

Specifications for:

Hilltop Homes Demolition Phase 1



Prepared for:

Greater Dayton Premier Management

400 Wayne Avenue

Dayton, Ohio 45410

937.910.7500

Website posting at www.gdpm.org

Prepared by:



RDA GROUP ARCHITECTS

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Bid Set
May 31, 2024

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SECTION 01 10 00 - SUMMARY

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Summary:
 - 1. Contract description.
 - 2. Scope of Work.
 - 3. Contractor's use of premises.
 - 4. Specification conventions.
- B. Contractor / General Requirements
- C. Administrative Requirements:
- D. Execution Requirements:

1.2 CONTRACT DESCRIPTION

- A. Project Identification: Hilltop Homes Demolition – Phase 1
- B. Project Location: 631 Groveland Avenue
Dayton, OH 45417
- C. Owner: Greater Dayton Premier Management
400 Wayne Avenue
Dayton, Ohio 45410
937.910.7500 phone
- D. Architect: RDA Group Architects, LLC
7662 Paragon Road
Dayton, OH 45459
937.610.3440 phone
- E. Civil Engineer / Surveyor: Burkhardt Engineering
28 North Cherry Street
Germantown, OH 45327
937.388.0060 phone

1.3 SCOPE OF WORK

- A. Demolition of [19] multi-family buildings at the Hilltop Homes Housing Site.
 - 1. Complete demolition of the existing buildings, including foundation system.
 - 2. Abatement / remediation of all hazardous materials including, but not limited to, asbestos containing materials, lead based paint, etc.
- B. Removal of associated building utilities, including but not limited to, electrical service, gas service, water service, sanitary service, telephone / data service which serve the buildings being demolished. Remove services in accordance with applicable utility company requirements, extending back to transformers, laterals, curb stops as applicable.
 - 1. Contractor to coordinate all requirements and include applicable fees in the bid amount.
 - 2. Contractor to coordinate all requirements to ensure that adjacent buildings scheduled to remain continue to have applicable utility services.
- C. Demolition of site related components such as concrete, asphalt, and other related site amenities identified.
- D. Restoration of excavated and impacted site areas with new compacted fill and topsoil.
- E. Seed all impacted site areas.
- F. Provide all materials and labor for work as noted herein for a complete project.

1. IMPORTANT: Field verify all existing conditions, and coordinate all applicable requirements as related to the scope of the work.
 2. Drawings indicate general diagrammatic areas/extent of work, but in no way indicate the intricate nature of the work required for the successful completion of the project.
 3. Conditions will vary throughout the building / facilities. Verify all conditions.
- G. Provide any and all ancillary work related to the above work scope including repair of any Contractor damaged or impacted finishes within the work area.
- H. Provide appropriate coordination with GDPM.

1.4 CONTRACTOR'S USE OF SITE

- A. Other dwelling units / buildings on this site will be OCCUPIED for the duration of the project.
- B. Perform all work between the hours of 8 AM and 5 PM Monday through Friday, unless work outside these hours and days is requested and granted by the Owner.

1.5 TIME FOR COMPLETION

- A. Contract Period
1. Supply a work start date within [7] calendar days upon issuance of a contract from the Owner.
 2. Coordinate project start date and completion date with Owner. Obtain Owner acceptance.
 3. Owner will issue notice to proceed with the agreed upon dates..
 4. Consideration of material lead-times will be given for establishing the NTP dates as applicable.
 5. Notify the Architect, in writing, upon determination of any delay in material delivery.
- B. The time for completion of this contract work is **One Hundred Eighty [180]** calendar days from the date of the Notice to Proceed.
1. Coordinate construction schedule and any related phasing.
- C. Notify GDPM in writing seven [7] days prior to substantial completion of the project.
- D. Notify GDPM in writing fourteen [14] days prior to the Contract Completion date if an extension of contract time is necessary with a request for the extension and the reasoning for such request.
1. Failure to comply may result in enforcement of liquidated damages, cancellation of the contract, and possible disablement from future bidding opportunities.
- E. It is anticipated that the work of this contract will begin Summer 2024.
1. Contractor is responsible to expedite submittals process and order materials to accommodate the construction schedule.
- F. Failure to complete work in the specified contract period will be cause for enforcement of liquidated damages per GDPM requirements.

1.6 SPECIFICATION CONVENTIONS

- A. These specifications are written in imperative mood and streamlined form. This imperative language is directed to the Contractor, unless specifically noted otherwise. The words “shall be” are included by inference where a colon (:) is used within sentences or phrases.

1.7 CONTRACTOR / GENERAL REQUIREMENTS

- A. Visit the project sites to verify general and pertinent conditions and take measurements necessary for bidding purposes. Arrangements to visit the site may be made by contacting Kevin Arnold at GDPM.
- B. Pay for all building permits, trade permits, ROW permits, and any other required permits and inspections necessary to complete all work related to these specifications. Comply with

Federal, State, and Local Codes. All work shall comply with HUD General Conditions of the Contract for Construction [HUD Form 5370]

- C. Taxes: Pay all applicable taxes, including applicable sales and use taxes, and other taxes as required by governing law.
 - 1. GDPM is a tax-exempt entity.
 - 2. GDPM will provide tax exempt forms upon request.
- D. Provide dumpsters or trash containers needed. Do not use Owner dumpsters or trash containers at any time for removal of materials, trash, or debris related to the Contractor's work. Remove debris from the site regularly and be placed within appropriate trash receptacles. Keep all work areas neat at all times. Trash shall not be permitted to be left around the site. Take all considerations for resident safety. Do not leave trash or debris on the ground / around the project site.
- E. Furnish workers with potable drinking water and portable toilets for the workers during the project. Use of Owner facilities and property is prohibited unless explicitly approved.
- F. Utilize existing utilities on the site. Supplement as required to facilitate work. Do not use resident electricity.
- G. A Contractor, working under a contractual agreement with **GDPM, MUST BE IN COMPLIANCE WITH OSHA STANDARDS 1926 – REGULATIONS FOR CONSTRUCTION.** Any and all sub-contractors, doing work on this project, **MUST ALSO BE IN COMPLIANCE WITH OSHA STANDARDS.** Non-compliance shall be a basis for making a bid non-responsive. And, if a Contractor or sub-contractor is found to be in **VIOLATION (NON-COMPLIANCE) AT ANY TIME**, this could be a basis for termination of the purchase order/contract.
- H. **IMPORTANT: Failure to show or mention petty details shall not be warranted for the omission of anything necessary for the proper completion of the work.**
- I. **The plans and specifications are intended to depict the general scope, layout and quality of workmanship required. The documents are not an "instruction manual" to execute the work nor are they intended to show or describe in detail every item necessary for the proper installation of the work. The means and methods required to execute the work described is the sole responsibility of the Contractor. The Contractor shall include the ancillary work required, whether explicitly stated or not, for the proper completion of the work as intended. The Contractor is required to meet or exceed building code requirements, applicable industry standards, ASTM standards, and/or manufacturer installation requirements as they relate to the work.**
- J. **The plans and specifications represent a single complete design package indicating the intended scope of the project in its entirety. As such, the project is structured to be awarded to a single Prime Contractor. The documents do not delineate bid packages or assign responsibilities to any subsequent subcontractors, dictate construction sequencing, nor provide coordination between any "trades". Such activities are the responsibility of the holder of the construction contract. In the event of a discrepancy within the drawings or between the drawings and the specifications, the more stringent requirement represented in the documents shall prevail.**
- K. Do not take advantage of any clerical errors, omissions, contradictions, or conflicts that may develop in plans, specifications, or details. Such errors, ambiguities and discrepancies shall be reported to the Architect immediately for clarification, revision, or correction prior to the submission of bids. If no notification is given, it shall be assumed that all specifications and conditions will be met.
- L. Submission of a bid shall be considered the Contractor's Certification that the bid is based upon equipment and/or materials that meet or exceed the standards set forth by specification or equipment and/or materials identification. Should a Contractor's product be determined not

equal to that specified, the Contractor shall be required to provide and install a product acceptable as equal by the Architect at no additional cost to the Owner.

- M. The submission of a bid shall indicate that the Contractor has visited the project site and is familiar with the conditions as they exist, and the modifications that may be necessary to provide a complete and professional finished project.
- N. There is a strict **NO SMOKING** policy for all work. Any worker found smoking on the jobsite will be subject to removal from the project. No exceptions. Habitual offenders may be subject to a fine in the amount of \$500 per occurrence.
- O. Security: Contractor's Liability for Vandalism
 - 1. Contractor shall be responsible at the Contractor's cost and expense, for the securing and protection of the project which is under the control of the Contractor, and for the repair and replacement of the work until that portion of the work is accepted as completed by the Owner. The Contractor shall take the measures necessary to provide such security.
 - 2. Contractor shall be liable for and shall promptly repair or otherwise remedy any and all damages to said portion of the project and of the accepted construction work caused by vandalism up to \$5,000.00 per incident. Contractor shall indemnify and hold the Owner harmless from and against all damages, liabilities, costs and expenses, including, without limitation, reasonable attorney fees, which may be imposed upon or incurred by the Owner as a result of the Contractor's failure to comply with the requirements of this section.
- P. Insurance: **Refer to GDPM Terms and Conditions.**
 - 1. Contractor to provide copy of Certificate of Insurance to GDPM.
 - 2. Contractor to submit evidence of Worker's Compensation insurance coverage and builder's risk insurance.
- Q. Damages: Any and all damages to Housing Authority Property or resident property shall be repaired equivalent to the existing by the Contractor at no cost to the Authority. **NO EXCEPTIONS.**
- R. Safety: The work will be accomplished within a high traffic area and the Contractor is responsible for taking all safety precautions necessary or directed to ensure public safety.
 - 1. Neither RDA nor Owner are safety consultants. Any and all safety provisions shall be managed and coordinated by the Contractor.
- S. Provide appropriate notification of Residents, if applicable, prior to starting work.

1.8 CONTRACTOR QUALIFICATIONS

- A. Contractor and/or Sub-contractors must establish their qualifications with Owner for their ability to complete this type of work. Qualifications may be established by:
 - 1. Provide references of similar projects, past performance, financial disclosures, etc. in the interest of selection of the lowest and best bidder for the project.
 - 2. Providing a letter of approval for the installation of the products from the manufacturer.
 - a. Contractor must be properly trained and approved by the manufacturer for the installation of the products.
 - 3. Providing a recommendation from the supplier of the products.
 - 4. Demonstrating to Owner the capability to do the work. The Contractor will have a minimum of five years documented experience in similar work.
- B. Contractor is responsible for all work performed by the Sub-contractors.

1.9 RESPONSIBILITIES OF THE CONTRACTOR

- A. Protect all finishes and equipment scheduled to remain.
- B. Commence and complete work as noted in the contract.

- C. Furnish labor, materials, equipment, and management required to complete the project.
- D. Furnish all required logistics required to accomplish the work – including lifts, scaffolding, ladders, trash chutes, safety equipment, etc.
 - 1. All Contractor staging areas and layout areas, etc. shall be coordinated and approved by the Owner prior to the start of the project.
- E. Visit the site to become thoroughly familiar with all working conditions, check and verify all dimensions, and site conditions. Any dimensions given or referred to in the specification or drawing is to be used purely as approximate and not as a basis for exact amounts for bidding. Promptly advise the Architect of any discrepancies, errors with the specifications and drawings before bidding the work.
- F. Provide a valid Certificate of Insurance, follow all Workman's Compensation requirements and regulations, and conduct all work according to OSHA recognized safe work practices.
- G. Provide all bonds, payment schedule, insurance as noted in the contract documents.
- H. Provide Safety Data Sheets [SDS] on all products used.
 - 1. Submit directly to Owner. RDA does not review nor approve SDS.

1.10 REFERENCES

- A. Conform to reference standards by date of issue current as of date of Contract Documents.
- B. When specified reference standard conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.

1.11 APPLICABLE REFERENCES, CODES, AND PERMITS

- A. References will be found in each section that applies to that section.
- B. Comply with Ohio Building Code requirements as they relate to the work.
- C. Procure, at Contractor's expense all necessary permits from municipal or other agencies and give all notices required. Fines levied due to non-compliance shall be paid by the Contractor.

1.12 WARRANTIES AND GUARANTEES

- A. General: The warranty and guarantee provisions of the General Conditions apply to all work of the contract, including but not limited to the following specific categories related to individual units of work specified in various sections of these specifications:
 - 1. **Refer to GDPM Contract Requirements / Terms and Conditions for additional information / requirements.**
 - 2. Special Project Warranty (Guarantee): A warranty specifically written and signed by the Contractor for a defined portion of the work, and, where required, countersigned by subcontractor, installer, manufacturer, or other entity engaged by the Contractor.
 - 3. Specified Product Warranty: A warranty which is required by the contract documents, to be provided for a manufactured product incorporated in the Work, regardless of whether manufacturer has published a similar warranty without regard for specific incorporation into the work, or has written and executed a special project warranty as a direct result of contract document requirements.
 - 4. Coincidental Product Warranty: A warranty which is not specifically required by the Contract Documents (other than as specified in this Section); but which is available on a product incorporated into the work, by virtue of the fact that the manufacturer of the product has published a warranty in connection with purchases and users of the product without regard for specific applications except as otherwise limited by terms of the warranty.

1.13 SPECIFICATION CONVENTIONS

- A. These specifications are written in imperative mood and streamlined form. This imperative language is directed to the Contractor, unless specifically noted otherwise. The words “shall be” are included by inference where a colon (:) is used within sentences or phrases.

PART 2 GENERAL REQUIREMENTS

- A. **Follow all applicable requirements of the Owner’s Terms and Conditions. Should there be a conflict between the Owner Requirements and those herein, the higher standard shall apply.**
- B. Required Inspections by Owner
 - 1. Contact Owner to:
 - a. Inform Owner when the job is actually going to start to allow resident notification.
 - b. Mockup inspections.
 - c. Inspection at random or when problems / field conditions arise.
 - d. Final Inspection.
 - e. Punchlist requirements.
 - f. Acceptance of the project by Owner.

PART 3 EXECUTION

3.1 CONTRACT ADMINISTRATION

- A. Architect is providing contract administration services for this project to the Owner. Contractor and Owner are responsible to coordinate the proposed work, schedules, installations, permits, inspections, etc. as Architect is not on-site every day.
- B. Contact Architect for clarification should there be questions regarding the interpretation or intent of the documents, field discovery, etc. that would impact or affect the work as proposed. Architect is not liable for deviations, field changes, and Owner changes during construction.
- C. Field confirm all existing conditions, proposed installations and how they interface to ensure the systems can be installed per the intent of the documents and to meet applicable building and zoning codes, local requirements, Owner requirements, provide a watertight detail, meet aesthetic requirements, etc.
- D. Meet all applicable building and zoning codes requirements whether specifically noted herein or not. Building codes represent the minimum acceptable standard.
- E. Install all products, materials, installations, and the like in accordance with applicable industry standards, applicable manufacturer's details and instructions, in accordance with best practices, and building code provisions. The manufacturer details / requirements are the minimum acceptable standard, Architect’s drawings may require additional work.

3.2 EXAMINATION

- A. Verify existing site conditions and substrate surfaces are acceptable for subsequent Work. **Beginning new Work means acceptance of existing/job-site conditions.**
- B. Verify utility services are available, of correct characteristics, and in correct location.
- C. Contact utility protection a minimum of 48 hours prior to beginning work to verify location of existing utilities, coordinate requirements as applicable.
 - 1. Contact private utility locating services as required by the conditions. It is the Contractor’s responsibility to locate all public and private utilities that may be impacted by the work.

3.3 PROTECTION

- A. Accomplish all work in accordance with the provision of Federal, State American Standard Safety Code for Building Construction and OSHA safety requirements.
 - 1. Provide protective railings and guards, tie-offs, fall protection, and other safety measures as required by OSHA, even if not specified. Fall protection is required. Architect is not a safety consultant and as such does not direct the means and methods of compliance with safety regulations.
- B. Protect and maintain all building entrances, interior contents, building exterior and grounds.
 - 1. Return all surfaces to their original condition after all work is complete.
- C. In the event of damages of any kind caused by improper protection. The contractor shall replace/repair the damages [including interior or exterior equipment] at no expense to the Owner.
- D. Comply with all regulations of the Local Fire Department and the Owner's requirement regarding storage and handling of flammable materials, etc. Comply with the safety provisions of the National Fire Codes pertaining to such work. Contractor shall be responsible for all damage or fines resulting from failure to so comply.

3.4 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying new material or substance in contact or bond.

3.5 JOB SUPERINTENDENT/EMPLOYEES

- A. Maintain a qualified foreman on the project at all times when work is being accomplished.
- B. Refrain from fraternization with building occupants.
- C. Furnish the Owner with a list of personnel with phone numbers that will be working on the project and emergency contacts names and numbers that has the authority to handle emergencies on 24 hour/seven days a week.

3.6 SAFETY PROGRAM

- A. Maintain a written safety program for all operations / work performed on this project. The documents must be at the job site and be made available to the Owner or RDA when requested.
- B. Assume all responsibility for project safety, ways, and means and methods of constructing the project.
- C. In addition, the Owner may require special safety requirements to be performed by the Contractor, these requirements will be provided prior to commencement of work.

3.7 REMOVALS AND CLEANUP

- A. Contractor shall be responsible for the removal, dismantling of items that are required for proper completion of the work as applicable in each section. All debris resulting from the work not designated for reuse becomes the property of the contractor unless stated otherwise.
- B. At the completion of each day, the Contractor shall maintain the work area clean of all debris to the satisfactory of the Owner, including all the subcontractors work area.
- C. Provide dumpsters or trash containers needed for the proper removal of project materials, trash, or debris related to the work. Keep all work areas and project sites neat and free of trash and clutter at all times.
 - 1. No Debris, materials, etc. may be left unprotected on the grounds.
 - 2. All exterior staging / dumpster areas shall be fenced / protected.

3.8 SPECIAL PROCEDURES

- A. Materials: As specified in product sections; match existing with new products for patching and extending work.
- B. Employ skilled and experienced installer to perform alteration work.
- C. Cut, move, or remove items as necessary for access to alterations and renovation Work. Replace and restore at completion.
- D. Remove unsuitable material not marked for salvage, including rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished Work.
- E. Remove debris and abandoned items from area and from concealed spaces.
- F. Prepare surface and remove surface finishes to permit installation of new work and finishes.
- G. Remove, cut, and patch Work in manner to minimize damage and to permit restoring products and finishes to original or specified condition.
- H. Refinish existing visible surfaces to remain in renovated rooms and spaces, to renewed condition for each material, with neat transition to adjacent finishes.
- I. Where new Work abuts or aligns with existing, provide smooth and even transition. Patch Work to match existing adjacent Work in texture and appearance.
- J. When finished surfaces are cut so that smooth transition with new Work is not possible, terminate existing surface along straight line at natural line of division and submit recommendation to Architect for review.
- K. Patch or replace portions of existing surfaces which are damaged, lifted, discolored, or showing other imperfections.
- L. Finish surfaces as specified in individual product sections.

3.9 GENERAL PROJECT REQUIREMENTS

- A. Locate all private and public underground utilities prior to starting job. Call 811 before you dig. Provide Owner with confirmation number upon request. Include all necessary costs to identify private utilities as required to execute work.
- B. Safety is paramount and all personnel on site must wear appropriate personal protection equipment [PPE]. The Contractor is responsible for means and methods to ensure that proper PPE is provided. Failure to comply may result in dismissal from site.
- C. Barricade work area with appropriate construction grade barriers to establish boundaries of work area and assure safety for all workers and general public. All work areas must be properly barricaded from the general public prior to starting any work.
- D. Barricades will also protect newly installed materials from damage by traffic, weather, or other forces until suitable for traffic. All barricades are to be removed from site within one working day following completion or curing of phase.
- E. Job sites will be maintained in an orderly and neat fashion at all times.
- F. All buildings, steps, sidewalks, and surrounding landscaping shall be protected. Any damage to the above mentioned will be repaired at the contractor's expense.
- G. Pre-determine work phases with Owner to minimize disruption of business operations.

END OF SECTION

SECTION 01 20 00 - PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Schedule of values.
- B. Applications for payment.
- C. Change procedures.
- D. Defect assessment.
- E. Unit prices.
- F. Alternates.
- G. Project Allowances.

1.2 PREVAILING WAGE REQUIREMENTS

- A. The work of this project is subject to Davis-Bacon Prevailing Wages.
- B. Include in the bid amount all applicable prevailing wages.
- C. Provide payroll reports indicating compliance to the Owner on a monthly basis.
 - 1. Pay Applications will not be processed without approved payroll reports submitted to the Owner.

1.3 TAXES

- A. Owner is tax exempt. Tax Exempt Certificates will be provided upon request.
- B. Owner will not compensate the Contractor for any taxes paid on the project.

1.4 SCHEDULE OF VALUES

- A. Submit schedule on AIA G702 / G703 or other approved HUD forms.
- B. Submit Schedule of Values in duplicate three days prior to the Pre-Construction meeting for approval by Architect and Owner.
- C. Approved Schedule of Values will be signed at the Pre-Construction meeting.
- D. Format: Utilize Table of Contents of this Project Manual. Identify each line item with number and title of major specification Section. Identify site mobilization/general conditions, bonds and insurance.
 - 1. Schedule of values should be broken down by building and also by division / work scope for each building.
- E. Revise schedule to list approved Change Orders, with each Application for Payment.

1.5 APPLICATIONS FOR PAYMENT

- A. Submit **three** copies of each pay application on AIA G702/G703 or HUD forms.
- B. Submit “pencil copy” one week prior to application for review and approval by Architect and Owner. Submit electronically.
- C. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.
- D. Payment Period: Monthly.

- E. Submit updated construction schedule with each Application for Payment as applicable to the work. Failure to submit the updated construction schedule can delay the processing of the Application for Payment.
- F. Submit all required waivers of lien/partial release of lien, payroll reports as required by Owner, etc. Failure to submit required paperwork can delay the processing of the Application for Payment

1.6 RETAINAGE

- A. Refer to Owner's Terms and Conditions.

1.7 CHANGE PROCEDURES

- A. Proposal Request / Construction Bulletin: Architect / Owner may issue a Proposal Request / Construction Bulletin including a detailed description of proposed change with supplementary or revised Drawings and specifications. Prepare and submit estimate within 7 days.
- B. Stipulated Sum/Price Change Order: Based on Proposal Request / Construction Bulletin and Contractor's fixed price quotation.
- C. On Owner's approval of a proposal from Contractor, Architect will issue a Change Order for all changes to Contract Sum and for all changes to the Contract Time.
- D. Unit Price Change Order: For contract unit prices and quantities, the Change Order must be executed prior to beginning any work. The Order will be based on fixed unit price basis provided in the Bid Form.
- E. Construction Change Order: Architect may issue directive, on AIA / HUD Forms signed by Owner, instructing Contractor to proceed with changes in the Work. Document will describe changes in the Work, and designate method of determining any change in Contract Sum/Price or Contract Time. Promptly execute change.
- F. Change Order Forms: AIA / HUD Approved Forms with all required backup documentation.
- G. Correlation Of Contractor Submittals:
 - 1. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as separate line item and adjust Contract Sum/Price.
 - 2. Promptly revise progress schedules to reflect change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.
 - 3. Promptly enter changes in Project Record Documents.
- H. Architect will advise of minor changes in the Work not involving adjustment to Contract Sum/Price or Contract Time by issuing supplemental instructions on Architect's approved forms.
- I. **Important: All change orders must be fully executed prior to beginning any work. Failure to comply will result in contractor request being denied and completed at no cost to Owner.**

1.8 DEFECT ASSESSMENT

- A. Replace the Work, or portions of the Work, not conforming to specified requirements.
- B. If, in the opinion of the Architect/Owner, it is not practical to remove and replace the Work, the Architect/Owner will direct appropriate remedy.
- C. Authority of Architect/Owner to assess defects and identify payment adjustments is final.
- D. Non-Payment For Rejected Products: Payment will not be made for rejected products.

1.9 UNIT PRICES

- A. Contractor is responsible to document unit price quantities. Architect / Owner will confirm quantities as required. Contractor may not be paid for unit cost work without documentation of the work accomplished.
- B. Unit Price Includes: Full compensation for required labor, products, tools, equipment, plant and facilities, transportation, services and incidentals; erection, application or installation of item of the Work; overhead and profit.
- C. Final payment for Work governed by unit prices will be made on basis of actual measurements and quantities accepted by Architect / Owner multiplied by unit price for Work incorporated in or made necessary by the Work.
- D. Unit Price Schedule:
 - 1. None

1.10 ALTERNATES

- A. Alternates listed on Bid Form will be reviewed and accepted or rejected at Owner's option. Accepted Alternates will be identified in Owner-Contractor Agreement.
- B. Coordinate related work and modify surrounding work.
- C. Schedule of Alternates
 - 1. Deduct Alternate #1: Remove demolition of daycare / management office building from the scope of the project.

1.11 PROJECT ALLOWANCES

- A. Building & Systems / Unforeseen Conditions Allowance:
 - 1. Provide in bid a draw down allowance in the amount of **\$50,000 [fifty thousand dollars]** for Building & Systems / Unforeseen Conditions to address existing building / site / systems conditions as they interface with the project.
- B. Contractor's costs for Products, delivery, installation, labor, insurance, payroll, taxes, bonding, equipment rental, overhead and profit are included in Change Orders authorizing expenditure of funds from this project allowance.
- C. Any expenditure from this allowance shall be reviewed and approved by Architect and Owner prior to executing the work.
- D. Any unused amounts will be credited back to Owner at the completion of the project by a change order.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

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SECTION 01 25 00 – SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.1 WORK INCLUDES

- A. Includes administration and procedural requirement for Substitutions.
 - 1. Substitutions' for Cause: Changes due to project conditions, such as unavailable of product.
 - 2. Substitutions' for Convenience: Changes that may offer advantages to the Owner.

1.2 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Any Product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers: Products of manufacturers named and meeting specifications, no options or substitutions allowed.
- C. Products Specified by Naming One or More Manufacturers with Provision for Substitutions / Approved Equal: Submit request for substitution as outlined in this section for manufacturers not named.
 - 1. Architect / Owner is the decision maker if the proposed “approved equal” is in fact equal and approved. Any decision rendered is final.
 - 2. Any Contractor, Sub-contractor, or Supplier who makes their own judgement as to “approved equal” and includes within their bid without a formal approval is doing so at their own risk.

1.3 SUBSTITUTIONS PROCEDURES

- A. Architect will consider requests for Substitutions by the Bidder only [not materials suppliers, etc].
- B. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.
- C. A request constitutes a representation that the Bidder:
 - 1. Has investigated proposed product and determined that it meets or exceeds quality level of specified product.
 - 2. Will provide same warranty for Substitution as for specified product.
 - 3. Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to Owner.
 - 4. Waives claims for additional costs or time extension which may subsequently become apparent.
- D. Substitution Procedure
 - 1. **Submit copy of request for Substitution for consideration to Architect no later than [10] days before bid opening date.**
 - 2. Submit shop drawings, product data, and applicable certified test results attesting to proposed product equivalence. Burden on proof is on proposer.
 - 3. Architect will notify Contractor in writing of decision to accept or reject request within 5 days of receipt of request or request additional information or documentation for evaluation.
- E. Substitutions will not be considered when they are indicated or implied on Submittals, without written request or when acceptance will require revision to the Contract Documents.
- F. If the Substitution will require modifications to the Contract / Bidding Documents, the cost for updating the documents shall be paid by the Contractor making the request.
- G. Substitutions will not be considered after award of the project without justification.
- H. Approved substitutions will be identified by Addenda.
 - 1. Bidders shall not rely upon approvals made in any other manner.

END OF SECTION

SECTION 01 30 00 - ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Coordination and project conditions.
- B. Project Schedule.
- C. Preconstruction meeting.
- D. Progress meetings.
- E. Pre-installation meetings.
- F. Daily Job Logs.
- G. Cutting and patching.
- H. Special procedures.

1.2 COORDINATION AND PROJECT CONDITIONS

- A. Coordinate scheduling, submittals, and Work of various sections of Project Manual / Specifications to ensure efficient and orderly sequence of installation of interdependent construction elements.
- B. Verify utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, operating equipment.
- C. Coordinate space requirements, supports, and installation of mechanical and electrical Work indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- D. In finished areas, conceal pipes, ducts, and wiring within construction. Coordinate locations of fixtures and outlets with finish elements. Coordinate rough in locations for accessibility, clearances, maneuvering, etc.
- E. Coordinate completion and clean-up of Work of separate sections in preparation for Substantial Completion.
- F. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

1.3 FIELD VERIFICATION

- A. Prior to ordering materials, verify the actual dimensions of existing conditions and assume responsibility for workable solutions for all new work. Verification that new work and items are workable for existing conditions while providing adequate clearances is the responsibility of the Contractor.

1.4 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit initial progress schedule in duplicate within 5 days after date of Owner-Contractor Agreement for Architect review.
- B. Submit revised schedules as appropriate throughout the duration of the project.
- C. Submit implementation plan indicating planned process, sequencing, and order of operations.

1.5 PRECONSTRUCTION MEETING

- A. Owner will schedule preconstruction meeting after Notice of Award for affected parties.
- B. Agenda:
 - 1. Execution of Owner-Contractor Agreement.
 - 2. Submission of executed bonds and insurance certificates.
 - 3. Distribution of Contract Documents.
 - 4. Submission of list of Subcontractors, list of products, schedule of values, and progress schedule.
 - 5. Designation of personnel representing parties in Contract, and Architect.
 - 6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
 - 7. Scheduling.
 - 8. Use of premises by Owner and Contractor.
 - 9. Owner requirements for procedures and inspections
 - 10. Construction facilities and controls provided by Owner.
 - 11. Security and housekeeping procedures.
 - 12. Application for payment procedures.
 - 13. Procedures for maintaining record documents.
 - 14. Requirements for start-up of equipment.
 - 15. Inspection and acceptance of equipment put into service during construction period.
- C. Architect will record minutes and distribute copies via email within two days after meeting to participants and those affected by decisions made.

1.6 PROGRESS MEETINGS

- A. RDA will be providing periodic observation of the work. RDA will issue field reports at each site visit. RDA will be observing the work for compliance with the specifications and will not be responsible for the ways, means and methods of constructing the project or managing the day to day operations.
- B. Schedule and administer meetings throughout progress of the Work at bi-weekly intervals.
- C. Architect will make arrangements for meetings, prepare agenda with copies for participants, and preside at meetings.
- D. Attendance Required: Job superintendent, major subcontractors and suppliers, Architect, Owner, as appropriate to agenda topics for each meeting.
- E. Agenda:
 - 1. Review minutes of previous meetings.
 - 2. Review of Work progress.
 - 3. Field observations, problems, and decisions.
 - 4. Identification of problems impeding planned progress.
 - 5. Review of submittals schedule and status of submittals.
 - 6. Review of off-site fabrication and delivery schedules.
 - 7. Maintenance of progress schedule.
 - 8. Corrective measures to regain projected schedules.
 - 9. Planned progress during succeeding work period.
 - 10. Coordination of projected progress.
 - 11. Maintenance of quality and work standards.
 - 12. Effect of proposed changes on progress schedule and coordination.
 - 13. Other business relating to Work.
- F. Architect will record minutes and distribute copies via email within two days after meeting to participants and those affected by decisions made.

1.7 PRE-INSTALLATION MEETINGS

- A. Determine any and all requirements for pre-installation meetings and schedule the same.
- B. When required in individual specification sections, convene pre-installation meetings at Project site prior to commencing work of specific section.
- C. Require attendance of parties directly affecting, or affected by, Work of specific section.
- D. Notify Architect / Owner one week in advance of meeting date.
- E. Prepare agenda and preside at meeting.
- F. Review conditions of installation, preparation and installation procedures.
- G. Review coordination with related work.
- H. Record minutes and distribute to participants after meeting, and those affected by decisions made.

1.8 DAILY JOB LOGS

- A. Maintain a daily job log that indicates the personnel on-site and activities performed (including all sub-contractors)
- B. Indicate any safety concerns and incidents.
- C. Indicate weather conditions.
- D. Indicate any visitors or other personnel visiting the project site.
- E. Job log shall be accessible to Architect / Owner upon request.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 CUTTING AND PATCHING

- A. Employ skilled and experienced installer to perform cutting and patching; restore work with new products as applicable.
- B. Submit written request in advance of cutting or altering elements affecting:
 - 1. Structural integrity of element.
 - 2. Integrity of weather-exposed or moisture-resistant elements.
 - 3. Efficiency, maintenance, or safety of element.
 - 4. Visual qualities of sight exposed elements.
 - 5. Work of Owner or separate contractor.
- C. Execute cutting, fitting, and patching to complete Work, and to:
 - 1. Fit the several parts together, to integrate with other Work.
 - 2. Uncover Work to install or correct ill-timed Work.
 - 3. Remove and replace defective and non-conforming Work.
 - 4. Remove samples of installed Work for testing.
 - 5. Provide openings in elements of Work for penetrations of mechanical and electrical Work.
- D. Execute work by methods to avoid damage to other Work, and to provide proper surfaces to receive patching and finishing.
- E. Cut masonry and concrete materials using masonry saw or core drill.

- F. Restore Work with new products in accordance with requirements of Contract Documents.
- G. Fit Work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- H. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.
- I. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material, to full thickness of penetrated element.
- J. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for assembly, refinish entire unit. For painted surfaces, paint entire wall from corner to corner, floor to ceiling.
- K. Identify hazardous substances or conditions exposed during the Work to Architect for decision or remedy.

3.2 DEFECT ASSESSMENT

- A. Replace the Work, or portions of the Work, not conforming to specified requirements.
- B. If, in the opinion of the Architect/Owner, it is not practical to remove and replace the Work, the Architect/Owner will direct appropriate remedy.
- C. Authority of Architect/Owner to assess defects and identify payment adjustments is final.
- D. Non-Payment For Rejected Products: Payment will not be made for rejected products.

3.3 SPECIAL PROCEDURES

- A. Materials: As specified in product sections; match existing with new products for patching and extending work.
- B. Employ skilled and experienced installer to perform alteration work.
- C. Cut, move, or remove items as necessary for access to alterations and renovation Work. Replace and restore at completion.
- D. Remove unsuitable material not marked for salvage, including rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished Work.
- E. Remove debris and abandoned items from area and from concealed spaces.
- F. Prepare surface and remove surface finishes to permit installation of new work and finishes.
- G. Remove, cut, and patch Work in manner to minimize damage and to permit restoring products and finishes to original or specified condition.
- H. Refinish existing visible surfaces to remain in renovated rooms and spaces, to renewed condition for each material, with neat transition to adjacent finishes.
- I. Where new Work abuts or aligns with existing, provide smooth and even transition. Patch Work to match existing adjacent Work in texture and appearance.
- J. When finished surfaces are cut so that smooth transition with new Work is not possible, terminate existing surface along straight line at natural line of division and submit recommendation to Architect for review.
- K. Patch or replace portions of existing surfaces which are damaged, lifted, discolored, or showing other imperfections.
- L. Finish surfaces as specified in individual product sections.

END OF SECTION

SECTION 01 33 00 – SUBMITTALS

PART 1 GENERAL

1.1 WORK INCLUDES

- A. Review of shop drawings and product data by Architect / Owner.

1.2 SUBMITTAL PROCEDURES

- A. Submit product data and shop drawings for all applicable components of the project. Refer to individual sections for additional requirements.
 - 1. Provide a submittal log at the beginning of the project for review by Architect / Owner. Identify proposed submittals by Specification Section.
 - 2. Architect / Owner review of the submittals will be general in nature and does not relieve the Contractor in any way of the responsibility in compliance with the contract requirements, manufacturer requirements, and/or applicable codes.
- B. Accomplish submittals in a digital [PDF] format. Any hard copies received will be scanned and returned electronically. Provide those submittals required to maintain orderly progress of the work and those required for early lead time for manufacturer fabrication.
 - 1. Any hard copies received will be scanned and returned electronically.
 - 2. Provide those submittals required to maintain orderly progress of the work and those required for early lead time for manufacturer fabrication.
 - 3. Mark each component to identify applicable products, models, options, and other data. Supplement manufacturer's standard data to provide information unique to this project. Non-identified submittals will be rejected.
- C. Provide Submittal form / cover sheet to identify Project, Contractor, subcontractor or supplier; and pertinent Contract Document references.
- D. Apply Contractor's stamp, signed or initialed, certifying that review, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with requirements of the Work and Contract Documents.
- E. Identify variations from Contract Documents and Product or system limitations which may be detrimental to successful performance of completed Work.
- F. Revise and resubmit submittals as required; identify changes made since previous submittal.
- G. Accomplish submittals at the beginning of the project to allow the proper ordering of materials for the project.
 - 1. Failure by the Contractor to provide submittals in a timely fashion does not change the project start date nor contract period.
- H. Any materials on the job site that have not been reviewed as part of the submittal process are subject to rejection / removal from the job-site. Any work undertaken without review of the submittal data is at the Contractor's risk and subject to rejection or replacement at no cost to the Owner if submittals are not in conformance with the project documents.
- I. Allow 7 days for review of submittal items.
- J. Allow space on submittals for Contractor and Architect review stamps.
- K. When revised for resubmission, identify changes made since previous submission.
- L. Distribute copies of reviewed submittals as appropriate (electronically as appropriate). Instruct parties to promptly report inability to comply with requirements.
- M. All submittals shall be completed within the first 30 days of the project.

1.3 SUBMITTALS/PRODUCT DATA / SHOP DRAWINGS

General: Submitted to Architect / Owner for review for limited purpose of checking for conformance with information given information expressed in the Contract Documents.

- A. Product Data/Shop Drawings:
 - 1. Submitted to Architect for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
 - 2. All shop drawings shall be to scale, submit drawings on sheets no larger than 24-inch x 36 inch, all other product data can be on 8 ½ x 11-inch sheets.
- B. Samples for Review:
 - 1. Submitted to Architect for review and selection for aesthetic, color, or finish.
 - 2. Submit samples of finishes from full range of manufacturer's standard colors, textures, and patterns for Owner's selection.
 - 3. Submit samples to illustrate functional and aesthetic characteristics of Product.
- C. Personnel/Other Contractors
 - 1. Submit a list of all subcontractors and on-site personnel with the list of lead contact and associated phone numbers.
 - 2. Submit emergency contact sheet with contacts for an emergency – 24/7 call list.
- D. Contract Items:
 - 1. Submit Certificate of Insurance, Worker's Comp Certificates as required by Owner.
 - 2. Submit bonds if applicable to the contract.
 - 3. Submit a written Construction Schedule / Implementation and Sequencing Plan outlining starting points and length of time to complete work in each section.
- E. Safety Data Sheets: Submit Safety Data Sheets [SDS] on all products to the Owner.
 - 1. Owner shall be responsible to provide to employees as applicable.
 - 2. Architect does not review / approve any SDS sheets.
- F. Site Specific Safety Plan
 - 1. Provide to Owner for their Review.
- G. Site Logistics Plan
 - 1. Provide to Owner for their Review.

1.4 SAMPLES

- A. Physical Samples: Submit to Architect for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
 - 1. Physical samples are required to allow Architect to make selections for color and finish. Electronic images of colors/finishes, etc. are not sufficient.
- B. Samples For Selection as Specified in Product Sections:
 - 1. Submit to Architect for aesthetic, color, or finish selection.
 - 2. Submit samples of finishes from full range of manufacturers' standard colors, textures, and patterns for Architect selection.
- C. Submit samples to illustrate functional and aesthetic characteristics of Products, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
- D. Include identification on each sample, with full Project information.
- E. Submit 2 copies of each sample, Architect will retain 1 copy.
- F. Reviewed samples which may be used in the Work are indicated in individual specification sections.

1.5 PROPOSED PRODUCTS LIST

- A. Within 5 days after date of Notice to Proceed, submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
- B. All products for the project shall be ordered in the first 30 days of the contract. Contractors' failure to order materials is not a reason for a time extension or selection of an alternate material. This is imperative to allow work as scheduled.
- C. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

1.6 MANUFACTURER'S INSTRUCTIONS

- A. When specified in individual specification sections, submit manufacturer printed instructions for delivery, storage, assembly, installation, [start-up,] adjusting, and finishing, in quantities specified for Product Data.

1.7 MANUFACTURER'S CERTIFICATES

- A. When specified in individual specification sections, submit certifications by manufacturer to Owner, in quantities specified for Product Data.
- B. Indicate material or Product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

1.8 CONSTRUCTION PHOTOGRAPHS

- A. Provide digital photographs of construction throughout progress of Work as taken by project superintendent as applicable to document the existing conditions, work in progress, completed work, project wrap up, etc. It is in the best interest of the contractor to document the conditions as this is an occupied unit project.
- B. Deliver photographs to Architect/Owner upon request on CD. Catalog and index in chronological sequence with date indexed.

END OF SECTION

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SECTION 01 40 00 - QUALITY REQUIREMENTS/PROJECT INSPECTION

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Quality control and control of installation.
- B. Owner Construction Inspection Procedures
- C. Tolerances
- D. References.
- E. Mock-up requirements.
- F. Examination & Inspection.

1.2 QUALITY CONTROL AND CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. When manufacturers' instructions conflict with Contract Documents, request clarification from Architect/Owner before proceeding.
- D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform Work by persons qualified to produce required and specified quality.
- F. Verify field measurements are as indicated on Shop Drawings or as instructed by manufacturer.
- G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

1.3 OWNER CONSTRUCTION INSPECTION PROCEDURES

- A. Owner has clear goals with regard to the importance of thorough construction inspection that ensures compliance with the bid documents.
- B. Owner will appoint a Project Manager and an Architect representative to routinely monitor the Contractor's work and progress on all projects.
- C. Contractor is responsible for quality control of the project. Provide full cooperation with all inspection steps through the construction process and include such coordination in the base bid of the project.
- D. Arrange access to the work. Provide any necessary ladders, scaffolding, hoisting, etc in order to make all areas of the work available to the Owner / Architect. Provide manpower as necessary to facilitate inspections.
- E. Acceptance of Conditions:
 - 1. Owner / Architect will not allow work to proceed when there is a construction deficiency document in place that has not been cleared.
 - 2. Owner / Architect will not allow work to proceed that requires mock-ups until such mock up is acceptable. Subsequent work in like kind shall be equal to or better than the mock-up.

- F. **Inspect all work prior to final completion. Address / correct any remaining work and/or deficiencies and provide to the Owner / Architect a document that all of the contracted for work has been completed within the scope of the contract and request “final inspection” by the Owner / Architect.**
- G. The final inspection will result in either complete acceptance or generation of a punch list that is to be corrected in a timely manner and back punched by Owner / Architect.
- H. **If work that is clearly not complete, the Punchlist will be suspended until such time that it is evident that the Contractor has completed and reviewed/inspected their own work.**
- I. The warranty blanketing the contract will not be allowed to commence until all work under the contract is completed and accepted for beneficial use by Owner.
- J. Owner / Architect will schedule a warranty inspection approximately 10 months after project completion.

1.4 TOLERANCES

- A. Monitor fabrication and installation tolerance control of installed Products over suppliers, manufacturers, Products, site conditions, and workmanship, to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. When manufacturers' tolerances conflict with Contract Documents, request clarification from Architect before proceeding.
- C. Adjust products to appropriate dimensions; position before securing products in place.

1.5 REFERENCES

- A. For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current on date of Contract Documents, except where specific date is established by code.
- C. Obtain copies of standards where required by product specification sections.
- D. When specified reference standards conflict with Contract Documents, request clarification from Architect before proceeding.
- E. Neither contractual relationships, duties, nor responsibilities of parties in Contract nor those of Architect shall be altered from Contract Documents by mention or inference otherwise in reference documents.

1.6 MOCK-UP REQUIREMENTS

- A. Provide mockups of the work as directed / required by the Architect / Owner.
- B. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.
- C. Accepted mock-ups shall be comparison standard for remaining Work follow requirements of individual sections.
- D. Where mock-up has been accepted by Architect and is specified in product specification sections to be removed; remove mock-up and clear area when directed to do so.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing site conditions and substrate surfaces are acceptable for subsequent Work. **Beginning new Work means acceptance of existing/job-site conditions.**
- B. Verify utility services are available, of correct characteristics, and in correct location.
- C. Verify existing substrate is capable of structural support or attachment of new Work being applied or attached.
- D. Contact utility protection a minimum of 48 hours prior to beginning work to verify location of existing utilities, coordinate requirements as applicable.
 - 1. Contact private utility locating services as required by the conditions. It is the Contractor's responsibility to locate all public and private utilities that may be impacted by the work.
- E. Examine and verify specific conditions described in individual specification sections.

3.2 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying new material or substance in contact or bond.

END OF SECTION

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SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Temporary Utilities
- B. Construction Facilities
- C. Temporary Controls
- D. Removal of utilities, facilities, and controls

1.2 SITE CONTROL

- A. Coordinate site control and access with Owner.
- B. Contractor will maintain site control of the work areas while work is accomplished.
- C. Maintain security of existing buildings during the course of the work.

1.3 TEMPORARY UTILITIES

- A. Refer to Owner's Terms and Conditions

1.4 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES

- A. Provide and maintain temporary lighting for construction operations and for site security/access. Provide repairs as applicable.
- B. Provide and maintain additional lighting as required for construction operations.
- C. Permanent building lighting may be utilized during construction.

1.5 TEMPORARY HEATING/COOLING

- A. Not Applicable.

1.6 TEMPORARY VENTILATION

- A. Ventilate enclosed areas to achieve curing of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

1.7 TELEPHONE SERVICE

- A. Provide, maintain, and pay for cellular telephone service for project superintendent.

1.8 EMAIL

- A. Provide email service for project superintendent. **Email communication will be an important tool for all information and communication on this project.**

1.9 TEMPORARY WATER SERVICE

- A. Connect to existing water source for construction operations.
- B. Extend branch piping with outlets located so water is available by hoses with threaded connections.

1.10 TEMPORARY SANITARY FACILITIES

- A. Provide temporary sanitary facilities for use during construction. Maintain daily in clean and sanitary condition.
- B. Provide potable drinking water for workers.

1.11 FIELD OFFICES AND SHEDS

- A. Provide securable on-site space for storage as required by the contractor. Coordinate with Owner for approved location of such storage space. Obtain required right of way permits, etc. if storage is placed in street.
- B. Provide location where field drawings and related documents can be safely stored on-site out of weather to prevent damage.
- C. Provide field office for construction operations as deemed necessary by Contractor. Contractor shall pay for field offices and related expenses. One of the units to be modernized may be used.

1.12 VEHICULAR ACCESS

- A. Utilize existing street parking / driveways / parking areas for construction activities. Contractor shall not block or prohibit vehicular access to adjacent buildings / parking areas. Do not allow driving/parking in turf areas.
- B. Provide unimpeded access for emergency vehicles. Maintain 20 feet wide driveways with turning space between and around combustible materials.
- C. Provide and maintain access to fire hydrants and control valves free of obstructions.

1.13 PARKING

- A. Use of designated existing on-site driveways / street parking used for construction traffic is permitted. Tracked vehicles not allowed on paved areas. Do not block resident vehicles or those of adjacent buildings with a shared driveway.
- B. Use of designated areas of existing parking facilities used by construction personnel is permitted.
- C. Do not allow heavy vehicles or construction equipment in parking areas.
- D. Maintenance:
 - 1. Maintain traffic and parking areas in sound condition free of excavated material, construction equipment, products, mud, snow, and ice.
 - 2. Maintain existing and permanent paved areas used for construction; promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain paving and drainage in original, or specified, condition.
- E. Removal, Repair:
 - 1. Repair existing and permanent facilities damaged by use, to original or specified condition.

1.14 PROGRESS CLEANING AND WASTE REMOVAL

- A. Collect and maintain areas free of waste materials, debris, and rubbish. Maintain site in clean and orderly condition to the satisfaction of the Owner. Accomplish cleanup on a daily basis.
- B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing spaces.
- C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
- D. Collect and remove waste materials, debris, and rubbish from site daily and dispose off-site. Sort and recycle as applicable.
- E. Provide dumpsters or trash containers needed for the proper removal of project materials, trash, or debris related to the work. Keep all work areas and project sites neat and free of

trash and clutter at all times. Project site consists of occupied apartment units. Do not leave trash around the project site. Take all considerations necessary for safety.

1.15 PROTECTION OF INSTALLED WORK

- A. Protect installed Work and provide special protection where specified in individual specification sections.
- B. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- C. Protect finished pavement, concrete, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- D. Prohibit traffic or storage upon waterproofed or roofed surfaces. When traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer and provide all required protection as determined necessary. Any damage caused shall be repaired to like new condition.
- E. Prohibit traffic from landscaped areas.

1.16 FIRE PREVENTION FACILITIES

- A. Prohibit smoking within building or on site under construction. **NO SMOKING IS PERMITTED ON SITE [INTERIOR OR EXTERIOR]. NO EXCEPTIONS.**
- B. Establish fire watch for cutting and welding and other hazardous operations capable of starting fires. Maintain fire watch before, during, and after hazardous operations until threat of fire does not exist.
- C. Portable Fire Extinguishers: NFPA 10; 10 pound capacity, 4A-60B: C UL rating.
 - 1. Provide one fire extinguisher at each building under construction.
 - 2. Provide minimum one fire extinguisher in storage shed.

1.17 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas.
- B. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.
- C. Protect Work existing premises from theft, vandalism, and unauthorized entry.

1.18 SECURITY

- A. Security Program:
 - 1. Protect Work and existing premises from theft, vandalism, and unauthorized entry.
 - 2. Maintain program throughout construction period until Owner occupancy
- B. Entry Control:
 - 1. Restrict entrance of persons into Project site.
 - 2. Allow entrance only to authorized persons with proper identification.
 - 3. Maintain log of workers and visitors, make available to Owner on request.

1.19 DUST CONTROL

- A. Execute Work by methods to minimize raising dust from construction operations.
- B. Provide positive means to prevent air-borne dust from dispersing into atmosphere and to other areas of the building.

1.20 POLLUTION AND ENVIRONMENTAL CONTROL

- A. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations.
- B. Provide dust control, erosion and sediment control, etc. to allow for proper execution of the Work.
- C. Provide protective coverings, etc. as necessary to protect work.

1.21 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove existing utilities, connections, finishes, etc. as applicable to the work. Remove back to the nearest termination, junction box, etc. as applicable to the work. Coordinate with requirements on the drawings.
- B. Remove temporary utilities, equipment, facilities, materials, prior to Substantial Completion inspection.
- C. Clean and repair damage caused by installation or use of temporary work.
- D. Restore existing and permanent facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01 60 00 - PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Product requirements.
- B. Product options and substitution procedures.
- C. Equipment electrical characteristics and components.

1.2 MANUFACTURED PRODUCTS

- A. Where a particular system, product, or material is specified by name it shall be considered a standard and most satisfactory for its particular purpose. Any other product or material considered equal or better in all respects must be approved by the Architect prior to bidding.
- B. All products used on this project shall be new, unless otherwise noted on the drawings or as specified herein.

1.3 PRODUCTS

- A. Products: Means new material, machinery, components, equipment, fixtures, and systems forming the Work, but does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work. Products may also include existing materials or components specifically identified for reuse.
- B. Do not use materials and equipment removed from existing premises, except as specifically identified or allowed by the Contract Documents.
- C. Provide interchangeable components of same manufacturer for components being replaced.
- D. Furnish products of qualified manufacturers suitable for intended use. Furnish products of each type by single manufacturer unless specified otherwise.
- E. Do not use materials and equipment removed from existing premises, except as specifically permitted by Contract Documents.
- F. Furnish interchangeable components from same manufacturer for components being replaced.
- G. **Products shall be ordered in the first 30 days of the contract. Provide documentation of orders upon request.**
- H. **It shall be solely the Contractor's responsibility to order products to allow timely delivery for installation. The failure to order materials early in the project shall not be a reason for a contract time extension or additional costs related to expedited shipping and/or delivery. Nor shall this be a reason for a product substitution.**

1.4 LABELING

- A. Attach label from agency approved by authority having jurisdiction for products, assemblies, and systems required to be labeled by applicable code.
- B. Label Information: Include manufacturer's or fabricator's identification, approved agency identification, and the following information, as applicable, on each label.
 - 1. Model number.
 - 2. Serial number.
 - 3. Performance characteristics.

1.5 PRODUCT DELIVERY REQUIREMENTS

- A. Transport and handle products in accordance with manufacturer's instructions.

- B. Promptly inspect shipments to ensure products comply with requirements, quantities are correct, and products are undamaged.
- C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.
- D. Coordinate material delivery to avoid Owner involvement.

1.6 PRODUCT STORAGE AND HANDLING REQUIREMENTS

- A. Store and protect products in accordance with manufacturers' instructions.
- B. Store with seals and labels intact and legible.
- C. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.
- D. For exterior storage of fabricated products, place on sloped supports above ground.
 - 1. Obtain Owner approval for locations of storage / laydown areas.
- E. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- F. Secure materials to prevent blow off / blow over during weather events, wind, etc.
- G. Store loose granular materials on solid flat surfaces in well-drained area. Prevent mixing with foreign matter.
- H. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- I. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.
- J. Be responsible for all aspects of storage and safekeeping of all materials and products.
- K. Remove all damaged materials from the project site.

1.7 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only:
 - 1. Any product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers with NO Provision for “Approved Equal”:
 - 1. Products of one of the manufacturers named and meeting specifications, NO options or substitutions allowed.
- C. Products Specified by Naming One or More Manufacturers with Provision for “Equal / Approved Equal” Substitutions :
 - 1. Products of one of manufacturers named and meeting specifications.
 - 2. Submit request for substitution [Approved Equal] for any manufacturer not named in accordance with “Product Substitution Procedures”.

1.8 PRODUCT SUBSTITUTION PROCEDURES – REFER TO SECTION 01 25 00

PART 2 PRODUCTS

2.1 EQUIPMENT ELECTRICAL CHARACTERISTICS AND COMPONENTS

- A. Wiring Terminations: Furnish terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated. Include lugs for terminal box.

- B. Cord and Plug: Furnish minimum 6 foot cord and plug including grounding connector for connection to electric wiring system. Cord of longer length is specified in individual specification sections.

2.2 TOLERANCES

- A. Monitor fabrication and installation tolerance control of installed Products over suppliers, manufacturers, Products, site conditions, and workmanship, to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply fully with manufacturer's tolerances.

2.3 EXTRA MATERIALS

- A. Not Applicable

PART 3 EXECUTION

3.1 FIELD VERIFICATION

- A. Verify the actual dimensions of existing conditions and assume responsibility for workable solutions for all new work, prior to ordering materials / products. Verification that the new work and items are workable for existing conditions while providing adequate clearances is the responsibility of the Contractor.

END OF SECTION

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SECTION 01 70 00 - EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Close-out of the actual work, including warranties, project record documents and operations / maintenance manuals, and final cleaning. Close-out of all contract obligations.

1.2 CLOSEOUT PROCEDURES

- A. Notify Owner [7] days prior to the work being complete to establish the desired inspection date. Owner / Architect will either proceed with the inspection or notify Contractor of unfulfilled requirements.
 - 1. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for punch list inspection.
- B. Owner / Architect shall inspect the completed project and notify the Contractor of any deficiencies. Deficiencies will form 'punch list' for final acceptance.
- C. Provide submittals to Owner required by authorities having jurisdiction.
- D. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

1.3 PUNCHLIST REQUIREMENTS

- A. Review and inspect all work prior to notifying the Owner for a Punchlist inspection of the work. Provide written documentation certifying review along with documentation of Contractor generated Punchlist.
- B. If work is clearly not complete, the Punchlist will be suspended until such time that it is evident that the Contractor has completed and reviewed/inspected their own work.**
 - 1. Architect anticipates [1] punchlist inspection and [1] back-punch / final inspection as part of our services to the Owner.
 - 2. Failures by the Contractor to complete the work, complete punchlists, etc. may result in a backcharge to the Contractor for the additional time to closeout the project.
- C. Review and provide the noted repairs and corrective work necessary at each of the Punchlist inspections to allow project close out.
 - 1. Back-punch walk through may result in additional punchlist items which need to be addressed by the Contractor.
- D. Provide adequate time in the construction schedule to accomplish punchout work within the overall contract period indicated within the bid documents.
- E. The failure to identify any punchlist item during a walk through / inspection does not release the Contractor from contractual responsibility to address any item during the warranty period.

1.4 SUBSTANTIAL COMPLETION

- A. Certificate of Substantial Completion will be issued upon completion of all the work.

1.5 PREREQUISITES TO FINAL ACCEPTANCE AND PAYMENT

- A. Prior to acceptance and final payment, all claims or disputes must have been resolved and the Contractor must have provided the following items to the Owner:
 - 1. Notarized affidavit of waiver of liens [contractor of record], sub-contractors and material suppliers
 - 2. Certificates of release from authorities having jurisdiction over permitting.
 - 3. Final statement of charges [100% application for payment].

- a. Submit a final Application for Payment according to Section 01 29 00, Payment Procedures.
4. Documented evidence of completing 'punch list' as applicable.
5. Manufacturer's original warranties [copy to RDA].
6. Evidence that claims have been settled.
7. O+M Manuals including Manufacturer's maintenance and repair instructions.
8. Manufacturer's maintenance and repair instructions.
9. Record Drawings.
10. Final cleaning of all work areas:
11. Restore all work staging and lay-out areas to pre-construction conditions, including but not limited to, removal of debris, temporary facilities, grading and grass seeding and cleaning or repair of impacted structures.

1.6 PHOTOGRAPHIC DOCUMENTATION

- A. When requested by the Owner, photos of the completed punch list along with any supporting documentation can be submitted, in lieu of a final walkthrough.

1.7 PROJECT RECORD DOCUMENTS

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
 1. Drawings.
 2. Specifications.
 3. Addenda.
 4. Change Directives/Orders and other modifications to the Contract.
 5. Reviewed Shop Drawings, Product Data, and Samples.
 6. Manufacturer's instruction for assembly, installation, and adjusting.
- B. Record actual revisions to the Work. Record information concurrent with construction progress.
- C. Ensure entries are complete and accurate, enabling future reference by Owner.
- D. Store record documents separate from documents used for construction.
- E. Record information concurrent with construction progress, not less than weekly.
- F. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
 1. Manufacturer's name and product model and number.
 2. Product substitutions or alternates utilized.
 3. Changes made by Addenda and modifications.
- G. Submit documents to Architect.

1.8 PROJECT WARRANTIES

- A. General: Original warranties are required to be provided to the Owner prior to final payment.
- B. Submit two sets prior to final inspection or when available, bound in 8-1/2 x 11-inch text pages, binder covers.
- C. Prepare binder cover with printed title "WARRANTIES" and title of project.
- D. Bind warranties in a heavy duty three ring loose leaf binder. Provide a typed description of the product under warranty and phone number of the installer.
- E. General: The warranty and guarantee provisions of the General Conditions apply to all work of the contract, including but not limited to the following specific categories related to individual units of work specified in various sections of these specifications:
 1. **Refer to GDPM Contract Requirements / Terms and Conditions for additional information / requirements.**

2. Special Project Warranty (Guarantee): A warranty specifically written and signed by the Contractor for a defined portion of the work, and, where required, countersigned by subcontractor, installer, manufacturer, or other entity engaged by the Contractor.
 3. Specified Product Warranty: A warranty which is required by the contract documents, to be provided for a manufactured product incorporated in the Work, regardless of whether manufacturer has published a similar warranty without regard for specific incorporation into the work, or has written and executed a special project warranty as a direct result of contract document requirements.
 4. Coincidental Product Warranty: A warranty which is not specifically required by the Contract Documents (other than as specified in this Section); but which is available on a product incorporated into the work, by virtue of the fact that the manufacturer of the product has published a warranty in connection with purchases and users of the product without regard for specific applications except as otherwise limited by terms of the warranty.
- F. All work undertaken as part of the project shall be warranted for a period of not less than [1] year. Individual sections / products may have specific additional warranty requirements.
- G. Provide notarized copies of warranty documents to the Owner.
1. Execute and assemble transferable warranty documents from subcontractors, suppliers, and manufacturers.
- H. Original warranties are required to be provided to the Owner prior to final payment.

1.9 OPERATION AND MAINTENANCE DATA

- A. Submit TWO sets prior to final inspection, bound in 8-1/2 x 11 inch text pages, three D side ring binders with durable plastic covers.
1. **Submit one copy for review by the Architect/Owner, electronic submission preferred.** Submit at 75% of overall gross contract completion. Failure to submit O+M at this point will delay Applications for Payment.
 2. Prepare one final copy upon approval and correction of any missing or deficient items by the Architect/Owner.
 3. Provide (2) CDs of the O+M Manual in PDF format that is formatted and organized to match the hard copy.
- B. Prepare binder cover with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS" and title of project. Label on the front and spine of the binder.
- C. Internally subdivide binder contents with permanent page dividers, logically organized, with tab titles legibly printed under reinforced laminated plastic tabs.
- D. Contents:
1. Part 1: Directory, listing names, addresses, and telephone numbers of Architect/Engineer, Contractor, subcontractors, and major equipment suppliers.
 2. Part 2: Permit and Inspection Information
 3. Part 3: Project submittals, organized by CSI division
 4. Part 4: Operation and maintenance instructions, arranged by system.
 - a. Building Products, Equipment, Applied Materials, and Finishes: Include product data, with catalog number, size, composition, and color and texture designations.
 - b. Each Item of Equipment and Each System: Include description of unit or system, and component parts. Identify function, normal operating characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and model number of replaceable parts.
 - c. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and special operating instructions.

- d. Instructions for Care and Maintenance: Include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- e. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- f. Include original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- g. Include original shop drawing submittals, fold larger submittals to fit into binder.
- 5. Part 5: Project documents and certificates.
 - a. Obtain warranties and bonds executed in duplicate by responsible subcontractors, suppliers, and manufacturers.
- 6. Part 6: Colors / finishes / samples
- 7. Part 7: Other documentation required.

1.10 FINAL CLEANING

- A. Execute final cleaning prior to final inspection.
 - 1. Clean site; sweep paved areas, rake clean landscaped surfaces.
 - 2. Remove waste and surplus materials, rubbish, and construction facilities from site.
- B. Restore all work staging and lay-out areas to pre-construction conditions, including but not limited to, removal of debris, temporary facilities, grading and grass seeding and cleaning or repair of impacted structures.

1.11 STARTING OF SYSTEMS

- A. Coordinate schedule for start-up of various equipment and systems.
- B. Notify Architect / Owner [7] days prior to start-up of each item.
- C. Ensure each piece of equipment or system is ready for operation. Verify each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions which may cause damage.
- D. Verify tests, meter readings, and specified electrical characteristics agree with those required by equipment or system manufacturer.
- E. Verify wiring and support components for equipment are complete and tested.
- F. Execute start-up under supervision of applicable Contractor's personnel in accordance with manufacturer's instructions.
- G. Submit written report stating equipment or system has been properly installed and is functioning correctly.

1.12 DEMONSTRATION AND INSTRUCTIONS

- A. Demonstrate operation and maintenance of Products to Owner's personnel prior to date of Substantial Completion.
- B. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.
- C. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at scheduled times, at Project Site location.
- D. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with Owner's personnel in detail to explain all aspects of operation and maintenance.

- E. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at scheduled time at equipment location/project site.
- F. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.

1.13 TESTING, ADJUSTING AND BALANCING

- A. Adjust operating products and equipment to ensure smooth and unhindered operation.
- B. Retain services of an independent firm to perform testing, adjusting, and balancing if outlined in specific specifications. Include cost for these services in the bid amount.
- C. Reports will be submitted by independent firm to Architect / Owner indicating observations and results of tests and indicating compliance or non-compliance with specified requirements and with requirements of Contract Documents.
- D. Cooperate with independent firm; furnish assistance as requested.
- E. Re-testing required because of non-conformance to specified requirements will be the responsibility of the Contractor.

1.14 PROTECTING INSTALLED CONSTRUCTION

- A. Protect installed Work and provide special protection where specified in individual specification sections.
- B. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- C. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- D. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- E. Prohibit traffic from landscaped areas.

1.15 SPARE PARTS AND MAINTENANCE PRODUCTS

- A. Furnish spare parts, maintenance, and extra products in quantities specified in individual specification sections.
- B. Deliver to Owner and place in location as directed; obtain receipt prior to final payment. Items shall be boxed and labeled with contents.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

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SECTION 02 41 16 - STRUCTURE DEMOLITION

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Demolishing designated structures.
 - 2. Demolishing designated foundations.
 - 3. Demolishing designated slabs-on-grade.
 - 4. Demolishing and / or Disconnecting and capping designated utilities.
 - 5. Protecting items designated to remain.
 - 6. Removing demolished materials.
- B. Related Requirements:
 - 1. Section 31 05 13 - Soils for Earthwork: Backfill materials.
 - 2. Section 31 05 16 - Aggregates for Earthwork: Backfill materials.
 - 3. Section 31 10 00 - Site Clearing: Clearing outside periphery of structures.

1.2 SEQUENCING

- A. Coordinate sequencing of demolition activities.

1.3 SUBMITTALS

- A. Delegated Design Submittals: Submit signed and sealed Shop Drawings with design calculations and assumptions for bracing, shoring, and underpinning if applicable to the work.
- B. Existing Building Documentation: Submit the following for existing buildings indicated to remain.
 - 1. Photographic survey indicating conditions before, during, and after demolition Work.
- C. Permits: Submit copies of permits required by regulatory agencies for demolition and sidewalk and street closings.

1.4 CLOSEOUT SUBMITTALS

- A. Project Record Documents: Accurately record actual locations of capped utilities, subsurface obstructions, and field changes.
- B. Operation and Maintenance Data: Submit description of system, inspection data, and parts lists.

1.5 QUALITY ASSURANCE

- A. Perform Work according to City of Dayton, State of Ohio, EPA standards.
- B. Conform to applicable code for demolition of structures, safety of adjacent structures, dust control, runoff control, disposal.
- C. Conform to applicable code for procedures when hazardous or contaminated materials are discovered.
- D. Permits: Obtain required permits from authorities having jurisdiction.

1.6 QUALIFICATIONS

- A. Demolition Firm: Company specializing in performing Work of this Section with minimum five years' documented experience.

1.7 EXISTING CONDITIONS

- A. Buildings indicated to be demolished will be vacated before start of Work.
- B. Owner assumes no responsibility for actual condition of buildings to be demolished.

- C. Notify Architect / Owner upon discovery of hazardous materials not identified in environmental specifications.
- D. Hazardous Materials: Known hazardous materials will be removed before start of Work by Contractor.
- E. Do not sell demolished materials on-Site.
- F. Maintain existing sidewalks, driveways, and paving to greatest extent possible, coordinate with civil drawings.

PART 2 PRODUCTS

2.1 FILL MATERIALS

- A. Fill Material: as specified in Section 31 05 13 - Soils for Earthwork; 31 05 16 - Aggregates for Earthwork.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine existing buildings indicated to be demolished before demolition.
- B. Determine where removals may result in structural deficiency or unplanned building collapse during demolition. Coordinate demolition sequence and procedures to prevent structures from becoming unstable.
- C. Determine where demolition may affect structural integrity or weather resistance of adjacent buildings indicated to remain.
 - 1. Identify measures required to protect buildings from damage.
 - 2. Identify remedial Work including patching, repairing, bracing, and other Work required to leave buildings indicated to remain in structurally sound, weathertight, and watertight condition.
- D. Verify hazardous material abatement is complete before beginning demolition.
- E. Existing Building Documentation
 - 1. Document condition of adjacent buildings indicated to remain.
 - 2. Make arrangements with building owners and occupants to survey interior and exterior of existing buildings.
 - 3. Employ commercial photographer to provide following graphic documentation:
 - a. Photographically document existing building exterior before beginning demolition and after completing demolition.

3.2 PREPARATION

- A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for installation preparation.
- B. Call local utility line information service at 811 not less than **three** working days before performing Work.
 - 1. Request underground utilities [including private utilities] to be located and marked within and surrounding construction areas.
- C. Notify affected utility companies before starting Work, and comply with utility's requirements.
- D. Do not close or obstruct roadways without permits.
- E. Erect and maintain temporary barriers and security devices, including warning signs and lights, and similar measures, for protection of the public and existing improvements indicated to remain.

- F. Protect existing site amenities and buildings indicated to remain.
- G. Prevent movement or settlement of adjacent structures. Provide bracing and shoring.

3.3 DEMOLITION

- A. General:
 - 1. Use of explosives is not permitted.
 - 2. Conduct demolition to minimize interference with adjacent occupied buildings.
 - 3. Cease operations immediately when adjacent structures appear to be in danger. Notify Architect / Owner. Do not resume operations until directed.
 - 4. Conduct operations with minimum interference to public or private accesses to occupied adjacent structures. Maintain protected continuous egress and access from adjacent structures.
 - 5. Obtain written permission from adjacent property owners when demolition equipment will traverse, infringe upon, or limit access to their property.
 - 6. Sprinkling:
 - a. Sprinkle Work with water to minimize dust.
 - b. Provide hoses and water connections required for this purpose.
- B. Capped Utilities:
 - 1. Disconnect, remove and cap designated utilities to street connection or as required by the utility company.
 - 2. Identify utilities at termination of demolition.
 - 3. Record termination or capped location on Record Documents.
- C. Remove foundation walls and footings complete.
- D. Remove concrete slabs-on-grade.
- E. Remove underground tanks, components, and piping from Site.
- F. Backfill areas excavated, open pits and holes resulting from demolition.
- G. Rough grade and compact areas affected by demolition to maintain Site grades and contours.
- H. Continuously clean up and remove demolished materials from Site. Do not allow materials to accumulate on-Site.
- I. Do not burn or bury materials on-Site; leave Site in clean condition.

END OF SECTION

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SECTION 02 50 00 - HAZARDOUS MATERIALS SPECIFICATIONS

PART 1 GENERAL

1.1 HAZARDOUS MATERIALS

- A. There are known hazardous materials in the area of work of this project. Refer to the attached Environmental Report from macparan consulting.

1.2 SUMMARY

- A. Contractors must comply with Occupational Safety and Health Administration regulation 29 CFR 1926.62 “Lead in Construction Standard” as well as the Environmental Protection Agency Lead, Renovation, Repair and Painting Rule.
- B. Contractor shall follow all applicable EPA rules and regulations when working with hazardous materials. It shall be the contractor’s responsibility to remain in compliance at all times during the project.
- C. If any work person encounters any material which they suspect may be hazardous or toxic, they shall immediately advise the Owner. The Contractor shall take immediate and appropriate action to protect the building users and workers in accordance with federal, state, and local laws, codes and regulations. The architect and architect’s consultants shall have no responsibility for the discovery, presence, handling, removal or disposal of or exposure of persons to hazardous materials in any form at the project site, including but not limited to asbestos, asbestos products, polychlorinated biphenyl (pcb) or other toxic substances.
 - 1. The contractor is hereby advised that RDA Group Architects, LLC is not a design professional in the determination of the presence of hazardous materials, nor is RDA a design professional involved in making recommendations regarding the testing, removal, encapsulation or other corrective measures pertaining to hazardous materials.
 - 2. If the work which is to be performed under the contract interfaces in any way with the existing components which contain hazardous materials, it is the contractor’s responsibility to contact the owner’s environmental consultant regarding the proper means & methods to be utilized in dealing with hazardous materials.
 - 3. By execution of the contract for construction, the contractor hereby agrees to bring no claim for negligence, breach of contract, indemnity or otherwise against the architect, his principles, employees, agents or consultants if such a claim in any way would involve the investigation of or remedial work related to hazardous materials in the project.
 - 4. By execution of the contract for construction, the contractor further agrees to defend, indemnify and hold the architect, his principles, employees, agents or consultants harmless from any such asbestos or other hazardous materials related claims that may be brought by the contractor’s subcontractors, suppliers or other third parties who may be acting under the direction of the contractor pursuant to this project.

END OF SECTION

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April 19, 2024

Cincinnati

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Services

Phase I ESA's
Phase II Investigations
Asbestos
Lead-Based Paint
Industrial Hygiene
Indoor Air Quality/Mold
Radon
Safety
Training

Mr. Kevin Arnold
Greater Dayton Premier Management
400 Wayne Avenue
Dayton, Ohio 45410

**RE: Asbestos-Containing Materials Inspection- Hilltop Homes, 631 Groveland Avenue
Dayton, Ohio 45417**

Dear Mr. Arnold:

m.a.c. Paran Consulting Services, Inc. (m.a.c. Paran) was contracted by Greater Dayton Premier Management to review the accuracy of the previous Hilltop Homes asbestos-containing materials inspection report, developed by m.a.c. Paran in 2011.

Mr. George Beaudion, Ohio certified Asbestos Hazard Evaluation Specialist #ES31662 with m.a.c. Paran, performed a walkthrough of the property in March and April, 2024. With the exception of 90,806 square feet of exterior transite siding, since removed, the report is accurate and acceptable for use in future asbestos management efforts. The 2011 report is provided in Appendix I.

Thank you for choosing m.a.c. Paran Consulting Services, Inc. for this project. Should you have any questions concerning this letter or should you need any further assistance in the future, please feel free to contact the undersigned at (513) 383-6091.

Respectfully submitted,
m.a.c. Paran Consulting Services, Inc.

George S. Beaudion
General Manager

Michelle Paraniuk
President

Appendix I

Hilltop Homes Asbestos-Containing Materials Report 2011

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1.0 Executive Summary

1.1 Background

m.a.c. Paran Consulting Services, Inc. performed an asbestos inspection of the Hilltop Homes Apartment Complex located at 631 Groveland Avenue, Dayton, Ohio. The objectives of the inspection were to (1) identify, by type and location, friable and non-friable asbestos-containing materials [ACM] that were throughout the building; (2) assess the current condition of the ACM identified; and (3) provide estimated quantities of ACM. The inspection was conducted by Mr. William S. Carter, certified Ohio Asbestos Hazard Evaluation Specialist (License # 34717) between the dates of April 5, 2011 and April 9, 2011.

1.2 Inspection Results

The inspection was performed in accordance with the National Emission Standards for Hazardous Air Pollutants (NESHAPS, 40 CFR 61.145) and the Ohio Administrative Code (OAC, 3745-20) regulations governing asbestos emission and waste control from demolition/renovation activities. Bulk sampling of materials suspect to contain asbestos was conducted following Environmental Protection Agency (EPA) Asbestos Hazard Emergency Response Act (AHERA, 40 CFR 763.90), the accepted industry standard for conducting asbestos investigations in all types of buildings.

The following is a summary of the asbestos-containing (containing >1% asbestos) materials present at the subject building. Because the Inspector did not access every apartment, the quantities provided in this summary are approximate amounts and should be verified by an abatement contractor prior to the onset of removal activities.

- **Exterior Door Caulking-** Approximately 8,148 linear feet of asbestos-containing exterior door caulk was identified throughout the complex. The material is in a non-friable condition.
- **8" Transite Flue Pipes-** Approximately 6,720 linear feet of asbestos-containing transite flue pipes were identified throughout the complex. The material is in a non-friable condition.
- **Transite Heat Shield-** Approximately 4 square feet of asbestos-containing transite heat shield was identified in apartment 2925 (furnace room). The material is in a non-friable condition.
- **Transite Panels-** Approximately 90,806 square feet of asbestos-containing transite panels were identified on the exterior of the apartments. The material is in a non-friable condition. **The transite panels were removed after generation of this report.**
- **Cementitious Fittings-** Approximately 121 asbestos-containing cementitious fittings were identified throughout the complex. The material is in fair condition.
- **9" and 12" Floor Tile/Mastic-** Approximately 47,097 square feet of asbestos-containing floor tile/mastic was identified throughout the complex. The material is in a non-friable condition.
- **Fire Doors-** Approximately 84 square feet of asbestos-containing fire doors, assumed to contain asbestos, were identified in Building 64. The condition of the material is unknown.

The following is a summary of materials at the complex containing asbestos at a concentration of $\leq 1\%$. Because the Inspector did not access every apartment, the quantities provided in this summary are approximate amounts and should be verified by an abatement contractor prior to the onset of removal activities.

- **Glue Pucks-** Approximately 2,268 square feet of asbestos-containing glue pucks were identified in the daycare. The material is in a non-friable condition.
- **Drywall Joint Compound-** Approximately 185,953 square feet of drywall with asbestos-containing joint compound was identified throughout the complex. The material is in good to fair condition.

Note 1: While care was taken during the inspection to identify all asbestos-containing materials, additional materials may be located within non-accessible areas of the building (e.g., behind walls, above intact ceilings, inside concealed pipe chases, etc.). If, through renovation or demolition these materials are discovered, they should be treated as asbestos-containing until further testing proves otherwise.

Note 2: In Ohio, friable and category II non-friable (transite) asbestos-containing materials that are expected to be disturbed during renovation and/or demolition activities must be removed by a licensed asbestos abatement contractor following all applicable regulations.

Note 3: The roofing materials were not sampled as part of this survey and should be assumed to contain asbestos unless tested and proven otherwise.

2.0 Inspection Procedures

2.1 General Asbestos Inspection and Sampling Procedures

The inspection was performed following a modified protocol of the EPA Asbestos Hazard Emergency Response Act (40 CFR 763.90) commonly known as "AHERA". Although originally required only for public and private school buildings housing kindergarten through 12th-grade classes, it has become the accepted industry standard for conducting asbestos investigations in all types of buildings. Most recently, the Occupational Safety and Health Administration revised its Asbestos in Construction Industry standard (29 CFR 1926.1101) to reference AHERA as the required method of conducting asbestos inspections in all public and commercial buildings.

The vast majority of physically accessible spaces within the building were accessed and inspected for suspect asbestos-containing materials. The Inspector then grouped suspect materials into homogeneous areas for sampling. A homogeneous area consists of materials with like appearance, color, texture, and application date. A physical assessment (visual observation and touching the material) was also made of the current condition and degree of friability for each identified material (a material is considered friable if it can be crumbled using hand pressure). A list of homogeneous areas identified for this assessment is included on the Bulk Sample Summary Table.

The Inspector assessed all identified asbestos-containing materials. The inspection encompassed both friable and non-friable materials. The Inspector then assumed that the specific material remained homogeneous (based upon the material's appearance and application) throughout the building. In situations where materials appeared to alternate between asbestos containing and non-asbestos containing, the Inspector looked for visible differences between materials. If differences were not apparent, the Inspector made a professional decision to err on the side of conservatism and assumed that all materials were asbestos-containing.

The Inspector made every effort to locate all asbestos-containing materials identified during the inspection, however, should unidentified suspect asbestos-containing materials be discovered, please contact m.a.c. Paran Consulting Services, Inc. for assistance in material identification.

2.2 Method of Sampling and Analysis

2.2.1 Bulk Sample Collection Methods

To avoid disturbing suspected asbestos-containing materials more than necessary and minimize the potential release of asbestos fibers, the Inspector performed bulk sampling in accordance with the industry accepted procedures outlined in the current EPA Guidance Document and the AHERA sampling protocol. Each sample collected was pre-wetted and obtained using a clean coring tool, utility knife, or other appropriate tool. Each sample was then placed in a clean, sealable vial and labeled with a unique sample identification number. Care was taken to obtain a sample that was representative of all layers of a material. To avoid cross-contamination, the tools used for sample collection were thoroughly cleaned before collecting the next sample. If requested, the sample site was labeled with a pre-printed adhesive-backed sample identification tag bearing the corresponding sample identification number. Pertinent sample information was recorded on a standardized bulk sample log sheet including the date of inspection, name of the Inspector, a brief description and the location of the sample, and the type of material sampled (e.g., thermal systems insulation).

2.2.2 Analysis of Bulk Samples

Bulk samples were analyzed for asbestos content by Polarized-Light Microscopy (PLM) and dispersion staining (Method Reference: EPA/600/R-931/116). This analytical method, which EPA currently recommends, for the determination of asbestos in bulk samples, can be used for qualitative identification of six morphologically different types of asbestos fibers: chrysotile, amosite, crocidolite, anthophyllite, tremolite, and actinolite asbestos.

PLM analysis requires the microscopist to take a portion of the sample and treat it with an oil of a specific refractive index. This prepared slide is then subjected to a variety of tests while being viewed under varying polarizations of light. Each asbestos type displays unique characteristics when subjected to these tests. Percentages of the identified types of asbestos are determined by visual estimation.

2.2.3 Reporting of Analysis Results

The method specifies that the asbestos content in a bulk sample shall be estimated and reported as a finite percentage (rounded to the nearest percent) within the range of 0 to 100. Minute quantities of asbestos in bulk samples may be reported as "trace" (tr) or less than 1 percent. The composition of the bulk sample is reported in percentages of asbestos (i.e., chrysotile, amosite, crocidolite, or other) and non-asbestos (i.e., cellulose, fiberglass, mineral wool, synthetic, or other) components. The original laboratory reports are presented in Appendix A.

2.2.4 Laboratory

Analysis of all suspect asbestos-containing materials was performed by Carolina Environmental Inc. using polarized light microscopy. Carolina Environmental Inc. successfully participates in, and is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP), administered by the National Institute of Standards and Technology.

2.3 Physical and Hazard Assessment

2.3.1 Physical Assessment Factors

Per AHERA requirements, the Inspector performed a physical assessment of all friable asbestos-containing materials. This involved physically observing and documenting the current condition of each friable material, and assessing its potential for future disturbance (or fiber release potential). The Inspector categorized the materials' current condition as Good, Fair, or Poor. AHERA protocol is not specific as to how these categories are arrived at, but in general the following guideline is used:

- Good – less than 10% area damage
- Fair – more than 10%, but less than 25% area damage
- Poor – more than 25% area damage

The Inspector then made an assessment of the materials' potential for future disturbance (or fiber release potential) using the general factors listed in Table 2-1 on the following page. The first three factors focus on the current condition of the asbestos-containing material. Evidence of deterioration, delamination, physical damage, or water damage indicates that fiber release has occurred, is occurring, or is likely to occur in the future. Such evidence is based on the appearance of the material and/or the presence of dislodged or crumbled material in the surrounding area. The first three factors focus on the potential for fiber release due to disturbance or erosion. Surface erosion is likely to occur when asbestos-containing materials are located in air plenums or near forced-air streams. Exposed and easily accessible materials in areas frequented by building occupants, or subject to mechanical vibrations are more vulnerable to disturbance or damage than materials in other locations.

Table 2-1: Factors for Assessing Potential Fiber Release
Current Condition of Asbestos-Containing Materials
<ul style="list-style-type: none">• Evidence of deterioration or delamination from the underlying surface (substrate)• Evidence of physical damage (e.g., presence of debris)• Evidence of water damage
Potential for Future Disturbance, Damage, or Erosion of Asbestos-Containing Material
<ul style="list-style-type: none">• Proximity to air plenum or direct airstream• Visibility, accessibility (to building occupants and maintenance personnel), and degree of activity (air movement, vibration, movement of building occupants)• Change in building use

2.3.2 Hazard Assessment Factors

Based upon the physical assessment, friable asbestos-containing materials are then given a hazard rank with corresponding response options to aid the building owner in prioritizing response actions (see Table 2-2 below, and Table 2-3 on the following pages). The hazard ranks range from 7 – most hazardous, to 1 – least hazardous as shown in Table 2-2 below. The highest rank is reserved for materials that are “significantly damaged” or material that is so extensively damaged that it requires immediate corrective action. Hazard ranks 4 – 6 reflect materials which are “damaged” with rank 6 indicating a high potential for further damage, and rank 5 indicating a moderate potential for damage. Hazard rank 4 denotes that a material has been damaged; however, the potential for any further damage is low. Hazard ranks 1 – 3 are reserved for materials currently in good condition with future disturbance potentials being high, moderate, or low (3, 2, 1, respectively). Non-friable materials are categorized as non-friable. R

Table 2-2: Classifications for Hazard Potential of Friable Asbestos-Containing Materials		
Hazard Rank	Condition	Disturbance Potential
7	Poor	Any
6	Fair	High
5	Fair	Moderate
4	Fair	Low
3	Good	High
2	Good	Moderate
1	Good	Low

2.3.3 ACM Response Actions

Using the ACM hazard ranking assessment data, the Inspector recommended a response action for each ACM identified (Table 2-3). For example, a hazard rank of 5 would require that the ACM be removed, repaired, enclosed, or encapsulated to correct the damage.

Complete removal is recommended and appropriate where the ACM is extensively and severely damaged or deteriorated. If ACM has only minor isolated damage, removal or repair of selected areas is usually sufficient. Whenever removal of ACM is specified, the material must be removed in accordance with all applicable Federal, State, and local asbestos regulations. Complete or selective removal of friable ACM is usually necessary before building renovations to prevent subsequent damage and fiber release during construction and demolition activities. Removal of large portions of ACM requires erecting containment barriers, instituting feasible engineering and work practice controls, and employing the full range of worker protection.

Smaller removal jobs may be isolated by and contained within a mini-enclosure. Removal operations (such as removing a small section of pipe insulation) could be performed using the negative pressure glove bag method and appropriate high efficiency particulate air (HEPA) vacuuming and wet methods.

Repair is appropriate when the ACM has minor damage. It typically involves patching the damaged insulation or covering it with a new jacket. Repair of ACM should only be performed by workers who have received specialized training in asbestos control procedures and the use of personal protective clothing.

Table 2-3: Response Action Options			
Hazard Rank	Hazard Abatement Priority	AHERA Category	Response Action
7	1	Significantly Damaged	Immediately isolate the area and restrict access, unless isolation is not necessary to protect human health. Removal of all ACM (or enclose or encapsulate if sufficient to contain asbestos fiber release). Selectively remove damage ACM and repair remaining ACM (if feasible and safe) to correct damage. Implement an O&M program.
6	2	Damaged + High Potential for Future Damage	Immediately isolate the area and restrict access, unless isolation is not necessary to protect human health. Remove, enclose, or encapsulate ACM to correct damage. Selectively remove damaged ACM and repair remaining ACM (if feasible and safe) to correct damage. Implement an O&M program.
5	3	Damaged + Moderate Potential for Future Disturbance	Remove, enclose, or encapsulate ACM to correct damage. Selectively remove damaged ACM and repair remaining ACM (if feasible and safe) to correct damage. Implement an O&M program.
4	4	Damaged + Low Potential for Future Damage	Remove, enclose, or encapsulate ACM to correct damage. Selectively remove damaged ACM and repair remaining ACM (if feasible and safe) to correct damage. Implement an O&M program.
3	5	Good + High Potential for Future Damaged	Implement O&M program and implement preventative measures to remove or reduce potential for disturbance and damage.
2	6	Good + Moderate Potential for Future Damage	Implement O&M program and implement preventative measures to remove or reduce potential for disturbance and damage.
1	7	Good + Low Potential for Future Disturbance	Implement O&M program and implement preventative measures to remove or reduce potential for disturbance and damage.

Preventative measures are recommended for materials that have a high potential for disturbance. This can be accomplished by the installation of an enclosure or impermeable barrier (e.g., aluminum jacketing) around the ACM to prevent damage by staff and/or building occupants.

2.3.4 Physical and Hazard Assessments of Materials Encountered

The physical and hazard assessments made for all asbestos-containing materials identified during this inspection can be found in Section 4.0 "Inventory of asbestos-Containing Materials"

3.0 Bulk Sample Data Summary

The following table presents the results of materials sampled.

Table 3-1: Bulk Sample Summary				
Room/Location	Material Description	Homogeneous Material No.	Sample Number	Laboratory Results
2930 Furnace Room	12" Floor Tile	1-1	HT-1	None Detected
2930 Furnace Room	Cementitious Fitting	4-1	HT-2	15% Chrysotile
2930 Furnace Room	Drywall/Joint Compound	3-1	HT-3	None Detected
2925 Furnace Room	Transite Heat Shield	5-1	HT-4	60% Chrysotile
2925 Furnace Room	12" Floor Tile	1-3	HT-5	None Detected
2925 Furnace Room	Floor Mastic	2-3	HT-5	None Detected
2925 Furnace Room	Drywall/Joint Compound	3-1	HT-6	<1% Chrysotile (compound only)
607 Kitchen	12" Floor Tile	1-2	HT-7	None Detected
607 Kitchen	Floor Mastic	2-2	HT-7	7% Chrysotile
607 Kitchen	Caulking	6-1	HT-7	None Detected
607 Kitchen	9" Floor Tile	1-4	HT-8	None Detected
607 Kitchen	Floor Mastic	2-4	HT-8	5% Chrysotile
607 Furnace Room	9" Floor Tile	1-6	HT-9	2% Chrysotile
607 Furnace Room	Floor Mastic	2-6	HT-9	5% Chrysotile
607 Furnace Room	9" Floor Tile	1-6	HT-10	Positive Stop Analysis

Table 3-1: Bulk Sample Summary

Room/Location	Material Description	Homogeneous Material No.	Sample Number	Laboratory Results
607 Furnace Room	Floor Mastic	2-6	HT-10	Positive Stop Analysis
607 Bedroom	9" Floor Tile	1-5	HT-11	2% Chrysotile
607 Bedroom	Floor Mastic	2-5	HT-11	10% Chrysotile
607 Bedroom	9" Floor Tile	1-5	HT-12	Positive Stop Analysis
607 Bedroom	Floor Mastic	2-5	HT-12	Positive Stop Analysis
607 Kitchen	Drywall/Joint Compound	3-1	HT-13	<1% Chrysotile (compound only)
630 Furnace Room	Duct Sealant	10-1	HT-14	None Detected
630 Furnace Room	Drywall/Joint Compound	3-1	HT-15	None Detected
626 Furnace Room	8" Transite Flue Pipe	5-2	HT-16	15% Chrysotile
626 Kitchen	9" Floor Tile	1-7	HT-17	2% Chrysotile
626 Kitchen	Floor Mastic	2-7	HT-17	5% Chrysotile
626 living Room	9" Floor Tile	1-7	HT-18	Positive Stop Analysis
626 living Room	Floor Mastic	2-7	HT-18	Positive Stop Analysis
626 Kitchen	Drywall/Joint Compound	3-1	HT-19	<1% Chrysotile (compound only)
626 Bedroom	Drywall/Joint Compound	3-1	HT-20	<1% Chrysotile (compound only)
626 Exterior Door	Caulking	6-1	HT-21	3% Chrysotile
630 Daycare	2' x 2' Ceiling Tile	7-1	HT-22	None Detected

Table 3-1: Bulk Sample Summary

Room/Location	Material Description	Homogeneous Material No.	Sample Number	Laboratory Results
630 Daycare	2' x 2' Ceiling Tile	7-1	HT-23	None Detected
630 Daycare	12" Ceiling Tile	7-2	HT-24	None Detected
630 Daycare	Glue Pucks	7-5	HT-24	<1% Chrysotile
630 Daycare	12" Ceiling Tile	7-2	HT-25	None Detected
630 Daycare	Glue Pucks	7-5	HT-25	<1% Chrysotile
630 Daycare Kitchen	Textured Ceiling	7-3	HT-26	None Detected
630 Daycare Kitchen	Textured Ceiling	7-3	HT-27	None Detected
630 Daycare Kitchen	Textured Ceiling	7-3	HT-28	None Detected
630 Daycare Laundry	Drywall/Joint Compound	3-1	HT-29	None Detected
630 Daycare Pipe Chase	Drywall/Joint Compound (2 nd layer)	3-1	HT-30	None Detected
630 Daycare Steps	Vinyl Flooring	1-8	HT-31	None Detected
630 Daycare Steps	Vinyl Flooring	1-8	HT-32	None Detected
630 Admin. Office	Cove Base	8-1	HT-33	None Detected
630 Admin. Office	Cove Base Mastic	8-2	HT-33	None Detected
630 Admin. Office	Cove Base	8-1	HT-34	None Detected
630 Admin. Office	Cove Base Mastic	8-2	HT-34	None Detected
630 Admin. Office	2' x 4' Ceiling Tile	7-4	HT-35	None Detected

Table 3-1: Bulk Sample Summary

Room/Location	Material Description	Homogeneous Material No.	Sample Number	Laboratory Results
630 Admin. Office	2' x 4' Ceiling Tile	7-4	HT-36	None Detected
630 Maintenance (plumbing room)	Cementitious Fitting	4-1	HT-37	15% Chrysotile
630 Maintenance (paint room)	Cementitious Fitting	4-1	HT-38	15% Chrysotile
630 Garage Ceiling	Drywall/Joint Compound	3-1	HT-39	None Detected
Office Area	Carpet Mastic	1-10	HT-40	None Detected
Office Area	Carpet Mastic	1-10	HT-41	None Detected
3105 Furnace Room	Drywall/Joint Compound	3-1	HT-42	<1% Chrysotile (compound only)
3105 Furnace Room	Duct Sealant	10-2	HT-43	None Detected
3109 Living Room	Textured Drywall/Joint Compound	3-2	HT-44	None Detected
3109 Living Room	Textured Drywall/Joint Compound	3-2	HT-44	<1% Chrysotile (compound only)
3109 Kitchen	Textured Drywall/Joint Compound	3-2	HT-45	None Detected
3109 Kitchen	Textured Drywall/Joint Compound	3-2	HT-45	None Detected
3109 Hallway	Textured Drywall/Joint Compound	3-2	HT-46	None Detected
3109 Hallway	Textured Drywall/Joint Compound	3-2	HT-46	<1% Chrysotile (compound only)
2817 Furnace Room	Drywall/Joint Compound	3-1	HT-47	<1% Chrysotile (compound only)
2913 Furnace Room	Drywall/Joint Compound	3-1	HT-48	<1% Chrysotile (compound only)
3024 Furnace Room	9" Floor Tile	1-7	HT-49	2% Chrysotile

Table 3-1: Bulk Sample Summary

Room/Location	Material Description	Homogeneous Material No.	Sample Number	Laboratory Results
3024 Furnace Room	Floor Mastic	2-7	HT-49	7% Chrysotile
3024 Kitchen	Drywall/Joint Compound	3-1	HT-50	<1% Chrysotile (compound only)
3104 Furnace Room	Drywall/Joint Compound	3-1	HT-51	<1% Chrysotile (compound only)
3120 Stairway	Drywall/Joint Compound	3-1	HT-52	None Detected
3120 Stairway	Drywall/Joint Compound	3-1	HT-52	<1% Chrysotile (compound only)
3212 Back Door	Caulking	6-1	HT-53	None Detected
544 Furnace Room	Drywall/Joint Compound	3-1	HT-54	<1% Chrysotile (compound only)
516 Living Room	Drywall/Joint Compound	3-1	HT-55	<1% Chrysotile (compound only)
3113 Hallway	Drywall/Joint Compound	3-1	HT-56	None Detected
3129 Furnace Room	12" Floor Tile	1-9	HT-57	None Detected
3129 Furnace Room	Floor Mastic	2-9	HT-57	2% Chrysotile
3129 Furnace Room	12" Floor Tile	1-9	HT-58	None Detected
3129 Furnace Room	Floor Mastic	2-9	HT-58	2% Chrysotile
3129 Living Room	Textured Ceiling	7-3	HT-59	None Detected
3129 Attic	Insulation	11-1	HT-60	None Detected
3129 Attic	Insulation	11-1	HT-61	None Detected
2914 Exterior Door	Caulking	6-1	HT-62	5% Chrysotile

Table 3-1: Bulk Sample Summary

Room/Location	Material Description	Homogeneous Material No.	Sample Number	Laboratory Results
3129 Exterior	Stucco	3-3	HT-63	None Detected
3129 Exterior	Transite Panel	5-3	HT-64	25% Chrysotile
531 Exterior	Transite Panel	5-3	HT-65	Positive Stop Analysis
527 Exterior	Transite Panel	5-3	HT-66	Positive Stop Analysis
531 Exterior	Stucco (top)	3-3	HT-67	None Detected
531 Exterior	Stucco (bottom)	3-3	HT-67	None Detected
527 Exterior	Stucco (top)	3-3	HT-68	None Detected
527 Exterior	Stucco (bottom)	3-3	HT-68	None Detected
531 Exterior	Vapor Barrier	12-1	HT-69	None Detected
527 Exterior	Vapor Barrier	12-1	HT-70	None Detected

The following table presents a list of the homogenous material numbers used during the inspection.

Table 3-2: Homogeneous Material Descriptions	
Homogeneous Material Number	Description of Material
1-1/2-1	12" Floor Tile/Mastic (cream/tan blotches)
1-2/2-2	12" Floor Tile/Mastic (new cream/tan blotches)
1-3/2-3	12" Floor Tile/Mastic (black/white streaks)
1-4/2-4	9" Floor Tile/Mastic (cream/brown streaks)
1-5/2-5	9" Floor Tile/Mastic (off white/green streaks)
1-6/2-6	9" Floor Tile/Mastic (brown)
1-7/2-7	9" Floor Tile/Mastic (light tan/white and brown)
1-8	Vinyl Flooring (tan swirls)
1-9/2-9	12" Floor Tile/Mastic (tan/white and dark brown)
1-10	Carpet Mastic
3-1	Drywall Joint Compound
3-2	Textured Drywall/Joint Compound
3-3	Stucco
4-1	Cementitious Fittings
5-1	Transite Heat Shield
5-2	8" Transite Flue Pipe
5-3	Transite Panels
6-1	Caulking
7-1	2' x 2' Ceiling Tile (large fissures)
7-2	12" Ceiling Tile (pinholes)

Table 3-2: Homogeneous Material Descriptions	
Homogeneous Material Number	Description of Material
7-3	Textured Ceiling
7-4	2' x 4' Ceiling Tile (small fissures)
7-5	Glue Pucks
8-1	Cove Base
8-2	Cove Base Mastic
9-1	Fire Doors (assumed due to limited destructive sampling)
10-1	Duct mastic (red)
10-2	Duct mastic (grey)
11-1	Attic Insulation (brown)
12-1	Vapor Barrier (black)

4.0 Inventory of Asbestos-Containing Materials

This section contains a table of asbestos-containing materials identified during the inspection. The inventory table provides the following information:

- Location of material
- Material description
- Homogeneous material number
- Overall condition
- AHERA hazard ranking
- Estimated quantities of each homogeneous material
- Any special notes added by the Inspector for clarification or unusual circumstances

Table 4-1: Asbestos-Containing Materials Inventory (including <1%)

Room/Location	Material Type	Condition/ Hazard Rank	Estimated Quantity
A Type Buildings 21, 25, 34, 51 and 57			
Throughout	Drywall/Joint Compound	F/5 – P/7	10,300 sf.
Furnace to Attic	8" Transite Flue Pipes	Non-Friable	1,350 lf.
2930 Furnace Room	Cementitious Fitting	F/5	1 fitting
Exterior Doors	Caulking	P/7	1,050 lf.
Exterior	Transite Panels	Non-Friable	5,670 sf.
Throughout	Floor Tile/Mastic	Non-Friable	3,300 sf.
B Type Buildings 17, 37, 47 and 56			
Throughout	Drywall/Joint Compound	F/5 – P/7	8,688 sf.
Furnace to Attic	8" Transite Flue Pipes	Non-Friable	280 lf.
Exterior Doors	Caulking	P/7	504 lf.
Exterior	Transite Panels	Non-Friable	6,144 sf.
Throughout	Floor Tile/Mastic	Non-Friable	2,200 sf.
2925 Furnace Room	Transite Heat Shield	Non-Friable	4 sf.
C Type Buildings 2, 39, 55 and 60			
Throughout	Drywall/Joint Compound	F/5 – P/7	9,536 sf.

Table 4-1: Asbestos-Containing Materials Inventory (including <1%)

Room/Location	Material Type	Condition/ Hazard Rank	Estimated Quantity
Furnace to Attic	8" Transite Flue Pipes	Non-Friable	700 lf.
Exterior Doors	Caulking	P/7	672 lf.
Exterior	Transite Panels	Non-Friable	5,632 sf.
Throughout	Floor Tile/Mastic	Non-Friable	2,400 sf.
D Type Building 49			
Throughout	Drywall/Joint Compound	F/5 – P/7	2,248 sf.
Furnace to Attic	8" Transite Flue Pipes	Non-Friable	100 lf.
Exterior Doors	Caulking	P/7	42 lf.
Exterior	Transite Panels	Non-Friable	960 sf.
Throughout	Floor Tile/Mastic	Non-Friable	520 sf.
E Type Buildings 10, 16, 19, 26, 27, 28, 30, 35, 36, 38, 46, 50, 53, and 58			
Throughout	Drywall/Joint Compound	F/5 – P/7	27,832 sf.
Furnace to Attic	8" Transite Flue Pipes	Non-Friable	840 lf.
Exterior Doors	Caulking	P/7	2,352 lf.
Exterior	Transite Panels	Non-Friable	23,296 sf.
Throughout	Floor Tile/Mastic	Non-Friable	13,900 sf.

Table 4-1: Asbestos-Containing Materials Inventory (including <1%)

Room/Location	Material Type	Condition/ Hazard Rank	Estimated Quantity
F Type Building 54			
Throughout	Drywall/Joint Compound	F/5 – P/7	2,172 sf.
Furnace to Attic	8" Transite Flue Pipes	Non-Friable	70 lf.
Exterior Doors	Caulking	P/7	84 lf.
Exterior	Transite Panels	Non-Friable	1,792 sf.
Throughout	Floor Tile/Mastic	Non-Friable	480 sf.
G Type Buildings 5, 13, and 61			
Throughout	Drywall/Joint Compound	F/5 – P/7	11,241 sf.
Furnace to Attic	8" Transite Flue Pipes	Non-Friable	150 lf.
Exterior Doors	Caulking	P/7	504 lf.
Exterior	Transite Panels	Non-Friable	9,408 sf.
Throughout	Floor Tile/Mastic	Non-Friable	1,800 sf.
H Type Buildings 1, 3, 4, 6, 15, 22, 23, 24, 32, 41, 42 and 52			
Throughout	Drywall/Joint Compound	F/5 – P/7	44,964 sf.
Furnace to Attic	8" Transite Flue Pipes	Non-Friable	2,100 lf.
Exterior Doors	Caulking	P/7	2,016 lf.

Table 4-1: Asbestos-Containing Materials Inventory (including <1%)

Room/Location	Material Type	Condition/ Hazard Rank	Estimated Quantity
Exterior	Transite Panels	Non-Friable	22,080 sf.
Throughout	Floor Tile/Mastic	Non-Friable	10,869 sf.
J Type Buildings 7, 8, 9 and 11			
Throughout	Drywall/Joint Compound	F/5 – P/7	17,200 sf.
Furnace to Attic	8" Transite Flue Pipes	Non-Friable	400 lf.
Exterior Doors	Caulking	P/7	336 lf.
Exterior	Transite Panels	Non-Friable	4,864 sf.
Throughout	Floor Tile/Mastic	Non-Friable	1,800 sf.
K Type Buildings 14, 20, 29, 31, 43, 44, 48, 59 and 63			
Throughout	Drywall/Joint Compound	F/5 – P/7	35,532 sf.
Furnace to Attic	8" Transite Flue Pipes	Non-Friable	500 lf.
Exterior Doors	Caulking	P/7	420 lf.
Exterior	Transite Panels	Non-Friable	8,064 sf.
Throughout	Floor Tile/ Mastic	Non-Friable	5,400 sf.
L Type Buildings 40 and 45			
Throughout	Drywall/Joint Compound	F/5 – P/7	7,896 sf.

Table 4-1: Asbestos-Containing Materials Inventory (including <1%)

Room/Location	Material Type	Condition/ Hazard Rank	Estimated Quantity
Furnace to Attic	8" Transite Flue Pipes	Non-Friable	180 lf.
Exterior Doors	Caulking	P/7	84 lf.
Exterior	Transite Panels	Non-Friable	1,948 sf.
Throughout	Floor Tile/Mastic	Non-Friable	1,200 sf.
Building 64 Office/Shop and Daycare			
Throughout	Drywall/Joint Compound	F/5 – P/7	8,344 sf.
Furnace to Attic	8" Transite Flue Pipes	Non-Friable	50 lf.
Daycare	Glue Pucks	Non-Friable	2,268 sf.
Exterior Doors	Caulking	P/7	84 lf.
Exterior	Transite Panels	Non-Friable	948 sf.
Daycare Pipe Chase	Cementitious Fittings	F/5 – P/7	30 fittings
Maintenance Office	Cementitious Fittings	F/5 – P/7	4 fittings
Maintenance Area (above ceiling)	Cementitious Fittings	F/5	80 fittings
Plumbing Supply Room	Cementitious Fittings	F/5	2 fittings
Painting Supply Room	Cementitious Fittings	F/5	4 fittings
Building 64	Fire Doors (assumed)	-	84 sf.

5.0 Recommendations

The following recommendations are offered based upon the information and data gathered during these inspections:

- In Ohio, friable asbestos-containing materials that are expected to be disturbed during renovation or demolition activities must be removed by a licensed asbestos abatement contractor following all applicable regulations. This includes but is not limited to the use of trained workers, wet methods, personal protective equipment, exposure monitoring, and proper disposal.
- In Ohio, all friable and Category II non-friable (i.e. transite) asbestos-containing materials must be removed prior to demolition of a structure, or if expected to be disturbed by renovation activities. Category I non-friable materials (i.e. floor tile, roofing, etc) do not have to be removed prior to standard building demolition unless the demolition method renders them friable.
- Specifications detailing abatement plan and bid forms should be developed by an Ohio licensed Asbestos Project Designer.

Appendix A
Laboratory Results

LABORATORY REPORT
ASBESTOS BULK ANALYSIS

Client: **Mac Paran Consulting**
 3959 Fulton Grove Rd.
 Cincinnati, OH 45245

CEI Lab Code: A11-2630
 Received: 04-12-11
 Analyzed: 04-13-11
 Reported: 04-13-11
 Analyst: Madison M. Roberts

Project: 11-45.1

CLIENT ID	CEI LAB ID	HOMOGENEITY DESCRIPTION	% ASBESTOS			
HT-1	A1135368	<u>FLOOR TILE</u> Homogeneous, Beige, Fibrous, Tightly Bound	ND			
		VINYL 40 %	CELL	7 %		
		CACO 40 %				
		SILI 13 %				
HT-2	A1135369	<u>PIPE INSULATION</u> Heterogeneous, Beige, Fibrous, Loosely Bound	CHRY 15%			
		CHRY 15%	BIND 40 %	FBGL 35 %		
		PAINT 5 %				
		SILI 5 %				
HT-3	A1135370	<u>DRYWALL</u> Heterogeneous, White, Fibrous, Bound	ND			
		BIND 40 %	CELL	20 %		
		GYPSUM 30 %	FBGL	7 %		
		CACO 3 %				
HT-4	A1135371	<u>INSULATION</u> Heterogeneous, Off-white, Fibrous, Bound	CHRY 60%			
		CHRY 60%	BIND 37 %			
		PAINT 3 %				
HT-5	A1135372A	<u>FLOOR TILE</u> Homogeneous, Black, Non-fibrous, Tightly Bound	ND			
		VINYL 46 %	CELL	2 %		
		CACO 40 %	FBGL	2 %		
		SILI 10 %				
	A1135372B	<u>MASTIC</u> Homogeneous, Clear, Non-fibrous, Bound	ND			
		MAST 90 %	CELL	<1 %		
		SILI 10 %				

CLIENT ID	CEI LAB ID	HOMOGENEITY DESCRIPTION	% ASBESTOS					
HT-6	A1135373	<u>DRYWALL/MUD</u>	CHRY <1%					
		Heterogeneous, White, Fibrous, Bound	CHRY	<1%	CACO	25 %	CELL	20 %
					GYPSUM	40 %	FBGL	10 %
					PAINT	5 %		
<i><1% chrysotile in mud only. <1% chrysotile in overall sample</i>								
HT-7	A1135374A	<u>FLOOR TILE</u>	ND					
		Homogeneous, Beige, Non-fibrous, Tightly Bound	VINYL	46 %	CELL	2 %		
			CACO	40 %	FBGL	2 %		
			SILI	10 %				
	A1135374B	<u>MASTIC</u>	CHRY 7%					
	Homogeneous,	Black, Non-fibrous, Bound	CHRY	7%	MAST	90 %	CELL	<1%
			SILI	3 %				
	A1135374C	<u>CAULKING</u>	ND					
	Homogeneous,	Off-white, Non-fibrous, Bound	BIND	60 %				
			CACO	40 %				
HT-8	A1135375A	<u>FLOOR TILE</u>	ND					
		Homogeneous, Beige, Non-fibrous, Tightly Bound	VINYL	48 %	CELL	2 %		
			CACO	40 %				
			SILI	10 %				
	A1135375B	<u>MASTIC</u>	CHRY 5%					
	Homogeneous,	Black, Non-fibrous, Bound	CHRY	5%	MAST	85 %	CELL	<1%
			SILI	10 %				
HT-9	A1135376A	<u>FLOOR TILE</u>	CHRY 2%					
		Homogeneous, Beige, Non-fibrous, Tightly Bound	CHRY	2%	VINYL	46 %	CELL	2 %
					CACO	40 %		
					SILI	10 %		

CLIENT ID	CEI LAB ID	HOMOGENEITY DESCRIPTION	% ASBESTOS	
	A1135376B	<u>MASTIC</u> Homogeneous, Black, Non-fibrous, Bound	CHRY	5%
		CHRY 5% MAST 85% CELL <1% SILI 10%		
HT-10	A1135377	<u>SAMPLE NOT ANALYZED PER COC</u>		
HT-11	A1135378A	<u>FLOOR TILE</u> Homogeneous, Beige, Non-fibrous, Tightly Bound	CHRY	2%
		CHRY 2% VINYL 46% CELL 2% CACO 40% SILI 10%		
	A1135378B	<u>MASTIC</u> Homogeneous, Black, Non-fibrous, Bound	CHRY	10%
		CHRY 10% MAST 80% CELL <1% SILI 10%		
HT-12	A1135379	<u>SAMPLE NOT ANALYZED PER COC</u>		
HT-13	A1135380	<u>DRYWALL/MUD</u> Heterogeneous, White, Fibrous, Bound	CHRY	<1%
		CHRY <1% PAINT 5% CELL 15% GYPSUM 53% FBGL 7% CACO 20%		
<1% chrysotile in mud only. <1% chrysotile in overall sample				
HT-14	A1135381	<u>CAULKING</u> Heterogeneous, Red, Non-fibrous, Bound	ND	
		BIND 80% CACO 20%		

CLIENT ID	CEI LAB ID	HOMOGENEITY DESCRIPTION	% ASBESTOS			
HT-15	A1135382	<u>DRYWALL/MUD</u> Heterogeneous, White, Fibrous, Bound	ND			
		GYPSUM 35 %	CELL	20 %		
		CACO 20 %	FBGL	2 %		
		BIND 23 %				
HT-16	A1135383	<u>SIDING</u> Heterogeneous, Grey, Fibrous, Bound	CHRY	15 %		
		CHRY 15 %	PAINT	5 %		
		CACO 35 %				
		BIND 45 %				
HT-17	A1135384A	<u>FLOOR TILE</u> Homogeneous, Tan, Non-fibrous, Tightly Bound	CHRY	2 %		
		CHRY 2 %	SILI 15 %	CELL	5 %	
		VINYL 38 %				
		CACO 40 %				
	A1135384B	<u>MASTIC</u> Homogeneous, Black, Non-fibrous, Bound	CHRY	5 %		
		CHRY 5 %	MAST 80 %	CELL	<1 %	
		SILI 15 %				
HT-18	A1135385	<u>SAMPLE NOT ANALYZED PER COC</u>				
HT-19	A1135386	<u>DRYWALL/MUD</u> Heterogeneous, White, Fibrous, Bound	CHRY	<1 %		
		CHRY <1 %	GYPSUM 35 %	CELL	20 %	
			CACO 20 %	FBGL	2 %	
			BIND 23 %			
		<1% chrysotile in mud only. <1% chrysotile in overall sample				
HT-20	A1135387	<u>DRYWALL/MUD</u> Heterogeneous, White, Fibrous, Bound	CHRY	<1 %		
		CHRY <1 %	GYPSUM 35 %	CELL	20 %	
			CACO 20 %	FBGL	2 %	
			BIND 23 %			
		<1% chrysotile in joint compound, <1% chrysotile in sample overall				

CLIENT ID	CEI LAB ID	HOMOGENEITY DESCRIPTION	% ASBESTOS	
HT-21	A1135388	<u>CAULKING</u> Heterogeneous, White, Fibrous, Bound	CHRY 3%	3%
			BIND 55 %	CELL 2 %
			CACO 40 %	
HT-22	A1135389	<u>ACOUSTIC TILE</u> Heterogeneous, White, Fibrous, Bound		ND
			BIND 55 %	FBGL 20 %
			CACO 15 %	
			SILI 10 %	
HT-23	A1135390	<u>ACOUSTIC TILE</u> Heterogeneous, White, Fibrous, Bound		ND
			BIND 55 %	FBGL 20 %
			CACO 15 %	
			SILI 10 %	
HT-24	A1135391A	<u>ACOUSTIC TILE</u> Heterogeneous, Tan, Fibrous, Bound		ND
			PAINT 5 %	CELL 95 %
	A1135391B	<u>MASTIC</u> Homogeneous, Brown, Non-fibrous, Bound		CHRY <1%
			CHRY <1%	MAST 90 %
			SILI 10 %	
HT-25	A1135392A	<u>ACOUSTIC TILE</u> Heterogeneous, Tan, Fibrous, Bound		ND
			PAINT 5 %	CELL 95 %
	A1135392B	<u>MASTIC</u> Homogeneous, Brown, Non-fibrous, Bound		CHRY <1%
			CHRY <1%	MAST 90 %
			SILI 10 %	

CLIENT ID	CEI LAB ID	HOMOGENEITY DESCRIPTION					% ASBESTOS
HT-26	A1135393	<u>PAIN</u> Heterogeneous, Off-white, Fibrous, Bound					ND
			PAINT	55 %	CELL	7 %	
			CACO	38 %			
HT-27	A1135394	<u>PAIN</u> Heterogeneous, Off-white, Fibrous, Bound					ND
			PAINT	55 %	CELL	7 %	
			CACO	38 %			
HT-28	A1135395	<u>PAIN</u> Heterogeneous, Off-white, Fibrous, Bound					ND
			PAINT	55 %	CELL	7 %	
			CACO	38 %			
HT-29	A1135396	<u>DRYWALL/MUD</u> Heterogeneous, White, Fibrous, Bound					ND
			GYPSUM	35 %	CELL	20 %	
			CACO	20 %			
			BIND	25 %			
HT-30	A1135397	<u>DRYWALL</u> Heterogeneous, White, Fibrous, Bound					ND
			GYPSUM	35 %	CELL	30 %	
			BIND	25 %			
			CACO	10 %			
HT-31	A1135398	<u>TILE</u> Heterogeneous, Tan, Fibrous, Bound					ND
			VINYL	50 %	CELL	35 %	
			CACO	15 %			
HT-32	A1135399	<u>TILE</u> Heterogeneous, Tan, Fibrous, Bound					ND
			VINYL	50 %	CELL	35 %	
			CACO	15 %			

CLIENT ID	CEI LAB ID	HOMOGENEITY DESCRIPTION	% ASBESTOS		
HT-33	A1135400A	<u>COVEBASE</u> Homogeneous, Grey, Non-fibrous, Bound	ND		
		VINYL 90 % CACO 10 %			
	A1135400B	<u>MASTIC</u> Homogeneous, Yellow, Non-fibrous, Bound	ND		
		MAST 100 %			
HT-34	A1135401A	<u>COVEBASE</u> Homogeneous, Grey, Non-fibrous, Bound	ND		
		VINYL 90 % CACO 10 %			
	A1135401B	<u>MASTIC</u> Homogeneous, Yellow, Non-fibrous, Bound	ND		
		MAST 100 %			
HT-35	A1135402	<u>ACOUSTIC TILE</u> Heterogeneous, Grey, Fibrous, Bound	ND		
		PAINT 5 %		CELL 60 %	
		PERL 30 %			
		SILI 5 %			
HT-36	A1135403	<u>ACOUSTIC TILE</u> Heterogeneous, Grey, Fibrous, Bound	ND		
		PAINT 5 %		CELL 60 %	
		PERL 30 %			
		SILI 5 %			
HT-37	A1135404	<u>INSULATION</u> Heterogeneous, Grey, Fibrous, Bound	CHRY 15 %		
		CHRY 15 %		BIND 35 %	FBGL 35 %
				CACO 15 %	

CLIENT ID	CEI LAB ID	HOMOGENEITY DESCRIPTION	% ASBESTOS	
HT-38	A1135405	<u>INSULATION</u> Heterogeneous, Grey, Fibrous, Bound	CHRY 15%	15%
			BIND 35 %	FBGL 35 %
			CACO 15 %	
HT-39	A1135406	<u>DRYWALL/MUD</u> Heterogeneous, White, Fibrous, Bound		ND
			BIND 35 %	CELL 20 %
			CACO 15 %	
			GYPSUM 30 %	
HT-40	A1135407	<u>ADHESIVE</u> Heterogeneous, Tan, Fibrous, Bound		ND
			MAST 90 %	CELL <1 %
			SILI 10 %	SYNT <1 %
HT-41	A1135408	<u>ADHESIVE</u> Heterogeneous, Tan, Fibrous, Bound		ND
			MAST 90 %	CELL <1 %
			SILI 10 %	SYNT <1 %
HT-42	A1135409	<u>DRYWALL/MUD</u> Heterogeneous, White, Fibrous, Bound	CHRY <1%	<1%
			BIND 35 %	CELL 7 %
			GYPSUM 35 %	
			CACO 23 %	
		<1% chrysotile in mud only. <1% chrysotile in overall sample		
HT-43	A1135410	<u>SEALANT/ADHESIVE</u> Heterogeneous, Grey, Silver, Non-fibrous, Bound		ND
			FOIL 20 %	
			MAST 80 %	
HT-44	A1135411A	<u>TEXTURE</u> Heterogeneous, White, Non-fibrous, Bound		ND
			CACO 50 %	CELL 2 %
			BIND 48 %	

CLIENT ID	CEI LAB ID	HOMOGENEITY DESCRIPTION	% ASBESTOS
	A1135411B	<u>DRYWALL/MUD</u> Heterogeneous, White, Non-fibrous, Bound CHRY <1% GYPSUM 45 % CELL 15 % BIND 40 %	CHRY <1%
<p><1% chrysotile in mud only. <1% chrysotile in overall sample</p>			
HT-45	A1135412A	<u>TEXTURE</u> Heterogeneous, White, Non-fibrous, Bound CACO 50 % CELL 2 % BIND 48 %	ND
	A1135412B	<u>DRYWALL</u> Heterogeneous, White, Non-fibrous, Bound GYPSUM 45 % CELL 15 % BIND 40 %	ND
HT-46	A1135413A	<u>TEXTURE</u> Heterogeneous, White, Non-fibrous, Bound CACO 50 % CELL 2 % BIND 45 % GYPSUM 3 %	ND
	A1135413B	<u>MUD COMPOUND</u> Heterogeneous, White, Tan, Non-fibrous, Bound CHRY <1% CACO 50 % CELL 2 % BIND 45 % GYPSUM 3 %	CHRY <1%
HT-47	A1135414	<u>MUD COMPOUND</u> Heterogeneous, White, Tan, Non-fibrous, Bound CHRY <1% CACO 50 % CELL 2 % BIND 45 % GYPSUM 3 %	CHRY <1%
HT-48	A1135415	<u>DRYWALL/MUD</u> Heterogeneous, White, Non-fibrous, Bound CHRY <1% GYPSUM 45 % CELL 15 % BIND 40 %	CHRY <1%
<p><1% chrysotile in mud only. <1% chrysotile in overall sample</p>			

CLIENT ID	CEI LAB ID	HOMOGENEITY DESCRIPTION	% ASBESTOS	
HT-49	A1135416A	<u>FLOOR TILE</u> Homogeneous, Tan, Non-fibrous, Tightly Bound	CHRY	2%
		CHRY 2% VINYL 43% CELL 5% CACO 40% SILI 10%		
	A1135416B	<u>MASTIC</u> Homogeneous, Black, Non-fibrous, Bound	CHRY	7%
		CHRY 7% MAST 80% CELL 3% SILI 10%		
HT-50	A1135417	<u>DRYWALL/MUD</u> Heterogeneous, White, Non-fibrous, Bound	CHRY	<1%
<1% chrysotile in mud only; <1% chrysotile in overall sample		CHRY <1% CACO 30% CELL 2% BIND 48% GYPSUM 20%		
HT-51	A1135418	<u>DRYWALL/MUD</u> Heterogeneous, White, Non-fibrous, Bound	CHRY	<1%
<1% chrysotile in mud only; <1% chrysotile in overall sample		CHRY <1% GYPSUM 45% CELL 15% BIND 40% FBGL <1%		
HT-52	A1135419A	<u>TEXTURE</u> Heterogeneous, White, Fibrous, Bound		ND
		BIND 45% CELL 15% CACO 40%		
	A1135419B	<u>DRYWALL/MUD</u> Heterogeneous, White, Fibrous, Bound	CHRY	<1%
<1% chrysotile in mud only; <1% chrysotile in overall sample		CHRY <1% BIND 35% CELL 15% CACO 30% GYPSUM 20%		
HT-53	A1135420	<u>CAULKING</u> Heterogeneous, Off-white, Tan, Non-fibrous, Bound		ND
		BIND 55% CACO 35% SILI 10%		

CLIENT ID	CEI LAB ID	HOMOGENEITY DESCRIPTION					% ASBESTOS
HT-54	A1135421	<u>MUD COMPOUND</u>					CHRY <1%
		Heterogeneous, White, Fibrous, Bound	CHRY <1%	CACO 50 %	CELL 2 %	BIND 48 %	
HT-55	A1135422	<u>MUD COMPOUND</u>					CHRY <1%
		Heterogeneous, White, Fibrous, Bound	CHRY <1%	CACO 50 %	CELL 2 %	BIND 48 %	
HT-56	A1135423	<u>DRYWALL/MUD</u>					ND
		Heterogeneous, Off-white, Fibrous, Bound		BIND 43 %	CELL 7 %	Gypsum 40 %	
HT-57	A1135424A	<u>FLOOR TILE</u>					ND
		Homogeneous, Tan, Non-fibrous, Tightly Bound		VINYL 45 %	CELL 5 %	CACO 40 %	
	A1135424B	<u>MASTIC</u>					CHRY 2%
		Homogeneous, Black, Non-fibrous, Bound	CHRY 2%	MAST 80 %	CELL 8 %	SILI 10 %	
HT-58	A1135425A	<u>FLOOR TILE</u>					ND
		Homogeneous, Tan, Non-fibrous, Tightly Bound		VINYL 45 %	CELL 5 %	CACO 40 %	
	A1135425B	<u>MASTIC</u>					CHRY 2%
		Homogeneous, Black, Non-fibrous, Bound	CHRY 2%	MAST 80 %	CELL 8 %	SILI 10 %	

CLIENT ID	CEI LAB ID	HOMOGENEITY DESCRIPTION	% ASBESTOS			
HT-59	A1135426	<u>TEXTURE</u> Heterogeneous, White, Fibrous, Bound	ND			
		CACO 50 %	CELL 2 %			
		BIND 48 %	FBGL <1 %			
HT-60	A1135427	<u>INSULATION</u> Heterogeneous, Brown, Fibrous, Loose	ND			
		SILI 5 %	CELL 95 %			
HT-61	A1135428	<u>INSULATION</u> Heterogeneous, Brown, Fibrous, Loose	ND			
		SILI 5 %	CELL 80 %			
		FOIL 5 %	FBGL 10 %			
HT-62	A1135429	<u>GLAZING</u> Heterogeneous, Brown, White, Fibrous, Bound	CHRY 5 %			5 %
		BIND 50 %				
		CACO 35 %				
		SILI 10 %				
HT-63	A1135430	<u>STUCCO</u> Heterogeneous, Grey, Fibrous, Bound	ND			
		BIND 50 %	FBGL 15 %			
		CACO 10 %				
		SILI 25 %				
HT-64	A1135431	<u>SIDING</u> Heterogeneous, Grey, Fibrous, Bound	CHRY 25 %			25 %
		BIND 45 %				
		CACO 30 %				
HT-65	A1135432	<u>SAMPLE NOT ANALYZED PER COC</u>				

CAROLINA ENVIRONMENTAL, INC.
 107 New Edition Court, Cary, NC 27511
 Phone: 919-481-1413 Fax: 919-481-1442

Project: 11-45.1

Lab Code: A11-2630

CLIENT ID	CEI LAB ID	HOMOGENEITY DESCRIPTION	% ASBESTOS			
HT-66	A1135433	<u>SAMPLE NOT ANALYZED PER COC</u>				
HT-67	A1135434A	<u>STUCCO (TOP)</u> Heterogeneous, Off-white, Fibrous, Bound				ND
		BIND	65 %			
		SILI	15 %			
		CACO	20 %			
	A1135434B	<u>STUCCO (BOTTOM)</u> Heterogeneous, Grey, Fibrous, Bound				ND
		BIND	45 %	FBGL	15 %	
		SILI	20 %			
		CACO	20 %			
HT-68	A1135435A	<u>STUCCO (TOP)</u> Heterogeneous, Off-white, Fibrous, Bound				ND
		BIND	65 %			
		SILI	15 %			
		CACO	20 %			
	A1135435B	<u>STUCCO (BOTTOM)</u> Heterogeneous, Grey, Fibrous, Bound				ND
		BIND	45 %	FBGL	15 %	
		SILI	20 %			
		CACO	20 %			
HT-69	A1135436	<u>FELT PAPER</u> Heterogeneous, Black, Fibrous, Bound				ND
		TAR	25 %	CELL	75 %	
HT-70	A1135437	<u>FELT PAPER</u> Heterogeneous, Black, Fibrous, Bound				ND
		TAR	25 %	CELL	75 %	

The following definitions apply to the abbreviations used in the ASBESTOS BULK ANALYSIS REPORT:

CHRY = Chrysotile	CELL = Cellulose	DEBR = Debris
AMOS = Amosite	FBGL = Fibrous Glass	BIND = Binder
CROC = Crocidolite	CACO = Calcium Carbonate	SILI = Silicates
TREM = Tremolite	SYNT = Synthetics	GRAV = Gravel
ANTH = Anthophyllite	WOLL = Wollastonite	MAST = Mastic
ACTN = Actinolite	CERWL = Ceramic Wool	PLAS = Plaster
N D = None Detected	NTREM = Non-Asbestiform Tremolite	PERL = Perlite
NANTH = Non-Asbestiform Anthophyllite	FBGY = Fibrous Gypsum	RUBR = Rubber
		VER = Vermiculite

CLIENT: Mac Paran Consulting

PROJECT: 11-45.1

CEI LAB CODE: A11-2630

Stereoscopic microscopy and polarized light microscopy coupled with dispersion staining is the analytical technique used for sample identification. The percentage of each component is visually estimated by volume. These results pertain only to the samples analyzed. The samples were analyzed as submitted by the client and may not be representative of the larger material in question. Unless notified in writing to return samples, Carolina Environmental, Inc. will discard all bulk samples after 30 days.

Many vinyl floor tiles have been manufactured using greater than 1% asbestos. Often the asbestos was milled to a fiber size below the detection limit of polarized light microscopy. Therefore, a "None Detected" (ND) reading on vinyl floor tile does not necessarily exclude the presence of asbestos. Transmission electron microscopy provides a more conclusive form of analysis for vinyl floor tiles.

It is certified by the signature below that Carolina Environmental, Inc. is accredited by the National Voluntary Accreditation Program (NVLAP) for the analysis of asbestos in bulk materials. The accredited test method is EPA / 600 / M4-82 / 020 for the analysis of asbestos in building materials. Procedures described in EPA / 600 / R-93 / 116 have been incorporated where applicable. The detection limit for the method is 0.1% (trace amount). Carolina Environmental, Inc.'s NVLAP accreditation number is #101768-0. This report is not to be used to claim product endorsement by NVLAP or any agency of the U. S. Government. This report and its contents are only valid when reproduced in full. Dust and soil analyses for asbestos using PLM are not covered under NVLAP accreditation.

ANALYST


_____

REVIEWED BY



Tianbao Bai, Ph.D.
Laboratory Director

End of Report

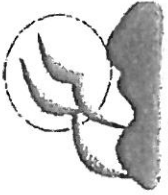


CAROLINA ENVIRONMENTAL, INC.
 107 New Edition Court, Cary, NC 27511
 Tel: 866-481-1412; Fax: 919-481-1442

A11. 2630 (70)
 A1135 368. A1135 437

**CHAIN OF CUSTODY RECORD
 ASBESTOS/LEAD ANALYSIS**

Client: <u>MACAPARAN Consulting</u>		Project Manager: <u>Scott Carbo</u>	
Address: <u>3959 Fulton Grove Rd.</u>		Phone: <u>513-752-9111</u>	
Cincinnati OH 45245		Fax: <u>513-752-7973</u>	
Email: <u>SCARR2@MACAPARAN.COM</u>		ASBESTOS	
PO #:		PLM Bulk	
PROJECT DESCRIPTION	PROJECT CODE	PLM Point Count	
		PLM Gravimetric	
		PCM Air	
		TEM Bulk*	
		TEM Air*	
		Lead Paint*	
		Lead Wipe*	
		Lead Soil*	
		Lead Air*	
		Other Analysis	
14T-1	11-45.1		
-2			
-3			
-4			
-5			
-6			
-7			
-8			
-9			
-10			
REMARKS:		TURN-AROUND TIME	
		* Lead and TEM results require 48 Hour TAT or longer	
		<input type="checkbox"/> 5 DAYS <input checked="" type="checkbox"/> 3 DAYS <input type="checkbox"/> 48 HOURS <input type="checkbox"/> 24 HOURS* <input type="checkbox"/> 4 HOURS*	
		CLIENT ID#	
		<input checked="" type="checkbox"/> Accept Samples <input type="checkbox"/> Reject Samples	
Relinquished By: <u>Scott Carbo</u>	Date / Time: <u>4/11/11 9:00</u>	Samples will be disposed of 30 days after analysis, unless otherwise requested.	
Relinquished By: <u>Scott Carbo</u>	Date / Time: <u>4/11/11 9:00</u>	Date / Time: <u>April 21 2011 9:50 AM</u>	
Received By: <u>Scott Carbo</u>	Date / Time: <u>4/11/11 9:00</u>	Date / Time: <u>April 21 2011 9:50 AM</u>	
Received By: <u>Scott Carbo</u>	Date / Time: <u>4/11/11 9:00</u>	Date / Time: <u>April 21 2011 9:50 AM</u>	

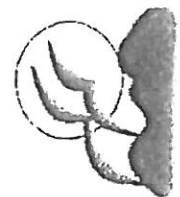


CAROLINA ENVIRONMENTAL, INC.
 107 New Edition Court, Cary, NC 27511
 Tel: 866-481-1412; Fax: 919-481-1442

A11-263D

**CHAIN OF CUSTODY RECORD
 ASBESTOS/LEAD ANALYSIS**

Client: MACAPARAN Consulting		Project Manager: Scott Carbo										
Address: 3959 Fulton Service Rd. Cincinnati OH 45245		Phone: 513-752-9111										
Email: SCARRA@MACAPARAN.COM		Fax: 513-752-7973										
PO #:		ASBESTOS										
PROJECT DESCRIPTION	PROJECT CODE	PLM Bulk	PLM Point Count	PLM Gravimetric	PCM Air	TEM Bulk	TEM Air	Lead Paint	Lead Wipe	Lead Soil	Lead Air	Other Analysis
HT-11	11-45.1											
HT-12												
-13												
-14												
-15												
-16												
-17												
-18												
-19												
-20												
REMARKS:												
Relinquished By: Scott Carbo											Date / Time: 4/11/11 9:00	
Relinquished By: Scott Carbo											Date / Time: 4/11/11 9:50 AM	
Received By: Scott Carbo											Date / Time: APR 11 2011	
Received By:											Date / Time:	



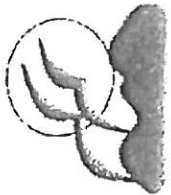
CAROLINA ENVIRONMENTAL, INC.
 107 New Edition Court, Cary, NC 27511
 Tel: 866-481-1412; Fax: 919-481-1442

ALL 2630

**CHAIN OF CUSTODY RECORD
 ASBESTOS/LEAD ANALYSIS**

Client: MACPARAN CONSULTING		Project Manager: Scott Carbo	
Address: 3959 Fulton Grove Rd. Cincinnati OH 45245		Phone: 513-752-9111	
E-Mail: SCARR22@MACPARAN.COM		Fax: 513-752-7973	
PO #:		ASBESTOS	LEAD PAINT
PROJECT DESCRIPTION	PROJECT CODE	PLM Bulk	PLM Point Count
11T-21	11-45.1	PLM Gravimetric	Lead Air*
-22		PCM Air	Lead Soil*
-23		TEM Bulk*	Lead Wipe*
-24		TEM Air*	Lead Paint*
-25			
-26			
-27			
-28			
-29			
-30			
REMARKS:		Other Analysis	TURN-AROUND TIME
			* Lead and TEM results require 48 Hour TAT or longer
			<input type="checkbox"/> 5 DAYS
			<input checked="" type="checkbox"/> 3 DAYS
			<input type="checkbox"/> 48 HOURS
			<input type="checkbox"/> 24 HOURS*
			<input type="checkbox"/> 4 HOURS*
			CLIENT ID#
			Samples will be disposed of 30 days after analysis, unless otherwise requested.
Relinquished By: Scott Carbo	Date / Time: 4/11/11 9:00	<input checked="" type="checkbox"/> Accept Samples	Date / Time: APR 12 2011 9:50 AM
Relinquished By:	Date / Time:	<input type="checkbox"/> Reject Samples	Date / Time:

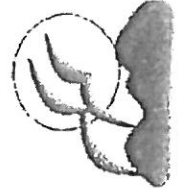
A11.2630



CAROLINA ENVIRONMENTAL, INC.
 107 New Edition Court, Cary, NC 27511
 Tel: 866-481-1412; Fax: 919-481-1442

**CHAIN OF CUSTODY RECORD
 ASBESTOS/LEAD ANALYSIS**

Client: MACPARAN Consulting		Project Manager: Scott Carbo											
Address: 3959 Fulton Grove Rd. Cincinnati OH 45245		Phone: 513-752-9111											
Email: SCARR22@MACPARAN.COM		Fax: 513-752-7973											
PO #:													
PROJECT DESCRIPTION	PROJECT CODE	ASBESTOS				LEAD PAINT				TURN-AROUND TIME			
		PLM Bulk	PLM Point Count	PLM Gravimetric	PCM Air	TEM Bulk*	TEM Air	Lead Paint*	Lead Wipe*	Lead Soil*	Lead Air*	Other Analysis	* Lead and TEM results require 48 Hour TAT or longer <input type="checkbox"/> 5 DAYS <input checked="" type="checkbox"/> 3 DAYS <input type="checkbox"/> 48 HOURS <input type="checkbox"/> 24 HOURS* <input type="checkbox"/> 4 HOURS*
HT-31	11-45.1												
-32													
-33													
-34													
-35													
-36													
-37													
-38													
-39													
-40													
REMARKS:													
Relinquished By: Scott Carbo		Date / Time: 4/11/11 9:00		<input checked="" type="checkbox"/> Accept Samples		<input type="checkbox"/> Reject Samples		Date / Time: APR 12 2011 9:50 AM		Samples will be disposed of 30 days after analysis, unless otherwise requested.			
Relinquished By:		Date / Time:						Date / Time:					



CAROLINA ENVIRONMENTAL, INC.
 107 New Edition Court, Cary, NC 27511
 Tel: 866-481-1412; Fax: 919-481-1442

Alt. 2610

**CHAIN OF CUSTODY RECORD
 ASBESTOS/LEAD ANALYSIS**

Client: MACPARAN Consulting Project Manager: Scott Carbo
 Address: 3959 Fulton Cerros Rd. Phone: 513-752-9111
Cincinnati OH 45245 Fax: 513-752-7973
 Email: SCARR@MACPARAN.COM
 PO #: _____

PROJECT DESCRIPTION	PROJECT CODE	ASBESTOS						LEAD PAINT				TURN-AROUND TIME	CLIENT ID#		
		PLM Bulk	PLM Point Count	PLM Gravimetric	PCM Air	TEM Bulk	TEM Air	Lead Paint*	Lead Wipe*	Lead Soil*	Lead Air*			Other Analysis	
HT-41	11-45.1													*Lead and TEM results require 48 Hour TAT or longer <input type="checkbox"/> 5 DAYS <input checked="" type="checkbox"/> 3 DAYS <input type="checkbox"/> 48 HOURS <input type="checkbox"/> 24 HOURS* <input type="checkbox"/> 4 HOURS*	
-42															
-43															
-44															
-45															
-46															
-47															
-48															
-49															
-50															

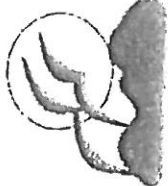
REMARKS: _____

Relinquished By: Scott Carbo Date / Time: 4/11/11 9:00
 Relinquished By: Christy Pruitt Date / Time: 4/12/2011 9:50 AM

Samples will be disposed of 30 days after analysis, unless otherwise requested.

Accept Samples: Reject Samples:

Date / Time: _____



CAROLINA ENVIRONMENTAL, INC.
 107 New Edition Court, Cary, NC 27511
 Tel: 866-481-1412; Fax: 919-481-1442

Alt. 2630

**CHAIN OF CUSTODY RECORD
 ASBESTOS/LEAD ANALYSIS**

Client: MACAPARAN Consulting		Project Manager: Scott Carbo											
Address: 3959 Fulton Grove Rd.		Phone: 513-752-9111											
Cincinnati OH 45245		Fax: 513-752-7973											
Email: SCARZ@MACAPARAN.COM		ASBESTOS											
PO #:		LEAD PAINT											
PROJECT DESCRIPTION	PROJECT CODE	PLM Bulk	PLM Point Count	PLM Gravimetric	PCM Air	TEM Bulk*	TEM Air	Lead Paint*	Lead Wipe*	Lead Soil*	Lead Air*	Other Analysis	TURN-AROUND TIME
AT-51	11-45.1												* Lead and TEM results require 48 Hour TAT or longer
-52													<input type="checkbox"/> 5 DAYS
-53													<input checked="" type="checkbox"/> 3 DAYS
-54													<input type="checkbox"/> 48 HOURS
-55													<input type="checkbox"/> 24 HOURS*
-56													<input type="checkbox"/> 4 HOURS*
-57													
-58													
-59													
-60													
REMARKS:													CLIENT ID#
Relinquished By: Scott Carbo													Accept Samples <input checked="" type="checkbox"/>
Relinquished By: Scott Carbo													Reject Samples <input type="checkbox"/>
Date / Time: 4/11/11 9:00													Received By: Priority Print
Date / Time:													Date / Time: APR 12 2011 9:50 AM
Date / Time:													Date / Time:

A11.2630

CHAIN OF CUSTODY RECORD ASBESTOS/LEAD ANALYSIS

CAROLINA ENVIRONMENTAL, INC.
107 New Edition Court, Cary, NC 27511
Tel: 866-481-1412; Fax: 919-481-1442

Client: MACPARAN CONSULTING		Project Manager: Scott Carbo											
Address: 3959 Fulton Grove Rd.		Phone: 513-752-9111											
Cincinnati OH 45245		Fax: 513-752-7973											
Email: SCARB2@MACPARAN.COM		ASBESTOS											
PO #:		LEAD PAINT											
PROJECT DESCRIPTION	PROJECT CODE	PLM Bulk	PLM Point Count	PLM Gravimetric	PCM Air	TEM Bulk	TEM Air	Lead Paint	Lead Wipe	Lead Soil	Lead Air	Other Analysis	TURN-AROUND TIME
H5-61	11-45.1												* Lead and TEM results require 48 Hour TAT or longer
0-62													<input type="checkbox"/> 5 DAYS
-63													<input checked="" type="checkbox"/> 3 DAYS
-64													<input type="checkbox"/> 48 HOURS
-65													<input type="checkbox"/> 24 HOURS*
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-67													CLIENT ID#
-68													
-69													
-70													
REMARKS:													CLIENT ID#
Relinquished By: Scott Carbo													Accept Samples <input checked="" type="checkbox"/>
Relinquished By: Scott Carbo													Reject Samples <input type="checkbox"/>
Date / Time: 4/11/11 9:00													Received By: Priority Print
Date / Time: 4/11/11 9:00													Date / Time: 4/11/11 9:50AM
Date / Time: 4/11/11 9:00													Date / Time: 4/11/11 9:50AM

Appendix B

Asbestos Hazard Evaluation Specialist License



OHIO DEPARTMENT OF HEALTH

246 North High Street
Columbus, Ohio 43215

614/466-3543
www.odh.ohio.gov

Ted Strickland/Governor

Alvin D. Jackson, M.D./Director of Health

May 25, 2010

William S Carter
M.A.C. Paran Consulting Svcs Inc
3959 Fulton Grove Road
Cincinnati OH 45245

RE: Asbestos Hazard Evaluation Specialist ES34717

Dear William S Carter:

This letter is to inform you that you have been certified by this department as an Asbestos Hazard Evaluation Specialist.

Included with this letter is your identification card. You must present this card upon request at any project site while performing duties. Copies of cards are not acceptable as proof of certification.

This certification may be revoked by the Director of Health for violation of any of the requirements of 3701-34 of the Ohio Administrative Code.

This certification will expire on 06/27/2011.

If you have any questions regarding your identification card, please call and speak with the asbestos licensing staff at (614) 644-0226.

Sincerely,

Mark J. S. Needham
Asbestos Program Administrator
Division of Quality Assurance

State of Ohio
Department of Health
Division of Quality Assurance - Asbestos Program

Asbestos Hazard Evaluation Specialist

William S Carter
M.A.C. Paran Consulting Svcs Inc
3959 Fulton Grove Road
Cincinnati OH 45245

Certification Number
ES34717

Expiration Date
06/27/2011

DOB: 08/08/1965

This certification is issued pursuant to Chapter 3710 of the Revised Code and 3701-34 of the Ohio Administrative Code

Certification Card is not valid if altered

An Equal Opportunity Employer




SECTION 31 05 13 - SOILS FOR EARTHWORK

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Subsoil materials.
 - 2. Topsoil materials.

1.2 QUALITY ASSURANCE

- A. Furnish each subsoil and topsoil material from single source throughout Work.

PART 2 PRODUCTS

2.1 SUBSOIL MATERIALS

- A. Suitable Materials as outlined in ODOT 203.02R

2.2 TOPSOIL MATERIALS

- A. Topsoil Materials as outlined in ODOT 653.02
 - 1. Excavated and reused materials where possible.
 - 2. Imported borrow.
 - 3. Friable loam.
 - 4. Reasonably free of roots, rocks larger than 1/2 inch, subsoil, debris, large weeds, and foreign matter.
 - 5. Containing minimum of 4 percent and maximum of 20 percent inorganic matter.

2.3 SOURCE QUALITY CONTROL

- A. Testing and Analysis of Subsoil Material: Perform according to ASTM D698.
- B. Testing and Analysis of Topsoil Material: Perform according to ASTM D698.
- C. When tests indicate materials do not meet specified requirements, change material and retest.
- D. Furnish materials of each type from same source throughout Work.

PART 3 EXECUTION

3.1 EXCAVATION

- A. Excavate subsoil and topsoil from areas designated. Strip topsoil to full depth of topsoil in designated areas.
- B. Stockpile excavated material meeting requirements for subsoil materials and topsoil materials.
- C. Remove excess excavated materials not intended for reuse, from Site.
- D. Remove excavated materials not meeting requirements for subsoil materials and topsoil materials from Site.

3.2 STOCKPILING

- A. Stockpile materials on Site at locations designated by Architect/Engineer.
- B. Stockpile in sufficient quantities to meet Project schedule and requirements.
- C. Separate differing materials with dividers or stockpile apart to prevent mixing.
- D. Stockpile topsoil 8 feet high, maximum.
- E. Prevent intermixing of soil types or contamination.

- F. Direct surface water away from stockpile site to prevent erosion or deterioration of materials.
- G. Stockpile unsuitable materials on impervious material and cover to prevent erosion and leaching, until disposed of.

3.3 STOCKPILE CLEANUP

- A. Remove stockpile, leave area in clean and neat condition. Grade Site surface to prevent free standing surface water.
- B. When borrow area is indicated, leave area in clean and neat condition. Grade Site surface to prevent free standing surface water.

END OF SECTION

SECTION 31 05 16 - AGGREGATES FOR EARTHWORK

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Coarse aggregate materials.
 - 2. Fine aggregate materials.

1.2 QUALITY ASSURANCE

- A. Furnish each aggregate material from single source throughout Work.

PART 2 PRODUCTS

2.1 AGGREGATE MATERIALS

- A. Suitable Aggregate Materials as outlined in ODOT 203.02R.

2.2 SOURCE QUALITY CONTROL

- A. Coarse Aggregate Material - Testing and Analysis: Perform according to ASTM D698.
- B. Fine Aggregate Material - Testing and Analysis: Perform according to ASTM D698.
- C. When tests indicate materials do not meet specified requirements, change material and retest.

PART 3 EXECUTION

3.1 STOCKPILING

- A. Stockpile materials on Site at locations designated by Architect/Engineer.
- B. Stockpile in sufficient quantities to meet Project schedule and requirements.
- C. Separate different aggregate materials with dividers or stockpile individually to prevent mixing.
- D. Direct surface water away from stockpile site to prevent erosion or deterioration of materials.
- E. Stockpile unsuitable materials on impervious material and cover to prevent erosion and leaching, until disposed of.

3.2 STOCKPILE CLEANUP

- A. Remove stockpile, leave area in clean and neat condition. Grade Site surface to prevent free-standing surface water.
- B. When borrow area is indicated, leave area in clean and neat condition. Grade Site surface to prevent free standing surface water.

END OF SECTION

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SECTION 31 10 00 - SITE CLEARING

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Removing surface debris,
 - 2. Removing designated paving, curbs, and site development, etc.
 - 3. Removing topsoil and subsoil.
 - 4. Rough grading and site contouring.
 - 5. Removing trees, shrubs, and other plant life.
- B. Coordinate Scope on the Civil Engineering drawings. Follow intent of the Civil Drawings, and the full extent of the requirements to provide the proposed site improvements.

1.2 SUBMITTALS

- A. Product Data: Submit data for herbicide.

PART 2 PRODUCTS

2.1 SITE CLEARING

- A. Herbicide: approved by authority having jurisdiction.

PART 3 EXECUTION

3.1 PREPARATION

- A. Call Local Utility Line Information service not less than three working days before performing Work. Identify all public and private utilities as is applicable to the work. Provide services of private utility location services as is applicable to the work.
 - 1. Request underground utilities to be located and marked within and surrounding construction areas.

3.2 PROTECTION

- A. Locate, identify, and protect utilities indicated to remain, from damage.
- B. Protect trees, plant growth, and features designated to remain, as final landscaping.
- C. Protect bench marks, survey control points, and existing structures which are scheduled to remain from damage or displacement.

3.3 CLEARING

- A. Clear areas required for access to site and execution of Work.
- B. Remove paving, curbs, and other site improvements to be removed.
- C. Remove trees and shrubs. Remove stumps, main root ball and root system.
- D. Apply herbicide to remaining stumps or plant life to inhibit growth.

3.4 REMOVALS

- A. Remove debris, rock, and extracted plant life from the Site.
- B. Remove paving, curbs, and existing site improvements as identified.
 - 1. Neatly saw cut edges at right angle to surface. Replace / re-cut any failed edges for a new clean cut.
- C. Remove abandoned utilities. Indicate removal termination point on as-built drawings if applicable.

- D. Continuously clean up and remove waste materials from the Site. Do not allow materials to accumulate on Site.
- E. Do not burn or bury materials on Site. Leave Site in clean condition.

3.5 TOPSOIL EXCAVATION

- A. Excavate topsoil from **areas to be further excavated, relandscaped, or regraded** without mixing with foreign materials for use in finish grading.
- B. Do not excavate wet topsoil.
- C. Stockpile in area designated on Site to depth not exceeding **8** feet and protect from erosion. Stockpile material per the Civil Drawings until disposal.
- D. Remove excess topsoil not intended for reuse from Site, unless directed otherwise by Owner.

3.6 ROUGH GRADING

- A. Identify required lines, levels, contours, and datum.
- B. Identify known underground, above ground, and aerial utilities. Stake and flag locations.
- C. Notify utility company to remove and relocate utilities as applicable.
- D. Excavate topsoil and subsoil from areas to be further excavated, re-landscaped or re-graded.
- E. Stockpile topsoil in area designated on site.
- F. Remove excess topsoil and subsoil not being reused, from site.

3.7 CLEAN UP

- A. Remove debris, rock larger than 1.5 cu ft, and extracted plant life from site.

3.8 SCHEDULE

- A. Refer to Civil Drawings for extent of scope and work areas.

END OF SECTION

SECTION 31 20 00 - EARTH MOVING

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes site grading, removal of topsoil and subsoil, building excavating and trenching, backfilling, and compacting.

PART 2 PRODUCTS

2.1 SOIL MATERIALS

- A. Topsoil: Reusable excavated or Imported friable loam; free of subsoil, roots, grass, weeds, large stone, and foreign matter. ASTM D 4268, pH range of 5.5 to 7, minimum of 4 percent organic material content.
 - 1. Amend existing in place surface soil to produce topsoil. Verify suitability of surface soil to produce topsoil. Surface soil may be supplemented with imported or manufactured topsoil from off-site sources.
- B. Subsoil: Excavated material, graded free of lumps larger than 6 inches, rocks larger than 2 inches, organic material, and debris. ASTM D 2487 Soil Classification Groups GW, GP, GM, SW, SP, and SM or a combination there of.

2.2 FILL MATERIALS

- A. Type A - Select Granular Material: Coarse stone: Pit run, washed natural stone; free of shale, clay, friable material, sand, debris.
 - 1. Grading: AASHTO M147; Grade 57.

PART 3 EXECUTION

3.1 EXAMINATION AND PREPARATION

- A. Call OUPS to mark locations of all underground utilities a minimum of 3 working days prior to starting work.
- B. Identify required lines, levels, contours, and datum.
- C. Notify Architect/Engineer of unexpected subsurface conditions and discontinue affected work in area until notified to resume work.
- D. Maintain and protect existing utilities to remain.
- E. Provide erosion control measures to prevent erosion or displacement of soils and discharge of soil bearing water runoff of airborne dust to adjacent properties.
- F. Prevent surface water and ground water from entering excavations, from ponding on prepared sub-grades, and from flooding the project site and surrounding areas.
- G. Verify foundation walls are braced to support surcharge forces imposed by backfilling operations.

3.2 PROTECTION OF ADJACENT WORK

- A. Underpin adjacent structures which may be damaged by excavation work, including service utilities and pipe chases.
- B. Grade excavation top perimeter to prevent surface water run-off into excavation or to adjacent properties.
- C. Contractor shall be responsible for damage to existing utilities caused by construction operations.

3.3 TOPSOIL EXCAVATING

- A. Do not excavate wet topsoil.
- B. Excavate topsoil and stockpile for reuse. Remove excess topsoil not planned / required for reuse from the Site.

3.4 SUBSOIL EXCAVATING

- A. Do not remove wet subsoil. Remove groundwater by pumping to keep excavations dry.
- B. Excavate subsoil required for new building foundations and construction operations, and other Work.
- C. Slope banks [to angle of repose or less, until shored.
- D. Do not interfere with 45 degree bearing splay of foundations.
- E. Correct unauthorized excavation at no cost to Owner.
- F. Compact disturbed load bearing soil in direct contact with foundations to original bearing capacity; follow requirements of Geo-Technical Report.
- G. Proof roll bearing surfaces. Fill soft spots with engineered fill and compact uniformly to 95 percent of maximum density.
- H. Correct unauthorized excavation at no cost to the Owner.
- I. Fill over-excavated areas under structure bearing surfaces in accordance with direction by Architect/Engineer.
- J. Stockpile subsoil in area designated on site. Remove excess subsoil not being reused from site.

3.5 PREPARATION FOR BACKFILLING

- A. Compact subgrade to density requirements for subsequent backfill materials.
- B. Cut out soft areas of subgrade not capable of compaction in place. Backfill with structural fill and compact to density equal to or greater than requirements for subsequent fill material.
- C. Scarify subgrade surface as recommended for the conditions.
- D. Proof roll to identify soft spots; fill and compact to density equal to or greater than requirements for subsequent fill material.

3.6 FILLING

- A. Fill areas to contours and elevations with unfrozen materials.
- B. Systematically backfill to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen or spongy subgrade surfaces.
- C. Place fill material in continuous layers and compact, Coordinate with Civil Drawings. Layer in maximum 8 inches compacted depth unless otherwise approved by Architect / Engineer.
- D. Maintain optimum moisture content of fill materials to attain required compaction density.
- E. Make grade changes gradual. Blend slope into level areas.
- F. Repair or replace items indicated to remain damaged by excavation or filling.

3.7 TRENCHING

- A. Excavate for storm sewer, sanitary sewer, electric, water, gas and other utilities per the Civil Drawings and to meet the applicable installation standards by the local municipality.
- B. Cut trenches sufficiently wide to enable installation of utilities and allow inspection.

- C. Hand trim excavation and leave free of loose matter.
- D. Support pipe during placement and compaction of bedding fill.
- E. Backfill trenches to required contours and elevations.
- F. Place and compact fill materials as for Backfilling.

3.8 BACKFILLING

- A. Backfill areas to contours and elevations. Use unfrozen and unsaturated materials.
- B. Backfill systematically, as early as possible, to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen, or spongy subgrade surfaces.
- C. Place geotextile fabric over unstable subsoil.
- D. Place material in continuous layers as follows:
 - 1. Soil Materials: Maximum 8 inches compacted depth.
 - 2. Fill Materials: Maximum 8 inches compacted depth.
- E. Employ placement method so not to disturb or damage foundations or utilities in trenches.
- F. Maintain optimum moisture content of backfill materials to attain required compaction density.
- G. Backfill against supported foundation walls.
- H. Slope grade away from building minimum 2 percent for a minimum distance of 10 feet, unless noted otherwise. Coordinate with Civil Drawings.

3.9 PLACING TOPSOIL

- A. Place topsoil in areas where seeding, sodding, and planting is scheduled.
- B. Fine grade topsoil eliminating rough or low areas. Maintain levels, profiles, and contours of subgrade.
- C. Remove large stone, roots, grass, weeds, debris, and foreign material while spreading.
- D. Lightly compact placed topsoil.
- E. Leave stockpile area and site clean and raked, ready to receive landscaping.

3.10 SCHEDULE

- A. Coordinate with Civil Engineering Drawings.

END OF SECTION

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SECTION 31 23 17 - TRENCHING

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Excavating trenches for utilities outside building to utility service.
 - 2. Compacted fill from top of utility bedding to subgrade elevations.
 - 3. Backfilling and compaction.

1.2 QUALITY ASSURANCE

- A. Perform Work according to authority having jurisdiction standards as applicable.

1.3 FIELD MEASUREMENTS

- A. Verify field measurements, inverts, etc prior to fabrication.

1.4 COORDINATION

- A. Verify Work associated with lower elevation utilities is complete before placing higher elevation utilities.

PART 2 PRODUCTS

2.1 FILL MATERIALS

- A. Subsoil / Granular Fill: Type as required to suit conditions, suitability installed in compacted lifts.

2.2 ACCESSORIES

- A. Geotextile Fabric: Non-biodegradable, woven.

PART 3 EXECUTION

3.1 LINES AND GRADES

- A. Lay pipes to lines and grades indicated.
 - 1. Architect/Engineer may make changes in lines, grades, and depths of utilities when changes are required for Project conditions.
- B. Use laser-beam instrument with qualified operator to establish lines and grades.

3.2 PREPARATION

- A. Call local utility line information service not less than three working days before performing Work.
 - 1. Request underground utilities to be located and marked within and surrounding construction areas.
- B. Identify required lines, levels, contours, and datum locations.
- C. Protect plant life, lawns and other features remaining as portion of final landscaping.
- D. Protect bench marks, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.
- E. Maintain and protect above and below grade utilities indicated to remain.
- F. Establish temporary traffic control when trenching is performed in public right-of-way. Relocate controls as required during progress of Work.

3.3 TRENCHING

- A. Excavate subsoil required for utilities to utility service.

- B. Perform excavation within 24 inches of existing utility service according to utility's requirements.
- C. Cut trenches sufficiently wide to enable installation and allow inspection. Remove water or materials that interfere with Work.
- D. Excavate bottom of trenches maximum 24 inches wider than outside diameter of pipe.
- E. Excavate trenches to depth required for utilities. Provide uniform and continuous bearing and support for bedding material and pipe and utilities.
- F. Do not interfere with 45-degree bearing splay of foundations.
- G. When Project conditions permit, slope side walls of excavation starting 24 inches above top of pipe. When side walls cannot be sloped, provide sheeting and shoring to protect excavation as specified in this Section.
- H. When subsurface materials at bottom of trench are loose or soft, excavate to greater depth as directed by Architect/Engineer until suitable material is encountered.
- I. Cut out soft areas of subgrade not capable of compaction in place. Backfill and compact to density equal to or greater than requirements for subsequent backfill material.
- J. Trim excavation. Remove loose matter.
- K. Correct areas over excavated areas with compacted backfill as specified for authorized excavation or replace with fill concrete as directed by Architect/Engineer.
- L. Remove excess subsoil not intended for reuse, from Site.

3.4 SHEETING AND SHORING

- A. Sheet, shore, and brace excavations to prevent danger to persons, structures and adjacent properties and to prevent caving, erosion, and loss of surrounding subsoil.
- B. Support trenches more than 5 feet deep excavated through unstable, loose, or soft material. Provide sheeting, shoring, bracing, or other protection to maintain stability of excavation.
- C. Design sheeting and shoring to be removed at completion of excavation Work.
- D. Repair damage caused by failure of sheeting, shoring, or bracing and for settlement of filled excavations or adjacent soil.
- E. Repair damage to [new] [and] [existing] Work from settlement, water or earth pressure or other causes resulting from inadequate sheeting, shoring, or bracing.

3.5 BACKFILLING

- A. Backfill trenches to contours and elevations with unfrozen fill materials.
- B. Systematically backfill to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen, or spongy subgrade surfaces.
- C. Place geotextile fabric prior to placing subsequent fill materials.
- D. Place material in continuous layers as follows:
 - 1. Subsoil Fill: Maximum 8 inches compacted depth.
 - 2. Structural Fill: Maximum 6 inches compacted depth.
 - 3. Granular Fill: Maximum 6 inches compacted depth.
- E. Employ placement method that does not disturb or damage foundation perimeter drainage, utilities in trench, and any other obstructions or utilities encountered.
- F. Maintain optimum moisture content of fill materials to attain required compaction density.
- G. Protect open trench to protect the public/residents.

3.6 TOLERANCES

- A. Top Surface of Backfilling Under Paved Areas: Plus or minus 1 inch from required elevations.
- B. Top Surface of General Backfilling: Plus or minus 1 inch from required elevations.

3.7 FIELD QUALITY CONTROL

- A. Perform laboratory material tests according to ASTM D1557.
- B. Perform in place compaction tests according to following:
 - 1. Density Tests: ASTM D1556.
 - 2. Moisture Tests: ASTM D3017.
- C. When tests indicate Work does not meet specified requirements, remove Work, replace, compact, and retest.

3.8 PROTECTION OF FINISHED WORK

- A. Reshape and re-compact fills subjected to vehicular traffic during construction.

END OF SECTION

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SECTION 32 11 23 - AGGREGATE BASE COURSES

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Aggregate subbase.
 - 2. Aggregate base course.

1.2 SUBMITTALS

- A. Product Data:
 - 1. Geotextile fabric and herbicide.
- B. Materials Source: Name of aggregate materials suppliers.

1.3 QUALITY ASSURANCE

- A. Furnish each aggregate material from single source throughout Work.
- B. Perform Work according to ODOT standards.

PART 2 PRODUCTS

2.1 AGGREGATE MATERIALS

- A. Subgrade: ODOT Item 204.
 - 1. Compact the subgrade materials that have a maximum dry density of 100 to 105 pounds per cubic foot to not less than 102 percent of maximum dry density. Compact all other subgrade materials to not less than 100 percent of maximum dry density. Determine the maximum dry density using AASHTO T99, AASHTOT T272, or test section method in Supplement 1015.
- B. Aggregate Base Course: ODOT Item 304 [304.01 and 304.02].
 - 1. 98% of the material's maximum dry density as determined by the modified Proctor Test (AASHTOT-180 or ASTM D-1557)
 - 2. Blended Aggregate Mix.

2.2 ACCESSORIES

- A. Geotextile Fabric: AASHTO M288; non-woven, polypropylene.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify compacted substrate is dry and ready to support paving and imposed loads.
 - 1. Proof-roll substrate in minimum two perpendicular passes to identify soft spots.
 - 2. Remove soft substrate and replace with compacted fill.
- B. Verify substrate has been inspected, gradients and elevations are correct.

3.2 PREPARATION

- A. Correct irregularities in substrate gradient and elevation by scarifying, reshaping, and re-compacting.
- B. Do not place fill on soft, muddy, or frozen surfaces.

3.3 AGGREGATE PLACEMENT

- A. Install geotextile fabric over subgrade according to manufacturer's instructions.
 - 1. Lap ends and edges minimum **6 inches**.

2. Anchor fabric to subgrade when required to prevent displacement until aggregate is installed.
- B. Spread aggregate over prepared substrate to total compacted thickness indicated.
- C. Roller compact aggregate to 95 percent maximum density.
- D. Level and contour surfaces to elevations, profiles, and gradients indicated.
- E. Add small quantities of fine aggregate to coarse aggregate when required to assist compaction.
- F. Maintain optimum moisture content of fill materials to attain specified compaction density.
- G. Use mechanical tamping equipment in areas inaccessible to compaction equipment.

3.4 TOLERANCES

- A. Maximum Variation From Flat Surface: 1/2 inch measured with 10 foot straight edge.
- B. Maximum Variation From Thickness: 1/4 inch.
- C. Maximum Variation From Elevation: 1/2 inch.

3.5 COMPACTION

- A. Compact materials to 98 percent of maximum density as determined from test strip, according to ASTM D2940.

END OF SECTION

SECTION 32 12 16 - ASPHALT PAVING

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes: Asphalt Paving, Base, Asphalt Maintenance and Rehabilitation and related materials.

1.2 SUBMITTALS

- A. Product Data:
 - 1. Submit product information for asphalt and aggregate materials.
 - 2. Submit mix design with laboratory test results supporting design.

1.3 QUALITY ASSURANCE

- A. Perform Work according to State of Ohio, ODOT standards as applicable.
 - 1. State of Ohio Department of Transportation Construction and Materials Specifications Guide shall be used as a reference for all applicable materials, construction conditions, operations, and finished products, etc.
- B. Mixing Plant: Conform to State of Ohio, ODOT standard.
- C. Obtain materials from same source throughout.

1.4 AMBIENT CONDITIONS

- A. Do not place asphalt when ambient air or base surface temperature is less than 50 degrees F, or surface is wet or frozen.
- B. Place bitumen mixture when temperature is not more than 15 degrees F below bitumen suppliers bill of lading and not more than maximum specified temperature.

PART 2 PRODUCTS

2.1 ASPHALT MATERIALS

- A. Subgrade: ODOT Item 204.
 - 1. Compact the subgrade materials that have a maximum dry density of 100 to 105 pounds per cubic foot to not less than 102 percent of maximum dry density. Compact all other subgrade materials to not less than 100 percent of maximum dry density. Determine the maximum dry density using AASHTO T99, AASHTOT T272, or test section method in Supplement 1015.
- B. Aggregate Base Course: ODOT Item 304.
 - 1. 98% of the material's maximum dry density as determined by the modified Proctor Test (AASHTOT-180 or ASTM D-1557)
- C. Tack Coat: ODOT Item 407.
 - 1. Use one of following types: 702.04 RS-1, SS-1, SS-1h, CRS-1, CSS-1, or CSS-1h; or 702.13
- D. Intermediate Asphalt Surface: ODOT Item 403/448, Type 1, medium duty.
- E. Asphaltic Concrete Surface Course: ODOT Item 404/448, Type 1, medium duty.

2.2 ASPHALT MAINTENANCE MATERIALS

- A. Sealcoat: ASTM D244; ASTM D 2939
 - 1. Asphalt Emulsion Pavement Sealer with mineral/sand filler, polymer additive, water.
- B. Spot Primer: Oil spot primer formulated to ensure adhesion of pavement sealer to oil, gas, grease, and chemical stained areas on asphalt pavement.

- C. Crack Seal: ODOT Item 423.
 - 1. Type II; mixture of PG 64-22 certified binder and polyester fibers; hot applied type. Modified, single component, rubber/asphalt joint and crack sealant. Formulated for sealing asphalt cracks.

PART 3 EXECUTION

3.1 EXAMINATION

- A. General:
 - 1. Install Work in accordance with ODOT and City of Eaton standards, including all base and preparation.
 - 2. Scheduling: Schedule and manage work to minimize cold joints in the paving system. Coordinate requirements with Owner prior to mobilizing on the job.
 - 3. Clean all existing surfaces and remove any foreign debris.
 - 4. Ensure positive drainage to storm drains/ catch basins throughout. Provide leveling course as required to attain proper drainage [confirm conditions with Owner prior to proceeding].
- B. Mechanically sweep, blow, or scrub pavement surfaces immediately prior to commencement of Work. Clean pavement surfaces of all loose foreign matter. Verify surfaces are dry.
- C. Protect existing improvements, adjacent finishes, overhanging trees, and plant life from heat damage by individual shielding and water spray.
- D. Protect manhole covers and frames, catch basin covers and frames.

3.2 APPLICATION – GENERAL REQUIREMENTS

- A. New Asphalt Paving
 - 1. Adjust sub-grade elevations to prep for new asphalt paving and to match adjacent elevations of parking lot where applicable.
 - 2. Install new compacted aggregate base course.
 - 3. Notify Owner of any subgrade deficiencies requiring undercut.
 - 4. NOTE: Contractor responsible to maintain positive drainage across entire lot. Contact Owner for additional directive as needed by existing conditions.
 - 5. Apply Tack Coat
 - 6. Machine install base course asphalt over primed area. Minimum thickness of finished, compacted pavement to be as specified and asphalt tonnage yield should be based on the specified compacted minimum thickness. Tickets will be collected at end of each day and final tonnage yield must be within 5% of expected fully compacted yield.
 - 7. Apply Tack Coat
 - 8. Machine install surface asphalt over primed area. Minimum thickness of finished, compacted pavement to be as specified and asphalt tonnage yield should be based on the specified compacted minimum thickness. Tickets will be collected at end of each day and final tonnage yield must be within 5% of expected fully compacted yield.
 - 9. Compact each layer using 3 ton or greater vibratory rollers.
 - 10. Seal all edges of paved area where matched to existing asphalt surfaces using non-tracking sealant.

END OF SECTION

SECTION 32 13 13 - CONCRETE PAVING

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Concrete paving for: paving, curbs, and sidewalks

1.2 SUBMITTALS

- A. Product Data:
1. Submit product information for concrete, cement, and aggregate materials.
 2. Submit mix design with laboratory test results supporting design.

1.3 QUALITY ASSURANCE

- A. Perform Work according to State of Ohio, ODOT standards as applicable.
1. State of Ohio Department of Transportation Construction and Materials Specifications Guide shall be used as a reference for all applicable materials, construction conditions, operations, and finished products, etc.
 2. Perform Work in accordance with ACI 330.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Subgrade: ODOT Item 204.
1. Compact the subgrade materials that have a maximum dry density of 100 to 105 pounds per cubic foot to not less than 102 percent of maximum dry density. Compact all other subgrade materials to not less than 100 percent of maximum dry density. Determine the maximum dry density using AASHTO T99, AASHTOT T272, or test section method in Supplement 1015.
- B. Aggregate Base Course: ODOT Item 304 [304.01 and 304.02].
1. 98% of the material's maximum dry density as determined by the modified Proctor Test (AASHTOT-180 or ASTM D-1557)
- C. Concrete: ODOT Item 452 Nonreinforced Portland cement concrete pavement
- D. Concrete: ODOT Item 499.
1. Class QC 1, 4,000 PSI design strength at 28 days; 2,000 Coulombs maximum Permeability; Cement Content minimum 520 lb.; well –graded aggregate
 2. Maximum slump 4 inches.
 3. Air Content: 6% +/- 2%; ASTM C260
- E. Cement: ASTM C150 Normal Type I Portland type, gray color.
- F. Fine and Coarse Aggregates: ASTM C33, Class 4S.
- G. Water: ASTM C94, potable, Clean, not detrimental to concrete without deleterious amounts of chloride ions.

2.2 REINFORCEMENT MATERIALS

- A. Reinforcement:
1. Reinforcing Steel: ASTM A615/A615M, 60 ksi yield grade, deformed billet bars, uncoated finish.
 2. Welded Deformed Wire Fabric: ASTM A497/A497M; in flat sheets; unfinished.
 3. Dowels: ASTM A615/A615M; 60 ksi yield strength, plain steel bars; cut to length indicated on Drawings, square ends with burrs removed; unfinished.

2.3 ACCESSORIES

- A. Forms: Wood or steel material, profiled to suit conditions; conform to ACI 301.
- B. Joint Filler: ASTM D1751; Asphalt impregnated wood fiberboard.
- C. Reinforcement Mesh: 6x6-W1.4xW1.4 welded wire reinforcement
- D. Liquid Surface Sealer: Penetrating Silane/Siloxane Sealer; clear, non-yellowing UV resistant; vapor permeable.
- E. Curing Compound: ASTM C309, white pigmented water based liquid membrane.
- F. Use accelerating admixtures in cold weather only when approved by the Architect/Engineer in writing. Use of admixtures will not relax cold weather placement requirements.
- G. Use set retarding admixtures during hot weather only when approved by the Architect/Engineer in writing.

PART 3 EXECUTION

3.1 EXAMINATION AND PREPARATION

- A. Verify gradients and elevations of base.
- B. Verify compacted base is ready to support paving and imposed loads.
- C. Moisten substrate to minimize absorption of water from fresh concrete.
- D. Sawcut and remove existing concrete to allow installation of new concrete as indicated.

3.2 FORMING

- A. Place and secure forms to correct location, dimension, and profile. Secure forms to allow the placement of concrete to be continuous and true.
- B. Place joint filler in joints, vertical in position, in straight lines. Secure to formwork.
- C. Place control joints at maximum 30 foot intervals. Align joints.
- D. Place joint filler between paving components and other appurtenances.
- E. Chamfer outside corners and edges of permanently exposed concrete. – ¾" chamfer

3.3 PLACING CONCRETE - GENERAL

- A. Place concrete in accordance with ACI 330.
- B. Place reinforcement to achieve pavement and concrete alignment as appropriate.
- C. Check with electronic level that the correct slopes have been achieved to provide drainage.
- D. Do not disturb reinforcement or formwork components during concrete placement.
- E. Place concrete continuously between predetermined joints.
- F. Apply surface sealer per manufacturer's instructions.

3.4 INSTALLATION

- A. Finishing:
 - 1. Apply surface retarder where exposed aggregate finish is required.
 - 2. Area Paving: Light broom.
 - 3. Sidewalk Surfaces: Light broom, radiused and trowel joint edges.
 - 4. Curbs and Gutters: Light broom.
 - 5. Apply curing compound on exposed concrete surfaces immediately after finishing.

END OF SECTION

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SECTION 32 92 19 – SEEDING / SITE REPAIR

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Seeding and Site Repairs related to the site development.

1.2 DEFINITIONS

- A. Weeds: Vegetative species other than specified species to be established in given area.

1.3 SUBMITTALS

- A. Product Data: Topsoil, Seed mix, fertilizer, mulch, and other accessories.

1.4 QUALITY ASSURANCE

- A. Provide seed mixture in containers showing percentage of seed mix, germination percentage, inert matter percentage, weed percentage, year of production, net weight, date of packaging, and location of packaging.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver grass seed mixture in sealed containers. Seed in damaged packaging is not acceptable.
- B. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.

PART 2 PRODUCTS

2.1 SEED MIXTURE

- A. Seed Mixture: Green Velvet's Finest mixture, fescue or bluegrass to match existing and for soils conditions, sun/shade, etc. ODOT Item 659.
- B. Commercial Fertilizer for seed: Commercial-grade complete fertilizer, consisting of 1 lb/1000 sq. ft. of actual nitrogen, 4 percent phosphorous, and 2 percent potassium, by weight.
- C. Slow-Release Fertilizer: Granular fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium; 5 percent nitrogen; 10 percent phosphorous; and 5 percent potassium; by weight.
- D. Straw Mulch: Clean, mildew- and seed-free salt hay or threshed straw.

2.2 SOIL AND SOIL MODIFICATION MATERIALS

- A. Topsoil: ASTM D 5268, Fertile, agricultural soil, typical for locality, capable of sustaining vigorous plant growth, free of subsoil, clay or impurities, plants, weeds and roots, free of stones 1 inch or larger. Equal to ODOT Item 653.
- B. Fertilizer: Fifty percent of elements derived from organic sources,
- C. Lime: ASTM C602, Class T agricultural limestone containing a minimum 80 percent calcium carbonate equivalent.
- D. Organic Compost: leaf and mushroom compost to be added to mulch at 1 cubic yard per 5 cubic yards of mulch.
- E. Weed-Control Additive: Preen weed control.

2.3 ACCESSORIES

- A. Mulching Material: Oat or wheat straw, free from weeds, foreign matter detrimental to plant life, and dry. Hay or chopped cornstalks are **not** acceptable.

2.4 SOURCE QUALITY CONTROL

- A. Analyze to ascertain percentage of nitrogen, phosphorus, potash, soluble salt content, organic matter content, and pH value.
- B. Provide recommendation for fertilizer and lime application rates for specified seed mix as result of testing.
- C. Testing is not required when recent tests and certificates are available for imported topsoil. Submit these test results to testing laboratory. Indicate, by test results, information necessary to determine suitability.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify prepared soil base is ready to receive Work of this Section.

3.2 PLACING TOPSOIL

- A. Spread topsoil to minimum depth of 6 inches. Rake smooth.
- B. Grade topsoil to eliminate rough, low or soft areas. Slope for positive drainage.
- C. Place topsoil into pits and beds intended for plant root balls to minimum thickness of 6 inches.
- D. At affected areas of the site, strip existing topsoil and stockpile for reuse. Spread as required to meet new grades.
- E. Provide additional fill as required to complete the work. Additional fill material shall be free of organic matter, rubbish, debris, and rocks greater than 4" diameter.

3.3 SEEDING

- A. Apply seed at a rate of 10 lb per 1000 sq ft, evenly in two intersecting directions.
- B. Immediately following seeding, apply agricultural mulch to a thickness of 1/8 inches.
- C. Apply water with fine spray immediately after each area has been mulched.

3.4 SEED PROTECTION

- A. Identify seeded areas with stakes and string around area periphery.

3.5 MAINTENANCE

- A. Water to prevent grass and soil from drying out. Maintain until vigorously growing.
- B. Control growth of weeds. Apply herbicides. Remedy damage resulting from improper use of herbicides.
- C. Immediately reseed areas showing bare spots.
- D. Repair washouts or gullies.

3.6 SCHEDULE OF SITE REPAIR

- A. Backfill areas impacted by work with topsoil.
- B. Re-seed area impacted by work.
- C. Apply mulch/straw.
- D. Water and maintain seed until vigorously growing.

END OF SECTION