NOTE: PLEASE IGNORE ALL FORMATTING, LINE SPACING,NUMBERING ISSUES DURING REVIEW. CHANGES ARE LIKELY THAT .

Special Provisions for: Dover BF 013-1(20)

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.vtlmi.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 August 14, 2020.

3. INTERIM COMPLETION DATE.

   The contractor shall have constructed the proposed bridge, approach slabs, placed all courses of pavement on the approaches, installed all bridge rail, approach rail, all line stripping and the temporary bridge removed on VT Route 100 from MM 2.095 to MM 2.133 in Dover shall be completed on or before October 18, 2019.

   Liquidated damages in the amount of 97% *(A calculation is required for documentation purposes. This number is the percentage of the work required of the total estimated project cost)* of the applicable Contract Daily Charge Per Day of Delay in accordance with Subsection 108.12(c) will be assessed for each working day following October 18, 2019 that the specified work is not completed. These liquidated damages are separate from, and will be imposed in addition to, liquidated damages which may be imposed for failure to complete the Contract on time.

   Subsection 108.11, DETERMINATION OF EXTENSION OF CONTRACT TIME FOR COMPLETION shall not apply to the requirements listed above on or before October 18, 2019 unless authorized by the Vermont Agency of Transportation.

4. 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.

5. NOTICE TO BIDDERS. The Contractor is hereby notified that in the absence of the Engineer, the Agency's Safety Officer and the Agency's Hazardous Materials and Waste Coordinator shall each have the authority to suspend work when they determine that a serious safety or environmental violation exists on the job site. The period of time work is suspended due to a serious safety or environmental violation will not be justification for an extension of time.

6. 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

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

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

Required Contract Provisions for Federal-Aid Construction
Standard Federal EEO Specifications
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(as applicable)
[Supplemental Specifications](as applicable)
[Project Permits](as applicable)
[Other Documents (Category II Work Plans, PIFs,etc.](as applicable)
Certification for Federal-Aid Contracts(as applicable if project is 100% state funds then these are not included)
Contractor's EEO Certification Form
Debarment & Non-Collusion Affidavit

10. 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.

11. 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.

12. NOTICE TO BIDDERS – STAGING SITES. The Contractor is hereby notified that the Vermont Natural Resources Board shall require VTrans contractors planning to use staging sites governed by preexisting Act 250 permits to notify District Coordinators prior to using these sites. Complying with preexisting Act 250 permits at these sites is the sole responsibility of the landowner and the Contractor, not the State.

13. NOTICE TO BIDDERS. The Contractor is hereby notified in addition to the Act 250 permit there is a Memorandum of Understanding (MOU) to establish and coordinate procedures for regulating certain transportation-related projects, dated April 7, 2009. As described in the MOU, if the Contractor elects to open any new waste or borrow sites they shall be responsible for coordinating with the DEC District Coordinator prior to the commencement of construction.

14. 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.

15. 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

16. 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 3 lb/ft flanged channel posts or 2 inch square steel inserted in 2 ¼" galvanized square steel anchors. No sign posts shall extend over the top edge of sign 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 10 mph below existing posted speeds. Temporary speed limit certificates must be approved by the Chief Engineer.

17. 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.

18. ENVIRONMENTAL. 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 ≥ 3" and/or habitat features on bridge structures.

Suitable habitat features have been identified inside of the project limits, and therefore the project is subject to TOY restrictions. The Contractor shall not cut trees ≥3" in diameter and/or conduct any bridge related activities from April 15 through August 31. Should the Contractor propose to cut trees ≥3" in diameter and/or conduct any bridge related activities within the restricted timeframe they must first hire a qualified biologist to conduct a suitable habitat assessment and acoustic monitoring as necessary. A report shall be submitted to the VTrans Biologist for review. No impacts to suitable habitat in the restricted timeframe shall occur until permission is granted by the VTrans Environmental Section. In accordance with this requirement, and with reference to Subsection 108.09(d), work impacting suitable habitat features will be allowed during the seasonal closure period.

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

19. UTILITIES-DRAFT. Existing aerial facilities owned by Green Mountain Power Corporation, FairPoint Communications, First Light Communications and Duncan Telecommunications will be adjusted, as necessary, by employees or agents of the above company in approximate accordance with the "Utility Relocation Layout" shown on the project plans.

Existing underground facilities owned by FairPoint Communications will be adjusted, as necessary, by employees or agents of the above company in approximate accordance with the “Utility Relocation Layout” shown on the project plans.

Existing underground facilities, which extend to the south along VT Route 100 from the utility pole at plan station 11+31 LT, which are owned by FairPoint Communications will not require adjustment. The Contractor is cautioned to protect these facilities from damage.

Existing underground sewer facilities owned by North Branch Fire District #1 will not require adjustment. The Contractor is cautioned to protect these facilities from damage.

Contacts for the above listed utility companies are:

Nikki Howe	Green Mountain Power	(802) 464-1651
Cell (802) 451-6860		
Bob Rondeau	FairPoint Communications	(802) 747-1077
Cell (802) 881-4324		
William Gray	First Light Communications	(802) 922-9506
Cell (802) 373-4319		
Mark Tessier	First Light Communications	(802) 770-4617
Cliff Duncan	Duncan Telecommunications	(802) 464-2233
Linda Holland	North Branch Fire District #1	(802) 464-7560 EXT 110

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.

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.

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 Stand-ard 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.

20. NOTICE TO BIDDERS. The Contractor is hereby notified that Automated Flagger Assistance Devices (AFADs) may be used as a safety enhancement to flaggers on an hour for hour basis. AFADs shall meet the following requirements:

(a) All AFAD applications shall meet the requirements of the applicable sections of the current edition of the Manual on Uniform Traffic Control Devices (MUTCD).

(b) All AFAD applications shall be in accordance with NCHRP Report 350 or the MASH for the applicable test level and device weight. Documentation of the crashworthiness of the device shall be submitted to the Engineer for approval prior to use on the project.

(c) AFAD applications shall be controlled by a flagger meeting the requirements of Section 630.

(d) Should an AFAD malfunction or otherwise not function as intended they shall be replaced by another AFAD or flagger(s) or work shall cease and the roadway shall be opened to unrestricted traffic flow immediately.

(e) Measurement will be per hour each individual AFAD is in service, transportation of the AFAD will not be measured for payment.

(f) Flaggers will only be measured for payment when actually performing flagging duties. Flaggers controlling AFADs but not actually flagging will not be measured for payment.

(g) The use of AFADs may be suspended at the discretion of the Engineer.

21. HIGHWAY PARKING RESTRICTIONS. Only such trucks and equipment as are necessary for the construction of this project will be permitted to stop or park on the shoulders or right-of-way of the highway or intersecting highways. All trucks or equipment so stopped or parked shall be at least 4 feet from the edge of the thru traffic lanes. Parking or stopping on the traveled portion of the roadway or ramps, or at locked gate access locations, 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 highways or intersecting highways. This restriction shall include all park and ride lots and rest areas within the project limits.

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. Equipment, materials, or vehicles must be parked or placed a minimum of 30 feet from the edge of pavement in all directions or a minimum of 10 feet behind guardrail when not being utilized.

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.

22. SPECIAL CONSTRUCTION REQUIREMENTS.

(a) Unless otherwise permitted in writing by the Engineer, 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 ramps and U-turns at all times during the construction of this project.

(c) During construction it will be necessary for the Contractor to maintain one-lane traffic for extended periods of time. In no case shall the paved width for this one-lane traffic, including shoulders, be reduced to less than 11 feet. This paved width shall remain free of obstructions and obstacles at all times.

(d) All paving operations shall be conducted such that, to the extent possible, all travel lanes are covered full width in a single paver pass. Longitudinal construction joints within any travel lane will not be permitted. Screed extension to cover adjacent shoulders concurrent with any travel lane will be permitted considering the requirement for auger extensions.

(e) The Contractor shall position Portable Changeable Message Signs at locations determined by the Engineer properly warning motorists of the roadway conditions ahead. As directed by the Engineer, these locations may change during construction as needs arise based on daily work activities. The message to be displayed shall be submitted to the Engineer in advance for approval. The displayed message should accurately reflect what motorists can expect to

encounter through the project area. The cost of providing the Portable Changeable Message Signs shall be paid for under Contract item 641.15. The Contractor shall also install and maintain appropriate construction signing warning the traveling public of the expected roadway surface conditions.

(f) Unless otherwise directed by the Engineer, the Contractor shall begin and end the wearing course of pavement for the project with a full depth butt joint constructed as directed by the Engineer. The costs of cutting the butt joint will not be paid for directly, but will be considered incidental to the Contract wearing course item.

(g) Grass growing adjacent to pavement or through cracks in the pavement which may hamper the placement of new bituminous concrete shall be removed by the Contractor as directed by the Engineer. Payment for this work will not be made directly, but will be considered incidental to the Contract wearing course item.

(h) Where possible, a 2 inch space should be maintained between all final pavement markings and parallel joints in bituminous concrete pavement. The Contractor shall conduct paving operations such that the paving joint between the travel lane and adjacent shoulder will be outside of the 4 inch white line.

(i) Prior to final acceptance of the project, all drop inlets and bridge joints within the project limits shall be cleaned and all material within the drop inlets and bridge joints shall be removed. All paved areas adjacent to curbs shall be swept and cleaned of all extraneous material. Costs for this work will not be paid for directly, but will be considered incidental to all Contract items.

(j) 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 900.620 “Special Provision (Traffic Control, All-Inclusive)”.

(k) 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.

(l) For this project, the Contractor shall have on hand on the project at all times all necessary materials, equipment, and labor to place any and all necessary interim pavement markings, including temporary line striping targets, required by the Plans or as directed by the Engineer. The markings shall be paid for under the appropriate Contract items.

The costs of maintaining marking capability at all times will not be paid for directly, but will be considered incidental to the pavement marking items in the Contract.

SECTION 490 – SUPERPAVE BITUMINOUS CONCRETE PAVEMENT

23. NOTICE TO BIDDERS. The Contractor is hereby notified that Subsection 490.04, WEATHER AND SEASONAL LIMITATIONS has been deleted in its entirety and replaced with the following:

Bituminous material shall not be placed when the ambient air temperature and existing surface temperature at the paving site in the shade and away from artificial heat is below 40°F for courses 1 ¼ inches or greater in compacted thickness or below 50°F for courses less than 1 ¼ inches in compacted thickness. The minimum delivery, placement and compaction temperatures must be reviewed to accommodate the reduced temperature of Warm Mix Asphalt (WMA). The minimum ambient air and existing surface temperature limitations may be lowered to 35°F for WMA.

Bituminous material shall not be placed on a wet or frozen surface or when weather or other conditions would prevent the proper handling, finishing, or compacting of the material, unless otherwise approved by the Engineer. Paving, including placement of temporary pavements, shall be divided into two seasons, "In-Season" and "Extended-Season". In-Season paving occurs from May 1 – November 1, and Extended Season paving occurs from November 2 - April 30. In-Season wearing course material placement is defined as between the dates of May 15 and October 15. All other wearing course placement dates shall be defined as out of season. The following requirements shall apply unless otherwise authorized or directed by the Engineer.

Should paving operations be scheduled during the Extended Season, the Contractor must submit an Extended Season Paving Plan for the project that addresses minimum delivered mix temperature considering WMA, PMA or other additives, maximum paver speed, enhanced rolling patterns and the method to balance mixture delivery and placement operations. Paving during Extended Season shall not commence until the Engineer has approved the plan.

When it is in the public interest, the Construction Engineer may adjust the ambient air temperature requirements, pavement temperature requirements, or extend the dates of the paving season.

ASPHALT PRICE ADJUSTMENT

24. 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.

25. 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 $xxx.00 per ton. (Found on Contract Admin website – updated monthly: http://vtrans.vermont.gov/contract-admin/construction)

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 and emulsified asphalt produced under Contract items 900.680 "Special Provision (Bituminous Concrete Pavement, Small Quantity)" will be included for adjustment.

If an emulsified asphaltic liquid is used in the Contract work under any Contract item subject to the Asphalt Price Adjustment provisions and that

liquid is not included in the table under subpart (5) of PRICE ADJUSTMENT PROCEDURES of the Supplemental Specification, the ACEA as defined in subpart (5) for that liquid will be that as determined by averaging Contractor certified test results for the project.

SECTION 501 – HPC STRUCTURAL CONCRETE

26. 501.02 MATERIALS, is hereby modified by adding the following:

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

A new concrete mix design shall be submitted indicating the product, dosage and appropriate mix volume adjustments. A shrinkage reducing admixture shall be added during the initial concrete mixing phase or as recommended by the chemical manufacturer product representative. The shrinkage compensating admixture shall be one of the products listed below or a product considered to be equivalent by the Research section. The final dosage rate will be determined by the product representative and the concrete producer. The volume of water contributed to the hydration of the cementitious material will be computed into the final water/cementitious ratio.

Manufacturer: Sika Construction Product Division
Product name: – Sika Control 40
Tel.: 1-800-933-7452
Website:
http://usa.sika.com/dms/getredirect.get/us01.webdms.sika.com/39

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

Manufacturer: BASF (Master Builders)
Product name: MasterLife SRA 20
Tel.: 1-800-628-9900
Website: http://assets.master-builders-solutions.basf.com/Shared%20Documents/EB%20Construction%20Chemcials%20-%20US/Admixture%20Systems/Data%20Sheets/MasterLife/BASF-masterlife-sra-20-tds.pdf

Manufacturer: Grace Construction Products
Product name: Eclipse 4500
Tel.: 1-877-423-6491
Website:
www.buildsite.com/pdf/wrgrace/Eclipse-4500-Product-Data-578947.pdf

SECTION 652 – EROSION PREVENTION & SEDIMENT CONTROL PLAN

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

28. 652.01 DESCRIPTION. This work shall consist of designing, furnishing, and submitting for acceptance modifications to the Contract Erosion Prevention & Sediment Control Plan (hereinto known as the EPSC Plan), becoming a co-permittee with the Agency of Transportation, State of

Vermont on associated permits, monitoring the EPSC Plan using an On-Site Plan Coordinator, and maintaining the erosion prevention and sediment control measures to ensure the effectiveness of the EPSC Plan.

29. 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.

30. 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.”

31. 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 ITEM 900.620 “Special Provision (CPM Schedule)”.

32. 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.

33. 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.

34. 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.

35. 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.

36. 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:

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

SECTION 675 – TRAFFIC SIGNS

37. 675.02 MATERIALS, is hereby modified by deleting the fifth paragraph in its entirety and replacing it with the following:

All new signs installed shall include a decal on the back of the sign with the following information (in 1 inch numbers and text) and as shown in the examples:

Ownership	Swanton (Town or VTrans)
Date Fabricated	06/16 (MM/YY)
Route	US 5 (US XX, VT XX, TH XX)

SECTION 690 – FUEL PRICE ADJUSTMENT

38. SECTION 690 – FUEL PRICE ADJUSTMENT, is hereby made a new Section of the Specifications as follows:

39. 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.

40. 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 1st 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 $x.xx per gallon. The index price (retail) for diesel fuel is $x.xx per gallon.

(b) For the duration of the Contract, Posted Prices for both a gallon of diesel fuel and a gallon of gasoline will be established monthly by the Agency. The Posted Prices will be established in the same manner as the Index Prices.

(c) A Price Adjustment will be paid or credited for diesel fuel and/or gasoline only when the Posted Price of diesel fuel and/or gasoline increases or decreases 5 percent or more over its respective Index Price.

(d) Payment for Price Adjustment, Fuel will be based upon the quantity of fuel incorporated in the work as determined by the fuel usage factors in Table 1 of this specification for both diesel fuel and gasoline, multiplied by the algebraic difference between the Posted Price and the Index Price for either diesel fuel or gasoline, respectively.

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

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

For PPD/IPD <= 0.95 or >= 1.05 and PPG/IPG > 0.95 and < 1.05:
PA = FUFD X Pay Item Quantity X (PPD – IPD)

For PPD/IPD > 0.95 and < 1.05 and PPG/IPG <= 0.95 or >= 1.05:
PA = FUFG X Pay Item Quantity X (PPG – IPG)

For PPD/IPD and PPG/IPG <= 0.95 or >= 1.05:
PA = [FUFD X (PPD – IPD) + FUFG X (PPG – IPG)] X Pay Item Quantity

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

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

Payment will be made under:

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

Table 1
Pay Item Fuel Usage Factors and Quantity Thresholds

Work Category	Pay Item No.	Usage Factor Units	Diesel Fuel (FUFD)	Gasoline (FUFG)	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

CRITICAL PATH METHOD (CPM) SCHEDULE

41. 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.

42. 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 280 by 430 mm (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.

43. 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.

44. 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:

(1) Actual start dates of each activity started;

(2) Actual finish dates of each activity finished, or remaining durations of activities started but not yet completed;

(3) 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.

(4) The Original schedule shall be shown as a Baseline

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

(1) A written request to revise the schedule from the Engineer;

(2) A delay (actual or projected) to scheduled milestones or project completion dates;

(3) 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;

(4) 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;

(5) Issuance of a Change Order/Supplemental Agreement(s) that adds time to the Contract;

(6) 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.

46. FLOAT. Any float in the schedule is to be credited to the project only.

47. 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.

48. 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.

49. 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:

Pay Item	Pay Unit
900.620 Special Provision (CPM Schedule)	Each

GUARDRAIL END ASSEMBLY, TYPE IIA

50. DESCRIPTION. This work shall consist of furnishing and erecting guardrail end assembly, Type IIA as detailed on the plans, and connecting it to the corresponding bridge approach railing or box beam guardrail as shown in the Plans and as directed by the Engineer.

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

51. SUBMITTALS. Fabrication Drawings shall be submitted to the Project Manager for approval in accordance with Subsection 105.03.

52. METHOD OF MEASUREMENT. The quantity of Special Provision (guardrail end assembly, Type IIA) to be measured for payment will be the number of units installed in the complete and accepted work, measured within the pay limits shown on the Plans.

53. BASIS OF PAYMENT. The accepted quantity of Special Provision (guardrail end assembly, Type IIA) will be paid for at the Contract unit price for each. Payment will be full compensation for furnishing, transporting, handling, and placing the materials specified, including the connections to the corresponding guide rail or bridge approach railing, Typical End assembly detailed in the plans, and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Payment will be made under:

Pay Item	Pay Unit
900.620 Special Provision (Guardrail End Assembly, Type IIA)	Each

ORNAMENTAL FENCE

54. DESCRIPTION. This work shall consist of constructing ornamental fence at the location(s) indicated in the Contract Documents and as directed by the Engineer.

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

55. GENERAL REQUIREMENTS. Ornamental fence shall be:

(a) Manufacturer: Illusions Vinyl Fence
Fence Panel Model: V300-8
Fence Post Size: 5″ x 5″
Post Cap Style: New England
Color: Brown (L106)

(b) Or similar as approved by the Engineer.

Prior to ordering materials, the Contractor shall submit details for proposed new ornamental fence to the Engineer for approval.

56. METHOD OF MEASUREMENT. The quantity of Special Provision (Ornamental Fence) to be measured for payment will be the number of linear feet installed in the complete and accepted work. Measurement will be along the top of the fence from center to center of end posts for each continuous run of fence.

57. BASIS OF PAYMENT. The accepted quantity of Special Provision (Ornamental Fence) will be paid for at the Contract unit price per linear foot. Payment will be full compensation for furnishing, transporting, handling, assembling, placing, pouring foundations, and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Payment will be made under:

Pay Item	Pay Unit
900.640 Special Provision (Ornamental Fence)	Linear Foot

PRE-EXCAVATION OF ABUTMENT PILES

77. DESCRIPTION. This work shall consist of removing the foundation materials that may be encountered in designated areas to permit the driving or placing of piles.

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

(a) Sand. Sand shall meet the requirements of Subsection 703.03.

79. CONSTRUCTION REQUIREMENTS. The pre-excavation of abutment piles shall consist of augering, pre-boring, or some other means of excavation to produce an excavation to the depth and diameter specified in the Contract Documents. The excavation shall be maintained to allow for backfilling with sand in accordance with the Contract Documents. Temporary casing is considered an acceptable option.

Following installation of the piles, and in accordance with the plans, the entire pre-excavation shall be filled with sand. Casing used to facilitate installation of the pile and backfill material shall not be left in place.

80. METHOD OF MEASUREMENT. The quantities of Special Provision (Pre-excavation of Abutment Piles, Earth) and Special Provision (Pre-excavation of Abutment Piles, Rock) to be measured for payment will be the total number of linear feet of excavation to the depth specified in the Contract Documents or as ordered by the Engineer, measured to the nearest linear foot from the bottom of pile cap to the bottom of the excavation limit shown on the plans.

81. BASIS OF PAYMENT. The accepted quantities of Special Provision (Pre-excavation of Abutment Piles, Earth) and Special Provision (Pre-excavation of Abutment Piles, Rock) will be paid for at the Contract unit price per linear foot. Payment will be full compensation for furnishing, transporting, storing, and installing the materials specified including the sand, for performing required excavation, and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Payment will be made under:

Pay Item		Pay Unit
900.640	Special Provision (Pre-excavation of Abutment Piles, Earth)	Linear Foot
900.640	Special Provision (Pre-excavation of Abutment Piles, Rock)	Linear Foot

TRAFFIC CONTROL, ALL INCLUSIVE

58. 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.

59. 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.

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

61. 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.

62. 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:

Pay Item	Pay Unit
900.645 Special Provision (Traffic Control, All-Inclusive)	Lump Sum

BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY

63. 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.

64. 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).

65. 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

66. 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]	✓	-

[1]Standard mix design specification.
*Per Section 406

(d) Quality Acceptance.

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

(2) Acceptance Guidelines. Temperature of the bituminous mixture shall be tested using the Verified Thermometer test method and PG Asphalt Binder content determined from the batch slip. Gradation shall be tested in accordance with AASHTO T 30. Mixture volumetric properties (air voids and VMA) shall be calculated in accordance with Subsections 406.03(b) or 490.03(b), as appropriate.

(3) Non-Compliant Material.

a. Rejection by Contractor. The Contractor may, prior to sampling, elect to remove any defective material and replace it with new material at no expense to the Agency. Any such new material will be sampled, tested, and evaluated for acceptance.

b. For any non-compliant material outside the production testing tolerances contained in the applicable Table 406.03C or 490.03C, the representative material (sublot) shall be assessed a mixture pay adjustment 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.

67. 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.

68. 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:

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

69. 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:

Pay Item	Pay Unit
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