SPECIFICATIONS FOR
BERGEN COUNTY ROCKLEIGH PROPERTY DEMOLITION PROJECT

BOROUGH OF ROCKLEIGH
BERGEN COUNTY, NEW JERSEY

January 20, 2023

NEGLIA PROJECT NO.: **BCPWCTY20.011**

COUNTY EXECUTIVE

JAMES J. TEDESCO III

2023 COUNTY COMMISSIONERS

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BERGEN COUNTY ROCKLEIGH PROPERTY DEMOLITION PROJECT SPECIFICATIONS

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TECHNICAL SPECIFICATIONS

This project shall be governed by the "New Jersey Department of Transportation, Standard Specifications for Road and Bridge Construction, 2019" using U.S. Customary English Units, except as noted in the following specification. Additionally, this project shall be constructed in accordance with all requirements and standards set forth by governing agencies such as OSHA, NJDEP, and EPA. This project shall also follow all applicable Federal, State, County, and local codes and regulations, as well as all applicable utility purveyor standards.

Any references in this specification to a specific product line or proprietary item, it is understood that the specification refers to that product or an approved equal. The lack of the phrase "or approved equal" does not imply that the specified product is the only product that will be allowed. However, it will be the successful bidder's burden to prove that an alternate product meets the specification called for.

In case of a discrepancy between the technical specifications and any other sections of the specification document, the Project Engineer shall be notified accordingly.

SECTION 011100 – CONTINGENCY ALLOWANCE

PART 1 – GENERAL

1.1 DESCRIPTION

A. Under this Contract this item shall be utilized by the contractor for unforeseen conditions associated with this project including any materials, services or appurtenances not specifically described in the specifications but as required for completion of the project. All work must be ordered by the Engineer and/or owner to qualify for payment. This item is intended to be utilized to compensate the contractor for the unknown areas of the work or other facilities not specified, but necessary to complete the work not called for or shown on the plans.

1.2 ALLOWANCE FOR UNFORESEEN CONDITIONS

A. The work shall include the portion of the stipulated amount, as indicated in the Bid Documents as an allowance for unforeseen conditions as directed and approved by the Engineer and owner's representative.

B. Submittal Requirements

The Contractor shall provide all invoices from labor, subcontractors and material to the Engineer and owner's representative for review and approval. The Contractor shall not be reimbursed under the allowance for any work, which he/she has not demonstrated is part of the work authorized by the Engineer and owner's representative.

The Contractor shall not proceed with the work associated with the owner's contingency allowance until all costs associated with the work have been authorized in writing by the Engineer and owner's representative.

PART 2 – PRODUCTS – Not Applicable.

PART 3 – EXECUTION – Not Applicable.

END OF SECTION

SECTION 013220 – SUBMITTALS

PART 1 – GENERAL

1.1 DESCRIPTION

A. This section specifies the general methods and requirements of submissions applicable to the following work-related submittals: Shop Drawings, Product Data, and Samples.

B. Shop Drawings:

1. Shop drawings as specified in individual work sections include, but are not necessarily limited to, data such as fabrication and drawings, scheduled information, setting diagrams, actual shopwork manufacturing instructions, custom templates, coordination of drawings, individual system or equipment inspection and test reports including performance curves and certifications, as applicable to the Work.

2. All shop drawings submitted by the Contractor or their subcontractors shall be provided in an acceptable electronic format such as PDF or WORD document.

3. All shop drawings submitted by subcontractors for approval shall be sent directly to the Contractor for preliminary checking. The Contractor shall be responsible for their submission at the proper time so as to prevent delays in delivery of materials.

4. The Contractor shall check all subcontractor's shop drawings regarding measurements, size of members, materials and details to satisfy himself that they conform to the intent of the Contract Drawings and Specifications. Drawings found to be inaccurate or otherwise in error shall be returned to the subcontractors for correction before submission thereof.

5. All details on shop drawings submitted for approval shall show clearly the elevations of the various parts to the main members and lines of the structure and where correct fabrications of the work depends upon field measurements, such measurements shall be made and noted on the drawings before being submitted for approval.

C. Product Data:

1. As specified in individual sections, include but are not necessarily limited to standard prepared data for manufactured products (sometimes referred to as catalog data), such as the manufacturer's product specifications and installation instructions and manufacturer's printed statements of compliances and applicability, catalog cuts, product photographs, production or quality control inspection and test reports and certifications, mill reports, product operating and maintenance instructions and recommend spare parts listing, and printed product warranties, as applicable to the Work.

D. Samples:

1. Samples specified in individual sections include but are not necessarily limited to physical examples of the work, such as sections of manufactured or fabricated work, of pattern swatches and as applicable to the Work.

E. Contractor's Responsibilities:

1. The Contractor shall review shop drawings, product data and samples prior to submission to determine and verify the following: Field measurements, field construction criteria, catalog numbers and similar data, and conformance with the specifications.
2. Each shop drawing, working drawing, sample and catalog submitted by the Contractor shall have affixed to it the following Certification Statement, signed by the Contractor: "Certification Statement: By this submittal, I hereby represent that I have determined and verified all field measurements, field construction criteria, materials, dimensions, catalog numbers and similar data and I have checked and coordinated each item with other applicable approved shop drawings and all Contract requirements."
3. Notify the Owner in writing, at the time of submittal, of any deviations in the submittals from the requirements of the contract documents.
4. No portion of the work requiring a shop drawing, working drawing, sample or catalog data shall be started nor shall any materials be fabricated or installed prior to the approval or qualified approval of such item. Fabrication performed, materials purchased or on-site construction accomplished which does not conform to approved shop drawings and data shall be at the Contractor's risk. The Owner will not be liable for any expense or delay due to corrections or remedies required to accomplish conformity.
5. Project work, materials, fabrication and installation shall confirm with approved shop drawings, working drawings, applicable samples and catalog data.

F. Submission Requirements:

1. Make submittals promptly in accordance with approved schedule and in such sequence as to cause no delay in the Work or in the work of any other Contractor.
2. Number of submittals required:
    a. Shop Drawings – submit three (3) copies.
    b. Product Data – submit three (3) copies.
    c. Samples – submit the number stated in the respective Specification Section.
3. Submittals shall contain:
    a. The date of submission and the dates of any previous submissions.
    b. The project title and number.
    c. Contractor identification.
    d. The names of the Contractor, Supplier and Manufacturer.
    e. Identification of the product, with the specification section number.
    f. Field dimensions, clearly identified as such.
    g. Relation to adjacent or critical features of the Work or materials.
    h. Applicable standards, such as ASTM or Federal Specification numbers.

i. Identification of deviations from Contract Documents.

j. Identification of revisions or resubmittals.

k. An 5-inch by 4-inch blank space for Contractor and Engineer Stamp.

G. Resubmission Requirements:

1. Make any corrections or changes in the submittals required by the Engineer and resubmit until approved.

2. Shop Drawings and Product Data:

a. Revise initial drawings or data and resubmit as specified for the initial submittal.

b. Indicate any changes which have been made other than those requested by the Engineer.

3. Samples: submit new samples as required for initial submittal.

H. Distribution:

1. Distribute reproductions of approved shop drawings and copies of approved product data and samples, where required, to the job site file and elsewhere as directed by the Engineer. Number of copies shall be as directed by the Engineer but shall be a minimal of three (3) copies.

I. General Procedure for Submittals:

1. Coordination of Submittal Times – Prepare and transmit each submittal sufficiently in advance of performing the related work or other applicable activities, or within the time specified in the individual work sections of the Specifications, so that the installation will not be delayed by processing times including disapproval and resubmittal (if required), coordination with other submittals, testing, purchasing, fabricating, delivery and similar sequenced activities. No extension of time will be authorized because of the Contractor's failure to transmit submittals sufficiently in advance of the work.

2. Workmanship Bonds – Where specific units of work require the issuance of a bond or similar provision, as a means of assuring the Owner that certain possible failures of the work to perform as represented will be rectified at someone else's expense, submit fully executed bond backed by a surety company acceptable to the Owner and in the principal amount indicated. Include information sheet for the Owner's maintenance/operating personnel outlining proper procedures in case of failure or other instances which might affect the validity of the bond; list names, addresses and telephone numbers for the Owner's emergency and follow-up in connection with the implementation of each bond.

PART 2 – PRODUCTS – Contractor to provide an As-Built drawing of the site upon completion.

PART 3 – EXECUTION – Not Applicable.

END OF SECTION

SECTION 013233 – PRE-CONSTRUCTION PHOTOGRAPHS

PART 1 – GENERAL

1.1 DESCRIPTION

A. The Contractor shall furnish photographs, taken by a professional photographer acceptable to the Engineer, to show the condition of the site prior to construction, as well as to show the progress of the work.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Prints of pre-construction and construction photographs shall be 3 inch by 5-inch size, mounted on cardboard and provided with reinforced 1inch wide flap, punched with 2 holes for binding, spaced 4 ¼ inches apart. The binding flap shall be located along the 8-inch dimension, and at the lower right hand corner on the front. The title shall include the name of the photographer, name of the project, contract number, station or other description, direction of view and date the picture was taken. The photographs shall also be numbered consecutively. Negatives of all photographs shall be furnished to the Engineer.

PART 3 – EXECUTION

3.1 METHODS OF PHOTOGRAPHS

A. Pre-construction photographs shall be taken where directed by the Engineer to especially note the character of all easements and the condition of any structures, lawns, trees, streets, sidewalks, etc., which might be damaged, and shall average at least one photograph for each 50 feet of street or easement in the contract. The Engineer shall be provided with one matte print of each photograph. A minimum of thirty-six construction photographs shall be taken each month at regular intervals while the work is in progress. Photographs shall be taken at such times and at such locations as may be determined by the Engineer. One matte print of each picture taken during the month shall be submitted to the Engineer at the time of submitting the periodic estimate for progress payment.

END OF SECTION

SECTION 015503 – TEMPORARY CONSTRUCTION TRAILER

PART 1 – GENERAL

1.1 DESCRIPTION

A. The Contractor shall provide and maintain a safe and secure field office consisting of a temporary portable trailer at a location designated by the Owner and Project Engineer. The Contractor shall secure any necessary permits, and full removal of the field office when directed by the Project Engineer and local authority having Building Department jurisdiction.

B. Provide a field office that is at least approximately 8 feet by 20 feet. Ensure that the field office is weatherproof with a minimum ceiling height of 7.5 feet. Ensure the field office doors and windows lock. Provide keys to the Project Engineer/owner's representative.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Provide electric, telephone, and broadband internet utility services. Provide a field office with sufficient natural and artificial light. Provide adequate insulation, heat and air conditioning to maintain an ambient temperature of 68°F to 80°F.

B. Provide one portable toilet located next to the field office.

C. Coordinate utility service connections and disconnections with respective utility company.

D. Assembled Office Furnishing:

1. One 3 shelf bookcase
2. One 6 foot desk
3. One desk chair
4. One 6 foot table
5. Two folding chairs
6. One type ABC fire extinguisher having UL-approved

PART 3 – EXECUTION – Not Applicable

END OF SECTION

SECTION 015526 – MAINTENANCE AND PROTECTION OF TRAFFIC

PART 1 – GENERAL

1.1 DESCRIPTION

A. Under this Contract this item shall mean that the Contractor shall provide for the safe passage of vehicles and pedestrians for safe ingress and egress to properties abutting the right-of-way within the limits of the project, including but not limited to the use of police officer-man hours, flagmen, cones, barrels, etc., in any and all areas where contractor deems it necessary. The portion of the project which is opened to traffic shall be kept in such condition that traffic is adequately accommodated. Contractor must provide for emergency vehicle access during construction until project has been completely turned over to the County of Bergen and keep on-site telephone numbers of all local emergency personnel. Access to the site shall be provided at all times unless otherwise coordinated with the County of Bergen.

B. This item shall also include the maintenance and protection of highway traffic and shall include any and all materials necessary to provide for this passage, and that the Contractor shall abide to all of the rules and regulations as set forth in the Traffic Control section of the current New Jersey State Highway Department Standard Specifications. The Contractor shall be responsible for implementing a detour, if not shown on the plans, in accordance with applicable Sections and Subsections for Detours of the 2019 NJDOT Standard Specifications. Any detour plans and/or new routes shall be submitted to the County of Bergen, Borough of Rockleigh, and Neglia Engineering Associates for review and approval.

C. Any damage to construction equipment, materials and vehicles are the sole responsibility of the contractor.

D. The contractor may utilize outside agencies to maintain traffic. Any outside agencies must be certified with the County of Bergen.

E. The contractor is responsible for all maintenance, safety and protection of traffic until the project is complete and turned over to the project owner. The contractor shall hold harmless the County of Bergen, Borough of Rockleigh and Neglia Engineering Associates for any safety incidents during the project construction period.

PART 2 – PRODUCTS – Not Applicable

PART 3 – EXECUTION – Not Applicable

END OF SECTION

SECTION 015527 – TRAFFIC DIRECTORS

PART 1 – GENERAL

1.1 DESCRIPTION

A. Under this Contract, this item shall mean that the Contractor shall provide a safe passage of vehicles and pedestrians for ingress and egress to properties abutting the right-of-way within the limits of the project, when the Contractor is unable to utilize flagmen for traffic control.

B. Traffic Directors shall be off-duty Police Officers from within the Municipality of where the work is being performed. The Traffic Directors shall be located in a strategic location as determined by the Municipal Traffic Officer and/or Engineer in order to safely and efficiently control traffic during construction hours. The Contractor shall contact the Municipal Police Department and/or Count, as directed by the engineer, in order to obtain the services of Traffic Directors, if needed.

PART 2 – PRODUCTS – Not Applicable

PART 3 – EXECUTION – Not Applicable

END OF SECTION

SECTION 017113 – MOBILIZATION / DEMOBILIZATION

PART 1 – GENERAL

1.1 DESCRIPTION

A. Mobilization / demobilization shall consist of the cost of initiating the contract, including preparatory work and operations, necessary for the movement of personnel, equipment, supplies and incidentals to the Project site, and other work performed or costs incurred prior to beginning work and completing work. In any case of inconsistencies with the N.J.A.C. 7:14-2.9, the NJ Administrative Code shall govern.

PART 2 – PRODUCTS – Not Applicable

PART 3 – EXECUTION – Not Applicable

END OF SECTION

SECTION 017123 – CONSTRUCTION LAYOUT

PART 1 – GENERAL

1.1 DESCRIPTION

A. Under this item the Contractor shall provide all work required in connection with the layout for construction of the project.

B. For sewers, the contractor is responsible for laying out and marking a suitable number of control points and bench marks, averaging about one every 500 feet. The Contractor shall employ the services of a land surveyor, licensed to practice in this state, for laying out the work, including setting of key or principal stakes, markers and levels, and preparation of cut sheets, if required, on a form approved by the Engineer.

PART 2 – PRODUCTS – Not Applicable

PART 3 – EXECUTION

3.1 METHOD OF STAKEOUT

A. The Contractor shall submit all necessary computations to establish the exact position of all the work, along with construction grade sheets, prepared by a licensed land surveyor hired by the Contractor, to the Neglia Group for approval prior to the start of construction.

B. The Contractor shall maintain the line and grade stakes for his use in staking out the work. If such control points are damaged, lost, displaced or removed, they shall be reset or replaced at a charge to the Contractor for the actual cost of the work.

C. The Contractor shall be responsible for maintaining the points he has established. Any error or apparent discrepancies found in the plans or specifications shall be called to the attention of the Neglia Group in writing for interpretation prior to proceeding with the work.

D. Should any inconsistencies arise during layout by the Contractor's surveyor, the Neglia Group must be advised prior to construction. Any downtime costs incurred by the contractor due to inconsistencies will not be absorbed by the Neglia Group.

END OF SECTION

SECTION 017329 – SAWCUTTING

PART 1 – GENERAL

1.1 DESCRIPTION

A. Sawcutting shall consist of the cutting of sidewalks, concrete, driveways, curbs and pavements of whatever nature in order to maintain a clean finished look when matching into existing areas of concrete and asphalt where directed by the Neglia Group.

PART 2 – PRODUCTS – Not Applicable

PART 3 – EXECUTION

3.1 MATERIALS – METHODS OF CONSTRUCTION

A. Concrete or bituminous surfaces shall be cut through the entire pavement thickness in a straight, neat line using diamond-tipped blades with water, as approved by the Neglia Group.

PLEASE NOTE THAT JACK-HAMMERED OR BROKEN EDGES WILL NOT BE ACCEPTED UNDER ANY CIRCUMSTANCES.

END OF SECTION

SECTION 017419– CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 – GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for the following:

1. Salvaging nonhazardous demolition and construction waste.
2. Recycling nonhazardous demolition and construction waste.
3. Disposing of nonhazardous demolition and construction waste.
4. All salvaging, recycling, and disposing of nonhazardous demolition and construction waste requires Engineer's and owner's representative pre-approval.

B. Related Sections:

1. Section "Structure Demolition" for disposition of waste resulting from demolition of buildings, structures, and site improvements.

1.2 DEFINITIONS

A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.

B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.

C. Disposal: Removal off-site of demolition and construction waste and subsequent sake, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.

D. Recycle: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.

E. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.3 PERFORMANCE REQUIREMENTS

A. General: Achieve end-of-Project rates for salvage/recycling of 75 percent by weight of total non-hazardous solid waste generated by the Work. Facilitate recycling and salvage of materials.

1.4 ACTION SUBMITTALS

A. Waste Management Plan: Submit plan within 7 days of date established for commencement of the Work.

1.5 INFORMATIONAL SUBMITTALS

A. Waste Reduction Progress Reports: Concurrent with each Application for Payment, submit report. Include the following information:

1. Material category.
2. Generation point of waste.
3. Total quantity of waste in tons (tonnes).
4. Quantity of waste salvaged, both estimated and actual in tons (tonnes).
5. Quantity of waste recycled, both estimated and actual in tons (tonnes).
6. Total quantity of waste recovered (salvaged plus recycled) in tons (tonnes).
7. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.

B. Waste Reduction Calculations: Before request for Substantial Completion, submit calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work.

C. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.

D. Record of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.

E. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts and invoices.

F. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts and invoices.

G. Qualification Data: For waste management coordinator.

1.6 WASTE MANAGEMENT PLAN

A. General: Develop a waste management plan according to ASTM E 1609 and requirements of this Section. Plan shall consist of waste identification, waste reduction work plan, and cost/revenue analysis. Distinguish between demolition and construction waste. Indicate quantities by weight or volume, but use same units of measure throughout waste management plan.

B. Waste Identification: Indicate anticipated types and quantities of demolition site-clearing and construction waste generated by the Work. Include estimated quantities and assumptions for estimates.

C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.

1. Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work.
2. Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.
3. Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses and telephone numbers.
4. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers
5. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address and telephone number of each landfill and incinerator facility.
6. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling and designated location on Project site where materials separation will be located.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION

3.1 PLAN IMPLEMENTATION

A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.

B. Waste Management Coordination: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan.

C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work occurring at Project site.

   1. Distribute waste management plan to everyone concerned within three days of submittal return.
   2. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling and disposal.

D. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways and other adjacent occupied and used facilities.

   1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, reused, donated and sold.
   2. Comply with Division 01 Section “Temporary Facilities and Controls” for controlling dust and dirt, environmental protection and noise control.

3.2 SALVAGING DEMOLITION WASTE

A. Salvaged Items for Reuse in the Work:

1. Clean salvaged items.
2. Pack or crate items after cleaning. Identify contents of containers.
3. Store items in a secure area until installation.
4. Protect items from damage during transport and storage.
5. Install salvaged items to comply with installation requirements for new materials and equipment. Provide connections, supports and miscellaneous materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make items functional for use indicated.

B. Salvaged Items for Owner's Use:

1. Clean salvaged items.
2. Pack or create items after cleaning. Identify contents of containers.
3. Store items in secure area until delivery to Owner.
4. Transport items to Owner's storage area designated by Owner.
5. Protect items from damage during transport and storage.

3.3 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

A. General: Recycle paper and beverage containers used by on-site workers.

B. Recycling Receivers and Processors: List below is provided for information only; available recycling receivers and processors include, but are not limited to, the following: Keep local recycling receivers and processors of recyclables.

C. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to Owner.

D. Procedures: Separate recyclable waste from other waste materials, trash and debris. Separate recyclable waste by type at Project site to the maximum extent practical according to approved construction waste management plan.

1. Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.

   a. Inspect containers and bins for contamination and remove contaminated materials if found.

2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.

3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.

4. Store components off the ground and protect from the weather.

5. Remove recyclable waste off Owner's property and transport to recycling receiver or processor.

3.4 RECYCLING DEMOLITION WASTE

A. Standards: Recycling of concrete and masonry debris is strongly recommended and shall be used as backfill to restore empty cavities resulting from demolition of the existing buildings and ancillary tunnels. All recycling shall be performed in accordance with current 2019 NJDOT Standard Specifications for Bridge and Road Construction regarding Recycled Concrete Aggregate (RCA) material composition, gradation, plasticity, etc. Contractor is responsible for ensuring that all proposed recycled materials are free of any hazardous, regulated, and universal wastes.

B. Asphaltic Concrete Paving: Grind asphalt to maximum 1-1/2 inch (38-mm) size. No to be used as backfill unless explicitly approved by the County of Bergen

C. Concrete: Remove reinforcement and other metals from concrete and sort with other metals.

   1. Pulverize concrete to maximum 1-1/2 inch (38-mm) size.

D. Masonry: Remove metal reinforcement, anchors and ties from masonry and sort with other metals.

   1. Pulverize masonry to maximum ¾ inch (19-mm) size.
   2. Clean and stack undamaged, whole masonry units on wood pallets.

E. Wood Materials: Sort and stack members according to size, type and length. Separate lumber, engineered wood products, panel products and treated wood materials.

F. Metals: Separate metals by type.

   1. Structural Steel: Stack members according to size, type of member, and length.
   2. Remove and dispose of bolts, nuts, washers and other rough hardware.

3.5 RECYCLING CONSTRUCTION WASTE

A. Packaging:

   1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
   2. Polystyrene Packaging: Separate and bag materials.
   3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
   4. Crates: break down crates into component wood pieced and comply with requirements for recycling wood.

B. Site-Clearing Wastes: Chip brush, branches, and trees on-site.

C. Wood Materials:

   1. Clean Cut-Offs of Lumber: Grind or chip into small pieced.
   2. Clean Sawdust: Bag sawdust that does not contain painted or treated wood.

D. Gypsum Board: Stack large clean pieced on wood pallets or in container and store in a dry location.

3.6 DISPOSAL OF WASTE

A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.

1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Burning: Do not burn waste materials.

C. Disposal: Transport waste materials off Owner's property and legally dispose of them.

3.7 SAMPLE FORMS

<u>NOTE</u>: All testing will be the Contractor's responsibility under project allowance.

END OF SECTION

SECTION 017423 – FINAL CLEANUP / SITE RESTORATION

PART 1 – GENERAL

1.1 DESCRIPTION

A. Under this item the Contractor shall restore the work site and access area to its original condition including, but not limited to, installation of both temporary and permanent striping, removal and resetting of plaques and bases, street and road signs, relocate existing monuments and setting them on 6-inch-thick concrete pads, removal and disposal of all lights, signs, bollards, topsoil, seeding, fences, hedges, re-grading, repairing of driveways (both bituminous and concrete), sidewalks, roadways, curbs, cleaning and removal of stockpiles and equipment, any underground electrical conduit servicing traffic signals and all else not specifically covered elsewhere in these specifications. All concrete aprons shall be restored. All utility piping damaged during demolition that is not explicitly stated to be demolished shall be equivocally replaced in kind at no additional cost.

PART 2 – PRODUCTS

2.1 MATERIALS

A. NJDOT 2019 Standard Specifications

B. All soil, stone, and other fill materials either imported onto or exported from the property shall comply with all applicable local, County, State, and Federal regulations and requirements as well as the following documents:

PART 3 – EXECUTION

3.1 METHODS OF CONSTRUCTION

A. The site shall be returned to its original condition. Fences shall be reinstalled with posts in concrete footings in accordance with the plans and specifications herein. Hedges shall be reinstalled where possible or replaced in kind and in the same locations as existing. Lawn areas disturbed by Contractor's activities shall be re-graded, seeded and mulched as specified by the Neglia Group.

B. All pavement and sidewalks, where construction fence was previously located, shall be repaired. Cleaning shall include hand-brooming of sidewalk and pavement areas. Adjacent structures shall be cleaned, as necessary, by a method approved by Neglia Engineering Associates and/or County Engineers. Sidewalks shall be replaced with concrete walk in evenly-sized slabs, saw-cut where necessary, only to the extent damaged by the construction. Both concrete and bituminous concrete shall be repaired as specified by the Neglia Group and/or County Engineers, saw-cut where necessary, only to the extent damaged by the construction. All construction equipment and stockpiles shall be removed from the site and disposed of by the Contractor in a suitable and timely manner.

END OF SECTION

SECTION 020900 – UNIVERSAL WASTE MANAGEMENT AND DISPOSAL

PART 1 – UNIVERSAL WASTE MANAGEMENT AND DISPOSAL: GENERAL

1.1 RELATED DOCUMENTS:

A. Read this Section as part of the overall contract documents.

1.2 SCOPE OF UNIVERSAL WASTE MANAGEMENT WORK

A. Work required by this section includes removal, handling and disposal/recycling of all Universal Wastes to include but not be limited to: mercury-containing fluorescent light tubes, PCB-containing light fixture ballasts switches, transformers, and oil/varnishes impacted by the renovations specified. The Contractor is responsible to furnish all labor, materials, facilities, equipment, services, permits and agreements necessary to perform the work required for removal of PCB-containing ballasts, mercury-containing light tubes and mercury-containing thermostat devices in accordance with these specifications, and all local, state and federal regulations; (40) devices in accordance with these specifications, and all local, state and federal regulations; (40 CRF 761, Polychlorinated Biphenyls Manufacturing, Processing, Distribution in Commerce and Use Prohibitions); (49 CRF 178, Shipping Container Specifications).

B. For the purpose of this project, all ballasts which do not have the term “No PCB’s” printed on the label must be assumed to be PCB-containing and be removed and disposed of as such. Ballasts which have the term “No PCB’S” printed on the label may be disposed of as construction and demolition waste. Intact, non-leaking PCB containing ballasts (small capacitor) may be disposed of as municipal solid waste. It is recommended that mercury florescent bulbs and mercury switch items shall be recycled, as applicable, as opposed to being treated as a universal waste items per EPA disposal requirements as outlined in Part 6.

C. The Scope of Work includes the removal, containerization and disposal/recycling of the following potential elements from the subject building structures:

Type of Material/Equipment
Suspected Mercury-containing thermostats
Suspected (likely) PCB-containing light ballasts
Fluorescent Light tubes
Suspected sodium-vapor light bulbs

D. The Contractor shall be responsible to verify all material quantities and to determine job site conditions.

E. Provide copies of all manifests and/or recycling data to the Owner at the completion of the work.

PART 2 – ENVIRONMENTAL REQUIREMENTS

A. Use special clothing, including but not limited to: disposable gloves (polyethylene) and eye protection.

B. Comply with all applicable local, state and federal requirements.

PART 3 – WORK OPERATIONS

3.1 WORK OPERATIONS

A. Ensure that work operations or processes involving PCB ballasts, PCB-contaminated materials and mercury are conducted in accordance with 40 CRF 761 and the applicable requirements of this section, including but not limited to:

B. Obtaining advance arrangements of recycling/disposal sites.

C. Notifying Owner or authorized representative prior to commencing the operation.

D. Reporting leaks and spills to the Owner or authorized representative.

E. Cleaning up spills.

F. Inspecting waste containers for leaks and forwarding copies of inspection reports to the Owner or authorized representative.

G. Maintaining inspection, inventory and spill records.

H. Recover and properly handle/dispose of all fluids and/or oils contained within any transformer. Assume any such fluid to be PCB containing.

3.2 SPILL/CLEANUP REQUIREMENTS

A. Immediately report to the Owner and mercury spills/leaks.

B. Rope off area around edges of leak or spill and post caution signs to the area.

C. Initiate cleanup of spills as soon as possible. Mop up any liquid with rags or other conventional absorbent. The spent absorbent shall be properly contained and disposed of as solid waste.

D. Document the cleanup with records of decontamination in accordance with 40 CRF 761, Section 125, Requirements for PCB Spill Cleanup. Provide certification of decontamination.

STORAGE/LABELING OF CONTAINERS

3.3 STORAGE/LABELING

A. Store materials in DOT Specification 5, 5B or 17C containers with removable heads – 49 CFR 178. Boxes shall be suitable for fluorescent light tubes. Label containers with the following:

B. Date the item was placed in storage and the name of the cognizant activity and building.

C. Affix caution labels to all universal waste containers.

IDENTIFICATION NUMBER

3.4 IDENTIFICATION NUMBER

A. Identification Number – Federal regulations require that generators, transporters, commercial stores and disposers of regulated hazardous waste possess U.S. EPA identification numbers. The Contractor shall verify that the activity has a U.S. EPA generator identification number for use on the Uniform Hazardous Waste Manifest (EPA form 8700-22). If not, the Contractor shall advise the activity that it must file and obtain an identification number with EPA prior to commencement of removal work. (Not applicable to item listed in 6.01).

TRANSPORTER CERTIFICATION/CERTIFICATE OF DISPOSAL

3.5 DISPOSAL

A. Comply with disposal requirements and procedures as outlined in 40 CFR.

B. Certificate for the waste materials disposed of/recycled shall include:

C. The identity of the disposal facility, by name, address and EPA identification number.

D. The identity of the universal waste affected by the Certificate of Disposal including reference to the manifest number for shipment.

E. A statement certifying the fact of disposal/recycling of the identified universal waste, including the dates of disposal and identifying the disposal process used.

END OF SECTION

SECTION 023000 – STRUCTURE DEMOLITION

PART 1 – GENERAL

1.1 SUMMARY

A. Section includes:

1. Demolition and removal of buildings.
2. Demolition and removal of utility tunnels and basements.
3. Removing below-grade construction.
4. Disconnecting, capping or sealing existing site utilities.
5. Removal of all mechanical equipment.

Note: Bidders shall contact the County of Bergen.

1.2 INFORMATIONAL SUBMITTALS

A. Proposed Protection Measures: Submit informational report including Drawings, that indicates the measures proposed for protecting individuals and property, for environmental protection, for dust control, and for noise control. Indicate proposed locations and construction of barriers.

B. Schedule of building demolition with starting and ending dates for each activity.

C. Inventory of items to be removed and salvaged.

D. Pre-demolition photographs.

E. The Contractor shall provide detailed information regarding the procedures, schedules, and means and methods proposed for demolishing the existing buildings to the Owner and Engineer within twenty (20) calendar days after the award of contract.

F. Statement of Refrigerant Recovery: (Not Part of this Contract. Will be done by others.)

G. Phase I Environmental Assessment Report. (Not Part of this Contract. Will be done by others.)

H. See ASBESTOS DEMOLITION SUPPLEMENT – BUILDING C (CHAPEL)

1.3 QUALITY ASSURANCE

A. Refrigerant Recovery Technician Qualifications: Certified by EPA-approved certification program. (Not Part of this Contract. Will be done by others.)

B. Regulatory Requirements: Comply with governing EPA notification regulations before beginning demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

C. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

D. Pre-demolition Conference: Conduct Conference at Project site.

1.4 PROJECT CONDITIONS

A. Building to be demolished will be vacated and their use discontinued before start of the Work.

B. The RGL Building as identified on the plans and immediately adjacent to demolition area will not be occupied but shall be protected from all demolition activities.

C. Owner assumes no responsibility for buildings and structures to be demolished.

1. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

D. Hazardous Materials: Refer to the following sections: ASBESTOS DEMOLITION SUPPLEMENT – BUILDING C (CHAPEL)

E. On-site storage or sale of removed items or materials is not permitted.

PART 2 – PRODUCTS

2.1 SOIL MATERIALS

A. Satisfactory Soils: Certified Clean fill for residential use purposes.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Verify that utilities have been disconnected and capped before starting demolition operations.

B. Inventory and record the condition of items to be removed and salvaged

C. The Contractor is responsible for segregation and management of concrete and masonry demolition debris and associated expansion joint material generated by demolition of the building and ancillary structures as shown on the Contract Drawings.

D. Non-environmentally impacted concrete and masonry debris shall be subject to an on-site crushing process for reuse on-site as backfill for the remaining cavity voids of the

building demolition. However, environmentally impacted materials cannot be reused on-site and shall be properly disposed of off-site in accordance with all applicable Federal, State, County and local codes and regulations governing legal transportation and disposal of work.

E. Contractor is responsible for removal of everything on site and within project limit of disturbance as identified within the Phase I Environmental Assessment Report and Asbestos Demolition Supplement – Building C.

F. All demolition shall be performed in in accordance with these specifications and all applicable Federal, State, County, and local codes, and regulations.

3.2 PREPARATION

A. Refrigerant: Remove refrigerant from mechanical equipment according to 40 CRF 82 and regulations of authorities having jurisdiction before starting demolition. (Not Part of this Contract. Will be done by others.)

B. Existing Utilities: Locate, identify, disconnect, and seal or cap off indicated utilities serving buildings and structures to be demolished.

1. Owner will arrange to shut off indicated utilities when requested by Contractor.
2. Arrange to shut off indicated utilities with utility companies.
3. If removal, relocation, or abandonment of utility services will affect adjacent occupied buildings, then provide temporary utilities that bypass buildings and structures to be demolished and that maintain continuity of service to other buildings and structures.
4. Cut off pipe or conduit a minimum of 24 inches below grade. Cap, valve, or plus and seal remaining portion of pipe or conduit after bypassing according to requirements of authorities having jurisdiction.
5. Do not start demolition work until utility disconnecting and sealing have been completed.

C. Temporary Shoring: Provide and maintain interior and exterior shoring, bracing, or structural support to preserve stability and prevent unexpected movement or collapse of construction being demolished.

3.3 PROTECTION

A. Existing Facilities: Protect adjacent walkways, loading docks, building entries, and other building facilities during demolition operations. Maintain exits from existing buildings.

B. Existing Utilities: Maintain utility services to existing buildings to remain and protect from damage during demolition operations. Do not interrupt existing service adjacent occupied or operating facilities unless authorized in writing by Owner and authorities having jurisdiction.

Contractor shall be responsible for coordinating all utility disconnects for buildings to be removed with governing utility authorities.

C. Temporary Protection: Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction and as indicated.

1. Protect adjacent buildings and facilities from damage due to demolition activities.
2. Protect existing site improvements, appurtenances, and landscaping to remain.
3. Erect a plainly visible fence around drop line of individual trees or around perimeter drip line of groups of trees to remain.
4. Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
5. Provide protection to ensure safe passage of people around building demolition area and to and from occupied portions of adjacent buildings and structures.
6. Protect walls, windows, roofs, and other adjacent exterior construction that are to remain and that are exposed to building demolition operations.
7. Erect and maintain dustproof partitions and temporary enclosures to limit dust, noise, and dirt migration to occupied portions of adjacent buildings.

D. Remove temporary barrier and protections where hazards no longer exist. Where open excavations or other hazardous conditions remain, leave temporary barriers and protections in place.

3.4 DEMOLITION

A. General: Demolish indicated buildings completely, including mechanical, plumbing, IT/electrical systems. Use methods required to complete the Work within limitations of governing regulations.

1. Do not use cutting torches until work area is cleared of flammable materials. Maintain portable fire-suppression devices during flame-cutting operations.
2. Maintain adequate ventilation when using cutting torches.
3. Locate building demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.

B. Site Access and Temporary Controls: Conduct building demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Do not close or obstruct streets, walks, walkways or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.
2. Use water mist and other suitable methods to limit spread of dust and dirt. Comply with governing environmental-protection regulations.

C. Explosives: Use of explosives is not permitted.

D. Utility services shall be cut/capped and tied off in accordance with utility authority requirements following disconnect. Contractor shall coordinate utility disconnects and utility tie offs with governing utility authorities. All utility work shall be completed by a Licensed Electrician and Licensed Plumber and the cost thereof shall be included in the contractors bid.

E. Proceed with demolition of structural framing members systematically, from higher to lower level. Complete building demolition operations above each floor or tier before disturbing supporting members on the next lower level.

F. Remove debris from elevated portions of the building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.

G. Demolish foundation walls and remove entire foundation.

1. Remove all below-grade construction, including basements, foundation walls, footings, entire foundation and sub base courses in its entirety.

H. Below-Grade Areas: Completely fill below-grade areas and voids resulting from building demolition operations with certified clean fill in accordance with backfill specification.

I. Site Grading: Uniformly rough grade area of demolished construction to a smooth surface, free from irregular surface changes. Provide a smooth transition between adjacent existing grades and new grades.

J. Promptly repair damage to adjacent buildings caused by demolition operations.

3.5 OSHA REQUIREMENTS

A. Contractor shall maintain silica dust control during demolition activities utilizing wet methods in accordance with OSHA requirements.

a. Approved wet methods for heavy equipment and utility vehicle operators shall include the following:

i. Tank trucks equipped with hoses and nozzles that spray water or other dust suppressants over large areas to wet the materials disturbed during tasks;

ii. A worker who assists the operator by applying water or other types of dust suppressants to materials being demolished, abraded, or fractured;

iii. Large, atomized misting devices;

iv. Spray equipment attached directly to the vehicle;

v. Timing the application of the water or other dust suppressants to ensure that the materials are still damp when they are disturbed; and

vi. Other approved OSHA silica dust control wet methods.

b. The Contractor shall be responsible for monitoring dust control operations including ensuring water be consistently applied at flow rates sufficient to minimize the release of visible dust. Application of too much water can create mud slurry which can cause hazards. Alternatively, application of insufficient water will not effectively control dust emissions.

B. Contractor shall identify an on-site Safety, Health and Environmental supervisor to ensure compliance with OSHA, NJDEP, and EPA regulations.

3.6 CLEANING

C. Remove demolition waste materials from Project site and legally dispose of them in an EPA-approved landfill acceptable to authorities having jurisdiction. See Section 017419 "Construction Waste Management and Disposal" for recycling and disposal of demolition waste.

D. Do not burn demolished materials.

E. Clean adjacent structures and improvements of dust, dirt, and debris caused by building demolition operations. Return adjacent areas to condition existing before building demolition operations began.

END OF SECTION 023000

SECTION 023219 – TEST PITS

PART 1 – GENERAL

1.1 DESCRIPTION

A. Test pits shall consist of the furnishing all materials, labor, equipment necessary for the performance of all work to properly perform test pits to locate any uncertainties in existing subsurface structures to determine if these structures interfere or affect the proposed construction.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Borrow material required for backfill of test pits shall conform to applicable Sections of the 2019 NJDOT Standard Specifications. The Contractor shall provide Neglia Engineering Associates with certification attesting that said material is free of contaminants and suitable for this application. The soil shall be smooth, soft and free of depressions, clods, mounds, stones, or other debris as approved by Neglia Engineering Associates.

B. All soil, stone, and other fill materials either imported onto or exported from the property shall comply with all applicable local, County, State, and Federal regulations and requirements as well as the following documents:

PART 3 – EXECUTION

3.1 METHOD OF CONSTRUCTION

A. When backfilling the test pit, the soil shall be placed uniformly in layers not to exceed 12 inches loose thickness. Each layer shall be compacted to 95% density in accordance with the NJDOT 2019 Standard Specifications.

B. The contractor shall make provisions to implement approved dust control measures while performing this work so as not to impact surrounding residences. Should the contractor fail to implement these measures, he will be responsible to power-wash all structures, at no additional cost to the owner.

C. Excavated areas are to be restored in-kind with existing conditions.

END OF SECTION

SECTION 024113 – SITE CLEARING / DEMOLITION

PART 1 – GENERAL

1.1 DESCRIPTION

A. Under this item the Contractor shall remove and dispose of all existing buildings and disconnection of existing utilities, fences, drainage pipes, drainage structures, sewer pipes, sewer structures, water pipes, gas pipes, conduits, valves (all utilities), curbs, sidewalks, asphalt pavement, signs, dirt, stones, concrete pads, all else indicated on the demolition plan; the removal of which is required to carry out the work of this project, shall be removed and legally disposed of off-site. The contractor shall perform test pits to locate any uncertainties in existing subsurface structures to determine if these structures interfere or affect the proposed construction.

B. The Contractor shall remove and dispose of pipes, inlets, manholes, reinforced concrete pavement, bituminous pavement, concrete and bituminous sidewalk, curb, utility boxes, irrigation systems and controls, as necessary for new construction. The Contractor shall remove and reset street and road signs, not otherwise paid for; remove and reset any monuments, shrubs and fences; remove and reset to grade manhole and catch basin frames, fire hydrants, guide rail, gas and water valves; and complete all other removals and relocations required for the work and not specifically covered elsewhere for payment.

C. Contractor shall be responsible for the preservation of all structures, infrastructure, features, items, etc. indicated to remain and be protected on the Contract Plans. Any damage to these items shall be repaired, replaced, and/or reimbursed by the Contractor at no additional cost to the Owner or Engineer.

D. Recycling of demolition debris is strongly encouraged. All recycling must be done in accordance with all currently applicable Federal, State, and Local waste flow regulations and requirements. All solid waste as defined by NJDEP criteria shall be removed from the site in accordance with all currently applicable land disposal regulations of the State, County, and Local levels.

E. The Contractors are advised to make a site visit, check the existing site conditions, and determine the detail scope of work for the site clearing before the bidding of this project.

F. All soil, stone, and other fill materials either imported onto or exported from the property shall comply with all applicable local, County, State, and Federal regulations and requirements as well as the following documents:

G. The Contractor shall prepare and provide a dust mitigation plan to address dust generation and prevent dust migration from the site. The Contractor may elect to implement a dust misting system such as the one mentioned in section 2.1 below.

H. In case of a discrepancy between the technical specifications and any other sections of the specification document, the more stringent requirement shall govern.

PART 2 – PRODUCTS

2.1 DUST MISTING SYSTEM

A. Misting system to trap airborne particles and bring them to the ground. Acceptable systems includes the Dust Boss DB-60 Fusion Misting manufactured by Bosstek or approved equivalent. Requirements of the system include the following:

GENERAL SPECIFICATIONS:

a) Throw: 200 feet
b) Fan: 30,000 CFM (849.50 CMM) with 25 HP fan
c) Standard 180° oscillation coverage: 62,800 square feet
d) Adjustable throw angle: 0° - 50° pitch
e) Nozzles: 30 brass, stainless steel, or nylon
f) Droplet size: 50 -200 microns
g) Premium efficiency direct-drive motor
h) Hoses, couplings, and relevant tools provided
i) Standard hitch: Pintle
j) Touch screen controls
k) WYE-Delta

WATER REQUIREMENTS

a) Recommended water pressure: 40 – 90 psi (2.75 – 6.21 BAR) with the booster pump
b) Maximum water pressure: 100 psi (6.89 BAR) with the booster pump
c) Maximum water pressure delivered by booster pump: 250 psi (17.24 BAR)
d) Connection: 1-1/2” (38.10 mm) cam-and groove quick disconnect for fire hose.
e) In-line 30-mesh (595 micron) water filter system (included) should be used at all times
f) Standard configuration includes booster pump

NOISE

a) Between 90 and 105 decibels at 0 feet

PART 3 – EXECUTION

3.1 METHODS OF CONSTRUCTION

A. The lights, signs, inlets, sidewalk, pavement, bollards, curb and unclassified excavation shall be disposed of outside of the limits of the contract at no extra cost to the Owner.

B. Trees and shrubs removed by the Contractor shall be cut and the roots and stumps, to be removed by grubbing, shall be refilled with suitable material which shall be solidly compacted so as to make the surface at these points conform to the adjoining grade. No

trees shall be cut outside the specified limits without permission of Neglia Engineering Associates.

C. Manhole frames, catch basin frames, fire hydrants, guide rail, gas valves, water valves, and other structures shall be removed and carefully reset to match proposed grades, unless otherwise indicated to be removed.

END OF SECTION

SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. Work Included: The Work of this Section includes, but is not limited to, the following:

1. Selective demolition and removal of portions of the existing building interior and exterior, as required.
2. Temporary protections, enclosures, and similar protections for utilities, structures and persons when required.
3. Legal disposal of demolished materials.
4. Additional items not listed to be demolished, salvaged or returned to the Owner, as indicated on the Drawings.
5. Coordination with adjacent occupied areas for work.

B. Related Requirements:

1. Section 024116 "Structure Demolition" for demolition of buildings and structures.

1.2 DEFINITIONS

A. Remove: Remove and legally dispose of items except those indicated to be reinstalled, or to remain the Owner's property.

B. Existing to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by the Engineer, items may be removed to a suitable, protected storage location during selective demolition and then cleaned and reinstalled in their original locations.

C. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.

1.3 SUBMITTALS

A. Schedule: Submit a proposed schedule of operations for selective demolition for review prior to start of work. Include coordination for shutoff, capping, and continuation of utility services as required. Submit details for dust and noise control.

1. Provide detailed sequence of demolition and removal work to ensure uninterrupted use of the building.

B. Photographs: Photograph existing conditions of structure surfaces, equipment, and adjacent improvements that might be misconstrued as damage related to

removal operations. File with Owner's Representative prior to start of work.

C. Contractor shall provide shop drawings and calculations for all temporary supports, shoring and bracing required. Comply with Building Code requirements for preparation of submittals and do all required filing.

1.4 QUALITY ASSURANCE

A. Demolition Firm Qualifications: Engage an experienced firm that has successfully completed Selective Demolition Work similar to that indicated for this Project.

B. Regulatory Requirements: Comply with governing EPA notification regulations before starting selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

1. All removal and demolition work shall comply with requirements of State and Local Building Codes, OSHA, and other local governing authority having jurisdiction.
2. All removal and demolition work shall comply with local Building Department Rules and Regulations.

C. Pre-demolition Conference: Conduct conference at Project site to comply with requirements in Division 1 Section - General Requirements. Review methods and procedures related to selective demolition including, but not limited to, the following:

1. Inspect and discuss condition of construction to be selectively demolished.
2. Review structural load limitations of existing structure.
3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
4. Review areas where existing construction is to remain and requires protection.
5. Review Coordination with Owner operations.

D. Notify appropriate agencies of any hazardous materials found at the site. Do not proceed with removal of said substances until so instructed.

1.5 JOB CONDITIONS

A. Occupancy: Construction indicated to be demolished, or to have selective demolition operations shall be vacated and their use discontinued before the commencement of any Work.

1. Condition of Structures: Owner assumes no responsibility for actual condition of items or structures to be demolished.
2. Conditions existing at time of inspection for bidding purposes will be

maintained by Owner insofar as practicable.

B. Traffic: Conduct demolition operations and removal of debris to ensure minimum interference with roads, streets, walks, and other adjacent facilities.

1. Do not close or obstruct streets, walks, or other occupied or used facilities without permission from authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.
2. The Contractor shall provide, and maintain, at his/her own expense, permits, lights, barriers, sheds, and other items that are required by traffic regulations or local law.

C. Protections: Provide temporary barricades and other forms of protection as required to protect personnel from injury due to selective demolition work.

D. Damages: Promptly repair damages caused to adjacent tenant spaces by demolition work at no cost to Owner.

E. Maintain and protect existing utilities to remain. Protect against damage during selective demolition operations.

F. Do not interrupt existing utilities, except when authorized in writing by Owner and coordinated with the Contractor.

G. Environmental Controls: Use temporary enclosures, and other suitable methods to limit dust and dirt to lowest practical level. Comply with governing regulations for environmental protection.

PART 2 - PRODUCTS

2.1 REPAIR MATERIALS

A. General: Use repair materials identical to existing materials.

1. Where identical materials are unavailable or cannot be used for exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible; repair materials and workmanship are subject to the Architects acceptance/approval.
2. Use materials whose installed performance equals or surpasses that of existing materials.

PART 3 - EXECUTION

3.1 INSPECTION

A. General: Prior to the commencement of all demolition Work, inspect areas in which work will be performed. Photograph existing conditions which could be misconstrued as damage resulting from demolition work; file with Owner's Representative prior to starting work.

B. Verify that utilities have been disconnected and capped.

C. Survey existing conditions and correlate with requirements indicated to determine extent of demolition required.

D. Survey the condition of the building to determine whether removing any element might result in a structural deficiency or unplanned collapse of any portion of the structure or adjacent structures during demolition.

E. Perform surveys as the Work progresses to detect hazards resulting from demolition activities.

3.2 UTILITY SERVICES

A. Maintain existing utilities indicated to remain in service and protect them against damage during demolition operations.

B. Do not interrupt existing utilities serving occupied, operating or adjacent facilities, except when authorized in writing by Owner and authorities having jurisdiction. Provide temporary services during interruptions to existing utilities, as acceptable to Owner and to governing authorities.

1. Provide not less than 72 hours' notice to Owner if shutdown of service is required during changeover.

C. Utility Requirements: Do not start demolition work until utility disconnecting and sealing have been completed and verified in writing.

3.3 PREPARATION

A. Drain, purge, or otherwise remove, collect, and dispose of chemicals, gases, explosives, acids, flammables, or other dangerous materials before proceeding with demolition operations.

B. Conduct demolition operations and remove debris to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.

C. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.

1. Conduct demolition operations to prevent injury to people and damage to adjacent buildings and facilities to remain. Ensure safe passage of people around demolition area. Coordinate with additional requirements specified in Division 1 of the specifications.

D. Erect temporary protection where required by authorities having jurisdiction.

3.4 EXPLOSIVES

A. Explosives: Use of explosives will not be permitted.

3.5 POLLUTION CONTROLS

A. Use water mist, temporary enclosures, and other suitable methods to limit the spread of dust and dirt. Comply with governing environmental protection regulations.

1. Do not create hazardous or objectionable conditions, such as ice, flooding, and pollution, when using water.

B. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

1. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level.

C. Clean adjacent buildings and improvements of dust, dirt, and debris caused by demolition operations. Return adjacent areas to condition existing before start of demolition.

3.6 SELECTIVE DEMOLITION

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete Work within limitations of governing regulations and as follows:

1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition work above each floor or tier before disturbing supporting members on lower levels.
2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. To minimize disturbance of adjacent surfaces, use hand or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover and barricade openings to remain in compliance with these documents and authorities having jurisdiction.

3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame- cutting operations.
5. Maintain adequate ventilation when using cutting torches.

B. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.7 PATCHING AND REPAIRS

A. Promptly patch and repair holes and damaged surfaces caused to adjacent construction by selective demolition operations.

B. Where repairs to existing surfaces are required, patch to produce surfaces suitable for new materials.

C. Restore exposed finishes of patched areas and extend finish restoration into adjoining construction to remain in a manner that eliminates evidence of patching and refinishing.

D. Patch and repair floor and wall surfaces in the new space where demolished walls or partitions extend one finished area into another. Provide a flush and even surface of uniform color and appearance.

3.8 DISPOSAL OF DEMOLISHED MATERIALS

A. General: Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site. Do not burn demolished materials. Transport demolished materials off property and legally dispose.

3.9 CLEANING

A. Sweep the building broom clean on completion of selective demolition operation.

END OF SECTION

SECTION 310000 – EARTHWORK

PART 1 – GENERAL

1.1 DEFINITIONS

A. The following terms shall have the meanings ascribed to them in this Article, wherever they appear in this Section.

B. Excavation, Unclassified: The removal of all surface and subsurface material not classified as rock (as defined below). Shall consist of the excavation, removal, export and disposal of all materials of whatever nature, bituminous concrete, concrete, pavement, regulated waste, brick, stone, concrete masonry, small structures, removal of pipe where directed, removal of any other materials encountered of whatsoever nature, required for the proposed construction, the stockpiling and disposal of all excavated materials unsuitable for fill, the transportation of the excavated material, the construction of embankments with the material excavated when so required, the disposal of unsuitable and surplus materials, and all other work as herein described.

C. Subgrade Surface: Surface upon which subbase or topsoil is placed.

D. Earth Excavation: The removal of all surface and subsurface material not classified as rock (as defined below).

E. Rock Excavation, Unclassified: Rock excavation, unclassified shall mean removal of all rock, boulders or pieces of concrete, and solid ledge rock and masonry, which in the opinion of Neglia Engineering Associates requires for its removal, drilling and blasting, wedging, sledging, barring, or breaking up with a power-operated tool. Soft or disintegrated rock which can be removed with a pick or power-operated excavator or shovel, loose, shaken or previously blasted rock, broken stone in rock fill or elsewhere, and rock exterior to the maximum limits allowed, or which may fall in the excavation, shall not be included as rock excavation. Pavements, curbs, gutters, sidewalks and driveways shall not be included as rock excavation.

F. Subbase: Select granular material or subbase course Type 2 which is placed immediately beneath pavement or concrete slabs.

G. Maximum Density: The dry unit weight in pounds per cubic foot of the soil at "Optimum Moisture Content" when determined by ASTM D 698 (Method C), and ASTM D 2922 (Method B).

H. Landscaped Areas: Areas not covered by structures, walks, roads, paving, or parking.

I. Unauthorized Excavation: The removal of material below required elevation indicated on the Drawings or beyond lateral dimensions indicated or specified without specific written direction by the Neglia Group.

J. Site Grading: The grading, excavation, preparing and compacting all material required for construction of the sub-grade of the entire disturbed area and all incidental work necessary to the satisfaction of the Engineer. All excavated soils in excess of what is required to grade the site shall be disposed of off-site in accordance with Local, County,

State, and Federal standards. It is the Contractor's responsibility to excavate and dispose of this soil as required per the plans and details.

1.2 SUBMITTALS

A. Product Data:

1. Filter Fabric: Manufacturer's catalog sheets, specifications, and installation instructions.
2. The Contractor shall provide to the Owner the name, location, contact information, and permit/licenses numbers of the proposed off-Site disposal facility a minimum of five (5) working days in advance of the proposed soil removal operations.
3. The Owner shall review the facility documentation, and provide approval to the Contractor to utilize said facility. The Owner has the discretion to deny the proposed disposal facility for any reason. It is the intention of the Owner to ensure that any proposed disposal facility is in compliance with all applicable rules, laws and regulations, including but not limited to possessing a valid NJDEP permit. Should the facility be denied by the Owner, the Contractor at their own expense is responsible for identifying another off-Site disposal facility.
4. Numbers, types, and specifications for compacting equipment to be used.
5. Samples: Submit samples as follows:
    a. Take the samples in the presence of the Engineer, and complete a Granular Material Sample Information Form for each sample. Forms and field sample designation numbers will be furnished by Neglia Engineering Associates. Samples shall be provided in the following quantities:
    b. Select Granular Material: 10 lb.
    c. Selected Fill: 10 lb.
    d. Subbase Course Type 2: 10 lb.

1.3 PROJECT CONDITIONS

A. Protect existing trees and plants during performance of the Work unless otherwise indicated to be removed. Box trees and plants indicated to remain within the grading limit line with temporary steel fencing or solidly constructed wood barricades as required. Protect root systems from smothering. Do not store excavated material, or allow vehicular traffic or parking within the branch drip line. Restrict foot traffic to prevent excessive compaction of soil over root systems.

B. Cold Weather Requirements:

1. When freezing temperatures are predicted, do not excavate to final required elevations for concrete Work unless concrete can be placed immediately. Retain enough earth over the bottom elevation of footings to prevent frost penetration. If excavation has progressed to final footing elevations and concrete cannot be placed

immediately, cover the bottom of the excavations with protective material to adequately insulate the exposed earth surface from frost. Remove protective material immediately before placing concrete.

2. Do not backfill between November 1 and April 1, except with written permission of the Neglia Group.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Select Granular Material: Stockpiled, sound, durable, sand, gravel, stone, or blends of these materials, free from organic and other deleterious materials. Comply with NJDOT Standard Specifications for subbase course material.

Sieve Size	**Percent Passing**
2 inch	100%
1/4 inch	30-65%
No. 40	5-40%
No. 200	0-10%

B. Magnesium Sulfate Soundness Test: 20 percent maximum loss by weight after 4 test cycles.

C. Plasticity Index: The plasticity index of the material passing the No. 40 mesh sieve shall not exceed 5.0.

D. Elongated Particles: Not more than 30 percent, by weight, of the particles retained on a 1/2 inch sieve shall consist of flat or elongated particles. A flat or elongated particle is defined as one which has its greatest dimension more than 3 times its least dimension.

E. Selected Fill: Sound, durable, sand, gravel, stone, or blends of these materials, free from organic and other deleterious materials.

Sieve Size	**Percent Passing**
4 inch	100%
No. 40	0-70%
No. 200	0-15%

F. Subbase Course Type 2: Stockpiled, crushed ledge rock or approved blast furnace slag. Comply with NJDOT 2019 Standard Specifications for Subbase Course material.

Sieve Size	**Percent Passing**
2 inch	100%
1/4 inch	25-60%
No. 40	5-40%
No. 200	0-10%

G. Magnesium Sulfate Soundness Test: 20 percent maximum loss by weight after 4 test cycles.

H. Plasticity Index: The plasticity index of the material passing the No. 40 mesh sieve shall not exceed 5.0.

I. Elongated Particles: Not more than 30 percent, by weight, of the particles retained on a 1/2 inch sieve shall consist of flat or elongated particles. A flat or elongated particle is defined as one which has its greatest dimension more than 3 times its least dimension.

J. Suitable Material (Fill and Backfill for Landscaped Areas): Material consisting of mineral soil (inorganic), blasted or broken rock and similar materials of natural or man-made origin, including mixtures thereof. Maximum particle size shall not exceed 2/3 of the specified layer thickness prior to compaction. NOTE: Material containing cinders, industrial waste, sludge, building rubble, land fill, muck, and peat shall be considered unsuitable for fill and backfill, except topsoil and organic silt may be used as suitable material in landscaped areas provided it is placed in the top layer of the subgrade surface.

K. Filter Fabric (Separation, Drainage, Slope Protection): Amoco CEF 4545, CEF 4551; Exxon Chemical Co. GTF 150 EX; Mirafi Inc. 140N, 140NL; Nicolon Corp. Filterweave 70/06; Phillips Fibers Corp. Supac 4NP, 5NP, 7NP; Wellman Quline Inc. Q60, Q80, Q100 or approved equal.

L. Filter Fabric (Stabilization): Amoco CEF 2002 & 2006; Exxon Chemical Co. GTF 350; Mirafi Inc. 500X, 600X, 700X; Nicolon Corp. 500; Phillips Fibers Corp. Supac 3WS, 4WS, 5WS, 6WS; Wellman Quline Inc. Q160 or approved equal.

M. All soil, stone, and other fill materials either imported onto or exported from the property shall comply with all applicable local, County, State, and Federal regulations and requirements as well as the following documents:

PART 3 – EXECUTION

3.1 CLEARING AND GRUBBING

A. Clear and grub the site of trees, shrubs, brush, other prominent vegetation, debris, and obstructions except for those items indicated to remain. Completely remove stumps and roots protruding through the ground surface.

B. Clearing and grubbing of vegetation in wetlands, transition areas, and riparian zones shall only be performed where indicated on the Construction Drawings. Any clearing of vegetation in said areas not within the limits indicated on the plans is strictly prohibited.

C. Fill depressions caused by the clearing and grubbing operations in accordance with the requirements for filling and backfilling, unless further excavation is indicated.

3.2 UNDERGROUND UTILITIES

A. Locate existing underground utilities and service connections prior to commencing excavation Work. Determine exact utility locations by hand-excavated test pits. Support and protect utilities to remain in place.

B. Remove inactive, abandoned utilities within the limits of the areas to be excavated. Cap or plug open ends of abandoned utilities extending outside the excavation limits.

3.3 EXCAVATION

A. Maintain sides and slopes of excavations in a safe condition until completion of backfilling. The Contractor shall comply with Code of Federal Regulations CFR Title 29 - Labor, Part 1926 (OSHA).

B. 2019 NJDOT Standard Specifications, Excavation.

C. Stockpile excavated materials classified as suitable material where directed, until required for fill. Place, grade, and shape stockpiles for proper drainage as approved by the Neglia Group.

D. Excavation for Structures: Conform to elevations, lines, and limits indicated on the Construction Documents. Excavate to a vertical tolerance of plus or minus 1 inch. Extend excavation a sufficient lateral distance to provide clearance to execute the Work.

E. Footings and Foundations: Trim bottoms to required lines and elevations. Excavate to final elevations by hand just prior to concrete placement. Leave solid undisturbed base for concrete.

F. Slabs and Floors: Excavate to the following depths below bottom of concrete for addition of select granular material:

G. Interior Floors: 6 inches unless otherwise indicated.

H. Exterior Slabs and Steps: 12 inches unless otherwise indicated.

I. Pipe Trenches: Open only enough trench length required to facilitate laying pipe or conduit sections. Unless otherwise indicated on the Drawings, excavate trenches approximately 24 inches wider than the outside pipe diameter, equally divided on each side of pipe centerline. Cut trenches to cross section, elevation, profile, line, and grade indicated. Accurately grade and shape trench bottom for uniform bearing of pipe.

J. Pavement: Excavate to subgrade surface elevation.

K. Unauthorized Excavations: Unless otherwise directed, backfill unauthorized excavation under footings, foundation bases, and retaining walls with compacted select granular material without altering the required footing elevation. Elsewhere, backfill and compact

unauthorized excavation as specified for authorized excavation of the same classification, unless otherwise directed by Neglia Engineering Associates.

3.4 ROCK EXCAVATION

A. No blasting shall be performed by the Contractor, except upon written permission of the Neglia Group. Any request by the Contractor for permission to blast must be submitted to the Neglia Group at least 72 hours prior to start of said proposed blasting.

B. If blasting permission is granted, the Contractor shall adhere strictly to all required Federal, State and Local safety regulations. In no case shall blasting caps or other exploders be kept at the same place where dynamite or other explosives are stored. A watchman shall be stationed at all times at the place of storage of said explosives.

C. The prepared blast shall be carefully covered with a heavy woven wire blasting mat, placed so that the area affected by the explosion is positively confined. Should a gas, water or any other conduit intersect the line of trench, the rock must be removed without blasting from a distance of 10 feet on each side of such pipe or conduit.

D. The contractor shall be responsible for any damage to adjacent structures and property caused by his operations. He shall inspect all structures adjacent to the site of blasting and, when ordered by the Neglia Group, he shall take clear, close-up photographs of these structures before and after blasting. Copies of these photographs shall be submitted to the Neglia Group. The Neglia Group or their representative must be present at all times during blasting operations.

3.5 DEWATERING

A. Prevent surface and subsurface water from flowing into excavations and trenches and from flooding the site and surrounding area.

3.6 PLACING FILTER FABRIC

A. Place and overlap filter fabric in accordance with the manufacturer's installation instructions, unless otherwise shown. Backfill over fabric in accordance with the manufacturer's instructions and in a manner so as to prevent damage to the fabric.

3.7 PLACING FILL AND BACKFILL

A. Surface Preparation of Fill Areas: Strip topsoil, remaining vegetation, and other deleterious materials prior to placement of fill. Break up or scarify old pavements to a maximum of two square feet.

B. The import of fill map be required for this project. Import fill material mined or excavated from undisturbed geologic formations from a commercial source or quarry that has not been located on or impacted by other contaminant sources based on a preliminary assessment or other site review requires the collection and analysis of one (1) sample per geologic formation per year.

C. The Contractor shall supply the Owner the results and a letter which states: the name of the affiant and relationship to the source of the fill; the location where the fill was obtained, including the street, town, lot and block, county, and state, and a history of the site which is the source of the fill; and a statement (certification) that to the best of the affiant's knowledge and belief the fill being provided is not contaminated pursuant to any applicable remediation standards and the steps taken to confirm such. The material must be pre-approved by the Owner and Engineer prior to the date of its intended use as backfill at the property.

D. The Contractor shall provide to the Owner the name, location, contact information, and permit/licenses numbers of the proposed source of each material type to be imported to the property, a minimum of ten (10) working days in advance of the proposed material importation.

E. The Contractor shall provide to the Owner and Consultant clean fill documentation as identified by the NJDEP.

F. The Owner shall review the clean fill documentation for each individual material type, and provide approval/comment regarding the proposed use of the material(s). The material must be approved by the Owner prior to the date of its intended use as backfill at the property.

G. The Owner has the discretion to deny the proposed material for any reason. Should the material be denied by the Owner, the Contractor at their own expense, is responsible for identifying another material and/or source, and repeating the submission efforts.

H. The Owner reserves the right to sample the proposed fill material and perform laboratory analysis prior to same entering the property.

I. Excavations: Backfill as promptly as practicable, but only after approval by Neglia Engineering Associates. Do not backfill with excavated material unless said material meets the requirements of this Section.

J. Place backfill and fill materials in layers not more than 8 inches thick in loose depth unless otherwise specified. Before compaction, moisten or aerate each layer as necessary to facilitate compaction to the required density. Do not place backfill or fill material on surfaces that are muddy, frozen, or covered with ice.

K. Place fill and backfill against foundation walls, and in confined areas (such as trenches) not easily accessible by larger compaction equipment, in maximum 6-inch-thick (loose depth) layers.

L. Prevent wedging action of backfill against structures by placing backfill uniformly around structure to approximately same elevation in each layer. Place backfill against walls of structures containing basements or crawl spaces only after the first floor structural members are in place.

3.8 COMPACTION

A. Compact each layer of fill and backfill for the following area classifications to the percentage of maximum density specified below and at a moisture content suitable to

obtain the required densities, but at not less than 3 percent drier or more than 2 percent wetter than the optimum content as determined by ASTM D 698:

Structures: 95%
Concrete Slabs and Steps: 95%
Landscaped Areas: 90%
Pavements and Sidewalks: 95%
Pipes: 95%

3.9 GRADING

A. The site shall be graded within the limits shown on the Plans or as directed by the Engineer. The Contractor shall grade the sub-grade according to the elevations shown on the Plans, taking into account the thickness of the layers above. The soil shall be placed uniformly in layers not to exceed 12 inches loose thickness. Each layer shall be compacted to 95% density as indicated above.

B. Rough Grading: Trim and grade area required by this Contract to a level of 4 inches below the finished grades indicated, unless otherwise specified herein, or where greater depths are indicated. Provide smooth uniform transition to adjacent areas.

C. Finish Grading: Finish surfaces free from irregular surface changes, and as follows:

D. Grassed Areas: Finish areas to receive topsoil to within 1 inch above or below the required subgrade surface elevations.

E. Walks and Pavements: Place and compact subbase material as specified. Shape surface of areas to required line, grade and cross section, with the finish surface not more than 1/2 inch above or below the required subbase elevation.

F. Building Slabs: Grade subbase material smooth and even, free of voids, compacted as specified to within 1/4 inch above or below required subbase elevation.

G. The Contractor shall make provisions to implement approved wet method dust control measures while performing this work as not to impact surrounding residences. Should the Contractor fail to implement these measures, he will be responsible to power wash all structures at no additional cost to the Owner.

3.10 SUBGRADE SURFACE FOR WALKS AND PAVEMENT

A. Shape and grade subgrade surface as follows:

B. Walks: Shape the surface of areas under walks to required line, grade and cross-section, with the finish surface not more than 1 inch above or below the required subgrade surface elevation.

C. Pavements: Shape the surface of areas under pavement to required line, grade and cross-section, with the finish surface not more than 1/2 inch above or below the required subgrade surface elevation.

D. Grade Control: During construction, maintain lines and grades including crown and cross-slope of subbase course.

E. Thoroughly compact subgrade surface for walks and pavement by mechanical rolling, tamping, or with vibratory equipment as approved to the density specified.

3.11 DISPOSAL OF EXCESS AND UNSUITABLE MATERIALS

A. Excavated materials are to be reused and redistributed on-site to the greatest extent possible. Should excavated materials require off-site disposal, the Contractor shall remove the material from the project site and dispose of excess and unsuitable materials, including materials resulting from clearing and grubbing, stripping of topsoil, and removal of existing improvements in accordance with these specifications and all applicable Federal, State, County, and local codes and regulations.

B. Transport excess and unsuitable materials, including materials resulting from clearing and grubbing, stripped topsoil, and removal of existing improvements, to spoil areas away from the project site.

C. Remove impacted soil in the following manner while under the oversight of the representative.

D. The Contractor shall cooperate with the Engineer and representative's directives regarding excavation and stockpiling of impacted soil. No soil shall be removed from the excavations as impacted without the approval of the Engineer and representative. The Contractor will not be compensated for the unauthorized excavation of impacted soil. The Contractor shall backfill such unauthorized excavation with certified clean fill at no additional cost to the Owner. Impacted soil shall be excavated and placed within the designated areas.

E. Impacted soil excavated shall be stockpiled on 10-mil polyethylene plastic sheeting and covered with the same. Provide adequate means to secure the 10-mil polyethylene plastic sheeting so that the stockpiled soil remains fully covered. Maintain all plastic sheeting, and provide required repairs the sheeting, and/or re-covering of the stockpiled soil as necessary.

F. Install adequate runoff and sediment controls to prevent the migration of contaminated soil or runoff from the stockpiled soil to other areas of the site. Any soil or runoff that migrates from the stockpiled soil to unaffected areas of the property will be the Contractor's responsibility to remediate and dispose of. The Contractor will solely incur these costs.

3.12 FIELD QUALITY CONTROL

A. Compaction Testing: Notify Neglia Engineering Associates at least 3 working days in advance of all phases of filling and backfilling operations. Compaction testing will be performed by an independent lab retained by the Contractor to ascertain the compacted density of the fill and backfill materials. Compaction testing will be performed on certain layers of the fill and backfill as determined by project Geotechnical Engineer. If a compacted layer fails to meet the specified percentage of maximum density, the layer shall be recompacted and will be retested. No additional material may be placed over a compacted layer until the specified density is achieved.

3.13 PROTECTION

A. Protect areas from traffic and erosion, and keep them free of trash and debris.

END OF SECTION

SECTION 311300 – TREE REMOVAL

PART 1 – GENERAL

1.1 DESCRIPTION

A. Tree Removal shall include the work of cutting, removing and disposing all specifically designated individual trees including all limbs, trunks, stumps and roots and the restoration and replacement of all structures including, but not limited to, curbs, sidewalks, driveway aprons, utilities, vegetation, or other property which may be damaged as a result of the Tree Removal, unless removal and/or replacement of such is outlined in these Specifications and an item included in the Proposal. Tree Removal shall also include the topsoil and seeding or asphalt overlay of all disturbed areas.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Topsoil and seed shall comply with the requirements listed elsewhere in these Specifications.

B. Any additional material which may be required during construction shall be subject to the approval of the Engineer.

PART 3 – EXECUTION

3.1 METHODS OF CONSTRUCTION

State Standard Specifications and Bergen County Soil Conservation District Regulations.

A. All trees to be removed under this item shall be marked by the Engineer before any Tree Removal. Each tree designated for removal shall be completely removed, except for the stump which shall be grinded to twelve (12) inches below the existing ground surface. Where specified, the sidewalks and curbs shall be removed and the roots under these shall be removed. The disturbed area shall be backfilled with topsoil and seed, or filled with asphalt as herein specified.

B. Cutting of trees shall be done by competent workman only and in a workmanship like manner. All trees shall be topped and limbed previous to filling, unless otherwise directed by the Engineer. If necessary, trees shall be felled in sections and disposed of to prevent damage to adjacent vegetation, structures, utility wires, or other property.

C. When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect or misconduct, on the part of the Contractor in the execution of the work, such property shall be restored by the Contractor, at his expense, to a condition equal to that existing before such damage or injury was done, or he shall make good such damage or injury in such other manner as

may be acceptable to the Engineer.

D. It shall be the responsibility of the Bidders to ascertain, by their own inspection and investigations the sizes and types of trees to be removed and to determine and supply the necessary equipment to perform the work.

E. All trunks, limbs and branches shall be removed from the site as well as sweeping and removal of all chips to a degree that is satisfactory to the Engineer.

F. Prior to the removal of any trees, the Contractor shall provide for, if needed, the disconnection of all water, sewer, gas, electric, telephone and cable television service facilities that may interfere with the safe performance of the work. The Contractor shall notify the Municipality and utility companies of the time any such disconnections may be needed and the cost of any and all such utility work, including charges, if any, which may be made by the Municipality and utility companies shall be borne by the Contractor and shall be included in the price bid.

END OF SECTION

SECTION 312200 – SITE GRADING

PART 1 – GENERAL

1.1 DESCRIPTION

A. Site Grading shall include grading, excavation, preparing and compacting all material required for construction of the sub-grade of the entire disturbed area and all incidental work necessary to the satisfaction of the Engineer. All excavated soil in excess of what is required to grade the site shall be disposed of off-site in accordance with local, State and Federal standards. It is the Contractor's responsibility to excavate and dispose of this soil to install the turf, stone and underdrainage system per the plans and details.

B. This item includes the excavation of existing soil, stockpiling (as required), moving, spreading, and compaction as specified in Section 310000.

C. Contractor is advised that all concrete and masonry waste that is deemed environmentally acceptable is to be crushed as specified elsewhere in these specifications and utilized to backfill the existing demolished building or utilized at other locations as directed by the Owner. Contractor shall plan Work according to prioritize the use of acceptable crushed concrete and masonry on the project site for the project use.

PART 2 – PRODUCTS – Not Applicable

2.1 MATERIALS

A. Borrow material required for site grading shall conform to NJDOT Standard Specifications. The Contractor shall provide the Engineer with certification attesting that the said material is free of contaminants and suitable for this application. The soil shall be smooth, soft and free of depressions, clods, mounds, stones, or other debris as approved by the Engineer.

B. All soil, stone, and other fill materials either imported onto or exported from the property shall comply with all applicable local, County, State, and Federal regulations and requirements as well as the following documents:

PART 3 – EXECUTION

3.1 METHODS OF CONSTRUCTION

A. Upon the removal of any foundations, walls, below grade tree stump, concrete slabs, asphalt, utilities, pipes, etc., contractor is responsible for backfilling open excavations to grades matching existing adjacent street level grades and existing site level grades.

B. Backfill shall be placed uniformly in layers not to exceed twelve (12) inches loose thickness. Each layer shall be compacted to 95% density. Backfill shall be constructed in accordance with methods specified within the NJDOT standard specification section 203.

C. The site shall be graded within the limits shown on the Plans or as directed by the Engineer. The Contractor shall grade the sub-grade according to the elevations shown on the Plans, taking into account the thickness of the layers above, and if necessary borrow materials as approved by the Engineer. The soil shall be placed uniformly in layers not to exceed 12 inches loose thickness. Each layer shall be compacted to 95% density in accordance with the NJDOT Standard Specifications.

D. The Contractor shall make provisions to implement approved dust control measures while performing this work as not to impact surrounding residences. Should the contractor fail to implement these measures, he will be responsible to power wash all structures at no additional cost to the owner.

END OF SECTION

SECTION 312500 – EROSION AND SEDIMENT CONTROL

PART 1 – GENERAL

1.1 DESCRIPTION

A. The work performed under this item shall include construction of all soil erosion structures, improvements, temporary seeding or mulching, temporary matting, and general soil stabilization as shown on the plans.

B. A soil erosion and sediment control certification has already been obtained for the project based on the Soil Erosion and Sediment Control Plan included in the Contract Documents. In the event that the Contractor deviates from the previously-approved plan, it shall be his responsibility to obtain subsequent approval from the Bergen County Soil Conservation District, at no cost to the Owner.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Materials shall be in conformance with the Plan and Details, and shall include silt fences, inlet filters, stabilized construction accesses, jute matting, floating turbidity barriers, soil stockpiles, soil membrane, hay bales, and soil stabilization. All materials shall be approved by the Neglia Group or the Bergen County Soil Conservation District.

B. Temporary matting for construction operations shall be as manufactured by Mabey, or approved equal.

C. Floating turbidity barriers shall be Type III (for waterbodies with moderate to high velocities). Floating turbidity barriers shall be installed whenever any proposed construction activity will cause soil or debris to come in contact with a waterbody. It shall be specifically noted that floating turbidity barriers will be required during the construction of the force mains, discharge headwall, and riprap apron.

D. All soil, stone, and other fill materials either imported onto or exported from the property shall comply with all applicable local, County, State, and Federal regulations and requirements as well as the following documents:

PART 3 – EXECUTION

3.1 METHODS OF CONSTRUCTION

A. State Standard Specifications and Bergen County Soil Conservation District Regulations.

B. Contractor is advised that a 48-hour notice prior to construction activities must be given to the Bergen County Soil Conservation District.

C. All erosion and sedimentation control measures shall be in-place prior to any soil disturbances, grading operations or construction of proposed facilities, and shall be maintained until construction is complete and the construction area is stabilized. After restoration is complete, temporary control measures shall be removed and disposed of properly.

D. All erosion and sedimentation control measures shall be constructed and maintained in accordance with the "Standards for Soil Erosion and Sediment Control in New Jersey," prepared by the New Jersey State Soil Conservation Committee, current edition.

E. Disturbed areas that will be exposed in excess of 14 days shall be temporarily seeded and/or mulched until proper weather conditions exists for establishment of a permanent vegetative cover except in areas where final restoration is expected to be completed within seven days after the completion of construction, in which case no temporary protective measures will be required. If final restoration is expected to begin more than seven days and completed more than 30 days after the start of construction, seeding shall be required for temporary protection, except where seasonal conditions are not suitable for growing vegetation. In this case, mulch may be applied until conditions are suitable for establishing vegetative cover or until final restoration is implemented.

END OF SECTION

SECTION 329113 – TOPSOILING, SEED, AND STRAW MULCH

PART 1 – GENERAL

1.1 DESCRIPTION

A. Provide topsoil, seed, and straw mulch, as shown and as directed by the Neglia Group.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Topsoil obtained from stripping within limits of the project, or furnished from outside the project, shall contain no stones, lumps, roots, or similar objects larger than 2 inches in any dimension, and shall have a pH value of not less than 5.8. When the pH value of the topsoil is less than 5.8, it shall be increased by applying ground limestone at a rate necessary to attain a pH value of 6.5.

B. Material stripped from the following sources shall not be considered suitable for use as topsoil.

1. Soils having a pH value less than 4.1
2. Chemically contaminated soils.
3. Areas from which the original surface has been stripped and/or covered over, such as borrow pits, open mines, demolition sites, dumps, and sanitary landfills.
4. Unacceptable wet excavation.

C. Topsoil furnished from sources outside the limits of the project shall have a minimum organic content of not less than 2.75 percent by weight. When the organic content of the topsoil furnished from sources outside the limits of the project is less than 2.75 percent, it shall be increased by adding peat at a rate necessary to attain this minimum organic content. The organic content of soils shall be determined by the Laboratory using the chromic acid titration method, as described in the United States Department of Agriculture's Circular 757.

D. The organic content of all topsoil used for planting shall conform to the requirements specified above.

E. The gradation of the topsoil furnished from sources outside the limits of the project shall be determined by the Laboratory, using the Bouyoucos Hydrometer Analysis conforming to the requirements of current A.A.S.H.O. Designation T88. The gradation of the topsoil shall be within the following ranges:

Sand (1.00 MM to 0.25 MM) 70% to 80%
Silt and Clay (less than .25 MM) 20% to 30%

F. A percolation rate of 1 inch/Hour to 2 inch/Hour is required after root growth by the sod after establishment.

G. The materials to be used for topsoiling shall conform to the appropriate articles as follows:

Fertilizer, 5-10-5 Commercial Designation	Sec. 909.02
Ground Limestone	Sec. 909.03
Mulch, Hay	Sec. 909.04
Grain Seed	Sec. 909.06
Topsoil	Sec. 909.10
Grass Seed Mixture	Hydroseed Lesco 3 Rye

PART 3 – EXECUTION

3.1 METHODS OF CONSTRUCTION

A. The topsoil shall be spread over the surface in a uniform layer that will produce the prescribed compacted thickness of at least six (6") inches. When required, ground limestone which has been protected from moisture and is dry and free flowing, shall be evenly spread over the area to be seeded at a rate that will produce a pH value of the soil of 6.5. The area shall then be raked, disked or otherwise worked to incorporate the limestone into the upper 3 to 4 inches of soil to remove stones, roots, debris and other unsuitable material and to form an even surface. The soil shall be in a pliable condition at the time of seeding.

B. The contractor shall hydro-seed (only when directed by the Engineer) only on a calm day. No seeding shall be performed on frozen ground or when the temperature is 32 degrees Fahrenheit or lower. Schedules for fertilizing and seeding must be submitted to Neglia Engineering Associates for approval prior to the work. Hydroseeding shall be done within ten days following soil preparation.

Fertilizer shall be 5-10-5 and shall be applied at a rate of 325 lbs. per acre.

Virgin wood fiber mulch shall be applied at a rate of 1500 lbs. per acre.

ECT tackifier shall be applied at a rate of 5 lbs. per acre.

Hydroseed mix shall be Lesco 3 Rye.

END OF SECTION

SECTION 331216 – GATE VALVES

PART 1 – GENERAL

1.1 DESCRIPTION

A. This item shall consist of the excavation and the construction of Gate Valves, as shown on the Contract Plans, or as directed the Engineer.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Valves shall be Metroseal 250 and opening right with 2-inch square red nut, manufactured by U.S. Pipe and Foundry Company, or approved equivalent. They are to be of the type know as ductile iron body, bronze-mounted, resilient-seated Gate Valves, tested to 300 pounds per square inch. Gate valves shall conform to ANSI/AWWA C509 – Resilient-Seated Gate Valves for Water Supply Service and ANSI/AWWA C550 – Protective Epoxy Interior Coatings for Valves and Hydrants.

B. The Contractor shall furnish and place adjustable cast iron valve boxes and covers with each valve specified. They shall be of the type as manufactured by U.S. Pipe and Foundry Company, or approved equivalent. The covers shall have plainly cast on them the letters "WATER".

C. The Governing Body, upon recommendation of the Engineer, may appoint an Inspector who, under the direction of the Engineer, will inspect the valves at the factory. He shall have unrestricted access to all parts of the work, as necessary, in the performance of his duties. The cost of inspection of rejected valves shall be borne by the Contractor, and will be deducted from his estimates.

PART 3 – EXECUTION

3.1 METHODS OF CONSTRUCTION

A. The valves must be set, as indicated on the Contract Plans, in a truly vertical position, or as directed by the Engineer. All backfilling must be well rammed about them. Valve boxes and covers shall be provided and set to grade, as determined on the Contract Plans or as directed by the Engineer.

END OF SECTION

SECTION 333650 – VALVES

PART 1 – GENERAL

1.1 DESCRIPTION

A. Under this Section, the Contractor shall provide all labor, equipment and materials necessary to furnish, install and test all valves required to complete the entire piping systems as shown on the Contract Drawings and as specified herein.

1.2 QUALITY ASSURANCE

A. Comply with standards specified herein and listed in the General Conditions of the Contract.

B. Comply with ANSI, ASTM, National Electric and all other applicable Federal, State and Municipal codes including revisions to date of Contract.

C. In all cases where a device or part of the equipment is referred to in this Section by a singular (such as "valve"), it is intended that such references shall apply to as many such devises as are required to complete the installation.

1.3 QUALIFICATIONS OF MANUFACTURER

A. Products used in the work of this Section shall be produced by manufacturers regularly engaged in the manufacture of similar items and with a history of successful production acceptable to the Engineer.

B. Supplier shall have been manufacturing valves, gates and gauges for a period of at least ten (10) years and shall, at the request of the Engineer, provide a list of installations involving equipment of similar size and application.

1.4 SUBMITTALS

A. Submit shop drawings in accordance with Section 013220, SUBMITTALS.

B. Product data for bid submission and shop drawings approval must consist of:

1. Manufacturer's specification and other data required to demonstrate compliance with specific requirements. Such submittals shall include certified records of physical, chemical and other pertinent tests and/or certified statements from the manufacturer that the materials have been manufactured and tested in conformity with the specifications.
2. A completed materials list showing all items to be furnished and installed under this Section.
3. Complete Shop Drawings of all work of this Section, showing dimensions and locations of all items.

4. Submit detailed product data and descriptive literature including dimensions, weights, headloss data, pressure rating and materials of construction.
5. Provide Shop Drawings which clearly illustrate the general arrangement of the equipment and cross-sectional view of the components.

1.4 PRODUCT HANDLING

A. Use all means necessary to protect materials of this Section before, during and after installation and to protect installed work and materials of all other trades.

B. Replacements: In the event of damage, immediately make all repairs and replacements necessary to the approval of the Engineer and at no additional cost to the Owner.

1.5 VALVE AND GATE IDENTIFICATION

A. Cast markings shall appear on each valve, identifying the following:
1. Manufacturer's name or mark
2. Size of valve (pipe size)
3. Working pressure
4. Year of valve manufacturer
5. Flow direction arrow (required for swing check valves, rate of flow valve, plus valves, pressure reducing valves and pressure relief valves only).

PART 2 – PRODUCTS

2.1 GENERAL

A. Is based on the use of products specified. Where used, the names of manufacturers and specific catalog numbers are given only as an indication of the quality of the materials and workmanship to be used. Equal products by other manufacturers approved by the Engineer will be acceptable in accordance with the General Conditions of the Contract.

2.2 KNIFE GATE VALVE

A. Shall be as manufactured by Rodney Hunt, or equal.

B. Each valve shall be provided with a pedestal mounted electric actuator and a handwheel manual gear operator as manufactured by Limitorque, AUMA or equal. The actuator and handwheel shall be designed for the specific operating conditions of the valve.

C. General Requirements
1. The construction of Knife gate valve shall be in accordance with AWWA C520 and the specifications mentioned hereunder.

2. The Knife gate valve manufacturer shall be ISO-9001:2008 certified and have record of supplying such valve for more than 5 years and should have installation in over 20 sewerage projects.
3. All the Knife gates shall be shop tested to verify the leakage performance at 150 PSI operating head, hydrostatic tested to verify soundness of casting, torque tested at operating head to verify the suitability of actuating mechanism and all stainless steel material to be PMI tested to verify the correctness of the material used.
4. Knife gate valves having extended spindle for operation from a platform located far above shall be supplied along with all accessories such as Knife gate valve assembly, spindle, spindle couplings, spindle guides, pedestal, manual/electric operating mechanism as required, opening indicating arrangement and anchor bolts and fasteners for stem guides and pedestal as required.
5. The cutting of stainless steel gate material shall be done using heat less water jet cutting and not by plasma cutting to avoid reduction in corrosion resistance of SS material. Suitable proof about in-house availability of such facility shall be furnished prior to start of the work.
6. The valve manufacturer shall conduct welding using the welding process described in AWS D 1.6 and ASME Welding code – Section IX using qualified welding process and welders. Suitable proof about this shall be furnished prior to the start of work.

D. Design and Details

1. The Knife gate valves shall be manufactured as per the latest AWWA C520 standards. Other constructional features and details of components of the required valves include:
    a. The valves should have ends adapted for connection to the piping having flanges as per ANSI B 16.5 150# with raised face.
    b. The valve body, as well as bonnet should be of Cast ductile iron construction. Valves up to 600mm size shall have integral bonnet and for higher sizes, the bonnet can be integral or bolt on type.
    c. Valves up to 24” shall be designed to withstand minimum 150PSI pressure or 250PSI pressure as applicable at the time of its installation. Valves above 24” and up to 96” shall be designed to withstand the actual pressure as applicable at the location of its installation.
    d. Valves shall be full lug type construction up to 24” size and full flanged construction for higher sizes. Valves of lug type construction should be full lugged so that these could be used in end of line application without the use of additional flange.
    e. The valves shall have full bore opening which does not restrict the flow in the pipe line.
    f. The valves shall be designed for sealing in uni-directional flow application. Should any specific valve be subjected to bi-directional pressure, then it should be

designed to offer leak tight sealing at the applicable pressure from the bi-directional side.

g. The valve shall be provided with gate made of stainless steel of grade as specified or superior and the gate should have beveled knife edge at the bottom to cut through and part the solids settled in the bottom so as to ensure positive shut-off in sewage environment.

h. The gate will be designed to withstand full differential pressure across the closed valve gate when against the seat without exceeding a stress level equivalent to lower of either 30% of the tensile strength or 70% of the yield strength of the material. Calculations justifying this design requirement would be given when asked by client.

i. The valve shall be provided with replaceable type resilient sealing arrangement to offer drop tight shut off. The seals should be made of EPDM rubber.

j. The resilient seal shall be placed in grooves within a separate seal retainer ring which is mechanically retained in place on the valve body using screws from the top. Use of separate screwed on retainer ring allows for easy field replacement in event the bore face of the valve wears out due to abrasion/erosion and also enables easy replacement of seal at site without requirement of a skilled person. This sealing arrangement is truly field replaceable without the need for any skilled person. Seal retained in place using a thin stainless steel band will not be acceptable as the stainless steel band is not reusable and is not screwed in place making it difficult to replace at field without use of skilled person.

k. The valve housing shall have integral as cast tapered lugs provided for pushing the gate towards the flexible rubber seal only at the verge of closure with a view to avoid seal wear and achieve drop tight shut off. The surface of the gate coming in contact with the seal should be polished and buffed.

l. The valves shall have glandless design with a view to avoid provision of glands and to avoid repeated tightening/replacement of gland packing.

m. The spindle shall be made of stainless steel material as specified or superior and shall have single/double start threading as required.

n. The spindle shall be non-rising type as far as possible for compact and safe operation.

o. The valve will be provided with visual open/close indication arrangement.

p. The operation of the valves shall be manual and a motorized octactor and support pedestal as specified herein.

q. The valves shall have operating torque less than 25FT# for ease in manual operation and to ensure that size of motorized operator is smaller and consumes less power.

r. The valve bevel gear operator assembly with the fabricated yoke shall be fully enclosed in a bonnet.

E. Material of Construction

1. The material of construction for various components of valves shall include the following:
    a. Body
        1. Ductile Iron ASTM A536 Grade 65-45-12 or Grade 400-15 or superior
    b. Seal Retainer Ring
        2. Ductile Iron ASTM A536 Grade 65-45-12 or Grade 400-15 or superior
    c. Inlet Seal / Rubber Seals
        3. EPDM Rubber
    d. Knife Gate
        4. Stainless Steel ASTM A240 type 316 or superior
    e. Spindle
        5. Stainless Steel ASTM A276 type 316 or superior
    f. Assembly bolts, nuts and fasteners
        6. Stainless Steel ASTM A276 type 316 or superior
    g. Spindle Nut
        7. Gunmetal/Phosphor Bronze/Brass
    h. Bracket/Adapter Plate
        8. Carbon Steel Epoxy Painted
2. Each valve shall be provided with an electric actuator and a handwheel manual gear operator as manufactured by Limitorque, AUMA or equal.

2.3 PAINTING

A. Following painting procedure shall be adopted for the valves:
    1. **Surface Preparation:** Blast clean to near white metal finish.
    2. **Finish Painting:** Fusion bonded epoxy paint with minimum 250 micron DFT for valves to be provided with suitable coats of epoxy paint to achieve minimum DFT 200 microns inclusive of priming. Primer painting/pre-painting before leakage testing shall be allowed provided manufacturer maintains and furnishes test records of carrying out body test as specified.

2.4 GATE VALVES

A. The gate valve shall be suitable for wastewater use conforming to the requirements of this Section.

B. The operating nut shall turn counter-clockwise (to the left) to open the valve and they shall be so marked with an arrow and the word “open”.

2.5 GATE VALVES UNDER THREE (3”) INCHES

A. Gate valves under three (3”) inches and smaller shall be rated for a working pressure of 200 psi water service. Gate valves shall be manufactured by Jenkins, Kennedy or equal as approved by the Engineer.

B. Gate valves shall be of bronze construction, solid wedge, inside screw, non-rising stem (for buried service) with a handwheel operator (for interior service). Valves three inches or smaller shall have screwed ends.

2.6 GATE VALVES THREE (3”) INCHES AND LARGER

A. Gate valves three (3”) inches and larger shall meet the requirements of AWWA Standard C500, latest edition. All gate valves shall be as manufactured by the Kennedy Co., Mueller Company or equal, as approved by the Engineer.

B. The Contractor shall supply an affidavit certifying that the gate valve furnished under this Contract complies with all applicable requirements of AWWA 500.

C. Gate valves to be installed in ferrous metal pipelines shall be iron body, bronze trimmed, double disc gate valves, suitable for 200-pound working pressure in accordance with the latest revision of AWWA Standard C500. Interior valves installed shall be OS&Y, handwheel operated or chain operated when set more than six (6’) feet above operating level. Valves larger than three (3”) inches shall have flanged ends. Flanges shall be flat faced. Class 125 pound, ANSI Standard or screwed type.

D. Flanged end gate valves shall be furnished and installed with one piece, full faced, 1/16 inch thick rubber gaskets, approved threaded mild steel, square head bolts with hexagonal nuts.

E. Unless otherwise shown, buried valves shall be mechanical joint end. Buried valves shall be furnished with extension stems to within six (6”) inches of the finished ground surface, two (2”) inch square operating nuts and valve boxes and covers.

F. The gate valve shall include the following materials:

1. Body and bonnet: Shall be of cast of iron construction, ASTM A126, Class B. Body seat rings shall be bronze ASTM B-62.

2. Discs: Shall be cast iron, ASTM A126, Class B with bronze facings. Discs shall have a deep ribs to assure ample strength in resisting distortion. Disc rings shall be bronze and provided with an accurately formed, forked continuous tongue which is forced firmly into a corresponding dovetailed groove in the cast iron disc. Disc ring shall be an integral part of the disc.

3. Stems: The stem and stem nut shall be of manganese bronze ASTM B132, Alloy A construction. The stem nut shall be designed to provide ample stem engagement at any position.
4. Stuffing Box: Shall consist of two (2) Buna N "O"-ring seals and shall form the top thrust bearing for the stem collar. The plate is secured to the valve bonnet with rustproof steel bolts. The "O"-ring packing lies above the collar which permits repacking under pressure.
5. Yoke: The yokes shall be of cast iron construction cast integral with the bonnet and bronze yoke nuts.
6. Operating mechanisms: The disc assembly consists of two (2) parallel discs, a stem nut and two (2) wedge pins. The disc assembly is suspended by the stem nut which has a rectangular flange fitted into the recessed in the back of the discs.

2.8 BALL VALVES

A. Replacement: An existing valve determined by the Engineer to require replacement, shall be replaced. Generally, valves two (2") inches or smaller shall be replaced with ball valves.

B. The ball valves shall be suitable for potable water use, Crane Company, Catalog No. 9321 or equal, with solder joint ends, regular parts and blow out proof stem.

C. The operating nut shall turn counter-clockwise (to the left) to open the valve and they shall be so marked with an arrow and the word "open".

D. The ball valve shall include the following attributes:
   1. Body: Bronze ASTM B584 Alloy 844
   2. Ball: Brass ASTM B16 Alloy 360
   3. Seat Ring: PTFE
   4. Stem: Brass ASTM B16 Alloy 360.

E. All valves shall have a minimum operating pressure of 400 psi at 150ºF.

PART 3 – EXECUTION

3.1 INSPECTION

A. Examine the areas and conditions under which work of this Section will be installed. Correct conditions detrimental to proper and timely completion of the work. Do not proceed until all unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. The installation procedures for valves shall conform to install valves and gates in accordance with manufacturer's written instructions and approved submittals. Such procedures are identified in Section 330520, PIPE AND PIPE FITTINGS.

B. Install valves and gates in accordance with the manufacturer's written instruction and approved submittals.

3.3 CLEANING VALVES

A. The inside of all valves shall be cleaned by brushing and by thoroughly blowing out with air to remove slag, dirt and other sediment, as well as other foreign materials, before being installed. During installation, sufficient care shall be exercised to prevent foreign matter from entering the valves.

3.4 HANDLING OF VALVES AND GATES

A. Proper and suitable equipment shall be used for the safe and convenient handling and laying of all valves and gates. Care shall be taken to prevent the valve and gate coating from being damaged, particularly on the inside of the pipes and fittings and any damage shall be remedied as directed. No or gate valve shall be laid which are known to be defective. If any defective valve and gates is discovered after having been laid, it shall be removed and replaced with sound valve in a satisfactory manner by the Contractor at his own expense.

B. All valves and gates shall be laid to proper alignment. Open ends of valves shall be kept plugged with a bulkhead during construction.

3.5 DISINFECTION

A. All fresh and domestic water piping and valves from the water main into any building shall be disinfected with chlorine after completion and testing of the system.

B. The system shall be disinfected in accordance with AWWA C601, latest edition. The Contractor shall open and close all valves in the water lines being disinfected several times during the disinfection period. Disinfection shall include the cost and services for analysis of the samples by a certified laboratory as required by the Engineer.

3.3 FIELD TESTING

A. Valves and gates shall be field tested as an integral part of the pipeline. Pipelines included valves shall be tested as described in Section 330520, PIPE AND PIPE FITTINGS.

B. In addition to the above field testing, each valve shall be factory tested by the manufacturer. Factory tests shall consist of shop leakage and performance tests and hydrostatic test as described in AWWA Standard C600, latest date. The manufacturer shall certify in writing to the Engineer that the valve has successfully passed all tests.

3.4 KNIFE GATE VALVE

A. Shop Test – The following shop tests at manufacturers' facility shall be conducted

1. Dimensional Check: Important dimensions shall be checked with reference to approved drawings and report submitted.
2. Material Test Certificates: Material test certificates for all components of valve assembly such as Housing, Gate, and Spindle, etc., to be furnished at the time of inspection and report submitted.
3. Positive Material Identification Test: Positive Material Identification (PMI) test to be conducted for stainless steel components during the inspection to verify that the correct material as specified has been actually used on gate assembly and report submitted.
4. Hydrostatic Body Test: Hydrostatic body test will be conducted at manufacturer's shop. A hydrostatic pressure equal to 1.5 times the maximum operating head should be applied to the valve body for 5 minutes continuously. No visible leakage from the casting should be observed. Submit report for each valve.
5. Seat Leakage Test: After the Hydrostatic body test, seat leakage test will be conducted at manufacturer's shop. A hydrostatic pressure equal to the maximum operating head should be applied on the gate for 5 minutes continuously for verifying zero leakage from the seat area in resilient seated valves. Submit report for each valve.
6. Torque Test: After Leakage test, Torque test should be conducted at manufacturer's shop at full applicable head using offered operating mechanism. In this test any one valve out of a lot of similar sized valve should be opened using a torque wrench at the applicable head and torque measured. The operating torque shall be less than 3kg-m. Submit report for each size of valve.
7. Movement Test: Movement test should be conducted in vertical/horizontal assembled condition using offered operating mechanism with extension spindle and all accessories, if any. In this test any one valve out a lot of similar sized valve shall be selected at random and should be operated once from full close to full open and back to full close condition using offered operating arrangement and checked for interference free movement and correctness of assembly as per approved drawing and report submitted.
8. DFT Measurement: Dry Film Thickness of paint to be measured with paint thickness measurement gauge during the inspection and report submitted.

B. All test results and reports shall be submitted to the Engineer for review and comment, prior to the shipment of the valve.

END OF SECTION

SECTION 334123 – PVC PIPE

PART 1 – GENERAL

1.1 DESCRIPTION

A. Schedule 40 PVC Storm Pipe and SDR35 PVC Sanitary Pipe shall consist of the excavation for the construction of the various sizes and classes of PVC pipe as shown on the Contract Documents or as otherwise directed by the Engineer.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Basic Materials: The pipe shall be made of Polyvinyl Chloride (PVC) plastic having a cell classification of 12454B or 12454C or 13364B, (with minimum tensile modulus of 500,000 PSI) as defined in ASTM Specification D1784. Fittings shall be made of PVC plastic having a cell classification of 12454B or 12454C or 13343C as defined in ASTM Specification D1784. Compounds that have different cell classifications because one or more properties are superior to those of the specified compounds are also acceptable.

B. All PVC sewage pipe, fittings, cleanouts, and materials shall be SDR-35.

C. Elastomeric gaskets shall comply with the requirements described in ASTM Specification F477.

D. The pipe and fittings shall meet all the requirements of ASTM Standard D3034-83 for SDR35 PVC Pipe for sanitary sewer unless otherwise noted.

E. Pipe and socket dimensions shall conform to those shown in Tables 1 and 2, respectively, taken from ASTM D-3034-83.

PART 3 – EXECUTION

3.1 METHODS OF CONSTRUCTION

A. Sanitary Sewer Pipes shall be constructed in accordance with the applicable Sections and/or subsections for Subsurface Structure Excavation of N. J. Department of Transportation Standard Specifications and the “Sanitary Sewer” Section of these Specifications.

B. All pipe lines shall be tested before backfilling trenches. Tests shall be made between manholes within twelve (12) working days of the completion of such sections of mains. The leakage from the main for such section tested, while the pressure is a 3.5 psig for a period of one hour, shall be no greater than the rate of one hundred (100) gallons per inch-inch mile of pipe in twenty four hours.

END OF SECTION

SECTION 334913 – SANITARY SEWER STRUCTURES

PART 1 – GENERAL

1.1 DESCRIPTION

A. Sanitary Manholes (all sizes and types), and the furnishing, installing and placing of new heads, grates, and covers.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Precast concrete sanitary manholes (all sizes and types), precast concrete inlets (all sizes and types) may be used as approved by the Neglia Engineering Associates.

B. All materials used in the construction of manholes (all sizes and types), inlets, and catch basins, shall conform to Section 603 - Inlets and Manholes of the 2019 NJDOT Standard Specifications. All structural reinforcing shall be epoxy-coated.

C. All castings shall have the name of the Municipality, the date, and the words “Sanitary” or “Storm” stamped or cast clearly and legibly thereon. Units not so furnished will not be accepted for use on Municipal projects. Concrete blocks shall conform to the compressive strength and absorption requirements of ASTM C139.

D. Precast concrete sanitary manholes shall be constructed in accordance with the Construction Documents and NJDOT regulations.

1. All sanitary manholes which have an influent pipe invert which is 24 inches or greater above the effluent pipe invert shall be constructed with an internal drop connection, as specified in the Construction Documents.

E. Recycled Concrete aggregate shall conform to the requirements of the application Sections and/or Subsections of the 2019 NJDOT Standard Specifications; Course aggregate shall be broken stone or washed gravel conforming to the requirements of applicable Sections and/or Subsections of the 2019 NJDOT Standard Specifications.

PART 3 – EXECUTION

3.1 METHODS OF CONSTRUCTION

A. Construction for manholes (all sizes and types), inlets, area drains, and catch basins shall be in accordance with applicable Sections and/or Subsections for Inlets and Manholes of the 2019 NJDOT Standard Specifications. Particular attention should be brought to precast concrete inlets and manholes, and Reconstruction and Conversion of Existing Structures, of the NJDOT Standard Specifications.

B. Excavation and Backfilling shall be in accordance with the applicable Sections and/or Subsections of the 2019 NJDOT Standard Specifications.

END OF SECTION

SECTION 900000 – ASBESTOS DEMOLITION SUPPLEMENT – BUILDING C (CHAPEL)

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Asbestos Demolition Supplement
Building – C (Chapel)

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Approved & Released:
February 7, 2023

Service Disabled Veteran Owned Small Business

EDI

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EDI

Rockleigh Healthcare Site – Building C (Chapel)

Asbestos Containing Materials Project Support

Section One: General Requirements

1. Scope of Work

1.1 The work to be performed under this Contract consists of furnishing all materials, equipment, supplies, labor, supervision, transportation, fuel, power, water, except materials, equipment, utility service, if any, specified herein to be furnished by the Owner/Representative, and the performance of all work in strict accordance with the specifications, schedules and plans. The Contractor is responsible for the field verification of all material quantities and conditions affecting the work. The work shall be complete, and all work, material and services not expressly called for in the specifications or not shown on the drawings, which may be necessary for complete and proper construction to carry out the Contract in good faith, shall be performed, furnished, and installed by the Contractor at no increase in cost to the Owner/Representative. Qualified, careful, and efficient certified workmen shall execute the work in the best and most workmanlike manner.

2. Project Description

2.1 This project will involve the selective demolition of Building C, which has an asbestos containing (10 % chrysotile), tar-like, vapor barrier, sandwiched between the interior walls and the exterior brick façade (See photologs). This material cannot be removed without selective demolition of the structure, which will require asbestos support services from a New Jersey licensed abatement contractor. The identified material is considered “friable” in its current state or will be rendered friable from demolition.

2.2 The State of New Jersey Department of Labor and Workforce Development rule cited as N.J.A.C. 12:120, Asbestos Licenses and Permits requires all asbestos containing materials (ACM) be removed prior to demolition. The Contractor shall be required to apply for and obtain a “waiver” (alternative method procedures) to this requirement directly from the New Jersey Department of Labor (NJDOL) – Asbestos Enforcement Unit, **with prior approval of the waiver request from Bergen County Representatives**, in order to demolish the Building C structure with the identified ACM still present in the building . Environmental Design Inc. (EDI) and Bergen County will assist in the preparation and submittal of the waiver request on the Contractor’s behalf, if requested by the selected Contractor and as approved by Bergen County Representatives.

2.3 Project documentation and air testing will be conducted on behalf of Bergen County by EDI. **No asbestos work shall be conducted without an EDI representative being present.**

2.4 The Contractor shall be responsible to ensure that the selected (approved) demolition method meets industry standard safe work practices for demolition of structures with asbestos containing remaining in the structure. If the building owner/representative, the authority having jurisdiction, or a regulatory agency representative determines that the demolition method being utilized is NOT in compliance with the approved NJDOL waiver requirements the Contractor shall be responsible in full to the owner/representative to pay for the additional cost of providing for but not limited to, additional work area preparations, air testing, and equipment. No extension of time will be provided in the event of the contractor's negligence and damages will be fully assessed as applicable. All costs incurred by the building owner/representative for violations (fines), legal counsel, and building owner/representative time lost, due to a non-compliance on the part of the Contractor shall be borne by the Contractor.

3. Project Dates

3.1 Refer to the project specification prepared by The Neglia Group for milestone dates for this project. The Contractor may not start demolition of the Building C until the proper waivers from NJDOL have been approved and upon submission of the required regulatory 10-day notices. Once established, the Contractor shall maintain sufficient personnel to ensure completion of the job within the allotted time frame. *A minimum 72-hour notice to EDI is required for all asbestos related work so air monitoring coverage and oversight by EDI can be scheduled and present.

3.2 EDI and the Building Owner/Representative assume no responsibility for project delays or additional costs which may or may not be incurred by the Contractor from the actions of federal, state or local enforcement agencies and their respective employees in regard to this project. Examples of this are, but are not limited to New Jersey Department of Health or Labor inspections, OSHA inspections, delays caused by local building officials, etc.

3.3 The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Owner and EDI's information, a Contractor's construction schedule for the Work associated with the Chapel building. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, and shall provide for expeditious and practicable execution of the Work.

3.4 The Contractor shall prepare and keep current, for EDI's approval, a schedule of submittals that is coordinated with the Contractor's construction schedule and allows EDI reasonable time to review submittals and arrange for project coverage.

4. Inspection

4.1 Prior to commencement of work, the abatement Contractor shall inspect the areas in which work will be performed. Prepare a listing of damage to structure, surfaces, and equipment or of surrounding properties, which could be misconstrued as damage resulting from the work. The contractor is responsible to photograph or videotape existing conditions as necessary to document conditions. Submit to Owner's Representative prior to starting work.

5. Stop Work

5.1 If the Owner, the Owner's Representative, or EDI presents a written stop work order, immediately and automatically stop all work. Do not recommence work until authorized in writing by the Owner's Representative.

6. Primary Scope of Work – Building C Selective Demolition

6.1 Building C Selective Demolition: The contractor shall be responsible for the proper/safe demolition of the Building C structure and safe handling/disposal of the identified ACM utilizing a NJ licensed asbestos abatement sub-contractor. The demolition waste stream from Building C will contain friable ACM and must be disposed of as such. Segregation of the non-ACM building materials is permissible, where possible, *provided,* the segregated materials are visually free of any of the vapor barrier material, or its associated adhesive on the CMU block or brick. Visual inspection will be made by the Contractor's Supervisor and EDI or Bergen County representative.

6.1.1 The amount of applied asbestos containing vapor barrier (tar coating) is approximated to be 4,200 square feet of affected wall surface area. The Contractor shall field verify the amount and location of the ACM present in the structure to include the amount of demolition waste affected. This will require weight calculations to determine the approximate number of waste containers needed to properly transport and dispose of the affected asbestos containing/contaminated materials.

7. Building C Work Area Minimum Preparations & Demolition Procedures

7.1 The area surrounding the Building C demolition shall be properly demarcated with either temporary fencing, caution tape, or other approved suitable physical barriers to include the latest OSHA Asbestos Warning Signage in accordance with 29 CFR 1910.1001(j)(4)(ii)(A).

7.2 Silt socks or other effective methods to prevent and collect demolition water runoff or mud from demolition activities will be installed and utilized to the extent possible. The intent is to collect water as required and use that water to aid in wetting operations. Storm drains will be adequately protected with silt screens or other suitably effective alternatives.

7.3 A demolition dust suppression/misting system will be installed and utilized throughout the demolition/cleanup process, such as, but not limited to: the BossTek "Dust Boss" suppression system in addition to the use of high volume water hoses to ensure dust is full suppressed during all aspects of the demolition and ACM disposal operations. The Contractor may propose an alternate method to this requirement to Bergen County Representatives prior to the submission of the waiver request to NJDOL.

7.4 As the demolition process requires building materials to be removed they will be thoroughly wetted consistent with the NESHAP "Adequately Wet" requirement and placed into lined, watertight, disposal containers (i.e. 40 yard open top dumpsters with liner bags) carted from the site and disposed of as friable ACM waste.

7.5 Once the structure is safely down, cleanup and disposal operations may commence. The debris pile will be maintained wet and shall have the dust suppression system in operation at all times. All workers in direct contact with ACM will be New Jersey licensed asbestos handlers/supervisors with appropriate personal protective equipment (PPE). Heavy equipment operators shall have a minimum of 2-hour asbestos awareness training and will be in enclosed air-conditioned cabs. Demolition waste shall be handled as friable ACM and placed in containers as delineated in item 7.4 above. Large structural components, where appropriate, may be cleaned and disposed separately. At the end of each workday the debris pile shall be thoroughly wetted and covered with a tarp or poly sheeting and secured in place.

7.6 Air sampling shall be conducted by EDI utilizing real time Particle Meters. The *Action Level* to increase Dust Suppression/Emission Controls or Stop Work will be based, in part, on the National Ambient Air Quality Standards (NAAQS) for particulate matter for PM_{10} (0.15 mg/m^3). If the 1-hour average exceeds 0.023 mg/m^3 (PM_{10}) for both upwind (background) and downwind sample locations work shall be stopped, or as deemed appropriate by the Owner Representative, for a period of at least 30-minutes to evaluate the need for additional dust control measures where and as required.

7.7 The Contractor will implement all dust correction programs as approved and/or directed by Owner Representatives or we will have a work stoppage. Daily site safety meetings will reinforce the need for all workers to be cognizant and responsive to conditions or activities that generate visible fugitive dust. The area foreman and supervisors will be notified immediately if dust is visually observed by the Owner Representative, if dust monitoring indicates increased airborne particulate levels, and/or if any other conditions exist where dust could be a problem.

8. Licenses and Qualifications (Asbestos Abatement Sub-Contractor)

8.1 The asbestos abatement contractor must be certified and licensed as required by the State of New Jersey for the purpose of removal, encapsulation, enclosure, demolition and maintenance or structures or components covered by or composed of asbestos-containing materials (ACM).

8.2 Bidders shall demonstrate prior experience on asbestos abatement projects of similar nature and scope through the submission of letters of reference from the Building Manager, including the name, address, and telephone number of contact person (someone specifically familiar with the Contractor's work) for at least five (5) comparable projects. Include descriptions of projects, locations, and records of all air monitoring data that were generated during the project.

8.3 The successful bidder shall submit notarized statements, signed by an officer of the company, containing the following information:

8.3.1 A record of any citations issued by federal, state or local regulatory agencies relating to asbestos abatement activity (include projects, dates and resolutions).

8.3.2 A list of penalties incurred through non-compliance with asbestos abatement project specifications including liquidated damages, over-runs in scheduled time limitations and resolutions.

8.3.3 Situations in which asbestos related contracts have been terminated including projects, dates and reasons for terminations.

8.3.4 A listing of any asbestos related legal proceedings/claims in which the Contractor (or employees scheduled to participate in this project) have participated or are currently involved. Include descriptions of role, issue and resolution to date.

End of Section One

Section Two: Description of Work Included

1. Guidelines

1.1 The Contractor shall follow all guidelines covered within this specification and the accompanying drawings. If there is any discrepancy, he shall immediately bring the discrepancies to the attention of the Consultant. If the solution deviates from the published specification or plan, it shall be put into writing and approved by the Consultant.

2. Legal Compliance

2.1 General Requirements

2.1.1 All work under this contract shall be done in strict accordance with the applicable federal, state and local regulations, this specification, standards and codes governing asbestos abatement plus any other trade work done in conjunction with the abatement. The most recent edition of any relevant regulations, standard documents or codes shall be in effect. Where conflict among the requirements or with these specifications exists, the most stringent requirements shall be applied.

2.1.2 Copies of all standards, regulations, codes and other applicable documents, including this specification and those listed in this section may be made available at the work site in the clean change area of the worker decontamination system upon request.

2.2 Specific References

2.2.1 Title 29, Code of Federal Regulations, Section 1926.1101 - Construction Industry Standard for Asbestos.

2.2.2 Title 40, Code of Federal Regulations, Section 763.80.99 - EPA - Regulations on Asbestos-Containing Materials in Schools.

2.2.3 Title 29, Code of Federal Regulations, Section 1910.134 - General Industry Standard for Respiratory Protection.

2.2.4 Title 29, Code of Federal Regulations, Section 1910.20 - Access to Employee Exposure and Medical Records.

2.2.5 Title 29, Code of Federal Regulations, Section 1910-1200 - Hazard Communication Rule.

2.2.6 Title 40, Code of Federal Regulations, Part 61, Sub-parts A&M (Revised Sub-part B) - National Emission Standard for Hazardous Air Pollutants (Asbestos).

2.2.7 New Jersey Right to Know Law - N.J.S.A. 35: 5A-1 et. seq.

2.2.8 New Jersey State Fire Code - N.J.A.C. 5:18, 18A and 18B.

2.2.9 New Jersey Administrative Code 7:26-1, et. seq.

2.2.10 New Jersey Administrative Code 8:60, Licenses and Permits.

2.2.11 New Jersey Administrative Code 12:120, Licenses and Permits.

3. Responsibilities

3.1 Responsibilities of the Contractor

3.1.1 Submit manufacturer's certification that HEPA vacuums, negative pressure ventilation units, and other local exhaust ventilation equipment conform to ANSI Z9-2-70.

3.1.2 If rental equipment is to be used in abatement areas or to transport asbestos contaminated waste, a written notification, concerning intended use of the rental equipment, must be provided to the rental agency with a copy submitted to the Owner/Representative.

3.1.3 Document NIOSH approvals for all respiratory protective devices utilized on-site. Include manufacturer certification of HEPA filtration capabilities for all cartridges and filters.

3.1.4 During abatement activity, submit weekly job progress reports detailing abatement activities. Include review of progress with respect to previously established milestones and schedules, major problems and action taken, injury reports, equipment breakdown, and bulk material and OSHA air sampling results.

3.1.5 Submit daily copies of work site entry logbooks with information on worker and visitor access.

3.1.6 Post in the clean room area of the worker decontamination enclosure, a lit containing the names, addresses, and telephone numbers of the Contractor, the Consultant, the Asbestos Safety Technician, the testing laboratory and any other personnel who may be required to assist during abatement activities (e.g., Building Maintenance Supervisor).

4. Protection of Workers

4.1 Contractor's Responsibility

4.1.1 Submit documentation of respirator fit testing for all Contractor employees and agents who must enter the work area. This fit testing shall be in accordance with qualitative procedures, as detailed in the OSHA Lead Standard 29 CFR 1910.1025, Appendix D, Qualitative Fit Test Protocol, or be quantitative in nature.

4.1.2 Familiarize all workers with emergency procedures and escape procedures.

5. Monitoring

5.1 Air testing (with the exception of OSHA monitoring) shall be performed by EDI. Any testing required by the Contractor, in addition to that listed below, shall be paid for by the Contractor. The final contract amount shall be reduced by any additional testing costs incurred by the Contractor.

5.2 Throughout the entire removal and cleaning operations, air monitoring shall be conducted to ensure that the Contractor is complying with EPA and OSHA regulations, and applicable state and local government regulations.

5.3 Air monitoring and sample numbers required will be conducted according to the method prescribed by Subchapter 8, N.J.A.C. 5:23-8 and AHERA protocol, if applicable.

5.4 Monitoring prior to the commencement of work in the proposed work area may be accomplished at the discretion of EDI to establish a baseline fiber level in the area.

5.5 For Transmission Electron Microscopy (TEM) analysis, laboratories shall participate in the National Institute of Standards and Technology-National Voluntary Laboratory Accreditation Program (NIST-NVLAP) and shall certify that the analysis they performed was according to the protocol listed in Appendix A to Subpart E of 40 CFR 763. Maximum turnaround time from sample collection through data reporting shall be seventy-two (72) hours.

5.6 Analysis by Phased Contrast Microscopy (PCM) shall use the NIOSH 7400 method delineated in "Fibers" publication in the NIOSH Manual of Analytical Methods, third edition, second supplement, August 1987 or the latest edition. Maximum turnaround time from sample collection through data reporting shall be twenty-four (24) hours.

End of Section Two

Section Three: Quality Assurance Guidelines

1. Quality Assurance

1.1. Contractor Responsibility

1.1.1. In procuring all materials and equipment used in this work, it is the Contractor's responsibility to verify the detailed requirements of the specifically named codes and standards and to verify that the items procured for used in this work meet or exceed the specified requirements and are suitable for their intended use.

1.2. Owner's Right of Rejection

1.2.1. The Owner/Representative reserves the right to reject any materials or equipment incorporated into the work which fails to meet the specified minimum requirements.

1.3. Applicable Standards

1.3.1. Applicable standards listed in these specifications include, but are not necessarily limited to, standards promulgated by the following agencies and organizations:

1.3.1.1. EPA - Environmental Protection Agency Region II, 26 Federal Plaza, New York, New York, 10007, Asbestos Coordinator - Room 802, (212) 264-7307, Part 61, Sub-parts A and B - National Emissions Standards for Asbestos.

1.3.1.2. OSHA - Occupational Safety and Health Administration, New York Regional Office, 1515 Broadway, Room 3445, New York, New York, 10036, (212) 944-3426, Paragraph - Asbestos.

1.3.1.3. NEC - National Electric Code (See NFPA).

1.3.1.4. NFPA - National Fire Protection Association, 470 Atlantic Avenue, Boston, Massachusetts, 02201.

1.3.1.5. FEDERAL SPECS. - Specification Sales (3F21), Building 197, Washington Navy Yard, GS Washington, DC, 20407.

1.3.1.6. ANSI - American National Standards Institute (Successor to USASI and ASA), 1430 Broadway, New York, New York, 10018.

1.3.1.7. NJDOH - New Jersey Department of Health Asbestos Control Project Environmental Health Program, CN 360, Trenton, New Jersey, 08625-0360.

1.3.1.8. NJDCA - New Jersey Department of Community Affairs, Bureau of Construction Code Enforcement, CN 805, Trenton, New Jersey, 08625-0805.

1.3.1.9. NJDOL - New Jersey Department of Labor, Office of Asbestos Control and Licensing, CN 054, Trenton, New Jersey, 08625-0054.

1.3.1.10. USEPA - U.S. Environmental Protection Agency, Asbestos NESHAPS Contract Air and Waste Management Division, USEPA, 26 Federal Plaza, New York, New York, 10007.

1.4. Laboratory Services

1.4.1. Codes and Standards

1.4.1.1. EDI's laboratory shall be responsible for the quality assurance of the project.

1.4.1.2. Air sampling shall be in accordance with USDOL/OSHA (29 CFR 1926.58).

1.4.1.3. Laboratory analysis shall be in accordance with NIOSH Method 7402, and/or 7400, and AHERA (40 CFR 763, Subpart E, Appendix A).

1.4.2. Submittals

1.4.2.1. Promptly process and distribute one (1) copy to the Owner/Representative and one (1) copy to the Contractor.

1.4.2.2. Prompt reporting is necessary so that modifications to work methods and/or engineering controls will be implemented as soon as possible.

1.4.2.3. EDI shall verbally notify all concerned parties within twenty-four (24) hours of the results of each test, followed by written notification within three (3) days.

1.4.3. Post-Abatement Air Samples

1.4.3.1. Post-abatement air sampling shall not be done until written notice from the Contractor is received stating he is ready for the post-abatement sample to be taken.

1.4.3.2. Should post-abatement air sampling results include a fiber count greater than all applicable standards in the work area, the Contractor shall re-clean the work area and re-sampling shall be performed. All costs of the additional samples will be at the Contractor's expense unless otherwise specified in writing and agreed upon in advance.

2. Site Security

2.1. Physical Isolation

2.1.1. The area of asbestos removal shall be totally isolated from portions of the building not involved in the work.

2.1.2. The Owner shall be responsible for removing all portable, personal and sensitive items from the work area as deemed necessary. The Contractor shall not move any items from any location without written permission from the Owner/Representative.

2.2. Posting

2.2.1. The Contractor shall post caution warning signs meeting the requirements of OSHA 29 CFR 1926.58 (g)(i)(ii) at all entrances to the work area and at a sufficient distance from the work area to permit an individual to read the sign and take necessary protective measures to avoid exposure. Additional signs may be necessary following construction of work place barriers.

2.2.2. The Contractor shall provide and post in clearly visible locations, appropriate caution and/or danger signs indicating that asbestos work is being conducted and that unprotected persons should not enter.

2.3. Personnel

2.3.1. All workers and authorized personnel shall enter and exit the work area through the worker three (3) stage decontamination chamber.

2.3.2. All personnel who enter the work area must sign the entry log, located in the clean room, upon entry and exit.

2.3.3. All personnel, before entering the work area, shall read and be familiar with all posted regulations, personal protection requirements (including work place entry and exit procedures), and emergency procedures.

2.3.4. All personnel shall proceed first to the clean room, remove all street clothes and don the appropriate respiratory equipment (as deemed adequate for the job conditions) and disposable coveralls, with head and foot covering. Hard hats, eye protection and gloves, shall also be utilized, if required. Clean respirators and protective clothing shall be provided and utilized by each person for each separate entry into the work area.

2.3.5. Personnel wearing designated personal protective equipment shall proceed from the clean room through the shower room and equipment room to the main work area.

2.3.6. Before exiting the work area, all personnel shall remove gross contamination from the outside of the respirators and protective clothing by brushing and/or wet wiping procedures. Small HEPA vacuums with brush attachments may be utilized for this purpose; larger machines may tear the suits.

2.3.7. Personnel shall proceed to the equipment room where they shall remove all protective equipment except respirators. Deposit disposable clothing into appropriately labeled containers for disposal.

2.3.8. Reusable, contaminated footwear shall be stored in the equipment room when not in use in the work area. Rubber boots may be decontaminated at the completion of the abatement for re-use.

2.3.9. Still wearing respirators, personnel shall proceed to the shower area, clean the outside of the respirators and their exposed face areas under running water prior to removal of respirator; personnel will then shower with soap to remove residual asbestos contamination. Various types of respirators will require slight modification of these procedures. An air-line respirator with HEPA filter protection may be disconnected in the equipment room and worn into the shower. A powered air purifying respirator face-piece will have to be disconnected from the filter/power-pack assembly, which is not waterproof, upon entering the shower. A dual cartridge respirator may be worn into the shower. Cartridges must be replaced for each new entry into the work area.

2.3.10. After showering and drying, personnel will proceed to the clean room and don clean disposable (and/or launderable) clothing if there will be later re-entry into the work area or street clothes if it is the end of the work shift.

2.3.11. These procedures shall be posted in the clean room and equipment room.

3. Emergency Planning

3.1. Emergency planning shall be developed and initiated prior to abatement activities, and all parties involved will be informed.

3.2. Emergency procedures shall be in written form and prominently posted in the clean change room and equipment room of the worker decontamination area. Everyone prior to entering the work area must read and sign the procedures to acknowledge receipt and understanding of the work site layout, location of emergency exits and emergency procedures.

3.3. Emergency planning shall include written notification of police, fire and emergency medical personnel, concerning planned abatement activities, work schedule and layout of work area, particularly barriers that may affect response capabilities.

3.4. Emergency planning shall include considerations of fire, explosion, toxic atmospheres, electrical hazards, slips, trips and falls, confined spaces and heat related injury. Written procedures shall be developed and employee training in these procedures shall be provided.

3.5. Employees shall be trained in evacuation procedures in the event of work place emergencies:

3.5.1. For non-life threatening situations, employees injured or otherwise incapacitated, shall decontaminate following normal procedures with assistance from fellow workers, if necessary, before exiting the work place to obtain proper medical treatment.

3.5.2. For life-threatening injury or illness, worker decontamination shall take priority only after measures to stabilize the injured worker, remove him from the work place, and secure proper medical treatment.

3.5.3. Telephone numbers of all emergency response personnel shall be prominently posted in the clean change area and equipment room, along with the location of the nearest telephone.

End of Section Three

Section Four: Materials and Equipment

1. Materials and Equipment

1.1. General

1.1.1. Deliver all materials in the original packages, containers or bundles bearing the name of the manufacturer and the brand name (where applicable).

1.1.2. Store all materials subject to damage, off the ground, away from wet or damp surfaces and under cover, sufficient to prevent damage or contamination. Replacement materials shall be stored outside of the work area until abatement is completed.

1.1.3. Damaged, deteriorating or previously used materials shall not be used and shall be removed from the work site and disposed of properly.

1.1.4. Polyethylene sheeting for stationary objects shall be a minimum of two (2) layers of six (6) mil poly sheeting. All floors shall be covered with two (2), six (6) mil layers and shall be used in widths selected to minimize the frequency of joints. Walls shall be covered with one (1) layer of six (6) mil poly.

1.1.5. Method of attaching polyethylene sheeting shall be agreed upon in advance by the Contractor and Consultant or his designated representative and selected to minimize damage to equipment and surfaces. Method of attachment may include any combination of duct tape or other waterproof tape, furring strips, spray glue, staples, nails, screws or other effective procedures capable of sealing adjacent sheets of polyethylene under both wet and dry conditions (including the use of amended water).

1.1.6. Polyethylene sheeting utilized for worker decontamination enclosure shall be opaque, white or black in color.

1.1.7. Special materials required to protect objects in the work area should be detailed (e.g., plywood over carpeting or hardwood floors to prevent damage from scaffolds and falling material).

1.1.7.1. Disposal bags shall be of six (6) mil polyethylene, pre-printed with labels as required by EPA regulation 40 CFR 61.512 (b)(i)(iv) or OSHA requirement 28 CFR 1910.1001 (g)(2)(ii).

1.1.8. Disposal drums shall be metal or fiberboard with locking ring tops.

1.1.9. Stick-on labels, as per EPA or OSHA requirements (see 2.1, 2.7) for disposal drums.

1.1.10. Warning signs, as required by OSHA 29 CFR 1926.58 K (1) (ii).

1.2. Removal

1.2.1. Surfactant (wetting agent) shall be a 50/50 mixture of polyoxyethylene ether and polyoxyethylene ester, or equivalent, mixed in a concentration of one (1) fluid ounce to five (5) gallons of water or as specified by manufacturer. (An equivalent surfactant shall be understood to be a material with a surface tension of 29 dynes/cm as tested in its properly mixed concentration, using ASTM method D1331-565 - "Surfaces and Inter-facial Tension of Solutions of Surface Active Agents"). Where work area temperature may cause freezing of the amended water solution, the addition of ethylene glycol in amounts sufficient to prevent freezing is permitted.

1.3. Sealants

1.3.1. Any sealant used must be approved by the United States Environmental Protection Agency, Office of Toxic Substances and the American Society of Testing and Materials (ASTM) Committee, E06.21,06E on Encapsulation of Building Materials.

1.4. Substitutions

1.4.1. Approval Required

1.4.1.1. The contract is based on the materials, equipment and method. The Owner/Representative will consider proposals for substitutions of materials, equipment or methods, only when such proposals are accompanied by full and complete technical data and all other information required by the Owner/Representative to evaluate the proposed substitution. The substitution of materials, equipment or methods will not be tolerated unless the substitution has been specifically approved by the Owner/Representative.

1.4.2. "Or Equal"

1.4.2.1. Where the phrase "or equal" or "or equal as approved by the Owner/Representative" occurs in the contract document, the Contractor shall not assume that materials, equipment or methods will be approved by the Owner/Representative unless the item has been specifically approved for this work by the Owner/Representative; their decision shall be final.

1.4.3. Availability of Specified Items

1.4.3.1. Verify prior to bidding, that all specified items will be available in time for installation during orderly and timely progress of the work.

1.4.3.2. In the event that specified items will not be available, notify the Owner/Representative prior to receipt of bids.

1.4.3.3. Costs of delays because of non-availability of specified items, when such delays could have been avoided by the Contractor, will be back-charged as necessary and shall not be borne by the Owner.

2. Materials

2.1. Polyethylene

2.1.1. All plastic sheeting shall be six nominal (6) mil thick and of sufficient size to enclose the area with a minimum number of seams.

2.2. Barrier Securing Materials

2.2.1. All tape shall be a high quality duct tape. All spray-on adhesive, glue and other barriers or securing material shall also be high quality products.

2.3. Lumber

2.3.1. Lumber utilized for construction on the work site shall be selected by the Contractor; however, all materials will be of appropriate size to provide safety to all personnel and free of all contaminants.

2.4. Hand Tools

2.4.1. All hand tools shall be furnished by the Contractor and shall be properly used by all personnel.

2.5. Glovebags

2.5.1. Only glovebags specifically designed and approved for use in New Jersey asbestos removal projects shall be used.

2.6. Waste Bags

2.6.1. All waste bags shall be six (6) mil thick, properly labeled, and meet all applicable standards.

2.7. Fiber or Metal Container Drums

2.7.1. All fiber or metal container drums shall be thirty (30) gallon capacity and meet all applicable standards.

2.8. Sprayers and Pumps

2.8.1. Sprayers with pumps capable of providing five hundred (500) pounds per square inch (psi) at the nozzle tip at a flow rate of two (2) gallons per minute, shall be used for spraying amended water.

2.9. Squeegees and Dustpans

2.9.1. The Contractor shall provide rubber dustpans and squeegees for cleanup.

2.10. Brushes

2.10.1. Brushes utilized for removing loose asbestos containing material shall have nylon or fiber bristles, not metal.

3. Equipment

3.1. HEPA Air Filtration (Not Applicable to this Project)

3.1.1. The Contractor shall have available HEPA filtering equipped air filtering equipment capable of filtering asbestos fibers to 0.3 µm at least 99.97 percent efficiency and of sufficient quantity and capacity to cause a complete air change or total filtration within the work area at least once every fifteen (15) minutes. Nothing in this specification shall be constructed to limit the maximum exhaust capacity from the work area. The exhaust capacity from the work area shall be sufficient to establish a pressure differential between the work area and all adjacent spaces greater than or equal to 0.03 inches w.c. for unoccupied buildings and greater than or equal to 0.05 inches w.c. for occupied buildings.

3.1.2. Pressure differential shall be monitored by digital manometers with continuous printout low pressure monitoring devices provided by the Contractor. The A.S.T. shall zero and level the gauges each time a reading is taken.

3.1.3. One or more separate pressure monitoring systems shall be installed by the Contractor and checked by the Asbestos Safety Control Monitor (A.S.C.M.) near the entrance(s) to the work area and between the work area and any interior spaces from which make-up air is drawn.

3.2. Respiratory System

3.2.1. All workers, foremen, superintendents, authorized visitors and inspectors, shall be issued respiratory equipment (including Type C), approved by NIOSH and OSHA. When respirators with disposable filters are employed, a sufficient number of filters for replacement shall be provided by the Contractor. Replacement filters will be stored on-site.

3.2.2. The Contractor shall require that each person entering the work area wear an approved respirator and protective clothing. There shall be no exception to this rule.

3.2.3. Respiratory protection shall be in accordance with OSHA regulation 1926.58, OSHA Regulation 1910.134, and ANSI Z88, 2-1980. Respirators chosen shall also be approved by NIOSH under the provisions of 30 CFR Part II.

3.2.4. At a minimum, respiratory protection shall be:

3.2.4.1. 0.01 - 1/0 f/cc: Class A, Dual Cartridge, Air Purifying Respirator with HEPA Cartridge.

3.2.4.2. 1.0 - 10 f/cc: Class C Supplied Air Line Constant Flow Respirator

3.2.5. Contractor shall utilize Class C, Supplied Air Line Respiratory equipment, including full face masks with constant flow/pressure demand regulators; including compressor, air filtering systems for carbon monoxide and water vapor, an audible and visual alarm, all required hoses, manifolds, connectors and regulators. Type C systems shall include an escape bottle with a full five (5) minutes of compressed breathing air. The Contractor shall be responsible for the quality of supplied air.

3.2.6. NO ONE is permitted into the work area without proper protection. Class C respirators are MANDATORY at the beginning of removal work requiring total isolation until airborne concentrations are established. The Contractor may provide documentation regarding fiber concentrations on similar abatement projects removing like materials, to preclude the use of Class C respirators.

3.2.7. AT NO TIME during actual operations, shall Class A respirators be allowed, unless a full eight (8) hour TWA and ceiling concentration has been conducted, and reviewed by the Consultant. During repair and encapsulation or work considered to be emergency in nature, Class A respirators may be utilized.

3.2.8. AT NO TIME in the project shall disposable dust masks be allowed.

3.2.9. All personnel engaged in asbestos removal procedures requiring a respirator shall have an unobstructed face mask seal.

3.3. Personal Protective Equipment (PPE)

3.3.1. Provide to all workers, foremen, superintendents and authorized visitors and inspectors (to include the A.S.T.), protective disposable clothing consisting of full body coveralls, head coverings, gloves and foot coverings or reusable footwear.

3.3.2. Provide eye protection and hard hats as required by job conditions and safety regulations.

3.3.3. Reusable footwear, hard hats and eye protection devices shall be left in the "Contaminated Equipment Room" until the end of the asbestos abatement work at which time they will be thoroughly decontaminated.

3.3.4. Disposable protective clothing shall be discarded and disposed of as asbestos waste, every time the wearer exits from the work space through the decontamination facility.

3.4. Scaffolds/Ladders

3.4.1. The Contractor shall have available adequate ladders and/or scaffolds and sufficient temporary lighting equipped with ground fault circuit interrupters for the A.S.T. and all others that may inspect the work.

3.5. Showers/Decontamination Systems

3.5.1. The Contractor shall have available shower stall(s) and sufficient plumbing for these showers including hot and cold running water and sufficient hose length drain systems or an acceptable alternate such as a portable decontamination trailer with showers. Waste shower water shall be added to asbestos-contaminated waste material before disposal in a permitted asbestos waste landfill or it shall be solidified using an approved polymer to prevent leaks or accidental spills within a facility of during transport for disposal to a permitted asbestos waste landfill or it shall be filtered using a five (5) µm filter and disposed of in the sanitary drain, if allowed by local treatment works by regulation or as allowed by permit.

End of Section Four

Section Five: Execution

1. Preparation – General

1.1. Prior to Project Beginning

1.1.1. The Contractor shall notify all necessary agencies prior to the abatement project beginning and shall obtain and pay for all necessary permits prior to any work beginning, unless otherwise specified.

1.2. Coordination with Building Supervision

1.2.1. Before commencement of work, the Contractor shall designate one (1) individual as the Project Superintendent. This Superintendent shall be responsible for communication with the Owner/Representative and its representative during the entire project.

1.2.2. The Project Superintendent will inform, in writing to the Owner/Representative and EDI, any variations to the specification he plans on making and will wait for permission from the Owner/Representative before proceeding.

1.3. Provide Temporary Services

1.3.1. Existing electrical power and lights outside of the proposed work area may be used during the abatement process.

1.3.2. If electrical power from another area will be used, the Contractor shall verify the location of available electrical service outside of the work area and shall tie into the existing system at a location acceptable to the Owner/Representative, utilizing only licensed electricians. All electrical service to the work area shall be protected by ground fault insulation.

1.3.3. The service cost of electrical power used from existing facilities will be paid by the Owner. The cost of tying into the service is the responsibility of the Contractor.

1.3.4. All extension cords will be of the construction type with Ground Fault Interrupter devices.

1.3.5. Artificial lighting will be provided in a sufficient amount to adequately illuminate the entire work area to provide safe working conditions throughout the course of the project.

1.3.6. Existing domestic water service to the building may be used for temporary water during the abatement. The location of tying into the existing system shall be coordinated with and be acceptable to the Owner/Representative.

1.3.7. The Contractor is responsible for providing adequate hot water to the decontamination chamber at all times.

1.3.8. The Owner will pay service costs for water used from existing facilities.

1.3.9. The Contractor shall repair any damages made to the existing water lines if damage is incurred during work.

1.3.10. Existing toilet facilities in the work area may not be used by the Contractor's personnel during performance of the work.

1.3.11. The Contractor shall provide such temporary chemical toilets outside of the work areas, as necessary for use by the Contractor's personnel. Location of toilets shall be acceptable to EDI and the Owner.

1.3.12. Maintain toilet facilities in a clean and sanitary condition in compliance with applicable codes and ordinances.

1.4. Post Warning Signs

1.4.1. The Contractor shall post caution signs meeting the specifications of OSHA 29 CFR 1926.58 (g)(1)(ii) at each location where the level of asbestos fibers may exceed the Permissible Exposure Limit (PEL).

1.4.2. The Contractor shall provide and post in clearly visible locations, appropriate caution and/or danger signs indicating that asbestos work is being conducted and that unprotected persons should not enter. Signs shall be a minimum of 8½" x 11" in size.

1.4.3. The signs shall be posted at such a distance from such a location so that an employee may read the signs and take necessary protective steps before entering the area marked by the signs.

1.4.4. All entries and exits to the work area shall be clearly marked to permit easy location from anywhere within the work area.

1.5. Decontamination Chamber Construction

1.5.1. The Contractor shall provide an adequate decontamination unit at the entrance to the work area consisting of a serial arrangement of rooms or spaces adjoining the work area separated from the other by plastic crossover sheet doors designed to minimize fiber and air transfer as people pass between areas. A minimum of two (2) layers of six (6) mil plastic sheeting shall be required for floors, walls, and the ceiling for on-site constructed decontamination units. Plastic crossover sheet doors shall have at least three (3) layers of six (6) mil plastic sheeting and be weighted so as to fall into place when people pass through the area. Decontamination chamber doors shall be of sufficient height and width to enable replacement of equipment that may fail and to safely stretcher or carry an injured worker from the site without destruction of the chamber or unnecessary risk to the integrity of the work area. Such doors must be at least four (4) feet wide, and the distance between sets of flaps must be at least four (4) feet.

1.6. The decontamination chambers shall consist of the following:

1.6.1. Clean Room. In this room persons remove and leave all street clothes and put on clean disposable coveralls. Approved respiratory protection equipment is also picked up in this area. No asbestos contaminated items are permitted in this room.

1.6.2. Shower Room. This is a separate room used for transit by cleanly dressed people entering the work area from the clean room and for showering by them after they have undressed in the equipment room. This is a contaminated area.

1.6.3. Equipment Room. Work equipment, footwear, and all other contaminated work clothing shall be stored here. This is also a change and transit room for people. All areas between the shower room and work area shall be considered part of the equipment room. This is a contaminated area.

2. Asbestos Disposal and Transport

2.1. The disposal of friable/non-friable asbestos-containing material and asbestos-contaminated waste from the project site shall be in accordance with New Jersey Department of Environmental Protection and Energy requirements specified in N.J.A.C. 726 and 40 CFR Part 61, Subpart M.

2.2. A notification of intent to dispose of asbestos shall be sent to the New Jersey Department of Environmental Protection at least ten (10) days prior to actual disposal. The notification shall be sent to the Division of Waste Management, Bureau of Field Operations, 120 Route 156, Yardville, New Jersey, 08620, pursuant to N.J.A.C. 7:26-1 et seq.

2.3. All asbestos waste materials destined for disposal shall be wetted and packaged in permanently sealed, leak-tight containers (such as six (6) mil polyethylene bags, double bagged with visible labels) in accordance with 40 CFR 61.140-158 (Subpart M) before it can be legally transported and disposed of. No haulage of loose asbestos is permitted.

2.4. A locked, secure container shall be provided if asbestos waste is to be stored outside unattended.

2.5. The notification above shall include the following:

2.5.1. Name, address, and telephone number of the removal project;

2.5.2. Quantity and nature of the waste to be disposed;

2.5.3. Name, address, and NJDEP registration number of the collector-hauler.

2.5.4. Name and address of the landfill at which disposal will occur;

2.5.5. Date and time of disposal;

2.5.6. A copy of any written notification required by 40 CFR 61.146 and 61.155.

2.6. Asbestos waste which is properly packaged is classified as Waste ID No. 27, non-hazardous industrial waste, and shall be disposed of at a landfill which is registered by the NJDEP in conformance with the following:

2.6.1. A vehicle that is registered by the NJDEP shall take the asbestos waste container to the landfill;

2.6.2. The landfill used must be registered by the NJDEP to accept Waste ID No. 27;

2.6.3. The specific landfill facility chosen must be one designated by the New Jersey Department of Environmental Protection to accept Waste ID No. 27;

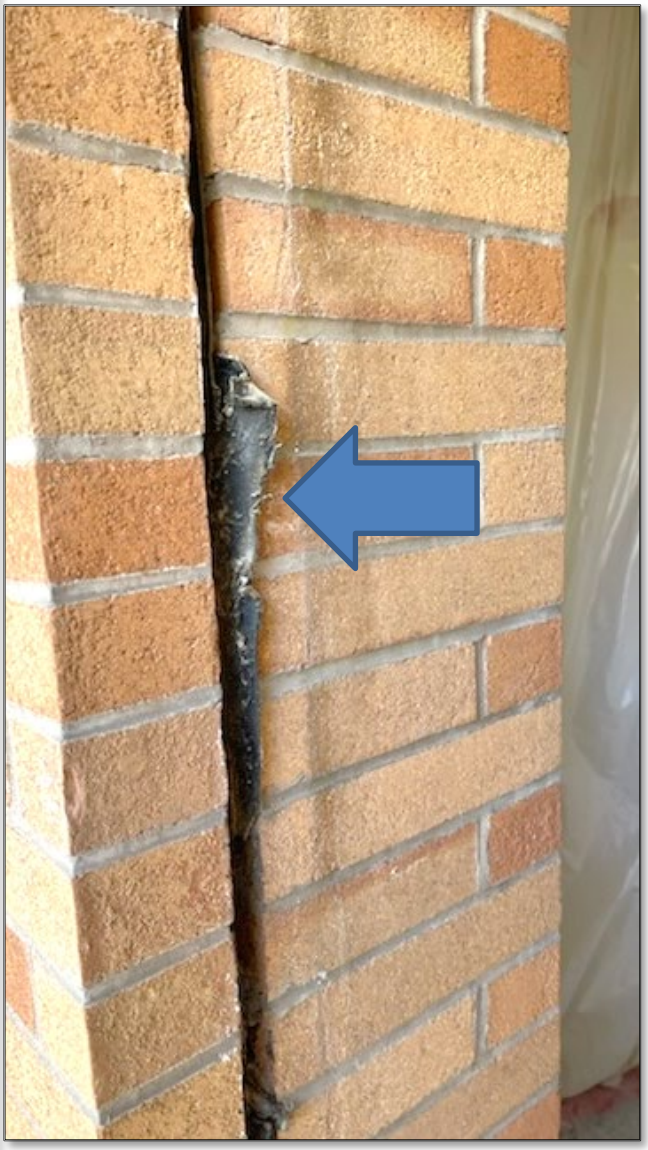
2.6.4. The waste hauler must possess a valid solid waste transporter registration issued by the NJDEP. A licensed solid waste transporter shall be a commercial collector/hauler or shall be the removal company if they are so registered;

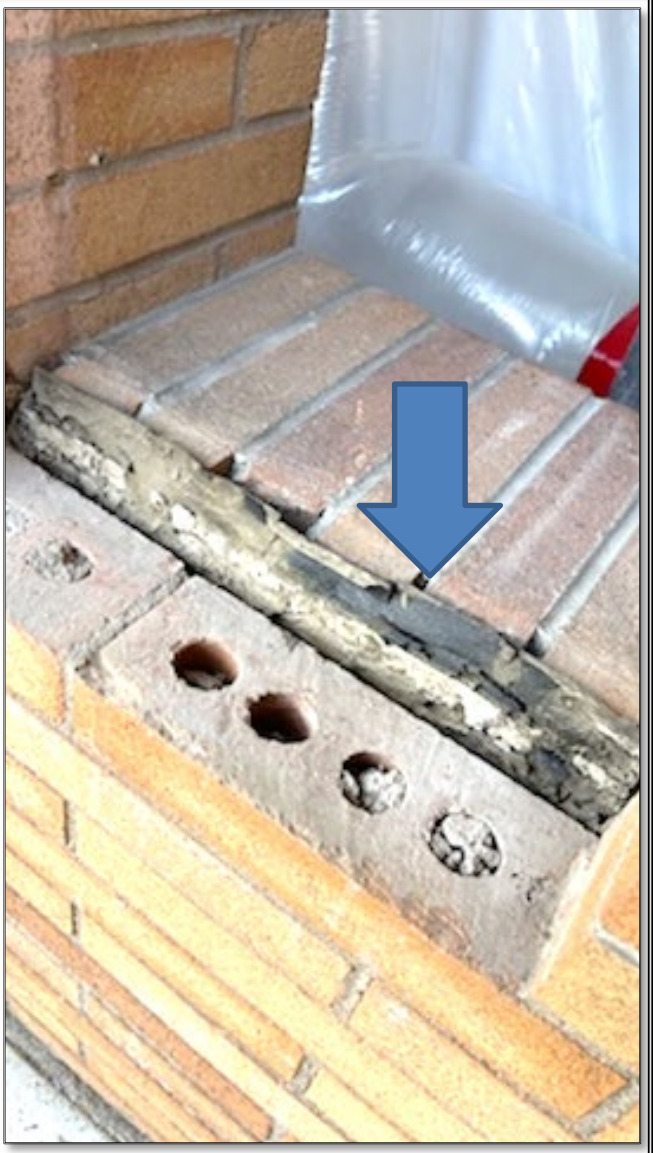
2.7. Asbestos waste can be hauled in trucks or in dumpster containers provided the load is comprised only of asbestos in bags and does not contain any other wastes or asbestos-containing wastes which could compromise the integrity of the permanent containers;

2.8. If rough surfaces or other materials are present in the load which could potentially puncture the permanent containers, then those containers shall be enclosed in temporary fiber or steel drums during loading, transport, and unloading operations. In addition, asbestos wastes shall not be loaded into or hauled with vehicles containing compaction devices.

End of Section Five

Section Six: Photologs

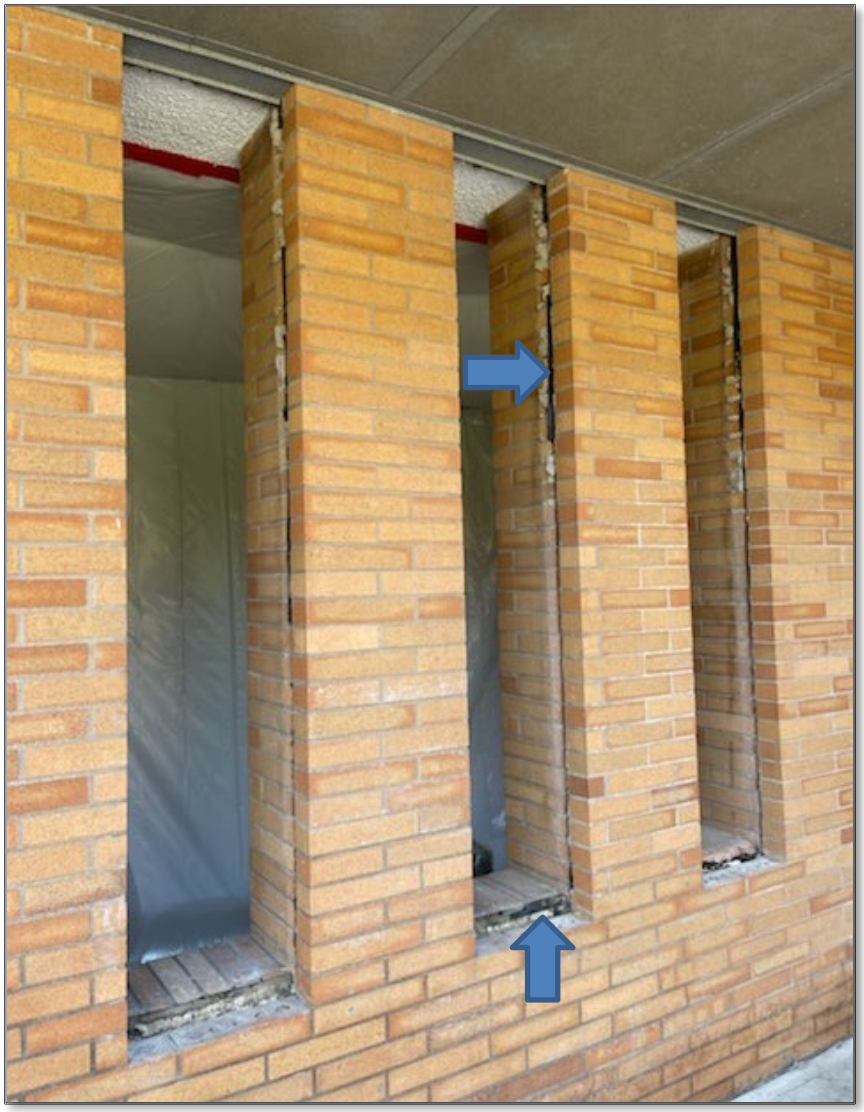




Building C - Chapel

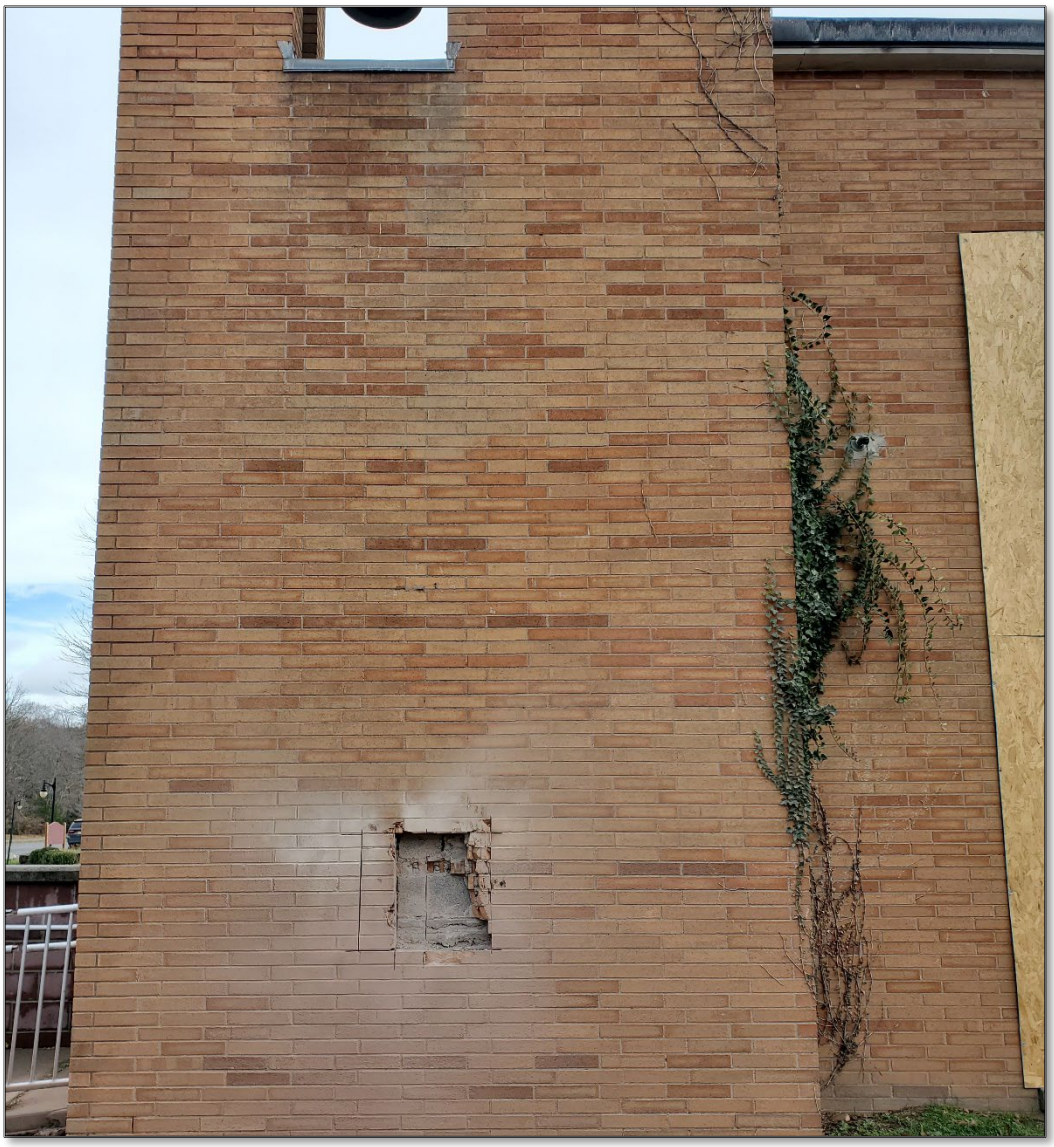
Vapor barrier behind brick façade; vapor barrier is suspect ACM.

ENVIRONMENTAL DESIGN INC. Professional Environmental Consultants	**Photo Log 1**
	Bergen County Healthcare Center Rockleigh
	October 2022



Building C - Chapel
Vapor barrier behind brick façade; vapor barrier is suspect ACM.

ENVIRONMENTAL DESIGN INC. Professional Environmental Consultants	**Photo Log 2**
	Bergen County Healthcare Center Rockleigh
	October 2022

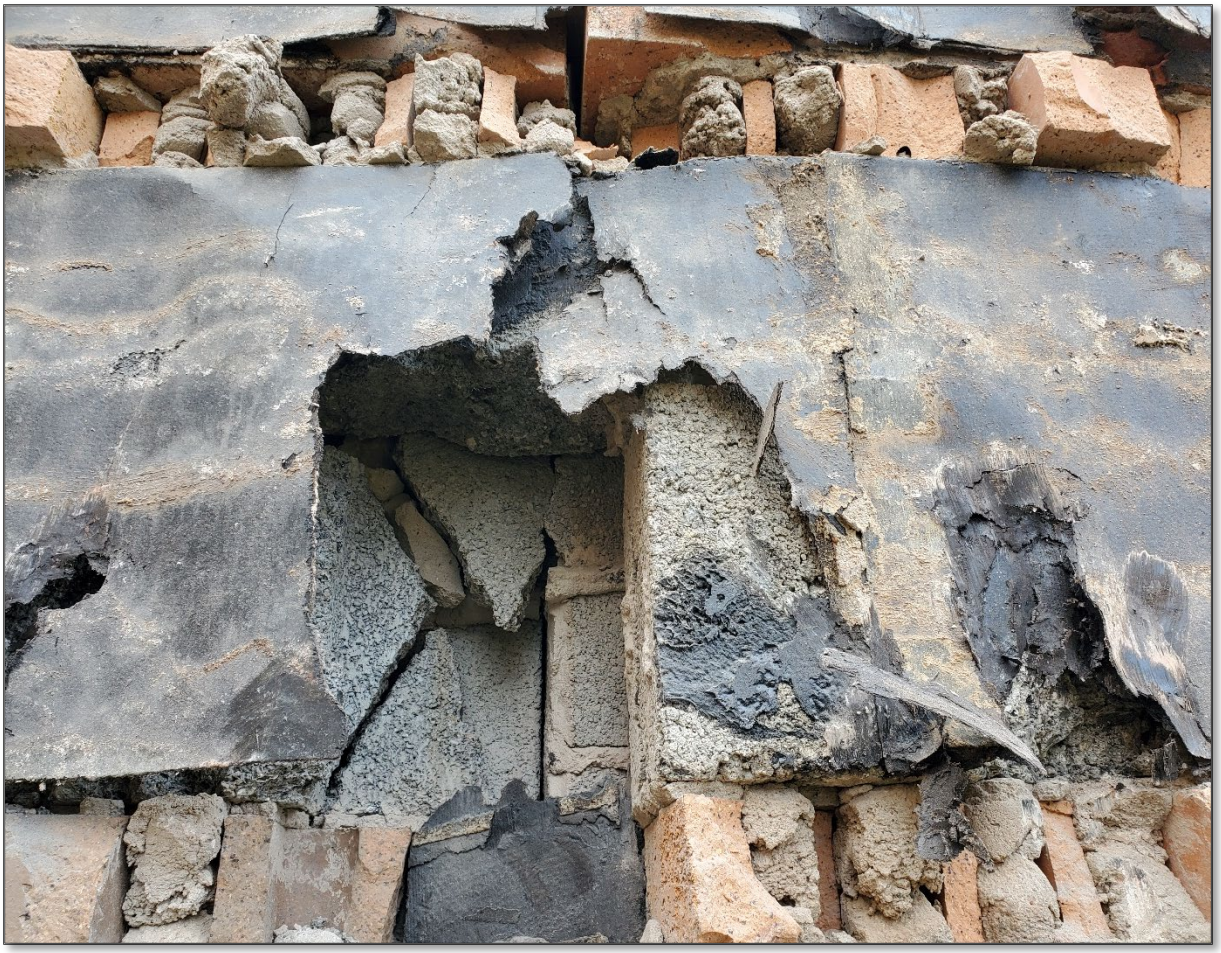


Building C – Chapel

	Photo Log 3
	Bergen County Healthcare Center Rockleigh
	October 2022

Building C - Chapel

	Photo Log 4
	Bergen County Healthcare Center Rockleigh
	October 2022



Building C - Chapel

ENVIRONMENTAL DESIGN INC. Professional Environmental Consultants	**Photo Log 5**
	Bergen County Healthcare Center Rockleigh
	October 2022

9000 Commerce Parkway Suite B
Mt. Laurel, New Jersey 08054
Telephone: 856-231-9449
Email: customerservice@iatl.com

CERTIFICATE OF ANALYSIS

Client: Environmental Design Inc. - EDI
5434 King Ave,Suite 101
Pennsauken NJ 08109

Client: ENV340

Report Date: 10/14/2022
Report No.: 670823 - PLM
Project: Bergen County; Rockleigh - Bldg C
Project No.: PR-20712-2011

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 7510169
Client No.: 13-1013-01

Analyst Observation: Black/Tan Vapor Barrier
Client Description: Vapor Barrier in Wall Cavity

Location: Building C
Facility:

Percent Asbestos:
10 *Chrysotile*

Percent Non-Asbestos Fibrous Material:
5 Cellulose

Percent Non-Fibrous Material:
85

Lab No.: 7510170
Client No.: 13-1013-02

Analyst Observation: Black/Tan Vapor Barrier
Client Description: Vapor Barrier in Wall Cavity

Location: Building C
Facility:

Percent Asbestos:
10 *Chrysotile*

Percent Non-Asbestos Fibrous Material:
5 Cellulose

Percent Non-Fibrous Material:
85

Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/14/2022
Date Analyzed: 10/14/2022
Signature:
Analyst: Michael Moore

Approved By:
Frank E. Ehrenfeld, III
Laboratory Director

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	5434 King Ave,Suite 101	Report No.:	670823 - PLM
	Pennsauken NJ 08109	Project:	Bergen County; Rockleigh - Bldg C
		Project No.:	PR-20712-2011
Client:	ENV340		

Appendix to Analytical Report

Customer Contact: Jay Murray
Method:40 CFR Appendix E to Subpart E of Part 763, interim method for the Determination of Asbestos in Bulk Insulation Samples, USEPA 600, R93-116 and NYSDOH ELAP 198.1 as needed.

This appendix seeks to promote greater understanding of any observations, exceptions, special instructions, or circumstances that the laboratory needs to communicate to the client concerning the above samples. The information below is used to help promote your ability to make the most informed decisions for you and your customers. Please note the following points of contact for any questions you may have.

iATL Customer Service: customerservice@iatl.com
iATL Office Manager:wchampion@iatl.com
iATL Account Representative: Shirley Clark
Sample Login Notes: See Batch Sheet Attached
Sample Matrix: Bulk Building Materials
Exceptions Noted: See Following Pages

General Terms, Warrants, Limits, Qualifiers:

General information about iATL capabilities and client/laboratory relationships and responsibilities are spelled out in iATL policies that are listed at www.iATL.com and ir our Quality Assurance Manual per ISO 17025 standard requirements. The information therein is a representation of iATL definitions and policies for turnaround times, sample submittal, collection media, blank definitions, quantification issues and limit of detection, analytical methods and procedures, sub-contracting policies, results reporting options, fees, terms, and discounts, confidentiality, sample archival and disposal, and data interpretation.

iATL warrants the test results to be of a precision normal for the type and methodology employed for each sample submitted. iATL disclaims any other warrants, expressed or implied, including warranty of fitness for a particular purpose and warranty of merchantability. iATL accepts no legal responsibility for the purpose for which the client uses test results. Any analytical work performed must be governed by our Standard Terms and Conditions. Prices, methods and detection limits may be changed without notification. Please contact your Customer Service Representative for the most current information.

This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA LAP LLC, or any agency of local, state or province governments nor of any agency of the U.S. government.

This report shall not be reproduced except in full, without written approval of the laboratory.

Information Pertinent to this Report:

Analysis by US EPA 600 93-116: Determination of Asbestos in Bulk Building Materials by Polarized Light Microscopy (PLM).

Certifications:

- NIST-NVLAP No. 101165-0
- NYSDOH-ELAP No. 11021
- AIHA-LAP, LLC No. 100188

Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. PC Trace represents a <0.25% amount. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analytical Methodology Alternatives: Your initial request for analysis may not have accounted for recent advances in regulatory requirements or advances in technology that are routinely used in similar situations for other qualified projects. You may have the option to explore additional analysis for further information. Below are a few options, listed as the matrix followed by the appropriate methodology. Also included are links to more information on our website.

Bulk Building Materials that are Non-Friable Organically Bound (NOB) by Gravimetric Reduction techniques employing PLM and TEM: ELAP 198.6 (PLM-NOB), ELAP 198.4 (TEM-NOB) See additional information at the end of this appendix.

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Client:	ENV340		

Loose Fill Vermiculite Insulation, Attic Insulation, Zonolite (copyright), etc.: US EPA 600 R-4/004 (multi-tiered analytical process)
Sprayed On Insulation/Fireproofing with Vermiculite (SOF-V): ELAP 198.8 (PLM-SOF-V)

Soil, sludge, sediment, aggregate, and like materials analyzed for asbestos or other elongated mineral particles (ex. erionite, etc.): ASTM D7521, CARB 435, and other options available

Asbestos in Surface Dust according to one of ASTM's Methods (very dependent on sampling collection technique – by TEM): ASTM D 5755, D5756, or D6480

Various other asbestos matrices (air, water, etc.) and analytical methods are available.

Disclaimers / Qualifiers:

There may be some samples in this project that have a "NOTE:" associated with a sample result. We use added disclaimers or qualifiers to inform the client about something that requires further explanation. Here is a list with highlighted disclaimers that may be pertinent to this project. For a full explanation of these and other disclaimers, please inquire at **customerservice@iatl.com**.

1) Note: No mastic provided for analysis.
2) Note: Insufficient mastic provided for analysis.
3) Note: Insufficient material provided for analysis.
4) Note: Insufficient sample provided for QC reanalysis.
5) Note: Different material than indicated on Sample Log / Description.
6) Note: Sample not submitted.
7) Note: Attached to asbestos containing material.
8) Note: Received wet.
9) Note: Possible surface contamination.
10) Note: Not building material. 1% threshold may not apply.
11) Note: Recommend TEM-NOB analysis as per EPA recommendations.
12) Note: Asbestos detected but not quantifiable.
13) Note: Multiple identical samples submitted, only one analyzed.
14) Note: Analyzed by EPA 600/R-93/116. Point Counting detection limit at 0.080%.
15) Note: Analyzed by EPA 600/R-93/116. Point Counting detection limit at 0.125%.
16) Note: This sample contains >10% vermiculite mineral. See Appendix for Recommendations for Vermiculite Analysis.

Recommendations for Vermiculite Analysis:

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gange, homogeneous exfoliated books of mica, or mixed mineral composites).Please contact your client representative for pricing and turnaround time options available.

iATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004).

For New York State customers, NYSDOH requires disclaimers and qualifiers for various vermiculite containing samples that direct analysis via ELAP198.6 and ELAP198.8 for samples that contain >10% vermiculite mineral where ELAP198.6 may be used to evaluate the asbestos content of the material. However, any test result using ELAP198.6 will be reported with the following disclaimer: “ELAP198.6 method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing >10% vermiculite.”

Further information on this method and other vermiculite and asbestos issues can be found at the following: Agency for Toxic Substances and Disease Registry (ATSDR) www.atsdr.cdc.gov, United States Geological Survey (USGS) www.minerals.usgs.gov/minerals/, US EPA www.epa.gov/asbestos. The USEPA also has an informative brochure "Current Best Practices for Vermiculite Attic Insulation" EPA 747F03001 May 2003, that may assist the health and remediation professional. NYS customers please follow current NYSDOH ELAP requirements per policy on subject of surfacing and vermiculite, May 6, 2016, Testing Requirements for Surfacing Material Containing Vermiculite (https://www.wadsworth.org/sites/default/files/WebDoc/I198_8_02_2.pdf)

The following is a summary of the analytical process outlines in the EPA 600/R-04/004 Method:

1)**Analytical Step/Method:** Initial Screening by PLM, EPA 600R-93/116
Requirements/Comments: Minimum of 0.1 g of sample. ~0.25% for most samples.

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Project No.: PR-20712-2011

2)**Analytical Step/Method:** Wet Separation by PLM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Sinks" only.

3)**Analytical Step/Method:** Wet Separation by PLM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Floats" only.

4)**Analytical Step/Method:** Wet Separation by TEM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Sinks" only.

5)**Analytical Step/Method:** Wet Separation by TEM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Suspension" only.
*With advance notice and confirmation by the laboratory.
**Approximately 1 Liter of sample in double-bagged container (~9x6 inch bag of sample).

New York State Department of Health requires that samples originating from NYS that they categorize as Non-friable Organically Bound materials can only be confirmed as None Detected for asbestos by method 198.4. See the table below for a list of those materials. (ENVIRONMENTAL LABORATORY APPROVAL PROGRAM CERTIFICATION MANUAL - ITEM No. 198.1, Revision Date 5/6/16)

*Asphalt Shingles, Caulking, Ceiling Tiles with Cellulose, Duct Wrap, Glazing, Mastic, Paint Chips, Resilient Floor Tiles, Rubberized Asbestos Gaskets, Siding Shingles, Vinyl Asbestos Tile, NOB materials (other that SM-V) with <10% vermiculite, Any material (Friable or NOB other than SM-V) with >10% vermiculite.

Statistically derived uncertainty with any measure should be taken into consideration when reviewing and interpreting all reported data and results. A more comprehensive listing of accuracy, precision, and uncertainty as it impacts this method is available upon request.