

VERMONT

PROJECT
Johnson BF 0248 (4)
Johnson BF 0248 (7)

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 Johnson BF 0248 (4) and Johnson BF 0248 (7) in the town of Johnson.

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 Contract Administration immediately at (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

Workers' Compensation; State Contracts Compliance Requirement

General Special Provisions dated October 12, 2016

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

Johnson BF 0248 (4) River Management Consultation #HD-04-100 (email) dated December 16, 2015

Johnson BF 0248 (4) Army Corps of Engineers Category 1 Self-Verification Form

Johnson BF 0248 (4) Project Impact Data Sheets dated February 23, 2015

Johnson BF 0248 (4) Utility Relocation Agreement dated February 15, 2017

Johnson BF 0248 (7) River Management Consultation #HD-4-005-2016 (email) dated February 18, 2016

Johnson BF 0248 (7) Individual Wetland Permit #2016-090 dated May 25, 2016

Johnson BF 0248 (7) Vermont Wetlands Program Start Work Notification

Johnson BF 0248 (7) Vermont Wetlands Program Permit Work Completion Certification

Johnson BF 0248 (7) Army Corps of Engineers Category 2, NAE-2016-01008 dated June 13, 2016

Johnson BF 0248 (7) Project Impact Data Sheets dated March 3, 2016

Certification for Federal-Aid Contracts

Schedule of Items

Contractor's EEO Certification Form

Debarment & Non-Collusion Affidavit

REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- 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 conforming 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 journeyman 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 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 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.

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.

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.

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 (%)
Entire State of Vermont:			
<u>Vermont</u> 003 Burlington, VT Non-SMSA Counties NH Coos; NH Grafton; NH Sullivan; VT Addison; VT Caledonia; VT Chittenden; VT Essex; VT Franklin; 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 - Schenectady - 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)

ATTACHMENT

RFP/PROJECT NAME & NUMBER:

DATE:

WORKER CLASSIFICATION COMPLIANCE REQUIREMENT

Self Reporting

Form 1 of 2

This form must be completed in its entirety and submitted as part of the response for the proposal to be considered valid.

The Vermont Agency of Transportation, in accordance with Section 32 of Act 54 (2009), as amended by Section 17 of Act 142 (2010) and further amended by Section 6 of Act 50 (2011), and for total projects costs exceeding \$250,000.00, requires bidders comply with the following provisions and requirements.

Bidder is required to self report the following information relating to past violations, convictions, suspensions, and any other information related to past performance and likely compliance with proper coding and classification of employees. The Agency of Transportation is requiring information on any incidents that occurred in the previous 12 months. Attach additional pages as necessary. If not applicable, so state.

Summary of Detailed Information	Date of Notification	Outcome

WORKER CLASSIFICATION COMPLIANCE REQUIREMENT: Bidder hereby certifies that the company/individual is in compliance with the requirements as detailed in Section 32 of Act 54(2009), as amended by Section 17 of Act 142 (2010) and further amended by Section 6 of Act 50 (2011).

Date: _____

Name of Company: _____

Contact Name: _____

Address: _____

Title: _____

Phone Number: _____

E-mail: _____

Fax Number: _____

By: _____

Name: _____

Signature (Request/Report Not Valid Unless Signed) *

(Type or Print)

*Form must be signed by individual authorized to sign on the bidder's behalf.

DO NOT WRITE IN THIS SPACE – AGENCY USE ONLY

VDOL CHECKED RE: ACT 54 2009, AND AMENDMENTS ☐

RFP/PROJECT:

DATE:

WORKER CLASSIFICATION COMPLIANCE REQUIREMENT**Subcontractor Reporting Form
Form 2 of 2**

This form must be completed in its entirety by the Contractor and included in all requests to sublet or assign work as outlined in Section 108.01 of the Standard Specifications for Construction. This form must be updated as necessary and provided to the State as additional subcontractors are hired.

The Agency of Transportation in accordance with Act 54, Section 32 of the Acts of 2009 and for total project costs exceeding \$250,000.00 requires the contractor to comply with the following provisions and requirements:

The Contractor is required to provide a list of subcontractors on the job along with lists of subcontractor's subcontractors and by whom those subcontractors are insured for workers' compensation purposes. Include additional pages if necessary. This is not a requirement for subcontractor's providing supplies only and no labor to the overall contract or project.

Additionally, the Contractor shall collect and retain evidence of subcontractors' workers' compensation insurance, such as the ACORD insurance coverage summary sheet. Agency of Transportation will periodically verify the Contractors' compliance.

Subcontractor	Insured By		Subcontractor's Sub	Insured By

Date: _____

Name of Company: _____

Contact Name: _____

Address: _____

Title: _____

Phone Number: _____

E-mail: _____

Fax Number: _____

By: _____

Name: _____

Failure to adhere to Act 54, Section 32 of the Acts of 2009 and submit Subcontractor Reporting: Worker Classification Compliance Requirement will constitute non-compliance and may result in cancellation of contract and/or forfeiture of future bidding privileges until resolved.

Send Completed Form to: Vermont Agency of Transportation

One National Life Drive
Montpelier, VT 05633-5001

VERMONT AGENCY OF TRANSPORTATION
CERTIFICATE VERIFYING WORKERS' COMPENSATION COVERAGE
(PRIME CONTRACTOR)

REQUIRED FOR CONTRACTS OVER \$250,000, PER ACT 54 OF 2009 & ACT 50 OF 2011

VTrans Project: _____

Prime Contractor: _____

Vermont statutes and standard State contract provisions require contractors and subcontractors to obtain and maintain workers' compensation insurance while performing work for the State.

Evidence of coverage, including but not limited to this Certificate, must be provided prior to commencement of work.

1. The undersigned organization certifies that it either:

A. Has workers' compensation insurance ☐

Insurance Company: _____

Policy Expiration Date: _____

-OR-

B. Is approved by the Vermont Department of Labor to operate as a self-insured for workers' compensation ☐

2. The undersigned organization certifies that it has verified that its workers' compensation coverage contains a rider or non-cancellation clause reading in substance (per 2011 Standard Specifications for Construction §103.04(e)) as follows:

Anything herein to the contrary notwithstanding, no cancellation, termination, or alteration of this policy by the company or the assured shall become effective unless and until notice of cancellation, termination, or alteration has been given by registered mail to the Director of Program Development of the Vermont Agency of Transportation, National Life Building, Montpelier, Vermont 05633-5001, at least 30 calendar days before the effective cancellation, termination, or alteration date unless all work required to be performed under the terms of the Contract is satisfactorily completed as evidenced by the formal, final acceptance of the project by the Agency.

Signature (must be by a person authorized to sign for contractor)

Date

Print name of person signing

Title

VERMONT AGENCY OF TRANSPORTATION
CERTIFICATE VERIFYING WORKERS' COMPENSATION COVERAGE
(SUBCONTRACTORS AND SUBCONTRACTORS' SUBCONTRACTORS)
REQUIRED FOR CONTRACTS OVER \$250,000, PER ACT 54 OF 2009 & ACT 50 OF 2011

VTrans Project: _____

Prime Contractor: _____

Subcontractor: _____

Vermont statutes and standard State contract provisions require contractors and subcontractors to obtain and maintain workers' compensation insurance while performing work for the State.

Evidence of coverage, including but not limited to this Certificate, must be provided prior to commencement of work.

1. The undersigned organization [subcontractor] certifies that it either:

A. Has workers' compensation insurance ☐

Insurance Company: _____

Policy Expiration Date: _____

-OR-

B. Is approved by the Vermont Department of Labor to operate as a self-insured for workers' compensation ☐

2. The undersigned organization [subcontractor] certifies that it has verified that its workers' compensation coverage contains a rider or non-cancellation clause reading in substance (per 2011 Standard Specifications for Construction §103.04(e)) as follows:

Anything herein to the contrary notwithstanding, no cancellation, termination, or alteration of this policy by the company or the assured shall become effective unless and until notice of cancellation, termination, or alteration has been given by registered mail to the Director of Program Development of the Vermont Agency of Transportation, National Life Building, Montpelier, Vermont 05633-5001, at least 30 calendar days before the effective cancellation, termination, or alteration date unless all work required to be performed under the terms of the Contract is satisfactorily completed as evidenced by the formal, final acceptance of the project by the Agency.

Signature (must be by a person authorized to sign for subcontractor) Date

Print name of person signing

Title

TO BE COMPLETED BY PRIME CONTRACTOR:

Prime Contractor (print name) _____ has specifically verified the above-claimed coverage by using the Vermont Department of Labor's on-line portal for checking workers' compensation coverage, and has retained and will retain a print-out or other recorded image of such verification for the duration of the project plus three years, to be made available upon request to the Vermont Agency of Transportation or other unit of the State of Vermont.

Signature (must be by a person authorized to sign for subcontractor) Date

Print name of person signing

Title

GENERAL SPECIAL PROVISIONS FOR ALL PROJECTS
2011 STANDARD SPECIFICATIONS

SECTION 101 - DEFINITIONS AND TERMS

1. 101.01 ABBREVIATIONS, is hereby modified by adding the following new abbreviation directly after "ABS":

ACL Advanced Certification List

2. 101.01 ABBREVIATIONS, is hereby further modified by adding the following new abbreviation directly after "ANSI":

APL Approved Products List

3. 101.01 ABBREVIATIONS, is hereby still further modified by adding the following new abbreviation directly after "CPM":

CPPP Corrugated Polypropylene Pipe

4. 101.02 DEFINITIONS, HOLIDAYS, is hereby modified by deleting the ninth row in the listing (for "Columbus Day").

5. 101.02 DEFINITIONS, HOLIDAYS, is hereby further modified by adding the following as the twelfth row in the listing (directly after "Thanksgiving Day"):

Day After Thanksgiving Fourth Friday in November

SECTION 103 - TAXES AND INSURANCE

6. 103.04 INSURANCE REQUIREMENTS, part (e) General Insurance Conditions, is hereby modified by deleting the second paragraph in its entirety.

SECTION 105 - CONTROL OF THE WORK

7. 105.03 PLANS AND WORKING DRAWINGS, part (a) Contract Plans, is hereby modified by deleting the second paragraph in its entirety.

8. 105.03 PLANS AND WORKING DRAWINGS, part (a) Contract Plans, is hereby further modified by deleting the first sentence of the third paragraph.

9. 105.03 PLANS AND WORKING DRAWINGS, part (a) Contract Plans, is hereby still further modified by adding the phrase "in an accessible format" at the end of the third paragraph.

10. 105.03 PLANS AND WORKING DRAWINGS, part (b) Working Drawings, subpart (4) List of Working Drawings, is hereby modified by deleting the phrase "Roadway, Traffic, and Safety Engineer" and replacing it with the phrase "Project Manager" in the twenty-third row (beginning "641").

11. 105.14 SUNDAY AND HOLIDAY WORK, part (b) Holidays, is hereby corrected by deleting punctuation "," at the end of the paragraph and replacing it with punctuation ".".

12. 105.16 LOAD RESTRICTIONS, part (a) General, is hereby modified by being deleted in its entirety and replaced with the following:
- (a) General. All Contractors, subcontractors, suppliers, or others involved in any project-related activities shall comply with all legal load restrictions specified in Title 23 VSA § 1392 in the hauling of equipment or material on public roads, including that beyond the limits of the project. The application for and possession of any hauling or related permit will not relieve the Contractor or others involved in any project-related activities of any liability that may arise due to any damage resulting from the use or moving of equipment, vehicles, or any other project-related activity.
13. 105.16 LOAD RESTRICTIONS, part (b) Limitations on Use of Equipment and Vehicles, is hereby modified by being deleted in its entirety and replaced with the following:
- (b) Limitations on Use of Equipment and Vehicles. Use of equipment and vehicles is subject to the following:
- (1) No vehicle or equipment exceeding the load restrictions cited in Title 23 VSA § 1392 will be permitted on any structure as defined by the Engineer.
 - (2) The operation of any equipment or vehicle of such mass (weight) or any other project-related equipment loaded so as to cause damage to structures, the roadway, or to any other type of active construction will not be permitted, regardless of the limits set forth in Title 23.
 - (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.
14. 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

15. 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".

16. 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.

17. 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".

18. 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".

19. 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 and by replacing it with the following.

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

20. 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.

21. 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 first sentence.

22. 108.12 FAILURE TO COMPLETE WORK ON TIME, part (c) Liquidated Damages; General; Days Charged, is hereby modified by deleting the DAILY CHARGE FOR LIQUIDATED DAMAGES FOR EACH WORKING DAY OF DELAY table in its entirety and replacing it with a new table as follows:

DAILY CHARGE FOR LIQUIDATED DAMAGES
FOR EACH WORKING DAY OF DELAY

Original Contract Amount		
From More Than (\$)	To and Including (\$)	Daily Charge Per Day of Delay (\$)
0	300,000	1,400.00
300,000	500,000	1,500.00
500,000	1,000,000	1,600.00
1,000,000	1,500,000	1,700.00
1,500,000	3,000,000	2,100.00
3,000,000	5,000,000	2,600.00
5,000,000	10,000,000	3,800.00
10,000,000	20,000,000	6,300.00
20,000,000+	-----	11,200.00

SECTION 109 - MEASUREMENT AND PAYMENT

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

SECTION 203 - EXCAVATION AND EMBANKMENTS

24. 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.
25. 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.

26. 203.02 MATERIALS, is hereby modified by adding the following to the Subsection listing:

PVC Plastic Pipe.....710.06

27. 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.

28. 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).

29. 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.

30. 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.

31. 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.

32. 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.

33. 203.14 BASIS OF PAYMENT, is hereby corrected by adding a period at the end of the sixth paragraph.

34. 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 310 - RECLAIMED STABILIZED BASE

35. 310.04 CONSTRUCTION; is hereby modified by deleting the phrase "or dust control" after the word "stabilizing" in the third paragraph.

36. 310.04 CONSTRUCTION, is hereby further modified by adding the following sentence to the third paragraph:

When a dust control agent is not exclusively specified on the Plans, water and/or Calcium Chloride shall be used as that agent to meet all requirements of this Section.

37. 310.10 BASIS OF PAYMENT, is hereby modified by adding the following as the fourth paragraph:

Calcium Chloride used for dust control after the reclamation will not be paid for directly, but will be considered incidental to the Reclaimed Stabilized Base item.

SECTION 402 AGGREGATE SHOULDERS

38. 402 AGGREGATE SHOULDERS, is hereby deleted in its entirety and replaced with the following:

SECTION 402 AGGREGATE SHOULDERS

402.01 DESCRIPTION. This work shall consist of furnishing, placing and compacting material for Aggregate Shoulders on a prepared surface.

402.02 MATERIALS. Materials for Aggregate Shoulders and Aggregate Shoulders, RAP, shall meet the requirements of the following Subsection:

Aggregate for Surface Course and Shoulders.....704.12(a)
Aggregate Shoulders, RAP.....704.12(b)

402.03 PLACEMENT. Aggregate Shoulders shall be placed with equipment capable of placing the material in accordance with the Plans. The Contractor shall demonstrate to the Engineer the proposed placement procedures. If deemed necessary by the Engineer the procedures shall be adjusted to avoid damage to the wearing course. It shall be the Contractor's responsible to repair any damage to the wearing course to the satisfaction of the Engineer, at no additional cost to the Agency.

Unless otherwise directed by the Engineer or shown on the Plans, Aggregate Shoulders shall be placed in one course and shall not be placed until the adjacent wearing course has been completed. The maximum layer thickness for placement of material shall be 150 ± 50 mm (6 ± 2 inches) after compaction. When multiple layers are required, all layers shall be placed in approximately equal thicknesses.

All layers of Aggregate Shoulders shall be compacted to 95 percent of the maximum dry density determined by AASHTO T 99, method C or to the satisfaction of the Engineer.

The Contractor shall correct any segregated material, to the satisfaction of the Engineer, at no additional cost to the Agency. All material shall have a true and even surface as shown in the Plans. All holes or depressions found prior to acceptance of the project shall be filled with additional material, reworked and compacted as necessary.

A printed load ticket, indicating truck identification, date and time of delivery, and weight shall be furnished to the Engineer with each load delivered to the project.

402.04 METHOD OF MEASUREMENT. The quantity of Aggregate Shoulders and Aggregate Shoulders, RAP to be measured for payment will be the number of metric tons (tons) used in the complete and accepted work, as determined from load tickets. Partial loads shall be paid for on a pro-rated basis.

402.05 BASIS OF PAYMENT. The accepted quantity of Aggregate Shoulders and Aggregate Shoulders, RAP will be paid for at the Contract unit price per metric ton (ton). Payment will be full compensation for performing the work specified and for furnishing all materials, labor, tools, equipment and incidentals necessary to complete the work.

Water used for obtaining the required compaction will not be paid for separately but will be considered incidental to the Aggregate Shoulders item in the Contract.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
402.12 Aggregate Shoulders	Metric Ton (Ton)
402.13 Aggregate Shoulders, RAP	Metric Ton (Ton)

SECTION 406 - MARSHALL BITUMINOUS CONCRETE PAVEMENT

39. 406.03 COMPOSITION OF MIXTURE, part (d) Control of Mixtures, TABLE 406.03D - MINIMUM QUALITY CONTROL GUIDELINES, is hereby modified by deleting footnote designation "(1)" after "Cold Feed Gradation" in the fourth row.
40. 406.03 COMPOSITION OF MIXTURE, part (d) Control of Mixtures, TABLE 406.03D - MINIMUM QUALITY CONTROL GUIDELINES, is hereby further modified by adding the following as the fifth row:

Cold Feed % Fractured Face & Thin and Elongated Particles ⁽¹⁾	Day of initial paving and 1 per week ⁽⁴⁾	ASTM D5821 ASTM D4791

41. 406.03 COMPOSITION OF MIXTURE, part (d) Control of Mixtures, TABLE 406.03D - MINIMUM QUALITY CONTROL GUIDELINES, is hereby still further modified by deleting footnote 1 in its entirety and replacing it as follows:
- 1 - "Fractured faces" (for gravel sources only). "Thin and elongated" of particles retained on the No. 4 (4.75 mm) sieve and above.
42. 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.
43. 406.05 BITUMINOUS MIXING PLANT AND TESTING, part (a) Requirements for All Plants, subpart (12) Testing Facilities, is hereby modified by adding the following as the fourth paragraph:

The laboratory shall be equipped with a monitoring system readout that provides real-time access to active Agency project(s) production status. The system shall accumulate and provide the following information via digital display: Project name and number, truck number, ticket number, product description, and accumulated project daily quantity and load quantity accurate to the nearest metric ton (ton). The display shall be continually updated by the plant's recording system. Waivers may be considered for plants with production capacities not capable of exceeding 150 metric tons (tons) per hour.

44. 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

45. 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)

46. 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.

47. 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.
48. 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.
49. 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.
50. 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.
51. 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.
52. 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.

53. 490.03 COMPOSITION OF MIXTURE, part (d) Control of Mixtures, TABLE 490.03D - MINIMUM QUALITY CONTROL GUIDELINES, is hereby modified by deleting footnote designation "(1)" after "Cold Feed Gradation" in the fourth row.
54. 490.03 COMPOSITION OF MIXTURE, part (d) Control of Mixtures, TABLE 490.03D - MINIMUM QUALITY CONTROL GUIDELINES, is hereby further modified by adding the following as the fifth row:

Cold Feed % Fractured Face & Thin and Elongated Particles ⁽¹⁾	Day of initial paving and 1 per week ⁽⁴⁾	ASTM D5821 ASTM D4791

55. 490.03 COMPOSITION OF MIXTURE, part (d) Control of Mixtures, TABLE 490.03D - MINIMUM QUALITY CONTROL GUIDELINES, is hereby still further modified by deleting footnote 1 in its entirety and replacing it as follows:

1 - "Fractured faces" (for gravel sources only). "Thin and elongated" of particles retained on the No. 4 (4.75 mm) sieve and above.

56. 490.05 BITUMINOUS MIXING PLANT AND TESTING, part (a) Requirements for All Plants, subpart (12) Testing Facilities, is hereby modified by adding the following as the third paragraph:

The laboratory shall be equipped with a monitoring system readout that provides real-time access to active Agency project(s) production status. The system shall accumulate and provide the following information via digital display: Project name and number, truck number, ticket number, product description, and accumulated project daily quantity and load quantity accurate to the nearest metric ton (ton). The display shall be continually updated by the plant's recording system. Waivers may be considered for plants with production capacities not capable of exceeding 150 metric tons (tons) per hour.

57. 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.
58. 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

59. 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. ⁷ Slump (mm)

N/A

60. 501.03 CLASSIFICATION AND PROPORTIONING, TABLE 501.03A (Metric), is hereby further modified by adding the following footnote:

⁷ 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.

61. 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. ⁷ Slump (mm)

N/A

62. 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.
63. 501.03 CLASSIFICATION AND PROPORTIONING, TABLE 501.03A (English), is hereby further modified by adding the following footnote:

7 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.

64. 501.03 CLASSIFICATION AND PROPORTIONING, ninth paragraph (beginning "A minimum of thirty (30)..."), 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.
65. 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

66. 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

67. 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.

68. 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.
69. 506.19 BOLTING AND CONNECTIONS, part (c) Installation, subpart (4) Tension Control Assembly Method, is hereby modified by being re-designated as part (1).
70. 506.19 BOLTING AND CONNECTIONS, part (c) Installation, subpart (5) Direct Tension Indicator Method, is hereby modified by being re-designated as part (2).
71. 506.19 BOLTING AND CONNECTIONS, part (c) Installation, is hereby still further modified by deleting TABLE 506.19B (including associated paragraphs) in its entirety.

72. 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.
73. 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

74. 507.01 DESCRIPTION, is hereby modified by adding the phrase "of the level specified" after the phrase "bar reinforcement".
75. 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.

76. 507.02 MATERIALS, is hereby modified by deleting the sixth (final) entry in the Subsection listing.
77. 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.
78. 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.
79. 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.

80. 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.
81. 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.

82. 507.04 PROTECTION OF MATERIAL, is hereby still further modified by adding the following paragraph:

Ends of Level II reinforcing steel where the mild steel is exposed shall be repaired in the following manner:

- (a) Cut ends of dual-coated reinforcing steel shall be coated with a two-part epoxy patching material as specified by the coating manufacturer. The materials and procedures shall be approved by the Engineer prior to the repairs being performed.
- (b) Cut ends of stainless clad reinforcing steel shall be epoxied and capped in accordance with the manufacturer's recommendations with either stainless steel caps or plastic caps. Caps shall be sealed to prevent the intrusion of moisture.

83. 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.

84. 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.

85. 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...").

86. 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)

87. 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 509 - LONGITUDINAL DECK GROOVING

88. 509.03 CONSTRUCTION DETAILS, is hereby modified by deleting the last line of the second paragraph (beginning "Depth: 4 mm..") and replacing it with the following:

Depth: 6 mm (± 2 mm) ((1/4") ($\pm 1/16$ "))

SECTION 510 - PRESTRESSED CONCRETE

89. 510.12 INSTALLATION, part (a) Prestressed Concrete, subpart (2) Initial Post-tensioning, is hereby modified by deleting the first sentence in its entirety.

SECTION 516 - EXPANSION DEVICES

90. 516.01 DESCRIPTION, is hereby modified by adding the phrase ", or partially removing and modifying," after the word "installing".
91. 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.

92. 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.

93. 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

94. 525.02 MATERIALS, is hereby modified by adding the following as the third entry in the Subsection listing:

Structural Steel.....714.02

95. 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.

96. 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.

97. 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

98. 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

99. 540.02 MATERIALS, is hereby modified by deleting the fourteenth entry (beginning "Coated Bar Reinforcement...") in the Subsection listing.

100. 540.02 MATERIALS, is hereby further modified by adding the following as the twenty-ninth entry in the Subsection listing:

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

101. 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.

102. 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.

103. 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

104. 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).
105. 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...").
106. 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

107. 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.

108. 541.03 CLASSIFICATION AND PROPORTIONING, TABLE 541.03A (Metric) is hereby still further 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.

109. 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).
110. 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...").

111. 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

112. 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.

113. 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.

114. 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.

115. 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.

116. 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.

117. 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

118. 580.02 MATERIALS, is hereby modified by adding the following to the Subsection listing:

Polymer Concrete Repair Material.....780.05

119. 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.

120. 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.

121. 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.

122. 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.

123. 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.
124. 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.
125. 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

126. 601.02 MATERIALS, is hereby modified by adding the following as the sixth entry in the Subsection listing:
- Corrugated Polypropylene Pipe.....710.07
127. 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.
128. 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.
129. 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

130. 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.

131. 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.

132. 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

133. 613.02 MATERIALS, is hereby modified by adding the following to the Subsection listing:

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

134. 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.

135. 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.

136. 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.

137. 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.
138. 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.
139. 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.

140. 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

141. 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.
142. 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).
143. 616.14 METHOD OF MEASUREMENT, is hereby corrected by changing the word "portland" to "Portland" in the fifth (last) paragraph.
144. 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.
145. 616.15 BASIS OF PAYMENT, is hereby corrected by changing the word "portland" to "Portland" in the fourth paragraph.

146. 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 620 - FENCES

147. 620.02 MATERIALS, is hereby modified by deleting subsection "753.05" for Grounding Electrodes and replacing it with "752.15".

SECTION 621 - TRAFFIC BARRIERS

148. 621.01 DESCRIPTION, is hereby modified by adding the phrase "repairing," after the phrase "removing,".
149. 621.02 MATERIALS, is hereby modified by adding the following as the fifth entry in the Subsection listing:

Wire Rope or Cable.....713.03

150. 621.09 TERMINALS, is hereby modified by adding the following paragraph:

All new terminal installations shall include a permanent identification of the year of installation and model identified on the Approved Product List or the standard drawing used. Payment will be incidental to the traffic barrier items.

151. 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.

152. 621.13 REPLACEMENT, ADJUSTMENT, REMOVAL, AND DISPOSAL OF GURADRAIL OR GUIDE POSTS, is hereby further modified by deleting the first sentence of the second paragraph in its entirety and replacing it with the following:

Those sections in which height over an extensive portion of the section is greater than 760 mm (30 inches) or less than 675 mm (26 ½ inches) shall be adjusted to a nominal height of 735 mm ±25 mm (29 inches ± 1 inch).

153. 621.13 REPLACEMENT, ADJUSTMENT, REMOVAL, AND DISPOSAL OF GUARDRAIL OR GUIDE POSTS, is hereby still 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.

154. 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.

155. 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.

156. 621.14 METHOD OF MEASUREMENT, is hereby further modified by adding the following as the sixth 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.

157. 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.

158. 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 seventh paragraph.

159. 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	Each
	HD Steel Beam w/2.4 m (8 feet) Posts	
621.748	Guardrail Approach Section to Concrete	Each
	Combination Bridge Railing, TL-3	

SECTION 630 - UNIFORMED TRAFFIC OFFICERS AND FLAGGERS

160. 630.03 CLOTHING AND EQUIPMENT, part (b) For Flaggers, subpart (1), is hereby modified by replacing the phrase "ANSI 107-1999" with the phrase "ANSI 107-2004" in the first sentence.
161. 630.03 CLOTHING AND EQUIPMENT, part (d) For All Traffic Control Personnel, subpart (2), is hereby modified by deleting the word "The" and replacing it with the phrase "When deemed necessary by the Engineer, or when noted in the Plans, the" at the beginning of the first sentence.

SECTION 641 - TRAFFIC CONTROL

162. 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.
163. 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.

164. 641.02 GENERAL CONSTRUCTION REQUIREMENTS, is hereby still further modified by changing the word "This" to the word "An" in the second sentence of the fourth paragraph.
165. 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.

166. 641.03 TRAFFIC CONTROL DEVICES, is hereby modified by deleting the phrase "have three (3) lines of eight (8) characters per line and conform to Section 6F.55 of the MUTCD" and replacing it with the phrase "be used with a maximum of two phases, each consisting of a maximum of 3 lines of 8 characters" in the sixth paragraph.

167. 641.03 TRAFFIC CONTROL DEVICES, is hereby further modified by deleting the phrase "requirements in Section 6F.56 of" and replacing it with the phrase "Portable Arrow Board requirements in" in the seventh paragraph.

SECTION 646 - RETROREFLECTIVE PAVEMENT MARKINGS

168. 646.02 MATERIALS, is hereby modified by deleting the Subsection listing in its entirety and replacing it with the following:

Polyurea Pavement Markings.....	708.08(a)
Low VOC Chlorinated Rubber Traffic Paint.....	708.08(b)
Low VOC Acetone Based Traffic Paint.....	708.08(b)
Epoxy Paint.....	708.08(c)
Waterborne Traffic Paint.....	708.08(d)
Methyl-methacrylate Paint.....	708.08(e)
Glass Beads.....	708.09(a)
Premium Optics.....	708.09(b)
Wet Recoverable and Wet Reflective Optics.....	708.09(c)
Thermoplastic Pavement Markings, Type A.....	708.10(a)
Thermoplastic Pavement Markings, Type B.....	708.10(b)
Raised Pavement Markers, Type I.....	708.11
Pavement Marking Tape, Type A.....	708.12(a)
Pavement Marking Tape, Type B.....	708.12(b)
Pavement Marking Tape, Type C.....	708.12(c)
Pavement Marking Tape, Type D.....	708.12(d)
Line Striping Targets.....	708.13(a)
Raised Pavement Markers, Type II.....	708.13(b)
Temporary Pavement Marking Tape.....	708.13(c)
Pavement Marking Mask.....	708.13(d)

169. 646.04 APPLICATION OF MARKINGS, GENERAL, part (a) Placement of Markings, is hereby modified by deleting the first paragraph in its entirety.
170. 646.04 APPLICATION OF MARKINGS, GENERAL, part (a) Placement of Markings, is hereby further modified by deleting the seventh paragraph in its entirety.
171. 646.04 APPLICATION OF MARKINGS, GENERAL, part (a) Placement of Markings, is hereby still further modified by deleting the word "interim" and replacing it with the phrase "permanent or temporary" in the first sentence of the eighth paragraph.
172. 646.04 APPLICATION OF MARKINGS, GENERAL, part (a) Placement of Markings, is hereby still further modified by adding the phrase "edgeline," after the phrase "centerlines," in the first sentence of the eighth paragraph.
173. 646.04 APPLICATION OF MARKINGS, GENERAL, part (a) Placement of Markings, is hereby still further modified by deleting the ninth paragraph in its entirety.

174. 646.04 APPLICATION OF MARKINGS, GENERAL, part (c) Weather Limitations, subpart (2), is hereby modified by being deleted in its entirety and replaced as follows:
- (2) At the time of application of durable pavement markings, the pavement surface and ambient air temperatures shall be as per the manufacturer's published specified application temperatures, and the dew point shall be 5°F or more below the ambient air temperature. If the manufacturer's published recommendations are unavailable, the pavement surface and ambient air temperatures shall be a minimum of 10°C (50°F).
175. 646.04 APPLICATION OF MARKINGS, GENERAL, part (c) Weather Limitations, subpart (3), is hereby modified by being the word "October" and replacing it with the word "November".
176. 646.04 APPLICATION OF MARKINGS, GENERAL, part (d) Layout and Control, subpart (1) Centerline Markings, is hereby modified by deleting the number "100" and replacing it with the phrase "the same width as the lines" in the fourth sentence of the first paragraph.
177. 646.04 APPLICATION OF MARKINGS, GENERAL, part (d) Layout and Control, subpart (1) Centerline Markings, is hereby further modified by deleting the second (last) paragraph in its entirety.
178. 646.04 APPLICATION OF MARKINGS, GENERAL, part (d) Layout and Control, subpart (2) Edgeline Markings, is hereby modified by deleting the second (last) paragraph in its entirety.
179. 646.04 APPLICATION OF MARKINGS, GENERAL, part (d) Layout and Control, subpart (3) Dotted Line, is hereby modified by deleting the second (last) paragraph in its entirety.
180. 646.06 PAINT PAVEMENT MARKINGS, is hereby modified by being re-named WATERBORNE AND LOW VOC CHLORINATED RUBBER AND ACETONE BASED PAINT PAVEMENT MARKINGS.
181. 646.06 WATERBORNE AND LOW VOC CHLORINATED RUBBER AND ACETONE BASED PAINT PAVEMENT MARKINGS, is hereby modified by changing the word "Retroreflective" to "Retroreflective" in the first sentence of the first paragraph.
182. 646.06 WATERBORNE AND LOW VOC CHLORINATED RUBBER AND ACETONE BASED PAINT PAVEMENT MARKINGS, is hereby further modified by deleting the phrase "shall have a dry film thickness of 380 ±25 µm (15 ±1 mil) for paint, unless otherwise specified, and" in the third (last) sentence of the first paragraph.
183. 646.06 WATERBORNE AND LOW VOC CHLORINATED RUBBER AND ACETONE BASED PAINT PAVEMENT MARKINGS, is hereby still further modified by adding the following as the third paragraph:

The markings shall be applied at a rate to create a uniform wet film thickness of 558.8 µm (22 mils) with an allowable range of ±50.8 µm (±2 mils) unless otherwise specified in the Contract Documents. Minimum application rates are 1.7 square meters per liter (70 square feet per gallon) with glass beads applied at a rate of 960 grams per liter (8.0 lb per gallon) of paint. The Contractor shall provide the Engineer and the Materials Section with the optic drop on rates of all optic materials and daily binder application rates.

184. 646.06 WATERBORNE AND LOW VOC CHLORINATED RUBBER AND ACETONE BASED PAINT PAVEMENT MARKINGS, is hereby still further modified by deleting the fourth and fifth (last) paragraphs in their entirety.

185. 646.07 DURABLE PAVEMENT MARKINGS, is hereby modified by adding the following as the third sentence of the first paragraph:

Durable pavement markings shall be installed within two weeks of the placement of the wearing course.

186. 646.07 DURABLE PAVEMENT MARKINGS, is hereby further modified by changing punctuation at the end of the third sentence of the first paragraph from ":" to ".".

187. 646.07 DURABLE PAVEMENT MARKINGS, is hereby still further modified by adding the following at the end of the first paragraph:

The Contractor shall select optics that conform with Subsections 708.09(a), 708.09(b), and 708.09(c). The Contractor shall provide the Engineer and the Materials Section with the daily optic drop on rates of all optic materials and daily binder application rates. The Contractor shall perform all quality control activities and provide to the Engineer on a daily basis all retroreflectivity measurements collected. The Agency will perform all acceptance testing activities. The Engineer will select an evaluation section(s) for the purpose of collecting pavement marking retroreflectivity measurements. Retroreflectivity measurements shall be performed in accordance with ASTM D7585, as modified by Table 646.07A.

TABLE 646.07A - EVALUATION SECTION CRITERIA

PAVEMENT MARKING TYPE	EVALUATION SECTION(S) REQUIRED*	EVALUATION SECTION LENGTH m (feet)	MEASUREMENTS REQUIRED
Long Lines	1 per 3.2 km (2 miles)	120 (400)	20
Dashed Lines	1 per 3.2 km (2 miles)	120 (400)	20 (2 per dashed line)

*Projects less than 3.2 km (2 miles) in length shall have a minimum of one (1) evaluation section.

Each spot measurement for all yellow centerline retroreflectivity shall be performed in both directions at each spot location and averaged for acceptance. For long lines and dashed lines, if the average retroreflectivity as determined in accordance with ASTM D7585 fails to meet the minimum retroreflectivity requirements, or if 25% of the individual tests fail to meet the minimum retroreflectivity requirements, the entire length represented by the evaluation section shall be re-marked and re-tested until in compliance, at no additional cost to the Agency.

188. 646.07 DURABLE PAVEMENT MARKINGS, part (a) Pavement Marking Tape, Type I, is hereby modified by being deleted in its entirety and replaced as follows:

- (a) Pavement Marking Tape, Type A. Type A tape for pavement markings is classified as high performance or high durable, and non-removable. Type A tape shall conform to the requirements of Subsection 708.12(a).

Type A tapes, when used as a final durable marking, shall be applied only by being inlaid in the bituminous pavement during the rolling operation or in a recess as defined in Subsection 646.09, and shall be applied in accordance with the manufacturer's requirements. Initial dry retroreflectivity minimums shall be 300 mcdl/lx/m² for yellow markings and 400 mcdl/lx/m² for white markings.

189. 646.07 DURABLE PAVEMENT MARKINGS, part (b) Epoxy Paint, is hereby modified by being re-designated as part (e).
190. 646.07 DURABLE PAVEMENT MARKINGS, part (c) Thermoplastic, is hereby modified by being re-designated as part (f) Extruded Thermoplastic.
191. 646.07 DURABLE PAVEMENT MARKINGS, part (d) Polyurea Paint, is hereby modified by being re-designated as part (h).
192. 646.07 DURABLE PAVEMENT MARKINGS, part (e) Methyl-methacrylate Paint, is hereby modified by being re-designated as part (i).
193. 646.07 DURABLE PAVEMENT MARKINGS, is hereby further modified by adding the following new parts (b), (c), and (d):
 - (b) Pavement Marking Tape, Type B. Type B tape for pavement markings is classified as non-removable, used in long line applications. Type B tape shall conform to the requirements of Subsection 708.12(b).

Type B tapes, when used as a final durable marking, shall be applied only by being inlaid in the bituminous pavement during the rolling operation or in a recess as defined in Subsection 646.09, and shall be applied in accordance with the manufacturer's requirements. Initial dry retroreflectivity minimums shall be 300 mcdl/lx/m² for yellow markings and 400 mcdl/lx/m² for white markings.
 - (c) Pavement Marking Tape, Type C. Type C tape for pavement markings is classified as non-removable, used in intersection applications. Type C tape shall conform to the requirements of Subsection 708.12(c).

Type C tapes, when used as a final durable marking, shall be applied only by being inlaid in the bituminous pavement during the rolling operation or in a recess as defined in Subsection 646.09, and shall be applied in accordance with the manufacturer's requirements.
 - (d) Pavement Marking Tape, Type D. Type D tape for pavement markings is classified as non-removable, used for symbols and legends applications. Type D tape shall conform to the requirements of Subsection 708.12(d).

Type D tapes, when used as a final durable marking, shall be applied only by being inlaid in the bituminous pavement during the rolling operation or in a recess as defined in Subsection 646.09, and shall be applied in accordance with the manufacturer's requirements. Initial dry retroreflectivity minimums shall be 300 mcdl/lx/m² for yellow markings and 400 mcdl/lx/m² for white markings.
194. 646.07 DURABLE PAVEMENT MARKINGS, part (e) Epoxy Paint, is hereby modified by deleting the fifth (last) sentence in its entirety.

195. 646.07 DURABLE PAVEMENT MARKINGS, part (e) Epoxy Paint, is hereby further modified by adding the following sentences:
- Epoxy paint shall be applied at a rate to create a uniform wet film in place thickness of 558.8 μm (22 mils) with an allowable range of $\pm 50.8 \mu\text{m}$ (± 2 mils) unless otherwise specified in the Contract Documents. Minimum application rates are 1.7 square meters per liter (70 square feet per gallon). Initial dry retroreflectivity minimums shall be 300 mcdl/lx/m² for yellow markings and 400 mcdl/lx/m² for white markings.
196. 646.07 DURABLE PAVEMENT MARKINGS, part (f) Extruded Thermoplastic, is hereby modified by replacing the phrase "708.10" with the phrase "708.10(a)" at the end of the first paragraph.
197. 646.07 DURABLE PAVEMENT MARKINGS, part (f) Extruded Thermoplastic, is hereby further modified by adding the following as the third paragraph:
- Thermoplastic markings shall be applied at a rate to create a uniform hot film in place thickness of 2667 μm (105 mils) with an allowable range of $\pm 127 \mu\text{m}$ (± 5 mils) unless otherwise specified in the Contract Documents. Minimum application rates are 0.36 square meters per liter (15 square feet per gallon).
198. 646.07 DURABLE PAVEMENT MARKINGS, part (f) Extruded Thermoplastic, subpart (1) Thermoplastic Application Equipment, a. Mobile Applicator Equipment, is hereby modified by deleting the phrase ", between 2.4 and 2.5 mm (96 and 100 mils) thick" and replacing it with the phrase "with a uniform hot film in place thickness of 2667 μm (105 mils), with an allowable range of $\pm 127 \mu\text{m}$ (± 5 mils)" in the second sentence of the second paragraph.
199. 646.07 DURABLE PAVEMENT MARKINGS, part (f) Extruded Thermoplastic, subpart (1) Thermoplastic Application Equipment, b. Portable Applicator Equipment, is hereby modified by deleting the phrase "between 2 and 2.5 mm (80 and 100 mils) thick" and replacing it with the phrase "with a uniform hot film in place thickness of 2667 μm (105 mils) with an allowable range of $\pm 127 \mu\text{m}$ (± 5 mils)" in the fourth sentence.
200. 646.07 DURABLE PAVEMENT MARKINGS, part (f) Extruded Thermoplastic, subpart (2) Application Requirements, b. Thermoplastic Composition, is hereby modified by replacing the phrase "708.10" with the phrase "708.10(a)".
201. 646.07 DURABLE PAVEMENT MARKINGS, part (f) Extruded Thermoplastic, subpart (2) Application Requirements, d. Extruded Markings, is hereby modified by deleting the phrase "thickness between 2.4 and 2.5 mm (96 and 100 mils)" and replacing it with the phrase "uniform hot film in place thickness between 2.54 and 2.794 mm (100 and 110 mils)".
202. 646.07 DURABLE PAVEMENT MARKINGS, part (f) Extruded Thermoplastic, subpart (2) Application Requirements, e. Beads, is hereby modified by being re-named Optics.
203. 646.07 DURABLE PAVEMENT MARKINGS, part (f) Extruded Thermoplastic, subpart (2) Application Requirements, e. Optics, subpart 1., is hereby modified by adding the phrase "shall be" after the phrase "Type I".

204. 646.07 DURABLE PAVEMENT MARKINGS, part (f) Extruded Thermoplastic, subpart (2) Application Requirements, e. Optics, subpart 1., is hereby further modified by adding the phrase "intermix of the" after the phrase "incorporated into the".
205. 646.07 DURABLE PAVEMENT MARKINGS, part (f) Extruded Thermoplastic, subpart (2) Application Requirements, e. Optics, subpart 1., is hereby still further modified by deleting the numbers "28" and "30" and replacing them with the numbers "30" and "40", respectively.
206. 646.07 DURABLE PAVEMENT MARKINGS, part (f) Extruded Thermoplastic, subpart (2) Application Requirements, e. Optics, subpart 2., is hereby modified by being deleted in its entirety and replaced as follows:
2. Initial dry retroreflectivity minimums shall be 300 mcdl/lx/m² for yellow markings and 400 mcdl/lx/m² for white markings.
207. 646.07 DURABLE PAVEMENT MARKINGS, is hereby still further modified by adding the following new part (g):
- (g) Preformed Thermoplastic. Approved preformed thermoplastic marking materials shall be one of the preformed thermoplastic markings listed on the Approved Products List on file with the Agency's Research and Development Section under Subsection 708.10(b).
208. 646.07 DURABLE PAVEMENT MARKINGS, part (h) Polyurea Paint, is hereby modified by deleting the second sentence in its entirety.
209. 646.07 DURABLE PAVEMENT MARKINGS, part (h) Polyurea Paint, is hereby further modified by adding the following sentences:
- Polyurea paint shall be applied at a rate to create a uniform wet film in place thickness of 558.8 µm (22 mils) with an allowable range of ±50.8 µm (±2 mils) unless otherwise specified in the Contract Documents. Minimum application rates are 1.7 square meters per liter (70 square feet per gallon). Initial dry retroreflectivity minimums for surface-applied polyurea shall be 300 mcdl/lx/m² for yellow markings and 400 mcdl/lx/m² for white markings. Initial dry retroreflectivity minimums for recessed polyurea shall be 600 mcdl/lx/m² for yellow markings and 800 mcdl/lx/m² for white markings.
210. 646.07 DURABLE PAVEMENT MARKINGS, part (i) Methyl-methacrylate Paint, is hereby modified by deleting the second sentence in its entirety.
211. 646.07 DURABLE PAVEMENT MARKINGS, part (i) Methyl-methacrylate Paint, is hereby further modified by adding new subpart (1) as follows:
- (1) Application Requirements.

- a. Spray Applied Markings. All spray applied markings shall be applied at a rate to create a uniform wet film in place thickness of 762 μm (30 mils) with an allowable range of $\pm 50.8 \mu\text{m}$ (± 2 mils) unless otherwise specified in the Contract Documents. Minimum application rates are 1.4 square meters per liter (55 square feet per gallon). Initial dry retroreflectivity minimums for surface spray applied methyl-methacrylate shall be 300 mcdl/lx/m² for yellow markings and 400 mcdl/lx/m² for white markings. Initial dry retroreflectivity minimums for recessed methyl-methacrylate shall be 300 mcdl/lx/m² for yellow markings and 400 mcdl/lx/m² for white markings.
 - b. Extruded Markings. All extruded markings shall be applied at a rate to create a uniform wet film in place thickness of 2286 μm (90 mils) with an allowable range of $\pm 127 \mu\text{m}$ (± 5 mils) unless otherwise specified in the Contract Documents. Minimum application rates are 0.45 square meters per liter (18.3 square feet per gallon). Initial dry retroreflectivity minimums shall be 300 mcdl/lx/m² for yellow markings and 400 mcdl/lx/m² for white markings.
 - c. Structured Markings. All structured markings shall be applied at a rate to create a uniform wet film in place thickness as per the manufacturer's recommendations unless otherwise specified in the Contract Documents. Initial dry retroreflectivity minimums shall be 300 mcdl/lx/m² for yellow markings and 400 mcdl/lx/m² for white markings.
212. 646.08 TEMPORARY PAVEMENT MARKINGS, is hereby modified by deleting the phrase "Type II" (first entry) and replacing it with the phrase "Temporary Pavement Marking" in the first sentence.
 213. 646.08 TEMPORARY PAVEMENT MARKINGS, part (a) Pavement Marking Tape, Type II, is hereby modified by being re-named Temporary Pavement Marking Tape.
 214. 646.08 TEMPORARY PAVEMENT MARKINGS, part (a) Temporary Pavement Marking Tape, is hereby modified by deleting the first sentence in its entirety and replacing it as follows:

This tape for pavement markings is classified as temporary and is removable.
 215. 646.08 TEMPORARY PAVEMENT MARKINGS, part (a) Temporary Pavement Marking Tape, second sentence, is hereby modified by deleting the phrase "Type II" and replacing it with the word "The" and by deleting the phrase "Subsection 708.12(b)" and replacing it with the phrase "Subsection 708.13(c)".
 216. 646.08 TEMPORARY PAVEMENT MARKINGS, part (b) Pavement Marking Mask, is hereby modified by deleting the phrase "Subsection 708.12(c)" and replacing it with the phrase "Subsection 708.13(d)" in the second sentence.

217. 646.08 TEMPORARY PAVEMENT MARKINGS, part (c) Raised Pavement Markers, Type II, is hereby modified by adding the following sentence to the second (last) paragraph:

They shall conform to the requirements of Subsection 708.13(b) and shall be installed in accordance with the manufacturer's requirements.

218. 646.08 TEMPORARY PAVEMENT MARKINGS, part (d) Line Striping Targets, is hereby modified by being deleted in its entirety and replaced as follows:

- (d) Line Striping Targets. Line striping targets are intended to be substitutes for pavement markings for not longer than 14 calendar days. Line striping targets shall be maintained and replaced as needed or as directed by the Engineer, until replaced by a temporary or permanent pavement marking.

Line striping targets of the color shown on the Plans or directed by the Engineer shall be installed as described below or as directed by the Engineer.

For solid longitudinal pavement markings, line striping targets shall be placed at 3 m (10 foot) intervals. For double centerline markings, line striping targets shall be paired. For dashed pavement markings, line striping targets shall be placed in groups of 3 spaced at 1.5 m (5 feet), with the groups separated by 10 m (30 foot) spaces, or as determined by the Engineer.

Line striping targets shall not be used to delineate passing zones on two lane non-divided highways.

Line striping targets shall conform to the requirements of Subsection 708.13(a) and shall be installed in accordance with the manufacturer's requirements.

219. 646.08 TEMPORARY PAVEMENT MARKINGS, is hereby further modified by deleting the first sentence of the last paragraph in its entirety and replacing it as follows:

Temporary markings on the wearing course of pavement that remain in place for fewer than fourteen calendar days shall be Temporary Pavement Marking Tape, Type II raised pavement markers, or line striping targets.

220. 646.08 TEMPORARY PAVEMENT MARKINGS, is hereby still further modified by deleting the word "seven" and replacing it with the word "fourteen" in the second (last) sentence of the last paragraph.

221. 646.09 OTHER RELATED MARKINGS, part (a) Pavement Marking Recess, is hereby modified by deleting the phrase "provided is 125% of the material marking thickness" and replacing it with the phrase "meets the requirements of Table 646.09A" in the first sentence.

222. 646.09 OTHER RELATED MARKINGS, part (a) Pavement Marking Recess, is hereby further modified by deleting the last sentence in its entirety.

223. 646.09 OTHER RELATED MARKINGS, part (a) Pavement Marking Recess, is hereby still further modified by adding the following paragraphs and Table:

The bottom of the recess shall have a smooth, flat finished surface. The use of gang stacked Diamond cutting blades is required for asphalt pavement surfaces. The spacers between blade cuts shall be such that there will be less than a 254 μm (10 mil) rise in the finished groove between the blades.

Recesses shall be clean, dry, and free of laitance, oil, dirt, grease, paint, or other foreign contaminants prior to application of the pavement markings. The Contractor shall re-clean grooves, as necessary, prior to application of any primer or permanent markings. Depth plates shall be provided by the Contractor to assure that desired groove depth is achieved.

TABLE 646.09A - PAVEMENT MARKING RECESS DEPTH

MARKING MATERIAL	STANDARD GLASS BEAD RECESS DEPTH μm (mils)	PREMIUM OPTIC RECESS DEPTH μm (mils)
Permanent Waterborne Paint	762-1016 (30-40)	762-1016 (30-40)
Spray Applied Methyl-methacrylate	1016-1270 (40-50)	1778-2286 (70-90)
Extruded Methyl-methacrylate	2540-2794 (100-110)	2540-2794 (100-110)*
Structured Methyl-methacrylate	As recommended by manufacturer	As recommended by manufacturer*
Thermoplastic	2540-2794 (100-110)	2540-2794 (100-110)*
Polyurea	762-1270 (30-50)	1778-2286 (70-90)
Epoxy	762-1270 (30-50)	1778-2286 (70-90)
Permanent Tape	As recommended by manufacturer	As recommended by manufacturer
*Thermoplastic and Methyl-methacrylate with wet recoverable or wet reflective elements shall have a recess depth of 3048-3302 μm (120-130 mils).		

224. 646.14 BASIS OF PAYMENT, part (a) Paint Pavement Markings, is hereby modified by adding the following pay item ranges:

646.200 to 646.209	100 mm (4 inch) White Line	Meter (Linear Foot)
646.2110 to 646.2119	100 mm (4 inch) Yellow Line	Meter (Linear Foot)
646.2140 to 646.2149	150 mm (6 inch) White Line	Meter (Linear Foot)
646.2150 to 646.2159	150 mm (6 inch) Yellow Line	Meter (Linear Foot)
646.221 to 646.229	200 mm (8 inch) White Line	Meter (Linear Foot)
646.231 to 646.239	200 mm (8 inch) Yellow Line	Meter (Linear Foot)
646.241 to 646.249	300 mm (12 inch) White Line	Meter (Linear Foot)

646.251 to 646.259	300 mm (12 inch) Yellow Line	Meter (Linear Foot)
646.261 to 646.269	600 mm (24 inch) Stop Bar	Meter (Linear Foot)
646.300 to 646.309	Letter or Symbol	Each
646.311 to 646.319	Crosswalk Marking	Meter (Linear Foot)
646.321 to 646.329	Railroad Crossing Symbol	Each

SECTION 653 - EROSION PREVENTION AND SEDIMENT CONTROL MEASURES

225. 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 656 - PLANTING TREES, SHRUBS, AND VINES

226. 656.02 MATERIALS, is hereby modified by deleting the first entry in the Subsection listing (for "Barrier Fence") in its entirety.

227. 656.02 MATERIALS, is hereby further modified by adding the following as the second paragraph (directly below the Subsection listing):

Barrier Fence shall meet the requirements of Section 653.

SECTION 677 - OVERHEAD TRAFFIC SIGN SUPPORTS

228. 677.01 DESCRIPTION, is hereby modified by adding the phrase "and removing and disposing of existing overhead traffic sign supports," after the phrase "supports,".
229. 677.02 MATERIALS, is hereby modified by deleting subsection "753.05" for Grounding Electrodes and replacing it with "752.15".
230. 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.

231. 677.04 GROUNDING. is hereby modified by deleting the second and third sentences of the first paragraph, and also deleting the second and third paragraphs in their entirety.
232. 677.04 GROUNDING. is hereby further modified by adding the phrase "in accordance with section 678" at the end of the first sentence of the first paragraph.
233. 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.

234. 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

235. 678.01 DESCRIPTION, is hereby modified by adding the phrase ", and removing existing traffic control systems" after the word "system" in the first paragraph.

236. 678.02 MATERIALS, is hereby modified by deleting the following from the Subsections listing:

Junction Box.....752.12
Grounding Electrodes..... 753.05

237. 678.02 MATERIALS, is hereby further modified by adding the following to the Subsection listing at the appropriate location following the subsections sequence:

Pull Box..... 752.12(a)
Junction Box..... 752.12(b)
Grounding Electrodes..... 752.15

238. 678.02 MATERIALS, is hereby further modified by deleting "converters" and replacing it with the word "covers" in the second sentence of the last paragraph of the Subsection text.

239. 678.07 DETECTORS AND CONTROLLERS, is hereby corrected by deleting "manufacturer" and replacing it with the word "manufacturers" in the first sentence of the second (last) paragraph.

240. 678.11 INSTALLATION, sixteenth paragraph, part (a), is hereby modified by adding the following:

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

241. 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.

242. 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.

243. 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 679-STREET LIGHTING

244. 679 STREET LIGHTING, is hereby modified by deleting in its entirety and replacing with the following:

679.01 DESCRIPTION. This work shall consist of removing, furnishing, and installing the street lighting components necessary to provide a complete and operational system.

Street light assemblies shall consist of Light Pole Foundations, Transformer Bases, Light Poles, Bracket Arms and Luminaires.

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

Grounding Electrodes.....	752.15
Light Pole Foundations.....	753.06
Transformer Bases.....	753.07
Light Poles.....	753.08
Bracket Arms.....	753.09
Luminaires.....	753.10
Highway Illumination Conductor Cable.....	753.11
Street Lighting Control Device.....	753.12
Finish.....	753.13

679.03 GENERAL. Street lights shall be installed as specified in the Contract Documents.

Street Lights shall be designed to withstand an equivalent wind load of 160 KPH (100 MPH) velocity with an allowable angular deflection of 70 minutes or less.

All wiring shall meet the current National Electric Code.

Street lighting design shall conform to the current edition of Standard Specifications for the Structural Supports for Highway Signs, Luminaires and Traffic Signals, published by AASHTO, and its latest revisions.

679.04 SUBMITTALS. The Contractor shall submit Fabrication Drawings in accordance with Subsection 105.03. The submittal shall contain the following information, at a minimum:

(a) Wiring.

- (1) Conductor material, insulation type, voltage rating and temperature rating.

(b) Light Pole Foundations.

- (1) Dimensions and material specifications for all hardware used to mount the transformer base to the Light Pole Foundation.
- (2) For pre-cast Light Pole Foundations: complete design details and material specifications for Light Pole Foundations.

(c) Transformer Bases.

- (1) Dimensions for bottom and top of Transformer Base, height of Transformer Base, Transformer Base door dimensions, bolt pattern for mounting the Transformer Base to the Light Pole Foundation and type of Transformer Base. Including documentation indicating the Transformer Base meets the AASHTO standards.
- (2) Dimensions and material specifications for all hardware used to mount the Light Pole to the Transformer Base.

(d) Light Poles.

- (1) Dimensions for pole height, mounting height, pole diameter (top and bottom), handhole (size and location), anchor base, bolt circle, and mounting bolt size.
- (2) Dimensions for the bolt pattern for mounting the light pole to the transformer base.
 - (a) Material specifications for all components of the light pole.
 - (b) Welding information in accordance with Subsection 506.10.
 - (c) The welding process and procedures and the materials used to make the two continuous circumferential welds, one attaching the top of the anchor base to the pole shaft and the other attaching the bottom of the pole shaft to the inside of the shoe base.
 - (d) Special features as shown on the Plans, such as finish or color.

(e) Bracket Arms.

- (1) Dimensions for Bracket Arm length and diameter.
- (2) Details for connection of Bracket Arm to Light Pole (details shall be specific to the pole material the arm is to be mounted on).
- (3) Welding information in accordance with Subsection 506.10.
- (4) Material specifications for Bracket Arm and mounting hardware.

(f) Luminaires.

(1) Luminaire Data

- a. Manufacturer
- b. Model Number
- c. Wattage
- d. Lamp type (with number of LEDs)
- e. Any other features, such as finish, special wire access, etc.
- f. BUG Rating
- g. Operating Amperage

h. Street Lighting Control Device

(2) Photometric Data (to be supplied when a street lighting design is not included in the Plans or when changes to the Plans are proposed).

- a. IES Distribution type.
- b. Utilization curve.
- c. Iso-lux curves.
- d. Mounting height factor.
- e. Maintenance factor.

679.05 BRACKET ARM. Bracket Arms shall be installed as shown in the Contract Documents.

The length and mounting height of Bracket Arms shall be as shown on the approved drawings. The Bracket Arm shall be mounted perpendicular to the centerline of roadway, unless otherwise specified. The Bracket Arm shall be provided with a 50 mm (2inch) slip-fit mounting of sufficient length to accommodate the Luminaire.

All welds shall conform to the requirements of Subsection 506.10, no field welds shall be allowed.

679.06 LUMINAIRE. Luminaires shall meet the requirements of the current VTrans Lighting Design Guide unless otherwise specified in the Plans.

679.07 STREET LIGHT ASSEMBLY. Street Light Assemblies shall be installed as shown in the Contract Documents and shall include the following:

- (a) Light Pole Foundation. Light Pole Foundations shall be installed as shown in the Contract Documents.

Excavation and Backfill shall be in accordance with Section 203

- (b) Transformer Bases. Transformer Bases shall be installed on Light Pole Foundations as shown in the Contract Documents. The bottom plate of the Transformer Base shall have a grounding bolt and nut, easily accessible from the transformer base door. Transformer Bases, and all wiring contained in the Transformer Bases, shall meet the requirements of the current edition of the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, and its latest revisions, for breakaway features.

- (C) Light Poles. Light Poles shall be mounted on Transformer Bases as shown in the Contract Documents.

The anchor base shall be attached to the pole shaft by two continuous welds, one inside the base at the end of the shaft and the other on the outside at the top of the anchor base. All welds shall conform to the requirements of Subsection 506.10, no field welding shall be allowed.

Light Poles shall be plumb and level. A 100 by 150 mm (4 inch x 6 inch) handhole, complete with cover and hardware shall be located approximately 450 mm (18 inches) above the top of the Transformer Base directly above the transformer base door. A lip shall be provided around the handhole opening to prevent the cover from tipping and falling inside the hole. A grounding bolt and nut, easily accessible from the handhole, shall be located inside the pole shaft.

The pole cap shall be securely held in place.

(a) Bracket Arms. Bracket Arms shall be as specified herein.

(b) Luminaires. Luminaires shall be as specified herein.

679.08 REMOVE STREET LIGHT ASSEMBLY. The Contactor shall remove the entire Street Light Assembly as identified in the Plans, including the light pole foundation, transformer base, light pole, bracket arm, luminaire, wiring and all other incidentals.

The Street Light Assembly shall become property of the Contractor. All components of the Street Light Assembly shall be removed from the project and properly disposed of by the Contractor.

All voids resulting from this work shall be backfilled in accordance with Subsection 203.

679.09 REMOVE AND RESET LIGHT POLE. The Contractor shall remove, store and reset the transformer base, light pole, bracket arm, luminaire, wiring and other incidentals as shown in the Plans. All light poles shall be carefully separated from the light pole foundation on which they are mounted.

Light poles shall be completely removed from the light pole foundation, transported and stored at locations specified in the Contract Documents or as ordered by the Engineer and reset on the light pole foundation at the original location.

679.10 STREET LIGHTING CONTROL DEVICES. An Astronomical Clock shall be provided for each wired group of Street Lights and installed at the power Stanchion for each group, unless otherwise noted in the Plans.

Astronomical Clocks shall have two circuit scheduling, at least 20 set points for individual programs for each day of the week, be capable of daylight savings time adjustments, have a manual override and a power outage backup system with permanent schedule retention and memory module.

All Astronomical Clocks shall be placed in an enclosure meeting NEMA 3R standards and all shall be the same for the project, a mix of clocks will not be allowed for new installations.

679.11 POWER DROP STANCHION, STREET LIGHTING. Power Drop Stanchion, Street Lighting shall conform to the requirements of Subsection 678.08.

679.12 ELECTRIC WIRING. All wiring shall be in accordance with the NEC and Section 678.

All current carrying conductors shall have a fusible disconnect in the base of each Light Pole accessible from the hand hole or breakaway base.

Conductors shall not have any unnecessary kinks or bends. End caps, when necessary, of the appropriate size for the service conductors shall be installed at all termination points in pull boxes, junction boxes and pole bases.

679.13 FINISH. All Transformer Bases, Light Poles, Bracket Arms and Luminaires shall have either a powder coating or anodized aluminum finish, all finishes shall be factory applied finishes.

Anodized aluminum coatings shall have a minimum coating thickness of 1.0 mil.

Powder coatings shall be a thermosetting material, with a minimum film thickness of 4.0 mil. The powder coating process shall have pre-treatment steps that ensure complete cleaning and adherence of the coating materials, including at least the following steps: hot alkaline wash, rinse, hot phosphoric acid etching, and final rinse. It shall be free of blisters, cracks, stains and similar defects.

679.14 ACCEPTANCE.

- (a) Prior to acceptance of the street lighting system the system shall successfully complete a test period. The street lighting systems shall be completely operable and energized for 30 consecutive days without any defects in the system for successful completion of the test period. All required adjustments to the Street Lighting Control Device, if required, shall be completed to the satisfaction of the Engineer prior to acceptance.
- (b) The Contractor shall be responsible for all power costs through project acceptance.

679.15 METHOD OF MEASUREMENT.

The quantity of Bracket Arm to be measured for payment will be the number of each bracket arm installed in the complete and accepted work.

The quantity of Luminaire to be measured for payment will be the number of each luminaire installed in the complete and accepted work.

The quantity of Street Light Assembly to be measured for payment will be the number of each Street Light Assembly installed in the complete and accepted work.

The quantity of Remove Street Light Assembly to be measured for payment will be the number of each Street Light Assembly removed in the complete and accepted work.

The quantity of Remove and Reset Light Pole to be measured for payment will be the number of each Salvaged Light Pole removed, stored, and erected in the complete and accepted work.

The quantity for Street Lighting Control Device to be measured for payment will be the number of each Street Lighting Control Device installed in the complete and accepted work.

The accepted quantity of Power Drop Stanchion, Street Lighting to be measured for payment will be the number of each stanchion installed in the complete and accepted work.

679.16 BASIS OF PAYMENT. Street lighting item prices shall be full compensation for furnishing, transporting, handling, and placing the materials specified. When a Power Drop Stanchion, Street Lighting is not a contract item, connections to the power source, circuit testing, and the furnishing of all labor, tools, equipment, and incidentals necessary to complete the work will be incidental to other items.

The accepted quantity of Bracket Arm shall be full compensation for the bracket arm, wiring within the bracket arm, hardware required to mount the bracket arm to light pole and other incidentals as necessary to complete the work. Bracket arm shall be paid for at the Contract unit price for each.

The accepted quantity of Luminaire shall be full compensation for the luminaire housing, ballasts, lamps, photoelectric control device and other incidentals as necessary to complete the work. Luminaire shall be paid for at the Contract unit price for each.

The accepted quantity of Street Light Assembly shall be full compensation for the light pole foundation, transformer base, light pole, bracket arm luminaire, wiring within the Street Light Assembly and other incidentals as necessary to complete the work. Street Light Assembly shall be paid for at the Contract unit price for each.

The accepted quantity of Remove Street Light Assembly shall be full compensation for removing and disposing a street light assembly, including light pole foundation, transformer base, light pole, bracket arm, luminaire, wiring and other incidentals. Remove Street Light Assembly shall be paid for at the contract unit price for each.

The accepted quantity of Remove and Reset Light Pole shall be full compensation for removing, storing and installing a salvaged light pole, including transformer base, light pole, bracket arm, luminaire wiring and other incidentals as necessary to complete the work. Remove and Reset Light Pole shall be paid for at the contract unit price for each.

The accepted quantity of Street Lighting Control Device shall be full compensation for installing a fully functional Street Lighting Control Device at the Contract unit price for each.

The accepted quantity of Power Drop Stanchion, Street Lighting shall be full compensation for all work, materials and incidentals necessary to complete the work. Power Drop Stanchion, Street Lighting shall be paid for at the Contract unit price for each.

Circuit testing and connections to power sources will not be paid for separately but will be considered incidental to the Contract items that include the costs of wiring.

The cost of furnishing and installing electrical conduit, wired conduit, electrical wiring, electrical conduit sleeve, pull boxes, and junction boxes, when not covered under the Section 678, shall be considered incidental to items in this section.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
679.24 Remove Street Light Assembly	Each
679.25 Remove and Reset Light Pole	Each
679.46 Street Light Assembly	Each
679.47 Bracket Arm	Each
679.50 Luminaire	Each
679.54 Street Lighting Control Device	Each
679.55 Power Drop Stanchion, Street Lighting	Each

SECTION 700 GENERAL

245. 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 ".".
246. 700.02 MATERIALS CERTIFICATIONS, part (a) General, is hereby modified by deleting subpart (3) in its entirety.
247. 700.02 MATERIALS CERTIFICATIONS, part (a) General, is hereby further modified by adding the following as the seventh paragraph:

All certifications shall be forwarded to the Vermont Agency of Transportation Materials Section.

SECTION 702 - BITUMINOUS MATERIALS

248. 702.02 PERFORMANCE-GRADED ASPHALT BINDER (PREPARED FROM PETROLEUM), part (a) Properties, is hereby modified by adding the abbreviation "(PGB)" after the word "binder" in the first sentence.
249. 702.02 PERFORMANCE-GRADED ASPHALT BINDER (PREPARED FROM PETROLEUM), part (a) Properties, is hereby further modified by deleting the second sentence of the first paragraph in its entirety and replacing it with the following:

PGB shall be asphalt prepared solely by the refining of crude petroleum and shall meet the requirements of AASHTO M 320 from facilities compliant with AASHTO R 29 without the addition of modifiers.

250. 702.02 PERFORMANCE-GRADED ASPHALT BINDER (PREPARED FROM PETROLEUM), part (a) Properties, is hereby still further modified by adding the following as the third and fourth (last) sentences of the second paragraph:

If additives are used for the modification of asphalt, preapproval is required. The addition of any material not normally obtained during the initial refining process shall constitute modified asphalt and shall be labeled appropriately.

251. 702.02 PERFORMANCE-GRADED ASPHALT BINDER (PREPARED FROM PETROLEUM), part (a) Properties, is hereby still further modified by adding the following as the third (last) paragraph:

The performance graded binder shall be manufactured in accordance with the approved Quality Control Plan. The manufacturer shall remain in compliance with the plan, including all notifications, sampling, testing, and reporting requirements.

252. 702.02 PERFORMANCE-GRADED ASPHALT BINDER (PREPARED FROM PETROLEUM), part (b) Pretest, is hereby modified by being re-designated as part (c).
253. 702.02 PERFORMANCE-GRADED ASPHALT BINDER (PREPARED FROM PETROLEUM), part (c) Certification, is hereby modified by being re-designated as part (d).
254. 702.02 PERFORMANCE-GRADED ASPHALT BINDER (PREPARED FROM PETROLEUM), is hereby modified by adding the following new part (b):
- (b) Effect of Approval. VTrans reserves its right to remove its approval of any PGB lot if, in the sole discretion of the Agency, such approval was based on a material non-disclosure by the PGB supplier.

SECTION 704 - AGGREGATES

255. 704.10 AGGREGATE FOR BITUMINOUS CONCRETE PAVEMENT, part (a) Aggregate for Marshall Bituminous Concrete Pavement, subpart (1) Grading, c. Recycled Asphalt Pavement (RAP), is hereby modified by deleting the word "four" and replacing it with the word "two" in the seventh sentence of the fifth paragraph.
256. 704.10 AGGREGATE FOR BITUMINOUS CONCRETE PAVEMENT, part (b) Aggregate for Superpave Bituminous Concrete Pavement, subpart (1) Grading, c. Recycled Asphalt Pavement (RAP), is hereby modified by deleting the word "four" and replacing it with the word "two" in the seventh sentence of the sixth paragraph.
257. 704.12 AGGREGATE FOR SURFACE COURSE AND SHOULDERS, is hereby modified by deleting in its entirety and replacing them with the following:

704.12 AGGREGATE FOR SURFACE COURSE AND SHOULDERS.

- (a) Aggregate for Aggregate Surface Course and Aggregate Shoulders. Aggregate shall consist solely of crushed gravel or crushed stone. It shall be reasonably free from silt, loam, clay, organic matter or other deleterious materials.

All aggregates shall meet the following requirements:

- (1) Grading. The entire gradation shall be uniformly graded and shall meet the gradation requirements of the following table as determined in accordance with AASHTO T 27 and AASHTO T 11:

TABLE 704.12A - AGGREGATE FOR SURFACECOURSE AND SHOULDERS

Sieve Designation	Percentage by Mass (Weight) Passing Square Mesh Sieves
37.5 mm (1 1/2 inch)	100
25.0 mm (1 inch)	90 to 100
4.75 mm (No. 4)	45 to 65
150 µm (No. 100)	0 to 15
75 µm (No. 200)	0 to 12

- (2) Percent of Wear. The percent of wear shall not be more than 40 percent for material used as aggregate surface course or not more than 50 percent for material used as aggregate shoulders, excluding bituminous materials. Percent wear shall be in accordance with AASHTO T 96.
- (3) Fractured Faces. When crushed gravel is used at least 50 percent by mass (weight), of the material coarser than the 4.75 mm (No. 4) sieve from each stockpile shall have at least two fractured faces. Fractured faces shall be in accordance with Vermont Standard Test Procedures AOT-MRD 23.
- (b) Aggregate Shoulders, RAP. Aggregate for Aggregate Shoulders, RAP shall consist solely of Bituminous Concrete Pavement. RAP shall be such that 100% of the material passes the 37.5 mm (1 ½ inch) sieve prior to placement.

SECTION 708 - PAINTS, STAINS, AND TRAFFIC MARKING MATERIALS

258. 708.01 GENERAL REQUIREMENTS, part (c) Sampling, Testing, and Certification, subpart (2) Testing, is hereby modified by adding the following:

All other materials may be required to be tested on a cold weather AASHTO National Transportation Product Evaluation Program (NTPEP) pavement marking test deck.

259. 708.08 PAINT FOR PAVEMENT MARKINGS, part (b) Low VOC Traffic Paint, is hereby modified by adding the following as the first paragraph:

Ready-mixed Low VOC Chlorinated Rubber Traffic Paint shall consist of 100% chlorinated rubber type, fast drying traffic paint that shall contain properly formulated pigment and vehicle to give the desired results.

260. 708.08 PAINT FOR PAVEMENT MARKINGS, part (b) Low VOC Traffic Paint, subpart (1) Materials, is hereby modified by adding the following new subpart d.:

- (d) The paint shall contain a maximum of 0.005% w/w (50 ppm w/w) lead. The EPA Method 1311 (TCLP) extract of the paint shall not contain amounts of cadmium, mercury, hexavalent chromium, or other toxic heavy metals in excess of the limits specified in SW-846.

261. 708.08 PAINT FOR PAVEMENT MARKINGS, part (b) Low VOC Traffic Paint, subpart (2) Composition, is hereby modified by deleting the phrase "and shall be a 100% acrylic binder" in the first sentence.

262. 708.08 PAINT FOR PAVEMENT MARKINGS, part (b) Low VOC Traffic Paint, subpart (2) Composition, is hereby further modified by deleting the phrase "Table 708.08A" and replacing it with the phrase "the following:" in the second (last) sentence.

263. 708.08 PAINT FOR PAVEMENT MARKINGS, part (b) Low VOC Traffic Paint, subpart (2) Composition, is hereby still further modified by deleting TABLE 708.08A in its entirety and replacing it with the following:

TABLE 708.08A - LOW VOC CHLORINATED RUBBER TRAFFIC PAINT COMPOSITION

PERFORMANCE CHARACTERISTIC	WHITE	YELLOW/BLUE/ GREEN
Pigment Content, % by Mass (Weight) (ASTM D3723)	55% min. 59% max.	55% min 59% max.
Vehicle Content, % by Mass (Weight)	38% min. 42% max.	38% min. 42% max.
VOC Content, Mass (Weight) per Unit Volume (ASTM D3960)	150 g/L (1.25 lb/gal) max.	150 g/L (1.25 lb/gal) max.
Lead Content, %	0.005% max.	0.005% max.
Yellow Pigment	N/A	Yellow #65 or #75
Titanium Dioxide, Rutile Type II, (ASTM D1394)	120 g/L (1.00 lb/gal) max.	25 g/L (0.21 lb/gal) max.
Total Non-Volatile Content, % by Mass (Weight) (ASTM D2369)	70.0% min.	69.0% min.
Density, (ASTM D1475)	1.50 ± 0.04 kg/L (12.5 ± 0.33) lb/gal	1.46 ± 0.04 kg/L (12.2 +/- 0.33 lb/gal)
Close Cup Flash Point (ASTM D 3278)	4°C (39 °F) min.	4°C (39°F) min.

TABLE 708.08B - LOW VOC ACETONE BASED TRAFFIC PAINT COMPOSITION

PERFORMANCE CHARACTERISTIC	WHITE	YELLOW/BLUE/ GREEN
Pigment Content, % by Mass (Weight) (ASTM D3723)	53% min. 57% max.	51% min 56% max.
Vehicle Content, % by Mass (Weight)	37% min. 42% max.	37% min. 42% max.
VOC Content, Mass (Weight) per Unit Volume (ASTM D3960)	150 g/L (1.25 lb/gal) max.	150 g/L (1.25 lb/gal) max.
Lead Content, %	0.005% max.	0.005% max.
Yellow Pigment	N/A	Yellow #65 or #75
Titanium Dioxide, Rutile Type II, (ASTM D1394)	120 g/L (1.00 lb/gal) max.	25 g/L (0.21 lb/gal) max.
Total Non-Volatile Content, % by Mass (Weight) (ASTM D2369)	70.0% min.	69.0% min.
Density, (ASTM D1475)	1.415 ± 0.04 kg/L (11.8 ± 0.33) lb/gal	1.367 ± 0.04 kg/L (11.4 +/- 0.33 lb/gal)
Close Cup Flash Point (ASTM D 3278)	-20°C (- 4°F) min.	-20°C (-4°F) min.

264. 708.08 PAINT FOR PAVEMENT MARKINGS, part (b) Low VOC Traffic Paint, subpart (3) Laboratory Tests, subpart a. Viscosity, is hereby modified by being deleted in its entirety and replaced as follows:

a. Viscosity.

1. Chlorinated Rubber Traffic Paint. The paint viscosity shall not be less than 74 nor more than 90 Krebs units at 25°C (77°F) when tested according to ASTM D562.
2. Acetone Based Traffic Paint. The paint viscosity shall not be less than 70 nor more than 88 Krebs units at 25°C (77°F) when tested according to ASTM D562.

265. 708.08 PAINT FOR PAVEMENT MARKINGS, part (b) Low VOC Traffic Paint, subpart (4) Sampling and Testing, subpart a. Sampling Size, is hereby modified by deleting the phrase "per batch of each type and color of traffic paint" and replacing it with the phrase "of each traffic paint per batch," in the first sentence.
266. 708.08 PAINT FOR PAVEMENT MARKINGS, part (b) Low VOC Traffic Paint, subpart (4) Sampling and Testing, subpart c. Sample Delivery, is hereby modified by deleting the first paragraph in its entirety and replacing it as follows:
- All samples shall be delivered to the Materials Engineer, Vermont Agency of Transportation, Materials Section, 2178 Airport Road Unit B, Berlin, Vermont 05641.
267. 708.08 PAINT FOR PAVEMENT MARKINGS, part (d) Waterborne Traffic Paint, subpart (3) Laboratory Tests, d. Drying Time (No Pick Up Time), is hereby modified by deleting the phrase "380 microns" and replacing it with the phrase "381 μm ".
268. 708.08 PAINT FOR PAVEMENT MARKINGS, part (d) Waterborne Traffic Paint, subpart (3) Laboratory Tests, e. No Track Time (Field Test), is hereby modified by deleting the phrase "508 microns" and replacing it with the phrase "508 μm " in the second sentence.
269. 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.
270. 708.09 GLASS BEADS, is hereby modified by being re-named OPTICS.
271. 708.09 OPTICS, is hereby modified by adding new part (a) heading Glass Beads.
272. 708.09 OPTICS, part (a) Properties, is hereby modified by being re-designated as subpart (1) under part (a) heading Glass Beads.
273. 708.09 OPTICS, part (b) Certification, is hereby modified by being re-designated as subpart (2) under part (a) heading Glass Beads.
274. 708.09 OPTICS, is hereby further modified by adding the following new parts (b) and (c):
- (b) Premium Optics. Approved premium optics shall be one of the premium optics listed on the Approved Products List on file with the Agency's Research and Development Section.
- (c) Wet Recoverable and Wet Reflective Optics. Approved wet recoverable and wet reflective optics shall be one of the wet recoverable and wet reflective optics listed on the Approved Products List on file with the Agency's Research and Development Section.

275. 708.10 THERMOPLASTIC PAVEMENT MARKINGS, is hereby modified by being deleted in its entirety and replaced as follows:

708.10 THERMOPLASTIC PAVEMENT MARKINGS.

- (a) Thermoplastic Pavement Markings, Type A. Type A Thermoplastic Pavement Markings shall be one of the Thermoplastic Pavement Markings on the Approved Products List on file with the Agency's Research and Development Section. These markings shall be used in long line applications or as specified in the Contract Documents. Thermoplastic composition shall comply with Table 708.10A.

TABLE 708.10A - THERMOPLASTIC PAVEMENT MARKING COMPOSITION
(by mass (weight))

Binder	18% Minimum
Filler	40% Maximum
Glass Beads	30 ±5-40%

- (b) Thermoplastic Pavement Markings, Type B. Type B Thermoplastic Pavement Markings shall be one of the Preformed Thermoplastic Pavement Markings on the Approved Products List on file with the Agency's Research and Development Section. These markings shall be used in intersection applications for legends, stopbars, or symbols or as specified in the Contract Documents.

276. 708.11 RAISED PAVEMENT MARKERS, is hereby modified by being re-named RAISED PAVEMENT MARKERS, TYPE I.

277. 708.12 PAVEMENT MARKING TAPE, is hereby modified by deleting parts (a) Pavement Marking Tape, Type I, (b) Pavement Marking Tape, Type II, and (c) Pavement Marking Mask in their entirety and replacing them as follows:

- (a) Pavement Marking Tape, Type A. Type A Pavement Marking Tape shall be one of the non-removable permanent pavement marking tapes on the Approved Products List on file with the Agency's Research and Development Section that exhibit high adhesion, high durability, and high retroreflectivity. These markings shall be used in high AADT locations in long line applications as specified in the Contract Documents.
- (b) Pavement Marking Tape, Type B. Type B Pavement Marking Tape shall be one of the non-removable pavement marking tapes on the Approved Products List on file with the Agency's Research and Development Section. These markings shall be used in lower AADT locations in long line applications as specified in the Contract Documents.
- (c) Pavement Marking Tape, Type C. Type C Pavement Marking Tape shall be one of the non-removable pavement marking tapes on the Approved Products List on file with the Agency's Research and Development Section. These markings shall be used at intersection locations only as specified in the Contract Documents.

278. 708.12 PAVEMENT MARKING TAPE, is hereby further modified by adding the following new part (d):

- (d) Pavement Marking Tape, Type D. Type D Pavement Marking Tape for legends and symbols shall be one of the non-removable pavement marking tapes on the Approved Products List on file with the Agency's Research and Development Section. These markings shall be used for preformed traffic markings made of the same material as that of an approved permanent Type A, B, or C tape.

279. 708.13 PREFORMED TRAFFIC MARKINGS AND SYMBOLS, is hereby modified by being deleted in its entirety and replaced as follows:

708.13 TEMPORARY DELINEATION SYSTEMS.

- (a) Line Striping Targets. Line Striping Targets shall be one of the Line Striping Targets on the Approved Products List on file with the Agency's Research and Development Section.
- (b) Raised Pavement Markers, Type II. Acceptable Raised Pavement Markers shall be one of the Raised Pavement Markers on the Approved Products List on file with the Agency's Research and Development Section.
- (c) Temporary Pavement Marking Tape. Pavement Marking Tape shall be one of the removable pavement marking tapes on the Approved Products List on file with the Agency's Research and Development Section.
- (d) Pavement Marking Mask. Pavement Marking Mask shall be one of the Masking Marking Tapes on the Approved Products List on file with the Agency's Research and Development Section.

280. 708.14 LINE STRIPING TARGETS, is hereby modified by being deleted in its entirety.

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

281. 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.

282. 710.07 CORRUGATED POLYPROPYLENE PIPE, is hereby made a new Subsection of the Standard Specifications as follows:

283. 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 712 - CRIBBING MATERIALS

284. 712.04 GABION BASKETS, part (a) Wire for Gabion Baskets, is hereby modified by changing the word "shall" to the word "may" and by adding the phrase "or welded panels" after the phrase "woven wire mesh" in the first sentence of the first paragraph.
285. 712.04 GABION BASKETS, part (a) Wire for Gabion Baskets, is hereby further modified by adding the following as the third sentence of the first paragraph:
- Welded panels shall be coated by hot dip galvanizing after fabrication.
286. 712.04 GABION BASKETS, part (b) PVC Coating for Gabion Baskets, is hereby modified by adding the following new subpart (7):
- (7) Punch Test. The mesh shall achieve satisfactory performance on the Punch Test, as described in ASTM A975 13.1.4. This requirement applies to both woven and welded gabion baskets.

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

287. 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.
288. 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.

289. 713.07 COATED BAR REINFORCEMENT, is hereby modified by being deleted in its entirety.
290. 713.02 MECHANICAL SPLICES FOR BAR REINFORCEMENT, is hereby modified by adding the phrase ", except that epoxy coated mechanical splices shall be allowed when Level II reinforcing steel is required" after the phrase "intended to splice" in the second sentence of the first paragraph.

SECTION 714 - STRUCTURAL STEEL

291. 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.
292. 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.
293. 714.09 ANCHOR BOLTS, TRAFFIC SIGNALS, LIGHTING, AND OVERHEAD SIGN STRUCTURES, is hereby modified by being deleted in its entirety and replaced with the following:

714.09 ANCHOR BOLTS, TRAFFIC SIGNALS, LIGHTING, AND OVERHEAD SIGN STRUCTURES. Anchor bolts for traffic signals, lighting, and overhead sign structures shall conform to the requirements of ASTM F 1554, Grade 55, unless otherwise specified. Nuts shall be heavy hex and conform to the requirements of ASTM A 563. Washers shall conform to the requirements of ASTM A 43 and shall be a minimum of 3/8" unless otherwise indicated on the Plans. All components shall be galvanized in accordance with Section 726.08.

All anchor bolts for traffic signals, lighting, and overhead sign structures furnished for Agency projects shall be manufactured in the United States only. All bolts, nuts, and washers furnished for a particular application shall be furnished by a single supplier.

All bolts, nuts, and washers shall have identifiable manufacturer's marking(s) on each piece.

All galvanized nuts shall be lubricated with a lubricant containing visible dye that will provide visual verification of the lubricant during installation.

All bolts, nuts, and washers shall be tested and certified as meeting the requirements of the Zinc Thickness Test as specified in Subsection 714.05, in addition to any other test and certification requirements.

Anchor bolts shall be swedged or threaded and shall conform to the shape, length, and diameter specified on the Plans.

SECTION 726 - PROTECTIVE COATINGS AND WATERPROOFING MATERIALS

294. 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.

295. 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

296. 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 752-TRAFFIC CONTROL SIGNALS

297. 752.03 TRAFFIC SIGNAL POLES WITH MAST ARMS OR BRACKET ARMS, part (c) Aluminum Poles, Bases, and Mast Arms, is hereby modified by replacing "753.01(b)" in the first sentence with "753.07 and Subsection 753.08".

298. 752.03 TRAFFIC SIGNAL POLES WITH MAST ARMS OR BRACKET ARMS, part (d) Luminaire Bracket Arms, is hereby modified by deleting the second sentence in its entirety and replacing as follows:

"Luminaire Bracket Arms shall conform to the requirements of Subsection 753.09"

299. 752.12 JUNCTION BOX, is hereby modified by being deleted in its entirety and replaced as follows:

752.12 PULL BOX AND JUNCTION BOX

752.12 (a) PULL BOX. Pull boxes shall be constructed of Concrete, Class B. Pull box frames and covers shall be steel plate and conform to the requirements of ASTM A 36/A 36M. Where the cover is exposed to vehicle or pedestrian traffic, it shall have an approved nonskid surface such as diamond plate. Frames and covers shall be galvanized in accordance with AASHTO M 111/M 111 M. Pull boxes shall be designed and constructed to support at least an AASHTO MS-18 (HS 20) loading."

Certification. A type D Certification shall be furnished in accordance with Subsection 700.02.

752.12 (b) JUNCTION BOX. Junction boxes shall be constructed of fiberglass, high density polyethylene (HDPE), or acrylonitrile-butadiene-styrene (ABS). They shall be high-impact resistant at temperatures ranging from -35 to 50 °C (-30 to 120 °F), ultraviolet stabilized, and fire retardant. The side wall shall be ribbed for strength. The cover shall be non-skid and shall be held down with recessed hex-head bolts.

The junction box shall be capable of withstanding a loading of 67 kN (15 kips) over any 250 by 250 mm (10 x 10 inch) area on the cover. The size of the box shall be as specified in the Contract.

Certification. A Type A Certification shall be furnished in accordance with Subsection 700.02.

300. 752.15 GROUNDING ELECTRODES, is hereby made a new subsection of the Standard Specification as follows:

752.15 GROUNDING ELECTRODES. Grounding electrodes shall include grounding rod and grounding conductors.

(a) Grounding rod shall be copperclad steel rods nominally 16 mm (5/8 inch) in diameter by 2.4 m (8 feet) long, minimum, and shall conform to UL No. 467 (ANSI C33.8).

(b) Grounding conductor shall be installed throughout the system back to the power source. The earth shall not be used as the sole equipment grounding conductor. Grounding conductor shall be American Wire Gauge (AWG) #6 soft copper or stranded copper conductor.

(c) A type A Certification shall be furnished in accordance with Subsection 700.02.

SECTION 753 HIGHWAY ILLUMINATION

301. 753 HIGHWAY ILLUMINATION, is hereby modified by deleting in its entirety and replacing with the following:

753.06 LIGHT POLE FOUNDATIONS.

- (a) Concrete. Concrete shall conform to the requirements of Section 501 for Concrete, High Performance Class B.
- (b) Reinforcing Steel. Reinforcing steel for light pole bases shall conform to the requirements of Section 507 for Reinforcing Steel, Level I.
- (c) Electrical Conduit. Electrical conduit for light pole bases shall conform to the requirements of Subsection 752.08(a).
- (d) Anchor Bolts. Anchor bolts for light pole bases shall be per the Transformer Base manufacturer's recommendation and conform to the requirements of Subsection 714.09.
- (e) Grounding Electrodes. Grounding electrodes for light pole bases shall conform to the requirements of Subsection 752.15.

753.07 TRANSFORMER BASES.

- (a) Transformer bases and transformer base doors shall consist of a one-piece aluminum casting conforming to the requirements of ASTM B 26/B 26M or ASTM B 108, Alloy SG70A-T6, 356-T6. Galvanized bolts, nuts, washers and other hardware shall be provided to attach the transformer base to the anchor base of the light pole. Galvanizing shall conform to the requirements of Section 726.08.
- (b) Hardware for mounting the transformer base door to the transformer base shall be stainless steel.
- (c) A Type A Certification shall be furnished in accordance with Subsection 700.02.

753.08 LIGHT POLES.

- (a) Anchor Base. Anchor bases shall consist of a one-piece aluminum casting conforming to the requirements of ASTM B 26/B 26M or ASTM B 108, Alloy SG70A-T6, 356-T6.
- (b) Pole Shaft. Pole Shafts shall be aluminum consisting of tapered one-piece seamless tubes conforming to the requirements of ASTM B 221M (ASTM B 221), Alloy 6063-T6, 6061-T6, or 6005-T5. Minimum wall thickness shall be 3.2 mm (0.125 inch) for mounting heights of less than 6 m (20 feet) and 4.8 mm (0.188 inch) for mounting heights of 6 m (20 feet) or more.
- (c) Pole Cap. Pole Caps shall consist of a one-piece aluminum casting conforming to the requirements of ASTM B26/B26M or ASTM B108, Alloy SG70A-T6, 356-T6.
- (d) A Type A Certification, for all components (individually or as a whole), shall be furnished in accordance with Subsection 700.02.

753.09 BRACKET ARMS.

- (a) Single bracket elliptical arms and the main member of truss-type arms shall be seamless tube conforming to the requirements of ASTM B 221M (ASTM B 221), Alloy 6063-T6 or Alloy 6061-T6. Other members of truss-type arms shall conform to the requirements of ASTM B 221M (ASTM B 221), Alloy 6063-T6. All screws, nuts, bolts and other hardware for mounting bracket arms to the light pole shall be stainless steel, unless otherwise specified

Bracket Arms shall be able to withstand a vertical load of 450 N (100 LBS) and a horizontal load of 225 N (50 LBS) without fracture or permanent deformation.

- (b) A Type A Certification shall be furnished in accordance with Subsection 700.02

753.10 LUMINAIRES.

- (a) All luminaires shall be 120 V unless otherwise noted in the Plans.
- (b) A Type A Certification shall be furnished in accordance with Subsection 700.02.

753.11 HIGHWAY ILLUMINATION CONDUCTOR CABLE.

- (a) Highway Illumination Conductor Cable. Highway illumination conductor cable shall be conductors of stranded, soft-drawn copper with a moisture and heat resistant thermoplastic insulation. It shall be rated for 600 V service at 75 °C (167 °F) for either dry or wet locations.

The single conductors shall conform to the National Electrical Code for the intended wire use and existing field conditions. Wire size shall be such that no more than a 3 percent voltage drop will occur anywhere in the secondary circuit. All wiring shall be color-coded.

All conductors within the streetlight pole and bracket arm shall be No. 10 AWG stranded copper wire. Street lighting conductors within strain poles or mast arm poles shall also be No. 10 AWG stranded copper wire. UF cable is allowed in the bottom of the pole below the hand hole.

A Type A Certification shall be furnished in accordance with Subsection 700.02.

753.12 STREET LIGHTING CONTROL DEVICE.

- (a) A Type A Certification shall be furnished in accordance with Subsection 700.02.

753.13 FINISH.

- (a) Powder Coating. Powder coating shall be a polyester powder coat in the manufacturer's standard black finish. Powder coatings shall be salt spray resistant in accordance with ASTM B117. Powder coating shall exhibit no discoloration, cracking or other visible defects when tested for accelerated weathering as described in ASTM D4587, cycle No. 4, for 300 continuous hours.

The chemical composition of powder coatings shall provide a highly durable UV and salt spray resistant finish in accordance to the ASTM B117-73 standard and humidity proof in accordance to the ASTM D2247-68 standard.

- (b) Anodized Aluminum. Anodized aluminum coatings shall be in accordance with ASTM B137, B244, B580 (Type A or B) and B680.

SECTION 755 - LANDSCAPING MATERIALS

302. 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

303. 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
REVISED JULY 1, 2016**

1. 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. "Agreement" shall mean the specific contract or grant to which this form is attached.

2. 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.

3. Governing Law, Jurisdiction and Venue; No Waiver of Jury Trial: This Agreement will be governed by the laws of the State of Vermont. Any action or proceeding brought by either the State or the Party in connection with this Agreement shall be brought and enforced in the Superior Court of the State of Vermont, Civil Division, Washington Unit. The Party irrevocably submits to the jurisdiction of this court for any action or proceeding regarding this Agreement. The Party agrees that it must first exhaust any applicable administrative remedies with respect to any cause of action that it may have against the State with regard to its performance under the Agreement.

Party agrees that the State shall not be required to submit to binding arbitration or waive its right to a jury trial.

4. Sovereign Immunity: The State reserves all immunities, defenses, rights or actions arising out of the State's sovereign status or under the Eleventh Amendment to the United States Constitution. No waiver of the State's immunities, defenses, rights or actions shall be implied or otherwise deemed to exist by reason of the State's entry into this Agreement.

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: The Party will act in an independent capacity and not as officers or employees of the State.

7. Defense and Indemnity: The Party shall defend the State and its officers and employees against all third party claims or suits arising in whole or in part from any act or omission of the Party or of any agent of the Party in connection with the performance of this Agreement. 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. The State retains the right to participate at its own expense in the defense of any claim. The State shall have the right to approve all proposed settlements of such claims or suits. In the event the State withholds approval to settle any such claim, then the Party shall proceed with the defense of the claim but under those circumstances, the Party's indemnification obligations shall be limited to the amount of the proposed settlement initially rejected by the State.

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 in connection with the performance of this Agreement.

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 or an agent of the Party in connection with the performance of this Agreement.

The Party agrees that in no event shall the terms of this Agreement nor any document required by the Party in connection with its performance under this Agreement obligate the State to defend or indemnify the Party or otherwise be liable for the expenses or reimbursement, including attorneys' fees, collection costs or other costs of the Party except to the extent awarded by a court of competent jurisdiction.

8. 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. Vermont will accept an out-of-state employer's workers' compensation coverage while operating in Vermont provided that the insurance carrier is licensed to write insurance in Vermont and an amendatory endorsement is added to the policy adding Vermont for coverage purposes. Otherwise, the party shall secure a Vermont workers' compensation policy, if necessary to comply with Vermont law.

General Liability and Property Damage: With respect to all operations performed under this Agreement, 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 Each Occurrence

\$2,000,000 General Aggregate

\$1,000,000 Products/Completed Operations Aggregate

\$1,000,000 Personal & Advertising Injury

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 \$500,000 combined single limit. If performance of this Agreement involves construction, or the transport of persons or hazardous materials, limits of coverage shall not be less than \$1,000,000 combined single limit.

Additional Insured. The General Liability and Property Damage coverages required for performance of this Agreement shall include the State of Vermont and its agencies, departments, officers and employees as Additional Insureds. If performance of this Agreement involves construction, or the transport of persons or hazardous materials, then the required Automotive Liability coverage shall include the State of Vermont and its agencies, departments, officers and employees as Additional Insureds. Coverage shall be primary and non-contributory with any other insurance and self-insurance.

Notice of Cancellation or Change. There shall be no cancellation, change, potential exhaustion of aggregate limits or non-renewal of insurance coverage(s) without thirty (30) days written prior written notice to the State.

9. Reliance by the State on Representations: All payments by the State under this Agreement will be made in reliance upon the accuracy of all representations made by the Party in accordance with the Contract, including but not limited to bills, invoices, progress reports and other proofs of work.

10. False Claims Act: The Party acknowledges that it is subject to the Vermont False Claims Act as set forth in 32 V.S.A. § 630 *et seq.* If the Party violates the Vermont False Claims Act it shall be liable to the State for civil penalties, treble damages and the costs of the investigation and prosecution of such violation, including attorney's fees, except as the same may be reduced by a court of competent jurisdiction. The Party's liability to the State under the False Claims Act shall not be limited notwithstanding any agreement of the State to otherwise limit Party's liability.

11. Whistleblower Protections: The Party shall not discriminate or retaliate against one of its employees or agents for disclosing information concerning a violation of law, fraud, waste, abuse of authority or acts threatening health or safety, including but not limited to allegations concerning the False Claims Act. Further, the Party shall not require such employees or agents to forego monetary awards as a result of such disclosures, nor should they be required to report misconduct to the Party or its agents prior to reporting to any governmental entity and/or the public.

12. Federal Requirements Pertaining to Grants and Subrecipient Agreements:

A. 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.

For fiscal years ending before December 25, 2015, 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. For fiscal years ending on or after December 25, 2015, a Single Audit is required if the subrecipient expends \$750,000 or more in federal assistance during its fiscal year and must be conducted in accordance with 2 CFR Chapter I, Chapter II, Part 200, Subpart F. The Subrecipient Annual Report is required to be submitted within 45 days, whether or not a Single Audit is required.

B. Internal Controls: In the case that this Agreement is a Grant that is funded in whole or in part by Federal funds, in accordance with 2 CFR Part II, §200.303, the Party must establish and maintain effective internal control over the Federal award to provide reasonable assurance that the Party is managing the Federal award in compliance with Federal statutes, regulations, and the terms and conditions of the award. These internal controls should be in compliance with guidance in "Standards for Internal Control in the Federal Government" issued by the Comptroller General of the United States and the "Internal Control Integrated Framework", issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

C. Mandatory Disclosures: In the case that this Agreement is a Grant funded in whole or in part by Federal funds, in accordance with 2CFR Part II, §200.113, Party must disclose, in a timely manner, in writing to the State, all violations of Federal criminal law involving fraud, bribery, or gratuity violations potentially affecting the Federal award. Failure to make required disclosures may result in the imposition of sanctions which may include disallowance of costs incurred, withholding of payments, termination of the Agreement, suspension/debarment, etc.

13. Records Available for Audit: The Party shall maintain all records pertaining to performance under this agreement. "Records" means any written or recorded information, regardless of physical form or characteristics, which is produced or acquired by the Party in the performance of this agreement. Records produced or acquired

in a machine readable electronic format shall be maintained in that format. The records described shall be made available at reasonable times during the period of the Agreement and for three years thereafter or for any period required by law 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.

14. Fair Employment Practices and Americans with Disabilities Act: Party agrees to comply with the requirement of 21 V.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.

15. 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.

16. 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.

17. Taxation of Purchases: All State purchases must be invoiced tax free. An exemption certificate will be furnished upon request with respect to otherwise taxable items.

18. Child Support: (Only 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:

19. Sub-Agreements: Party shall not assign, subcontract or subgrant the performance of this Agreement or any portion thereof to any other Party without the prior written approval of the State. Party shall be responsible and

liable to the State for all acts or omissions of subcontractors and any other person performing work under this Agreement pursuant to an agreement with Party or any subcontractor.

In the case this Agreement is a contract with a total cost in excess of \$250,000, the Party shall provide to the State a list of all proposed subcontractors and subcontractors' subcontractors, together with the identity of those subcontractors' workers compensation insurance providers, and additional required or requested information, as applicable, in accordance with Section 32 of The Vermont Recovery and Reinvestment Act of 2009 (Act No. 54).

Party shall include the following provisions of this Attachment C in all subcontracts for work performed solely for the State of Vermont and subcontracts for work performed in the State of Vermont: Section 10 ("False Claims Act"); Section 11 ("Whistleblower Protections"); Section 14 ("Fair Employment Practices and Americans with Disabilities Act"); Section 16 ("Taxes Due the State"); Section 18 ("Child Support"); Section 20 ("No Gifts or Gratuities"); Section 22 ("Certification Regarding Debarment"); Section 23 ("Certification Regarding Use of State Funds"); Section 31 ("State Facilities"); and Section 32 ("Location of State Data").

20. No Gifts or Gratuities: Party shall not give title or possession of anything 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.

21. Copies: Party shall use reasonable best efforts to ensure that all written reports prepared under this Agreement are printed using both sides of the paper.

22. 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>

23. 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.

24. Conflict of Interest: Party shall fully disclose, in writing, any conflicts of interest or potential conflicts of interest.

25. Confidentiality: Party acknowledges and agrees that this Agreement and any and all information obtained by the State from the Party in connection with this Agreement are subject to the State of Vermont Access to Public Records Act, 1 V.S.A. § 315 et seq.

26. Force Majeure: Neither the State nor the Party shall be liable to the other for any failure or delay of performance of any obligations under this Agreement to the extent such failure or delay shall have been wholly or principally caused by acts or events beyond its reasonable control rendering performance illegal or impossible (excluding strikes or lock-outs) ("Force Majeure"). Where Force Majeure is asserted, the nonperforming party must prove that it made all reasonable efforts to remove, eliminate or minimize such cause of delay or damages, diligently pursued performance of its obligations under this Agreement, substantially fulfilled all non-excused obligations, and timely notified the other party of the likelihood or actual occurrence of an event described in this paragraph.

27. Marketing: Party shall not refer to the State in any publicity materials, information pamphlets, press releases, research reports, advertising, sales promotions, trade shows, or marketing materials or similar communications to third parties except with the prior written consent of the State.

28. Termination: In addition to any right of the State to terminate for convenience, the State may terminate this Agreement as follows:

- A. Non-Appropriation:** 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.
- B. Termination for Cause:** Either party may terminate this Agreement if a party materially breaches its obligations under this Agreement, and such breach is not cured within thirty (30) days after delivery of the non-breaching party's notice or such longer time as the non-breaching party may specify in the notice.
- C. No Implied Waiver of Remedies:** A party's delay or failure to exercise any right, power or remedy under this Agreement shall not impair any such right, power or remedy, or be construed as a waiver of any such right, power or remedy. All waivers must be in writing.

29. Continuity of Performance: In the event of a dispute between the Party and the State, each party will continue to perform its obligations under this Agreement during the resolution of the dispute until this Agreement is terminated in accordance with its terms.

30. Termination Assistance: Upon nearing the end of the final term or termination of this Agreement, without respect to cause, the Party shall take all reasonable and prudent measures to facilitate any transition required by the State. All State property, tangible and intangible, shall be returned to the State upon demand at no additional cost to the State in a format acceptable to the State.

31. State Facilities: If the State makes space available to the Party in any State facility during the term of this Agreement for purposes of the Party's performance under this Agreement, the Party shall only use the space in accordance with all policies and procedures governing access to and use of State facilities which shall be made available upon request. State facilities will be made available to Party on an "AS IS, WHERE IS" basis, with no warranties whatsoever.

32. Location of State Data: No State data received, obtained, or generated by the Party in connection with performance under this Agreement shall be processed, transmitted, stored, or transferred by any means outside continental United States, except with the express written permission of the State.

(End of Standard Provisions)

Special Provisions for: Johnson BF0248(4) & Johnson BF0248(7)

1. LABOR SUPPLY. Available workers for this Contract may be obtained from the Vermont Department of Employment & Training's webpage at the following address: <http://www.vtلمي.info/region.cfm> and from the VTrans Office of Civil Rights and Labor Compliance's webpage at the following address: <http://vtrans.vermont.gov/sites/aot/files/civilrights/documents/edhc/EmploymentResourceList.pdf>.
2. CONTRACT COMPLETION DATE. This Contract shall be completed on or before October 19, 2018.
3. NOTICE TO BIDDERS - MANDATORY PRE-BID MEETING. Prospective Bidders are hereby notified that there will be a mandatory pre-bid meeting for this project to be held at 1:00 p.m. Eastern Standard Time on October 3, 2017 at the National Life Building Montpelier VT in Davis Conference Room N413.

Attendance at the pre-bid meeting is required prior to submitting a bid for this project.

Prospective Bidders are encouraged to submit inquiries related to this project to the Agency's Office of Contract Administration before 4:30 p.m. Eastern Standard Time on October 2, 2017. Inquiries submitted by this time will be kept anonymous as to the author of the inquiry. Other questions will be taken, in writing, on the date of the pre-bid meeting and following the pre-bid meeting until the deadline specified in Special Provision No.6.

Prior to the bid opening date of October 20, 2017, the Agency's Office of Contract Administration will issue to Prospective Bidders both a written summary of the pre-bid meeting and, if necessary, an addendum to the proposal documents.

4. NOTICE TO BIDDERS. The contractor is hereby notified that no field work shall be performed between July 23, 2018 and August 3, 2018 inclusive, to allow for Lamoille County Fair related traffic.
5. 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.

In the included wage rates, the requirements of Executive Order 13658 do not apply to this Contract.

6. 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 AOT.ConstructionContractingInquiry@vermont.gov.

The deadline for submitting inquiries related to this project to the Office of Contract Administration is 4:30 p.m. Eastern Standard Time on October 11, 2017. No exceptions will be made to this requirement.

7. 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.
8. NOTICE TO BIDDERS - ELECTRONIC DOCUMENT MANAGEMENT. The Contractor is hereby notified that the Contractor, their subcontractors, and suppliers shall create a Doc Express account and use the program for collection and management of electronic documents. Doc Express is a web based document management program which accepts electronic documents and provides security as appropriate for each submittal. All Contract required documents, such as Working Drawings as defined in subsection 105.03 of the 2011 Standard Specifications for Construction, Progress Schedules, Mix Designs, Weld Procedures, Requests for Information and Erosion Control Plans shall be submitted at the following link: <https://docexpress.com>. The entire submittal and review process shall occur within Doc Express except payroll and material acceptance requirements.

All costs associated with the use of Doc Express will be considered incidental to Item 635.11, Mobilization/Demobilization. The State will manage the Doc Express platform including Contract setup upon Contract execution.

To create an account and for more information regarding the use of Doc Express see the information at the following link:

<https://outside.vermont.gov/agency/vtrans/external/docs/construction/Contracting/DocExpressOverviewforContractors.docx>

9. STANDARD SPECIFICATIONS. The provisions of the 2011 STANDARD SPECIFICATIONS FOR CONSTRUCTION, as modified herein, shall apply to this Contract.

10. 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:

Standard Federal EEO Specifications
Workers' Compensation; State Contracts Compliance Requirement
General Special Provisions dated October 12, 2016
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
Johnson BF 0248(4) River Management Consultation #HD-04-100 (email) dated December 16, 2015
Johnson BF 0248(4) Army Corps of Engineers Category 1 Self-Verification Form
Johnson BF 0248(4) Project Impact Data Sheets dated February 23, 2015
Johnson BF 0248(4) Utility Relocation Agreement dated February 15, 2017
Johnson BF 0248(7) River Management Consultation #HD-4-005-2016 (email) dated February 18, 2016
Johnson BF 0248(7) Individual Wetland Permit #2016-090 dated May 25, 2016
Johnson BF 0248(7) Vermont Wetlands Program Start Work Notification
Johnson BF 0248(7) Vermont Wetlands Program Permit Work Completion Certification
Johnson BF 0248(7) Army Corps of Engineers Category 2, NAE-2016-01008 dated June 13, 2016
Johnson BF 0248(7) Project Impact Data Sheets dated March 3, 2016
Contractor's EEO Certification Form
Debarment & Non-Collusion Affidavit

11. 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.
12. 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.
13. NOTICE TO BIDDERS-CARGO PREFERENCE REQUIREMENT. The contractor is hereby notified that the Contractor and Subcontractor(s) are required to follow the requirements of 46 CFR 381.7 (a)-(b). For guidance on requirements of Part 381 - Cargo Preference - U.S.Flag Vessels please go to the following web link: <https://www.fhwa.dot.gov/construction/cqit/cargo.cfm>.

14. NOTICE TO BIDDERS - GEOTECHNICAL DATA REPORT. The Contractor is hereby notified of the Geotechnical Data Report for this project. This report is available from the Contract Administration FTP site and "Advertised Projects" website, and is being provided during the bid solicitation period for this project for information and bidding purposes only.

Johnson BF 0248(4) Geotechnical Engineering Report by CHA-December 2015
Johnson BF 0248(4) Geotechnical Recommendations - Addendum - May 11, 2016
Johnson BF 0248(7) Geotechnical Recommendations - March 14, 2016

15. NOTICE TO BIDDERS - TRAFFIC MANAGEMENT PLAN. The Contractor is hereby notified of the Traffic Management Plan (TMP) for this project. This report is available from the Contract Administration FTP site and "Advertised Projects" website, and is being provided during the bid solicitation period for this project for information and bidding purposes only.

Johnson BF 0248(4)(7) Combined Traffic Management Plan dated June 20, 2016

16. NOTICE TO BIDDERS - RE-DESIGNATION OF VTRANS OFFICIALS. The Contractor is hereby notified of the following re-designation of VTrans officials as referenced in the Contract Documents:

Where in the Contract Documents it reads:	It shall be read as and shall mean:
Director of Program Development	Chief Engineer
Assistant Director of Program Development	Deputy Chief Engineer
Roadway, Traffic, and Safety Engineer; Roadway Program Manager; Highway Safety & Design Engineer;	Highway Safety and Design Program Manager
Structures Engineer	Structures Program Manager
Chief of Local Transportation Facilities	Director of Municipal Assistance Bureau
Construction Engineer	Construction Manager
Materials and Research Engineer	Materials Manager
Director of Operations	Director of Maintenance and Operations Bureau

17. NOTICE TO BIDDERS - INCENTIVE/DISINCENTIVE (I/D). The Agency's intent is to have the bridge closure periods (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) Work Completion Requirements.

(1) Johnson BF 0248(4), Bridge 1, Bridge 2.

- a. During the BCP, access must be provided at all times to properties on the "island" between bridges 1 and 2.

- (2) Johnson BF 0248(4), Bridge 1, Bridge 2 and Johnson BF 0248(7), Bridge 4.

a. No daily lane closures will be allowed before or after either BCP to progress work items outside EPSC and Traffic Control. Two-way, two lane traffic shall be maintained at both project sites for the time period between BCP's.

(b) Dates.

- (1) Johnson BF 0248(4), Bridge 1, Bridge 2. The allowable BCP will be forty-two (42) consecutive calendar days between April 30, 2018 and July 20, 2018, inclusive. The forty-two (42) consecutive calendar day BCP is herein defined as the I/D period. During the BCP, the Contractor will be allowed to work on the Bridges for up to 14 hours per day between sunrise and sunset, 7 days per week, including holiday periods.

- (2) Johnson BF 0248(7), Bridge 4. The allowable BCP will be twenty-eight (28) consecutive calendar days between August 6, 2018 and October 7, 2018, inclusive. The twenty-eight (28) consecutive calendar day BCP is herein defined as the I/D period. During the BCP, the Contractor will be allowed to work on the Bridge for 16 hours per day, 7 days per week, including holiday periods.

Night work will be allowed during the BCP. See Special Provision No. 17 NOTICE TO BIDDERS - REQUIREMENTS FOR NIGHTTIME WORK and No. 18 NOTICE TO BIDDERS - NIGHTTIME WORK RESTRICTIONS for additional information and requirements.

- (3) Johnson BF 0248(4), Bridge 1, Bridge 2 and Johnson BF 0248(7), Bridge 4. The Contractor shall submit to the VAOT Construction Section for review and approval a certified letter indicating the BEGIN CONSTRUCTION DATE for each BCP period. This letter shall be received by the Construction Section a minimum of twenty-one (21) 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 a fixed date and will not be changed for any reason unless done so by the Secretary and only under extreme conditions as determined by, and at the sole discretion of the Secretary.

There shall be a pre-closure meeting held on site with the Contractor's Superintendent, Contractor's Project Manager, all subcontractors performing work within each BCP, the Engineer, the Project Manager, the Town of Johnson, the Johnson and Hyde Park Fire Departments, the local Ambulance Service, Vermont State Police and Lamoille County Planning Commission (LCPC) to discuss durations of work, types of night work, work sequencing, etc. The Contractor shall be responsible for setting this meeting up and making appropriate contacts. This meeting shall be held a minimum of 14 days prior to each BCP.

There shall be a public information meeting. The Contractor's Superintendent and Contractor's Project Manager shall be available to attend. The Contractor shall be prepared to discuss the construction schedule with the public. The Public Outreach Coordinator shall be responsible for setting this meeting up and making appropriate contacts. This meeting shall be held a minimum of Seven (7) days prior to each BCP.

In addition, weekly meetings between the Contractor, Engineer, and other pertinent parties as determined by the Engineer shall be held to discuss the project progress and future construction activities, and current CPM progress schedules and narratives.

All Prefabricated Bridge Units (PBU) and prefabricated concrete elements shall be authorized for shipment prior to each BCP. The bridge shall remain open to traffic until the prefabricated elements are authorized for shipment.

(c) Identified Work. All work required to open the new Bridges to two-way traffic including:

(1) Johnson BF 0248(4), Bridge 1, Bridge 2.

- a. Wearing course of pavement placed,
- b. Permanent pavement markings,
- c. Permanent guardrail, and
- d. All detour signs removed or covered.

(2) Johnson BF 0248(7), Bridge 4.

- a. Wearing course of pavement placed,
- b. Permanent pavement markings,
- c. Permanent guardrail, and
- d. All detour signs removed or covered.

(d) Pay Schedule.

(1) Johnson BF 0248(4), Bridge 1, Bridge 2.

The Contractor will receive a lump sum compensation of forty-eight-thousand dollars (\$48,000) for completing the Identified Work before the end of the I/D period.

In addition, the Contractor will be compensated at a rate of four-hundred dollars (\$400.00) per hour that the Identified Work is completed prior to the end of the I/D period, up to a maximum total payment as specified herein. Only full hours where the new bridge is opened by 6:00 a.m. will count toward this extra incentive payment.

The maximum amount payable under the incentive clause shall be ninety-six-thousand dollars (\$96,000) (including the lump sum payment).

For each hour after the end of the I/D period that the Identified Work remains uncompleted, the Contractor will be assessed a disincentive at a rate of four-hundred dollars (\$400.00) per hour. The full hourly disincentive amount will be assessed for each hour that traffic is not allowed on the bridge for any portion of the hour. 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.

(2) Johnson BF 0248(7), Bridge 4.

The Contractor will receive a lump sum compensation of twenty-seven-thousand-three-hundred dollars (\$27,300) for completing the Identified Work before the end of the I/D period.

In addition, the Contractor will be compensated at a rate of four-hundred dollars (\$400.00) per hour that the Identified Work is completed prior to the end of the I/D period, up to a maximum total payment as specified herein. Only full hours where the new bridge is opened by 6:00 a.m. will count toward this extra incentive payment.

The maximum amount payable under this incentive clause shall be forty-six-thousand-five-hundred dollars (\$46,500) (including the lump sum payment).

For each hour after the end of the I/D period that the Identified Work remains uncompleted, the Contractor will be assessed a disincentive at a rate of four-hundred dollars (\$400.00) per hour. The full hourly disincentive amount will be assessed for each hour that traffic is not allowed on the bridge for any portion of the hour. 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.

- (e) 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.

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

18. NOTICE TO BIDDERS - REQUIREMENTS FOR NIGHTTIME WORK. The Contractor is hereby notified that night work will not be allowed during the bridge closure period for Johnson BF 0248(4), Bridge 1, Bridge 2, but it will be allowed during the bridge closure period for Johnson BF 0248(7), Bridge 4.

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.

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.

All costs associated with the lighting system will be considered incidental to Contract item 900.645 Special Provision (Traffic Control, All-Inclusive) BF0248(7)).

19. NOTICE TO BIDDERS - NIGHTTIME WORK RESTRICTIONS. No work will be allowed between the hours of 10:00 PM and 5:00 AM due to the Town of Johnson noise ordinance adopted under authority of 24 V.S.A 2291 (14) and 24 V.S.A. Chapter 59.

The Contractor is hereby notified that during the bridge closure period (BCP), no work shall be performed that creates a noise level exceeding 75 decibels. The decibel level shall be measured from the point of activity to the nearest occupied residence.

Construction activities expected to reach this noise threshold include pneumatic hammers, hoe-ram, and similar impact type equipment.

The Contractor shall provide the Engineer, for the duration of the nighttime work, with a sound level meter capable of measuring this noise criteria during the bridge closure period.

Sound level meters shall be Rion NL-20, CESVA SC-160, Extech 407780 or an approved equal capable of meeting IEC60651: 1979 Type 2 and IEC60804: 1985 Type 2 Standards.

The cost for providing this equipment and meeting the specified noise level criteria will not be paid for separately, but will be considered incidental to all other Contract items.

20. 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.
 - (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 1/4") galvanized square steel anchors. No sign posts shall extend over the top edge of signs installed on said posts.
 - (f) 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.
 - (g) 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 Chief Engineer.
21. 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.
22. ENVIROMENTAL.

Johnson BF 0248(4), Bridge 1, Bridge 2.

This project shall be subject to Avoidance and Minimization Measures to protect the habitat and hibernacula of the northern long-eared bat. Measures applicable to this project include, Time-of-Year (TOY) restrictions for any potential impacts to suitable bat habitat, which include, but are not limited to trees $\geq 3"$ and/or habitat features on bridge structures.

It is anticipated that the Contractor will be required to cut trees $\geq 3"$ in diameter and/or conduct bridge related activities within the identified project limits as part of the work. An acoustic survey of the project area resulted in no detected presence of the species. Therefore, tree cutting, and bridge related activities, within the project limits may occur without any TOY restrictions.

The Contractor is hereby made aware of the potential for TOY restrictions related to proposed Waste, Borrow and Staging areas. Cutting trees $\geq 3"$ in diameter outside of the contract project limits shall require review under Section 105.25 Control of Waste, Borrow, and Staging Areas.

Johnson BF 0248(7), Bridge 4.

This project shall be subject to Avoidance and Minimization Measures to protect the habitat and hibernacula of the northern long-eared bat. Measures applicable to this project include, Time-of-Year (TOY) restrictions for any potential impacts to suitable bat habitat, which include, but are not limited to trees $\geq 3"$ and/or habitat features on bridge structures.

It is anticipated that the Contractor will be required to cut trees $\geq 3"$ in diameter and conduct bridge related activities within the identified project limits as part of the work. An assessment of the project limits resulted in a finding of no suitable habitat. Therefore, tree cutting, and bridge related activities, within the project limits may occur without any TOY restrictions.

The Contractor is hereby made aware of the potential for TOY restrictions related to proposed Waste, Borrow and Staging areas. Cutting trees $\geq 3"$ in diameter outside of the contract project limits shall require review under Section 105.25 Control of Waste, Borrow, and Staging Areas.

23. UTILITIES.

Johnson BF 0248(4).

Existing aerial facilities owned by the Village of Johnson Water and Light Department, Comcast Communications and FairPoint Communications will be adjusted, as necessary, by employees or agents of the above companies in approximate accordance with the "Utility Relocation Layout" shown on the project plans.

Existing underground facilities, extending from the utility pole at plan station 17+03 RT to the utility pole at plan station 18+28 RT, which are owned by the Village of Johnson, Comcast Communications and FairPoint Communications will not require adjustment. The Contractor is cautioned to protect these facilities from damage.

Existing underground municipal sewer facilities owned by the Village of Johnson will not require adjustment. The Contractor is cautioned to protect these facilities from damage. Exploratory excavation may be necessary to protect these facilities from damage.

There is an existing private water line which crosses VT Route 100C at approximate plan station 13+90. The Contractor is cautioned to protect this water line from damage. Exploratory excavation may be necessary to protect this water line.

Contacts for these utilities are:

Village of Johnson		
Troy Dolan	(802) 635-2301	[(802) 730-2993 Cell]
Comcast Communications		
Bruce Bowser	(802) 255-1801 EXT 14	[(802) 316-9324 Cell]
FairPoint Communications		
John Pomeroy	(802) 295-8187	[(802) 735-7029 Cell]

Johnson BF 0248(7).

Existing aerial facilities owned by Vermont Electric Cooperative, Comcast Communications and FairPoint Communications will not require adjustment. The Contractor is cautioned to protect these facilities from damage.

Contacts for these utilities are:

Vermont Electric Cooperative
Chris Sheltra (802)730-1139 [(802)793-7252 Cell]

Comcast Communications
Bruce Bowser (802)255-1801 EXT 14 [(802)316-9324 Cell]

FairPoint Communications
John Pomeroy (802)295-8187 [(802)735-7029 Cell]

Johnson BF 0248(4) and BF 0248(7).

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, or their facilities.

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 shall be through Pay Item 204.22, "Trench Excavation of Earth, Exploratory."

Vermont Statutes Annotated, Title 30, Chapter 86 ("Dig Safe") requires notice to Dig Safe before starting excavation activities. The Contractor must telephone Dig Safe at 811 at least 48 hours (excluding Saturdays, Sundays and legal holidays) before, but not more than 30 days before, starting excavation activities at any location. In addition, before excavation and/or pavement grinding in or on the state highway right-of-way, the Contractor must contact the Agency's District Transportation Administrator to obtain/verify the location of Agency's underground utility facilities or to confirm the absence of such facilities.

The Contractor is advised that many towns are not members of Dig Safe. It is the Contractor's responsibility to check with the towns prior to excavation and it shall protect and restore any utilities damaged within the project limits as set forth in Subsection 107.13 PROTECTION AND RESTORATION OF UTILITIES AND SERVICES.

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.

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.

24. 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. Trucks or equipment stopped or parked shall be at least 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.

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.

25. SPECIAL CONSTRUCTION REQUIREMENTS.

- (a) Unless otherwise permitted in writing by the Engineer, and except as otherwise allowed under Special Provision No. 16 the Contractor shall not work during the holiday periods Memorial Day, July Fourth, Labor Day, Columbus 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 900.645 Special Provision (Traffic Control, All-Inclusive).
- (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>.
- (e) There are special events throughout the year that may require close communication and coordination between the Contractor and the municipality to reduce conflicts. The municipality will advise the Engineer and Contractor of the specifics of each event and the Engineer will direct the Contractor as to what actions, if any, may be necessary on the Contractor's part to minimize impacts to the event. The event schedule is as follows:

Event	Date
Lamoille County Field Days (add days for setup and removal of equipment)	July 27-29, 2018 (See Special Provision #4)

Contacts to get more information on the above events:

Municipal Office Building

Hours: Mon-Friday; 7:30-4:00 Phone: (802) 635-2611 Fax: 635-2393

293 Lower Main West, P.O. Box 383 (mailing address)
Johnson, VT 05656

Town Administrator

Brian Story (802) 635-2611 ext. 308
tojadministrator@townofjohnson.com

Village Manager

Meredith Birkett (802) 635-2611 ext. 311
vojmanager@townofjohnson.com

Special events that may conflict with Contractor operations are not limited to that listed above. There will be no extra compensation paid to the Contractor for any inconvenience caused by working around these or other event(s).

ASPHALT PRICE ADJUSTMENT

- 26. 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.
- 27. 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 \$ 420.00 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) and item 900.680 Special Provision (Bituminous Concrete Pavement, Type IVB) 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 652 - EROSION PREVENTION & SEDIMENT CONTROL PLAN

28. SECTION 652 - EROSION PREVENTION & SEDIMENT CONTROL PLAN, is hereby made a new Section of the Specifications as follows:

29. 652.01 DESCRIPTION. This work shall consist of designing, furnishing, and submitting for acceptance modifications to the Contract Erosion Prevention & Sediment Control Plan (here into 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.

30. 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.

31. 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."

32. 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 900.620 Special Provision(CPM Schedule).

33. 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.

34. 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 15th to April 15th, 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.

35. 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.

36. 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.

37. 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 (BF0248(4))	Lump Sum
652.20 Monitoring EPSC Plan (BF0248(4))	Hour
652.30 Maintenance of EPSC (N.A.B.I.) (BF0248(4))	Lump Unit
652.10 EPSC Plan (BF0248(7))	Lump Sum
652.20 Monitoring EPSC Plan (BF0248(7))	Hour
652.30 Maintenance of EPSC (N.A.B.I.) (BF0248(7))	Lump Unit

SECTION 690 - FUEL PRICE ADJUSTMENT

38. 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.
39. SECTION 690 - FUEL PRICE ADJUSTMENT, is hereby made a new Section of the Specifications as follows:
40. 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. In such cases that estimated quantities are used to determine estimated fuel price adjustments throughout the duration of the Contract, reconciliation of those estimated adjustments will be made upon the determination of actual final quantities and final adjustments to the total final quantity made by prorating those estimated adjustments over the applicable fuel price adjustment periods previously paid. Reconciliation of any fuel price adjustment will only be performed in those instances where the actual final quantity differs by more than five percent from the total estimated quantity. Payments owed to either the Contractor or VTrans will not be subject to any applicable interest claims.

41. 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 first 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 \$2.74 per gallon. The index price (retail) for diesel fuel is \$2.72 per gallon. (Found on Contract Admin website - updated monthly: <http://vtrans.vermont.gov/contract-admin/construction>)

- (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.
- (c) 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.

- (d) 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)
FUEG = Fuel Usage Factor, Gasoline (gallon/unit)

For $PPD/IPD \leq 0.95$ or ≥ 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 ≥ 1.05 :
 $PA = FUEG \times \text{Pay Item Quantity} \times (PPG - IPG)$

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

- (e) 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.
- (f) 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:

Pay Item

690.50 Price Adjustment, Fuel (N.A.B.I.)

Pay Unit

Lump Unit

Table 1
Pay Item Fuel Usage Factors and Quantity Thresholds

Work Category	Pay Item No.	Usage Factor Units	Diesel Fuel (FUF D)	Gasoline (FUF G)	Quantity Threshold
		English	English	English	English
Excavation	203.15	GAL/CY	0.29	0.15	3,000
	203.16	GAL/CY	0.39	0.18	2,500
	204.25	GAL/CY	0.35	0.16	2,500
	208.3	GAL/CY	0.35	0.16	2,000
	208.35	GAL/CY	0.39	0.18	2,000
Borrow	203.3	GAL/CY	0.29	0.15	3,000
	203.31	GAL/CY	0.29	0.15	3,000
	203.32	GAL/CY	0.29	0.15	3,000
Granular Backfill For Structures	204.3	GAL/CY	1	0.16	1,500
Cold Planing, Bituminous Pavement	210.1	GAL/SY	0.12	0	15,000
Subbase	301.25	GAL/CY	0.85	0.56	1,000
	301.35	GAL/CY	0.85	0.56	1,000
Reclaimed Stabilized Base	310.2	GAL/SY	0.04	0	35,000
Pavement	406.25	GAL/TON	3.06	0.86	500
	406.27	GAL/TON	3.06	0.86	500
	490.3	GAL/TON	3.06	0.86	500
Cold Mixed Recycled Bituminous Pavement, Portland Cement	900.675	GAL/SY	0.96	0.75	1
Hand-Placed Bituminous Concrete Material, Drives	900.675	GAL/SY	3.06	0.86	500
Bituminous Concrete Pavement, Small Quantity	900.680	GAL/TON	3.06	0.86	500
Material Transfer Vehicle	900.680	GAL/TON	0.1	0	1
Concrete	501.32	GAL/CY	0.75	0.25	1,000
	501.33	GAL/CY	0.75	0.25	1,000
	501.34	GAL/CY	0.75	0.25	1,000
Stone Fill	613.1	GAL/CY	0.39	0.18	2,000
	613.11	GAL/CY	0.39	0.18	2,000
	613.12	GAL/CY	0.39	0.18	2,000
	613.13	GAL/CY	0.39	0.18	2,000
Guardrail	621.2	GAL/LF	0.18	0.05	5,000
	621.205	GAL/LF	0.18	0.05	5,000
	621.21	GAL/LF	0.18	0.05	5,000
	621.215	GAL/LF	0.18	0.05	5,000

SECTION 900 - SPECIAL PROVISION ITEMS

E-STONE TYPE E4

42. DESCRIPTION. This work shall consist of furnishing and placing stone fill material inside of, as well as upstream and/or downstream of, a structure to facilitate aquatic organism passage and mimic the native channel
43. MATERIAL. Stone Fill shall be approved, hard, blasted, angular rock other than serpentine rock containing the fibrous variety chrysotile (asbestos) supplemented with material excavated from the channel and/or the tailings of a topsoil screening operation, with gradation adjusted to conform to the following:

Type E1. The longest dimension of the stone shall be at least eighteen (18) inches, and at least fifty (50) percent of the volume of the stone in place shall have a least dimension of twelve (12) inches, and at least twenty five (25) percent of the particles shall have a maximum dimension of two (2) inches and be well graded material.

Type E2. The longest dimension of the stone shall be at least twenty four (24) inches, and at least fifty (50) percent of the volume of the stone in place shall have a least dimension of eighteen (18) inches, and at least twenty five (25) percent of the particles shall have a maximum dimension of two (2) inches and be well graded material.

Type E3. The longest dimension of the stone shall be at least thirty six (36) inches, and at least fifty (50) percent of the volume of the stone in place shall have a least dimension of twenty four (24) inches, and at least twenty five (25) percent of the particles shall have a maximum dimension of two (2) inches and be well graded material.

Type E4. The longest dimension of the stone shall be at least forty eight (48) inches, and at least fifty (50) percent of the volume of the stone in place shall have a least dimension of thirty six (36) inches, and at least twenty five (25) percent of the particles shall have a maximum dimension of two (2) inches and be well graded material.

Bed material shall be approved by the Engineer and the Agency of Natural Resources prior to use.

44. PLACING. Stone fill shall be placed at as shown in the Plans. Place the stone such that it does not cause segregation or damage to the structure. Fill in voids in the stone with a mixture of fines from the existing stream bed material. Fill voids by hand tamping with metal tamping rods, plate compactors, and water pressure with a metal wand to reach between stones.

Once all material has been placed in the stream channel, the Contractor shall slowly wet the stream to minimize the effects of the initial sediment pulse. Every attempt shall be made to minimize the movement of sediment downstream of the site.

There shall be no subsurface flow upon final inspection.

45. METHOD OF MEASUREMENT. The quantity of Special Provision (E-Stone Type E2) to be measured for payment will be the number of cubic yards installed in the complete and accepted work, measured within the limits shown on the Plans or as directed by the Engineer.
46. BASIS OF PAYMENT. The accepted quantity of Special Provision (E-Stone Type E2) will be paid for at the Contract unit price per cubic yard. Payment will be full compensation for furnishing, transporting, 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>
900.608 Special Provision (E-Stone Type E4)	Cubic Yard

HIGH PERFORMANCE CONCRETE, RAPID SET

47. DESCRIPTION. This work shall consist of designing, furnishing, and placing a high early strength, 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.

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

High Early Strength Portland Cement.....701.04

49. MIX DESIGN SUBMISSION CRITERIA. Concrete shall meet the following requirements:

(a) The mix shall be classified as conventional or self-consolidating concrete (SCC) mix. If the intended slump is greater than 9" then it shall be classified as an SCC mix.

(b) Compressive Strength.

28 day compressive strength - 5000 psi

(c) 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.

(d) Air Content. 7 ± 1.5%.

(e) Slump/Spread. The mix shall not exhibit segregation at the slump /spread being used.

(1) For SCC mix the Visual Stability Index (VSI) shall be equal to or less than 1.

- (2) Spread range will be established for the initial submittal of mix for approval. The J-Ring Test will be conducted per ASTM C1621. The upper and lower ranges of the spread shall not have a difference of greater than 2 inches between the J-Ring and spread test or VSI greater than 1. Spread test, ASTM C1611, will be done for the production mix only, unless the Engineer requests J-Ring testing to be done.
 - (f) Alkali-Silica Reactivity (ASR). Test shall be performed in accordance with Subsections 510.04(b)(6)g and 510.04(b)(7).
 - (g) The mix may contain shrinkage-compensating admixture 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 by procedure 11.1.2 and readings for a minimum of 28 days after the curing period is complete. The maximum shrinkage allowed shall be 0.04%. Testing shall be performed by an independent lab that is CCRL accredited in AASHTO T 30 or ASTM C 1260.
 - (h) A proprietary concrete mix design meeting the same performance requirements may also be considered for use.
50. 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 Laboratory, attention Composite Materials Engineer. Concrete under this provision shall not be placed until the mix design has been approved.
- (a) Trial Batch. Twenty-one (21) to seven (7) calendar days prior to the first placement, the Contractor shall produce and place a 2 cubic yard trial batch, at a location agreed upon by the Contractor and the Engineer. The purpose of this trial batch is to demonstrate that the mix is capable of producing the wet test results within the specified ranges. The Engineer shall be given a minimum notice of seven (7) calendar days prior to the trial batch pour. The trial batch shall be poured in the presence of the Engineer and the Composite Materials Engineer. The trial batch shall be produced and poured in the same manner, estimated concrete temperature, and time frames that will occur during construction. The slump/spread shall be within +/- 2 inches for conventional mix or +/- 3 inches for SCC, but still be within the established range limits for conventional or SCC. J-Ring test will be done for SCC mix with the difference between the J-Ring and spread test not greater than 2 inches. The Contractor shall provide qualified personnel to test spread, air content, and temperature of the trial batch. A trial batch will be required for each mix design used on the project.

If SCC will be used in work with a sloped finished surface, the Contractor shall produce a mock-up during the trial batch to demonstrate that the mix can be finished with the sloped surface.

- (b) Mix Acceptance Criteria. The placed concrete will be tested for all mix design criteria as specified herein, with the exception of permeability, shrinkage, and ASR. The Contractor may test the load in accordance with 501.06(a)(2) for initial QC in order to make any needed adjustments. The sample shall be taken in accordance with AASHTO R-60 or ASTM C172. If the test results fall outside of the specified ranges for the tested criteria, the mix shall be subject to rejection.
51. CURING CONCRETE. The method of wet curing used shall meet the requirements of Subsection 501.17. Concrete shall be wet cured until it has reached the minimum compressive strength as specified in the contract documents, verified by testing of field cylinders.
52. 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, until curing is complete as specified in the contract documents.

A portable compression testing machine calibrated in accordance with Section 5 of ASTM C 39 shall be provided by the Contractor and available on-site for cylinder testing of field-cured cylinders for construction progress. There shall also be a hand held grinding stone included with the compression testing machine. The hand held grinding stone will be used to grind the top of the cylinders to relieve any sharp projections on the cylinder surface. All testing and equipment shall conform to ASTM C 39. Testing shall be performed, and equipment operated by, a qualified Agency project individual(s). The individual(s) shall be trained in the operation of the machine by the owner or representative of the machine who is proficient in the operations and functions of the machine.

If an independent lab is proposed to be used to test the field-cured cylinders instead of a portable compression testing machine, the Contractor shall submit documentation providing verification for the following:

- (a) Calibration of the compression machine in accordance with Section 5 of ASTM C 39.
- (b) Compression machine meets the requirements of ASTM C 39..
- (c) Proficiency of the technician who will be performing the test methods.

The State at any time reserves the right to perform an independent proficiency of the technician for the test methods used and review of the testing facility.

53. METHOD OF MEASUREMENT. The quantity of Special Provision (High Performance Concrete, Rapid Set) to be measured for payment will be the number of 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 1 ½ inches or less in depth, or any pipe less than 8 inches in diameter.

54. 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 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

INCENTIVE/DISINCENTIVE (I/D)

55. INCENTIVE/DISINCENTIVE (I/D), is hereby made a new Section of the Specifications as follows:

To provide a common proposal for all bidders and expedite the incentive payment process, the Agency has entered an amount of ninety-six-thousand (\$96,000) dollars in the proposal for Johnson BF0248(4), Bridge 1 and 2 and an amount of forty-six-thousand-five-hundred (\$46,500) in the proposal for Johnson BF 0248(7), Bridge 4 to become part of the Contractor's total bid. The dollars amounts entered by the Agency are the maximum amount payable under the incentive clause but the actual payment/deduction will be computed and paid/deducted per this special provision and the stipulations of Special Provision No 15.

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

- (a) The quantity of incentive to be paid will be the accepted quantity of incentive computed per the provisions of the special provision No 16. For the incentive payment as described in part (d) of Special Provision No. 16, the Contractor will be paid in the next bi-weekly estimate in which the Contractor has satisfactorily met the requirements of I/D.

- (b) The quantity of disincentive to be deducted will be the quantity of disincentive computed per the provisions of the special provision No 16. For the assessed disincentive as described in part (d) of Special Provision No. 16, 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>
900.615 Special Provision (Incentive/Disincentive) (N.A.B.I.) (BF 0248 (4))	Dollar
900.615 Special Provision (Incentive/Disincentive) (N.A.B.I.) (BF 0248 (7))	Dollar

CRITICAL PATH METHOD (CPM) SCHEDULE

56. DESCRIPTION. This work shall consist of developing and furnishing a CPM Schedule, including narratives, updates, and revisions for the duration of the Contract.

These provisions shall supersede Subsection 108.03(a) of the Standard Specifications.

57. SUBMISSIONS.

- (a) The Contractor is responsible for the scheduling of all Contract work, which shall include, but is not limited to subcontracted work, complete and acceptable submissions, work component fabrications, and delivery of materials. The schedule shall include allowance for time for all aspects of the work including sufficient time for VTrans to perform its functions as indicated in the Contract, including but not limited to acceptance inspection and/or testing, and review and acceptance/approval of any required Working Drawings as defined in Section 105 or otherwise in the Contract Documents.
- (b) Provide the following items with each schedule submission. The schedule shall be prepared with MS Project.
- (1) An electronic copy in MS Project format with run date and version of the schedule;
 - (2) A PDF illustrated in color, depicting no more than 50 activities on each 11 by 17 in. sheet, and with each sheet including title, project name and number, match data for diagram correlation, and a key;
 - (3) A four-week look-ahead narrative to provide a more detailed plan of upcoming work highlighting the near term priorities. Indicate the anticipated workdays per week, number of shifts per day, number of hours per shift, crew sizes, and assumed resources. If the project requires a road closure, identify any changes in anticipated resources, or work schedule during the closure period.

(c) The CPM schedule shall include the following:

- (1) Activities that describe the essential features of the work, activities that might delay Contract completion, and which activities are on the critical path;
- (2) The planned start and completion dates for each activity and the duration of each activity stated in work days (field activities of more than 15 work days in duration shall be broken into two or more activities distinguished by location or some other logical feature); this estimated figure shall include considerations for permit limitations, seasonal limitations, and any other anticipated delays.
- (3) When the project contains a defined Road or Bridge Closure Period of a minimum of 24 hours and up to a maximum of 28 days, the duration for work within the closure period shall be shown in hours instead of days. The maximum duration of each activity within the closure period shall be limited to twelve (12) hours;
- (4) Finish-to-Start relationships among activities, without leads or lags unless justified in the narrative, and approved by the Engineer;
- (5) Distinct columns showing Predecessors, Successors, Duration, Actual Start, and Actual Finish for each Activity;
- (6) Project suspension or work inactivity that is three (3) days or longer;
- (7) Dates related to the procurement of materials, equipment, and articles of special manufacture;
- (8) Dates related to the submission of Working Drawings, plans, and other data specified for review or approval by the Agency;
- (9) Key milestone dates specified in the Contract including but not limited to; Notice to Proceed, Interim Completion, Permit Restriction Dates, and Contract Completion Date. These shall be the only constraints in the schedule logic;
- (10) Activities related to Agency or Third Party reviews and inspections.

(d) For contracts with an original Contract amount in excess of \$8,000,000.00 the following additional information shall be shown on the CPM schedule:

- (1) Each Contract bid item identified with at least one activity, except:

Lump Sum items, Lump Unit items, Contract items paid by the "Hour", Contract items paid by the "Dollar", Section 641 pay items, and Section 653 pay items.
- (2) Each compensable activity shall identify the applicable Contract item(s), along with the total quantity intended to be placed during that activity.

58. BASELINE SCHEDULE. The CPM Schedule submittal shall be received by the Engineer a minimum of seven (7) calendar days prior to the preconstruction meeting. The Engineer and Contractor may review the schedule at the preconstruction meeting. Any requested information and a revised schedule shall be submitted within seven (7) calendar days after receiving the Engineer's request. The Engineer shall be allowed twenty-one (21) calendar days to review the schedule and provide a response. The Engineer will review the schedule by assessing the schedule's compliance with these provisions and conformance with the Contract requirements. By accepting the schedule, the Engineer does not modify the Contract in any way. The Baseline Schedule shall be accepted before any field work begins. The accepted schedule will be used as the Baseline Schedule for the remainder of the project.

The schedule shall define and sequence activities so as to accurately describe the project and to meet Contract requirements for scope of work, phasing, accommodations for traffic, and interim, and project completion dates. Create the schedule, beginning with the date of the Notice to Proceed.

59. SCHEDULE UPDATES. The schedule shall be updated during active construction at the end of every other bi-weekly estimate period (update period) and when directed by the Engineer. Projects with short duration road closures 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 these periods. The Engineer shall be allowed ten (10) calendar days to review the update for compliance with these provisions and provide a response. Include the following with each update:

- (a) Actual start dates of each activity started;
- (b) Actual finish dates of each activity finished, or remaining durations of activities started but not yet completed;
- (c) Narrative report describing progress during the update period, shifts in the critical activities from the previous update, sources of delay, potential problem areas, work planned for the next update period, and changes made to the schedule. Changes include additions, deletions, or revisions to activities due to the issuance of a Contract revision, changes to an activity duration, changes to relationships between activities, or changes to the planned sequence of work or the method and manner of its performance.
- (d) The Original schedule shall be shown as a Baseline

60. REVISIONS. Schedule revisions shall be submitted within ten (10) calendar days after any of the following:

- (a) A written request to revise the schedule from the Engineer;
- (b) A delay (actual or projected) to scheduled milestones or project completion dates;

- (c) When actual progress falls behind the most recent schedule accepted by the Engineer, either by falling more than two (2) weeks behind schedule or by 5% of the total Contract time, the Contractor shall immediately inform the Engineer in writing. The Engineer may require the Contractor to submit a revised schedule. Neither the Engineer's acceptance of such revised schedule nor any Agency feedback regarding the revised schedule shall be construed as an approval of the revised schedule, nor should it be construed as the Agency's dictation of the Contractor's means and methods;
- (d) Issuance of a Change Order/Supplemental Agreement(s) that by adding, deleting, or revising activities, changes the planned sequence of work or the method and manner of its performance;
- (e) Issuance of a Change Order/Supplemental Agreement(s) that adds time to the Contract;
- (f) The Contractor shall participate in progress meetings at the request of the Engineer to review and discuss the updated schedule information including any activity delay, coordination requirements, change orders, potential delays, and other relevant issues.

The Engineer shall review the revised schedule for compliance with these provisions, and provide a response within ten (10) calendar days.

- 61. FLOAT. Any float in the schedule is to be credited to the project only.
- 62. FAILURE TO SUBMIT SCHEDULE. Failure to submit a schedule (i.e. original baseline schedule, required updates, revisions, and when requested by the Engineer) in accordance with these provisions may be grounds for suspension of partial payments, as identified in Subsection 109.08, until a satisfactory schedule meeting the requirements of these provisions is received by the Engineer.
- 63. METHOD OF MEASUREMENT. The quantity of Special Provision (CPM Schedule) to be measured for payment will be the number of each CPM Schedule (i.e. original baseline schedule, required updates, revisions, and when requested by the Engineer), accepted by the Engineer through the duration of the Contract.
- 64. BASIS OF PAYMENT. The accepted quantity of Special Provision (CPM Schedule) will be paid for at the Contract unit price for each. Payment will be full compensation for preparing and submitting a schedule as 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 (CPM Schedule)	Each

PREFABRICATED BRIDGE UNIT SUPERSTRUCTURE

65. DESCRIPTION. This work shall consist of manufacturing, transporting, and erecting concrete/steel composite prefabricated bridge units (PBU's) as shown on the Plans.

The work under this Section shall be performed in accordance with these provisions, the Plans, and Sections 501, 506, 507, and 508 of the Standard Specifications.

66. MATERIALS. Materials shall meet the requirements of Subsections 501.02, 506.02, 507.02, 508.02, and the following:

Concrete Repair Material.....780.01-780.04

67. GENERAL FABRICATION REQUIREMENTS. The structural steel furnished under this Section shall be fabricated in a plant meeting the requirements of Subsection 506.03. After fabrication, the structural steel shall be transported to a location, approved by the Agency where the steel will be shop galvanized/metallized/painted, or where the remainder of the composite superstructure unit shall be fabricated.

The Fabricator or Contractor constructing the reinforced concrete portion of the PBU's shall:

- (a) have demonstrated experience in forming, casting, curing, and finishing High Performance Concrete superstructure decks in accordance with Section 501;
68. SUBMITTALS. As soon as practical after award of the Contract, all required information shall be prepared by the Contractor or Fabricator(s). All information shall be submitted by the Contractor as a single complete submittal. Submittals shall be in accordance with Subsection 105.03 and shall include the following:
- (a) Structural Steel. In accordance with Subsection 506.04.
 - (b) Concrete. In accordance with Subsection 540.04, with the exception that when the PBU's have been designed by the Agency and no modifications to that design are being made by the Fabricator or Contractor, no structural design calculations are required.
 - (c) Reinforcing Steel. In accordance with Subsection 507.03.
 - (d) Temporary Assembly Plan and Procedure.
 - (e) Temporary Support Elevations.
 - (f) Method of Supporting the Screed.
 - (g) Design of Lifting Attachments.
 - (h) Shipping/Installation Procedures.

69. INSPECTION. Structural steel shall be inspected by the Agency in accordance with Subsection 106.04 and Section 506.

Concrete elements furnished and the work performed herein shall be inspected by the Agency. The inspector shall have the authority to reject any material or work that does not meet the requirements of these Specifications. Advance notification of at least two (2) weeks must be provided by the Contractor to the Agency's Engineer and the Structural Concrete Engineer concerning the proposed intention to commence work. A minimum of five (5) working days notification must be provided to the Structural Concrete Engineer by the Contractor to confirm the fabrication start date.

Prior to placing any concrete elements produced under these Specifications, all materials shall have all applicable certifications approved in accordance with Subsection 700.02.

70. FABRICATION.

- (a) Forming Members. Forms and formwork shall meet the requirements of subsection 501.09. Relative bearing elevations shall be within $\pm 0.01'$ of that shown on the Plans.
- (b) Structural Steel. Structural steel shall be fabricated in conformance with Section 506. All diaphragms shown on the Plans shall be installed prior to placing any concrete formwork.
- (c) Welding. All welding shall conform to the requirements of Subsection 506.10.
- (d) Reinforcing Steel. Bar reinforcement shall be furnished and installed in conformance with Section 507.
- (e) Concrete. Concrete mix and proportioning shall meet the requirements of Subsection 501.03 for Concrete, High Performance Class A. Concrete shall be produced and tested in accordance with Subsections 501.04 through 501.07.
- (f) Pre-Production Meeting. Unless the Engineer deems, in writing, that a pre-production meeting is unnecessary, then a pre-production meeting shall be held a minimum of seven (7) calendar days prior to beginning concrete placement. The pre-production meeting shall be attended by, and including but not limited to, the Crew Supervisor, Contractor Project Manager, Concrete Producer, Resident Engineer, Construction Structures Engineer, and Design Project Manager and/or Designer.
- (g) Placing Concrete. Concrete placement shall conform to the requirements of Subsection 501.10.

Concrete shall not be deposited in the forms until the Agency representative has approved placement of the reinforcement and inserts. The concrete shall be vibrated internally, externally, or a combination thereof to the required consolidation. The vibrating shall be done with care and in such a manner that:

- (1) Concrete is uniformly consolidated.

- (2) Displacement of reinforcement and inserts is avoided.
- (3) Acceptable finish surfaces are produced.
- (h) Curing. Curing shall meet the requirements of Subsection 501.17.
- (i) Removal of Forms. Forms shall not be removed until the curing period has ended.
- (j) Concrete Finishing. Finishing shall conform to the requirements of Subsection 501.16.
- (k) Dimensional Tolerances.
 - (1) Geometry of PBU.
 - a. Length (Each Unit). $\pm 3/4"$ (Adjacent unit lengths shall not vary by more than $3/4"$)
 - b. Width. $\pm 3/8"$
 - c. Deck Thickness. $+ 3/8"$, $- 1/4"$
 - d. Deviation from Diagonals. $\pm 3/4"$ (horizontal)
 - e. Deviation from End Squareness or Skew. $\pm 3/4"$ (horizontal)
 - f. Girder Spacing. $\pm 1/2"$ (within a unit)
 - g. Horizontal Alignment. $\pm 3/8"$ (Deviation from straight line parallel to the centerline of the unit)
 - h. Insert Location. $\pm 3/8"$
 - (2) Reinforcing.
 - a. Spacing. $\pm 1"$ (non-cumulative)
 - b. Cover (Top and Bottom Mat). $\pm 1/4"$
 - (3) Field Installation.
 - a. Vertical deviation between units prior to closure pour concrete placement shall not exceed $1/4"$.
 - b. Deviation in joint width between units shall be $\pm 1/2"$.
- (1) Acceptance of Units. Individual precast units will not be accepted for any of the following reasons:
 - (1) Fractures or cracks passing through the deck.
 - (2) Camber that does not meet the requirements in the approved Fabrication Drawings.
 - (3) Honeycombed open texture.
 - (4) Dimensions not within the allowable tolerances as specified.

- (5) Separation of the concrete deck from the steel girders.
 - (6) Defects that indicate proportioning, mixing, and molding not in compliance with the Specifications.
 - (7) Damaged ends where such damage would prevent making a satisfactory joint.
 - (8) Units with crack(s) within any part of the concrete that is/are greater than 0.03" in width.
 - (9) Significant damage to the units during transportation, erection, or construction as determined by the Engineer.
 - (10) Units not fabricated in accordance with the Contract Documents.
- (m) Repairing/Patching. Units that contain minor defects caused by manufacture or handling may be repaired at the manufacturing site. Repair procedures shall be in accordance with the approved Quality Control Plan and require approval by the Engineer. 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 5/8 inch in diameter and less than 1/4 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. The Engineer shall approve final repairs.
- (n) Cracking. Crack widths less than 0.01" shall be sealed with a penetrating sealer using Agency approved materials and procedures. Crack widths measuring 0.01" to 0.03" shall be epoxy injected using Agency approved materials and procedures. At the Engineer's discretion, cracked members shall be repaired or replaced at the Contractor's expense.
- (o) Labeling. Each unit shall be clearly and permanently labeled on the underside of the deck (in the vicinity of the upstation end diaphragm) with the following information:
- (1) Manufacturer
 - (2) Date of Manufacture
 - (3) Mark Number
- (p) Production Site Handling. Units shall not be lifted, moved, or otherwise disturbed until the concrete has reached full design strength.
- (q) Pre-Assembly. The units shall be pre-assembled at the fabrication location to assure proper match between adjacent units before shipping to the project site, to the satisfaction of the Agency.

- (r) Shipping. Units shall not be shipped until the minimum 28-day strength is attained and they have been stamped by the Agency. A 48-hour advance notice of the loading and shipping schedule shall be provided. The units shall be secured on the vehicle in order that no fatigue cracking will occur during transport. The Contractor shall secure the necessary hauling permits.

71. HANDLING. Handling shall be performed in accordance with Subsection 540.09.

72. INSTALLATION.

- (a) General. The PBU's shall be fabricated in accordance with the applicable Sections of the specifications and/or the Special Provisions for each respective item. Construction procedures and permissible variations other than those contained herein shall be submitted for approval.

- (b) Erection Plan. Cranes, lifting devices, and other equipment for erecting PBU superstructure shall be of adequate design and capacity to safely erect, align, and secure all members and components in their final positions without damage. The Contractor is solely responsible for the methods and equipment employed for the erection of the precast concrete/steel composite superstructure units.

The Contractor shall submit Construction Drawings in accordance with Section 105 for the methods and sequence of precast concrete/steel composite superstructure unit erection, the temporary bracing, and the equipment to be used for the erection. The erection plan shall include the necessary computations to indicate the magnitude of stress in the segments during erection and to demonstrate that all of the erection equipment has adequate capacity for the work to be performed. The erection plan shall contain provisions for all stages of construction, including temporary stoppages.

The PBU's may be used to support equipment prior to placement of the closure pour concrete only with written permission of the Engineer. The proposed use of the precast concrete/steel composite superstructure units for support of equipment shall be detailed in the erection plan.

Submittal of the erection plan is for the Agency's information only, and shall in no way be construed as approval of the proposed method of erection. Unless otherwise directed by the Engineer, the Contractor shall follow the erection plan as submitted.

- (c) Erection of Units. Erection of units shall not proceed until substructure concrete has been cured for the minimum length of time specified in the Plans or appropriate Specifications. Units shall be installed to the correct line and grade as shown on the approved drawings and as indicated in the approved erection procedure. Prior to setting units and to avoid torsion stresses, bearing elevations within a given PBU shall be adjusted to match relative elevations used during the deck casting operations. After all the units are erected, they shall be inspected to ensure the correctness of their location.

- (d) Matching Elevation of Units During Erection. Adjacent units shall match elevation within 1/4 inch vertically (along longitudinal edges) and 1/4 inch vertically at the end of units.
 - (e) Filling and Sealing Longitudinal Joints. Prior to placement of closure pour concrete or grout material, the surface of the joint shall be free of any material, such as oil, grease, or dirt, which may prevent bonding of the sealing materials.
 - (f) Sealing of Lifting Holes. After the units are in their final locations, a bonding agent shall be applied and the lifting holes filled with a Mortar, Type IV. A removable form shall be provided at the bottom surface of the deck to retain the grout.
 - (g) Loading. Units may be loaded upon erection and before the joints are sealed only with written permission of the Engineer and in accordance with the approved erection procedure. Once the joints are sealed, no further loading or unloading of the units will be allowed until joint material has properly and finally cured and as approved by the Engineer.
 - (h) Final Repairs. After the installation work is complete, remaining concrete defects, holes for inserts, and lifting holes shall be repaired as indicated and approved by the Engineer.
 - (i) Grout. Grout shall be placed in accordance with the requirements of Subsection 540.11.
73. METHOD OF MEASUREMENT. The quantity of Special Provision (Prefabricated Bridge Unit Superstructure) to be measured for payment will be the number of Linear Foot installed in the complete and accepted work. Measurement shall be the end to end length of the girder along centerline.
74. BASIS OF PAYMENT. The accepted quantity of Special Provision (Prefabricated Bridge Unit Superstructure) will be paid for at the Contract unit price per Linear Foot. Payment will be full compensation for detailing, fabricating, repairing, quality control testing, transporting, handling, and installing the materials specified, including concrete, reinforcing steel, structural steel, shear studs, connectors, and shims; for designing and installing lift brackets and any other material contained within or attached to the members; for any grouting work required; for furnishing and implementing the erection plan; 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>
900.640 Special Provision (Prefabricated Bridge Unit Superstructure) (FPQ)	Linear Foot

PRESTRESSED CONCRETE SOLID SLABS

75. 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.

76. DESIGN AND DRAWINGS. All design details shall be in accordance with the most recent edition of the VTrans Structures Design Manual available on the Agency's website, the AASHTO LRFD Bridge Design Specifications, and the AASHTO LRFD Bridge Construction Specifications.
77. METHOD OF MEASUREMENT. The quantity of Special Provision (Prestressed Concrete Solid Slabs) to be measured for payment will be the number of linear feet of the specified type used in the complete and accepted work.
78. BASIS OF PAYMENT. The accepted quantity of Special Provision (Prestressed Concrete Solid Slabs) will be paid for at the Contract unit price per 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 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 Solid Slabs).

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
900.640 Special Provision (Prestressed Concrete Solid Slabs) (15" x 36") (FPQ)	Linear Foot
900.640 Special Provision (Prestressed Concrete Solid Slabs) (15" x 48") (FPQ)	Linear Foot

CONTRACTOR-FABRICATED PRECAST CONCRETE STRUCTURE

79. DESCRIPTION. This work shall consist of manufacturing, transporting, handling, and erecting precast concrete structure components fabricated by the Contractor at a location other than a Precast Concrete Institute (PCI) or National Precast Concrete Association (NPCA) certified precast concrete facility.
80. MATERIALS. Materials shall meet the requirements of Subsections 501.02, 507.02, and 540.02.
- (a) Concrete. Concrete shall meet the requirements of Subsection 540.05, with the exception that the requirements of part (a) do not apply. In lieu of a mix meeting the requirements of Subsection 540.05, the Contractor may provide a mix meeting the requirements of Section 501 for Concrete, High Performance Class A or Concrete, High Performance Class B, provided that the design strength as shown in the Plans as well as that required for lifting and handling is met.
81. GENERAL FABRICATION REQUIREMENTS. Unless noted otherwise herein, Contractor-fabricated Precast Concrete (CFPC) produced and paid under this Special Provision shall meet the requirements of Sections 501, 507, and 540.

82. SUBMITTALS. As soon as practical after award of the Contract, all required information shall be prepared and submitted. Fabrication drawings, mix designs, and erection plans shall be submitted as separate submittals.

If the contractor proposes a different configuration than what is provided in the contract plans then a complete copy of the structural design calculations for the CFPC shall be submitted accompanying / with Construction Drawings in accordance with Section 105. The design calculations shall substantiate that the proposed precast concrete satisfies the design parameters of the Contract. The applicable design code will be the latest edition of the AASHTO LRFD Bridge Design Specifications unless indicated otherwise in the Contract Documents.

Fabrication Drawings for the precast concrete shall be submitted in accordance with Section 105, with an additional copy to the Composite Materials Engineer. In addition to the requirements for Fabrication Drawings in Section 105, the following shall be included:

- (a) Dimensions and tolerances of the precast concrete to be fabricated.
- (b) The concrete mix design, including but not limited to the following:
 - (1) Batch weights specifying dry or saturated surface dry.
 - (2) Material names and sources.
 - (3) Aggregate properties and date tested.
 - (4) Chemical and physical properties of cementitious material.
 - (5) Admixture names and sources.
 - (6) Lab data that shall include, but not be limited to:
 - a. Slump.
 - b. Air Content.
 - c. Temperature.
 - d. Ratio of Water/Cementitious Material.
 - e. Cylinder breaks for 28 days standard cured.
 - f. 56-day Rapid Chloride Ion Permeability - AASHTO T 277 test data. The results shall be the average from testing 3 specimens, but the individual specimen results shall also be included. Testing shall be performed by an independent laboratory accredited by AMRL in this test method.
 - g. Alkali-Silica Reactivity (ASR) - AASHTO T 303 data from testing of both the fine and coarse aggregates. Testing shall be performed by an independent laboratory accredited by AMRL in this test method.

- (7) Alkali-Silica Reactivity (ASR). If potentially reactive aggregates are to be used in a mix design, then proposed mitigation method(s) and test results must be provided. The AASHTO T 303 test must be run again with the proposed mitigation method(s) and using the proposed job cementitious material proportioning. The proposed mitigation method(s) shall reduce expansion to below 0.10%.

If a mix design, including the testing results, has been submitted and approved within a 12 month period, it may be used in lieu of submitting an additional mix design. However, if any change in the material sources, properties, or proportions has occurred, then a new mix design with lab test data will be required regardless of previous approval. The requirements for testing in Subsections 540.04(b)(6)f, 540.04(b)(6)g, and 540.04(b)(7) above shall be waived if the submitted mix design has a minimum proportion of the cementitious material content of that allowed for use in High Performance Concrete in Section 501.

The mix design shall be approved by the Composite Materials Engineer prior to fabrication.

- (c) The sources and properties of the materials proposed for use.
- (d) The reinforcement schedule, placement of reinforcing steel, welded wire fabric, mechanical bar connectors, and inserts.
- (e) The type of surface finish and how the finish will be obtained. Include details of potential repair procedures.
- (f) The curing method, detailing sequence, and duration.
- (g) The minimum required concrete strength for design strength and form removal.
- (h) The design of the lifting attachments.
- (i) Transportation, handling, and storage details along with calculations to substantiate the proposed CFPC units will not be cracked/damaged by handling and/or transport.
- (j) The installation procedures, including a detailed grouting procedure.
- (k) A Quality Control Plan that identifies a Quality Control Manager and provides previous experience for work of this nature. A Description of Quality Control Processes addressing but not limited to:
 - (1) Concrete production including batching, delivery, and placement.
 - (2) Formwork.
 - (3) Reinforcing.
 - (4) Concrete finishing.
 - (5) Concrete cure.

(6) Shipping/Installation procedures.

83. INSPECTION. Materials furnished and the work performed herein shall be inspected by the Agency. The Agency will test all concrete incorporated into the work in accordance with Section 501. The inspector shall have the authority to reject any material or work that does not meet the requirements of the Specifications. Advance notification of at least two (2) weeks shall be provided by the Contractor to the Agency's Engineer and the Composite Materials Engineer concerning the proposed intention to commence work. A minimum of five (5) working days notification shall be provided by the Contractor to the Agency's Engineer and the Composite Materials Engineer to confirm the fabrication start date.

Prior to placing any precast concrete elements produced under these Specifications, all materials shall have all applicable certifications approved in accordance with Subsection 700.02.

84. FABRICATION.

- (a) Pre-Production Meeting. Unless the Engineer deems, in writing, that a pre-production meeting is unnecessary, then a pre-production meeting shall be held a minimum of seven (7) calendar days prior to beginning concrete placement. The pre-production meeting shall be attended by, as a minimum but not limited to, the Crew Supervisor, Contractor Project Manager, Concrete Producer, Resident Engineer, Project Manager, and Composite Materials Engineer.
- (b) Placing Concrete. Concrete placement shall be in accordance with Subsection 501.10 and as specified herein. Concrete shall not be deposited in the forms until the appropriate Agency representative has approved placement of the reinforcement, conduits, and anchorages.
- (c) Repairs/Patching. CFPC structure components that contain minor defects caused by manufacture or handling may be repaired at the manufacturing site. Minor defects are defined as holes, honeycombing, or spalls which are 150 mm (6 inches) or less in diameter and that do not penetrate deeper than 25 mm (1 inch) into the concrete. Surface voids or "bugholes" that are less than 16 mm (5/8 inch) in diameter and less than 6 mm (1/4 inch) deep need not be repaired. Repairs shall be made using a material from the Agency's Approved Products List for overhead and vertical concrete repair. The repair material shall be cured as specified by the manufacturer. Repairs shall be approved by the Engineer.
- (d) Cracking. Cracks less than 0.25 mm (0.01 inch) in width shall be sealed by a method approved by the Engineer. Cracks in excess of 0.25 mm (0.01 inch) may be cause for rejection. At the Engineer's discretion, cracked CFPC structure components shall be repaired or replaced at the Contractor's expense.
- (e) Dimensional Tolerances. All tolerances shall be in accordance with the latest editions of both PCI MNL 116 *Manual for Quality Control for Plants and Production of Precast and Prestressed Concrete Products* and PCI MNL 135 *Tolerance Manual for Precast and Prestressed Concrete Construction*, or with the National Precast Concrete Association (NPCA) *Quality Control Manual for Precast Concrete*, unless otherwise noted in the Contract Documents or as approved by the Engineer.

- (f) Marking. The date of manufacture, the production lot number, and the piece mark shall be clearly marked on each individual piece of precast concrete. The mark shall be in a location that will not be visible in the finished product.

- 85. HANDLING, STORAGE, AND SHIPPING. Each CFPC structure shall be handled, stored, and shipped in such a manner as to minimize chipping, cracks, fractures, discoloration, and excessive bending stresses. A unit damaged by handling, storage, or shipping shall be replaced at the Contractor's expense.

A CFPC structure shall not be installed until the respective unit has been inspected. This inspection shall verify that the pieces are free from defects, and that all specification requirements, including but not limited to those for compressive strength and tolerance requirements, have been achieved. In addition, a CFPC structure will not be considered for shipment until the completion of the cure period and the required strength has been attained as demonstrated by field-cured cylinder breaks.

- 86. INSTALLATION METHODS, EQUIPMENT, AND ERECTION. Cranes, lifting devices, and other equipment for CFPC structure erection shall be of adequate design and capacity to safely erect, align, and secure all members and components in their final positions without damage. The Contractor is solely responsible for the methods and equipment employed for the erection of the CFPC structure components.

Construction Drawings for CFPC structure component erection shall be submitted in accordance with Section 105. The erection plan shall include the necessary computations to indicate the magnitude of stress in the units during erection and to demonstrate that all of the erection equipment has adequate capacity for the work to be performed, and provisions for all stages of construction, including temporary stoppages.

Post tensioning shall comply with Subsection 540.12.

Submittal of the erection plan is for the Agency's documentation only and shall in no way be construed as approval of the proposed method of erection. The Contractor shall follow the erection plan as accepted.

- 87. GROUT.

- (a) Unless otherwise noted grout shall be used to fill shear keys, leveling screw voids, transverse tie anchor recesses, dowel holes, and for fairing joints as detailed in the Contract Documents or as ordered by the Engineer.

Grout shall be Mortar, Type IV. Acceptable grout materials shall be those included on the Approved Products List on file with the Agency's Materials and Research Section. Additional aggregates shall not be added to the material during field mixing.

The Contractor, with written permission from the Engineer, has the option to use ready-mixed mortar for the grouting process. The Contractor shall prepare and submit for approval the mix design for the grout. The maximum quantity that may be delivered in a single load is one cubic meter (1.25 cubic yards), which shall be delivered and placed within the time limits specified by the manufacturer.

For testing, 6 neat 50 mm (2 inch) cubes shall be molded and cured in accordance with AASHTO T 106 (ASTM C 109). The average compressive strength of 3 cubes shall be a minimum of 7 MPa (1000 psi) at 3 days and a minimum of 35 MPa (5000 psi) at 28 days.

(b) The surface to be grouted shall be thoroughly cleaned, wetted, and free of all standing water. The grout shall be mixed using a mechanical mixer according to the manufacturer's recommendations and shall be readily pourable so that it completely fills the shape of the shear keys or holes, depending on the product being installed. The placement of grout shall be continuous so as to produce a monolithic key absent of any voids or cold joints.

(c) All exposed grout shall be cured for a period of no less than three days by the wetted burlap method in accordance with Section 501. Curing shall commence as soon as practical after grout placement.

88. METHOD OF MEASUREMENT. The quantity of Special Provision (Contractor-Fabricated Precast Concrete Structure) of the type and size specified to be measured for payment shall be on a lump sum basis. The lump sum shall include all of the CFPC structure components in the complete and accepted work for each location specified in the Contract.

89. BASIS OF PAYMENT. The accepted quantity of Special Provision (Contractor-Fabricated Precast Concrete Structure) of the type and size specified will be paid for at the Contract lump sum price. Payment shall be full compensation for designing, detailing, fabricating, repairing, transporting, handling, and erecting the materials specified, for furnishing and implementing the erection plan, and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Any grouting work, such as fairing out unevenness between adjacent precast concrete structure components and filling leveling screw holes, shear keys, transverse anchor recesses, and dowel holes, is considered incidental to the work for Special Provision (Contractor-Fabricated Precast Concrete Structure).

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
900.645 Special Provision (Contractor-Fabricated Precast Concrete Structure) (Approach Slab #1)	Lump Sum
900.645 Special Provision (Contractor-Fabricated Precast Concrete Structure) (Approach Slab #2)	Lump Sum
900.645 Special Provision (Contractor-Fabricated Precast Concrete Structure) (Approach Slab #3)	Lump Sum
900.645 Special Provision (Contractor-Fabricated Precast Concrete Structure) (Approach Slab #4)	Lump Sum
900.645 Special Provision (Contractor-Fabricated Precast Concrete Structure) (Headwall)	Lump Sum

TEMPORARY RELOCATION OF STREAM

90. DESCRIPTION. This work shall consist of temporary stream relocation including erosion prevention and sediment control, channel maintenance, and debris removal in accordance with these specifications.

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

Geotextile Fabrics..... 649.02
Stone Fill, Type II.....706.04(b)

Other materials may be used. These shall be detailed on the EPSC Plan and are subject to approval.

92. GENERAL. Prior to their construction, the Contractor shall submit to the Engineer site-specific plans, including all construction, erosion prevention and sediment control, and maintenance details, for providing temporary stream relocations at stream crossings specified in the Plans. These details shall be developed in accordance with the requirements of Section 900 and will be considered a component of the overall project EPSC Plan.

All relocation plans must be approved by the Agency of Natural Resources prior to beginning work. These plans shall provide for storm generated flows of 1 cfs, as a minimum, and shall be designed and stamped by a Professional Engineer registered in the State of Vermont. The plans shall address erosion prevention and sediment control, channel maintenance, debris removal, and the materials and methods of creating the upstream diversion from the existing stream channel. These plans shall conform to any permits, both State and Federal, which have been issued for this project.

The Contractor shall provide for crossing the relocated stream channel for the duration of its existence so as not to impact the free flow of the stream or to increase any flood levels or potential for property damage upstream or downstream of the project site. This work shall be scheduled such that it is performed during a period that no heavy rains or storm events are anticipated.

It shall be incumbent upon the Contractor to determine the level of protection required to protect the work. However, the protection of existing facilities, structures, and property must also be undertaken and any damage thereto shall be repaired by the Contractor at no additional expense to the State. In addition, the temporary diversion shall not increase in any way flood levels or property damage upstream or downstream of the project site.

In-stream construction shall be undertaken during the period from June 1st through October 1st. Any changes to this period shall be approved in writing by the Vermont Agency of Natural Resources. It shall be the responsibility of the Contractor to obtain any variances to the in-stream construction period.

Excavation for the relocated stream channel shall be made in conformance with the requirements for channel excavation as specified in Subsection 203.06.

Furnishing and installing Geotextile Fabrics and Stone Fill shall be in conformance with the requirements of Sections 649 and 613, respectively.

Furnishing and installing pipes shall be in conformance with Section 601.

The upstream diversion shall be done in such a manner as to minimize erosion and sedimentation. Upstream diversion shall not be done when stream conditions are such that the possibility of excessive erosion and sedimentation will occur.

The relocation shall be maintained, throughout the time it is in place, free from debris, logs, stumps, and other obstructions which might impair the free-flow of water through the diversion.

After completion of the new permanent channel improvements and the redirection of channel flow through the new permanent channel, the entire length of the temporary channel shall be excavated to remove all muck, sediment, debris, and foreign matter.

Any portion of the temporary channel which falls outside of the embankment limits shall be restored to match the existing ground and shall be included in the unit price bid for Temporary Relocation of Stream.

Any turf establishment required outside of the embankment limits shall be paid for under the appropriate Contract items.

93. METHOD OF MEASUREMENT. The quantity of Special Provision (Temporary Relocation of Stream) to be measured for payment shall be on a unit basis for each temporary stream location specified, installed, maintained, and removed.

Where a temporary relocation of stream is constructed for the convenience of the Contractor and is not specified in the Plans or ordered by the Engineer, the costs for the temporary relocation shall be considered incidental to all other Contract items.

94. BASIS OF PAYMENT. The accepted quantity of Special Provision (Temporary Relocation of Stream) will be paid for at the Contract lump sum price for each temporary stream relocation. Payment will be full compensation for designing, as necessary, constructing, including all required materials, maintaining, and removing each temporary stream relocation.

Payment for the design and detailing of erosion prevention and sediment control measures for Temporary Relocation of Stream will be made under Contract item 900.645 Special Provision (EPSC Plan).

Payment for the monitoring and maintenance of erosion prevention and sediment control measures for Temporary Relocation of Stream will be made under Contract items 900.630 Special Provision (Monitoring EPSC Plan) and 900.650 Special Provision (Maintenance of EPSC Plan), respectively.

Payment for erosion prevention and sediment control measures for Temporary Relocation of Stream will be made under Contract item 900.650 Special Provision (Erosion Prevention and Sediment Control Measures).

When the construction of the temporary stream relocation is completed, operational, and accepted, a payment of 75 percent of the Contract lump sum price will be allowed. The remaining 25 percent of the Contract lump sum price will be paid when the temporary stream relocation has been removed and the site restored and stabilized to the satisfaction of the Engineer.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
900.645 Special Provision(Temporary Relocation of Stream)	Lump Sum

TRAFFIC CONTROL, ALL INCLUSIVE

95. DESCRIPTION. This work shall consist of establishing and maintaining traffic control measures to protect the traveling public and construction operations as 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 641 of the Standard Specifications.

96. SUBMITTALS. The Contractor shall submit to the Project Manager for acceptance a site-specific traffic control plan in accordance with Subsection 105.03. The traffic control plan shall conform to the requirements of the MUTCD and all applicable Agency Standard Drawings. Where conflicts exist, the MUTCD will govern. Each phase of construction shall be included in the submitted traffic control plan. The Contractor shall allow the Agency 14 calendar days to review and respond to the proposed traffic control plan. Field operations will not commence until the submittal has been accepted.

97. TRAFFIC CONTROL DEVICES. Temporary traffic barrier shall meet the requirements of Section 621. Traffic control devices shall meet the requirements of Section 641.

98. METHOD OF MEASUREMENT. The quantity of Special Provision (Traffic Control, All-Inclusive) to be measured for payment will be on a lump sum basis for providing traffic control in the complete and accepted work.

The quantities for Uniformed Traffic Officers, Flaggers, and Portable Changeable Message Signs will be measured separately in accordance with Section 630 and 641.

99. BASIS OF PAYMENT. The accepted quantity of Special Provision Traffic Control, All-Inclusive) will be paid for at the Contract lump sum price.

Partial payments will be made as follows:

- (a) The first 15% of the Contract lump sum price will be paid upon approval of the Contractor's traffic control plan.
- (b) The remaining 85% of the Contract lump sum price will be paid on a prorated basis for the estimated duration of the Contract work remaining.

Payment will be full compensation for preparing, implementing, inspecting, maintaining, and removing the applicable traffic control plan and required traffic control devices, including but not limited to temporary traffic barrier, temporary pavement markings, and signing; and for furnishing all labor, tools, materials, equipment, and incidentals necessary to complete the work.

Uniformed Traffic Officers, Flaggers, and Portable Changeable Message Signs will be paid for separately under Contract items 630.10, 630.15, and 641.15 respectively.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
900.645 Special Provision (Traffic Control, All-Inclusive) (BF 0248(4))	Lump Sum
900.645 Special Provision (Traffic Control, All-Inclusive) (BF 0248(7))	Lump Sum

BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY

100. 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.

101. 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 70-28. Substitutions will be accepted based on availability where the upper end temperature value is greater than 70°C (158°F) and/or the lower end temperature value is less than -28°C (-18°F).

102. 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 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 3½" MIX TYPE IIS 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 IIS	TYPE I	TYPE I
0.3 to < 10	TYPE IIS	TYPE I	-

*Per Section 406

103. 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 ¹	✓	-

¹Standard 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 according to Table D Mixture Pay Adjustment.

TABLE D - MIXTURE PAY ADJUSTMENT

Criteria	Deductions to be applied to materials outside production testing tolerance.		
	< 1.5X testing tolerance	-1.5-2.0X testing tolerance	>2.0X testing tolerance
AIR Voids	-5%	-25%	Remove
VMA	-5%	-25%	Remove
Aggregate passing 200 sieve	-5%	-25%	Remove
Aggregate larger than the 200 sieve.	-5% applied to each sieve out of toll.	-10% applied to each sieve out of toll.	Remove if any sieve out of toll.
Filler/AC Ratio	See note 2	See note 2	See note 2

- (1) Deductions will be applied per the table above in conjunction with the testing tolerances as contained in the applicable table 406.03C or 490.03C - PRODUCTION TESTING TOLERANCES.
- (2) A 5% deduction will be applied and coupled with any other applicable deduction in any case that the filler/asphalt ratio is outside the criteria as contained in the applicable table 406.03B or 490.03B - DESIGN CRITERIA.
- (3) The total deduction to be applied to any mix will be the sum total of all applicable deductions as contained in the table above.

- (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.

104. 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 E:

TABLE E - 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, 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 20 feet will not be cored. Bridge decks or approaches will not be cored within 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.

105. METHOD OF MEASUREMENT. The quantity of Special Provision (Bituminous Concrete Pavement, Small Quantity) to be measured for payment will be the number of 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:

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

106. BASIS OF PAYMENT. The measured quantity of Special Provision (Bituminous Concrete Pavement, Small Quantity) will be paid for at the Contract unit price per 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

BITUMINOUS CONCRETE PAVEMENT, TYPE IVB

107. 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 490 of the Standard Specifications.

108. MATERIALS. Materials shall meet the requirements of Section 490 of the Standard Specifications.

109. COMPOSITION OF MIXTURE.

(a) Design Criteria. Design criteria shall meet the requirements of Subsection 490.03 of the Standard Specifications and additional requirements as specified herein.

- (1) Type IVB Material shall have an air void target of 3.0% (with a 1.0% production tolerance).

- (2) Type IVB bituminous material shall be designed and produced with a 0.0% RAP content.
- (3) Type IVB material shall meet the gradation requirements of Superpave Bituminous Concrete Pavement Type IVS as contained in Table 490.03A of Section 490.

110. COMPACTION. Compaction shall meet the requirements of Subsection 490.14 of the Standard Specifications as modified herein.

The density of the compacted pavement shall be at least 92.0%, but not more than 97.0%, of the corresponding average maximum specific gravity for each mix type (each mix design) of bituminous mix placed upon any individual bridge deck and a pay factor adjustment applied as per the table below. For material that falls outside of this range, payment will be made by adjusting the production totals in accordance with the table below.

TABLE 490.14A - DENSITY PAY FACTORS (BRIDGE MIX)

Average Density, %	Density Pay Factor, PF(d)
89.0 - 90.4	- 0.250
90.5 - 91.9	- 0.150
92.0 - 93.4	0.000
93.5 - 95.4	0.150
95.5 - 97.0	0.000
97.1 - 98.5	-0.150

For material with an average density that is less than 89.0% or in excess of 98.5%, the material will be removed and replaced by the Contractor at no expense to the Agency.

It shall be the responsibility of the Contractor to conduct proper process control the Contractor deems necessary. Acceptance testing will be conducted by Agency personnel using cores extracted and provided by the Contractor. The cores taken for acceptance testing will be the final cores taken for determination of density.

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

Bridge decks with a length equal to or greater than 6m (20 feet) will be cored for the purpose of analyzing density of the bridge deck pavement per this Subsection. The minimum number of cores samples, or "sublots", to be analyzed per bridge deck shall not be less than 4. Core sublots will be restricted to travel and passing lanes only and will be taken at the rate of 2 sublots per bridge deck lane for those bridges less than or equal to 400 feet in length. For those bridges greater than 400 but less than or equal to 650 feet in length, core samples will be taken at the rate of 3 sublots per bridge deck lane. For those bridges greater than 650 feet in length, core samples will be taken at the rate of 4 sublots per bridge deck lane. Core samples will not be taken within 150 mm (6 inches) of a longitudinal construction joint nor within 5 m (15 feet) of a mechanical bridge joint. Random and independent mat and / or shoulder core sampling locations may be selected by the Engineer to afford verification of this Subsection.

Additionally, for those Contracts having single, or multiple, bridge decks within the project limits, each individual bridge deck shall be considered a "lot" for the purpose of analyzing for density with any associated density pay factor adjustment applied to that lot. Bridge decks of a length less than 6m (20 feet) will not be analyzed for density.

All compaction equipment used to achieve bridge deck compaction shall be "static" in nature. Vibratory equipment may be used provided that equipment is operated in "static" mode. All requirements of this provision and Subsection 490.14 shall apply regardless of the type of compaction equipment used.

When the Contract does not provide for a mat density pay adjustment, the Contractor shall, prior to performing any construction operations, submit to the Engineer for approval the proposed rolling pattern and compaction equipment intended to be used on the project. Random investigative cores shall be taken by Contractor personnel and submitted to the Engineer for the purpose of verifying the effectiveness of the compaction equipment and rolling pattern used. Pending results of any investigative cores, the Contractor shall make any necessary adjustments to achieve acceptable densities as defined herein.

111. METHOD OF MEASUREMENT. The quantity of Special Provision (Bituminous Concrete Pavement, Type IVB) 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 density pay factor, PF(d), for a lot of Special Provision (Bituminous Concrete Pavement, Type IVB) is less than or greater than 0.000, the measured quantity of Special Provision (Bituminous Concrete Pavement, Type IVB) 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:

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

112. BASIS OF PAYMENT. The measured quantity of Special Provision (Bituminous Concrete Pavement, Type IVB) 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, Type IVB).

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, Type IVB).

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, Type IVB).

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, Type IVB).

Special Provision (Bituminous Concrete Pavement, Type IVB) 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, Type IVB), but will be incidental to the Contract item for the specified type of base course.

Special Provision (Bituminous Concrete Pavement, Type IVB) 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, Type IVB).

Payment will be made under:

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

CONCRETE BRIDGE DECK SURFACE PREPARATION

113. DESCRIPTION. This work shall consist of blanket diamond grinding the concrete bridge deck.

The work under this Section shall be performed in accordance with these provisions, the Plans, and Section 509 of the Standard Specifications, as appropriate.

114. CONSTRUCTION REQUIREMENTS. The construction shall be performed in accordance with these specifications, the Contract Plans, and recommendations of the equipment provider.

- (a) Concrete Bridge Deck Grinding Equipment. Provide grinding equipment that is power driven, self-propelled, and specifically designed to smooth and texture Portland cement concrete with diamond blades or diamond impregnated cylinder rings. The equipment shall be at a minimum 35,000 pounds including the grinding head, and of a size that will grind a strip at least 4 feet wide. The effective wheelbase of the machine shall be no less than 12 feet. The equipment shall have a positive means of vacuuming the grinding residue from the deck pavement surface, leaving the surface in a clean, near-dry condition.

The equipment shall have a set of pivoting tandem bogey wheels at the front of the machine and rear wheels or tandem bogies that travel and track in the fresh cut surface. The equipment shall be maintained to ensure it is in the proper working order, with attention paid to the "roundness" of the match and depth control wheels. Any wheels found to be out of round shall be immediately replaced.

The equipment shall be capable of grinding the surface in the longitudinal direction without causing spalls or other damage at cracks, joints, and other locations. Grinding equipment that causes raveling, aggregate fractures, or disturbance to the joints shall not be permitted. The equipment shall be capable of correcting the bridge deck profile and provide the proper cross slope.

The equipment shall be capable of grinding the longitudinal joint material whether it be Rapid Set Concrete or Ultra High Performance Concrete (UHPC). If UHPC is specified for use within the Contract Documents the grinding of the UHPC surface shall be performed when a strength of 10 ksi has been achieved and per the manufacturers recommendations. If significant fiber pullout is observed during grinding operations, grinding shall be suspended and not resumed until approved by the Engineer.

(b) Concrete Bridge Deck Grinding. Grinding operations shall be performed in a longitudinal direction and provide a uniform finished texture. The beginning and end grinding lines shall be normal to the bridge centerline or along the deck skew. Grinding shall also be terminated in accordance to the limits identified in Subsection 509.03.

The equipment shall be supported to maintain the appropriate grinding depth if it is required to extend over the end of the deck during grinding.

- (1) Geometric Requirements. Each pass shall grind a strip at least 4 feet wide and not exceed the following vertical criteria:
- a. Unless otherwise noted on the Plans, do not exceed 0.5 inches of material removed by diamond grinding without approval from the Engineer.
 - b. The maximum vertical difference between longitudinal passes shall be 1/8 inch.
 - c. Depressions exceeding the allowable grinding depth shall be addressed in the Blanket Grinding Work Plan. All depressions shall meet the specified grinding smoothness and texture requirements post remediation.

- (2) Smoothness. Provide uniform transverse and longitudinal slope of the concrete deck with no depressions or misalignment of slope greater than 1/8 inch in 10-ft when tested with a 10-ft straightedge. The surface will be checked at random by the Engineer during the grinding operation to assure that no depressions exist that will pond water. The straightedge shall be placed in contact with the surface in successive positions parallel to and perpendicular to the centerline of the structure. If existing concrete surface is parabolic, the straight edge test shall not be used across the parabolic.
- (3) Texture. The surface texture shall be a parallel, corduroy-type consisting of grooves between 1/16 and 1/8 inches wide. The peaks of the ridges need to be approximately 1/16 inch higher than the bottom of the grooves.
- (4) Cleaning. Remove grooving and grinding residue with a vacuum attached to the grooving or grinding machine. The vacuum shall leave the deck surface in a clean, near dry condition. Dispose of grooving and grinding residue at an appropriate disposal facility.
- (5) Grinding operations. Grinding shall continue until one of the following criteria are approved by the Engineer:
 - a. Grind the concrete bridge deck until the surface meets the smoothness and texture required or,
 - b. Maximum depth of grinding, texture, and depression remediation measures are met

115. SUBMITTALS.

- (a) Blanket Grinding Work Plan. For exposed concrete bridge decks, the Contractor shall submit a written Blanket Grinding Work Plan to the Engineer. The Blanket Grinding Work Plan shall be approved prior to commencing the bridge closure period. Blanket diamond grinding of the exposed concrete bridge deck shall be completed in accordance with the approved Blanket Diamond Grinding Plan.

At a minimum, the plan shall include detailed procedures for the following information:

- (1) Determining initial grinding depth,
- (2) Monitoring depth of grinding,
- (3) Determine location of wheel paths,
- (4) Depth of grinding for subsequent passes.
- (5) Repair procedures if the deck is damaged during grinding operations.
- (6) How the equipment will be supported to maintain its grinding depth if its required to pass beyond the end of the bridge deck

- (7) Remedial action if depressions exceed geometric limits of grinding.
- a. Means of determining remaining clear cover over reinforcing steel for further grinding.
 - b. Subsequent grinding patterns if sufficient clear cover remains over the reinforcing steel.
 - c. Where the depression does not provide clear cover for subsequent grinding, procedures may include removing and replacing concrete to an extent below the top mat of reinforcing steel or other methods approved by the Engineer.

116. METHOD OF MEASUREMENT. The quantity of Special Provision (Concrete Bridge Deck Surface Preparation) to be measured for payment will be the number of square feet of concrete bridge deck surface prepared in the complete and accepted work. Measurement will be based on the horizontal distance between the face of curbs as shown on the Plans and the longitudinal length of the bridge deck.

117. BASIS OF PAYMENT. The accepted quantity of Special Provision (Concrete Bridge Deck Surface Preparation) will be paid for at the Contract unit price per square foot. Payment will be full compensation for furnishing, transporting, handling, all materials required; submittals; quality control testing and for furnishing all materials, labor, tools, equipment, and incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
900.670 Special Provision (Concrete Bridge Deck Surface Preparation)	Square Foot

RETAINING WALL

118. DESCRIPTION. This work shall consist of designing, detailing, fabricating, furnishing, and erecting a retaining wall at the location(s) specified and in conformance with the lines and grades shown on the Plans or as directed by the Engineer.

119. DESIGN REQUIREMENTS. The design shall be performed in accordance with the AASHTO LRFD Bridge Design Specifications and the design criteria specified in the Plans.

Acceptable earth retaining systems are those included in the "VAOT Earth Retaining System Selection Chart", available on the Agency's website at the following address:

<https://outside.vermont.gov/agency/vtrans/external/docs/construction/03GeotechEng/Engineering/MandRSoilAPPROVED Retaining Walls 8-2012 Final%20Engineering.pdf>

Prefabricated earth retaining systems shall employ concrete facing. All wall components shall have a minimum design life of 75 years.

120. MATERIALS. Materials shall meet the following requirements:

- (a) Precast Concrete. Precast Concrete shall meet the requirements of Section 540.
- (b) Cast-in-Place Concrete. Cast-in-Place concrete shall meet the requirements of Section 501 for Concrete, High Performance Class B, unless otherwise specified in the Contract Documents.
- (c) Reinforcing Steel. Reinforcing Steel shall meet the requirements of Section 507.
- (d) Backfill. Backfill shall meet the following requirements:
 - (1) Gradation Limits. Select granular backfill material used in walls shall be reasonably free from organic and otherwise deleterious materials, and shall conform to the following gradation limits as determined in accordance with AASHTO T 27:

<u>SIEVE SIZE</u>	<u>PERCENT PASSING</u>
101.6 mm (4 inch)	100
75 mm (3 inch)	75 - 100
0.425 mm (40)	0 - 60
75 µm (200)	0 - 12

- (2) Plasticity Index. The Plasticity Index (P. I.), as determined in accordance with AASHTO T 90, shall not exceed six.
- (3) Soundness. The material shall be substantially free of shale or other soft particles with poor durability characteristics. The material shall have a sodium sulfate soundness loss of less than 8 percent after five (5) cycles, as determined in accordance with AASHTO T104.

Select granular backfill shall have a minimum uniformity coefficient, Cu, of 2.

In addition to these requirements, backfill for walls using metallic soil reinforcing shall meet the following:

<u>PROPERTY</u>	<u>REQUIREMENT</u>	<u>TEST METHOD</u>
Resistivity at 100% saturation	Minimum 3000 ohm-cm	AASHTO T 288
Ph	Acceptable Range 5 - 10	AASHTO T 289
Sulfates	Maximum 200 ppm	AASHTO T 290
Chlorides	Maximum 100 ppm	AASHTO T 291
Organic Content	< 1%	AASHTO T 267

Backfill not conforming to this specification shall not be used unless approved in writing by the Engineer and wall supplier. Backfill material shall be compacted in accordance with the manufacturer's recommendations and Contract specifications.

- (e) Geotextile. Geotextile shall be a non-woven fabric meeting the requirements of Section 649 for Geotextile for Roadbed Separator, unless otherwise specified by the wall supplier.
- (f) Soil Reinforcing and Attachment Devices for MSE wall systems. All reinforcing and attachment devices shall be carefully inspected to ensure they are true size and free from defects that may impair their strength and durability.
 - (1) Reinforcing Mesh Elements. Reinforcing mesh elements shall be shop fabricated from cold drawn steel rod conforming to the minimum requirements of AASHTO M 32M/M 32 and shall be welded at the junctions between longitudinal and transverse wires in accordance with AASHTO M 55M/M 55. Galvanization shall be applied after mesh fabrication and shall conform to the minimum requirements of AASHTO M 111M/M 111. The galvanizing thickness shall be determined and specified based on the design life requirements of the structure.
 - (2) Loop Embeds. Loop embeds shall be fabricated from cold drawn steel rod conforming to AASHTO M 32M/M 32. Loop embeds shall be welded in accordance with AASHTO M 55M/M 55. Loop embeds shall be galvanized in accordance with AASHTO M 232M/M 232.
 - (3) Reinforcing Strips. Reinforcing strips shall be hot rolled from bars to the required shape and dimensions. Their physical and mechanical properties shall conform to AASHTO M 223 or equal. Galvanization shall conform to the minimum requirements of AASHTO M 111M/M 111. The galvanizing thickness shall be determined and specified based on the design life requirements of the structure.
 - (4) Tie Strips. The tie strips shall be shop fabricated of hot rolled steel conforming to the minimum requirements of ASTM A 570, Grade 50 or equivalent. Galvanization shall conform to AASHTO M 111M/M 111 or AASHTO M 232M/M 232. The minimum coating thickness shall be 0.610 kg/m².
 - (5) Fasteners. Fasteners shall consist of galvanized hexagonal cap screw bolts and nuts conforming to the requirements of AASHTO M 164 or equivalent. Fasteners shall be galvanized in accordance with AASHTO M 232M/M 232.
 - (6) Joint Material. Joint material shall meet the requirements of Subsection (s) 707.06, 707.07, 707.08, or 707.09, unless otherwise specified in the Contract Documents or as part of an approved retaining wall system.
 - (7) Bearing Pads. Bearing pads shall be preformed EDPM rubber pads conforming to ASTM D 2000 M2AA 807, having durometer hardness equal to 80±5.

- (8) Joint Cover. Horizontal and vertical joints between panels shall be covered by a geotextile. The geotextile may be either a non-woven needle punched polyester geotextile or a woven monofilament polypropylene geotextile meeting the requirements of Section 720 for Geotextile Under Stone Fill. The wall supplier shall approve adhesive used to hold the geotextile filter fiber material to the rear of the facing panels prior to backfill placement.

121. SUBMITTALS. Working Drawings shall be submitted to the Structures Engineer in accordance with Section 105. The submittal shall include all detailed design computations and details, dimensions, quantities and cross sections necessary to construct the wall. In addition, the submittal shall include, but not be limited to, all of the following that apply to the particular wall system being constructed:

- (a) Complete design calculations substantiating that the proposed design satisfies the design parameters in the Contract Documents. The wall design calculations shall be signed, stamped, and dated by a Professional Engineer. The Contractor shall not start work on any earth retaining system for which Working Drawings are required until the Engineer has approved such drawings.
- (b) A plan view of the wall showing the limit of the widest module, tiebacks, nails, mesh, or strip and the centerline of any drainage pipe which is behind or passes under or through the wall.
- (c) An elevation view of the wall which shall include the elevation at the top of the wall at all horizontal and vertical break points and at least every 15 m (50 ft) along the face of the wall, all steps in the leveling pads, the designation as to the type of panel, the length of soil reinforcing elements, the distance along the face of the wall to where changes in length of the soil reinforcing elements occur, and an indication of the final ground line and maximum calculated bearing pressures.
- (d) A typical cross section or cross sections showing the elevation relationship between ground conditions and proposed grades.
- (e) All details for foundations and leveling pads, including details for steps in the footings or leveling pads, as well as design maximum and minimum bearing pressures.
- (f) Details of the drainage systems or other facilities required to accommodate the system.
- (g) The details for connection between the wall and the soil reinforcements.
- (h) The details for diverting soil reinforcements around obstructions such as piles, catch basins, and other utilities.
- (i) All reinforcing details, including reinforcing bar bending details.
- (j) Any general notes required for the construction of the wall.

- (k) A listing of the summary of quantities on the elevation sheet for each wall.

Any construction drawings required for elements meeting the requirements of Section 540 shall be submitted and shall meet the requirements of Subsection 540.04.

All design and construction details will be checked by the Agency's Structures and Materials and Research Sections. Approval of the detailed design and plans, and notification to begin the work, will be made by the Structures Section. The Contractor shall allow the Agency 30 calendar days to review and approve the Working Drawings.

Approval of the Contractor's Working Drawings shall not relieve the Contractor of any responsibility under the Contract for the successful completion of the work.

122. PRECAST CONCRETE INSPECTION. Precast concrete inspection will be in accordance with Subsection 540.06. The Fabricator shall provide a tentative casting schedule to the Engineer and Structural Concrete Engineer for the following casting week a minimum of 3 calendar days prior (a casting week will be Sunday to Saturday). The Fabricator shall maintain a Quality Control file that shall contain at a minimum the piece identification, date and time cast, concrete test results, quantity of concrete used per element, batch quantity printout, cylinder results, and aggregate gradation and moisture.
123. METHOD OF MEASUREMENT. The quantity of Special Provision (Retaining Wall) to be measured for payment will be the number of exposed square meters (square feet) of wall surface area complete and in place in the accepted work. The height of exposed face shall be the difference between the top of the wall and the top of the finish ground along the front face of the retaining wall.
124. BASIS OF PAYMENT. The accepted quantity of Special Provision (Retaining Wall) will be paid for at the Contract unit price per square meter (square foot). Payment will be full compensation for designing, detailing, fabricating, and installing the materials specified, including but not limited to the geotextile fabric, backfill material, concrete, bar reinforcement and welded steel wire fabric, drainage pipe, drainage aggregate, precast concrete facing panels, soil reinforcements, attachment devices, fasteners, bearing blocks, shims, geomembrane, geotextile, and expansion material; any excavation, sheeting, bracing, dewatering, and siltation control; preparing and submitting Working Drawings; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Any grouting work, such as fairing out unevenness between adjacent concrete pieces and filling leveling screw holes, shear keys, transverse anchor recesses, and dowel holes, is considered incidental to the work for Special Provision (Retaining Wall).

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
900.670 Special Provision (Retaining Wall) (FPQ)	Square Foot

UNIT BLOCK RETAINING WALL

125. DESCRIPTION. This work shall consist of constructing a concrete unit block retaining wall in accordance with these specifications, in reasonably close conformity with the lines and grades shown in the Contract Documents, and as directed by the Engineer.

This work shall be performed in accordance with these provisions, the Plans, and with reference to the Geotechnical Office Memoranda included in the Contract Documents.

126. MATERIALS.

- (a) Unit Block Wall. Prefabricated concrete blocks shall be Ledgestone manufactured by Redi-Rock International or approved equal manufactured by the following:

Redi-rock International, 05481 US 31 South, Charleviox, MI 49720
Redi-Rock International
05481 US 31 South
Charleviox, MI 49720

The Neel Company
8328-D Traford Lane
Springfield, VA 22152

ReCon Retaining Wall Systems, Inc.
7600 W 27th Street #229
St. Louis Park, MN 55426

The concrete block wall shall have a rough, irregular stone-like surface. Individual blocks shall have the following dimensions:

- (1) Top Course - 46" X 28" X 18"
- (2) Middle Courses - 46" X 41" X 18"
- (3) Bottom Course - 46" X 41" X 18"

Each block shall have a minimum compressive strength of 3000 psi. Calcium styrate-based water repellent shall be added to the blocks at the dosage recommended by the water repellent manufacturer. Individual block faces shall be textured to resemble multiple irregular stone pieces. All visible sides shall have a textured finish. The blocks shall be of uniform color and texture and be capable of providing all corners or radii shown in the Plans. The color shall be New England Ledgestone, or approved equal. All blocks shall be sound and free of cracks or other defects that would interfere with the proper placing of the unit or degrade the strength or performance of the construction.

- (b) Drainage Aggregate. Drainage Aggregate shall meet the requirements of Subsection 704.16.
- (c) Geotextile. Geotextile shall meet the requirements of Section 649 for Underdrain Trench Lining.
- (d) Concrete. Concrete for leveling pad shall meet the minimum requirements of Section 541 for Concrete, Class B or as specified by the manufacturer.

127. DESIGN AND SUBMITTALS. The wall shall be designed to support the embankment. Filter fabric shall be included in the design and sized to prevent soil migration.

The Contractor shall submit manufacturer's product data for proposed materials and method of installation to the Engineer prior to ordering materials.

The Contractor shall submit a manufacturer's certification to the Engineer, prior to the start of work, that the retaining wall system components meet the requirements of these specifications.

The Contractor shall submit to the Engineer detailed Construction Drawings and calculations prepared by a licensed Professional Engineer experienced with unit block retaining wall systems and registered in the State of Vermont. Engineering designs, techniques, and material evaluations shall be performed in accordance with manufacturer's requirements and these specifications.

128. CONSTRUCTION REQUIREMENTS.

- (a) General. The Contractor shall verify that layout dimensions are correct and substrate is in proper condition for installation. Do not proceed with installation until unsatisfactory conditions have been corrected.

The Contractor shall confirm the location of existing structures and utilities prior to excavation. The Contractor shall ensure all surrounding structures are protected from the effects of wall excavation.

The Contractor shall provide one foreman, experienced in the construction of at least 20,000 square feet of soil-reinforced unit block walls, to oversee the construction of the wall.

Materials shall be stored and handled based on manufacturer's requirements. Any material damaged due to improper storage and handling shall be replaced at the expense of the Contractor.

The Contractor shall construct a 15 foot mock-up section of wall in place for approval by the Engineer for wall pattern and color. If approved, the mock-up section will be accepted as part of the wall.

- (b) Excavation. The Contractor shall excavate to the lines and grades shown on the Construction Drawings.

- (c) Unit Block Wall. The wall shall be designed to support the embankment. Filter fabric shall be included in the design and sized to prevent soil migration.

The Contractor shall follow the manufacturer's recommendations and the requirements below while constructing the unit block wall:

- (1) The units shall be placed on the approved base to conform to the required line and grade. Units shall be fitted tightly together and aligned to provide a continuous face with no gaps.

- (2) The drainage aggregate and backfill shall be placed and compacted to 95% of the maximum Standard Proctor density in layers not to exceed 6 inches.
 - (3) Follow manufacturer's instructions for placement and protection of geogrid.
 - (4) Drainage pipe shall be installed in accordance with the Construction Drawings.
 - (5) The top course of the wall shall consist of cap units that fit together without excessive or irregular gapping. Apply adhesive continuously to both the cap course and the course directly beneath the cap.
 - (6) Where wall is exposed on both sides, the Contractor shall use freestanding block units, and where wall is exposed on only one side, the Contractor shall use retaining wall block units, installed in accordance with the manufacturer's specifications.
- (d) Geogrid. Geogrid shall be as recommended by the wall system manufacturer to meet the requirements of these specifications.
- (e) Drainage Aggregate. A minimum 12 inch depth of drainage aggregate shall be placed as specified by the Manufacturer.

Filter fabric shall be wrapped around the drainage aggregate layer as shown on the Plans.

- (f) Backfill. Backfill in the reinforced soil zone shall meet the requirements of Subsection 704.08 for Granular Backfill for Structures, with a maximum aggregate size of 0.8 inch, unless more restrictive requirements are specified on the Construction Drawings.

The Contractor shall be responsible for independent soil testing services during earthwork operations to ensure that materials and compaction conform to the specifications.

129. METHOD OF MEASUREMENT. The quantity of Special Provision (Unit Block Retaining Wall) to be measured for payment will be the number of square square yards of wall placed in the complete and accepted work, rounded to the nearest square yard for the full front face of wall from top to bottom and end to end.
130. BASIS OF PAYMENT. The accepted quantity of Special Provision (Unit Block Retaining Wall) will be paid for at the Contract unit price per square yard. Payment will be full compensation for fabricating, detailing, furnishing, transporting, handling, assembling, and placing the materials specified, including unit concrete blocks, cap units, leveling pad, concrete adhesive, geosynthetic reinforcement, drainage aggregate, and geotextile fabric; for excavating, stockpiling, replacing, and compacting existing fill material; for providing wall mock-up(s) as specified; and for furnishing all materials, labor, tools, equipment, and incidentals necessary to complete the work.

The installation of temporary earth support system(s) and underdrain pipe, if required as specified by the manufacturer, will be considered incidental to Special Provision (Unit Block Retaining Wall).

Granular Backfill for Structures will be paid separately under Contract item 204.30.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
900.675 Special Provision (Unit Block Retaining Wall)	Square Yard

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</u> <u>Water Level Body Capacity</u>	<u>Minimum Rates</u> <u>Per YD per Hr.</u>
Trucks, Equipment Loaded	\$1.65

State of Vermont
Agency of Transportation

July 2015
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 Civil Rights website.

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 VTrans Civil Rights website. 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 the VTrans Civil Rights website. 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.

General Decision Number: VT170038 01/06/2017 VT38

Superseded General Decision Number: VT20160038

State: Vermont

Construction Type: Highway

County: Lamoille County in Vermont.

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels; building structures in rest areas; railroad construction; bascule, suspension & spandrel arch bridges; bridges designed for commercial navigation; bridges involving marine construction; and other major bridges)

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.20 for calendar year 2017 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2017. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/06/2017

* SUVT2011-023 09/14/2011

	Rates	Fringes
CARPENTER, Includes Form Work....	\$ 17.11	1.79
CEMENT MASON/CONCRETE FINISHER...	\$ 25.34	0.00
ELECTRICIAN; Includes Installation of Traffic Signals.....	\$ 23.32	0.00
GUARDRAIL INSTALLER.....	\$ 12.93	0.00
IRONWORKER, REINFORCING.....	\$ 16.03	2.39
IRONWORKER, STRUCTURAL.....	\$ 21.15	15.54
LABORER: Common or General Includes Asphalt Raker and Concrete Work.....	\$ 12.80	2.77
LABORER: Flagger.....	\$ 11.55	3.36
LABORER: Landscape.....	\$ 12.31	1.03

LABORER: Screedman.....\$ 16.30	4.23
LABORER: Sign Erector/Installer.....\$ 14.31	4.70
OPERATOR: Asphalt Roller.....\$ 18.27	5.16
OPERATOR: Backhoe.....\$ 18.99	1.64
OPERATOR: Bobcat/Skid Steer/Skid Loader.....\$ 18.03	0.00
OPERATOR: Broom.....\$ 16.88	3.72
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.....\$ 16.84	5.33
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

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

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave

for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

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)).

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 a union rate (current union negotiated rate for local); a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 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. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average

rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

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:

Pay Item

Pay Unit

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/m² (0.25 - 0.50 lb/ft²) 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 m²/l (125-175 ft²/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)

Ramsey, Jeff

From: Title 19 <DII-SharePointAdmins@state.vt.us>
Sent: Wednesday, December 16, 2015 12:07 PM
To: Goldstein, Lee; Ramsey, Jeff; Brady, James; Lofgren, Matt
Cc: john.lepore@state.vt.us; Gingras, Glenn; Pientka, Bernie; Brunelle, Chris; Pfeiffer, Rebecca
Subject: JohnsonBF0248(4) - Title 19 Review

Do not reply to this email.

****This item has been updated****

Project JohnsonBF0248(4) had been approved by, Chris Brunelle 802-777-5328. The following Standard Conditions apply:

Title-19 Standard Conditions:

1. A) The project shall be constructed as defined in the documents linked to the JohnsonBF0248(4) project in this Title 19 Share Point site. B) Any amendment to the plans which in any way affects surface waters and/or riparian corridors shall be reviewed by this office and approval received by VTrans prior to construction. C) Any construction modifications that deviate from the approved plans which in any way affects surface waters and/or riparian corridors shall be reviewed by this office and approval received by VTrans prior to the construction activity.
2. That the contractor's schedule of accomplishment of water quality related work to be submitted prior to the start of construction, and as required under general specification #105.23(a) shall include site-specific methods of operation. Temporary construction fills, check dams, silt barriers and other erosion control works shall be described and shown on pertinent plans.
3. That the Vermont Agency of Transportation general specification #105.23 addressing the control of erosion and siltation be carefully adhered to in order to minimize turbidity and other adverse impacts.
4. That the Vermont Agency of Transportation general specification #105.24 addressing pollution control be carefully followed in order to limit, if not prevent altogether, the discharge of fuel, grease, oil, raw concrete, paint, chemicals, and debris to any waters of the state.
5. An on-site pre-construction conference between the contractor, VTrans Resident Engineer and the River Management Engineer (Chris Brunelle) shall be held prior to commencement of any in-stream construction. Please contact the ANR River Management Engineer listed at the top of this email to schedule the conference.
6. Approved in-stream working dates on this project are from 6/1 -10/1. Contractor proposals for construction activities in or adjacent to flowing water during the restricted period must be isolated from stream flow and must receive prior approval from the River Management Engineer.
7. The provisions of this approval shall be made a part of the construction contract.

EA: 0248004-100

ANR Permit Number: HD-04-100

Project GUID: {A742B989-5BFA-4EFE-8317-0B0A76D49257}



**US Army Corps
of Engineers®**
New England District

Appendix B: Category 1 Self-Verification Form

Submit this form a **minimum of two weeks before** work commences to the following address. Call (802) 872-2893 with any questions.

U.S. Army Corps of Engineers
New England District, Regulatory Division
Vermont Project Office
11 Lincoln Street Room 210
Essex Junction, Vermont 05452
Fax: 802 879-7638
Katrina.l.sedney@usace.army.mil

Permittee: VTrans (VT Agency of Transportation)

Permittee Address: One National Life Drive

City, State & Zip Code: Monpelier, VT 05633

Phone(s) and Email: 802-279-0583

Work Locations/Address: Johnson VT 100C Bridge #1 and #2

City, State & Zip Code: Johnson VT

Latitude/Longitude coordinates: Lat: 43.90581 Long: -72.26807

Waterway name: Bell Brook

Description of work: Replacement of existing bridge decks and superstructures and minor substructure repairs. Work will be done under the following Appendix A categories (circle all that apply):

I. Inland Waters and wetlands: a ☒ b ☐ c ☐ d ☐ e ☐ f ☐
II. Navigable Waters: a ☐ b ☐ c ☐ d ☐ e ☐ f ☐ g ☐

Area of wetland impact: _____ square feet (SF)

Area of waterway impact: 20 SF

Length of stream impact: _____ linear feet (LF)

Will American Recovery and Reinvestment Act (ARRA) funds be used for any of this project? NO

Contractor: TBD

Contractor Address: _____

City, State & Zip Code: _____

Phone(s) and Email: _____

Proposed Work Dates: Start: _____ Finish: _____

Your signature below, as permittee, indicates that you accept and agree to comply with the terms, eligibility criteria, and conditions of Category 1 of this Vermont General Permit.

Permittee Signature: _____ Date: _____

DEPARTMENT OF THE ARMY GENERAL PERMIT STATE OF VERMONT

The New England Division of the U.S. Army Corps of Engineers (Corps) hereby issues this General Permit (GP) that expedites review of minimal environmental impact work associated with the aquatic environment of navigable and inland waters and wetlands within the State of Vermont. This general permit for Vermont is known as the Vermont General Permit.

I. GENERAL CRITERIA:

Activities with **minimal impacts**, as specified by this GP's terms (Pages 1-6), general conditions (GC) (Pages 7-16) and Appendix A - Definition of Categories, qualify for authorization under the GP in either Category 1 or Category 2.

Proponents should first review Appendix A - Definition of Categories to see if a project meets either:

- Category 1: Self-Verification, Category 1 Notification Form required
Projects meeting Category 1 criteria and which are in full compliance with the general conditions may be authorized under this GP after submission of the Category 1 Notification Form.
- Category 2: Reporting.
An application to and written verification from the Corps is required for these projects.

If you determine that your project is eligible for Category 1 as defined in Appendix A, you must then ensure that your project is in full compliance with this GP's terms and general conditions. If any of these terms and conditions are not met, your project must be reviewed in the Category 2 or the Individual Permit category. The Individual Permit thresholds are defined in Appendix A and the Individual Permit procedures are briefly described on Page 6. This GP does not affect the Corps Individual Permit review process or activities exempt from Corps regulation.

II. ACTIVITIES COVERED:

- Work and structures that are located in, under, or over any navigable water of the United States¹, the excavating from or depositing of material in such waters, or the accomplishment of any other work affecting the course, location, condition, or capacity of such waters (regulated by the Corps under Section 10 of the Rivers and Harbors Act of 1899); and
- The discharge of dredged or fill material into waters of the U.S. [regulated by the Corps under Section 404 of the Clean Water Act (CWA)]. This GP also covers secondary impacts², which are effects on an aquatic ecosystem that are associated with a discharge of dredged or fill materials, but do not result from the actual placement of the dredged or fill material. The Corps does not regulate secondary impacts unless there is an actual placement of dredged or fill material.

¹ Waters of the U.S., inland waters and wetlands, and navigable waters of the U.S. are defined at Appendix A, Endnotes/Definitions.

² See GC 3 on Page 7 and Appendix A, Endnote 4 for more information on secondary impacts.

III. PROCEDURES:

A. State Approvals

Applicants are responsible for applying for and obtaining any required State approvals (see GC 1). Federal and State jurisdictions may differ in some instances. State permits may be required for specific projects regardless of the general permit category.

In order for authorizations under this GP to be valid, a Water Quality Certification (WQC) under Section 401 of the CWA (33 USC 1341) or waiver thereof must be obtained from the VT ANR, Water Quality Division prior to the commencement of work in Corps jurisdiction. The VT ANR has granted WQC for GP Category 1 activities provided the Corps exercises its discretionary authority to review any project covered under Category 1 when notified by the VT ANR that such project represents a threat to water quality. Therefore, a separate 401 WQC application is not required for activities involving fill in waters of the U.S. authorized under Category 1 of this GP.

The VT ANR conditionally granted WQC for GP Category 2 activities listed in Appendix A of this GP provided the Corps notifies the VT ANR and the interagency review team (USFWS, USEPA, VT ANR and the Corps) finds that the activity is reasonably likely to have minimal or no impact on water quality. The VT ANR retains the right to require an Individual WQC for any Category 2 activity. The VT ANR will respond within the same response times required of the Federal resource agencies.

B. Corps Authorizations

General permit authorizations consist of both Category 1 and 2 activities (see Appendix A). The thresholds outlined in this document are intended to ensure that the GP results in no more than a minimal impact to the aquatic environment. The Corps will coordinate review of all Category 2 activities with Federal and State agencies, as appropriate, and may require project modifications or mitigation to minimize impacts.

• Category 1 – (Self-Verification, Category 1 Notification Form required)

- If you self-verify that your project qualifies for Category 1, your project is authorized under this GP and you are required to submit the Category 1 Notification Form at Appendix B to the Corps
- Prospective permittees should carefully review this GP to determine whether applying to the Corps under Category 2 prior to commencing the authorized activity is required. Consultation with the Corps and/or outside experts may be necessary to ensure compliance with this GP's GCs and related Federal laws such as the National Historic Preservation Act (see GC 7), the Endangered Species Act (ESA) (see GC 9) and the Wild and Scenic Rivers Act (see GC 11). Project proponents are encouraged to contact the Corps with Category 1 eligibility questions.
- Secondary impacts must be included when determining if a project qualified for Category 1 (see GC 3).
- Fill area includes all temporary and permanent fill.
- Projects not meeting the Category 1 eligibility criteria are reviewed under Category 2 or Individual Permit procedures.

Enforcement cases. This GP does not apply to any existing or proposed activity in Corps jurisdiction associated with an on-going Corps or EPA enforcement action until such time as the enforcement action is resolved or the Corps determines that the activity may proceed independently without compromising the enforcement action. The Corps may choose not to accept applications or issue permits to any applicant with outstanding violations.

Category 2 (Corps Verification, Application and Written Approval Required)

Eligibility

Activities in Vermont that are:

- Subject to Corps jurisdiction;
- Meet the definition of Category 2 in Appendix A; and
- Meet the general conditions of this GP (Pages 7-16)

require written approval from the Corps. These projects will be reviewed through interagency screening to determine whether such activities may be authorized under this GP. **To be eligible and subsequently authorized, an activity must result in no more than a minimal impact to the aquatic environment as determined by the Corps in coordination with the interagency review team, in addition to meeting the criteria listed above.**

This may require project modifications involving avoidance, minimization or compensatory mitigation³ for unavoidable impacts to ensure the net effects of a project are minimal.

To ensure compliance with this GP's general conditions, consultation with the Corps, other Federal or State resource agencies, or independent consultants, may be necessary. This includes consultation with the VT State Historic Preservation Officer (VT SHPO) (Page 16) and, when projects are proposed in Addison, Rutland or Bennington counties, the Stockbridge-Munsee Tribal Historic Preservation Officer (THPO) to ensure compliance with GC 7 and the VT ANR to comply with applicable general conditions. Also, note the review thresholds under Category 2 apply to single and complete projects only (see GC 5).

Application Procedures

Applicants must apply directly to the Corps at the Vermont Project Office (VPO), and are encouraged to simultaneously apply to the VT ANR for any related permits. Upon receipt of an application for a Category 2 activity, the Corps will determine if it:

- (1) Requires additional information;
- (2) Is appropriate for screening with the Federal resource agencies and State agencies (see Screening Procedures);
- (3) Is ineligible under the terms and/or conditions of this GP;
- (4) Requires project modification, mitigation or other special conditions to minimize impacts and protect the aquatic environment to be eligible for this GP; or
- (5) Requires Individual Permit review regardless of whether the terms and conditions of this GP are met, based on concerns for the aquatic environment or any other factor of the public interest (GC 4).

Information Typically Required

In order to consider an application complete and review it with the interagency review team, the applicant must submit complete information. Please see www.nae.usace.army.mil for a more comprehensive checklist. Select "Regulatory", "Permits" "Forms" and then "Application and Plan Guideline Checklist." This information includes, but is not limited to:

- A completed Corps application form ([ENG Form 4345](#)⁴)
- Plans that illustrate the proposed work in reference to the limits of Corps jurisdiction as applicable. Plans should be on 8.5" x 11" paper and contain all other appropriate information.
- A description of the proposed work, project purpose and location, including a locus map and photographs,

³ Compensatory mitigation for waterway/wetland impacts may take the form of payment into the Ducks Unlimited In-Lieu Fee Program, wetland restoration, enhancement, creation, and/or preservation. See www.nae.usace.army.mil/regulatory, "Mitigation" and then "Vermont" for more information.

⁴ Located at www.nae.usace.army.mil/regulatory under "Forms."

if applicable.

- Data sheets to support wetland delineations. (See GC 2.)
- A narrative description of the habitat(s) including dominant plant community(ies) present, soil type and relevant existing and adjacent land uses.
- A demonstration that there will be no more than minimal direct and indirect impacts to the aquatic resource(s) resulting from the project. Consideration should be given to impacts associated with expected hydrologic changes, effects on riparian habitat, forest fragmentation, impacts to headwater and ephemeral streams (Endnote 17), stormwater discharges and other potential water quality and wetland habitat impacts. (See GC 3.)
- Information on Federal endangered and threatened species and critical habitat, and State endangered and threatened species that occur or may occur in the project area. (See GC 9.)
VT ANR, Department of Fish & Wildlife, Nongame and Natural Heritage program contact information is provided on Pages 16-17. Refer to Additional References on Pages 18-19 for additional information.
- Identification and description of potential impacts to essential fish habitat. (See GC 10.)
- Identification of potential discharges of pollutants to waters, including potential impacts to impaired waters, in the project area. (See GC 22.) Refer to Additional References on Pages 18-19.
- Identification, quantification, and description of potential impacts to aquatic resources, including delineation of wetlands, special aquatic sites, special wetlands and vernal pools. (See GC 27.)

Federal/State Screening Procedures

The Corps, Federal resource agencies [U.S. Fish and Wildlife Service (USFWS), U.S. Environmental Protection Agency (EPA), and National Marine Fisheries Service (NMFS)] and VT ANR will comprise the interagency review team. The Corps will also coordinate with the VT SHPO and, as appropriate, the THPO as to potential impacts of a project on historic properties.

Screening of Category 2 projects will be either through email, fax, mail or at interagency screening meetings at the Corps VPO. Projects are coordinated on a regular basis or as necessary to facilitate prompt decision making. The Corps and the Federal resource agencies, at the branch chief or equivalent level, may agree on certain activities that do not need to be coordinated at these meetings. The Corps, VT ANR, VT SHPO and, as appropriate, the THPO will review/screen complete applications for Category 2 activities with impacts between 3,000 square feet (SF) and 5,000 SF. The Corps will review/screen all complete applications for Category 2 projects with impacts greater than 5,000 SF with the interagency review team, VT SHPO and, as appropriate, the THPO.

The Corps may determine on its own or in consultation with the interagency review team, if applications for Category 2 work:

- Are eligible under the GP as proposed;
- Are ineligible under the terms and/or conditions of this GP;
- Require additional information;
- Will require project modification, mitigation or other special conditions to avoid or minimize adverse environmental impacts and protect the aquatic environment to be eligible for authorization under this GP; or
- Require Individual Permit review irrespective of whether the terms and general conditions of this GP are met, based on concerns for the aquatic environment or any other factor of the public interest (see GC 4).

The Federal resource agencies, the VT ANR, VT SHPO and, as appropriate, the THPO must provide verbal comments to the appropriate Corps project manager in the VPO within 10 business days of receiving the Determination of Eligibility (DOE) from the Corps. These verbal comments may consist of a request for additional information, recommendations for modification, mitigation, or special conditions to avoid or minimize adverse environmental impacts associated with the aquatic environment, and to ensure the terms and

general conditions of the GP are met, or a request for a site visit.

Federal resource agency additional information requests shall be within their area of expertise, commensurate to the level of impact, and agreed upon by the Corps. If additional information is requested, the agencies are allowed an additional 10 business days after receipt of this information to provide recommendations for modifications, mitigation or special conditions. Unless additional information is requested, the verbal notice must be confirmed with a written response to the appropriate Corps project manager at the VPO within an additional 10 working days from the date of the verbal comment.

The Corps may contact the applicant either by phone or in writing if there are concerns. If the applicant is unable to resolve the concerns or modify the project, the Corps may determine that a project is ineligible under this GP, "kickout" the project to the Individual Permit review category, and begin its Individual Permit review procedures. The Corps will send a "Kickout Letter" to the applicant and copy the VT ANR and the commenting Federal resource agency on any written correspondence to the applicant. The Corps may reinstate a project's eligibility under the GP provided concerns are satisfied.

The VT ANR within 10 business days of the date the project information is received from the Corps may require an Individual 401 WQC review for any Category 2 project. This 10-day notice to the Corps of the requirement for an individual 401 WQC review may be verbal and is not required to be fully documented, but must be directed to the appropriate Corps Project Manager at the VPO. The VT ANR must confirm the requirement for an individual 401 WQC review with a written response to the appropriate Corps project manager within an additional 10 working days from the date of the verbal comment. If the VT ANR does not notify the Corps as outlined herein, WQC is conditionally granted for the project. In order for the Corps GP authorization to be valid, the WQC must be obtained or waived prior to the commencement of work.

If the Corps and Federal resource agencies determine that the activity is eligible for the GP, the Corps will send an authorization letter directly to the applicant. The Corps will generally issue an eligibility determination within 60 days from the date of a complete application. If the Corps determines that the activity is not eligible under the GP or that additional information is required, the Corps will notify the applicant in writing and will send a copy of this notification to VT ANR.

Emergency Situation Procedures

Emergency situations are limited to sudden, unexpected occurrences that could potentially result in an unacceptable hazard to life, a significant loss of property, or an immediate, unforeseen, and significant economic hardship if corrective action requiring a permit is not undertaken within a time period less than the normal time needed to process an application under standard procedures. If an emergency situation requires action in less than 30 days after the occurrence, it qualifies for the amended notification procedures described below.

Notification Procedures for Emergency Situations: The Federal resource agencies, VT ANR and the VT SHPO will each designate an alternate to be contacted in the event the regular contact is unavailable. The VT ANR, VT Emergency Management (VTEM) or FEMA will notify the Corps within 24 hours of the occurrence of a disaster and advise the Corps of the nature of the occurrence and any known remedial and/or protective measures. The Corps will notify agency representatives that a disaster has occurred within one working day of being notified by the VT ANR, VTEM or FEMA.

When an application for Category 2 work is received that the Corps VPO determines is an "emergency" as defined above, the Corps will e-mail or fax a copy of the plans and DOE to the agency representatives and their alternates. The resource agencies would then have 16 working hours to notify the Corps if they have any comments on authorization of the project under the GP. Objections to the Corps determination of an "emergency" situation will not be accepted. If no response is received at the VPO within 16 working hours, the Corps will proceed with a decision on the application. If the resource agencies have comments on the proposal,

they will have 16 working hours to put their comments in writing. If written comments from the Federal agencies are not received at the VPO within 16 working hours, the Corps will proceed with a decision on the application.

If a Federal agency requests that an Individual Permit be required for a project or requests modifications to the project based on concerns within their area(s) of expertise, the Corps will notify the applicant within 8 working hours of receipt of that request that the project as proposed does not qualify for authorization under the GP and that an Individual Permit will be required. In any event, the Corps will notify the applicant within 48 working hours of commencement of the screening process as to whether the project may proceed under the GP.

IV. INDIVIDUAL PERMIT

Work that is in the Individual Permit category as listed in Appendix A, or that does not meet the terms and conditions of this GP, will require an application for an individual permit from the Corps of Engineers (see 33 CFR 325.1). The applicant should submit the appropriate application materials [including the Corps application form (ENG 4345)] at the earliest possible date to expedite the permit review process. General information and application forms can be obtained at our web site or by calling us (see Page 16). An Individual 401 WQC will be required from the appropriate VT resource agency(ies). Filing an Individual Permit application does not relieve the applicant from their obligation to obtain all necessary State approvals from the appropriate Vermont resource agency(ies) or any applicable local approvals.

V. GENERAL CONDITIONS (and supporting general information):

The following conditions apply to activities authorized under this GP, including all Category 1 (self-verification) and Category 2 (screening) activities:

General Requirements:

1. **Other Permits.** Authorization under this general permit does not obviate (i.e., to make unnecessary) the need to obtain other Federal, state, or local authorizations required by law.
2. **Federal Jurisdictional Boundaries.** Applicability of this GP shall be evaluated with reference to Federal jurisdictional boundaries. Applicants are responsible for ensuring that the boundaries depicted on permit drawings satisfy the Federal criteria defined at 33 CFR 328-329. See www.nae.usace.army.mil/regulatory>> Jurisdictional Limits and Wetlands for more information.
3. **Minimal Effects, Secondary (Indirect) and Cumulative Impacts.** (a) Projects authorized by this GP shall have no more than minimal individual and cumulative environmental impacts as determined by the Corps. Applicants must demonstrate that there will be no more than minimal direct and indirect impacts to the aquatic resource(s) resulting from the project. Mitigation may be required to offset unavoidable impacts. (b) Secondary impacts to waterway and/or wetland areas, (e.g., areas drained, flooded, cleared, excavated or fragmented) shall be added to the total fill area when determining the project review category (Category 1, 2 or Individual Permit review). Secondary and cumulative impacts are defined at Appendix A, Endnote 4.
4. **Discretionary Authority.** Notwithstanding compliance with the terms and general conditions of this GP, the Corps retains discretionary authority to require either a Category 2 or an Individual Permit review based on concerns for the aquatic environment or for any other factor of the public interest (33 CFR 320.4(a)). This authority is invoked on a case-by-case basis whenever the Corps determines that the potential impacts of the proposal warrant either a Category 2 or an Individual Permit review based on the concerns stated above. This authority may be invoked for projects with cumulative environmental impacts that are more than minimal or if there is a special resource or concern associated with a particular project that is not already covered by the remaining conditions of the GP and that warrants greater review. Whenever the Corps notifies an applicant that either a Category 2 or Individual Permit review is required, authorization under this GP is void and no work may be conducted until the Corps issues the required authorization or until the Corps notifies the applicant that further review has demonstrated that the work may proceed under this GP.
5. **Single and Complete Projects.** This GP shall not be used for piecemeal work and shall be applied to single and complete projects. All components of a single project and/or all planned phases of a multi-phased project shall be treated together as constituting one single and complete project, unless the Corps determines that a component has independent utility. For linear projects, such as power lines or pipelines with multiple crossings, the "single and complete project" (i.e., single and complete crossing) will apply to each crossing of a separate water of the U.S. (i.e., single waterbody) at that location; except that for linear projects crossing a single waterbody several times at separate and distant locations, each crossing is considered a single and complete project, and may be reviewed for Category 1 eligibility. However, individual channels in a braided stream or river, or individual arms of a large, irregularly-shaped wetland or lake, etc., are not separate waterbodies. If any crossing requires a Category 2 activity, then the entire linear project shall be reviewed as one project under Category 2 provided that the impact thresholds in Appendix A are met. Also, this GP shall not be used for any activity that is part of an overall project for which an Individual Permit is required, unless the Corps determines the activity has independent utility. Note that modifications to State permits do not constitute a separate project. Modifications which involve Corps jurisdiction will be screened at the regular screening in order to ascertain compliance with the GP. Keep in mind that a linear project normally qualifying as a Category 1 project will trigger a Corps review if the impacts exceed this GP's general conditions.

6. Permit On-Site. For Category 2 projects, the permittee shall ensure that a copy of this GP and any accompanying authorization letter with attached plans are at the site of the work authorized by this GP whenever work is being performed and that all construction personnel are aware of its terms and conditions. The entire permit authorization shall be made a part of any and all contracts and sub-contracts for work that affects areas of Corps jurisdiction at the site of the work authorized by this GP. This shall be achieved by including the entire permit authorization in the specifications for work. The term "entire permit authorization" means this GP and the authorization letter (including its drawings, plans, appendices and other attachments) and also includes permit modifications. If the authorization letter is issued after the construction specifications, but before receipt of bids or quotes, the entire permit authorization shall be included as an addendum to the specifications. If the authorization letter is issued after receipt of bids or quotes, the entire permit authorization shall be included in the contract or sub-contract. Although the permittee may assign various aspects of the work to different contractors or sub-contractors, all contractors and sub-contractors shall be obligated by contract to comply with all environmental protection provisions contained within the entire GP authorization, and no contract or sub-contract shall require or allow unauthorized work in areas of Corps jurisdiction.

General Conditions Related to National Concerns:

7. Historic Properties. Any activity authorized by this GP shall comply with Section 106 of the National Historic Preservation Act. Information on the location and existence of historic resources can be obtained from the VT SHPO (See page 16) and the National Register of Historic Places. Project proponents shall apply to the Corps for all projects that would otherwise qualify for Category 1 if there is the potential for an effect on a historic property within the permit area or any known historic property that may occur outside the permit area. Historic properties include those that are eligible for inclusion, but not necessarily listed on the National Register. If the permittee, during construction of work authorized herein, encounters a previously unidentified archaeological or other cultural resource within the area subject to Corps jurisdiction that might be eligible for listing in the National Register of Historic Places, he/she shall stop work and immediately notify the Corps, the VT SHPO and, when work is proposed in Addison, Rutland or Bennington counties, the Stockbridge-Munsee Native American tribe.

8. National and Corps Lands. Activities authorized by this GP shall not impinge upon the value of any National Wildlife Refuge, National Forest, National Park or any other area administered by the U.S. FWS, U.S. Forest Service, or National Park Service. No Category 1 work is allowed on Corps properties and Corps-controlled easements (see Appendix A, Endnote 9).

9. Federal and State Endangered Species.

- a. No activity may be authorized under this GP which:
 - May affect a threatened or endangered species, a proposed species, designated critical habitat, or proposed critical habitat as identified under the Federal Endangered Species Act (ESA),
 - Would result in a "take" of any Federally listed threatened or endangered species of fish or wildlife, or
 - Would result in any other violation of Section 9 of the ESA protecting threatened or endangered species of plants.
- b. Proponents for Category 1 and 2 projects shall ensure there are no impacts to Federally-listed threatened or endangered species or critical habitat and should ensure that there are no impacts to State threatened or endangered species.
- c. Proponents for Category 1 and 2 projects shall notify the Corps if any of the actions in 9a may occur and if any Federally listed threatened or endangered species or critical habitat, or proposed species or critical habitat, is in the project area or may be impacted by the project. For Category 1 projects, the Corps may then notify the proponent that the project will be reviewed under the Category 2 or Individual Permit procedures and if so the proponents shall not begin work until the Corps issues a written authorization.

d. Applicants should also provide information on state threatened and endangered species. The Information Typically Required section on Page 3 provides guidance. Contact information for the VT ANR, Department of Fish & Wildlife, Nongame and Natural Heritage program is provided on Pages 16-17, and more information is provided at Additional References, Pages 18-19.

10. Essential Fish Habitat (EFH). As part of the GP screening process, the Corps will coordinate with the NMFS in accordance with the 1996 amendments to the Magnuson-Stevens Fishery, Conservation and Management Act (MSFCMA) to protect and conserve the habitat of marine, estuarine and anadromous finfish, mollusks, and crustaceans. This habitat is termed EFH and is broadly defined to include "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." Any work in the following streams in the Connecticut River watershed that are stocked with Atlantic salmon shall not be authorized under Category 1 of this GP and must be screened for potential impacts to EFH. For additional EFH information and/or locations, see 50 CFR 600 (www.nmfs.noaa.gov), www.nero.nmfs.gov/RO/DOC/appguide1.html or contact NMFS (see Page 16).

• Black River (from its mouth in Springfield to its headwaters)	• Ompompanoosuc River	• Stevens River
• Connecticut River	• Ottauquechee River	• Wells River
• Deerfield River	• Passumpsic River	• West River
• Nulhegan River	• Paul Stream	• White River
	• Saxtons River	• Williams River

11. Wild and Scenic Rivers. Any activity that occurs in the designated main stem of, within 0.25 mile up or downstream of the designated main stem of, or in tributaries within .25 miles of the designated main stem of a National Wild and Scenic River, or in "bordering and contiguous wetlands" (see Appendix A, Endnote 1) that are adjacent to the designated main stem of a National Wild and Scenic River, or that has the potential to alter flows within a river within the National Wild and Scenic River System, is not eligible for Category 1 regardless of size of the impacts. This condition applies to both designated Wild and Scenic Rivers and rivers officially designated by Congress as study rivers for possible inclusion while such rivers are in an official study status. Currently there are no designated National Wild and Scenic Rivers in Vermont. The Missisquoi River, from its headwaters in Lowell to the Canadian border in Troy (25 miles) and from the Canadian border in East Richford to Enosburg Falls (25 miles) and the Trout River have been officially designated by Congress as study rivers.

12. Federal Navigation Project. Any structure or work that extends closer to the horizontal limits of any Corps navigation project than a distance of three times the project's authorized depth shall be subject to removal at the owner's expense prior to any future Corps dredging or the performance of periodic hydrographic surveys.

13. Navigation. (a) There shall be no unreasonable interference with navigation by the existence or use of the activity authorized herein, and no attempt shall be made by the permittee to prevent the full and free use by the public of all navigable waters at or adjacent to the activity authorized herein. (b) The permittee understands and agrees that if future operations by the U.S. require the removal, relocation or other alteration of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps, to remove, relocate or alter the structural work or obstructions caused thereby, without expense to the U.S. No claim shall be made against the U.S. on account of any such removal or alteration.

14. Federal Liability. In issuing this GP, the Federal Government does not assume any liability for the following: (a) damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes; (b) damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the U.S. in the public interest; (c) damages to persons, property or to other permitted or unpermitted activities or structures caused by the activity authorized by the GP; (d) design or construction deficiencies associated with the permitted work; (e) damage claims associated with any future

modification, suspension or revocation of this permit.

Minimization of Environmental Impacts:

15. Avoidance, Minimization and Mitigation. Discharges of dredged or fill material into waters of the U.S. and any secondary impacts shall be avoided and minimized to the maximum extent practicable. Mitigation of unavoidable direct and indirect impacts may be required on a case-by-case basis.

16. Heavy Equipment in Wetlands. Heavy equipment other than fixed equipment (drill rigs, fixed cranes, etc.) working in wetlands shall not be stored, maintained or repaired in wetlands, unless it is less environmentally damaging otherwise, and as much as possible shall not be operated there. Where construction requires heavy equipment operation in wetlands, the equipment shall either have low ground pressure (typically <3 psi), or shall not be located directly on wetland soils and vegetation; it shall be placed on construction mats or corduroy roads (defined at Appendix A, Endnote 16) that are adequate to support the equipment in such a way as to minimize disturbance of wetland soil and vegetation. Construction mats are to be placed in the wetland from the upland or from equipment positioned on swamp mats if working within a wetland. Dragging construction mats into position is prohibited. Construction mats shall be managed in accordance with the Construction Mat Best Management Practices (BMPs) (Appendix A, Endnote 20). Other support structures that are less impacting and are capable of safely supporting equipment may be used with written Corps authorization. Similarly, not using mats during frozen, dry or other conditions may be allowed with written Corps authorization. (See GC 17 below.) An adequate supply of spill containment equipment shall be maintained on site. Corduroy roads and construction mats are considered as fill whether they're installed temporarily or permanently.

17. Temporary Fill. No temporary fill shall be placed in waters of the U.S., including wetlands, unless a) it is specifically authorized in writing by the Corps, or b) the project qualifies for the non-reporting Category 1 (the combined temporary and permanent fill totals less than 3,000 SF, it meets the Appendix A Category 1 definition, and it is in compliance with this GP's terms and general conditions).

- All temporary fill shall be stabilized to prevent its eroding into portions of waters of the U.S. where it is not authorized.
- Waters of the U.S. where temporary fill was discharged shall be restored (see GC 18).
- Unconfined temporary fill authorized for discharge into waters of the U.S. shall consist of material that minimizes impacts to water quality (e.g. sandbags or clean gravel and/or stone).
- Temporary fill authorized for discharge into wetlands shall be placed on geotextile fabric laid on the pre-construction wetland grade. Construction mats are excluded from this requirement.
- Temporary fill shall be removed as soon as it is no longer needed, and it shall be disposed of at an upland site and suitably contained to prevent its subsequent erosion into waters of the U.S.
- Construction mats and corduroy roads (see GC 16) are considered as temporary fill when they are removed immediately upon work completion. The areas must be restored in accordance with GC 18.
- If temporary fill is staged and then returned to its original location, e.g., sewer projects through wetlands, the original location shall be restored.

18. Work Site Restoration.

- Upon completion of construction, all disturbed wetland areas (the disturbance of these areas must be authorized) shall be properly stabilized. Any seed mix shall contain only plant species native to New England and shall not contain any of the plant species listed in Appendix B - "Invasive Species and Other Unacceptable Plant Species" in the "Mitigation Guidance for New England District Mitigation Plan Checklist," provided at <http://www.nae.usace.army.mil/Regulatory/Mitigation/CompensatoryMitigationGuidance.pdf> and referenced in the Planting Plan section. This list may be updated periodically.

- The introduction of non-native invasive and noxious species in disturbed areas is prohibited and any spread of such invasive plant species shall be controlled. See Additional References on Pages 18-19. The Corps lists these species in the above mentioned checklist in the Invasive and Noxious Species section.
- In areas of authorized temporary disturbance, if trees are cut they shall be cut at ground level and not uprooted in order to prevent disruption to the wetland soil structure and to allow stump sprouts to revegetate the work area, unless otherwise authorized.
- Wetland areas where permanent disturbance is not authorized shall be restored to their original condition and elevation, which under no circumstances shall be higher than the pre-construction elevation. Original condition means careful protection and/or removal of existing soil and vegetation, and replacement back to the original location such that the original soil layering and vegetation schemes are approximately the same, unless otherwise authorized.

19. Bank Stabilization. Projects involving construction or reconstruction/maintenance of bank stabilization structures within Corps jurisdiction should be designed to minimize environmental effects, effects to neighboring properties, etc. to the maximum extent practicable. Applicants must use the least intrusive method to stabilize the bank, following this sequential minimization process: avoidance, diversion of overland flow, vegetative stabilization, stone-sloped surfaces, and walls. Vertical walls/bulkheads must only be used in situations where reflected wave energy can be tolerated. This generally eliminates bodies of water where the reflected wave energy may interfere with or impact on harbors, marinas, or other developed shore areas. Refer to Additional References on Pages 18-19.

20. Sedimentation and Erosion Control. Adequate sedimentation and erosion control management measures, practices and devices, such as phased construction, vegetated filter strips, geotextile silt fences or other devices, shall be installed and properly maintained to reduce erosion and retain sediment on-site during and after construction. Such measures shall be capable of preventing erosion, of collecting sediment, suspended and floating materials, and of filtering fine sediment. The temporary devices shall be removed upon completion of work and the disturbed areas shall be stabilized. The sediment collected by these devices shall be removed and placed at an upland location, in a manner that will prevent its later erosion into a waterway or wetland. All exposed soil and other fills shall be permanently stabilized at the earliest practicable date.

21. Waterway/Wetland Work and Crossings

- (a) All temporary and permanent crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed to withstand and to prevent the restriction of high flows, to maintain existing low flows, and to not obstruct the movement of aquatic life indigenous to the waterbody beyond the actual duration of construction.
- (b) No activity may substantially disrupt the necessary life-cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water.
- (c) To meet the objective of aquatic organism passage in (a) and (b) above, all temporary and permanent crossings of rivers, streams, brooks, etc. (hereon referred to as "streams") shall meet the following performance standards in order to qualify for Category 1 (refer to Additional References on Pages 18-19):
 - i. Design the structure to maintain a streambed composition and form throughout the culvert similar to and continuous with the adjacent reaches. To do this:
 - o Design and install streambed material and bedforms if not adequately supplied and developed naturally,
 - o Design profile and alignment through structure similar to those of adjacent stream reaches,
 - o Design culvert elevation to remain embedded for the life of the structure and in consideration of future channel conditions.
 - ii. Maintain velocities, turbulence and depths within the structure similar to those found in adjacent stream reaches across a range of desired flows.
- (d) The requirements to comply with the performance standards in (c) above in order to proceed as a Category 1 project do not apply to the following:

- i. Temporary crossings in place for less than 90 days (the requirements in (a) do apply). Temporary culverts must be embedded unless they're installed during low flow (Jul. 15 – Oct. 1) and it's placed on geotextile fabric laid on the stream bed to ensure restoration to the original grade;
- ii. Constructed drainage systems designed primarily for the conveyance of storm water or irrigation. Also, non-tidal drainage and irrigation ditches excavated on dry land are not Federally-regulated.
- (e) Applicants proposing new crossings, or maintenance or replacement of serviceable crossings should refer to the Guidelines for the Design of Stream/Road Crossings for Passage of Aquatic Organisms in Vermont. Refer to Additional References on Pages 18-19.
- (f) Applicants shall use the least intrusive and environmentally damaging method to construct the stream crossing, following this sequential minimization process: bridge spans, open bottom arches or embedded culverts. Refer to Additional References, Pages 18-19.
- (g) Culverts at waterbody crossings shall be installed in such a manner as to preserve hydraulic connectivity, at its present level, between the wetlands on either side of the road. The permittee shall take necessary measures to correct wetland damage due to lack of hydraulic connectivity.
- (h) Projects using retrofit methods increasing flow velocity or slip lining (retrofitting an existing culvert by inserting a smaller diameter pipe) are not allowed in Category 1, either as new or maintenance activities.
- (i) No projects involving open trench excavation in flowing waters, except riprap installation, are allowed under Category 1. Open trench excavation projects may qualify for Category 1 provided (1) the work doesn't occur in flowing waters (requires using management techniques such as temporary flume pipes, culverts, cofferdams, etc.) and (2) normal flows are maintained within the stream boundary's confines (see Appendix A, Endnote 6). Projects utilizing these management techniques must meet the other Category 1 requirements (see Appendix A, Page 1) and all of this GP's terms and general conditions.
- (j) For projects that otherwise meet the terms of Category 1, in-stream (e.g., rivers, streams, brooks, etc.) construction work shall be conducted only during the low flow period of July 15 to October 1 in any year. Projects that are conducted outside that time period are ineligible for Category 1 and shall be reviewed under Category 2, regardless of the waterway and wetland fill and/or impact area.
- (k) Work impacting upstream or downstream flood profiles must be reviewed under Category 2.

22. Discharge of Pollutants.

- (a) All activities involving a discharge into waters of the U.S. authorized under this GP shall be consistent with applicable water quality standards, effluent limitations, standards of performance, prohibitions, and pretreatment standards and management practices established pursuant to the CWA (33 USC 1251) and applicable State and local laws. If applicable water quality standards, limitations, etc., are revised or modified during the term of this GP, the authorized work shall be modified to conform to these standards within six months of the effective date of such revision or modification, or within a longer period of time deemed reasonable by the Corps in consultation with the EPA.
- (b) All projects authorized by this GP shall be designed, constructed and operated to minimize or eliminate the discharge of pollutants. Category 2 projects will be reviewed to determine if a project may result in a discharge of relevant pollutants to an impaired water. See the Additional Information Required section on Page 4.
- (c) Unless otherwise notified by the VT ANR, applicants may presume that the Section 401 WQC for this GP constitutes the Section 401 WQC for their Section 404 activity, provided the terms and conditions of this GP are met.

23. Floodplain Work.

- (a) In order to qualify for authorization under Category 1 of this GP, projects shall result in no more than a minimal decrease in natural valley storage, and shall not result in an increase in the base flood elevation (where hydraulic information necessary to make this determination is available).
- (b) There shall be no Category 1 projects located within a FEMA designated Special Flood Hazard Area as shown on the most current flood insurance studies and maps published by FEMA and adopted by the municipality within which the proposed project is located.

(c) Any project located within a FEMA designated Special Flood Hazard Area shall comply with minimum NFIP regulations, or local Flood Hazard Area regulations if more restrictive.

Note: Refer to Additional References, Pages 18-19.

24. Spawning and Breeding Areas. Discharges of dredged or fill material, and/or suspended sediment producing activities in fish and shellfish spawning or nursery areas, or amphibian and migratory bird breeding areas, during spawning or breeding seasons shall be avoided. Impacts on these areas shall be minimized to the maximum extent practicable during all times of year.

25. Storage of Seasonal Structures. Seasonal or recreational structures such as pier sections, floats, etc., that are removed from the waterway for a portion of the year shall be stored in an upland location, located above ordinary high water and not in a wetland.

26. Environmental Functions and Values. (a) The permittee shall make every reasonable effort to carry out the construction or operation of the work authorized herein in a manner that minimizes adverse impacts on fish, wildlife and natural environmental values. (b) The introduction of invasive plant species identified by any Federal agency in disturbed areas is prohibited and any spread of such invasive plant species shall be controlled. Refer to GC 18 and Additional References on Pages 18-19.

27. Protection of Special Aquatic Sites and Special Wetlands, including Vernal Pools.

Special Aquatic Sites (SAS): Projects with any temporary or permanent fill in SAS (Endnote 7), or that could adversely affect SAS, whether directly or indirectly, do not qualify for Category 1. This does not apply to "inland wetlands," but does apply to the other SAS types listed at Endnote 7.

Special Wetlands: When jurisdiction is triggered (see Activities Covered, Page 1), projects in or that could adversely affect Special Wetlands (Endnote 8), whether directly or indirectly, do not qualify for Category 1. Special wetlands are vernal pools, bogs, fens, and wetlands which provide habitat for threatened or endangered species as designated by the State of Vermont Natural Heritage Program. See Additional References on Pages 18-19 for additional references.

Vernal Pools (VP): These are a type of special wetland (Endnote 8). Category 1 excludes projects in or within 200' of a VP on the property when jurisdiction is triggered. This does not apply to temporary impacts associated with construction mats in previously disturbed areas of existing utility project right-of-ways (e.g., transmission lines, gas pipelines) or linear transportation projects (e.g., roads, highways, railways, trails, airport runways and taxiways) provided there is a Vegetation Management Plan or equivalent BMPs that avoid, minimize and mitigate impacts to aquatic resources. The applicant must minimize surrounding upland impacts to the greatest extent practicable, with the effort to minimize impacts being commensurate with the value of the pool. Impact minimization should be in accordance with *Best Development Practices: Conserving pool-breeding amphibians in residential and commercial development in the northeastern U.S.*, Calhoun and Klemens, 2002; and *Science and Conservation of Vernal Pools in Northeastern North America*, Calhoun and deMaynadier, 2008, specifically Chapter 12, Conservation Recommendations section, Page 241. (See Additional References, Pages 18-19). For example, site clearing, grading and construction activities should be limited to <25% of the VP terrestrial habitat, and roads and driveways should be excluded from the VP envelope. For Category 2 projects, the applicant shall delineate all VPs on the property (see GC 2). The Corps may waive this requirement on a case-by-case basis.

28. Fluvial Geomorphic Processes. (a) Wherever practicable, projects should be designed to accommodate the natural tendencies of the fluvial system. This should greatly enhance the likelihood of long-term success of the project and minimize the chance of exacerbating an otherwise undesirable physical adjustment process. Recognition of these processes requires assessment of physical parameters and characteristics of the watershed, the water and sediment regimes, the channel and floodplain, the anthropogenic influences and constraints on the reach concerned and to what extent sediment transport continuity in the reach can be attained. (b) Applicants should consult with the VT River Management Program Stream Alteration Engineer for assistance in compliance with this condition.

Note: Refer to Additional References on Pages 18-19 for additional information.

Procedural Conditions:

29. Inspections. The permittee shall allow the Corps to make periodic inspections at any time deemed necessary in order to ensure that the work is being or has been performed in accordance with the terms and conditions of this permit. The Corps may also require post-construction engineering drawings for completed work, and post-dredging survey drawings for any dredging work.

30. Maintenance. (a) The permittee shall maintain the work authorized herein in good condition and in conformance with the terms and general conditions of this permit. Permittees must contact the Corps if maintenance will not take place or if they want to modify the existing project design. (b) The requirement to maintain the authorized work does not include maintenance of dredging projects. Maintenance dredging is subject to the review thresholds in Appendix A and/or any special conditions included in a written Corps authorization. Note: Refer to Additional References on Pages 18-19 for information on maintaining stream restoration projects.

31. Property Rights. This GP does not convey any property rights, either in real estate or material, or any exclusive privileges, nor does it authorize any injury to property or invasion of rights or any infringement of federal, state, or local laws or regulations.

32. Modification, Suspension, and Revocation. This GP may be either modified, suspended, or revoked in whole or in part pursuant to the policies and procedures of 33 CFR 325.7. Any such action shall not be the basis for any claim for damages against the U.S.

33. Restoration. The permittee, upon receipt of a notice of revocation of authorization under this GP, shall restore the wetland or waterway to its former conditions without expense to the U.S., and as directed by the Secretary of the Army or his authorized representative. If the permittee fails to comply with such a directive, the Secretary or his designee may restore the wetland or waterway to its former condition, by contract or otherwise, and recover the cost from the permittee.

34. Special Conditions. The Corps may impose other special conditions on a project authorized pursuant to this GP that are determined necessary to minimize adverse navigational and/or environmental effects or based on any other factor of the public interest. Failure to comply with all conditions of the authorization, including special conditions, constitutes a permit violation and may subject the permittee to criminal, civil or administrative penalties and/or restoration.

35. False or Incomplete Information. If the Corps makes a determination regarding the eligibility of a project under this GP, and subsequently discovers that it has relied on false, incomplete, or inaccurate information provided by the permittee, the GP authorization shall not be valid and the U.S. Government may institute legal proceedings.

36. Abandonment. If the permittee decides to abandon the activity authorized under this GP, unless such abandonment is merely the transfer of property to a third party, he/she may be required to restore the area to the satisfaction of the Corps.

37. Transfer of GP Verifications. If the permittee sells the property associated with a GP verification, the permittee may transfer the GP verification to the new owner by submitting a letter to the Corps (see Page 16 for address) to validate the transfer. A copy of the GP verification must be attached to the letter and the letter must contain the following statement and signature: "When the structures or work authorized by this GP are still in existence at the time the property is transferred, the terms and conditions of this GP, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this GP

and the associated liabilities associated with compliance with its terms and conditions; have the transferee sign and date below."

38. Enforcement cases. This GP does not apply to any existing or proposed activity in Corps jurisdiction associated with a Corps or EPA enforcement action, until such time as the enforcement action is resolved or the Corps or EPA as appropriate determines that the activity may proceed independently without compromising the enforcement action.

Duration of Authorization/Grandfathering:

39. Duration of Authorization. Activities authorized under this GP that have commenced (i.e., are under construction) or are under contract to begin construction in reliance upon this authorization, will remain authorized provided the activity is completed within twelve months of the expiration date on this permit, unless:

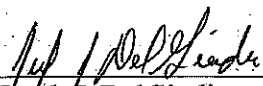
- a) the GP is either modified or revoked; or
- b) discretionary authority has been exercised in accordance with 33 CFR 325.2(e) (2).

Activities authorized and completed under Category 1 or 2 of this GP will continue to remain authorized after this GP's expiration date.

40. Previously Authorized Activities.

(a) Projects that received written authorization from the Corps and that were completed under the previous GP's, nationwide permits, regional general permits or letters of permission, shall remain authorized as specified in each authorization letter.

(b) Activities authorized pursuant to 33 CFR 330.3 ("Activities occurring before certain dates") are not affected by this GP.


Frank J. DelGiudice
Chief, Permits and Enforcement Branch

12-6-2012
DATE

VI. CONTACTS FOR VERMONT GENERAL PERMIT:

U.S. Army Corps of Engineers

New England District, Regulatory Division
Vermont Project Office
8 Carmichael Street, Suite 205
Essex Junction, Vermont 05452
(802) 872-2893, (802) 879-7638 fax
www.nae.usace.army.mil/reg/index.htm

Federal Endangered Species:

U.S. Fish and Wildlife Service
Federal Activities/Endangered Species
70 Commercial Street, Suite 300
Concord, New Hampshire 03301-5087
(603) 223-2541
www.fws.gov/northeast/newenglandfieldoffice.htm

National Park Service

National Park Service
North Atlantic Region
15 State Street
Boston, Massachusetts 02109
(617) 223-5191

U.S. Environmental Protection Agency

New England Region
Wetland Protection Program Unit – OEP/CWP
JFK Federal Building 1 Congress Street, Suite 1100
Boston, MA 02114-2023
(617) 918-1399

Essential Fish Habitat:

National Marine Fisheries Service
Habitat Conservation Division (HCD)
One Blackburn Drive
Gloucester, Massachusetts 01930
(978) 281-9300

Historic Resources

State Historic Preservation Officer
Division for Historic Preservation
National Life Building
Drawer 20
Montpelier, Vermont 05620-0501
(802) 828-3211

Tribal Historic Preservation Officer
c/o Stockbridge-Munsee Community
P.O. Box 70
Bowler, Wisconsin 54416
(715) 793-3970
Area of concern: Addison, Rutland and
Bennington Counties

Vermont Agency of Natural Resources

Department of Environmental Conservation

Wetlands Program
Watershed Management Division
1 National Life Drive, Main 2
Montpelier, VT 05620-3522
Alan.quackenbush@state.vt.us

Department of Environmental Conservation

Lakes and Ponds Program
Watershed Management Division
1 National Life Drive, Main 2
Montpelier, VT 05620-3522
Susan.warren@state.vt.us

Department of Environmental Conservation

River Management Program
Watershed Management Division
1 National Life Drive, Main 2
Montpelier, VT 05620-3522
Mike.kline@state.vt.us

Department of Environmental Conservation

Dam Safety Program
Facilities Engineering Division
1 National Life Drive, Main 2
Montpelier, VT 05620-3522
Steve.bushman@state.vt.us

Vermont Department of Fish and Wildlife

1 National Life Drive, Main 2

Montpelier, VT 05620-3522

Rich.kirn@state.vt.us

State endangered species

Vermont Department of Fish and Wildlife

Nongame and Natural Heritage Program

1 National Life Drive, Main 2

Montpelier, VT 05620-3522

www.vtfishandwildlife.com/wildlife_nongame.cfm

VII. ADDITIONAL REFERENCES:

Page 4: Application. Refer to www.nae.usace.army.mil for a more comprehensive checklist. Select "Regulatory" "Permits" "Forms" and then "Application and Plan Guideline Checklist."

Page 4 & GC 9: Threatened and Endangered Species.

The VT F&W provides information on Federal and State species:

www.vtfishandwildlife.com/wildlife_nongame.cfm.

The VT ANR Environmental Interest Locator provides an interactive web based GIS map with documented locations:

http://maps.vermont.gov/imf/sites/ANR_NATRESViewer/jsp/launch.jsp.

The U.S. Fish and Wildlife Service (U.S. FWS) provides information on Federal endangered species:

www.fws.gov/northeast/newenglandfieldoffice/EndangeredSpec-Consultation_Project_Review.htm.

Page 4 and GC 22: Discharge of Pollutants - Impaired Waters and Stormwater Impaired Waters: The VT ANR lists and shows impaired waters and stormwater impaired waters at:

www.vtwaterquality.org/planning.htm.

GC 2: Federal Jurisdictional Boundaries.

- (a) Corps Wetlands Delineation Manual, regional supplements, and Corps Wetland Delineation Data Sheets: www.nae.usace.army.mil/regulatory and then "Wetlands and Jurisdictional Limits."
- (b) The National List of Plant Species that Occur in Wetlands (http://wetland_plants.usace.army.mil).
- (c) The Natural Resources Conservation Service (NRCS) publishes the current hydric soil definition, criteria and lists: <http://soils.usda.gov/use/hydric>. For the Field Indicators for Identifying Hydric Soils in N.E., see www.neiwpcc.org/hydricsoils.asp.

GCs 18 and 26: Invasive Species.

- (a) Information on what are considered "invasive species" is provided in our "Compensatory Mitigation Guidance" document at www.nae.usace.army.mil/regulatory under "Mitigation." The "Invasive Species" section has a reference to our "Invasive Species Control Plan (ISCP) Guidance" document, located at www.nae.usace.army.mil/regulatory under "Invasive Species," which provides information on preparing an ISCP.
- (b) The June 2009 "Corps of Engineers Invasive Species Policy" is at www.nae.usace.army.mil/regulatory under "Invasive Species" and provides policy, goals and objectives.

GC 19: Bank Stabilization.

Corps Coastal Engineering Manual: Select "Products/Services" and then "Publications." Part 5, Chapter 7-8, a(2)c is particularly relevant. <http://chl.erdc.usace.army.mil>.

GC 21: Waterway/Wetland Work and Crossings

21(c): Performance standards in GC 21 are taken from Section 8 - Alternative Designs, in the document "Guidelines for the Design of Stream/Road Crossings for Passage of Aquatic Organisms in Vermont." These Guidelines are located at www.vtfishandwildlife.com/library.cfm, "Reports and Documents." This document should be referenced when designing and constructing stream crossing projects to help ensure compliance with GC 21 (a) - (c).

GC 23: Flood Hazard Management. www.anr.state.vt.us/dec/waterq/rivers/htm/rv_floodhazard.htm.

GC 27: Special Wetlands.

Refer to the VT ANR Environmental Interest Locator, which provides an interactive web based GIS map with locations of significant (wetland) natural communities. At the Locator select map layers, fish and wildlife, and

then significant natural communities:

http://maps.vermont.gov/imf/sites/ANR_NATRESViewer/jsp/launch.jsp. Some wetlands are more valuable and sensitive to fragmentation, non-point source runoff, and other secondary impacts. Upland buffers are especially essential to protect their functions.

The following documents provide conservation recommendations for vernal pools:

Best Development Practices: Conserving pool-breeding amphibians in residential and commercial development in the northeastern U.S., Calhoun and Klemens, 2002. Chapter III, Management Goals and Recommendations, Pages 15 – 26, is particularly relevant. (Available for purchase at www.maineaudubon.org/resource/index.shtml and on Corps website*.)

Science and Conservation of Vernal Pools in Northeastern North America, Calhoun and deMaynadier, 2008. Chapter 12, Conservation Recommendations section, Page 241, is particularly relevant. (Available for purchase via the internet. Chapter 12 is available on Corps website*.)

* www.nae.usace.army.mil/regulatory under “Vernal Pools.”

Cape Cod Curbing: For smaller roads and driveways, the most important design feature to consider is curbing. Granite curbs and some traditional curbing can act as a barrier to amphibian and hatchling turtle movements. Large numbers of salamanders have been intercepted in their migrations by curbs and catch basins. Use of Cape Cod curbs rather than traditional curbing may be one solution. Alternatively, where storm water management systems require more traditional curbing, it may be possible to design in escape ramps on either side of each catch basin.

The Vernal Pool Directional Buffer Guidance document is located at www.nae.usace.army.mil/regulatory under: 1) “State General Permits” and then “Maine,” and 2) “Vernal Pools.”

GC 28: Fluvial Geomorphic Processes. Consult with the VT River Management Program Stream Alteration Engineer for assistance in compliance with GC 28. Refer to information provided at: www.anr.state.vt.us/dec/waterq/rivers/htm/rv_management.htm.

GC 30: Maintenance. River restoration projects that are designed to accommodate the natural dynamic tendencies of the fluvial system are maintained in accordance with the project's design objectives (Category 1) or the Corps authorization letter (Category 2). These projects are generally designed to support and implement channel assessment and management practices that recognize a stream's natural dynamic tendencies.

APPENDIX A: DEFINITION OF CATEGORIES

I. WATERS OF THE U.S. (INCLUDES WETLANDS) (other than Lake Champlain, Lake Memphremagog, Wallace Pond and adjacent wetlands)	Waters of the U.S.¹ are comprised of Inland Waters and Wetlands² & Navigable Waters of the U.S.³. Navigable waters in Vermont are those designated as navigable by Congress (33 CFR 329). This section excludes the following navigable waters: Lake Champlain, Lake Memphremagog, Wallace Pond & wetlands adjacent to these waterbodies (See II. Navigable Waters below).		
	Projects not meeting Category 1 must apply to the Corps as either a Category 2 or Individual Permit project. All Category 1 and 2 projects must comply with all of this GP's applicable terms (Pages 1 – 6) and general conditions (GC) (Pages 7 – 16).		
	CATEGORY 1	CATEGORY 2	INDIVIDUAL PERMIT
(a) NEW FILL/ EXCAVATION DISCHARGES	<3,000 SF of waterway and/or wetland fill and secondary impacts⁴, (e.g., areas drained, flooded, fragmented, mechanically cleared or excavated). Fill area includes all temporary and permanent fill, and certain excavation discharges (except for incidental fallback⁵). Construction mats¹⁶ and corduroy roads are considered as fill (see GC 16). Construction mats of any area necessary to conduct activities that were previously authorized, authorized under Category 1, or not subject to regulation. Authorized construction mats must be in place for no more than 3 months, removed immediately upon work completion, and the wetlands must be restored (see GC 18). <u>Provided:</u> • In-stream (e.g., rivers, streams, brooks, etc.) work limited to Jul 15-Oct 1 (see GC 21). <u>This category excludes:</u> • Fills in Athens, Brookline, Chester, Dummerston, Grafton, Newfane, Putney, Rockingham, Springfield, Townshend, or Westminster, VT. • Fills below OHW in EFH waters (see GC 10). • Activities excluded in GC 21, i.e., dams, dikes, or activities involving water diversions⁶ (other than dry hydrants used exclusively for firefighting activities with no stream impoundments); and sliplining. • Work in special aquatic sites (SAS)⁷ other than wetlands. • Work in special wetlands⁸ including work in vernal pools (VP) or within 200' of the VP's edge when jurisdiction is triggered. (This does not apply to temporary impacts associated with construction mats in previously disturbed areas of existing utility project right-of-ways (e.g.,	3,000 SF to 1 acre waterway and/or wetland fill and secondary impacts⁴, (e.g., areas drained, flooded, fragmented, mechanically cleared or excavated). Fill area includes all temporary and permanent fill & certain excavation discharges (except for incidental fallback⁵). Construction mats and corduroy roads are considered as fill (see GC 16). Construction mats used for new construction activities with impacts of any size ≥3,000 SF (see GCs 16 & 17). Projects sponsored by a Federal or State agency with proactive restoration¹⁰ as a primary purpose and impacts of any size ≥3,000 SF. Net impacts must not be greater than minimal. Restoration and/or enhancement approved for use by a Corps-approved In-Lieu Fee program or Corps-approved mitigation bank, with impacts of any size ≥3,000 SF. Specific activities with impacts ≥3,000 SF required to affect the containment, stabilization, or removal of hazardous or toxic waste materials performed, ordered or sponsored by a government agency with established legal or regulatory authority. Wetlands must be restored in place. Work in special wetlands⁸, including work in VPs or within 200' of the VP's edge when jurisdiction is triggered on the property. The applicant shall delineate all special wetlands⁸ including VPs on the property using Federal delineation methods (see GC 2). The Corps may waive these	≥1 acre waterway and/or wetland fill & secondary impacts⁴ (e.g., area drained, flooded, fragmented, mechanically cleared or excavated). Fill area includes all temporary and permanent fill (except construction mats meeting Category 1 or Category 2 requirements) and certain excavation discharges (except for incidental fallback⁵).

	transmission lines, gas pipelines) or linear transportation projects (e.g., roads, highways, railways, trails, airport runways and taxiways) provided there is a Vegetation Management Plan or equivalent BMPs that avoid, minimize and mitigate impacts to aquatic resources.) • Work on Corps properties & Corps-controlled easements⁹ • Structures, fill or work below OHW in the National Wild and Scenic River designated study segments of the Missisquoi River. • Fills below OHW of the Trout River.	delineation requirements on a case-by-case basis. Wetland fill and/or secondary impacts (e.g., site clearing, grading and construction activities) should be limited to <25% of the VP habitat. Where practicable, roads & driveways should be excluded from the VP envelope⁸.	
(b) BANK STABILIZATION PROJECTS	Inland bank stabilization <100 linear FT and an average of <1 CY of fill per linear FT below ordinary high water (OHW). • In-stream work limited to Jul 15-Oct 1. • No work in VPs or within 200' of the VP's edge. • No work in SAS⁷. • No work in EFH waters (see GC 10). • No work in Rivers of Concern¹¹. • No work on Corps properties and Corps-controlled easements⁹. • No work below OHW in the National Wild and Scenic River designated study segments of the Missisquoi River. • No work below OHW of the Trout River.	Inland bank stabilization ≥100 linear FT, and/or an average of ≥1 CY of fill per linear foot below OHW.	
(c) RIVER/ STREAM/ BROOK WORK & CROSSINGS and WATERWAY/ WETLAND CROSSINGS	• In-stream (e.g., rivers, streams, brooks, etc.) work limited to Jul 15 - Oct 1 (see GC 21). • All stream crossings conform with the performance standards in GC 21. • Bridge spans, open bottom arches or embedded culverts are required. • Culverts at waterbody crossings shall preserve hydraulic connectivity, at its present level, between any wetlands on either side of the road. <u>Work in this category excludes:</u> • Projects using retrofit methods increasing flow velocity or slip lining (only for 1 - 3 above). • Work in SAS⁷. • Open trench excavation in flowing waters except for riprap projects (See GC 21). • Structures, fill or work below OHW in the National Wild and Scenic River designated study segments of the Missisquoi River.	Projects sponsored by a Federal or State agency with proactive restoration¹⁰ as a primary purpose with impacts of any area exceeding Category 1. Net impacts must not be greater than minimal.	

	• Fills below OHW of the Trout River		
(d) REPAIR, REPLACEMENT IN KIND & MAINTENANCE OF AUTHORIZED FILLS	Repair/maintenance/replacement in kind of existing, currently serviceable, authorized fills with no expansion or change in use. • Conditions of the original authorization apply. • Minor deviations in fill design allowed¹², except for stream crossings or dams. • No fills in special wetlands⁸. • No fills in SAS⁷ & EFH waters (see GC 10). • No structures, fill or work below OHW in the National Wild and Scenic River designated study segments of the Missisquoi River. • No fills below OHW of the Trout River.	Repair/maintenance/replacement in kind of existing, currently serviceable, authorized fills with expansion or a change in use <1 acre. Replacement of non-serviceable authorized fills, including expansion or a change in use, totaling <1 acre.	Repair/maintenance of existing, currently serviceable, authorized fills with expansion or a change in use >1 acre. Replacement of non-serviceable authorized fills, including expansion or a change in use, totaling ≥ 1 acre.
(e) MISC.	Activities required for the containment and cleanup of oil and hazardous substances. Fish and wildlife harvesting such as duck blinds. Temporary scientific measurement devices and survey activities, e.g., exploratory drilling, surveying, and sampling. Monitoring wells. Recreational gold mining. Does not include oil/gas exploration and fills for roads or construction mats.	Zebra Mussel Control Projects. Fishery habitat enhancement structures. Utility line crossings, water intakes and outfalls, and sea lamprey control projects.	Project where an EIS is required by the Corps.
(f) MISC. (applies only to NAVIGABLE WATERS OF THE U.S. ² excluding Lake Champlain, Lake Memphremagog, Wallace Pond)	Repair, replacement in kind or maintenance of existing, currently serviceable, authorized structures. <u>Provided:</u> • No expansion or change in use. • Must be rebuilt in same footprint, however minor deviations¹² in structure design allowed. • No structures, fill or work below OHW in the National Wild and Scenic River designated study segments of the Missisquoi River.	New and maintenance dredging¹³ up to 5,000 CY with upland disposal or beach nourishment. No impacts to SAS⁷. Aerial transmission lines. Floating or post supported docks or decks. Private, non-commercial, single-boat moorings. Utility lines installed by directional bores.	Maintenance dredging¹³ of any amount affecting a SAS⁷. New and maintenance dredging greater than 5,000 CY or in or affecting a SAS. Dredging with open water disposal.

Navigable Waters of the U.S. ³ : These waters were designated as navigable by Congress (33 CFR 329).			
Projects not meeting Category 1 must apply/report to the Corps as either a Category 2 or Individual Permit project. All Category 1 and 2 projects must comply with all of this GP's applicable terms (Pages 1 – 6) and general conditions (Pages 7 – 16).			
	CATEGORY 1	CATEGORY 2	INDIVIDUAL PERMIT (IP)
(a) FILL WATERS OF THE U.S. ³ – LAKE CHAMPLAIN, LAKE MEMPHREMAGOG, WALLACE POND and ADJACENT WETLANDS	No provisions for new or previously unauthorized fills in Category 1.	<5,000 SF waterway/wetland fill and secondary impacts ⁴ (e.g. areas drained, flooded, fragmented, mechanically cleared or excavated). Includes boat ramps & bridge fills. Projects sponsored by a Federal or State agency with proactive restoration ¹⁰ as a primary purpose and impacts of any size. Net impacts must not be greater than minimal.	≥5,000 SF waterway/wetland fill and secondary impacts ⁴ (e.g. areas drained, flooded, fragmented, mechanically cleared or excavated). Fill area includes all temporary and permanent waterway fills.
(b) REPAIR, REPLACEMENT IN KIND AND MAINTENANCE WORK	Repair, replacement in kind or maintenance of existing, currently serviceable, authorized structures and fills. <u>Provided:</u> • No expansion or change in use. • Must be rebuilt in same footprint, however minor deviations¹² in structure design allowed.	Repair/replacement in kind/maintenance of currently serviceable authorized fills with expansion or a change in use <5000 SF. Replacement of non-serviceable authorized fills, including expansion or a change in use, totaling <5000 SF. Construction mats of any area necessary to conduct activities that were previously authorized, authorized under Category 1; or not subject to regulation. Authorized construction mats must be in place for no more than 3 months, removed immediately upon work completion, and the wetlands must be restored (see GC 18).	EIS required by the Corps. Repair/maintenance/replace ment in kind of currently serviceable authorized fills with expansion or a change in use >5000 SF.
(c) DREDGING	No provisions for dredging in Category 1.	New and maintenance dredging ¹³ up to 5,000 CY with upland disposal or beach nourishment. <u>Provided:</u> • No impacts to SAS⁷ • Specific activities with impacts of any area or cubic yardage required to affect the containment, stabilization, or removal of hazardous or toxic waste materials that are performed, ordered, or sponsored by a government agency with established legal or regulatory authority may be reviewed as a Category 2 project. Wetlands	New or maintenance dredging ¹³ ≥5,000 CY. Dredging affecting an SAS. All dredging with open water disposal.

		must be restored in place.	
(d) MOORINGS	Private, non-commercial, non-rental, single-boat moorings. <u>Provided:</u> - Chains or other connections may not rest on the bottom in SAS⁷ (eco-friendly mooring technology is required). - Not associated with a boating facility¹⁴. - No interference with navigation. - Moorings in a Federal Navigation Project (FNP)¹⁵ not associated with a boating facility. - Not located within the buffer zone of the horizontal limits of a FNP.	Moorings that do not meet the terms of Category 1. Moorings located such that they, and/or vessels docked or moored at them, are within the buffer zone of the horizontal limits of a FNP¹⁵.	Moorings and/or their moored vessels within the horizontal limits of a FNP¹⁵.
(e) PILE-SUPPORTED STRUCTURES AND FLOATS	- Reconfiguration of existing authorized docks with no additional slips and no expansion. - Seasonal private, residential pile-supported structures for navigational access extending no further waterward than 50 FT MHW, not >4 FT wide, & a dock deck area <500 SF. - Private, bottom-anchored floats and seasonal swim floats ≤400 SF. - Private boat & float lifts to authorized residential docks. Provided for 1 - 4 above: - No structure extends across >25% of the waterway width at MLW. - Not located over SAS⁷. - Not located within the buffer zone of the horizontal limits of an FNP¹⁵.	Private structures and floats for navigational access to the waterway that do not meet the terms of Category 1. Piers, docks, decks, floats, and similar structures that provide public recreational uses such as fishing, swimming, access, etc. Non-fill structures to provide recreational access to the waterbody (e.g. stairways, etc.). Minor modifications to existing, permitted boating facilities. Structures or floats and/or vessels docked or moored at them within the buffer zone of the horizontal limits of a FNP¹⁵.	Structures or floats and/or vessels docked or moored at them within the horizontal limits of a FNP¹⁵. Structures or floats associated with a new or previously unauthorized boating facility.¹⁴
(f) BANK STABILIZATION PROJECTS		Bank stabilization <500 linear feet and an average of 1 CY per linear ft. of fill below OHW or less provided no wetland fill.	Bank stabilization ≥500 linear ft. and/or involving more than an average of 1 CY per linear FT of fill below OHW.
(g) MISCELLANEOUS	Temporary buoys, markers, floats, etc. for recreational use during specific events, provided they are in place for no more than 30 days and are removed within 15 days after use is discontinued. The placement of aids to navigation and regulatory markers which are approved by and installed in accordance with the requirements of the U.S. Coast Guard. (See 33 CFR 66, Chapter I, subchapter C).	Structures/work in or affecting navigable waters and/or adjacent wetlands that are not defined under any previous headings. Includes but is not limited to utility lines, aerial transmission lines, pipelines, outfalls, intakes, and horizontal directional drilling. Zebra Mussel control projects. Fishery habitat enhancement structures.	Projects where an EIS is required by the Corps. Activities or activities with docked or moored vessels extending within the horizontal limits of a Corps FNP¹⁵ (does not include utility lines, aerial lines and subsurface crossings in Cat

	Activities required for the containment and cleanup of oil and hazardous substances that are subject to the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300) provided that the work is done in accordance with the Spill Control and Countermeasure Plan required by 40 CFR 112.3 and any existing state contingency plan and provided that the Regional Response Team (if one exists in the area) concurs with the proposed containment and cleanup action. SAS ¹ must typically be restored in place at the same elevation.	Sea Lamprey control projects. Nuisance aquatic plant control projects. Utility lines installed by directional bore.	2).
	Scientific measurement devices & survey activities such as exploratory drilling, surveying and sampling, provided that such structures do not restrict movement of aquatic organisms. Does not include oil and gas exploration or seismic testing, or fills for roads or construction mats.		
	Fish and wildlife harvesting devices and activities such as pound nets, duck blinds, and small fish attraction devices such as open-water fish concentrators (sea kites, etc.). Provided: no hazard to navigation and activity is not in wetlands (except Sea Lamprey control projects).		
	Debris removal.		

End Notes/Definitions

¹ Waters of the United States (U.S.):

- a. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- b. All interstate waters including interstate wetlands;
- c. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:
 - i. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
 - ii. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
 - iii. Which are used or could be used for industrial purpose by industries in interstate commerce;
- d. All impoundments of waters otherwise defined as waters of the U.S. under the definition;
- e. Tributaries of waters identified in paragraphs (a)-(d) above;
- f. The territorial seas;
- g. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in (a)-(f) above. Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 123.11(m) which also meet this definition's criteria) are not waters of the U.S.
- h. Waters of the U.S. do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with the EPA.

²**Inland Waters and Wetlands:** These are a subset of waters of the U.S., are regulated under Section 404 of the CWA, and include rivers, streams, lakes, ponds and wetlands, excluding Section 10 Navigable Waters of the U.S. The jurisdictional limits [33 CFR 328.4(c)] are the ordinary high water (OHW) mark in the absence of adjacent wetlands, beyond the OHW mark to the limit of adjacent wetlands when adjacent wetlands are present, and the wetland limit when only wetlands are present.

³**Navigable Waters of the U.S.:** These are a subset of waters of the U.S., and are defined at 33 CFR 329. The jurisdictional limits [33 CFR 329.11] extend laterally to the entire water surface and bed of a navigable waterbody, which includes all the land and waters below the ordinary high water mark. Jurisdiction thus extends to the edge (as determined above) of all such waterbodies, even though portions of the waterbody may be extremely shallow, or obstructed by shoals, vegetation or other barriers. Marshlands and similar areas are thus considered navigable in law, but only so far as the area is subject to inundation by the ordinary high waters. In Vermont these waters are: the Connecticut River, Lake Champlain, Lake Memphremagog, Wallace Pond, Ompompanoosuc River (to mile 3.8), Waits River (to mile 0.9), the Black River (mouth to mile 25 in Craftsbury), the Battenkill River (to mile 50 in Manchester), the Lamoille River (mouth to mile 79 in Greensboro), the Missisquoi River (including the North Branch, from the mouth to mile 88.5 in Lowell), Otter Creek (mouth to mile 63.8 in Procter), Winooski River (mouth to Marshfield), Moose River (from Passumpsic River to the Victory Town Line), Nulhegan River (mouth to its source including the East Branch, the Black Branch and the Yellow Branch), Paul Stream (mouth to the source), East Branch of the Passumpsic River (from the confluence with the Passumpsic River to East Haven), Passumpsic River (mouth to confluence with the East Branch), White River (mouth to its source), Wells River (mouth to Groton Pond).

⁴**Direct, Secondary (Indirect), and Cumulative Impacts:**

Direct Impacts: The immediate loss of aquatic ecosystem within the footprint of the fill.

Secondary (Indirect) Impacts: These are effects on an aquatic ecosystem that are associated with a discharge of dredged or fill materials, but do not result from the actual placement of the dredged or fill material. (40 CFR 230.11 (h)). Secondary impacts are those impacts outside the footprint of the fill (e.g., beyond the bounds of the disposal site) that arise from and are associated with the direct discharge of dredged or fill material. Some examples are: I) Habitat Fragmentation. This occurs when a relatively undisturbed habitat block is interrupted or broken apart by roads, ditches, disturbance of vegetation, or development of structures. II) Interruption of Travel Corridors. Travel corridors are routes that many species travel on to find food, mates, shelter, and cover. Many aquatic species follow stream channels and wetlands, and follow established routes season after season. III) Vernal Pools. These are critically important breeding habitats for amphibians. Many amphibians disperse several hundred feet from their breeding ponds into the adjacent upland habitat after the breeding season has ended. IV) Hydrology, hydrological functions and non-point source impacts: A) Interference with the migration or movement of fish and shellfish from one area to another, such as placement of a dam eliminating access to spawning grounds for anadromous fish. B) Greater amounts of sediment, nutrients, and other pollutants such as lead, oil, gas, and salt that could impact wetlands and streams. Sediment causes turbidity, which reduces aquatic life and usually transports pesticides, heavy metals and other toxins into streams. This is especially a concern in watersheds where the streams are already listed as impaired by the VT ANR. C) Submerged aquatic vegetation is very dependent on light transmission and small changes in ambient turbidity can preclude it from growing in certain areas. D) Trout spawning areas are selected in areas that are well flushed and aerated, and new amounts of deposition may result in a spawning area being eliminated due to siltation of fish eggs. E) Physical effects such as erosion, accretion, entrenchment, sedimentation, channel or shoreline migration and failure to pass bedload material, organic matter and large woody debris.

Cumulative Impacts: The extent of past, present, and foreseeable developments in the area may be an important consideration in evaluating the significance of a particular project's impacts. Although the impacts associated with a particular discharge may be minor, the cumulative effect of numerous similar discharges can result in a large impact. Cumulative impacts should be estimated only to the extent that they are reasonable and practical.

⁵ **Incidental Fillback:** The term "discharge of dredged or fill material" also includes certain discharges resulting from excavation.

⁶**Water Diversions:** Water diversions are activities such as bypass pumping or water withdrawals. Temporary flume pipes, culverts or cofferdams where normal flows are maintained within the stream boundary's confines aren't water diversions. "Normal flows" are defined as no change in flow from pre-project conditions. See GC 21.

⁷ **Special Aquatic Sites:** Include inland wetlands, mudflats, vegetated shallows (permanently inundated areas that support rooted aquatic vegetation), and riffle and pool complexes. (40 CFR 230)

⁸ **Special Wetlands:** Jurisdictional vernal pools, bogs, fens, and wetlands which provide habitat for threatened or endangered species or species as designated by the State of VT Natural Heritage Program. See GC 27 for website. The following definitions for bogs, fens and vernal pools apply for the purposes of this GP:

Bog - A peat accumulating wetland with hydric, organic soils, a complete, or nearly complete, Sphagnum cover and a pH value ranging from 3.5 to 5.6 that receives water primarily from precipitation. Typical species include Sphagnum, leatherleaf and pitcher plant.

Fen - A peat accumulating wetland with hydric organic soils and a pH value ranging from 4.0 to 8.0. Sphagnum moss may be present, however, not as a complete cover. It generally receives water and minerals from runoff flowing through it. Typical species include low sedges, Sphagnum, other mosses and heath shrubs.

Vernal Pools and Habitat: A vernal pool, also referred to as a seasonal forest pool, is a temporary to semi-permanent body of water occurring in a shallow depression that typically fills during the spring or fall and may dry during the summer. Vernal pools have no permanent inlet or outlet and no viable populations of predatory fish. A vernal pool may provide the primary breeding habitat for wood frogs (*Rana sylvatica*), spotted salamanders (*Ambystoma maculatum*), blue-spotted salamanders (*Ambystoma laterale*), Jefferson salamander (*Ambystoma jeffersonianum*), and fairy shrimp (*Eubryanchipus* sp.), as well as valuable habitat for other plants and wildlife, including several rare, threatened, and endangered species. A vernal pool intentionally created for the purposes of compensatory mitigation is included in this definition. For the purposes of this GP, the presence of any of the following species in any life stage in any abundance level/quantity would designate the waterbody as a vernal pool: fairy shrimp, blue spotted salamanders, spotted salamanders or wood frogs. The Corps may determine during a Category 2 review that a waterbody should not be regulated as a VP based on available evidence. For the purposes of this GP, the VP Management Areas are the Vernal Pool Depression (includes the vernal pool depression up to the spring or fall high water mark, and includes any vegetation growing within the depression), Vernal Pool Envelope (area within 100 FT of the VP Depression's edge) and Critical Terrestrial Habitat (area within 100-750 FT of the Vernal Pool Depression's edge). [*Note: Critical Terrestrial Habitat is defined as 100 - 750 FT on page 243 of the document "Science and Conservation of Vernal Pools in Northeastern North America." Calhoun and deMaynadier, 2008, which is referenced in Appendix E, page 3, Paragraph 10(b).]

Corps Properties & Easements: Contact the Corps, Real Estate Division (978) 318-8580 to initiate reviews about both Corps holdings and permit requirements.

Proactive Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former wetland or other aquatic resource (called re-establishment) or a degraded wetland or other aquatic resource (called rehabilitation). Restoration means the result of actions which, in the opinion of the Federal and state resource agencies, reinstates, or will reinstate, insofar as possible, the functions and values of a wetland or aquatic resource which has been altered. Restoration is the re-creation or rehabilitation of wetland or other aquatic resource ecosystems whose natural functions have been destroyed or impaired. The Corps will decide if a project qualifies as proactive restoration and must determine along with Federal & state agencies that the net effects would be no more than minimal.

Rivers of Concern: The following are rivers of concern due to either endangered species or cumulative impacts. There are no non-reporting bank stabilization activities in these rivers: Batten Kill River (to the headwaters), Black River (from its mouth in Springfield to its headwaters), Connecticut River, Lamoille River (from Hardwick to the confluence with Lake Champlain), Lewis Creek (from the Rte 116 crossing to the confluence with Lake Champlain), Missisquoi River (from the International Boundary in Richford, VT to the confluence with Lake Champlain), Ompompanoosuc River (to the headwaters), Otter Creek (from Rutland to the confluence with Lake Champlain), North Branch of Ball-Mountain Brook (from Pikes Falls to the headwaters), Poultney River (to the headwaters), West River (from Jamaica to the confluence with the Connecticut River), White River (to the headwaters), Winoski River (from Montpelier to Lake Champlain).

Minor deviations. Changes to the structure's configuration or filled area, including those due to changes in materials, construction techniques, or current construction codes or safety standards, which are necessary to make repair, rehabilitation, or replacement are permitted, provided the adverse environmental effects resulting from such repair, rehabilitation, or replacement are minimal. Currently serviceable means useable as-is or with some maintenance, but not so degraded as to essentially require reconstruction.

Maintenance Dredging. Includes areas and depths previously authorized by the Corps and dredged. **New Dredging:** Includes dredging proposed in previously undredged areas and/or in areas exceeding previously authorized dimensions (deeper or wider than previously authorized) excluding normal overdrudge.

Boating Facilities: Facilities that provide, rent or sell mooring space, e.g., marinas, yacht clubs, boat yards, dockminiums.

Federal Navigation Projects (FNPs): FNPs are comprised of Federal channels and Federal anchorages. Contact the Corps for their location and information.

Horizontal Limits: The outer edge of an FNP. **Buffer zone:** Equal to three times the authorized depth of that channel.

Construction Mats: Construction, swamp and timber mats (herein referred to as "construction mats") are generic terms used to describe structures that distribute equipment weight to prevent wetland damage while facilitating passage and providing work platforms for workers and equipment. They are comprised of sheets or mats made from a variety of materials in various sizes. A timber mat consists of large timbers bolted or cabled together. Corduroy roads, which are not considered to be construction mats, are cut trees and/or saplings with the crowns and branches removed, and the trunks lined up next to one another. Corduroy roads are typically installed as permanent structures. Like construction mats, they are considered as fill whether they are installed temporarily or permanently.

Headwater and Ephemeral Streams: Forested upland and wetland clearing can lead to additional direct and indirect impacts to the headwater streams and ephemeral streams on individual sites. Headwater streams and wetlands provide a rich resource base that contributes to the productivity of both local food webs and those farther downstream. Land use changes in the vicinity of small streams and wetlands can impair the natural functions of headwater systems. These systems are vitally important to maintaining the quality and quantity of water and aquatic health of streams lower in the watershed.

¹⁸ **Maintenance:** a) In accordance with 33 CFR 323.4(a)(2), any discharge of dredged or fill material that may result from any of the following activities is not prohibited by or otherwise subject to regulation under Section 404 of the CWA: "Maintenance, including emergency reconstruction of recently damaged parts, of currently serviceable structures such as dikes, dams, levees, groins, riprap, breakwaters, causeways, bridge abutments or approaches, and transportation structures. Maintenance does not include any modification that changes the character, scope, or size of the original fill design." Otherwise, the following work is regulated and subject to the Category 1 or 2 thresholds in Appendix A above: The repair, rehabilitation, or replacement of any previously authorized, currently serviceable structure or fill, or of any currently serviceable structure or fill authorized by 33 CFR 330.3 – "Activities occurring before certain dates," provided that the structure or fill is not to be put to uses differing from those uses specified or contemplated for it in the original permit or the most recently authorized modification. b) Minor deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, or current construction codes or safety standards that are necessary to make repair, rehabilitation, or replacement are authorized. c) Currently serviceable means useable as is or with some maintenance, but not so degraded as to essentially require reconstruction. d) No seaward expansion for bulkheads or any other fill activity is considered Category 1 maintenance. e) Only structures or fills that were previously authorized and are in compliance with the terms and condition of the original authorization can be maintained as a non-regulated activity under 33 CFR 323.4(a)(2), or in accordance with the Category 1 or 2 thresholds in Appendix A. f) The state's maintenance provisions may differ from the Corps and may require reporting and written authorization from the state. g) Contact the Corps to determine whether stream crossing replacements require a written application to the Corps for at least a Category 2 review.

¹⁹ **Wild and Scenic River Designated Study Rivers:** The Missisquoi River, from its' headwaters in Lowell to the Canadian border in Troy (25 miles) and from the Canadian border in East Richford to Enosburg Falls (25 miles) and the Trout River have been officially designated by Congress as a study river.

²⁰ **Best Management Practices for Utility Construction Mats:**

Installation	
• Mats should be in good condition to ensure proper installation, use and removal. • Where feasible, mats should be carried and not dragged unless they are being used as a grading implement. • Where feasible, place mats in a location that would minimize the amount needed for the wetlands crossing. • Minimize impacts to wetland areas during installation, use, and removal. • Install adequate erosion & sediment controls at approaches to mats to promote a smooth transition to, and minimize sediment tracking onto, swamp mats. • In most cases, construction mats should be placed along the travel area so that the individual boards are resting perpendicular to the direction of traffic. No gaps should exist between mats. Place mats far enough on either side of the resource area to rest on firm ground. • Provide standard construction mat BMP details to work crews.	

Wetland/Stream Channel Crossing	
• At "dry" crossings where no flow is present or anticipated during project construction, the mats may be placed directly onto the ground in order to prevent excessive rutting, provided stream banks & bottoms are not adversely altered. • Construction mats may be used as a temporary bridge over a stream to allow vehicles access to the work site. Small sections of mat are placed within and along the stream parallel to the flow of water. Mats may then be placed perpendicular to the stream, resting on top of the initial construction mat supports. It may be necessary to place additional reinforcement for extra stability & to minimize the amount of sediment that could fall between the spaces of each timber. • Mats should not be placed so that they restrict the natural flow of the stream. • Minimize number of stream/wetland crossings. Where feasible, locate crossing site where stream channel is narrow for the shortest possible clear span & where stream banks are stable & well defined. For large wetland complexes, consider accessing structures from opposite sides where possible to avoid crossing the entire wetland. • More than one layer of mats may be necessary in areas which are inundated or have deep organic wetland soils.	

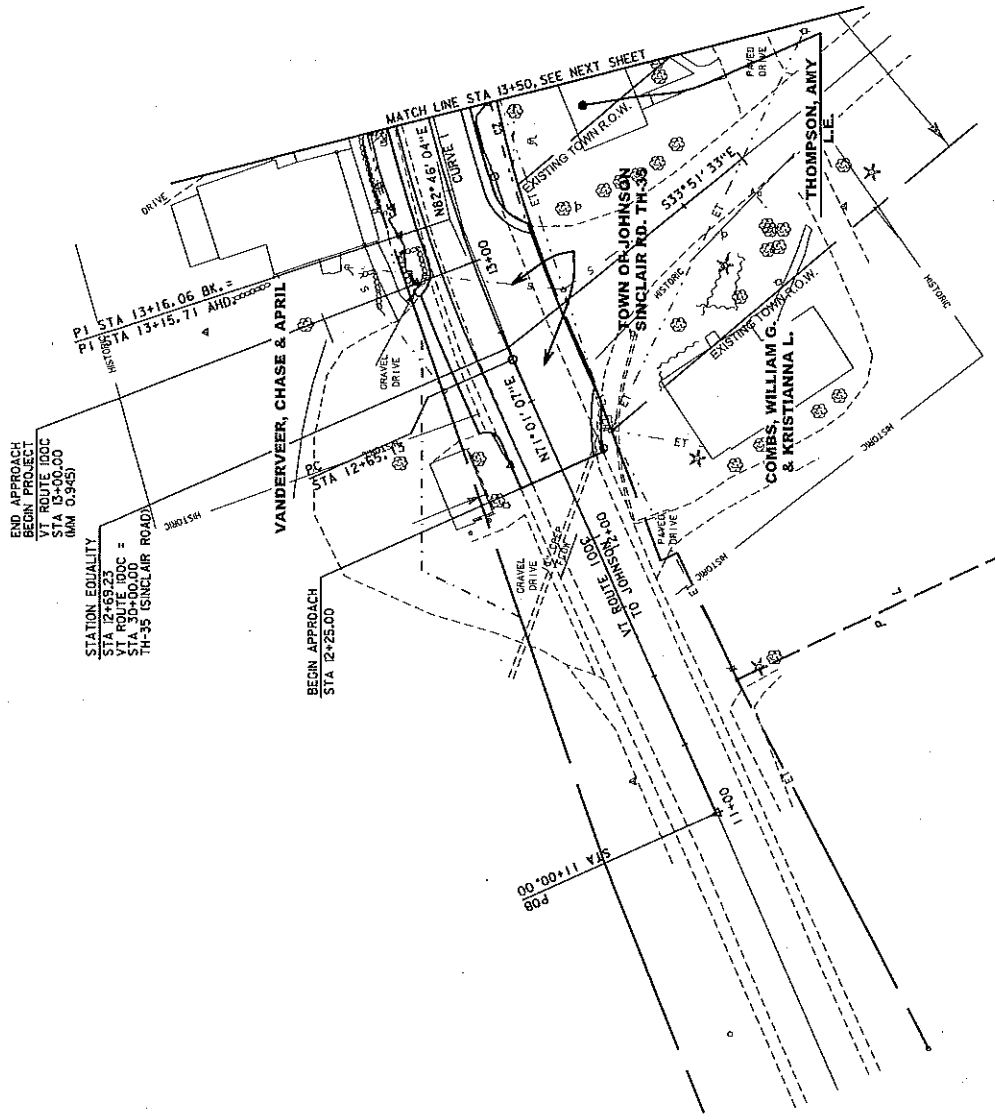
Maintenance	
• Matted wetland crossings should be monitored to assure correct functioning of the mats. Inspect mats after use. Look for any defects or structural problems. Mats which become covered with soils or construction debris should be cleaned and the materials removed & disposed of in an upland location. The material should not be scraped & shoveled into the resource area. Mats which become imbedded must be reset or layered to prevent mud from covering them or water passing over them.	

Removal

- Matting should be removed by "backing" out of the site, removing mats one at a time. Any rutting or significant indentations identified during mat removal should be regraded immediately, taking care not to compact soils.
- Mats should be cleaned before transport to another wetland location to remove soil & any invasive plant species, seed stock or plant material.
- Cleaning methods may include but are not limited to shaking or dropping mats in a controlled manner with a piece of machinery to knock off attached soil & debris, spraying with water or air, & sweeping.
- Crossings should be inspected following mat removal to determine the level of restoration required.

Restoration

- Special precautions should be taken to promptly stabilize areas of disturbed soil located near wetlands & streams. Matted areas within wetlands will be allowed to naturally revegetate from existing root & seed stock of native plant species. If conditions warrant, wetland seed mix may be broadcasted over the matted area to supplement the existing seed & rootstock. The use of mulch in wetlands shall consist of weed-free mulch to mitigate the risk of the spread of invasive plant species.



SCALE 1" = 20'-0"

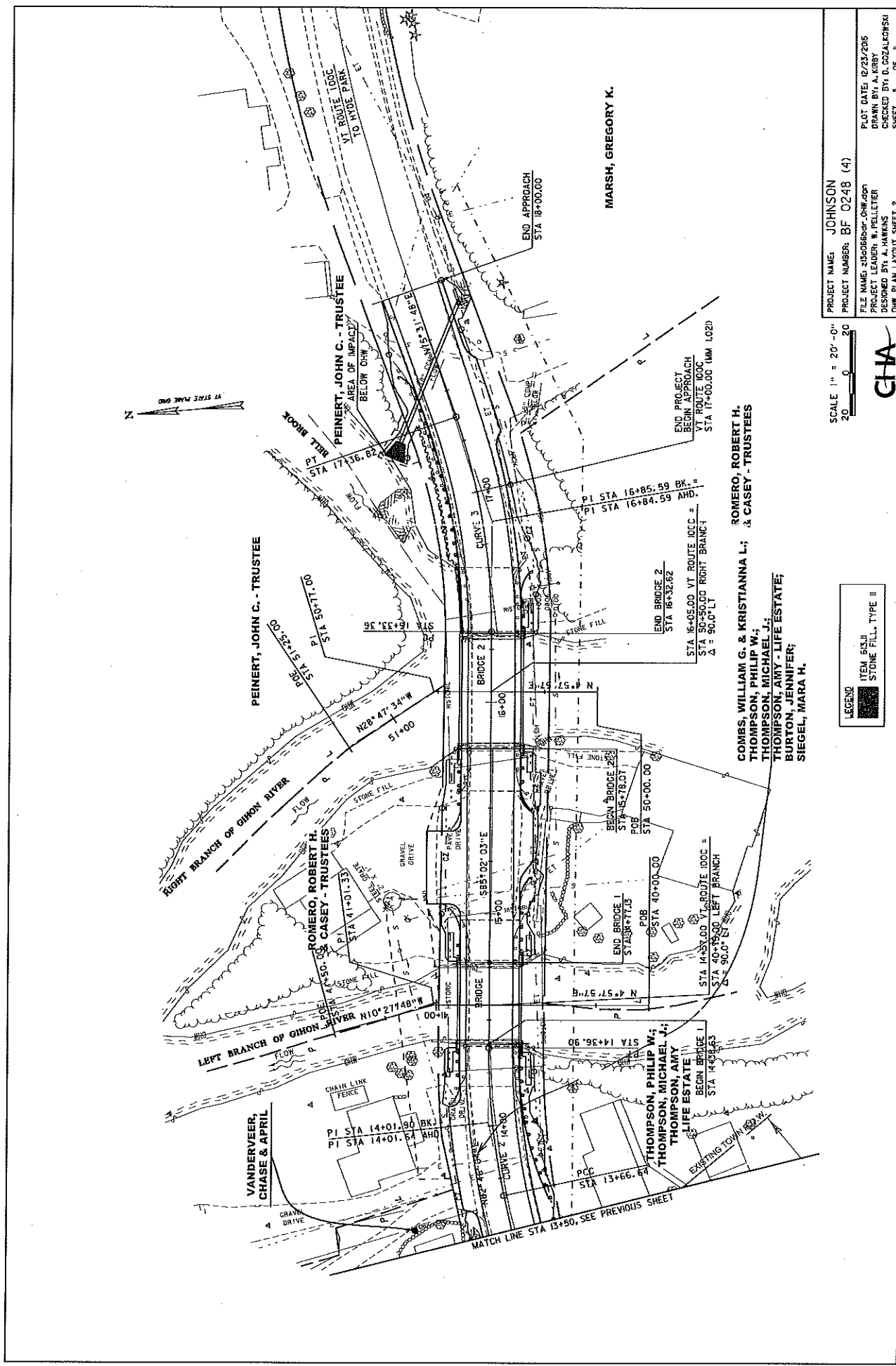
20 0 20

CHA

PROJECT NAME: JOHNSON
PROJECT NUMBER: BF 0248 (4)

FILE NAME: 2505050000.DWG
PROJECT LEADER: W. PELLETIER
DESIGNED BY: A. HAYNES
DHW PLAN LAYOUT SHEET 1

PLOT DATE: 12/23/2005
DRAWN BY: A. KIRBY
CHECKED BY: D. GOZALOWSKI
SHEET 2 OF 1

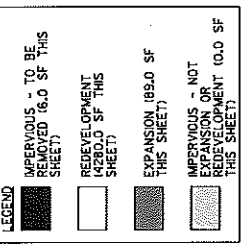


PROJECT NAME: JOHNSON
 PROJECT NUMBER: BF 0248 (4)
 FILE NAME: 20506000-001.dwg
 PROJECT LEADER: K. PELLETIER
 DESIGNED BY: A. HARKINS
 CHECKED BY: B. COZACKOWSKI
 SHEET 3 OF 8

SCALE 1" = 20'-0"
 20 0 20
 CHA

LEGEND
 ITEM 5331
 STONE FILL TYPE II

PEINERT, JOHN C. - TRUSTEE
 ROMERO, ROBERT H. & CASEY - TRUSTEES
 COMES, WILLIAM G. & KRISTIANNA L.;
 THOMPSON, PHILIP W.;
 THOMPSON, MICHAEL J.;
 THOMPSON, AMY - LIFE ESTATE;
 BURTON, JENNIFER;
 SIEGEL, MARA H.
 MARSH, GREGORY K.



~~CLA~~

FILE NAME: z3c086bdr_STORMWATER.dgn PLOT DATE: 12/23/2015
PROJECT LEADER: W. PELLETIER DRAWN BY: A. KIRBY
DESIGNED BY: A. HAWKINS CHECKED BY: D. GOZALOWSKI
PDF PLAN LAYOUT SHEET 1 SHEET 4 OF 8



State of Vermont
Utilities & Permits Unit
One National Life Drive
Montpelier, VT 05633-5001
www.aot.state.vt.us

Agency of Transportation

[phone] 802-828-2653
[fax] 802-828-5742
[ttd] 800-253-0191

February 15, 2017

Meredith Birkett, Village Manager
Village of Johnson Water and Light Department
P.O. Box 603
Johnson, VT 05656

Subject: Johnson BF 0248(4) – Utility Relocation Agreement

Dear Ms. Birkett:

Attached is the executed agreement between the Village of Johnson Water and Light Department and the Agency of Transportation.

In accordance with the provisions of Subparagraph (C) (Effective Dates) of these agreements, this letter will authorize you to proceed with the relocation and reconstruction of facilities, as required by the construction plans for the above referenced projects. All necessary easements for these relocations have been acquired. If you anticipate relocation prior to the start of the highway project, please notify this Unit so that an agency resident engineer may be assigned to the project for inspection purposes.

In accordance with the Construction Conditions of these agreements, the Village of Johnson Water and Light Department is required to provide a written certification pursuant to Buy America provisions for this work. Enclosed for your use is the certification form for this project. As previously discussed, the Federal Highway Administration's regulations permit a minimal use of foreign steel and iron in the amount of \$2,500, to be used on Federal-aid projects

Upon completion of the utility relocation work, please submit final bills and supporting plans showing location of your existing and relocated facilities.

Reimbursement by the State of Vermont, in accordance with the terms and conditions of the utility agreements, and all applicable directives, shall be made upon the actual completion of the work and receipt of your final billing.

Sincerely,

A handwritten signature in black ink, appearing to read "Lawrence Wheeler", written over a large, stylized circular flourish.

Lawrence Wheeler
Consulting Technician
VAOT Structures Section
Utility Coordinator

Attachments



bcc: Chief of Contract Administration
Construction Engineer
Debbie Morse, Accounts Receivable/Payable Unit, Finance and Administration
Program Development Business Manager
Utility Files via Supervisor via Chief of Right-of-Way
Wendy Pellitier, Structures Project Manager

**STATE OF VERMONT
AGENCY OF TRANSPORTATION
BUY AMERICA CERTIFICATION**

OWNER: Village of Johnson Water & Light Department

PROJECT NUMBER: Johnson BF 0248(4)

Buy America Provisions, in accordance with Title 23, United States Code, Section 313 and Title 23, Code of Federal Regulations, Section 635.410 apply to the RELOCATION WORK covered by the *Utility Relocation Agreement* between the State of Vermont and the Village of Johnson Water & Light Department, executed on February 14, 2017.

To meet this requirement, the undersigned hereby certifies that all of the steel and iron construction material, equipment and accessories which are to be incorporated and reimbursed as part of the Johnson BF 0248(4) project, to be partially funded by monies from the United States Government, has been manufactured from domestic construction material.

Village of Johnson Water & Light Dept.

Signature of Authorized Official

Type Signature Name and Title

Date

**STATE OF VERMONT
AGENCY OF TRANSPORTATION
UTILITY RELOCATION AGREEMENT**

**OWNER: Village of Johnson Water and Light Department
PROJECT NUMBER: Johnson BF 0248(4)
EXPENDITURE ACCOUNT/SUBJOB NO.: 0248004 - 100/300
CONTRACT NUMBER: UT0154**

THIS AGREEMENT, made and concluded by and between the State of Vermont, acting through its Agency of Transportation, hereinafter referred to as the STATE, and the Village of Johnson Water and Light Department, duly organized and existing in the State of Vermont with its principal business office at 293 Lower Main Street West, Johnson, Vermont 05656, hereinafter referred to as the OWNER;

WITNESSETH:

WHEREAS, the STATE has programmed a highway project identified as Johnson BF 0248(4) which shall provide certain highway improvements on Vermont Route 100C in the Town of Johnson; and

WHEREAS, it is evident that adjustment to, and/or replacement of, the OWNER's facilities, hereinafter referred to as RELOCATION WORK, are required by proposed construction of said highway improvements and does not include work solely benefiting the OWNER, its contractor, or the highway contractor; and

WHEREAS, Federal funds may participate in the cost of the services described in this agreement, pursuant to the provisions of Title 23, United States Code; and Title 23, Code of Federal Regulations ("CFR") Part 645, which are incorporated herein by reference in the same proportion as Federal funds expended on the above captioned project and as follows.

THE STATE AND THE OWNER MUTUALLY AGREE:

Scope of the Work

That the RELOCATION WORK, detailed plans and estimates of which are attached hereto and made a part hereof, consists of:

a. Preliminary engineering and associated costs described as follows:

All field visits, survey and design by the owner.

- b. Right-of-way acquisition (easements, rights of entry, etc.), described as follows:

All easements and rights-of-way for entry to construct the project are to be acquired by the State, including those necessary for the utility relocation.

- c. Construction work to be accomplished by the OWNER described as follows:

Construction, materials, labor and equipment to convert the relocated aerial electric facilities to primary underground between the poles at plan station 17+03 right and 18+28 right and to install the utility conduits to be used by FairPoint Communications, Inc. and Comcast Communications, as required to accommodate the construction of the Johnson BF 0248(4) bridge project.

- d. Construction work to be accomplished for the OWNER by the STATE acting through its highway prime contractor, described as follows:

None

- e. Quality control and on-the-job inspection of the work described in paragraph (d) above, by the OWNER or a representative employed by the OWNER:

None

Payment

- a. State and/or Federal funds will participate, at the pro rata share applicable, for costs for the RELOCATION WORK in accordance with 23 C.F.R. 645.107, in that the utility has the right of occupancy in its existing location because it holds the fee, an easement, or other real property interest, the damaging or taking of which is compensable in eminent domain.

- b. Cost components of the estimates, noted in Scope of Work, are allocated and itemized:

	OWNER'S COST	STATE'S COST	TOTAL COST
PRELIMINARY ENGINEERING	\$0.00	\$0.00	\$0.00
RIGHT-OF-WAY	\$0.00	\$0.00	\$0.00
MATERIALS, PROVIDED BY OWNER	\$0.00	\$6,495.11	\$6,495.11
CONTRACTED SERVICES	\$0.00	\$4,830.00	\$4,830.00
LABOR AND EQUIPMENT, PROVIDED BY OWNER	\$0.00	\$4,104.80	\$4,104.80
CONSTRUCTION WORK BY STATE	\$0.00	\$0.00	\$0.00
QUALITY CONTROL	\$0.00	\$0.00	\$0.00
TOTALS	\$0.00	\$15,429.91	\$15,429.91

- c. The STATE will reimburse the OWNER for actual cost in accordance with Title 23, Code of Federal Regulations, Chapter 1, Part 645.117. Cost estimated to be \$15,429.91.

- d. Cost sharing summarized above reflects credit due the STATE for betterment afforded by the RELOCATION WORK, calculated in accordance with 23 C.F.R. 645.117(h) in the estimated amount of \$0.00.

- e. Reimbursement for any of the above estimated amounts, which are based on actual costs of the work, shall be 100.00 percent of the actual direct and related indirect costs.

- f. Progress payments to the OWNER by the STATE may be authorized.

- g. Increases in the scope and cost of the RELOCATION WORK shall be authorized by a supplemental agreement initiated by the OWNER by submitting to the STATE, in writing, an itemized estimate and justification of the additional costs claimed.

Effective Dates

The following dates shall be authorized dates for charges of the RELOCATION WORK. Costs and expenses incurred prior to these dates are not eligible for reimbursement.

- a. Preliminary engineering and right-of-way investigation was authorized as of April 25, 2014.
- b. Right-of-Way acquisition was authorized as of December 29, 2015.
- c. Following execution of this agreement, the STATE will establish a date, in writing, after which the OWNER will be authorized to incur construction, quality control and inspection costs. If not otherwise determined, the effective date shall be the date of execution of this agreement.

Termination

That upon completion of the RELOCATION WORK and final payment of any money due under the terms of this agreement, this agreement shall terminate. Upon termination of the agreement, the relationship between the STATE and the OWNER with respect to the OWNER's facilities shall be in accordance with applicable State and Federal laws and regulations governing the operation of utility facilities within public highways.

THE STATE AGREES:

That, acting through its highway prime contractor, it shall perform the RELOCATION WORK described in the "Scope of Work" section (d) in accordance with the plans and specifications.

That it shall require the highway construction project to be prosecuted at all times with reasonable care in accordance with the Standard Specifications for Construction, as modified by such special provisions as may be attached to the highway construction contract.

That the OWNER and its agents shall be granted access within the limits of the highway construction projects at all times during the life of the project for the purpose of operating, maintaining, relocating or reconstructing its facilities.

That the OWNER shall be notified at least twenty-four (24) hours in advance of a planned interruption to the normal usage of the OWNER's facilities.

THE OWNER AGREES:

That the plans for the RELOCATION WORK are based on standards which conform to or exceed the minimum requirements of all applicable National, State and Local codes and regulations and that the OWNER is solely responsible for the operation and maintenance of utility plant covered by or completed under this agreement in conformity with such standards.

To accomplish all RELOCATION WORK described in the "Scope of Work" section (c), furnishing all labor, materials and equipment necessary to complete the work.

To provide quality control and on-the-job inspection of materials and construction methods used in the RELOCATION WORK described in the "SCOPE OF WORK", at no cost to the STATE, and to save the STATE free and harmless from any responsibility therefore, except where the STATE shall disregard written exceptions filed with the STATE by the inspector for the OWNER.

To cooperate with other utility companies, the STATE, and contractors employed by the STATE, and to carry out its activities in such a way as not to obstruct or delay other work being performed within the project area.

To abide by the applicable provisions of Attachment #1 "*Construction Conditions*" which is attached hereto and made a part hereof.

To notify the STATE of any substantial changes in the scope or character of the RELOCATION WORK when those costs associated with the change increase the total project cost by more than ten (10) percent of the original estimate. This notification should be made as soon as the need for such change becomes apparent.

To notify the STATE at least twenty-four (24) hours in advance of beginning or resuming RELOCATION WORK for which reimbursement will be claimed.

To submit to the STATE, upon request, weekly progress reports of labor, materials and equipment used in the RELOCATION WORK.

To maintain in good and safe condition its plant and facilities located within the project limits and to repair any property damage resulting from such maintenance to the satisfaction of the STATE.

To accept facilities constructed in the RELOCATION WORK described in paragraph (d) immediately upon completion and demonstrated capability of the system to function as intended.

To accumulate all actual direct and related indirect costs by means of special work orders or job orders in accordance with the accounting procedures used in its regular work.

To include in any progress or final billing to the STATE receipted bills from third parties where applicable and a detailed statement of labor, materials, equipment and incidental expenses incurred in the RELOCATION WORK during the billing period. The STATE will send reimbursements directly to OWNER at P.O. Box 603 Johnson, VT 05656

To submit final billing for reimbursement to the STATE within 120 days after completion of the work, such billing to contain the information required by 23 C.F.R. 645.117(i).

To allow authorized representatives of the STATE and the FHWA to audit its utility cost records as may be required in determining reimbursement, including investigation of all records and any stipulation made by the OWNER as to the derivation of betterment and expired service life, if any, and to retain such records for a minimum of three (3) years after final payment has been received.

This agreement shall be binding upon the successors and assigns of the respective parties hereto:

IN WITNESS WHEREOF, the parties to this agreement have executed the same this 14th day of February, 2017, the STATE, by its Secretary of Transportation, and the OWNER by its authorized agent.

IN WITNESS WHEREOF:

OWNER:

Susan Tucker

Village of Johnson

Water + Light Department

BY: Meredith Brubaker
(AUTHORIZED AGENT)

Village Manager
(TITLE)

Jo Ann Maguire

STATE OF VERMONT
AGENCY OF TRANSPORTATION

BY: Kevin S. Marshie
SECRETARY OF TRANSPORTATION
for J.F.

APPROVED AS TO FORM:

e-Signed by John Dunleavy
on 2017-01-25 19:34:35 GMT

ASSISTANT ATTORNEY GENERAL

APPROVED:

e-Signed by Denise Gumpfer
BY: on 2017-01-25 19:27:19 GMT

CONTRACT ADMINISTRATION

CONSTRUCTION CONDITIONS

1. All communications between the OWNER, highway contractors, and any other parties having an interest in the highway construction contract shall be via the STATE's representative on the project, the Resident Engineer.

2. BUY AMERICA PROVISIONS

Buy America provisions, in accordance with Title 23, United States Code, Section 313 and Title 23, Code of Federal Regulations, Section 635.410 apply to the RELOCATION WORK covered by this Utility Relocation Agreement. All steel and iron products permanently incorporated into Federal-Aid projects shall be products that have been entirely manufactured within the United States. All manufacturing processes of the steel or iron material in a product (i.e., smelting and any subsequent process which alters the steel material's physical form or shape or changes its chemical composition) must occur within the United States to be considered of domestic origin. This includes processes such as rolling, extending, machining, bending, grinding, drilling and coating. Buy America requirements of Titles 23, Code of Federal Regulations, Section 635.410 are applicable to all Federal-Aid highway construction projects. The OWNER shall provide the UTILITIES & PERMITS UNIT with a written certification prior to performing any RELOCATION WORK pursuant to this Utility Relocation Agreement, confirming that only domestic steel and/or iron products will be used by OWNER for this project. Documentation Records proving this certification must be maintained by the OWNER for three (3) years after final payment under this agreement is made. This Buy America Certification may be subject to audit and may be used in any proceeding under the False Claims Act, Title 18, United States Code, Section 1020 and Title 23 Code of Federal Regulations, Section 635.119. Further, failure to comply with any Buy America requirements may jeopardize reimbursement of the RELOCATION WORK.

3. All logs, trees, underbrush, slash, etc. resulting from clearing operations associated with relocation work shall be burned or otherwise disposed of by the OWNER or its agents, as directed by the Engineer.

4. Any burning associated with construction activities or maintenance operations performed under this agreement shall not use tires or similar manufactured products as ignition material. The OWNER is responsible for procuring all permits or rights necessary for such disposal.

5. Abandoned, unused or junk materials associated with the Relocation Work shall be disposed of by the OWNER in a manner approved by the Engineer, except that abandoned underground facilities shall become the property of the highway contractor, and may not be acquired by the OWNER or the STATE.

6. Material disturbed by the placement of underground facilities which will ultimately be located beneath the highway sub-grade shall be compacted as required by the highway construction contract and in a manner approved by the Engineer.

7. Maintenance of utility plants located within operational limited - access highway facilities must be conducted from outside the limited - access facility where it is reasonably possible to do so.

8. Project signing and traffic control shall be in conformance with the MUTCD, Agency of Transportation Standard E-119 and any additional signing or traffic control deemed necessary by the Agency of Transportation. (MUTCD available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.)

Village of Johnson Dept of Public Works

Project Title:

Twin Bridge Line Relocation

Date: 15-Dec-18

Submitted By:

Troy Dolan General Foreman

Description of Work (Enter Below):

This estimate reflects the cost of converting the existing overhead 4160 volt lines near the Twin Bridges to primary underground, as well as installing conduits for Fairpoint and Comcast. The customer will be responsible for any addition costs that exceed the estimate. A refund will be issued if the actual cost is less than estimated.

Superintendent Sign Off: _____

Date: _____

Village Manager Sign Off: _____

Date: _____

BILLING SUMMARY**PRE CONSTRUCTION**

Design Costs	\$0.00

CONSTRUCTION

Materials	\$6,495.11
Conduit Credit for customer-installed conduit (see line 74)	\$0.00 (\$1 per foot)
Construction Labor	\$3,093.60
Construction Transportation	\$1,011.20
Contract Services	\$4,830.00

TOTAL PROJECT COST	\$15,429.91

Preliminary Deposit Amount

TOTAL AMOUNT OWED	\$15,429.91

THIS BILL BECOMES PAST DUE 30 DAYS AFTER DELIVERY AND SUBJECT TO COLLECTIONS

Construction MATERIALS

Stock Materials	Qty	\$ / Unit	TOTAL
35' Pole Class 2		\$1,094.53	\$0.00
35' Pole Class 3	60% Buy in FairPoint	\$547.27	\$0.00
40' Pole Class 3		\$1,248.32	\$0.00
40' Pole Class 3	60% Buy in FairPoint	\$624.16	\$0.00
45' Pole Class 3		\$1,566.37	\$0.00
45' Pole Class 3	60% Buy in FairPoint	\$738.19	\$0.00
50' Pole Class 2		\$1,618.87	\$0.00
50' Pole Class 3	60% Buy in FairPoint	\$809.44	\$0.00
55' Pole Class 2	Actual Cost	\$0.00	\$0.00
60' Pole Class 1	Actual Cost	\$0.00	\$0.00
D6		\$86.39	\$0.00
S6		\$48.18	\$0.00
T6		\$114.19	\$0.00
COMP. ARM 10K LB, ALUMAFORM		\$50.00	\$0.00
DE		\$21.84	\$0.00
ANGLE PINS		\$20.22	\$0.00
PIN INS 10KV		\$7.32	\$0.00
CO		\$99.77	\$0.00
NBE		\$29.76	\$0.00
OH SERVICE		\$91.25	\$0.00
GUY & ANCH		\$486.00	\$0.00
GUY & ANCH	FairPoint Buy In Cost 2	\$243.00	\$486.00
SPAN GUY / HEAD GUY		\$65.76	\$0.00
SPAN GUY		\$67.26	\$0.00
SIDE WALK GUY BRACKET		\$70.10	\$0.00
PB BRACKET		\$67.60	\$0.00
Conduit (Feet)		\$0.00	\$0.00
Pole Riser Three Phase 15KV	2	\$677.69	\$1,355.38
Pole Riser Single Phase 15KV		\$318.66	\$0.00
Pole Riser Secondary 3"		\$166.40	\$0.00
Secondary Pedestal		\$391.50	\$0.00
1/0 AAAC, 23-081		\$0.38	\$0.00
4/0 AAAC, 23-084		\$0.51	\$0.00
394 AAAC, 23-086		\$0.62	\$0.00
1/0 15KV CABLE, 1PH		\$1.75	\$0.00
1/0 15KV CABLE, 3PH		\$3.87	\$0.00
8' crossarm	6	\$35.74	\$214.44
1/2 x 6 carriage bolts	12	\$1.19	\$14.28
5/8 eyenut	6	\$13.72	\$82.32
cross arm brace	12	\$4.78	\$57.36
15 kv suspension insulator	4	\$11.75	\$47.00
60 KVA transformer		\$1,125.00	\$0.00
18" DA bolts	9	\$3.00	\$27.00
3 phase transformer rack		\$335.00	\$0.00
Class 320 A3R motor		\$305.00	\$0.00
1/0 7str ACCC tres wire		\$1.03	\$0.00
100 amp cut out	4	\$82.47	\$329.88
hot line clamps	8	\$7.71	\$61.68
1/0 shoe spring loaded	6	\$7.44	\$44.64
cross arm pins	4	\$5.65	\$22.60
1/0 connector	10	\$3.00	\$30.00
15 kv terminator	4	\$56.40	\$225.60
conduit 4"	560	\$1.99	\$1,114.40
conduit 3"	420	\$1.35	\$567.00
flat washer 5/8	32	\$0.39	\$12.48
12' x 5/8 eye bolts	2	\$3.52	\$7.04
groun rod clamps	2	\$1.57	\$3.14
spring washer 5/8	25	\$0.29	\$7.25
1/2 lag bolt	12	\$2.38	\$28.56

3" sch 80 sweep	6	.443	\$86.58
condulator	4	\$44.74	\$178.96
#4 stranded copper wire	30	\$2.36	\$70.80
ground rod	2	\$11.41	\$22.82
#6 solid copper wire	80	\$0.55	\$44.00
15 kv clamp type insulator	4	\$13.72	\$54.88
			\$0.00
			\$0.00
			\$0.00
			\$0.00
			\$0.00
Stores Overheads Charge			25.0%
Sub Total - MATERIALS			\$6,196.09
			\$1,299.02
			\$8,495.11

Removal of Materials	Material Costs
Service Entrance Credit / Unit Price (Material, Labor & Transportation (\$200.00 ea.)	
Sub- Total - Service Credit or Credit for Materials removed	0

Construction LABOR

Contract Services / Materials	Qty	\$ / Unit	Extended Total
Excavator and operator	24	\$115.00	\$2,760.00
ground worker	24	\$30.00	\$720.00
traffic control	24	\$56.25	\$1,350.00
Vehicle			\$0.00
Material			\$0.00
			\$0.00
			\$0.00

Sub Total - Contract Services **\$4,830.00**

Johnson Labor - Install	Regular Hours	Hourly Rate	OT Hours	OT Hourly Rate	Extended Total
Superintendent of Public Works					\$0.00
Lineworker / Foreman (Troy)	16	\$57.75		\$63.00	\$924.00
Lineworker (PAUL)	16	\$52.80		\$57.60	\$844.80
Lineworker (NATE)	16	\$52.80		\$57.60	\$844.80
Lineworker (Jeff)	16	\$30.00		\$32.72	\$480.00
WWTF Chief Operator		\$38.52		\$44.73	\$0.00
WWTF Asst. Oper/Chief Water Oper		\$32.83		\$38.12	\$0.00
Sub Total - Installation Labor	64				\$3,093.60

Johnson Labor - Removal	Regular Hours	Hourly Rate	OT Hours	OT Hourly Rate	Extended Total
Superintendent of Public Works		\$0.00		\$0.00	\$0.00
Lineworker / Foreman (Troy)		\$57.75		\$63.00	\$0.00
Lineworker (PAUL)		\$52.80		\$57.60	\$0.00
Lineworker (NATE)		\$52.80		\$57.60	\$0.00
Lineworker (TROY)		\$30.00		\$32.72	\$0.00
WWTF Chief Operator		\$38.52		\$44.73	\$0.00
WWTF Asst. Oper/Chief Water Oper		\$32.83		\$38.12	\$0.00
Sub Total - Removal Labor credited back to					\$0.00

TOTAL LABOR COSTS**\$3,093.60****Pre Construction**

Pre Construction & Design Resources / Services	\$ / Unit	Extended Total
Johnson Design Time	\$57.75	\$0.00
Sub Total - Pre Construction Resources / Services		\$0.00

TRANSPORTATION

Type Of Vehicle	Vehicle Hours	Rate	Total
Bucket Truck	18	\$35.00	\$630.00
Digger Truck	4	\$35.00	\$140.00
Utility / Pickup	18	\$19.45	\$311.20
Backhoe / Loader		\$35.00	\$0.00
Dump Truck		\$26.00	\$0.00
Kubota		\$35.00	\$0.00
Rotary Sweeper Broom		\$10.00	\$0.00
Skid Steer Rotary Sweeper		\$16.00	\$0.00
Skid Steer Pick-up Sweeper		\$16.00	\$0.00
Chain Saw		\$10.00	\$0.00
Chipper		\$36.00	\$0.00
Skid Steer / Loader		\$22.60	\$0.00
Sub Total - Transportation			\$1,011.20

4 of 4
 12/27/2016

Ramsey, Jeff

From: Title 19 <DII-SharePointAdmins@state.vt.us>
Sent: Thursday, February 18, 2016 11:49 AM
To: Goldstein, Lee; Ramsey, Jeff; Brady, James; Lofgren, Matt
Cc: john.lepore@state.vt.us; Gingras, Glenn; Chipman, Brian; Brunelle, Chris; Pfeiffer, Rebecca
Subject: JohnsonBF0248(7) - Title 19 Review

Do not reply to this email.

Project JohnsonBF0248(7) had been approved by, Chris Brunelle 802-777-5328. The following Standard Conditions apply:

Title-19 Standard Conditions:

1. A) The project shall be constructed as defined in the documents linked to the JohnsonBF0248(7) project in this Title 19 Share Point site. B) Any amendment to the plans which in any way affects surface waters and/or riparian corridors shall be reviewed by this office and approval received by VTrans prior to construction. C) Any construction modifications that deviate from the approved plans which in any way affects surface waters and/or riparian corridors shall be reviewed by this office and approval received by VTrans prior to the construction activity.
2. That the contractor's schedule of accomplishment of water quality related work to be submitted prior to the start of construction, and as required under general specification #105.23(a) shall include site-specific methods of operation. Temporary construction fills, check dams, silt barriers and other erosion control works shall be described and shown on pertinent plans.
3. That the Vermont Agency of Transportation general specification #105.23 addressing the control of erosion and siltation be carefully adhered to in order to minimize turbidity and other adverse impacts.
4. That the Vermont Agency of Transportation general specification #105.24 addressing pollution control be carefully followed in order to limit, if not prevent altogether, the discharge of fuel, grease, oil, raw concrete, paint, chemicals, and debris to any waters of the state.
5. An on-site pre-construction conference between the contractor, VTrans Resident Engineer and the River Management Engineer (Chris Brunelle) shall be held prior to commencement of any in-stream construction. Please contact the ANR River Management Engineer listed at the top of this email to schedule the conference.
6. Approved in-stream working dates on this project are from 6/1-10/1. Contractor proposals for construction activities in or adjacent to flowing water during the restricted period must be isolated from stream flow and must receive prior approval from the River Management Engineer.
7. The provisions of this approval shall be made a part of the construction contract.

EA: 0248007-100

Stream alteration; Agency of Transportation reviews; bridge, culvert, and high risk projects: \$350.00.

ANR Permit Number: HD-4-005-2016

Project GUID: {BCD540A9-56D0-4628-B3EA-F44676ACDA17}

**VERMONT AGENCY OF NATURAL RESOURCES
DEPARTMENT OF ENVIRONMENTAL CONSERVATION**

INDIVIDUAL WETLAND PERMIT

In the matter of:

Vermont Agency of Transportation
One National Life Drive
Montpelier, VT 05663

Application for the replacement of an existing culvert with proposed impacts to 300 square feet of wetland and 7400 square feet of buffer zone.

Route 100C, Johnson

File #: 2016-090
DEC ID #: BR16-0060

Date of Decision: May 25, 2016
Decision: **Approved**
Expiration Date: May 25, 2021

Any activity in a Class I or Class II wetland or its associated buffer zone is prohibited unless it is an allowed use under the Vermont Wetland Rules (VWR) or unless it receives a permit allowing such activity. 10 V.S.A. § 913. Applicants for an individual permit for a proposed activity in any Class I or Class II wetland or its buffer zone must demonstrate that the proposed activity complies with the VWR and will have no undue adverse effects on protected functions and values. VWR § 9.5(a).

The Vermont Agency of Natural Resources (Agency) received an application dated March 21, 2016 from Vermont Agency of Transportation (permittee) seeking an individual Vermont Wetland Permit for a project involving activities in a wetland and associated buffer zone located in Johnson, Vermont. The Agency gave notice of the application in accordance with the VWR. The Agency considered all comments received during the public comment period during review of the application and issuance of this permit.

DECISION AND PERMIT CONDITIONS

1. Based on the Findings contained in this permit below, the Secretary has determined that the proposed project will comply with 10 V.S.A. chapter 37 and the VWR and will have no undue adverse effect on protected functions and values of the wetland. The permittee has demonstrated that the project will have no undue adverse effects on the protected functions and values of the significant wetland and associated buffer zone, provided the project is conducted in accordance with the following conditions:
 - A. All activities in the wetland and buffer zone shall be completed, operated, and maintained as set forth in the permit application #2016-090 and the supporting

materials submitted with the permit application including site plans titled "VTrans Wetland Application Johnson BF 02848(7)," Prepared by Vermont Agency of Transportation, last revision 3-3-2016. No material or substantial changes shall be made to the project without the prior written approval of the Vermont Wetlands Program. Project changes, including transfer of property ownership prior to commencement of a project, may require a permit amendment and additional public notice.

- B. The permittee shall record this permit in the land records of the Town of Johnson for all properties subject to the permit. Within 30 days of the date of issuance of this permit, the permittee shall supply the Vermont Wetlands Program with a copy of the recording of this permit.
- C. Prior to commencement of the approved project, the permittee shall notify the Vermont Wetlands Program digitally in writing of the date the project will commence.
- D. **Prohibitions:** No additional activities are allowed in the wetland and associated buffer zone without the approval of the Secretary unless such activities are allowed uses under VWR § 6. No draining, dredging, filling, grading, or alterations of the water flow is allowed. No cutting, clearing, or removal of vegetation within the wetland and buffer zone is allowed with the exception of the proposed project area as approved by this permit.
- E. This permit expires five years from the date of issuance. If the permittee has not completed all construction activities covered by this permit before the expiration date and wishes to continue construction, the permittee must request a permit extension or apply for a new permit. Any request for an extension must be received by the Agency at least 30 days prior to the end of the five year period in order to prevent the expiration of the permit. A request for extension may be considered a minor modification at the discretion of the Secretary. Pursuant to VWR § 9.1, projects may not be extended beyond ten years of the issuance date.
- F. Wetland boundary delineations are valid for five years. The delineations will need to be re-evaluated by a qualified wetland consultant if the project is not constructed during the five-year period and a request for an extension is submitted.
- G. Within 30 days of completion of the work approved by this permit, the permittee shall supply the Vermont Wetlands Program with a letter certifying that the project was constructed in compliance with the conditions of this permit.
- H. A continuous line of orange snow fence or flagging tape shall be installed along the limits of disturbance prior to the start of construction.
- I. If a stormwater construction permit is obtained for this project, the erosion prevention and control requirements of that permit shall be followed. At minimum, the permittee shall comply with the following: A continuous line of silt fence shall be properly installed by the permittee immediately upgradient of the snow fence or tape prior to any construction and shall be regularly maintained. Care shall be taken to ensure that silt fence is installed on the contour and not in areas of concentrated

flow such as stream channels or ditches. Sediment shall be cleaned out before and after any significant storm event or when sediment has reached less than half the height of the fence. Removed sediments shall be disposed of in a stable, upland area outside the 50-foot buffer zone at least 100 feet from waters of the state and stabilized immediately with seed and mulch at a minimum. All other disturbed soils shall be seeded and mulched within 48 hours of final grading. All sediment barriers and construction fencing shall be removed following the successful establishment of vegetation.

- J. The method of construction shall be that which presents the least disturbance of stream flow and prevents any discharge of sediment downstream. Stream flow at all times shall be diverted from the work area. The contractor's equipment shall be clean and well maintained, free of fuel, hydraulic, and gear oil leaks, especially if such equipment is to be used in or adjacent to the water. There shall be absolutely no discharge of uncured concrete to the stream flow. Pumping from excavation areas shall be discharged to an overland area or settling basin such that the effluent shall be essentially clarified before reentering the stream flow. All areas of stream bank disturbed during construction shall be suitably reshaped and stabilized with stone fill or a vegetative planting prior to completion of the project. Additionally, the extent of stream bank disturbance shall be strictly limited, and all existing vegetation maintained to the greatest degree practicable. Stream work shall be limited to the period June 1 to October 1. Culvert invert elevations shall be installed six inches below the stream bed level.
 - K. All contractors' equipment shall be cleaned so as to contain no observable soil or vegetation prior to work in wetlands and buffer zones to prevent the spread of invasive species. The permittee shall monitor the portion of the wetland in question annually during early July for five years following construction for the nuisance plant species purple loosestrife (*Lythrum salicaria*) and common reed (*Phragmites australis*). All nuisance plants found shall be pulled by hand and disposed of by burial or burning in a non-wetland location. If hand pulling is not feasible, a state approved invasive species control plan is required.
- 2. The Secretary maintains continuing jurisdiction over this project and may at any time order that remedial measures be taken if it appears that undue adverse impacts to the protected functions and values of the wetland or buffer are occurring or will occur.
 - 3. This permit does not relieve the permittee of the responsibility to comply with any other applicable federal, state, and local laws, regulations, and permits.
 - 4. The permittee shall allow the Secretary or the Secretary's representatives, at reasonable times and upon presentation of credentials, to enter upon and inspect the permitted property for the purpose of ascertaining compliance with this permit, the VWR, and the Vermont Water Quality Standards, and to have access to and copy all records required to be prepared pursuant to this permit.

5. The Agency accepts no legal responsibility for any damage direct or indirect of whatever nature and by whomever suffered arising out of the approved project. This permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to public or private property, or any invasion of personal rights, or any infringement of federal, state, or local laws or regulations. This permit does not obviate the necessity of obtaining such federal, state, or local permits or approvals as may be required by law. Nothing in this permit shall be construed to preclude the institution of legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under other laws.
6. Within 15 days of the date of the decision, the permittee, any person entitled to notice under VWR § 9.2, or any person who filed written comments regarding the permit application may request in writing reconsideration of the decision by the Secretary in accordance with VWR § 9.6.
7. Any person with an interest in this matter may appeal this decision pursuant to 10 V.S.A. § 917. Pursuant to 10 V.S.A. chapter 220, any appeal of this decision must be filed with the clerk of the Environmental Division of the Superior Court within 30 days of the date of the decision. The Notice of Appeal must specify the parties taking the appeal and the statutory provision under which each party claims party status; must designate the act or decision appealed from; must name the Environmental Division; and must be signed by the appellant or their attorney. In addition, the appeal must give the address or location and description of the property, project, or facility with which the appeal is concerned; the name of the permittee; and any permit involved in the appeal. The appellant must also serve a copy of the Notice of Appeal in accordance with Rule 5(b)(4)(B) of the Vermont Rules for Environmental Court Proceedings. For further information, see the Vermont Rules for Environmental Court Proceedings, available on line at www.vermontjudiciary.org. The address for the Environmental Division is: 32 Cherry Street, 2nd Floor, Suite 303, Burlington, VT 05401 (Tel. # 802-951-1740).

FINDINGS

1. The Agency received a complete application from Vermont Agency of Transportation for Vermont Wetland Permit on March 21, 2016.
2. The wetland and adjacent 50-foot buffer zone are located 3.8 north of the Junction of VT Route 15 and 100C, on the north side of the road.
3. Shannon Morrison, District Wetlands Ecologist, conducted a site visit to the subject property in August of 2015.
4. The subject wetland meets the presumptions listed in VWR § 4.6, the wetland is of the same type and threshold size as those mapped on the VSWI maps or greater than 0.5 acres (VWR §4.6a), and the Secretary has determined based on an evaluation of the functions and values of the subject wetland that it is a significant wetland and therefore is designated as a Class II wetland.

5. The wetland in question is described in detail in Sections 4 and 5 of the permit application. The wetland is over five acres of shrub and forested wetland dominated by poplar, black spruce, balsam fir, and sensitive fern. A tributary to the Lamoille River flows southerly through the wetland and frequently floods the area. Wetland soils are comprised of Cabot silt loams.
6. The proposed project is described in detail in Sections 17 and 18 of the permit application. The project consists of replacement of an existing culvert. Impacts the wetland and buffer include clearing and placement of stone fill on the upstream and downstream side of the culvert.
7. Proposed impacts to the wetland and buffer zone, summarized in Section 19 of the permit application, are as follows:

Wetland Alteration:		Buffer Zone Alteration:	
Wetland Fill:	300 sq.ft.		
Temporary:	0 sq.ft.	Temporary:	800 sq.ft.
Other Permanent: :	0 sq.ft.	Permanent: :	6600 sq.ft.
Total Wetland Impact	300 sq.ft.	Total Buffer Zone Impact:	7400 sq.ft.

8. The protected functions of the wetland complex include the following: water storage for flood water and storm runoff (VWR § 5.1), surface and groundwater protection (VWR § 5.2), fish habitat (VWR § 5.3), wildlife (VWR § 5.4), and erosion control through binding and stabilizing the soil (VWR § 5.10).
9. The following functions are either not present or are present at such a minimal level as to not be protected functions: exemplary wetland natural community (VWR § 5.5), threatened and endangered species habitat (VWR § 5.6), education and research in natural sciences (VWR § 5.7), recreational value and economic benefits (VWR § 5.8), and open space and aesthetics (VWR § 5.9).
10. The subject wetland is significant for the water storage for flood water and storm runoff function as demonstrated in Section 7 of the permit application. Based on the factors described in Section 7.2 of the application, as confirmed through a site visit by Agency staff, the proposed project will not result in an undue adverse impact to this function.
11. The wetland is significant for the surface and ground water protection function as described in Section 8 of the permit application. Based on the factors described in Section 8.2 of the application, as confirmed through a site visit by Agency staff, the proposed project will not result in an undue adverse impact to this function.
12. The wetland is significant for the fish habitat function as described in Section 9 of the permit application. Based on the factors described in Section 9.2 of the application, as confirmed through a site visit by Agency staff, the proposed project will not result in an undue adverse impact to this function.
13. The wetland is significant for the wildlife and migratory bird habitat function as described in Section 10 of the permit application. Based on the factors described in Section 10.2 of

the application, as confirmed through a site visit by Agency staff, the proposed project will not result in an undue adverse impact to this function.

14. The wetland is significant for the erosion control function demonstrated in Section 16 of the permit application. Based on the factors described in Section 16.2 of the application, as confirmed through a site visit by Agency staff, the proposed project will not result in an undue adverse impact to this function.
15. Under 10 V.S.A. § 913 and VWR § 9.5, the Secretary may authorize activities in a Class II wetland or in its buffer zone if the Secretary determines that it complies with the VWR and will have no undue adverse effect on the protected functions and values. Based on the permit application, the site visit(s) by Agency staff, and the foregoing findings and analysis, the Secretary has determined that the proposed project will have no undue adverse effects on the protected functions and values of the subject Class II wetlands.
16. Pursuant to VWR § 9.5(b), the permittee has demonstrated that the proposed activity in the subject wetland cannot practicably be located outside the wetland or on another site owned, controlled, or available to satisfy the basic project purpose. All practicable measures have been taken in this proposal to avoid adverse impacts on protected functions, as described in the application.

The culvert to be replaced will allow for better water and wildlife passage. Impacts are limited to access to install and stabilize the new culvert.

17. No public comments were received during the public comment period.

Alyssa B. Schuren, Commissioner
Department of Environmental Conservation

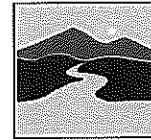
e-Signed by Laura Lapierre
by: on 2016-05-25 14:01:06 GMT

Laura Lapierre, Program Manager
Wetlands Program
Watershed Management Division

Dated at Montpelier, Vermont
this twenty-fifth day of May, 2016

ABS/LVPL/SM

Vermont Wetlands Program
Start Work Notification
Project Number: 2016-090 Issue Date: 5/25/2016



VERMONT DEPARTMENT OF
ENVIRONMENTAL CONSERVATION
WATERSHED
MANAGEMENT DIVISION
WETLANDS PROGRAM

Instructions:

Prior to beginning work, you are required to notify the Vermont Wetlands Program of the date when work will commence. Please note that your permit expires on 5/25/2021. You may file for a permit extension amendment within one month or more from the date of expiration. No permits may be extended beyond a 10-year period.

Documentation:

Fill out the form below.

Notification:

Work will begin on Individual Wetland Permit 2016-090 in the town of Johnson on

Date: _____.

The following contractor has read the permit and understands the conditions and limitations contained within:

Name: _____

Company: _____

Phone: _____

We expect that the work will be completed by (Date:) _____.

If the Vermont Wetlands Program has questions about the project, or receives complaints, they should contact:

Name: _____ Email: _____

Relationship to project/company: _____ Phone: _____

Documentation:

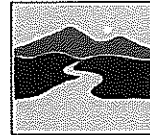
Submit this completed form to:

Vermont Department of Environmental Conservation
Watershed Management Division
Attn: Wetlands Program
One National Life Drive, Main Bldg., 2nd Floor
Montpelier, VT 05620

Or send an electronic copy to:

ANR.WSMDWetlands@vermont.gov

Vermont Wetlands Program
Permit Work Completion Certification
Project Number: 2016-090 Issue Date: 5/25/2016



VERMONT DEPARTMENT OF
ENVIRONMENTAL CONSERVATION
WATERSHED
MANAGEMENT DIVISION
WETLANDS PROGRAM

Instructions:

Within 30 days of the completion of the project, fill out the form below certifying the project has been complete in accordance with the conditions listed in Wetland Permit 2016-090.

Documentation:

In addition to the form below, if there are any specific conditions that require documentation at the close of the project, please submit this documentation as well.

Certification: Please check one of the following...

- ☐ I certify that all activities in the wetland and buffer zone were completed, and will be operated, and maintained as set forth in the permit application 2016-090 and the supporting materials submitted with the permit application. No material or substantial changes shall be made to the project.

OR

- ☐ Written approval for minor changes to the permit was obtained from the Vermont Wetlands Program on (date:). I certify the project was completed in accordance with the permit and the approved changes.

OR

- ☐ A permit amendment was required for substantial changes and was obtained on (date:). I certify the project was completed in accordance with the permit and the approved amendment.

Permittee Name: _____ Position: _____

Permittee Signature: _____ Date: _____

Documentation:

Submit this complete form to:

Vermont Department of Environmental Conservation
Watershed Management Division
Attn: Wetlands Program
One National Life Drive, Main Bldg., 2nd Floor
Montpelier, VT 05620

Or send an electronic copy to:

ANR.WSMDWetlands@vermont.gov



DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
696 VIRGINIA ROAD
CONCORD MA 01742-2751

June 13, 2016

Regulatory Division
CENAE-R-PEC-62
File Number: NAE-2016-01008

Mr. Glenn Gingras
VTrans Environmental Biologist
Vermont Agency of Transportation
One National Life Drive
Montpelier, Vermont 05633-5001

Dear Mr. Gingras:

We have reviewed your application to place fill in about 3,000 sq. ft. (0.07 acre) of an unnamed stream and adjacent wetlands in conjunction with the replacement of a deficient culvert with a new 16' x 7.5' precast open bottom arch on VT Route 100C in Johnson, Vermont. The work is shown on the attached plans, on fourteen sheets, entitled "Johnson BF 0248(7)" (dated "March 4, 2016") and "JOHNSON BF 0248(7)" (dated "12-FEB-2016", "1/29/2016" and "03-MAR-2016").

Based on the information you have provided, we have determined that the proposed activity, which includes a discharge of dredged or fill material into waters or wetlands, will have only minimal individual or cumulative environmental impacts on waters of the United States, including wetlands. Therefore, this work is authorized as a Category 2 activity under the attached Federal permit known as the Vermont General Permit (GP). This work must be performed in accordance with the terms and conditions of the GP.

You are responsible for complying with all of the GP's requirements. Please review the attached GP carefully, in particular the GP conditions beginning on Page 7, to familiarize yourself with its contents. You should ensure that whoever does the work fully understands the requirements and that a copy of the permit document AND THIS AUTHORIZATION LETTER ARE at the project site throughout the time the work is underway.

This authorization expires on December 6, 2017, unless the GP is modified, suspended, or revoked. You must commence or have under contract to commence the work authorized herein by December 6, 2017 and complete the work by December 6, 2018. If you do not, you must contact this office to determine the need for further authorization before beginning or continuing the activity.

If you change the plans or construction methods for work in our jurisdiction, please contact us immediately to discuss modification of this authorization. This office must approve any changes before you undertake them.

This authorization requires you to 1) notify us before beginning work so we may inspect the project, and 2) submit a Compliance Certification Form. You must complete and return the enclosed Compliance Certification Form within one month following the completion of the authorized work.

This authorization presumes that the work as described above and as shown on your plans noted above is in waters of the U.S. Should you desire to appeal our jurisdiction, please submit a request for an approved jurisdictional determination in writing to this office.

This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law. Performing work not specifically authorized by this determination or failing to comply with any special condition(s) provided above or all the terms and conditions of the GP may subject you to the enforcement provisions of our regulations.

We continually strive to improve our customer service. In order for us to better serve you, we would appreciate your completing our Customer Service Survey located at http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey

Please contact Michael S. Adams of my staff at (802) 872-2893 if you have any questions.

Sincerely,


Frank J. DelGiudice
Chief, Permits & Enforcement Branch
Regulatory Division

Attachments

Copies furnished:
Mr. Christopher G. Brunelle
VT Department of Environmental Conservation
Chris.Brunelle@vermont.gov

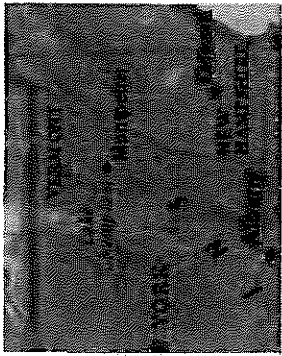
Mr. Glen Gingras
Vermont Agency of Transportation
Glenn.Gingras@vermont.gov



Johnson BF 0248(7)

Vermont Agency of Natural Resources

vermont.gov

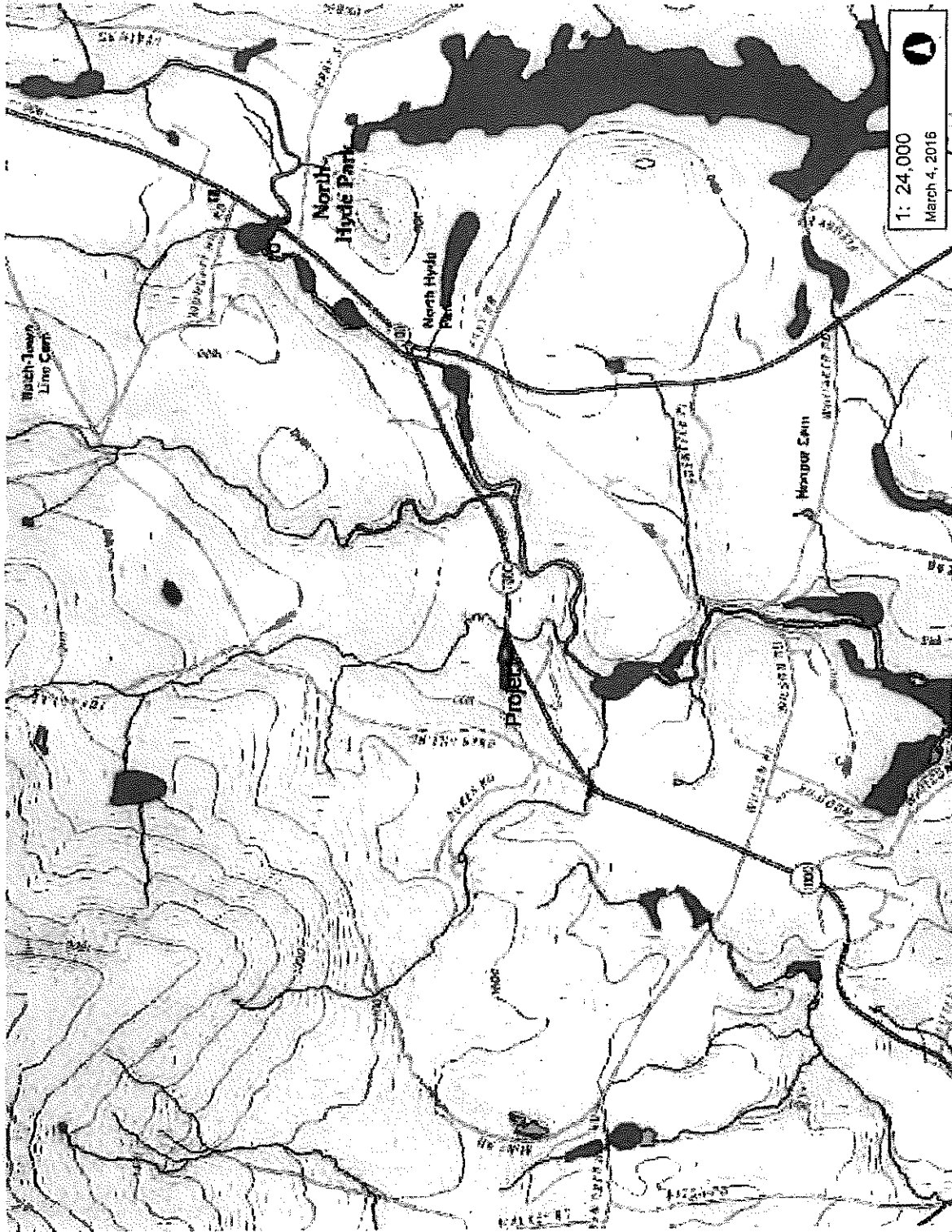


LEGEND

- Wetlands - VSWI
 - Class 1 Wetland
 - Class 2 Wetland
- Waterbody
- Stream
- Town Boundary

NOTES

Map created using ANR's Natural Resources Atlas



1: 24,000
March 4, 2016

DISCLAIMER: This map is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. ANR and the State of Vermont make no representations of any kind, including but not limited to, the warranties of merchantability, or fitness for a particular use, nor are any such warranties to be implied with respect to the data on this map.

1219.0 0 610.00 1219.0 Meters
1" = 2000 Ft 1cm = 240 Meters
WGS_1984_Web_Mercator_Auxiliary_Sphere
© Vermont Agency of Natural Resources
THIS MAP IS NOT TO BE USED FOR NAVIGATION

REVIEWER NOTES

1. THE BRIDGE WILL BE CLOSED FOR TWO WEEKS (14 CALENDAR DAYS). TRAFFIC WILL BE MAINTAINED VIA A SIGNED STATE DETOUR.
2. IT IS ANTICIPATED THAT CHANNEL RIGHTS WILL BE NECESSARY FOR THIS PROJECT. THE EXTENT OF RIGHTS REQUIRED WILL NOT BE KNOWN UNTIL FINAL DESIGN.
3. THERE ARE EXISTING OVERHEAD UTILITIES WITHIN THE PROJECT AREA WHICH WILL NOT BE RELOCATED. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND THEM.
4. A SIMPLIFIED PAVEMENT DESIGN HAS BEEN DONE FOR THIS PROJECT.
5. THE DETOUR PLANS AND DETAILS WITHIN ARE FROM JOHNSON DT0248 (4) AND WILL REQUIRE FURTHER REVISION TO INCLUDE THIS PROJECT.

STATE OF VERMONT AGENCY OF TRANSPORTATION

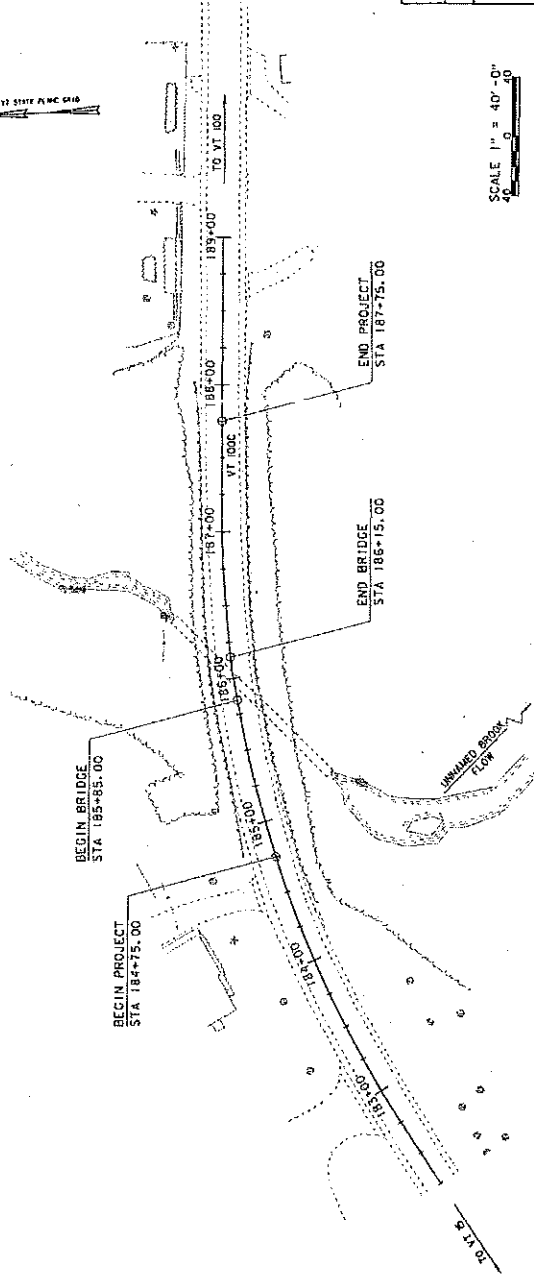
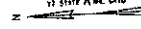
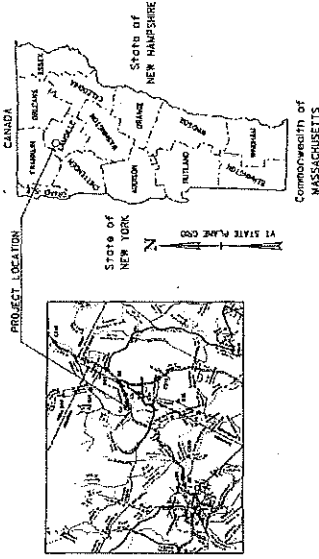


PROPOSED IMPROVEMENT BRIDGE PROJECT

TOWN OF JOHNSON
COUNTY OF LAMOILLE
VT ROUTE 100C (RURAL MAJOR COLLECTOR) BRIDGE 4 OVER UNNAMED BROOK
PROJECT LOCATION: APPROXIMATELY 3.8 MILES NORTH OF THE JUNCTIONS OF VT 15 AND 100C

PROJECT DESCRIPTION: REPLACEMENT OF THE EXISTING CULVERT WITH A NEW PRECAST RIGID FRAME OR ARCH TYPE WITH RELATED APPROACH AND CHANNEL WORK.

LENGTH OF STRUCTURE: 30.00 FEET
LENGTH OF ROADWAY: 245.00 FEET
LENGTH OF PROJECT: 275.00 FEET



CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, LATEST EDITION, AS ADOPTED BY THE VERMONT HIGHWAY ADMINISTRATION ON JULY 20, 2001. FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISIONS SPECIFICATIONS AND DETAILS AS ARE INCORPORATED IN THESE PLANS.

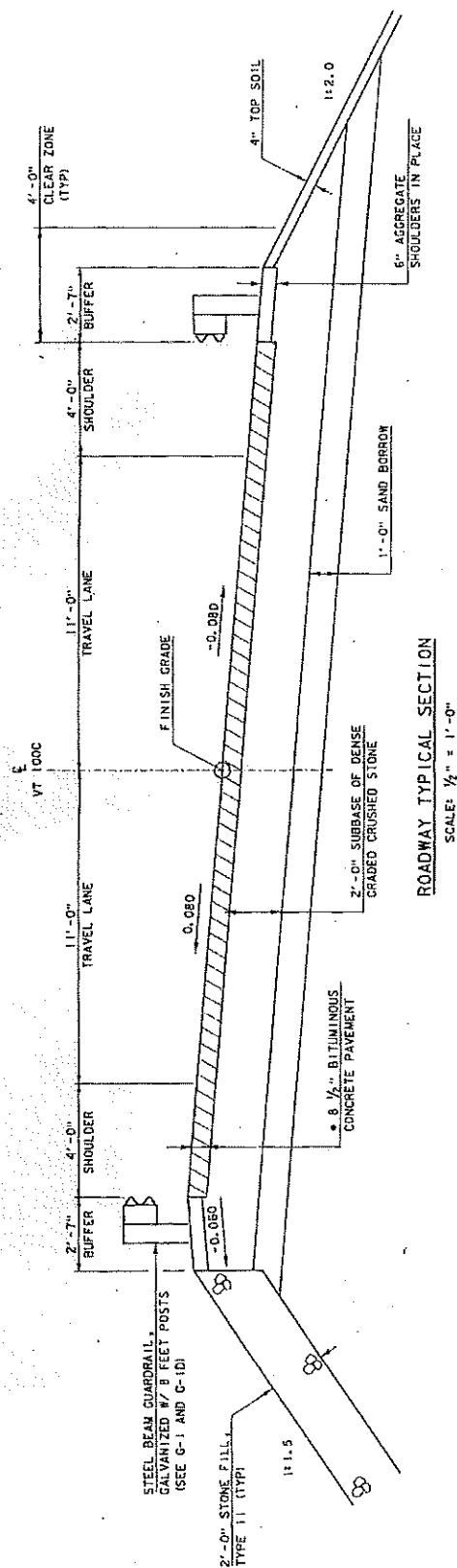
QUALITY ASSURANCE PROGRAM : LEVEL 2	
SURVEYED BY :	VTRANS
SURVEYED DATE :	2005
DATUM	
VERTICAL	NAVD83
HORIZONTAL	NA083

PROJECT IMPACTS
12-FEB-2016

DIRECTOR OF PROJECT DELIVERY	DATE
APPROVED	
PROJECT MANAGER : WENDY PELLETIER	
PROJECT NAME : JOHNSON	
PROJECT NUMBER : 87 024817	
SHEET 1 OF 9 SHEETS	

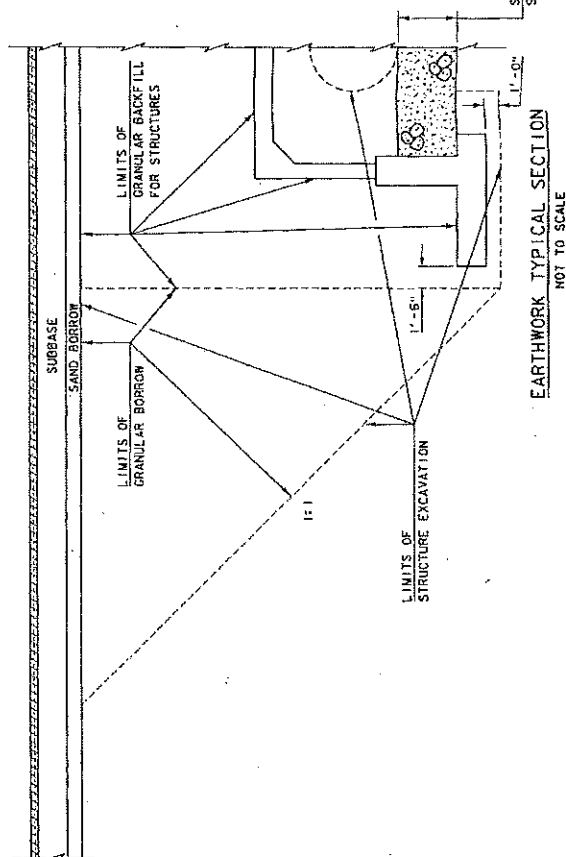
SCALE 1" = 40'-0"

MATERIAL TOLERANCES (IF USED ON PROJECT)	
SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- 1/4"
- AGGREGATE SURFACE COURSE	+/- 1/2"
SUBBASE	+/- 1"
SAND BORROWS	+/- 1"



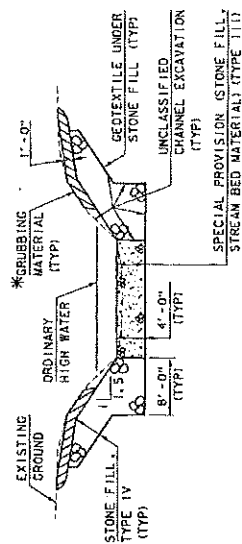
ROADWAY TYPICAL SECTION

SCALE: $1/2" = 1' - 0"$



EARTHWORK TYPICAL SECTION

NOT TO SCALE



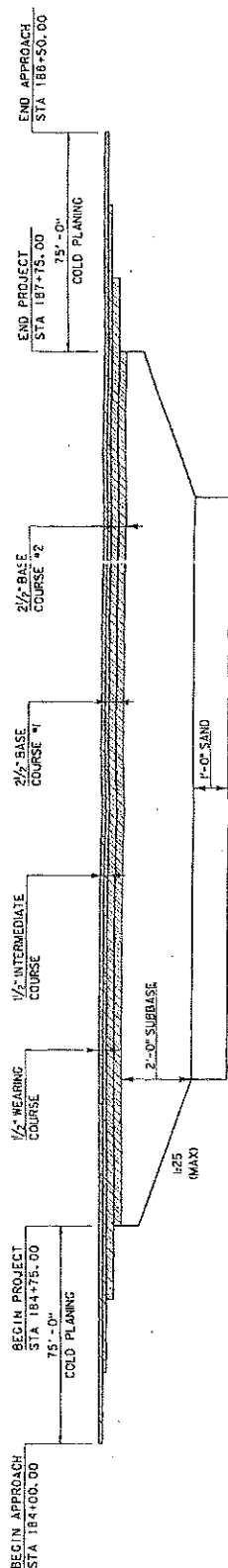
CHANNEL TYPICAL SECTION

NOT TO SCALE

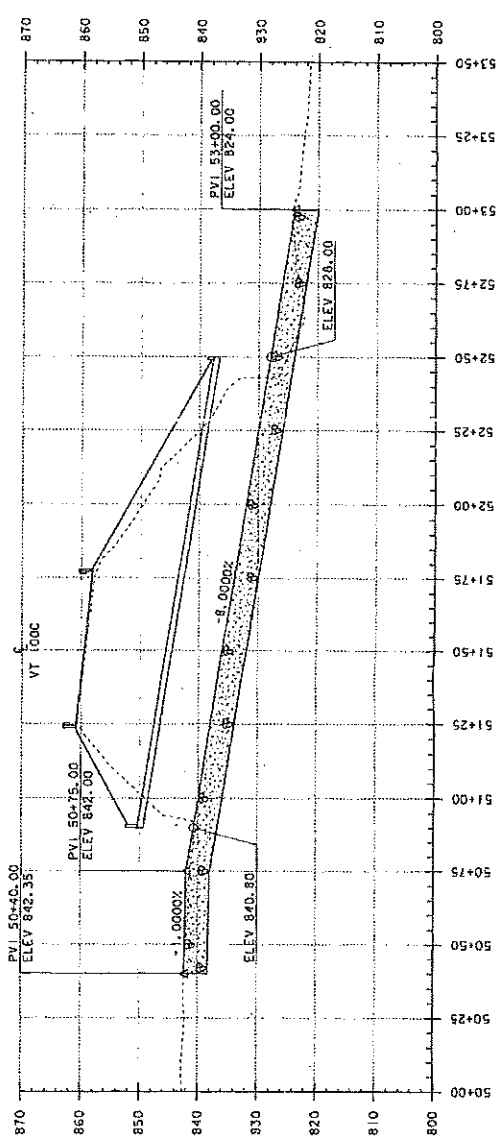
* WHENEVER CHANNEL SLOPE INTERSECTS ROADWAY SUBBASE, GRUBBING MATERIAL SHALL BEGIN AT THE BOTTOM OF SUBBASE.

PROJECT NAME:	JOHNSON
PROJECT NUMBER:	BF 0248(7)

FILE NAME: szc5507yp.dgn
PROJECT LEADER: W. PELLETIER
DESIGNED BY: J. SALVATORI
TYPICAL SECTIONS



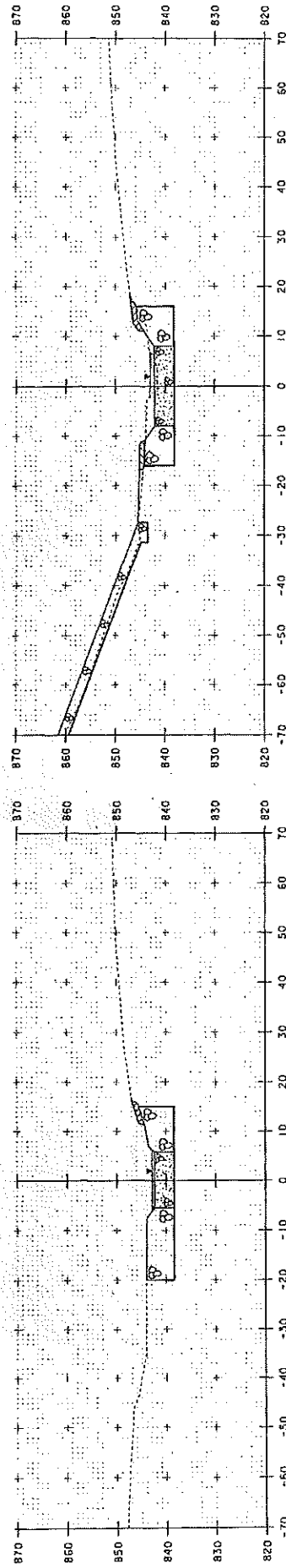
MATERIAL TRANSITION
 HOR. SCALE 1" = 20'-0"
 NO VER. SCALE



CHANNEL PROFILE
 HOR. SCALE 1" = 20'-0"
 VER. SCALE 1" = 10'-0"

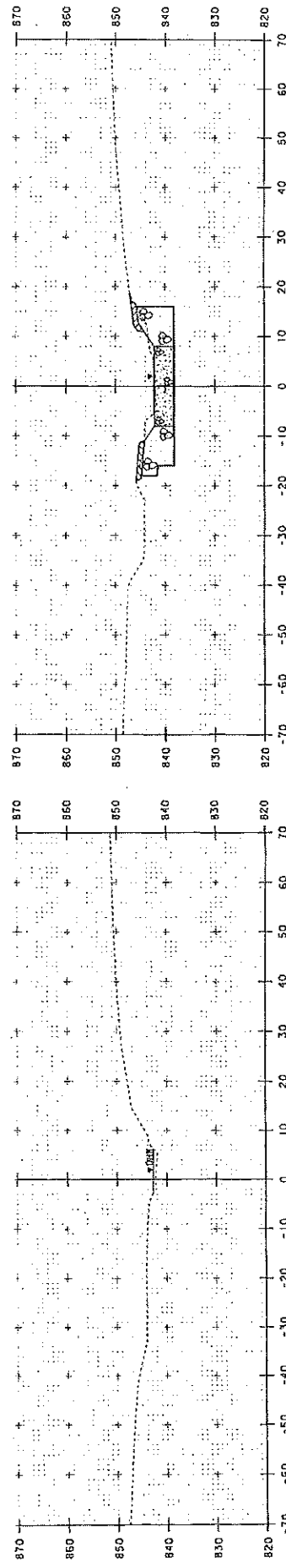
PROJECT NAME	JOHNSON
PROJECT NUMBER	BF 0248(7)
FILE NAME	secessp.dgn
PLOT DATE	12-FEB-2006
DRAWN BY	J. SALVATOR
DESIGNED BY	J. SALVATOR
CHECKED BY	J. SALVATOR
SHEET	8 OF 18

STA 50+40
 BEGIN CHANNEL EXCAVATION
 BEGIN CHANNEL FILL (TYPE 1)
 BEGIN STONE FILL (TYPE 1)
 BEGIN SPECIAL PROVISION STONE FILL - STREAM BED MATERIAL (TYPE 11)
 BEGIN GRUBBING MATERIAL



50+40

50+60

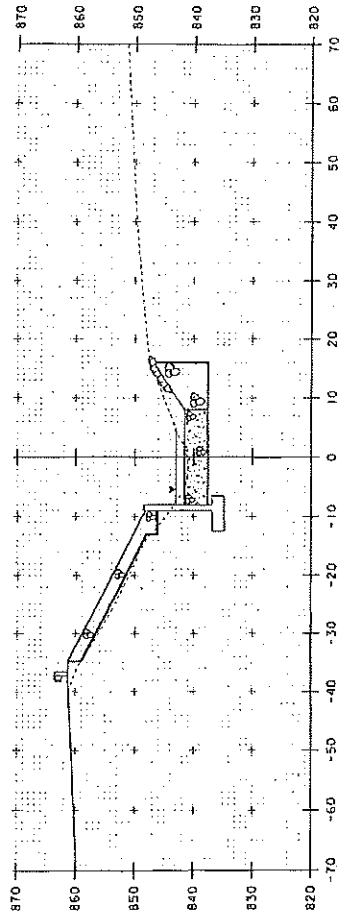


50+30

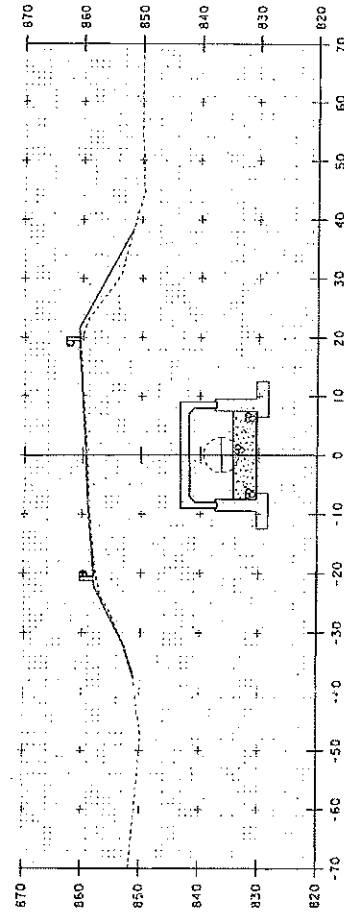
50+50

PROJECT NAME: JOHNSON	PROJECT NUMBER: BF 0248(7)	FILE NAME: 40059048.dgn	PLOT DATE: 12-FEB-2006
PROJECT LEADER: W. PELLETIER	DESIGNED BY: J. SALVATORI	CHECKED BY: J. SALVATORI	DRAWN BY: J. SALVATORI
CHANNEL SECTIONS	SHEET 9 OF 19		

STA 50+30 TO STA 50+50

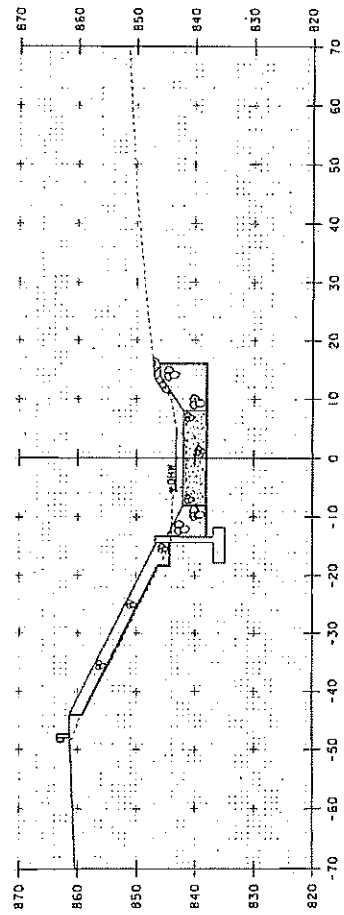


50+80

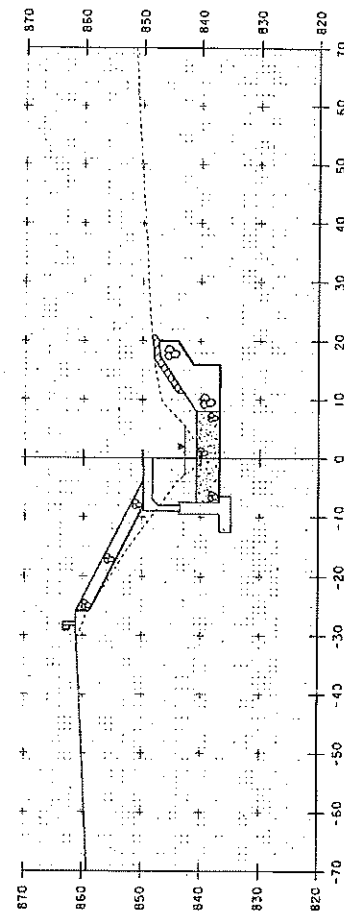


51+50

STA 50+90
END CHANNEL EXCAVATION
END CHANNEL FILL
END STONE FILL
END SPECIAL PROVISION
END CROSSING MATERIAL



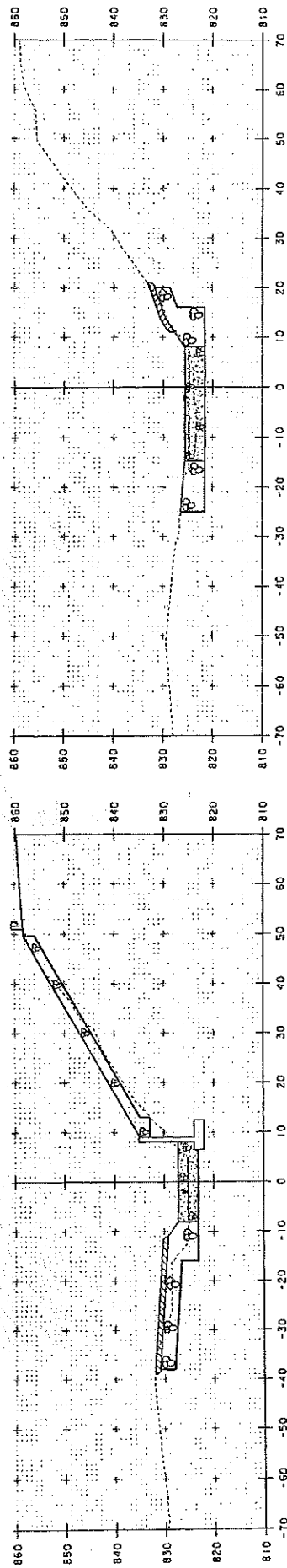
50+70



50+90

PROJECT NAME: JOHNSON	PLOT DATE: 12-28-2006
PROJECT NUMBER: BF 0248(7)	DRAWN BY: J. SALVATORI
FILE NAME: J0248(7).DWG	CHECKED BY: J. SALVATORI
PROJECT LEADER: W. PELLETIER	SHEET NO. OF 19
DESIGNED BY: J. SALVATORI	
CHANNEL SECTIONS	

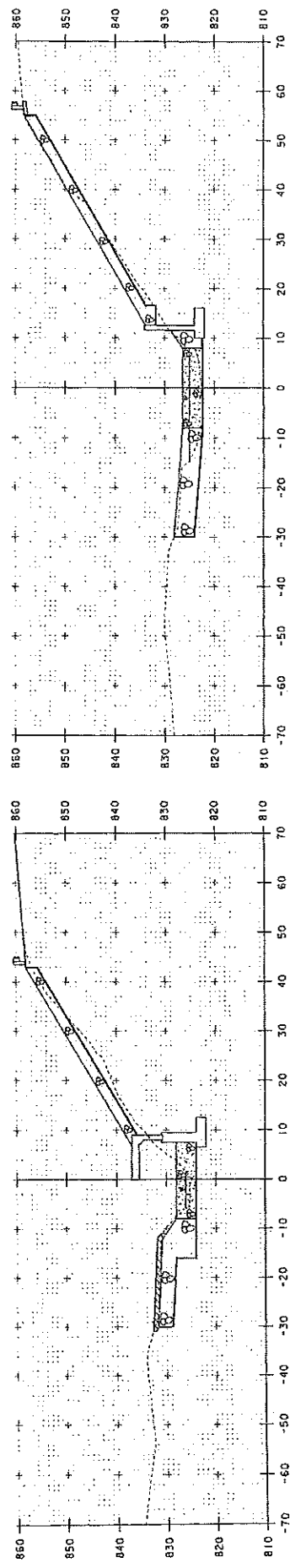
STA. 50+70 TO STA. 51+50



52+60

52+80

STA 52+60
 BEGIN CHANNEL EXCAVATION
 BEGIN STONE FILL UNDER
 BEGIN STONE FILL TYPE 111
 BEGIN SPECIAL PROVISION STONE FILL, STREAM BED MATERIAL (TYPE 111)
 BEGIN GRUBBING MATERIAL



52+50

52+70

PROJECT NAME:	JOHNSON
PROJECT NUMBER:	BF 0248(7)
FILE NAME:	addssdss.dgn
PROJECT LEADER:	W. PELLETIER
DESIGNED BY:	J. SALVATORI
CHECKED BY:	-----
SHEET	H OF 18

STA 52+50 TO STA 52+80

PLOT DATE: 12-FEB-2006
 DRAWN BY: J. SALVATORI
 CHECKED BY: -----
 SHEET H OF 18

53+10

FILE NAME: szc350ks.dgn	PLOT DATE: 12-FEB-2016
PROJECT LEADER: W. PELLIER	DRAWN BY: J. SALVATORI
DESIGNED BY: J. SALVATORI	CHECKED BY:
CHANNEL SECTIONS	SHEET 12 OF 19

STA. 52+90 TO STA. 53+10

EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REPLACEMENT OF THE EXISTING CULVERT WITH A NEW PRECAST CONCRETE STRUCTURE WITH RELATED CHANNEL AND APPROACH WORK.

NOTE: AREA OF DISTURBANCE INCLUDES LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA, AS WELL AS WASTE, BORROW AND STAGING AREAS, AND OTHER EARTH DISTURBING ACTIVITIES WITHIN OR DIRECTLY ADJACENT TO THE PROJECT LIMITS AS SHOWN ON THE ATTACHED EPSC PLAN.

TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 18.95 ACRES.

IT IS ANTICIPATED THAT THIS PROJECT WILL LAST ONE CONSTRUCTION SEASON.

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY

THE TOPOGRAPHY OF THE AREA IS HILLY TO MOUNTAINOUS, MOSTLY WOODED, RURAL RESIDENTIAL, 1.2.2 DRAINAGE, WATERWAYS, BODIES OF WATER, AND PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES

AN UNNAMED BROOK IS THE ONLY WATER SOURCE ON THE PROJECT SITE. THE BROOK IS CLASSIFIED AS SINUOUS AND INCISED AT THE SITE. THE STREAM BED CONSISTS OF GRAVEL AND COBBLES, DUE TO THE NATURE OF THE SURROUNDING TERRAIN THE PROJECT SITE COULD RECEIVE RUNOFF WATER FROM A FEW NEARBY SLOPES.

1.2.3 VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS OF HARDWOOD TREES AND UNDERGROWTH. THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS DIRECTLY AFFECTED BY REPLACEMENT OF THE EXISTING CULVERT. UPON PROJECT COMPLETION, THE CHANNEL WILL BE ARMORED WITH STONE FILL TYPE IV AS SPECIFIED ON THE PLANS. DISTURBED VEGETATION WILL BE REESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES.

1.2.4 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF LAMOLLE, VERMONT. SOILS ON THE PROJECT SITE ARE AS FOLLOWS:

C-68 - COLTON-POLSBURY COMPLEX, 7 - 8% SLOPES, "X FACTOR" = 0.10

C-68 - COLTON-POLSBURY COMPLEX, 25 - 50% SLOPES, "X FACTOR" = 0.19

F-8 - CLOUT SILT LOAM, 0% TO 8% SLOPES, "X FACTOR" = 0.49

NOTE: K-VALUES GENERALLY INDICATE THE FOLLOWING:

0.0-0.23 = LOW EROSION POTENTIAL

0.24-0.36 = MODERATE EROSION POTENTIAL

0.37 AND HIGHER = HIGH EROSION POTENTIAL

1.2.5 SENSITIVE RESOURCE AREAS

CRITICAL HABITATS: NO

HISTORICAL OR ARCHEOLOGICAL AREAS: YES, NORTHWEST CORNER OF PROJECT

PRIME AGRICULTURAL LAND: NO

THREATENED AND ENDANGERED SPECIES: YES, SUITABLE HABIT FOR NOTREY LONG EARED BAT

WATER RESOURCE: UNNAMED BROOK

WETLANDS: YES, NORTHEAST, NORTHWEST AND SOUTHWEST CORNERS OF THE PROJECT

1.3 RISK EVALUATION

THIS PROJECT FALLS UNDER THE JURISDICTION OF GENERAL PERMIT 3-9020 FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES FOR LOW RISK PROJECTS. ANY MODIFICATIONS TO THE PROJECT THAT INCREASE THE RISK TO ENVIRONMENTAL RESOURCES SHALL BE EVALUATED IN ACCORDANCE WITH THE PERMIT REQUIREMENTS. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL PERMITTING.

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

THE EROSION CONTROL PLANS ARE MEANT AS A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENTATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MONITORING AND ADJUSTING MEASURES TO THE PROJECT'S CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MONITORING AND ADJUSTING MEASURES TO THE PROJECT'S CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MONITORING AND ADJUSTING MEASURES TO THE PROJECT'S CONDITIONS.

DESIGNER AS A BASIS FOR PROTECTING RESOURCES AND WILL NEED TO BE BUILT UPON BASED ON THE SPECIFIC AREAS AND METHODS OF THE CONTRACTOR. REFER TO THE LOW RISK SITE HANDBOOK AND APPROPRIATE DETAIL SHEETS FOR SPECIFIC GUIDANCE AND CONSTRUCTION DETAILING.

ALL MEASURES SHALL BE REGULARLY MAINTAINED AND SHALL BE CHECKED FOR SEDIMENT BUILD-UP. SEDIMENT SHALL BE DISPOSED OF AT AN APPROVED SITE WHERE IT WILL NOT BE SUBJECT TO EROSION.

1.4.1 MARK SITE BOUNDARIES

SITE BOUNDARIES AND AREAS CONSTRUCTION EQUIPMENT CAN ACCESS SHALL BE DELINEATED.

BARBER FENCING (BF) SHALL BE INSTALLED AS PROPOSED ON THE EPSC PLAN.

1.4.2 LIMIT DISTURBANCE AREA

PREVENTING INITIAL SOIL EROSION BY MINIMIZING THE EXPOSED AREA IS MUCH MORE EFFECTIVE THAN PREVENTING EROSION AFTER IT HAS OCCURRED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING EROSION BY ONLY OPENING UP EARTH AS NECESSARY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING EROSION BY ONLY OPENING UP EARTH AS NECESSARY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING EROSION BY ONLY OPENING UP EARTH AS NECESSARY.

MAINTAINING VEGETATED BUFFERS ALONG STREAM BANKS, WETLANDS OR OTHER SENSITIVE AREAS IS A POSSIBLE EROSION AND SEDIMENT CONTROL MEASURE THAT SHOULD BE ESTABLISHED WHEREVER POSSIBLE.

1.4.3 SITE ENTRANCE/EXIT STABILIZATION

TRACKING OF SEDIMENT ONTO PUBLIC HIGHWAYS SHALL BE MINIMIZED TO REDUCE THE POTENTIAL FOR RUNOFF ENTERING RECEIVING WATERS. INSTALLATION SHALL CONSIDER WITH THE CONTRACTORS PROGRESS SCHEDULE.

STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AS PROPOSED ON THE EPSC PLAN AND ANYWHERE EQUIPMENT WILL BE GOING FROM AREAS OF EXPOSED SOILS TO PAVED SURFACES.

1.4.4 INSTALL SEDIMENT BARRIERS

SEDIMENT BARRIERS SHALL BE UTILIZED TO INTERCEPT RUNOFF AND ALLOW SUSPENDED SEDIMENT TO SETTLE OUT. THEY SHALL BE INSTALLED PRIOR TO ANY UP SLOPE WORK.

SILT FENCE WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN. BECAUSE THIS PROJECT FALLS UNDER TYPE IV AS SPECIFIED ON THE PLANS, DISTURBED VEGETATION WILL BE REESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES.

1.4.5 DIVERT UPLAND RUNOFF

DIVERSIONARY MEASURES SHALL BE USED TO INTERCEPT RUNOFF FROM ABOVE THE CONSTRUCTION AND DIRECT IT AROUND THE DISTURBED AREA SO THAT CLEAN WATER DOES NOT BECOME MUDDED WHILE TRAVELING OVER EXPOSED SOILS ON THE CONSTRUCTION SITE.

IT IS NOT ANTICIPATED THAT DIVERSION MEASURES WILL BE NECESSARY.

1.4.6 SLOW DOWN CHANNELIZED RUNOFF

CHECK STRUCTURES SHALL BE UTILIZED TO REDUCE THE VELOCITY, AND THUS THE EROSION POTENTIAL, OF CONCENTRATED FLOW IN CHANNELS.

IT IS NOT ANTICIPATED THAT CHECK STRUCTURES WILL BE NECESSARY.

1.4.7 CONSTRAINT PERMANENT CONTROLS

PERMANENT STORMWATER TREATMENT DEVICES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH PERMIT CONDITIONS.

IT IS NOT ANTICIPATED THAT PERMANENT CONTROLS WILL BE NECESSARY.

1.4.8 STABILIZE EXPOSED SOILS DURING CONSTRUCTION

A CHECKED EROSION CONTROL PLAN SHALL BE SUBMITTED FOR PERMITTING. STABILIZATION IN PLACE WITHIN 48 HOURS OF DISTURBANCE OR IN ACCORDANCE WITH THE CONSTRUCTION GENERAL PERMIT 3-9020 AUTHORIZATION. SURFACE ROUGHENING OF ALL EXPOSED SLOPES, COMBINED WITH TEMPORARY MULCHING, SHALL BE UTILIZED ON A REGULAR BASIS. BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3.

THE FORECAST OF RAINFALL EVENTS SHALL TRIGGER IMMEDIATE PROTECTION OF EXPOSED SOILS.

1.4.9 WINTER STABILIZATION

VARIOUS MEASURES SPECIFIC TO WINTER MAY BE NECESSARY SHOULD THE PROJECT EXTEND INTO WINTER (OCTOBER 15 THROUGH APRIL 15). REFER TO THE LOW RISK SITE HANDBOOK FOR GUIDANCE.

1.4.10 STABILIZE SOIL AT FINAL GRADE

EXPOSED SOIL MUST BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE.

SEED, MULCH, FERTILIZER AND LIME SHALL BE USED TO ESTABLISH PERMANENT VEGETATION. FOR SLOPES STEEPER THAN 1:3, BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED INSTEAD OF MULCH.

EROSION CONTROL MATTING SHALL BE INSTALLED AS PROPOSED ON THE EPSC PLAN.

1.4.11 DE-WATERING ACTIVITIES

DISCHARGE FROM DEWATERING ACTIVITIES THAT FLOWS OFF OF THE CONSTRUCTION SITE MUST NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF THE VERMONT WATER QUALITY STANDARDS.

TREATMENT OF DEWATERING EFFLUENT IS ANTICIPATED. A FILTER BAG LOCATION FOR TREATMENT HAS BEEN PROPOSED AND IS SHOWN ON THE PLANS. HOWEVER THE SPECIFIC MEANS FOR TREATMENT OF DISCHARGE SHALL BE PROVIDED BY THE CONTRACTOR.

1.4.12 INSPECT YOUR SITE

INSPECT THE PROJECT SITE BASED ON SPECIAL PROVISION REQUIREMENTS OR CONSTRUCTION GENERAL PERMIT AUTHORIZATION STIPULATIONS.

1.5 SEQUENCE AND STAGING

THIS SECTION WILL BE DEVELOPED BY THE CONTRACTOR USING THE GUIDANCE OUTLINED IN THE VERMONT EPSC PLAN CONTRACTOR CHECKLIST.

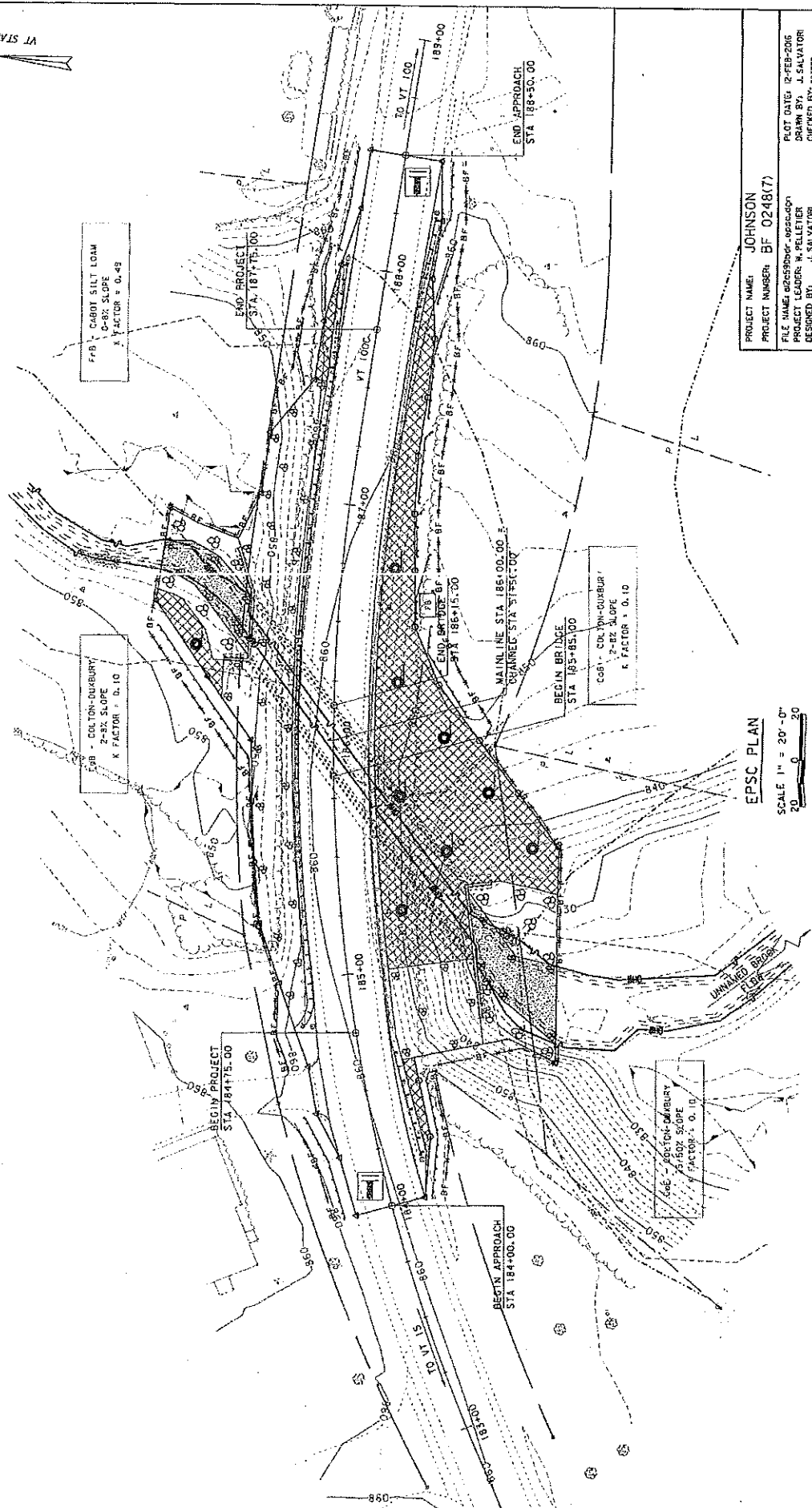
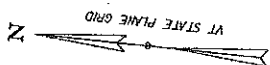
1.5.1 CONSTRUCTION SEQUENCE

1.5.2 SITE-SITE ACTIVITIES
IN ADDITION TO THE CONTRACTOR CHECKLIST ANY ACTIVITIES OUTSIDE THE CONSTRUCTION LIMITS SHALL FOLLOW SPECIFICATION 105.25 - 105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

1.5.3 UPDATES

PROJECT NAME: JOHNSON
PROJECT NUMBER: BF 024817

FILE NAME: 02-2509epsc.pdf.dgn
PROJECT LEADER: W. J. JOHNSON
DESIGNED BY: W. J. JOHNSON
EPSC NARRATIVE
PLOT DATE: 12-FEB-2006
DRAWN BY: J. SALVATORE
CHECKED BY: J. SALVATORE
SHEET 13 OF 15



EPSC PLAN
SCALE 1" = 20'-0"
20' 0' 20'

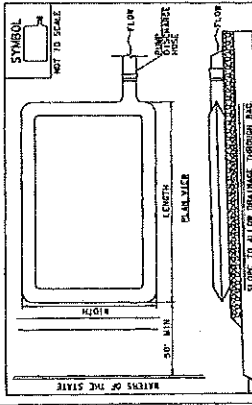
PROJECT NAME: JOHNSON
PROJECT NUMBER: BF 0248(7)
FILE NAME: 02485000-000000
DRAWN BY: J. SALVATOR
CHECKED BY: J. SALVATOR
DESIGNED BY: J. SALVATOR
EPC PLAN
SHEET 14 OF 19

GENERAL INFORMATION GUIDANCE	
FLIGHT LINE	TOTAL
NO. OF VHS	ALL LINES
NO. OF VHS	DELETED
NO. OF VHS	STOPS / AC
NO. OF VHS	STOPS / AC

CONSTRUCTION GUIDANCE

- [illegible]

ADAPTED FROM OTHERS TECHNICAL HANDBOOK MANUAL FOR ROADWAYS AND TRANSPORTATION FACILITIES	TURF ESTABLISHMENT
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 65106 AED PAY ITEM 64.05	REVISED
	DATE: JANUARY 22, 2008
	BY: [Signature]



CONSTRUCTION SPECIFICATIONS

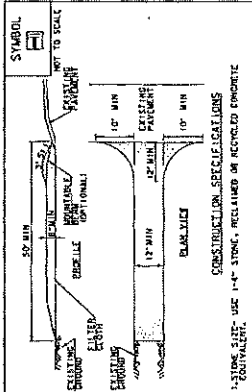
- [illegible]

FILTER BAG	100	100	100	100	100
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100	100	100	100	100	100
100	100	100	100	100	100
100	100	100	100	100	100
100	100	100	100	100	100
100	100	100	100	100	100
100	100	100	100	100	100
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100	100	100	100	100	100
100	100	100	100	100	100
100	100	100	100	100	100
100	100	100	100	100	100
100	100	100	100	100	100



1. APPLY TO SLOPES GREATER THAN 1:1 OR WHERE NECESSARY TO AID IN EROSION-RESISTANT VEGETATION.
2. APPLY FERTILIZER, LIME USED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED AT INTERVALS OF 18 INCHES APPROXIMATELY IN ROWS AND IN ROWS APPROXIMATELY 12" APART.
4. STAPLES ARE TO BE PLACED AT 12" INTERVALS IN THE DIRECTION OF THE SLOPE. 12 STAPLES ARE REQUIRED PER 4' X 12' ROLL OF MATERIAL AND 12 STAPLES ARE REQUIRED PER 4' X 12' ROLL OF MATERIAL.
5. DISTURBED AREAS SHALL BE THOROUGHLY GRADED, EROSION CONTROL MATERIAL SHALL BE PLACED (USUAL 10% GRASS) SURFACE, AND NOT SLOTTED.
6. ALL TERMINAL ENDS AND TRANSVERSE LAPS SHALL BE STAPLED AT 12" INTERVALS.

ROLLED TENSION CONTROL PRODUCT (RCP) SIDE SLOPE	NOTES: 1. IN THE EVENT OF A PROBLEMS FOR PREVENTION OF SLIDING, CONTACT WITH THE VY SUBJECT OF NATIONAL RESOURCES FOR ADDITIONAL INFORMATION SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 422 AND AS SHOWN IN THE PLANS FOR TEMPORARY EROSION MATING. PAY ITEM 523.20 FOR PERMANENT EROSION MATING.
ADAPTED FROM DETAILS PROVIDED BY AND FROM STATE REC DEPARTMENT OF TRANSPORTATION VOLUME	PROJECT NO. 2000-1000 SHEET NO. 2000-1000 DATE 10/15/2000



- [illegible]

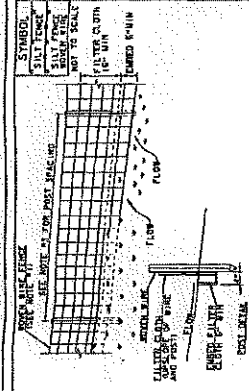
ADAPTED FROM DETAILS PROVIDED BY NEW YORK STATE DEC
BONNALLY, DEVELOPED BY LOCALITIES
VEHICLE CONSTRUCTION, CONSTRUCTION

STABILIZED
CONSTRUCTION
ENTRANCE

NOTES:
1. THE VEHICLE FURNISHES A SPECIFICATION FOR
CONSTRUCTION OF THE ENTRANCE CONSTRUCTION.
2. THE VEHICLE FURNISHES A SPECIFICATION FOR
CONSTRUCTION OF THE ENTRANCE CONSTRUCTION.
3. THE VEHICLE FURNISHES A SPECIFICATION FOR
CONSTRUCTION OF THE ENTRANCE CONSTRUCTION.

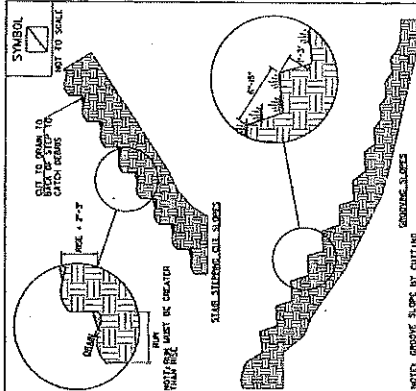
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH
SECTION 633 FOR VEHICLE TRADING AND PAY PER THE 253.20

DATE: 10/10/2008
BY: 10/10/2008
BY: 10/10/2008



CONSTRUCTION SPECIFICATIONS

- [illegible]

[illegible]

FLUORON ALONG THE CONTOUR
IRREGULARITIES IN THE SOIL
CATCH RAINWATER AND RETAIN
IT FOR 12 HRS AND STOP

ADAPTED FROM RITA'S, PROVIDED UNDER YOUR STATE DECISION BY THE
VENDOR, APPLICANT OF THE CONTRACT, OR SUBSEQUENT

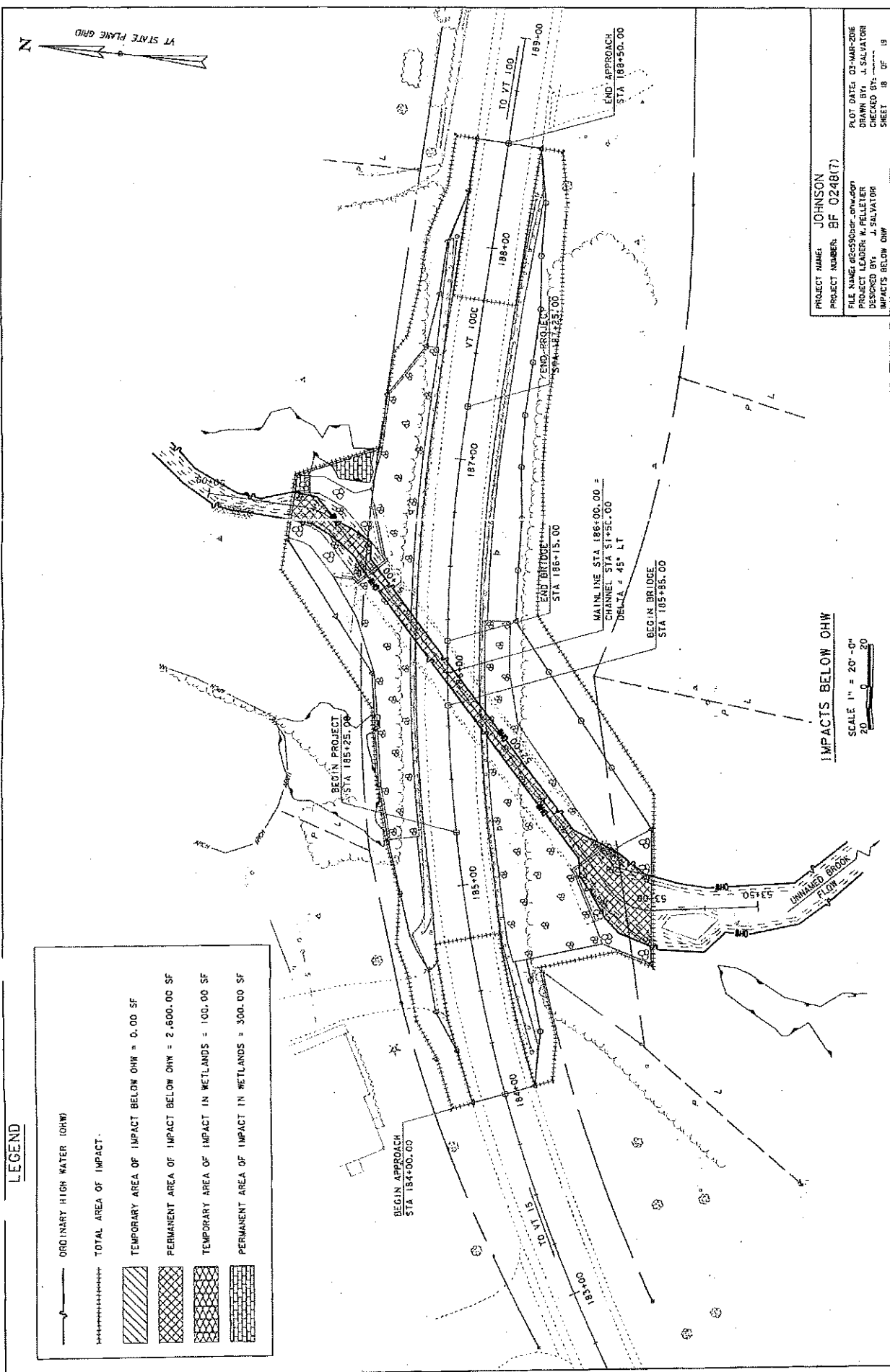
NOTES

PREFER TO THE VENDOR SPECIFIED A SPECIFICATION FOR
PREVENTION OF PRETENSION & JOINTMENT CONTROL - FROM
THE VENDOR'S OFFICE OF THE VENDOR, APPLICANT OF THE
CONTRACT.

THIS NOTE SHALL BE CONSIDERED INCIDENTAL TO THE

SURFACE ROUGHENING

REVISION	DATE
1	01/11/2008
2	01/11/2008





**US Army Corps
of Engineers®**
New England District

WORK START NOTIFICATION FORM

* MAIL TO: U.S. Army Corps of Engineers, New England District *
* Vermont Project Office *
* 11 Lincoln Street, Room 210 *
* Essex Junction, Vermont 05452 *

Corps of Engineers File No. NAE-2016-01008 was issued to Vermont Agency of Transportation. The permit authorized the permittee to place fill in about 3,000 sq. ft. (0.07 acre) of an unnamed stream and adjacent wetlands in conjunction with the replacement of a deficient culvert with a new 16' x 7.5' precast open bottom arch on VT Route 100C in Johnson, Vermont.

The people (e.g., contractor) listed below will do the work, and they understand the permit's conditions and limitations.

PLEASE PRINT OR TYPE

Name of Contractor/Firm: _____

Business Address: _____

Telephone Numbers: () _____ () _____

Proposed Work Dates: Start _____ Finish _____

Permittee's Signature: _____ Date: _____

Printed Name: _____ Title: _____

FOR USE BY THE CORPS OF ENGINEERS

PM: Michael Adams Submittals Required: No

Inspection Recommendation: _____



**US Army Corps
of Engineers®**
New England District

(Minimum Notice: Permittee must sign and return notification
within one month of the completion of work.)

COMPLIANCE CERTIFICATION FORM

USACE Project Number: NAE-2016-01008

Name of Permittee: Vermont Agency of Transportation

Permit Issuance Date: June 13, 2016

Please sign this certification and return it to the following address upon completion of the activity and any mitigation required by the permit. You must submit this after the mitigation is complete, but not the mitigation monitoring, which requires separate submittals.

* MAIL TO U.S. Army Corps of Engineers, New England District *
* Vermont Project Office *
* 11 Lincoln Street, Room 210 *
* Essex Junction, Vermont 05452 *

Please note that your permitted activity is subject to a compliance inspection by an U.S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above referenced permit was completed in accordance with the terms and conditions of the above referenced permit, and any required mitigation was completed in accordance with the permit conditions.

Signature of Permittee

Date

Printed Name

Date of Work Completion

() _____
Telephone Number

DEPARTMENT OF THE ARMY GENERAL PERMIT STATE OF VERMONT

The New England Division of the U.S. Army Corps of Engineers (Corps) hereby issues this General Permit (GP) that expedites review of minimal environmental impact work associated with the aquatic environment of navigable and inland waters and wetlands within the State of Vermont. This general permit for Vermont is known as the Vermont General Permit.

I. GENERAL CRITERIA:

Activities with **minimal impacts**, as specified by this GP's terms (Pages 1-6), general conditions (GC) (Pages 7-16) and Appendix A - Definition of Categories, qualify for authorization under the GP in either Category 1 or Category 2.

Proponents should first review Appendix A - Definition of Categories to see if a project meets either:

- Category 1: Self-Verification, Category 1 Notification Form required
Projects meeting Category 1 criteria and which are in full compliance with the general conditions may be authorized under this GP after submission of the Category 1 Notification Form.
- Category 2: Reporting.
An application to and written verification from the Corps is required for these projects.

If you determine that your project is eligible for Category 1 as defined in Appendix A, you must then ensure that your project is in full compliance with this GP's terms and general conditions. If any of these terms and conditions are not met, your project must be reviewed in the Category 2 or the Individual Permit category. The Individual Permit thresholds are defined in Appendix A and the Individual Permit procedures are briefly described on Page 6. This GP does not affect the Corps Individual Permit review process or activities exempt from Corps regulation.

II. ACTIVITIES COVERED:

- Work and structures that are located in, under, or over any navigable water of the United States¹, the excavating from or depositing of material in such waters, or the accomplishment of any other work affecting the course, location, condition, or capacity of such waters (regulated by the Corps under Section 10 of the Rivers and Harbors Act of 1899); and
- The discharge of dredged or fill material into waters of the U.S. [regulated by the Corps under Section 404 of the Clean Water Act (CWA)]. This GP also covers secondary impacts², which are effects on an aquatic ecosystem that are associated with a discharge of dredged or fill materials, but do not result from the actual placement of the dredged or fill material. The Corps does not regulate secondary impacts unless there is an actual placement of dredged or fill material.

¹ Waters of the U.S., inland waters and wetlands, and navigable waters of the U.S. are defined at Appendix A, Endnotes/Definitions.

² See GC 3 on Page 7 and Appendix A, Endnote 4 for more information on secondary impacts.

III. PROCEDURES:

A. State Approvals

Applicants are responsible for applying for and obtaining any required State approvals (see GC 1). Federal and State jurisdictions may differ in some instances. State permits may be required for specific projects regardless of the general permit category.

In order for authorizations under this GP to be valid, a Water Quality Certification (WQC) under Section 401 of the CWA (33 USC 1341) or waiver thereof must be obtained from the VT ANR, Water Quality Division prior to the commencement of work in Corps jurisdiction. The VT ANR has granted WQC for GP Category 1 activities provided the Corps exercises its discretionary authority to review any project covered under Category 1 when notified by the VT ANR that such project represents a threat to water quality. Therefore, a separate 401 WQC application is not required for activities involving fill in waters of the U.S. authorized under Category 1 of this GP.

The VT ANR conditionally granted WQC for GP Category 2 activities listed in Appendix A of this GP provided the Corps notifies the VT ANR and the interagency review team (USFWS, USEPA, VT ANR and the Corps) finds that the activity is reasonably likely to have minimal or no impact on water quality. The VT ANR retains the right to require an Individual WQC for any Category 2 activity. The VT ANR will respond within the same response times required of the Federal resource agencies.

B. Corps Authorizations

General permit authorizations consist of both Category 1 and 2 activities (see Appendix A). The thresholds outlined in this document are intended to ensure that the GP results in no more than a minimal impact to the aquatic environment. The Corps will coordinate review of all Category 2 activities with Federal and State agencies, as appropriate, and may require project modifications or mitigation to minimize impacts.

• Category 1 – (Self-Verification, Category 1 Notification Form required)

- If you self-verify that your project qualifies for Category 1, your project is authorized under this GP and you are required to submit the Category 1 Notification Form at Appendix B to the Corps
- Prospective permittees should carefully review this GP to determine whether applying to the Corps under Category 2 prior to commencing the authorized activity is required. Consultation with the Corps and/or outside experts may be necessary to ensure compliance with this GP's GCs and related Federal laws such as the National Historic Preservation Act (see GC 7), the Endangered Species Act (ESA) (see GC 9) and the Wild and Scenic Rivers Act (see GC 11). Project proponents are encouraged to contact the Corps with Category 1 eligibility questions.
- Secondary impacts must be included when determining if a project qualified for Category 1 (see GC 3).
- Fill area includes all temporary and permanent fill.
- Projects not meeting the Category 1 eligibility criteria are reviewed under Category 2 or Individual Permit procedures.

Enforcement cases. This GP does not apply to any existing or proposed activity in Corps jurisdiction associated with an on-going Corps or EPA enforcement action until such time as the enforcement action is resolved or the Corps determines that the activity may proceed independently without compromising the enforcement action. The Corps may choose not to accept applications or issue permits to any applicant with outstanding violations.

Category 2 (Corps Verification, Application and Written Approval Required)

Eligibility

Activities in Vermont that are:

- Subject to Corps jurisdiction;
- Meet the definition of Category 2 in Appendix A; and
- Meet the general conditions of this GP (Pages 7-16)

require written approval from the Corps. These projects will be reviewed through interagency screening to determine whether such activities may be authorized under this GP. **To be eligible and subsequently authorized, an activity must result in no more than a minimal impact to the aquatic environment as determined by the Corps in coordination with the interagency review team, in addition to meeting the criteria listed above.**

This may require project modifications involving avoidance, minimization or compensatory mitigation³ for unavoidable impacts to ensure the net effects of a project are minimal.

To ensure compliance with this GP's general conditions, consultation with the Corps, other Federal or State resource agencies, or independent consultants, may be necessary. This includes consultation with the VT State Historic Preservation Officer (VT SHPO) (Page 16) and, when projects are proposed in Addison, Rutland or Bennington counties, the Stockbridge-Munsee Tribal Historic Preservation Officer (THPO) to ensure compliance with GC 7 and the VT ANR to comply with applicable general conditions. Also, note the review thresholds under Category 2 apply to single and complete projects only (see GC 5).

Application Procedures

Applicants must apply directly to the Corps at the Vermont Project Office (VPO), and are encouraged to simultaneously apply to the VT ANR for any related permits. Upon receipt of an application for a Category 2 activity, the Corps will determine if it:

- (1) Requires additional information;
- (2) Is appropriate for screening with the Federal resource agencies and State agencies (see Screening Procedures);
- (3) Is ineligible under the terms and/or conditions of this GP;
- (4) Requires project modification, mitigation or other special conditions to minimize impacts and protect the aquatic environment to be eligible for this GP; or
- (5) Requires Individual Permit review regardless of whether the terms and conditions of this GP are met, based on concerns for the aquatic environment or any other factor of the public interest (GC 4).

Information Typically Required

In order to consider an application complete and review it with the interagency review team, the applicant must submit complete information. Please see www.nae.usace.army.mil for a more comprehensive checklist. Select "Regulatory", "Permits" "Forms" and then "Application and Plan Guideline Checklist." This information includes, but is not limited to:

- A completed Corps application form (ENG Form 4345⁴)
- Plans that illustrate the proposed work in reference to the limits of Corps jurisdiction as applicable. Plans should be on 8.5" x 11" paper and contain all other appropriate information.
- A description of the proposed work, project purpose and location, including a locus map and photographs,

³ Compensatory mitigation for waterway/wetland impacts may take the form of payment into the Ducks Unlimited In-Lieu Fee Program, wetland restoration, enhancement, creation, and/or preservation. See www.nae.usace.army.mil/regulatory, "Mitigation" and then "Vermont" for more information.

⁴ Located at www.nae.usace.army.mil/regulatory under "Forms."

if applicable.

- Data sheets to support wetland delineations. (See GC 2.)
- A narrative description of the habitat(s) including dominant plant community(ies) present, soil type and relevant existing and adjacent land uses.
- A demonstration that there will be no more than minimal direct and indirect impacts to the aquatic resource(s) resulting from the project. Consideration should be given to impacts associated with expected hydrologic changes, effects on riparian habitat, forest fragmentation, impacts to headwater and ephemeral streams (Endnote 17), stormwater discharges and other potential water quality and wetland habitat impacts. (See GC 3.)
- Information on Federal endangered and threatened species and critical habitat, and State endangered and threatened species that occur or may occur in the project area. (See GC 9.)
VT ANR, Department of Fish & Wildlife, Nongame and Natural Heritage program contact information is provided on Pages 16-17. Refer to Additional References on Pages 18-19 for additional information.
- Identification and description of potential impacts to essential fish habitat. (See GC 10.)
- Identification of potential discharges of pollutants to waters, including potential impacts to impaired waters, in the project area. (See GC 22.) Refer to Additional References on Pages 18-19.
- Identification, quantification, and description of potential impacts to aquatic resources, including delineation of wetlands, special aquatic sites, special wetlands and vernal pools. (See GC 27.)

Federal/State Screening Procedures

The Corps, Federal resource agencies [U.S. Fish and Wildlife Service (USFWS), U.S. Environmental Protection Agency (EPA), and National Marine Fisheries Service (NMFS)] and VT ANR will comprise the interagency review team. The Corps will also coordinate with the VT SHPO and, as appropriate, the THPO as to potential impacts of a project on historic properties.

Screening of Category 2 projects will be either through email, fax, mail or at interagency screening meetings at the Corps VPO. Projects are coordinated on a regular basis or as necessary to facilitate prompt decision making. The Corps and the Federal resource agencies, at the branch chief or equivalent level, may agree on certain activities that do not need to be coordinated at these meetings. The Corps, VT ANR, VT SHPO and, as appropriate, the THPO will review/screen complete applications for Category 2 activities with impacts between 3,000 square feet (SF) and 5,000 SF. The Corps will review/screen all complete applications for Category 2 projects with impacts greater than 5,000 SF with the interagency review team, VT SHPO and, as appropriate, the THPO.

The Corps may determine on its own or in consultation with the interagency review team, if applications for Category 2 work:

- Are eligible under the GP as proposed;
- Are ineligible under the terms and/or conditions of this GP;
- Require additional information;
- Will require project modification, mitigation or other special conditions to avoid or minimize adverse environmental impacts and protect the aquatic environment to be eligible for authorization under this GP;
- or
- Require Individual Permit review irrespective of whether the terms and general conditions of this GP are met, based on concerns for the aquatic environment or any other factor of the public interest (see GC 4).

The Federal resource agencies, the VT ANR, VT SHPO and, as appropriate, the THPO must provide verbal comments to the appropriate Corps project manager in the VPO within 10 business days of receiving the Determination of Eligibility (DOE) from the Corps. These verbal comments may consist of a request for additional information, recommendations for modification, mitigation, or special conditions to avoid or minimize adverse environmental impacts associated with the aquatic environment, and to ensure the terms and

general conditions of the GP are met, or a request for a site visit.

Federal resource agency additional information requests shall be within their area of expertise, commensurate to the level of impact, and agreed upon by the Corps. If additional information is requested, the agencies are allowed an additional 10 business days after receipt of this information to provide recommendations for modifications, mitigation or special conditions. Unless additional information is requested, the verbal notice must be confirmed with a written response to the appropriate Corps project manager at the VPO within an additional 10 working days from the date of the verbal comment.

The Corps may contact the applicant either by phone or in writing if there are concerns. If the applicant is unable to resolve the concerns or modify the project, the Corps may determine that a project is ineligible under this GP, "kickout" the project to the Individual Permit review category, and begin its Individual Permit review procedures. The Corps will send a "Kickout Letter" to the applicant and copy the VT ANR and the commenting Federal resource agency on any written correspondence to the applicant. The Corps may reinstate a project's eligibility under the GP provided concerns are satisfied.

The VT ANR within 10 business days of the date the project information is received from the Corps may require an Individual 401 WQC review for any Category 2 project. This 10-day notice to the Corps of the requirement for an individual 401 WQC review may be verbal and is not required to be fully documented, but must be directed to the appropriate Corps Project Manager at the VPO. The VT ANR must confirm the requirement for an individual 401 WQC review with a written response to the appropriate Corps project manager within an additional 10 working days from the date of the verbal comment. If the VT ANR does not notify the Corps as outlined herein, WQC is conditionally granted for the project. In order for the Corps GP authorization to be valid, the WQC must be obtained or waived prior to the commencement of work.

If the Corps and Federal resource agencies determine that the activity is eligible for the GP, the Corps will send an authorization letter directly to the applicant. The Corps will generally issue an eligibility determination within 60 days from the date of a complete application. If the Corps determines that the activity is not eligible under the GP or that additional information is required, the Corps will notify the applicant in writing and will send a copy of this notification to VT ANR.

Emergency Situation Procedures

Emergency situations are limited to sudden, unexpected occurrences that could potentially result in an unacceptable hazard to life, a significant loss of property, or an immediate, unforeseen, and significant economic hardship if corrective action requiring a permit is not undertaken within a time period less than the normal time needed to process an application under standard procedures. If an emergency situation requires action in less than 30 days after the occurrence, it qualifies for the amended notification procedures described below.

Notification Procedures for Emergency Situations: The Federal resource agencies, VT ANR and the VT SHPO will each designate an alternate to be contacted in the event the regular contact is unavailable. The VT ANR, VT Emergency Management (VTEM) or FEMA will notify the Corps within 24 hours of the occurrence of a disaster and advise the Corps of the nature of the occurrence and any known remedial and/or protective measures. The Corps will notify agency representatives that a disaster has occurred within one working day of being notified by the VT ANR, VTEM or FEMA.

When an application for Category 2 work is received that the Corps VPO determines is an "emergency" as defined above, the Corps will e-mail or fax a copy of the plans and DOE to the agency representatives and their alternates. The resource agencies would then have 16 working hours to notify the Corps if they have any comments on authorization of the project under the GP. Objections to the Corps determination of an "emergency" situation will not be accepted. If no response is received at the VPO within 16 working hours, the Corps will proceed with a decision on the application. If the resource agencies have comments on the proposal,

they will have 16 working hours to put their comments in writing. If written comments from the Federal agencies are not received at the VPO within 16 working hours, the Corps will proceed with a decision on the application.

If a Federal agency requests that an Individual Permit be required for a project or requests modifications to the project based on concerns within their area(s) of expertise, the Corps will notify the applicant within 8 working hours of receipt of that request that the project as proposed does not qualify for authorization under the GP and that an Individual Permit will be required. In any event, the Corps will notify the applicant within 48 working hours of commencement of the screening process as to whether the project may proceed under the GP.

IV. INDIVIDUAL PERMIT

Work that is in the Individual Permit category as listed in Appendix A, or that does not meet the terms and conditions of this GP, will require an application for an individual permit from the Corps of Engineers (see 33 CFR 325.1). The applicant should submit the appropriate application materials [including the Corps application form (ENG 4345)] at the earliest possible date to expedite the permit review process. General information and application forms can be obtained at our web site or by calling us (see Page 16). An Individual 401 WQC will be required from the appropriate VT resource agency(ies). Filing an Individual Permit application does not relieve the applicant from their obligation to obtain all necessary State approvals from the appropriate Vermont resource agency(ies) or any applicable local approvals.

V. GENERAL CONDITIONS (and supporting general information):

The following conditions apply to activities authorized under this GP, including all Category 1 (self-verification) and Category 2 (screening) activities:

General Requirements:

- 1. Other Permits.** Authorization under this general permit does not obviate (i.e., to make unnecessary) the need to obtain other Federal, state, or local authorizations required by law.
- 2. Federal Jurisdictional Boundaries.** Applicability of this GP shall be evaluated with reference to Federal jurisdictional boundaries. Applicants are responsible for ensuring that the boundaries depicted on permit drawings satisfy the Federal criteria defined at 33 CFR 328-329. See www.nae.usace.army.mil/regulatory>> Jurisdictional Limits and Wetlands for more information.
- 3. Minimal Effects, Secondary (Indirect) and Cumulative Impacts.** (a) Projects authorized by this GP shall have no more than minimal individual and cumulative environmental impacts as determined by the Corps. Applicants must demonstrate that there will be no more than minimal direct and indirect impacts to the aquatic resource(s) resulting from the project. Mitigation may be required to offset unavoidable impacts. (b) Secondary impacts to waterway and/or wetland areas, (e.g., areas drained, flooded, cleared, excavated or fragmented) shall be added to the total fill area when determining the project review category (Category 1, 2 or Individual Permit review). Secondary and cumulative impacts are defined at Appendix A, Endnote 4.
- 4. Discretionary Authority.** Notwithstanding compliance with the terms and general conditions of this GP, the Corps retains discretionary authority to require either a Category 2 or an Individual Permit review based on concerns for the aquatic environment or for any other factor of the public interest (33 CFR 320.4(a)). This authority is invoked on a case-by-case basis whenever the Corps determines that the potential impacts of the proposal warrant either a Category 2 or an Individual Permit review based on the concerns stated above. This authority may be invoked for projects with cumulative environmental impacts that are more than minimal or if there is a special resource or concern associated with a particular project that is not already covered by the remaining conditions of the GP and that warrants greater review. Whenever the Corps notifies an applicant that either a Category 2 or Individual Permit review is required, authorization under this GP is void and no work may be conducted until the Corps issues the required authorization or until the Corps notifies the applicant that further review has demonstrated that the work may proceed under this GP.
- 5. Single and Complete Projects.** This GP shall not be used for piecemeal work and shall be applied to single and complete projects. All components of a single project and/or all planned phases of a multi-phased project shall be treated together as constituting one single and complete project, unless the Corps determines that a component has independent utility. For linear projects, such as power lines or pipelines with multiple crossings, the "single and complete project" (i.e., single and complete crossing) will apply to each crossing of a separate water of the U.S. (i.e., single waterbody) at that location; except that for linear projects crossing a single waterbody several times at separate and distant locations, each crossing is considered a single and complete project, and may be reviewed for Category 1 eligibility. However, individual channels in a braided stream or river, or individual arms of a large, irregularly-shaped wetland or lake, etc., are not separate waterbodies. If any crossing requires a Category 2 activity, then the entire linear project shall be reviewed as one project under Category 2 provided that the impact thresholds in Appendix A are met. Also, this GP shall not be used for any activity that is part of an overall project for which an Individual Permit is required, unless the Corps determines the activity has independent utility. Note that modifications to State permits do not constitute a separate project. Modifications which involve Corps jurisdiction will be screened at the regular screening in order to ascertain compliance with the GP. Keep in mind that a linear project normally qualifying as a Category 1 project will trigger a Corps review if the impacts exceed this GP's general conditions.

6. Permit On-Site. For Category 2 projects, the permittee shall ensure that a copy of this GP and any accompanying authorization letter with attached plans are at the site of the work authorized by this GP whenever work is being performed and that all construction personnel are aware of its terms and conditions. The entire permit authorization shall be made a part of any and all contracts and sub-contracts for work that affects areas of Corps jurisdiction at the site of the work authorized by this GP. This shall be achieved by including the entire permit authorization in the specifications for work. The term "entire permit authorization" means this GP and the authorization letter (including its drawings, plans, appendices and other attachments) and also includes permit modifications. If the authorization letter is issued after the construction specifications, but before receipt of bids or quotes, the entire permit authorization shall be included as an addendum to the specifications. If the authorization letter is issued after receipt of bids or quotes, the entire permit authorization shall be included in the contract or sub-contract. Although the permittee may assign various aspects of the work to different contractors or sub-contractors, all contractors and sub-contractors shall be obligated by contract to comply with all environmental protection provisions contained within the entire GP authorization, and no contract or sub-contract shall require or allow unauthorized work in areas of Corps jurisdiction.

General Conditions Related to National Concerns:

7. Historic Properties. Any activity authorized by this GP shall comply with Section 106 of the National Historic Preservation Act. Information on the location and existence of historic resources can be obtained from the VT SHPO (See page 16) and the National Register of Historic Places. Project proponents shall apply to the Corps for all projects that would otherwise qualify for Category 1 if there is the potential for an effect on a historic property within the permit area or any known historic property that may occur outside the permit area. Historic properties include those that are eligible for inclusion, but not necessarily listed on the National Register. If the permittee, during construction of work authorized herein, encounters a previously unidentified archaeological or other cultural resource within the area subject to Corps jurisdiction that might be eligible for listing in the National Register of Historic Places, he/she shall stop work and immediately notify the Corps, the VT SHPO and, when work is proposed in Addison, Rutland or Bennington counties, the Stockbridge-Munsee Native American tribe.

8. National and Corps Lands. Activities authorized by this GP shall not impinge upon the value of any National Wildlife Refuge, National Forest, National Park or any other area administered by the U.S. FWS, U.S. Forest Service, or National Park Service. No Category 1 work is allowed on Corps properties and Corps-controlled easements (see Appendix A, Endnote 9).

9. Federal and State Endangered Species.

a. No activity may be authorized under this GP which:

- May affect a threatened or endangered species, a proposed species, designated critical habitat, or proposed critical habitat as identified under the Federal Endangered Species Act (ESA),
- Would result in a "take" of any Federally listed threatened or endangered species of fish or wildlife, or
- Would result in any other violation of Section 9 of the ESA protecting threatened or endangered species of plants.

b. Proponents for Category 1 and 2 projects shall ensure there are no impacts to Federally-listed threatened or endangered species or critical habitat and should ensure that there are no impacts to State threatened or endangered species.

c. Proponents for Category 1 and 2 projects shall notify the Corps if any of the actions in 9a may occur and if any Federally listed threatened or endangered species or critical habitat, or proposed species or critical habitat, is in the project area or may be impacted by the project. For Category 1 projects, the Corps may then notify the proponent that the project will be reviewed under the Category 2 or Individual Permit procedures and if so the proponents shall not begin work until the Corps issues a written authorization.

d. Applicants should also provide information on state threatened and endangered species. The Information Typically Required section on Page 3 provides guidance. Contact information for the VT ANR, Department of Fish & Wildlife, Nongame and Natural Heritage program is provided on Pages 16-17, and more information is provided at Additional References, Pages 18-19.

10. Essential Fish Habitat (EFH). As part of the GP screening process, the Corps will coordinate with the NMFS in accordance with the 1996 amendments to the Magnuson-Stevens Fishery, Conservation and Management Act (MSFCMA) to protect and conserve the habitat of marine, estuarine and anadromous finfish, mollusks, and crustaceans. This habitat is termed EFH and is broadly defined to include "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." Any work in the following streams in the Connecticut River watershed that are stocked with Atlantic salmon shall not be authorized under Category 1 of this GP and must be screened for potential impacts to EFH. For additional EFH information and/or locations, see 50 CFR 600 (www.nmfs.noaa.gov), www.nero.nmfs.gov/RO/DOC/appguide1.html or contact NMFS (see Page 16).

• Black River (from its mouth in Springfield to its headwaters)	• Ompompanoosuc River	• Stevens River
• Connecticut River	• Ottauquechee River	• Wells River
• Deerfield River	• Passumpsic River	• West River
• Nulhegan River	• Paul Stream	• White River
	• Saxtons River	• Williams River

11. Wild and Scenic Rivers. Any activity that occurs in the designated main stem of, within 0.25 mile up or downstream of the designated main stem of, or in tributaries within .25 miles of the designated main stem of a National Wild and Scenic River, or in "bordering and contiguous wetlands" (see Appendix A, Endnote 1) that are adjacent to the designated main stem of a National Wild and Scenic River, or that has the potential to alter flows within a river within the National Wild and Scenic River System, is not eligible for Category 1 regardless of size of the impacts. This condition applies to both designated Wild and Scenic Rivers and rivers officially designated by Congress as study rivers for possible inclusion while such rivers are in an official study status. Currently there are no designated National Wild and Scenic Rivers in Vermont. The Missisquoi River, from its headwaters in Lowell to the Canadian border in Troy (25 miles) and from the Canadian border in East Richford to Enosburg Falls (25 miles) and the Trout River have been officially designated by Congress as study rivers.

12. Federal Navigation Project. Any structure or work that extends closer to the horizontal limits of any Corps navigation project than a distance of three times the project's authorized depth shall be subject to removal at the owner's expense prior to any future Corps dredging or the performance of periodic hydrographic surveys.

13. Navigation. (a) There shall be no unreasonable interference with navigation by the existence or use of the activity authorized herein, and no attempt shall be made by the permittee to prevent the full and free use by the public of all navigable waters at or adjacent to the activity authorized herein. (b) The permittee understands and agrees that if future operations by the U.S. require the removal, relocation or other alteration of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps, to remove, relocate or alter the structural work or obstructions caused thereby, without expense to the U.S. No claim shall be made against the U.S. on account of any such removal or alteration.

14. Federal Liability. In issuing this GP, the Federal Government does not assume any liability for the following: (a) damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes; (b) damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the U.S. in the public interest; (c) damages to persons, property or to other permitted or unpermitted activities or structures caused by the activity authorized by the GP; (d) design or construction deficiencies associated with the permitted work; (e) damage claims associated with any future

modification, suspension or revocation of this permit.

Minimization of Environmental Impacts:

15. Avoidance, Minimization and Mitigation. Discharges of dredged or fill material into waters of the U.S. and any secondary impacts shall be avoided and minimized to the maximum extent practicable. Mitigation of unavoidable direct and indirect impacts may be required on a case-by-case basis.

16. Heavy Equipment in Wetlands. Heavy equipment other than fixed equipment (drill rigs, fixed cranes, etc.) working in wetlands shall not be stored, maintained or repaired in wetlands, unless it is less environmentally damaging otherwise, and as much as possible shall not be operated there. Where construction requires heavy equipment operation in wetlands, the equipment shall either have low ground pressure (typically <3 psi), or shall not be located directly on wetland soils and vegetation; it shall be placed on construction mats or corduroy roads (defined at Appendix A, Endnote 16) that are adequate to support the equipment in such a way as to minimize disturbance of wetland soil and vegetation. Construction mats are to be placed in the wetland from the upland or from equipment positioned on swamp mats if working within a wetland. Dragging construction mats into position is prohibited. Construction mats shall be managed in accordance with the Construction Mat Best Management Practices (BMPs) (Appendix A, Endnote 20). Other support structures that are less impacting and are capable of safely supporting equipment may be used with written Corps authorization. Similarly, not using mats during frozen, dry or other conditions may be allowed with written Corps authorization. (See GC 17 below.) An adequate supply of spill containment equipment shall be maintained on site. Corduroy roads and construction mats are considered as fill whether they're installed temporarily or permanently.

17. Temporary Fill. No temporary fill shall be placed in waters of the U.S., including wetlands, unless a) it is specifically authorized in writing by the Corps, or b) the project qualifies for the non-reporting Category 1 (the combined temporary and permanent fill totals less than 3,000 SF, it meets the Appendix A Category 1 definition, and it is in compliance with this GP's terms and general conditions).

- All temporary fill shall be stabilized to prevent its eroding into portions of waters of the U.S. where it is not authorized.
- Waters of the U.S. where temporary fill was discharged shall be restored (see GC 18).
- Unconfined temporary fill authorized for discharge into waters of the U.S. shall consist of material that minimizes impacts to water quality (e.g. sandbags or clean gravel and/or stone).
- Temporary fill authorized for discharge into wetlands shall be placed on geotextile fabric laid on the pre-construction wetland grade. Construction mats are excluded from this requirement.
- Temporary fill shall be removed as soon as it is no longer needed, and it shall be disposed of at an upland site and suitably contained to prevent its subsequent erosion into waters of the U.S.
- Construction mats and corduroy roads (see GC 16) are considered as temporary fill when they are removed immediately upon work completion. The areas must be restored in accordance with GC 18.
- If temporary fill is staged and then returned to its original location, e.g., sewer projects through wetlands, the original location shall be restored.

18. Work Site Restoration.

- Upon completion of construction, all disturbed wetland areas (the disturbance of these areas must be authorized) shall be properly stabilized. Any seed mix shall contain only plant species native to New England and shall not contain any of the plant species listed in Appendix B - "Invasive Species and Other Unacceptable Plant Species" in the "Mitigation Guidance for New England District Mitigation Plan Checklist," provided at <http://www.nae.usace.army.mil/Regulatory/Mitigation/CompensatoryMitigationGuidance.pdf> and referenced in the Planting Plan section. This list may be updated periodically.

- The introduction of non-native invasive and noxious species in disturbed areas is prohibited and any spread of such invasive plant species shall be controlled. See Additional References on Pages 18-19. The Corps lists these species in the above mentioned checklist in the Invasive and Noxious Species section.
- In areas of authorized temporary disturbance, if trees are cut they shall be cut at ground level and not uprooted in order to prevent disruption to the wetland soil structure and to allow stump sprouts to revegetate the work area, unless otherwise authorized.
- Wetland areas where permanent disturbance is not authorized shall be restored to their original condition and elevation, which under no circumstances shall be higher than the pre-construction elevation. Original condition means careful protection and/or removal of existing soil and vegetation, and replacement back to the original location such that the original soil layering and vegetation schemes are approximately the same, unless otherwise authorized.

19. Bank Stabilization. Projects involving construction or reconstruction/maintenance of bank stabilization structures within Corps jurisdiction should be designed to minimize environmental effects, effects to neighboring properties, etc. to the maximum extent practicable. Applicants must use the least intrusive method to stabilize the bank, following this sequential minimization process: avoidance, diversion of overland flow, vegetative stabilization, stone-sloped surfaces, and walls. Vertical walls/bulkheads must only be used in situations where reflected wave energy can be tolerated. This generally eliminates bodies of water where the reflected wave energy may interfere with or impact on harbors, marinas, or other developed shore areas. Refer to Additional References on Pages 18-19.

20. Sedimentation and Erosion Control. Adequate sedimentation and erosion control management measures, practices and devices, such as phased construction, vegetated filter strips, geotextile silt fences or other devices, shall be installed and properly maintained to reduce erosion and retain sediment on-site during and after construction. Such measures shall be capable of preventing erosion, of collecting sediment, suspended and floating materials, and of filtering fine sediment. The temporary devices shall be removed upon completion of work and the disturbed areas shall be stabilized. The sediment collected by these devices shall be removed and placed at an upland location, in a manner that will prevent its later erosion into a waterway or wetland. All exposed soil and other fills shall be permanently stabilized at the earliest practicable date.

21. Waterway/Wetland Work and Crossings

- (a) All temporary and permanent crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed to withstand and to prevent the restriction of high flows, to maintain existing low flows, and to not obstruct the movement of aquatic life indigenous to the waterbody beyond the actual duration of construction.
- (b) No activity may substantially disrupt the necessary life-cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water.
- (c) To meet the objective of aquatic organism passage in (a) and (b) above, all temporary and permanent crossings of rivers, streams, brooks, etc. (hereon referred to as "streams") shall meet the following performance standards in order to qualify for Category 1 (refer to Additional References on Pages 18-19):
 - i. Design the structure to maintain a streambed composition and form throughout the culvert similar to and continuous with the adjacent reaches. To do this:
 - o Design and install streambed material and bedforms if not adequately supplied and developed naturally,
 - o Design profile and alignment through structure similar to those of adjacent stream reaches,
 - o Design culvert elevation to remain embedded for the life of the structure and in consideration of future channel conditions.
 - ii. Maintain velocities, turbulence and depths within the structure similar to those found in adjacent stream reaches across a range of desired flows.
- (d) The requirements to comply with the performance standards in (c) above in order to proceed as a Category 1 project do not apply to the following:

- i. Temporary crossings in place for less than 90 days (the requirements in (a) do apply). Temporary culverts must be embedded unless they're installed during low flow (Jul. 15 – Oct. 1) and it's placed on geotextile fabric laid on the stream bed to ensure restoration to the original grade;
- ii. Constructed drainage systems designed primarily for the conveyance of storm water or irrigation. Also, non-tidal drainage and irrigation ditches excavated on dry land are not Federally-regulated.
- (e) Applicants proposing new crossings, or maintenance or replacement of serviceable crossings should refer to the Guidelines for the Design of Stream/Road Crossings for Passage of Aquatic Organisms in Vermont. Refer to Additional References on Pages 18-19.
- (f) Applicants shall use the least intrusive and environmentally damaging method to construct the stream crossing, following this sequential minimization process: bridge spans, open bottom arches or embedded culverts. Refer to Additional References, Pages 18-19.
- (g) Culverts at waterbody crossings shall be installed in such a manner as to preserve hydraulic connectivity, at its present level, between the wetlands on either side of the road. The permittee shall take necessary measures to correct wetland damage due to lack of hydraulic connectivity.
- (h) Projects using retrofit methods increasing flow velocity or slip lining (retrofitting an existing culvert by inserting a smaller diameter pipe) are not allowed in Category 1, either as new or maintenance activities.
- (i) No projects involving open trench excavation in flowing waters, except riprap installation, are allowed under Category 1. Open trench excavation projects may qualify for Category 1 provided (1) the work doesn't occur in flowing waters (requires using management techniques such as temporary flume pipes, culverts, cofferdams, etc.) and (2) normal flows are maintained within the stream boundary's confines (see Appendix A, Endnote 6). Projects utilizing these management techniques must meet the other Category 1 requirements (see Appendix A, Page 1) and all of this GP's terms and general conditions.
- (j) For projects that otherwise meet the terms of Category 1, in-stream (e.g., rivers, streams, brooks, etc.) construction work shall be conducted only during the low flow period of July 15 to October 1 in any year. Projects that are conducted outside that time period are ineligible for Category 1 and shall be reviewed under Category 2, regardless of the waterway and wetland fill and/or impact area.
- (k) Work impacting upstream or downstream flood profiles must be reviewed under Category 2.

22. Discharge of Pollutants.

- (a) All activities involving a discharge into waters of the U.S. authorized under this GP shall be consistent with applicable water quality standards, effluent limitations, standards of performance, prohibitions, and pretreatment standards and management practices established pursuant to the CWA (33 USC 1251) and applicable State and local laws. If applicable water quality standards, limitations, etc., are revised or modified during the term of this GP, the authorized work shall be modified to conform to these standards within six months of the effective date of such revision or modification, or within a longer period of time deemed reasonable by the Corps in consultation with the EPA.
- (b) All projects authorized by this GP shall be designed, constructed and operated to minimize or eliminate the discharge of pollutants. Category 2 projects will be reviewed to determine if a project may result in a discharge of relevant pollutants to an impaired water. See the Additional Information Required section on Page 4.
- (c) Unless otherwise notified by the VT ANR, applicants may presume that the Section 401 WQC for this GP constitutes the Section 401 WQC for their Section 404 activity, provided the terms and conditions of this GP are met.

23. Floodplain Work.

- (a) In order to qualify for authorization under Category 1 of this GP, projects shall result in no more than a minimal decrease in natural valley storage, and shall not result in an increase in the base flood elevation (where hydraulic information necessary to make this determination is available).
- (b) There shall be no Category 1 projects located within a FEMA designated Special Flood Hazard Area as shown on the most current flood insurance studies and maps published by FEMA and adopted by the municipality within which the proposed project is located.

(c) Any project located within a FEMA designated Special Flood Hazard Area shall comply with minimum NFIP regulations, or local Flood Hazard Area regulations if more restrictive.

Note: Refer to Additional References, Pages 18-19.

24. Spawning and Breeding Areas. Discharges of dredged or fill material, and/or suspended sediment producing activities in fish and shellfish spawning or nursery areas, or amphibian and migratory bird breeding areas, during spawning or breeding seasons shall be avoided. Impacts on these areas shall be minimized to the maximum extent practicable during all times of year.

25. Storage of Seasonal Structures. Seasonal or recreational structures such as pier sections, floats, etc., that are removed from the waterway for a portion of the year shall be stored in an upland location, located above ordinary high water and not in a wetland.

26. Environmental Functions and Values. (a) The permittee shall make every reasonable effort to carry out the construction or operation of the work authorized herein in a manner that minimizes adverse impacts on fish, wildlife and natural environmental values. (b) The introduction of invasive plant species identified by any Federal agency in disturbed areas is prohibited and any spread of such invasive plant species shall be controlled. Refer to GC 18 and Additional References on Pages 18-19.

27. Protection of Special Aquatic Sites and Special Wetlands, including Vernal Pools.

Special Aquatic Sites (SAS): Projects with any temporary or permanent fill in SAS (Endnote 7), or that could adversely affect SAS, whether directly or indirectly, do not qualify for Category 1. This does not apply to "inland wetlands," but does apply to the other SAS types listed at Endnote 7.

Special Wetlands: When jurisdiction is triggered (see Activities Covered, Page 1), projects in or that could adversely affect Special Wetlands (Endnote 8), whether directly or indirectly, do not qualify for Category 1. Special wetlands are vernal pools, bogs, fens, and wetlands which provide habitat for threatened or endangered species as designated by the State of Vermont Natural Heritage Program. See Additional References on Pages 18-19 for additional references.

Vernal Pools (VP): These are a type of special wetland (Endnote 8). Category 1 excludes projects in or within 200' of a VP on the property when jurisdiction is triggered. This does not apply to temporary impacts associated with construction mats in previously disturbed areas of existing utility project right-of-ways (e.g., transmission lines, gas pipelines) or linear transportation projects (e.g., roads, highways, railways, trails, airport runways and taxiways) provided there is a Vegetation Management Plan or equivalent BMPs that avoid, minimize and mitigate impacts to aquatic resources. The applicant must minimize surrounding upland impacts to the greatest extent practicable, with the effort to minimize impacts being commensurate with the value of the pool. Impact minimization should be in accordance with *Best Development Practices: Conserving pool-breeding amphibians in residential and commercial development in the northeastern U.S.*, Calhoun and Klemens, 2002; and *Science and Conservation of Vernal Pools in Northeastern North America*, Calhoun and deMaynadier, 2008, specifically Chapter 12, Conservation Recommendations section, Page 241. (See Additional References, Pages 18-19). For example, site clearing, grading and construction activities should be limited to <25% of the VP terrestrial habitat, and roads and driveways should be excluded from the VP envelope. For Category 2 projects, the applicant shall delineate all VPs on the property (see GC 2). The Corps may waive this requirement on a case-by-case basis.

28. Fluvial Geomorphic Processes. (a) Wherever practicable, projects should be designed to accommodate the natural tendencies of the fluvial system. This should greatly enhance the likelihood of long-term success of the project and minimize the chance of exacerbating an otherwise undesirable physical adjustment process. Recognition of these processes requires assessment of physical parameters and characteristics of the watershed, the water and sediment regimes, the channel and floodplain, the anthropogenic influences and constraints on the reach concerned and to what extent sediment transport continuity in the reach can be attained. (b) Applicants should consult with the VT River Management Program Stream Alteration Engineer for assistance in compliance with this condition.

Note: Refer to Additional References on Pages 18-19 for additional information.

Procedural Conditions:

29. Inspections. The permittee shall allow the Corps to make periodic inspections at any time deemed necessary in order to ensure that the work is being or has been performed in accordance with the terms and conditions of this permit. The Corps may also require post-construction engineering drawings for completed work, and post-dredging survey drawings for any dredging work.

30. Maintenance. (a) The permittee shall maintain the work authorized herein in good condition and in conformance with the terms and general conditions of this permit. Permittees must contact the Corps if maintenance will not take place or if they want to modify the existing project design. (b) The requirement to maintain the authorized work does not include maintenance of dredging projects. Maintenance dredging is subject to the review thresholds in Appendix A and/or any special conditions included in a written Corps authorization. Note: Refer to Additional References on Pages 18-19 for information on maintaining stream restoration projects.

31. Property Rights. This GP does not convey any property rights, either in real estate or material, or any exclusive privileges, nor does it authorize any injury to property or invasion of rights or any infringement of federal, state, or local laws or regulations.

32. Modification, Suspension, and Revocation. This GP may be either modified, suspended, or revoked in whole or in part pursuant to the policies and procedures of 33 CFR 325.7. Any such action shall not be the basis for any claim for damages against the U.S.

33. Restoration. The permittee, upon receipt of a notice of revocation of authorization under this GP, shall restore the wetland or waterway to its former conditions without expense to the U.S., and as directed by the Secretary of the Army or his authorized representative. If the permittee fails to comply with such a directive, the Secretary or his designee may restore the wetland or waterway to its former condition, by contract or otherwise, and recover the cost from the permittee.

34. Special Conditions. The Corps may impose other special conditions on a project authorized pursuant to this GP that are determined necessary to minimize adverse navigational and/or environmental effects or based on any other factor of the public interest. Failure to comply with all conditions of the authorization, including special conditions, constitutes a permit violation and may subject the permittee to criminal, civil or administrative penalties and/or restoration.

35. False or Incomplete Information. If the Corps makes a determination regarding the eligibility of a project under this GP, and subsequently discovers that it has relied on false, incomplete, or inaccurate information provided by the permittee, the GP authorization shall not be valid and the U.S. Government may institute legal proceedings.

36. Abandonment. If the permittee decides to abandon the activity authorized under this GP, unless such abandonment is merely the transfer of property to a third party, he/she may be required to restore the area to the satisfaction of the Corps.

37. Transfer of GP Verifications. If the permittee sells the property associated with a GP verification, the permittee may transfer the GP verification to the new owner by submitting a letter to the Corps (see Page 16 for address) to validate the transfer. A copy of the GP verification must be attached to the letter and the letter must contain the following statement and signature: "When the structures or work authorized by this GP are still in existence at the time the property is transferred, the terms and conditions of this GP, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this GP

and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

38. Enforcement cases. This GP does not apply to any existing or proposed activity in Corps jurisdiction associated with a Corps or EPA enforcement action, until such time as the enforcement action is resolved or the Corps or EPA as appropriate determines that the activity may proceed independently without compromising the enforcement action.

Duration of Authorization/Grandfathering:

39. Duration of Authorization. Activities authorized under this GP that have commenced (i.e., are under construction) or are under contract to begin construction in reliance upon this authorization, will remain authorized provided the activity is completed within twelve months of the expiration date on this permit, unless:

- a) the GP is either modified or revoked; or
- b) discretionary authority has been exercised in accordance with 33 CFR 325.2(e)(2).

Activities authorized and completed under Category 1 or 2 of this GP will continue to remain authorized after this GP's expiration date.

40. Previously Authorized Activities.

(a) Projects that received written authorization from the Corps and that were completed under the previous GP's, nationwide permits, regional general permits or letters of permission, shall remain authorized as specified in each authorization letter.

(b) Activities authorized pursuant to 33 CFR 330.3 ("Activities occurring before certain dates") are not affected by this GP.


Frank J. DelGiudice
Chief, Permits and Enforcement Branch

12-6-2012
DATE

VI. CONTACTS FOR VERMONT GENERAL PERMIT:

U.S. Army Corps of Engineers

New England District, Regulatory Division
Vermont Project Office
8 Carmichael Street, Suite 205
Essex Junction, Vermont 05452
(802) 872-2893, (802) 879-7638 fax
www.nae.usace.army.mil/reg/index.htm

Federal Endangered Species:

U.S. Fish and Wildlife Service
Federal Activities/Endangered Species
70 Commercial Street, Suite 300
Concord, New Hampshire 03301-5087
(603) 223-2541
www.fws.gov/northeast/newenglandfieldoffice.htm

National Park Service

National Park Service
North Atlantic Region
15 State Street
Boston, Massachusetts 02109
(617) 223-5191

Vermont Agency of Natural Resources

Department of Environmental Conservation

Wetlands Program
Watershed Management Division
1 National Life Drive, Main 2
Montpelier, VT 05620-3522
Alan.quackenbush@state.vt.us

Department of Environmental Conservation

Lakes and Ponds Program
Watershed Management Division
1 National Life Drive, Main 2
Montpelier, VT 05620-3522
Susan.warren@state.vt.us

U.S. Environmental Protection Agency

New England Region
Wetland Protection Program Unit – OEP/CWP
JFK Federal Building 1 Congress Street, Suite 1100
Boston, MA 02114-2023
(617) 918-1399

Essential Fish Habitat:

National Marine Fisheries Service
Habitat Conservation Division (HCD)
One Blackburn Drive
Gloucester, Massachusetts 01930
(978) 281-9300

Historic Resources

State Historic Preservation Officer
Division for Historic Preservation
National Life Building
Drawer 20
Montpelier, Vermont 05620-0501
(802) 828-3211

Tribal Historic Preservation Officer
c/o Stockbridge-Munsee Community
P.O. Box 70
Bowler, Wisconsin 54416
(715) 793-3970

Area of concern: Addison, Rutland and
Bennington Counties

Department of Environmental Conservation

River Management Program
Watershed Management Division
1 National Life Drive, Main 2
Montpelier, VT 05620-3522
Mike.kline@state.vt.us

Department of Environmental Conservation

Dam Safety Program
Facilities Engineering Division
1 National Life Drive, Main 2
Montpelier, VT 05620-3522
Steve.bushman@state.vt.us

Vermont Department of Fish and Wildlife
1 National Life Drive, Main 2
Montpelier, VT 05620-3522
Rich.kirn@state.vt.us

State endangered species
Vermont Department of Fish and Wildlife
Nongame and Natural Heritage Program
1 National Life Drive, Main 2
Montpelier, VT 05620-3522
www.vtfishandwildlife.com/wildlife_nongame.cfm

VII. ADDITIONAL REFERENCES:

Page 4: Application. Refer to www.nae.usace.army.mil for a more comprehensive checklist. Select “Regulatory” “Permits” “Forms” and then “Application and Plan Guideline Checklist.”

Page 4 & GC 9: Threatened and Endangered Species.

The VT F&W provides information on Federal and State species:

www.vtfishandwildlife.com/wildlife_nongame.cfm.

The VT ANR Environmental Interest Locator provides an interactive web based GIS map with documented locations:

http://maps.vermont.gov/imf/sites/ANR_NATRESViewer/jsp/launch.jsp.

The U.S. Fish and Wildlife Service (U.S. FWS) provides information on Federal endangered species:

www.fws.gov/northeast/newenglandfieldoffice/EndangeredSpec-Consultation_Project_Review.htm.

Page 4 and GC 22: Discharge of Pollutants - Impaired Waters and Stormwater Impaired Waters: The VT ANR lists and shows impaired waters and stormwater impaired waters at:

www.vtwaterquality.org/planning.htm.

GC 2: Federal Jurisdictional Boundaries.

- (a) Corps Wetlands Delineation Manual, regional supplements, and Corps Wetland Delineation Data Sheets: www.nae.usace.army.mil/regulatory and then “Wetlands and Jurisdictional Limits.
- (b) The National List of Plant Species that Occur in Wetlands (<http://wetland-plants.usace.army.mil>).
- (c) The Natural Resources Conservation Service (NRCS) publishes the current hydric soil definition, criteria and lists: <http://soils.usda.gov/use/hydric>. For the Field Indicators for Identifying Hydric Soils in N.E., see www.neiwpcc.org/hydricsoils.asp.

GCs 18 and 26: Invasive Species.

- (a) Information on what are considered “invasive species” is provided in our “Compensatory Mitigation Guidance” document at www.nae.usace.army.mil/regulatory under “Mitigation.” The “Invasive Species” section has a reference to our “Invasive Species Control Plan (ISCP) Guidance” document, located at www.nae.usace.army.mil/regulatory under “Invasive Species,” which provides information on preparing an ISCP.
- (b) The June 2009 “Corps of Engineers Invasive Species Policy” is at www.nae.usace.army.mil/regulatory under “Invasive Species” and provides policy, goals and objectives.

GC 19: Bank Stabilization.

Corps Coastal Engineering Manual: Select “Products/Services” and then “Publications.” Part 5, Chapter 7-8, a(2)c is particularly relevant. <http://chl.erdc.usace.army.mil>.

GC 21: Waterway/Wetland Work and Crossings

21(c): Performance standards in GC 21 are taken from Section 8 - Alternative Designs, in the document “Guidelines for the Design of Stream/Road Crossings for Passage of Aquatic Organisms in Vermont.” These Guidelines are located at www.vtfishandwildlife.com/library.cfm, “Reports and Documents.” This document should be referenced when designing and constructing stream crossing projects to help ensure compliance with GC 21 (a) - (c).

GC 23: Flood Hazard Management. www.anr.state.vt.us/dec/waterq/rivers/htm/rv_floodhazard.htm.

GC 27: Special Wetlands.

Refer to the VT ANR Environmental Interest Locator, which provides an interactive web based GIS map with locations of significant (wetland) natural communities. At the Locator select map layers, fish and wildlife, and

then significant natural communities:

http://maps.vermont.gov/imf/sites/ANR_NATRESViewer/jsp/launch.jsp. Some wetlands are more valuable and sensitive to fragmentation, non-point source runoff, and other secondary impacts. Upland buffers are especially essential to protect their functions.

The following documents provide conservation recommendations for vernal pools:

Best Development Practices: Conserving pool-breeding amphibians in residential and commercial development in the northeastern U.S., Calhoun and Klemens, 2002. Chapter III, Management Goals and Recommendations, Pages 15 – 26, is particularly relevant. (Available for purchase at www.maineaudubon.org/resource/index.shtml and on Corps website*.)

Science and Conservation of Vernal Pools in Northeastern North America, Calhoun and deMaynadier, 2008. Chapter 12, Conservation Recommendations section, Page 241, is particularly relevant. (Available for purchase via the internet. Chapter 12 is available on Corps website*.)

* www.nae.usace.army.mil/regulatory under “Vernal Pools.”

Cape Cod Curbing: For smaller roads and driveways, the most important design feature to consider is curbing. Granite curbs and some traditional curbing can act as a barrier to amphibian and hatchling turtle movements. Large numbers of salamanders have been intercepted in their migrations by curbs and catch basins. Use of Cape Cod curbs rather than traditional curbing may be one solution. Alternatively, where storm water management systems require more traditional curbing, it may be possible to design in escape ramps on either side of each catch basin.

The Vernal Pool Directional Buffer Guidance document is located at www.nae.usace.army.mil/regulatory under: 1) “State General Permits” and then “Maine,” and 2) “Vernal Pools.”

GC 28: Fluvial Geomorphic Processes. Consult with the VT River Management Program Stream Alteration Engineer for assistance in compliance with GC 28. Refer to information provided at: www.anr.state.vt.us/dec/waterq/rivers/htm/rv_management.htm.

GC 30: Maintenance. River restoration projects that are designed to accommodate the natural dynamic tendencies of the fluvial system are maintained in accordance with the project’s design objectives (Category 1) or the Corps authorization letter (Category 2). These projects are generally designed to support and implement channel assessment and management practices that recognize a stream’s natural dynamic tendencies.

APPENDIX A: DEFINITION OF CATEGORIES

I. WATERS OF THE U.S. (INCLUDES WETLANDS) (other than Lake Champlain, Lake Memphremagog, Wallace Pond and adjacent wetlands)	Waters of the U.S. ¹ are comprised of Inland Waters and Wetlands ² & Navigable Waters of the U.S. ³ . Navigable waters in Vermont are those designated as navigable by Congress (33 CFR 329). This section excludes the following navigable waters: Lake Champlain, Lake Memphremagog, Wallace Pond & wetlands adjacent to these waterbodies (See II. Navigable Waters below).	Projects not meeting Category 1 must apply to the Corps as either a Category 2 or Individual Permit project. All Category 1 and 2 projects must comply with all of this GP's applicable terms (Pages 1 – 6) and general conditions (GC) (Pages 7 – 16).
CATEGORY 1	CATEGORY 2	INDIVIDUAL PERMIT
(a) NEW FILL/ EXCAVATION DISCHARGES <3,000 SF of waterway and/or wetland fill and secondary impacts⁴, (e.g., areas drained, flooded, fragmented, mechanically cleared or excavated). Fill area includes all temporary and permanent fill, and certain excavation discharges (except for incidental fallback⁵). Construction mats¹⁶ and corduroy roads are considered as fill (see GC 16). Construction mats of any area necessary to conduct activities that were previously authorized, authorized under Category 1, or not subject to regulation. Authorized construction mats must be in place for no more than 3 months, removed immediately upon work completion, and the wetlands must be restored (see GC 18). <u>Provided:</u> • In-stream (e.g., rivers, streams, brooks, etc.) work limited to Jul 15-Oct 1 (see GC 21). <u>This category excludes:</u> • Fills in Athens, Brookline, Chester, Dummerston, Grafton, Newfane, Putney, Rockingham, Springfield, Townshend, or Westminster, VT. • Fills below OHW in EFH waters (see GC 10). • Activities excluded in GC 21, i.e., dams, dikes, or activities involving water diversions⁶ (other than dry hydrants used exclusively for firefighting activities with no stream impoundments); and sliplining. • Work in special aquatic sites (SAS)⁷ other than wetlands. • Work in special wetlands⁸ including work in vernal pools (VP) or within 200' of the VP's edge when jurisdiction is triggered. (This does not apply to temporary impacts associated with construction mats in previously disturbed areas of existing utility project right-of-ways (e.g.,	3,000 SF to 1 acre waterway and/or wetland fill and secondary impacts⁴, (e.g., areas drained, flooded, fragmented, mechanically cleared or excavated). Fill area includes all temporary and permanent fill & certain excavation discharges (except for incidental fallback⁵). Construction mats and corduroy roads are considered as fill (see GC 16). Construction mats used for new construction activities with impacts of any size ≥3,000 SF (see GCs 16 & 17). Projects sponsored by a Federal or State agency with proactive restoration¹⁰ as a primary purpose and impacts of any size ≥3,000 SF. Net impacts must not be greater than minimal. Restoration and/or enhancement approved for use by a Corps-approved In-Lieu Fee program or Corps-approved mitigation bank, with impacts of any size ≥3,000 SF. Specific activities with impacts ≥3,000 SF required to affect the containment, stabilization, or removal of hazardous or toxic waste materials performed, ordered or sponsored by a government agency with established legal or regulatory authority. Wetlands must be restored in place. Work in special wetlands⁸, including work in VPs or within 200' of the VP's edge when jurisdiction is triggered on the property. The applicant shall delineate all special wetlands⁸ including VPs on the property using Federal delineation methods (see GC 2). The Corps may waive these	≥1 acre waterway and/or wetland fill & secondary impacts⁴ (e.g., area drained, flooded, fragmented, mechanically cleared or excavated). Fill area includes all temporary and permanent fill (except construction mats meeting Category 1 or Category 2 requirements) and certain excavation discharges (except for incidental fallback⁵).

	transmission lines, gas pipelines) or linear transportation projects (e.g., roads, highways, railways, trails, airport runways and taxiways) provided there is a Vegetation Management Plan or equivalent BMPs that avoid, minimize and mitigate impacts to aquatic resources.) • Work on Corps properties & Corps-controlled easements⁹ • Structures, fill or work below OHW in the National Wild and Scenic River designated study segments of the Missisquoi River • Fills below OHW of the Trout River.	delineation requirements on a case-by-case basis. Wetland fill and/or secondary impacts (e.g., site clearing, grading and construction activities) should be limited to <25% of the VP habitat. Where practicable, roads & driveways should be excluded from the VP envelope⁸.	
(b) BANK STABILIZATION PROJECTS	Inland bank stabilization <100 linear FT and an average of <1 CY of fill per linear FT below ordinary high water (OHW). • In-stream work limited to Jul 15-Oct 1. • No work in VPs or within 200' of the VP's edge. • No work in SAS⁷. • No work in EFH waters (see GC 10). • No work in Rivers of Concern¹¹. • No work on Corps properties and Corps-controlled easements⁹. • No work below OHW in the National Wild and Scenic River designated study segments of the Missisquoi River. • No work below OHW of the Trout River.	Inland bank stabilization ≥100 linear FT, and/or an average of ≥1 CY of fill per linear foot below OHW.	
(c) RIVER/ STREAM/ BROOK WORK & CROSSINGS and WATERWAY/ WETLAND CROSSINGS	• In-stream (e.g., rivers, streams, brooks, etc.) work limited to Jul 15 - Oct 1 (see GC 21). • All stream crossings conform with the performance standards in GC 21. • Bridge spans, open bottom arches or embedded culverts are required. • Culverts at waterbody crossings shall preserve hydraulic connectivity, at its present level, between any wetlands on either side of the road. <u>Work in this category excludes:</u> • Projects using retrofit methods increasing flow velocity or slip lining (only for 1 - 3 above). • Work in SAS⁷. • Open trench excavation in flowing waters except for riprap projects (See GC 21). • Structures, fill or work below OHW in the National Wild and Scenic River designated study segments of the Missisquoi River.	Projects sponsored by a Federal or State agency with proactive restoration¹⁰ as a primary purpose with impacts of any area exceeding Category 1. Net impacts must not be greater than minimal.	

	• Fills below OHW of the Trout River		
(d) REPAIR, REPLACEMENT IN KIND & MAINTENANCE OF AUTHORIZED FILLS	Repair/maintenance/replacement in kind of existing, currently serviceable, authorized fills with no expansion or change in use. • Conditions of the original authorization apply. • Minor deviations in fill design allowed¹², except for stream crossings or dams. • No fills in special wetlands⁸. • No fills in SAS⁷ & EFH waters (see GC 10). • No structures, fill or work below OHW in the National Wild and Scenic River designated study segments of the Missisquoi River. • No fills below OHW of the Trout River.	Repair/maintenance/replacement in kind of existing, currently serviceable, authorized fills with expansion or a change in use <1 acre. Replacement of non-serviceable authorized fills, including expansion or a change in use, totaling <1 acre.	Repair/maintenance of existing, currently serviceable, authorized fills with expansion or a change in use >1 acre. Replacement of non-serviceable authorized fills, including expansion or a change in use, totaling ≥ 1 acre.
(e) MISC.	Activities required for the containment and cleanup of oil and hazardous substances. Fish and wildlife harvesting such as duck blinds. Temporary scientific measurement devices and survey activities, e.g., exploratory drilling, surveying, and sampling. Monitoring wells. Recreational gold mining. Does not include oil/gas exploration and fills for roads or construction mats.	Zebra Mussel Control Projects. Fishery habitat enhancement structures. Utility line crossings, water intakes and outfalls, and sea lamprey control projects.	Project where an EIS is required by the Corps.
(f) MISC. (applies only to NAVIGABLE WATERS OF THE U.S. ² excluding Lake Champlain, Lake Memphremagog, Wallace Pond)	Repair, replacement in kind or maintenance of existing, currently serviceable, authorized structures. <u>Provided:</u> • No expansion or change in use. • Must be rebuilt in same footprint, however minor deviations¹² in structure design allowed. • No structures, fill or work below OHW in the National Wild and Scenic River designated study segments of the Missisquoi River.	New and maintenance dredging¹³ up to 5,000 CY with upland disposal or beach nourishment. No impacts to SAS⁷. Aerial transmission lines. Floating or post supported docks or decks. Private, non-commercial, single-boat moorings. Utility lines installed by directional bores.	Maintenance dredging¹³ of any amount affecting a SAS⁷. New and maintenance dredging greater than 5,000 CY or in or affecting a SAS. Dredging with open water disposal.

Navigable Waters of the U.S. ³ : These waters were designated as navigable by Congress (33 CFR 329).			
Projects not meeting Category 1 must apply/report to the Corps as either a Category 2 or Individual Permit project. All Category 1 and 2 projects must comply with all of this GP's applicable terms (Pages 1 – 6) and general conditions (Pages 7 – 16).			
	CATEGORY 1	CATEGORY 2	INDIVIDUAL PERMIT (IP)
II. NAVIGABLE WATERS OF THE U.S. ³ – LAKE CHAMPLAIN, LAKE MEMPHREMAGOG, WALLACE POND and ADJACENT WETLANDS			
(a) FILL	No provisions for new or previously unauthorized fills in Category 1.	<5,000 SF waterway/wetland fill and secondary impacts ⁴ (e.g. areas drained, flooded, fragmented, mechanically cleared or excavated). Includes boat ramps & bridge fills. Projects sponsored by a Federal or State agency with proactive restoration ¹⁰ as a primary purpose and impacts of any size. Net impacts must not be greater than minimal.	≥5,000 SF waterway/wetland fill and secondary impacts ⁴ (e.g. areas drained, flooded, fragmented, mechanically cleared or excavated). Fill area includes all temporary and permanent waterway fills.
(b) REPAIR, REPLACEMENT IN KIND AND MAINTENANCE WORK	Repair, replacement in kind or maintenance of existing, currently serviceable, authorized structures and fills. <u>Provided:</u> • No expansion or change in use. • Must be rebuilt in same footprint, however minor deviations¹² in structure design allowed.	Repair/replacement in kind/maintenance of currently serviceable authorized fills with expansion or a change in use <5000 SF. Replacement of non-serviceable authorized fills, including expansion or a change in use, totaling <5000 SF. Construction mats of any area necessary to conduct activities that were previously authorized, authorized under Category 1, or not subject to regulation. Authorized construction mats must be in place for no more than 3 months, removed immediately upon work completion, and the wetlands must be restored (see GC 18).	EIS required by the Corps. Repair/maintenance/replace ment in kind of currently serviceable authorized fills with expansion or a change in use >5000 SF.
(c) DREDGING	No provisions for dredging in Category 1.	New and maintenance dredging ¹³ up to 5,000 CY with upland disposal or beach nourishment. <u>Provided:</u> • No impacts to SAS⁷ • Specific activities with impacts of any area or cubic yardage required to affect the containment, stabilization, or removal of hazardous or toxic waste materials that are performed, ordered, or sponsored by a government agency with established legal or regulatory authority may be reviewed as a Category 2 project. Wetlands	New or maintenance dredging ¹³ ≥5,000 CY. Dredging affecting an SAS. All dredging with open water disposal.

			must be restored in place.	
(d) MOORINGS	Private, non-commercial, non-rental, single-boat moorings. <u>Provided:</u> - Chains or other connections may not rest on the bottom in SAS⁷ (eco-friendly mooring technology is required). - Not associated with a boating facility¹⁴. - No interference with navigation. - Moorings in a Federal Navigation Project (FNP)¹⁵ not associated with a boating facility. - Not located within the buffer zone of the horizontal limits of a FNP.	Moorings that do not meet the terms of Category 1. Moorings located such that they, and/or vessels docked or moored at them, are within the buffer zone of the horizontal limits of a FNP ¹⁵ .	Moorings and/or their moored vessels within the horizontal limits of a FNP ¹⁵ .	
(e) PILE-SUPPORTED STRUCTURES AND FLOATS	- Reconfiguration of existing authorized docks with no additional slips and no expansion. Seasonal private, residential pile-supported structures for navigational access extending no further waterward than 50 FT MHW, not >4 FT wide, & a dock deck area <500 SF. - Private, bottom-anchored floats and seasonal swim floats ≤400 SF. - Private boat & float lifts to authorized residential docks. Provided for 1 - 4 above: - No structure extends across >25% of the waterway width at MLW. - Not located over SAS⁷. - Not located within the buffer zone of the horizontal limits of an FNP¹⁵.	Private structures and floats for navigational access to the waterway that do not meet the terms of Category 1. Piers, docks, decks, floats, and similar structures that provide public recreational uses such as fishing, swimming, access, etc. Non-fill structures to provide recreational access to the waterbody (e.g. stairways, etc.). Minor modifications to existing, permitted boating facilities. Structures or floats and/or vessels docked or moored at them within the buffer zone of the horizontal limits of a FNP ¹⁵ .	Structures or floats and/or vessels docked or moored at them within the horizontal limits of a FNP ¹⁵ . Structures or floats associated with a new or previously unauthorized boating facility. ¹⁴	
(f) BANK STABILIZATION PROJECTS		Bank stabilization <500 linear feet and an average of 1 CY per linear ft. of fill below OHW or less provided no wetland fill.	Bank stabilization ≥500 linear ft. and/or involving more than an average of 1 CY per linear FT of fill below OHW.	
(g) MISCELLANEOUS	Temporary buoys, markers, floats, etc. for recreational use during specific events, provided they are in place for no more than 30 days and are removed within 15 days after use is discontinued. The placement of aids to navigation and regulatory markers which are approved by and installed in accordance with the requirements of the U.S. Coast Guard. (See 33 CFR 66, Chapter I, subchapter C).	Structures/work in or affecting navigable waters and/or adjacent wetlands that are not defined under any previous headings. Includes but is not limited to utility lines, aerial transmission lines, pipelines, outfalls, intakes, and horizontal directional drilling. Zebra Mussel control projects. Fishery habitat enhancement structures.	Projects where an EIS is required by the Corps. Activities or activities with docked or moored vessels extending within the horizontal limits of a Corps FNP ¹⁵ (does not include utility lines, aerial lines and subsurface crossings in Cat	

	Activities required for the containment and cleanup of oil and hazardous substances that are subject to the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300) provided that the work is done in accordance with the Spill Control and Countermeasure Plan required by 40 CFR 112.3 and any existing state contingency plan and provided that the Regional Response Team (if one exists in the area) concurs with the proposed containment and cleanup action. SAS¹ must typically be restored in place at the same elevation. Scientific measurement devices & survey activities such as exploratory drilling, surveying and sampling, provided that such structures do not restrict movement of aquatic organisms. Does not include oil and gas exploration or seismic testing, or fills for roads or construction mats. Fish and wildlife harvesting devices and activities such as pound nets, duck blinds, and small fish attraction devices such as open-water fish concentrators (sea kites, etc.). Provided: no hazard to navigation and activity is not in wetlands (except Sea Lamprey control projects). Debris removal.	Sea Lamprey control projects. Nuisance aquatic plant control projects. Utility lines installed by directional bore.	2).

End Notes/Definitions

¹ Waters of the United States (U.S.):

- a. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- b. All interstate waters including interstate wetlands;
- c. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:
 - i. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
 - ii. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
 - iii. Which are used or could be used for industrial purpose by industries in interstate commerce;
- d. All impoundments of waters otherwise defined as waters of the U.S. under the definition;
- e. Tributaries of waters identified in paragraphs (a)-(d) above;
- f. The territorial seas;
- g. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in (a)-(f) above. Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 123.11(m) which also meet this definition's criteria) are not waters of the U.S.
- h. Waters of the U.S. do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with the EPA.

²**Inland Waters and Wetlands:** These are a subset of waters of the U.S., are regulated under Section 404 of the CWA, and include rivers, streams, lakes, ponds and wetlands, excluding Section 10 Navigable Waters of the U.S. The jurisdictional limits [33 CFR 328.4(c)] are the ordinary high water (OHW) mark in the absence of adjacent wetlands, beyond the OHW mark to the limit of adjacent wetlands when adjacent wetlands are present, and the wetland limit when only wetlands are present.

³**Navigable Waters of the U.S.:** These are a subset of waters of the U.S., and are defined at 33 CFR 329. The jurisdictional limits [33 CFR 329.11] extend laterally to the entire water surface and bed of a navigable waterbody, which includes all the land and waters below the ordinary high water mark. Jurisdiction thus extends to the edge (as determined above) of all such waterbodies, even though portions of the waterbody may be extremely shallow, or obstructed by shoals, vegetation or other barriers. Marshlands and similar areas are thus considered navigable in law, but only so far as the area is subject to inundation by the ordinary high waters. In Vermont these waters are: the Connecticut River, Lake Champlain, Lake Memphremagog, Wallace Pond, Ompanoosuc River (to mile 3.8), Waits River (to mile 0.9), the Black River (mouth to mile 25 in Craftsbury), the Battenkill River (to mile 50 in Manchester), the Lamoille River (mouth to mile 79 in Greensboro), the Missisquoi River (including the North Branch, from the mouth to mile 88.5 in Lowell), Otter Creek (mouth to mile 63.8 in Procter), Winooski River (mouth to Marshfield), Moose River (from Passumpsic River to the Victory Town Line), Nulhegan River (mouth to its source including the East Branch, the Black Branch and the Yellow Branch), Paul Stream (mouth to the source), East Branch of the Passumpsic River (from the confluence with the Passumpsic River to East Haven), Passumpsic River (mouth to confluence with the East Branch), White River (mouth to its source), Wells River (mouth to Groton Pond).

⁴**Direct, Secondary (Indirect), and Cumulative Impacts:**

Direct Impacts: The immediate loss of aquatic ecosystem within the footprint of the fill.

Secondary (Indirect) Impacts: These are effects on an aquatic ecosystem that are associated with a discharge of dredged or fill materials, but do not result from the actual placement of the dredged or fill material. (40 CFR 230.11 (h)). Secondary impacts are those impacts outside the footprint of the fill (e.g., beyond the bounds of the disposal site) that arise from and are associated with the direct discharge of dredged or fill material. Some examples are: I) Habitat Fragmentation. This occurs when a relatively undisturbed habitat block is interrupted or broken apart by roads, ditches, disturbance of vegetation, or development of structures. II) Interruption of Travel Corridors. Travel corridors are routes that many species travel on to find food, mates, shelter, and cover. Many aquatic species follow stream channels and wetlands, and follow established routes season after season. III) Vernal Pools. These are critically important breeding habitats for amphibians. Many amphibians disperse several hundred feet from their breeding ponds into the adjacent upland habitat after the breeding season has ended. IV) Hydrology, hydrological functions and non-point source impacts: A) Interference with the migration or movement of fish and shellfish from one area to another, such as placement of a dam eliminating access to spawning grounds for anadromous fish. B) Greater amounts of sediment, nutrients, and other pollutants such as lead, oil, gas, and salt that could impact wetlands and streams. Sediment causes turbidity, which reduces aquatic life and usually transports pesticides, heavy metals and other toxins into streams. This is especially a concern in watersheds where the streams are already listed as impaired by the VT ANR. C) Submerged aquatic vegetation is very dependent on light transmission and small changes in ambient turbidity can preclude it from growing in certain areas. D) Trout spawning areas are selected in areas that are well flushed and aerated, and new amounts of deposition may result in a spawning area being eliminated due to siltation of fish eggs. E) Physical effects such as erosion, accretion, entrenchment, sedimentation, embankment, channel or shoreline migration and failure to pass bedload material, organic matter and large woody debris.

Cumulative Impacts: The extent of past, present, and foreseeable developments in the area may be an important consideration in evaluating the significance of a particular project's impacts. Although the impacts associated with a particular discharge may be minor, the cumulative effect of numerous similar discharges can result in a large impact. Cumulative impacts should be estimated only to the extent that they are reasonable and practical.

⁵ **Incidental Fillback:** The term "discharge of dredged or fill material" also includes certain discharges resulting from excavation.

⁶ **Water Diversions:** Water diversions are activities such as bypass pumping or water withdrawals. Temporary flume pipes, culverts or cofferdams where normal flows are maintained within the stream boundary's confines aren't water diversions. "Normal flows" are defined as no change in flow from pre-project conditions. See GC 21.

⁷ **Special Aquatic Sites:** Include inland wetlands, mudflats, vegetated shallows (permanently inundated areas that support rooted aquatic vegetation), and riffle and pool complexes. (40 CFR 230)

⁸ **Special Wetlands:** Jurisdictional vernal pools, bogs, fens, and wetlands which provide habitat for threatened or endangered species or species as designated by the State of VT Natural Heritage Program. See GC 27 for website. The following definitions for bogs, fens and vernal pools apply for the purposes of this GP:

Bog - A peat accumulating wetland with hydric, organic soils, a complete, or nearly complete, Sphagnum cover and a pH value ranging from 3.5 to 5.6 that receives water primarily from precipitation. Typical species include Sphagnum, leatherleaf and pitcher plant.

Fen - A peat accumulating wetland with hydric organic soils and a pH value ranging from 4.0 to 8.0. Sphagnum moss may be present, however, not as a complete cover. It generally receives water and minerals from runoff flowing through it. Typical species include low sedges, Sphagnum, other mosses and heath shrubs.

Vernal Pools and Habitat: A vernal pool, also referred to as a seasonal forest pool, is a temporary to semi-permanent body of water occurring in a shallow depression that typically fills during the spring or fall and may dry during the summer. Vernal pools have no permanent inlet or outlet and no viable populations of predatory fish. A vernal pool may provide the primary breeding habitat for wood frogs (*Rana sylvatica*), spotted salamanders (*Ambystoma maculatum*), blue-spotted salamanders (*Ambystoma laterale*), Jefferson salamander (*Ambystoma jeffersonianum*), and fairy shrimp (*Eubranchipus* sp.), as well as valuable habitat for other plants and wildlife, including several rare, threatened, and endangered species. A vernal pool intentionally created for the purposes of compensatory mitigation is included in this definition. For the purposes of this GP, the presence of any of the following species in any life stage in any abundance level/quantity would designate the waterbody as a vernal pool: fairy shrimp, blue spotted salamanders, spotted salamanders or wood frogs. The Corps may determine during a Category 2 review that a waterbody should not be regulated as a VP based on available evidence. For the purposes of this GP, the VP Management Areas are the Vernal Pool Depression (includes the vernal pool depression up to the spring or fall high water mark, and includes any vegetation growing within the depression), Vernal Pool Envelope (area within 100 FT of the VP Depression's edge) and Critical Terrestrial Habitat (area within 100-750 FT of the Vernal Pool Depression's edge). [*Note: Critical Terrestrial Habitat is defined as 100 - 750 FT on page 243 of the document "Science and Conservation of Vernal Pools in Northeastern North America." Calhoun and deMaynadier, 2008, which is referenced in Appendix E, page 3, Paragraph 10(b).]

Corps Properties & Easements: Contact the Corps, Real Estate Division (978) 318-8580 to initiate reviews about both Corps holdings and permit requirements.

Proactive Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former wetland or other aquatic resource (called re-establishment) or a degraded wetland or other aquatic resource (called rehabilitation). Restoration means the result of actions which, in the opinion of the Federal and state resource agencies, reinstates, or will reinstate, insofar as possible, the functions and values of a wetland or aquatic resource which has been altered. Restoration is the re-creation or rehabilitation of wetland or other aquatic resource ecosystems whose natural functions have been destroyed or impaired. The Corps will decide if a project qualifies as proactive restoration and must determine along with Federal & state agencies that the net effects would be no more than minimal.

Rivers of Concern: The following are rivers of concern due to either endangered species or cumulative impacts. There are no non-reporting bank stabilization activities in these rivers: Batten Kill River (to the headwaters), Black River (from its mouth in Springfield to its headwaters), Connecticut River, Lamoille River (from Hardwick to the confluence with Lake Champlain), Lewis Creek (from the Rte 116 crossing to the confluence with Lake Champlain), Missisquoi River (from the International Boundary in Richford, VT to the confluence with Lake Champlain), Ompompanoosuc River (to the headwaters), Otter Creek (from Rutland to the confluence with Lake Champlain), North Branch of Ball Mountain Brook (from Pikes Falls to the headwaters), Poulney River (to the headwaters), West River (from Jamaica to the confluence with the Connecticut River), White River (to the headwaters), Winoski River (from Montpelier to Lake Champlain).

Minor deviations. Changes to the structure's configuration or filled area, including those due to changes in materials, construction techniques, or current construction codes or safety standards, which are necessary to make repair, rehabilitation, or replacement are permitted, provided the adverse environmental effects resulting from such repair, rehabilitation, or replacement are minimal. Currently serviceable means useable as-is or with some maintenance, but not so degraded as to essentially require reconstruction.

Maintenance Dredging. Includes areas and depths previously authorized by the Corps and dredged. **New Dredging:** Includes dredging proposed in previously undredged areas and/or in areas exceeding previously authorized dimensions (deeper or wider than previously authorized) excluding normal overdrudge.

Boating Facilities: Facilities that provide, rent or sell mooring space, e.g., marinas, yacht clubs, boat yards, dockminiums.

Federal Navigation Projects (FNPs): FNPs are comprised of Federal channels and Federal anchorages. Contact the Corps for their location and information.

Horizontal Limits: The outer edge of an FNP. **Buffer zone:** Equal to three times the authorized depth of that channel.

Construction Mats: Construction, swamp and timber mats (herein referred to as "construction mats") are generic terms used to describe structures that distribute equipment weight to prevent wetland damage while facilitating passage and providing work platforms for workers and equipment. They are comprised of sheets or mats made from a variety of materials in various sizes. A timber mat consists of large timbers bolted or cabled together. Corduroy roads, which are not considered to be construction mats, are cut trees and/or saplings with the crowns and branches removed, and the trunks lined up next to one another. Corduroy roads are typically installed as permanent structures. Like construction mats, they are considered as fill whether they are installed temporarily or permanently.

Headwater and Ephemeral Streams: Forested upland and wetland clearing can lead to additional direct and indirect impacts to the headwater streams and ephemeral streams on individual sites. Headwater streams and wetlands provide a rich resource base that contributes to the productivity of both local food webs and those farther downstream. Land use changes in the vicinity of small streams and wetlands can impair the natural functions of headwater systems. These systems are vitally important to maintaining the quality and quantity of water and aquatic health of streams lower in the watershed.

¹⁸ **Maintenance:** a) In accordance with 33 CFR 323.4(a)(2), any discharge of dredged or fill material that may result from any of the following activities is not prohibited by or otherwise subject to regulation under Section 404 of the CWA: "Maintenance, including emergency reconstruction of recently damaged parts, of currently serviceable structures such as dikes, dams, levees, groins, riprap, breakwaters, causeways, bridge abutments or approaches, and transportation structures. Maintenance does not include any modification that changes the character, scope, or size of the original fill design." Otherwise, the following work is regulated and subject to the Category 1 or 2 thresholds in Appendix A above: The repair, rehabilitation, or replacement of any previously authorized, currently serviceable structure or fill, or of any currently serviceable structure or fill authorized by 33 CFR 330.3 - "Activities occurring before certain dates," provided that the structure or fill is not to be put to uses differing from those uses specified or contemplated for it in the original permit or the most recently authorized modification. b) Minor deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, or current construction codes or safety standards that are necessary to make repair, rehabilitation, or replacement are authorized. c) Currently serviceable means useable as is or with some maintenance, but not so degraded as to essentially require reconstruction. d) No seaward expansion for bulkheads or any other fill activity is considered Category 1 maintenance. e) Only structures or fills that were previously authorized and are in compliance with the terms and condition of the original authorization can be maintained as a non-regulated activity under 33 CFR 323.4(a)(2), or in accordance with the Category 1 or 2 thresholds in Appendix A. f) The state's maintenance provisions may differ from the Corps and may require reporting and written authorization from the state. g) Contact the Corps to determine whether stream crossing replacements require a written application to the Corps for at least a Category 2 review.

¹⁹ **Wild and Scenic River Designated Study Rivers:** The Missisquoi River, from its' headwaters in Lowell to the Canadian border in Troy (25 miles) and from the Canadian border in East Richford to Enosburg Falls (25 miles) and the Trout River have been officially designated by Congress as a study river.

²⁰ **Best Management Practices for Utility Construction Mats:**

Installation	
• Mats should be in good condition to ensure proper installation, use and removal. • Where feasible, mats should be carried and not dragged unless they are being used as a grading implement. • Where feasible, place mats in a location that would minimize the amount needed for the wetlands crossing. • Minimize impacts to wetland areas during installation, use, and removal. • Install adequate erosion & sediment controls at approaches to mats to promote a smooth transition to, and minimize sediment tracking onto, swamp mats. • In most cases, construction mats should be placed along the travel area so that the individual boards are resting perpendicular to the direction of traffic. No gaps should exist between mats. Place mats far enough on either side of the resource area to rest on firm ground. • Provide standard construction mat BMP details to work crews.	

Wetland/Stream Channel Crossing	
• At "dry" crossings where no flow is present or anticipated during project construction, the mats may be placed directly onto the ground in order to prevent excessive rutting, provided stream banks & bottoms are not adversely altered. • Construction mats may be used as a temporary bridge over a stream to allow vehicles access to the work site. Small sections of mat are placed within and along the stream parallel to the flow of water. Mats may then be placed perpendicular to the stream, resting on top of the initial construction mat supports. It may be necessary to place additional reinforcement for extra stability & to minimize the amount of sediment that could fall between the spaces of each timber. • Mats should not be placed so that they restrict the natural flow of the stream. • Minimize number of stream/wetland crossings. Where feasible, locate crossing site where stream channel is narrow for the shortest possible clear span & where stream banks are stable & well defined. For large wetland complexes, consider accessing structures from opposite sides where possible to avoid crossing the entire wetland. • More than one layer of mats may be necessary in areas which are inundated or have deep organic wetland soils.	

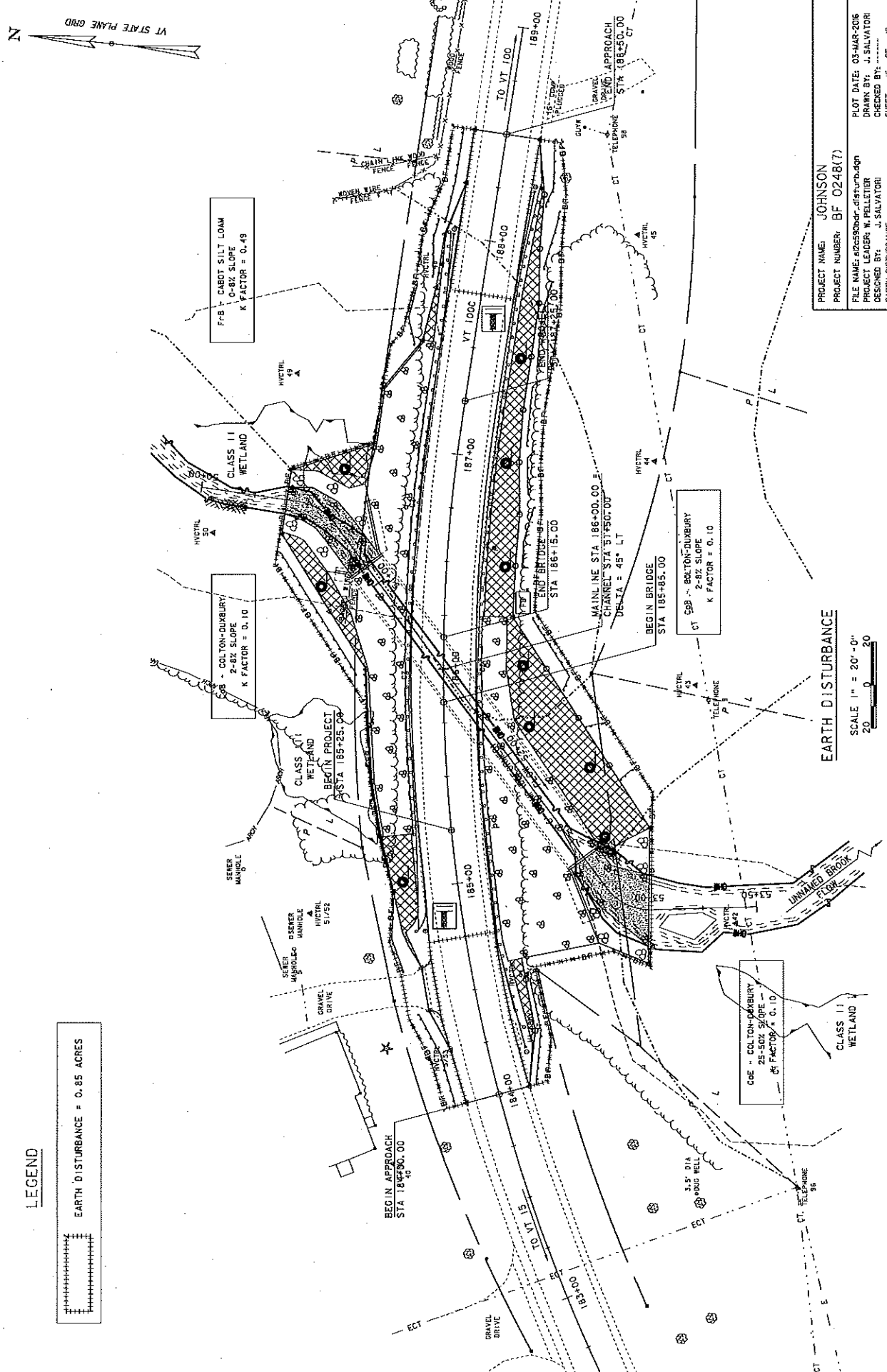
Maintenance	
• Matted wetland crossings should be monitored to assure correct functioning of the mats. Inspect mats after use. Look for any defects or structural problems. Mats which become covered with soils or construction debris should be cleaned and the materials removed & disposed of in an upland location. The material should not be scraped & shoveled into the resource area. Mats which become imbedded must be reset or layered to prevent mud from covering them or water passing over them.	

Removal

- Matting should be removed by "backing" out of the site, removing mats one at a time. Any rutting or significant indentations identified during mat removal should be regraded immediately, taking care not to compact soils.
- Mats should be cleaned before transport to another wetland location to remove soil & any invasive plant species, seed stock or plant material.
- Cleaning methods may include but are not limited to shaking or dropping mats in a controlled manner with a piece of machinery to knock off attached soil & debris, spraying with water or air, & sweeping.
- Crossings should be inspected following mat removal to determine the level of restoration required.

Restoration

- Special precautions should be taken to promptly stabilize areas of disturbed soil located near wetlands & streams. Matted areas within wetlands will be allowed to naturally revegetate from existing root & seed stock of native plant species. If conditions warrant, wetland seed mix may be broadcasted over the matted area to supplement the existing seed & rootstock. The use of mulch in wetlands shall consist of weed-free mulch to mitigate the risk of the spread of invasive plant species.



LEGEND

EARTH DISTURANCE = 0.85 ACRES

EARTH DISTURANCE

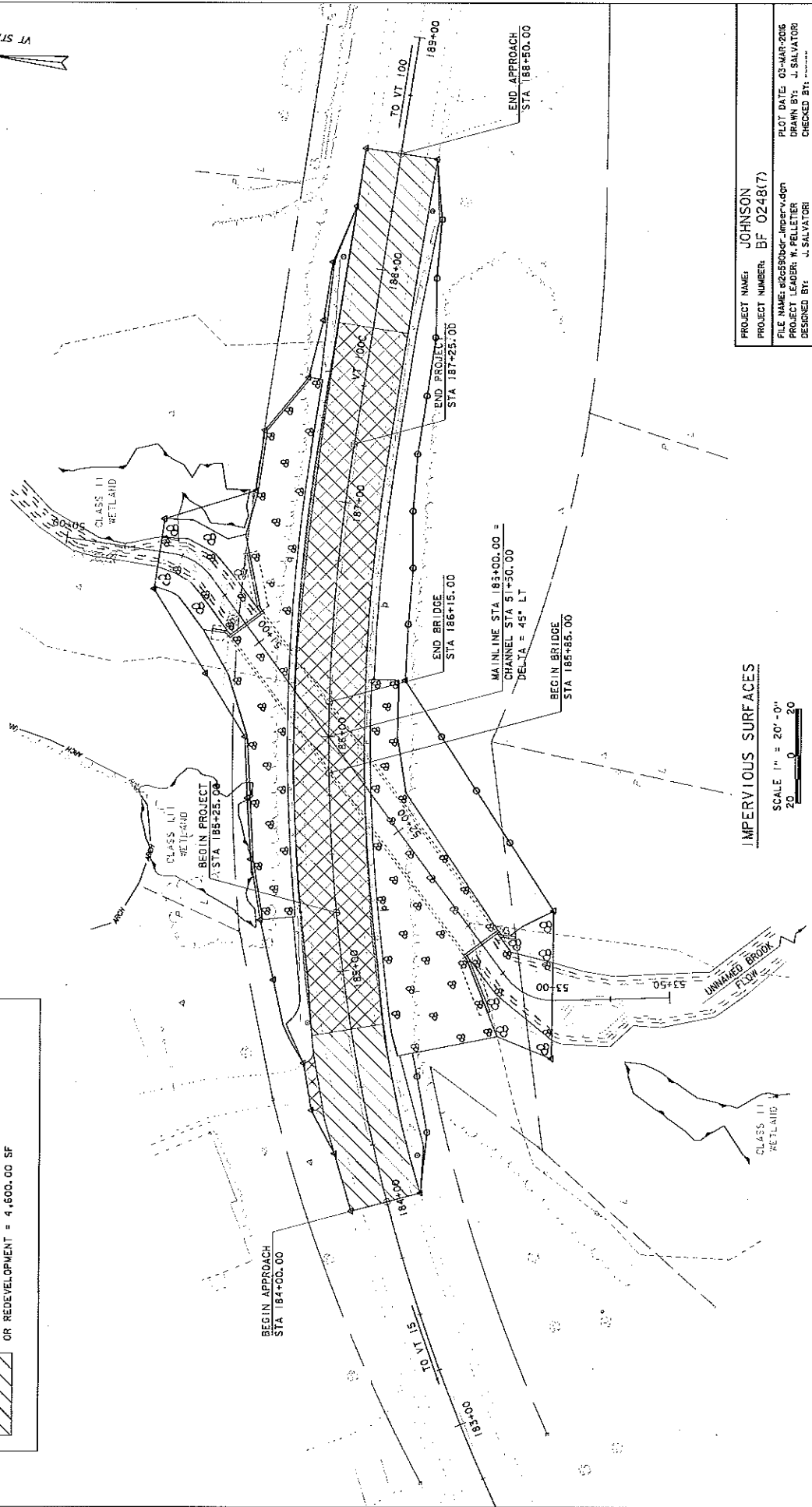
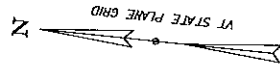
SCALE 1" = 20'-0"

PROJECT NAME: JOHNSON
PROJECT NUMBER: BF 0248(7)

FILE NAME: e2c5b0bf-disturb.dgn
DRAWN BY: J. SALVATOR
DESIGNED BY: J. SALVATOR
CHECKED BY: J. SALVATOR
EARTH DISTURANCE
SHEET 15 OF 19

LEGEND

	IMPERVIOUS SURFACE EXPANSION = 300.00 SF
	IMPERVIOUS SURFACE REDEVELOPMENT = 9,000.00 SF
	IMPERVIOUS SURFACE THAT IS NOT EXPANSION OR REDEVELOPMENT = 4,600.00 SF



IMPERVIOUS SURFACES

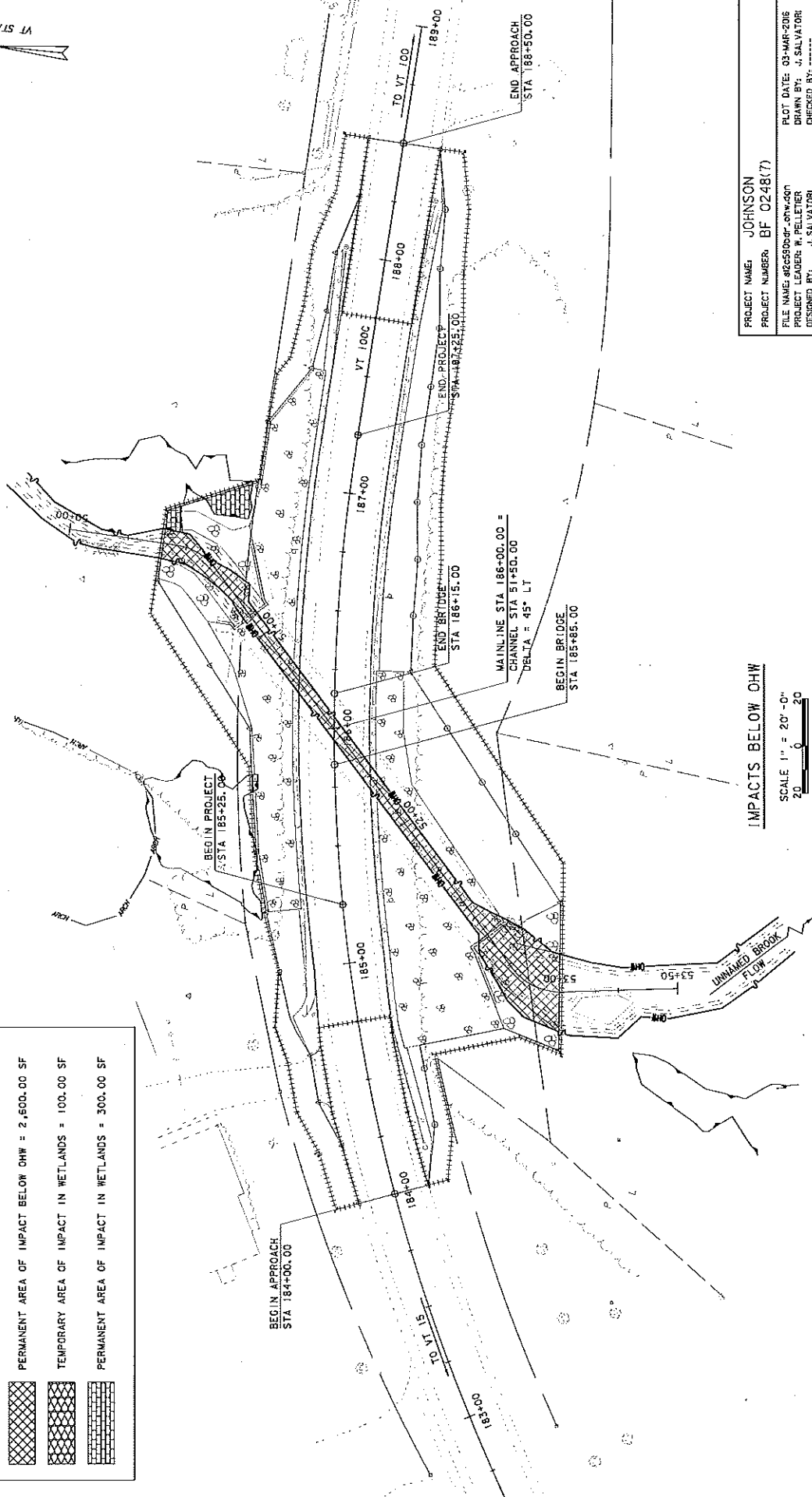
SCALE 1" = 20' - 0"
20 0 20

PROJECT NAME: JOHNSON
PROJECT NUMBER: BF 0248(7)

FILE NAME: 42-SSD04C-Imperv.dgn
PLOT DATE: 03-MAR-2005
PROJECT LEADER: W. PELLETIER
DESIGNED BY: J. SALVATORI
CHECKED BY: J. SALVATORI
IMPERVIOUS SURFACES
SHEET 17 OF 19

LEGEND

- ORDINARY HIGH WATER (OHW)
- +++++ TOTAL AREA OF IMPACT
-  TEMPORARY AREA OF IMPACT BELOW OHW = 0.00 SF
-  PERMANENT AREA OF IMPACT BELOW OHW = 2,600.00 SF
-  TEMPORARY AREA OF IMPACT IN WETLANDS = 100.00 SF
-  PERMANENT AREA OF IMPACT IN WETLANDS = 300.00 SF



IMPACTS BELOW OHW

SCALE 1" = 20'-0"
20 0 20

PROJECT NAME: JOHNSON
PROJECT NUMBER: BF 0248(7)

FILE NAME: 8255000-07w.dgn
PLOT DATE: 03-MAR-2016
PROJECT LEADER: M. PELLETIER
DESIGNED BY: J. SALVATORE
CHECKED BY: J. SALVATORE
IMPACTS BELOW OHW
SHEET 18 OF 19

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

PAGE 1

LETTING DATE : 10/13/17 11:00 A.M.

CONTRACT ID : 13C066
PROJECT(S) : JOHNSON BF 0248 (7)
JOHNSON BF 0248(4)

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	3,355.000	CY
203.27	0015	UNCLASSIFIED CHANNEL EXCAVATION	470.000	CY
203.31	0020	SAND BORROW	660.000	CY
203.32	0025	GRANULAR BORROW	810.000	CY
204.20	0030	TRENCH EXCAVATION OF EARTH	50.000	CY
204.22	0035	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	2.000	CY
204.25	0040	STRUCTURE EXCAVATION	2,910.000	CY
204.30	0045	GRANULAR BACKFILL FOR STRUCTURES	1,180.000	CY
210.10	0050	COLD PLANING, BITUMINOUS PAVEMENT	510.000	CY
301.35	0055	SUBBASE OF DENSE GRADED CRUSHED STONE	1,570.000	CY
402.12	0060	AGGREGATE SHOULDERS	205.000	TON
406.50	0065	EMULSIFIED ASPHALT (RS-1H OR CRS-1H)	30.000	CWT
507.11	0070	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	2.000	LB
507.11	0075	REINFORCING STEEL, LEVEL I (BLACK) (FPQ)	2,180.000	LB
507.11	0080	REINFORCING STEEL, LEVEL I (EPOXY COATED) (FPQ)	10,025.000	LB
507.16	0085	DRILLING AND GROUTING DOWELS	533.000	LF
514.10	0090	WATER REPELLENT, SILANE	39.000	GAL
516.10	0095	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	112.000	LF
520.10	0100	MEMBRANE WATERPROOFING, SPRAY APPLIED	135.000	SY
524.13	0105	JOINT SEALER, COLD Poured	112.000	LF
524.21	0110	JOINT SEALER, POLYURETHANE	30.000	LF
525.44	0115	BRIDGE RAILING, GALVANIZED HDSE/FASCIA MOUNTED/STEEL TUBING	36.000	LF
525.45	0120	BRIDGE RAILING, GALVANIZED STEEL TUBING/CONCRETE COMBINATION	208.000	LF
529.15	0125	REMOVAL OF STRUCTURE (6'-0" X 16'-0" C&G)	1.000	EACH
529.20	0130	PARTIAL REMOVAL OF STRUCTURE	1.000	EACH
529.20	0135	PARTIAL REMOVAL OF STRUCTURE (1290 S.F.)	1.000	EACH
529.25	0140	REMOVAL OF CONCRETE OR MASONRY	10.000	CY
531.16	0145	BEARING DEVICE ASSEMBLY, PLAIN ELASTOMERIC PAD	32.000	EACH
531.18	0150	BEARING DEVICE ASSEMBLY, ELASTOMERIC PAD W/ EXT. LOAD PLATES	12.000	EACH
540.10	0155	PRECAST CONCRETE STRUCTURE (16'-0" X 5'-9" X 170'-0" RIGID FRAME OR ARCH TYPE)	1.000	LUMP
540.10	0160	PRECAST CONCRETE STRUCTURE (ABUTMENT #1)	1.000	LUMP
540.10	0165	PRECAST CONCRETE STRUCTURE (ABUTMENT #2)	1.000	LUMP
541.30	0170	CONCRETE, CLASS C	270.000	CY
601.2615	0175	18" CPEP(SL)	74.000	LF
605.20	0180	6 INCH UNDERDRAIN CARRIER PIPE	10.000	LF
609.10	0185	DUST CONTROL WITH WATER	1.000	MGAL
613.10	0190	STONE FILL, TYPE I	10.000	CY
613.11	0195	STONE FILL, TYPE II	830.000	CY
613.13	0200	STONE FILL, TYPE IV	490.000	CY
619.17	0205	YIELDING MARKER POSTS	1.000	EACH
621.20	0210	STEEL BEAM GUARDRAIL, GALVANIZED	977.000	LF

VERMONT AGENCY OF TRANSPORTATION
SCHEDULE OF ITEMS

PAGE 2

LETTING DATE : 10/13/17 11:00 A.M.

CONTRACT ID : 13C066
PROJECT(S) : JOHNSON BF 0248 (7)
JOHNSON BF 0248(4)

SECTION NO. 0001

ITEM NO.	LINE NO.	DESCRIPTION	QUANTITY	UNITS
621.51	0215	MANUFACTURED TERMINAL SECTION, TANGENT	4.000	EACH
621.60	0220	ANCHOR FOR STEEL BEAM RAIL	8.000	EACH
621.737	0225	GUARDRAIL APPROACH SECTION, GALV HD STEEL BEAM	1.000	EACH
621.748	0230	GUARDRAIL APPROACH SECTION, CONC COMB BRIDGE RAILING TL-3	7.000	EACH
621.80	0235	REMOVAL AND DISPOSAL OF GUARDRAIL	1,050.000	LF
630.10	0240	UNIFORMED TRAFFIC OFFICERS	200.000	HR
630.15	0245	FLAGGERS	400.000	HR
631.10	0250	FIELD OFFICE, ENGINEERS	1.000	LUMP
631.16	0255	TESTING EQUIPMENT, CONCRETE	1.000	LUMP
631.17	0260	TESTING EQUIPMENT, BITUMINOUS	1.000	LUMP
631.26	0265	FIELD OFFICE TELEPHONE (N.A.B.I.)	3,000.000	DL
635.11	0270	MOBILIZATION/DEMILITARIZATION	1.000	LUMP
641.15	0275	PORTABLE CHANGEABLE MESSAGE SIGN	3.000	EACH
646.4011	0280	DURABLE 4 INCH WHITE LINE, TYPE A TAPE	2,050.000	LF
646.4111	0285	DURABLE 4 INCH YELLOW LINE, TYPE A TAPE	1,970.000	LF
649.31	0290	GEOTEXTILE UNDER STONE FILL	340.000	SY
649.515	0295	GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED	420.000	SY
651.15	0300	SEED	20.000	LB
651.18	0305	FERTILIZER	180.000	LB
651.20	0310	AGRICULTURAL LIMESTONE	2.000	TON
651.25	0315	HAY MULCH	2.000	TON
651.35	0320	TOPSOIL	85.000	CY
651.40	0325	GRUBBING MATERIAL	1,160.000	SY
652.10	0330	EPSC PLAN (BF 0248(4))	1.000	LUMP
652.10	0335	EPSC PLAN (BF 0248(7))	1.000	LUMP
652.20	0340	MONITORING EPSC PLAN (BF 0248(4))	100.000	HR
652.20	0345	MONITORING EPSC PLAN (BF 0248(7))	40.000	HR
652.30	0350	MAINTENANCE OF EPSC PLAN (N.A.B.I.) (BF 0248(4))	1.000	LU
652.30	0355	MAINTENANCE OF EPSC PLAN (N.A.B.I.) (BF 0248(7))	1.000	LU
653.35	0360	VEHICLE TRACKING PAD	100.000	CY
653.40	0365	INLET PROTECTION DEVICE, TYPE I	1.000	EACH
653.45	0370	FILTER BAG	1.000	EACH
653.50	0375	BARRIER FENCE	1,640.000	LF
656.85	0380	TREE PROTECTION	1.000	LUMP
675.20	0385	TRAFFIC SIGNS, TYPE A	41.260	SE
675.341	0390	SQUARE TUBE SIGN POST AND ANCHOR	184.000	LF
675.50	0395	REMOVING SIGNS	26.000	EACH
676.10	0400	DELINEATOR WITH STEEL POST	12.000	EACH
676.12	0405	REMOVAL OF EXISTING DELINEATOR	8.000	EACH
690.50	0410	PRICE ADJUSTMENT, FUEL (N.A.B.I.)	2.000	LU
900.608	0415	SPECIAL PROVISION (E-STONE) (TYPE IV)	650.000	LU
900.608	0420	SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET) (FPQ)	80.000	CY
900.615	0425	SPECIAL PROVISION (INCENTIVE/DISINCENTIVE) (N.A.B.I.) (BF 0248(4))	96,000.000	DL
900.615	0430	SPECIAL PROVISION (INCENTIVE/DISINCENTIVE) (N.A.B.I.) (BF 0248(7))	46,500.000	DL
900.620	0435	SPECIAL PROVISION (CPM SCHEDULE)	6.000	EACH

VERMONT AGENCY OF TRANSPORTATION
SCHEDULE OF ITEMS

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LETTING DATE : 10/13/17 11:00 A.M.

CONTRACT ID : 13C066
PROJECT(S) : JOHNSON BF 0248 (7)
JOHNSON BF 0248(4)

ITEM NO.	LINE NO.	DESCRIPTION	QUANTITY	UNITS
SECTION NO. 0001				
900.640	0440	SPECIAL PROVISION (PREFABRICATED BRIDGE UNIT SUPERSTRUCTURE) (FPQ)	159.000	LF
900.640	0445	SPECIAL PROVISION (PRESTRESSED CONCRETE SOLID SLABS) (15"X36") (FPQ)	77.000	LF
900.640	0450	SPECIAL PROVISION (PRESTRESSED CONCRETE SOLID SLABS) (15"X48") (FPQ)	231.000	LF
900.645	0455	SPECIAL PROVISION (TEMPORARY RELOCATION OF STREAM)	1.000	LUMP
900.645	0460	SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE) (BF 0248(4))	1.000	LUMP
900.645	0465	SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE) (BF 0248(7))	1.000	LUMP
900.650	0470	SPECIAL PROVISION (MAT DENSITY PAY ADJUSTMENT, SMALL QUANTITY) (N.A.B.I.)	2.000	LU
900.650	0475	SPECIAL PROVISION (MAT DENSITY PAY ADJUSTMENT, TYPE IVB) (N.A.B.I.)	1.000	LU
900.650	0480	SPECIAL PROVISION (MIXTURE PAY ADJUSTMENT) (N.A.B.I.)	2.000	LU
900.670	0485	SPECIAL PROVISION (CONCRETE BRIDGE DECK SURFACE PREPARATION)	1,585.000	SF
900.670	0490	SPECIAL PROVISION (RETAINING WALL) (FPQ)	200.000	SF
900.675	0495	SPECIAL PROVISION (UNIT BLOCK RETAINING WALL)	80.000	SY
900.680	0500	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)	804.000	TON
900.680	0505	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, TYPE IVB)	302.000	TON
540.10 AA1	0510	PRECAST CONCRETE STRUCTURE (APPROACH SLAB #1)	1.000	LUMP
900.645 AA2	0515	SPECIAL PROVISION (CONTRACTOR FABRICATED PRECAST CONCRETE STRUCTURES) (APPROACH SLAB #1)	1.000	LUMP
540.10 BB1	0520	PRECAST CONCRETE STRUCTURE (APPROACH SLAB #2)	1.000	LUMP
900.645 BB2	0525	SPECIAL PROVISION (CONTRACTOR FABRICATED PRECAST CONCRETE STRUCTURES) (APPROACH SLAB #2)	1.000	LUMP
540.10 CC1	0530	PRECAST CONCRETE STRUCTURE (APPROACH SLAB #3)	1.000	LUMP
900.645 CC2	0535	SPECIAL PROVISION (CONTRACTOR FABRICATED PRECAST CONCRETE STRUCTURES) (APPROACH SLAB #3)	1.000	LUMP
540.10 DD1	0540	PRECAST CONCRETE STRUCTURE (APPROACH SLAB #4)	1.000	LUMP
900.645 DD2	0545	SPECIAL PROVISION (CONTRACTOR FABRICATED PRECAST CONCRETE STRUCTURES) (APPROACH SLAB #4)	1.000	LUMP
540.10 EE1	0550	PRECAST CONCRETE STRUCTURE (HEADWALL)	1.000	LUMP
900.645 EE2	0555	SPECIAL PROVISION (CONTRACTOR FABRICATED PRECAST CONCRETE STRUCTURE) (HEADWALL)	1.000	LUMP

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.

Company	By	Title

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____

(Name of Individual, Partnership or Corporation) L.S.

(Signature of Official Authorized to Sign Contracts) L.S.

(Notary Public)

(Name of Individual Signing Affidavit) L.S.

(My commission expires _____)

(Title of Individual Signing Affidavit) L.S.

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:
