DESIGN & CONSTRUCTION GROUP
THE GOVERNOR NELSON A. ROCKEFELLER
EMPIRE STATE PLAZA
ALBANY, NY 12242

ADDENDUM NO. 3 TO PROJECT NO. 47444

CONSTRUCTION, HVAC, PLUMBING AND ELECTRICAL WORK
REHABILITATE REST AREA
DOT REGION 9, TIOGA COUNTY
ROUTE 17/I-86
NICHOLS, NY

January 23, 2026

NOTE: This Addendum forms a part of the Contract Documents. Insert it in the Project Manual. Acknowledge receipt of this Addendum in the space provided on the Bid Form.

BIDDING REQUIREMENTS – COMMON

1. DOCUMENT 001114 ADVERTISEMENT FOR BIDS: Revise paragraph "The substantial completion date for this project is 393 days after the Agreement is approved by the Comptroller." to read: "The substantial completion date for this project is **464** days after the Agreement is approved by the Comptroller."

GENERAL REQUIREMENTS – COMMON

2. SECTION 011000 SUMMARY OF THE WORK: Discard the Section bound in the Project Manual and substitute the accompanying Section (pages 011000 – 1 thru 011000 – 5) noted "Revised 1/16/2026".

3. SECTION 015123 TEMPORARY HEAT: Add the accompanying Section (pages 015123 – 1 thru 015123 -2) to the Project Manual.

CONSTRUCTION WORK SPECIFICATION

4. SECTION 463303 ALKALINITY FEED SYSTEM: Add the accompanying Section (pages 463303 – 1 thru 463303 – 2) to the Project Manual.

HVAC WORK SPECIFICATION

5. SECTION 230719 INSULATION: Discard the Section bound in the Project Manual and substitute the accompanying Section (pages 230719 – 1 thru 230719 – 10) noted "Revised 1/16/2026".

6. SECTION 235414 ELECTRIC SLIP-IN HEATERS: Add the accompanying Section (pages 235414 – 1 thru 235414 – 2) to the Project Manual.

PLUMBING WORK SPECIFICATION

7. SECTION 220700 PIPING INSULATION: Add the accompanying Section (pages 220700 – 1 thru 220700 – 6) to the Project Manual.

8. SECTION 224200 – PLUMBING FIXTURES, Paragraph 2.02 A.: Change paragraph to read:

   "A. Provide Lavatories as per Plumbing Fixture Schedule on sheet P-104 or equal."

9. SECTION 224200 – PLUMBING FIXTURES, Paragraph 2.04 A.: Change paragraph to read:

   "A. Provide Water Closets as per Plumbing Fixture Schedule on sheet P-104 or equal."

CONSTRUCTION WORK DRAWING

10. Drawing No. C-002 Enlarged Site Plan: Change "EXISTING ASPHALT SIDEWALK TO BE REMOVED TO THE END OF VEHICLE PARKING SPACES" to "REMOVE ASPHALT SIDEWALK TO THE END OF THE TRUCK PARKING. SEE DRAWING G-002."

11. Drawing No. C-100 Enlarged Site Plan: Change "CONTINUE ASPHALT SIDEWALK OUT TO HANDICAP RAMP AT TRUCK PARKING AREA / REFER TO G-002 FOR ADDITIONAL INFORMATION" to PROVIDE CONCRETE SIDEWALK TO THE END OF THE TRUCK PARKING. SEE DRAWING G-002."

12. Drawing No. C-100 Enlarged Site Plan: Change "FILTER AND UV SYSTEM PROVIDED BY C-CONTRACT, INSTALLED BY P-CONTRACT" to "FILTER AND UV SYSTEM FURNISHED BY C-CONTRACT, INSTALLED BY P-CONTRACT." Filter and UV System is specified under 460700.

13. Drawing No. C-100 Enlarged Site Plan: Change "ALKALINITY SYSTEM PROVIDED BY C-CONTRACT AND INSTALLED BY P-CONTRACT" to "ALKILINITY FEED SYSTEM FURNISHED BY C-CONTRACTOR AND INSTALLED BY P-CONTRACTOR." See specification 463303 ALKALINITY FEED SYSTEM included with this Addendum.

14. Drawing No. A-404 Enlarged Floor Plan 1: Provide concrete masonry walls at Rooms 103B and 103C Per KEYNOTE 25. Delete KEYNOTE 30 and Add KEYNOTE 30 to read "NOT USED."

ELECTRICAL WORK DRAWING

15. Revised Drawings:
    a. Drawing No. E-103 noted Bid Addendum 2 dated 1/16/2026, accompanies this Addendum and supersede the same numbered previously issued drawings.

PLUMBING WORK DRAWING

16. Drawing No. P-103 Detail 6: Change "GFCI DUPLEX RECEPTACLE (POWER AND CONTROL BY C-CONTRACT)" to "GFCI DUPLEX RECEPTACLE (POWER AND CONTROL BY E-CONTRACT)."

END OF ADDENDUM

Brady M. Sherlock, P.E.
Director, Division of Design
Design & Construction

SECTION 011000

SUMMARY OF THE WORK

PART 1 GENERAL

1.01 WORK COVERED BY CONTRACT DOCUMENTS

A. The title and location of the Work is printed on the cover of this Project Manual.

B. Type of Contract: Fixed price.

1.02 RELATED CONTRACTS

A. The Project consists of the following separate contracts:

Construction Work	Project No. 47444 – C
HVAC Work	Project No. 47444 – H
Plumbing Work	Project No. 47444 – P
Electrical Work	Project No. 47444 – E

B. The suffix letter at the end of the project number distinguishes the separate Contracts. The Sections in Division 01 of the Specifications which have more than one suffix letter (such as this Section) are common to each related Contract.

1.03 SUBSTANTIAL AND PHYSICAL COMPLETION DATES

A. Substantially complete the Work within 464 days after the Agreement is approved by the Comptroller.

1. The time allocated for the performance of work under this contract includes 10 days for notification of the Contractor of the Comptroller's approval of the Agreement.
2. The approval of the Agreement by the Comptroller constitutes the filing of the Contract Documents as a public record and notice to the Contractor that a fully executed contract exists between the Contractor and the State.

B. Physically complete the Work within 90 days after the established Substantial Completion date.

1.04 CONTRACT AWARD SUBMITTALS

A. Submittal No. 1: Submit the CONTRACTOR'S LIST OF SUBCONTRACTORS-SUPPLIERS information required in SCHEDULES AND RECORDS Article in Specification Section 013000 not later than 15 days after approval of the Contract by the Comptroller.

B. Submittal No. 2: Submit Preliminary Project Schedule related information noted in 013113 Project Planning and Scheduling or 013200 Construction Progress Documentation, whichever section is applicable, within 15 days after approval of

the Contract by the Comptroller for review by the Director's Representative and OGS Scheduling.

C. Submittal No. 3: Submit the Submittal Coordinator Qualifications not later than 10 days after Award. Include resume and references, and other certification, licenses, or other requested information.

1.05 ITEMS NOT INCLUDED

A. The following items shown on the Drawings are not included in the Contract:
   1. Items indicated "NIC" (Not in Contract).
   2. Existing construction, except where such construction is to be removed, replaced, or altered.

1.06 CONFINED SPACE

A. Comply with confined space and permit-required confined space as defined in Title 29, Part 1910, Section 146 of the Code of Federal Regulations (29CFR 1910.146).

B. Comply with Safety Requirements for Confined Spaces (ANSI/ASSE Z117.1-2009).

C. All spaces shall be treated as permit-required confined spaces until the Contractor and/or subcontractors are able to re-classify the space to a non-permit confined space as per 29CFR 1910.146 and ANSI/ASSE Z117.1-2009.

D. Indicated confined spaces are not intended to limit or define Contractor's or subcontractors' regulatory compliance requirements. In addition to confined spaces indicated on the drawings, other confined spaces may be present or created by the work of this contract. Notify the Director's Representative, in writing, of confined spaces created or eliminated during execution of the Work.

E. For the purpose of inspecting ongoing work, furnish at no additional cost to the State, personnel, as directed, to allow the Director's Representative to enter confined space and permit-required confined space in compliance with Title 29, Part 1910, Section 146 of the Code of Federal Regulations (29CFR 1910.146).

1.07 OCCUPANCY

A. This is an occupied Facility, however, the building will be vacated during execution of the Work.

1.08 CONTRACTOR USE OF PREMISES

A. Work hours shall be as established by the Facility authorities thru the Director's Representative.

B. Inform the Director's Representative of work area access requirements. The Director's Representative will coordinate and schedule the requirements with Facility staff to obtain and ensure timely availability of work areas.

C. Check in with the Facility Representative, as directed, at the beginning of each workday. Furnish information regarding where employees will be working during the day.

D. Comply with the Facility's Visitor Identification Policy. A copy of the current policy will be distributed at the initial job meeting.

E. The following items are not allowed on the Site or on Facility premises.
1. Firearms, ammunition, weapons, and dangerous instruments (other than tools required for the Work).
2. Alcoholic beverages and persons under the influence of same.
3. Cannabis and persons under the influence of same. Cannabis, as used herein shall refer to any form of cannabis that has psychoactive properties.
4. Illegal controlled substances and persons under the influence of same.
5. Cameras (except with written permission from the Director's Representative).

F. Comply with Facility policies relating to smoking at the Site.

G. Routes of ingress and egress within the building to the location of the Work shall be as directed by the Director's Representative.

H. Store materials and perform the Work so that pedestrian and vehicular traffic is not obstructed.

I. Do not diminish the level of life safety during performance of the Work.

J. Furniture and portable equipment which interferes with execution of the Work will be removed and reset by Facility personnel.

K. Utility Outages and Shutdowns: Do not interrupt utility services or branch services within the building except for the time required to make new connections. Arrange with the Director's Representative for the time and duration of interruptions of services. Provide temporary services required to maintain building services at all times other than during scheduled interruptions.

L. Be responsible and accountable for employees, suppliers, subcontractors and their employees, with regard to their use of the premises. Direct them to comply with the Facility Regulations and with the security and traffic regulations.

M. Furnish Facility authorities with a telephone number or method to contact the supervisor for the Work in case of an emergency after work hours, including weekends and holidays.

N. Comply with applicable federal and State of New York Right-to-Know Law provisions. Provide Safety Data Sheets (SDS) documents for products that have SDS data prior to use on the project site.
1. Upload and maintain electronic SDS documents on the Submittals Website (SDS tab).

2. SDS tab is organized by prime contracts. To be readily identified, name products with SDS by specification section number and product name.
3. Supply and maintain one hard copy of the appropriate SDS on the project site and one hard copy with the Facility's Right-to-Know Information Officer.

O. Direct employees to be watchful for people in or near the work area where safety hazards may be present. Notify the Facility Safety/Security Department, if necessary, to remove them from the work area or Site.

P. Report fire and other emergency situations to the Facility Safety/Security Department immediately.

1.09 OPENINGS AND CHASES IN NEW CONSTRUCTION

A. Construction Work Contract:
1. Unless specifically indicated otherwise, provide openings, chases, and similar items in new construction provided under this Contract, as required for items to be provided under related contracts.
2. After the installation and completion of the items for which openings and chases have been provided, build in, over, around and finish the openings and chases to complete the Work.
3. Provide all cutting, patching, and refinishing resulting from failure to provide the required openings and chases, if the necessary information was furnished by the related contractor before 24 hours of start of the applicable part of the Work.
4. If related contractors fail to furnish drawings or written information covering the openings and chases they require in new construction at least 24 hours before installation of the Work affected by those items, the related contractors will be required to do all cutting, patching, and refinishing of the construction so affected, at their own expense.

B. HVAC Work, Plumbing Work, and Electrical Work Contracts:
1. Unless specifically indicated otherwise, furnish drawings or written information to the Construction Work Contractor covering the openings and chases required in new construction for the Work. If such information is not furnished at least 24 hours before start of the applicable part of the Construction Work Contractor's work, all necessary cutting, patching, and refinishing will be included in the Contract at no additional cost to the State.

1.10 REFERENCE SPECIFICATIONS AND STANDARDS

A. Comply with the requirements of the various specifications and standards referred to in these Specifications, except where they conflict with the requirements of these Specifications. Such reference specifications and standards shall be the date of latest revision in effect at the time of receiving bids unless the date is given.

B. DOT Specifications: If the abbreviation DOT appears in these Specifications, it shall mean the most current edition of the New York State Department of

Transportation, Office of Engineering specifications entitled "STANDARD SPECIFICATIONS - CONSTRUCTION AND MATERIALS", including all applicable Addenda in effect at the time of receipt of bids. The DOT specifications may be purchased from the Department of Transportation, Plan and Publication Sales, 50 Wolf Road, Albany, NY 12232, (518) 457-2124.

1.11 LAYING OUT

A. Examine the Contract Documents thoroughly and promptly report any errors or discrepancies to the Director's Representative before commencing the Work.

B. Lay out the Work in accordance with the Contract Documents.

1.12 SPECIAL INSPECTIONS

A. Special Inspections and tests are required by Chapter 17 of the Building Code of New York State (BCNYS). Inspections & Testing Services will be provided by the state unless otherwise noted.

B. Contractors are responsible for notifying the Directors Representative regarding individual inspections listed in the **STATEMENT OF SPECIAL INSPECTIONS**. Contractors shall cooperate with the inspectors and testing agencies and sufficient notice and lead time (minimum 48 hours) must be allowed for inspection and testing to be performed.

C. Where deficiencies are identified, the contractor must take corrective actions to comply with the contract documents or remedy the deficiencies in accordance with Article 9 of the General Conditions.

1.13 RESTRICTED WORK PERIOD

A. Construction Work Contract: Do not perform the waterproofing and related Work on or after December 1st and up to, but not including April 1st unless approved otherwise, in writing, by the Director. During this period, clear the work area of materials, equipment, and debris.

B. Construction Work Contract: Do not perform the asphalt paving Work on or after November 15th and up to, but not including April 15th, unless approved otherwise, in writing, by the Director. During this period, leave the disturbed earthwork areas stabilized for winter shutdown and clear the Work area of materials, equipment, and debris.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 015123

TEMPORARY HEAT

PART 1 GENERAL

1.01 TEMPORARY HEAT - BUILDING ENCLOSED

A. Construction Work Contract:

1. Temporary heat shall be provided under the Construction Work Contract for all Contracts related to the Project.
2. Provide temporary heat, starting at such time as directed, when in the opinion of the Director's Representative, the building or any major part of it is enclosed.
   a. The building, or any part of it, shall be considered enclosed when the exterior walls and roof deck or overhead closures are sufficiently completed to exclude the elements, except for windows, doors, ventilators and similar openings which shall be temporarily sealed weathertight with suitable closures.
   b. In the event a building under construction is of window wall design, and the window walls are not installed as scheduled, provide temporary weathertight wall closures in sufficient time so as not to delay construction of the building.
3. Include in the contract sum the cost of providing temporary heat for 121 days.
   a. The actual number of days required for temporary heat shall be as determined by the Director's Representative.
   b. In the event such determination results in more or less than the specified number of days, the contract sum will be adjusted by Order on Contract.
   c. Applicable daily charges for price adjustment (if any) shall be the average daily rate paid during the period of temporary heat, i.e. (total cost of providing temporary heat divided by the number of days). Furnish daily records of temporary heat costs to the Director's Representative, so that necessary price adjustments may be calculated.
4. Temporary heat consists of, but is not limited to, the following:
   a. Furnishing and operating a sufficient number of temporary heating units to maintain required temperatures.
   b. Furnishing units of approved manufacture, complete with a combustion chamber and a smoke flue outlet, so designed that all products of combustion are vented through smoke flue piping to the exterior of the building. Do not use electric heaters.
   c. Furnishing fuel for maintaining temporary heat.
   d. Maintaining building temperature between 45 and 55 degrees F, unless higher temperatures are required for the installation of specified materials.
   e. Moving, relocating, and adjusting heating units as required or directed, to protect the Work of all Contracts.

f. Taking precautions necessary to protect all portions of the building from smoke or gas damage and to prevent hazardous conditions which could result in damage to property or injury to persons.

1.02 RESPONSIBILITY

A. Construction Work Contract:
   1. Assume responsibility for damage due to frost and freezing during the period when temporary heat is required to be provided. Repair damage due to improper equipment, such as stains, smudges, soot or fire.

B. All Contracts:
   1. Progress the Work so that temporary heat can be provided as and when specified and directed.

1.03 TEMPORARY HEAT - OPERATION BY STATE PERSONNEL

A. When, in the opinion of the Director's Representative, the permanent heating system is completed, the Director's Representative will arrange for operation of the heating system in accordance with the provisions of Article 20 of the General Conditions concerning State occupation and operation. At such time, Contractor will be relieved of responsibility for temporary heat.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 220700

PIPING INSULATION

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

A. Painting: Section 099103.

BC. Pipe Hangers and Supports: Section 220529.

1.02 ABBREVIATIONS

A. FS: Federal Specification.

B. K: Thermal Conductivity, i.e., maximum Btu per inch thickness per hour per square foot.

C. pcf: Pounds per cubic foot.

D. PVC: Polyvinylchloride.

1.03 SUBMITTALS

A. Product Data: Manufacturer's catalog sheets, specifications and installation instructions for the following:
   1. Insulation Materials.
   2. Jacket Materials.

B. Quality Control Submittals:
   1. Installers Qualification Data:
      a. Name of each person who will be performing the Work, and their employer's name, business address and telephone number.
      b. Furnish names and addresses of the required number of similar projects that each person has worked on which meet the qualifications.

1.04 QUALITY ASSURANCE

A. Qualifications: The persons installing the Work of this Section and their Supervisor shall be personally experienced in mechanical insulation work and shall have been regularly employed by a company installing mechanical insulation for a minimum of 5 years.

B. Regulatory Requirements:
   1. Insulation installed inside buildings, including laminated jackets, mastics, sealants and adhesives shall have a Fire Spread/Smoke Developed Rating of 25/50 or less based on ASTM E 84.

PART 2 PRODUCTS

2.01 PIPING INSULATION

A. Flexible Elastomeric Foam Insulation:
   1. FM tested and approved, meeting the following:
      a. Maximum Water Vapor Transmission: 0.10 perm - inch based on ASTM E 96, Procedure A.
      b. K of 0.27 at 75 degrees F based on ASTM C 518 or C 177.
      c. Fire Spread/Smoke Developed Rating: 25/50 or less based on ASTM E 84.
   2. Pipe Insulation: ASTM C 534, Type I.
   3. Polyethylene and polyolefin insulation is not acceptable.

C. High Density Jacketed Insulation Inserts for Hangers and Supports:
   1. For Use with Flexible Elastomeric Foam Insulation: Hardwood dowels and blocks, length or thickness equal to insulation thickness, other dimensions as specified or required.

2.02 INSULATION JACKETS

A. Laminated Vapor Barrier Jackets for Piping: Factory applied by insulation manufacturer, conforming to ASTM C 1136, Type I.
   1. Type I: Reinforced white kraft and aluminum foil laminate with kraft facing out.
      a. Pipe Jackets: Furnished with integral 1-1/2 inch self sealing longitudinal lap, and separate 3 inch wide adhesive backed butt strips.
   2. Laminated vapor barrier jackets are not required for flexible elastomeric foam insulation.

B. Canvas Jackets: Cotton duck, fire retardant, complying with NFPA 701, 4 oz or 6 oz per sq yd as specified.

C. Premolded PVC Fitting Jackets:
   1. Constructed of high impact, UV resistant PVC.
      a. ASTM D 1784, Class 14253-C.
      b. Working Temperature: 0-150 degrees F.

E. Under Lavatory Piping Protection Cover: ADA compliant.
   1. Construction: 1/8 inch thick chemical, microbial, and fungal resistant, injection molded smooth PVC vinyl with internal ribs.
   2. Fasteners: Reusable, finger press internal fasteners presenting no sharp or abrasive external surfaces.
   3. Cover Trimming: Tear on internal, dimensioned tear lines for proper fit.
   4. Kit includes covering for 8 inch tailpiece-trap, 8 inch waste arm, hot and cold water supplies and valves, and required fasteners.
   5. Acceptable Covers:

a. Lav Guard 2, E-Z Series by IPS Corp., 202 Industrial Park Lane, Collierville, TN 38017, (800) 340-5969, www.truebro.com.
b. Pro-Extreme Series by Plumberex, P.O. Box 1684, Palm Springs, CA 92263, (800) 475-8629, www.plumberex.com.

2.03 ADHESIVES, MASTICS, AND SEALERS

A. Lagging Adhesive (Canvas Jackets): Childers' CP-50AMV1, Epolux's Cadalag 336, Foster's 30-36.

B. Adhesive (Flexible Elastomeric Foam): Armstrong's 520, Childers' CP-82, Epolux's Cadoprene 488, Foster's 85-75. 5 gallon cans only

2.04 MISCELLANEOUS MATERIALS

A. Pressure Sensitive Tape for Sealing Laminated Jackets:
1. Acceptable Manufacturers: Alpha Associates, Ideal Tape, Morgan Adhesive.
2. Type: Same construction as jacket.

B. Wire, Bands, and Wire Mesh:
1. Binding and Lacing Wire: Nickel copper alloy or copper clad steel, gage as specified.
2. Bands: Galvanized steel, 1/2 inch wide x 0.015 inch thick, with 0.032 inch thick galvanized wing seals.
3. Wire Mesh: Woven 20 gage steel wire with 1 inch hexagonal openings, galvanized after weaving.

C. Reinforcing Membrane: Glass or Polyester, 10 x 10 mesh. Alpha Associates Style 59, Childer's Chil-Glas, Foster's MAST-A-FAB.

PART 3 EXECUTION

3.01 PREPARATION

A. Perform the following before starting insulation Work:
1. Install hangers, supports and appurtenances in their permanent locations.
2. Complete testing of piping.
3. Clean and dry surfaces to be insulated.

3.02 INSTALLATION, GENERAL

A. Install the Work of this Section in accordance with the manufacturer's printed installation instructions unless otherwise specified.

B. Provide continuous piping insulation and jacketing when passing thru interior wall, floor, and ceiling construction.
1. At Through Penetration Firestops: Coordinate insulation densities with the requirements of approved firestop system being installed. See Section 078400.

a. Insulation densities required by approved firestop system may vary with the densities specified in this Section. When this occurs use the higher density insulation.

C. Do not intermix different insulation materials on individual runs of piping.

3.03 INSTALLATION AT HANGERS AND SUPPORTS

A. Reset and realign hangers and supports if they are displaced while installing insulation.

B. Install high density jacketed insulation inserts at hangers and supports for insulated piping.

C. Insulation Inserts For Use with Fibrous Glass Insulation:
1. Where clevis hangers are used, install insulation shields and high density jacketed insulation inserts between shield and pipe.
a. Where insulation is subject to compression at points over 180 degrees apart, e.g. riser clamps, U-bolts, trapezes, etc.; fully encircle pipe with 2 protection shields and 2 high density jacketed fibrous glass insulation inserts within supporting members.
1) Exception: Locations where pipe covering protection saddles are specified for hot service piping, 6 inch and larger.

D. Insulation Inserts For Use with Flexible Elastomeric Foam Insulation:
1. Where clevis hangers are used, install insulation shields with hardwood filler pieces, same thickness as adjoining insulation, inserted in undersized die cut or slotted holes in insulation at support points.
2. Contour hardwood blocks to match the curvature of pipe, and shield.
3. Coat dowels and blocks with insulation adhesive, and insert while still wet.
4. Vapor seal outer surfaces of dowels and blocks with adhesive after insertion.
5. Install filler pieces as follows:

PIPE/TUBING SIZE	FILLER PIECES	POSITION
Thru 1-1/2”	2 dowel plugs	6 o’clock; in tandem
2” thru 4”	1 block, 2 dowel plugs	6 o’clock, and 4 & 8 o’clock respectively
6” thru 8”	2 blocks, 4 dowel plugs	6 o’clock; in tandem and 4 & 8 o’clock; in tandem

3.04 3.06 INSTALLATION OF FLEXIBLE ELASTOMERIC FOAM INSULATION

A. Where possible, slip insulation over the pipe, and seal butt joints with adhesive.
1. Where the slip-on technique is not possible, slit the insulation and install.

2. Re-seal with adhesive, making sure the mating surfaces are completely joined.

B. Insulate fittings and valves with miter cut sections. Use templates provided by the manufacturer, and assemble the cut sections in accordance with the manufacturer's printed instructions.
   1. Insulate threaded fittings and valves with sleeved fitting covers. Over lap and seal the covers to the adjoining pipe insulation with adhesive.

C. Carefully mate and seal with adhesive all contact surfaces to maintain the integrity of the vapor barrier of the system.

D. Piping Exposed Exterior to a Building, Totally Exposed to the Elements:
   1. Apply flexible elastomeric foam insulation to piping with adhesive.
   2. Apply reinforcing membrane around piping insulation with adhesive or mastic.
   3. Adhesive Applied System: Apply 2 coats of finish. See Section 099103.
   4. Mastic Applied System: Apply another coat of mastic over reinforcing membrane.

3.09 PIPING INSULATION SCHEDULE

A. Insulate all cold service and hot service piping, and appurtenances except where otherwise specified.

B. Schedule of Items Not to be Insulated:
   1. Chrome plated piping, unless otherwise specified.
   2. Exposed piping in finished spaces, serving one fixture, or piece of equipment, and which connection from the main, branch, or riser, is 24 inches or less in length.
   3. Water heater blow-off piping.
   4. Water meters.
   5. Piping buried in the ground, unless otherwise specified herein.
   6. Items installed by others, unless otherwise specified herein.
   7. Sanitary drainage piping, unless otherwise specified herein.
   8. Mechanical equipment with factory applied steel jacket.

3.10 COLD SERVICE INSULATION MATERIAL SCHEDULE

TYPE	SERVICE AND TEMPERATURES	INSULATION MATERIAL	PIPE SIZES (INCHES)	MINIMUM (NOMINAL) INSULATION THICKNESS (INCHES)
D	Domestic cold water, and as specified. 33 F to 80 F.	Flex. Elastomeric Foam	All Sizes	1/2

A. **NOTES:**

1. Piping Serving Handicapped Accessible Lavatories:
   a. Insulate exposed hot water supply and waste piping with flexible elastomeric foam pipe insulation.

3.11 HOT SERVICE INSULATION MATERIAL SCHEDULE

	SERVICE AND TEMPERATURES	INSULATION MATERIAL	PIPE SIZES (INCHES)	MINIMUM (NOMINAL) INSULATION THICKNESS (INCHES)
E	Water and other fluids 105 F to140 F.	Flex. Elastomeric Foam	1-1/2 & Less Over 1-1/2	1 2

END OF SECTION

SECTION 230719

INSULATION

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

A. Painting: Section 099103.

B. Pipe Hangers and Supports: Section 230529.

1.02 ABBREVIATIONS

A. FS: Federal Specification.

B. K: Thermal Conductivity, i.e., maximum Btu per inch thickness per hour per square foot.

C. pcf: Pounds per cubic foot.

1.03 SUBMITTALS

A. Product Data:
   1. Manufacturer's catalog sheets, specifications and installation instructions for insulation materials and jacket materials.
   2. Materials Schedule: Itemize insulation materials and thicknesses for each specified application in Insulation Material Schedules in Part 3 of this Section. Where optional materials are specified, indicate option selected.

B. Quality Control Submittals:
   1. Installers Qualification Data:
      a. Name of each person who will be performing the Work, and their employer's name, business address and telephone number.
      b. Furnish names and addresses of the required number of similar projects that each person has worked on which meet the qualifications.

1.04 QUALITY ASSURANCE

A. Qualifications: The persons installing the Work of this Section and their Supervisor shall be personally experienced in mechanical insulation work and shall have been regularly employed by a company installing mechanical insulation for a minimum of 5 years.

B. Regulatory Requirements:
   1. Insulation installed inside buildings, including duct lining materials, laminated jackets, mastics, sealants and adhesives shall have a Fire Spread/Smoke Developed Rating of 25/50 or less based on ASTM E 84.

PART 2 PRODUCTS

2.01 INSULATION

A. Fibrous Glass (Mineral Fiber) Insulation: Composed principally of fibers manufactured from rock, slag, or glass, with or without binders, and asbestos free.
   1. Block or Board Insulation: Minimum density 3.0 pcf and 6.0 pcf as specified; ASTM C 612:
      a. Type IA or IB (Suitable for Temperatures Up to 450 degrees F): K of 0.26 at 75 degrees F.
      b. Type II (Suitable for Temperatures 451 to 850 degrees F): K of 0.44 at 300 degrees F.
      c. Type III (Suitable for Temperatures 851 to 1000 degrees F): K of 0.44 at 300 degrees F.
      d. Type IV (Suitable for Temperatures 1001 to 1200 degrees F): K of 0.37 at 300 degrees F.
      e. Type V (Suitable for Temperatures 1201 to 1800 degrees F): K of 0.42 at 300 degrees F.
   6. Blanket Insulation:
      a. For Ductwork (Suitable for Temperatures Up to 450 Degrees F): Minimum density 1.0 pcf, K of 0.31 at 75 degrees F; ASTM C 553, Type II.

B. Flexible Elastomeric Foam Insulation:
   1. FM tested and approved, meeting the following:
      a. Maximum Water Vapor Transmission: 0.10 perm - inch based on ASTM E 96, Procedure A.
      b. K of 0.27 at 75 degrees F based on ASTM C 518 or C 177.
      c. Fire Spread/Smoke Developed Rating: 25/50 or less based on ASTM E 84.
   2. Pipe Insulation: ASTM C 534, Type I.

C. High Density Jacketed Insulation Inserts for Hangers and Supports:
   1. For Use with Flexible Elastomeric Foam Insulation:
      a. Ductwork and Piping: Hardwood dowels and blocks, length or thickness equal to insulation thickness, other dimensions as specified or required.

D. Cements:
   1. Fibrous Glass Thermal Insulating Cement: Asbestos free; ASTM C 195.
   2. Fibrous Glass Hydraulic Setting Thermal Insulating and Finishing Cement: ASTM C 449/C 449M.

2.02 JACKETS

A. Laminated Vapor Barrier Jackets for Piping and Ductwork: Factory applied by insulation manufacturer, conforming to ASTM C 1136, Types I and II.

1. Type I: Reinforced white kraft and aluminum foil laminate with kraft facing out.
   a. Pipe Jackets: Furnished with integral 1-1/2 inch self sealing longitudinal lap, and separate 3 inch wide adhesive backed butt strips.
2. Type II: Reinforced aluminum foil and kraft laminate with foil facing out.
3. Laminated vapor barrier jackets are not required for flexible elastomeric foam insulation.

B. Canvas Jackets: Cotton duck, fire retardant, complying with NFPA 701, 4 oz or 6 oz per sq yd as specified.

C. Premolded PVC Fitting Jackets:
1. Constructed of high impact, UV resistant PVC.
   a. ASTM D 1784, Class 14253-C.
   b. Working Temperature: 0-150 degrees F.

D. Metal Jacketing:
1. Aluminum: ASTM B 209, Alloys 1100, 30003, 3105 or 5005, Temper H14, 0.016 inch thick.
   a. Factory Pre-formed Sectional Pipe Jacketing:
      1) Smooth outer finish with integral bonded laminated polyethylene film - kraft paper moisture barrier underside.
      2) Pittsburg or modified Pittsburg longitudinal lock seams.
      3) 2 inch overlapping circumferential joints with integral locking clips, or butt joints sealed with 2 inch wide mastic backed aluminum snap bands.
   d. Fastening Devices:
      1) Strapping: Type 18-8 stainless steel, 0.020 inch thick, 1/2 and 3/4 inch wide as specified.
      2) Wing Seals: Type 18-8 stainless steel, 0.032 inch thick.
      3) Sheet Metal Screws: Panhead, Type A, hardened aluminum, and stainless steel.

2.03 ADHESIVES, MASTICS, AND SEALERS

A. Lagging Adhesive (Canvas Jackets): Childers' CP-50AMV1, Epolux's Cadalag 336, Foster's 30-36.

B. Vapor Lap Seal Adhesive (Fibrous Glass Insulation): Childers' CP-82, Epolux's Cadoprene 400, Foster's 85-60 or 85-20.

C. Vapor Barrier Mastic (Fibrous Glass Insulation): Permeance shall be .03 perms or less at 45 mils dry per ASTM E 96. Childers' CP-34, Epolux's Cadalar 670, Foster's 30-65 .

D. Adhesive (Flexible Elastomeric Foam): Armstrong's 520, Childers' CP-82, Epolux's Cadoprene 488, Foster's 85-75. 5 gallon cans only.

E. Adhesive (Fiberglass duct liner): Childers' Chil Quik CP-127, Foster Vapor Fas 85-60. Must comply with ASTM C 916, Type II

F. Weather Barrier Breather Mastic (Reinforcing Membrane): Childers' VI-CRYL CP-10/11, Foster's Weatherite 46-50.

G. Sealant (Metal Pipe Jacket): Non hardening elastomeric sealants. Foster Elastolar 95-44, Childers Chil Byl CP-76, Pittsburgh Corning 727.

H. Reinforcing Membrane: Childers' Chil Glas #10, Foster Mast a Fab, Pittsburgh Corning PC 79

2.04 MISCELLANEOUS MATERIALS

A. Insulation Fasteners for Ductwork and Equipment:
   1. Acceptable Manufacturers: Duro-Dyne Corp.; Erico Fastening Systems, Inc.
   2. Type: Weld pins, complete with self-locking insulation retaining washers.

B. Pressure Sensitive Tape for Sealing Laminated Jackets:
   1. Acceptable Manufacturers: Alpha Associates, Ideal Tape, Morgan Adhesive.
   2. Type: Same construction as jacket.

C. Wire, Bands, and Wire Mesh:
   1. Binding and Lacing Wire: Nickel copper alloy or copper clad steel, gage as specified.
   2. Bands: Galvanized steel, 1/2 inch wide x 0.015 inch thick, with 0.032 inch thick galvanized wing seals.
   3. Wire Mesh: Woven 20 gage steel wire with 1 inch hexagonal openings, galvanized after weaving.

D. Metal Corner Angles: Galvanized steel, 2 x 2 inch 28 gage.

E. Reinforcing Membrane: Glass or Polyester, 10 x 10 mesh. Alpha Associates Style 59, Childer's Chil-Glas, Foster's MAST-A-FAB.

PART 3 EXECUTION

3.01 PREPARATION

A. Perform the following before starting insulation Work:
   1. Install hangers, supports and appurtenances in their permanent locations.
   2. Complete testing of piping, ductwork, and equipment.
   3. Clean and dry surfaces to be insulated.

3.02 INSTALLATION, GENERAL

A. Install the Work of this Section in accordance with the manufacturer's printed installation instructions unless otherwise specified.

B. Piping Insulation: Provide continuous insulation and jacketing when passing thru interior wall, floor, and ceiling construction.
   1. At Through Penetration Firestops: Coordinate insulation densities with the requirements of approved firestop system being installed. See Section 078400.
      a. Insulation densities required by approved firestop system may vary with the densities specified in this Section. When this occurs use the higher density insulation.

C. Do not intermix different insulation materials on individual runs of piping.

3.03 INSTALLATION AT HANGERS AND SUPPORTS

A. Reset and realign hangers and supports if they are displaced while installing insulation.

B. Install high density jacketed insulation inserts at hangers and supports for insulated ductwork, piping, and equipment.

C. Insulation Inserts For Use with Fibrous Glass Insulation:
   1. Ductwork: Install 6 pcf density jacketed fibrous glass board, same thickness as adjoining insulation, sized for full bearing on supporting trapeze member, and as required to enable abutting to adjoining insulation and overlapping of jacketing.
   2. Piping: Where clevis hangers are used, install insulation shields and high density jacketed insulation inserts between shield and pipe.
      a. Where insulation is subject to compression at points over 180 degrees apart, e.g. riser clamps, U-bolts, trapezes, etc.; fully encircle pipe with 2 protection shields and 2 high density jacketed fibrous glass insulation inserts within supporting members.
         1) Exception: Locations where pipe covering protection saddles are specified for hot service piping, 6 inch and larger.

D. Insulation Inserts For Use with Flexible Elastomeric Foam Insulation:
   1. Ductwork: Install hardwood block, same thickness as adjoining insulation, sized for full bearing on supporting trapeze member and as required to abutt and seal vapor tight with adjoining insulation.
   2. Piping:
      a. Where clevis hangers are used, install insulation shields with hardwood filler pieces, same thickness as adjoining insulation, inserted in undersized die cut or slotted holes in insulation at support points.
      b. Contour hardwood blocks to match the curvature of pipe, and shield.
      c. Coat dowels and blocks with insulation adhesive, and insert while still wet.

d. Vapor seal outer surfaces of dowels and blocks with adhesive after insertion.
e. Install filler pieces as follows:

PIPE/TUBING SIZE	FILLER PIECES	POSITION
Thru 1-1/2”	2 dowel plugs	6 o’clock; in tandem
2” thru 4”	1 block 2 dowel plugs	6 o’clock, and 4 & 8 o’clock respectively
6” thru 8”	2 blocks 4 dowel plugs	6 o’clock; in tandem and 4 & 8 o’clock; in tandem

3.04 INSTALLATION OF FLEXIBLE ELASTOMERIC FOAM INSULATION

A. Where possible, slip insulation over the pipe, and seal butt joints with adhesive.
1. Where the slip-on technique is not possible, slit the insulation and install.
2. Re-seal with adhesive, making sure the mating surfaces are completely joined.

B. Insulate fittings and valves with miter cut sections. Use templates provided by the manufacturer, and assemble the cut sections in accordance with the manufacturer’s printed instructions.
1. Insulate threaded fittings and valves with sleeved fitting covers. Over lap and seal the covers to the adjoining pipe insulation with adhesive.

C. Carefully mate and seal with adhesive all contact surfaces to maintain the integrity of the vapor barrier of the system.

E. Piping Exposed Exterior to a Building, Totally Exposed to the Elements:
1. Apply flexible elastomeric foam insulation to piping with adhesive.
2. Apply reinforcing membrane around piping insulation with adhesive or mastic.
3. Adhesive Applied System: Apply 2 coats of finish. See Section 099103.
4. Mastic Applied System: Apply another coat of mastic over reinforcing membrane.

3.05 INSTALLATION OF SHEET METAL JACKETING ON PIPING

A. Secure jacketing to insulated piping with preformed aluminum snap straps and stainless steel strapping installed with special banding wrench.

B. Jacket exposed insulated fittings, valves and flanges with mitred sections of aluminum jacketing.
1. Seal joints with sealant and secure with preformed aluminum bands.
3. Substitution: Factory fabricated, preformed, sectional aluminum fitting covers or premolded polyvinylchloride fitting covers may be used in lieu of mitred sections of aluminum jacketing for covering fittings, valves and flanges.

3.06 INSTALLATION OF DUCTWORK INSULATION

A. Fibrous Glass Board Insulation Application:
   1. Secure insulation to ductwork, with duct insulation fasteners spaced 3 inch in from all corners of ducts, with intermediate fasteners on maximum 16 inch centers in all directions.
   2. Butt edges of insulation and fill voids with similar insulation.
   3. Seal minimum 1-1/2 inch wide longitudinal jacket laps continuously with vapor seal adhesive.
   4. Lap circumferential joints with 4 inch wide jacket material and seal laps continuously with vapor barrier lap adhesive, or seal continuously with minimum 3 inch wide pressure sensitive sealing tape, of same material as jacket.
   5. Install metal corner angles over the jacketed insulated corners. Seal exposed ends of insulation with vapor barrier mastic.
   6. Vapor seal breaks in vapor barrier jacketing, exposed surfaces of duct insulation fasteners and metal corner angles, with pressure sensitive sealing tape of same material as jacket or coat with vapor barrier mastic.
   7. Field apply 6 oz canvas jacket over the vapor barrier jacketed insulation where indicated on Ductwork Service Insulation Material Schedule in Part 3 of this Section.
      a. Apply canvas jacket with lagging adhesive, with a 2 inch lap on circumferential and longitudinal seams.
      b. Outward clinching staples may be utilized for additional securement of canvas to bottom of ducts in excess of 48 inch in width.
      c. Apply heavy coat of lagging adhesive to entire canvas surface.
   8. Place trapeze hangers, fabricated of steel rods and structural steel channels or angles, outside of jacketed insulated ducts.
      a. Install high density insulation inserts, of thickness equal to insulation, minimum of 4 inch in width by the bottom dimension of the duct, at points of support.
      b. Continuously jacket insulated ducts and filler pieces through supports.

B. Fibrous Glass Blanket Insulation Application:
   1. Cut insulation to stretch-out dimensions as recommended by insulation manufacturer.
   2. Remove 2 inch wide strip of insulation material from the jacketing on the longitudinal and circumferential joint edges to form an overlapping staple/tape flap.
   3. Install insulation with jacketing outside so staple/tape flap overlaps insulation and jacketing on other end.
   4. Butt ends of insulation tightly together.
      a. Rectangular and Square Ductwork: Do not compress insulation at duct corners.
   5. Staple longitudinal and circumferential joints with outward clinching staples minimum 6 inches on center, and seal with pressure sensitive sealing tape.
   6. Cut off pretruding ends of fasteners flush with insulation surface and seal with pressure sensitive sealing tape.

7. Install duct insulation fasteners on bottom side of horizontal duct runs, when bottom dimension of the duct is in excess of 24 inches in width.
8. Install duct insulation fasteners on sides of duct risers having a dimension over 24 inches in size.
9. Seal tears, punctures, and penetrations of insulation jacketing with sealing tape and coat with vapor barrier mastic.

C. Bench Insulated Ductwork:
1. Insulate ducts prior to erection in place when ducts are required to be installed proximate to walls, ceilings, equipment or other ductwork, which will not permit adequate space for installation of insulation after ducts are installed.

3.07 FIELD QUALITY CONTROL

A. Field Samples: The Director's Representative, may at their discretion, take field samples of installed insulation for the purpose of checking materials and application. Reinsulate sample cut areas.

3.08 PIPING AND EQUIPMENT INSULATION SCHEDULE

A. Insulate all cold service and hot service piping, equipment, and appurtenances except where otherwise specified.

B. Schedule of Items Not to be Insulated:
1. Do not insulate the following cold service items:
   a. Actual heat transfer surfaces.
   b. Cold water piping buried in direct contact with ground.
   c. Chromium plated piping, unless otherwise specified.
   d. Flexible vibration eliminators.
   e. Refrigerant liquid piping, unless sub-cooled below 70 degrees F.
2. Do not insulate items installed under other Contracts.
3. Do not insulate mechanical equipment with a factory applied insulated steel jacket.

3.09 COLD SERVICE INSULATION MATERIAL SCHEDULE

TYPE	SERVICE AND TEMPERATURES	INSULATION MATERIAL	PIPE SIZES (INCHES)	MINIMUM (NOMINAL) INSULATION THICKNESS (INCHES)
A & B	Refrigerants, Brine, and Fluids below 40 F.	Flex. Elastomeric Foam	1& less 1-1/4 and Up	1 1-1/2

A. **NOTES:**

1. Double the insulation thickness above for piping, installed in tunnels and conduits.
2. Equipment Insulation: Insula-tion thicknesses above also apply for flat, curved and irregular equipment surfaces.
   a. Insulate equipment with fibrous glass board insulation with minimum density 6 pcf.
   b. Insulate base mounted and unitary type pumps and other equipment specified, installed in potable water, ice water, chilled water and dual temperature water systems, with 3/4 inch thick sheet flexible elastomeric foam.
   c. Exceptions: Minimum insulation thickness for Type A service shall be a minimum of 1 inch thick for flat, curved and equipment irregular surfaces.

3.10 SCHEDULE OF METAL JACKETING FOR INSULATED PIPE

E. Piping Exterior to Building: Jacket insulated piping with circumferentially corrugated aluminum jacketing.
   1. Lap longitudinal and circumferential joints a minimum of 2 inches.
   2. Secure jacketing in place with 1/2 inch x 0.020 inch thick aluminum bands secured with aluminum wing type seals, on maximum 12 inch centers.
   3. Cover insulated fittings, valves, and offsets with mitered sections of jacketing. Seal joints with metal pipe jacket sealant, and secure with aluminum strapping and wing seals.
   4. Factory fabricated, preformed fitting covers of same material as jacketing may be used instead of mitered jacketing.
   5. Install jacketing so as to avoid trapping condensation and precipitation.

3.11 DUCTWORK SERVICE INSULATION SCHEDULE

A. Insulate all ductwork service except where otherwise specified.

B. Do not insulate the following ductwork service items:
   1. Exhaust ductwork, unless otherwise shown.
   2. Return fans.
   3. Exhaust fans.
   4. Interior lined ductwork.
   5. Flexible ductwork connections.
   6. Interior lined air terminal units.
   7. Sound absorbers.
   8. Ductwork located within equipment.
   9. Ductwork where design temperature difference between interior and exterior of duct or plenum does not exceed 15 degrees F.

3.12 DUCTWORK SERVICE INSULATION MATERIAL SCHEDULE

LOCATION	SERVICE	INSUL. MATERIAL	MINIMUM INSUL. THICKNESS	JACKET TYPE	MINIMUM REQUIRED R VALUE
Exposed, inside building insul. envelope.	Air Conditioning Supply Under 65 F, 100% Outside Air, Heating Supply Over 85 F.	Fibrous Glass Board	1-1/2	I with Canvas Outer Jacket	R-5
Inside building but exposed to outside air temp., e.g., ventilated attic.	All Supply, All Returns	Fibrous Glass Blanket Fibrous Glass Board	2-1/2 2	I or II I or II	R-8

A. **NOTES:**

1. Equipment: Insulate air handling equipment, not furnished with factory applied insulated jacket or internal insulation, with minimum 1-1/2 inch thick fibrous glass board with an ASTM C 1136 Type I jacket, installed and finished as specified for exposed ductwork in finished spaces.

END OF SECTION

SECTION 235414

ELECTRIC SLIP-IN DUCT HEATERS

PART 1 GENERAL

1.01 REFERENCES

A. Heaters shall be UL listed for zero clearance.

1.02 SUBMITTALS

A. Waiver of Submittals: The "Waiver of Certain Submittal Requirements" in Section 013300 does not apply to this Section.

B. Submittals Package: Submit the shop drawings and the product data specified below at the same time as a package.

C. Shop Drawings:
   1. Installation details.
   2. Power and control wiring schematic diagrams (standard diagrams will not be acceptable).

D. Product Data: Catalog sheets, specifications and installation instructions.

E. Contract Closeout Submittals:
   1. Operation and Maintenance Data: Deliver 2 copies, covering the installed products, to the Director's Representative.

PART 2 PRODUCTS

2.01 HEATER - DESIGN AND FABRICATION

A. Heater shall be of the slip-in type, of voltage, physical size, wattage, number of steps and with accessories as noted on the drawings or specified. Heater shall be of design for mounting in a horizontal or vertical duct with air flow through heater in either direction.

B. Resistance coils shall be fabricated of 80 percent nickel and 20 percent chromium wire, insulated by means of best quality ceramic terminal insulators and bushings from rigid, reinforced aluminized steel frame. Provide coil support brackets, reinforced with stiffening ribs and gussets, on maximum 4 inch centers. All coil terminals and fasteners shall be stainless steel.

C. Provide heaters with an automatic reset thermal cutout for primary protection installed in the control circuit and heat limiters installed in the power legs for secondary protection. Protection devices shall be serviceable through heater terminal box, without removing heater from duct.

D. Provide heater with integral terminal box, for making connections and enclosing accessories. Fabricate box from heavy gage aluminized steel, with a dust tight cover. Furnish continuous hinged type door, when fuses are installed in box. Provide insulated terminal boxes for installation in air-conditioning ducts running through warm, humid, non-conditioned spaces. All exposed surfaces shall be given a factory applied two coat baked enamel finish.

E. Air flow Switch: Provide a remote air flow switch located downstream from heater, in the positive pressure ductwork, with an adjustable pressure range of from 0.07 inch to 5.0 inch W.C. Switch shall be of the combined static and velocity pressure type.

2.02 REMOTE CONTROL PANEL

A. Fabricate control panels from heavy gage aluminized steel, with continuously hinged doors, complete with plated latch with lock and keys. All exposed surfaces shall be given a factory applied two coat baked enamel finish.

B. Panels shall be completely factory wired and contain all of the electrical equipment noted on the drawings to be installed in same. Mount and pre-wire built-in components on sub-panel boards.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install heaters in ductwork and remote control panels at locations indicated on the drawings.

B. Do not install access doors in ductwork, proximate to electric heaters, unless electrical devices are incorporated in door construction to shut down heaters.

END OF SECTION

GENERAL NOTES:

A. SEE DRAWING E-000 FOR APPLICABLE ABBREVIATIONS, GENERAL NOTES, AND SYMBOLS LEGEND.

B. ALL COORDINATION WITH OUTSIDE PROVIDERS, VENDORS, AND WITH CONTRACTORS TO BE BY DIRECTORS REPRESENTATIVE

KEYED NOTES:

1. REPLACE COBRA-STYLE FIXTURE HEAD WITH NEW LED COBRA-STYLE FIXTURE HEAD ON EXISTING 28' POLE MAST ARM. TEST AND ADJUST FOR PROPER OPERATION. FIXTURE HEAD TO BE LEDTRONICS CAT#SLM104-120W-XNW-103DP7 WITH DUSK TO DAWN PHOTO-SENSOR, (OR APPROVED EQUAL).

1 PARTIAL SITE PLAN - LIGHTING
SCALE: NTS

REVISED DRAWING 1/21/2026

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

CERTIFICATE OF AUTHORIZATION #: 0022724

BCA ARCHITECTS ENGINEERS
Bernier, Carr & Associates, Engineers, Architects and Land Surveyors, P.C.

CABEZAS ENGINEERING, PLLC
New York State Certified MBE Firm
Mechanical, Electrical and Plumbing Engineering

BUILDING CODE COMPLIANCE:

UNIFORM CODES STATEMENT: TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGEMENT, THE CONTRACT DRAWINGS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE 2020 NYS ENERGY CONSERVATION CONSTRUCTION CODE.

ENERGY CODE COMPLIANCE:

ENERGY CODE STATEMENT: TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGEMENT, THE CONTRACT DRAWINGS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE 2020 NYS ENERGY CONSERVATION CONSTRUCTION CODE.

REGISTRATION EXPIRES: 08/31/2026

CONTRACT: ELECTRICAL

TITLE: REHABILITATE REST AREA

LOCATION: DOT REGION 9, TIOGA COUNTY
ROUTE 17/I-86
NICHOLS, NY

CLIENT: NEW YORK STATE
DEPT. OF TRANSPORTATION

MARK	DATE	DESCRIPTION
1	01/16/2026	BID ADDENDUM 03
	06/04/2025	BID DOCUMENTS

PROJECT NUMBER:	47444 - E
DESIGNED BY:	JLE
DRAWN BY:	HNC
FIELD CHECK:	
APPROVED:	HJC

SHEET TITLE: PARTIAL SITE PLAN - LIGHTING

DRAWING NUMBER: E-103

SHEET 40 OF 44