Request for Proposals General Contractor

Library Addition and Restoration for the Town of Johnson, Library Building

Addendum 1 11/19/25

Response Deadline:

-Deadline for responses is required before 4:00pm on 11/28/25

Changes to Response Format:

- -Responses will have to include the itemized cost and timeline for the floor construction of the addition. The floor must be constructed ASAP to accommodate backfilling. The itemization is required if the contractor is going to start work in the spring, in which case the cost must include capping the floor. If the contractor is going to frame and maintain the floor system throughout the winter, no capping is required.
- -The floor system consists of:
- -Posts, Beams, TGI Joists, Blocking, All layers of plywood, sill plate, and fasteners to the foundations.
- -USE THE RESPONSE FORM ATTACHED TO ADDENDUM 1 BELOW

Questions, responses attached below:

- 1. What is the responsibility of the contractor for backfilling the foundation?
- 2. What is the required timeline of construction, sunset dates, and the timeline for framing in the wood floor system?
 - 3. What is the expectation of the contractor for the chimney?
 - 4. Will the Contractor be required to cap the foundation?
 - 5. What is the expectation of the contractor for the location of the previously removed chimney?
 - 6. Will there be power available?
 - 7. Who is the point of contact?
 - 8. Will the building have to be sprinkled?
 - 9. Is the floor system engineered?
 - 10. When does the floor system have to be installed by?
 - 11. Is paving the parking lot part of this bid?
 - 12. What will the waterline material be?
 - 13. Is this a Build America by America (BABA) project?

Attendance to the 11/14/25 Mandatory Site Visit

Steve Davis, D Tatro Construction
Pat Kelly, Three Mountain Roofing
Brian Norfolk, Bread Loaf
Dave Pratt, Millbrook
Stephen Morrell, Opus Corp
Brian Raulinitis, Back Forty Builders
Dale Tatro, D Tatro Construction
Jonathan Baptista, CE Painting and Carpentry
Thomas Galinat, Town Administrator
Adrienne Parker, Selectboard
Peter Hammond, Selectboard
Paul Trudel, Architect
Kelly Vandorn, Library
Eric Shultz, Library

Responses:

Questions, responses attached below:

- 1. What is the responsibility of the contractor for backfilling the foundation?
- -The contractor will have to finish grade, topsoil where needed, and seed/mulch per civil drawings. The building will be rough graded with a 3:1 slope away from the foundation by another contract.
- 2. What is the required timeline of construction, sunset dates, and the timeline for framing in the wood floor system?
- -The construction has to be completed by 10/1/26. The grant funding the addition sunsets (ends) on 12/31/26. The addition must be complete by 10/1/26, there is more flexibility on the old section. The wood floor system must be installed asap. Preferably before 12/15 to allow for backfilling of the foundation.
 - 3. What is the expectation of the contractor for the chimney?
- -The contractor will have to inspect the current condition. The fireplace flue will have to be lined per MEP specifications. The above grade portion will wood framed per Architectural specifications.
 - 4. Will the Contractor be required to cap the foundation?
- -The contractor will have to either cap the foundation after the wood floor is installed or the contractor will have to maintain the floor system throughout winter, so that any portion of the floor system is not damaged or defective.
- 5. What is the expectation of the contractor for the location of the previously removed chimney?
- -The contractor is expected to work with a mason to repair any cracks within the brick. The location where the chimney came off will need to be watertight and free from loose debris.
 - 6. Will there be power available?
- -Conduits have been run to the cabinet. It will be the contractors responsibility to install temporary power and a meter. The contractor will have to install the permanent meter and electrical connections per MEP and Civil specifications.
 - 7. Who is the point of contact?
- -The point of contact will be Paul Trudel, Architect and Peter Hammond, Town.
- 8. Will the building have to be sprinkled? -No.

- 9. Is the floor system engineered?
- -The floor system was designed by RK Miles.
- 10. When does the floor system have to be installed by?
- -12/15/25 or soon after.
 - 11. Is paving the parking lot part of this bid?
- -Paving is the responsibility of the contractor.
 - 12. What will the waterline material be?
- -The waterline is being installed per a different contract. The contractor will be responsible for taking over plumbing per MEP specifications from the terminus inside the old section of the building.
 - 13. Is this a Build America by America (BABA) project?
- -No. This is an ARPA project with strict ARPA timelines.
- 14. Has any hazardous materials testing been done? -No.
- 15. Can you send out the Civil Plans again ASAP? The majority of the notes on C-4 and C-5 are illegible.
- -The updated Civil Plans are attached to this addendum.
- 16. Can you supply a descriptive scope of work to the restoration of the interior of the Historic Library?
- -Wall repair, paint. Electric and fixtures. Refinished floors. Plumbing and fixtures. Art room, 2 bathrooms, vestibule removal, and fireplace insert.
- 17. Plans indicate spray foam installed behind the wainscotting in the existing library, is there any insulation being added behind the plaster?
- -The old part of the building has been fully insulated already. The only areas in need of new insulation is where the sprayfoam insulation was removed to expose the anchor bolts. The cold air return duct work in the old section will require insulation (blown in) to be relocated and the duct work reinsulated after installation.
 - 18. Can you supply a list of existing items that are to be reinstalled?
- -Wainscotting. Light fixtures in the old section. The historic building is to be drywalled first then wainscotting applied over the drywall.
- 19. To what extent will the addition foundations be completed prior to our work, will the concrete stairs be poured? Stairs at existing building? Slabs on Main Entry stairs/porch?
 -The contractor will be responsible for the slab on the porch and entry, the structural fill will be prepped prior. The stairs will be not be prepped and the contractor will have to install footers, walls, and steps for both sets of stairs.

- 20. Shearwall anchor locations/sizes are not clear.
- -There are 4 locations per structural specifications.
- 21. Are there any additional mechanicals, vents, or penetrations planned that aren't shown on the drawings?
- -No.
- 22. What drip edge color would you like us to include in the proposal for both the existing roof replacement and the new addition?
- Slate Grey to match the shingles, which are to match existing slate shingles.
- 23. Can you please confirm whether the Town of Johnson will be providing a tax-exempt certificate for material purchases for this project?
- -A form S-3 will be provided upon request. Please contact Rosemary Audibert at raudibert@townofjohnson.com with copy to Paul and Peter listed in the RFP.
- 24. I do not see the S2 or C3 fixtures on the lighting schedule. Can you get clarification on that?
- -Please price out as S1 and C2 respectively. The final fixtures are to be determined and a change order can be provided in the event of an increase.
- 25. Were you able to take any pictures of the existing building you can share? -We do not have any pictures available at this time.
- 26. Were the conduits roughed in already. Can you let me know what has or has not been done?
- -The conduits for electrical will enter in side penetrations in the addition under the mechanical room. Water will be run into the historic part of the building.
 - 27. Is NM cable acceptable inside the walls and ceilings?
- -All wiring must be completed per MEP specifications.
- 28. For the existing lights in the existing library, the lighting schematic shows them being dimmed manually. Is there existing wiring 0-10v to accomplish this or is the intent to rewire all the existing fixtures with new wiring plan only shows us bringing a new feed to reenergize them and rehanging existing fixtures?
- -The existing building is to be wired per MEP specifications.
- 29.) I found a verbiage about supplying a complete fire alarm system per code but the plans show no fire alarm devices or panels/locations please advise if a fire alarm system is required and if so is there a design in place or do we need to get it designed ourselves?
- -This is being verified and a second addendum will be provided.

CALENDAR OF EVENTS / RFP TIMELINE

Listed below are the important dates and times by which the actions noted must be completed. All dates are subject to change by the TOWN OF JOHNSON. If the TOWN OF JOHNSON finds it necessary to change any of these dates or times prior to the due date, the change will be accomplished by addendum.

ACTION	COMPLETION DATE		
Issue RFP	11/7/202		
Last Day for Questions	11/17/2025 at 4:00pm		
Addendums Posted (If Necessary)	11/20/2025		
Submission Deadline	11/28/2025 4:00pm		
M. 1. C'. M. '.	11/14/2027 10 00		
Mandatory Site Visit	11/14/2025 10:00am		
Vendor Presentations	As requested by yonder not required		
vendor Presentations	As requested by vendor, not required		
Private Opening and Review	11/28/2025 4:00pm		
Trivate Opening and Review	11/20/2023 4.00pm		
Public Review and Award	12/1/2025 6.20		
Public Review and Award	12/1/2025 6:30pm		
TO BE CONSIDERED:	TO BE CONSIDERED:		
PROJECT MUST BE COMPLETED BY 10/1/2026	PROJECT MUST BE COMPLETED BY 10/1/2026		
10/1/2020	10/1/2020		

Request for Proposals General Contractor

Library Addition and Restoration for the Town of Johnson, Library Building

townofjohnson.com

The Town of Johnson requests proposals from qualified Concrete Contractors to construct a new foundation under the relocated Johnson Public Library.

Background:

The Johnson Public Library has been relocated to 73 School Street in Johnson, Vermont. The building is sitting on a new foundation. The Building is ready for interior restoration from flood damage. The building is also ready to receive its new addition. The foundation has been poured and is ready to accept the framing of the new addition.

The Building:

Johnson Public Library 73 School Street Johnson, Vermont, 05656

The building is roughly 40' x 45. The addition is approximately 40' x 60'. Please refer to the attached bid specifications for construction.

Contractors submitting a proposal will be expected to be able to:

- Provide a bid to construct the Library Addition and Restoration as specified.
- Provide the bid response sheet.
- Work with the Architect and Engineers to ensure the buildings are completed to specification.
- Provide examples of Contracting for other municipalities or government buildings.
- Clean up daily and after construction and ensure a safe construction zone throughout the construction.
- Work with Town staff and representatives to address any concerns that may arise.
- Attend the Site Visit on 5/5/25 at 4:00pm
 73 School Street, Johnson, Vermont 05656
- Maintain General Liability Insurance, and sign the Town of Johnson's Non-Employee Work Agreement

This request for proposal includes the following work; to be considered, your bid must contain all work included in this bid and drawing specifications provided.

General Contractors will:

- Be responsible for the Project Management, day-to-day construction, and coordination of the entire project.
- Complete both sections of the building in accordance with the specifications provided.
- Frame and finish the addition to the Library.
- Restore the interior of the Historic Library.
- Repoint any cracks in the exterior masonry of the Historic Library
- Extend the chimney and liner and enclose in wood with siding per specification.
- Install all plumbing, electrical, and mechanical per specification.
- Provide any temporary heat required for the construction phase.
- Track all expenses separately between the Historic Building and the Addition.
- Backfill the foundation with a 3:1 grade, approximately 4500 yds. Material to be provided by TOJ.
- Install sidewalks, parking lot, driveway, drainage, stairways and handrails to specifications.
- Work with the Library Trustees and Director to incorporate volunteer efforts for cost reduction and community building opportunities.
- Work with the Library Subcommittee, through the Architect, to consider options for cost reduction throughout the project.
- Complete the entire building, historic and addition, all sitework, and entries for public opening upon completion.
- Will be responsible for all subcontractors while on TOJ property and their work.
- COMPLETE THE TOTAL PROJECT BY 10/1/2026, DUE TO FUNDING THERE WILL BE NO EXCEPTIONS. ANY SHORTFALL IN TIMING WILL PLACE ALL FINACIAL RESPONSIBILITY RESULTING FROM THE SHORTFALL IN TIMING ON THE CONTRACTOR. This project is grant funded with strict timelines dictating the schedule.

Any contractor who submits a proposal must be willing and able to fulfill the assigned requirements of this contract and shall follow all Town of Johnson standards for equal-opportunity employment and non-discrimination practices.

Site Visit, Mandatory:

• 11/14/25 at 10:00am 73 School Street, Johnson, Vermont 05656

Proposal Submittal

If the submitting contractor has not already been employed by the Town of Johnson, the proposal must include a minimum of three professional references or examples of similar work in picture or narrative form.

Please direct any questions regarding proposal submission to the Lead Architect, Paul Trudel, at prt4543@aol.com with CC to Peter Hammond at phammond@townofjohnson.com or 802-888-1275

Completed proposals must be received no later than 11/28/25 at 4pm and delivered by email to:

Paul Trudel

Prt4543@aol.com

<u>AND</u>

Peter Hammond

phammond@townofjohnson.com

Responses must be marked "Library General Contractor"

NOTE: The Town reserves the right to reject any and all proposals. Proposals received after this deadline may be refused and deemed ineligible for consideration.

Selection of Contractor

The Town of Johnson reserves the right to accept a proposal and enter into an agreement as a result of the initial proposals received, or alternatively, it may elect to conduct negotiations with those Bidders as determined by the Town, to be within an acceptable competitive range, or alternatively, to negotiate separately with any Bidders when it is determined to be in the best interest of the Town. In addition, the Town may request that Bidders provide a best and final offer. The Town may negotiate any proposal or best and final offer at any time after the deadline for the submission of proposals.

Proposal Requirements and Examination of Work to be Performed

The contractor is required to thoroughly examine the request for proposal requirements and the work contemplated, and it will be assumed that the contractor has investigated and is satisfied as to the requirements. It is mutually agreed that submission of a request for proposal shall be considered evidence that the contractor has made such examination.

Confidentiality:

Please be advised that all notifications, releases, and addendums associated with this RFP will be posted on-line at townofjohnson.com and copies provided at the Town Clerk's Office where the original solicitation resides. The Town may not attempt to contact consultants with updated information. It is the responsibility of each consultant to provide an email contact and to periodically check their email and the town website for notifications, releases and addendums associated with the RFP. The Town encourages proposals from economically disadvantaged businesses enterprises and consultants shall comply with all federal funding requirements. The Town reserves the right to reject any and all submittals and to make a consultant selection based on the needs and requirements of the Town and may select the consultant that it feels will provide the best value to the Town.

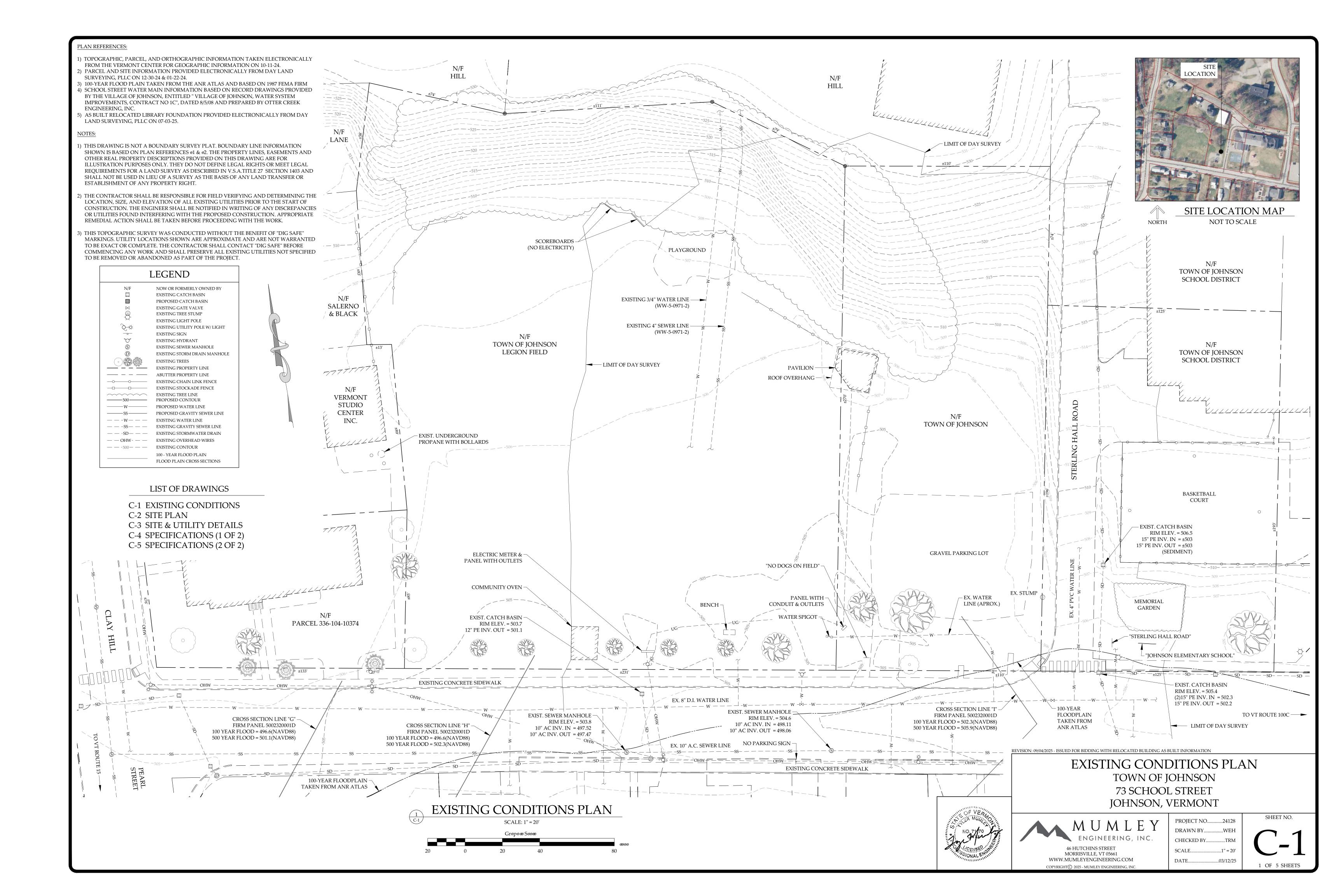
Response Form

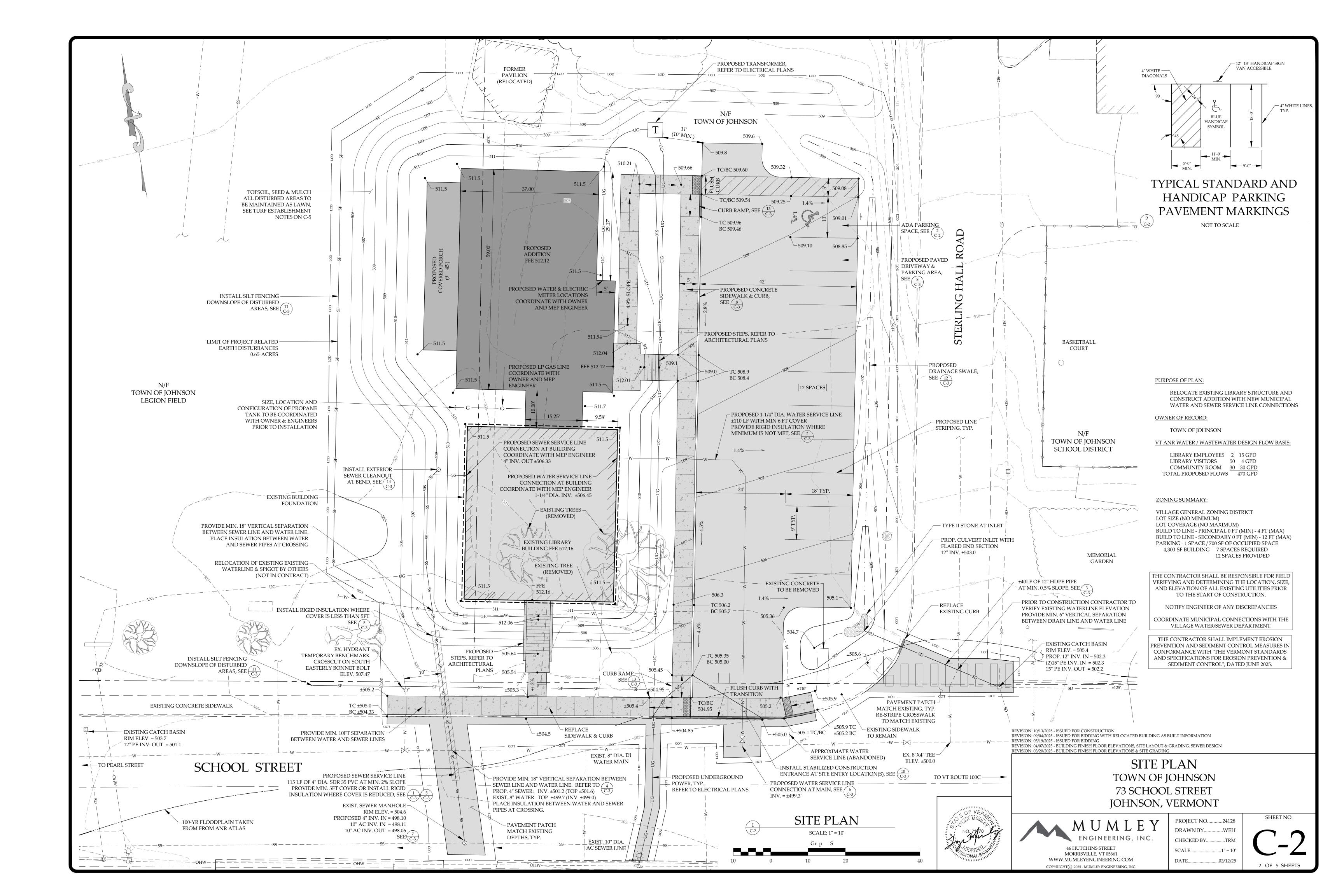
COST PROPOSAL RFP Response (Library Addition and Site Work, Historic Renovation)

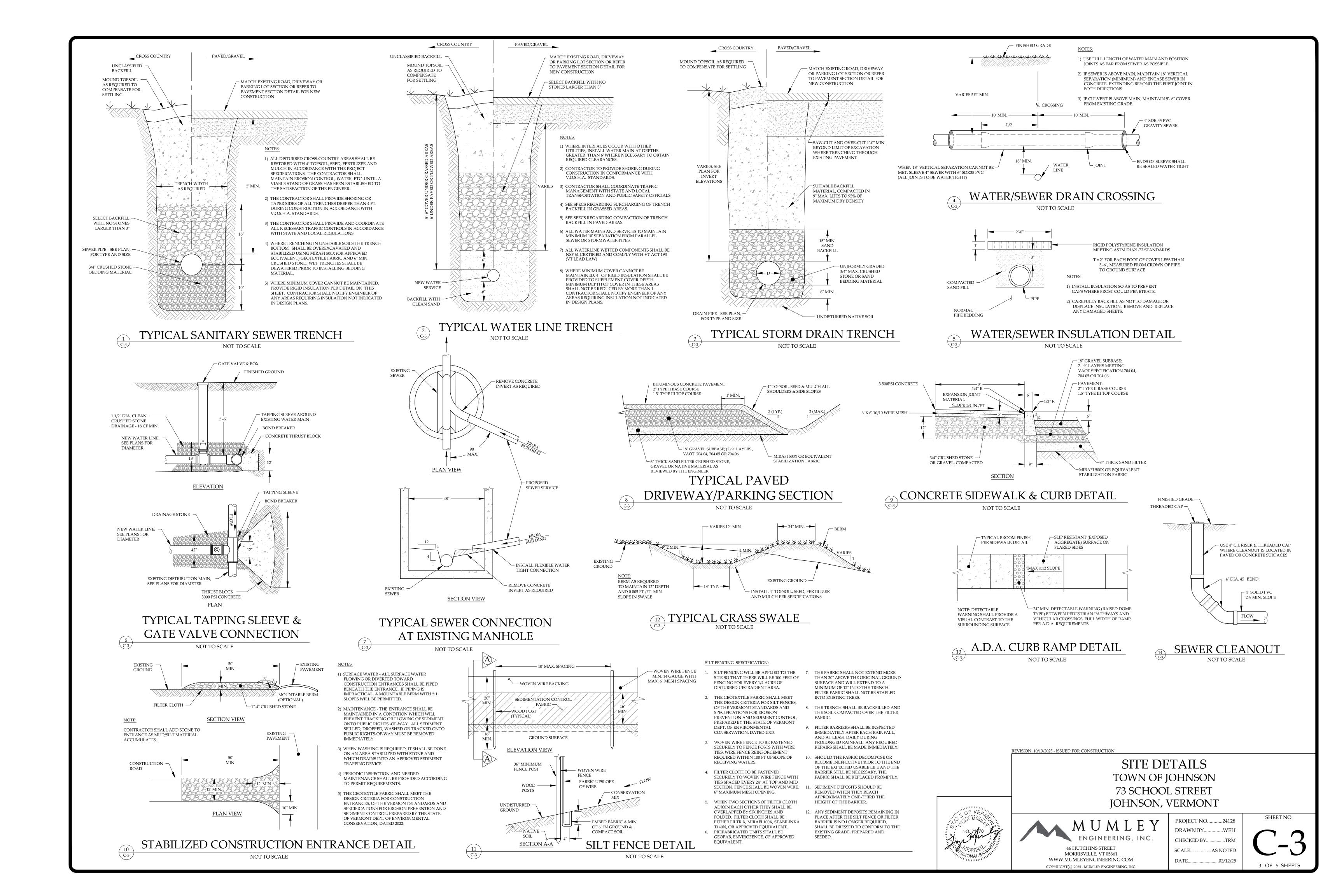
Addition and Sitework:	
1, a, Addition	\$ (USD)
1, b, Sidewalks, Stairs, Parking lot, Sitework, Grading of Both Sections	\$
Total for Addition/Sitework	\$
Historic Restoration:	
2, a, Interior Restoration, 2 Bathrooms, Artroom with Cabinets, Walls, Refinishing Floors, 2 Closets, All Plumbing, Electrical/Mechanical in Historic Section, Chimney Extension, Gas Insert with Liner, Fire Door, Exterior Door.	\$
2, b, Exterior Masonry Repair	\$
Total	\$
Floor system, completed by 12/15/2025:	
2, Posts, Beams, TGI Joists, Blocking, Plywood,	\$
Plates, Fasteners, and Cap	
Total	\$
Total Project	\$
Written out Total cost proposal:	

Dollars

Recommendations to reduce costs from Corattach a written explanation.	ntractor, not required for response, please	
3, a, Concrete Stairs vs Granite	\$ Reduced	
3, b, Alternative Siding	\$ Reduced	
3, c, Alternative Trim	\$ Reduced	
3, d, Building without Cupola	\$ Reduced	
3, e, Alternative Entry	\$ Reduced	
Name of Bidding Contractor:		
Representative:		
Email:		
Phone:		
Signature:	Date:	







GENERAL REQUIREMENTS

GENERAL

THESE CONSTRUCTION SPECIFICATIONS SET FORTH THE MINIMUM REQUIREMENTS FOR INSTALLATION OF THE PRACTICES SHOWN ON THE DRAWINGS. THE PRACTICE SHALL BE CONSTRUCTED TO THE LINES AND GRADES AS SHOWN ON THE DRAWINGS USING THE CONSTRUCTION SPECIFICATIONS THAT WERE SPECIALLY DEVELOPED FOR THIS PRACTICE.

THIS PROJECT INVOLVES A BUILDING ADDITION AND ASSOCIATED SITE IMPROVEMENTS AT 73 SCHOOL STREET IN THE VILLAGE OF JOHNSON. THE WORK WILL INCLUDE, BUT IS NOT LIMITED TO

A. SITE PREPARATION

B. EROSION PREVENTION & SEDIMENT CONTROL

C. EXCAVATION

D. WATER SERVICE LINES E. SEWER SERVICE LINES

F. UNDERGROUND UTILITY LINES

G. CONCRETE SIDEWALKS & CURBING F. PARKING LOT PAVING & STRIPING

G. FINISH GRADING

H. TOPSOIL SEED & MULCH

RESPONSIBILITIES

THE OWNER IS THE PERSON WHO IS THE OFFICIAL SPOKESMAN FOR THE PROJECT. HE/SHE ENTERS INTO ALL CONTRACTUAL AGREEMENTS, ENSURES CONSTRUCTION IS IN ACCORDANCE TO THE REQUIREMENTS AS SET FORTH IN THE PLANS OBTAINS ALL PERMITS NECESSARY FOR CONSTRUCTION AND IS FINANCIALLY RESPONSIBLE FOR THE PROJECT.

THE CONTRACTOR IS THE INDIVIDUAL WHO IS IN AGREEMENT WITH THE OWNER FOR INSTALLATION OF THE IMPROVEMENTS AS SET FORTH IN CONTRACT DOCUMENTS FOR THI PROJECT. THE DESIGNATED CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR THE WORK OF ANY SUBCONTRACTORS. THE CONTRACTOR WILL BE RESPONSIBLE FOR CONTACTING DIG SAFE PRIOR TO ANY EXCAVATION ACTIVITIES. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR CONTACTING BOTH THE OWNER AND ENGINEER IMMEDIATELY WHEN LINFORESEEN CONDITIONS ARISE, ANY REQUIRED EARTHFILL OR OTHER TESTING REQUIRING AN OUTSIDE LAB OR CONTRACTOR SHALL BE ARRANGED BY THE CONTRACTOR AT THE SPECIFIED TIME INTERVALS.

CONSTRUCTIONS PLANS

SPECIFICATIONS: THE CONSTRUCTION SPECIFICATIONS DESCRIBE QUALITY OF WORK WHICH IS TO BE PERFORMED. THE SPECIFICATIONS MAY ALSO REFERENCE A COMMERCIAL STANDARD SUCH AS THE AMERICAN SOCIETY FOR TESTING AND MATERIALS, ASTM. WHICH IS IDENTIFIABLE FOR ALL PRODUCTS OR PROCEDURES WHERE REFERENCED. THESE COMMERCIAL SPECIFICATIONS ARE COMMONLY RECOGNIZED WITHIN THE INDUSTRY. IF A CONFLICT ARISES BETWEEN THE DRAWINGS AND SPECIFICATIONS, THE SPECIFICATION GOVERNS THE WORK OR PRODUCT.

DRAWINGS: THE DRAWINGS ARE A VISUAL REPRESENTATION OF THE PROJECT WHICH SHOW THE LOCATION AND DESCRIBE THE WORK TO BE PERFORMED. THE DRAWINGS INCLUDE PLAN VIEWS, SECTIONS, PROFILE DETAILS AND NOTES WHICH ARE NECESSARY TO SUPPLEMENT THE CONSTRUCTION SPECIFICATIONS FOR A SITE-SPECIFIC INSTALLATION.

PERMITS

THE WORK IS TO BE PERFORMED IN CONFORMANCE WITH ALL REQUIRED PERMITS AND ASSOCIATED GENERAL CONDITIONS AND/OR CONDITIONS OF APPROVAL

VERMONT ANR WATER & WASTEWATER PERMIT WW-5-9813

6. PUBLIC AND PRIVATE UTILITIES

PRIOR TO THE START OF CONSTRUCTION, IT SHALL BE THE CONTRACTOR S RESPONSIBILITY TO CONTACT DIG SAFE AND COORDINATE WITH THE VILLAGE OF JOHNSON PUBLIC WORKS DEPARTMENT.

7. SUBMITTALS AND SUBSTITUTIONS

SUBMITTALS: THE CONTRACTOR IS RESPONSIBLE FOR MAKING SUBMITTALS (E.G., SHOP DRAWINGS, SAMPLES) REQUIRED BY THE CONTRACT DOCUMENTS AND REVISING THEM TO ENSURE COMPLIANCE THE CONTRACTOR MUST CAREFULLY REVIEW AND VERIFY THAT EACH ITEM CONFORMS TO THE SPECIFIED REQUIREMENTS BEFORE SUBMITTING IT, CERTIFYING THIS REVIEW WITH THEIR SIGNATURE.

SUBSTITUTIONS: SUBSTITUTIONS OF MATERIALS, EQUIPMENT, OR METHODS ARE NOT ALLOWED UNLESS SPECIFICALLY REVIEWED BY THE ENGINEER. IF THE CONTRACT SPECIFIES "OR EOUAL." THE CONTRACTOR CANNOT ASSUME APPROVAL WITHOUT WRITTEN CONFIRMATION FROM THE ENGINEER

SUBMISSION PROCESS

SHOP DRAWINGS MUST BE ACCURATE, TO SCALE AND SUBMITTED ELECTRONICALLY TO THE ENGINEER, MANUFACTURERS' LITERATURE MUST BE CLEARLY MARKED TO INDICATE

SUBMITTALS MUST BE NUMBERED CONSECUTIVELY, AND RE-SUBMITTALS MUST REFERENCE THE ORIGINAL SUBMITTAL NUMBER. AN ACCURATE AND UP TO DATE SUBMITTAL LOG MUST BE MAINTAINED BY THE CONTRACTOR AND BE AVAILABLE FOR REVIEW UPON REQUEST. SUBMITTALS SHOULD BE MADE IN GROUPS WITH ALL ASSOCIATED ITEMS TO PREVENT DELAYS.

IF THE CONTRACTOR CONSIDERS ANY REQUIRED REVISION TO BE A CHANGE, HE OR SHE SHALL SO NOTIFY THE ENGINEER.

MAKE ONLY THOSE REVISIONS DIRECTED BY THE ENGINEER REVIEW BY THE ENGINEER DOES NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR ERRORS WHICH MAY EXIST IN THE SUBMITTED DATA.

SUBMITTALS MUST BE MADE WELL IN ADVANCE OF FABRICATION OR INSTALLATION DATES

TO ALLOW FOR REVIEW. ALLOW AT LEAST 10 WORKING DAYS FOR THE ENGINEER S REVIEW

8. TEMPORARY FACILITIES

THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND MAINTAINING:

A. SANITARY FACILITIES

B. BARRIERS TO PREVENT UNAUTHORIZED ENTRY TO CONSTRUCTION AREAS AND TO PROTECT EXISTING FACILITIES AND ADJACENT PROPERTIES FROM DAMAGE FROM CONSTRUCTION OPERATIONS

C. BARRICADES AS REQUIRED BY THE VILLAGE OF JOHNSON FOR SEPARATING THE WORK AREA TO AREAS ACCESSED BY THE PUBLIC

D. REFUSE COLLECTION AND REMOVAL AS REQUIRED TO MAINTAIN THE WORK SITE IN A CLEAN AND ORDERLY CONDITION, FREE OF WASTE MATERIALS, DEBRIS AND RUBBISH.

E. PRE-CONSTRUCTION MEETING

THE CONTRACTOR, IN COORDINATION WITH THE ENGINEER SHALL SCHEDULE AN IN PERSON PRE-CONSTRUCTION MEETING WITH ATTENDANCE BY THE OWNER, ARCHITECT, ENGINEER AND REPRESENTATIVE OF THE VILLAGE OF IOHNSON. THE PURPOSE OF THI MEETING IS TO REVIEW THE PROJECT SCHEDULE. PLANS, SPECIFICATIONS AND OTHER DETAILS OF THE PROJECT. THE MEETING SHALL BE SCHEDULED AT LEAST 2-WEEKS PRIOF TO THE START OF CONSTRUCTION.

F. SUBSTANTIAL COMPLETION THE CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER 1-WEEK PRIOR TO SUBSTANTIAL COMPLETION TO SCHEDULE AN ON -SITE MEETING WITH THE OWNER, ARCHITECT AND ENGINEER

G. THE CONTRACTOR SHALL PROVIDE RED LINE AS-BUILT DRAWINGS WITHIN 2-WEEKS OF SUBSTANTIAL COMPLETION. AS-BUILT DRAWINGS ARE TO INCLUDE A CONTRACTORS CERTIFICATION OF INSTALLATION THAT ALL WORK HAS BEEN COMPLETED IN CONFORMANCE WITH THE PLANS AND SPECIFICATIONS

H. BASIS OF ACCEPTANCE THE ACCEPTANCE OF THE INSTALLATION WILL BE BY INSPECTION AND REVIEW FOR CONFORMANCE WITH THE SITE-SPECIFIC DRAWINGS AND CONSTRUCTION

02100 EXCAVATION AND BACKFILL

THIS SECTION SHALL APPLY TO ITEMS INCLUDED IN THE CIVIL SITE PLANS AND SHALL NOT SUPPLEMENT OR REPLACE SPECIFICATIONS RELATED TO GEOTECHNICAL WORK, STRUCTURAL WORK, OR OTHER VARIOUS TYPES OF WORK FOR THE PROJECT NOT OTHERWISE DEFINED SPECIFICALLY IN THE CIVIL SITE

PERFORM SELECT DEMOLITION AND CLEARING AS SHOWN. REMOVE TREES, BRUSH, STUMPS, PAVEMENT DEBRIS AND ORGANIC MATTER IN THE AREA OF THE SITE IMPROVEMENTS AND BUILDING CONSTRUCTION FROM THE PROJECT SITE. THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR OFF-SITE DISPOSAL IN A LEGAL MANNER, PROTECT TREES AND SHRUBS TO BE RELOCATED OR TO REMAIN.

PERFORM EARTHWORK TO EXCAVATE AND FILL FOR SUBGRADE IN THE AREA OF THE PROPOSED SITE IMPROVEMENTS.

COMPLETE ALL ROUGH GRADING AS SHOWN ON THE DRAWINGS. ROUGH GRADES SHALL BE THE FINISH GRADES SHOWN LESS THE THICKNESS OF FINISH SURFACE COURSE MATERIALS AND UNDERLYING PROCESSED GRANULAR BASE COURSE

EXCAVATE AND BACKFILL FOR FOOTINGS, FOUNDATIONS, CONCRETE SLABS AND MISCELLANEOUS STRUCTURES.

EXCAVATE AND BACKFILL TRENCHES FOR NEW UTILITIES BOTH INTERIOR AND EXTERIOR. SEE ELECTRICAL DRAWINGS FOR ELECTRICAL EXCAVATION AND BACKFILL. SEE PLUMBING DRAWINGS FOR PLUMBING EXCAVATION AND BACKFILL. REFER TO STRUCTURAL DRAWINGS FOR INFORMATION ON EXCAVATION AND FILL OF STRUCTURAL MEMBERS

EXCAVATE AND BACKFILL FOR MISCELLANEOUS SITE CONCRETE SUCH AS LIGHT AND FLAGPOLE BASES, BOLLARDS, TRANSFORMERS, ETC., FURNISH AND INSTALL GRAVEL BASE AND/OR PROCESS STONE BASE FOR ALL ASPHALT PAVEMENT AND ALL CONCRETE SLABS ON GRADE. THIS INCLUDES CONCRETE

PROVIDE SURVEY CONTROL FOR EARTH WORK AND LITILITIES PROVIDE DRAINAGE AND DEWATERING TO KEEP CONSTRUCTION AREAS AND EXCAVATIONS FREE OF WATER FROM ANY SOURCE WITHOUT DISTURBANCE TO THE FOUNDATION SOIL STRATA FURNISH AND INSTALL ALL SHEETING AND SHORING REQUIRED FOR EXCAVATIONS TO

EXTERIOR SITE SLABS AND INTERIOR CONCRETE SLABS

MAINTAIN SAFE WORKING CONDITIONS AND TO COMPLY WITH ALL MUNICIPAL, STATE AND FEDERAL REGULATIONS COORDINATE WITH THE OWNER AND TESTING LABORATORY TO ENSURE THAT THE TESTING, AS REQUIRED IN THIS SECTION, IS BEING PERFORMED. PROVIDE AND MAINTAIN SEDIMENTATION, EROSION AND DUST CONTROL MEASURES. REMOVE UPON COMPLETION OF THE PROJECT, UNLESS DIRECTED BY THE ENGINEER TO REMAIN IN PLACE.

PLACE TOPSOIL, SEED AND RESTORE ALL DISTURBED AREAS WHERE NOT PAVED. THE CONTRACTOR MUST CAREFULLY EXAMINE THE SITE AND DETERMINE FOR HIMSELF/HERSELF ALL CONDITIONS AFFECTING THE WORK UNDER THIS SECTION. THE

AND SHALL NOTIFY THE ENGINEERING IN WRITING OF DISCREPANCIES. FAILURE TO NOTIFY THE ENGINEER OF SPECIFIC DEFICIENCIES PRIOR TO START OF WORK SHALL CONSTITUTE ACCEPTANCE OF THE SITE.

CONTRACTOR SHALL FIELD VERIFY EXISTING TOPOGRAPHY PRIOR TO START OF WORK

CAREFULLY MAINTAIN ALL BENCH MARKS, MONUMENTS AND REFERENCE POINTS; HOWEVER, IF THEY ARE DISTURBED OR DESTROYED, THEY SHALL BE REPLACED BY THE SURVEYOR AT THIS CONTRACTOR'S EXPENSE

GRANULAR FILL: FOR USE AS STRUCTURAL FILL UNDER SITE STRUCTURES, FOUNDATION BACKFILL, ASPHALT PAVEMENT, SUBBASE AND TRENCH BACKFILI SHALL CONSIST OF HARD DURABLE SAND AND GRAVEL, BE FREE FROM ICE AND SNOW, CINDERS, ALKALI, SALT, PETROLEUM PRODUCTS, ROOTS, SODS, RUBBISH AND OTHER DELETERIOUS OR ORGANIC MATTER. EXCAVATED MATERIAL FROM ON-SITE SOURCES WHICH MEETS THIS GRADATION MAY BE USED.

PERCENT PASSING BY WEIGHT 55-100 25-60 15-45 5-25

SAND: SHALL BE CLEAN, FREE OF ALL DELETERIOUS OR ORGANIC MATTER CONFORMING TO ASTM C33 AND THE FOLLOWING GRADATION REQUIREMENTS US SIEVE NO. PERCENT PASSING BY WEIGHT

30-90

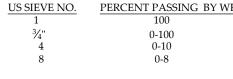
PROCESS GRAVEL/CRUSHED AGGREGATE BASE COURSE: FOR USE DIRECTLY UNDER ASPHALT PAVEMENT AND DIRECTLY UNDER INTERIOR AND EXTERIOR CONCRETE SLAB ON GRADE AS A BASE MATERIAL AND FOR USE AS ROADWAY SHOULDER FINISH SURFACE COURSE. THE MATERIAL SHALL CONSIST OF PROCESSED SAND-GRAVEL MIXTURE OR CRUSHED STONE WITH FINES.

	PERCENT PASSING BY WEIGHT		
US SIEVE NO.	CRUSHED GRAVEL	CRUSHED STO	
$1^{\frac{1}{2}}$	100	100	
1	75-100		
3/4			
1/2"	40-75	30-60	
4	30-60	25-55	
10	20-45	15-40	
40	10-30		
200	3-10	2-8	

CRUSHED STONE: FOR BUILDING PERIMETERS IN DESIGNATED AREAS INSTALL OVER GEOTEXTILE FABRIC DESIGNATED FOR LANDSCAPE PURPOSES WITHIN THIS SPECIFICATION SECTION. STONE SHALL COMPLY WITH THE FOLLOWING ASTM C33,

SIZE NO. 2 SPECIFICA'	TIONS.	
	US SIEVE NO.	PERCENT PASSING BY WEIGI
	2 ½	100
	2	90-100
	1 ½	35-70
	1	0-15
	1/2"	0-5

CRUSHED STONE: FOR PIPE AND STRUCTURE BEDDING WHERE SHOWN OR SPECIFIED PERCENT PASSING BY WEIGHT



CRUSHED STONE: FOR PIPE BEDDING OR AT PAVEMENT EDGES FOR SNOW DISPOSAL AREAS STONE SHALL CONFORM TO THE FOLLOWING GRADATION.

> PERCENT PASSING BY WEIGHT 90-100 30-55 0-25

GEOTEXTILE FABRIC GEOTEXTILE FABRIC FOR REINFORCEMENT AND GROUND STABILIZATION UNDER ROAD

SUBBASE SHALL BE MIRAFI 500X OR APPROVED EQUIVALENT WOVEN FABRIC.

GEOTEXTILE FABRIC FOR WRAPPING UNDERDRAINS, USE UNDER RIPRAP OR STONE BLANKETS OR AS A SEPARATION FABRIC UNDER CRUSHED OR PROCESS BASE COURSES WHERE SHOWN IN THE PLAN SHALL BE MIRAFI 140N OR APPROVED EQUIVALENT NON-WOVEN FABRIC

GEOTEXTILE FABRIC FOR LANDSCAPING PURPOSES SHALL BE MIRASCAPE BY MIRAFI OR APPROVED EQUIVALENT. INSTALL IN FULL WIDTH FILLS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION

LACEMENT: PLACE BACKFILL AND FILL MATERIALS IN LAYERS NOT MORE THAN 12 IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HEAVY COMPACTION EOUIPMENT AND NOT MORE THAN 6 IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HAND-OPERATED TAMPERS

EACH FILL LAYER SHALL BE SPREAD EVENLY AT RIGHT ANGLES TO PREVIOUS LAYER AND SHALL BE THOROUGHLY BLADE-MIXED DURING SPREADING TO ENSURE UNIFORMITY OF MATERIAL IN EACH LAYER. WATER OR AERATE IF REOLURED TO OBTAIN PROPER OPTIMLIM MOISTURE CONTENT PLACE BACKFILL MATERIALS EVENLY ADIACENT TO STRUCTURES TO REQUIRED ELEVATIONS. TAKE CARE TO PREVENT WEDGING ACTION OF BACKFILL AGAINST STRUCTURES BY CARRYING MATERIAL UNIFORMLY AROUND STRUCTURE TO APPROXIMATELY THE SAME ELEVATION IN EACH

DO NOT ALLOW HEAVY MACHINERY WITHIN 5 FEET OF STRUCTURE DURING BACKFILLING AND COMPACTING. FILL SHALL NOT BE PLACED OVER FROZEN MATERIAL. PLACEMENT OF FILL SHALL BE SUSPENDED DURING UNFAVORABLE WEATHER CONDITIONS AND

NOT RESUME UNTIL THE MOISTURE CONTENT OF PREVIOUSLY PLACED

MATERIAL IS RESTORED TO THE REQUIRED SPECIFICATIONS

COMPACTION SHALL BE ACCOMPLISHED BY VIBRATORY STEEL DRUM ROLLERS, SHEEP'S FOOT ROLLER, PNEUMATIC-TIRED ROLLER OR OTHER APPROVED EQUIPMENT WELL SUITED FOR THE SOIL BEING COMPACTED. MATERIAL SHALL BE MOISTENED OR AERATED AS NECESSARY TO PROVIDE THE OPTIMUM MOISTURE CONTENT THAT WILL READILY FACILITATE OBTAINING THE SPECIFIED COMPACTION.

DEGREE OF COMPACTION: COMPACT TO THE FOLLOWING MINIMUM DENSITIES: UNDER BUILDING, STRUCTURES AND DETENTION POND EMBANKMENT = 95% OF

TOP 2 FEET UNDER SUBGRADE, INCLUDING TRENCHES = 95% OF MAX BELOW TOP 2 FEET UNDER SUBGRADE, INCLUDING TRENCHES = 92% OF MAX.

TRENCHES THROUGH UNPAVED AREAS = 90% OF MAX. EMBANKMENTS AND LAWN AREAS = 90% OF MAX. PIPE BEDDING = 92% OF MAX.

LABORATORY DENSITY SHALL BE DETERMINED AS FOLLOWS: COHESIVE MATERIALS: MODIFIED PROCTOR COMPACTION TEST, ASTM D1557, METHOD C & D.

COHESIONLESS MATERIAL: ASTM D4253 AND D4254.

FIELD DENSITY TESTS: ASTM D1556 (SAND COVER) OR ASTM D2922 (NUCLEAR METHODS), OR ASTM D2167 (RUBBER BALLOON). HYDRAULIC JETTING OF FILLS WILL NOT BE PERMITTED FOR DENSIFICATION OF COHESIONI ESS MATERIAI WHERE TESTS INDICATE THAT FILL DOES NOT CONFORM TO THE COMPACT DENSITY

SPECIFIED, THE FILL AND UNDERLYING SUBGRADE, IF NECESSARY, SHALL BE REMOVED

MAINTAIN ADEQUATE BARRICADES, GUARDS, WARNING LIGHTS AND OTHER PROTECTION REQUIRED AT HAZARDS CREATED BY THIS WORK. PROTECT OVERHEAD AND UNDERGROUND UTILITIES, SIDEWALKS, DRAINS, CURBS,

TREES (INCLUDING ROOTS), SHRUBS, GROUND COVER, BENCHMARKS, MONUMENTS

OTHER REFERENCE POINTS, ADJACENT BUILDINGS AND PROPERTY THAT ARE TO FENCE AND/OR BOX-IN ALL TREES AND PLANT MATERIAL WHICH ARE TO REMAIN BEFORE WORK IS STARTED. DO NOT PERMIT HEAVY EQUIPMENT OR STOCKPILES WITHIN BRANCH SPREAD. REMOVE INTERFERING BRANCHES WITHOUT INJURY TO TRUNKS, COVER SCARS WITH TREE PAINT. USE ALL MEANS NECESSARY TO PROTECT ALL MATERIALS IN THIS SECTION BEFORE,

DURING AND AFTER INSTALLATION. IN THE EVENT OF DAMAGE, IMMEDIATELY MAKE ALL REPAIRS AND REPLACEMENTS NECESSARY TO THE APPROVAL OF THE ENGINEER AT NO ADDITIONAL COST TO THE OWNER. CONDUCT SITE CLEARING OPERATIONS TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKS AND OTHER ADJACENT OCCUPIED OR USED FACILITIES. DO NOT CLOSE OR OBSTRUCT STREETS. WALKS OR OTHER OCCUPIED OR USED FACILITIES WITHOUT PERMISSION FROM AUTHORITIES HAVING JURISDICTION.

USE ALL MEANS NECESSARY TO CONTROL DUST ON OR NEAR THE WORK, IF SUCH DUST IS CAUSED BY THE CONTRACTOR'S OPERATIONS DURING PERFORMANCE OF THE WORK OR IF RESULTING FROM THE CONDITION IN WHICH THE CONTRACTOR LEAVES THE SITE. APPLY CALCIUM CHLORIDE OR WATER FOR DUST CONTROL. SWEEP PUBLIC ROADS AS REQUIRED.

SECTION 02400 STORM DRAINAGE SYSTEMS

PART 1 - GENERAL

SECTION INCLUDES

SITE SURFACE DRAINAGE. SITE STORM SEWERAGE DRAINAGE PIPING, FITTINGS AND ACCESSORIES

AT A MINIMUM, FURNISH SHOP DRAWINGS OR PRODUCT DATA ON THE FOLLOWING ITEMS:

A. MANHOLES AND STRUCTURES

B. FRAMES AND GRATES

C. YARD DRAINS D. PIPE, FITTINGS AND ACCESSORIES

E. END SECTIONS RECORD DOCUMENTS

RECORD LOCATION OF PIPE RUNS, CONNECTIONS, MANHOLES, CLEANOUTS AND INVERT ELEVATIONS.

REGULATORY REQUIREMENTS

CONFORM TO APPLICABLE STATE AND LOCAL PERMIT REQUIREMENTS.

PART 2 - PRODUCTS

M294 OR APPROVED EOUAL

PIPE MATERIALS STORM DRAIN: SMOOTH INTERIOR POLYETHYLENE CULVERT PIPE, MEETING ASTM D2321/AASHTO

SMOOTH WALL POLYVINYL CHLORIDE PLASTIC PIPE, PERFORATED OR NON-PERFORATED, SDR 35 MEETING ANSI/ASTM D3034

PIPE ACCESSORIES

FITTINGS: SAME MATERIAL AS PIPE MOLDED OR FORMED TO SUIT PIPE SIZE AND END DESIGN, IN REQUIRED TEE, BENDS, ELBOWS, CLEANOUTS, REDUCERS, TRAPS AND OTHER CONFIGURATIONS REQUIRED.

BEDDING MATERIALS

BEDDING: 3/4 INCH DIAMETER CRUSHED STONE

STRUCTURES

PRECAST CONCRETE MANHOLES AS MANUFACTURED BY CAMP PRECAST OR S. T. GRISWOLD, MINIMUM 4FT INSIDE DIAMETER.

FRAMES, COVERS, AND GRATES AND CURB INLETS SHALL BE HEAVY DUTY, ROADWAY WEIGHT, H-20 LOADING RATED. MANUFACTURER IS THE CONTRACTOR'S OPTION, BUT SHALL CONFORM TO LOCAL CODE REQUIREMENTS. SOLID COVERS SHALL BEAR THE WORD STORM. GRATES IN PAVED WOOD OR STEEL FORM MATERIAL, PROFILED TO SUIT CONDITIONS. AREAS SHALL BE DUCTILE IRON.

PROVIDE 30-INCH DIAMETER FRAME AND COVER, OR 30 INCH X30 INCH SQUARE FRAME AND

ALL JOINTS BETWEEN PRECAST SECTIONS SHALL BE SEALED WITH BUTYL RUBBER GASKETS.

PART 3 - EXECUTION

EXAMINATION

VERIFY THAT TRENCH CUT IS READY TO RECEIVE WORK AND EXCAVATIONS, DIMENSIONS AND ELEVATIONS ARE AS INDICATED ON LAYOUT DRAWINGS.

HAND TRIM EXCAVATIONS TO REQUIRED ELEVATIONS. CORRECT OVER EXCAVATION WITH REMOVE LARGE STONES OR OTHER HARD MATTER WHICH COULD DAMAGE PIPING OR IMPEDE CONSISTENT BACKFILLING OR COMPACTION.

EXCAVATE PIPE TRENCH IN ACCORDANCE WITH SECTION 02100. HAND TRIM EXCAVATION FOR ACCURATE PLACEMENT OF PIPE TO FLEVATIONS INDICATED PLACE BEDDING MATERIAL AT TRENCH BOTTOM, LEVEL MATERIALS IN CONTINUOUS LAYER NOT LESS THAN 6 INCHES COMPACTED DEPTH

INSTALLATION - PIPE

INSTALL PIPE, FITTINGS AND ACCESSORIES IN ACCORDANCE WITH MANUFACTURER'S

LAY PIPE TO SLOPE GRADIENTS NOTED ON LAYOUT DRAWINGS; WITH MAXIMUM VARIATION FROM TRUE SLOPE OF 1/8 INCH IN 10 FEET

INSTALL AGGREGATE AT SIDES.

INSTALLATION - STRUCTURES

INSTALL PRECAST STRUCTURES DEAD LEVEL ON SOLID EARTH OR STONE TO GRADES INDICATED ON THE DRAWING.

INSERT PIPES AND CONNECT WITH NEOPRENE PRESS-SEAL BOOT OR EOUIVALENT. SET FRAME AND GRATE TO PROPER GRADE. USE GRADE RINGS TO ADJUST GRADE. SET FRAME TIGHT TO CURBS WHERE APPLICABLE.

REQUEST INSPECTION PRIOR TO PLACING AGGREGATE COVER OVER PIPE.

DO NOT DISPLACE OR DAMAGE PIPE WHEN COMPACTING.

SECTION 02520 PORTLAND CEMENT CONCRETE (SITE)

PART 1 - GENERAL

SECTION INCLUDES

CONCRETE SIDEWALKS, CURBS, SLABS, HEADWALLS, LIGHT POLE

PRODUCTS INSTALLED BUT NOT FURNISHED UNDER THIS SECTION

ANCHOR BOLTS. CONDUIT FOR LIGHTS.

REFERENCES

STATE OF VERMONT, AGENCY OF TRANSPORTATION, STANDARD SPECIFICATIONS, 2024.

ANSI/ASTM A185 - WELDED STEEL WIRE FABRIC FOR CONCRETE REINFORCEMENT.

ANSI/ASTM D1752 - PREFORMED SPONGE RUBBER AND CORK

EXPANSION JOINT FILLERS FOR CONCRETE PAVING AND STRUCTURAL CONSTRUCTION.

ASTM A615 - DEFORMED AND PLAIN BILLET-STEEL FOR CONCRETE

REINFORCEMENT. ASTM C33 - CONCRETE AGGREGATE.

ASTM C94 - READY MIX CONCRETE

ASTM C150 - PORTLAND CEMENT

ASTM C260 - AIR-ENTRAINING ADMIXTURES FOR CONCRETE.

QUALITY ASSURANCE

PERFORM WORK IN ACCORDANCE WITH VERMONT AGENCY OF TRANSPORTATION SPECIFICATIONS.

ENVIRONMENTAL REQUIREMENTS DO NOT PLACE CONCRETE WHEN BASE SURFACE TEMPERATURE IS

PART 2 - PRODUCTS

LESS THAN 40 DEGREES F, OR SURFACE IS WET OR FROZEN.

JOINT FILLER: ANSI/ASTM D1751; ½ THICK. CONCRETE MATERIALS

FORM MATERIALS

CONCRETE MATERIALS: PROVIDE IN ACCORDANCE WITH VERMONT AGENCY OF TRANSPORTATION SPECIFICATIONS, SECTION 501, CLASS B.

WATER: POTABLE, NOT DETRIMENTAL TO CONCRETE. AIR ENTRAINMENT: ASTM C260.

CONCRETE MIX MIX CONCRETE IN ACCORDANCE WITH ACI 304. DELIVER CONCRETE IN

ACCORDANCE WITH ASTM C94 PROVIDE CONCRETE TO THE FOLLOWING MIX DESIGN:

COMPRESSIVE STRENGTH: 3000 PSI (LIGHT POLE BASES) 4000 PSI (SIDEWALKS, CURBS & SLABS) (28 DAY)

RELAX COLD WEATHER PLACEMENT REQUIREMENTS.

WHEN APPROVED BY ARCHITECT/ENGINEER

AIR ENTRAINED: ALL CONCRETE 4-8% USE ACCELERATING ADMIXTURES IN COLD WEATHER ONLY WHEN APPROVED BY ARCHITECT/ENGINEER. USE OF ADMIXTURES WILL NOT

USE CALCIUM CHLORIDE ONLY WHEN APPROVED BY ARCHITECT/ENGINEER

USE SET RETARDING ADMIXTURES DURING HOT WEATHER ONLY

ALL CONCRETE WILL BE OBTAINED FROM S.T. GRISWOLD, UNLESS ANOTHER SOURCE IS APPROVED BY THE ARCHITECT/ENGINEER.

REINFORCING

COMPLY WITH ASTM A-615 GRADE 60 REBAR AND ASTM A-185 FOR WIRE

PART 3 - EXECUTION **EXAMINATION**

VERIFY COMPACTED GRANULAR BASE IS ACCEPTABLE AND READY TO SUPPORT CONCRETE AND IMPOSED LOADS.

VERIFY GRADIENTS AND ELEVATIONS OF BASE ARE CORRECT

FORMING

SECTION 02231 - AGGREGATE BASE COURSE FORMS THE BASE CONSTRUCTION FOR WORK OF THIS SECTION.

MOISTEN BASE TO MINIMIZE ABSORPTION OF WATER FROM FRESH CONCRETE.

NOTIFY ARCHITECT/ENGINEER A MINIMUM OF 24 HOURS PRIOR TO COMMENCEMENT OF CONCRETING OPERATIONS.

PLACE AND SECURE FORMS TO CORRECT LOCATIONS, DIMENSION,

ASSEMBLE FORMWORK TO PERMIT EASY STRIPPING AND DISMANTLING WITHOUT DAMAGING CONCRETE.

PLACE JOINT FILLER VERTICAL IN POSITION, IN STRAIGHT LINES.

SECURE TO FORMWORK DURING CONCRETE PLACEMENT. PLACE REINFORCEMENT AS INDICATED ON THE DRAWINGS.

PLACING CONCRETE

PLACE CONCRETE IN ACCORDANCE WITH VERMONT AGENCY OF TRANSPORTATION SPECIFICATIONS 618.03, 616.06 AND SECTION 501.

ENSURE EMBEDDED PARTS, FORMED JOINTS, REINFORCEMENT AND OTHER ITEMS ARE NOT DISTURBED DURING CONCRETE PLACEMENT. PLACE CONCRETE CONTINUOUSLY BETWEEN PREDETERMINED

CONSTRUCTION JOINTS. DO NOT BREAK OR INTERRUPT SUCCESSIVE POURS SUCH THAT COLD JOINTS OCCUR.

AT WHEEL CHAIR RAMPS, MATCH ADJACENT TRAVEL SURFACES.

PLACE EXPANSION JOINTS AT 20 FOOT INTERVALS IN CURBS AND

SIDEWALKS. ALIGN CURB AND SIDEWALK JOINTS. PLACE JOINT FILLER BETWEEN CONCRETE COMPONENTS AND BUILDING OR OTHER APPURTENANCES. RECESS TOP OF FILLER 1/4 INCH.

PROVIDE SCORED JOINTS AT 5 FOOT INTERVALS ON SIDEWALKS 5 FEET

WIDE, AND AT 4 FOOT INTERVALS ON SIDEWALKS 4 FEET WIDE. REFER TO DRAWINGS FOR WIDTHS

PROTECTION

SIDEWALK PAVING: LIGHT BROOM, PERPENDICULAR TO PRIMARY

DIRECTION OF TRAVEL AND TROWEL JOINT EDGES.

CURBS AND GUTTERS: LIGHT BROOM; TROWEL JOINT EDGES.

IMMEDIATELY AFTER PLACEMENT, PROTECT CONCRETE FROM PREMATURE DRYING, EXCESSIVE HOT OR COLD TEMPERATURES, AND

73 SCHOOL STREET JOHNSON, VERMONT

SPECIFICATIONS (1 OF 2)

TOWN OF JOHNSON

46 HUTCHINS STREET MORRISVILLE, VT 05661

PROJECT NO.... DRAWN BY..... CHECKED BY.. SCALE... WWW.MUMLEYENGINEERING.COM DATE... COPYRIGHT(C) 2025 - MUMLEY ENGINEERING, INC

SHEET NO.24128 ...WEHTRM ...AS NOTED ..10/13/25

02231 AGGREGATE BASE COURSE

PART 1 - GENERAL

SIDEWALKS.

REFERENCES

SECTION INCLUDES AGGREGATE BASE COURSE FOR USE BENEATH PAVED

STATE OF VERMONT, AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS, 2024.

ASTM D2922 - TEST METHODS FOR DENSITY OF SOIL AND

SOIL-AGGREGATE IN PLACE BY NUCLEAR METHODS

DRIVEWAYS, ROADWAYS, PARKING AREAS, CURBS AND

ASTM D3017 - TEST METHODS FOR MOISTURE CONTENT OF SOIL AND SOIL-AGGREGATE MIXTURES.

SUBMIT TWO (2) SIEVE ANALYSES OF EACH AGGREGATE

TO BE USED, TO ENGINEER FOR APPROVAL. PART 2 - PRODUCTS

(SHALLOW DEPTH).

DENSE GRADED CRUSHED STONE: AGGREGATE MEETING 2024 STATE OF VERMONT, AGENCY OF TRANSPORTATION

SPECIFICATION 704.06A - DENSE GRADED CRUSHED STONI

AGENCY OF TRANSPORTATION SPECIFICATION 704.05 -CRUSHED GRAVEL FOR SUBBASE FINE AGGREGATE (SAND) FILL: SAND MEETING 2024

STATE OF VERMONT, AGENCY OF TRANSPORTATION

SPECIFICATION 703 03A - SAND BORROW AND CUSHION

SUBBASE OF GRAVEL: CRUSHED GRAVEL MEETING 2024

AGGREGATE FOR SURFACE COURSE AND SHOULDERS: CRUSHED STONE OR CRUSHED GRAVEL MEETING 2024 STATE OF VERMONT AGENCY OF TRANSPORTATION SPECIFICATION 704.12A

MIRAFI 500X OR APPROVED EQUIVALENT. PART 3 - EXECUTION

AGGREGATE PLACEMENT

EXAMINATION VERIFY SUBSTRATE HAS BEEN INSPECTED, GRADIENTS AND ELEVATIONS ARE CORRECT, AND DRY.

SPREAD AGGREGATE OVER PREPARED SUBSTRATE. SUBBASE MATERIALS OR THICKNESSES ARE IDENTIFIED ON THE DRAWINGS. CONTRACTOR MAY CHOOSE DENSE GRADED CRUSHED STONE OR SUBBASE OF GRAVEL FOR COARSE AGGREGATE. WHERE TRENCHING IS PERFORMED ACROSS EXISTING PAVEMENT OR CONCRETE, REPLACE SUBBASE WITH EOUIVALENT MATERIALS AND THICKNESSES UNLESS OTHERWISE SPECIFIED ON THE

PLACE GEOTEXTILE OVER SUBGRADE; LAP JOINTS AT LEAST 24 INCHES. PLACE AGGREGATE IN MAXIMUM 6-INCH LAYERS AND

ADD SMALL QUANTITIES OF FINE AGGREGATE TO COURSE

AGGREGATE AS APPROPRIATE TO ASSIST COMPACTION.

ROLLER COMPACT. USE A VIBRATORY ROLLER. LEVEL AND CONTOUR SURFACES TO ELEVATIONS AND WATER IS APPARENT, REMOVE AGGREGATE AND AERATE TO REDUCE MOISTURE CONTENT. USE MECHANICAL TAMPING EOUIPMENT IN AREAS INACCESSIBLE TO COMPACTION EOUIPMENT.

THICKNESS. DO NOT EXCEED MINIMUM THICKNESS BY MORE THAN 1 INCH WITHOUT APPROVAL OF THE

SCHEDULED COMPACTED THICKNESS: THICKNESSES

INDICATED ON THE DRAWINGS ARE MINIMUM

CONTRACTOR'S EXPENSE IN ACCORDANCE WITH ASTM

SCHEDULES

UNDER ASPHALT PAVEMENT: COMPACT PLACED AGGREGATE MATERIALS TO ACHIEVE COMPACTION TO 95 PERCENT OF MODIFIED PROCTOR DENSITY

FIELD QUALITY CONTROL COMPACTION TESTING WILL BE PERFORMED AT THE SITE

TOLERANCES FLATNESS: MAXIMUM VARIATION OF ½ INCH MEASURED WITH A 10-FOOT (3 M) STRAIGHT EDGE.

VARIATION FROM TRUE ELEVATION: WITHIN ½ INCH.

IF TESTS INDICATE WORK DOES NOT MEET SPECIFIED REQUIREMENTS, REMOVE WORK, REPLACE AND RETEST

FREQUENCY OF TESTS: ONE PER 2500 SOLIARE FEET, PER

LIFT. LOCATIONS OF TESTS TO BE SELECTED BY THE

UNDER CONCRETE PAVEMENT: COMPACT PLACED AGGREGATE MATERIALS TO ACHIEVE COMPACTION TO 95

PERCENT MODIFIED PROCTOR DENSITY

ADD WATER TO ASSIST COMPACTION. IF EXCESS

SECTION 02732 SANITARY SEWER SYSTEMS

PART 1 - GENERAL

SECTION INCLUDES

SANITARY SEWERAGE DRAINAGE PIPING, FITTINGS, ACCESSORIES AND BEDDING CONNECTION OF BUILDING SANITARY SEWER SYSTEM TO MUNICIPAL SEWER

AT A MINIMUM, FURNISH SHOP DRAWINGS OR PRODUCT DATA ON

THE FOLLOWING ITEMS

A. MANHOLES AND STRUCTURES

FRAMES AND COVERS CLEANOUTS

D. PIPE, FITTINGS AND ACCESSORIES

RECORD LOCATION OF PIPE RUNS, CONNECTIONS, MANHOLES, CLEANOUTS AND INVERT ELEVATIONS.

REGULATORY REQUIREMENTS

CONFORM TO APPLICABLE LOCAL, STATE AND FEDERAL REQUIREMENTS.

FIELD MEASUREMENTS

RECORD DOCUMENTS

VERIFY THAT FIELD MEASUREMENTS AND ELEVATIONS ARE AS INDICATED.

PART 2 - PRODUCTS

GRAVITY SEWER PIPE MATERIALS

PLASTIC PIPE: ANSI/ASTM D3034, TYPE PSM, POLYVINYL CHLORIDE (PVC) MATERIAL; SDR 35

PIPE ACCESSORIES GASKETS: ASTM F477.

MANHOLES

FITTINGS: SAME MATERIAL AS PIPE MOLDED OR FORMED TO SUIT PIPE SIZE AND END DESIGN, IN REQUIRED TEE, BENDS, ELBOWS, CLEANOUTS, REDUCERS, TRAPS, AND OTHER CONFIGURATIONS REQUIRED.

LID AND FRAME: CAST IRON CONSTRUCTION MANUFACTURED BY LEBARON FOUNDRY, INC., MODEL LA326-1 OR EQUIVALENT, LETTERED "SEWER"

SHAFT AND BASE CONSTRUCTION AND ECCENTRIC CONE TOP SECTION: REINFORCED, PRECAST CONCRETE SECTIONS WITH WATER TIGHT IOINTS, NOMINAL INSIDE DIAMETER AS NOTED ON THE DRAWING, WITH PLASTIC RUNGS, COATED ON THE EXTERIOR WITH ONE COAT OF FOUNDATION WATERPROOF SEALER, AS MANUFACTURED BY S.D. IRELAND, CAMP PRECAST OR APPROVED EQUIVALENT. DESIGN FOR H20 WHEEL LOADS.

ALL MANHOLE PENETRATIONS SHALL BE MADE USING A NEOPRENE WATERTIGHT GASKET SUCH AS THAT MANUFACTURED BY PRESS SEAL GASKET CORPORATION OR APPROVED EQUIVALENT.

MANHOLE BRICK: WATERTOWN BRICK CO. 118-119 MODULAR SOLIDS OR SEWER SOLIDS OR APPROVED EQUAL

MORTAR: TYPE S, HIGH STRENGTH. **BEDDING MATERIALS**

BEDDING: 3/4 INCH DIAMETER CRUSHED STONE.

PART 3 - EXECUTION

EXAMINATION VERIFY THAT TRENCH CUT IS READY TO RECEIVE WORK AND EXCAVATIONS, DIMENSIONS AND ELEVATIONS ARE AS INDICATED ON LAYOUT DRAWINGS.

HAND TRIM EXCAVATIONS TO REQUIRED ELEVATIONS. CORRECT OVER EXCAVATION WITH COARSE AGGREGATE.

REMOVE LARGE STONES OR OTHER HARD MATTER THAT COULD DAMAGE PIPE OR IMPEDE CONSISTENT BACKFILLING OR COMPACTION

BEDDING

EXCAVATE PIPE TRENCH IN ACCORDANCE WITH SECTION 02225 FOR WORK OF THIS SECTION. HAND TRIM EXCAVATION FOR ACCURATE PLACEMENT OF PIPE TO ELEVATIONS INDICATED.

PLACE BEDDING MATERIAL AT TRENCH BOTTOM, LEVEL MATERIALS IN CONTINUOUS LAYER NOT LESS THAN 6 INCHES COMPACTED

INSTALLATION - PIPE

INSTALL PIPE, FITTINGS AND ACCESSORIES IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS

INSTALL BEDDING AT SIDES OF PIPE AS SHOWN ON DRAWINGS. REFER TO SECTION 02225 FOR TRENCHING REQUIREMENTS. DO NOT DISPLACE OR DAMAGE PIPE WHEN COMPACTING.

CONNECT TO MANHOLES AND MUNICIPAL SEWER SYSTEM

SUPPORT ADJACENT UTILITIES AND POLES WHERE REQUIRED.

AT CONNECTIONS TO EXISTING MANHOLES, CORE HOLE THRU MANHOLE AND INSTALL NEOPRENE BOOT TO FIT SEWER PIPE.

INSTALLATION - MANHOLES

FORM BOTTOM OF EXCAVATION CLEAN AND SMOOTH TO CORRECT ELEVATION.

PLACE PRECAST CONCRETE BASE, WITH PROVISION FOR SANITARY SEWER PIPE END SECTIONS. INSTALL OTHER PRECAST SECTIONS AS

ESTABLISH ELEVATIONS AND PIPE INVERTS FOR INLETS AND OUTLETS AS INDICATED. LOCATE EXISTING SEWERS AND PLACE MANHOLES AT APPROPRIATE GRADE TO REDIRECT SEWAGE TO NEW

MOUNT LID AND FRAME LEVEL IN BRICK AND GROUT, SECURED TO TOP CONE SECTION TO ELEVATION INDICATED.

PROVIDE CONCRETE GRADE RINGS TO ADJUST TO FINAL GRADE. WHERE GRADE RINGS DO NOT PROVIDE FOR THE NECESSARY ADJUSTMENT, USE MANHOLE BRICK SET IN FULL BED OF MORTAR.

MIX MORTAR IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTION. SET BRICK IN FULL BED OF MORTAR AND REMOVE EXCESS. SMOOTH OUT MORTAR TO PROVIDE NEAT APPEARANCE.

FIELD QUALITY CONTROL

REQUEST INSPECTION PRIOR TO PLACING BEDDING.

MANHOLE TESTING

UPON COMPLETION OF CONSTRUCTION OF A MANHOLE, LEAKAGE TESTING OF MANHOLES SHALL BE PERFORMED IN ACCORDANCE WITH ONE OF THE FOLLOWING PROCEDURES:

WATER (HYDROSTATIC) LEAKAGE TESTING A. ALL PIPES AND OTHER OPENINGS INTO THE MANHOLE SHALL BE SUITABLY PLUGGED TO PREVENT BLOWOUT.

B EACH MANHOLE SHALL BE CHECKED FOR EXFILTRATION BY FILLING WITH WATER TO THE TOP OF THE CONE SECTION. B.1. A STABILIZATION PERIOD OF 1 HOUR SHALL BE PROVIDED TO ALLOW FOR ABSORPTION.

B.2. AT THE END OF THIS PERIOD, THE MANHOLE SHALL BE REFILLED TO THE TOP OF THE CONE, IF NECESSARY, AND THE MEASURING TIME OF AT LEAST 6 HOURS BEGINS. B.3. AT THE END OF THE TEST PERIOD, THE MANHOLE SHALL BE REFILLED TO THE TOP OF THE CONE MEASURING THE VOLUME OF WATER ADDED. C THE VOLUME OF WATER IN (B) NEEDED TO REFILL THE

MANHOLE SHALL BE CONVERTED TO A 24-HOUR RATE AND THE LEAKAGE DETERMINED ON THE BASIS OF DEPTH. D. THE LEAKAGE FOR EACH MANHOLE SHALL NOT EXCEED 1 GALLON PER VERTICAL FOOT FOR A 24-HOUR PERIOD FOR EXFILTRATION AND THERE SHALL BE NO VISIBLE

INFILTRATION IF MORE THAN 1 GALLON PER VERTICAL FOOT FOR A 24-HOUR PERIOD FOR EXFILTRATION OCCURS OR THERE IS VISIBLE INFILTRATION WITHIN THE TEST PERIOD, THE MANHOLE FAILED THE TEST AND SHALL BE REPAIRED OR RECONSTRUCTED AND RETESTED.

MANHOLES THAT HAVE BEEN BACKFILLED SHALL BE EXCAVATED TO EXPOSE THE ENTIRE EXTERIOR PRIOR TO

B. ALL PIPES AND OTHER OPENINGS IN THE MANHOLE SHALL BE PLUGGED IN A MANNER TO PREVENT DISPLACEMENT. C A PLATE WITH AN INFLATABLE RUBBER RING THE SIZE OF THE TOP OF THE MANHOLE SHALL BE INSTALLED BY INFLATING THE RING WITH AIR TO A PRESSURE ADEQUATE

TO PREVENT LEAKAGE OF AIR BETWEEN THE RUBBER RING AND THE MANHOLE WALL. D. AIR SHALL THEN BE PUMPED OUT OF THE MANHOLE THROUGH AN OPENING IN THE PLATE UNTIL A VACUUM IS CREATED INSIDE OF THE MANHOLE EQUAL TO 10 INCHES OF MERCURY ON AN APPROVED VACUUM GAUGE. THE REMOVAL OF THE AIR SHALL THEN BE STOPPED AND THE

TEST TIME BEGUN. THE VACUUM DROP SHALL NOT EXCEED INCH OF MERCURY OVER THE PERIOD OF TIME AS FOLLOWS: D.1. 0 TO 10-FOOT DEEP MANHOLES – 2 MINUTES; D.2. GREATER THAN 10 FEET TO 15-FOOT DEEP MANHOLES - 2.5

MINUTES: OR D.3. GREATER THAN 15-FOOT DEEP MANHOLES – 3 MINUTES. E. IF MORE THAN 1 INCH OF DROP IN VACUUM OCCURS WITHIN THE TEST PERIOD, THE MANHOLE FAILED THE TEST AND SHALL BE REPAIRED OR RECONSTRUCTED AND

F. AIR TESTING OF CONCRETE SEWER MANHOLES MAY CONFORM TO THE TEST PROCEDURES DESCRIBED IN ASTM C

FOLLOWING SATISFACTORY TEST RESULTS, THE MANHOLE MAY BE BACKFILLED.

LAY PIPE TO SLOPE GRADIENTS NOTED ON LAYOUT DRAWINGS; WITH MAXIMUM VARIATION FROM TRUE SLOPE OF 1/8 INCH IN 10

EROSION PREVENTION & SEDIMENT CONTROL NOTES

PRE-CONSTRUCTION

THE CONTRACTOR SHALL IDENTIFY AN INDIVIDUAL RESPONSIBLE FOR INSPECTING AND MAINTAINING EPSC MEASURES PRIOR TO COMMENCEMENT OF CONSTRUCTION.

ALL SEDIMENT CONTROL MEASURES TO BE CONSTRUCTED PRIOR TO INITIATING PRIMARY EARTHWORK ACTIVITIES.

CONSTRUCTION

CONSTRUCTION SCHEDULE AND PHASING SHALL BE COORDINATED TO MINIMIZE CONCURRENT EARTH DISTURBANCE. NOTE: MAX CONCURRENT EARTH DISTURBANCE AT ANY ONE TIME SHALL BE LESS THAN 1.0

ALL AREAS OF DISTURBANCE MUST HAVE TEMPORARY OR FINAL STABILIZATION WITHIN 7 DAYS OF THE INITIAL DISTURBANCE. AFTER THIS TIME, ANY DISTURBANCE IN THE AREA MUST BE STABILIZED AT THE END OF EACH WORK DAY. THE FOLLOWING EXCEPTIONS APPLY: 4.1. STABILIZATION IS NOT REQUIRED IF WORK IS TO CONTINUE IN THE AREA WITHIN THE NEXT 24 HOURS AND THERE IS NO PRECIPITATION FORECAST FOR THE NEXT 24 HOURS. 4.2. STABILIZATION IS NOT REQUIRED IF THE WORK IS

FOUNDATION EXCAVATION, UTILITY TRENCHES). WINTER CONSTRUCTION IS NOT ANTICIPATED FOR THIS PROJECT. IF ANY CONSTRUCTION IS PROPOSED OUTSIDE OF THE GROWING SEASON (OCT 15 - APR 15) APPROPRIATE WINTER

OUTLET) WITH A DEPTH OF 2 FEET OR GREATER (E.G.

OCCURRING IN A SELF-CONTAINED EXCAVATION (I.E. NO

CONSTRUCTION EPSC MEASURES MUST BE IMPLEMENTED PER "THE VERMONT STANDARDS AND SPECIFICATIONS FOR EROSION PREVENTION AND SEDIMENT CONTROL", DATED JUNE 2025 (THE STANDARDS).

6. INSPECTIONS OF CONSTRUCTION ACTIVITIES SHALL BE PERFORMED EVERY 7 DAYS (MINIMUM) OR AS DICTATED BY THE STANDARDS

7. ALL STOCKPILE AND STAGING AREAS TO BE DETERMINED BY CONTRACTOR AND COORDINATED WITH THE OWNER. CONTRACTOR WILL BE RESPONSIBLE FOR DESIGN, AND IMPLEMENTATION OF ALL EPSC MEASURES INCLUDING SEDIMENT/RUNOFF CONTROLS, STABILIZATION AND RESTORATION

STABILIZATION

8. ALL DISTURBED AREAS TO BE VEGETATED AND STABILIZED ONCE FINAL GRADES ARE ACHIEVED

9. TOPSOIL AMENDMENTS SHALL BE MADE AS NECESSARY TO PROVIDE NUTRIENT AND pH LEVELS REQUIRED FOR SEED MIX. FOR VEGETATION ESTABLISHMENT PRIOR TO SEPT 15, USE THE FOLLOWING SEED MIX:

	PROPORTION	<u>PURITY</u>	GERMINATION
CREEPING RED FESCUE	60%	85%	97%
MERION, KY. BLUEGRASS	25%	85%	95%
RED TOP	15%	85%	90%

SECTION 02667 SITE WATER LINES

PART 1 - GENERAL

SECTION INCLUDES

PIPE AND FITTINGS FOR WATER LINE INCLUDING SERVICE LINES. VALVES AND FIRE HYDRANTS. DISINFECTION AND PRESSURE TESTING PROCEDURES.

PRODUCT DATA ON PIPE MATERIALS, PIPE FITTINGS, VALVES AND

ACCESSORIES.

PROJECT RECORD DOCUMENTS ACCURATELY RECORD ACTUAL LOCATIONS OF PIPING MAINS, VALVES, CONNECTIONS, AND INVERT ELEVATIONS.

QUALITY ASSURANCE

PERFORM WORK IN ACCORDANCE WITH THE REGULATIONS OF THE WATER SYSTEM OWNER AND VERMONT AGENCY OF NATURAL RESOURCES PUBLIC WATER SUPPLY REGULATIONS.

VALVES: MANUFACTURER'S NAME AND PRESSURE RATING MARKED ON

PART 2 - PRODUCTS

PIPE DUCTILE IRON PIPE: ANSI/AWWA C151: C104: CLASS 52. DUCTILE IRON, STANDARD THICKNESS FITTINGS: IOINTS: ANSI/AWWA C111, RUBBER GASKET WITH RODS.

GATE VALVE - 3 INCHES AND OVER

ANSI/AWWA C500, IRON BODY, BRONZE TRIM, NON-RISING STEM WITH SOUARE NUT, SINGLE WEDGE, MECHANICAL JOINT ENDS, CONTROL ROD, AND EXTENSION BOX

CURB STOP & BOX

MCDONALD OR EQUIVALENT.

FIRE HYDRANTS

MANUFACTURERS: KENNEDY - GUARDIAN MODEL. HYDRANT EXTENSIONS: FABRICATE IN MULTIPLES OF 6 INCHES WITH

HOSE AND STEAMER CONNECTION: MATCH SIZES WITH UTILITY COMPANY, TWO HOSE NOZZLES, ONE PUMPER NOZZLE.

ROD AND COUPLING TO INCREASE BARREL LENGTH.

FINISH: PRIMER AND TWO COATS OF ENAMEL TO COLOR REQUIRED BY UTILITY COMPANY

BEDDING MATERIALS

BEDDING: SAND MEETING VERMONT AGENCY OF TRANSPORTATION SPECIFICATIONS 703.03.

ACCESSORIES CONCRETE FOR THRUST BLOCKS: 3000 PSI.

PART 3 - EXECUTION

VERIFY THAT BUILDING SERVICE CONNECTION AND MUNICIPAL UTILITY WATER MAIN SIZE, LOCATION AND INVERT ARE AS INDICATED.

REAM PIPE AND TUBE ENDS AND REMOVE BURRS. REMOVE SCALE AND DIRT, ON INSIDE AND OUTSIDE, BEFORE ASSEMBLY.

EXCAVATE PIPE TRENCH IN ACCORDANCE WITH SECTION 02100. HAND TRIM EXCAVATION FOR ACCURATE PLACEMENT OF PIPE TO ELEVATIONS INDICATED.

PREPARE PIPE CONNECTIONS TO EQUIPMENT WITH FLANGES OR UNIONS.

PLACE BEDDING MATERIAL AT TRENCH BOTTOM, LEVEL FILL MATERIALS IN ONE CONTINUOUS LAYER NOT EXCEEDING 6 INCHES COMPACTED DEPTH, COMPACT TO 95 PERCENT MODIFIED PROCTOR.

BACKFILL AROUND SIDES AND TO TOP OF PIPE WITH FILL TAMPED IN PLACE AND COMPACTED TO 95 PERCENT STANDARD PROCTOR. MAINTAIN OPTIMUM MOISTURE CONTENT OF BEDDING MATERIAL TO

INSTALLATION - PIPE

WITH FINISHED GRADE.

ATTAIN REOUIRED COMPACTION DENSITY.

MAINTAIN MINIMUM 10 FOOT SEPARATION OF WATER MAIN FROM SEWER PIPING IN ACCORDANCE WITH CODE INSTALL PIPE TO INDICATED ELEVATION TO WITHIN TOLERANCE OF 3

INSTALL DUCTILE IRON PIPING AND FITTINGS TO ANSI/AWWA C600.

ROUTE PIPE IN STRAIGHT LINE. INSTALL PIPE TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE OR IOINTS.

INSTALL ACCESS FITTINGS TO PERMIT DISINFECTION OF WATER SYSTEM. USE STEEL WEDGES AT ALL JOINTS IN DUCTILE IRON PIPE.

FORM AND PLACE CONCRETE FOR THRUST BLOCKS AT EACH TEE, ELBOW OR CHANGE OF DIRECTION OF PIPE MAIN.

ESTABLISH ELEVATIONS OF BURIED PIPING TO ENSURE NOT LESS THAN 5-1/2 FEET OF COVER (6 FEET UNDER PAVED AREAS). INSTALLATION - VALVES AND HYDRANTS

SET VALVES ON SOLID BEARING CENTER AND PLUMB VALVE BOX OVER VALVE. SET BOX COVER FLUSH

SET HYDRANTS PLUMB AND LOCATE PUMPER NOZZLE PERPENDICULAR TO ROADWAY. SET HYDRANTS TO GRADE, WITH NOZZLES AT LEAST 20 INCHES ABOVE

LOCATE CONTROL VALVES AS SHOWN ON THE DRAWINGS.

PROVIDE A DRAINAGE PIT AS SHOWN ON THE DRAWINGS.

DISINFECTION OF DOMESTIC WATER PIPING SYSTEM ALL NEW WATER MAINS SHALL BE DISINFECTED BEFORE THEY ARE PLACED IN SERVICE. ALL WATER MAINS TAKEN OUT OF SERVICE FOR INSPECTION, REPAIR, OR OTHER ACTIVITIES THAT MIGHT LEAD TO CONTAMINATION OF WATER SHALL BE DISINFECTED BEFORE THEY ARE RETURNED TO SERVICE.

THE RECORD OF COMPLIANCE SHALL BE THE BACTERIOLOGICAL TEST RESULTS CERTIFYING THE WATER SAMPLED FROM THE WATER MAIN TO BE FREE OF COLI FORM BACTERIA CONTAMINATION, AND TO BE EQUAL TO OR BETTER THAN THE BACTERIOLOGIC WATER QUALITY IN THE DISTRIBUTION SYSTEM

THE FORMS OF CHLORINE THAT MAY BE USED IN THE DISINFECTION OPERATIONS ARE LIQUID CHLORINE AND SODIUM HYPOCHLORITE

LIQUID CHLORINE: LIQUID CHLORINE CONFORMING TO ANSI/AWWA BACTERIOLOGICAL RESULTS, THE NEW MAIN MAY BE REFLUSHED AND B301 CONTAINS 100 PERCENT AVAILABLE CHLORINE AND IS PACKAGED SHALL BE RESAMPLED. IF CHECK SAMPLES ALSO FAIL TO PRODUCE ACCEPTABLE RESULTS. THE MAIN SHALL BE RECHLORINATED BY THE IN STEEL CONTAINERS USUALLY OF 100 LB. 150 LB. OR 1 TON NET CHLORINE WEIGHT. LIQUID CHLORINE SHALL BE USED ONLY (1) IN CONTINUOUS FEED METHOD OF CHLORINATION UNTIL SATISFACTORY

COMBINATION WITH APPROPRIATE GAS FLOW CHLORINATORS AND RESULTS ARE OBTAINED. SOLUTION FEED TO THE WATER TO BE CHLORINATED; (2) UNDER THE NOTE: HIGH VELOCITIES IN THE EXISTING SYSTEM, RESULTING FROM FLUSHING THE NEW MAIN, MAY DISTURB SEDIMENT THAT HAS ACCUMULATED IN THE EXISTING MAINS WHEN CHECK SAMPLES ARE PHYSIOLOGICAL, CHEMICAL, AND PHYSICAL PROPERTIES OF LIQUID CHLORINE, AND WHO IS TRAINED AND EQUIPPED TO HANDLE ANY TAKEN IT IS ADVISABLE TO SAMPLE WATER ENTERING THE NEW MAIN. EMERGENCY THAT MAY ARISE: AND (3) WHEN APPROPRIATE SAFETY PRACTICES ARE OBSERVED TO PROTECT WORKING PERSONNEL AND THE HYDROSTATIC TESTING

PRESSURE. USE OF A TEST PRESSURE GREATER THAN THE RATED VALVE

OF A DOUBLE DISC GATE VALVE. FOR TESTS AT THESE PRESSURES, THE

VALVE, TO REDUCE THE LINE PRESSURE TO THE RATED VALVE PRESSURE

THE TEST PRESSURE SHALL NOT EXCEED THE RATED PRESSURE OF THE

PRESSURIZATION: AFTER THE PIPE HAS BEEN LAID, ALL NEWLY LAID PIPE

INCLUDES CLOSED, RESILIENT SEATED GATE VALVES OR BUTTERFLY

HYDROSTATIC PRESSURE OF 200 PSIG EACH VALVED SECTION OF PIPE

PRESSURE (BASED ON THE ELEVATION OF THE LOWEST POINT OF THE

LINE OR SECTION UNDER TEST AND CORRECTED TO THE ELEVATION OF

THE TEST GAUGE) SHALL BE APPLIED BY MEANS OF A PUMP CONNECTED

OR CLOSING DIRECTION AT DIFFERENTIAL PRESSURES ABOVE THE RATED

PRESSURE. IT IS GOOD PRACTICE TO ALLOW THE SYSTEM TO STABILIZE

AIR REMOVAL: BEFORE APPLYING THE SPECIFIED TEST PRESSURE, AIR

SHALL BE EXPELLED COMPLETELY FROM THE SECTION OF PIPING UNDER

POINTS, CORPORATION COCKS SHALL BE INSTALLED AT SUCH POINTS SO

AIR HAS BEEN EXPELLED, THE CORPORATION COCKS SHALL BE CLOSED

AT THE TEST PRESSURE BEFORE CONDUCTING THE LEAKAGE TEST.

TEST. IF PERMANENT AIR VENTS ARE NOT LOCATED AT ALL HIGH

AND THE TEST PRESSURE APPLIED. AT THE CONCLUSION OF THE

THAT THE AIR CAN BE EXPELLED AS THE LINE IS FILLED WITH WATER

PRESSURE TEST, THE CORPORATION COCKS SHALL BE REMOVED AND

EXAMINATION: ALL EXPOSED PIPE, FITTINGS, VALVES, HYDRANTS, OR

DAMAGED OR DEFECTIVE PIPE, FITTINGS, VALVES, HYDRANTS, OR JOINTS

REPAIRED OR REPLACED WITH SOUND MATERIAL, AND THE TEST SHALL

LEAKAGE DEFINED: LEAKAGE SHALL BE DEFINED AS THE QUANTITY OF

SPECIFIED TEST PRESSURE AFTER THE PIPE HAS BEEN FILLED WITH WATER

AND THE AIR HAS BEEN EXPELLED. LEAKAGE SHALL NOT BE MEASURED.

WATER THAT MUST BE SUPPLIED INTO THE NEWLY LAID PIPE OR ANY VALVED SECTION THEREOF TO MAINTAIN PRESSURE WITHIN 5 PSI OF THE

BY A DROP IN PRESSURE IN A TEST SECTION OVER A PERIOD OF TIME

L = ALLOWABLE LEAKAGE, IN GALLONS PER HOUR

D = NOMINAL DIAMETER OF THE PIPE, IN INCHES

S = LENGTH OF PIPE TESTED, IN FEET

POUND PER SQUARE INCH (GAUGE)

GPD/MILE/IN. OF NOMINAL DIAMETER OF PIPE.

AGAINST THE MAIN VALVE IN THE HYDRANT.

IN ACCORDANCE WITH THE SPECIFICATIONS

ACTIVATING THE NEW WATER SYSTEM.

FIELD QUALITY CONTROL

PERFORMED BY THE ENGINEER.

SAID PRESSURE EXCEEDS 150 PSI.

REFER TO NFPA 24 FOR OTHER REQUIREMENTS

SECTION.

TESTING FIRE MAINS

ALLOWABLE LEAKAGE: NO PIPE INSTALLATION WILL BE ACCEPTED IF

THE LEAKAGE IS GREATER THAN THAT DETERMINED BY THE FOLLOWING

P = AVERAGE TEST PRESSURE DURING THE LEAKAGE TEST, IN

WHEN HYDRANTS ARE IN THE TEST SECTION, THE TEST SHALL BE MADE

ACCEPTANCE OF INSTALLATION: ACCEPTANCE SHALL BE DETERMINED

SPECIFICATIONS, REPAIRS OR REPLACEMENTS SHALL BE ACCOMPLISHED

ALL VISIBLE LEAKS ARE TO BE REPAIRED REGARDLESS OF THE AMOUNT

CONTACT THE WATER SYSTEM OWNER AND THE ENGINEER BEFORE

PRESSURE TEST WATER MAIN TO 200 PSI FOR A MINIMUM OF TWO (2)

THE ABOVE. ALLOWABLE LEAKAGE SHALL BE AS DEFINED IN THAT

HOURS. HYDROSTATIC TESTING SHALL BE DONE IN ACCORDANCE WITH

IF THE WATER SYSTEM PROVIDES SERVICE TO A SPRINKLER SYSTEM, THE

SYSTEM SHALL BE TESTED IN ACCORDANCE WITH NFPA 24, SECTION 8-9

AND A CONTRACTOR'S MATERIAL AND TEST CERTIFICATE SHALL BE

PERFORM A HYDROSTATIC TEST TO NOT LESS THAN 200 PSI FOR TWO

HOURS OR AT 50 PSI IN EXCESS OF MAXIMUM STATIC PRESSURE, WHEN

COMPLETED AND COUNTER SIGNED BY OWNER'S REPRESENTATIVE.

FIELD INSPECTION AND REVIEW OF PRESSURE TESTING WILL BE

ON THE BASIS OF ALLOWABLE LEAKAGE. IF ANY TEST OF LAID PIPE

DISCLOSES LEAKAGE GREATER THAN THAT SPECIFIED IN THESE

THESE FORMULAS ARE BASED ON AN ALLOWABLE LEAKAGE OF 10.5

PLUGGED OR LEFT IN PLACE AS REQUIRED BY THE SPECIFICATIONS.

JOINTS SHALL BE EXAMINED CAREFULLY DURING THE TEST. ANY

THAT ARE DISCOVERED FOLLOWING THE PRESSURE TEST SHALL BE

BE REPEATED UNTIL SATISFACTORY RESULTS ARE OBTAINED

IN INCH-POUND UNITS, L = $SD\sqrt{P}$

TO THE PIPE. VALVES SHALL NOT BE OPERATED IN EITHER THE OPENING

SHALL BE SLOWLY FILLED WITH WATER, AND THE SPECIFIED TEST

TEST SETUP SHOULD INCLUDE A PROVISION, INDEPENDENT OF THE

ON COMPLETION OF THE TEST. THE VALVE CAN THEN BE OPENED.

ENOUGH TO EQUALIZE THE TRAPPED PRESSURE WITH THE LINE

VALVES WHEN THE PRESSURE BOUNDARY OF THE TEST SECTION

OR ANY VALVED SECTION THEREOF SHALL BE SUBJECTED TO A

PRESSURE, OR FULLY OPENED IF DESIRED

AFTER ALL THE

PRESSURE CAN RESULT IN TRAPPED TEST PRESSURE BETWEEN THE GATES

PRESSURE AND LEAKAGE TEST:

SODIUM HYPOCHLORITE: SODIUM HYPOCHLORITE CONFORMING TO TEST PRESSURE SHALL NOT EXCEED PIPE OR THRUST RESTRAINT DESIGN ANSI/AWWA B300 IS AVAILABLE IN LIOUID FORM IN GLASS, RUBBER LINED OR PLASTIC CONTAINERS TYPICALLY RANGING IN SIZE FROM 1 QUART TO 5 GALLONS CONTAINERS OF 30 GALLONS OR LARGER MAY BE THE HYDROSTATIC TEST SHALL BE OF AT LEAST A 2 HOUR DURATION. AVAILABLE IN SOME AREAS. SODIUM HYPOCHLORITE CONTAINS APPROXIMATELY 5% TO 15% AVAILABLE CHLORINE, AND CARE MUST BE TAKEN TO CONTROL CONDITIONS AND LENGTH OF STORAGE TO TEST PRESSURE SHALL NOT VARY BY MORE THAN A +/- 5 PSI FOR THE MINIMIZE ITS DETERIORATION. (AVAILABLE CHLORINE IS EXPRESSED AS DURATION OF THE TEST. A PERCENT OF WEIGHT WHEN THE CONCENTRATION IS 5% OR LESS. AND USUALLY AS A PERCENT OF VOLUME FOR HIGHER CONCENTRATIONS. VALVES SHALL NOT BE OPERATED IN EITHER DIRECTION AT A PERCENT X 10 = GRAMS OF AVAILABLE CHLORINE PER LITER OF DIFFERENTIAL PRESSURE EXCEEDING THE RATED VALVE WORKING

THE BASIC DISINFECTION PROCEDURE CONSISTS OF: 1) PREVENTING CONTAMINATING MATERIALS FROM ENTERING THE WATER MAIN DURING STORAGE, CONSTRUCTION OR REPAIR.

2) REMOVING. BY FLUSHING OR OTHER MEANS. THOSE MATERIALS

DUE TO HYDROSTATIC PRESSURE TEST AND DISINFECTION

EIECTORS TO PROVIDE A CONTROLLED HIGH CONCENTRATION

DIRECT SUPERVISION OF A PERSON WHO IS FAMILIAR WITH THE

PUBLIC.

HYPOCHLORITE.)

THAT MAY HAVE ENTERED THE WATER MAIN. 3) CHLORINATING ANY RESIDUAL CONTAMINATION THAT MAY REMAIN, AND FLUSHING THE CHLORINATED WATER FROM THE 4) PROTECTING THE EXISTING DISTRIBUTION SYSTEM FROM BACKFLOW

PROCEDURES 5) DETERMINING THE BACTERIOLOGICAL QUALITY BY LABORATORY TEST AFTER DISINFECTION. 6) FINAL CONNECTION OF THE APPROVED NEW WATER MAIN TO THE

ACTIVE DISTRIBUTION SYSTEM. PRELIMINARY ELUSHING: BEFORE BEING CHLORINATED THE MAIN SHALL BE FILLED TO ELIMINATE AIR POCKETS AND SHALL BE FLUSHED TO REMOVE PARTICULATES. THE FLUSHING VELOCITY IN THE MAIN SHALL NOT BE LESS THAN 2.5 FT/S UNLESS THE PURCHASER (OR PURCHASER'S REPRESENTATIVE) DETERMINES THAT CONDITIONS DO NOT PERMIT THE REQUIRED FLOW TO BE DISCHARGED TO WASTE. NOTE THAT FLUSHING IS NO SUBSTITUTE FOR PREVENTIVE MEASURES DURING CONSTRUCTION. CERTAIN CONTAMINANTS, SUCH AS CAKED DEPOSITS, RESIST FLUSHING AT ANY FEASIBLE VELOCITY.

PROCEDURE FOR CHLORINATING THE MAIN: WATER SUPPLIED FROM A TEMPORARY, BACKFLOW PROTECTED CONNECTION TO THE EXISTING DISTRIBUTION SYSTEM OR OTHER APPROVED SOURCE OF SUPPLY SHALL BE MADE TO FLOW AT A CONSTANT, MEASURED RATE INTO THE NEWLY INSTALLED WATER MAIN. IN THE ABSENCE OF A METER, THE RATE MAY BE APPROXIMATED BY METHODS SUCH AS PLACING A PILOT GAUGE IN THE DISCHARGE OR

MEASURING THE TIME TO FILL A CONTAINER OF KNOWN VOLUME. (2) AT A POINT NOT MORE THAN 10 FEET DOWNSTREAM FROM THE BEGINNING OF THE NEW MAIN, WATER ENTERING THE NEW MAIN SHALL RECEIVE A DOSE OF CHLORINE FED AT A CONSTANT RATE SUCH THAT THE WATER WILL HAVE NOT LESS THAN 25 MG/L FREE CHLORINE. TO ENSURE THAT THIS CONCENTRATION IS PROVIDED, MEASURE THE CHLORINE CONCENTRATION AT REGULAR INTERVALS USING APPROPRIATE CHLORINE TEST KITS

(3) AS AN OPTIONAL PROCEDURE (IF SPECIFIED BY THE PURCHASE), WATER USED TO FILL THE NEW MAIN DURING THE APPLICATION OF CHLORINE SHALL BE SUPPLIED THROUGH A TEMPORARY CONNECTION. THIS TEMPORARY CONNECTION SHALL BE INSTALLED WITH AN APPROPRIATE CROSS CONNECTION CONTROL DEVICE. CONSISTENT WITH THE DEGREE OF HAZARD, FOR BACKFLOW PROTECTION OF THE ACTIVE DISTRIBUTION SYSTEM CHI ORINE APPLICATION SHALL NOT CEASE JNTIL THE ENTIRE MAIN IS FILLED WITH HEAVILY CHLORINATE WATER. THE CHLORINATED WATER SHALL BE RETAINED IN THE MAIN FOR AT LEAST 24 HOURS, DURING WHICH TIME ALL VALVES IN THE TREATED SECTION SHALL BE OPERATED TO ENSURE DISINFECTION OF THE APPLIETENANCES AT THE END OF THE 24 HOUR PERIOD. THE TREATED WATER IN ALL PORTIONS OF THE MAIN SHALL HAVE A RESIDUAL OF NOT LESS THAN 10 MG/L FREE CHLORINE. (4) DIRECT FEED CHLORINATORS, WHICH OPERATE SOLELY FROM GAS PRESSURE IN THE CHLORINE CYLINDER, SHALL NOT BE USED FOR THE APPLICATION OF LIGHTD CHLORINE. THE PREFERRED EQUIPMENT FOR APPLYING LIQUID CHLORINE IS A SOLUTION FEED, VACUUM OPERATED CHLORINATOR AND A BOOSTER PUMP. THE VACUUM OPERATED CHLORINATOR MIXES THE CHLORINE GAS IN SOLUTION WATER: THE BOOSTER PUMP INIECTS THE CHLORINE GAS SOLUTION INTO THE MAIN TO BE DISINFECTED. HYPOCHLORITE SOLUTIONS MAY BE APPLIED TO THE WATER MAIN WITH A GASOLINE OR ELECTRICALLY POWERED CHEMICAL FEED PUMP DESIGNED FOR FEEDING CHLORINE SOLUTIONS FEED LINE SHALL BE OF SUCH MATERIAL AND STRENGTH AS TO SAFELY

TIGHTNESS BEFORE THE SOLUTION IS APPLIED TO THE MAIN.

FINAL FLUSHING CLEARING THE MAIN OF HEAVILY CHLORINATED WATER: AFTER THE APPLICABLE RETENTION PERIOD, HEAVILY CHLORINATED WATER SHOULD NOT REMAIN IN PROLONGED CONTACT WITH PIPE. IN ORDER TO PREVENT DAMAGE TO THE

WITHSTAND THE CORROSION CAUSED BY THE CONCENTRATED

CHI ORINE SOLUTIONS AND THE MAXIMUM PRESSURES THAT MAY BE

CREATED BY THE PUMPS. ALL CONNECTIONS SHALL BE CHECKED FOR

PIPE LINING OR CORROSION DAMAGE TO THE PIPE ITSELF, THE HEAVILY CHLORINATED WATER SHALL BE FLUSHED FROM THE MAIN UNTIL CHLORINE MEASUREMENTS SHOW THAT THE CONCENTRATION IN TH WATER LEAVING THE MAIN IS NO HIGHER THAN THAT GENERALLY PREVAILING IN THE DISTRIBUTION SYSTEM OR IS ACCEPTABLE FOR DOMESTIC USE.

DISPOSING OF HEAVILY CHLORINATED WATER: THE ENVIRONMENT INTO WHICH THE CHLORINATED WATER IS TO BE DISCHARGED SHALL BE INSPECTED. IF THERE IS ANY POSSIBILITY THAT THE CHLORINATED DISCHARGE WILL CAUSE DAMAGE TO THE ENVIRONMENT, THEN A NEUTRALIZING CHEMICAL SHALL BE APPLIED TO THE WATER TO BE WASTED TO NEUTRALIZE THOROUGHLY THE CHLORINE RESIDUAL REMAINING IN THE WATER. WHERE NECESSARY, FEDERAL, STATE, PROVINCIAL, AND LOCAL REGULATORY AGENCIES SHOULD BE CONTACTED TO DETERMINE SPECIAL PROVISIONS OF THE DISPOSAL OF

HEAVILY CHLORINATED WATER. **BACTERIOLOGICAL TESTS**

STANDARD CONDITIONS: AFTER FINAL FLUSHING AND BEFORE THE NEW WATER MAIN IS CONNECTED TO THE DISTRIBUTION SYSTEM, TWO CONSECUTIVE SETS OF ACCEPTABLE SAMPLES, TAKEN AT LEAST 24 HOURS APART, SHALL BE COLLECTED FROM THE NEW MAIN. AT LEAST ONE SET OF SAMPLES SHALL BE COLLECTED FROM EVERY 600 FEET OF THE NEW WATER MAIN. PLUS ONE SET FROM THE END OF THE LINE AND AT LEAST ONE SET FROM EACH BRANCH. ALL SAMPLES SHALL BE TESTED FOR BACTERIOLOGICAL QUALITY IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, AND SHALL SHOW THE ABSENCE OF COLI FORM ORGANISMS. A STANDARD HETEROTROPHIC PLATE COUNT MAY BE REQUIRED AT THE OPTION OF THE OWNER (OR OWNER'S REPRESENTATIVE)

SPECIAL CONDITIONS: IF TRENCH WATER HAS ENTERED THE NEW MAIN DURING CONSTRUCTION OR, IF IN THE OPINION OF THE OWNER (OR OWNER'S REPRESENTATIVE). EXCESSIVE OUANTITIES OF DIRT OR DEBRIS HAVE ENTERED THE NEW MAIN, BACTERIOLOGICAL SAMPLES SHALL BE TAKEN AT INTERVALS OF APPROXIMATELY 200 FEET AND SHALL BE IDENTIFIED BY LOCATION. SAMPLES SHALL BE TAKEN OF WATER THAT HAS STOOD IN THE NEW MAIN FOR AT LEAST 16 HOURS AFTER FINAL FLUSHING HAS BEEN COMPLETED

SAMPLING PROCEDURE: SAMPLES FOR BACTERIOLOGICAL ANALYSIS SHALL BE COLLETED IN STERILE BOTTLES TREATED WITH SODIUM THIOSULFATE AS REQUIRED BY STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER. NO HOSE OR FIRE HYDRANT SHALL BE USED IN THE COLLECTION OF SAMPLES.

IF THE INITIAL DISINFECTION FAILS TO PRODUCE SATISFACTORY

SECTION 02900 ASPHALT PAVEMENT

PART 1 - GENERAL WORK INCLUDED

BITUMINOUS CONCRETE PAVEMENT, STANDARD BASE AND FINISH COURSES SHALL BE IN CONFORMANCE WITH THE VERMONT AGENCY OF TRANSPORTATION, STANDARD STATE SPECIFICATIONS, LATEST EDITION.

EXTENT OF WORK

FURNISH ALL MATERIAL, LABOR AND EQUIPMENT NECESSARY FOR COMPLETION OF ALL PAVEMENT WORK SHOWN OR REASONABLY IMPLIED BY THE DRAWINGS AND SPECIFICATIONS.

PROOF ROLL SUBGRADE. FINE GRADE SUBBASE FOR PAVEMENT PLACEMENT

ADJUST CATCH BASIN AND MANHOLE FRAMES FOR FINAL GRADE. **QUALITY ASSURANCE**

DO NOT PLACE ASPHALTIC CONCRETE PAVING WHEN THE AIR TEMPERATURE IN THE SHADE AND/OR THE ROADBED TEMPERATURE ARE BELOW 50 DEGREE F. OR DURING RAIN, WHEN THE BASE COURSE

SURFACE IS WET OR DURING OTHER ADVERSE WEATHER CONDITIONS.

APPROVAL BY ENGINEER OF SOURCES OF SUPPLY FOR MATERIALS SHALL

DO NOT PLACE TACK COAT WHEN AIR TEMPERATURE IN THE SHADE AND THE ROADBED TEMPERATURE ARE BELOW 40 DEGREE F OR DURING RAIN, FOG OR OTHER ADVERSE WEATHER CONDITIONS.

ALL WORK SHALL BE PERFORMED BY EXPERIENCED AND QUALIFIED WORKMEN WITH EQUIPMENT STANDARD WITH THE INDUSTRY.

BE OBTAINED PRIOR TO DELIVERY OF MATERIALS. COMPLY WITH FEDERAL, STATE AND/OR LOCAL CODES AND

PROVIDE PAVEMENT MIX DESIGN FOR REVIEW PRIOR TO PLACEMENT

SUBMITTALS

PART 2 PRODUCTS

BITUMINOUS MATERIALS BITUMINOUS CONCRETE BINDER COURSE: SHALL BE "DENSE BINDER", 1" MAX AGGREGATE. THICKNESS AS DETAILED ON THE DRAWINGS. A

COARSE GRADATION WITH LIMITED FINES IS DESIRED.

BITUMINOUS CONCRETE SURFACE COURSE: THE CAR TRAFFIC AREAS SHALL BE 3/4" MAX AGGREGATE, OF THICKNESS AS DETAILED ON THE DRAWINGS.

PART 3 EXECUTION

BASE PREPARATION PERFORM ALL FINE GRADING WORK IN ACCORDANCE WITH SECTION 02100. SURFACE SHALL NOT BE MORE THAN 0.05 FT ABOVE OR BELOW THE REOUIRED SUB-GRADE ELEVATION.

ADJUST THE GRADES AS REQUIRED AND PROVIDE (OR REMOVE) GRAVEL BASE IN ACCORDANCE WITH THE GRADES SPECIFIED IN SECTION 02100. PROOF ROLL THE SURFACE PRIOR TO PAVING; REMOVE AND RECOMPACT ALL SOFT AREAS.

ADJUST FRAMES, GRATES AND VALVE BOXES TO GRADE.

DISPOSE OF OFF-SITE IF IN THE AREA OF NEW PAVEMENT. STRUCTURE SHALL BE MADE WITH CONCRETE RINGS BY THE

INSTALLING CONTRACTOR. THIS ADJUSTMENT SHALL BE MADE TO SET

CUT THE EDGE OF EXISTING PAVEMENT TO A NEAT LINE WHERE

ABUTTING NEW PAVEMENT. REMOVE EXISTING PAVEMENT AND

THE TOP OF FRAME ELEVATION TO A TOLERANCE OF + 0.

FINAL ADJUSTMENT OF FRAME ELEVATION SHALL BE MADE BY THE FINE GRADING CONTRACTOR. IN CONCRETE SLAB AREAS FINAL ADJUSTMENT OF FRAME ELEVATION IS SPECIFIED IN SECTIONS 03100 AND 03300. ASPHALT PAVEMENT AREA FRAME ELEVATION

PAVEMENT INSTALLATION

SPECIFICATIONS, LATEST EDITION.

ADJUSTMENT IS SPECIFIED IN THIS SECTION.

BITUMINOUS CONCRETE PLACEMENT SHALL BE IN CONFORMANCE WITH VERMONT AGENCY OF TRANSPORTATION, STANDARD STATE

IF AT ANY TIME BEFORE FINAL ACCEPTANCE OF THE WORK ANY SOFT OR IMPERFECT PLACES OR SPOTS DEVELOP IN THE SURFACE, ALL SUCH AREAS SHALL BE REMOVED AND SHALL BE REPLACED WITH NEW MATERIALS AND THEN SHALL BE COMPACTED UNTIL IT MERGES IMPERCEPTIBLY WITH THE OLD MATERIAL

NO VEHICULAR TRAFFIC OR LOADS WILL BE PERMITTED ON THE NEWLY COMPLETED PAVEMENT UNTIL ADEOUATE STABILITY HAS BEEN ATTAINED AND THE MATERIAL HAS COOLED SUFFICIENTLY TO PREVENT DISTORTION OR LOSS OF FINES.

WHERE NEW PAVEMENT BUTTS EXISTING PAVEMENT THE EXISTING PAVEMENT SHALL BE CUT TO A NEAT LINE FOR THE FULL DEPTH OF THE

PAVEMENT SHALL SLOPE UNIFORMLY TO DRAIN WITHOUT LOW SPOTS OR HUMPS AND IN ACCORDANCE WITH THE DRAWINGS.

BINDER AND SURFACE COURSES SHALL BE COMPACTED IN ACCORDANCE WITH VERMONT AGENCY OF TRANSPORTATION,

STANDARD STATE SPECIFICATIONS, LATEST EDITION.

BITLIMINOLIS MATERIAL SHALL NOT BE APPLIED ON WET SURFACES OR WHEN THE TEMPERATURE IS BELOW 40 DEGREES F. IF THE BASE COURSE IS INSTALLED MORE THAN TWO (2) HOURS IN

ADVANCE OF THE WEARING COURSE AND SUBJECT TO CONSTRUCTION

TRAFFIC, BROOM CLEAN AND INSTALL A SPRAY TACK COAT PRIOR TO THE WEARING COURSE.

STATE STANDARD.

TESTING LABORATORY A TESTING LABORATORY SHALL BE RETAINED BY THE CONSTRUCTION MANAGER/GENERAL CONTRACTOR TO VERIFY FIELD COMPACTION. THE TESTING LABORATORY SHALL MONITOR ASPHALT TEMPERATURE DURING PLACEMENT TO INSURE COMPLIANCE WITH THE REFERENCED

GENERAL: TESTING IN-PLACE HOT MIXED ASPHALT COURSES FOR COMPLIANCE WITH REQUIREMENTS FOR THICKNESS AND SURFACE SMOOTHNESS WILL BE DONE BY AN INDEPENDENT TESTING LABORATORY. REPAIR OR REMOVE AND REPLACE UNACCEPTABLE

THICKNESS: IN-PLACE COMPACTED THICKNESS TESTED IN ACCORDANCE WITH ASTM D3549 WILL NOT BE ACCEPTABLE IF EXCEEDING THE FOLLOWING ALLOWABLE VARIATIONS. BASE COURSE: ±1/2" SURFACE COURSE: ±1/4"

PAVING AS DIRECTED BY THE ENGINEER

PARALLEL WITH AND AT RIGHT ANGLES TO CENTERLINE OF THE PAVED AREA, SURFACES WILL NOT BE ACCEPTABLE IF EXCEEDING THE FOLLOWING TOLERANCES FOR SMOOTHNESS:

BASE COURSE: 1/4" WEARING COURSE SURFACE: 3/16" CROWNED SURFACES: TEST WITH CROWNED TEMPLATE CENTERED AND AT RIGHT ANGLE TO CROWN. MAXIMUM ALLOWABLE VARIANCE FROM

SURFACE SMOOTHNESS: TEST FINISHED SURFACE OF EACH HOT-MIXED

ASPHALT COURSE FOR SMOOTHNESS, USING 10 STRAIGHTEDGE APPLIED

TEMPLATE IS 1/4". CHECK SURFACE AREAS AT INTERVALS AS DIRECTED BY THE ENGINEER.

TURF ESTABLISHMENT NOTES

ALL DISTURBED AREAS THAT DO NOT HAVE AN IMPERVIOUS SURFACE (PAVEMENT, SIDEWALKS, ROOFS) OR ARE NOT LANDSCAPED WITH BARK MULCH, SHALL BE

STABILIZED NEW GRASS COVER, ALL SEEDING AND MULCHING FOR ESTABLISHING NEW GRASS COVER SHALL BE COMPLETE PRIOR TO SEPTEMBER 15, PLACEMENT OF TOPSOIL, AND THE APPLICATION OF SEED, FERTILIZER, LIME (WHERE APPLICABLE), AND MULCH SHALL BE IN ACCORDANCE WITH THE FOLLOWING:

1. A MINIMUM OF 4" OF CLEAN TOPSOIL SHALL BE PLACED IN ALL AREAS. PLACEMENT OF TOPSOIL SHALL NOT BE DONE WHEN THE GROUND OR TOPSOIL IS FROZEN,

EXCESSIVELY WET, OR OTHERWISE IN A CONDITION DETRIMENTAL TO THE WORK, FOLLOWING PLACEMENT OF TOPSOIL, THE SURFACE SHALL BE RAKED, ALL STONES. LUMPS, ROOTS, OR OTHER OBJECTIONAL MATERIAL SHALL BE REMOVED

2. URBAN SEED MIXTURE SHALL BE SPREAD UNIFORMLY IN ALL AREAS AT THE SPECIFIED RATE. 3. FERTILIZER SHALL BE APPLIED ONLY IF SPECIFICALLY REQUIRED BY THE OWNER AND AFTER PERFORMING A SOIL TEST AND BE APPLIED BASED UPON SOIL

DEFICIENCIES, LIME SHALL ONLY BE APPLIED IF SPECIFICALLY REQUIRED BY THE OWNER AS NEEDED BASED UPON A SOIL DH TEST

MULCHING SHALL FOLLOW THE SEEDING OPERATION BY NOT MORE THAN 24 HOURS. MULCH SHALL BE SPREAD UNIFORMLY OVER THE AREA AT A MINIMUM RATE OF 2 TONS PER ACRE. SITE CONDITIONS MAY WARRANT THE APPLICATION OF A TACKFIER TO HOLD THE MULCH IN PLACE. IF NECESSARY TO RETAIN THE MULCH, THE CONTRACTOR SHALL APPLY AN APPROVED TACKIFIER WITHOUT ADDITIONAL COST TO THE OWNER.

5. ALL SLOPES STEEPER THAN 3H:1V SHALL HAVE EROSION MATTING APPLIED OVER THE SEED. ALL DITCH CENTERLINE GRADES GREATER THAN 5% OR AS SHOWN ON THE

PLANS SHALL HAVE EROSION MATTING APPLIED OVER THE SEED. EROSION MATTING SHALL CONSIST OF EROSION CONTROL BLANKET WITH 100% AGRICULTURAL

STRAW MATRIX STITCH BOUNDED WITH DEGRADABLE THREAD BETWEEN TWO PHOTODEGRADABLE POLYPROPYLENE NETTINGS, NORTH AMERICAN \$150 OR EQUAL. 6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR A FULL GROWTH OF GRASS IN ALL DISTURBED AREAS TO BE RE-VEGETATED. VEGETATION GROWTH SHALL BE PERMANENT AND SUFFICIENT TO PREVENT EROSION OF THE UNDERLYING SOIL UNDER ALL CONDITIONS OF PRECIPITATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING AND CARING FOR SEEDED, MULCHED, AND AREAS OF ESTABLISHED VEGETATION UNTIL FINAL ACCEPTANCE OF THE WORK BY THE OWNER.

SPECIFICATIONS (2 OF 2) TOWN OF JOHNSON 73 SCHOOL STREET JOHNSON, VERMONT



COPYRIGHT(C) 2025 - MUMLEY ENGINEERING, INC

PROJECT NO.....24128 DRAWN BY.... ...WEH CHECKED BY.. SCALE... ...AS NOTED DATE... ..10/13/25



SHEET NO.