Project Manual

Including Specifications
for

- RIDEM State Park Site Improvements -

151 Pulaski Rd, Glocester
212 Hartford Pike, Foster
Rt. 103, East Providence
108 Dam Road, Glocester

State of Rhode Island
Department of Environmental Management
Division of Planning and Development
235 Promenade Street
Providence, Rhode Island

P & D Contract No. 01-19

Date of Issue: _____, 2019

SECTION 00002
PROJECT DIRECTORY

OWNER:

State of Rhode Island and Providence Plantations
Department of Administration
One Capitol Hill
Providence, Rhode Island 02908

USER AGENCY:

State of Rhode Island and Providence Plantations
Department of Environmental Management
Division of Planning and Development
235 Promenade Street,
Providence, RI 02908

CONSULTANTS:

ENGINEER:

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RIDEM, Division of Planning and Development
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Providence, RI 02908
401-222-2776 ext. 4312

ENVIRONMENTAL
CONSULTANT:

Environmental Consulting & Management (E.C.M.)
181 Amaral Street
Riverside, RI 02915

TABLE OF CONTENTS

DIVISION 0 - BIDDING AND CONTRACT REQUIREMENTS:

00001 Cover Page
00002 Project Directory
00005 Table of Contents
00310 Bid Proposal Form
00500 Contract Agreement
00550 Contract Agreement Supplement

DIVISION 1 - GENERAL REQUIREMENTS:

01010 Summary of the Work
01015 Contractor's use of the Premises
01152 Application for Payment
01153 Change Order Procedure
01200 Project Meetings
01201 Preconstruction Conference
01310 Abatement and Demolition Schedules
01340 Submittal Requirements
01370 Schedule of Values
01410 Testing Laboratory Services
01500 Temporary Facilities and Controls
01640 Product Handling
01700 Contract Closeout
01710 Cleaning

TECHNICAL SPECIFICATIONS:

02060 Building Demolition
02061 Fugitive Dust
02063 Cutting and Patching
02065 Handling & Disposal of Regulated Waste
02070 Selective Demolition
02075 Solar Powered Light System
02080 Water Fountain
02085 Excavating, Backfilling, and Compacting

APPENDIX A – ASBESTOS INSPECTIONS AND RESULTS

1. Asbestos Demolition Inspection Reports for Pulaski, Jerimoth, and Cady – Environmental Consulting & Management

APPENDIX B – PERMITS

1. RI Building Code Project Approval Letter
2. Approval from RIHPHC

SECTION 01010
SUMMARY OF WORK

PART 1 - GENERAL:

1.1 DESCRIPTION:

A. Work included: The "Work" of this Contract, defined in the Contract Documents includes, but is not necessarily limited to:

1. Remove and dispose bathhouse within Pulaski State Park
    i. Contractor is responsible for acquiring demolition permit from RI State Building Code Commission and any shall perform any work required to obtain demolition permit.
    ii. Concrete foundation may be broken up and abandoned underground if the concrete is buried a foot below grade and is not exposed or visible in any way. The grade where the building stood should be restored.
    iii. Glazing on windows was found to contain asbestos. Windows shall be abated and disposed of by a RI licensed asbestos abatement contractor and abiding by all applicable State Law. See ECM's hazardous material report for abatement requirements.
    iv. Cap waterline at curb stop, approximately 5ft south of bathhouse. Remove waterline and appurtenances from the curb stop north, into the bathhouse. Waterline south of the curb stop may be abandoned underground.
    v. 6000 Gallon Septic tank and 480 Gallon siphon chamber shall be removed from site and disposed of according to State Law. Leach field and components may be abandoned underground
    vi. Coordinate termination of electric service with National Grid. Remove and dispose transformer. Abandon electric line underground.

2. Remove and dispose of residential property at 108 Dam Road.
3. Remove and dispose of residential property at 212 Hartford Pike.
4. Remove and dispose Bathhouse within Haines State Park
    i. Contractor is responsible for acquiring demolition permit from RI State Building Code Commission and any shall perform any work required to obtain demolition permit.
    ii. Concrete foundation may be broken up and abandoned underground if the concrete is buried a foot below grade and is not exposed or visible in any way. The grade where the building stood should be restored.
    iii. All material must be disposed of in accordance with State Law. The contractor is responsible for acquiring a hazardous material assessment, abatement plan, and disposal manifests.
    iv. Coordinate termination of sewer service with town and cap sewer line at its entrance into the bathhouse.
    v. Coordinate with National Grid to terminate electric service that feeds bathhouse. Electric line may be abandoned underground.

vi. Coordinate tie in of Murdock Drinking Fountain Model GVM49 with options HB4 (Hose Bibb), PF (Pet Fountain), and NP3 Non-Pollutable, Freeze Resistant Drinking Fountain or approved equivalent with Local Water Authority. Water bubbler shall meet ADA standard. Install foundation and plumb the fountain into the town water main.

vii. Install (1) Solar Light as manufactured by Sol Inc., Model EVERGEN M Series or approved equivalent at location designated by owner. Install foundation, wiring, and light poles.

viii. Install (4) protective bollards in locations as designated by owner.

B. Proper and legal disposal of entire structures at solid waste facilities licensed to accept each type of waste generated, including but not limited to: asbestos (ACM), lead based paint (LBP) debris, fluorescent light tubes, fluorescent light ballasts (FLB), and other construction and demolition (C&D) waste.

1. Provide proof of proper disposal in the form of manifests, weight slips, and invoices.

**************END OF SECTION**************

SECTION 01015
CONTRACTOR'S USE OF THE PREMISES

PART 1.00 - GENERAL

1.01 DESCRIPTION

A. Extent of Work: This Section applies to situations in which the Contractor or his representatives including, but not necessarily limited to, suppliers, subcontractors, employees, and field engineers, enter upon the Owner's property or occupy the public rights-of-way

B. Related Work Specified Elsewhere:

Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and applicable portions in Division 1 of these Specifications.

1.02 QUALITY ASSURANCE

A. Promptly upon award of the Contract, notify all pertinent personnel regarding requirements of this section.

B. Require that all personnel who will enter upon the Owner's property certify their awareness of and familiarity with the requirements of this Section.

1.03 SUBMITTALS

A. Maintain an accurate record of names and identification of all persons entering upon the Owner’s property in connection with the Work of this Contract, including times of entering and times of leaving, and submit a copy of the record to the Owner daily.

1.04 TRANSPORTATION FACILITIES

A. Truck and Equipment Access:

1. Where materials are transported in the execution of the Work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer for the vehicle or prescribed by any Federal, State or local law or regulation.

2. Provide adequate protection for curbs and sidewalks over which trucks and equipment pass to reach the job site. Any damaged roads, bridges, structures, curbing, or sidewalks shall be repaired by, or at the expense of the Contractor.

B. Contractor's Vehicles:

1. Require Contractor's vehicles and vehicles belonging to employees of the Contractor or leased by the Contractor or subcontractor, and all other vehicles entering upon the

Owner's property in performance of the Work of the Contract, to use only the access routes designated by the Owner.

1.05 NONEXCLUSIVE USE

A. Nothing herein contained or shown on the Drawings shall be construed as giving the Contractor exclusive occupancy of the work area. The Owner or any other contractors employed by him, the various utility companies, contractors or subcontractors employed by State or Federal agencies, or any other agencies involved in the general project or upon public rights-of-way, may enter upon or cross the area of work or occupy portions of the area as is directed or necessary.

B. The Contractor shall coordinate with the Owner for availability for parking, incidental equipment storage, and areas of temporary lay-down.

1.06 FACILITY REGULATIONS

A. The Contractor and his employees and subcontractor shall become familiar with and obey all facility regulations, including fire, traffic, and security regulations. All personnel employed on the grounds shall keep within the limits of the work (and allowable avenues of ingress and egress) and shall not enter any restricted areas unless required to do so and are cleared for such entry. The Contractor's equipment shall be conspicuously marked for identification.

1.07 WORKING HOURS

A. Restrict work to within the hours allowed by local ordinances.

B. No abatement and demolition activities shall take place on Saturday, Sunday or holidays; no abatement or demolition activities shall take place between 5:00PM and 6:00 AM weekdays.

1.08 WORK OUTSIDE REGULAR HOURS

A. If circumstances should require the Contractor to carry on work outside regular hours, including Saturdays, Sundays, and holidays; an application shall be delivered to the Owner and Engineer. The Contractor shall allow ample time to enable satisfactory arrangements to be made by the Engineer for inspecting the work in progress. During periods of darkness, the different parts of the work shall be lighted in a manner approved by the Engineer.

1.09 ORDER OF WORK

A. The Contractor shall schedule his work so as to cause the least amount of interference with facility operations. Permission to interrupt any roads, and/or utility service shall be requested in writing a minimum of 5 calendar days prior to the desired date of interruption.

1.10 EXISTING WORK

A. The removal or altering in any way of existing work shall be carried on in such a manner as to prevent injury or damage to any portion(s) of the existing work which remain(s).

B. All portions of existing work, which have been altered in any way during construction operations shall be repaired or replaced in kind and in a manner to match existing or adjoining work, as approved by the Engineer. All work of this nature shall be performed by the Contractor at the Contractor's expense and shall be performed as directed by the Engineer. At the completion of all operations, existing work shall be in a condition equal to or better than that which existed before the new work started.

1.11 SANITATION

A. Adequate sanitary conveniences of a type approved for the use of persons employed on the work shall be constructed, properly secluded from public observation, and maintained by the Contractor in such a manner as required or approved by the Engineer. These conveniences shall be maintained at all times without nuisance. Upon completion of the work, the conveniences shall be removed by the Contractor from the premises, leaving the premises clean and free from nuisance.

1.12 SAFETY

A. Contractor is solely responsible for site safety on all project related matters. Contractor shall comply with all applicable Federal, State and local laws, ordinances, rules and regulations and lawful orders of all authorities having jurisdiction for the safety of persons and protection of property. Dive crews shall be OSHA compliant.

1.13 SECURITY

A. The Contractor shall assume full responsibility for security of all materials and equipment stored on site including those of its subcontractors.

1.14 TEMPORARY UTILITIES AND SERVICES

A. Electric power shall be provided by the Contractor at the project site.

END OF SECTION

SECTION 01152
APPLICATIONS FOR PAYMENT

PART 1 - GENERAL:

1.1 SCHEDULE OF VALUES:

A. Coordinate preparation of the Schedule of Values with the Contractor's Construction Schedule.

B. Correlate line items in the Schedule of Values with other schedules and forms, including:
   1. Application for Payment form.

C. Submit the Schedule of Values to the Engineer at the earliest date, but no later than seven (7) days before the date scheduled for submittal of the initial Application for Payment.

D. The Schedule of Values is subject to approval of the Engineer and the Owner.

1.2 FORM AND CONTENT:

A. Use the Project Manual Table of Contents as a guide to establish the format.
   1. Identification: Include the following:
      a. Project name and location;
      b. Name of the Engineer;
      c. Project Number;
      d. Contractor's name and address;
      e. Date of submittal.

B. Arrange the Schedule in tabular form with columns to indicate the following for each item:
   1. Generic name;
   2. Related Specification Section;
   3. Change Orders (No.) that have affected value;
   4. Dollar value.

C. Break Contract Sum down in enough detail to facilitate evaluation of Applications for Payment. Break subcontract amounts down into several line items. Round amounts off to the nearest dollar; the total shall equal the Contract Sum.

D. For each item where an Application for Payment includes products purchased or fabricated and stored, but not installed, provide separate line items for initial cost, each subsequent stage of completion, and installed value.

E. Each item in the Schedule of Values and Application for Payment shall be complete including total cost and share of overhead and profit.
   1. Temporary facilities and items are not direct cost of Work-in-place may be shown as separate line items or distributed as general overhead expense.

F. Update and resubmit the schedule when Change Orders or Construction Change Directives change the Contract Sum.

1.3 APPLICATIONS FOR PAYMENT:

A. Each Application for Payment shall be consistent with previous applications and payments as certified by the Engineer and paid for by the Owner.

B. Payment Application Times: Payment dates are indicated in the Agreement. The period covered by each application is the period indicated.

C. Payment Application Forms: Use AIA Document G 702 and Continuation Sheets G 703 as the form for the application.

D. Application Preparation: Complete every entry, including notarization and execution by person authorized to sign on behalf of the Owner. Incomplete applications will be returned without action.
   1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions have been made.
   2. Include amounts of approved Change Orders and Construction Change Directives issued prior to the last day of the period covered by the application.
   3. The Contractor is to review Payment items and draft Payment Request with Owner's on-site observer and the Architect/Engineer's field representative before forwarding to the Architect/Engineer.

E. Transmittal: Submit 6 executed copies of each application to the Engineer within twenty-four (24) hours; one copy shall be complete, including waivers of lien and similar attachments.
   1. Transmit each copy with a transmittal listing attachments, and recording information related to the application.

F. Waivers of Lien: With each application, submit waivers of lien from each entity who may file a lien arising out of the Contract, and related to the Work covered by the payment.
   1. Submit partial waivers on each item for amount requested, prior to deduction for retainage, on each item.
   2. When an application shows completion of an item, submit final or full waivers.
   3. Waiver Delays: Submit each application with Contractor's waiver of lien for the period covered by the application.
   4. Submit final Application for Payment with final waivers from every entity involved with performance of Work covered by the application who could be entitled to a lien.
   5. Waiver Forms: Submit lien releases on forms provided by the Owner.

1.4 INITIAL APPLICATION FOR PAYMENT:

A. Administrative actions and submittals that must precede or coincide with submittal of the first Application for Payment include:
   1. List of subcontractors;
   2. List of suppliers and fabricators;
   3. Schedule of Values;
   4. Contractor's Construction Schedule;

5. List of Contractor's staff assignments;
6. Copies of building permits;
7. Copies of licenses from governing authorities;

1.5 APPLICATION FOR PAYMENT AT SUBSTANTIAL COMPLETION:

A. Following issuance of the Certificate of Substantial Completion, submit an Application for Payment. Administrative actions and submittals that precede or coincide with this application include:
   1. Final Site cleaning and restoration;
   2. Warranties and maintenance agreements;
   3. Final Disposal documentation;
   4. Application for reduction of retainage, and consent of surety.

1.6 FINAL PAYMENT APPLICATION:

A. Administrative actions and submittals which must precede or coincide with submittal of the final payment application include:
   1. Completion of Project closeout requirements;
   2. Completion of items specified for completion after Substantial Completion;
   3. Transmittal of required Project construction records to the Owner;
   4. Proof that taxes, fees and similar obligations have been paid.

**********END OF SECTION**********

SECTION 01153
CHANGE ORDER PROCEDURE

PART 1 - GENERAL:

1.1 DESCRIPTION:

A. Work included: Make such changes in the Work, in the Contract Sum, in the Contract Time of Completion, or any combination thereof, as are described in written Change Order signed by the Owner and the Engineer, and issued after execution of the Contract, in accordance with the provisions of this Section.

B. Related Work:
   1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
   2. Changes in the Work are described further in Article 7 of the General Conditions.

1.2 QUALITY ASSURANCE:

A. Include within the Contractor's quality assurance program such measures as are needed to assure familiarity of the Contractor's staff and employees with these procedures for processing Change Order data.

1.3 SUBMITTALS:

A. Make submittals directly to the Engineer at the address shown on the Project Directory in the Project Manual.

B. Submit the number of copies called for under the various items listed in this Section.

1.4 PRODUCT HANDLING:

A. Maintain a "Register of Bulletins and Change Orders" at the job site, accurately reflecting current status of all pertinent data.

B. Make the Register available to the Engineer for review at his request.

1.5 PROCESSING CHANGES INITIATED BY THE OWNER:

A. Should the Owner contemplate making a change in the Work or a change in the Contract Time of Completion, the Engineer will issue a "Bulletin" to the Contractor.
   1. Bulletins will be dated and will be numbered in sequence.
   2. The Bulletin will describe the contemplated change, and will carry one of the following instructions to the Contractor:
      a. Make the described change in the Work at no change in the Contract Sum and no change in the Contract Time of Completion;
      b. Make the described change in the Work, credit or cost for which will be determined in accordance with Paragraph 7.3.3 of the General Conditions;

      c. Promptly advise the Engineer as to credit or cost proposed for the described change. This

is not an authorization to proceed with the change.

B. If the Contractor has been directed by the Engineer to make the described change in the Work at no change in the Contract Sum and no change in the Contract Time of Completion, but the Contractor wishes to make a claim for one or both of such changes, the Contractor shall proceed with the change and shall notify the Engineer, as provided for under Paragraph 7.3.6 of the General Conditions.

C. If the Contractor has been directed by the Engineer to make the described change subject to later determination of cost or credit in accordance with Paragraph 7.3.3 of the General Conditions, the Contractor shall:
   1. Take measures as needed to make the change;
   2. Consult with the Engineer and reach an agreement on the most appropriate method for determining credit or cost for the change.

D. If the Contractor has been directed by the Engineer to promptly advise her/him as to credit or cost proposed for the described change, the Contractor shall:
   1. Analyze the described change and its impact on costs and time;
   2. Secure the required information and forward it to the Engineer for review;
   3. Meet with the Engineer as required to explain costs and, when appropriate, determine other acceptable ways to achieve the desired objective;
   4. Alert pertinent personnel and subcontractors as to the impending change and, to the maximum extent possible, avoid such work as would increase the Owner's cost for making the change, advising the Engineer in writing when such avoidance no longer is practicable.

1.6 PROCESSING CHANGES INITIATED BY THE CONTRACTOR:

A. Should the Contractor discover a discrepancy among the Contract Documents, a concealed condition or other cause for suggesting a change in the Work, a change in the Contract Sum, or a change in the Contract Time of Completion, they shall notify the Engineer as required by pertinent provisions of the Contract Documents.

B. Upon agreement by the Engineer that there is reasonable cause to consider the Contractor's proposed change, the Engineer will issue a Bulletin in accordance with the provisions described in Article 1.5 above.

1.7 PROCESSING BULLETINS:

A. Make written reply to the Engineer in response to each Bulletin.
   1. State proposed change in the Contract Sum, if any.
   2. State proposed change in the Contract Time of Completion, if any.
   3. Clearly describe other changes in the Work required by the proposed change, or desirable therewith, if any.
   4. Include full backup data such as subcontractor's letter of proposal or similar information.
   5. submit this response in single copy.

B. When cost or credit for the change has been agreed upon by the Owner and the Contractor, or

the Owner has directed that cost or credit be determined in accordance with provisions of Paragraph 7.3.3 of the General Conditions, the Engineer will issue a **"Change Order"** to the Contractor.

1.8 PROCESSING CHANGE ORDERS:

A. Change Orders will be dated and will be numbered in sequence.

B. The Change Order will describe the change or changes, will refer to the Bulletin or Bulletins involved, and will be signed by the Owner and the Engineer.

C. Provide the Owner with six signed copies of the Change Order.

D. Should the Contractor disagree with the stipulated change in Contract Sum or change in Contract Time of Completion, or both:
   1. The Contractor promptly shall return three (3) copies of the Change Order, unsigned by him/her, to the Engineer with a letter signed by the Contractor and stating the reason or reasons for the Contractor's disagreement.
   2. The Contractor's disagreement with the Change Order shall not in any way relieve the Contractor of their responsibility to proceed with the change as ordered and to seek settlement of the dispute under pertinent provisions of the Contract Documents.

**************END OF SECTION**************

SECTION 1200
PROJECT MEETINGS

PART 1 - GENERAL:

1.1 DESCRIPTION:

A. Work included: To enable orderly review during progress of the Work, and to provide for systemic discussion of problems, the Engineer will conduct project meetings throughout the construction period.

B. Related Work:
   1. Documents affecting work of this section include, but not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
   2. The Contractor's relations with his subcontractors and materials suppliers, and discussions relative thereto, are the Contractor's responsibility and normally are not part of project meetings content.

1.2 QUALITY ASSURANCE:

A. For those persons designated by the Contractor to attend and participate in project meetings, provide required authority to commit the Contractor to solutions agreed upon in the project meetings.

1.3 SUBMITTALS:

A. Agenda items: To the maximum extent practicable, advise the Engineer at least twenty-four (24) hours in advance of project meetings regarding items to be added to the agenda.

B. Minutes:
   1. The Contractor will compile minutes of each project meeting, and will furnish three copies to the Engineer and required copies to the Owner.
   2. Recipients of copies may make and distribute such other copies as they wish.

PART 2 - PRODUCTS:

(No products are required in this Section)

PART 3 - EXECUTION:

3.1 PROJECT MEETINGS:

A. Attendance:
   1. To the maximum extent practicable, assign the same person or persons to represent the Contractor at project meetings throughout progress of the Work.
   2. The Owner's Representative and the Engineer's Representative shall also be in attendance at these meetings.
   3. Subcontractors, materials suppliers, and others may be invited to attended those project meetings in which their aspect of the Work is involved.

B. Minimum weekly meeting agenda:
   1. Meet weekly
   2. Review, revise as necessary, and approve minutes of previous meetings.
   3. Review progress of the Work since last meeting, including status of submittals for approval. Determine where each activity is in relation to the Contractor's Construction Schedule, whether on time or ahead or behind schedule.
   4. Identify problems which impede planned progress.
   5. Develop corrective measures and procedures to regain planned schedule.
   6. Complete other current business.

C. Revisions to minutes:
   1. Unless published minutes are challenged in writing prior to the next regularly scheduled project meeting, they will be accepted as properly stating the activities and decisions of the meeting.
   2. Persons challenging published minutes shall reproduce and distribute copies of the challenge to all indicated recipients of the particular set of minutes.
   3. Challenge to minutes shall be settled as priority portion of "old business" at the next regularly scheduled meeting.

**********END OF SECTION**********

SECTION 01201
PRECONSTRUCTION CONFERENCE

PART 1.00 - GENERAL

1.01 DESCRIPTION

A. Work included: To help clarify construction contract administration procedures, the Engineer will conduct a Preconstruction Conference prior to start of the Work. Contractor shall provide attendance by the designated personnel.

B. Related work:

1. Documents affecting work of this section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and applicable portions in Division 1 of these Specifications.

1.02 QUALITY ASSURANCE

A. For those persons designated by the Contractor, his subcontractors, and suppliers to attend the Preconstruction Conference, provide required authority to commit the entities they represent of solutions agreed upon in the Conference.

1.03 SUBMITTALS

A. To the maximum extent practicable, advise the Engineer at least 24 hours in advance of the conference as to items to be added to the agenda.

B. The Engineer will compile minutes of the Conference, and will furnish three copies of the minutes to the Contractor and required copies to the Owner. The Contractor may make and distribute such other copies as he wishes.

1.04 PRECONSTRUCTION CONFERENCE

A. The Conference will be scheduled to be held within 15 working days after the Owner has issued the Notice to Proceed, but prior to actual start of the Work.

B. Attendance:

1. Provide attendance by authorized representatives of the Contractor and major subcontractors.
2. The Engineer will advise other interested parities, including the Owner, and request their attendance.

C. Minimum agenda: Data will be distributed and discussed on:

1. Organizational arrangement of the Contractor's forces and personnel, and those of

subcontractors, materials suppliers, and the Engineer;

2. Channels and procedures for communication;
3. Construction schedule, including sequence of critical work;
4. Contract Documents, including distribution of required copies of Drawings and revisions;
5. Processing of Shop Drawings and other data submitted to the Engineer for review;
6. Processing of field decisions and Change Orders;
7. Rules and regulations governing performance of the Work; and
8. Procedures for safety and first aid, security, quality control, housekeeping, and related matters.

END OF SECTION

SECTION 01310
ABATEMENT AND DEMOLITION SCHEDULES

PART 1.00 - GENERAL

1.01 DESCRIPTION

A. Work included: To assure adequate planning and execution of the Work so that the Work is completed within the number of calendar days allowed in the Contract, and to assist the Engineer in appraising the reasonableness of the proposed schedule and in evaluating progress of the Work, prepare and maintain the schedule and reports described in this Section.

B. Related work:
   1. Documents affecting work of this section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and applicable portions in Division 1 of these Specifications.
   2. Requirements for progress schedule: General Conditions.
   3. Abatement and demolition period: Form of Agreement.

C. Definitions:

   1. "Day," as used throughout the Contract unless otherwise stated, means "calendar day."

1.02 QUALITY ASSURANCE

A. Employ a scheduler who is thoroughly trained and experienced in compiling construction data, and in preparing and issuing reports as required below.

B. Perform data preparation, analysis, charting, and updating in accordance with standards approved by the Engineer.

D. Reliance upon the approved schedule:
   1. The construction schedule as approved by the Engineer will be an integral part of the Contract and will establish interim completion dates for the various activities under the Contract.
   2. Should any activity not be completed within 15 days after the stated scheduled date, the Owner shall have the right to require the Contractor to expedite completion of the activity by whatever means the Owner deems appropriate and necessary, without additional compensation to the Contractor.
   3. Should any activity be 30 days or more behind schedule, the Owner shall have the right to perform the activity or have the activity performed by whatever method the Owner deems appropriate.
   4. Costs incurred by the Owner and by the Engineer in connection with expediting abatement and demolition activity under this Article shall be reimbursed by the Contractor.
   5. It is expressly understood and agreed that failure by the Owner to exercise the option either to order the Contractor to expedite an activity or to expedite the activity by other

means shall not be considered to set a precedent for any other activities.

1.03 SUBMITTALS

A. Preliminary analysis: Within ten (10) calendar days after the Contractor has received the Owner's Notice to Proceed, submit one reproducible copy and four prints of a preliminary construction schedule prepared in accordance with Part 3, “Execution”, of this Section.

B. Construction schedule: Within 30 calendar days after the Contractor has received the Owner's Notice to Proceed, submit one reproducible copy and four prints of a construction schedule prepared in accordance with Part 3, “Execution”, of this Section.

C. Periodic reports: On the first working day of each month following the submittal described in Paragraph 1.03-B, “Construction schedule”, above, submit four prints of the construction schedule updated as described in Part 3, “Execution”, of this Section.

PART 2 - PRODUCTS

2.01 ABATEMENT AND DEMOLITION ANALYSIS

A. Graphically show by bar-chart the order and interdependence of all activities necessary to complete the Work, and the sequence in which each activity is to be accomplished, as planned by the Contractor and his project field superintendent in coordination with all subcontractors whose work is shown on the diagram.

B. Include, but not necessarily limit indicated activities to:
   1. Project mobilization;
   2. Submittal and approval of Shop Drawings and Samples;
   3. Procurement of equipment and critical materials:
   4. Fabrication of special material and equipment, and its installation and testing.
   5. Final cleanup;
   6. Final inspecting and testing; and
   7. All activities by the Engineer that effect progress, required dates for completion, or both, for all and each part of the Work.

PART 3.00 - EXECUTION

3.01 PRELIMINARY ANALYSIS

A. Contents:
   1. Show all activities of the Contractor under this Work for the period between receipt of the Notice to Proceed and submittal of construction schedule required under Paragraph 1.03-B,”Construction schedule”, above;
   2. Show the Contractor's general approach to remainder of the Work;
   3. Show cost of all activities scheduled for performance before submittal and approval of

the abatement and demolition schedule.

B. Submit in accordance with Paragraph 1.03-B," Construction schedule", above.

3.02 ABATEMENT AND DEMOLITION SCHEDULE

A. Start the Work once the Owner has given the Notice to Proceed and be completed within 2 months from the start of construction.

B. As soon as practicable after receipt of a purchase order, complete the abatement and demolition analysis in preliminary form, meet with the Engineer, review contents of the proposed abatement and demolition schedule, and make all revisions agreed upon.

3.03 PERIODIC REPORTS

A. As required under Paragraph 1.03-C, "Periodic reports", above, update the approved abatement and demolition schedule.

1. Indicate "actual" progress in percent completion for each activity;
2. Provide written narrative summary of revisions causing delay in the program, and an explanation of corrective actions taken or proposed.

3.04 REVISIONS

A. Make only those revisions to approved construction schedule as are approved in advance by the Engineer.

END OF SECTION

SECTION 01340
SUBMITTALS AND SUBSTITUTIONS

PART 1 - GENERAL:

1.1 DESCRIPTION:

A. Work included: Make submittals required by the Contract Documents, and revise and resubmit as necessary to establish compliance with the specified requirements.

B. Related Work:
   1. Documents affecting work of this section include, but not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
   2. Individual requirements for submittals also may be described in pertinent Sections of these Specifications.

C. Work not included:
   1. Non-required submittals will not be reviewed by the Architect/Engineer.
   2. The Contractor may require her/his subcontractors to provide drawings, setting diagrams, and similar information to help coordinate the Work, but such data shall remain between the Contractor and her/his subcontractors and will not be reviewed by the Architect/Engineer.

1.2 QUALITY ASSURANCE:

A. Coordination of submittals:
   1. Prior to each submittal, carefully review and coordinate all aspects of each item being submitted.
   2. Verify that each item and the submittal for it conform in all respects with the specified requirements.
   3. By affixing the Contractor's signature to each submittal, certify that her/his coordination has been performed.

B. Substitutions:
   1. See “Division of Purchases Instruction to Bidders, Public Works Construction.”

C. "Or equal":
   1. Where the phrase "or equal," or "or equal as approved by the Architect/Engineer," occurs in the Contract Documents, do not assume that the materials, equipment, or methods will be approved as equal unless the item has been specifically so approved for this Work by the Architect/Engineer.

   2. The decision of the Architect/Engineer on the technical merits of a submittal or substitution shall be final.

1.3 SUBMITTALS:

A. Make submittals of Shop Drawings, Samples, substitution requests, and other items in accordance with the provisions of this Section.

PART 2 - PRODUCTS:

2.1 SHOP DRAWINGS:

A. Scale and measurements: Make Shop Drawings accurately to a scale sufficiently large to show all pertinent aspects of the item and its method of connection to the Work.

B. Submit electronic copies in PDF format.
   1. Shop drawings may be blue-line or black-line
   2. Blueprints will not be acceptable.

C. Review comments of the Architect/Engineer will be shown on the shop drawing when it is returned to the Contractor. The Contractor may make and distribute such copies as are required for her/his purposes.

2.2 MANUFACTURERS' LITERATURE:

A. Where contents of submitted literature from manufacturers includes data not pertinent to the submittal, clearly show which portions of the contents are being submitted for review.

B. Submit the number of copies which are required to be returned, plus one copy which will be retained by the Architect/Engineer.

2.3 SAMPLES:

A. Provide Sample or Samples identical to the precise article proposed to be provided. Identify as described under "Identification of submittals" below.

B. Number of Samples required:
   1. Unless otherwise specified, submit Samples in the quantity which is required to be returned, plus one which will be retained by the Architect/Engineer.
   2. By prearrangement in specified cases, a single Sample may be submitted for review and, when approved, be installed in the Work at a location agreed upon by the Architect/Engineer.

PART 3 - EXECUTION:

3.1 IDENTIFICATION OF SUBMITTALS:

A. Consecutively number all submittals.
   1. When material is resubmitted for any reason, transmit under a new letter of transmittal and with a new submittal number.
   2. On resubmittals, cite the original submittal number for reference.

B. Accompany each submittal with a letter of transmittal showing all information required for identification and checking.

C. On at least the first page of each submittal, and elsewhere as required for positive identification,

show the submittal number in which the item was included.

D. Maintain an accurate submittal log for the duration of the Work, showing current status of all submittals at all times. Make the submittal log available to the Architect/Engineer for her/his review upon request.

3.2 GROUPING OF SUBMITTALS:

A. Unless otherwise specified, make submittals in groups containing all associated items to assure that information is available for checking each item when it is received.
   1. Partial submittals may be rejected as not complying with the provisions of the Contract.
   2. The Contractor may be held liable for delays so occasioned.

3.3 TIMING OF SUBMITTALS:

A. Make submittals far enough in advance for scheduled dates for installation to provide time required for reviews, for securing necessary approvals, for possible revisions and re submittals, and for placing orders and securing delivery.

B. In scheduling, allow at least ten (10) working days for review by the Architect/Engineer following her/his receipt of the submittal.

3.4 ARCHITECT/ENGINEER'S REVIEW:

A. Review by the Architect/Engineer does not relieve the Contractor from responsibility for errors which may exist in the submitted data.

B Revisions:
   1. Make revisions required by the Architect/Engineer.
   2. If the Contractor considers any required revision to be a change, they shall so notify the Architect/Engineer as provided for in Paragraph 12.3 of the General Conditions.
   3. Make only those revisions directed or approved by the Architect/Engineer.

**********END OF SECTION **********

SECTION 01370
SCHEDULE OF VALUES

PART 1.00 - GENERAL

1.01 DESCRIPTION

A. Work included: Provide a detailed breakdown of the agreed contract sum showing values allocated to each of the various parts of the Work, as specified herein and in other provisions of the Contract Documents.

B. Related work:

1. Documents affecting work of the Section include, but are not necessarily limited to General Conditions, Supplementary Conditions, and applicable portions in Division 1 of these Specifications.
2. Schedule of values is required under Paragraph 9.2 of the General Conditions and Supplementary Conditions.
3. Schedule of values is required to be compatible with the "continuation sheet" accompanying applications for payment, as described in Section 01152, “Application for Payment”.

1.02 QUALITY ASSURANCE

A. Use required means to assure arithmetical accuracy of the sums described.

B. When so required by the Engineer, provide copies of the subcontracts or other data acceptable to the Engineer.

1.03 SUBMITTALS

A. Prior to first application for payment, submit a proposed schedule of values to the Engineer.

1. Meet with the Engineer and determine additional data, if any, required to be submitted.
2. Secure the Engineer's approval of the schedule of values prior to submitting first application for payment.

END OF SECTION

SECTION 01410
TESTING LABORATORY SERVICES (Contractor Pays)

PART 1 - GENERAL:

1.1 DESCRIPTION:

A. Work included: Provide testing and inspecting, complete, as described in this Section and elsewhere in the Contract Documents.

B. Related work:
   1. Documents affecting work of this section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
   2. Requirements for testing may be described in various Sections of these Specifications.

1.2 QUALITY ASSURANCE:

A. Provide the services of a testing laboratory approved by the Engineer.

B. Upon completion of each test and/or inspection, promptly distribute copies of test or inspection reports to the Engineer, to governmental agencies requiring submission of such reports, and to such other persons as directed by the Engineer.

PART 2 - PRODUCTS:

2.1 PAYMENT FOR TESTING:

A. Include within the Contract Sum an amount sufficient to cover all testing and inspecting required under this Section of these Specifications, and to cover all testing and inspecting required by governmental agencies having jurisdiction.

B. The Owner will pay for all testing and inspecting specifically requested by the Engineer over and above those described in Paragraph 2.1-A above.

C. When initial tests requested by the Engineer indicate non-compliance with the Contract Documents, costs of initial tests associated with that non-compliance will be deducted by the Owner form the Contract Sum, and subsequent retesting occasioned by the non-compliance shall be performed by the same testing laboratory and the costs thereof shall be paid by the Contractor.

2.2 TESTS AND INSPECTIONS:

A. Provide all tests and inspections in accordance with:
   1. all governmental agencies having jurisdiction;
   2. provisions of the Contract Documents.

PART 3 - EXECUTION:

3.1 TAKING SPECIMENS:

A. All specimens shall be secured and handled in strict accordance with the Rules and Regulations for Asbestos Control (R23-24.5-ASB), January 1996 as amended; by experienced individuals duly certified by the Rhode Island Department of Health.

B. Make and distribute necessary reports and certificates.

3.2 WAIVER OF INSPECTION AND/OR TESTS:

A. Specified inspections and/or tests may be waived only by the specific approval of the Engineer, such waivers will be expected to result in credit to the Owner equal to normal cost of such inspection and/or test.

**************END OF SECTION**************

SECTION 01500
TEMPORARY FACILITIES AND CONTROLS

PART 1.00 - GENERAL

1.01 RELATED DOCUMENTS

A. The General Conditions and applicable portions of Division 1 of the specifications are a part of this section, which shall consist of all labor, equipment and materials necessary to complete all quality control work indicated and herein specified.

1.02 ACCESS

A. Block public access to the site for the prosecution of the work.

B. Provide all necessary scaffolding, platforms, ladders, ramps, chutes, temporary stairs, and all other access items. Maintain in a safe condition throughout the demolition process.

1.03 HOISTING FACILITIES

A. Provide hoisting facilities as required for the vertical movement of all materials.

B. Comply with OSHA and other governing codes for all hoists, conveyors, and elevators and maintain the facilities in compliance with the law.

1.04 GUARDRAILS, DECK AND OTHER OPENINGS

A. Provide guardrails, barricades, handrails, and covers for decks, and other openings.

1.05 TRASH

A. Provide sufficient trash receptacles.

B. Remove all debris from the job site on a regular basis. Do not allow trash and debris to accumulate or remain on site for longer than 48 hours.

1.06 SANITATION FACILITIES

A. The Contractor shall provide temporary toilets on site for use by workmen and all temporary facilities shall be maintained in a clean and sanitary fashion.

B. The Contractor shall clean, polish, touchup, and renew all areas effected, at the completion of the Work, and this item shall be a punch list item for this Contract.

1.07 OTHER TEMPORARY FACILITIES AND CONTROLS

A. Protection of Work-In-Place:

1. Thoroughly protect all completed work and all stored materials.
2. Provide weather protection as necessary.
3. Provide boards, cloths, planks, waterproof paper, canvas or other approved protection and use as necessary to prevent any damage.
4. Replace or rectify work or materials damaged by workers, by the elements or by any other cause, to the satisfaction of the Engineer and at no additional expense to the Owner.

1.08 REMOVAL OF TEMPORARY FACILITIES

A. Remove all items indicated above, and other construction of a temporary nature, from the site as soon as the progress of the work will permit.

B. Recondition the portions of the site so occupied and restore to conditions acceptable to the Engineer.

END OF SECTION

SECTION 01640
PRODUCT HANDLING

PART 1 - GENERAL:

1.1 DESCRIPTION:

A. Work included: Protect products scheduled for use in the Work by means including, but not necessarily limited to, those described in this Section.

B. Related Work:
   1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, and Sections in Division 1 of these Specifications.
   2. Additional procedures also may be prescribed in other Sections of these Specifications.

1.2 QUALITY ASSURANCE:

A. Include within the Contractor's quality assurance program such procedures as are required to assure full protection of work and materials.

1.3 MANUFACTURERS' RECOMMENDATIONS:

A. Except as otherwise approved by the Engineer, determine and comply with manufactures' recommendations on product handling, storage, and protection.

1.4 PACKAGING:

A. Deliver products to the job site in their manufacturer's original container, with labels intact and legible.
   1. Maintain packaged materials with seals unbroken and labels intact until time of use.
   2. Promptly remove damaged material and unsuitable items for the job site, and promptly replace with material meeting the specified requirements, at no additional cost to the Owner.

B. The Engineer may reject as non-complying such material and products that do not bear identification satisfactory to the Architect/Engineer as to manufacturer, grade quality, and other pertinent information.

1.5 PROTECTION:

A. Maintain finished surfaces clean, unmarred, and suitably protected until accepted by the Owner.

1.6 REPAIRS AND REPLACEMENTS:

A. In the event of damage, promptly make replacements and repairs to the approval of the Architect/Engineer and at no additional cost to the Owner.

B. Additional time required to secure replacements and to make repairs will not be considered by the Architect/Engineer to justify an extension in the Contract Time of Completion.

**********END OF SECTION**********

SECTION 01700
CONTRACT CLOSEOUT

PART 1.00 – GENERAL

1.01 DESCRIPTION

A. Work included: Provide an orderly and efficient transfer of the completed Work to the Owner.

B. Related Work:

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and applicable portions in Division 1 of these Specifications.
2. "Substantial Completion" is defined in Paragraph 9.8.1 of the General Conditions.

1.02 QUALITY ASSURANCE

A. Prior to requesting inspection by the Engineer, use adequate means to assure that the Work is completed in accordance with the specified requirements and is ready for the requested inspection.

1.03 PROCEDURES

A. Substantial Completion: Refer to Section 9.8 of the General Conditions.

B. Final Completion:

1. Prepare and submit the notice required by the first sentence of Paragraph 9.10.1 of the General Conditions.
2. Verify that the Work is complete including, but not necessarily limited to, the items mentioned in Paragraph 9.10.2 of the General Conditions.
3. Certify that:
   a. Contract Documents have been reviewed;
   b. Work has been inspected for compliance with the Contract Documents;
   c. Work has been completed in accordance with the Contract Documents;
   d. Work is completed and ready for final inspection.
4. The Engineer will make an inspection to verify status of completion.
5. Should the Engineer determine that the Work is incomplete or defective:
   a. The Engineer promptly will so notify the Contractor, in writing, listing the incomplete or defective work.
   b. Remedy the deficiencies promptly, and notify the Engineer when ready for reinspection.

6. When the Engineer determines that the Work is acceptable under the Contract Documents, she/he will request the Contractor to make closeout submittals.

C. Closeout submittals include, but are not necessarily limited to:

1. Warranties and bonds;
3. Evidence of compliance with requirements of governmental agencies having jurisdiction including, but not necessarily limited to:
   a. Manifests, Receipts of Disposal, “Tipping” invoices/weight slips.;
   b. Certificates of Inspection;
   b. Certificates of Occupancy;
4. Certificates of Insurance for products and completed operations;
5. Evidence of payment and release of liens;
6. List of subcontractors, service organizations, and principal vendors, including names, addresses, and telephone numbers where they can be reached for emergency service at all times including nights, weekends, and holidays.

D. Final adjustment of accounts:

1. Submit a final statement of accounting to the Engineer, showing all adjustments to the Contract Sum.
2. If so required, the Engineer will prepare a final Change Order showing adjustments to the Contract Sum which were not made previously by Change Orders.

END OF SECTION

SECTION 01710
CLEANING

PART 1.00 - GENERAL

1.01 DESCRIPTION

A. Work included: Throughout the construction period, maintain the buildings and site in a standard of cleanliness as described in this Section.

B. Related Work:

1. Documents affecting work of this applicable portion include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and applicable portions Division 1 of these Specifications.
2. In addition to standards described in this Section, comply with requirements for cleaning as described in pertinent other Section of these Specifications.

1.02 QUALITY ASSURANCE

A. Conduct daily inspection, and more often if necessary, to verify that requirements for cleanliness are being meet.

B. In addition to the standards described in this Section, comply with pertinent requirements agencies having jurisdiction.

PART 2.00 - PRODUCTS

2.01 CLEANING MATERIALS AND EQUIPMENT

A. Provide required personnel, equipment, and materials needed to maintain the specified standard of cleanliness.

2.02 COMPATIBILITY

A. Use only the cleaning materials and equipment which are compatible with the surface being cleaned, as recommended by the manufacturer of the material.

PART 3.00 - EXECUTION

3.01 PROGRESS CLEANING

A. General:

1. Retain stored items in an orderly arrangement allowing maximum access, not impeding

traffic or damage, and providing required protection of materials.

2. Do not allow accumulation of scrap, debris, waste material, and other items not required for construction of this Work.
3. At least twice each month, and more often if necessary, completely remove all scrap, debris, and waste material from the job site.
4. Provide adequate storage for all items awaiting removal from the job site, observing requirements for fire protection and protection of the ecology.

B. Site:

1. Daily, and more often if necessary, inspect the site and pick up all scrap, debris, and waste material. Remove such items to the place designated for their storage.
2. Weekly, and more often if necessary, inspect all arrangements of materials stored on the site. Restack, tidy, or otherwise service arrangements to meet the requirements of subparagraph 3.01-A-1 above.
3. Maintain the site in a neat and orderly condition at all times.

C. Structures:

1. Weekly, and more often if necessary, inspect the site and pick up all scrap, debris, and waste material. Remove such items to the place designated for their storage.
2. As required preparatory to installation of succeeding materials, clean the structures or pertinent portions thereof to the degree of cleanliness recommended by the manufacturer of the succeeding material, using equipment and materials required to achieve the necessary cleanliness.

3.02 FINAL CLEANING

A. "Clean," for the purposed of this Article, and except as may be specifically provided otherwise, shall be interpreted as meaning the level of cleanliness generally provided by skilled cleaners using commercial quality building maintenance equipment and materials.

B. Prior to completion of the Work, remove from the job site all tools, surplus materials, equipment, scrap, debris, and waste. Conduct final progress cleaning as described in Article 3.01 above.

C. Site:

1. Unless otherwise specifically directed by the Engineer, broom clean paved areas on the site and public paved areas adjacent to the site.
2. Completely remove resultant debris.

D. Schedule final cleaning as approved by the Engineer to enable the Owner to accept a completely clean Work.

3.03 CLEANING DURING OWNER'S OCCUPANCY

A. Should the Owner occupy the Work or any portion thereof prior to its completion by the Contractor and acceptance by the Owner, responsibilities for interim and final cleaning shall be as determined by the Engineer in accordance with the General Conditions of the Contract.

END OF SECTION

SECTION 02060
BUILDING DEMOLITION

PART 1 - GENERAL:

1.1 DESCRIPTION:

A. Work included: Carefully demolish and remove from the site those items scheduled to be so indicated on the Drawings.

B. Related work:
   1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
   2. Comply with pertinent provisions of Section 02065: Handling and Disposal of Regulated Wastes.
   3. Comply with pertinent provisions of Section 02220: Excavating, Backfilling, and Compacting.

1.2 QUALITY ASSURANCE:

A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

1.3 PRODUCT HANDLING:

A. Comply with pertinent provisions of Section 01640: Product Handling.

PART 2 - PRODUCTS:

(NO PRODUCTS ARE REQUIRED IN THIS SECTION)

PART 3 - EXECUTION:

3.1 SURFACE CONDITIONS:

A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 DEMOLITION:

A. General:
   1. Prior to start of demolition, carefully study the Drawings and these Specifications.
   2. In company with the Engineer, visit the site and verify the extent of demolition to be performed under this Contract.

B. Using only the means and equipment approved for this purpose by the governmental agencies having jurisdiction, demolish and completely remove from the job site the existing construction designated to removed.
   1. Shut off, cap, and otherwise protect existing public utility lines in accordance with the requirements of the public agency or utility having jurisdiction.
   2. Remove rocks larger than 6" diameter, roots, and debris.

C. Demolished material shall be considered property of the Contractor and shall be completely

removed from the job site.

D. Use means necessary to prevent dust becoming a nuisance to the public, to neighbors, and to other work being performed on or near the site.
   1. Comply with pertinent provisions of Section 02061: Fugitive Dust.

**************END OF SECTION**************

SECTION 02061
FUGITIVE DUST

Fugitive Dust

Applicability

This regulation shall apply, but not be limited to, the generation of airborne particulate matter from the following activities:

(1) The demolition, construction or renovation of buildings, bridges or other structures;

(2) Material stockpiles, including solid waste management facilities, and earth moving activities, including the clearing of land and other operations which cause airborne particulate matter;

(3) Stationary sources, as defined in the Air Pollution Control Regulations, whose activities involve the handling of materials which cause airborne particulate matter;

(4) Exterior surface preparation/resurfacing operations conducted on buildings, bridges, or other structures that are not regulated by the requirements of Air Pollution Control Regulation No. 24 entitled, "Removal of Lead Based Paint from Exterior Surfaces", as well as surface preparation/resurfacing operations conducted on vehicles, vessels, or any other surfaces which cause airborne particulate matter;

(5) Vehicles transporting materials which cause airborne particulate matter;

(6) Paved roads onto which earth or other material has been deposited by trucking or earth-moving equipment, by erosion by water, by the sanding and/or salting of roadways, or by other means;

(7) Commercial mining and/or quarrying operations including the construction, maintenance, and operation of a commercial mining and/or quarrying facility, as well as activities which involve the use of explosive materials which cause airborne particulate matter; and

(8) Any other activities or operations which the Director may determine causes airborne particulate matter.

5.2 Requirements

No person shall cause or permit any materials, including but not limited to sand, gravel, soil, aggregate and any other organic or inorganic solid matter capable of releasing dust, to be handled, transported, mined, quarried, stored or otherwise utilized in any way so as to cause airborne particulate matter to travel beyond the property line of the emission source without taking adequate precautions to prevent particulate matter from becoming airborne. Such precautions shall be in accordance with good industrial practice as determined by the Director and/or shall be other reasonable fugitive dust prevention measures as determined by the Director.

SECTION 01045
CUTTING AND PATCHING

PART 1 - GENERAL:

1.1 DESCRIPTION:

A. Work included: This section establishes general requirements pertaining to cutting (including excavating), fitting, and patching of the Work required to:
   1. Make the several parts fit properly;
   2. Uncover work to provide for installing, inspecting, or both, of ill-timed work;
   3. Remove and replace work not conforming to requirements of the Contract Documents;
   4. Remove and replace defective work;
   5. Fitting of new work to existing work to remain;

B. Related work:
   1. Documents affecting work of this section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
   2. In addition to other requirements specified, upon the Engineer's request uncover work to provide for inspection by the Engineer of covered work, and remove samples of installed materials for testing.
   3. Do not cut or alter work performed under separate contracts without the Engineer's written permission.

1.2 QUALITY ASSURANCE:

A. Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this section.

1.3 SUBMITTALS:

A. Request for Engineer's consent:
   1. Prior to cutting which effects structural safety, submit written request to the Engineer for permission to proceed with cutting.
   2. Should conditions of the Work, or schedule, indicate a required change of materials or methods for cutting and patching, so notify the Engineer and secure his/her written permission and the required Change Order prior to proceeding.

B. Notices to the Engineer:
   1. Submit written notice to the Engineer designating the time the Work will be uncovered, to provide for the Engineer's observation.

PART 2 - PRODUCTS:

2.1 MATERIALS:

A. For replacement of items removed, use materials complying with pertinent sections of these specifications.

2.2 PAYMENT FOR COSTS:

A. Perform cutting and patching needed to comply with the Contract Documents at no additional cost to the Owner.

PART 3 - EXECUTION:

3.1 SURFACE CONDITIONS:

A. Inspection:
   1. Inspect existing condition, including elements subject to movement or damage during cutting, excavating, patching, and backfilling.
   2. After uncovering the work, inspect conditions affecting installation of new work.

B. Discrepancies:
   1. If uncovered conditions are not as anticipated, immediately notify the Engineer and secure needed directions.
   2. Do not proceed until unsatisfactory conditions are corrected.

3.2 PREPARATION PRIOR TO CUTTING:

A. Provide required protection including, but not necessarily limited to, shoring, bracing, and support to maintain structural integrity of the Work.

3.3 PERFORMANCE:

A. Perform required excavating and backfilling as required under pertinent other sections of these Specifications.
   1. Perform cutting and demolition by methods which will prevent damage to other portions of the Work and provide proper surfaces to receive installation of repair and new work.
   2. Perform fitting and adjusting of products to provide finished installation complying with the specified tolerances and finishes.

**************END OF SECTION**************

PART 1 - GENERAL

1.1 DESCRIPTION:

A. This section specifies requirements for removing handling, storing, transporting, and ultimate disposal of all Asbestos Containing Materials (ACM); light fixture ballasts and fluorescent lamps (FLB); Lead Based Paint (LBP) coated Construction and Demolition Debris (C&D); and Above Ground Storage Tank (AST).

B. The information regarding light fixture ballasts, fluorescent lamps, mercury is not all-inclusive and shall not be considered as a complete and accurate inventory.

C. The Contractor shall provide labor, materials, equipment and insurance to complete the work specified in this Section including, but not limited to, the removal and lawful disposal of:

1. Hazardous Materials and Hazardous Waste
2. Universal Waste
3. Hard to Dispose of Waste
4. Lead Based Paint Waste
5. Construction and Demolition Waste
6. Commercial Solid Waste

D. Work shall be performed in accordance with this specification, all referenced documents included as part of this specification, and with all Federal, state and local regulations. Wherever there is a conflict or overlap of requirements, the most stringent provisions will apply.

Generally, the management of miscellaneous hazardous materials shall include, but not be limited to:

1. Characterization (any testing that may be required by the off-site materials management facility), removal, and disposal of hazardous materials or potentially hazardous materials.

2. Characterization (any testing that may be required by the off-site materials management facility), removal, and disposal of contained gear oils, hydraulic oils and refrigeration liquids, etc. from various pieces of machinery and equipment, throughout [project site].

3. Characterization (any testing that may be required by the off-site materials management facility), removal, and disposal of all containers, drums, and unknown materials throughout [project site].

4. Characterization (any testing that may be required by the off-site materials management facility), removal, and disposal of loose paint chips and flaking and peeling paint from walls and floors throughout [project site].
5. File all necessary notices, obtain all permits and licenses, and pay all

governmental taxes, fees, and other costs in connection with the work. Obtain all necessary approvals of all governmental departments having jurisdiction. The Contractor shall deliver a copy of all permits, approvals and notifications to the Harvard Project Manager at least 5 days before beginning the work.

6. Perform all sampling and testing required to properly profile the material for waste reuse, recycling or disposal. This shall also include all testing required by the recycling or disposal facility.

7. All costs for the testing shall be borne by the Contractor.

8. Comply with the Contractor's submitted Health and Safety Plan.

1.2 RELATED WORK

A. Section 02060 – BUILDING DEMOLITION

B. Section 02220 – EXCAVATING, BACKFILLING, AND COMPACTION

1.3 QUALITY ASSURANCE

A. Examination of Existing Conditions: The Contractor shall examine the Contract Drawings and Specifications for hazardous waste identification, handling, removal, and disposal requirements and provisions for the work.

B. Hazardous Waste Removal and Transportation Firm Qualifications: An experienced firm that has specialized in hazardous waste work similar in material and extent to that indicated for this Project.

C. Regulatory Requirements: Comply with governing USEPA and RIDEM notification regulations before beginning removal of any hazardous waste materials. Comply with hauling and disposal regulations of authorities having jurisdiction.

1.4 PERMITTING

A. The use and disposal of hazardous materials (broken fluorescent lamps, leaking or PCB ballasts) is highly regulated and compliance with all requirements set forth by authorities having jurisdiction is an essential condition of the Work. The Contractor shall be fully aware of all such requirements and ensure that all regulatory conditions are met, including those required of any Sub- contractors.

B. The Contractor is responsible for ensuring that all personnel performing work under this section shall be properly trained in accordance with all Federal, state and local regulations. The Contractor is required to provide proof of training and licensing of any and all employees completing the work of this

section at least 5 days prior to the start of Work.

1.5 SUBMITTALS

A. The Contractor shall submit items according to the Conditions of the Contract and Section 01340 - SUBMITTAL REQUIREMENTS,

B. The Contractor shall submit a Waste Management Plan. The Plan shall identify the proposed waste hauler and off-site waste management facility with copies of all applicable licenses, registrations and approvals.

C. After completion of the hazardous materials removal, the Contractor shall provide a final report documenting removal, transportation and recycling, treatment, disposal, or incineration activities. The document shall include copies of manifests, shipping slips, permits, and licenses for this Project.

PART 2 – PRODUCTS

2.1 PROTECTIVE EQUIPMENT

A. Provide health and safety equipment required to protect workers and to comply with the Health and Safety Plan and OSHA requirements.

2.2 DISPOSAL CONTAINERS

A. Provide disposal bags, drums, and miscellaneous containers necessary to perform the Work.

2.3 LABELS

A. Provide DOT Hazardous Waste Labels and USEPA 40 CFR 273.14 Universal Waste Labeling as required.

PART 3 – EXECUTION

3.1 GENERAL WORK AREA SET UP

A. Signage: Prior to the preparation for work that will disturb hazardous materials; the Contractor shall place warning signs immediately outside all entrances and exits to the area.

B. Access to Work Areas: The Contractor shall allow only authorized personnel into the work area. Barrier tape shall be used to limit access to the exterior work area.

3.2 GENERAL HAZARDOUS MATERIALS/HAZARDOUS WASTE MANAGEMENT

A. Do not mix potentially hazardous waste streams. Where feasible, separate each type of hazardous waste from other types of hazardous wastes, from asbestos waste and from construction debris.

B. Segregate, package, label, transport and dispose of Hazardous Materials/Hazardous Waste in accordance with DOT, USEPA, State and local regulations.

C. The Engineer shall identify materials considered to be a listed or characteristic hazardous waste prior to initiating this project. A schedule of materials that must be managed as hazardous waste is attached as an Appendix to this specification.

3.3 HANDLING AND DISPOSAL OF FLUORESCENT LAMPS & MERCURY THERMOSTATS

A. The Contractor is responsible for removing all fluorescent lamps from fixtures, intact, prior to demolition. Fluorescent lamps shall be recycled and managed in accordance with the Universal Waste Management Standards (310 CMR 30.1034). If fluorescent lamps become broken or damaged during removal and/or handling, broken lamps shall be managed as hazardous waste as specified below.

B. The Contractor shall manage intact fluorescent lamps in the following manner:

1. Do not break or crush spent lamps or batteries or damage them in any way.
2. Store intact lamps in a secure area(s) protected from physical damage. Storage area(s) should be identified within an easily read sign stating “Universal Waste Area - Spent Fluorescent Lamps” as appropriate.
3. Store lamps and in packaging or containers that are designed to minimize breakage/damage during both storage and shipping. Label containers as “Universal Waste – Spent Fluorescent Lamps” as appropriate and mark each container with the date on which you first began storing the waste.

3.4 HAZARDOUS MATERIALS/CONTAINERIZED WASTE

A. All hazardous materials shall be characterized and disposed of in accordance with applicable federal, state, and local regulations. Hazardous waste manifests shall be completed for all off-site waste management.

B. Workers who handle hazardous materials shall be licensed and trained in safe and proper hazardous materials handling procedures.

C. Handling Hazardous Waste

1. The Contractor shall place waste in DOT approved containers and label the containers for transport to a licensed disposal site.

2. The Contractor shall use an authorized hazardous waste transporter to haul waste to a hazardous waste facility.

3. The Contractor is responsible to prepare, maintain and track all record keeping, chain-of-custody and reporting requirements including a copy of the hazardous waste manifest.

4. The Contractor shall provide legal transportation of the waste to the recycling, disposal, treatment, or incineration facility, and complete or obtain all required licenses, manifests, receiving facility waste profiles, or other forms. Copies of all forms or licenses, and the signed original of the Waste Manifest for each waste load, shall be given to the Engineer.

3.5 LEAD-BASED PAINT

A. Lead-based paint may be present on many surfaces throughout the building. The Contractor shall assume that all painted surfaces contain lead-based paint. Any of the Contractor activities that may generate leaded dust or impact a leaded surface shall be responsible for regulating his/her work area so that dust migration is contained properly within the regulated area. Once the work is complete, the Contractor shall be responsible for the proper clean up and disposal of leaded dust and materials.

B. All lead based paint work must be reflected in the lump sum bid of this contract and be performed in accordance with Section 02060 – BUILDING DEMOLITION.

C. In areas where lead based paint is co-mingled with ceiling and wall plaster materials, Contractor shall dispose of co-mingled materials as hazardous waste.

D. The Contractor shall make every effort to segregate lead-based paint and asbestos debris. In areas where lead based paint is co-mingled with asbestos debris, the Contractor shall remove paint chips from asbestos debris to the extent feasible, and dispose the material as asbestos waste. Paint chips shall be tested and disposed as a solid or hazardous waste, dependent upon the test results. The Contractor shall provide the Engineer with the analytical test results.

E. All painted or coated building components shall be disposed of off-site, including brick and concrete as solid waste debris, unless determined to be a hazardous waste as described below.

F. All visible paint and painted debris shall be removed from the ground within and surrounding the work site prior to building demolition. All material shall be properly disposed of off-site.

G. Lead-containing material, including painted or coated building debris (i.e. windows, doors, sashes, etc.) that exceeds the TCLP criteria shall be disposed

in accordance with applicable Federal and State Hazardous Waste Regulations.

3.6 TRANSPORTATION OF HAZARDOUS WASTES

A. The Contractor shall continuously maintain custody of all hazardous waste materials generated at the work site. Provide security, short-term storage, transportation and disposition until custody is transferred to an approved properly permitted treatment, storage, disposal or site or recycling center. Document continuous chain-of custody.

B. Do not remove, or cause to be removed, hazardous waste from Harvard's property without a legally executed Uniform Hazardous Waste manifest.

C. All haulers shall be properly licensed to transport hazardous waste. Costs incurred as a result of a spill and the required cleanup process shall be borne by the Contractor.

3.7 DISPOSAL OF HAZARDOUS WASTE

A. The Contractor is responsible for completing all disposal documents, which may include, but are not limited to, waste profiles, hazardous waste manifests and land ban restriction forms.

3.8 DISCOVERY OF HAZARDOUS MATERIALS

A. If hazardous materials, such as chemicals, or other hazardous materials are discovered during the course of the work other than those identified in the Plans and Specifications, the Contractor shall cease work in affected area only and immediately notify the Engineer of such discovery. Do not proceed with work in such areas until instructions are issued by the Engineer. Continue work in other areas.

SECTION 02070
SELECTIVE DEMOLITION

PART 1 - GENERAL:

1.1 DESCRIPTION:

All demolition under this contract shall be considered Building Demolition. See Section 02060 Asbestos Abatement and Building Demolition.

**************END OF SECTION**************

SECTION 02075

Solar Powered Light System

PART 1- GENERAL

1.1 SUMMARY

A. Section Includes:

1. Solar Powered Outdoor Lighting

1.2 REFERENCES

A. American National Standards Institute / Institute of Electrical and Electronic Engineers (ANSI/IEEE)

1. ANSI/ESD S20.20-2007 Development of an Electrostatic Discharge Control Program

B. International Electrotechnical Commission

1. (IEC) 60950-1:2005

C. International Organization for Standardization (ISO)

1. 9001-2008 – Quality Management Systems

D. Underwriters Laboratories

1. UL 1598
2. UL 1703
3. UL 1989

E. Canadian Standards

1. ISED

F. IDA, International Dark Sky Association (www.darksky.org)

1.3 DESCRIPTION - DEFINTIONS

A. **"Remote Monitoring"** is the collection and presentation of data, including device location, status, and configuration, transmitted by remote assets.

B. "**System Location**" is the exact location of the system installation. The geographic coordinates are used to determine anticipated Solar Insolation.

C. "**Solar Insolation**" is the amount of solar radiation available at the geographic location. Properly designed systems will use the lowest minimum monthly average (typically December in the Northern Hemisphere) when calculating the Array size.

D. **"Photovoltaic or PV"** a method of converting solar radiation energy into direct current electricity.

E. **"MPPT"** is Maximum Power Point Tracking, a type of charging algorithm that maximizes the amount of energy that can be extracted from a solar panel.

F. "**Lighting Profile**" is the way in which the LED Luminaire is powered throughout the night accumulating to give the total energy used by the system. This is sometimes referred to as the dimming profile as luminaries can be set to dim the light output for a portion of the night to reduce the total energy load of the system.

G. The "**Array**" refers to the Solar Energy able to be collected by the system via the PV Panels and EMS using the lowest minimum monthly average for the projects location.

H. The "**Load**" refers to the energy consumed by the LED Luminaire over the course of the chosen Lighting Profile during the longest night of the year.

I. "**ALR**" is the Array to Load Ratio. A properly designed system will have an ALR greater than 1.2 during the longest night of the year.

J. "**Autonomy**" is the number of days the system can continue to power LED Luminaire Load without any daily input of solar energy. A day is defined by the number of hours during the longest night of the year. Autonomy is a function of the battery storage designed into the system.

K. **"Photovoltaic Panel Tilt Angle"** – The angle relative to horizontal, to which the PV panel is tilted while pointing towards the equator. Tilt angle has an effect on the amount of energy that can be collected at a given location at specific time of year.

L. **"LED Luminaire**" is a complete lighting fixture housing solid state lights, lens optics, and heat sink.

M. "**Luminaire Wattage**" is the energy used by the luminaire to produce light. Used in the calculation of the system load.

N. "**Light Distribution**" are general IES classification for different types of optics used to project the light emitted from the LED. Each type projects the light in different ways which allows designers to optimize the light uniformity for a given area.

O. "**Light uniformity**" is how well the light from multiple luminaires is distributed over a given photometric study area. Typically a ratio of the (maximum or average) amount of the light projected on the area and the minimum light value calculated within the area.

P. "**Lumens**" - the light output of the Luminaire. This directly correspond to light on the ground.

Q. **"IES LM 79"** – is a standardized test which measures total luminous flux, luminous intensity distribution, electrical power, efficacy (lumens per watt delivered), and color characteristics (chromaticity, CCT, and CRI) of the complete luminaire. This test must be done by an accredited independent laboratory.

R. "**Efficacy**" – is the lumens produced by luminaire based on the wattage input. This is defined by LM-79 and will vary depending on the wattage input for any luminaire. Typically with high wattage input the efficacy of a luminaire will go down.

S. "**Colour Temperature**" – measured in Kelvin, denotes how warm or cool the color produced by the luminaire is. Typically 3000k-4000K.

T. "**Batteries**" – how the energy produced by the PV array is stored for night time use to power the luminaire load.

U. "**Depth of Discharge or DOD**" is the percentage of total battery charge used during one night's operation of the system.

V. "**EMS**" – Energy Management System, the "brains" of the lighting system, manages battery charging, driving the luminaire, transitioning the system from day to night, and local and remote wireless communication and telemetry.

W. "**Transitioning**" – way inside the system determines when to alternate from night time illumination mode and day time charging mode.

X. "Cloud based" refers to applications, services or resources made available to users on demand via the Internet from a cloud computing provider's servers.

1.4 SUBMITTALS

A. Specification Conformance Document:

Manufacturing will provide one of the following:

1. Meets specification exactly as stated.
2. Meets specification via an alternate means and indicate the specific methodology used with any deviations from the specification listed.

B. Product Data: Catalog cut sheets with performance specifications demonstrating compliance with specified requirements.

C. IES electronic files of lamp output or Photometric Plots on a surface from a defined lamp height compliant with IES LM-79.

D. LM-79 and report for chosen Luminaire confirming efficacy values.

E. Calculation of Effective Projected Area (EPA) and weight of the solar lighting system, and EPA rating of the pole (if provided).

F. System Calculation

1. Photovoltaic Array Sizing.
2. Luminaire load.
3. Array to Load Ratio.
4. Autonomy.

G. Line drawing or photograph of lighting system(s).

H. Wiring diagram(s).

I. References of at least 20 installation sites for the submitted manufacture.

J. Installation Instructions.

1.5 QUALITY ASSURANCE

A. Manufacturer: Minimum 20 years of experience in manufacture of solar powered lighting systems.

1.6 SAFETY COMPLIANCE

A. Photovoltaic Panel is Nationally Recognized Testing Laboratory listed per UL/CSA 1703.

B. Luminaire approved by a Nationally Recognized Testing Laboratory.

C. Charge Controller/LED driver marked by a Nationally Recognized Testing Laboratory to UL 60950-1

1.7 OTHER COMPLIANCES

A. Charge Controller complies with Part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference.

B. Battery shall be rated "non-spillable" by ICAO/IATA/DOT.

1.8 PROJECT CONDITIONS

A. Ambient temperature: -40° to 60° C. (-40°F to 140°F)

B. Pole and all coupling components exceed maximum specified EPA ratings required for local wind loading conditions.

C. Pole foundations will be designed or reviewed by local engineering firm to ensure local building codes are followed.

1.9 PERFORMANCE AND SOLAR CALCULATIONS

A. Sizing Criteria and Project Requirements:

a. Sun Hours (Insolation) based on global coordinates : 2.52 kWh/m²/day

b. Longest Night: 14.8 hrs

c. Source for sun hours and longest night: NASA

d. Latitude: 42N Longitude: 71W

e. Photovoltaic array tilt: 30 Degrees

f. Provides 4000 lumens or greater using a light loss factor (LLF) of 0.88 from LM 79 tested luminaire.

g. ALR > 1.44_(1.2 minimum)

h. Lighting Profile: To be determined

i. Luminaire Temperature: 3000 K

j. LED driver must be integrated with the solar charge controller as one unit.

k. Nights of autonomy: 4.61 (Systems with less than 4 nights of autonomy will not be accepted)

l. Battery depth of discharge: ≤ 25%. (Due to a reduction in long term battery performance, systems designed with more than a 25% depth of discharge will not be accepted)

m. Wind zone: 110 mph

n. Mounting Height: 20 ft

D. Manufacturer shall submit detailed performance information supporting submitted sizing calculations.

1.10 WARRANTY

A. Provide manufacturer's warranty covering 10 years on solar lighting system from date of purchase.

B. Solar Voltaic Panel covered for minimum 20 years for power output.

C. Mounting hardware, arms & brackets covered for a minimum of 10 years.
D. Pole and associated components covered for 20 years (excluding finish).
E. LED light engine, lamps and fixtures covered for a minimum of 10 years.
F. Wire harnessing, connectors and terminals covered for a minimum of 10 years.
G. Electronics: Integrated LED driver/charge controller, communications covered for a minimum of 10 years.
H. Extended Life Batteries have a limited warranty with a replacement cost credit for up to 10 years with the following minimum coverage: 100% credit for the first 7 years, 30% credit for year 8, 20% coverage for year 9 and 10% credit for year 10.

1.11 REGULATORY REQUIREMENTS

A. FCC
B. UL 60950

1.12 BATTERY STORAGE AND SHIPPING

A. Batteries approved for shipping via ground, air, or sea.
B. Batteries retains 80% charge or higher from 2 months of shipment.
C. Batteries ship sufficiently charged to operate the light 2 nights without any solar charging.
D. If storing batteries for future installation: must be stored inside above in a temperature controlled environment.
E. If batteries are stored for longer than 4 months past the date received they will need to be recharged before being installed to ensure battery and system performance.

PART 2- PRODUCTS

2.1 SYSTEM – General Design

A. Basis of design product: PV System will be attached at the top of the pole with either an integrated or separately mounted battery container.
B. Substitutions:
   1. All proposed substitutions must be submitted in writing for approval by the design professional a minimum of 10 working days prior to the bid date and must be made available to all bidders.
   2. Proposed substitutes must be accompanied by a review of the specification noting compliance on a line-by-line basis.
   3. By using pre-approved substitutions, the contractor accepts responsibility and associated costs for all required modifications to circuitry, devices, and wiring.
   4. Provide complete engineered shop drawings with deviations for the original design highlighted in an alternate color to the engineer for review and approval prior to installation.
   5. Provide battery and photovoltaic calculations as per these specifications.

C. Communications and Reporting
   1. Maintenance and Commissioning mobile device application.
   2. Email notifications.
   3. Cloud based reporting dashboard.
   4. Available Application Program Interface (API).

2.2 GENERAL – Solar Powered Light Systems

Provide and install Solar Powered Light Systems such as the EverGen M Series supplied by Sol Inc. located at 2637 E Atlantic Blvd #40620, Pompano Beach, Florida 33062 or an approved equivalent meeting or exceeding the following specifications.

A. Solar Powered Light System consists of seven (7) components and assemblies: (1) Photovoltaic (PV) Module(s) and mounting structure, (2) Charge Controller/LED Driver/Communications, (3) LED Luminaire, (4) Battery(ies), (5) Battery Enclosure, (6) Quick Connect Wire Harnessing with Fuse, and (7) Pole. System will at a minimum include the following characteristics.

1. Photovoltaic (PV) Module
   a. Construction:
      1) Crystalline silicon solar cells
      2) Framed in an all-aluminum structure
      3) UL/CSA 1703
      4) Sealed behind UV stabilized tempered glass
      5) Covered by a 20-year power output warranty
      6) RoHS compliant
      7) Cabling will be UV resistant
      8) Water-tight wire junction box on PV module

   b. Performance:
      1) PV electrical junction box and connectors (MC4 type) are sealed per IP 67.
      2) PV is fastened to support system at a minimum of four locations.

2. Integrated Charge Controller/LED Driver/Communication unit
   a. Construction:
      1) LED driver must be integrated with the solar charge controller as one unit.
      2) EMS will be mounted on the exterior of the battery cabinet.
      3) The device complies with Part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference.
      4) Complies with FCC part 15 Class A noise threshold requirements
      5) Bluetooth radio and antenna must be integrated with the solar charge controller as one unit.
      6) Satellite modem and antenna must be integrated with the solar charge controller as one unit.
      7) GPS chip and antenna must be integrated with the solar charge controller as one unit.
      8) Charge controller/ LED driver must be capable of controlling and dimming one or two outdoor luminaries.
      9) Over Voltage Protection.
      10) LED Short Circuit Protection.
      11) Internal PV Disconnect (no external Diodes required).
      12) Reverse battery polarity protection.
      13) Self-calibrating load, timing, and charging circuitry.
      14) Designed and tested to withstand electrostatic discharges up to 10,000 V without impairment per IEC 62109
      15) Manufactured in a facility that employ ESD reduction practices in compliance with ANSI/ESD S20.20.
      16) Connects to all system components via a quick-connect – latching connector.
   b. Performance
      1) Operates in the prescribed Lighting Profile as per the Performance and Solar Calculations found above in 1.9.
      2) Charge Controller operates with temperature compensated limits ensuring battery charging algorithm protects battery (ies) from over and under voltage stress

a) Charge controller adapts maximum (charged) voltage based on temperature.
b) Charge controller prevents discharge below temperature compensated battery Low Voltage Disconnect (LVD) limit.

c. Communication
1) Bluetooth radio and antenna must be integrated with the solar charge controller as one unit.
2) Satellite modem and antenna must be integrated with the solar charge controller as one unit.
3) GPS chip and antenna must be integrated with the solar charge controller as one unit.

3. LED Luminaire
a. 5 year manufacture warranty
b. Performance:
1) LED source designed for 65,000 hour performance with over 70% initial lumen maintenance.
2) IP66 light squares.
3) Available in 3000K, 4000K and 5700k temperatures.
4) Luminaire shall operate at range of 18 to 70VDC.
5) Wet location listed.
6) DesignLights Consortium® Qualified.
7) Designed and factory-installed LED light source only.
c. Finish: Housing is treated with durable coating to resist solar and environmental degradation for the duration of the specified warranty period.
d. Hardware: All exterior hardware and fasteners, wholly or partly exposed, shall be stainless-steel alloy. All internal fasteners are stainless-steel or zinc coated steel. All remaining internal hardware is stainless steel, aluminum alloy, or zinc coated steel

4. Batteries
a. Construction:
1) Sealed valve regulated Gel or AGM cell type.
2) Maintenance free.
3) Air shippable.
4) Battery shall be rated “non-spillable” by ICAO/IATA/DOT.
5) 100% recyclable.
6) Battery must be built to comply with UL 1989.
b. Performance
1) Able to perform for duration of the warranty period
2) Battery must be built to comply with IEC 61427.
3) Capable of over 3000 cycles.
4) Maintains over 80% of charge after 2 months if left disconnected.

5. Battery Enclosure
a. Construction:
1) Self-contained vented enclosure which theft and vandalism protection.
2) Holds 1, 2, 3, or 4 large-size batteries to a maximum enclosure weight of 350 lbs.
3) All battery wire terminals and harnessing connect via quick-connect type with keyed connections to prevent miswiring.

4) Terminal covers, ring washers, terminals, etc. are non-corrosive non-rusting.

6. Wire Harnessing & Fuse
   a. Wire Harnesses Construction
      1) All UV stabilized jacketed wiring and connectors.
      2) Quick disconnect connector plugs have latch to ensure secure connection.
      3) Provided with in-line fuse and holder in weather tight enclosures.
      4) Provided in variable lengths to eliminate all field wiring.
      5) Color coded connectors make circuit purpose identification simple.
      6) Individually matched quick disconnect plugs for battery, PV and luminaire to charge controller/LED driver.
   b. Wire Harness Performance:
      1) Sealed gasketed connectors prevent dust intrusion.

7. Solar Lighting Pole, PV Structure
   a. Construction:
      1) Overall Length will be long enough to accommodate luminaire mounting highlight with enough clearance for the PV panels to be positioned correctly without contacting the mounting arm.
      2) Pole will be constructed out of aluminum, steel, concrete or fiberglass which have been engineered to meet the weight and EPA requirements of the system and applicable building codes.
      3) Attached to an engineered concrete base or direct burial into the ground.
      4) Stainless steel or zinc plated steel hardware for rust-proof and corrosion resistant mounting equipment.
      5) Provided with 3.5” diameter (OD) tenon to support direct mounting of the PV array.
      6) Pole meets ANSI C136.36A-2010, for Roadway and Area Lighting Equipment-Aluminum Lighting Poles.
   b. Pole Performance:
      1) Pole Design will meet engineering requirements based on the system’s weight, EPA and wind rating for that geographic locations.
      2) Independently verified pole strength and base details by licensed Professional Engineer and Test Lab.
   c. System Support Structure Performance:
      1) The PV support structure and battery cabinet shall mount to a 3 ½” OD diameter by 6” long tenon.
8. Arm
   a. Construction: Cast Aluminum or Steel
   b. Size: Per pole drawing
   c. Finish: Same as pole
   d. Mounting: Attachment point on pole will be relative to the final luminaire height as stated in the photometric design.

PART 3- EXECUTION

3.1 INSTALLATION

A. Install and commission equipment in accordance with manufacturer’s instructions.
B. Provide complete installation of system in accordance with Contract Documents.

END OF SECTION

SECTION 02080
WATER FOUNTAIN

PART 1 - GENERAL:

1.1 DESCRIPTION:

A. Work included: Provide properly engineered water fountain and spigot installation and all necessary plumbing appurtenances as called for on the drawings, specified herein, and in other provisions of the Contract Documents.

B. References
   1. American with Disabilities Act Compliant
   2. American National Standards Institute
      1. A117.1, Public Law 111-380, NSF/ANSI 61, Section 9

C. Related work:
   1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
   2. Comply with pertinent provisions of Section 01640: Product Handling.

1.2 QUALITY ASSURANCE:

A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

1.3 SUBMITTALS AND SUBSTITUTIONS:

A. Comply with pertinent provisions of Section 01340, Submittals and Substitutions.

B. Product Data: Within 30 Calendar days after the Contractor has the Owner's Notice to Proceed, submit:
   a. Materials list of items proposed to be provided under this section'
   b. Manufacturers' specifications and other data needed to prove compliance with the specified requirements;
   c. Manufacturers' certifications and laboratory test reports as required;

C. Shop drawings, prepared in accordance with pertinent provisions of these specifications and showing complete information on performance and installation of the work of this Section including, but not necessarily limited to:
   a. complete schematic including all system components
   b. Installation procedures

PART 2 - PRODUCTS:

C. Suppliers:

a. Provide Products such as those supplied by:
   1. Murdock MFG; 15125 Proctor Avenue, City of Industry, CA 91746
      a) Model GVM49 with Pet Receptor, Recessed Vandal Hose Bib, NP3 Non-Pollutable, Freeze Resistant
   2. Elkay; 222 Camden Court, Oak Brook, IL 60523
   3. Or approved Equal; see "RI Division of Purchases Rules and Regulations"

D. Fountain Components:

a. Foundation:
   1. Provide site preparation and fill material as specified within the manufacturer's installation instruction.
   2. Provide Concrete pad as required per manufacturer's installation instruction, with minimum pad dimensions of 6" thick, and 36" wide.
   3. Provide 5 Cubic Feet of porous gravel fill to allow for proper drainage of fountain effluent

b. Fountain
   1. Resistant to sunlight, heat, moisture and wear and rated for outdoor use
   2. 18-gauge 304 stainless steel bowl
   3. Reinforced concrete with aggregate finish
   4. Polished stainless steel, anti-rotation non-squirt bubbler
   5. Units shall be activated by front mounted self-closing buttons, by using less than 5 pounds of force
   6. Bubblers shall be polished stainless steel with non-squirt features and operate on water pressure range of 20-105 psig
   7. Certified to A117.1, Public Law 111-380 (No- Lead), NSF/ANSI 61, Section 9
   8. Adult ADA compliant, ADA standing person, ADA child requirements when mounted appropriately
   9. Install an in-line PRV on the supply line to ensure a working water pressure of 40-60psi
   10. Install the NP3 Non-Pollutable, freeze resistance valve system for the fountain. RISBC states that the frost depth in the town of Barrington is 3'4". The Freeze Resistant valve assembly shall be below the frost depth.
   11. Vandal proof recessed hose bib
   12. Drain Valve assembly
   13. Contractor shall install means to isolate and de-water fountain for winterization purposes.

c. Pet Fountain
   1. Resistant to sunlight, heat, moisture and wear, and rated for outdoor use
   2. 18-gauge 304 stainless steel bowl
   3. Reinforced concrete with aggregate finish
   4. Polished stainless steel, anti-rotation non-squirt bubbler
   5. 100 mesh inlet strainer

6. Freeze resistant valve system

PART 3 - EXECUTION:

3.1 EXAMINATION:

1. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 FIELD PREPARATION

1. Make necessary measurements in the field to assure precise fit of items in accordance with the approved design.
2. Shut off, cap, and otherwise protect existing public utility lines in accordance with the requirements of the public agency or utility having jurisdiction.
3. Completely remove abandoned under-ground conduit, cables, and water lines within the fountain's proposed location.
4. Remove rocks larger than 6" diameter, roots, and debris within the fountain's proposed location.

3.3 INSTALLATION

1. Install foundation, water fountain, and freeze resistant valve system per manufacturer's instructions.
2. All material and work provided shall be in accordance with the RI State Building Code.

3.4 INSPECTION AND TESTING

1. If inspection of materials installed shows defects, such defective work, materials, and or equipment shall be replaced at no cost to the Owner.
2. Testing of the water fountain appurtenance shall include, but not be limited to, chlorination and pressure testing as mandated by Town, State, or Federal Code. All testing shall be coordinated with Bristol County Water Authority, RI Department of Health, and the Owner. The Contractor shall be responsible for performing and covering the costs of all tests necessary to bring the fountain online.
3. Turn on water supply and test for proper operation as well as check for any leaks. Ensure water drains out of risers at FRU and into gravel fill when flow stops.

SECTION 02085
EXCAVATING, BACKFILLING AND COMPACTING

PART 1 - GENERAL:

1.1 DESCRIPTION:

A. Work included: Excavate, backfill, compact, and grade the site to the elevations shown on the Drawings, as specified herein, and as needed to meet the requirements of the construction shown in the Contract Documents.

B. Related work:
   1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
   2. Section 02060: Demolition.

1.2 QUALITY ASSURANCE:

A. Use adequate numbers of workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. Use equipment adequate in size, capacity, and numbers to accomplish the work in a timely manner.

C. In addition to complying with requirements of governmental agencies having jurisdiction, comply with the directions of the soils engineer.

1.3 PRODUCT HANDLING:

A. Comply with pertinent provisions of Section 01640: Product Handling.

PART 2 - PRODUCTS:

2.1 SOIL MATERIALS:

A. Fill and backfill materials:
   1. Provide soil materials free from organic matter and deleterious substances, containing no rocks or lumps over 6" in greatest dimension, and with not more than 15% of the rocks or lumps larger than 2-3/8" in their greatest dimension.
   2. Fill material is subject to the approval of the soil engineer, and is that material removed from excavations or imported from off-site borrow areas, predominantly granular non-expansive soils, free from roots and other deleterious matter.
   3. Do not permit rocks having a dimension greater than 1" in the upper 12" of fill or embankment.
   4. Cohesionless material used for structural backfill: Provide sand free from organic materials and other foreign matter, and as approved by the Engineer.

2.2 WEED KILLER:

A. Do not use weed killer products.

2.3 TOPSOIL:

A. Where and if shown on the Drawings or otherwise required, provide topsoil consisting of friable, fertile soil of loamy character, containing an amount of organic matter normal to the region, capable of sustaining healthy plant life, and reasonably free from subsoils, roots, heavy or stiff clay, stones larger than 2" in greatest dimension, noxious weeds, sticks, brush, litter, and other deleterious matter.

B. Obtain topsoil from sources within the project limits, or provide imported topsoil obtained from sources outside the project limits, or from both sources.

2.4 OTHER MATERIAL:

A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Engineer.

PART 3 - EXECUTION:

3.1 SURFACE CONDITIONS:

A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 PROCEDURES:

A. Utilities:
   1. Unless shown to be removed, protect active utility lines shown on the Drawings or otherwise made known to the Contractor prior to excavating. If damaged, repair or replace at no additional cost to the Owner.

   2. If active utility lines are encountered, and are not shown on the Drawings or otherwise made known to the Contractor, promptly take necessary steps to assure that service is not interrupted.
   3. If service is interrupted restore service by repairing the damaged utility at no additional cost to the Owner.
   4. If existing utilities are found to interfere with the permanent facilities being constructed under this Section, immediately notify the Engineer and secure his instructions.
   5. Do not proceed with permanent relocation of utilities until written instructions are received from the Engineer.

B. Protection of persons and property:
   1. Barricade open holes and depressions occurring as part of this Work, and post warning lights on property adjacent to or with public access.
   2. Operate warning lights during hours from dusk to dawn each day and as otherwise required.
   3. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, washout, and other hazards created by operations under this Section.

C. Dewatering:
   1. Remove all water, including rain water, encountered during trench and substructure work to an approved location by pumps, drains, or other approved methods.
   2. Keep excavations and site construction area free from water.

D. Use means necessary to prevent dust becoming a nuisance to the public, to neighbors, and to other work being performed on or near the site.

E. Maintain access to adjacent areas at all times.

3.3 EXCAVATION:

A. Perform excavating of every type of material encountered within the limits of the Work to the lines, grades, and elevations indicated and specified herein.

B. Satisfactory excavated materials:
   1. Transport to, and place in, fill or embankment areas within the limits of the Work.

C. Unsatisfactory excavated materials:
   1. Excavate to a distance below grade as directed by the Engineer, and replace with satisfactory materials.
   2. Include excavation of unsatisfactory materials, and replacement by satisfactory materials, as parts of the

work of this Section.

D. Surplus materials:
   1. Dispose of unsatisfactory excavated materials, and surplus satisfactory excavated material, away from the site at disposal areas arranged and paid for by the Contractor.

E. Excavation of rock:
   1. Where rocks, boulders, granite, or similar material is encountered, and where such material cannot be removed or excavated by conventional earth moving or ripping equipment, take required steps to proceed with the general grading operations of the Work, and remove or excavate such materials by means which will neither cause additional cost to the Owner nor endanger buildings or structures whether on or off the site.
   2. The use of explosives is prohibited.

F. Excavate and backfill in a manner and sequence that will provide proper drainage at all times.

G. Borrow:
   1. Obtain material required for fill or embankment in excess of that produced within the grading limits of the Work from borrow areas selected and paid for by the Contractor and approved by the Engineer.

H. Trenches, ditches, and gutters:
   1. Cut accurately to the cross sections, grades, and elevations shown.
   2. Maintain excavations free from detrimental quantities of leaves, sticks, trash, and other debris until completion of the Work.
   3. Dispose of excavated materials as shown on the Drawings or as directed by the Engineer; except do not, in any case, deposit materials less than 3'-0" from the edge of a ditch.

I. Unauthorized excavation:
   1. Unauthorized excavation consists of removal of materials beyond indicated subgrade elevations or dimensions without specific instruction from the Engineer or the soil engineer.
   2. Elsewhere, backfill and compact unauthorized excavations as specified for authorized excavations, unless otherwise directed by the soils engineer.

J. Stability of excavations:
   1. Slope sides of excavations to 1:1 or flatter, unless otherwise directed by the soils engineer.
   2. Shore and brace where sloping is not possible because of space restrictions or stability of the materials being excavated.
   3. Maintain sides and slopes of excavations in a safe condition until completion of backfilling.

K. Shoring and bracing:
   1. Provide materials for shoring and bracing as may be necessary for safety of personnel, protection of work, and compliance with requirements of governmental agencies having jurisdiction.
   2. Maintain shoring and bracing in excavations regardless of the time period excavations will be open.
   3. Carry shoring and bracing down as excavation progresses.

L. Excavation for structures:
   1. Conform to elevations and dimensions shown within a tolerance of 0.10 ft, and extending a sufficient distance from footings and foundations to permit placing and removing concrete form work, installation of services, other construction required, and for inspection.
   2. In excavating for footings and foundations, take care not to disturb bottom of excavation:
      a. Excavate by hand tools to final grade just before concrete is placed.
      b. Trim bottoms to required lines and grades to leave solid base to receive concrete.
   3. Excavate for footings and foundations only after general site excavating, filling, and grading are complete.

M. Excavating for pavements:
   1. Cut surface under pavements to comply with cross sections, elevations, and grades.

N. Cold weather protection:
   1. Protect excavation bottoms against freezing when atmospheric temperature is less than 35 degrees F.

3.4 FILLING AND BACKFILLING:

A. General:
   1. Place acceptable excavated or borrow soil material in layers to required subgrade elevations.
      a. Use satisfactory.

B. Backfill excavations as promptly as progress of the Work permits, but not until:
   1. Acceptance of construction below finish grade;
   2. Inspecting, testing, approving, and recording locations of underground utilities;
   3. Concrete form work is removed;
   4. Shoring and bracing are removed, and voids have been backfilled with satisfactory materials;
   5. Trash and debris have been removed; and
   6. Horizontal bracing is in place on horizontally supported walls.

C. Ground surface preparation:
   1. Remove vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious materials from the ground surface prior to placement of fills.
   2. Plow, strip, or break up surfaces steeper than one vertical to four horizontal, so that fill material will bond with existing surface.
   3. When existing ground surface has a density less than specified under "compacting" for the particular area, break up the ground surface, pulverize, moisture-condition to the optimum moisture content, and compact to required depth and percentage of maximum density.

D. Placing and compacting:
   1. Place backfill and fill materials in layers not more than 8" in loose depth.
   2. Before compacting, moisten or aerate each layer as necessary to provide the optimum moisture content.
   3. Compact each layer to required percentage of maximum density for the area.
   4. Do not place backfill or fill material on surfaces that are muddy, frozen, or containing frost or ice.
   5. Place backfill and fill materials evenly adjacent to structures, to required elevations.
   6. Take care to prevent wedging action of backfill against structures by carrying the material uniformly around the structures to approximately the same elevation in each lift.
   7. Where construction includes basement or other underground walls having structural floors over them, do not backfill such walls until the structural floors are in place and have attained sufficient strength to support the walls.

3.5 GRADING:

A. General:
   1. Uniformly grade the areas within limits of grading under this Section, including adjacent transition areas.
   2. Smooth the finished surfaces within specified tolerance.
   3. Compact with uniform levels or slopes between points where elevations are shown on the Drawings, or between such points and existing grades.
   4. Where a change of slope is indicated on the Drawings, construct a rolled transition section having a minimum radius of approximately 8'-0", unless adjacent construction will not permit such a transition, or if such a transition defeats positive control of drainage.

B. Grading outside building lines:
   1. Grade areas adjacent to buildings to achieve drainage away from the structures, and to prevent ponding.
   2. Finish the surfaces to be free from irregular surface changes, and:
      a. Shape the surface of areas scheduled to under walks to line, grade, and cross-section, with finished surface not more than 0.10 ft above or below the required subgrade elevation.

b. Shape the surface of areas scheduled to under pavement to line, grade, and cross-section, with finished surface not more than 0.05 ft above or below the required subgrade elevation.

3.6 COMPACTING:

A. Control soil compaction during construction to provide the minimum percentage of density specified for each area as determined according to ASTM D1557.

B. Provide not less than the following maximum density of soil material compacted at optimum moisture content for the actual density of each layer of soil material in place, and as approved by the soil engineer.
   1. Structures:
      a. Compact the top 8" of subgrade and each layer of fill material or backfill material at 90% of maximum density.
   2. Lawn and unpaved areas:
      a. Compact the top 8" of subgrade and each layer of fill material or backfill material at 90% of maximum density.
      b. Compact the upper 12" of filled areas, or natural soils exposed by excavating, at 85% of maximum density.
   3. Walks:
      a. Compact the top 8" of subgrade and each layer of fill material or backfill material at 90% of maximum density.
   4. Pavements:
      a. Compact the top 8" of subgrade and each layer of fill material or backfill material at 95% of maximum density for cohesive soil material.

C. Moisture control:
   1. Where subgrade or layer of soil material must be moisture-conditioned before compacting, uniformly apply water to surface of subgrade or layer of soil material to prevent free water appearing on surface during or subsequent to compacting operations.
   2. Remove and replace, or scarify and air dry, soil material that is too wet to permit compacting to the specified density.
   3. Soil material that has been removed because it is too wet to permit compacting may be stockpiled or spread and allowed to dry. Assist drying by discing, harrowing, or pulverizing until moisture content is reduced to a satisfactory value as determined by moisture-density relation tests approved by the soil engineer.

3.7 FIELD QUALITY CONTROL:

A. Secure the Engineer's inspection and approval of subgrades and fill layers before subsequent construction is permitted thereon.

3.8 MAINTENANCE:

A. Protection of newly graded areas:
   1. Protect newly graded areas from traffic and erosion, and keep free from trash and weeds;
   2. Repair and reestablish grades in settled, eroded, and rutted areas to the specified tolerances.

B. Where completed compacted areas are disturbed by subsequent constriction operations or adverse weather, scarify the surface, reshape, and compact to the required density prior to further construction.

**************END OF SECTION**************

APPENDIX A

April 12, 2018

RIDEM Division of Planning and Development
Attn: Mr. David DeCost
235 Promenade Street
Providence, RI 02908

Re: Cady Property – Asbestos Demolition Inspection

Mr. DeCost:

Environmental Consulting and Management, Inc (ECM) personnel conducted an asbestos demolition inspection within the Cady Property, Killingly Pond, Glocester, RI. The survey consisted of sampling to identify suspect asbestos containing building materials (ACBM) that would be impacted during the upcoming demolition.

Asbestos Report:

The survey consisted of collecting suspect ACBM from the building. These materials are then analyzed utilizing Polarized Light Microscopy (PLM) in accordance with Environmental Protection Agency (EPA) method 600/R-93/116. In addition to collection, location and quantity of ACBM has also been denoted within this report. Please refer to **Attachment 1** for the asbestos analytical results. Below is a chart of the samples collected.

Cady Property – Asbestos Sample Results

Sample #	Material	Location	Asbestos %	Quantity
01A-C	Wallboard	Interior	None Detected	NA
02A	Window Glazing	Exterior Windows	None Detected	NA
03A-B	Kitchen Flooring	Interior Kitchen	None Detected	NA
04A-B	Asphalt Shingles	Main House Roof	None Detected	NA
05A-B	Asphalt Shingles	Storage Shed	None Detected	NA
06A-B	Asphalt Shingles	Shed #2	None Detected	NA

Asbestos Conclusion:

All materials sampled were determined to be negative for asbestos content, when analyzed by PLM Analysis. No other suspect materials were identified.

Any suspect materials not sampled within this report should be tested before being impacted.

Limitations:

Environmental Consulting and Management cannot be held responsible for the identification of materials that are hidden, concealed or otherwise inaccessible. The lower portion of the building was structurally unsound and was not entered. A visual inspection was performed from outside the area. No suspect materials were observed.

This report was prepared under the request of RIDEM Division of Planning and Development. This report should not be represented, reproduced, or disseminated without the written approval of Environmental Consulting and Management or RIDEM Division of Planning and Development. No warranties other than those expressed in the contract for this project are expressed or implied.

A hard copy of this report can be provided for your records via mail upon request. If you have any further questions feel free to contact myself at 401-304-6614.

Sincerely,
Environmental Consulting & Management

Joseph M. Lepore
Project Manager
RI Asbestos Inspector # AAC-0661

Attachment 1
Asbestos Bulk Sample Results

SanAir Technologies Laboratory

The Identification Specialists

Analysis Report
prepared for
Environmental Consulting & Management Inc

Report Date: 4/2/2018

Project Name:

Project #: 1800150

SanAir ID#: 18012292

NVLAP TESTING

NVLAP LAB CODE 200870-0

1551 Oakbridge Dr. Suite B | Powhatan, Virginia 23139-8061
888.895.1177 | 804.897.1177 | fax: 804.897.0070 | IAQ@SanAir.com | SanAir.com

SanAir ID Number
18012292
FINAL REPORT
4/2/2018 3:51:47 PM

Name: Environmental Consulting & Management Inc
Address: 50 Kickemuit Ave
Bristol, RI 02809
Phone: 401-438-1360

Project Number: 1800150
P.O. Number:
Project Name:
Collected Date: 3/26/2018
Received Date: 3/26/2018 10:10:00 AM

Dear Joseph M. Lepore,

We at SanAir would like to thank you for the work you recently submitted. The 12 sample(s) were received on Monday, March 26, 2018 via FedEx. The final report(s) is enclosed for the following sample(s): 01A, 01B, 01C, 02A, 03A, 03B, 04A, 04B, 05A, 05B, 06A, 06B.

These results only pertain to this job and should not be used in the interpretation of any other job. This report is only complete in its entirety. Refer to the listing below of the pages included in a complete final report.

Sincerely,

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

Final Report Includes:
- Cover Letter
- Analysis Pages
- Disclaimers and Additional Information

Sample conditions:
- 12 samples in Good condition.

SanAir Technologies Laboratory

SanAir ID Number
18012292
FINAL REPORT
4/2/2018 3:51:47 PM

Name: Environmental Consulting & Management Inc
Address: 50 Kickemuit Ave
Bristol, RI 02809
Phone: 401-438-1360

Project Number: 1800150
P.O. Number:
Project Name:
Collected Date: 3/26/2018
Received Date: 3/26/2018 10:10:00 AM

Analyst: Pisula, Nicholas

Asbestos Bulk PLM EPA 600/R-93/116

	Stereoscopic	Components		
SanAir ID / Description	Appearance	% Fibrous	% Non Fiberous	Asbestos Fibers
01A / 18012292-001 Wall Board	Grey Non-Fibrous Homogeneous		100% Other	None Detected
01B / 18012292-002 Wall Board	Grey Non-Fibrous Homogeneous		100% Other	None Detected
01C / 18012292-003 Wall Board	Grey Non-Fibrous Homogeneous		100% Other	None Detected
02A / 18012292-004 Window Glazing	White Non-Fibrous Homogeneous		100% Other	None Detected
03A / 18012292-005 Kitchen Flooring	Grey Non-Fibrous Homogeneous		100% Other	None Detected
03B / 18012292-006 Kitchen Flooring	Grey Non-Fibrous Homogeneous		100% Other	None Detected
04A / 18012292-007 Asphalt Shingles Main House	White Non-Fibrous Heterogeneous		100% Other	None Detected
04B / 18012292-008 Asphalt Shingles Main House	White Non-Fibrous Heterogeneous		100% Other	None Detected
05A / 18012292-009 Shingles - Storage Shed	Black Non-Fibrous Heterogeneous		100% Other	None Detected
05B / 18012292-010 Shingles - Storage Shed	Black Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst:

Approved Signatory:

Analysis Date: 4/2/2018

Date: 4/2/2018

SanAir ID Number
18012292
FINAL REPORT
4/2/2018 3:51:47 PM

Name: Environmental Consulting & Management Inc
Address: 50 Kickemuit Ave
Bristol, RI 02809
Phone: 401-438-1360

Project Number: 1800150
P.O. Number:
Project Name:
Collected Date: 3/26/2018
Received Date: 3/26/2018 10:10:00 AM

Analyst: Pisula, Nicholas

Asbestos Bulk PLM EPA 600/R-93/116

	Stereoscopic	Components		
SanAir ID / Description	Appearance	% Fibrous	% Non Fiberous	Asbestos Fibers
06A / 18012292-011 Shingles - Shed #2	Black Non-Fibrous Heterogeneous		100% Other	None Detected
06B / 18012292-012 Shingles - Shed #2	Black Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst:

Approved Signatory:

Analysis Date: 4/2/2018

Date: 4/2/2018

Disclaimer

The final report cannot be reproduced, except in full, without written authorization from SanAir. Fibers smaller than 5 microns cannot be seen with this method due to scope limitations. The accuracy of the results is dependent upon the client's sampling procedure and information provided to the laboratory by the client. SanAir assumes no responsibility for the sampling procedure and will provide evaluation reports based solely on the sample and information provided by the client. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Samples are held for a period of 60 days.

For NY state samples, method EPA 600/M4-82-020 is performed.

Polarized- light microscopy is not consistently reliable in detecting asbestos in floor covering and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.

Asbestos Certifications
NVLAP lab code 200870
City of Philadelphia: ALL-460
PA Department of Environmental Protection Number: 68-05397
California License Number: 2915
Colorado License Number: AL-23143
Connecticut License Number: PH-0105
Massachusetts License Number: AA000222
Maine License Number: LB-0075
New York ELAP lab ID: 11983
Rhode Island License Number: AAL-126
Texas Department of State Health Services License Number: 300440
Commonwealth of Virginia 3333000323
Washington State License Number: C989
West Virginia License Number: LT000566
Vermont License: AL166318

Revision Date: 11/30/2017

SanAir Technologies Laboratory

1551 Oakbridge Dr. STE B
Powhatan, VA 23139
804.897.1177 / 888.895.1177
Fax 804.897.0070
sanair.com

Asbestos Chain of Custody
Form 140, Rev 1, 1 20 2017

SanAir ID Number 18012292

Company:	Environmental Consulting & Management Inc	Project #: 1800150	Collect by: Joseph Lepore
Address:	50 Kickemuit Ave	Project Name:	Phone #: 401-438-1360
City, St., Zip:	Bristol, RI 02809	Date Collected:	Fax #: 401-438-1316
State of Collection:	Account#: 2667	P.O. Number:	Email: JLepore@ECOMNE.com

Bulk

ABB	PLM EPA 600 R-93/116	☒
	Positive Stop ☐	
ABEPA	PLM EPA 400 Point Count	☐
ABB1K	PLM EPA 1000 Point Count	☐
ABBEN	PLM EPA NOB**	☐
ABBCH	TEM Chatfield**	☐
ABBTM	TEM EPA NOB**	☐
ABQ	PLM Qualitative	☐

** Available on 24-hr. to 5-day TAT

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐
Other:		☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Soil

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐

Vermiculite & Soil

ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Water

ABHE	EPA 100.2	☐

Matrix	Other	
		☐

Turn Around Times	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	☐ 2 Days	☐ 3 Days	☐ 4 Days	☒ 5 Days

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Date	Flow Rate*	Start – Stop Time*	
01A	wall board					
01B	↓					
01C	↓					
02A	Window Glazing					
03A	Kitchen Flooring					
03B	" "					
04A	Asphalt Shingles Main House					
04B	" "					
05A	Shingles - Storage shed					
05B	" "					
06A	Shingles - Shed #2					
06B	" "					

Relinquished by	Date	Time	Received by	Date	Time
	3/23/18	12:00		MAR 26 2018	10:10 am

If no technician is provided, then the primary contact for your account will be selected. Unless scheduled, the turnaround time for all samples received after 3 pm EST Friday will begin at 8 am Monday morning. Weekend or holiday work must be scheduled ahead of time and is charged for rush turnaround time. SanAir covers Standard Overnight FedEx shipping. Shipments billed to SanAir with a faster shipping rate will result in additional charges.

Page___of _____

April 4, 2018

RIDEM Division of Planning and Development
Attn: Mr. David DeCost
235 Promenade Street
Providence, RI 02908

Re: Jerimoth Hill – Asbestos Demolition Inspection

Mr. DeCost:

Environmental Consulting and Management, Inc (ECM) personnel conducted an asbestos demolition inspection within the Jerimoth Hill House located at 212 Hartford Pike in Foster, RI. The survey consisted of sampling to identify suspect asbestos containing building materials (ACBM) that would be impacted during the upcoming demolition.

Asbestos Report:

The survey consisted of collecting suspect ACBM from the building. These materials are then analyzed utilizing Polarized Light Microscopy (PLM) in accordance with Environmental Protection Agency (EPA) method 600/R-93/116. In addition to collection, location and quantity of ACBM has also been denoted within this report. Please refer to **Attachment 1** for the asbestos analytical results. Below is a chart of the samples collected.

Jerimoth Hill House – Asbestos Sample Results

Sample #	Material	Location	Asbestos %	Quantity
01A-C	Skimcoat	Walls Throughout	None Detected	NA
02A-C	Plaster	Walls Throughout	None Detected	NA
03A-C	Plaster	Ceilings Throughout	None Detected	NA
04A	Grey Floor Tile	Kitchen	None Detected	NA
05A	Linoleum	Connector to Garage	None Detected	NA
06A-B	**Window Glazing**	**All Windows**	**2% Chrysotile**	**24 Windows**
07A	Attic Insulation	Above Ceilings on Second Floor	None Detected	NA
08A-B	Tar Paper	Under Hardwood Floors	None Detected	NA
09A	Wall Insulation	Insulation in Wall Cavity	None Detected	NA
010A	Garage Roof	Asphalt Shingles on Garage	None Detected	NA
011A-C	Roofing	Main House Roof Shingles	None Detected	NA

181 Amaral Street
Riverside, RI 02915

O: 401.438.1360
F: 401.438.1316

www.ecmne.com

Asbestos Conclusion:

Window Glazing was found to contain 2% Chrysotile Asbestos. All windows on house, garage and connector have asbestos glazing. Windows must be removed prior to demolition of the property.

Any suspect materials not sampled within this report should be tested before being impacted.

Regulatory Compliance

If the amount of the identified asbestos containing materials to be remove greater than 25 square feet/10 linear feet, an asbestos abatement plan will need to be created and submitted to the RIDOH. Removal of the asbestos containing material will need to be conducted by a RI licensed asbestos abatement contractor.

After the abatement plan is submitted to the RIDOH, the approval process takes approximately 2 to 3 weeks. Once the abatement plan is approved, a letter will be sent out to the building owner with an identification number designated to the project. The approval number is then utilized by the abatement contractor to submit the 10-day notification to the RIDOH, where activities cannot begin until 10 calendar days after the notification is submitted.

If less than 25 square feet/10 linear feet of asbestos containing material is to be impacted, an asbestos plan is not needed and removal can be conducted as a spot abatement by a RI licensed asbestos abatement contractor.

Limitations:

Environmental Consulting and Management cannot be held responsible for the identification of materials that are hidden, concealed or otherwise inaccessible. The lower portion of the building was structurally unsound and was not entered. A visual inspection was performed from outside the area. No suspect materials were observed.

This report was prepared under the request of RIDEM Division of Planning and Development. This report should not be represented, reproduced, or disseminated without the written approval of Environmental Consulting and Management or RIDEM Division of Planning and Development. No warranties other than those expressed in the contract for this project are expressed or implied.

A hard copy of this report can be provided for your records via mail upon request. If you have any further questions feel free to contact myself at 401-304-6614.

Sincerely,
Environmental Consulting & Management

Joseph M. Lepore
Project Manager
RI Asbestos Inspector # AAC-0661

Attachment 1
Asbestos Bulk Sample Results

181 Amaral Street
Riverside, RI 02915

O: 401.438.1360
F: 401.438.1316

www.ecmne.com

SanAir Technologies Laboratory

The Identification Specialists

Analysis Report
prepared for
Environmental Consulting & Management Inc

Report Date: 4/2/2018

Project Name: Jerimoth Hill House

Project #: 180150

SanAir ID#: 18012682

NVLAP TESTING

NVLAP LAB CODE 200870-0

1551 Oakbridge Dr. Suite B | Powhatan, Virginia 23139-8061
888.895.1177 | 804.897.1177 | fax: 804.897.0070 | IAQ@SanAir.com | SanAir.com

SanAir ID Number
18012682
FINAL REPORT
4/2/2018 10:11:11 AM

Name: Environmental Consulting & Management Inc
Address: 50 Kickemuit Ave
Bristol, RI 02809
Phone: 401-438-1360

Project Number: 180150
P.O. Number:
Project Name: Jerimoth Hill House
Collected Date: Not Provided on COC
Received Date: 3/28/2018 10:55:00 AM

Dear Joseph M. Lepore,

We at SanAir would like to thank you for the work you recently submitted. The 21 sample(s) were received on Wednesday, March 28, 2018 via FedEx. The final report(s) is enclosed for the following sample(s): 01A, 01B, 01C, 02A, 02B, 02C, 03A, 03B, 03C, 04A, 05A, 06A, 06B, 07A, 08A, 08B, 09A, 010A, 011A, 011B, 011C.

These results only pertain to this job and should not be used in the interpretation of any other job. This report is only complete in its entirety. Refer to the listing below of the pages included in a complete final report.

Sincerely,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

Final Report Includes:
- Cover Letter
- Analysis Pages
- Disclaimers and Additional Information

Sample conditions:
- 21 samples in Good condition.

SanAir Technologies Laboratory

SanAir ID Number
18012682
FINAL REPORT
4/2/2018 10:11:11 AM

Name: Environmental Consulting & Management Inc
Address: 50 Kickemuit Ave
Bristol, RI 02809
Phone: 401-438-1360

Project Number: 180150
P.O. Number:
Project Name: Jerimoth Hill House
Collected Date: Not Provided on COC
Received Date: 3/28/2018 10:55:00 AM

Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

	Stereoscopic	Components		
SanAir ID / Description	Appearance	% Fibrous	% Non Fiberous	Asbestos Fibers
01A / 18012682-001 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected
01B / 18012682-002 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected
01C / 18012682-003 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected
02A / 18012682-004 Plaster	Brown Non-Fibrous Heterogeneous		100% Other	None Detected
02B / 18012682-005 Plaster	Brown Non-Fibrous Heterogeneous		100% Other	None Detected
02C / 18012682-006 Plaster	Brown Non-Fibrous Heterogeneous		100% Other	None Detected
03A / 18012682-007 Ceiling Plaster	Brown Non-Fibrous Heterogeneous		100% Other	None Detected
03B / 18012682-008 Ceiling Plaster	Brown Non-Fibrous Heterogeneous		100% Other	None Detected
03C / 18012682-009 Ceiling Plaster	Brown Non-Fibrous Heterogeneous		100% Other	None Detected
04A / 18012682-010 FT - 12x12	Grey Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: Nathan Vaughn
Approved Signatory:

Analysis Date: 3/31/2018
Date: 4/2/2018

SanAir Technologies Laboratory

SanAir ID Number
18012682
FINAL REPORT
4/2/2018 10:11:11 AM

Name: Environmental Consulting & Management Inc
Address: 50 Kickemuit Ave
Bristol, RI 02809
Phone: 401-438-1360

Project Number: 180150
P.O. Number:
Project Name: Jerimoth Hill House
Collected Date: Not Provided on COC
Received Date: 3/28/2018 10:55:00 AM

Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

	Stereoscopic	Components		
SanAir ID / Description	Appearance	% Fibrous	% Non Fiberous	Asbestos Fibers
05A / 18012682-011 Lino	Beige Non-Fibrous Heterogeneous		100% Other	None Detected
06A / 18012682-012 Window Glazing	Grey Non-Fibrous Heterogeneous		98% Other	2% Chrysotile
06B / 18012682-013 Window Glazing				Not Analyzed
07A / 18012682-014 Attic Insulation, Insulation	White Fibrous Heterogeneous	85% Glass	15% Other	None Detected
07A / 18012682-014 Attic Insulation, Felt Paper	Black Fibrous Heterogeneous	85% Cellulose	15% Other	None Detected
08A / 18012682-015 Tar Paper Under Wood Floor	Black Fibrous Heterogeneous	85% Cellulose	15% Other	None Detected
08B / 18012682-016 Tar Paper Under Wood Floor	Black Fibrous Heterogeneous	85% Cellulose	15% Other	None Detected
09A / 18012682-017 Wall Insulation	Yellow Fibrous Heterogeneous	20% Cellulose 65% Glass	15% Other	None Detected
010A / 18012682-018 Garage Roof	Black Non-Fibrous Heterogeneous	8% Glass	92% Other	None Detected
011A / 18012682-019 House Roof	Black Non-Fibrous Heterogeneous	8% Glass	92% Other	None Detected

Certification

Analyst: Nathan Vaughn Approved Signatory:

Analysis Date: 3/31/2018 Date: 4/2/2018

SanAir Technologies Laboratory

SanAir ID Number
18012682
FINAL REPORT
4/2/2018 10:11:11 AM

Name: Environmental Consulting & Management Inc
Address: 50 Kickemuit Ave
Bristol, RI 02809
Phone: 401-438-1360

Project Number: 180150
P.O. Number:
Project Name: Jerimoth Hill House
Collected Date: Not Provided on COC
Received Date: 3/28/2018 10:55:00 AM

Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

	Stereoscopic	Components		
SanAir ID / Description	Appearance	% Fibrous	% Non Fiberous	Asbestos Fibers
011B / 18012682-020 House Roof	Black Non-Fibrous Heterogeneous	8% Glass	92% Other	None Detected
011C / 18012682-021 House Roof	Black Non-Fibrous Heterogeneous	8% Glass	92% Other	None Detected

Certification

Analyst: Nathan Vaughn Approved Signatory:

Analysis Date: 3/31/2018 Date: 4/2/2018

Disclaimer

The final report cannot be reproduced, except in full, without written authorization from SanAir. Fibers smaller than 5 microns cannot be seen with this method due to scope limitations. The accuracy of the results is dependent upon the client's sampling procedure and information provided to the laboratory by the client. SanAir assumes no responsibility for the sampling procedure and will provide evaluation reports based solely on the sample and information provided by the client. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Samples are held for a period of 60 days.

For NY state samples, method EPA 600/M4-82-020 is performed.

Polarized- light microscopy is not consistently reliable in detecting asbestos in floor covering and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.

Asbestos Certifications
NVLAP lab code 200870
City of Philadelphia: ALL-460
PA Department of Environmental Protection Number: 68-05397
California License Number: 2915
Colorado License Number: AL-23143
Connecticut License Number: PH-0105
Massachusetts License Number: AA000222
Maine License Number: LB-0075
New York ELAP lab ID: 11983
Rhode Island License Number: AAL-126
Texas Department of State Health Services License Number: 300440
Commonwealth of Virginia 3333000323
Washington State License Number: C989
West Virginia License Number: LT000566
Vermont License: AL166318

Revision Date: 11/30/2017

SanAir Technologies Laboratory

1551 Oakbridge Dr. STE B
Powhatan, VA 23139
804.897.1177 / 888.895.1177
Fax 804.897.0070
sanair.com

Asbestos Chain of Custody
Form 140, Rev 1, 1/20/2017

SanAir ID Number 18012682

Company: Environmental Consulting & Management Inc		Project #: 180150	Collect by: J Lepore
Address: 50 Kickemuit Ave		Project Name: Jordinoth Hill House	Phone #: 401-438-1360
City, St., Zip: Bristol, RI 02809		Date Collected:	Fax #: 401-438-1316
State of Collection: RI	Account#: 2667	P.O. Number:	Email: JLepore@ECMME.com

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop ☐	
ABEPA	PLM EPA 400 Point Count	☐
ABB1K	PLM EPA 1000 Point Count	☐
ABBEN	PLM EPA NOB**	☐
ABBCH	TEM Chatfield**	☐
ABBTM	TEM EPA NOB**	☐
ABQ	PLM Qualitative	☐

** Available on 24-hr. to 5-day TAT

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐
Other:		☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Soil

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐

Vermiculite & Soil

ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Water

ABHE	EPA 100.2	☐

Other

Matrix		
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	☐ 2 Days	☐ 3 Days	☐ 4 Days	☒ 5 Days

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Date	Flow Rate*	Start – Stop Time*	
01A	Skimcoat					
01B	↓					
01C	↓					
02A	Plaster					
02B	↓					
02C	↓					
03A	Ceiling plaster					
03B	↓					
03C	↓					
04A	FT - 12x12					
05A	Lino					
06A	Window Glazing					

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	3-27-18	1:30pm	MC	MAR 28 2018	10:55AM

If no technician is provided, then the primary contact for your account will be selected. Unless scheduled. the turnaround time for all samples received after 3 pm EST Friday will begin at 8 am Monday morning. Weekend or holiday work must be scheduled ahead of time and is charged for rush turnaround time. SanAir covers Standard Overnight FedEx shipping. Shipments billed to SanAir with a faster shipping rate will result in additional charges.

Page___of _____

18012682

Form 140, Revision 1, 1/20/2017

Sample #	Sample Identification/Location	Volume or Area	Sample Date	Flow Rate*	Start – Stop Time*	
06B	Window Glazing					
07A	OHIC insulation					
08A	Tar paper under wood floor					
08B	" "					
09A	Wall insulation					
010A	Garage Roof					
011A	House Roof					
011B	↓					
011C						

Special Instructions	

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	3-27-18		[illegible]	MAR 2 8 2018	10:55AM

If no technician is provided, then the primary contact for your account will be selected. Unless scheduled, the turnaround time for all samples received after 3 pm EST Friday will begin at 8 am Monday morning. Weekend or holiday work must be scheduled ahead of time and is charged for rush turnaround time. SanAir covers Standard Overnight FedEx shipping. Shipments billed to SanAir with a faster shipping rate will result in additional charges.

Page ___of _____

April 13, 2018

RIDEM Division of Planning and Development
Attn: Mr. David DeCost
235 Promenade Street
Providence, RI 02908

Re: ECM Project # 180150-11 Bath House at Pulaski State Park, Glocester, RI – Asbestos Demolition Inspection

Mr. DeCost:

Environmental Consulting and Management, Inc (ECM) personnel conducted an asbestos demolition inspection within the bath house at Pulaski State Park located on Center Trail in Glocester, Rhode Island. The survey consisted of sampling to identify suspect asbestos containing building materials (ACBM) that would be impacted during the upcoming demolition.

Methodology and Scope

On March 15, 2018 an asbestos inspection was conducted by Mr. Andrew Perreault (AAC-0914) of Environmental Consulting & Management Inc. (ECM). During the course of the inspection ECM collected samples of suspect asbestos containing building materials (ACBM) that may be impacted during the renovation of the building. The interior, exterior and roof of the bath house were surveyed as part of this inspection. Pictures of this building can be found in **Attachment 2**.

Asbestos Report:

The survey consisted of collecting suspect ACBM from the building. These materials are then analyzed utilizing Polarized Light Microscopy (PLM) in accordance with Environmental Protection Agency (EPA) method 600/R-93/116. In addition to collection, location and quantity of ACBM has also been denoted within this report. Please refer to **Attachment 1** for the asbestos analytical results. On the following page is a chart of the samples collected.

Bath House at Pulaski State Park – Asbestos Sample Results SanAir ID#18011040

Sample #	Material	Location	Asbestos %	Quantity
01A-B	Pressboard Panel	Ceiling and Walls in Men's Bathroom and Women's Bathroom	None Detected	NA
02A	**Window Glazing**	**Exterior Windows**	**2% Chrysotile**	**10 Windows 10 LF per Window 100 LF Total**
03A-B	Tarpaper under Wood Siding	Exterior of Building	None Detected	NA
04A-B	Asphalt Shingle	Roof	None Detected	NA
05A-B	Tarpaper under Asphalt Shingles	Roof	None Detected	NA

Asbestos Conclusion:

Asbestos was detected in the window glazing of the boarded up windows of the bath house. All pipes observed during the inspection were un-insulated, and the floors were made of concrete.

Any suspect materials not sampled within this report should be tested before being impacted.

Regulatory Compliance

If the entire window assembly is removed intact, without impacting the asbestos containing window glazing, an abatement plan is not required by the RIDOH under the RIDOH's intact non-friable removal policy. A Rhode Island licensed asbestos abatement contractor will have to remove and properly dispose of the entire window assembly as asbestos containing waste. If the window glazing is to be directly impacted as part of the demolition, an asbestos abatement plan will need to be filed with the RIDOH.

Limitations:

Environmental Consulting and Management cannot be held responsible for the identification of materials that are hidden, concealed or otherwise inaccessible. The lower portion of the building was structurally unsound and was not entered. A visual inspection was performed from outside the area. No suspect materials were observed.

This report was prepared under the request of RIDEM Division of Planning and Development. This report should not be represented, reproduced, or disseminated without the written approval of Environmental Consulting and Management or RIDEM Division of Planning and Development. No warranties other than those expressed in the contract for this project are expressed or implied.

A hard copy of this report can be provided for your records via mail upon request. If you have any further questions feel free to contact myself at 401-304-6615.

Sincerely,
Environmental Consulting & Management

Andrew Perreault
Project Manager
RI Asbestos Inspector # AAC-0914

Attachment 1
Asbestos Bulk Sample Results

SanAir Technologies Laboratory

The Identification Specialists

Analysis Report
prepared for
Environmental Consulting & Management Inc

Report Date: 3/23/2018

Project Name: Pulaski Bathhouse

Project #: 180150

SanAir ID#: 18011040

NVLAP TESTING

NVLAP LAB CODE 200870-0

1551 Oakbridge Dr. Suite B | Powhatan, Virginia 23139-8061
888.895.1177 | 804.897.1177 | fax: 804.897.0070 | IAQ@SanAir.com | SanAir.com

SanAir ID Number
18011040
FINAL REPORT
3/23/2018 4:16:04 PM

Name: Environmental Consulting & Management Inc
Address: 50 Kickemuit Ave
Bristol, RI 02809
Phone: 401-438-1360

Project Number: 180150
P.O. Number:
Project Name: Pulaski Bathhouse
Collected Date: 3/15/2018
Received Date: 3/16/2018 10:20:00 AM

Dear Andrew Perreault,

We at SanAir would like to thank you for the work you recently submitted. The 9 sample(s) were received on Friday, March 16, 2018 via FedEx. The final report(s) is enclosed for the following sample(s): 01A, 01B, 02A, 03A, 03B, 04A, 04B, 05A, 05B.

These results only pertain to this job and should not be used in the interpretation of any other job. This report is only complete in its entirety. Refer to the listing below of the pages included in a complete final report.

Sincerely,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

Final Report Includes:
- Cover Letter
- Analysis Pages
- Disclaimers and Additional Information

Sample conditions:
- 9 samples in Good condition.

SanAir Technologies Laboratory

SanAir ID Number
18011040
FINAL REPORT
3/23/2018 4:16:04 PM

Name: Environmental Consulting & Management Inc
Address: 50 Kickemuit Ave
Bristol, RI 02809
Phone: 401-438-1360

Project Number: 180150
P.O. Number:
Project Name: Pulaski Bathhouse
Collected Date: 3/15/2018
Received Date: 3/16/2018 10:20:00 AM

Analyst: Childress, Susan

Asbestos Bulk PLM EPA 600/R-93/116

	Stereoscopic	Components		
SanAir ID / Description	Appearance	% Fibrous	% Non Fiberous	Asbestos Fibers
01A / 18011040-001 Pressboard Panel / Women's Bathroom	White Fibrous Homogeneous	95% Cellulose	5% Other	None Detected
01B / 18011040-002 Pressboard Panel / Men's Bathroom	White Fibrous Homogeneous	95% Cellulose	5% Other	None Detected
02A / 18011040-003 Window Glazing / Women's Bathroom	White Non-Fibrous Homogeneous		98% Other	2% Chrysotile
03A / 18011040-004 Tarpaper Under Wood Siding / Exterior North Side	Black Fibrous Homogeneous	60% Cellulose	40% Other	None Detected
03B / 18011040-005 Tarpaper Under Wood Siding / Exterior East Side	Black Fibrous Homogeneous	60% Cellulose	40% Other	None Detected
04A / 18011040-006 Asphalt Shingle / Roof North Side	Black Fibrous Homogeneous	60% Cellulose	40% Other	None Detected
04B / 18011040-007 Asphalt Shingle / Roof East Side	Black Fibrous Homogeneous	60% Cellulose	40% Other	None Detected
05A / 18011040-008 Tarpaper Under 04A	Black Fibrous Homogeneous	60% Cellulose	40% Other	None Detected
05B / 18011040-009 Tarpaper Under 04A	Black Fibrous Homogeneous	60% Cellulose	40% Other	None Detected

Certification

Analyst: Susan L. Childress
Approved Signatory: Sandra Sobrino

Analysis Date: 3/23/2018
Date: 3/23/2018

Disclaimer

The final report cannot be reproduced, except in full, without written authorization from SanAir. Fibers smaller than 5 microns cannot be seen with this method due to scope limitations. The accuracy of the results is dependent upon the client's sampling procedure and information provided to the laboratory by the client. SanAir assumes no responsibility for the sampling procedure and will provide evaluation reports based solely on the sample and information provided by the client. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Samples are held for a period of 60 days.

For NY state samples, method EPA 600/M4-82-020 is performed.

Polarized- light microscopy is not consistently reliable in detecting asbestos in floor covering and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.

Asbestos Certifications
NVLAP lab code 200870
City of Philadelphia: ALL-460
PA Department of Environmental Protection Number: 68-05397
California License Number: 2915
Colorado License Number: AL-23143
Connecticut License Number: PH-0105
Massachusetts License Number: AA000222
Maine License Number: LB-0075
New York ELAP lab ID: 11983
Rhode Island License Number: AAL-126
Texas Department of State Health Services License Number: 300440
Commonwealth of Virginia 3333000323
Washington State License Number: C989
West Virginia License Number: LT000566
Vermont License: AL166318

Revision Date: 11/30/2017

SanAir Technologies Laboratory

1551 Oakbridge Dr. STE B
Powhatan, VA 23139
804.897.1177 / 888.895.1177
Fax 804.897.0070
sanair.com

Asbestos Chain of Custody
Form 140, Rev 1, 1/20/2017

SanAir ID Number 18011040

Company: ECM Inc.	Project #: 180150	Collect by: Andrew Perreault
Address: 181 Amaral Street	Project Name: Pulaski Bathhouse	Phone #: 401-304-6615
City, St., Zip: Riverside, RI 02915	Date Collected: 3/15/2018	Fax #:
State of Collection: RI Account#: 2667	P.O. Number:	Email: aperreault@ecmne.com

Bulk

ABB	PLM EPA 600/R-93/116	■
	Positive Stop ☐	
ABEPA	PLM EPA 400 Point Count	☐
ABB1K	PLM EPA 1000 Point Count	☐
ABBEN	PLM EPA NOB**	☐
ABBCH	TEM Chatfield**	☐
ABBTM	TEM EPA NOB**	☐
ABQ	PLM Qualitative	☐

** Available on 24-hr. to 5-day TAT

Water

ABHE	EPA 100.2	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐
Other:		☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Soil

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐

Vermiculite & Soil

ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Matrix **Other**

		☐

Turn Around Times	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	☐ 2 Days	☐ 3 Days	☐ 4 Days	■ 5 Days

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Date	Flow Rate*	Start – Stop Time*	
01A	Pressboard Panel / Women's Bathroom					
01B	Pressboard Panel / Men's Bathroom					
02A	Window Glazing / Women's Bathroom					
03A	Tarpaper under Wood Siding / Exterior North Side					
03B	Tarpaper under Wood Siding / Exterior East Side					
04A	Asphalt Shingle / Roof North Side					
04B	Asphalt Shingle / Roof East Side					
05A	Tarpaper under 04A					
05B	Tarpaper under 04A					

Relinquished by	Date	Time	Received by	Date	Time
[signature]	3/15/18	1200	[signature]	MAR 16 2018	10:20 am

If no technician is provided, then the primary contact for your account will be selected. Unless scheduled, the turnaround time for all samples received after 3 pm EST Friday will begin at 8 am Monday morning. Weekend or holiday work must be scheduled ahead of time and is charged for rush turnaround time. SanAir covers Standard Overnight FedEx shipping. Shipments billed to SanAir with a faster shipping rate will result in additional charges.

Page 1 of 1

Attachment 2
Building Photographs

11

Bathhouse at Pulaski State Park, Glocester

Manager: Division of Parks and Recreation
Address: Center Trail
Coordinates: 41.929871, 71.796318
Use: Minimally Occupied
Approximate Size: 2,000 SF
Electricity: Yes

Accessibility: No Brush removal required

APPENDIX B

Tue 4/2/2019 3:08 PM

RR

Randall, Roberta (HPHC)

RE: Demolition of Pulaski and Haines Park Restrooms

To DeCost, David (DEM)

You replied to this message on 4/3/2019 12:16 PM.

Hi David,

We have no objection to the demolition of the existing restroom facilities at Pulaski State Park and at Haines State Park. Neither of the structures are historic buildings. We have no objection to the installation of the composting toilets being installed by Clivus New England, as shown in the email you sent on 4/2/2019.

Roberta

Roberta Randall
Principal Historical Architect
Rhode Island Historical Preservation and Heritage Commission
150 Benefit Street
Providence, RI 02903
401-222-4333

Tue 4/2/2019 3:08 PM

RR

Randall, Roberta (HPHC)

RE: Demolition of Pulaski and Haines Park Restrooms

To DeCost, David (DEM)

You replied to this message on 4/3/2019 12:16 PM.

Hi David,

We have no objection to the demolition of the existing restroom facilities at Pulaski State Park and at Haines State Park. Neither of the structures are historic buildings. We have no objection to the installation of the composting toilets being installed by Clivus New England, as shown in the email you sent on 4/2/2019.

Roberta

Roberta Randall
Principal Historical Architect
Rhode Island Historical Preservation and Heritage Commission
150 Benefit Street
Providence, RI 02903
401-222-4333

THE STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Department of Business Regulation

BUILDING CODE COMMISSION

560 Jefferson Blvd., Warwick, Rhode Island 02886

April 11, 2019

Project Approval Letter

RISBC Project Number and Name	Location: 151 Pulaski Road	**DESIGNER**	Name: Company: Address:
DESCRIPTION	Demolition of a bathhouse and one pump station in Pulaski State Park; demolition of a bathhouse within Haines State Park.	**AGENCY**	Agency Contact Name: Agency/Department Name: Agency Address: ; ,

Dear Sirs/Madams:

Plans and Specifications submitted for the above-referenced project have been reviewed and approved. Please be advised that permits will be issued upon application and payment of fees by the select Contractor.

The approval letter does not constitute permission to proceed to reproduce documents required by the agency or purchasing division for bidding purposes. Such authorization can only be granted by the User Agency or Department, who you should contact for authorization to proceed.

The User, Department, or Agency, is advised by copy of this notice that documents required for bidding purposes must be in a format designated by the Division of Purchasing. The contract recipient will submit a copy of this document and a copy of an approval requisition for the project to proceed to permitting, along with any conditions of this approval to be accepted by the Building Code Commission.

Very truly yours,

John P. Leyden, CBO
State Building Commissioner

To learn more, scan this barcode or visit rhodeisland.viewpointcloud.com/#/records/30334