

Burlington Bike Path Phase 1b Rehabilitation
Contract Documents

DRAFT

City of Burlington, Vermont
Parks, Recreation & Waterfront



Date of Issuance: Friday, March 25, 2016

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** The three pages above marked with asterisks must be completed and signed and included in bid submittal*

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ADVERTISEMENT FOR BIDS

City of Burlington
Parks, Recreation & Waterfront
645 Pine Street, Suite B
Burlington, VT 05401

Sealed BIDS for the construction of the **City of Burlington, Burlington Bike Path Phase 1b Rehabilitation** will be received by the City of Burlington, Vermont, at the office of Parks, Recreation & Waterfront, 645 Pine Street, Suite B, Burlington, Vermont 05401 until 4:00 p.m., Friday, May 13, 2016. Bids will be publicly opened and read aloud in the large conference room immediately after the bid deadline passes. An optional pre-bid conference is scheduled for 10:00 a.m., Tuesday, April 26, 2016 to be held in the large conference room at the City of Burlington Parks, Recreation & Waterfront, 645 Pine Street, Suite B, Burlington, Vermont 05401. The duration of the meeting is estimated to be 1 hour.

Each BID must be accompanied by a certified check payable to the OWNER in the amount of 5% of the bid price. A BID bond may be used in lieu of a certified check.

A copy of the CONTRACT DOCUMENTS and PLANS may be examined after 2:00 PM on Monday, April 18th, 2016 at the office of Burlington Parks, Recreation & Waterfront located at 645 Pine Street, Suite B, Burlington, VT 05401. Plans and contract documents may be obtained from VHB by contacting Jeanne Wilson (contact information provided below).

Hard copies (11"x17" plans & 8 ½" x 11" contract documents) may be purchased for \$70.00 per set. Electronic (PDF) copies may be obtained at no cost. Prospective bidders must formally request contract documents and will be included on the list of contractors taking out plans. This list shall be used to distribute addendums or other pertinent information as needed.

Plan Requests:

VHB
Jeanne Wilson
40 IDX Drive, Building 100
Suite 200
Email: jwilson@vhb.com

Questions (via email only) Due:

May 6, 2016 @ 5:00 PM
Parks, Recreation & Waterfront
Jen Francis, LEED BD+C Parks Planner
645 Pine Street, Suite B
Burlington, VT 05401
Email: jsfrancis@burlingtonvt.gov
With subject line "Burlington Bike Path
Rehab Phase 1b Questions"

A Performance Bond and a Payment Bond each in an amount equal to one hundred percent (100%) of the contract price will be required. Irrevocable letters of Credit from an approved bank may be used in lieu of the Performance and Payment Bonds or cash in the amount equal to one hundred percent (100%) of the contract price at the approval of the City.

A contract awarded under this Advertisement of Bids will be funded by the City of Burlington.

This contract is subject to the Burlington Women and Construction Trades Ordinance and the Burlington Livable Wage Ordinance.

The City of Burlington reserves the right to reject or waive any informalities in, or to reject any and all proposals, or to accept any proposal deemed in the best interest of the City of Burlington.

INSTRUCTIONS TO BIDDERS

April 2016

BIDS for the Burlington Bike Path Phase 1b Rehabilitation project, will be received by the Burlington Parks, Recreation & Waterfront Department (herein called the "OWNER"), at 645 Pine Street, Suite B, Burlington, Vermont until 4:00 p.m., Friday, May 13, 2016. Bids will be publicly opened and read aloud in the large conference room immediately after the bid deadline passes. An optional pre-bid conference is scheduled for 10:00 a.m., Tuesday, April 26, 2016 to be held in the large conference room at the City of Burlington Parks, Recreation & Waterfront, 645 Pine Street, Suite B, Burlington, Vermont 05401. The duration of the meeting is estimated to be 1 hour.

Each BID must be submitted in a sealed envelope, addressed to Burlington Parks, Recreation and Waterfront Department at 645 Pine St., Suite B, Burlington, Vermont. Each sealed envelope containing a BID must be plainly marked on the outside as the BURLINGTON BIKE PATH PHASE 1B REHABILITATION, and should bear on the outside the name of the BIDDER, and their address. If forwarded by mail, the sealed envelope containing the BID must be enclosed in another envelope addressed to the OWNER at Burlington Parks, Recreation & Waterfront Department, 645 Pine St., Suite B, Burlington, Vermont 05401.

The following five pages must be completed and signed and included in the bid submittal: Bid Form, Bid Bond, Performance Bond, Payment Bond and the City of Burlington Livable Wage Ordinance

This project is funded with public funds and will require compliance with all federal, state and local rules and regulations including:

- A. Civil Rights & Equal Employment Opportunity: The contractor shall not discriminate on the basis of race, color, national origin, sex, physical disability or veteran status in the award and performance of USDOT assisted contracts.
- B. Women and Construction Trade Ordinance (WACTO) City of Burlington Code 21-50 et seq.: Requires specified workforce participation rates for women.
- C. Livable Wage Ordinance City of Burlington Code of Ordinances 21-80 et seq.: Requires payment of an annually adjusted "livable wage" to employees working on the funded project.
- D. Pre-qualification of Construction Contractors: All bidders on this project shall be pre-qualified for Bike and/or Transportation Path Construction by the Agency of Transportation, Contract Administration a minimum of seven (7) working days prior to the bid opening.

All BIDS must be made on the required BID form(s) and must be accompanied by a certified check payable to the OWNER for 5% of the bid price. A BID bond may be used in lieu of a certified check.

All blank spaces for BID prices must be filled in, in ink or typewritten, and the BID form must be fully completed and executed when submitted. Bidders shall remove and submit the BID form separate from the volume of CONTRACT DOCUMENTS.

The OWNER may waive any informalities or minor defects or reject any and all BIDS. Any BID may be withdrawn prior to the above scheduled time for the opening of BIDS or authorized postponement thereof. Any BID received after the time and date specified, shall not be considered. No BIDDER may withdraw a BID within 90 days after the actual date of the opening thereof. Should there be reasons

why the contract cannot be awarded within the specified period; the time may be extended by mutual agreement between the OWNER and the BIDDER.

BIDDERS must satisfy themselves of the accuracy of the estimated quantities in the BID form by examination of the site and a review of the drawings and/or specifications including ADDENDA. After BIDS have been submitted, the BIDDER shall not assert that there was a misunderstanding concerning the quantities of WORK or of the nature of the WORK to be done.

All questions by prospective BIDDERS as to the interpretations of the INSTRUCTIONS TO BIDDERS, Forms of PROPOSAL, form of CONTRACT, Plans, Specifications or BONDS, must be submitted in writing to Jen Francis, LEED BD +C, Parks Planner; City of Burlington, Department of Parks, Recreation & Waterfront, (802) 865-7248, Email:jsfrancis@burlingtonvt.gov. All questions shall be emailed and have the following in the subject line: "Burlington Bike Path Rehab Phase 1b Questions". No questions will be answered after **May 6th, 2016 at 5:00 p.m.** An interpretation of all questions so raised which, in the City's opinion, require interpretation, will be included in an addendum to be furnished to all bidders on the list of contractors that have obtained plans and contract documents. Failure of any BIDDER to receive any such ADDENDA or interpretation shall not relieve such BIDDER from any obligation under their BID as submitted. All ADDENDA so issued shall become part of the CONTRACT DOCUMENTS.

In the event there is any discrepancy in the PROPOSAL between any unit price and the extended totals, the unit price shall govern and the extended totals in each case shall be corrected accordingly. No BID will be accepted which does not contain a unit price for each item in this PROPOSAL.

Prospective BIDDERS and their agents will be permitted to make, at their own responsibility and expense, such investigations over the site of the proposed work as they deem necessary. They must satisfy themselves by personal examination of the location of the proposed work, and by such other means as they deem necessary, as to the actual conditions and requirements of the WORK. Prices bid shall include every and all costs for the construction complete between the limits indicated on the Plans and/or as set out in the Specifications.

At the time of the opening of BIDS, each BIDDER will be presumed to have inspected the site and to have read and to be thoroughly familiar with the CONTRACT DOCUMENTS (including all ADDENDA). The failure or omission of any BIDDER to receive or examine any form, instrument, or documents shall in no way, relieve any BIDDER from the obligation in respect to their BID.

All bids received by the date and time specified in the solicitation will be publically opened and total bid amounts read aloud. The time and place of opening will be as specified in the solicitation. Bidders and other interested persons may be present.

At the BIDDER'S request the OWNER shall provide all information which is pertinent to, and delineates and describes, the land owned and rights-of-way acquired.

The CONTRACT DOCUMENTS contain the provisions required for the construction of the PROJECT. Information obtained from any officer, agent, or employee of the OWNER or any other person shall not affect the risks or obligations assumed by the CONTRACTOR or relieve them from fulfilling any of the conditions of the contract.

Each BID must be accompanied by a certified check payable to the OWNER for 5% of the bid price. As soon as the BID prices have been compared, the OWNER will return the certified checks of all except the three lowest responsive, responsible BIDDERS. When the Agreement is executed, the certified checks of the two remaining unsuccessful BIDDERS will be returned. The certified check of the successful BIDDER will be retained until the payment BOND and performance BOND have been executed and approved, after which it will be returned. A BID BOND may be used in lieu of a certified check.

A performance BOND and a payment BOND, each in the amount of 100 percent of the CONTRACT PRICE, with a corporate surety approved by the OWNER, will be required for the faithful performance of the contract. Irrevocable Letters of Credit from an approved bank may be used in lieu of the performance and payment bonds, each in the amount of one-hundred percent (100%) of the contract price, with the approval of the City Engineer.

Attorneys-in-fact who sign BID BONDS or payment BONDS and performance BONDS must file with each BOND a certified and effective dated copy of their power of attorney.

The party to whom the contract is awarded will be required to execute the Agreement and obtain the performance BOND and payment BOND within ten (10) business days from the date when NOTICE OF AWARD is delivered to the BIDDER. The NOTICE OF AWARD shall be accompanied by the necessary Agreement and BOND forms. In case of failure of the BIDDER to execute the Agreement, the OWNER may, at their option, consider the BIDDER in default, in which case the BID BOND or certified check accompanying the proposal shall become the property of the OWNER.

The party to whom the contract is awarded shall provide a work schedule to the OWNER within 10 days of award in the critical path form.

A pre-construction conference will be held in the Burlington Parks, Recreation & Waterfront Department, 645 Pine Street, soon after delivery of the NOTICE OF AWARD. The CONTRACTOR will be notified of the exact time and date. Those invited shall include departments affected by construction activities, and topics of discussion shall include coordination and scheduling of work requirements by all concerned parties.

The OWNER, within ten (10) business days of receipt of acceptable performance BOND, payment BOND and Agreement signed by the party to whom the Agreement was awarded, shall sign the Agreement and return to such party an executed duplicate of the Agreement. Should the OWNER not execute the Agreement within such period, the BIDDER may by WRITTEN NOTICE, withdraw their signed Agreement. Such notice of withdrawal shall be effective upon receipt of the notice by the OWNER.

The NOTICE TO PROCEED shall be issued within ten (10) days of the execution of the Agreement by the OWNER. Should there be reasons why the NOTICE TO PROCEED cannot be issued within such period, the time may be extended by mutual agreement between the OWNER and CONTRACTOR. If the NOTICE TO PROCEED has not been issued within the ten (10) day period or within the period mutually agreed upon, the CONTRACTOR may terminate the Agreement without further liability on the part of either party.

The OWNER may make such investigations as they deem necessary to determine the ability of the BIDDER to perform the WORK, and the BIDDER shall furnish to the OWNER, all such information and data for this purpose as the OWNER may request.

A conditional or qualified BID will not be accepted.

Award will be made to the lowest responsive, responsible BIDDER. A responsive, responsible bidder is any bidder who meets all the requirements of the Instructions to Bidders and completes the required documents.

All applicable laws, ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the PROJECT, shall apply to the contract throughout.

This PROJECT is subject to all of the Safety and Health Regulations (CFR 29, Part 1926 and all subsequent amendments) as promulgated by the U.S. Department of Labor on August 1, 1991 (VOSHA). The CONTRACTOR shall become familiar with the requirements of these regulations.

CONTRACTS for work under this proposal will obligate the CONTRACTORS and SUBCONTRACTORS not to discriminate in employment practices.

Each BIDDER is responsible for inspecting the site and for reading and being thoroughly familiar with the CONTRACT DOCUMENTS. The failure or omission of any BIDDER to do any of the foregoing shall, in no way, relieve any BIDDER from any obligation in respect to their BID.

The BIDDER awarded the CONTRACT shall supply the names and addresses of major material SUPPLIERS and SUB-CONTRACTORS to the OWNER. The BIDDER, as prime contractor, must perform a minimum of 50% of the work.

BIDDERS must satisfy themselves with respect to the locations of buried utilities in the work area which may have an impact on their ability to perform the WORK. All coordination between the Utilities and the BIDDER is the responsibility of the BIDDER.

Bidder shall comply with DIG SAFE per Title 30, Vermont Statutes.

The Contractor shall not commence work under this contract until they have obtained all the insurance required hereunder and such insurance has been approved by the OWNER, nor shall the CONTRACTOR allow any subcontractor to commence work on their subcontract until all similar insurance required of the subcontractor has been so obtained and approved. Approval of the insurance by the OWNER shall not relieve or decrease the liability of the CONTRACTOR hereunder.

The Contractor shall take out and maintain during the life of the contract such Comprehensive General Bodily Injury Liability and Property Damage Liability Insurance and Automobile Bodily Injury Liability and Property Damage Liability and Railroad Protective Liability as shall protect them and any subcontractor performing work covered by this contract for claims for damages for personal injury, including accidental death, as well as from claims for property damage, which may arise from operations under this contract, whether such operations by the contractor or by any subcontractor or by anyone directly or indirectly employed by either of them.

The Method of Measurement and Basis of Payment for all contract items shall follow the Vermont Agency of Transportation ("VTrans") 2011 Standard Specification for Construction, unless modified in these Contract Documents.

A bidder may submit a unit bid price that is obviously below the cost of the item. If the City awards and enters into a contract with a Bidder that has submitted a unit bid price that is obviously below cost, the contractor shall be obligated to perform the work under such item as indicated in the contract documents and/or as directed by the Engineer

When it is indicated in the contract documents that payment or cost of work and/or materials are incidental to one or more other contract items (but not to specific other items), such costs shall be included by the bidder in the price bid for all other contract items.

By submitting a bid, a prospective bidder/contractor certifies that it shall report in writing to the Municipality any error or inconsistency discovered in the plans, proposal, specifications, or contract documents immediately upon discovery of such error or inconsistency.

By submitting a bid, a prospective bidder/contractor certifies that it shall assert no claim, cause of action, litigation, or defense against the City unless notice was provided to the City in writing of any error or inconsistency found in the plans, proposal, specifications, and/or contract documents immediately upon discovery of such error or inconsistency.

By submitting a bid an entity certifies that it is familiar with all Federal, State and local laws, ordinances and regulations which affect in any way the materials, equipment, haul roads, used in or upon the work, the conduct of the work, and the persons engaged or employed in the performance of the work to be performed pursuant to the contract.

By submitting a bid an entity certifies that it shall forthwith report in writing to the City any provisions in the plans, proposal, specifications or proposed contract that the bidder/contractor believes is in conflict with or inconsistent with any Federal, State or local law, ordinance or regulation.

By submitting a bid a prospective Bidder certifies that if, during its investigation of the work in the process of preparing its bid, it discovers or encounters subsurface or latent physical conditions at a project site differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the contract, it shall notify in writing the City of the specific differing conditions immediately upon discovering or encountering the differing site conditions.

An entity further certifies that if it fails to notify the City of any differing sited conditions as described above, it shall waive any and all rights that it might have to additional compensation from the City for additional work as a result of the differing site conditions and that it shall not bring a claim for additional compensation because of differing site conditions.

By submitting a bid a prospective bidder/contractor certifies that no claim or defense of ignorance or misunderstanding concerning Federal, State or local laws, ordinances and/or regulations will be employed by a bidder/contractor or considered by the City in claims, litigation, alternative dispute resolution procedures, or other matters concerning the contract for which the bid is submitted.

INSURANCE

Insurance Coverage Requirements:

By submitting a bid a perspective bidder certifies that it carries all insurance types and amounts described in section 21 of The City of Burlington – General Conditions.

INDEMNIFICATION

By submitting a bid a perspective bidder agrees to the indemnification in section 24 of The City of Burlington – General Conditions.

Questions shall be directed to the MUNICIPALITY via email by 5:00 PM May 6th, 2016 through the project contact:

Jen Francis, LEED BD+C Parks Planner
Burlington Parks, Recreation & Waterfront
645 Pine Street
Suite B
Burlington, VT 05401
Email: jsfrancis@burlingtonvt.gov
Ph: (802) 865-7248

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BID FORM

Proposal of _____ (hereinafter called
“CONTRACTOR”), organized and existing under the laws of the State of _____
doing business as _____ (corporation, partnership, individual)
To the City of Burlington (hereinafter called “OWNER”)

In compliance with the Advertisement and Instructions to Bidders of the City of Burlington for the **Burlington Bike Path Phase 1b Rehabilitation**, and in conformity with the Bid Form, Contract, Specifications and Contract Drawings, I, or we, hereby certify that I am, or we are, the only person, firm, or corporation; that an examination has been made of the Bid Form, Contract, the Contract Drawings, the Specifications, and the site of the work, and that I, or we, propose to furnish all necessary machinery, equipment, tools, labor and other means of construction, and all materials specified, in the manner and at the time prescribed, understanding that the quantities of work as shown herein are approximate only and are subject to increase or decrease and that all quantities of work, whether increased or decreased, are to be performed at the following unit prices (including sales tax and all other applicable taxes and fees):

ATTENTION TO CONTRACTORS

This Proposal shall be filled in by the CONTRACTOR, written IN WORDS AND IN FIGURES and the extensions properly made in figures.

For complete information concerning these items see Specifications, Contract Drawings, and Contract.

By submission of this Bid, each Bidder certifies, and in the case of a joint Bid, each party thereto certifies as to their own organization, that its Bid has been arrived at independently, without consultation, communication, or agreement as to any matter relating to this Bid with any other Bidder or with any competitor.

The Bidder hereby agrees to commence Work under this contract on the date of issuance of the Notice to Proceed and to satisfactorily complete the entire work excluding final landscaping prior to **December 31, 2016**.

BID SCHEDULE

UNIT PRICE CONTRACT

Work Description: **Burlington Bike Path Phase 1b Rehabilitation**

GROUP 1013: ROADWAY					
Item Number	Item Description	Unit	Unit Price	Amount	Total Price
201.10	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	LS	\$	1	\$
Unit Price in Words: _____					
201.15	REMOVING MEDIUM TREES	EACH	\$	52	\$
Unit Price in Words: _____					
203.15	COMMON EXCAVATION	CY	\$	4700	\$
Unit Price in Words: _____					
203.16	SOLID ROCK EXCAVATION	CY	\$	510	\$
Unit Price in Words: _____					
203.28	EXCAVATION OF SURFACES AND PAVEMENTS	CY	\$	1400	\$
Unit Price in Words: _____					
203.30	EARTH BORROW	CY	\$	2000	\$
Unit Price in Words: _____					
203.31	SAND BORROW	CY	\$	850	\$
Unit Price in Words: _____					

GROUP 1013: ROADWAY					
Item Number	Item Description	Unit	Unit Price	Amount	Total Price
203.32	GRANULAR BORROW	CY	\$	20	\$
Unit Price in Words: _____					
204.22	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	CY	\$75.00	50	\$3750.00
Unit Price in Words: Seven Hundred and Fifty Dollars					
210.10	COLD PLANING, BITUMINOUS PAVEMENT	SY	\$	3	\$
Unit Price in Words: _____					
301.35	SUBBASE OF DENSE GRADED CRUSHED STONE	CY	\$	1500	\$
Unit Price in Words: _____					
401.10	AGGREGATE FOR SURFACE COURSE	CY	\$	110	\$
Unit Price in Words: _____					
404.65	EMULSIFIED ASPHALT	CWT	\$	13	\$
Unit Price in Words: _____					
406.25	BITUMINOUS CONCRETE PAVEMENT	TON	\$	110	\$
Unit Price in Words: _____					
406.50	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	LU	\$1.00	1	\$1.00
Unit Price in Words: One dollar					

GROUP 1013: ROADWAY					
Item Number	Item Description	Unit	Unit Price	Amount	Total Price
541.25	CONCRETE, CLASS B	CY	\$	625	\$
	Unit Price in Words: _____				
601.2605	12" CPEP (SL)	LF	\$	51	\$
	Unit Price in Words: _____				
601.2615	18" CPEP (SL)	LF	\$	20	\$
	Unit Price in Words: _____				
604.10	CONCRETE CATCH BASIN WITH CAST IRON GRATE	EACH	\$	1	\$
	Unit Price in Words: _____				
609.10	DUST CONTROL WITH WATER	MGAL	\$	320	\$
	Unit Price in Words: _____				
613.11	STONE FILL, TYPE II	CY	\$	350	\$
	Unit Price in Words: _____				
613.15	RIPRAP, HEAVY TYPE	CY	\$	1050	\$
	Unit Price in Words: _____				
618.10	PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH	SY	\$	160	\$
	Unit Price in Words: _____				

GROUP 1013: ROADWAY					
Item Number	Item Description	Unit	Unit Price	Amount	Total Price
620.11	CHAIN LINK FENCE, 4 FEET	LF	\$	1120	\$
	Unit Price in Words: _____				
620.12	CHAIN LINK FENCE, 6 FEET	LF	\$	680	\$
	Unit Price in Words: _____				
620.15	GATE FOR CHAIN LINK FENCE, 6 FEET	LF	\$	40	\$
	Unit Price in Words: _____				
620.16	GATE FOR CHAIN LINK FENCE, 6 FT	LF	\$	4	\$
	Unit Price in Words: _____				
620.55	REMOVAL OF EXISTING FENCE	LF	\$	3300	\$
	Unit Price in Words: _____				
630.10	UNIFORMED TRAFFIC OFFICERS	HR	\$	9	\$
	Unit Price in Words: _____				
630.15	FLAGGERS	HR	\$	230	\$
	Unit Price in Words: _____				
635.11	MOBILIZATION/DEMOBILIZATION	LS	\$	1	\$
	Unit Price in Words: _____				

GROUP 1013: ROADWAY					
Item Number	Item Description	Unit	Unit Price	Amount	Total Price
641.10	TRAFFIC CONTROL	LS	\$	1	\$
	Unit Price in Words: _____				
646.21	4 INCH YELLOW LINE	LF	\$	1900	\$
	Unit Price in Words: _____				
646.24	12 INCH WHITE LINE	LF	\$	6	\$
	Unit Price in Words: _____				
646.30	LETTER OR SYMBOL	EACH	\$	18	\$
	Unit Price in Words: _____				
656.20	EVERGREEN TREE (<i>THUJA OCCIDENTALLIS</i> "NORTHERN WHITE CEDAR") (B&B) (6-7' H)	EACH	\$	27	\$
	Unit Price in Words: _____				
656.30	DECIDUOUS TREE (<i>AMELANCHIER ARBOREA</i> "AUTUMN BRILLIANCE SERVICEBERRY")(B&B) (8-10' H)	EACH	\$	20	\$
	Unit Price in Words: _____				
656.30	DECIDUOUS TREE (<i>AMELANCHIER CANADENSIS</i> "CANADIAN SERVICEBERRY")(B&B) (8' H)	EACH	\$	3	\$
	Unit Price in Words: _____				

GROUP 1013: ROADWAY					
Item Number	Item Description	Unit	Unit Price	Amount	Total Price
656.30	DECIDUOUS TREE (<i>ACER X FREEMANII</i> "CELEBRATION RED MAPLE") (B&B) (2-2.5" CAL.)	EACH	\$	26	\$
Unit Price in Words: _____					
656.30	DECIDUOUS TREE (<i>AMELANCHIER ARBOREA</i> "DOWNY SERVICEBERRY") (B&B) (8' H)	EACH	\$	1	\$
Unit Price in Words: _____					
656.30	DECIDUOUS TREE (<i>BETULA NIGRA</i> "RIVER BIRCH") (B&B) (2-2.5" CAL.)	EACH	\$	23	\$
Unit Price in Words: _____					
656.30	DECIDUOUS TREE (<i>BETULA PAPYRIFERA</i> "PAPER BIRCH") (B&B) (2-2.5" CAL.)	EACH	\$	5	\$
Unit Price in Words: _____					
656.30	DECIDUOUS TREE (<i>CARPINUS CAROLINIANA</i> "AMERICAN HORNBEAM") (B&B) (2-2.5" CAL.)	EACH	\$	7	\$
Unit Price in Words: _____					
656.30	DECIDUOUS TREE (<i>HAMAMELIS VIRGINIANA</i> "COMMON WITCH HAZEL") (B&B) (8' H)	EACH	\$	4	\$
Unit Price in Words: _____					
656.30	DECIDUOUS TREE (<i>POPULUS BALSAMIFERA</i> "BALSAM POPLAR") (B&B) (1-1.5" CAL.)	EACH	\$	15	\$
Unit Price in Words: _____					
656.30	DECIDUOUS TREE (<i>QUERCUS RUBRA</i> "NORTHERN RED OAK") (B&B) (2-2.5" CAL.)	EACH	\$	19	\$
Unit Price in Words: _____					

GROUP 1013: ROADWAY					
Item Number	Item Description	Unit	Unit Price	Amount	Total Price
656.35	DECIDUOUS SHRUB (<i>ARONIA MELANOCRPA</i> "BLACK CHOKEBERRY") (3 GAL)	EACH	\$	25	\$
Unit Price in Words: _____					
B GG656.35	DECIDUOUS SHRUB (<i>CORNUS RACEMOSA</i> "GRAY DOGWOOD") (3 GAL)	EACH	\$	25	\$
Unit Price in Words: _____					
656.35	DECIDUOUS SHRUB (<i>CEPHALANTHUS OCCIDENTALIS</i> "BUTTON BUSH") (5 GAL)	EACH	\$	6	\$
Unit Price in Words: _____					
656.35	DECIDUOUS SHRUB (<i>CORNUS SERICEA</i> "RED TWIG DOGWOOD") (5 GAL)	EACH	\$	16	\$
Unit Price in Words: _____					
656.35	DECIDUOUS SHRUB (<i>ILEX VERTICILLATA</i> "WINTERBERRY") (5 GAL)	EACH	\$	29	\$
Unit Price in Words: _____					
656.35	DECIDUOUS SHRUB (<i>RHUS AROMATICA</i> "FRAGRANT SUMAC") (5 GAL)	EACH	\$	14	\$
Unit Price in Words: _____					
656.35	DECIDUOUS SHRUB (<i>ROSA BLANDA</i> "SMOOTH ROSE") (5 GAL)	EACH	\$	16	\$
Unit Price in Words: _____					
656.35	DECIDUOUS SHRUB (<i>SABUCUS CANADENSIS</i> "AMERICAN ELDERBERRY") (3 GAL)	EACH	\$	28	\$
Unit Price in Words: _____					

GROUP 1013: ROADWAY					
Item Number	Item Description	Unit	Unit Price	Amount	Total Price
656.85	TREE PROTECTION	LS	\$	1	\$
Unit Price in Words: _____					
675.50	REMOVING SIGNS	EACH	\$	1	\$
Unit Price in Words: _____					
675.60	ERECTING SALVAGED SIGNS	EACH	\$	1	\$
Unit Price in Words: _____					
690.50	PRICE ADJUSTMENT, FUEL (N.A.B.I)	LU	\$	1	\$
Unit Price in Words: _____					
900.608	<i>SPECIAL PROVISION (MANAGEMENT OF CLASS I SOILS)</i>	CY	\$	5	\$
Unit Price in Words: _____					
900.608	<i>SPECIAL PROVISION (DISPOSAL OF CLASS I SOILS)</i>	CY	\$	5	\$
Unit Price in Words: _____					
900.608	<i>SPECIAL PROVISION (MANAGEMENT OF CLASS II SOILS)</i>	CY	\$	5	\$
Unit Price in Words: _____					
900.608	<i>SPECIAL PROVISION (DISPOSAL OF CLASS II SOILS)</i>	CY	\$	5	\$
Unit Price in Words: _____					

GROUP 1013: ROADWAY					
Item Number	Item Description	Unit	Unit Price	Amount	Total Price
900.608	SPECIAL PROVISION (MANAGEMENT OF CLASS III SOILS)	CY	\$	2800	\$
Unit Price in Words: _____					
900.608	SPECIAL PROVISION (DISPOSAL OF CLASS III SOILS)	CY	\$	1215	\$
Unit Price in Words: _____					
900.608	SPECIAL PROVISION (MANAGEMENT OF CLASS IV SOILS)	CY	\$	20	\$
Unit Price in Words: _____					
900.608	SPECIAL PROVISION (DISPOSAL OF CLASS IV SOILS)	CY	\$	20	\$
Unit Price in Words: _____					
900.608	SPECIAL PROVISION (MANAGEMENT OF CLASS V SOILS)	CY	\$	5	\$
Unit Price in Words: _____					
900.608	SPECIAL PROVISION (DISPOSAL OF CLASS V SOILS)	CY	\$	5	\$
Unit Price in Words: _____					
900.608	SPECIAL PROVISION (CONTAMINATED MEDIA)	CY	\$	25	\$
Unit Price in Words: _____					

GROUP 1013: ROADWAY					
Item Number	Item Description	Unit	Unit Price	Amount	Total Price
900.608	SPECIAL PROVISION (HAZARDOUS MEDIA)	CY	\$	5	\$
	Unit Price in Words: _____				
900.608	SPECIAL PROVISION (STONE SCREENINGS, IN PLACE)	CY	\$	200	\$
	Unit Price in Words: _____				
900.608	SPECIAL PROVISION (BARK MULCH)	CY	\$	120	\$
	Unit Price in Words: _____				
900.620	SPECIAL PROVISION (BIKE RACK)	EACH	\$	14	\$
	Unit Price in Words: _____				
900.620	SPECIAL PROVISION (BENCH)	EACH	\$	4	\$
	Unit Price in Words: _____				
900.620	SPECIAL PROVISION (REMOVE RAILROAD TIES)	EACH	\$	115	\$
	Unit Price in Words: _____				
900.625	SPECIAL PROVISION (GROUNDWATER)	GAL	\$	10000	\$
	Unit Price in Words: _____				

GROUP 1013: ROADWAY					
Item Number	Item Description	Unit	Unit Price	Amount	Total Price
900.640	SPECIAL PRVISION (THREE RAIL PEDESTRIAN FENCE)	LF	\$	1650	\$
Unit Price in Words: _____					
900.640	SPECIAL PROVISION (REMOVAL OF EXISTING RAILROAD TRACKS)	LF	\$	100	\$
Unit Price in Words: _____					
900.640	SPECIAL PROVISION (STEEL EDGING)	EACH	\$	1150	\$
Unit Price in Words: _____					
900.645	SPECIAL PROVISION (PAUSE PLACE OVERLOOK)	LS	\$	1	\$
Unit Price in Words: _____					
900.645	SPECIAL PROVISION (STONE SEAT WALL)	LS	\$	1	\$
Unit Price in Words: _____					
900.645	SPECIAL PROVISION (STONE STAIRS)	LS	\$	1	\$
Unit Price in Words: _____					
900.670	SPECIAL PROVISION (EXPOSED AGGREGATE CONCRETE)	SF	\$	200	\$
Unit Price in Words: _____					

GROUP 1053: EROSION CONTROL					
Item Number	Item Description	Unit	Unit Price	Amount	Total Price
649.11	GEOTEXTILE FOR ROADBED SEPARATOR	SY	\$	1100	\$
Unit Price in Words: _____					
649.31	GEOTEXTILE UNDER STONE FILL	SY	\$	4750	\$
Unit Price in Words: _____					
649.41	GEOTEXTILE UNDER TRENCH LINING	SY	\$	420	\$
Unit Price in Words: _____					
649.51	GEOTEXTILE FOR SILT FENCE	SY	\$	800	\$
Unit Price in Words: _____					
649.515	GEOTEXTILE FOR SILT FENCE,WOVEN WIRE REINFORCED	SY	\$	14500	\$
Unit Price in Words: _____					
649.61	GEOTEXTILE FOR FILTER CURTAIN	SY	\$	300	\$
Unit Price in Words: _____					

GROUP 1053: EROSION CONTROL					
Item Number	Item Description	Unit	Unit Price	Amount	Total Price
651.15	SEED	LB	\$	150	\$
Unit Price in Words: _____					
651.18	FERTILIZER	LB	\$	1500	\$
Unit Price in Words: _____					
651.20	AGRICULTURAL LIMESTONE	TON	\$	5	\$
Unit Price in Words: _____					
651.25	HAY MULCH	TON	\$	7	\$
Unit Price in Words: _____					
651.35	TOPSOIL	CY	\$	150	\$
Unit Price in Words: _____					
652.10	EPSC PLAN	LS	\$	1.000	\$
Unit Price in Words: _____					
652.20	MONITORING EPSC PLAN	HR	\$	24	\$
Unit Price in Words: _____					

GROUP 1053: EROSION CONTROL					
Item Number	Item Description	Unit	Unit Price	Amount	Total Price
652.30	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	LU	\$2,000	1	\$2,000
Unit Price in Words: <u>Two Thousand Dollars</u>					
653.21	PERMANENT EROSION MATTING	CY	\$	670	\$
Unit Price in Words: _____					
653.35	VEHICLE TRACKING PAD	CY	\$	30	\$
Unit Price in Words: _____					
653.40	INLET PROTECTION DEVICE, TYPE I	EACH	\$	3	\$
Unit Price in Words: _____					
653.41	INLET PROTECTION DEVICE, TYPE II	EACH	\$	2	\$
Unit Price in Words: _____					
653.50	BARRIER FENCE	LF	\$	500	\$
Unit Price in Words: _____					
653.55	PROJECT DEMARCATION FENCE	LF	\$	9750	\$
Unit Price in Words: _____					

GROUP 1999: FULL C.E. ITEMS					
Item Number	Item Description	Unit	Unit Price	Amount	Total Price
631.10	FIELD OFFICE, ENGINEERS	LS	\$	1	\$
Unit Price in Words: _____					
631.16	TESTING EQUIPMENT, CONCRETE	LS	\$	1	\$
Unit Price in Words: _____					
631.17	TESTING EQUIPMENT, BITUMINOUS	LS	\$	1	\$
Unit Price in Words: _____					
631.26	FIELD OFFICE TELEPHONE (N.A.B.I.)	DL	\$1.00	3,000	\$3,000.00
Unit Price in Words: <u>Three Thousand Dollars</u>					
TOTAL OF BASE BID:	\$				
	TOTAL BASE BID IN WORDS: _____				

The low bid will be determined by the base bid.

By submission of this BID, each CONTRACTOR certifies, and in the case of a joint BID each party thereto certifies as to his own organization, that this BID has been arrived at independently, without consultation, communication, or agreement as to any matter relating to the BID with any other CONTRACTOR or competitor.

CONTRACTOR acknowledges receipt of the following ADDENDUM:

Respectfully submitted:

(Signature)

(Address)

(Title)

(Date)

_____ Being duly sworn, deposes and says that (s)he is

_____ Of _____
(Name of Organization)

And that answers to the foregoing questions and all statements contained therein are true and correct.

Sworn to before me this _____ day of _____, 20____

(Notary Public)

My commission expires _____

(Seal – if BID is by corporation)

ATTEST: _____

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BID BOND

KNOWN BY ALL BY THESE PRESENT, that we, the undersigned,

_____ as Principal, and _____ as _____

Surety, are hereby held and firmly bound unto City of Burlington as OWNER in the penal sum of _____ for the payment of which, well and truly to be made, we hereby jointly and severally find ourselves, successors and assigns.

Signed this _____ day of _____, 2016.
The Condition of the above obligation in such that whereas the

Principal has submitted to City of Burlington a certain BID, attached hereto and hereby made a part hereof to enter into a contract in writing, for Burlington Bike Path Phase 1b Rehabilitation

NOW, THEREFORE,

- (a) If said BID shall be rejected, or
- (b) If said BID shall be accepted and the Principal shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said BID) and shall furnish a BOND for their faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said BID, then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its BOND shall be in no way impaired or affected by any extension of the time within which the OWNER may accept such BID; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and those present to be signed by their proper officers, the day and year first set forth above.

Principal (L.S.)

Surety

By: _____

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the project is located.

NOTICE OF AWARD

To: _____

PROJECT Description: **Burlington Bike Path Phase 1b Rehabilitation**

The OWNER has considered the BID submitted by you for the above described WORK in response to its Information for Bidders, dated _____, 2016.

You are hereby notified that your BID has been accepted for all items, in the amount of \$_____.

You are required by the Information for Bidders and Special Conditions to execute the Agreement and furnish the required CONTRACTOR'S Performance BOND, Payment BOND and certificates of insurance, within five (5) business days from the date of this Notice to you.

If you fail to execute said Agreement and do not furnish said BONDS within five (5) days from the date of this Notice, said OWNER will be entitled to consider all your rights arising out of the OWNER'S acceptance of your BID as abandoned and as a forfeiture of your BID BOND. The OWNER will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the OWNER.

Dated this _____ day of _____, 2016.

By: _____

Title: _____

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE OF AWARD for the Burlington Bike Path Phase 1b Rehabilitation project is hereby acknowledged.

By: _____ Date: _____

Title: _____

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AGREEMENT

THIS AGREEMENT, is made this _____ day of _____, 2016, by and between City of Burlington, hereinafter called the "OWNER" and _____ doing business as a corporation hereinafter called "CONTRACTOR". WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned:

1. The CONTRACTOR will commence and complete the construction of the Burlington Bike Path Phase 1b Rehabilitation Project as described in the CONTRACT DOCUMENTS.
2. The CONTRACTOR will furnish all the material, supplies, tools, equipment, labor, traffic control measurements, and other services necessary for the construction and completion of the PROJECT described herein.
3. The CONTRACTOR will commence the WORK required by the CONTRACT DOCUMENTS on the date of issuance of the NOTICE TO PROCEED and will substantially complete the work by December 31st, 2016, unless the period for completion is extended otherwise by the CONTRACT DOCUMENTS.

- ***Substantial Completion is defined as the date when, in the opinion of the Resident Engineer, the work to be performed pursuant to the Contract has been sufficiently complete to enable use of the Project or facilities for the intended purpose.***

4. The CONTRACTOR agrees to perform all the WORK described in the CONTRACT DOCUMENTS and comply with the terms therein as shown in the BID schedule. The CONTRACTOR shall perform a minimum of 50% of the work with their own forces.
5. The term "CONTRACT DOCUMENTS" means and includes the following:

- (A) ADVERTISEMENT FOR BIDS
- (B) INSTRUCTIONS TO BIDDERS
- (C) BID FORM
- (D) BID BOND
- (E) NOTICE OF AWARD
- (F) AGREEMENT
- (G) PERFORMANCE BOND
- (H) PAYMENT BOND
- (I) NOTICE TO PROCEED
- (J) CHANGE ORDER
- (K) CITY OF BURLINGTON – GENERAL CONDITIONS
- (L) CITY OF BURLINGTON – SUPPLEMENTARY CONDITIONS
- (M) CITY OF BURLINGTON – GENERAL SPECIFICATIONS
- (N) SPECIAL PROVISIONS
- (O) VTRANS 2011 STANDARD SPECIFICATIONS FOR CONSTRUCTION
- (P) CITY OF BURLINGTON – LIVABLE WAGE ORDINANCE
- (Q) STATE LOW RISK GENERAL PERMIT 3-9020 – NOTICE OF INTENT
- (R) STATE LAND USE PERMIT #4C0863-4
- (S) CITY OF BURLINGTON – DEVELOPMENT REVIEW BOARD FINDINGS OF

FACT

(T) DRAWINGS PREPARED BY VHB, NUMBERED 1 THROUGH 116 AND DATED
APRIL 2016

6. The OWNER will pay to the CONTRACTOR in the manner and at such times as set forth in the General Conditions such amounts as required by the CONTRACT DOCUMENTS.
7. This Agreement shall be binding upon all parties hereto and their respective heirs, executors, administrators, successors, and assigns.

IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed by their duly authorized officials, this Agreement in duplicate, each of which shall be deemed an original on the date first above written.

OWNER: CITY OF BURLINGTON

Name _____

Signature _____

Title _____

(SEAL)

Attest _____

Name _____
(Please Type)

Title _____

CONTRACTOR:

Firm _____

Name and Title _____

Signature _____

Address _____

(SEAL)

Attest: _____

Name: _____
(Please Type)

Title _____

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**Certificate of Acknowledgment of Contractor
of a Corporation for
CONTRACT AGREEMENT**

State of (_____)

County of (_____) ss:

On this _____ day of _____, 2016,

before me personally came _____,

to me known, who being duly sworn did say as follows: that he/she

resides at _____

and is the _____

of _____, the corporation

described in and which executed the foregoing instrument; that he knows the corporate seal of said corporation; that the seal affixed to the foregoing instrument is such corporate seal and it was so affixed by order of the Board of Directors of said corporation; and that by the like order he/she signed thereto his/her name and official designation.

Notary Public

(Seal)

My commission expires _____

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Performance Bond

KNOW ALL MEN AND WOMEN BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

a _____, hereinafter called Principal,
(Corporation, Partnership or Individual)

and _____
(Name of Surety)

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

City of Burlington
(Name of Owner)

645 Pine St, Suite B, Burlington, Vermont 05401
(Address of Owner)

hereinafter called OWNER, and the in the aggregate penal sum of _____ Dollars, \$(_____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the ___ day of _____, 2016, a copy of which is hereto attached and made a part hereof for the construction of:

The City of Burlington – Burlington Bike Path Phase 1b Rehabilitation.

NOW, THEREFORE, if the principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the OWNER, with or without notice to the Surety and during the one year guaranty period, and if the PRINCIPAL shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the OWNER and GOVERNMENT from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the OWNER and GOVERNMENT all outlay and expense which the OWNER and GOVERNMENT may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the liability of the PRINCIPAL AND SURETY hereunder to the GOVERNMENT shall be subject to the same limitations and defenses as may be available to them against a claim hereunder by

the OWNER, provided however, that the GOVERNMENT may, at its option, perform any obligations of the OWNER required by the contract.

PROVIDED, FURTHER, that the said Surety for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in any wise affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that it is expressly agreed that the BOND shall be deemed amended automatically and immediately, without formal and separate amendments hereto, upon amendment to the Contract not increasing the contract price more than twenty percent, so as to bind the PRINCIPAL and the SURETY to the full and faithful performance of the CONTRACT as so amended. The term "Amendment", wherever used in this BOND, and whether referring to this BOND, the Contract or the Loan Documents shall include and alteration, addition, extension, or modification of any character whatsoever.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in ____ (number) counterparts, each one of which shall be deemed an original, this the ____ day of _____, 2016.

ATTEST:

Principal

(Principal Secretary)

(SEAL)

By: ____(s)

Address: _____

Witness as to Principal

Address: _____

Surety

ATTEST:

By: _____
Attorney-in-Fact

Witness as to Surety

Address: _____

Address: _____

NOTE: Date of BOND must not be prior to date of Contract. If CONTRACTOR is Partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570) as amended and be authorized to transact business in the State where the PROJECT is located.

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Payment Bond

KNOW ALL MEN OR WOMEN BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

a _____, hereinafter called Principal,
(Corporation, Partnership or Individual)

and _____
(Name of Surety)

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

City of Burlington
(Name of Owner)

645 Pine St., Suite B, Burlington, Vermont 05401
(Address of Owner)

hereinafter called OWNER, and unto all persons, firms, and corporations who or which may furnish labor, or who furnish materials to perform as described under the contract and to their successors and assigns in the total aggregate penal sum of _____ Dollars, \$(_____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the ____ day of _____ 2016, a copy of which is hereto attached and made a part hereof for the construction of:

The City of Burlington – Burlington Bike Path Phase 1b Rehabilitation

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms, SUBCONTRACTORS, and corporations furnishing materials for or performing labor in the prosecution of the WORK provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such WORK, and for all labor costs incurred in such WORK including that by a SUBCONTRACTOR, and to any mechanic or materialman lienholder whether it acquires its lien by operation of State or Federal law; then this obligation shall be void, otherwise to remain in force and effect.

PROVIDED, that beneficiaries or claimants hereunder shall be limited to the SUBCONTRACTORS, and persons, firms, and corporations having a direct contract with the PRINCIPAL or its SUBCONTRACTORS.

PROVIDED, FURTHER, that the said Surety for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the WORK to be performed

thereunder or the SPECIFICATIONS accompanying the same shall in any wise affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no suit or action shall be commenced hereunder by any claimant: (a) Unless claimant, other than one having a direct contract with the PRINCIPAL (or with the GOVERNMENT in the event the GOVERNMENT is performing the obligations of the OWNER), shall have given written notice to any two of the following: The PRINCIPAL, the OWNER, or the SURETY above named within ninety (90) days after such claimant did or performed the list of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the PRINCIPAL, OWNER, or SURETY, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the state in which the aforesaid project is located, save that such service need not be made by a public officer. (b) After the expiration of one (1) year following the date of which PRINCIPAL ceased work on said CONTRACT, is being understood, however, that if any limitation embodied in the BOND is prohibited by any law controlling the construction hereof, such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.

PROVIDED, FURTHER, that it is expressly agreed that this BOND shall be deemed amended automatically and immediately, without formal and separate amendments hereto, upon amendment to the Contract not increasing the contract price more than 20 percent, so as to bind the PRINCIPAL and the SURETY to the full and faithful performance of the Contract as so amended. The term "Amendment", wherever used in this BOND and whether referring to this BOND, the contract or the loan Documents shall include any alteration, addition, extension or modification of any character whatsoever.

PROVIDED, FURTHER, that no final settlement between the OWNER or GOVERNMENT and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in _____ (number) counterparts, each one of which shall be deemed an original, this, the _____ day of _____ 2016.

ATTEST:

Principal

(Principal Secretary)

(SEAL)

By: ____(s)

Address: _____

Witness as to Principal

Address: _____

Surety

ATTEST:

By: _____
Attorney-in-Fact

Witness as to Surety

Address: _____

Address: _____

NOTE: Date of BOND must not be prior to date of Contract. If CONTRACTOR is Partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570) as amended and be authorized to transact business in the State where the PROJECT is located.

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NOTICE TO PROCEED

To: _____ Date: _____
Contractor

Project: **City of Burlington – Burlington Bike Path Phase 1b Rehabilitation.**

You are hereby notified to commence WORK in accordance with the AGREEMENT dated _____ **2016**, and you are to complete the WORK within _____ **119** consecutive calendar days thereafter.

Owner: _____ **City of Burlington** _____

Name: _____

Title: _____

Signature: _____

Date: _____

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED is hereby acknowledged.

Contractor: _____

Name: _____

Title: _____

Signature: _____

Date: _____

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CHANGE ORDER # _____

Project No. _____ Date: _____

Contract No. _____ Agreement Date: _____

CONTRACT TITLE: _____ ORIGINAL PRICE: _____

OWNER (GRANTEE): **City of Burlington** _____

CONTRACTOR: _____

The following changes are hereby made to the CONTRACT DOCUMENTS:

DESCRIPTION:

JUSTIFICATION:

PRICE:

Current Contract Price per most recent C.O. : \$ _____
This C.O. will (not change/increase/decrease)
the Contract Price by: \$ _____
The new Contract Price including this C.O. is: \$ _____

TIME:

Current Contract Calendar Days as per most
recent C.O.: DAYS ____
This C.O. will (not change/increase/decrease)
the Contract Calendar Days By: DAYS ____
The new Contract Calendar Days including this
C.O. is DAYS ____
The new Contract Completion Date is, therefore: _____
(Reflects increases or decreases in
Contract Time as authorized by this C.O.)

REQUESTED BY: _____
(Contractor, Owner, Engineer,)

SIGNATURES/APPROVALS:

Recommended by: _____

Accepted by: _____
(Contractor)

Ordered by:

(Owner)

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**General Contractor's or Subcontractor's
Release and Waiver of Lien**

For and in consideration of the receipt of \$ _____, in payment for labor and/or materials furnished, the undersigned does hereby waive, release and relinquish any and all claims, demands and rights of lien for all work, labor, materials, machinery or other goods, equipment or services done, performed or furnished for the construction located at the site hereinafter described, to with:

(Project Name and Owner)

_____, Vermont as of _____
(Date)

The undersigned further warrants and represents that any and all valid labor and/or materials and equipment bills, now due and payable on the property hereinabove described in behalf of the undersigned, have been paid in full to date of this waiver, or will be paid from these funds.

\$ _____
Total Paid to Date This Contract

Current Payment Due

\$ _____
Total Billed to Date This Contract

Contractor/Sub-Contractor

(Witness)

Contractor/Subcontractor

By: _____

(Witness)

Title: _____

This page intentionally left blank.

The Contractor accepts the above Certificate of Substantial Completion.

Contractor

Authorized Representative

Date

Exceptions as to Guarantees and Warranties:

Attachments:

Certificate of Final Completion of Work

Contract No.: _____ Agreement Date: _____

Contract Description: _____

FINAL CERTIFICATION OF CONTRACTOR

I hereby certify that the WORK as identified in the Final Estimate of Payment for construction CONTRACT WORK dated _____, represents full compensation for the actual value of WORK completed. All WORK completed conforms to the terms of the AGREEMENT and authorized changes.

Date _____ CONTRACTOR: _____

Signature: _____

Title: _____

FINAL CERTIFICATION OF ENGINEER

I have reviewed the CONTRACTOR'S Final Payment Request dated _____ and hereby certify that to the best of my knowledge, the cost of the WORK identified on the Final Estimate represents full compensation for the actual value of WORK completed and that the WORK has been completed in accordance with the terms of the AGREEMENT and authorized changes.

Date _____ ENGINEER: _____

Signature: _____

Title: _____

FINAL ACCEPTANCE OF OWNER

I, as representative of the OWNER, accept the above Final Certifications and authorize Final Payment in the amount of \$ _____.

OWNER: _____

Date: _____

Authorized Representative: _____

Title: _____

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CITY OF BURLINGTON GENERAL CONDITIONS

1. Definitions
2. Additional Instructions & Detail Drawings
3. Schedules, Reports and Records
4. Drawings and Specifications
5. Shop Drawings
6. Materials, Services and Facilities
7. Inspection and Testing
8. Substitutions
9. Patents and Copyrights
10. Surveys, Permits, Regulations
11. Protection of Work, Property, Persons
12. Supervision by Contractor
13. Changes in the Work
14. Changes in Contract Price
15. Time for Completion & Liquidated Damages
16. Correction of Work
17. Subsurface Conditions
18. Suspension of Work, Termination & Delay
19. Payments to Contractor
20. Acceptance of Final Payment as Release
21. Insurance
22. Contract Security
23. Assignments
24. Indemnification
25. Separate Contracts
26. Subcontracting
27. Engineer's Authority
28. Land and Rights-of-Way
29. Guaranty
30. Taxes

1. DEFINITIONS

1.1 Wherever used in the CONTRACT DOCUMENTS, the following terms shall have the meanings indicated which shall be applicable to both the singular and plural thereof:

1.2 ADDENDA - Written or graphic instruments issued prior to the execution of the Agreement which modify or interpret the CONTRACT DOCUMENTS, DRAWINGS and SPECIFICATIONS, by additions, deletions, clarifications or corrections.

1.3 BID - The offer or proposal of the BIDDER submitted on the prescribed form setting forth the prices for the WORK to be performed.

1.4 BIDDER - Any person, firm or corporation submitting a BID for the WORK.

1.5 BONDS - Bid, Performance, and Payment Bonds and other instruments of security, furnished by the

CONTRACTOR and his surety in accordance with the CONTRACT DOCUMENTS.

1.6 CHANGE ORDER - A written order to the CONTRACTOR authorizing an addition, deletion or revision in the WORK within the general scope of the CONTRACT DOCUMENTS, or authorizing an adjustment in the CONTRACT PRICE or CONTRACT TIME.

1.7 CONTRACT DOCUMENTS - The contract, including Advertisement For Bids, Information For Bidders, BID, Bid Bond, Agreement, Payment Bond, Performance Bond, NOTICE OF AWARD, NOTICE TO PROCEED, CHANGE ORDER, DRAWINGS, SPECIFICATIONS, and ADDENDA.

1.8 CONTRACT PRICE - The total monies payable to the CONTRACTOR under the terms and conditions of the CONTRACT DOCUMENTS.

1.9 CONTRACT TIME - The number of calendar days stated in the CONTRACT DOCUMENTS for the completion of the WORK.

1.10 CONTRACTOR - The person, firm or corporation with whom the OWNER has executed the Agreement.

1.11 DRAWINGS - The part of the CONTRACT DOCUMENTS which show the characteristics and scope of the WORK to be performed and which have been prepared or approved by the ENGINEER.

1.12 ENGINEER - The person, firm or corporation named as such in the CONTRACT DOCUMENTS.

1.13 FIELD ORDER - A written order effecting a change in the WORK not involving an adjustment in the CONTRACT PRICE or an extension of the CONTRACT TIME, issued by the ENGINEER to the CONTRACTOR during construction.

1.14 NOTICE OF AWARD - The written notice of the acceptance of the BID from the OWNER to the successful BIDDER.

1.15 NOTICE TO PROCEED - Written communication issued by the OWNER to the CONTRACTOR authorizing him to proceed with the WORK and establishing the date of commencement of the WORK.

1.16 OWNER - A public or quasi-public body or authority, corporation, association, partnership, or individual for whom the WORK is to be performed.

1.17 PROJECT - The undertaking to be performed as provided in the CONTRACT DOCUMENTS.

1.18 RESIDENT PROJECT REPRESENTATIVE - The authorized representative of the OWNER who is assigned to the PROJECT site or any part thereof.

1.19 SHOP DRAWINGS - All drawings, diagrams, illustrations, brochures, schedules and other data which are prepared by the CONTRACTOR, a SUBCONTRACTOR, manufacturer, SUPPLIER or distributor, which illustrate how specific portions of the WORK shall be fabricated or installed.

1.20 SPECIFICATIONS - A part of the CONTRACT DOCUMENTS consisting of written descriptions of a technical nature of materials, equipment, construction systems, standards and workmanship.

1.21 SUBCONTRACTOR - An individual, firm or corporation having a direct contract with the CONTRACTOR or with any other SUBCONTRACTOR for the performance of a part of the WORK at the site.

1.22 SUBSTANTIAL COMPLETION - That date as certified by the ENGINEER when the construction of the PROJECT or a specified part thereof is sufficiently completed, in accordance with the CONTRACT DOCUMENTS, so that the PROJECT or specified part can be utilized for the purposes for which it is intended.

1.23 SUPPLEMENTAL GENERAL CONDITIONS - Modifications to General Conditions.

1.24 SUPPLIER - Any person or organization who supplies materials or equipment for the WORK, including that fabricated to a special design, but who does not perform labor at the site.

1.25 WORK - All labor necessary to produce the construction required by the CONTRACT DOCUMENTS, and all materials and equipment incorporated or to be incorporated in the PROJECT.

1.26 WRITTEN NOTICE - Any notice to any party of the Agreement relative to any part of this Agreement in writing and considered delivered and the service thereof completed, when posted by certified or registered mail to the said party at his last given address, or delivered in person to said party or his authorized representative on the WORK.

2. ADDITIONAL INSTRUCTION AND DETAIL DRAWINGS

2.1 The CONTRACTOR may be furnished additional instructions and detail drawings, by the ENGINEER, as necessary to carry out the WORK required by the CONTRACT DOCUMENTS.

2.2 The additional drawings and instruction thus supplied will become a part of the CONTRACT DOCUMENTS. The CONTRACTOR shall carry out the WORK in accordance with the additional detail drawings and instructions.

3. SCHEDULES, REPORTS AND RECORDS

3.1 The CONTRACTOR shall submit to the OWNER such schedule of quantities and costs, progress schedules, payrolls, reports, estimates, records and other data where applicable as are required by the CONTRACT DOCUMENTS for the WORK to be performed.

3.2 Prior to the first partial payment estimate the CONTRACTOR shall submit construction progress schedules showing the order in which he proposes to carry on the WORK, including dates at which he will start the various parts of the WORK, estimated date of completion of each part and, as applicable:

3.2.1 The dates at which special detail drawings will be required; and

3.2.2 Respective dates for submission of SHOP DRAWINGS, the beginning of manufacture, the testing and the installation of materials, supplies and equipment.

3.3 The CONTRACTOR shall also submit a schedule of payments that he anticipates he will earn during

the course of the WORK.

4. DRAWINGS AND SPECIFICATIONS

4.1 The intent of the DRAWINGS and SPECIFICATIONS is that the CONTRACTOR shall furnish all labor, materials, tools, equipment, and transportation necessary for the proper execution of the WORK in accordance with the CONTRACT DOCUMENTS and all incidental work necessary to complete the PROJECT in an acceptable manner, ready for use, occupancy or operation by the OWNER.

4.2 In case of conflict between the DRAWINGS and SPECIFICATIONS, the SPECIFICATIONS shall govern. Figure dimensions on DRAWINGS shall govern over scale dimensions, and detailed DRAWINGS shall govern over general DRAWINGS.

4.3 Any discrepancies found between the DRAWINGS and SPECIFICATIONS and site conditions or and inconsistencies or ambiguities in the DRAWINGS or SPECIFICATIONS shall be immediately reported to the ENGINEER, in writing, who shall promptly correct such inconsistencies or ambiguities in writing. WORK done by the CONTRACTOR after his discovery of such discrepancies, inconsistencies or ambiguities shall be done at the CONTRACTOR's risk.

5. SHOP DRAWINGS

5.1 The CONTRACTOR shall provide SHOP DRAWINGS as may be necessary for the prosecution of the WORK as required by the CONTRACT DOCUMENTS. The ENGINEER shall promptly review all SHOP DRAWINGS. The ENGINEER'S approval of any SHOP DRAWING shall not release the CONTRACTOR from responsibility for deviations from the CONTRACT DOCUMENTS. The approval of any SHOP DRAWING, which substantially deviates from the requirement of the CONTRACT DOCUMENTS, shall be evidenced by a CHANGE ORDER.

5.2 When submitted for the ENGINEER'S review, SHOP DRAWINGS shall bear the CONTRACTOR'S certification that he has reviewed, checked and approved the SHOP DRAWINGS and that they are in conformance with the requirements of the CONTRACT DOCUMENTS.

5.3 Portions of the WORK requiring a SHOP DRAWING or sample submission shall not begin until the SHOP DRAWING or submission has been approved by the ENGINEER. A copy of each approved SHOP DRAWING and each approved sample shall be kept in good order by the CONTRACTOR at the site and shall be available to the ENGINEER.

6. MATERIALS, SERVICES AND FACILITIES

6.1 It is understood that, except as otherwise specifically stated in the CONTRACT DOCUMENTS, the CONTRACTOR shall provide and pay for all materials, labor, tools, equipment, water, light, power, transportation, supervision, temporary construction of any nature, and all other services and facilities of any nature whatsoever necessary to execute, complete, and deliver the WORK within the specified time.

6.2 Materials and equipment shall be so stored as to insure the preservation of their quality and fitness for the WORK. Stored materials and equipment to be incorporated in the WORK shall be located so as to facilitate prompt inspection.

6.3 Manufactured articles, materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned as directed by the manufacturer.

6.4 Materials, supplies and equipment shall be in accordance with samples submitted by the CONTRACTOR and approved by the ENGINEER.

6.5 Materials, supplies or equipment to be incorporated into the WORK shall not be purchased by the CONTRACTOR or the SUBCONTRACTOR subject to a chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller.

7. INSPECTION AND TESTING

7.1 All materials and equipment used in the construction of the PROJECT shall be subject to adequate inspection and testing in accordance with generally accepted standards, as required and defined in the CONTRACT DOCUMENTS.

7.2 The OWNER shall provide all inspection and testing services not required by the CONTRACT DOCUMENTS.

7.3 The CONTRACTOR shall provide at his expense the testing and inspection services required by the CONTRACT DOCUMENTS.

7.4 If the CONTRACT DOCUMENTS, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any WORK to specifically be inspected, tested, or approved by someone other than the CONTRACTOR, the CONTRACTOR will give the ENGINEER timely notice of readiness. The CONTRACTOR will then furnish the ENGINEER the required certificates of inspection, testing or approval.

7.5 Inspections, tests or approvals by the engineer or others shall not relieve the CONTRACTOR from his obligations to perform the WORK in accordance with the requirements of the CONTRACT DOCUMENTS.

7.6 The ENGINEER and his representatives will at all times have access to the WORK. In addition, authorized representatives and agents of any participating Federal or State agency shall be permitted to inspect all work, materials, payrolls, records of personnel, invoices of materials, and other relevant data and records. The CONTRACTOR will provide proper facilities for such access and observation of the WORK and also for any inspection, or testing thereof.

7.7 If any WORK is covered contrary to the written instructions of the ENGINEER it must, if requested by the ENGINEER, be uncovered for his observation and replaced at the CONTRACTOR'S expense.

7.8 If the ENGINEER considers it necessary or advisable that covered WORK be inspected or tested by others, the CONTRACTOR, at the ENGINEER'S request, will uncover, expose or otherwise make available for observation, inspection or testing as the ENGINEER may require, that portion of the WORK in questions, furnishing all necessary labor, materials, tools, and equipment. If it is found that such WORK is defective, the CONTRACTOR will bear all the expenses of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction. If, however, such WORK is not found to be defective, the CONTRACTOR will be allowed an increase in the CONTRACT PRICE or an extension of the CONTRACT TIME, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction and an appropriate CHANGE ORDER shall be issued.

8. SUBSTITUTIONS

8.1 Whenever a material, article or piece of equipment is identified on the DRAWINGS or SPECIFICATIONS by reference to brand name or catalog number, it shall be understood that this is referenced for the purpose of defining the performance or other salient requirements and that other products of equal capacities, quality and function shall be considered. The CONTRACTOR may recommend the substitution of a material, article, or piece of equipment of equal substance and function for those referred to in the CONTRACT DOCUMENTS by reference to brand name or catalog number, and if, in the opinion of the ENGINEER, such material, article, or piece of equipment is of equal substance and function to that specified, the ENGINEER may approve its substitution and use by the CONTRACTOR. Any cost differential shall be deductible from the CONTRACT PRICE and the CONTRACT DOCUMENTS shall be appropriately modified by CHANGE ORDER. The CONTRACTOR warrants that if substitutes are approved, no major changes in the function or general design of the PROJECT will result. Incidental changes or extra component parts required to accommodate the substitute will be made by the CONTRACTOR without a change in the CONTRACT PRICE or CONTRACT TIME.

9. PATENTS and COPYRIGHTS

9.1 The CONTRACTOR shall pay all applicable royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and copyrights, and save the OWNER harmless from loss on account thereof, except that the OWNER shall be responsible for any such loss when a particular process, design, or the product of a particular manufacturer or manufacturers is specified, however, if the CONTRACTOR has reason to believe that the design, process or product specified is an infringement of a patent or copyright, he shall be responsible for such loss unless he promptly gives such information to the ENGINEER.

10. SURVEYS, PERMITS, REGULATIONS

10.1 The OWNER shall establish all base lines for locating the principal component parts of the WORK together with a suitable number of bench marks adjacent to the WORK as shown in the CONTRACT DOCUMENTS. From the information provided by the OWNER, unless otherwise specified in the CONTRACT DOCUMENTS, the CONTRACTOR shall develop and make all detail surveys needed for construction such as slope stakes, batter boards, stakes for pile locations and other working points, lines, elevations and cut sheets.

10.2 The CONTRACTOR shall carefully preserve bench marks, reference points and stakes and, in case of willful or careless destruction, he shall be charged with the resulting expense and shall be responsible for any mistake that may be caused by their unnecessary loss or disturbance.

10.3 Permits and licenses of a temporary nature necessary for the prosecution of the WORK shall be secured and paid for by the CONTRACTOR unless otherwise stated in the SUPPLEMENTAL GENERAL CONDITIONS. Permits, licenses and easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by the OWNER, unless otherwise specified. The CONTRACTOR shall give all notices and comply with all laws, ordinances, rules and regulations bearing on the conduct of the WORK as drawn and specified. If the CONTRACTOR observes that the CONTRACT DOCUMENTS are at variance therewith, he shall promptly notify the ENGINEER in writing, and any necessary changes shall be adjusted as provided in Section 13, CHANGES IN THE WORK.

11. PROTECTION OF WORK, PROPERTY AND PERSONS

11.1 The CONTRACTOR will be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the WORK. He will take all necessary precautions for the

safety of, and will provide the necessary protection to prevent damage, injury or loss to all employees on the WORK and other persons who may be affected thereby, all the WORK and all materials or equipment to be incorporated therein, whether in storage on or off the site, and other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

11.2 The CONTRACTOR will comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction. He will erect and maintain, as required by the conditions and progress of the WORK, all necessary safeguards for safety and protection. He will notify owners of adjacent utilities when prosecution of the WORK may affect them. The CONTRACTOR will remedy all damage, injury or loss to any property caused, directly or indirectly, in whole or in part, by the CONTRACTOR, any SUBCONTRACTOR or anyone directly or indirectly employed by any of them or anyone for whose acts any of them be liable, except damage or loss attributable to the fault of the CONTRACT DOCUMENTS or to the acts or omissions of the OWNER or the ENGINEER or anyone employed by either of them or anyone for whose acts either of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of the CONTRACTOR.

11.3 In emergencies affecting the safety of persons or the WORK or property at the site or adjacent thereto, the CONTRACTOR, without special instruction or authorization from the ENGINEER or OWNER, shall act to prevent threatened damage, injury or loss. He will give the ENGINEER prompt WRITTEN NOTICE of any significant changes in the WORK or deviations from the CONTRACT DOCUMENTS caused thereby, and a CHANGE ORDER shall thereupon be issued covering the changes and deviations involved.

12. SUPERVISION BY CONTRACTOR

12.1 The CONTRACTOR will supervise and direct the WORK. He will be solely responsible for the means, methods, techniques, sequences and procedures of construction. The CONTRACTOR will employ and maintain on the WORK a qualified supervisor or superintendent who shall have been designated in writing by the CONTRACTOR as the CONTRACTOR'S representative at the site. The supervisor shall have full authority to act on behalf of the CONTRACTOR and all communications given to the supervisor shall be as binding as if given to the CONTRACTOR. The supervisor shall be present on the site at all times as required to perform adequate supervision and coordination of the WORK.

13. CHANGES IN THE WORK

13.1 The OWNER may at any time, as the need arises, order changes within the scope of the WORK without invalidating the Agreement. If such changes increase or decrease the amount due under the CONTRACT DOCUMENTS, or in the time required for performance of the WORK, an equitable adjustment shall be authorized by CHANGE ORDER.

13.2 The ENGINEER, also, may at any time, by issuing a FIELD ORDER, make changes in the details of the WORK. The CONTRACTOR shall proceed with the performance of any changes in the WORK so ordered by the ENGINEER unless the CONTRACTOR believes that such FIELD ORDER entitles him to a change in CONTRACT PRICE or TIME, or both, in which event he shall give the ENGINEER WRITTEN NOTICE thereof within seven (7) days after the receipt of the ordered change. Thereafter the CONTRACTOR shall document the basis for the change in CONTRACT PRICE or TIME within thirty (30) days. The CONTRACTOR shall not execute such changes pending the receipt of an executed CHANGE ORDER or further instruction from the OWNER.

14. CHANGES IN CONTRACT PRICE

14.1 The CONTRACT PRICE may be changed only by a CHANGE ORDER. The value of any WORK covered by a CHANGE ORDER or of any claim for increase or decrease in the CONTRACT PRICE shall be determined by one or more of the following methods in the order of precedence listed below:

- (a) Unit prices previously approved.
- (b) An agreed lump sum.
- (c) The actual cost for labor, direct overhead, materials, supplies, equipment, and other services necessary to complete the WORK. In addition, there shall be added an amount to be agreed upon but not to exceed fifteen (15) percent of the actual cost of the WORK to cover the cost of general overhead and profit (OHP) if the prime CONTRACTOR performs the work, and not to exceed five (5) percent additional markup by the prime CONTRACTOR if the work is done by a SUB-CONTRACTOR, who is allowed an amount to be agreed upon but not to exceed fifteen (15) percent OHP for the work.

15. TIME FOR COMPLETION AND LIQUIDATED DAMAGES

15.1 The date of beginning and the time for completion of the WORK are essential conditions of the CONTRACT DOCUMENTS and the WORK embraced shall be commenced on a date specified in the NOTICE TO PROCEED.

15.2 The CONTRACTOR will proceed with the WORK at such rate of progress to insure final completion within the CONTRACT TIME. IT is expressly understood and agreed, by and between the CONTRACTOR and the OWNER, that the CONTRACT TIME for the completion of the WORK described herein is a reasonable time, taking into consideration the average climatic and economic conditions and other factors prevailing in the locality of the WORK.

15.3 If the CONTRACTOR shall fail to complete the WORK within the CONTRACT TIME, or extension of time granted by the OWNER, then the contractor will pay to the OWNER the amount for liquidated damages as specified in VTrans General Special Provisions section 22 for each calendar day that the CONTRACTOR shall be in default after the time stipulated in the CONTRACT DOCUMENTS.

15.4 The CONTRACTOR shall not be charged with liquidated damages or any excess cost when the delay in completion of the WORK is due to the following, and the CONTRACTOR has promptly given WRITTEN NOTICE of such delay to the OWNER or ENGINEER.

15.4.1 To any preference, priority or allocation order duly issued by the OWNER;

15.4.2 To unforeseeable causes beyond the control and without the fault or negligence of the CONTRACTOR, including but not restricted to, acts of God, or of the public enemy, acts of the OWNER, acts of another CONTRACTOR in the performance of a CONTRACT with the OWNER, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and abnormal and unforeseeable weather; and

15.4.3 To any delays of SUBCONTRACTORS occasioned by any of the causes specified in paragraphs 15.4.1. and 15.4.2 of this article.

16. CORRECTION OF WORK

16.1 The CONTRACTOR shall promptly remove from the premises all WORK rejected by the ENGINEER for failure to comply with the CONTRACT DOCUMENTS, whether incorporated in the construction or not, and the CONTRACTOR shall promptly replace and re-execute the WORK in accordance with the CONTRACT DOCUMENTS and without expense to the OWNER and shall bear the expense of making good all WORK of other CONTRACTORS destroyed or damaged by such removal or replacement.

16.2 All removal and replacement WORK shall be done at the CONTRACTOR's expense. If the CONTRACTOR does not take action to remove such rejected work within ten (10) days after receipt of WRITTEN NOTICE, the OWNER may remove such WORK and store the materials at the expense of the CONTRACTOR.

17. SUBSURFACE CONDITIONS

17.1 The CONTRACTOR shall promptly, and before such conditions are disturbed, except in the event of an emergency, notify the OWNER by WRITTEN NOTICE of:

17.1.1 Subsurface or latent physical conditions at the site differing materially from those indicated in the CONTRACT DOCUMENTS; or

17.1.2 Unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in WORK of the character provided for in the CONTRACT DOCUMENTS.

17.2 The OWNER shall promptly investigate the conditions, and if he finds that such conditions do so materially differ and cause an increase or decrease in the cost of, or in the time required for, performance of the WORK, an equitable adjustment shall be made and the CONTRACT DOCUMENTS shall be modified by a CHANGE ORDER. Any claim of the CONTRACTOR for adjustment hereunder shall not be allowed unless he has given the required WRITTEN NOTICE; provided that the OWNER may, if he determines the facts so justify, consider and adjust any such claims asserted before the date of final payment.

18. SUSPENSION OF WORK, TERMINATION AND DELAY

18.1 The OWNER may suspend the WORK or any portion thereof for a period of not more than ninety days or such further time as agreed upon by the CONTRACTOR, by WRITTEN NOTICE to the CONTRACTOR and the ENGINEER which notice shall fix the date on which WORK shall be resumed. The CONTRACTOR will resume the WORK on the date so fixed. The CONTRACTOR will be allowed an increase in the CONTRACT PRICE or an extension of the CONTRACT TIME, or both, directly attributable to any suspension.

18.2 If the CONTRACTOR is adjudged as bankrupt or insolvent, or if he makes a general assignment for the benefit of his creditors, or if a trustee or receiver is appointed for the Contractor or for any of his property, or if he files a petition to take advantage of any debtor's act, or to reorganize under the bankruptcy or applicable laws, or if he repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment, or if he repeatedly fails to make prompt payments to SUBCONTRACTORS or for labor, materials or equipment or if he disregards laws, ordinances, rules, regulations or orders of any public body having jurisdiction of the WORK or if he disregards the authority of the ENGINEER, or if he otherwise violates any provision of the CONTRACT DOCUMENTS, then the OWNER may, without prejudice to any other right or remedy and after giving the CONTRACTOR and his surety a minimum of ten (10) days from delivery of a WRITTEN NOTICE, terminate the services of the CONTRACTOR and take possession of the PROJECT and of all materials, equipment, tools, construction equipment and machinery thereon owned by the CONTRACTOR, and finish the WORK by whatever method he may deem expedient. In such case the CONTRACTOR shall not be entitled to receive any further payment until the WORK is finished. If the unpaid balance of the CONTRACT price exceeds the direct and indirect costs of completing the PROJECT, including compensation for additional professional services, such excess SHALL BE PAID TO THE CONTRACTOR. If such costs exceed such unpaid balance, the CONTRACTOR will pay the difference to the OWNER. Such costs incurred by the OWNER will be determined by the ENGINEER and incorporated in a CHANGE ORDER.

18.3 Where the CONTRACTOR's services have been so terminated by the OWNER, said termination shall not affect any right of the OWNER against the CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of monies by the OWNER due the CONTRACTOR will not release the CONTRACTOR from compliance with the CONTRACT DOCUMENTS.

18.4 After ten (10) days from delivery of a WRITTEN NOTICE to the CONTRACTOR and the ENGINEER, the OWNER may, without cause and without prejudice to any other right or remedy, elect to abandon the PROJECT and terminate the CONTRACT. In such case, the CONTRACTOR shall be paid for all WORK executed and any expense sustained plus reasonable profit.

18.5 If, through no act or fault of the CONTRACTOR, the WORK is suspended for a period of more than ninety (90) days by the OWNER or under an order of court or other public authority, or the ENGINEER fails to act on any request for payment within thirty (30) days after it is submitted, or the OWNER fails to pay the CONTRACTOR substantially the sum approved by the ENGINEER or awarded by arbitrators within thirty (30) days of this approval and presentation, then the CONTRACTOR may, after ten (10) days from delivery of a WRITTEN NOTICE to the OWNER and the ENGINEER, terminate the CONTRACT and recover from the OWNER payment for all WORK executed and all expenses sustained. In addition and in lieu of terminating the CONTRACT, if the ENGINEER has failed to act on a request for payment or if the OWNER has failed to make any payment as aforesaid, the CONTRACTOR may upon ten (10) days WRITTEN NOTICE to the OWNER and the ENGINEER stop the WORK until he has been paid all amounts then due, in which event and upon resumption of the WORK, CHANGE ORDERS shall be issued for adjusting the CONTRACT PRICE or extending the CONTRACT TIME or both to compensate for the costs and delays attributable to the stoppage of the WORK.

18.6 If the performance of all or any portion of the WORK is suspended, delayed, or interrupted as a result of a failure of the OWNER or ENGINEER to act within the time specified in the CONTRACT DOCUMENTS, or if no time is specified, within a reasonable time, an adjustment in the CONTRACT PRICE or an extension of the CONTRACT TIME, or both, shall be made by CHANGE ORDER to compensate the CONTRACTOR for the costs and delays necessarily caused by the failure of the OWNER or ENGINEER.

19. PAYMENTS TO CONTRACTOR

19.1 At least ten (10) days before each progress payment falls due (but not more often than once a month), the CONTRACTOR will submit to the ENGINEER a partial payment estimate filled out and signed by the CONTRACTOR covering the WORK performed during the period covered by the partial payment estimate and supported by such data as the ENGINEER may reasonably require. If payment is requested on the basis of materials and equipment not incorporated in the WORK but delivered and suitably stored at or near the site, the partial payment estimate shall also be accompanied by such supporting data, satisfactory to the OWNER, as will establish the OWNER's title to the material and equipment and protect his interest therein, including applicable insurance. The ENGINEER will, within ten (10) days after receipt of each partial payment estimate, either indicate in writing his approval of payment and present the partial payment estimate to the OWNER, or return the partial payment estimate to the CONTRACTOR indicating in writing his reasons for refusing to approve payment. In the latter case, the CONTRACTOR may make the necessary corrections and resubmit the partial payment estimate. The OWNER will, within ten (10) days of the presentation to him of an approved partial payment estimate, pay the CONTRACTOR a progress payment on the basis of the approved partial payment estimate. The OWNER shall retain ten (10) percent of the amount of each payment until final completion and acceptance of all WORK covered by the CONTRACT DOCUMENTS. However, after fifty (50) percent of the WORK has been completed, if the OWNER finds that satisfactory quality and progress is being made, the OWNER shall reduce Retainage to five (5) percent on the current and remaining estimates. When the WORK is substantially complete (operational or beneficial occupancy), the retained amount shall be further reduced below five (5) percent to only that amount related to the punchlist and necessary to assure completion. On completion and acceptance of a part of the WORK on which the price is stated separately in the CONTRACT DOCUMENTS, payment may be made in full, including retained percentages, less authorized deductions.

19.2 DELETED

19.3 Prior to SUBSTANTIAL COMPLETION, the OWNER, with the approval of the ENGINEER and with the concurrence of the CONTRACTOR, may use any completed or substantially completed portions of the WORK. Such use shall not constitute an acceptance of such portions of the WORK.

19.4 The OWNER shall have the right to enter the premises for the purpose of doing WORK not covered by the CONTRACT DOCUMENTS. This provision shall not be construed as relieving the CONTRACTOR of the sole responsibility for the care and protection of the WORK, or the restoration of any damaged WORK except such as may be caused by agents or employees of the OWNER.

19.5 Upon completion and acceptance of the WORK, the ENGINEER shall issue a certificate attached to the final payment request that the WORK has been accepted by him under the conditions of the CONTRACT DOCUMENTS. The entire balance found to be due the CONTRACTOR, including the retained percentages, but except such sums as may be lawfully retained by the OWNER, shall be paid to the CONTRACTOR within thirty (30) days of completion and acceptance of the WORK.

19.6 The CONTRACTOR will indemnify and save the OWNER or the OWNER'S agents harmless from all claims growing out of the lawful demands of SUBCONTRACTORS, laborers, workmen, mechanics, materialmen, and furnishers of machinery and parts thereof, equipment, tools, and all supplies, incurred in the furtherance of the performance of the WORK. The CONTRACTOR shall, at the OWNER'S request, furnish satisfactory evidence that all obligations of the nature designated above have been paid, discharged, or waived. If the CONTRACTOR fails to do so the OWNER may, after having notified the CONTRACTOR, either pay unpaid bills or withhold from the CONTRACTOR'S unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the CONTRACTOR shall be resumed, in accordance with the terms of the CONTRACT DOCUMENTS, but in no event shall the provisions of this sentence be construed to impose any obligations upon the OWNER to either the CONTRACTOR, his Surety or any third party. In paying any unpaid bills of the CONTRACTOR, any payment so made by the OWNER shall be considered as a payment made under the CONTRACT DOCUMENTS by the OWNER to the CONTRACTOR and the OWNER shall not be liable to the CONTRACTOR for any such payments made in good faith.

19.7 If the OWNER fails to make payment thirty (30) days after approval by the ENGINEER, in addition to other remedies available to the CONTRACTOR, there may be added to each such payment interest at the maximum legal rate commencing on the first day after said payment is due and continuing until the payment is received by the CONTRACTOR.

20. ACCEPTANCE OF FINAL PAYMENT AS RELEASE

20.1 The acceptance by the CONTRACTOR of final payment shall be and shall operate as a release to the OWNER of all claims and all liability to the CONTRACTOR other than claims in stated amounts as may be specifically excepted by the CONTRACTOR for all things done or furnished in connection with this WORK and for every act and neglect of the OWNER and others relating to or arising out of this WORK. Any payment, however, final or otherwise, shall not release the CONTRACTOR or his sureties from any obligations under the CONTRACT DOCUMENTS or the Performance BOND or Payment BONDS.

21. INSURANCE

21.1 The CONTRACTOR shall purchase and maintain such insurance as will protect him from claims set forth below which may arise out of or result from the CONTRACTOR'S execution of the WORK, whether such execution be by himself or by any SUBCONTRACTOR or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

21.1.1 Claims under workmen's compensation, disability benefit and other similar employee benefit acts;

21.1.2 Claims for damages because of bodily injury, occupational sickness or disease, or death or his employees;

21.1.3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than his employees;

21.1.4 Claims for damages insured by usual personal injury liability coverage which are sustained (1) by any person as a result of an offense directly or indirectly related to the employment of such person by the

CONTRACTOR, or (2) by any other person; and

21.1.5 Claims for damages because of injury to or destruction of tangible property, including loss of use resulting there from.

21.2 Certificates of Insurance acceptable to the OWNER shall be filed with the OWNER prior to commencement of the WORK. These Certificates shall contain a provision that coverage afforded under the policies will not be canceled unless at least fifteen (15) days prior WRITTEN NOTICE has been given to the OWNER

21.3 INSURANCE REQUIREMENTS. Insurance obtained by the CONTRACTOR to cover the below-listed requirements shall be procured from an insurance company registered and licensed to do business in the State of Vermont. All insurance coverage for property damage shall provide coverage for "Replacement" cost. Before the CONTRACT is signed and becomes effective, the CONTRACTOR shall file with the OWNER a certificate of insurance, in duplicate, executed by an insurance company or its licensed agent(s), on a form satisfactory to the OWNER, stating that with respect to the CONTRACT awarded, the CONTRACTOR carries insurance in accordance with the following requirements. Renewal certificates for keeping the required insurance in force for the duration of the CONTRACT shall also be filed as specified above. No warranty is made that the coverages and limits listed herein are adequate to cover and protect the interests of the CONTRACTOR and any SUBCONTRACTOR for the CONTRACTOR'S and any SUBCONTRACTOR'S operations. These are solely minimums that have been established to protect the interests of the OWNER. The CONTRACTOR shall procure and maintain, at his own expense, during the CONTRACT TIME, insurances as hereinafter specified:

21.3.1 Workers Compensation Insurance. With respect to all operations performed the CONTRACTOR shall carry Workers Compensation Insurance in accordance with the laws of the State of Vermont, 21 V.S.A. Chapter 9. The CONTRACTOR shall also ensure that all SUBCONTRACTORS carry Workers Compensation Insurance in accordance with 21 V.S.A. Chapter 9 for all work performed by them.

21.3.2 Commercial General Liability Insurance. With respect to all operations performed by the CONTRACTOR and SUBCONTRACTORS, the CONTRACTOR shall carry Commercial General Liability Insurance on an occurrence form providing all major divisions of coverage, including but not limited to:

- Premises - Operations
- Independent Contractor's Protective
- Products and Completed Operations
- Personal Injury Liability

Contractor's General Liability and Property Damage Insurance will be obtained by the CONTRACTOR protecting him from all claims for personal injury, including death, and all claims for destruction of or damage to property arising out of or in connection with any operations under the CONTRACT DOCUMENTS, whether such operations be by himself or by any SUBCONTRACTOR under him, or anyone directly or indirectly employed by the CONTRACTOR or by a SUBCONTRACTOR under him. Contractual Liability applying to the CONTRACTOR'S obligations, unless this requirement is waived in writing by the OWNER, shall have Limits of Coverage not less than:

- | | |
|---|-------------|
| a. General Aggregate | \$2,000,000 |
| b. Products – Completed
Operations Aggregate | \$2,000,000 |
| c. Personal and Advertising
Injury | \$1,000,000 |

- d. Each Occurrence
(Bodily Injury and
Property Damage) \$1,500,000
- e. Property Damage Liability
Insurance will provide
Explosion, Collapse, and
Underground coverages where
applicable.
- f. Excess or Umbrella Liability
 - 1) General Aggregate \$5,000,000
 - 2) Each Occurrence \$5,000,000

21.3.3 Automobile Liability Insurance. The CONTRACTOR shall carry Automobile Liability Insurance covering all motor vehicles, including owned, hired, borrowed, and non-owned vehicles, used in connection with the project. Limits of Coverage shall be not less than:

- a. Bodily Injury:
 - Each Person \$1,000,000
 - Each Accident \$1,000,000
- b. Property Damage:
 - Each Accident \$1,000,000
- c. Combined Single Limit: \$1,500,000

The Contractual Liability coverage requirement shall provide coverage for not less than the following:

- a. Bodily Injury:
 - Each Person \$2,000,000
 - Each Accident \$2,000,000
- b. Property Damage:
 - Each Accident \$2,000,000
 - Annual Aggregate \$2,000,000

21.3.4 Railroad Protective Liability Insurance. When the CONTRACT involves work on, over or under the right-of-way of any railroad, the CONTRACTOR shall carry, with respect to operations performed by the CONTRACTOR and/or by the CONTRACTOR'S SUBCONTRACTORS, Railroad Protective Liability Insurance in a form and amount as required by the railroad company and as specified in the Special Conditions and/or

Supplemental Specifications for the project. If not available from insurance companies registered and licensed to do business in the State of Vermont, this insurance may be procured from Eligible Surplus Lines Companies approved by the Vermont Department of Banking, Insurance, Securities, & Health Care Administration (BISHCA). The CONTRACTOR shall file the original Railroad Protective Policy and one duplicate policy with the OWNER. The OWNER will transmit the original Railroad Protective Policy to the railroad concerned. The CONTRACTOR shall cooperate with and allow the railroad company or its agents free and full access to the project during construction along with all materials and equipment necessary in order that their duly authorized employees or agents may do any and all railroad construction, inspection, flagging and watching. The CONTRACTOR shall defend, indemnify, and save harmless the railroad and all of its officers, employees, and agents against any claim or liability arising from or based on any delay to the CONTRACTOR as a result of railroad construction or maintenance, whether by the railroad company, its employees, or agents.

21.3.5 General Insurance Conditions. The insurance specified under paragraphs 21.3.1, 21.3.2, and 21.3.3 above shall be maintained in force until acceptance of the project by the OWNER. Under paragraph 21.3.2 above, Products and Completed Operations Coverage shall be maintained in force for at least one year from the date of acceptance of the project. Under paragraph 21.3.4 above, the Railroad Protective Policy shall remain in force until all work required to be performed on railroad property is completed to the satisfaction of the Railroad and the OWNER. The contractual liability insurance requirements detailed in the Contract Documents are to indemnify, defend, and hold harmless the OWNER, and railroad(s), as applicable, and their officers, agents, representatives, and employees, with respect to any and all claims, causes of actions, losses, expenses, or damages that arise out of, relate to, or are in any manner connected with the CONTRACTOR'S work or the supervision of the CONTRACTOR'S work on this project. Each policy, except the Workers Compensation Policy, shall name the OWNER, and railroad(s), as additional insured for actions, losses, expenses or damages that arise out of, relate to, or are in any manner connected with the CONTRACTOR'S work or the supervision of the CONTRACTOR'S work on this project. Umbrella Excess Liability Policies may be used in conjunction with primary policies to comply with any of the limit requirements specified above. "Claims-made" coverage forms are not acceptable without the prior written consent of the OWNER. The CONTRACTOR shall investigate and the CONTRACTOR and/or insurance company shall either adjust or defend all claims against the insured for damages covered, even if groundless. Each policy furnished shall contain a rider or non-cancellation clause reading in substance 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 OWNER, 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 OWNER. There shall be no directed compensation allowed the CONTRACTOR on account of any premium or other charge necessary to take out and keep in effect such insurance or bond; the cost thereof shall be considered included in the general cost of the work.

21.3.6 The CONTRACTOR shall acquire and maintain, if applicable, Fire and Extended Coverage insurance upon the PROJECT to the full insurable value thereof for the benefit of the OWNER, the CONTRACTOR, and SUBCONTRACTORS as their interest may appear. This provision shall in no way release the CONTRACTOR or CONTRACTOR'S surety from obligations under the CONTRACT DOCUMENTS to fully complete the PROJECT.

21.4 The CONTRACTOR shall procure and maintain, at his own expense, during the CONTRACT TIME, in accordance with the provision of the laws of the state in which the WORK is performed, Workmen's Compensation Insurance, including occupational disease provisions, for all of his employees at the site of the PROJECT and in case any WORK is sublet, the CONTRACTOR shall require such SUBCONTRACTOR similarly to provide Workmen's Compensation Insurance, including occupational disease provisions for all of the latter's employees unless such employees are covered by the protection afforded by the CONTRACTOR. In case any class of employees engaged in hazardous WORK under this CONTRACT at the site of the PROJECT is not protected under Workmen's Compensation statute, the CONTRACTOR shall provide, and shall cause, each SUBCONTRACTOR to provide, adequate and suitable insurance for the protection of his employees not otherwise protected.

21.5 The CONTRACTOR shall secure "All Risk" type Builder's Risk Insurance for WORK to be performed. Unless specifically authorized by the OWNER, the amount of such insurance shall not be less than the

CONTRACT PRICE totaled in the BID. The policy shall cover not less than the losses due to fire, explosion, hail, lightning, vandalism, malicious mischief, wind, collapse, riot, aircraft, water and smoke during the CONTRACT TIME, and until the WORK is accepted by the OWNER. The policy shall name as the insured the CONTRACTOR, the ENGINEER, and the OWNER.

22. CONTRACT SECURITY

22.1 The CONTRACTOR shall within ten (10) days after the receipt of the NOTICE OF AWARD furnish the OWNER with a Performance BOND and a Payment BOND in penal sums equal to the amount of the CONTRACT PRICE, conditioned upon the performance by the CONTRACTOR of all undertakings, covenants, terms, conditions and agreements of the CONTRACT DOCUMENTS, and upon the prompt payment by the CONTRACTOR to all persons supplying labor and materials in the prosecution of the WORK provided by the CONTRACT DOCUMENTS. Such BONDS shall be executed by the CONTRACTOR and a corporate bonding company licensed to transact such business in the state in which the WORK is to be performed and named on the current list of "Surety Companies Acceptable on Federal Bonds" as published in the Treasury Department Circular Number 570. The expense of these BONDS shall be borne by the CONTRACTOR. If at any time a surety on any such BOND is declared bankrupt or loses its right to do business in the state in which the WORK is to be performed or is removed from the list of Surety Companies accepted on Federal BONDS, CONTRACTOR shall within ten (10) days after notice from the OWNER to do so, substitute an acceptable BOND (or BONDS) in such form and sum and signed by such other surety or sureties as may be satisfactory to the OWNER. The premiums on such BOND shall be paid by the CONTRACTOR. No further payments shall be deemed due nor shall be made until the new surety or sureties shall have furnished an acceptable BOND to the OWNER.

23. ASSIGNMENTS

23.1 Neither the CONTRACTOR nor the OWNER shall sell, transfer, assign or otherwise dispose of the CONTRACT or any portion thereof, or of his right, title or interest therein, or his obligations hereunder, without written consent of the other party.

24. INDEMNIFICATION

24.1 The CONTRACTOR will indemnify and hold harmless the OWNER and the ENGINEER and their agents and employees from and against all claims, damages, losses and expenses including attorney's fees arising out of or resulting from the performance of the WORK, provided that any such claims, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property including the loss of use resulting there from; and is caused in whole or in part by any negligent or willful act or omission of the CONTRACTOR, and SUBCONTRACTOR, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable.

24.2 In any and all claims against the OWNER or the ENGINEER, or any of their agents or employees, by any employee of the CONTRACTOR, any SUBCONTRACTOR, anyone directly or indirectly employed by any of them, or anyone for whose acts any of the may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the CONTRACTOR or any SUBCONTRACTOR under workmen's compensation acts, disability benefit acts or other employee benefits acts.

24.3 The obligation of the CONTRACTOR under this paragraph shall not extend to the liability of the ENGINEER, his agents or employees arising out of the preparation or approval of maps, DRAWINGS, opinions, reports, surveys, CHANGE ORDERS, design or SPECIFICATIONS.

25. SEPARATE CONTRACTS

25.1 The OWNER reserves the right to let other CONTRACTS in connection with this PROJECT. The CONTRACTOR shall afford other CONTRACTORS reasonable opportunity for the introduction and storage of their materials and the execution of their WORK, and shall properly connect and coordinate his WORK with theirs. If the proper execution or results of any part of the CONTRACTOR'S WORK depends upon the WORK of any other CONTRACTOR, the CONTRACTOR shall inspect and promptly report to the ENGINEER any defects in such WORK that render it unsuitable for such proper execution and results.

25.2 The OWNER may perform additional WORK related to the PROJECT by himself or he may let other CONTRACTS containing provisions similar to these. The CONTRACTOR will afford the other CONTRACTORS who are parties to such CONTRACTS (for the OWNER, if he is performing the additional WORK himself), reasonable opportunity for the introduction and storage of materials and equipment and the execution of WORK, and shall properly connect and coordinate his WORK with theirs.

25.3 If the performance of additional WORK by other CONTRACTORS or the OWNER is not noted in the CONTRACT DOCUMENTS prior to the execution of the CONTRACT, WRITTEN NOTICE thereof shall be given to the CONTRACTOR prior to starting any such additional WORK. If the CONTRACTOR believes that the performance of such additional WORK by the OWNER or others involves him in additional expense or entitles him to an extension of the CONTRACT TIME, he may make a claim therefore as provided in Section 14 and 15.

26. SUBCONTRACTING

26.1 The CONTRACTOR may utilize the services of specialty SUBCONTRACTORS on those parts of the WORK which under normal contracting practices, are performed by specialty SUBCONTRACTORS.

26.2 The CONTRACTOR shall not award WORK to SUBCONTRACTOR(S), in excess of fifty (50) percent of the CONTRACT PRICE, without prior written approval of the OWNER.

26.3 The CONTRACTOR shall be fully responsible to the OWNER for the acts and omissions of his SUBCONTRACTORS and of persons wither directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by him.

26.4 The CONTRACTOR shall cause appropriate provisions to be inserted in all subcontracts relative to the WORK to bind SUBCONTRACTORS to the CONTRACTOR by the terms of the CONTRACT DOCUMENTS insofar as applicable to the WORK of SUBCONTRACTORS and to give the CONTRACTOR the same power as regards terminating any subcontract that the OWNER may exercise over the CONTRACTOR under any provision of the CONTRACT DOCUMENTS.

26.5 Nothing contained in this CONTRACT shall create any contractual relation between any SUBCONTRACTOR and the OWNER.

27. ENGINEER'S AUTHORITY

27.1 The ENGINEER shall act as the OWNER'S representative during the construction period. He shall decide questions which may arise as to quality and acceptability of materials furnished and WORK performed. He shall interpret the intent of the CONTRACT DOCUMENTS in a fair and unbiased manner. The ENGINEER will make visits to the site and determine if the WORK is proceeding in accordance with the CONTRACT DOCUMENTS.

27.2 The CONTRACTOR will be held strictly to the intent of the CONTRACT DOCUMENTS in regard to the quality of materials, workmanship and execution of the WORK. Inspections may be made at the factory or fabrication plant of the source of material supply.

27.3 The ENGINEER will not be responsible for the construction means, controls, techniques, sequences, procedures, or construction safety.

27.4 The ENGINEER shall promptly make decisions relative to interpretation of the CONTRACT DOCUMENTS.

28. LAND AND RIGHTS-OF-WAY

28.1 Prior to issuance of NOTICE TO PROCEED, the OWNER shall obtain all land and rights-of-way necessary for carrying out and for the completion of the WORK to be performed pursuant to the CONTRACT DOCUMENTS, unless otherwise mutually agreed.

28.2 The OWNER shall provide to the CONTRACTOR information which delineates and describes the lands owned and rights-of-way acquired.

28.3 The CONTRACTOR shall provide at his own expense and without liability to the OWNER any additional land and access thereto that the CONTRACTOR may desire for temporary construction facilities, or for storage of materials.

29. GUARANTEE

29.1 The CONTRACTOR shall guarantee all materials and equipment furnished and WORK performed for a period of one, (1) year from the date of SUBSTANTIAL COMPLETION or FINAL COMPLETION OF THE PROJECT or specified part, as appropriate. The CONTRACTOR warrants and guarantees for a period of one (1) year from the date of SUBSTANTIAL COMPLETION or FINAL COMPLETION OF THE PROJECT or specified part, as appropriate, that the completed project is free from all defects due to faulty materials or workmanship and the CONTRACTOR shall promptly make such corrections as may be necessary by reason of such defects including the repairs of any damage to other parts of the project resulting from such defects. The OWNER will give notice of observed defects with reasonable promptness. In the event that the CONTRACTOR should fail to make such repairs, adjustments, or other WORK that may be made necessary by such defects, the OWNER may do so and charge the CONTRACTOR the cost thereby incurred. The Performance BOND shall remain in full force and effect through the guarantee period.

30. TAXES

30.1 The CONTRACTOR will pay all sales, consumer, use and other similar taxes required by the law of the place where the WORK is performed.

CITY OF BURLINGTON - SUPPLEMENTARY CONDITIONS

1. Maintenance of Traffic

Work shall be performed in accordance with all portions of VTrans sections 104.04, excluding 104.04(b). Work shall also be performed in accordance with Sections 107.07, .08, .09, .10, .12, and .17 of the VTrans Standard Specifications.

2. Hours of Work

The CONTRACTOR is limited to working 7:00 AM to 4:00 PM, Monday through Friday and 7:00 AM to 4:00 PM, Saturday unless a waiver is requested in writing and is granted by the Owner.

3. Business/Driveway Access

The CONTRACTOR shall notify property owners or residents 24 hours in advance before blocking access to any drives. Access shall be provided to all drives during non-working hours. The Contractor shall maintain pedestrian access to homes and businesses at all times.

4. Construction Signing

The CONTRACTOR shall erect and maintain adequate construction signing for protection of the public on all Project streets and adjacent streets in accordance with sections 104.04, 107.07, 107.08, and 107.09 VTrans Standard Specifications and Design Standards.

5. Dust Control

Work shall be performed in accordance with all portions of sections 105.24 and 609 VTrans Standard Specifications.

6. Temporary Barricades

The CONTRACTOR shall provide and maintain temporary barricades in all locations where any hazard to the public may occur or as ordered by the OWNER or to protect public safety as described in portions of section 107 VTrans Standard Specifications.

7. Maintenance of Utility Services

The CONTRACTOR shall maintain all existing utility services to homes at all times except during switch-overs from existing services to new services and cooperate with utilities as described in sections 105.7 and 107.13 VTrans Standard Specifications.

8. Emergency Work

Prior to the start of construction, the CONTRACTOR shall submit a list of personnel authorized and capable to operate all necessary equipment, to be contracted on call, complete with telephone numbers and addresses, should any emergency work be required within the project limits during non-working hours. If the CONTRACTOR is not available to perform the required repairs, the municipality or its

assigns will perform the required work and reduce the Contract value by a like amount plus 15% administrative costs and all related expenses.

9. Explosive Materials and Use of Explosives

Work shall be performed in accordance with all portions of sections 106.08, 107.11 and 107.12 VTrans Standard Specifications.

10. Utility Work

The CONTRACTOR must coordinate work and cooperate with Burlington Electric, Burlington Telecom, Fairpoint, Comcast, Level 3, TelJet, and Vermont Gas, as needed. There may be an inspector from Burlington Electric Department on site, if needed.

Employees or agents of the above listed utility companies are to be allowed full and free 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 utility company. Should the CONTRACTOR desire additional adjustments of utility facilities for his or her convenience, proper arrangements shall be in conformance with subsection 105.07 and 107.13 of the VTrans Standard Specifications for Construction.

City of Burlington General Special Provisions

Standard Specifications. The provisions of the 2011 VTrans STANDARD SPECIFICATIONS FOR CONSTRUCTION, as modified herein, shall apply to this Contract unless they are in conflict with previously defined terms or provisions provided by the City of Burlington. In case of conflict the City provisions shall govern.

Contract Completion Date. This Contract shall be completed on or before December 31, 2016 per Substantial Completion in Agreement (Page 27), Item 3.

Utilities. The Contractor is advised to use caution when working around aerial or underground utilities to protect the facilities from damage.

Employees or agents of utility 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.

Act No. 86 of 1987 (30 VSA Chapter 86) (“Dig Safe”) requires that notice be given prior to making an excavation. It is suggested that the Permit Holder or his/her contractor telephone 1-888-344-73 at least 48 hours before, and not more than 30 days before, beginning any excavation at any location.

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

Notice to Bidders. All temporary construction signs shall meet the following requirements:

- A. All sign stands and post installation shall be National Cooperative Highway Research Program Report (NCHRP) 350 compliant.
- B. As a minimum, roll up sign material shall have ASTM D 4956-01 Type VI fluorescent orange retro-reflective sheeting.
- C. All post-mounted signs and solid substrate portable signs shall have ASTM D 4956-01 Type VII, Type VIII, or Type IX fluorescent orange retro-reflective sheeting.
- D. All retro-reflective sheeting on traffic cones, barricades, and drums shall be at a minimum ASTM Type III sheeting.
- E. All stationary signs shall be mounted on two 4.5 kg/m (3 lb/ft) flanged channel posts or 51 mm (2 inch) square steel inserted in 57 mm (2 ¼”) galvanized square steel anchors. No sign posts shall extend over the top edge of sign installed on said posts.
- F. Prior to placing temporary work zone signs on the project, the Contractor must furnish for the Engineer’s approval a detail for temporary work zone signs on steel posts showing stubs projecting a

- maximum of 100 mm (4 inches) above ground level and bolts for sign post.
- G. Construction signs shall be installed so as to not interfere with nor obstruct the view of existing traffic control devices, stopping sight distance, and corner sight distance from drives and town highways.

All retro-reflective sheeting on permanent signs (signs to remain after the project is completed) shall be at a minimum ASTM Type III sheeting, unless otherwise shown on the Plans.

Construction Vehicle 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 city roadways. 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 will not be permitted unless authorized by the Engineer to meet field conditions.

Private automobiles or 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.

SECTION 101 – Definitions and Terms

101.02, Definitions, are hereby modified by deleting the existing definitions and replacing as follows:

Actual Completion Date – Date noted in the Completion and Acceptance memorandum on which designated responsible Municipal personnel have reviewed the project and determined that all Contract work is complete and all Contract requirements have been met, generally considered to be the last day the Contractor performed physical work on any contract item.

Agency – Wherever the word Agency appears on the plans, in any specification, or in the contract, it shall be read as, and shall mean; the **City of Burlington** except when referenced to documents or publications.

Board – Wherever the term Board or Transportation Board appears on the plans, in any specification, or in the contract, it shall be read as, and shall mean; the Transportation Board of the State of Vermont or its successor.

Chief of Contract Administration – Wherever the term Chief of Contract administration appears on the plans, in any specification, or in the contract, it shall be read as, and shall mean the City of Burlington's Director of Parks, Recreation & Waterfront.

Construction Engineer – Wherever the term Construction Engineer appears on the plans, in any specification, or in the contract, it shall be read as, and shall mean; the Local Project Manager and/or Full Time City Employee in Responsible Charge.

Director of Project Development – Wherever the terms Director of Project Development, director of Engineering and Construction, Director of Construction and Maintenance, Director, or Chief Engineer appears on the plans, in any specification, or in the Contract, they shall be read as and shall mean; the City of Burlington’s Director of Parks, Recreation & Waterfront.

Director of Program Development – Wherever the term Director of Program Development appears on the plans, in any specification, or in the contract it shall read as, and shall mean; The City of Burlington’s Director of Parks, Recreation & Waterfront.

Engineer – Wherever the term Engineer appears on the plans, in any specification, or in the contract, it shall be read as, and shall mean; the Resident Engineer (RE).

Final Acceptance Date – Wherever the term Final Acceptance Date appears on the plans, in any specification, or in the Contract, it shall mean the date that **City of Burlington** signs the Final Completion Certificate.

Materials and Research Engineer – Whenever the term Materials and Research Engineer appears on the plans, in any specification, or in the Contract, it shall be read as, and shall mean; Resident Engineer.

Proposal Form – Whenever the term Proposal Form appears on the plans, in any specification, or in the Contract it shall be read as, and shall mean; the BID FORM unless specifically referenced otherwise in these Special Provisions.

Regional Construction Engineer – Whenever the term Regional Construction Engineer appears on the plans, in any specification, or in the contract, it shall be read as, and shall mean; the Resident Engineer.

Secretary – Wherever the term Secretary appears on the plans, in any specification, or in the contract it shall be read as, and shall mean; the **City of Burlington**.

State – Wherever the term State appears on the plans, in any specification, or in the contract, it shall be read as, and shall mean; the **City of Burlington**.

ADD the following definitions:

Addendum (Addenda) – Contract revisions developed after advertisement and before opening bids.

Advertisement – A public announcement, inviting bids for work to be performed or materials to be furnished.

Agreement – The written instrument which is evidence of the agreement between **City of Burlington** and the Contractor.

Award – The formal acceptance by **City of Burlington** of a proposal.

Calendar Day – Any day shown on the calendar, beginning and ending at midnight.

Change Order – A document recommended by the Engineer, signed by the Contractor and **City of Burlington** authorizing changes in the plans or quantities or both, within the scope of the Contract, establishing the basis of payment and time adjustments for the Work affected by the changes.

Consultant Engineer – Whenever the term Consultant Engineer appears on the plans, in any specification, or in the contract, it shall be read as, and shall mean; the registered engineer or specialist who acts for a client or owner.

Completion – Completion of the project occurs when the Contractor has completed all work required by the Contract and has satisfactorily executed and delivered to the Engineer all documents, certificates and proofs of compliance required by the contract.

Contract – The written agreement between **City of Burlington** and a contractor setting out the obligations of the parties to the contract for the performance of the work described therein.

General Special Provisions – Approved additions and revisions to the Standard Specifications for Construction.

Incidental and Incidental Item – These terms are used to indicate work for which no direct payment will be made. Such work is considered to be incidental to items having contract prices, and the bid prices submitted by the contractor shall be sufficient to absorb the cost of all work designated as incidental or as incidental items.

Resident Engineer – An entity employed by **City of Burlington** to perform supervisory duties including the oversight of testing services on the project.

Invitation for Bids – An advertisement for receiving proposals for all work and/or materials on which bids are invited from prospective contractors.

Local Project Manager – A person or firm employed or appointed by **City of Burlington** to provide administrative services for the project.

Owner – **City of Burlington**

Prequalification:

Annual Prequalification – The Agency of Transportation process by which an entity is generally approved to bid on contracts advertised by the Local Project Sponsor. Depending on the project size annual prequalification may be the only prequalification necessary.

Prequalification Administrator – An Agency of Transportation employee charged with administration of the prequalification process for the Prequalification Committee.

Proposal – The offer of a bidder, on the prescribed form, to perform work and/or provide materials at the price quoted in the offer.

Special Provisions – Additions and revisions to the Standard Specifications for Construction, Supplemental Specifications, General Special Provisions, Plans, or other documents that are part of a particular contract.

Standard Specifications – The Vermont Agency of Transportation book entitled 2011 Standard Specifications For Construction and the specifications included therein, as approved for general and repetitive use and application in Agency/Municipal projects.

Surety – An individual or legal entity acceptable to **City of Burlington** executing the bond or bonds furnished by the bidder or contractor.

Testing Firm – An independent firm employed by **City of Burlington** or Resident Engineer to perform all sampling and testing of materials as specified in the Contract Documents.

Work – The furnishing of all labor, materials, equipment, and incidentals necessary or convenient to the successful completion of a project and the carrying out of all duties and obligations imposed by a contract.

Working Day – A calendar day during which normal construction operations could proceed for a major part of the daylight hours, and specifically excluding Sundays, and those days of the standard work week on which holidays are celebrated.

Section 105 – Control of the Work

105.03, Plans and Working Drawings, paragraph 1, part (b) Working Drawings, and subpart (3) Categories of Working Drawings, a. Fabrication Drawings, and subpart b. Construction Drawings; where the Structures Engineer is mentioned it shall mean the BPRW Director not the Agency’s Structures Engineer. In addition, Construction drawings under Section 501A and 510A normally submitted to the Construction Engineer shall be submitted to both the Resident Engineer and the BPRW Director not the Agency’s Structures Engineer.

The address where these drawings should be sent is:

Jesse Bridges, MPA
Director and Harbormaster
Burlington Parks, Recreation & Waterfront
645 Pine Street
Burlington, VT 05401
Telephone: 802-864-0123

105.09, Construction Stakes, Part (a) Initial Layout, (b) Layout of Subgrade and (c) Permanent Marking Layout delete these paragraphs in their entirety and replace with the following:

Horizontal and vertical control information for the project shall be provided in accordance with the City of Burlington General Conditions, Section 10 SURVEY, PERMITS, REGULATIONS. The Contractor will be responsible for the accuracy and preservation of the staking.

105.20 Claims for Adjustments, (c) Claims Procedure; Delete the second, third and fourth sentence and replace with the following:

Claims must be evaluated first by the Engineer and then by the Local Project Manager. Should a claim be ruled in favor of the Contractor, it will be allowed, in whole or in part, and paid as provided in the Contract. Should a claim be denied in whole or in part by the Local Project Manager the Contractor may appeal to the governing body of the project sponsor. Should a claim be denied in whole or in part by the governing body of the project sponsor, the Contractor may appeal to the Director of Program Development.

(d) Claims Documentation Requirements; in the first sentence, replace Construction Engineer with Local Project Manager.

Section 106 – Control of Material

106.03 Samples and Tests, Add the following two paragraphs to the beginning:

A qualified independent testing firm hired directly by **City of Burlington** or indirectly by **City of Burlington** through its Resident Engineer shall be responsible for all acceptance sampling and testing of materials and completed work.

The Contractor shall be responsible for their Quality Control. The cost of their Quality Control shall be considered incidental to the payment items in the bid. Any sampling, testing, retesting, and submission of reports and certifications by the Contractor as required by the contract documents and plans shall be considered incidental to the payment items in the bid.

Change the last word in the first paragraph from Agency to **City of Burlington**.

Delete the first sentence of the second paragraph and replace with the following:

Samples will be taken and testing performed by qualified personnel of the testing firm in accordance with the requirements of the latest edition of the Vermont Agency of Transportation's Quality Assurance Program and Material Sampling Manual for Level 3.

http://vtransengineering.vermont.gov/sites/aot_program_development/files/documents/materialsandresearch/MandR2010_MSM_Final_030110.pdf

Modify the last sentence of the third paragraph to read as follows:

Copies of all test results shall be forwarded directly to the Resident Engineer and the Contractor by the testing firm.

Section 108 – Prosecution and Progress

108.12 Failure to Complete Work on Time. Add the following sentence after the last sentence of paragraph (c)

“Reference Section 15 of the General Conditions provided by the City of Burlington for additional detail on liquidated damages.”

SECTION 656 – PLANTING TREES, SHRUBS, AND VINES

Section 656.10 Add the following after the second to last sentence in the first paragraph

“Temporary Protection Fencing shall be flexible orange plastic mesh, minimum 36” high, minimum staking 8” O.C. Stakes shall be green metal 5’ in length with a minimum of 4’ exposed. Temporary protection signage shall be a minimum of one square foot that states: Tree Protection Zone and No Trespass Allowed., Placed every 16’ on temporary fencing.”

Add the following to the end of 656.10

“Before beginning work the contractor is required to meet with the City Arborist at the site to review all work procedures, access routes, storage areas and tree protection measures.”

Add the following sections after 656.10.2

.3 Construction trailers and traffic and storage area must remain outside fenced areas at all times.

.4 All underground utilities and drain or irrigation lines shall be routed outside the tree protection zone. If lines must traverse the protection area, they shall be tunneled or bored under the tree.

.5 No materials, equipment, spoil or waste or washout water may be deposited, stored, or parked within the tree protection zone (fenced area).

.6 Additional tree pruning required for clearance during construction must be performed by a certified arborist and not by construction personnel.

.7 If injury should occur to any tree during construction, it should be evaluated as soon as possible by the City arborist so that appropriate treatments can be applied.

.8 Any grading, construction, demolition, or other work that is expected to encounter tree roots must be monitored by the City arborist.

.9 All trees affected by construction activity shall be irrigated on a schedule to be determined by the City arborist. Each irrigation shall wet the soil within the tree protection zone to a depth of 10 inches.

.10 Erosion control devices such as silt fencing, debris basins and water diversion structures shall be installed to prevent siltation and/or erosion within the tree protection zone.

SECTION 406 – MARSHALL BITUMINOUS CONCRETE PAVEMENT

406.04 WEATHER AND SEASONAL LIMITATIONS

Delete the third paragraph, and replace with the following text:

The paving season shall be extended beyond the date of October 15th for the application of all bituminous materials. Bituminous materials shall be applied at the discretion and agreement of the Resident Engineer, Construction Engineer and City of Burlington Project Manager.

ATTACHMENT 1



City of Burlington
149 Church Street, Burlington, Vermont
802. 865.7000
www.burlingtonvt.gov

Certification of Compliance with the City of Burlington's Livable Wage Ordinance

I, _____, on behalf of _____ (Contractor) and in connection with _____ (City contract/project/grant), hereby certify under oath that (1) Contractor shall comply with the City of Burlington's Livable Wage Ordinance; (2) as a condition of entering into this contract or grant, Contractor confirms that all covered employees, as defined by Burlington's Livable Wage Ordinance, shall be paid a livable wage for the term of the contract as determined and adjusted annually by the City of Burlington's Chief Administrative Officer, (3) a notice regarding the applicability of the Livable Wage Ordinance shall be posted in the workplace or other location where covered employees work, and (4) payroll records or other documentation, as deemed necessary by the Chief Administrative Officer, shall be provided within ten (10) business days from receipt of the City's request.

Dated at _____, Vermont this ____ day of _____, 2015.

By: _____

Duly Authorized Agent

Subscribed and sworn to before me: _____

Notary

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SECTION 900 – SPECIAL PROVISION

MANAGEMENT AND DISPOSAL OF CONTAMINATED MEDIA

1. **DESCRIPTION.** This work shall consist of excavating, managing and properly disposing of contaminated soils from all project areas in reasonably close conformity with the lines, grades, and typical cross sections shown on the Plans or established by the Engineer. The work shall include proper identification, classification, excavation, management, treatment, transportation, and final placement or disposal of contaminated soils. All management of contaminated soils will be completed in accordance with the Burlington Bike Path Rehabilitation Project – Phase 1b Corrective Action Plan (“Corrective Action Plan”) which is included in the contract documents.

This work shall also include management, treatment, and disposal of contaminated groundwater or other contaminated media, if encountered. All management of contaminated groundwater and other contaminated media will be completed in accordance with the Burlington Bike Path Rehabilitation Project – Phase 1b Corrective Action Plan which is included in the contract documents.

2. **CLASSIFICATION.** Contaminated soils are expected to be encountered and must be excavated and managed to complete construction. The Contractor shall follow the guidance in the Corrective Action Plan that is included in the contract documents, and as may be amended by the Owner and its Engineer.

Contaminated soils will be classified in the following categories which are reliant upon the Vermont Agency of Natural Resources Investigation and Remediation of Contaminated Properties Procedure (“ANR Procedure”; effective April 2012) which includes soil screening values (“SSVs”) for residential and industrial sites and field screening methods and thresholds for when further testing is required. The ANR Procedure can be found at the following website address:

<http://www.anr.state.vt.us/dec/wastediv/sms/smsgdint.htm>

In general, contaminated soil will be identified by results of pre-construction soil characterization and/or field screening procedures during excavation activities. Field screening will be completed by a qualified environmental consultant and will include visual observations and soil headspace readings using a daily-calibrated photo ionization detector (“PID”). Field screening guidelines provided in Corrective Action Plan shall be followed.

A. Soils

Soils shall be classified and managed as follows:

- a) Class I Soils
 - i. soils with contaminants of concern in detectable levels below the residential SSVs as defined in the ANR Procedures; and
 - ii. soils with field screening readings using a PID of less than 1 ppm; and
 - iii. soils where no visual evidence of contamination exists, as determined by qualified field personnel; and
 - iv. soils originating from the project site and excluding clean borrow or fill.

Class I Soils shall be managed in accordance with the site-specific Corrective Action Plan.

b) Class II Soils

- i. soils with contaminants of concern detected in concentrations above residential SSVs but below industrial SSVs as defined in the ANR Procedure; and
- ii. soils with PID field screening readings of less than 10 ppm; and
- iii. soils that exhibit no more than minor visual or olfactory evidence of contamination consistent with the contaminants that exceed the residential SSVs, as determined by qualified field personnel; and
- iv. soils originating from the project site.
- v. Except, soils with PCB concentrations over residential SSVs shall not be classified as Class II soils (see Class III or Class V soil categories below).

Class II Soils shall be managed in accordance with the site-specific Corrective Action Plan and shall be disposed of at a certified solid waste disposal facility, pending authorization by the facility or shall be managed according to engineering controls and erosion prevention measures included in the Corrective Action Plan.

c) Class III Soils

- i. soils with contaminants of concern detected in concentrations above the residential and/or industrial SSVs as defined in the ANR Procedure; and
- ii. soils with PID field screening readings of less than 10 ppm; and
- iii. soils that exhibit no more than minor visual or olfactory evidence of contamination consistent with the contaminants that exceed the respective SSVs, as determined by qualified field personnel; and
- iv. soils originating from the project site.

Class III Soils shall be managed in accordance with the site-specific Corrective Action Plan and shall be disposed of at a certified solid waste disposal facility, pending authorization by the facility or shall be managed according to engineering controls and erosion prevention measures included in the Corrective Action Plan.

d) Class IV Soils

- i. soils with contaminants of concern detected in concentrations above the residential and/or industrial SSVs as defined in the ANR Procedure; or
- ii. soils with PID field screening readings of greater than 10 ppm; or
- iii. soils that exhibit overt visual and/or olfactory evidence of contamination, as determined by qualified field personnel; and
- iv. soils that are not classified as hazardous; and
- v. soils originating from the project site.

Class IV Soils shall be disposed of at a certified solid waste disposal facility, pending authorization by the facility or shall be treated by other applicable methods which will be pre-approved by the VT DEC WMPD.

e) Class V Soils

- i. soils listed or characterized as hazardous waste as defined by the Vermont ANR Hazardous Waste Management Regulations (effective March 2013); and
- ii. soils originating from the project site.

Class V Soils shall be disposed of at a certified hazardous waste disposal facility, pending authorization by that facility.

B. Groundwater

If contaminated groundwater is encountered and must be dewatered during construction activities, the Contractor shall notify the Owner and implement a groundwater management plan which will be developed by the Owner in conjunction with the Engineer and Environmental Manager. The groundwater management plan shall be submitted to, and approved by Vermont DEC WMPD. The groundwater management plan shall include storage, sampling, monitoring, treatment methods and disposal methods for groundwater in accordance with all applicable regulations.

If dewatering of the construction area is necessary, groundwater shall be pumped from the construction area and stored in container(s) constructed of materials compatible with the contaminants encountered. Additionally, the container(s) shall be of adequate volume to store all contaminated groundwater generated during dewatering efforts. A fractionation ("frac") tank with a minimum capacity of 18,000 gallons is acceptable for excavation dewatering storage.

The sampling and monitoring methodology will be dependent on the treatment method selected. Treatment methods include reinjection into the same lateral and vertical location from where the groundwater originated via infiltration, carbon filtration, air stripping, and/or disposal at a wastewater treatment plant. All treatment and disposal methods will be included in the groundwater management plan and shall be approved by, Vermont DEC WMPD and the Owner in conjunction with the Engineer.

C. Contaminated Media

If other contaminated media, appurtenances or materials are encountered on the project site and must be removed or modified during construction activities, excavation work shall stop immediately. The Contractor shall notify the Owner and shall implement a contaminated media management plan which will be developed by the Owner in conjunction with the Engineer and Environmental Manager. The contaminated media management plan shall be submitted to, and approved by, Vermont DEC WMPD. The contaminated media management plan shall include field observations of the materials, storage, sampling, monitoring, modification methods, treatment methods and disposal methods for contaminated media in accordance with all applicable regulations.

D. Hazardous Media

Waste exclusive of soil that is listed or characterized as hazardous waste as defined by the Vermont ANR Hazardous Waste Management Regulations (effective March 2013) and that originates from the project site. If these types of materials are encountered, the Contractor shall notify the Owner and shall implement a hazardous media management plan which will be developed by the Owner in conjunction with the Engineer and Environmental Manager. The hazardous media management plan shall be submitted to, and approved by, Vermont DEC

WMPD. The hazardous media management plan shall include field observations of the materials, storage, sampling, monitoring, modification methods, treatment methods and disposal methods for hazardous media in accordance with all applicable regulations.

3. **GENERAL CONSTRUCTION REQUIREMENTS.** Complete copies of the details of the Plans and site-specific Corrective Action Plan shall be provided to the contractor. The Contractor shall either follow the site-specific Corrective Action Plan or submit an alternate plan which must be approved by the Vermont DEC WMPD and the Owner in conjunction with the Engineer and Environmental Manager, prior to implementation.

Unless otherwise directed in writing by the Engineer, the Contractor shall comply with all provisions of the Corrective Action Plan.

All changes to the Corrective Action Plan ordered in writing by the Engineer will be paid for as Extra Work.

The Contractor shall develop and follow their own Health & Safety Plan and shall ensure that all personnel working in direct contact with soil, groundwater and other contaminated media are OSHA HAZWOPER trained.

The Owner shall hire a qualified environmental professional who shall monitor contamination levels of excavated soils, encountered groundwater or other contaminated media, and ensure that the Corrective Action Plan is followed. This person shall be known as the Environmental Manager.

If during the excavation of petroleum contaminated soil, the Contractor encounters any condition or situation which is different from that expected, the Contractor shall immediately stop work in this area and notify the Owner, Engineer and Environmental Manager. All excavation operations in the contaminated area shall cease until the condition or situation can be evaluated. The evaluation shall include, but is not limited to, the determination of health or other hazards to the Contractor's personnel and the immediate neighborhood, the possibility of explosion, requirements for protective clothing, and special excavation, transportation and/or disposal requirements. Any further testing or deviations from the management strategies in the Corrective Action Plan will be coordinated with the Vermont DEC WMPD.

In the event that unidentified hazardous waste or contaminated media are encountered during construction beyond those identified in the Plans or Corrective Action Plan, the Contractor shall excavate and properly dispose of the contaminated media as necessary and be compensated under the same Contract items applied to those areas of identified contamination.

No additional compensation or allowance for additional Contract time will be made for any delays incurred waiting for an agreement(s) to be executed, for failure to make an agreement(s), nor for any delays incurred in executing the Corrective Action Plan or amendments to the Corrective Action Plan.

4. **METHOD OF MEASUREMENT.** The quantities of Special Provision (Management of Soils, Class I, Class II, Class III, Class IV and Class V), Special Provision (Disposal of Soils, Class I, Class II, Class III, Class IV and Class V), Special Provision (Contaminated Media) and Special Provision (Hazardous

Media) to be measured for payment will be the number of cubic yards (cubic meters) of material removed and designated for remediation and/or disposal, as indicated in the Corrective Action Plan or as directed by the Engineer, as measured in its original position by cross sections, in the complete and accepted work. The quantity shall be computed by the method of average end areas, or when impractical, by other acceptable methods involving three-dimensional measurement. The limits for payment shall not exceed those indicated on the Plans or designated by the Engineer in writing. The method of mass centers for computing volumes will be allowed only when the method has been used in the original design computations. Note that some of these material could be in solid, semi-solid or liquid form.

Excavation requiring more than one handling prior to final placement will not be measured for payment for the additional handling unless specifically called for in the Contract Documents.

The quantities of Special Provision (Groundwater), to be measured for payment will be the number of gallons (liters) removed and designated for remediation and/or disposal, as indicated in the Corrective Action Plan or as directed by the Engineer. The quantity shall be computed by metering the amount of groundwater pumped from the ground or by measuring the volume of pumped groundwater that is collected.

- 5. BASIS OF PAYMENT.** The accepted quantities of Special Provision (Management of Soils, Class I, Class II, Class III, Class IV and Class V), Special Provision (Disposal of Soils, Class I, Class II, Class III, Class IV and Class V) Special Provision (Groundwater), Special Provision (Contaminated Media) and Special Provision (Hazardous Media) will be paid for at the Contract unit price per cubic yard (cubic meter) or per gallon, as appropriate. Payment shall be full compensation for performing the work specified, including research; employee training; monitoring; and developing and complying with the Health and Safety Plan; classifying, and segregating materials; performing any testing required, satisfactorily storing, transporting and disposing of contaminated materials and for providing all materials, labor, tools, equipment, and incidentals necessary to complete the work.

Payment for contaminated soils re-used on the project will be made as follows:

- a) The first payment of 50% of the actual quantity will be paid when the material is placed at the designated fill site.
- b) The remaining 50% of the actual quantity will be paid when the material has been incorporated back into the project and fully stabilized.

Payment for contaminated soils not re-used on the project, groundwater and other contaminated media will be made as follows:

- a) The first payment of 67% of the actual quantity will be paid when the material is placed at a treatment site or otherwise properly removed from the project.
- b) The remaining 33% of the actual quantity will be paid when proper disposal in accordance with the Corrective Action Plan has been completed documented to the owner by submission of waste manifests. The remaining 33% of the actual quantity will

not be paid if proper disposal of the contaminated soil, groundwater or other media is not accomplished prior to Final Inspection.

<u>Pay Item</u>	<u>Pay Unit</u>
900.608 Special Provision (Management of Class I Soils)	(Cubic Yard)
900.608 Special Provision (Disposal of Class I Soils)	(Cubic Yard)
900.608 Special Provision (Management of Class II Soils)	(Cubic Yard)
900.608 Special Provision (Disposal of Class II Soils)	(Cubic Yard)
900.608 Special Provision (Management of Class III Soils)	(Cubic Yard)
900.608 Special Provision (Disposal of Class III Soils)	(Cubic Yard)
900.608 Special Provision (Management of Class IV Soils)	(Cubic Yard)
900.608 Special Provision (Disposal of Class IV Soils)	(Cubic Yard)
900.608 Special Provision (Management of Class V Soils)	(Cubic Yard)
900.608 Special Provision (Disposal of Class V Soils)	(Cubic Yard)
900.625 Special Provision (Groundwater)	(Gallons)
900.608 Special Provision (Contaminated Media)	(Cubic Yard)
900.608 Special Provision (Hazardous Media)	(Cubic Yard)

SECTION 900 - SPECIAL PROVISION

STONE SCREENINGS, IN PLACE

1. DESCRIPTION.

This work shall consist of furnishing and placing shoulders of approved aggregate on a prepared surface.

The work under this Section shall be performed in accordance with Section 402 of the Standard Specifications and the following.

2. MATERIALS.

Materials shall meet the requirements of subsection 704.12 – AGGREGATE FOR SURFACE COURSE AND SHOULDERS amended as follows:

AMEND: TABLE 704.12A – AGGREGATE FOR SURFACE COURSE AND SHOULDERS as follows:

Sieve Designation	Percentage by Mass (Weight) Passing Square Mesh Sieves
3/8 inch	100
No. 4	90 to 100
No. 8	75 to 85
No. 100	15 to 20
No. 200	5 to 10

Materials shall be free from organic material and lumps or balls of clay.

Material passing the No. 4 sieve shall consist of natural or crushed sand and fine mineral particles. The material including any blended filler, shall have a plasticity index of not more than 6 and a liquid limit of not more than 25 when tested in accordance with ASTM D4318.

It is desirable (but not strictly required) that aggregate contain a minimum of 5% clay particles and no more than 50% of that portion of material passing the No. 200 sieve size shall be clay. Inorganic clay to be included as binder shall conform to the following:

Passing No. 200.....75%
Liquid Limit.....30 min.
Plastic Index.....8 min.

The fraction of material passing the No. 200 sieve size shall be determined by washing as indicated in ASTM D1140, "Amount of Material in Soils Finer than the No. 200 Sieve." The fractured faces for the coarse aggregate portion (retained on the No. 4 Sieve) shall have an area of each face equal to at least 75% of the smallest midsection area of the piece. When two fractured faces are contiguous, the angle between the planes of fractures shall be at least 30 degrees to count as two fractured faces. Fractured faces shall be obtained by mechanical crushing.

Material samples and Certificates of Compliance shall be provided to the Engineer for review and approval prior to purchase and delivery to the project site of bulk quantities.

The owner reserves the right to conduct quality control inspection and testing at any time to determine the reliability of the test results and Certificate of Compliance. Materials delivered that do not comply with the specifications and/or certificates shall be removed from the site at no cost to the Owner.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
900.608 Special Provision (Aggregate Shoulders, In Place)	Cubic Yard (CY)

SECTION 900. - SPECIAL PROVISION

BARK MULCH

1. **DESCRIPTION.** This work shall consist of furnishing and placing bark mulch in the planting areas indicated in the Plans and as directed by the Engineer.
2. **GENERAL.**
 - a. All materials and incidentals, and their installation, shall be furnished and performed in accordance with the Contract Documents.
 - b. The Contractor shall make every effort to minimize or prevent damage to proposed plantings and existing plantings to remain while installing bark mulch.
3. **SUBMITTALS.** Submit mulch sample prior to delivery to site. Attach product name, address of manufacturer and/or supplier to each sample. Volume of mulch sample shall be one (1) pint.
4. **MATERIALS.** Bark mulch shall be organic and free from deleterious materials and suitable as a top dressing of trees and shrubs. Mulch shall be a uniform mixture of the following:
 - a. Pine Bark Mulch, meeting the requirements of Section 755.10(c) of the VTrans Standard Specifications for Construction, dated 2011.
 - b. Hemlock Bark Mulch, Ground or shredded, dark brown in color.
5. **INSTALLATION.** Install a 3-inch deep layer of the specified mulch over all planting areas including around all trees and shrubs, unless otherwise noted on the plans.
6. **METHOD OF MEASUREMENT.** The quantity of Special Provision (Bark Mulch) to be measured for payment will be the number of cubic yards of mulch furnished and installed in the designated areas in the complete and accepted work.
7. **BASIS OF PAYMENT.** The accepted quantity of Special Provision (Bark Mulch) will be paid for at the Contract unit price per cubic yard. Payment will be full compensation for furnishing, transporting, handling, and installing 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 (Bark Mulch)	CY

SECTION 900 - SPECIAL PROVISION

BIKE RACK

1. **DESCRIPTION.** This work shall consist of furnishing and installing a bike rack in the locations indicated in the Plans and as directed by the Engineer.
2. **GENERAL.** All materials and incidentals, and their installation, shall be furnished and performed in accordance with the Contract Documents.
3. **MATERIALS.** Materials shall meet the requirements indicated on the Plans and as specified in the following:
 - a. **MANUFACTURERS.** In other Part 3 articles where subparagraph titles below introduce lists, the following requirements apply for product selection:
 - i. **Products:** subject to compliance with requirements, provide products from one of the manufacturers specified.
 - b. **STEEL.**
 - i. **Tubing:** Cold-formed steel tubing complying with ASTM A 500.
 - ii. **Baked-Enamel, Powder-Coat Finish:** Manufacturer's standard, baked, polyester-TGIC, powder-coat finish complying with finish manufacturer's written instructions for surface preparation, including pretreatment, application, baking, and minimum dry film thickness.
 - c. **ANCHORS, FASTENERS, FITTINGS, AND HARDWARE.** Commercial quality, tamperproof, vandal and theft resistant; concealed, recessed, and capped or plugged. Provide as required for site furnishings' assembly, mounting and secure attachment.
 - i. **Material:** Manufacturer's standard, corrosion-resistant-coated or non-corrodible materials.
 - d. **NON-SHRINK, NONMETALLIC GROUT.** ASTM C 1197; for exterior applications.
 - e. **EROSION-RESISTANT ANCHORING CEMENT.** Factory-packaged formulation that is resistant to erosion from water exposure without needing protection by a sealer or waterproof coating and that is recommended for exterior applications.
 - f. **BIKE RACK.** Products:
 - i. **Bike Rack:** Hoop Rack Heavy Duty (refer to detail)
 - ii. **Manufacturers:**
 1. Derovations, Inc.

2. Landscape Forms
 3. Maglin
 4. Cycle-Safe
 5. Radius Pipe Bending (RPB)
 6. Or Approved Equal
 - iii. Frames: Comprised of tubular steel. See manufacturers shop drawings.
 - iv. Installation Method: As indicated on Drawings. Comply with all manufacturer's recommendations.
 - v. Finish: Powder Coated.
 1. Color: Black
4. **SUBMITTALS.** The contractor shall submit and / or provide the following for approval by the Engineer prior to any permanent installation of bicycle racks under the contract.
 - a. Product Data: For each product indicated.
 - b. Samples: For exposed finish and color specified.
 - c. Maintenance data.
 - d. Fabrication Drawings.
5. **INSTALLATION.** All work shall be free of blemishes or defects which could affect durability, strength, or appearance. The bike racks shall be installed at the locations shown on the Plans and in accordance with the manufacturer's recommendations.
 - a. Complete field assembly of bike racks, where required as per Manufacturer's specifications.
 - b. Unless otherwise indicated, install bike racks after landscaping and paving have been completed.
 - c. See drawings for installation method.
 - d. Install bike racks level, plumb, true, and securely anchored at locations indicated on the Plans.
6. **METHOD OF MEASUREMENT.** The quantity of Special Provision (Bike Rack) will be paid for at the Contract unit price per each (EA) bike rack installed in the designated locations within the limits shown on the plans in the complete and accepted work.

7. **BASIS OF PAYMENT.** The accepted quantity Special Provision (Bike Rack) will be paid for at the Contract price per each. Payment will be full compensation for installing a complete bike rack in accordance with the Contract Documents, and for furnishing all labor, materials, equipment, tools, and incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
900.620 Special Provision (Bike Rack)	EACH

SECTION 900 - SPECIAL PROVISION

STEEL BENCH

1. **DESCRIPTION.** This work shall consist of furnishing and installing steel benches at the locations indicated in the Plans and as directed by the Engineer.
2. **GENERAL.** All materials and incidentals, and their installation, shall be furnished and performed in accordance with the Contract Documents.
3. **MATERIALS.** Materials shall meet the requirements indicated on the Plans and as specified in the following:
 - a. **MANUFACTURERS.** In other Part 3 articles where subparagraph titles below introduce lists, the following requirements apply for product selection:
 - i. **Products:** subject to compliance with requirements, provide products from one of the manufacturers specified.
 - b. **STEEL.**
 - i. Bench members shall be hot-dipped galvanized steel conforming to ASTM A123.
 - ii. **Baked-Enamel, Powder-Coat Finish:** Manufacturer's standard, baked, polyester-TGIC, powder-coat finish complying with finish manufacturer's written instructions for surface preparation, including pretreatment, application, baking, and minimum dry film thickness.
 - c. **ANCHORS, FASTENERS, FITTINGS, AND HARDWARE.** Commercial quality, tamperproof, vandal and theft resistant; concealed, recessed, and capped or plugged. Provide as required for site furnishings' assembly, mounting and secure attachment.
 - i. **Material:** Manufacturer's standard, corrosion-resistant-coated or non-corrodible materials.
 - d. **NON-SHRINK, NONMETALLIC GROUT.** ASTM C 1197; for exterior applications.
 - e. **EROSION-RESISTANT ANCHORING CEMENT.** Factory-packaged formulation that is resistant to erosion from water exposure without needing protection by a sealer or waterproof coating and that is recommended for exterior applications.
 - f. **Bench. Products:**
 - i. **Bench:** 66-3/4" wide backless bench with two interior arm rests (refer to detail)

- ii. Manufacturer:
 - 1. Dumor, Inc. (**Model 427-34/S-5**)
PO Box 142 Mifflintown, PA 17059-0142
www.dumor.com
 - 2. Or Approved Equal.
- iii. Installation Method: As indicated on Plans. Comply with all manufacturer's recommendations.
- iv. Finish: Powder Coated.
 - 1. Color: Black

4. SUBMITTALS. The contractor shall submit and / or provide the following for approval by the Engineer prior to any permanent installation of benches under the contract.

- a. Product Data: For each product indicated.
- b. Samples: For exposed finish and color specified.
- c. Maintenance data.
- d. Fabrication Drawings.

5. INSTALLATION. All work shall be free of blemishes or defects which could affect durability, strength, or appearance. The benches shall be installed at the locations shown on the Plans and in accordance with the manufacturer's recommendations.

- a. Complete field assembly of benches, where required as per Manufacturer's specifications.
- b. Unless otherwise indicated, install benches after landscaping and paving have been completed.
- c. See drawings for installation method.
- d. Install benches level, plumb, true, and securely anchored at locations indicated on the Plans.
- e. Benches shall be secured to the ground using galvanized anchor bolts with a minimum length of 8 inches. For benches secured to a concrete pad, the anchor bolts shall be secured using an epoxy grout.

f. The Contractor shall protect all parts of the bench and maintain them in an undamaged condition until they are installed and accepted for payment.

6. **METHOD OF MEASUREMENT.** The quantity of Special Provision (Steel Bench) to be measured for payment will be the number of each bench installed in the complete and accepted work.

7. **BASIS OF PAYMENT.** The accepted quantities of Special Provision (Steel Bench) will be paid for at the Contract unit price per each. Payment will be full compensation for furnishing and installing the bench, 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 (Steel Bench)	EACH

SECTION 900 – SPECIAL PROVISION

REMOVE RAILROAD TIES

1. **DESCRIPTION.** This work shall consist of the removal and proper legal disposal of railroad ties from the locations identified in the Plans, and as directed by the Engineer. The work shall include proper excavation, removal, treatment, transportation, and final placement of the removed railroad ties.
2. **METHOD OF MEASUREMENT.** The quantity of Special Provision (Remove Railroad Ties) to be measured for payment will be on a lump sum basis in the complete and accepted work.
3. **BASIS OF PAYMENT.** The accepted quantity of Special Provision (Remove Railroad Ties) will be paid for at the Contract lump sum price. Payment will be full compensation for removing the ties, and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Prior to payment, the Contractor shall provide proper documentation to the Engineer and the City proving that the ties were legally disposed of per State regulations.

The costs of clearing and grubbing, excavation, backfilling, will not be paid for directly but will be considered incidental to the removal of the railroad ties.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
900.645 Special Provision (Remove Railroad Ties)	Lump Sum

SECTION 900– SPECIAL PROVISION

THREE RAIL PEDESTRIAN FENCE

1. **DESCRIPTION.** This work shall consist of furnishing and installing pedestrian rail fence 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 620 of the Standard specifications.
2. **MATERIALS.** Materials shall meet the following requirements:
 - a) Posts. Posts for pedestrian rail shall conform to Section 709 of the Standard Specifications for Lumber and Timber.
 - b) Hardware. Hardware for pedestrian rail shall conform to Section 728.03 for Hardware
 - c) Rails. Wood rails shall conform to Section 709.02 for Nonstructural Lumber. Aluminum rails shall conform to Section 715.04 for Aluminum Alloy.
3. **CONSTRUCTION REQUIREMENTS.** Pedestrian Rail Fence shall be constructed in conformance with the configurations shown on the Plans.
4. **METHOD OF MEASUREMENT.** The quantity of Special Provision (Three Rail Pedestrian Fence) be measured for payment will be the number of linear feet of pedestrian rail fence installed in the complete and accepted work. Measurement will be along the top of the fence from outside to outside of the end posts for each continuous run of fence.
5. **BASIS OF PAYMENT.** The accepted quantity of Special Provision (Three Rail Pedestrian Fence) will be paid for at the Contract unit per linear foot. Payment will be full compensation for furnishing, transporting, handling, assembling, and placing the materials specified, and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

The costs of clearing and grubbing, excavation, backfilling, drilling, grouting of holes, extra length posts, and countersunk posts will not be paid for directly but will be considered incidental to all pedestrian rail fence installed.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
900.640 Special Provision (Three Rail Pedestrian Fence)	Linear Foot

SECTION 900 – SPECIAL PROVISION
REMOVAL OF EXISTING RAILROAD TRACKS

1. **DESCRIPTION.** This work shall consist of removing existing rail as shown on the Plans. The contractor and Engineer shall meet in the field and mark the limits of this work prior to the beginning of removal of the rail. The work shall include all labor, materials, and equipment for removing the existing rail, including but not limited to removing existing rail anchors, joint bars, and tie plates. The existing rail and rail hardware, except the cross ties, shall remain the property of the contractor.
2. **CONSTRUCTION REQUIREMENTS.** The Contractor shall remove and stockpile the rail and rail hardware in such a manner as to prevent damage.
3. **METHOD OF MEASUREMENT.** The quantity of Special Provision (Removal of Existing Railroad Tracks) will be measured for payment will be the number of linear feet of rail removed within the limits shown on the Plans in the complete and accepted work.
4. **BASIS OF PAYMENT.** The accepted quantity of Special Provision (Removal of Existing Railroad Tracks) will be paid for by the number of linear feet of two railed track at the Contract unit price per linear foot. Payment shall be full compensation for removing and stockpiling the rail and rail hardware to the satisfaction of the Engineer, and for furnishing all labor, tools, materials, equipment, and incidentals necessary to complete the work.

A negative or null (zero) bid price for this item will be allowed if the Bidder anticipates the salvage value of the materials will exceed the removal cost.

The costs for the removal of the railroad cross ties shall be paid for separately under the appropriate Contract pay item.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
900.640 Special Provision (Removal of Existing Railroad Tracks)	Linear Foot

SECTION 900 - SPECIAL PROVISION

LANDSCAPE EDGING

1. **DESCRIPTION.** This work shall consist of furnishing and installing steel edging as barrier between stone screening areas and planting areas within “pause places” as defined in the Contract Documents, and as ordered by the Engineer.
2. **GENERAL.** All materials and incidentals, and their installation, shall be furnished and performed in accordance with the Contract Documents.
3. **MATERIALS.** Materials shall meet the requirements indicated on the Plans and as specified in the following:
 - a. **STEEL EDGING.** Steel for landscape edging shall be hot-rolled, standard flexible carbon steel conforming to ASTM Standard **A 569**. The edging shall be fabricated in sections with stake pockets stamped, punched, or welded to face of sections approximately thirty inches (30”) apart to receive stakes. Steel landscape edging (header) shall be double staked at overlap joints, and designed to receive tapered steel stakes. Fabricated sections shall have the following approximate dimension:
 - i. Quarter-inch (1/4”) thick, by five inches (5”) wide, by minimum ten feet (10’-0”) long, with stakes.
 - b. **STEEL EDGING STAKES.** Steel for edging stakes shall be tapered, measuring a minimum of twelve inches (12”) in length, and finished to match landscape edging (header). Stakes shall be designed specifically to anchor the steel edging (header) in place, and shall be made by the manufacturer of the steel edging (header) for which they will be used.
 - c. **STEEL EDGING FINISH.** Manufacturer’s standard, baked, polyester-TGIC, powder-coat (color black) finish complying with finish manufacturer’s written instructions for surface preparation, including pretreatment, application, baking, and minimum dry film thickness.
 - d. **ACCESSORIES.** Standard start/end sections, 90° corners, splicers as required, sectional and one-piece circles.
 - e. **MANUFACTURERS.**
 - i. “DURAEDGE”, by
JD Russel Company
PO Box 183471
Shelby Township, MI 48318
www.jdrussellco.com

ii. Model #1025-5 Landscape Edge, by
COL-MET
3333 Miller Park South
Garland, TX 75042
www.colmet.com

iii. Or Approved Equal.

4. **SUBMITTALS.** The contractor shall submit and / or provide the following for approval by the Engineer prior to any permanent installation of landscape edging under the contract.

- a. Product Data: For each product indicated.
- b. Samples: For exposed finish and color specified.

5. **INSTALLATION.** All work shall be free of blemishes or defects which could affect durability, strength, or appearance. The landscape edging shall be installed at the locations shown on the Plans and in accordance with the manufacturer's recommendations. Anchor with steel stakes spaced approximately thirty inches (30") on-center, driven below top elevation of edging, or at every stake pocket location in landscape edging (header) sections designed and manufactured to receive stakes. Stakes shall be located in solid undisturbed soil, or in soil set at 85% relative compaction.

- a. Horizontal Alignment. Install straight sections true to the alignments as indicated, free of waves or bends, using strings as guides. Install curved sections true to the alignments as indicated, free of waves or bends, following marked alignments approved in the field by the Engineer.
- b. Vertical Alignment. Install landscape edging perpendicular to finished grade.
- c. Any sections damaged during the handling, transport, installation, or other Contractor operations shall be replaced by the Contractor at the Contractor's expense.

6. **METHOD OF MEASUREMENT.** The quantity of Special Provision (Landscape Edging) to be measured for payment will be the number of linear feet of landscape edging installed in the complete and accepted work.

7. **BASIS OF PAYMENT.** The accepted quantities of Special Provision (Landscape Edging) will be paid for at the Contract unit price per linear foot. Payment will be full compensation for furnishing and installing the landscape edging, stakes, hardware and accessories, 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 (Landscape Edging)	Linear Foot

SECTION 900 – SPECIAL PROVISION

PAUSE PLACE OVERLOOK

1. **DESCRIPTION.** This work shall consist of detailing, furnishing, fabricating, treating, assembling, transporting, and installing a Pause Place Overlook at the location indicated on the Plans and as directed by the engineer.
2. **MATERIALS.** Materials shall meet the requirements specified in the Plans and in Subsection 522.02.
3. **SUBMITTALS.** The Contractor shall prepare and submit Fabrication Drawings in accordance with Section 105. The Fabrication Drawings shall fully detail member lengths, cuts, and hole sizes and locations, as well as indicate fabrication practices.
4. **GENERAL FABRICATION REQUIREMENTS.**

- a. **GENERAL.** Drive nails with just sufficient force to set the heads flush with the wood surface. Deep or frequent hammer marks in exposed wood surfaces shall be considered evidence of poor work quality and may be cause for rejection of the panel. The use of pneumatic nailers will not be allowed.

Timber shall be accurately cut and framed, true and exact to a close fit, in such a manner that the panels will have even bearing over the entire contact surfaces. Keep each strip vertical and tight against the preceding one with even bearing on all supports.

- b. **TIMBER.** Ensure all timber used in the fabrication of panels is straight, sawed square at the ends, and have opposite sides parallel. Timber shall be graded after cutting to the required length.

Cut individual timber members for use in panels to proper length and drill all lead holes, bolt holes, spike holes, and lag screw holes for hardware prior to treatment. Individual laminated (timber members) shall be treated prior to assembling the deck panels.

No more than one butt joint will be allowed within a transverse laminate. Board lengths shall be determined to limit butt joint locations to the middle 1/3 of supports. Butt joints at a given support location shall be limited to one joint per three sequential laminated.

- c. **PANEL WIDTH.** At the Contractor's discretion, the panel widths (as measured in the direction of traffic) may be altered from those depicted on the plans. Unless otherwise shown on the Plans, the minimum panel length shall be 4.25 feet. The Contractor shall be responsible for determining and coordinating and for incurring all costs related to, all details associated with the changed geometry.
- d. **DIMENSIONAL TOLERANCES.**

- i. Length (Each Panel, longitudinal with path): $\pm 1/8''$
- ii. Width (Each panel, transverse with path): $\pm 1/4''$
- iii. Thickness: $\pm 1/16''$
- iv. Surface Variation (adjacent boards): $\pm 1/16''$
- v. Deviation from Diagonals: $\pm 1/4''$
- vi. Camber: $\pm 3/4''$

e. DESIGN

- i. design loads shall be for pedestrian, snow, and wind loadings
- ii. design of wooden deck, piers, railing and connections shall be completed and stamped by a professional engineer registered in the state of Vermont.

5. **METHOD OF MEASUREMENT.** The quantity of Special Provision (Pause Place Overlook) to be measured for payment will be for each Pause Place Overlook installed in the complete and accepted work.

5. **BASIS OF PAYMENT.** The accepted quantity of Special Provision (Pause Place Overlook) will be paid for at the Contract unity price for lump sum. Payment will be full compensation for detailing, fabricating, treating, furnishing, transporting, handling, assembling, and installing the materials specified, including concrete, anchor bolts and hardware, non-shrink grout, timber, and hand rail; excavation and backfill; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
900.645 Special Provision (Pause Place Overlook)	Lump Sum

SECTION 900 – SPECIAL PROVISION

STONE SEAT WALL

1. **DESCRIPTION.** This work shall consist of furnishing and installing stone seat walls at the locations indicated in the Plans and as directed by the Engineer.
2. **GENERAL.** All materials and incidentals, and their installation, shall be furnished and performed in accordance with the Contract Documents.
3. **MATERIALS.** Materials shall meet the requirements indicated on the Plans and the following:

- a. **Stone.** Reference subsection 706.01, with the exception of dimensions, which are provided herein.

For stone seat walls, detail “Stone Seat Walls”: All stones shall be roughly rectangular. At Pause Place Location 2 stones shall vary in widths of 7’-0”, 10’-0”, and 11’-0”, 4’-9” thick, and 1’-6” deep for all risers.

The stone seat wall shall be made of an attractive, durable stone such as granite. They will need to be fabricated with precision to ensure ADA compliance.

All exposed stone surfaces shall be flame finish. The contractor shall provide samples of all stone to the Project Landscape Architect for approval prior to installation.

- b. **Mortar.** For mortar used as a setting bed, reference Subsection 707.02.
- c. **Concrete.** For the reinforced concrete foundation, concrete shall be Concrete, Class B. Contractor to provide design calculations and fabrication drawings prior to construction.
- d. **Aggregate Base.** Contractor shall provide an aggregate base beneath the concrete as shown in the Contract Plans.
- e. **Subgrade.** Subgrade shall be compacted or undisturbed.
- f. **Railing.** Railing shall have a minimum of 6” embedment into the stones. Use non-shrink epoxy grout to set in place.

4. **CONSTRUCTION REQUIREMENTS.**

- a. **Protection of Stone.** The stone shall be stacked at the job site on pallets or suitable platforms that do not unnecessarily obstruct pedestrians or motorists and are protected from damage.
- b. **Installation.** Installation shall be performed in accordance with the Plans and the following requirements:

- i. Stones shall be installed to the proposed finished surface line and grade and shall align with adjacent work and elevations. Care shall be taken during layout to minimize cutting.
- ii. If full stones need to be cut, the cut shall be made with a masonry saw.
- iii. Installation shall be performed in one direction by building up from the previously installed stone.

5. **METHOD OF MEASUREMENT.** The quantity of Special Provision (Stone Stairs) to be measured for payment will be on a lump sum basis in the complete and accepted work.

5. **BASIS OF PAYMENT.** The accepted quantity of Special Provision (Stone Stairs) will be paid for at the Contract unit price per lump sum.

Payment will be full compensation for performing the work specified, including but not limited to 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>
900.645 Special Provision (Stone Stairs)	Lump Sum

SECTION 900. – SPECIAL PROVISION

STONE STAIRS

1. **DESCRIPTION.** This work shall consist of furnishing and installing stone stairs at the locations indicated in the Plans and as directed by the Engineer.
2. **GENERAL.** All materials and incidentals, and their installation, shall be furnished and performed in accordance with the Contract Documents.
3. **MATERIALS.** Materials shall meet the requirements indicated on the Plans and the following:
 - a. **Stone.** Reference subsection 706.01, with the exception of dimensions, which are provided herein.

For stairs, detail “Stone Stairs at Seat Wall”: All stones shall be roughly rectangular. At Pause Place Location 2, Plan Sheet stones shall be the full width of the 4'-0” step, 1'-7” thick and 6 inches deep for the top riser and 6 inches deep for all other risers.

The stairs shall be made of an attractive, durable stone such as granite. They will need to be fabricated with precision to ensure ADA compliance.

All exposed stone surfaces shall be flame finish. The contractor shall provide samples of all stone to the Project Landscape Architect for approval prior to installation.
 - b. **Mortar.** For mortar used as a setting bed, reference Subsection 707.02.
 - c. **Concrete.** For the reinforced concrete foundation, concrete shall be Concrete, Class B. Contractor to provide design calculations and fabrication drawings prior to construction.
 - d. **Aggregate Base.** Contractor shall provide an aggregate base beneath the concrete as shown in the Contract Plans.
 - e. **Subgrade.** Subgrade shall be compacted or undisturbed.
 - f. **Railing.** Railing shall have a minimum of 6” embedment into the stones. Use non-shrink epoxy grout to set in place.
4. **CONSTRUCTION REQUIREMENTS.**
 - a. **Protection of Stone.** The stone shall be stacked at the job site on pallets or suitable platforms that do not unnecessarily obstruct pedestrians or motorists and are protected from damage.
 - b. **Installation.** Installation shall be performed in accordance with the Plans and the following requirements:

- i. Stones shall be installed to the proposed finished surface line and grade and shall align with adjacent work and elevations. Care shall be taken during layout to minimize cutting.
- ii. If full stones need to be cut, the cut shall be made with a masonry saw.
- iii. Installation shall be performed in one direction by building up from the previously installed stone.

5. **METHOD OF MEASUREMENT.** The quantity of Special Provision (Stone Stairs) to be measured for payment will be on a lump sum basis in the complete and accepted work.

5. **BASIS OF PAYMENT.** The accepted quantity of Special Provision (Stone Stairs) will be paid for at the Contract unit price per lump sum.

Payment will be full compensation for performing the work specified, including but not limited to 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>
900.645 Special Provision (Stone Stairs)	Lump Sum

SECTION 900 - SPECIAL PROVISION

EXPOSED AGGREGATE CONCRETE

1. **DESCRIPTION.** This work shall consist of the construction of exposed aggregate concrete sidewalks and/or curb ramps where indicated on the construction documents. Work shall be consistent with VTrans Standard Specifications Section 618 (Section 618), with the additions and modifications below.
2. **MATERIALS.** Materials shall meet the requirements of Section 618.02 except as indicated below.
 - a. Concrete shall conform to the requirements of Section 541 for Concrete, Class A. No fly ash is required in the mix.
 - b. Coarse aggregate materials for concrete shall be red quartzite meeting the requirements of Section 704.02A.
3. **REFERENCES.** Work shall meet the requirements of the following reference standards.
 - a. The State of Vermont, Agency of Transportation "Standard Specifications for Construction", dated 2011 (designated VAOT), and the latest revision of the Agency of Transportation "General Special Provisions".
 - b. American Concrete Institute (ACI) sections: 318, 301, 308, 330.
4. **SUBMITTALS.** The contractor shall submit and / or provide the following for approval by the Owner, Engineer, and Landscape Architect prior to any permanent installation of exposed aggregate concrete under the contract.
 - a. Samples for each exposed product and for each color and texture specified, minimum 2 gallon volume per sample.
 - b. Test pour of the proposed mix design, minimum size 25 square feet, placed and finished in the manner proposed for the final concrete installation. Note that this material may remain in the finished work if approved by the Owner, Engineer, and Landscape Architect.
 - c. Design Mixtures: For each concrete paving mixture. Include alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments in accordance with ACI 301 and 318.
 - d. Include service record data for proposed aggregate materials indicating absence of deleterious expansion of concrete due to alkali aggregate reactivity.
 - e. Product data for any surface retardants proposed for use.

5. **FINISHING.** Use bristle brushes to remove cement paste between coarse aggregate to a depth of 1/8 inch once concrete has set sufficiently to avoid dislodging aggregate from the surrounding matrix.

6. **METHOD OF MEASUREMENT.** The quantity of Exposed Aggregate Concrete to be measured for payment will be the number of final grade exposed surface square feet of approved material installed in the complete and accepted work. The concrete below the surface of the bike path, but integral to the exposed aggregate surface, will not be measure for payment but will be considered incidental to 900.670 – Exposed Aggregate Concrete.

7. **BASIS OF PAYMENT.** The accepted quantity of exposed aggregate concrete will be paid at the contract unit price per square foot for the specified depth. Payment will constitute full compensation for furnishing, transporting, handling, placing, and finishing the materials specified, including expansion joint material as well as for furnishing all labor, tools, equipment, and incidentals necessary to complete the work. Submittals and test pour shall be incidental to this item along with any cleaning needed to remove excess cement paste from the exposed aggregate surface.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
900.670 Special Provision (Exposed Aggregate Concrete)	Square Foot

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.

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	500,000	1,200.00
500,000	1,000,000	1,300.00
1,000,000	1,500,000	1,400.00
1,500,000	3,000,000	1,800.00
3,000,000	5,000,000	2,300.00
5,000,000	10,000,000	3,500.00
10,000,000	20,000,000	5,900.00
20,000,000+	-----	10,700.00

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 406 - MARSHALL BITUMINOUS CONCRETE PAVEMENT

38. 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.
39. 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
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40. 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.

41. 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.
42. 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.

43. 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

44. 490.03 COMPOSITION OF MIXTURE, part (b) Design Criteria, TABLE 490.03B - DESIGN CRITERIA is hereby modified by deleting the fourth row (for "Dust Proportion") in its entirety and replacing it with the following:

Dust Proportion (Filler/Asphalt Ratio)	0.60 - 1.20 (Wet Sieve) (Dry Sieve for Production - Types IS and IIS: 0.50 - 1.20 Types IIIS, IVS, and VS: 0.50 - 1.00)
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45. 490.03 COMPOSITION OF MIXTURE, part (b) Design Criteria, TABLE 490.03B - DESIGN CRITERIA is hereby further modified by deleting the sixth row (for "Voids in Mineral Aggregate") in its entirety and replacing it with the following:

Voids in Mineral Aggregate (VMA)%	12.5 min.	13.5 min.	14.5 min	15.5 min.	16.5 min.	17.5 min.
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46. 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.
47. 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.
48. 490.03 COMPOSTION 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.
49. 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.
50. 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.
51. 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.
52. 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.
53. 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
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54. 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.

55. 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.

56. 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.
57. 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

58. 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

59. 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.

60. 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

61. 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.
62. 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.

63. 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.
64. 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

65. 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

66. 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.
67. 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.
68. 506.19 BOLTING AND CONNECTIONS, part (c) Installation, subpart (4) Tension Control Assembly Method, is hereby modified by being re-designated as part (1).
69. 506.19 BOLTING AND CONNECTIONS, part (c) Installation, subpart (5) Direct Tension Indicator Method, is hereby modified by being re-designated as part (2).
70. 506.19 BOLTING AND CONNECTIONS, part (c) Installation, is hereby still further modified by deleting TABLE 506.19B (including associated paragraphs) in its entirety.
71. 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.
72. 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

73. 507.01 DESCRIPTION, is hereby modified by adding the phrase "of the level specified" after the phrase "bar reinforcement".
74. 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.

75. 507.02 MATERIALS, is hereby modified by deleting the sixth (final) entry in the Subsection listing.
76. 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.
77. 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.
78. 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.

79. 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.
80. 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.
81. 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.

82. 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.

83. 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.

84. 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...").
85. 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)

86. 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

87. 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

88. 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

89. 516.01 DESCRIPTION, is hereby modified by adding the phrase ", or partially removing and modifying," after the word "installing".
90. 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.

91. 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.

92. 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

93. 525.02 MATERIALS, is hereby modified by adding the following as the third entry in the Subsection listing:

Structural Steel.....714.02

94. 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.

95. 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.

96. 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

97. 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

98. 540.02 MATERIALS, is hereby modified by deleting the fourteenth entry (beginning “Coated Bar Reinforcement...”) in the Subsection listing.
99. 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

100. 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.
101. 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.

102. 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

103. 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).
104. 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...”).

105. 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

106. 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.

107. 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. *****	---
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*** 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.

108. 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).
109. 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...").
110. 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

111. 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.

112. 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.

113. 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.

114. 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.

115. 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.

116. 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

117. 580.02 MATERIALS, is hereby modified by adding the following to the Subsection listing:

Polymer Concrete Repair Material.....780.05

118. 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.

119. 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.

120. 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.

121. 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.

122. 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.

123. 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.

124. 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

125. 601.02 MATERIALS, is hereby modified by adding the following as the sixth entry in the Subsection listing:

Corrugated Polypropylene Pipe.....710.07

126. 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.

127. 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.

128. 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

129. 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.

130. 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.

131. 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

132. 613.02 MATERIALS, is hereby modified by adding the following to the Subsection listing:

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

133. 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.

134. 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.

135. 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.

136. 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.

137. 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.

138. 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.

139. 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

140. 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.

141. 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).

142. 616.14 METHOD OF MEASUREMENT, is hereby corrected by changing the word "portland" to "Portland" in the fifth (last) paragraph.

143. 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.

144. 616.15 BASIS OF PAYMENT, is hereby corrected by changing the word "portland" to "Portland" in the fourth paragraph.

145. 616.15 BASIS OF PAYMENT, is hereby further modified by adding the following pay item:

Payment will be made under:

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

SECTION 621 - TRAFFIC BARRIERS

146. 621.01 DESCRIPTION, is hereby modified by adding the phrase "repairing," after the phrase "removing,".

147. 621.02 MATERIALS, is hereby modified by adding the following as the fifth entry in the Subsection listing:

Wire Rope or Cable.....713.03

148. 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.

149. 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).

150. 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.

151. 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.

152. 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.

153. 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.

154. 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.

155. 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.

156. 621.15 BASIS OF PAYMENT, is hereby still further modified by adding the following pay items:

Payment will be made under:

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

SECTION 630 - UNIFORMED TRAFFIC OFFICERS AND FLAGGERS

157. 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.

158. 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

159. 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.

160. 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.

161. 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.

162. 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.

163. 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.

164. 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

165. 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)

166. 646.04 APPLICATION OF MARKINGS, GENERAL, part (a) Placement of Markings, is hereby modified by deleting the first paragraph in its entirety.
167. 646.04 APPLICATION OF MARKINGS, GENERAL, part (a) Placement of Markings, is hereby further modified by deleting the seventh paragraph in its entirety.
168. 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.
169. 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.
170. 646.04 APPLICATION OF MARKINGS, GENERAL, part (a) Placement of Markings, is hereby still further modified by deleting the ninth paragraph in its entirety.

171. 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).
172. 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".
173. 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.
174. 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.
175. 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.
176. 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.
177. 646.06 PAINT PAVEMENT MARKINGS, is hereby modified by being re-named WATERBORNE AND LOW VOC CHLORINATED RUBBER AND ACETONE BASED PAINT PAVEMENT MARKINGS.
178. 646.06 WATERBORNE AND LOW VOC CHLORINATED RUBBER AND ACETONE BASED PAINT PAVEMENT MARKINGS, is hereby modified by changing the word "Retroflective" to "Retroreflective" in the first sentence of the first paragraph.
179. 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.

180. 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.

181. 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.

182. 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.

183. 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 ".".

184. 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.

185. 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.

186. 646.07 DURABLE PAVEMENT MARKINGS, part (b) Epoxy Paint, is hereby modified by being re-designated as part (e).

187. 646.07 DURABLE PAVEMENT MARKINGS, part (c) Thermoplastic, is hereby modified by being re-designated as part (f) Extruded Thermoplastic.

188. 646.07 DURABLE PAVEMENT MARKINGS, part (d) Polyurea Paint, is hereby modified by being re-designated as part (h).

189. 646.07 DURABLE PAVEMENT MARKINGS, part (e) Methyl-methacrylate Paint, is hereby modified by being re-designated as part (i).

190. 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.

191. 646.07 DURABLE PAVEMENT MARKINGS, part (e) Epoxy Paint, is hereby modified by deleting the fifth (last) sentence in its entirety.

192. 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 ±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 shall be 300 mcdl/lx/m² for yellow markings and 400 mcdl/lx/m² for white markings.

193. 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.

194. 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 ± 127 µm (±5 mils) unless otherwise specified in the Contract Documents. Minimum application rates are 0.36 square meters per liter (15 square feet per gallon).

195. 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 ± 127 µm (±5 mils)" in the second sentence of the second paragraph.

196. 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 ± 127 µm (±5 mils)" in the fourth sentence.

197. 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)".
198. 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)".
199. 646.07 DURABLE PAVEMENT MARKINGS, part (f) Extruded Thermoplastic, subpart (2) Application Requirements, e. Beads, is hereby modified by being re-named Optics.
200. 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".
201. 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".
202. 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.
203. 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.
204. 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).
205. 646.07 DURABLE PAVEMENT MARKINGS, part (h) Polyurea Paint, is hereby modified by deleting the second sentence in its entirety.

206. 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 $\pm 50.8 \mu\text{m}$ (± 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 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.

207. 646.07 DURABLE PAVEMENT MARKINGS, part (i) Methyl-methacrylate Paint, is hereby modified by deleting the second sentence in its entirety.

208. 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.

209. 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.

210. 646.08 TEMPORARY PAVEMENT MARKINGS, part (a) Pavement Marking Tape, Type II, is hereby modified by being re-named Temporary Pavement Marking Tape.

211. 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.

212. 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)".

213. 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.

214. 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.

215. 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.

216. 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.

217. 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.

218. 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.

219. 646.09 OTHER RELATED MARKINGS, part (a) Pavement Marking Recess, is hereby further modified by deleting the last sentence in its entirety.

220. 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).		

221. 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

222. 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

223. 656.02 MATERIALS, is hereby modified by deleting the first entry in the Subsection listing (for "Barrier Fence") in its entirety.

224. 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

225. 677.01 DESCRIPTION, is hereby modified by adding the phrase "and removing and disposing of existing overhead traffic sign supports," after the phrase "supports,".

226. 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.

227. 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.

228. 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

229. 678.01 DESCRIPTION, is hereby modified by adding the phrase ", and removing existing traffic control systems" after the word "system" in the first paragraph.

230. 678.02 MATERIALS, is hereby corrected by deleting "convers" and replacing it with the word "covers" in the second sentence of the last paragraph of the Subsection text.

231. 678.07 - DETECTORS AND CONTROLLERS, is hereby corrected by deleting "maufacturer" and replacing it with the word "manufacturer" in the first sentence of the second (last) paragraph.

232. 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.

233. 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.

234. 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.

235. 678.14 BASIS OF PAYMENT, is hereby further modified by adding the following paragraph and pay item:

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

Payment will be made under:

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

SECTION 700 GENERAL

236. 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 ".".

237. 700.02 MATERIALS CERTIFICATIONS, part (a) General, is hereby modified by deleting subpart (3) in its entirety.

238. 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

239. 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.

240. 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.

241. 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.

242. 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.

243. 702.02 PERFORMANCE-GRADED ASPHALT BINDER (PREPARED FROM PETROLEUM), part (b) Pretest, is hereby modified by being re-designated as part (c).

244. 702.02 PERFORMANCE-GRADED ASPHALT BINDER (PREPARED FROM PETROLEUM), part (c) Certification, is hereby modified by being re-designated as part (d).

245. 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

246. 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.

247. 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.

SECTION 708 - PAINTS, STAINS, AND TRAFFIC MARKING MATERIALS

248. 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.

249. 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.

250. 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.

251. 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.

252. 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.

253. 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.

254. 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.

255. 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.
256. 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.
257. 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".
258. 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.
259. 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.
260. 708.09 GLASS BEADS, is hereby modified by being re-named OPTICS.
261. 708.09 OPTICS, is hereby modified by adding new part (a) heading Glass Beads.
262. 708.09 OPTICS, part (a) Properties, is hereby modified by being re-designated as subpart (1) under part (a) heading Glass Beads.
263. 708.09 OPTICS, part (b) Certification, is hereby modified by being re-designated as subpart (2) under part (a) heading Glass Beads.
264. 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.

265. 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.

266. 708.11 RAISED PAVEMENT MARKERS, is hereby modified by being re-named RAISED PAVEMENT MARKERS, TYPE I.

267. 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.

268. 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.

269. 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.

270. 708.14 LINE STRIPING TARGETS, is hereby modified by being deleted in its entirety.

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

271. 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.

272. 710.07 CORRUGATED POLYPROPYLENE PIPE, is hereby made a new Subsection of the Standard Specifications as follows:

273. 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

274. 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.

275. 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.

276. 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

277. 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.

278. 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.

279. 713.07 COATED BAR REINFORCEMENT, is hereby modified by being deleted in its entirety.
280. 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

281. 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.
282. 714.08 ANCHOR BOLTS, BEARING DEVICES, is hereby further corrected by deleting punctuation ".,," and replacing it with punctuation "." at the end of the second sentence of the first paragraph.

SECTION 726 - PROTECTIVE COATINGS AND WATERPROOFING MATERIALS

283. 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.
284. 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

285. 731.03 ELASTOMERIC MATERIAL, is hereby modified by deleting the second and third paragraphs in their entirety and replacing them with the following:

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

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

TABLE 731.03A - REQUIRED TESTS

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

SECTION 755 - LANDSCAPING MATERIALS

286. 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

287. 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 2

[State Moderate Risk General Permit 3-9020 – Notice of Intent]

To be provided at a later date.

ATTACHMENT 3

[State Individual Stormwater Permit (INDS) – Notice of Intent]

To be provided at a later date.

ATTACHMENT 4
[Corrective Action Plan]

To be provided at a later date.