The index price (retail) for gasoline is \$3.76 per gallon. The index price (retail) for diesel fuel is \$4.09 per gallon.

- (b) For the duration of the Contract, Posted Prices for both a gallon of diesel fuel and a gallon of gasoline will be established monthly by the Agency. The Posted Prices will be established in the same manner as the Index Prices.
- (c) A Price Adjustment will be paid or credited for diesel fuel and/or gasoline only when the Posted Price of diesel fuel and/or gasoline increases or decreases 5 percent or more over its respective Index Price.
- (d) Payment for Price Adjustment, Fuel will be based upon the quantity of fuel incorporated in the work as determined by the fuel usage factors in Table 1 of this specification for both diesel fuel and gasoline, multiplied by the algebraic difference between the Posted Price and the Index Price for either diesel fuel or gasoline, respectively.

(e) Payment for Price Adjustment, Fuel shall be computed as follows:

- PA = Price Adjustment (LU in \$)
- IPD = Index Price, Diesel Fuel (\$/gallon)
- IPG = Index Price, Gasoline (\$/gallon)
- PPD = Posted Price, Diesel Fuel (\$/gallon)
- PPG = Posted Price, Gasoline (\$/gallon)
- FUFD = Fuel Usage Factor, Diesel Fuel (gallon/unit)
- FUFG = Fuel Usage Factor, Gasoline (gallon/unit)

For PPD/IPD  $\leq 0.95$  or  $\geq 1.05$  and PPG/IPG  $> 0.95$  and  $< 1.05$ :  
 $PA = FUFD \times \text{Pay Item Quantity} \times (PPD - IPD)$

For PPD/IPD  $> 0.95$  and  $< 1.05$  and PPG/IPG  $\leq 0.95$  or  $\geq 1.05$ :  
 $PA = FUFG \times \text{Pay Item Quantity} \times (PPG - IPG)$

For PPD/IPD and PPG/IPG  $\leq 0.95$  or  $\geq 1.05$ :  
 $PA = [FUFD \times (PPD - IPD) + FUFG \times (PPG - IPG)] \times \text{Pay Item Quantity}$

(f) The Contract bid prices for the applicable pay items will be paid under the Contract. The price adjustment, when such adjustment is required as specified in part (c) of this Subsection, will be made subsequent to the month in which the applicable Contract work was performed and will be entered on the next bi-weekly estimate.

(g) Payment for Price Adjustment, Fuel shall be debited or credited against the Contract price (Lump Unit) bid for Price Adjustment, Fuel.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
690.50 Price Adjustment, Fuel (N.A.B.I.)	Lump Unit

**Table 1**  
**Pay Item Fuel Usage Factors and Quantity Thresholds**

Work Category	Pay Item No.	Usage Factor Units		Diesel Fuel (FUF <sub>D</sub> )		Gasoline (FUF <sub>G</sub> )		Quantity Threshold	
		Metric	English	Metric	English	Metric	English	Metric	English
Excavation	203.15	GAL/CM	GAL/CY	0.38	0.29	0.2	0.15	2,500	3,000
	203.16	GAL/CM	GAL/CY	0.51	0.39	0.24	0.18	2,000	2,500
	204.25	GAL/CM	GAL/CY	0.46	0.35	0.21	0.16	2,000	2,500
	208.30	GAL/CM	GAL/CY	0.46	0.35	0.21	0.16	1,500	2,000
	208.35	GAL/CM	GAL/CY	0.51	0.39	0.24	0.18	1,500	2,000
Borrow	203.30	GAL/CM	GAL/CY	0.38	0.29	0.20	0.15	2,500	3,000
	203.31	GAL/CM	GAL/CY	0.38	0.29	0.20	0.15	2,500	3,000
	203.32	GAL/CM	GAL/CY	0.38	0.29	0.20	0.15	2,500	3,000
Granular Backfill For Structures	204.30	GAL/CM	GAL/CY	1.31	1.00	0.21	0.16	1,200	1,500
Cold Planing, Bituminous Pavement	210.10	GAL/SM	GAL/SY	0.16	0.12	0	0	11,000	15,000
Subbase	301.25	GAL/CM	GAL/CY	1.11	0.85	0.73	0.56	750	1,000
	301.35	GAL/CM	GAL/CY	1.11	0.85	0.73	0.56	750	1,000
Reclaimed Stabilized Base	310.20	GAL/SM	GAL/SY	0.05	0.04	0	0	30,000	35,000
Pavement	406.25	GAL/T	GAL/TON	3.37	3.06	0.95	0.86	450	500
	406.27	GAL/T	GAL/TON	3.37	3.06	0.95	0.86	450	500
	490.30	GAL/T	GAL/TON	3.37	3.06	0.95	0.86	450	500
Concrete	501.32	GAL/CM	GAL/CY	0.98	0.75	0.33	0.25	750	1,000
	501.33	GAL/CM	GAL/CY	0.98	0.75	0.33	0.25	750	1,000
	501.34	GAL/CM	GAL/CY	0.98	0.75	0.33	0.25	750	1,000
Stone Fill	613.10	GAL/CM	GAL/CY	0.51	0.39	0.24	0.18	1,500	2,000
	613.11	GAL/CM	GAL/CY	0.51	0.39	0.24	0.18	1,500	2,000
	613.12	GAL/CM	GAL/CY	0.51	0.39	0.24	0.18	1,500	2,000
	613.13	GAL/CM	GAL/CY	0.51	0.39	0.24	0.18	1,500	2,000
Guardrail	621.20	GAL/M	GAL/LF	0.59	0.18	0.16	0.05	1,500	5,000
	621.205	GAL/M	GAL/LF	0.59	0.18	0.16	0.05	1,500	5,000
	621.21	GAL/M	GAL/LF	0.59	0.18	0.16	0.05	1,500	5,000
	621.215	GAL/M	GAL/LF	0.59	0.18	0.16	0.05	1,500	5,000

SECTION 900 - SPECIAL PROVISION ITEMSDRILLING AND BLASTING

50. DESCRIPTION. This work shall consist of performing controlled blasting techniques, as covered herein, for forming highway rock cut slopes at the locations designated in the Contract Documents or as directed by the Engineer.
51. GENERAL. Controlled blasting refers to the controlled use of explosives and blasting accessories in carefully spaced and aligned drill holes to produce a free surface or shear plane in the rock along the specified excavation backslope.

Controlled blasting techniques covered by this specification include presplitting and cushion (trim) blasting. When presplitting, the detonation of the presplit line shall be before the detonation of any production holes. Cushion blasting is similar to presplitting, except that the detonation along the cut face shall be performed after the detonation of the production holes.

Production blasting, as covered herein, refers to the rock fragmentation blasts resulting from more widely spaced production holes drilled throughout the main excavation area adjacent to the controlled blast line. Production holes shall be detonated in a controlled delay sequence.

The purpose of controlled blasting is to minimize damage to the rock backslope to help insure long-term stability. The Engineer may require the contractor to use controlled blasting to form the faces of slopes, even if the main excavation can be ripped.

52. USE OF EXPLOSIVES. All blasting operations, including the storage and handling of explosives and blasting agents, shall be performed in accordance with the applicable provisions of the Standard Specifications and all other pertinent Federal, State, and local regulations. Whenever explosives are used, they shall be of such character and in such amount as is permitted by the State and local laws and ordinances and all respective agencies having jurisdiction over them.
53. PRODUCT SPECIFICATIONS. The delay elements in blasting caps are known to deteriorate with age. For this reason, it is required that all blasting caps used on the project be one year or less of age. To ensure the accuracy of firing times of blasting caps, it is required that each cap period come from one lot number. Mixing of lot numbers for any one cap period is prohibited.

Explosives are also known to age and deliver much less than the rated energy. For this reason, it is required that all explosives used on the project be one year or less of age.

Due to evaporation or improper mixing, bulk explosives such as ammonium nitrate and fuel oil may not contain the proper amount of diesel oil. Low diesel oil drastically reduces the energy content of the explosive and commonly produces reddish brown or yellow fumes upon detonation even in dry blastholes. Product that does not meet manufacturer's specifications shall not be used on the project.

When, in the opinion of the Engineer (based on date codes on product boxes or cartridge labels), any blasting product is either of excessive age or in what appears to be a deteriorated condition, all work will cease until the products age or quality can be determined.

No blasting product will be brought to the job site if the date codes are missing.

54. SCALING AND STABILIZATION. All rock on the cut face that is loose, hanging, or which creates a potentially dangerous situation shall be removed or stabilized to the Engineer's satisfaction during or upon completion of the excavation in each lift. Drilling of the next lift will not be allowed until this work has been completed.

The slopes shall be scaled throughout the span of the contract and at such frequency as required to remove all hazardous loose rock or overhangs. The slopes shall be hand scaled using a suitable standard steel mine scaling rod. Subject to the Engineer's approval, other methods such as machine scaling, hydraulic splitters, or light blasting may be used in lieu of or to supplement hand scaling.

55. SITE PREPARATION. The site shall be cleared of all boulders prior to beginning blasting work. Use of standard explosive charges is not permitted to blast boulders or remove less than 900 mm (3 feet) of rock above grade.

56. BREAKING BOULDERS. Boulders must be broken in a manner that shall not dislodge them and cause them to move downslope. The methods allowed for boulder breaking are as follows:

1. Hydraulic Splitter
2. Boulder Buster
3. Air cushion blasting
4. Expansive concrete such as Britstar or S-mite
5. Hydraulic Hammer

If air cushion blasting is the selected method, blastholes must be 50 mm (2 inches) or less in diameter.

Blockholing or plastershooting is not acceptable. Methods to secure rock during Boulder Busting must be approved by the Engineer.

57. BLASTING PLAN SUBMITTAL. Not less than two weeks prior to commencing drilling and blasting operations, or at any time the Contractor proposes to change the drilling and blasting methods, the Contractor shall submit a "Blasting Plan" to the Engineer for review. The blasting plan shall contain the full details of the drilling and blasting patterns and controls the Contractor proposes to use for both the controlled and production blasting. Blasthole drilling operations cannot begin until the blast plan is approved.

If the location of faces change or other conditions change (other than the number of blastholes), the Contractor is required to submit a new blasting plan. A generic blasting plan will not be sufficient.

The blasting plan shall contain the following minimum information:

1. Station limits of proposed shot.
2. Plan and section views of proposed drill pattern including free face, burden, blasthole spacing, blasthole diameters, blasthole angles, lift height, and subdrill depth.
3. Loading diagram showing type and amount of explosives, primers, initiators and location and depth of stemming.
4. Initiators sequence of blast holes including delay times and delay system.
5. Manufacturer's data sheets for all explosives, primers, and initiators to be employed.

The blasting plan submittal is for quality control and record keeping purposes. Review of the blasting plan by the Engineer shall not relieve the Contractor of his responsibility for the accuracy and adequacy of the plan when implemented in the field.

When the contract requires the Contractor to retain a blasting consultant to assist with the blast design, all blasting plan submittals must be approved by the blasting consultant.

58. PRODUCTION HOLES. All production blasting, including that carried out in conjunction with the blasting test section requirements of BLASTING TEST SECTION(S) of this Special Provision, shall be performed in accordance with the following general requirements.

Production blast holes shall be drilled on the patterns submitted by the Contractor and approved by the Engineer. The production blastholes shall be drilled within two (2) blasthole diameters of the staked collar location. If more than five percent of the holes are drilled outside of this tolerance, then at the option of the Engineer, the Contractor may be required to refill these holes with crushed stone and re-drill them at the proper location.

If the blastholes are plugged or unable to be fully loaded, then at the option of the Engineer, the Contractor may be required to deepen or clean out those holes. The blastholes should all be checked and measured before any explosives are loaded into any of the holes to eliminate any safety hazard resulting from drilling near loaded holes.

All blastholes should reach their desired depth and if more than five percent of the holes are short before loading, the Contractor may be required by the Engineer to redrill the short holes to proper grade at the contractor's expense.

In order to control blasting effects, the Contractor must maintain a burden distance that is not more than one half the bench height and between 25 to 35 times the diameter of the explosive charge in the blasthole.

Blastholes will be covered to keep overburden from falling into the holes after drilling.

The row of production blast holes immediately adjacent to the controlled blast line shall be drilled on a plane approximately parallel to the controlled blast line. Production blast holes shall not be drilled closer than 1.8m (six feet) to the controlled blast line, unless approved by the Engineer. The bottom of the production holes shall not be lower than the bottom of the controlled blastholes.

Production holes shall not exceed 152 mm (6 inches) in diameter, unless approved by the Engineer. Detonation of production holes shall be on a delay sequence toward a free face. Stemming material used in production holes shall be sand or other dry angular granular material, all of which passes a 9.5 mm (3/8 inch) sieve.

It is the Contractor's responsibility to take all necessary precautions in the production blasting so as to minimize blast damage to the rock backslope.

Payment for production blasting shall be incidental to the contract unit price for Solid Rock Excavation.

If presplit results are not satisfactory and blasting within production holes are damaging the presplit, then at the option of the Engineer, a line of buffer holes shall be drilled on a parallel plane adjacent to the presplit holes. Buffer hole diameters shall be between 63.5 (2.5) and 76 mm (3 inches). The line of buffer holes shall be drilled approximately 900 mm (3 feet) out from the presplit line and spaced 900 to 1500 mm (3 to 5 feet) center to center. The explosive loads in these holes shall not exceed 50 percent of the full explosive load that could be placed in a 76 mm (3 inch) production hole. Detonation of the buffer holes shall be on a delay sequence toward a free face.

59. BLASTHOLE DRILLING. The maximum drill hole size for production blasting shall be 102 mm (4 inches) in diameter. The controlled blasting presplit or cushion blastholes shall be between 63.5 and 76 mm (2 ½ to 3 inches) in diameter.

Drilling logs shall be kept on each blasthole to show open bedding, jointing and open or mud filled seams, zones of soft or weathered rock, mud pockets, etc. These logs shall be provided to the Engineer before any blastholes are loaded. The logs shall be used to properly design and load blastholes and design stemming decks. Stemming decks shall be used in weak zones to protect residents from blowout, flyrock and unusual or hazardous blasting effects. The stemming decks shall be constructed using crushed stone, well graded between 3.2 and 9.5 mm (1/8 and 3/8 inch) in diameter. Drill cuttings shall not be used.

60. BLASTING TEST SECTION(S). Prior to commencing full-scale blasting operations, the Contractor shall demonstrate the adequacy of the proposed blast plan by drilling, blasting, and excavating short test sections, up to 30 meters (100 feet) in length, to determine which combination of method, hole spacing, and charge works best. When field conditions warrant, as determined by the Engineer, the Contractor may be ordered to use test section lengths less than 30 meters (100 feet).

Unless otherwise allowed by the Engineer, the Contractor shall begin the controlled blasting tests with the controlled blastholes spaced 760 mm (2 ½ feet) apart, and then adjust if needed, until the Engineer approves the spacing to be used for full-scale blasting operations.

Requirements for controlled and production blasting operations covered elsewhere in this specification shall also apply to the blasting carried out in conjunction with the test shots.

The Contractor will not be allowed to drill ahead of the test shot area until the test section has been excavated and the results evaluated by the Engineer. If the results of the test shot(s) are unsatisfactory, then, notwithstanding the Engineer's prior review of such methods, the Contractor shall adopt such revised methods as are necessary to achieve the required results.

Unsatisfactory test shot results include an excessive amount of fragmentation beyond the indicated lines and grade, excessive flyrock, or violation of other requirements within these specifications. All costs incurred by the Contractor in adopting revised blasting methods necessary to produce an acceptable test shot shall be considered incidental to the contract unit prices for Solid Rock Excavation and controlled blasting.

If at any time during the progress of the work, the methods of drilling and blasting do not produce the desired result of a uniform slope and shear face, within the tolerances specified, the Contractor will be required to drill, blast, and excavate in short sections, not exceeding 30 meters (100 feet) in length, until a technique is arrived at that will produce the desired results. Extra cost resulting from this requirement shall be borne by the Contractor.

61. SAFETY.

- (a) Warnings and Signals. The Contractor will establish a method of warning all employees on the job site of an impending blast. The signal should consist of a five minute warning signal to notify all in the area that a blast will be fired within a five minute period. A second warning signal will be sounded one minute before the blast. After the blast is over, there will be an all clear signal sounded so all in the area understand that all blasting operations are finished.

Five minutes prior to the blast, five long signals on an air horn or siren will be sounded. One minute prior to the blast, five short signals on an air horn or siren will be sounded. The all clear will be one long signal of at least 30 seconds in duration to indicate that all blasting has ceased.

- (b) Lightning Protection. The Contractor shall furnish, maintain and operate lightning detection equipment during the entire period of blasting operations and/or during the periods that explosives are used at the site. When the lightning detection device indicates a blasting hazard potential, personnel shall be evacuated from all areas where explosives are present. When a lightning detector indicates a blasting hazard, the following shall be performed:

1. Clear the blasting area of all personnel.
2. Notify the project Engineer of the potential hazards and precautions to be taken.
3. Terminate the loading of holes and return the unused explosives to the day storage area.
4. If blastholes are loaded and would pose a hazard to traffic if detonated, roads will be closed until the lightning hazard has passed.
5. When the hazard dissipates, inform the project Engineer that production blasting will continue.

- (c) Check For Misfires. The Contractor shall observe the entire blast area for a minimum of five minutes following a blast to guard against rock fall before commencing work in the cut. The five minute delay between blasting and allowing anyone but the blaster to enter the area is needed to make sure that no misfires have occurred.

During the five minute delay, it is the blaster's responsibility to go into the shot area and check all holes to make sure that they have detonated. If any holes have not fired, these misfires will be handled by the blaster before others enter the work area.

The Engineer shall have the authority to prohibit or halt the Contractor's blasting operations if it is apparent that through the methods being employed, the blasted slopes are unstable or the safety and convenience of the traveling public is being jeopardized.

- (d) Misfire Handling Procedures. Should a visual inspection indicate that complete detonation of all charges did not take place; the following procedures will be followed:

- (1) If the system was energized and no charges fired for electric systems, the lead wire will be tested for continuity prior to inspection of the remainder of the blast. For non-electric systems, the lead in or tube will be checked to make sure that detonation has entered the blast area.
- (2) Should an inspection of the electrical trunkline or lead in tubing-line indicate that there is a break in the line or if the tubing did not fire, then the system will be repaired and the blast refired. If the inspection indicates that the trunkline has fired, and misfired charges remain, the blaster will do the following:
  - a. The blaster will exclude all employees except those necessary from the blast area to rectify the problem.
  - b. Traffic will be closed if a premature explosion could be a hazard to traffic on nearby roads.
  - c. The blaster will correct the misfire in a safe manner. If the misfire poses a problem that cannot be safely corrected by the blaster, a consultant or an explosive company representative skilled in the art of correcting misfires will be called to rectify the problem.

## 62. CONTROLLED BLASTING.

- (a) Presplitting. All presplitting, including that carried out in conjunction with the blasting test section requirements of Section 205.10, shall be performed in accordance with the following requirements.

The Contractor shall completely remove all overburden soil and loose or decomposed rock along the top of the excavation for a distance of at least nine meters (30 feet) beyond the end of the production hole drilling limits, or to the end of the cut, before drilling the presplitting holes.

Boulders located beyond the excavation limits that may be potentially unstable shall also be removed as ordered by the Engineer. Payment for removal of the material located beyond the excavation limits shall be by item 203.16, Solid Rock Excavation.

The presplit drill holes shall not be less than 63.5 mm (2 ½ inches) and not more than 76 mm (3 inches) in diameter.

The Contractor shall control drilling operations by the use of proper equipment and technique to insure that no hole shall deviate from the plane of the planned slope by more than 229 mm (9 inches) either parallel or normal to the slope. Presplit holes exceeding these limits shall not be paid for unless, in the Engineer's opinion, satisfactory slopes are being obtained.

Presplit holes shall be drilled within 76 mm (3 inches) of the staked collar location. If more than five percent of the presplit holes are outside of the 76 mm (3 inches) tolerance, they will be filled with crushed stone, stemmed and predrilled.

All drilling equipment used to drill the presplit holes shall have electro-mechanical or electronic devices affixed to the equipment to accurately determine the angle at which the drill steel enters the rock. Presplit hole drilling will not be permitted if these devices are either missing or inoperative.

If drilling outside the tolerance persists, the Contractor will be required to use a Boretrack® unit affixed to a laser profiler to determine blasthole orientation before the holes are loaded. Blastholes exceeding the allowable tolerance will be refilled with crushed stone or concrete and re-drilled at the proper location and at the proper alignment.

Presplit holes shall extend a minimum of nine meters (30 feet) beyond the limits of the production holes to be detonated, or to the end of the cut as applicable.

The length of presplit holes for any individual lift shall not exceed nine meters (30 feet) unless the Contractor can demonstrate to the Engineer that he/she can stay within the above tolerances and produce a uniform slope. Upon satisfactory demonstration, the length of holes may be increased to a maximum of 18 meters (60 feet) upon written approval of the Engineer. If greater than five percent of the presplit holes are misaligned in any one lift, the Contractor shall reduce the height of the lifts until the 229 mm (9 inch) alignment tolerance is met.

When the height will require more than one lift, a maximum 0.6 meters (two feet) offset between lifts shall be permitted to allow for drill equipment clearances. The Contractor shall begin the control blast hole drilling at a point that will allow for necessary offsets and shall adjust, at the start of lower lifts, to compensate for any drift that may have occurred in the upper lifts. Payment for the additional excavation volume resulting from the allowed 0.6 meters (two feet) offsets shall be at the contract unit price for Solid Rock Excavation.

Drilling 600 mm (2 feet) below ditch bottom will be allowed to facilitate removal of the toe berm.

Before placing charges, the Contractor shall determine that the hole is free of obstructions for its entire depth. All necessary precautions shall be exercised so that the placing of the charges will not cause caving of material from the walls of the holes.

Drill hole conditions may vary from dry to filled with water. The Contractor will be required to use whatever type(s) of explosives and/or blasting accessories necessary to accomplish the specified results.

The maximum diameter of explosives used in presplit holes shall not be greater than 1/2 the diameter of the presplit hole.

Bulk ammonium nitrate and fuel oil (ANFO) shall not be allowed to be loaded in the presplit holes. Only standard explosives manufactured especially for pre splitting shall be used in presplit holes, unless otherwise approved by the Engineer.

If fractional portions of standard explosive cartridges are used, they shall be firmly affixed to the detonating cord in such a manner that the cartridges will not slip down the detonating cord nor bridge across the hole. Spacing of fractional cartridges along the length of the detonating cord shall not exceed 760 mm (30 inches) center to center and shall be adjusted to give the desired results.

Continuous column cartridge type of explosives used with detonating cord shall be assembled and affixed to the detonating cord in accordance with the explosive manufacturer's instructions, a copy of which shall be furnished to the Engineer.

The bottom charge of a presplit hole may be larger than the line charges but shall not be large enough to cause overbreak. The top charge of the pre splitting hole shall be placed far enough below the collar, and reduced sufficiently, to avoid overbreaking and heaving. The upper portion of all presplit holes, from the top most charge to the hole collar, shall be stemmed. Stemming materials shall be sand or other dry angular granular material, all of which passes a 9.5 mm (3/8 inch) sieve.

As long as equally satisfactory presplit slopes are obtained, the Contractor, at his/her option, may either presplit the slope face before drilling for production blasting or may presplit the slope face and production blast at the same time, provided that the presplitting drill holes are fired first. If required to reduce ground vibrations or noise, presplit holes may be delayed, providing the hole to hole delay is no more than 25 milliseconds.

The presplit slope face shall not deviate more than 0.30 meters (one foot) from a plane passing through adjacent drill holes, except where the character of the rock is such that, as determined by the Engineer, irregularities are unavoidable. The 0.30 meter (one foot) tolerance shall be measured perpendicular to the plane of the slope. In no case shall any portion of the slope encroach on the roadbed.

63. BLASTING CONSULTANT. If the Contractor is unable to maintain a slope consistent with the expected results identified in the project plans and special provisions, the Engineer may require the Contractor to retain an experienced and recognized blasting consultant to assist in the blast design. The blasting consultant shall assist in the design of both the controlled and production blasting. Before blasting proceeds, a written report will be submitted to the Engineer for his approval.

The Contractor shall submit a resume of the credentials of the proposed blasting consultant. The resume shall include a list of at least five highway rock excavation projects on which the blasting consultant has worked. The list shall contain a description of the projects, details of the blast plans, and modifications made during the project. The list shall also contain the names and telephone numbers of project owners with sufficient knowledge of the projects to verify the submitted information. The Blasting Consultant shall not be an employee of the explosives manufacturer, or explosives distributor. The Blasting Consultant must be approved by the Engineer prior to the beginning of any drilling and blasting work requiring the use of the Blasting Consultant.

The Blasting Consultant must approve the blasting plan for every blast, must be present to review the blasthole layout on the ground before drilling begins, be present at the time of blasthole loading and must also sign every blasting plan and each blast report. The Blasting Consultant must have full authority to stop or delay any blast considered unsafe.

The Blasting Consultant must submit and sign a written checklist that all necessary precautions were reviewed and followed by the drilling and blasting crew. The checklist will be defined under the section on blast reports. The signed checklist will be attached to each blasting report.

64. VIBRATION, NOISE, AND FLY-ROCK CONTROL. These specifications will apply to work where blasting will be carried out near existing buildings, structures, or utilities.

(a) Pre-Blast Condition Survey. The Contractor shall conduct a pre-blast survey of any buildings, structures, or utilities within a 228 m (750 foot) radius of the blasting operations. The survey method used shall be acceptable to the Contractor's insurance company, the Agency and local authorities. The Contractor shall be responsible for any damage resulting from blasting. The pre-blast survey records shall be made available to the Engineer for review. Occupants of local buildings shall be notified by the Contractor prior to the commencement of blasting.

(b) Vibration Control and Monitoring. When blasting near buildings, structures, or utilities which may be subject to damage from blast induced ground vibrations, the ground vibrations shall be controlled by the use of properly designed delay sequences and allowable charge weights per delay. Allowable charge weights per delay shall be based on vibration levels that will not cause damage. The allowable charge weights per delay shall be established by carrying out trial blasts and measuring vibration levels. The trial blasts shall be carried out in conformance with the blasting test section requirements of Section 205.10, modified as required to limit ground vibrations to a level that will not cause damage.

Whenever vibration damage to adjacent structures is possible, the Contractor shall monitor each blast with approved seismographs located between the blast area and the closest structures subject to blast damage. The placement of seismograph geophones shall be made with the concurrence of the Engineer. The seismographs used shall be capable of recording particle velocity for three mutually perpendicular components of vibration in the range generally found with controlled blasting.

Peak particle velocity of each component shall not be allowed to exceed the safe limits of the nearest structure subject to vibration damage. The Contractor shall employ a qualified Vibration Specialist to establish the safe vibration limits. The Vibration Specialist shall supervise the placement and operation of the seismographs. The Vibration Specialist shall also interpret the seismograph records to insure that the seismograph data shall be effectively utilized in the control of the blasting operations with respect to the existing structures.

The Vibration Specialist must have at minimum a two year associate's college degree in science or engineering and at least 10 years of experience in seismic monitoring. The Vibration Specialist used shall be subject to the Engineer's approval.

Data recorded for each shot shall be furnished to the Engineer prior to the next blast and shall include the following:

1. Identification of instrument used.
2. Name of qualified observer and interpreter.
3. Location including distance and direction of recording station from blast area.
4. Type of ground at recording station and material on which the instrument is sitting.
5. Maximum particle velocity in each component.
6. A dated and signed copy of records of all seismograph readings.

- (c) Airblast and Noise Control. The Contractor shall conduct airblast monitoring. Airblast monitoring equipment shall be installed between the main blasting area and the nearest structures subject to blast damage or annoyance. The equipment used to make the airblast measurements shall be the type specifically manufactured for that purpose. Peak overpressure shall be held below 345 Pa (50 psi) at the nearest structures or other designated locations. Appropriate blasthole patterns, detonation systems, and stemming shall be used to prevent venting of blasts and to minimize airblast and noise levels produced by the blasting operations. The overpressure limit shall be lowered if it proves too high based on damage or complaints. A permanent signed and dated record of the peak overpressure measurements shall be furnished the Engineer immediately after each shot.

- (d) Flyrock Control. Before the firing of any blast in areas where flying rock may result in personal injury or unacceptable damage to property or the work, the rock to be blasted shall be covered with approved blasting mats, soil, or other equally serviceable material, to prevent flyrock.

On projects where flyrock cannot be permitted because of close proximity to home or where flyrock could cause property damage or injury to the public the following shall apply:

Before the firing of any blast, the rock to be blasted shall be covered with approved blasting mats, soil, or other equally serviceable material, to prevent flyrock that may result in damage to life or property.

The homeowners/renters determined to be in the potential flyrock zone for a particular blast shall be notified by the Contractor 24 hours in advance of the pending blast and at least two hours prior to the blast so they may temporarily relocate during the blast.

Methods of protecting existing structures and utilities from the effects of the blasting, blast induced flyrock, vibration, and airblast overpressure include, but are not limited to the following:

1. New sisal rope blasting mats
2. Wire rope or tire blasting mats
3. Backfilling
4. Reduced explosive loads per delay
5. Use of millisecond delays
6. Relocation of any or all existing utility lines

The Contractor shall protect all overhead and underground utilities prior to blasting and immediately repair or replace any damaged by the blasting operations. If the Contractor wishes to temporarily relocate any utility lines that lie near a blast zone, he shall have written approval from the governing utilities and pay all relocation costs.

The exposed face(s) of the blast will also be covered with blasting mats or other suitable materials to prevent any flyrock. The method of covering must be approved by the Engineer.

If flyrock travels more than one-half the distance between the blast and the project boundary, the Contractor must file a report explaining the cause of the flyrock and methods to be employed on the subsequent blasts to reduce the throw of flyrock. This report must be presented for the Engineers review before any blasts are detonated.

If flyrock leaves the construction right-of-way and lands on private property, all blasting operations will be halted and will not resume until the Engineer has evaluated and approved the Contractor's plans to prevent future encroachments of private property.

65. PUBLIC MEETINGS. The Contractor shall make their qualified Vibration Specialist and Blasting Consultant (if one is required on the project) available for one day if requested by the Engineer to prepare for and participate in a public meeting conducted by the Engineer to better inform the public about anticipated drilling and blasting operations. The specialists shall be prepared to answer any questions dealing with the magnitude of seismic motion, airblast overpressure and flyrock expected to impact on the public.

66. STORAGE OF EXPLOSIVES. The Contractor shall not be allowed to store explosives overnight on the project site or on State owned property unless prior approval has been granted by the Agency.

Should a loss or theft of explosives occur, all circumstances and details of the loss or theft will be immediately reported to the nearest office of Alcohol, Tobacco & Firearms as well as to the local law enforcement authorities and Contractors offices representative.

67. DAILY BLASTING LOGS. The Contractor shall provide the Engineer on a weekly basis a daily log of blasting operations. The log shall be updated at the close of each business day. The log shall include the number of blasts, times, and dates of blasts. The logs should include blasting locations and patterns and all information shown below:

1. Station limits of the shot.
2. Plan and section views of drill pattern including free face, burden, blasthole spacing, blasthole diameters, blasthole angles, lift height, and subdrill depth.
3. Loading diagram showing type and amount of explosive, primers, initiators and location and depth of stemming.
4. Initiators sequence of blastholes including delay times and delay system in each blasthole.
5. Trade names and sizes of all explosives, primers, and initiators to be employed.
6. Signature of the blaster in charge.

Typical log sheets are presented below:





### BLASTHOLE LOADING INFORMATION

EXPLOSIVE					EXPLOSIVE				
LOADING					LOADING				
DENSITY					DENSITY				
HOLE /	TO:	TO:	TO:	TO:	HOLE /	TO:	TO:	TO:	TO:
CHARGE					CHARGE				
NUMBER					NUMBER				
1					31				
2					32				
3					33				
4					34				
5					35				
6					36				
7					37				
8					38				
9					39				
10					40				
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HIGH PERFORMANCE CONCRETE, CLASS A LOW CEMENT

69. DESCRIPTION. This work shall consist of furnishing and placing high performance portland cement concrete at the locations indicated in the Plans and as directed by the Engineer.

The work under this Section shall be performed in accordance with these provisions, the Plans, and Section 501 of the Standard Specifications.

70. MATERIALS. The coarse aggregate shall be conditioned so that 24 hours prior to the anticipated concrete placement time, the total moisture percentage is a minimum of 0.75% greater than the absorption percentage for that aggregate. The minimum moisture percentage shall be maintained throughout the 24 hour period.
71. CLASSIFICATION AND PROPORTIONING. Proportioning of High Performance Concrete, Class A Low Cement shall meet the following requirements:

HPC Class	Req.** Cem. Mat. kg/m <sup>3</sup> (lbs./cy)	Maximum Water- Cem. Mat. Ratio	Max. Slump mm (in.)	Air Content (%)	Coarse Aggregate Gradation Table	28-Day* Comp. Strength MPa (psi)	28-Day* Modulus of Rupture MPa (psi)
A Low Cement	362 (611)	0.44	150 (6)	7.0 ± 1.5	704.02B	30 (4000)	4.48 (650)
* The listed 28-day compressive strength or modulus of rupture will serve as the basis of designing or approving the concrete mix.							
** See tables located below for required cementitious materials.							

Required Cementitious Materials

Cement kg/m <sup>3</sup> (lbs/cy)		Fly Ash kg/m <sup>3</sup> (lbs/cy)		Silica Fume Admixture kg/m <sup>3</sup> (lbs/cy)		Cementitious Materials kg/m <sup>3</sup> (lbs/cy)
266 (449)	+	72 (122)	+	24 (40)	=	362 (611)

OR

Cement kg/m <sup>3</sup> (lbs/cy)		GGBFS kg/m <sup>3</sup> (lbs/cy)		Silica Fume Admixture kg/m <sup>3</sup> (lbs/cy)		Cementitious Materials kg/m <sup>3</sup> (lbs/cy)
248 (418)	+	90 (153)	+	24 (40)	=	362 (611)

OR

Blended Silica Fume Cement (8.0%) kg/m <sup>3</sup> (lbs/cy)		Fly Ash kg/m <sup>3</sup> (lbs/cy)		Cementitious Materials kg/m <sup>3</sup> (lbs/cy)
290 (489)	+	72 (122)	=	362 (611)

OR

Blended Silica Fume Cement (8.0%) kg/m <sup>3</sup> (lbs/cy)		GGBFS kg/m <sup>3</sup> (lbs/cy)		Cementitious Materials kg/m <sup>3</sup> (lbs/cy)
272 (458)	+	90 (153)	=	362 (611)

The Contractor will be responsible for providing a workable mix design.

HIGH PERFORMANCE CONCRETE, RAPID SET

72. DESCRIPTION. This work shall consist of designing, furnishing, and placing high performance Portland cement concrete at the locations indicated in the Plans and as directed by the Engineer.

The work under this Section shall be performed in accordance with these provisions, the Plans, and Section 501 of the Standard Specifications.

73. MATERIALS. Materials shall meet the requirements of Subsection 501.02 and the following:

High Early Strength Portland Cement.....701.04

74. MIX DESIGN CRITERIA. Concrete shall meet the following requirements:

- (a) Compressive Strength.

12 Hour Compressive Strength - 2500 psi  
 24 Hour Compressive Strength - 3500 psi  
 28 Day Compressive Strength - 7000 psi

- (b) Permeability. 56 Day Permeability - 2500 Coulombs (The permeability may be tested prior to 56 days but results must still be 2500 Coulombs or less). Test shall be performed in accordance with Subsection 510.04 b(6)(f).

- (c) Air Content. 7 ± 1.5%
  - (d) Slump/Spread. The mix shall not exhibit segregation at the slump/spread being used.
  - (e) Alkali-Silica Reactivity (ASR). Test shall be performed in accordance with Subsections 510.04 b(6)(g) and 510.04 b(7).
  - (f) The mix shall contain shrinkage-compensating admixtures such that there will be no separation of concrete from adjacent precast units. The Contractor shall include results for the unrestrained shrinkage test method, ASTM C 157. The maximum shrinkage allowed shall be 0.04%.
  - (g) A proprietary concrete mix design meeting the same performance requirements may also be considered for use.
75. SUBMITTALS. A minimum of fourteen (14) calendar days prior to placement (or prior to the pre-placement meeting, if one is required), the Contractor shall submit the mix design for approval. The mix design shall be submitted to the Agency's Materials and Research Laboratory, attention Structural Concrete Engineer. Concrete under this provision shall not be placed until the mix design has been approved.
- (a) Trial Batch. The Contractor shall produce and place a 2 cubic yard trial batch at a location agreed upon by the Contractor and the Engineer. The Engineer shall be given a minimum of seven (7) days notice prior to the trial batch pour. The trial batch shall be poured in the presence of the Engineer and the Structural Concrete Engineer. The trial batch shall be produced, poured, and cured in the same manner that will occur during construction. The Contractor shall provide qualified personnel to test slump, air content, and unit weight of the trial batch. Cylinders shall be cast to determine whether the concrete meets the strength requirements required for the project.
76. CURING CONCRETE. The method of wet curing used shall meet the requirements of Subsection 501.17. Concrete shall be wet cured as follows:
- Flange Connection - 3 days
  - Abutment closure pour - 24 hours
  - Pile cavities - 24 hours
77. LOADING OF CONCRETE. After the concrete has been placed and the finishing operations concluded, it shall not be walked on or disturbed in any manner, including the removal of forms, for a minimum period of 12 hours.
- The deck end closure pour shall obtain a strength of 3500 psi prior to being opened to traffic.
- A portable compression testing machine shall be provided by the Contractor and available on-site for cylinder testing. All testing and equipment shall conform to ASTM C 39. This compression machine must be calibrated in accordance with the provisions of Section 5, ASTM C 39.

78. METHOD OF MEASUREMENT. The quantity of Special Provision (High Performance Concrete, Rapid Set) to be measured for payment will be the number of cubic meters (cubic yards) of concrete placed in the complete and accepted work, as determined by the prismatic method using dimensions shown on the Plans or as directed by the Engineer, including the volume of precast concrete stay-in-place forms, but excluding the volume of steel or other stay-in-place forms and form filling materials. No deductions will be made for the volume of concrete displaced by steel reinforcement, structural steel, expansion joint material, scuppers, weep holes, conduits, tops of piles, scoring, chamfers or corners, inset panels of 38 mm (1 ½ inches) or less in depth, or any pipe less than 200 mm (8 inches) in diameter.

79. BASIS OF PAYMENT. The accepted quantity of Special Provision (High Performance Concrete, Rapid Set) will be paid for at the Contract unit price per cubic meter (cubic yard). Payment will be full compensation for performing the work specified, including designing the mix, satisfactory finishing and curing, and for furnishing all forms, materials, including joint filler and bond breaker, labor, tools, admixtures, equipment, including automatic temperature recording units, trial batches, and incidentals necessary to complete the work.

The cost of heating materials and protecting the concrete against cold weather, and any additional cost for cement, will not be paid for separately but will be considered incidental to Special Provision (High Performance Concrete, Rapid Set).

The cost of furnishing testing facilities and supplies at the batch plant and the setting of inserts, bench marks, and bridge plaques furnished by the Agency will not be paid for separately but will be considered incidental to Special Provision (High Performance Concrete, Rapid Set).

Costs for all materials, labor, and incidentals for steel or other stay-in-place forms and form filling materials will not be paid for separately, but will be considered incidental to Special Provision (High Performance Concrete, Rapid Set).

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
900.608 Special Provision (High Performance Concrete, Rapid Set)(FPQ)	Cubic Yard

GUARDRAIL APPROACH SECTION, GALVANIZED 2 RAIL BOX BEAM

80. DESCRIPTION. This work shall consist of furnishing and erecting galvanized 2-rail box beam guardrail approach sections as shown in the Plans and as directed by the Engineer.

The work under this Section shall be performed in accordance with these provisions, the Plans, and Section 621 of the Standard Specifications.

81. MATERIALS. Materials shall meet the requirements specified in the Contract Documents.

(a) Coating. Steel components of approach railing shall be powder coated black in accordance with ASTM D7803 following galvanizing.

- 82. CONSTRUCTION REQUIREMENTS. Guardrail approach sections shall be provided and erected to the configuration shown in the Contract Documents.
- 83. METHOD OF MEASUREMENT. The quantity of Special Provision (Guardrail Approach Section, Galvanized 2 Rail Box Beam) to be measured for payment will be the number of units installed in the complete and accepted work.
- 84. BASIS OF PAYMENT. The accepted quantity of Special Provision (Guardrail Approach Section, Galvanized 2 Rail Box Beam) will be paid for at the Contract unit price for each. Payment will be full compensation for furnishing, transporting, handling, and placing the material specified, and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
900.620 Special Provision (Guardrail Approach Section, Galvanized 2 Rail Box Beam)(Coated Black)	Each

BRIDGE RAILING, GALVANIZED STEEL TUBING/CONCRETE COMBINATION

- 85. DESCRIPTION. This work shall consist of furnishing and erecting cast-in-place concrete bridge railing with galvanized steel tube rail in accordance with the Plans and as directed by the Engineer.

The work under this Section shall be performed in accordance with these provisions, the Plans, and Sections 501 and 525 of the Standard Specifications.

- 86. MATERIALS. Materials shall meet the following requirements:
  - (a) Concrete. Concrete shall meet the requirements of HIGH PERFORMANCE CONCRETE, CLASS A LOW CEMENT of Section 900.  
Coarse aggregate for concrete shall meet the requirements of Subsection 704.02, Table 704.02A.
  - (b) Reinforcing Steel. Reinforcing steel shall meet the requirements of Section 507 for Reinforcing Steel, Level II.
  - (c) Steel Tubing. Steel tubing shall meet the requirements of Subsection 732.03.
  - (d) Anchor Plate. Anchor plate for anchoring approach railing shall meet the requirements of Subsection 714.02.
  - (e) Coating. Steel components of bridge railing shall be powder coated black in accordance with ASTM D7803 following galvanizing.

87. FABRICATION. Fabrication tolerances for all cast-in-place concrete barrier, regardless of the method of construction, shall conform to the following finished tolerances:

Bar Reinforcement Cover	-0, + $\frac{1}{2}$ inch
Width (Top)	-0, + $\frac{1}{4}$ inch
Width (Bottom)	-0, + $\frac{1}{2}$ inch
Surface Straightness (Deviation from theoretical centerline)	$\frac{1}{2}$ inch in 20 feet
Vertical Alignment (Deviation from a line parallel to the theoretical grade line)	$\frac{1}{2}$ inch in 20 feet

88. CONSTRUCTION REQUIREMENTS. The parapet shape detailed on the Plans shall not be altered. Slip forming of parapet is not allowed.

89. FORMS. Forms shall conform to the railing design shown on the Plans and the forming requirements of Section 501. Forms shall be constructed to allow for checking and correcting the railing alignment and grade after the concrete has been placed and prior to initial set. The forms shall be reinforced in such a manner that finishing of the railing tops will not disturb the final adjusted alignment.

90. CONCRETE FINISHING. Concrete bridge railing shall have a rubbed finish in accordance with Section 501. In addition, the following work shall be performed:

(a) Repairs/Patching. Areas that contain minor defects shall be repaired. Minor defects are defined as holes, honeycombing, or spalls which are 6 inches or less in diameter and do not penetrate deeper than 1 inch into the concrete. Surface voids, or "bugholes", that are less than 1/4 inch in diameter and less than 1/8 inch deep need not be repaired. Repairs shall be made using an overhead and vertical concrete repair material satisfactory to the Engineer. The repair material shall be cured as specified by the manufacturer. Repairs shall be approved by the Engineer.

(b) Cracking. Cracks less than 0.01 inch in width shall be sealed by a method approved by the Engineer. Cracks in excess of 0.01 inch may be cause for rejection. At the Engineer's discretion, cracks shall be repaired or the bridge railing replaced at the Contractor's expense.

91. CURING CONCRETE. Curing compound shall not be used in curing railing concrete.

The Contractor and all other project personnel shall take particular care when performing any construction or other operations during the railing curing period in order that the bridge deck is not struck, shaken, or vibrated. After the curing period is completed, all parties shall take care to avoid damaging the railing during the remainder of project construction.

92. METHOD OF MEASUREMENT. The quantity of Special Provision (Bridge Railing, Galvanized Steel Tubing/Concrete Combination) to be measured for payment will be the number of meters (linear feet) of railing constructed in the complete and accepted work. Measurement will be made along the face of the railing between the pay limits specified.

93. BASIS OF PAYMENT. The accepted quantity of Special Provision (Bridge Railing, Galvanized Steel Tubing/Concrete Combination) will be paid for at the Contract unit price per meter (linear foot). Payment shall be full compensation for detailing, furnishing, handling, and placing the materials specified and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work, including the furnishing of all forms, joint filler, admixtures, trial batches, anchor plates for approach railing connections, and satisfactory completion of any necessary repairs, surface finishing, and curing.

Reinforcing Steel and Water Repellent, Silane used within the limits of Special Provision (Bridge Railing, Galvanized Steel Tubing/Concrete Combination) will be paid for separately under Contract items 507.12 and 514.10, respectively.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
900.640 Special Provision (Bridge Railing, Galvanized Steel Tubing/Concrete Combination)(Coated Black)	Linear Foot

PRESTRESSED CONCRETE NEXT D BEAMS

94. DESCRIPTION. This work shall consist of manufacturing, transporting, and erecting precast prestressed concrete members.

The work under this Section shall be performed in accordance with these provisions, the Plans, and Section 510 of the Standard Specifications.

95. DESIGN AND DRAWINGS. All design details shall be in accordance with the AASHTO LRFD Bridge Design Specifications, the AASHTO LRFD Bridge Construction Specifications, and PCI Northeast's NEXT D Standards dated January, 2010.

96. METHOD OF MEASUREMENT. The quantity of Special Provision (Prestressed Concrete Next D Beams) to be measured for payment will be the number of meters (linear feet) of the specified type used in the complete and accepted work.

97. BASIS OF PAYMENT. The accepted quantity of Special Provision (Prestressed Concrete Next D Beams) will be paid for at the Contract unit price per meter (linear foot) for the type specified. Payment will be full compensation for detailing, fabricating, repairing, quality control testing, transporting, handling, and installing the materials specified, including the concrete, reinforcement, prestressing steel, transverse ties, enclosures for prestressing steel, anchorages, mortar, anchor rods, any other material contained within or attached to the members, for furnishing and implementing the erection plan, and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Any grouting work for other than shear keys, such as fairing out unevenness between adjacent units and filling leveling screw holes, transverse anchor recesses, and dowel holes, is considered incidental to the work for Special Provision (Prestressed Concrete Next D Beams).

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
900.640 Special Provision (Prestressed Concrete Next D Beams)(NEXT 28 D)	Linear Foot

#### ARCH LIGHTING

98. DESCRIPTION. This work shall consist of furnishing and installing light fixtures at the locations indicated in the Plans and as directed by the Engineer.

The work under these provisions shall be performed in accordance with these provisions, the Plans, and Section 679 of the Standard Specifications.

99. CONSTRUCTION REQUIREMENTS. Provide nonmetallic conduit, non-energized wiring with junction boxes accepting generator plugins, and lights so as to enable VTrans to use generators to adequately light for access and safe passage inside of the precast arch. The Contractor shall determine the necessary details regarding the type of plugins, lights, etc. to ensure safe passage. Lighting sufficient for inspection purposes is not required. Ensure design and installation meets all requirement of the latest edition of the National Electrical Code. At a minimum, provide the following:

- (a) Two luminaires mounted on each abutment (four luminaires total), approximately 2'-0" below the bridge seat, at third points along the face of the abutment.
- (b) Non-metallic electrical outlet on each abutment adjacent to each ingress and egress opening.

Provide connection to an external electrical source to energize the interior lighting and electrical outlets. Electrical connection shall be made to the bridge without external attachment to the bridge components. Ensure design and installation meets all requirements of the latest edition of the National Electrical Code.

100. REFERENCE STANDARDS.

- (a) American National Standards Institute (ANSI).
  - (1) C62.41 - Characterization of Surges in Low-Voltage (1000V and Less) AC Power Circuits
  - (2) C78.377 - Specifications for the Chromaticity of Solid State Lighting Products
  - (3) C82.SSL-1 - Operational Characteristics and Electrical Safety of SSL Power Supplies and Drivers
  - (4) C83.77 - Harmonic Emission Limits - Related Power Quality Requirements for Lighting
  - (5) C136.2 - Roadway and Area Lighting Equipment - Luminaire Voltage Classifications

- (6) C136-10 - Standard for Roadway Lighting Equipment, Locking-Type Photo Control Devices
  - (7) C136-14 - Standard for Roadway Lighting, Enclosed Side-Mounted Luminaires for Horizontal Burning High Intensity Discharge Lamps
  - (8) C136-22 - Standard for Roadway Lighting, Internal Labeling of Luminaires
  - (9) C136-31 - Standard for Roadway Lighting Equipment Luminaire Vibration
- (b) American Society for Testing and Materials (ASTM).
- (1) B117-03 - Standard Practice for Operating Salt Spray (Fog) Apparatus
  - (2) D522-93a - Standard Test Methods for Mandrel Bend Test of Attached Organic Coatings
  - (3) D714-87(94) - Standard Test Method for Evaluating Degree of Blistering of Paints
  - (4) D1654-92 - Standard Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments
  - (5) D3359-97 - Standard Test Methods for Measuring Adhesion by Tape Test
  - (6) G7-05 - Standard Practice for Atmospheric Environmental Exposure Testing of Nonmetallic Materials: Testing for UV Resistance
- (c) International Electro-technical Commission (IEC).
- (1) IEC 60598 - Degrees of Protection Provided by Enclosures (IP Code)
- (d) Illuminating Engineering Society of North America (IESNA).
- (1) HB-93-2000 - IESNA Lighting Handbook - 9th Edition
  - (2) RP-8-00 - American National Standard Practice for Roadway Lighting
  - (3) RP-16-96 - Nomenclature and Definition
  - (4) LM-31-95 - Photometric Testing of Roadway Luminaires Using Incandescent Filament and High Intensity Discharge Lamps
  - (5) LM-50-99 - Photometric Measurements for Roadway Lighting Installations
  - (6) LM-63-95 - Standard file format for Electronic Transfer of Photometric Data

- (e) National Fire Protection Association (NFPA).
  - (1) 70 - National Electrical Code
  - (2) 502 - Standards for Road Tunnels, Bridges, and Other Limited Access Highways, 2004
- (f) National Electrical Manufacturers Association (NEMA).
  - (1) 250 - Enclosures for Electrical Equipment
- (g) Underwriter's Laboratories Inc. (UL) Publications.
  - (1) 467 - Grounding and Bonding Equipment
  - (2) 1029 - High Intensity Discharge Lamp Ballasts
  - (3) 1598 - Standard for Luminaires
  - (4) 8750 - Light-Emitting Diode (LED) Equipment for Use in Lighting Products
  - (5) IEUR - Guide Information for Luminaire Poles

101. SUBMITTALS.

- (a) Product Data. For each luminaire include data on features, accessories, finishes, and the following:
  - (1) Physical description of fixture, including dimensions and verification of indicated parameters.
  - (2) Luminaire weight, effective projected area, details of attaching luminaires, accessories, and installation and construction details.
  - (3) Manufacturer's recommended replacement parts list.
  - (4) Driver/Power Supply. Description, operating characteristics, electrical data, component/capacitor temperature rating, and reliability testing report from an independent laboratory including mean-time-between-failure (MTBF).
  - (5) All components shall be submitted with a list of all standards to which the product conforms.
  - (6) Fabrication Drawings. Catalog cuts and manufacturer's drawings. Mounting bolt templates keyed to specific arms and certified by manufacturer.
  - (7) Wiring Diagrams. Power, and control wiring.
  - (8) Coordination drawings including mounting and connection details, drawn to scale, for exterior luminaries, weight of the fixture, and mounting and installation details drawn to scale illustrating the requirements for the ballast installation in the transformer base.

- (9) Operation and Maintenance Data. For luminaires to include in maintenance manuals.
- (10) Calculation(s) to be completed using the design drawings as the basis for the luminaire placement and mounting height. Calculations are to include average, maximum, minimum, maximum/minimum, and average/minimum for both initial and maintained luminance. Included with these calculations provide the veiling luminance ratio for each calculation.

102. QUALITY ASSURANCE.

- (a) Electrical Components, Devices, and Accessories. Listed and labeled as defined in NFPA-70, Article-100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- (b) Luminaires shall be Wet Location listed.
- (c) Luminaires including power supply shall be RoHS compliant and lead/mercury-free.

103. DELIVERY, STORAGE, AND HANDLING. Inspect equipment as received. Return for replacement any equipment damaged in shipment. Equipment shall be stored in a clean, dry, protected area. Retain packing as received from the factory until it is to be installed. Check and seal luminaire openings against rodents and water as necessary.

104. MANUFACTURE. Luminaire for this project shall be similar to the Holophane (Module 600) series product line. Alternate manufacturers are the Hubbell (PGM2 Class I, Division 2 wall pack) and Lithonia (TWR Wall Pack). Other similar manufacturer's units may be submitted for approval.

Luminaires shall include the following options as defined. Finite catalog numbers to be developed by the manufacturer and submitted with the Fabrication Drawing review process to ensure all options defined are properly incorporated into the product. Manufacturers indicated above are provided for sourcing purposes only. Products failing to meet specification requirements will not be accepted.

- (a) Luminaire shall be UL listed for installation in wet locations.
- (b) Installation Environment. The luminaire shall be designed to be applicable to the location and environment where fixture is installed (i.e. on a bridge structure, high humidity, etc.).
- (c) Metal Parts. Free of burrs and sharp corners and edges.
- (d) Sheet Metal Components. All materials shall be corrosion-resistant aluminum, unless otherwise indicated. Each component shall be formed or supported to prevent warping and sagging.
- (e) Housings. Rigidly formed, weather and light-tight enclosures that will not warp, sag, or deform in use. All surfaces shall be protected with an electrostatically applied polyester powder coating inside and out; corrosion-resistant passing 3000 hour salt spray test; the luminaire as a complete assembly shall be rated IP66. The EPA shall be less than 0.08 square meters (0.9 square feet). Provide filter/breather for enclosed luminaries.

- (f) Construction. The luminaire shall be modular to the extent that the optics package and power supply are separate and removable from the housing and that failure of any part thereof would not require total replacement of the luminaire. The optics package and the power supply shall be sealed against the entry of moisture and dirt where the branch circuit enters the housing.
  - (g) Mounting. The housing shall be designed for wall mounting to a concrete surface.
  - (h) Hardware Material. Unless otherwise noted, all hardware shall be stainless steel with nylon inserts for all nuts, etc.
  - (i) Wiring shall be secured inside the luminaire with an integral wire clamp to prevent movement and abrasion.
  - (j) Grounding lug connected to the housing shall be provided.
  - (k) Luminaires shall be rated for operation over the range  $-40^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$  to  $+140^{\circ}\text{F}$ ).
  - (l) Plastic Parts. High resistance to yellowing and other changes due to aging, exposure to heat, and UV radiation.
  - (m) Non-ornamental luminaires shall be classified with a maximum BUG rating of B2-U0-G2.
  - (n) Lenses and Refractors Gaskets. Use heat and aging-resistant gaskets to seal and cushion lenses in luminaire doors.
105. FACTORY FINISHES. Manufacturer's standard paint applied to factory-assembled and factory-tested luminaire before shipping.
106. CONNECTIONS. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.
- Use a thread-locking agent in all fasteners before installation.
107. FIELD QUALITY CONTROL.
- (a) Inspect each installed fixture for damage. Replace damaged fixtures and components.
  - (b) Tests and Observations. The contractor is responsible to verify normal operation of lighting units after installing luminaries and energizing circuits with a generator power source.
  - (c) The Contractor shall prepare a written report illustrating that the proposed fixtures meet the above requirements. Report shall include a review of the tests completed, all inspections, observations, and verifications indicating interpreted results. If adjustments are made to lighting system, retest to demonstrate compliance with standard.
  - (d) Contractor to provide all manpower, equipment, lane closures, etc. at no additional cost to demonstrate the installation complies with the Contract Documents.

108. METHOD OF MEASUREMENT. The quantity of Special Provision (Arch Lighting) to be measured for payment will be on a lump sum basis in the complete and accepted work.
109. BASIS OF PAYMENT. The accepted quantity of Special Provision (Arch Lighting) will be paid for at the Contract lump sum price. Payment will be full compensation for furnishing, transporting, handling, and installing the materials specified and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
900.645 Special Provision (Arch Lighting)	Lump Sum

CRITICAL PATH METHOD (CPM) SCHEDULE

110. DESCRIPTION. This work shall consist of preparing, submitting, and modifying Critical Path Method (CPM) construction schedule(s) for the Contract work as specified herein and as directed by the Engineer.

The Contractor is advised that its schedule and narrative, as specified herein, will be used by the Engineer to monitor project progress, plan the level-of-effort by its own work forces and consultants, and as a critical decision making tool. Accordingly, the Contractor shall ensure that it complies fully with the requirements specified herein and that its schedule(s) are both timely and accurate throughout the life of the project.

111. SUBMITTALS.

- (a) Within ten (10) working days after the award of the Contract, the Contractor shall submit to the Engineer sufficient information that the CPM software it proposes to use on the Contract is fully capable of producing the specified schedules required by the Contract. The software used must be MS Project or be compatible with MS Project.

The Engineer shall notify the Contractor in writing, within seven (7) working days after the receipt of the Contractor's notification on the software, if there are any objections to the CPM software selected.

- (b) No more than thirty (30) days after the award of the Contract, and no less than ten (10) calendar days prior to the start of work, the Contractor shall submit to the Engineer for acceptance a baseline construction schedule and narrative meeting the following requirements:

- (1) Baseline Schedule Requirements.

- a. Define a complete and logical plan that can realistically be accomplished for executing the work defined in the Contract.

- b. Include sufficient activities for adequate project planning for subcontractor, third party, vendor, and supplier activities. These activities shall include Working Drawing submissions as well as provide for adequate review times.
- c. Clearly show the critical path using the longest path definition and other critical elements of work.
- d. Include a unique identification number for each schedule activity.

Clearly and uniquely define each activity description. Do not use descriptions referring to a percent complete of a multi-element task.

- e. Define the duration of each activity.
  - 1. Limit the maximum duration of any activity to fifteen (15) days unless otherwise accepted by the Engineer.
  - 2. When the project contains a road closure period, the work within the closure period shall be broken down by hours instead of days. The maximum duration of each activity within the closure period shall be limited to twelve (12) hours.
- f. Clearly identify the relationships tying activities together.
- g. Do not have open-ended activities except for one start and one finish activity.
- h. Do not have any constrained activities unless the Engineer accepts such constraints.
- i. Include milestones to define significant contractual events such as Notice to Proceed, Interim Completion(s), road closures, road openings, Substantial Completion(s), and/or others as necessary.

(2) Baseline Narrative Requirements.

- a. The construction philosophy supporting the approach to the work outlined in the baseline schedule. Address the reasons for the sequencing of work and describe any limited resources, potential conflicts, and/or other items that may affect the schedule and how they may be resolved.
- b. Provide information on assumed resources, crew sizes, working hours, equipment, etc.
- c. The justification for activities with durations exceeding fourteen (14) working days or exceeding twelve (12) hours for those activities falling within a road closure period.

- d. The justification for constraints used.
  - e. The approach used to apply relationships between activities.
  - f. The project critical path and challenges that may arise associated with the critical path.
- (c) The Contractor shall submit one hard copy and one electronic copy of an updated construction schedule each month during the life of the Contract up to Substantial Completion.
- (1) Schedule Updates. Schedule updates shall include the following:
- a. Actual start and finish dates for completed activities.
  - b. Actual start dates, percent complete, and remaining duration for activities in progress.
  - c. Projected sequences of activities for future work.
  - d. Revised relationships and durations for unfinished activities, if warranted.
  - e. A well defined critical path.
  - f. A narrative describing the following:
    - 1. Work performed during the previous monthly period.
    - 2. Problems or delays that have been experienced to date, the party responsible for the problems or delays, and the Contractor's plan to resolve the problems or bring the delayed activities back on schedule.
    - 3. Differences between the work performed and the work planned for the period, including explanations for the deviations.
    - 4. The current critical path of the project, explaining any changes since the last update and the impacts of these changes.
    - 5. Potential problems that may be encountered during the next monthly period. Identify all potential problems the Agency may be party to and explain what action the Agency needs to take and the date by which time the action needs to be taken to avoid the problem.
- (d) The Contractor shall participate in progress meetings at the request of the Engineer to review and discuss updated schedule information including any activity delay, remedies, coordination requirements, change orders, potential delays, and other relevant issues.

Projects with short duration road closures of fourteen (14) calendar days or less are of particular importance as the project float will be limited. The Contractor shall promptly inform the Engineer of any schedule delays or changes that occur during one of these periods.

When the Engineer requests a meeting the Contractor shall:

- (1) Make available the project manager, scheduler, and appropriate field personnel.
- (2) Make and record an action item list that describes who is responsible for resolving existing or pending issues and the date by which the issue needs to be resolved to avoid Contract delays.
- (3) Submit a revised schedule update if necessary.

The Engineer will review the Contractor's schedule submittals and provide comments and disposition, either accepting the schedule or requiring revision and resubmittal of the schedule. The Engineer's comments may address work that has been omitted, unacceptable durations for items of work, or Contract violations. The planning, execution of the work, and the accuracy of their representation in the Contract Progress Schedule shall remain the sole responsibility of the Contractor.

The Contractor shall not be relieved of its responsibility for satisfactorily completing the work within the Contract time due to its failure to submit an acceptable project schedule. Additionally, the Contractor shall not withhold monthly or requested schedule submissions in the event that the Engineer does not provide formal review comments. The Contractor is to provide monthly updates regardless of any outstanding issues.

Failure to provide schedule updates as required under this Specification will result in a written notification from the Engineer. Upon receipt of this notification the Contractor has two (2) weeks to provide an updated schedule as required. Failure to provide an updated schedule will result in withholding of full Contract quantity payments until an updated schedule is received.

112. PROJECT FLOAT. Float belongs to the project and is a shared commodity between the Agency and the Contractor, and is not for the exclusive use or benefit of either party. The float may be claimed by whichever party first demonstrates a need for it.
113. METHOD OF MEASUREMENT. The quantity of Special Provision (CPM Schedule) to be measured for payment will be on a lump sum basis for providing project schedules and narratives in the complete and accepted work.
114. BASIS OF PAYMENT. The accepted quantity of Special Provision (CPM Schedule) will be paid for at the Contract lump sum price. Payment will be full compensation for initial preparation, submittals, modifications, resubmittals, and all incidentals necessary to complete the work. Subsequent modifications to the CPM Schedule during construction will be considered incidental to Special Provision (CPM Schedule).

Partial payments will be made as follows:

- (a) The first 25% of the Contract lump sum price will be paid upon the approval of the baseline schedule and narrative.
- (b) The remaining 75% of the Contract lump sum price will be pro-rated in equal amounts on a monthly basis. The time used for pro-rating will be equal to the number of months from approval of the baseline schedule to the anticipated Contract Completion Date.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
900.645 Special Provision (CPM Schedule)	Lump Sum

WATER MAIN ON BRIDGE

115. DESCRIPTION. This work shall consist of the procurement, fabrication, delivery, and installation of all new proposed water main and water main appurtenances as shown on the Plans, as well as all tasks both necessary and incidental to such work, including but not limited to testing of new water main, transfer of service from existing to permanent water main, and removal and disposal of existing water mains and appurtenances within the limits indicated on the Plans.

The work under this Section shall be performed in accordance with these provisions, the Plans, State of Vermont Water Supply Division Rules (current edition), East Middlebury Fire District Standards, and Section 629 of the Standard Specifications.

116. MATERIALS. Materials shall meet the requirements indicated on the Plans.

117. CONSTRUCTION REQUIREMENTS. The Contractor shall adjust the water main pipe so that a pipe joint does not occur within 2 feet of any pipe hanger assembly.

The Contractor shall supply Fabrication Drawings indicating all pipe joints, hanger locations, pipe materials, and associated appurtenances prior to purchase and installation.

In order to prevent rain and other forms of moisture from penetrating the jacket, the Contractor shall seal all joints in the insulation and jacket with suitable mastics or other sealants which will maintain a waterproof seal.

118. METHOD OF MEASUREMENT. The quantity of Special Provision (Water Main on Bridge) to be measured for payment will be on a lump sum basis in the complete and accepted work.

119. BASIS OF PAYMENT. The accepted quantity of Special Provision (Water Main on Bridge) will be paid for at the Contract lump sum price. Payment will be full compensation for furnishing, transporting, handling, and installing the materials specified; all appurtenant work and materials necessary for a complete installation, including but not limited to pipe, fittings, temporary and permanent thrust and joint restraints, valves and valve boxes, air release assemblies, couplings, temporary caps, existing main and valve removal and disposal, insulation, jacket, casing spacers and end seals, pipe supports, sleeves, hanger assemblies, and braced connection assemblies; transfer of services from existing main to permanent main and testing the system; for making all necessary connections; for making the required submittals; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Payment will be made as follows:

A payment of 10% of the Contract lump sum price will be made when all submittals have been made and all required permits have been obtained.

A payment of 80% of the Contract lump sum price will be made when the new water main has been installed on the bridge, all necessary adjustments have been made, all tests have been successfully completed, and the line has been placed in service to the satisfaction of the Engineer.

The remaining 10% of the Contract lump sum price will be paid once the new water main has provided continuous trouble-free service for a period of 30 calendar days as determined by the Engineer.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
900.645 Special Provision (Water Main on Bridge) (8")	Lump Sum

INCENTIVE/DISINCENTIVE (I/D)

120. NOTICE TO BIDDERS - INCENTIVE/DISINCENTIVE (I/D), is hereby made a new Section of the Specifications as follows:

The payment of monies for performance under the Incentive/Disincentive (I/D) specifications contained in these Special Provisions shall be as follows:

1. For the incentive payment as described in part (c) of Special Provision No. 11, the Contractor will be paid in the next bi-weekly estimate in which the Contractor has satisfactorily met the requirements of I/D.
2. For the disincentive penalties as described in part (c) of Special Provision No. 11, the Engineer will deduct the amount due the Agency from the monies due the Contractor on the next bi-weekly estimate.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
900.650 Special Provision (Incentive/Disincentive) (N.A.B.I.)	Lump Unit

BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY

121. DESCRIPTION. This work shall consist of constructing one or more courses of bituminous mixture on a prepared foundation in accordance with these specifications and the specific requirements of the type of surface being placed, and in reasonably close conformity with the lines, grades, thicknesses, and typical cross sections shown on the Plans or established by the Engineer.

The work under this Section shall be performed in accordance with these provisions, the Plans, and the appropriate provisions of Section 406 or Section 490 of the Standard Specifications.

122. MATERIALS. Materials shall meet the requirements of the following Subsections:

- Performance-Graded Asphalt Binder.....702.02
- Emulsified Asphalt, RS-1H or CRS-1H.....702.04
- Aggregate for Marshall Bituminous Concrete Pavement...704.10(a)
- Aggregate for Superpave Bituminous Concrete Pavement..704.10(b)

Aggregate shall meet requirements relating to Section 406 or 490, where so specified.

The grade of PG asphalt binder used to produce bituminous concrete pavement shall be 58-28. Substitutions will be accepted based on availability where the upper end temperature value is greater than 58°C (136°F) and/or the lower end temperature value is less than -28°C (-18°F).

123. DESIGN MIX TYPES. Design mix types may be substituted based on mix availability. Allowable mix type substitutions will be accepted on a one to one thickness relationship, except as listed in Tables A and B below.

TABLE A - ALLOWABLE 40 MM (1½") MIX TYPE IVS SUBSTITUTIONS

Design ESALs (millions)	Design	Allowable Substitution	
	490.30 Superpave Bituminous Concrete Pavement	406.25 Bituminous Concrete Pavement*	406.27 Med. Duty Bituminous Concrete Pavement*
< 0.3	TYPE IVS	TYPE III	TYPE III
0.3 to < 10	TYPE IVS	TYPE III	-

\*Per Section 406.

TABLE B - ALLOWABLE 90 MM (3½") MIX TYPE IIS SUBSTITUTIONS

Design ESALs (millions)	Design	Allowable Substitution	
		490.30 Superpave Bituminous Concrete Pavement	406.25 Bituminous Concrete Pavement*
< 0.3	TYPE IIS	TYPE I	TYPE I
0.3 to < 10	TYPE IIS	TYPE I	-

\*Per Section 406

124. COMPOSITION OF MIXTURE.

- (a) Gradation. Gradation shall meet the requirements of Section 406 or 490, as appropriate.
- (b) Design Criteria. Design Criteria shall meet the requirements of Section 406 or 490, as appropriate.
- (c) Mix Design. Standard mix design will be in accordance with Subsection 490.03 with an n value of 65 gyrations. Allowable substitutions based on pre-existing approved mix designs and/or n values for intended Contract suppliers are listed in Table C below. A request for substitutions must be submitted in writing to the Engineer a minimum of 10 working days prior to production. Any substitutions from the standard mix design or mix types as detailed in the Plans shall not result in any increase in cost to the Agency.

TABLE C - ALLOWABLE SPECIFICATION SUBSTITUTIONS

Design ESALs (millions)	Acceptable Specification Substitution		
	Superpave Bituminous Concrete Pavement (Gyrations)	Bituminous Concrete Pavement* (75 Blow)	Med. Duty Bituminous Concrete Pavement* (50 Blow)
< 0.3	50	✓	✓
0.3 to < 10	65 <sup>1</sup>	✓	-

<sup>1</sup>Standard mix design specification.

\*Per Section 406

(d) Quality Acceptance.

- (1) General. Acceptance sampling and testing will be conducted in accordance with the Agency's Quality Assurance Program as approved by FHWA. Bituminous concrete mixtures designated under these specifications will be sampled a minimum of once per day of production or 500 metric tons (sublot), or other sublot size deemed appropriate, and evaluated by the Agency for each mix type (each mix design) in accordance with the following acceptance guidelines.

- (2) Acceptance Guidelines. Temperature of the bituminous mixture shall be tested using the Verified Thermometer test method and PG Asphalt Binder content determined from the batch slip. Gradation shall be tested in accordance with AASHTO T 30. Mixture volumetric properties (air voids and VMA) shall be calculated in accordance with Subsections 406.03(b) or 490.03(b), as appropriate.
- (3) Non-Compliant Material.
  - a. Rejection by Contractor. The Contractor may, prior to sampling, elect to remove any defective material and replace it with new material at no expense to the Agency. Any such new material will be sampled, tested, and evaluated for acceptance.
  - b. For any non-compliant material outside the production testing tolerances contained in the applicable Table 406.03C or 490.03C, the representative material (sublot) shall be assessed a mixture pay adjustment factor, PF(mix), of (-0.200).
- (e) Boxed Samples. If Agency plant inspectors are not available for daily testing and inspection functions, then box samples will be taken by the Engineer at the project site to afford verification of mixture volumetrics/properties. Boxed samples will be processed and results reported to the Engineer within ten working days of being received at the Agency Central Laboratory in Berlin, Vermont. Gradation shall be tested in accordance with AASHTO T 30. Maximum Specific Gravity shall be tested in accordance with AASHTO T 209. Boxed samples will be assessed a mixture pay adjustment factor of 0.000.

125. COMPACTION. Special Provision (Bituminous Concrete Pavement, Small Quantity) will be analyzed for density according to the procedure specified below.

The density of the compacted pavement shall be at least 92.0%, but not more than 97.0%, of the corresponding daily average maximum specific gravity for each mix type (each mix design) of bituminous mix placed during each day, or placed per bridge for any bridge project. For material that falls outside of this range, payment will be made by adjusting the daily production totals in accordance with Table D:

TABLE D - DENSITY PAY FACTORS

AVERAGE DENSITY	DENSITY PAY FACTOR, PF(d)
89.0% - 90.4%	- 0.150
90.5% - 91.9%	- 0.100
92.0% - 93.4%	0.000
93.5% - 95.4%	0.150
95.5% - 97.0%	0.000
97.1% - 98.5%	- 0.100

When the Contract allows for a pay adjustment for mat density and the Agency elects to not take cores of any pavement course, the Density Pay Factor (PF(d)) will be considered equal to 0.000.

Bridges with a length equal to, or greater than, six meters (20 feet) will be cored for analyzing density of the bridge deck pavement. The minimum number of cores (taken from the center of the travel lane) shall be two, or as directed by the Engineer. Bridges with a length less than six meters (20 feet) will not be cored. Bridge decks or approaches will not be cored within three meters (10 feet) of a bridge or construction joint.

Bridge deck core areas shall be repaired with hot bituminous mix to the satisfaction of the Engineer at no additional cost to the Agency.

The cores taken for acceptance testing will be the final cores taken for determination of densities.

When the Contract does not allow for a pay adjustment for mat density the Contractor shall, prior to performing any construction operations, submit to the Engineer for approval the proposed rolling pattern and compaction equipment to be used on the project. Random investigative cores will be taken by Agency personnel on the first day's production of any pavement course, with the exception of the leveling course, to verify effectiveness of the proposed rolling pattern and equipment.

Pending results of the investigative cores, necessary adjustments to the proposed rolling pattern and/or equipment shall be made by the Contractor to achieve densities as directed by the Engineer.

126. METHOD OF MEASUREMENT. The quantity of Special Provision (Bituminous Concrete Pavement, Small Quantity) to be measured for payment will be the number of metric tons (tons) for a lot of mixture (each type) complete in place in the accepted work (Q) as determined from the weigh tickets.

The quantities of all applicable Pay Adjustments calculated for the project will be determined as specified below.

When applicable, and when the mixture pay factor, PF(mix), for a lot of Special Provision (Bituminous Concrete Pavement, Small Quantity) is less than 0.000, the measured quantity of Special Provision (Bituminous Concrete Pavement, Small Quantity) placed will be multiplied by such pay factor to determine a Mixture Pay Adjustment, (PA(mix)), to the accepted tonnage placed (Q) for that lot based on the Contract bid price (B), as follows:

$$PA(mix) = PF(mix) \times Q \times B$$

When applicable, and when the density pay factor, PF(d), for a lot of Special Provision (Bituminous Concrete Pavement, Small Quantity) is less than 0.000, the measured quantity of Special Provision (Bituminous Concrete Pavement, Small Quantity) placed that day, or placed per bridge for any bridge project, will be multiplied by such pay factor to determine a Mat Density Pay Adjustment, (PA(d)), to the accepted tonnage placed (Q) for that lot based on the Contract bid price (B), as follows:

$$PA(d) = PF(d) \times Q \times B$$

127. BASIS OF PAYMENT. The measured quantity of Special Provision (Bituminous Concrete Pavement, Small Quantity) will be paid for at the Contract unit price per metric ton (ton). Payment shall be full compensation for furnishing, mixing, hauling, and placing the material specified and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Payment for Pay Adjustments shall be debited against the Contract prices (Lump Units) bid for the Pay Adjustment items.

The cost of repairing bridge deck core areas will not be paid for separately, but will be considered incidental to Special Provision (Bituminous Concrete Pavement, Small Quantity).

The costs of furnishing testing facilities and supplies at the plant will be considered included in the Contract unit price of Special Provision (Bituminous Concrete Pavement, Small Quantity).

The costs of obtaining, furnishing, transporting, and providing the straightedges required by Subsection 406.16 or Subsection 490.16, as appropriate, will be paid for under the appropriate Section 631 pay item included in the Contract.

The costs associated with obtaining samples for acceptance testing will be incidental to the cost of Special Provision (Bituminous Concrete Pavement, Small Quantity).

When not specified as items in the Contract, the costs of cleaning and filling joints and cracks, sweeping and cleaning existing paved surfaces, the emulsified asphalt applied to tack these surfaces, and tacking of manholes, curbing, gutters, and other contact surfaces will not be paid for directly, but will be incidental to Special Provision (Bituminous Concrete Pavement, Small Quantity).

Special Provision (Bituminous Concrete Pavement, Small Quantity) mixture approved by the Engineer for use in correcting deficiencies in the base course constructed as part of the Contract will not be paid for as Special Provision (Bituminous Concrete Pavement, Small Quantity), but will be incidental to the Contract item for the specified type of base course.

Special Provision (Bituminous Concrete Pavement, Small Quantity) mixture used to correct deficiencies in an existing pavement or to adjust the grade of a bituminous concrete surface completed under the Contract will be paid for at the Contract unit price for Special Provision (Bituminous Concrete Pavement, Small Quantity).

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
900.650 Special Provision (Mat Density Pay Adjustment, Small Quantity)(N.A.B.I.)	Lump Unit
900.650 Special Provision (Mixture Pay Adjustment)(N.A.B.I.)	Lump Unit
900.680 Special Provision (Bituminous Concrete Pavement, Small Quantity)	Ton

Minimum Labor and Truck Rates  
Under Title 19, Vermont Statutes  
Annotated Section 18, as amended

April 3, 1997  
Sheet 1 of 1

**STATE OF VERMONT  
AGENCY OF TRANSPORTATION  
MONTPELIER**

FOR OTHER THAN FEDERAL-AID. In accordance with the provisions of Title 19, VSA, Section 18, the following minimum rate for labor shall apply to this project:

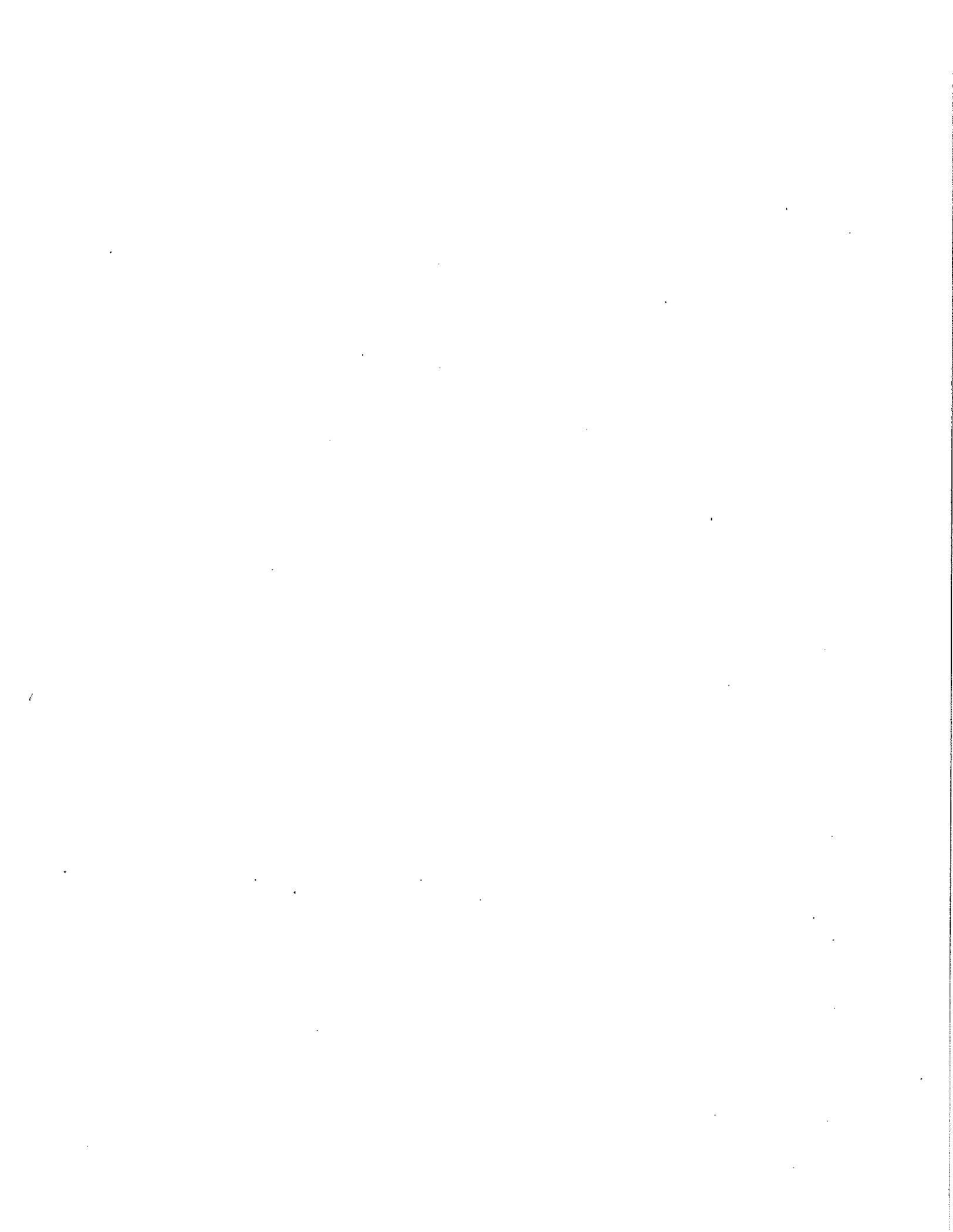
The minimum wage for common labor will not be less than the State or Federal minimum wage, whichever is higher.

ON FEDERAL-AID PROJECTS ONLY.

The minimum rates for labor for Federal-Aid Projects shall be those set in the Wage Determination Decision of the U.S. Secretary of Labor for each project in accordance with the Federal-Aid Highway Act of 1956. When such wage rates are required they shall be included in the proposal. In the event these rates are lower than the Vermont rates, the Vermont rates shall prevail.

TRUCK RATES. In accordance with the provisions of Title 19, VSA, Section 18, the following minimum rates for trucks shall apply to this project:

<u>Trucks, not Including Driver Water Level Body Capacity</u>	<u>Minimum Rates Per YD per Hr.</u>
Trucks, Equipment Loaded	\$1.65



State of Vermont  
Agency of Transportation

March 2011  
CA-110

## DISADVANTAGED BUSINESS ENTERPRISE (DBE) POLICY CONTRACT REQUIREMENTS

**Disadvantaged Business Enterprise (DBE) Policy.** It shall be the policy of the Vermont Agency of Transportation (VTrans) to ensure nondiscriminatory opportunity for Disadvantaged Business Enterprises (DBEs) to participate in the performance of all contracts and subcontracts financed with Federal funds as specified by the regulations of the United States Department of Transportation (USDOT), Federal Highway Administration and as set forth below.

1. **Policy.** It is the policy of USDOT that DBEs as defined in 49 Code of Federal Regulation (CFR) Part 26 shall have the maximum opportunity to participate in the performance of contracts financed in whole or in part with Federal funds. Consequently, the DBE requirements of 49 CFR Part 26 and 23 CFR, Chapter 1, Part 230, Subpart b apply to this contract.
2. **DBE Obligation.** The State and its Contractors agree to ensure that DBEs as defined in 49 CFR Part 26, have the maximum opportunity to participate in the performance of contracts and subcontracts financed in whole or in part with Federal funds. **Each subcontract the prime contractor signs with a subcontractor must include this assurance:** *The contractor, sub recipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of USDOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy, as VTrans deems appropriate.*
3. **Sanctions for Noncompliance.** The Contractor is hereby advised that failure of the Contractor, or any Subcontractor performing work under this contract, to carry out the requirements set forth in paragraphs 1 and 2 above shall constitute a breach of contract and after the notification of the Vermont Agency of Transportation, Secretary of Transportation, may result in termination of this contract by the State or such remedy as the State deems necessary.
4. **Inclusion in Subcontracts.** The Contractor shall insert in each of its subcontracts this Disadvantaged Business Enterprise (DBE) Policy and also a clause requiring its subcontractors to include this same Policy in any lower tier subcontracts which they may enter into, together with a clause requiring the inclusion of the Policy in any further subcontract that may in turn be made. This Policy shall not be incorporated by reference.

**Disadvantaged Business Enterprise (DBE) Program Goals.** The Vermont Agency of Transportation (VTrans) is required to set an overall DBE goal for participation in all transportation related Federal-aid projects. The goal is determined following guidelines set forth in 49 CFR 26.45, and based on the availability of ready, willing and able DBEs who submitted bids and quotes for transportation related projects, compared as a percentage of all available contractors who submitted bids and quotes for transportation related projects during the same time period. The DBE goal may be adjusted to take into account other factors impacting DBE utilization, in an effort to narrowly tailor the overall DBE goal. The detailed goal setting methodology and current overall DBE goal may be viewed on the VTrans website at: <http://www.aot.state.vt.us/CivilRights/DBEGoals.htm>.

VTrans currently utilizes a race/gender neutral policy to fulfill its overall DBE goals, and relies on the voluntary participation of contractors to utilize certified DBEs on every project sufficient to obtain the Agency's overall DBE goal. In order for this practice to continue, contractors must be proactive and solicit bids and quotes from certified DBEs for use when submitting their own bids, and employ certified DBEs when participating on transportation related projects. Otherwise, VTrans may have to implement specified contract goals on projects to ensure the overall DBE goals are met. VTrans may include specific DBE contract goals in certain cases to ensure DBE participation, if failure to obtain the project DBE goal would negatively impact the Agency's overall DBE goal because of the size of the contract.

**Disadvantaged Business Enterprise (DBE) Definition.** A DBE is defined as a business that is owned and controlled by one or more socially and economically disadvantaged person(s). For the purposes of this definition:

- (1) "Socially and economically disadvantaged person" means an individual who is a citizen or lawful permanent resident of the United States and who is a Woman, Black, Hispanic, Portuguese, Native American, Asian American, or a member of another group, or an individual found to be disadvantaged by the Small Business Administration pursuant to Section 3 of the Small Business Act.
- (2) "Owned and controlled" means a business which is:
  - a. A sole proprietorship legitimately owned and controlled by an individual who is a disadvantaged person.
  - b. A partnership, joint venture or limited liability company in which at least 51% of the beneficial ownership interests legitimately is held by a disadvantaged person(s).
  - c. A corporation or other entity in which at least 51% of the voting interest and 51% of the beneficial ownership interests legitimately are held by a disadvantaged person(s).

The disadvantaged group owner(s) or stockholder(s) must possess control over management, interest in capital, and interest in earnings commensurate with percentage of ownership. Disadvantaged participation in a joint venture must also be based on the sharing of real earnings, as above. If the disadvantaged group ownership interests are real, substantial and continuing and not created solely to meet the requirements of the program, a firm is considered a bona fide DBE.

**Certified DBE Directory.** The current Vermont Unified Disadvantaged Business Enterprise (DBE) Directory is available online at: <http://www.aot.state.vt.us/CivilRights/DBEDirectory.htm>. This directory contains all currently certified DBEs available for work in Vermont, and is updated continuously. Only firms listed in this directory are eligible for DBE credit on Vermont Federal-aid projects. If you have questions about DBE certification, or do not have access to the Internet, please call the DBE Program Manager at (802) 828-5858 for assistance.

**Counting DBE Participation Towards Project Goals.** In order for payments made to DBE contractors to be counted toward DBE goals, the DBE contractors must perform a commercially useful function (CUF). The DBE must be responsible for execution of the work of the contract and must carry out its responsibilities by actually performing, managing, and supervising the work involved, consistent with standard industry practices.

This means that:

- The DBE must also be responsible for ordering its own materials and supplies, determining quantity and quality, negotiating price, installing (where applicable) and paying for the material itself;
- The DBE must perform work commensurate with the amount of its contract;
- The DBE's contribution cannot be that of an extra participant or a conduit through which funds are passed in order to obtain the appearance of DBE participation;
- The DBE must exercise responsibility for at least fifty percent of the total cost of its contract with its own workforce;
- None of the DBE's work can be subcontracted back to the prime contractor, nor can the DBE employ the prime's or other subcontractor's supervisors currently working on the project;
- The DBE's labor force must be separate and apart from that of the prime contractor or other subcontractors on the project. Transferring crews between primes, subcontractors, and DBE contractors is not acceptable;
- The DBE owner must hold necessary professional or craft license(s) or certification(s) for the type of work he/she performs on the project;
- The DBE may rent or lease, at competitive rates, equipment needed on the project from customary leasing sources or from other subcontractors on the project.

**Allowable credit for payments made to DBEs for work performed.** A contractor may take credit for payments made to a certified DBE that satisfies CUF requirements at the following rate:

- A DBE Prime Contractor: Count 100% of the value of the work performed by own forces, equipment and materials towards the DBE goals.
- An approved DBE subcontractor: Count 100% of the value of work performed by the DBE's own forces, equipment and materials, excluding the following:
  - The cost of materials/supplies purchased from a non-DBE Prime Contractor.
  - The value of work provided by non-DBE lower tier subcontractors, including non-DBE trucking to deliver asphalt to a DBE contractor.
- A DBE owner-operator of construction equipment: Count 100% of expenditures committed.
- A DBE manufacturer: Count 100% of expenditures committed. The manufacturer must be a firm that operates or maintains a factory or establishment that produces on the premises the materials or supplies obtained by the Contractor.
- A regular DBE dealer/supplier: Count 60% of expenditures committed. A regular dealer/supplier is defined as a firm that owns, operates, or maintains a store, warehouse or other establishment, in which the materials or supplies required for the performance of the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business. A person may be a dealer in such bulk items as petroleum products, steel, cement, gravel, stone or asphalt without owning, operating or maintaining a place of business, if the person both owns and operates distribution equipment for the products, by the means of a long term agreement, and not by a contract by contract basis.
- A DBE broker: Count for DBE credit only the fees or commissions charged for assistance in the procurement, and, fees and transportation charges for the delivery of materials or supplies required at the job site, but not the cost of materials procured. A broker is defined as any person(s) or firm who arranges or expedites transactions for materials or supplies, and does not take physical possession of the materials or supplies at their place of business for resale.
- A DBE renter of construction equipment to a contractor: Count 20% of expenditures committed, with or without operator.

- A bona fide DBE service provider: Count 100% of reasonable fees or commissions. Eligible services include professional, technical, consultant, or managerial, services and assistance in the procurement of essential personnel, facilities, equipment, materials or supplies required for the performance of the contract. Eligible services also include agencies providing bonding and insurance specifically required for the performance of the contract.
- A trucking, hauling or delivery operation: Count 100% of expenditures committed when trucks are owned, operated, licensed and insured by the DBE and used on the contract and, if applicable, includes the cost of the materials and supplies. 100% of expenditures committed when the DBE leases trucks from another DBE firm including an owner-operator. 100% of reasonable fees, or commissions, the DBE receives as a result of a lease arrangement for trucks from a non-DBE, including an owner-operator.
- Any combination of the above.

**Removal of Approved DBE From Transportation Related Project.** Contractors may not terminate for convenience, any approved DBE subcontractor and perform the work with their own forces, without prior written consent from the VTrans DBE Program Manager or VTrans Chief of Civil Rights.

**Federal-aid projects which specify a DBE contract goal.** The provisions of the Vermont Agency of Transportation Supplemental Specification – Disadvantaged Business Enterprise (DBE) Utilization (CA 160) shall apply to all VTrans Federal-aid projects which specify a DBE contract goal.

**Compliance With Prompt Payment Statute.** In accordance with Vermont's Prompt Payment Act and VTrans Standard Specifications for Construction, Section 107.01(g), the Contractor shall fully comply with the provisions of 9 V.S.A. Chapter 102, also referred to as Act No. 74 of 1991 or the Prompt Payment Act, as amended.

**Subcontractor Payments.** In accordance with VTrans Standard Specifications for Construction, Section 107.01(h), on all federal-aid and state funded contracts, the Contractor, during the life of the Contract and on a monthly basis, shall submit electronically, a listing of payments to subcontractors on the form specified by the State and made available at: <http://apps.vtrans.vermont.gov/db/>. Electronic reports shall be filed with the Agency Office of Civil Rights by an authorized representative and received in the Agency Office of Civil Rights on or before the tenth working day after month end. Contractors without access to the internet shall obtain and submit manual reports to the Agency Office of Civil Rights. Manual reports shall be signed by an authorized representative, sent to the Agency Office of Civil Rights, and postmarked on or before the tenth working day after month end. There shall be no direct compensation allowed the Contractor for this work, but the cost thereof shall be included in the general cost of the work. In accordance with 9 V.S.A. Section 4003, notwithstanding any contrary agreement, payments made to subcontractors after seven days from receipt of a corresponding progress payment by the State to the Contractor, or seven days after receipt of a subcontractor's invoice, whichever is later, violate this agreement. Violations shall be reported to the Agency Office of Civil Rights for review. Failure to resolve disputes in a timely manner may result in a complaint made to the Agency Pre-qualification Committee. In this Committee's judgment, appropriate penalties may be involved for failure to comply with this specification. Penalties may include suspension, reduction or revocation of the Contractor's pre-qualification rating. This clause shall be included in the prime Contractor's Contract made with all if its subcontractors.



OPERATOR: Bulldozer.....	\$ 19.18	2.56
OPERATOR: Cold Planer/Milling Machine.....	\$ 18.66	0.00
OPERATOR: Crane.....	\$ 20.00	2.13
OPERATOR: Excavator.....	\$ 18.99	1.36
OPERATOR: Grader/Blade.....	\$ 18.44	3.50
OPERATOR: Loader.....	\$ 19.20	4.35
OPERATOR: Mechanic.....	\$ 20.45	0.00
OPERATOR: Paver.....	\$ 17.55	4.44
OPERATOR: Pounder.....	\$ 18.11	0.00
OPERATOR: Roller excluding Asphalt.....	\$ 16.94	5.34
OPERATOR: Screed.....	\$ 17.52	3.99
OPERATOR: Sweeper.....	\$ 24.44	12.24
PAINTER (Parking Lot and Highway Striping Only).....	\$ 16.39	3.56
TRUCK DRIVER, Includes all axles including Dump Trucks.....	\$ 16.07	2.80
TRUCK DRIVER: Distributor Truck.....	\$ 17.89	0.00
TRUCK DRIVER: Semi/Trailer Truck.....	\$ 14.72	4.39

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WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

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The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is union or non-union.

### Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for that classification. Example: PLUM0198-005 07/01/2011. The first four letters, PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rates.

0000/9999: weighted union wage rates will be published annually each January.

### Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union majority rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

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### WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted

because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
Wage and Hour Division  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISION

SUPPLEMENTAL SPECIFICATION  
ASPHALT PRICE ADJUSTMENT

GENERAL REQUIREMENTS AND CONDITIONS

- (a) This specification contains price adjustment provisions for asphalt cement and emulsified asphalt used on Vermont Agency of Transportation (Agency) construction projects and produced under Sections 303, 404, 406, 415, and 490 of the Standard Specifications, or as otherwise designated in the Contract Documents. This price adjustment clause is being inserted in this Contract to provide for either additional compensation to the Contractor or a payment to the Agency, depending upon an increase or decrease in the average price of asphalt cement during the construction of this project.
- (b) Emulsified asphalt shall be subjected to a correction factor of 0.45, applied to the quantity of material supplied. This corrected quantity shall be used for Asphalt Price Adjustment as specified and computed herein.
- (c) These provisions apply to this Contract only as specified in the procedures provided herein. No further asphalt cement and/or emulsified asphalt price adjustments will be allowed under this Contract.
- (d) It is understood by the Contractor that a price adjustment increase may cause the Agency to decrease the quantities of the Contract pay items subject to adjustment under these provisions. Provisions providing for decreased quantities and item cancellation in this paragraph are separate and take precedence, notwithstanding any other provisions of this Contract.
- (e) No price adjustment will be allowed beyond the Contract Completion Date or any applicable interim completion dates.
- (f) Any increase in the total Contract amount due to price adjustment under these provisions will not be justification for an extension of time under Subsection 108.11.
- (g) The Contractor hereby agrees that its bid prices for this Contract include no allowances for any contingencies to cover increased costs for which adjustment is provided herein.

PRICE ADJUSTMENT PROCEDURES

- (1) Prior to advertising for bids, an Index Price for asphalt cement will be established by the Agency upon consideration of the New York State DOT average monthly price for asphalt cement, or other monthly index deemed appropriate by the Director of Finance and Administration. The Index Price will be set monthly on or about the last day of the month. The Contract Index Price will be the most recent Index Price set by the Agency at the time of advertising for bids. This price will be as specified in the Special Provisions and will be the base from which price adjustments are computed.
- (2) For the duration of the Contract, Posted Prices for a metric ton (ton) of asphalt cement will be established monthly by the Agency. The Posted Prices will be established in the same manner as the Index Price.

- (3) A Price Adjustment will be paid or credited for asphalt cement only when the Posted Price of asphalt cement increases or decreases over its respective Index Price.
- (4) The Price Adjustment will be based upon the quantity of asphalt cement (QAC) and quantity of emulsified asphalt (QEA) incorporated in the work, determined as follows:
  - a. Batch Plants. QAC is determined using the cumulative actual binder content for each applicable item as reported on the batch ticket, excluding any percent of asphalt cement from Recycled Asphalt Pavement (RAP).
  - b. Drum-Mix Plants. QAC is determined based upon the metric tons (tons) of mix placed, multiplied by the actual binder content reported on the demand tickets, as verified by Agency personnel. In the event of multiple binder contents, the accepted quantity of mix at each binder content shall be determined, and the total QAC used shall be calculated accordingly. The accumulated asphalt cement total on the plant automation may be checked and verified by Agency personnel for each mix.
  - c. Emulsified Asphalt. QEA is as determined in accordance with Subsection 404.11.

(5) The Price Adjustment to be paid shall be computed as follows:

$$PA = [(QAC + (ACEA \times 0.001 \times QEA)) \times (PP - IP)] \text{ [Metric]}$$

$$PA = [(QAC + (ACEA \times 0.05 \times QEA)) \times (PP - IP)] \text{ [English]}$$

where:

- PA = Price Adjustment (LU in \$)
- IP = Index Price (\$/metric ton) or (\$/ton)
- PP = Posted Price on date of work (\$/metric ton) or (\$/ton)
- QAC = Quantity of Asphalt Cement (metric tons) or (tons)
- QEA = Quantity of Emulsified Asphalt (kilograms) or (CWT)
- ACEA = Asphalt Content of Emulsified Asphalt as follows:

Emulsified Asphalt Type	ACEA
CSS-1h	0.57
MS-1	0.55
RS-1	0.55
CRS-1p	0.63
CSS-1h Fog	0.28

- (6) The Contract bid prices for the applicable pay items will be paid separately under the Contract. The price adjustment will be calculated and paid in the same bi-weekly estimate as the applicable Contract work.
- (7) Payments for Price Adjustment, Asphalt Cement shall be debited or credited against the Contract price (Lump Unit) bid for Price Adjustment, Asphalt Cement.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
406.50 Price Adjustment, Asphalt Cement (N.A.B.I.)	Lump Unit

SECTION 520 - MEMBRANE WATERPROOFING, SPRAY APPLIED

520.01 DESCRIPTION. This work shall consist of furnishing and installing a spray applied membrane waterproofing system. The system shall incorporate a primer, the waterproofing membrane, tack coat, and any required aggregate.

520.02 MATERIALS. The materials shall consist of an approved spray applied membrane waterproofing system listed on the Approved Products List on file with the Agency's Materials and Research Section.

520.03 SUBMITTALS. The following information shall be provided by the Contractor to the Engineer prior to application of the membrane system:

- (a) Material Safety Data Sheets (MSDS) and Material Detail Sheets prepared by the membrane manufacturer, provided a minimum of seven (7) days prior to the scheduled commencement of work.
- (b) Written certification from the manufacturer regarding the Applicator's qualifications and references for a minimum of three (3) spray applied membrane projects completed by the Applicator within the last five (5) years, provided a minimum of seven (7) days prior to the application of any system component. The certification shall apply only to the named individual(s) performing the application.

520.04 WEATHER LIMITATIONS. Waterproofing shall not be done in rainy weather or when the temperature is below 5°C (40°F) without the authorization of the Engineer.

520.05 SURFACE PREPARATION. Concrete surfaces that are to receive the membrane waterproofing shall meet SSPC SP13/NACE No. 6 Surface Preparation of Concrete. Metal surfaces shall meet SSPC SP10/NACE No. 2 Near White Blast Cleaning.

520.06 CONSTRUCTION DETAILS.

- (a) General. All work performed shall be in accordance with the manufacturer's recommendations.

The manufacturer shall have a competent technical representative with necessary equipment to perform the quality control testing at the job site during all phases of preparation and installation. The technical representative will be responsible for performing all quality control testing required during membrane application (as described below). The technical representative will present all quality-control testing equipment to the Engineer to verify calibration dates and demonstrate their competency to perform quality control testing.

Personnel exposed to primers and membranes shall be protected in accordance with the MSDS.

All components of the membrane system shall be stored in accordance with the Material Detail Sheets.

All installation shall be performed in accordance with the Material Detail Sheets and manufacturer's recommendations.

Where traffic will be driving directly on the membrane surface, an aggregate wearing surface shall be adhered to the top membrane coat. Unless otherwise specified, the aggregate shall be broadcast at 1.22 - 2.44 kg/m<sup>2</sup> (0.25 - 0.50 lb/ft<sup>2</sup>) to achieve adequate uniform coverage.

Where bituminous concrete pavement will be applied to the membrane surface, a tack coat compatible with the membrane system shall be used between the membrane and the bituminous concrete pavement. The surface preparation and tack coat shall be applied per the manufacturer's recommendations.

(b) Quality Control Testing.

- (1) Substrate Moisture Content and Temperature. The surface moisture content and surface temperature shall be measured prior to applying the primer and membrane. The moisture content and temperature shall be within the limits indicated on the Material Detail Sheets. One test shall be performed for every 165 square meters (200 square yards) of deck area or three tests per bridge deck, whichever is greater.
- (2) Primer Adhesion. After the substrate has been prepared to the satisfaction of the Engineer, the adhesion of the primer to the substrate shall be tested in accordance with ASTM D 4541. Tests shall be conducted after the primer has sufficiently cured as determined by the technical representative. One test shall be performed for every 165 square meters (200 square yards) of deck area or three tests per bridge deck, whichever is greater. The Engineer may require additional test(s) where deficient adhesion is suspected. A minimum of 1 MPa (150 psi) adhesion strength to Portland cement concrete is required. The primer shall consist of one coat with an overall coverage rate of 3.0-4.3 m<sup>2</sup>/l (125-175 ft<sup>2</sup>/gal) unless otherwise recommended in the manufacturer's written instructions.
- (3) Membrane Thickness. The wet-film thickness of each course of membrane shall be measured using a standard comb-type thickness gauge, or the dry-film thickness of each course of membrane shall be measured in accordance with SSPC-PA2. Alternative methods for measuring thickness shall be submitted to the Engineer for approval. The measured thickness of each course of the membrane and the entire thickness of the finished membrane shall be greater than or equal to the depth documented in the Crack Bridging Test (ASTM C 836).
- (4) Membrane Pin Holes. Test for pin holes in the cured membrane system over the entire application area in accordance with ASTM D 4787. The test shall be conducted at voltages recommended by the manufacturer to prevent damage to the membrane.

- (5) Membrane Adhesion. The adhesion of the membrane system to the substrate shall be tested in accordance with ASTM D 4541. Tests shall be conducted after the membrane has sufficiently cured as determined by the technical representative. One test shall be performed for every 165 square meters (200 square yards) of deck area or three tests per bridge deck, whichever is greater. The Engineer may require additional test where deficient adhesion is suspected. A minimum of 1 MPa (150 psi) adhesion strength to Portland cement concrete is required.

The Contractor shall repair and/or correct any deficiencies in the membrane system and substrate noted during quality-control testing as recommended by the manufacturer's representative to the satisfaction of Engineer at no additional cost to the State.

520.06 PROTECTION OF EXPOSED SURFACES. The Contractor shall exercise care in the application of the waterproofing materials to prevent surfaces not receiving treatment from being spattered or marred. Particular reference is made to the face of curbs, copings, finished surfaces, substructure exposed surfaces, and outside faces of the bridge. Any material that spatters on these surfaces shall be removed and the surfaces cleaned to the satisfaction of the Engineer.

520.07 METHOD OF MEASUREMENT. The quantity of Membrane Waterproofing, Spray Applied to be measured for payment will be the number of square meters (square yards) used in the complete and accepted work. Measurement will be based on the horizontal distance between the face of the curbs, plus vertical surfaces as shown on the Plans, and the horizontal length of the membrane installed.

520.08 BASIS OF PAYMENT. The accepted quantity of Membrane Waterproofing, Spray Applied will be paid for at the Contract unit price per square meter (square yard). Payment will be full compensation for furnishing, transporting, handling, and placing the waterproofing system specified, including surface preparation, submittals, and quality control testing, and for furnishing all labor, tools, materials, equipment, and incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
520.10 Membrane Waterproofing, Spray Applied	Square Meter (Square Yard)



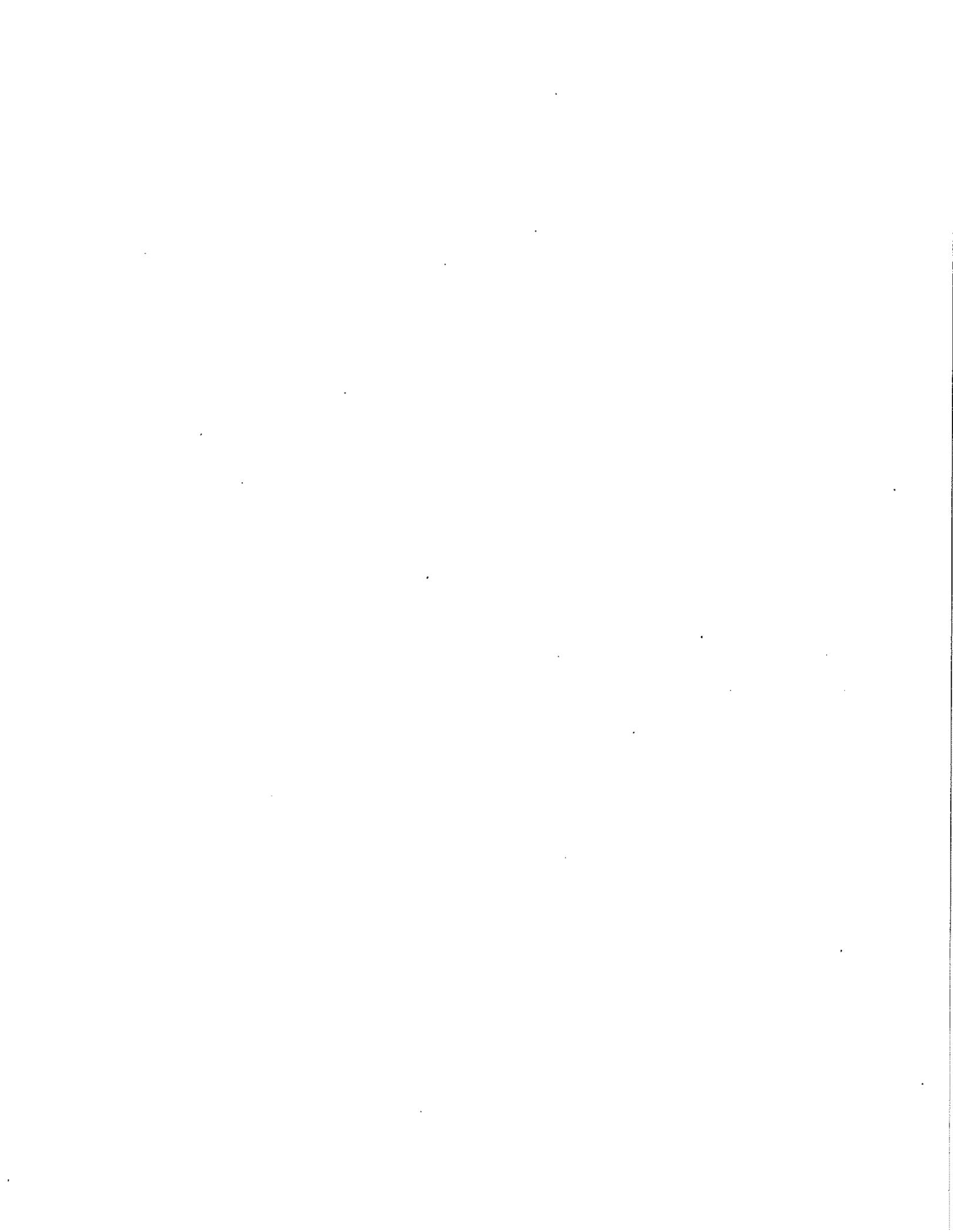
**CERTIFICATION FOR FEDERAL-AID CONTRACTS**

The prospective bidder, by signing and submitting this bid proposal, certifies, to the best of his or her knowledge and belief, that:

- (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person or influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered to. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such sub-recipients shall certify and disclose accordingly.

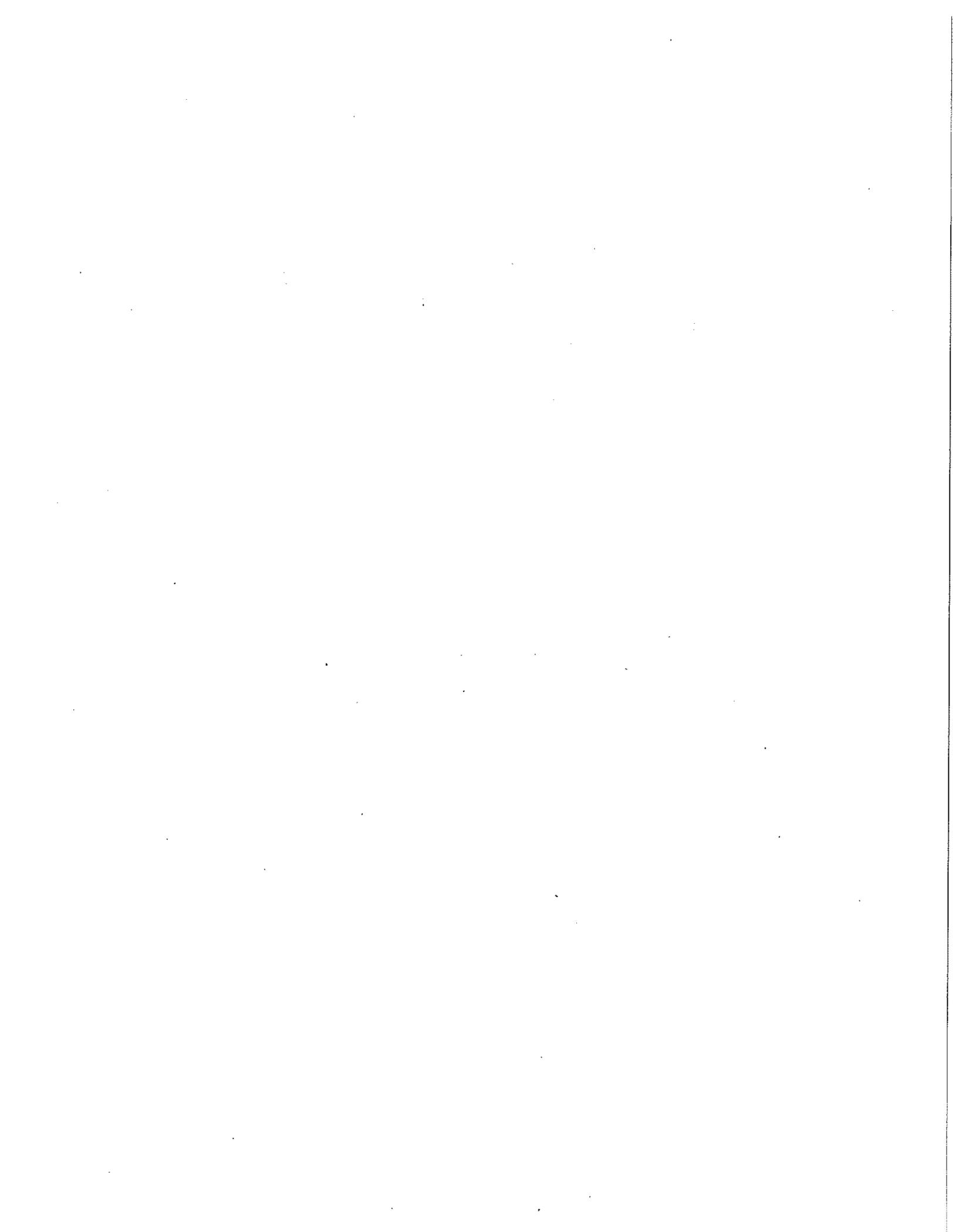


VERMONT AGENCY OF TRANSPORTATION  
SCHEDULE OF ITEMS

LETTING DATE : 10/04/13 11:00 A.M.

CONTRACT ID : 78F217  
PROJECT(S) : MIDDLEBURY RS 0174(8)

ITEM NO.	LINE NO.	DESCRIPTION	QUANTITY	UNITS
SECTION NO. 0001				
201.10	0005	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	1.000	LUMP
203.15	0010	COMMON EXCAVATION	2,260.000	CY
203.16	0015	SOLID ROCK EXCAVATION	360.000	CY
203.31	0020	SAND BORROW	650.000	CY
204.20	0025	TRENCH EXCAVATION OF EARTH	240.000	CY
204.21	0030	TRENCH EXCAVATION OF ROCK	15.000	CY
204.22	0035	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	1.000	CY
204.25	0040	STRUCTURE EXCAVATION	990.000	CY
204.30	0045	GRANULAR BACKFILL FOR STRUCTURES	520.000	CY
205.10	0050	DRILLING AND BLASTING OF SOLID ROCK	390.000	LF
210.10	0055	COLD PLANING, BITUMINOUS PAVEMENT	270.000	SY
301.15	0060	SUBBASE OF GRAVEL	125.000	CY
301.35	0065	SUBBASE OF DENSE GRADED CRUSHED STONE	2,230.000	CY
401.10	0070	AGGREGATE SURFACE COURSE	125.000	CY
404.65	0075	EMULSIFIED ASPHALT	25.000	CWT
406.50	0080	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	1.000	LU
501.33	0085	CONCRETE, HIGH PERFORMANCE CLASS A (FPQ)	54.000	CY
501.34	0090	CONCRETE, HIGH PERFORMANCE CLASS B	120.000	CY
506.60	0095	STRUCTURAL STEEL	17,752.000	LB
507.12	0100	REINFORCING STEEL, LEVEL II	7,500.000	LB
514.10	0105	WATER REPELLENT, SILANE	36.000	GAL
516.10	0110	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	60.000	LF
520.10	0115	MEMBRANE WATERPROOFING, SPRAY APPLIED	207.000	SY
524.11	0120	JOINT SEALER, HOT Poured	58.000	LF
529.15	0125	REMOVAL OF STRUCTURE (1121 SF - EST.)	1.000	EACH
531.16	0130	BEARING DEVICE ASSEMBLY, PLAIN ELASTOMERIC PAD	4.000	EACH
531.17	0135	BEARING DEVICE ASSEMBLY, STEEL REINFORCED ELASTOMERIC PAD	16.000	EACH
540.10	0140	PRECAST CONCRETE STRUCTURE (ABUTMENT NO. 1)	1.000	LUMP
540.10	0145	PRECAST CONCRETE STRUCTURE (ABUTMENT NO. 2)	1.000	LUMP
540.10	0150	PRECAST CONCRETE STRUCTURE (APPROACH SLAB NO. 1)	1.000	LUMP
540.10	0155	PRECAST CONCRETE STRUCTURE (APPROACH SLAB NO. 2)	1.000	LUMP
540.10	0160	PRECAST CONCRETE STRUCTURE (ARCH)	1.000	LUMP
540.10	0165	PRECAST CONCRETE STRUCTURE (ARCHITECTURAL PANELS)	1.000	LUMP
540.10	0170	PRECAST CONCRETE STRUCTURE (WINGWALL NO. 1)	1.000	LUMP
540.10	0175	PRECAST CONCRETE STRUCTURE (WINGWALL NO. 2)	1.000	LUMP
540.10	0180	PRECAST CONCRETE STRUCTURE (WINGWALL NO. 3)	1.000	LUMP
540.10	0185	PRECAST CONCRETE STRUCTURE (WINGWALL NO. 4)	1.000	LUMP
601.7015	0190	18" CPEPES	2.000	EACH
604.18	0195	PRECAST REINFORCED CONCRETE DROP INLET WITH CAST IRON GRATE	3.000	EACH
605.10	0200	6 INCH UNDERDRAIN PIPE	333.000	LF
605.95	0205	UNDERDRAIN FLUSHING BASIN	1.000	EACH
609.10	0210	DUST CONTROL WITH WATER	1.000	MGAL
613.11	0215	STONE FILL, TYPE II	535.000	CY
616.28	0220	CAST-IN-PLACE CONCRETE CURB, TYPE B	335.000	LF

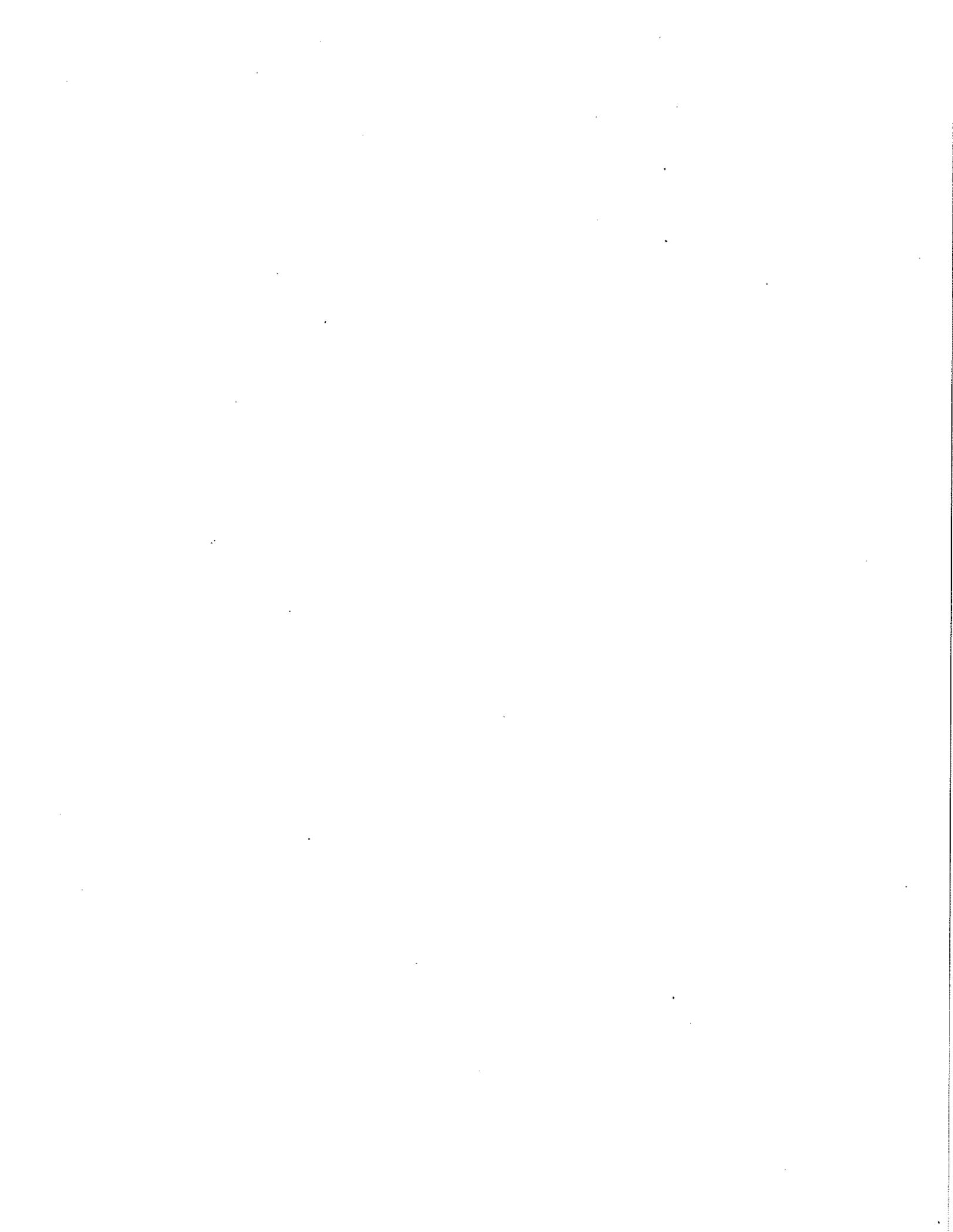


VERMONT AGENCY OF TRANSPORTATION  
SCHEDULE OF ITEMS

LETTING DATE : 10/04/13 11:00 A.M.

CONTRACT ID : 78F217  
PROJECT(S) : MIDDLEBURY RS 0174(8)

ITEM NO.	LINE NO.	DESCRIPTION	QUANTITY	UNITS
SECTION NO. 0001				
618.10	0225	PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH	170.000	SY
618.30	0230	DETECTABLE WARNING SURFACE	9.000	SF
619.16	0235	STEEL MARKER POSTS	2.000	EACH
621.30	0240	BOX BEAM GUARDRAIL (COATED BLACK)	265.000	LF
621.80	0245	REMOVAL AND DISPOSAL OF GUARDRAIL	384.000	LF
629.20	0250	ADJUST ELEVATION OF VALVE BOX	2.000	EACH
629.54	0255	CRUSHED STONE BEDDING	95.000	TON
630.15	0260	FLAGGERS	120.000	HR
631.10	0265	FIELD OFFICE, ENGINEERS	1.000	LUMP
631.16	0270	TESTING EQUIPMENT, CONCRETE	1.000	LUMP
631.17	0275	TESTING EQUIPMENT, BITUMINOUS	1.000	LUMP
631.26	0280	FIELD OFFICE TELEPHONE (N.A.B.I.)	3,000.000	DL
635.11	0285	MOBILIZATION/DEMobilIZATION	1.000	LUMP
641.10	0290	TRAFFIC CONTROL	1.000	LUMP
641.17	0295	PORTABLE CHANGEABLE MESSAGE SIGN RENTAL	14.000	DAY
646.400	0300	DURABLE 4 INCH WHITE LINE	1,750.000	LF
646.410	0305	DURABLE 4 INCH YELLOW LINE	1,825.000	LF
646.480	0310	DURABLE 24 INCH STOP BAR	15.000	LF
646.76	0315	LINE STRIPING TARGETS	46.000	EACH
649.31	0320	GEOTEXTILE UNDER STONE FILL	980.000	SY
649.515	0325	GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED	380.000	SY
651.15	0330	SEED	16.000	LB
651.18	0335	FERTILIZER	135.000	LB
651.20	0340	AGRICULTURAL LIMESTONE	1.000	TON
651.25	0345	HAY MULCH	1.000	TON
651.35	0350	TOPSOIL	8.000	CY
651.40	0355	GRUBBING MATERIAL	800.000	SY
652.10	0360	EPSC PLAN	1.000	LUMP
652.20	0365	MONITORING EPSC PLAN	50.000	HR
652.30	0370	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	1.000	LU
653.20	0375	TEMPORARY EROSION MATTING	545.000	SY
653.35	0380	VEHICLE TRACKING PAD	50.000	CY
653.50	0385	BARRIER FENCE	360.000	LF
653.55	0390	PROJECT DEMARCATION FENCE	1,590.000	LF
675.20	0395	TRAFFIC SIGNS, TYPE A	64.000	SF
675.341	0400	SQUARE TUBE SIGN POST AND ANCHOR	195.000	LF
675.50	0405	REMOVING SIGNS	23.000	EACH
676.10	0410	DELINEATOR WITH STEEL POST	3.000	EACH
690.50	0415	PRICE ADJUSTMENT, FUEL (N.A.B.I.)	1.000	LU
900.608	0420	SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET) (FPQ)	6.000	CY
900.620	0425	SPECIAL PROVISION (GUARDRAIL APPROACH SECTION, GALVANIZED 2 RAIL BOX BEAM) (COATED BLACK)	4.000	EACH
900.640	0430	SPECIAL PROVISION (BRIDGE RAILING, GALVANIZED STEEL TUBING /CONCRETE COMBINATION) (COATED BLACK)	224.000	LF
900.640	0435	SPECIAL PROVISION (PRESTRESSED CONCRETE NEXT D BEAMS) (NEXT 28 D)	264.000	LF
900.645	0440	SPECIAL PROVISION (ARCH LIGHTING)	1.000	LUMP

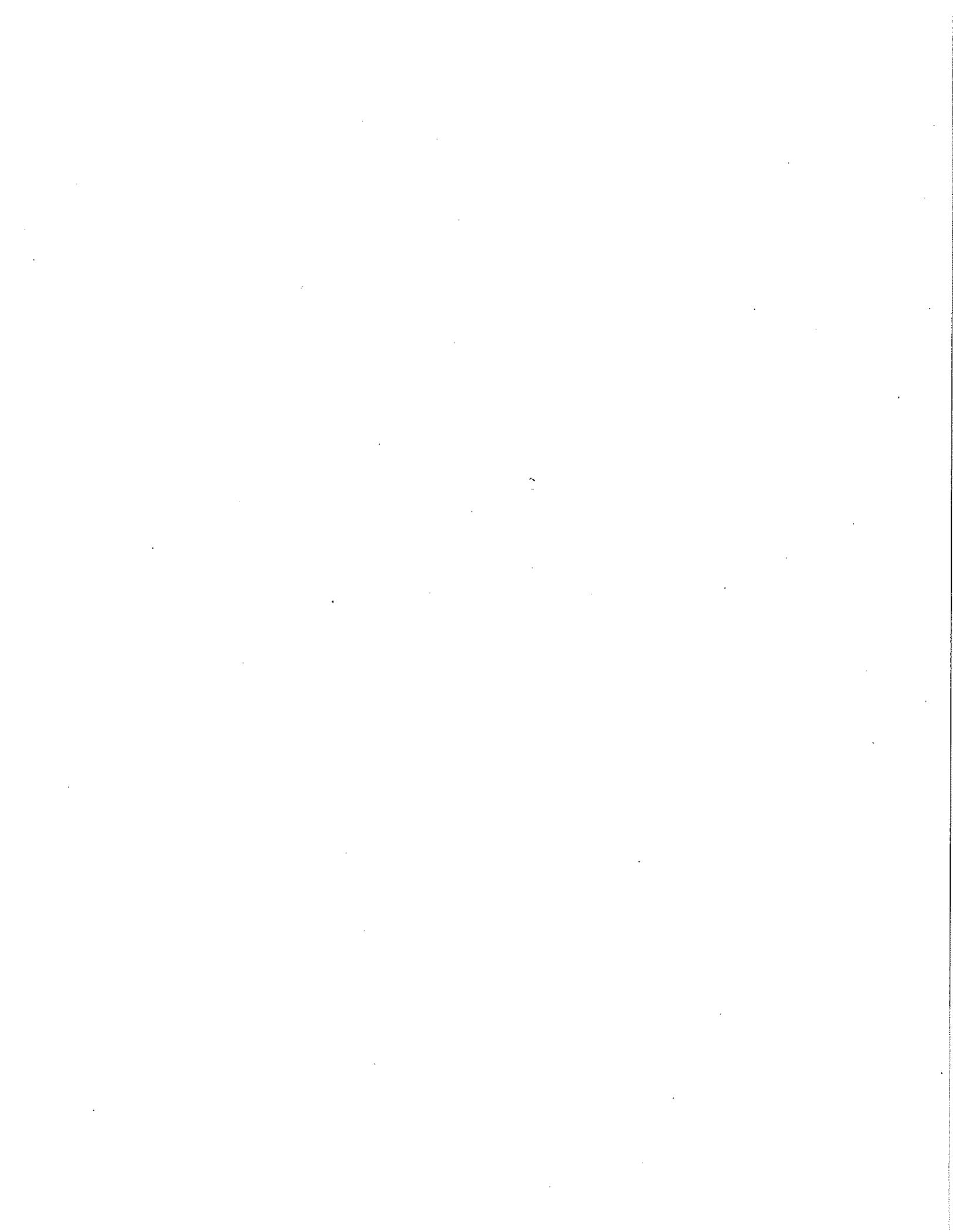


VERMONT AGENCY OF TRANSPORTATION  
SCHEDULE OF ITEMS

LETTING DATE : 10/04/13 11:00 A.M.

CONTRACT ID : 78F217  
PROJECT(S) : MIDDLEBURY RS 0174(8)

ITEM NO.	LINE NO.	DESCRIPTION	QUANTITY	UNITS
SECTION NO. 0001				
900.645	0445	SPECIAL PROVISION (CPM SCHEDULE)	1.000	LUMP
900.645	0450	SPECIAL PROVISION (WATER MAIN ON BRIDGE)(8")	1.000	LUMP
900.650	0455	SPECIAL PROVISION (INCENTIVE/DISINCENTIVE)(N.A.B.I.)	1.000	LU
900.650	0460	SPECIAL PROVISION (MAT DENSITY PAY ADJUSTMENT, SMALL QUANTITY)(N.A.B.I.)	1.000	LU
900.650	0465	SPECIAL PROVISION (MIXTURE PAY ADJUSTMENT)(N.A.B.I.)	1.000	LU
900.680	0470	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)	1,100.000	TON
601.0215	AA1	18" CAAP .060 (2-2/3 X 1/2)	40.000	LF
601.0416	AA2	18" PCCSP .079 (2-2/3 X 1/2)	40.000	LF
601.0815	AA3	18" RCP CLASS III	40.000	LF
601.2615	AA4	18" CPEP(SL)	40.000	LF



**CONTRACTOR'S EEO CERTIFICATION FORM**

Certification with regard to the Performance of Previous Contracts of Subcontracts subject to the Equal Opportunity Clause and the filing of Required Reports.

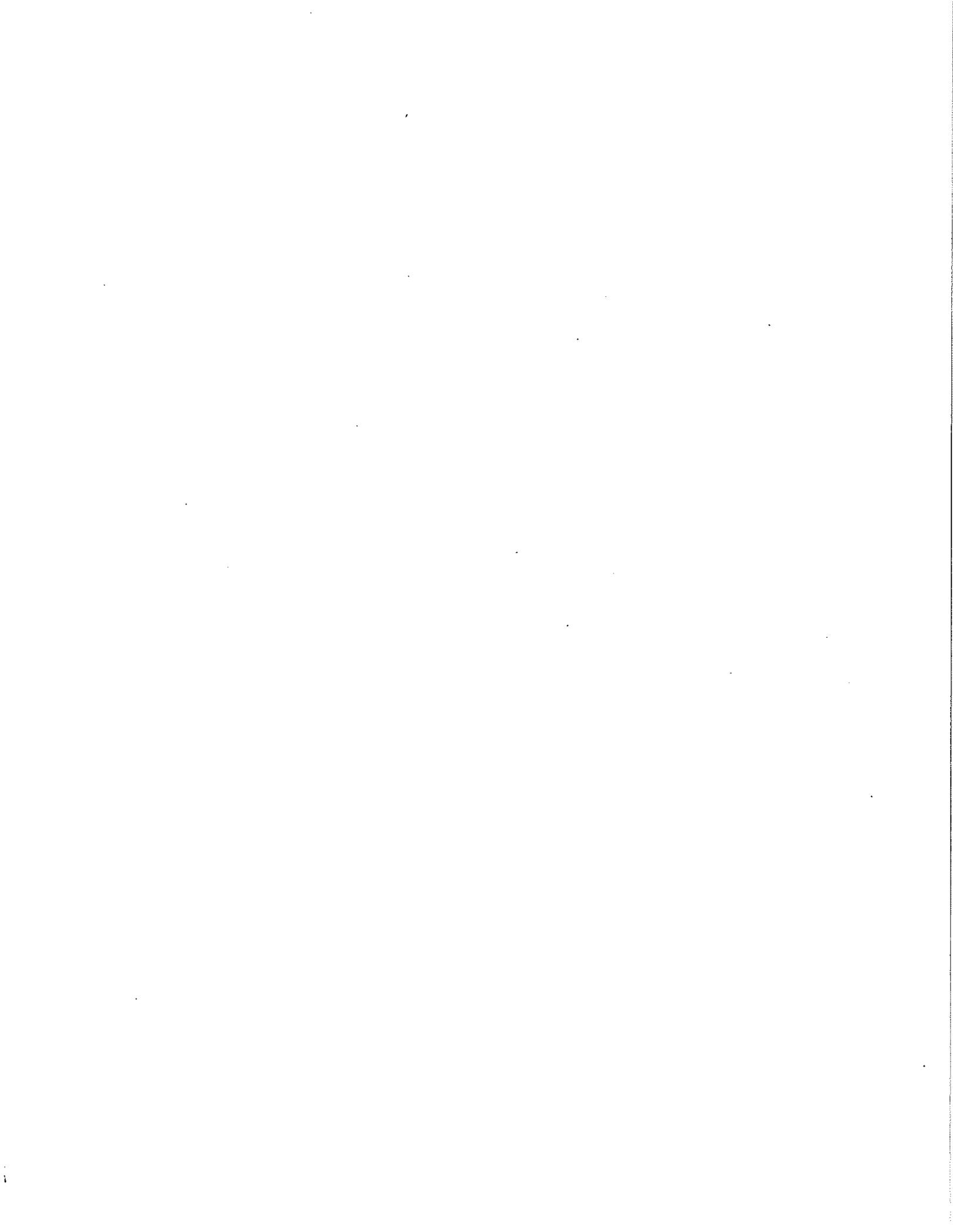
The bidder \_\_\_\_\_, proposed subcontractor \_\_\_\_\_, hereby certifies that he/she has \_\_\_\_\_, has not \_\_\_\_\_, participated in a previous contract or subcontract subject to the equal opportunity clause, as required by Executive Orders 10925, 11114, or 11246 as amended, and that he/she has \_\_\_\_\_, has not \_\_\_\_\_, filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

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Company	By	Title
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NOTE: The above certification is required by the Equal Employment Opportunity regulations of the Secretary of Labor (41 CFR 60-1.7(b) (1)), and must be submitted by bidders and proposed subcontractors only in connection with contracts and subcontracts which are subject to the equal opportunity clause. Contracts and subcontracts which are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5 (Generally only contracts or subcontracts of \$10,000 or under are exempt.) Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

Proposed prime contractors and subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 60-1.7 (b) (1) prevents the award of contracts and subcontracts unless such contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration, or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.



STATE OF VERMONT  
AGENCY OF TRANSPORTATION  
DEBARMENT AND NON-COLLUSION AFFIDAVIT

I, \_\_\_\_\_, representing  
(Official Authorized to Sign Contracts)

\_\_\_\_\_ of \_\_\_\_\_  
(Individual, Partnership or Corporation) (City or State)

being duly sworn, depose and certify under the penalties of perjury under the laws of the State of Vermont and the United States that on behalf of the person, firm, association, or corporation submitting the bid certifying that such person, firm, association, or corporation has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action, in restraint of free competitive bidding in connection with the submitted bid for the Vermont project:

\_\_\_\_\_ (Project Name)

\_\_\_\_\_ project located on \_\_\_\_\_  
(Project Number) (Route or Highway)

bids opened at \_\_\_\_\_  
(Town or City)

Vermont on \_\_\_\_\_, 20\_\_\_\_  
(Date)

I further depose and certify under the penalties of perjury under the laws of the State of Vermont and the United States that except as noted below said individual, partnership or corporation or any person associated therewith in any capacity is not currently, and has not been within the past three (3) years, suspended, debarred, voluntarily excluded or determined ineligible by any Federal or State Agency; does not have a proposed suspension, debarment, voluntary exclusion or ineligibility determination pending; and has not been indicted, convicted, or had a civil judgement rendered against (it, him, her, them) by a court having jurisdiction in any matter involving fraud or official misconduct within the past three (3) years.

Exceptions: \_\_\_\_\_ No \_\_\_\_\_ Yes. (If yes complete back of this form.)

Sworn to before me this

\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

\_\_\_\_\_ L.S.  
(Name of Individual, Partnership or Corporation)

\_\_\_\_\_ L.S.  
(Signature of Official Authorized to Sign Contracts)

\_\_\_\_\_ L.S.  
(Notary Public)

\_\_\_\_\_ L.S.  
(Name of Individual Signing Affidavit)

(My commission expires \_\_\_\_\_)

\_\_\_\_\_ L.S.  
(Title of Individual Signing Affidavit)

Exceptions will not necessarily result in denial of award, but will be considered in determining bidder responsibility. For any exception noted, indicate below to whom it applies, initiating agency, and dates of action. Providing false information may result in criminal prosecution or administration sanctions.

EXCEPTIONS: