Sunflower House Asbestos Abatement

Asbestos Abatement Specifications

Sunflower House
1600 SW Monroe Street
Corvallis, Oregon 97331

Prepared for:
Oregon State University
Capital Planning & Development
Corvallis, Oregon 97333

February 2018
Project No. 52327.000 Phase 0002

2645 WILLAMETTE STREET, SUITE A, EUGENE, OR 97405 ▪ 541.686.8684 MAIN ▪ 866.727.0140 FAX ▪ PBSUSA.COM

OREGON STATE UNIVERSITY

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PREPARED BY:

PBS Engineering and Environmental Inc.
2645 Willamette Street, Suite A
Eugene, Oregon 97405
541.686.8684
PBS Project Number: 52327.000

Project Designer:
Jeff Heeren
EPA Accredited Project Designer
Accreditation Number: PDR-17-4941A

Signature Date

PROJECT DIRECTORY

OWNER:

Oregon State University
Capital Planning & Development
3015 SW Western Boulevard
Corvallis, OR 97333
Phone: 541.740.8302
Attn: John Doty
Email: john.doty@oregonstate.edu

SITE:

Sunflower House
128 SW 9th Street
Corvallis, Oregon 97331

CONSULTANT:

PBS Engineering and Environmental Inc.
2645 Willamette Street, Suite A
Eugene, OR 97405
Phone: 541.686.8684
Attn: Jeff Heeren

PROJECT SPECIFICATIONS

DIVISION 1, GENERAL REQUIREMENTS

Section 01010 Summary of Work 1-5
Section 01410 Air Monitoring Requirements 1-2
Section 01500 Temporary Facilities 1-3

DIVISION 2, SITE WORK

Section 02075 Asbestos Abatement 1-21

HAZARDOUS MATERIALS ABATEMENT DRAWINGS

HM 1 – Building Additions – Basement
HM 2 - Building Additions – First Floor
HM 3 - Building Additions – Second Floor
HM 4 – Building Additions – Attic
HM 5 – Abatement Plan – Basement
HM 6 – Abatement Plan – First Floor
HM 7 – Abatement Plan – Second Floor
HM 8 – Abatement Plan – Attic

SECTION 01010 - SUMMARY OF WORK

PART 1 - GENERAL

1.01 SCOPE OF WORK

A. The work under this contract consists of asbestos abatement and related procedures identified by the Owner. Provide all material, labor and equipment necessary to accomplish the work.

B. The Contract Sum shall not be affected by changes due to increases in equipment, transportation, labor or material costs, disposal costs and fees, or other similar events.

1.02 RELATED WORK BY THE OWNER OR BY OTHERS

A. The Owner will undertake building demolition under a separate contract, unless otherwise specified. Coordinate all asbestos abatement and related work with the Owner, including schedule and phasing.

B. The Owner may retain a third-party consultant to perform the following:

1. Take and analyze air samples before, during and after the work.
2. Observe the work of the Contractor.
3. Monitor the Contractor's compliance with the Specification requirements.

1.03 BASE BID

A. The scope of work included under Base Bid shall include removal and disposal of asbestos-containing materials, selective demolition, and related work as indicated within this section and the attached abatement drawings. The scope of work under the Base Bid is identified as follows. Refer to the attached abatement diagrams for additional information. All quantities are approximate.

1. Window Glazing Compound Abatement – Remove and dispose of window glazing compound from windows located throughout the original building. A total of 26 multi-pane window units ranging in size from 1′ x 5′ to 6′ x 6′ are present.
2. Duct Seam Tape Abatement – Remove and dispose of asbestos-containing duct felt seam tape applied to sheet metal air ducts throughout the original building. The material is partially exposed in the basement and attic spaces, and is assumed to be present in concealed duct chases throughout the remainder of the original building. Contractor shall demolish wall, ceiling, and soffit finishes as necessary to expose concealed ducts. Contractor shall assume that up to 70 square feet of felt tape will require abatement.
3. Sheet Floor Covering Abatement – Remove and dispose of up to 265 square feet of asbestos-containing sheet floor covering from the original building Meeting/Service Room 110, Basement Stair Landing S102, and Vestibule 107. The asbestos-

containing sheet flooring is concealed under multiple layers of non-asbestos floor coverings and underlayment in Rooms 110 and 107 and is exposed in S102. The material is also present on shelving in basement Room 004. In the event that the asbestos-containing sheet flooring backing material cannot be completely removed from the wood product underlayment to which it is applied, Contractor shall remove and dispose of the underlayment layer.

4. Floor Tile Abatement – Remove and dispose of up to 195 square feet of asbestos-containing floor tile with non-asbestos mastic in Lounge Room 100 and Staircase Landing 101. The floor tile is applied to wood substrates and is partially concealed under carpet in Room 100.
5. Sink Basin Undercoat Abatement – Remove and dispose of 1 sink with asbestos-containing sink undercoating in Meeting/Service Room 110.

B. Contractor shall remove and dispose of all building finishes, casework, and other obstructions as necessary to access concealed materials included in the Base Bid scope of work.

C. Contractor shall coordinate with the Owner to arrange for safely de-energizing all electrical fixtures prior to impact or removal.

D. Contractor shall cover all door, window, and other openings resulting from completion of the Base Bid scope of work with minimum $^{1}/_{2}$" plywood fastened from the building interior. Temporary barriers must be sufficient to maintain building security and prevent weather infiltration into the building.

E. Weekly progress meetings may be conducted with the Owner throughout the abatement period, at the Owner's discretion. If such progress meetings are required, the Abatement Contractor's project site supervisor is required to attend.

F. Contractor is responsible for maintaining work areas in a safe condition throughout abatement.

G. If suspect asbestos-containing materials are identified by the Contractor that are not identified in the abatement scope of work, all testing shall be conducted by the Owner. Contractor shall notify the Owner and the Owner shall provide sampling and analysis at the Owner's expense. Contractor is not authorized to collect or analyze bulk samples from Owner property.

H. Contractor is responsible for proper disposal of demolition debris generated under this contract, off of Owner's property.

I. Unless otherwise indicated within this scope of work, abatement shall include complete removal of all indicated asbestos-containing materials.

1.04 ALTERNATE BID

A. The scope of work included under Alternate Bid shall include removal and disposal of petroleum-based mastic applied to original building foundation walls. The work will

require demolition of architectural features and removal of soil to access the asbestos-containing mastic. The scope of work under the Alternate Bid is identified as follows. Refer to the attached abatement diagrams for additional information. All quantities are approximate.

1. Foundation Damp Proofing Mastic Abatement – Remove and dispose of up to 145 square feet of petroleum-based asbestos-containing mastic from perimeter concrete foundation walls of the original portion of the building.

1.05 PROJECT SCHEDULE

A. A pre-bid meeting will be held on site at Sunflower House on XXXday, January XX, 2017 at XX:XX AM. Any and all prospective bidders must attend this pre-bid walkthrough of the project in order to be eligible to submit a bid.

B. The Owner shall schedule a pre-abatement construction conference to be held prior to the start of work. Contractor's superintendent and crew foreman must attend.

C. Contractor shall begin work on submittals and notification no later than five (5) calendar days after written Notification to Proceed is received from the Owner.

D. Refer to the Owner's construction schedule for project benchmark and phasing requirements.

1.06 PERMITS AND FEES

A. After execution of the contract, the Contractor shall obtain and pay for all permits, fees, and licenses necessary to execute and complete the work of each project. Obtain permits and notify the following agencies at least ten (10) days prior to beginning work. Other permits and notifications may also be necessary.

Department of Environmental Quality
4026 Fairview Industrial Dr. SE
Salem, Oregon 97302
503.378.8240

B. Contractor shall maintain the notification to comply with the regulations set forth by DEQ throughout the construction period. Amended permits shall be submitted to DEQ to indicate the following changes to the initial permit.

1. Project category and required fee. Contractor shall pay all fees associated with notifications amendments to comply with changes in scope, etc.
2. Daily hours onsite (clearance air monitoring is included).
3. Start and stop dates.
4. Work practices and removal procedures.
5. Disposal procedures.
6. Disposal site.

C. Contractor shall immediately submit copies of amended DEQ notifications to the Owner. Failure to submit amended notifications may result in project stoppage until required amendments are submitted.

1.07 PATENTS

A. Certain products or procedures may have a patent or require a licensing agreement. The Contractor should utilize all products and procedures under proper authority of the licensing agreements and patent rights. The Owner shall not be responsible for any licensing or patent infringements.

1.08 SPECIFICATIONS ON SITE

A. Contractor shall maintain a minimum of two copies of the complete specifications on site at all times. Both copies shall be available to the Owner and authorized visitors.

1.09 VARIATIONS IN QUANTITIES

A. The quantities and location of ACM indicated on the drawings and the extent of work included in this section are only best estimates that are limited by the physical constraints imposed by occupancy of the building. Accordingly, minor variations of plus or minus ten (10) percent of the estimated quantities of ACM within the limits of the base bid scope of work are considered as having no impact on contract price and time of this contract. Locations of ACM different than indicated on drawings but within the limits of a containment are considered as having no impact on contract price and time of this contract. Where additional asbestos abatement work is required beyond the above variations, the contract price and time will be adjusted under provisions of applicable clause in the contract. Additional or reduced abatement work beyond the variations stated will be a basis for adjustment of the contract price.

1.10 MISCELLANEOUS REQUIREMENTS AND OTHER INFORMATION

A. All quantities given are estimates. Contractors are responsible for verifying site conditions during the bid period.

B. The Contractor shall provide adequate lighting for the duration of the project.

C. Non-friable asbestos abatement work is to be completed from within a regulated area, demarcated using asbestos caution tape according to all applicable regulations. Critical barriers shall be installed over penetrations within the work area, and local HEPA filtration shall be used. All workers completing non-friable asbestos abatement shall use PPE, including at least a ½ face respirator and Tyvek coveralls.

D. Contractor shall install view windows of at least 24" X 24" to be placed in locations that allow asbestos abatement & demolition work to be observed at all times wherever feasible.

E. All waste must be removed daily from the work area. Generated waste shall not be allowed to accumulate.

F. Any drop boxes used at the site must be lockable and totally enclosed, with a hard cover.

G. In the event that the Contractor is required to access electrical panels and de-energize components to be removed as a part of the contractual scope of work, the Owner shall be contacted to coordinate this work.

H. Contractor shall use a digital manometer equipped with an automatic printout or downloadable use history for all work specified to be completed under negative pressure. Negative pressure must be -0.02 in/wc or greater throughout abatement work.

I. Air filtration units must be exhausted outside the building for the duration of this project. Contractor shall maintain new HEPA filters and pre-filters for each air filtration unit employed on this project. Contractor shall immediately change air filtration unit filters upon the request of the Owner. Contractor shall secure doors or accessible windows using plywood of a minimum thickness of ½".

J. Contractor shall clean all surfaces within the work area following the completion of asbestos abatement and demolition. The work areas and adjacent building areas must be free of all dirt dust and debris caused by work under this contract following the completion of this project and will be inspected by the Owner.

K. Contractor is responsible for all parking and all fees associated with parking for all work under this contract.

L. Contractor shall provide temporary toilet facilities for their employees for the duration of this project.

M. Contractor shall coordinate with owner regarding placement of dumpsters, materials staging, temporary toiler facilities, and similar items.

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION

Not applicable.

END OF SECTION 01010

SECTION 01410 - AIR MONITORING REQUIREMENTS

PART 1 - GENERAL

1.01 AIR MONITORING BY CONTRACTOR

A. The Contractor will be responsible for all OR-OSHA compliance monitoring and documentation.

1.02 AIR MONITORING BY OWNER

A. The Owner may retain the services of a third-party consultant to collect and analyze asbestos air samples during the project. Documentation of sample results will be forwarded to the Contractor as appropriate to meet regulatory requirements.

B. Samples analyzed by Phase Contrast Microscopy will use NIOSH Analytical Method No. 7400. Samples analyzed by Transmission Electron Microscopy will use the AHERA methodology, 40 CFR Part 763 or NIOSH Analytical Method No. 7402.

C. Owner's Air Sampling During Abatement:

1. Air Sampling Table is to be used as a guide. The Owner's third-party consultant may suggest modifications to the criteria. Modifications to the Maximum Allowable Fiber Count shall be made in writing by the Owner.

Type of Sample	Average Samples per 8-hour Work Shift	Sample Volume--L (Liters)	Approximate Flow Rate	Maximum Allowable Fiber Count (f/cc)
HEPA Fan Exhaust	0 or selected units	400-2000 L	2 to 10 LPM	0.01 f/cc
Outside of Work Area	0-5	400-2000 L	2 to 10 LPM	0.01 s/cc or <pre-abatement
Clearance PCM	1-5/work area	800-3000 L	2 to 10 LPM	0.01 f/cc
Clearance TEM	1-5/work area	1200-1800 L	2 to 10 LPM	<70 s/mm2 average

2. The Owner reserves the right to monitor Contractor's performance via air samples on abatement workers and in the work area in addition to the Contractor's air monitoring.
3. Visual inspection and clearance air monitoring services will be provided by

the Owner per work area during regular business hours (7:00 AM – 5:00 PM), or during the contractor work-shift hours. These services shall be conducted off-hours/shift if necessary to accommodate the Owner or in difficult to clear containments that are not the fault of the Contractor, at the Owner's discretion. Contractor may request clearances to be conducted off-hours/shift, and shall be responsible for payment of all overtime fees to the Owner in the form of a credit for all work associated with off-hours/shift work that is conducted at the Contractor's request.

4. Contractor shall provide the Owner with twenty-four (24)-hours notice prior to Visual Inspection and Clearance Air Monitoring.
5. Contractor shall provide a certified supervisor to remain onsite at all times while personnel are inside containment.
6. Contractor shall provide for clean make-up air where necessary to pass air clearances.

1.03 QUALITY ASSURANCE

A. If, at any time during the work, analysis of an air sample taken by the Owner's third-party consultant indicates a fiber count in excess of the allowable maximums specified, the Industrial Hygienist who analyzed the air sample shall immediately notify:

1. The Contractor's Supervisor
2. The Owner

B. Immediately upon being notified of fiber count exceeding the specified maximum allowable levels, the Contractor shall perform the following steps in the order presented, at no additional cost to Owner:

1. Stop abatement work
2. Discuss the fiber count, potential cause, and other concerns with the Owner. The Owner will determine the actions to be taken by the Contractor at no cost to the Owner.
3. Modify work procedures, and make other changes determined to be the possible cause of high fiber counts.
4. Carefully resume work under close air monitoring.

C. Contractor has the right to run air samples in addition to the Owner's air monitoring at no additional cost to the Owner.

END OF SECTION 01410

SECTION 01500 - TEMPORARY FACILITIES

PART 1 GENERAL

1.01 SCOPE

A. Contractor shall arrange for and provide temporary facilities and utilities such as water, electricity, gas, etc., as specified herein and as required for proper and expeditious prosecution of work. Contractor shall inspect the Owner's facilities to determine that the capacity and operation of services provided by the Owner are adequate for the execution of the work.

B. Contractor shall arrange with utility company, rental company, etc. to provide any additional temporary service required, and pay all costs for such power, lighting, water, sanitation facility or any other service used, if temporary service from existing sources is insufficient to meet needs of temporary facilities.

C. Contractor shall make temporary connections to utilities and services in locations acceptable to Owner and local authorities having jurisdiction thereof; furnish necessary labor and materials, and make installations in manner subject to acceptance of such authorities; maintain such connections; remove temporary installation and connections when no longer required; restore services and sources of supply to proper operating condition upon completion of the project.

PART 2 - PRODUCTS

2.01 MATERIAL

A. Material may be new or used, but must be adequate in capacity for the required usage, must not create unsafe conditions, and must not violate requirements of applicable codes and standards.

2.02 TEMPORARY ELECTRICAL POWER AND LIGHTING

A. Temporary Electrical Service: The Owner will provide, without charge, electrical power from existing outlets up to the rated capacities. The Contractor shall provide connections and all means of conveying same from existing outlets to required locations and shall pay for any damage to existing systems resulting from misuse thereof. Electrical safety measures, including ground fault protection, waterproof temporary lighting and cords, and deactivation of existing electrical wiring within work areas shall be included as part of the work under this contract.

B. Contractor shall maintain temporary wiring in safe manner and utilize it so as not to constitute a hazard to persons or property.

C. When permanent power and lighting system outside of the isolated work area is in operating condition, it may be used provided Contractor obtains Owner's approval, assumes full responsibility for entire power and lighting system, and pays costs for

maintenance and restoration of system.

D. Temporary Lighting: Contractor shall provide temporary lighting in all isolated work areas. Lighting shall be durable, grounded, and provide safe illumination levels throughout the work area.

2.03 TEMPORARY WATER SERVICE

A. Contractor shall provide water for construction purposes and pay costs of water used. Contractor may make temporary connections to existing facilities; if available.

B. Contractor shall provide hot water adequate to supply each crew with sufficient warm water to allow a thorough shower during worker decontamination.

2.04 TEMPORARY SANITARY FACILITIES

A. Contractor will provide temporary toilet facilities, adequate for the number of employees on the job. Temporary toilet facilities shall be in place prior to start of construction.

B. No toilet facilities shall be allowed within the work area.

2.05 ACCESS TO SITE

A. Contractor shall instruct all vendors, Subcontractors, and employees to enter abatement site from location as indicated by Owner. Use of other entrances shall not be permitted.

B. Contractor shall ensure only authorized personnel are allowed access to the abatement areas.

2.06 SECURITY

A. Contractor shall take adequate precautions against fire, keep flammable material at the absolute minimum and ensure that such material is properly handled and stored. Open flames, fires or gas-fired space heaters are not permitted.

2.07 NOISE AND VIBRATION CONTROL

A. It is essential that the work be performed in a manner to produce the least interference and inconvenience to staff. Contractor shall use methods and equipment that will keep noise and vibration to a minimum.

B. At such times as the Owner determines that the work interferes with normal functions, the Owner shall have the right to request the Contractor to stop the noisy or other work. The Contractor may resume this noisy work at a mutually agreed-upon time or switch to a less noisy method. If the work is stopped, it shall not be used as a claim for additional compensation or contract time.

C. Contractor shall cooperate with the Owner by informing them in advance of particularly noisy operations, operations causing excessive building vibrations, or other potentially

objectionable activities, so that the Owner may warn the staff and schedule work functions accordingly.

PART 3 - EXECUTION

Not applicable.

END OF SECTION 01500

SECTION 02075- ASBESTOS ABATEMENT

PART 1 - GENERAL

1.01 SCOPE

A. This section covers the removal, patching, encapsulation, or enclosure of materials that contain or are suspected to contain asbestos.

B. Contractor shall provide all labor, materials, equipment, services, and insurance required to complete asbestos abatement procedures as indicated in these Specifications and/or the drawings.

1.02 DEFINITIONS

A. Abatement: Procedures to control fiber release from asbestos-containing building materials. Includes: encapsulation, enclosure, removal, repair and related activities.

B. Aggressive Sampling: A method of air sampling that assures that the asbestos fibers remain airborne during the sampling time. All surfaces inside the work area will be agitated by the liberal use of compressed air. Fans will then be placed so as to keep all suspended fibers airborne, and run throughout the sampling period.

C. AHERA: Asbestos Hazard Emergency Response Act, 40 CFR Part 763.

D. Air Lock: A system for permitting ingress or egress without permitting air movement between a contaminated area and an uncontaminated area, typically consisting of two curtained doorways at least 3 feet apart.

E. Air Monitoring: The process of measuring the asbestos fiber content of a specific volume of air in a stated period of time.

F. Amended Water: Water containing a surfactant additive.

G. Asbestos-containing Material (ACM): Any material containing more than one percent asbestos as defined under NESHAPS CFR 40, Part 61, OAR Chapter 340, Division 248, OR-OSHA 437, 1926.1101, and OSHA 29 CFR Part 1926.1101.

H. Authorized Visitor: The Owner or designated representative, or a representative of any regulatory or other agency having jurisdiction over the project, and having required training, medical, fit test, etc.

I. Certified Industrial Hygienist (CIH): An industrial hygienist certified in Comprehensive Practice by the American Board of Industrial Hygiene.

J. Class I Asbestos Work: Activities involving the removal of TSI and surfacing ACM and PACM.

K. Class II Asbestos Work: Activities involving the removal of ACM which is not thermal system insulation or surfacing material. This includes, but is not limited to, the removal of asbestos-containing wallboard, floor tile and sheeting, roofing and siding shingles,

and mastics.

L. Clean Room: An uncontaminated area or room that is part of the worker decontamination enclosure system, with provisions for storage of workers' street clothes and clean protective equipment.

M. Critical Barrier: Solid barrier constructed from minimum of 2" x 4" studs, 16" o.c.; 1/2" plywood or drywall sealed airtight and covered on both sides (where applicable) with 2 layers of 6-mil plastic.

N. Curtained Doorway: A device to allow ingress or egress from one room to another while permitting minimal air movement between the rooms, typically constructed by placing three overlapping sheets of plastic over an existing or temporarily framed doorway, securing each along the top of the doorway in a pleated fashion and securing one vertical side of each sheet on alternating sides of consecutive sheets. Two curtained doorways spaced a minimum of 3 feet apart to form an air lock.

O. Disposal: Procedures necessary to transport and deposit the asbestos-contaminated material in an approved waste disposal site in compliance with EPA and other applicable regulations.

P. Enclosure: Procedures necessary to completely seal all asbestos-containing material behind airtight, impermeable, permanent barriers, including PVC jackets.

Q. Encapsulant (Sealant): A liquid material which can be applied to asbestos-containing material and which controls the possible release of asbestos fibers from the material either by creating a membrane over the surface (bridging encapsulant), or by penetrating into the material and binding its components together (penetrating encapsulant).

R. Equipment Room: A contaminated area or room which is part of the worker decontamination enclosure system, with provisions for storage of contaminated clothing and equipment.

S. Fitting: With regard to pipe insulation, a fitting is any elbow, offset, reducer, tee, etc.

T. Fixed Object: Fixtures which are attached to the building or are too heavy or bulky to remove from the work area.

U. Glove Bag: A manufactured device consisting of a transparent plastic bag with inward projecting sleeves, an internal tool pouch, provisions for fastening and sealing at the top and sides, and a receptacle in the bottom to hold asbestos waste. The glove bag is installed so as to surround the material to be removed and contain all fibers released during the process. Glove bags are used to remove insulation from small sections of pipe and fittings.

V. HEPA Filter: a High Efficiency Particulate Air (absolute) filter capable of trapping and retaining 99.97 percent of asbestos fibers greater than 0.3 microns in length.

W. HEPA Vacuum Equipment: High Efficiency Particulate Air (absolute) filtered vacuuming equipment with a filter system capable of collecting and retaining asbestos fibers. Filters of 99.97 percent efficiency for retaining fibers of 0.3 microns in length or larger shall be installed for filtering discharge air.

X. Independent Testing Laboratory: A laboratory financially independent from and hired by the Owner or Contractor which is either AIHA-accredited for asbestos with demonstrated proficiency via the AIHA PAT program, or has analysts proficient in the AIHA AAR program for air sample analysis.

Y. Industrial Hygienist: An employee of the Independent Testing Laboratory who is experienced and trained in asbestos sampling and analysis as specified.

Z. Isolated Work Area: A totally contained area of the facility where abatement activities are performed.

AA. Movable Object: Furnishings which are not attached to the building structure and can be removed from the work area.

BB. Negative-air Glove Bag: A manufactured device consisting of a transparent plastic bag with inward projecting sleeves, an internal tool pouch, provisions for fastening and sealing it at the top and sides, and a receptacle in the bottom to hold asbestos waste. The glove bag is installed so as to surround the material to be removed and contain all fibers released through the process, with provisions for allowing continuous airflow through the bag while maintaining negative pressure inside.

CC. Owner: Representatives designated by the Owner, or designated employees of the Owner.

DD. PACM: "Presumed asbestos-containing materials".

EE. Pressure Differential Fan System: An air-purifying fan system located within or outside the isolated work area, which draws air out of the work area through a HEPA filter, thus keeping the static air pressure in the work area lower than in adjacent areas, and preventing escape of contaminated air from work area to adjacent areas.

FF. Public Area: Any area outside the isolated work area. When work area isolation measures are removed, the work area becomes a public area.

GG. Removal: All operations where ACM and/or PACM is taken out or stripped from structures or substrates, and includes demolition activities.

HH. Shower Room: A room between the clean room and the equipment room in the worker decontamination enclosure system, which is equipped with hot and cold running water controllable at the faucet and soap and shampoo, and which is suitably arranged for complete showering during decontamination. The shower room must be separated from the clean room and equipment room by air locks.

II. Special Fitting: With regard to pipe insulation, a special fitting is any valve, union,

strainer, thermometer, flange, etc.

JJ. Surfactant: A chemical wetting agent added to water to improve penetration, thus reducing the quantity of water required for a given operation or area.

KK. Tack Coat: A coat of penetrating encapsulant applied to all surfaces from which asbestos-containing materials have been removed.

LL. Thermal System Insulation (TSI): ACM applied to pipes, fittings, boilers, breeching, tanks, ducts or other structural components to prevent heat loss or gain.

MM. Vacuum Loader Removal: Wetting and pneumatic conveying of loose material through a vacuum hose to a sealed collection tank specially equipped to prevent escape of fibers.

NN. Wet Cleaning: The process of eliminating asbestos from building surfaces and objects by using cloths, mops, or other cleaning tools which have been dampened with water.

OO. Worker Decontamination Enclosure System: A showering facility for workers, typically consisting of a clean room, a shower room, and an equipment room. Each of these rooms is separated from the others by air locks. The equipment room is separated from the work area by a curtained doorway. The clean room is separated from the public area by a curtained doorway.

PP. Worksite Entry Logbook: A logbook kept in the clean room which must be signed by everyone entering or leaving the work area. All pages of the logbook must be the same as the sample page bound into these Specifications.

1.03 DOCUMENTS INCORPORATED BY REFERENCE

A. The current issue of each document shall govern. Where conflict among requirements or with these Specifications exists, the most stringent requirements shall apply.

1. U.S. Environmental Protection Agency National Emissions Standards for Hazardous Air Pollutants (NESHAPS). (Code of Federal Regulations Title 40, Part 61, Subparts A and M.)
2. U.S. Environmental Protection Agency Office of Toxic Substances Guidance Document, "Guidance for Controlling Friable Asbestos Containing Materials in Buildings." EPA Report Number 560/5 85 024 ("Purple Book").
3. U.S. Department of Labor Occupational Safety and Health Administration (OSHA):
    a. Title 29 Code of Federal Regulations Section 1910.1001 General Industry Standard for Asbestos.
    b. Title 29 Code of Federal Regulations Section 1910.134 General Industry Standard For Respiratory Protection.
    c. Title 29 Code of Federal Regulations Section 1926 Construction Industry.
    d. Title 29 Code of Federal Regulations Section 1910.1020 Access to Employee Exposure and Medical Records.

e. Title 29 Code of Federal Regulations Section 1910.1200 Hazard Communication.

4. National Institute for Occupational Safety and Health (NIOSH), 42 CFR Part 84, Respiratory Protective Devices.
5. American National Standards Institute (ANSI) NY; ANSI Standard Z 88.2 1980 "American National Standards Practice for Respiratory Protection", latest edition.
6. Oregon Administrative Rules Chapter 340, Division 25, Department of Environmental Quality; Chapter 340, Division 33, Licensing and Certification Requirements.
7. Oregon Administrative Rules Chapter 437, Divisions 2 and 3.
8. Oregon Revised Statutes (ORS), Chapters 279C, Public Improvements and Related Contracts; 656, Workers Compensation; and 701, Construction Contractors and Contracts.
9. Uniform Building Code (U.B.C.), latest edition, regulations as applicable.
10. All related electrical work shall be performed in accordance with the National Electrical Code.
11. All local ordinances, regulations, or rules pertaining to asbestos, including its storage, transportation, and disposal.

1.04 SUBMITTALS AND NOTICES

A. Contractors shall submit three bound, indexed copies of each submittal package as indicated below.

B. Contractors shall submit to the Owner the following information prior to beginning work on the project.

1. All items as specified in Oregon State University's Master Contract
2. ASBESTOS SUPERVISOR. Submit the name and resume of experience of the assigned on-site foreman. At a minimum, the foreman shall have successfully completed the DEQ Asbestos Supervisor course as approved by the State of Oregon. Other criteria such as references and similar projects will also be reviewed. At the Owner's request, the Contractor shall arrange an oral interview with the assigned on-site foreman. The Owner and the Environmental Consultant reserve the right to reject the foreman from the work at any time during the project. The Contractor shall then assign another on-site foreman for Owner and Environmental Consultant approval as described above.
3. WORKER CERTIFICATION. Submit written proof indicating that all employees impacting asbestos-containing materials are Oregon State-certified asbestos workers. Proof shall include a signature from the Contractor's Principal indicating that all employees assigned to this project have completed such a program, and photocopies of certificates.

4. RESPIRATOR PROGRAM. Submit written proof indicating respirator program is in compliance with all parts of OSHA Asbestos Regulations CFR Title 29, Part 1910.134 and 1926.1101, OR-OSHA Chapter 437, 1910.134 and 1926.1101.
5. MEDICAL PROGRAM. Submit written proof medical exam program is in compliance with OSHA Asbestos Regulations CFR Title 29, Section 1926.1101 and OR-OSHA Chapter 437, 1926.1101.
6. EMERGENCY PLANS. Submit a written emergency control and cleanup plan to be followed by the Contractor in the event of: an accidental breach in containment, power failure, and accidental disturbance of ACM's in non-isolated areas.
7. NOTIFICATION. Submit copy of written notification to DEQ, of the proposed asbestos work not fewer than ten days before work commences on this project.
8. DISPOSAL PLAN. Submit written proof that all required permits and arrangements for transport and disposal of asbestos-containing or contaminated materials, supplies, and the like at a site approved by EPA and other responsible agencies have been obtained.

9. WORK PLAN. Submit a written "work plan" satisfactory to the Owner describing the schedule for asbestos abatement, decontamination procedures, and plans for construction and location of decontamination enclosure systems, pressure differential exhaust fans, etc. in compliance with these Specifications and applicable regulations, including calculations for determining required number of negative-air filtration units. The plan shall schedule the systematic flow of work throughout the facility per Specifications on a day-by- day basis, outlining room-by-room, or area-by-area procedures and planned alternative control measures. The Contractor shall keep close coordination of his work with the Owner.
10. AIR MONITORING. Provide, upon request, Air Monitoring Program data and evidence of execution for this project, including: the name(s) of the Certified Industrial Hygienist appointed, the name of the on-site Industrial Hygiene Technician working under his supervision, types of equipment utilized, sampling schedule, sampling procedures, sampling results, calibration recordkeeping, and testing laboratory proposed and/or utilized.
11. PRODUCT INFORMATION. Submit, upon request, complete product information for any materials and products for which the Contractor requests approval for use on this job (other than those specified).
12. EMERGENCY PHONE NUMBER. Submit a local phone number at which the Contractor or on-site foreman can be reached on a twenty-four (24)-hour basis during the course of the work.

C. Contractor shall not begin work until submittals are reviewed and accepted by Owner. Allow a ten (10) day review period.

D. During the work the Contractor shall submit to the Owner on a periodic basis as agreed

to by the Owner and Contractor:

1. Waste shipment and disposal documentation.
2. Air monitoring data.
3. Notification updates.

E. Prior to removal of decontamination systems and isolation barriers, the Contractor shall obtain specific written permission from the Owner.

F. Prior to making final application for payment, the Contractor shall:

1. Complete all work under this contract.
2. Submit to the Owner all required submittals including all Waste Shipment Records completely filled out and signed.
3. Submit to the Owner all payroll reports for work on this contract and other information as described elsewhere in the Specifications, if appropriate under the contract.
4. Submit to the Owner "as-abated" drawings along with a signed affidavit stating that all asbestos-containing materials have been removed as indicated on the drawings.

G. See other sections of these Specifications and EPA, OSHA, and other standards referenced therein, for further information and requirements not included above.

1.05 BUILDING PROTECTION

A. Building Security and Protection

1. The Contractor shall post adequate warning signs at all potential entrances to work areas as required by EPA and OSHA.
2. Contractor shall protect all existing fixed equipment, building finishes that are to remain, and existing systems and functions from damage during the abatement process. Extra precautions are to be taken in protecting existing electrical panels, light fixtures, etc. Any damage to existing building, services, and/or equipment shall be remedied by the Contractor at his expense.
3. Contractor shall clean external surfaces of contaminated containers and equipment thoroughly by wet sponging and HEPA vacuum.
4. Contractor shall maintain access and use of existing fire lanes.

1.06 PERSONNEL PROTECTION

A. Training

1. Prior to commencement of work, Contractor shall ensure all workers have been trained as specified.
2. The Contractor shall provide and post, in the clean room(s) and the equipment

room(s), the decontamination, respirator, and work procedures to be followed by the workers.

3. For demolition of non-asbestos containing walls and ceilings in areas containing friable asbestos materials, the Contractor has the option to train qualified demolition workers. Such training shall be the sole responsibility of the Contractor and shall consist of a minimum of eight hours, unless applicable regulatory agencies accept a lesser amount of classroom time. Topics shall include background of asbestos, health effects, personnel protection, use of worker decontamination and other topics. Training shall be acceptable to OR-OSHA, Department of Environmental Quality and other applicable agencies.

B. Personnel Protective Equipment for Asbestos Removal

1. Work clothes shall consist of disposable full-body coveralls and head and foot covers ("Tyvek" or approved), boots, or sneakers. Eye, hearing, fall protection and hard hats should be available as appropriate.
2. At a minimum, respiratory protection shall be approved by NIOSH/MSHA (National Institute for Occupational Safety and Health/Mine Safety and Health Administration), United States Department of Labor, and U.S. Department of Health, Education and Welfare, Centers for Disease Control, and be as listed below. Respiratory protection shall provide workers with a maximum calculated fiber level inside the mask of 0.01 f/cc.
    a. Glove Bag or Modified Glove Bag: Full-face mask, powered air-purifying respirator with disposable HEPA filter cartridges (magenta/purple color code). Protection factor: 100.
    b. Demolition of walls and ceilings that may impact friable asbestos-containing material: Half-face mask, negative-pressure respirator with disposable HEPA filter cartridges (magenta/purple color code). Protection factor: 10.
    c. Pre-abatement work in close proximity to friable asbestos-containing materials: Half-face mask, negative-pressure respirator with disposable HEPA filter cartridges (magenta/purple color code). Protection factor: 10.
    d. Abatement in Isolated Areas: Full-face mask, powered air-purifying respirator with disposable HEPA filter cartridges (magenta/purple color code). Protection factor: 100.
    e. HEPA vacuuming and wet cleaning of surfaces: Half-face mask, negative-pressure respirator with disposable HEPA filter cartridges (magenta/purple color code). Protection factor: 10.
    f. Vinyl asbestos floor tile removal: Half-face mask, negative-pressure respirator with disposable HEPA filter cartridges (magenta/purple color code). Protection factor: 10.
    g. Handling of double-bagged asbestos-contaminated waste: Half-face mask, negative-pressure respirator with disposable HEPA filter cartridges (magenta/purple color code). Protection factor: 10.

3. Additional respiratory protection shall be as required by CFR 29 1910.134 and 1926.1101, OR-OSHA Chapter 437, 1910.134 and 1926.1101.
4. As part of the Contractor's Respiratory Protection Program, all workers shall be provided with a selection of brands and sizes of respirators to choose from. At a minimum, all workers shall be qualitatively fit-tested at the time of respirator selection per OR-OSHA Worker's Compensation Department Rule 22-069 (4)(e)(5)(i), and semiannually thereafter.
5. Contractor shall supply replacement filter cartridges as required. Cartridges that have become wet or clogged shall be replaced immediately.

C. Worker Decontamination Enclosure System

1. The Contractor shall construct a personnel decontamination facility immediately outside of the isolated work area consisting of three chambers and two air locks as follows:
   a. The equipment room shall consist of an air lock to the shower room, and a curtained doorway to the work area.
   b. The shower room shall have two air locks, one to the equipment room and one to the clean room. All showers shall have hot and cold water controllable at the taps and shall be installed in this room. The Contractor shall supply and maintain soap, shampoo and towels at all times in the shower area. Shower wastewater shall be filtered to remove all fibers larger than 5 microns or as required by local regulations, before disposal in the municipal sewer system, or shall be collected and disposed of as asbestos-contaminated material. Obtain any permits as required by local municipalities as to water discharge and comply with all regulations. Water filters shall be disposed of as asbestos-contaminated material.
   c. The clean room shall consist of an air lock to the shower room and a curtained doorway to the adjacent building area. The clean room shall contain a first aid kit, storage for workers' and visitors' clothing and shoes, a place to sit down, and the Worksite Entry Logbook. Work, respirator and decontamination procedures, regulations and Prevailing Wage Rates shall be conspicuously posted. There shall be a supply of clean protective clothing, respirators and cartridges in the clean room at all times.
2. Contractor shall not begin asbestos abatement work unless this system is functional, in good repair, and has been found acceptable for specification compliance by the Owner.

D. Personnel Protection Procedures in Isolated Work Areas

1. Each worker shall, upon entering the jobsite: Remove street clothes in the clean change room, put on and fit-test his respirator, put on clean protective clothing and sign in on the Worksite Entry Logbook before entering the equipment room or the work area.

2. Workers shall, each time they leave the work area: remove gross contamination from clothing before leaving the work area; proceed to the equipment room and remove and dispose of disposable work clothes; remove and store shoes, boots and other equipment except respirators; still wearing the respirator proceed to the showers; clean the outside of the respirator with soap and water while showering; remove the respirator; thoroughly shampoo and wash themselves; remove filters, dispose of filters in the container provided for the purpose; and wash and rinse the inside of the respirator.
3. Following showering and drying off, each worker shall proceed directly to the clean change room and dress in clean clothes at the end of each day's work, or before eating, smoking, or drinking. Before reentering the work area from the clean change room, each worker shall put on his respirator with clean filters, dress in clean protective clothing, and sign in on the Worksite Entry Logbook.
4. Contaminated work footwear and other equipment shall be stored in the equipment room when not in use in the work area. Upon completion of asbestos abatement, dispose of footwear as contaminated waste or clean thoroughly inside and out using soap and water before removing from work area.
5. Workers shall not eat, drink or chew gum at the worksite except in the established clean room. Smoking or using other tobacco products is prohibited.
6. Workers shall be fully protected with respirators and protective clothing immediately prior to the first disturbance of asbestos-containing or contaminated material and until final cleanup is completed.

E. Access to Isolated Work Area by Others

1. Except for emergency personnel, the Contractor shall limit access to the work area to authorized visitors.
2. The Contractor shall provide protective clothing, respirators and equipment for all authorized visitors, as specified above.
3. All authorized visitors shall be subject to the personnel protection provisions specified above, and shall sign in and out on the Worksite Entry Logbook.

F. Personnel Protection During Work in Non-Isolated Work Areas

1. Work clothes per 1.06 B.
2. Respiratory protection per 1.06 B.
3. Worker protection procedures will differ from 1.06 D, in that two layers of coveralls shall be worn after removal of street clothes. Worker decontamination through a Worker Decontamination Enclosure is required. The first layer of coveralls must be removed when exiting the glove bag work area. The worker shall immediately proceed to the Worker Decontamination Unit. The remaining requirements of 1.06 D still apply.
4. Contractor to submit to the Owner for approval, an emergency control and cleanup

plan to be followed in the event of asbestos contamination during glove bag use. Contractor shall ensure all workers are thoroughly familiar with approved plan.

5. Contractor shall promptly remove all bags as they are used to the bag-holding and decontamination enclosure system.

G. Emergency Precautions

1. The Contractor shall establish emergency and fire exits from the work area. Contractor shall ensure these exits are well marked and remain unobstructed.
2. The Contractor shall be prepared to administer first aid to injured personnel after decontamination. Seriously injured personnel shall be treated immediately or evacuated without delay for decontamination.
3. Contractor shall notify the local fire department of the asbestos abatement project prior to beginning work area preparation.

1.07 SAFETY

A. With regard to the work of this contract, the safety of the Contractor's employees, the Owner's employees, and the public is the sole responsibility of the Contractor.

1.08 LIABILITY

A. The Contractor is an independent contractor and not an employee of the Owner. The Owner shall have no liability to the Contractor, nor any third persons for Contractor's failure to faithfully perform and follow the provisions of these Specifications and the requirements of the governing agencies. Notwithstanding the failure of the Owner to discover a violation by the Contractor of any of the provisions of these Specifications, or to require the Contractor to fully perform and follow any of them, such failure shall not constitute a waiver of any of the requirements of these Specifications which shall remain fully binding upon the Contractor.

1.09 DELIVERY

A. Contractor shall deliver all materials to the worksite in the original packages, containers or bundles bearing the name of the manufacturer and the brand name.

1.10 STORAGE

A. Contractor shall store all materials subject to damage off the ground, away from wet or damp surfaces, away from heat sources, and under cover sufficient to prevent damage, contamination or fire.

1.11 PROTECTION

A. Damaged or deteriorating materials shall not be used and shall be removed from the premises by the Contractor. Materials that become contaminated with asbestos shall be disposed of in accordance with the applicable regulations by the Contractor.

1.12 SUBCONTRACTORS

A. Any Subcontractors employed by the Contractor shall be bound to all the work and safety standards specified elsewhere in this Specification. Subcontractor's personnel shall be fully trained and supervised by the Contractor during performance of this work.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Plastic Sheet: Plastic sheet shall be flame-retardant polyethylene material sized in lengths and widths to minimize the frequency of joints. The minimum thickness shall be 6-mil.

B. Plastic Bags: Plastic bags shall be 6-mil polyethylene printed with warning labels per OSHA and EPA regulations.

C. Tape: Tape shall be capable of sealing joints of adjacent sheets of plastic and for attachment of plastic sheet to finished or unfinished surfaces of dissimilar materials and capable of adhering under dry and wet conditions, including use of amended water. Minimum of 2" wide tape must be used.

D. Disposal Containers: Disposal containers shall be suitable to receive and retain any asbestos-containing or contaminated materials until disposal at an approved site. The containers shall be labeled in accordance with OSHA and EPA regulations. Containers must be both air- and watertight, and have hard top, bottom and sides.

E. Warning Labels and Signs: Warning labels and signs shall be posted as required by OR-OSHA, ODOT, DEQ, and LRAPA regulations.

F. Amended Water: Clean potable water containing a surfactant additive. The surfactant additive shall be 50 percent polyoxyethylene ether and 50 percent polyethylene ester, or equivalent, and shall be mixed with water at a concentration of one-ounce surfactant to 5 gallons of water, or as recommended by the manufacturer in the case of an equivalent.

G. Encapsulants (Sealants): Encapsulants shall be of the bridging or penetrating variety and shall be listed as "satisfactory" by the EPA. Encapsulants shall provide a suitable substrate bonding agent for application of new material where appropriate. Penetrating Encapsulant: No. 207 Special Sealer #33775-27A as manufactured by Makus-Cincinnatus, Inc.; "Asbestop 30B-2" as manufactured by Asbesco Corp.; "Cable Coating 22-P" as manufactured by American Coatings Corp., or approved. Bridging Encapsulant: Decadex Firecheck, manufacturer's standard color "Magnolia", as manufactured by Pentagon Plastics, Inc.; "Cable Coating 2-B", manufacturer's standard color gray, as manufactured by American Coatings Corp.; or approved.

H. Encapsulants for all Steel Structures (Re-fireproofing): Post-abatement encapsulants on steel structures to be re-fireproofed shall be the acceptable primer for the re-spray

fireproofing material, of the bridging or penetrating variety and shall be listed as "satisfactory " by the EPA. HB Fuller 32-60; International Coatings Serpi-Flex, Fiberlock Fiberset FT. Encapsulants must be approved for use by U.L. testing as substrate for new fireproofing where applicable.

I. Rewettable Lagging Cloth: 12 oz. glass fabric lagging cloth saturated with dried lagging adhesive. "Dip-Lag" as manufactured by Claremont Co. or approved.

J. Enclosure: Protective plastic jacketing systems, framed gypsum board enclosures, suspended ceilings or other materials as specified elsewhere.

K. Other Materials: provide all other materials such as lumber, nails and hardware, which may be required to construct and dismantle the decontamination area and the barriers that isolate the work area, and as required to complete the work as specified.

2.02 TOOLS AND EQUIPMENT

A. Water Sprayer: The water sprayer shall be an airless or other low-pressure sprayer for amended water application.

B. Air-purifying Equipment: Air-purifying equipment shall consist of High-efficiency Particulate Air (HEPA) filtration systems. No air movement system or air equipment shall discharge asbestos fibers outside the work area. Each unit shall be capable of variable volume from a minimum of 500 CFM to at least 1700 CFM under load and shall have at least 2 stages of pre-filtration ahead of the HEPA final filter. Each unit shall be equipped with an elapsed time indicator (hour meter), static pressure gauge with low flow alarm, be overload protected, and each unit shall be equipped with heat and smoke sensors which will visually and audibly warn workers and shut unit fan down within 30 seconds. The units shall be: Micro-Trap Portable Air Filtration System manufactured by Asbestos Control Technology, Inc., "HOG 2000" Negative-air Protection System manufactured by Control Resource Systems, or approved.

C. Pressure Differential Monitoring Equipment: A combination sensing, alarm and recording device shall be in operation at all times during use of the HEPA air-purifying equipment. The unit shall be a "Neg-A-Master", manufactured by Control Resource Systems, Inc., or an approved.

D. Water-purifying Equipment: Capable of removing all fibers longer than 5 microns or as required by local regulations from water used in abatement work and decontamination showers. Control Resource Systems, Inc. "AQUA-HOG" or approved.

E. Airless Sprayer: An airless sprayer, suitable for application of penetrating encapsulant material, shall be used.

F. Vacuum Equipment: all vacuum equipment utilized in the work area shall be High-efficiency Particulate Air (HEPA) equipment, and suitable for wet/dry usage.

G. Scaffolding: Scaffolding, as required to accomplish the specified work, shall meet all applicable safety regulations. All special scaffolding shall have drawings and calculations

stamped and signed by a civil or structural engineer registered in the state of Oregon.

H. Transportation Equipment: Transportation equipment, as required, shall be suitable for loading, temporary storage, transit, and unloading of contaminated waste without exposure to persons or property. Equipment shall have a hard top, bottom and sides. If equipment is rented, notify rental agency in advance, in writing, of intended use of equipment.

I. Electrical: Electrical tools, equipment and lighting shall meet all applicable codes and regulations. Ground fault protection as required by OSHA, shall be in effect at all times. Contractor shall take all additional precautions and measures necessary to insure a safe working environment during wet removal.

J. Glove Bags: Bags shall be clean poly bags, seamless at the bottom, with preprinted asbestos warning labels, 6-mil PVC with attached TYVEK arms and latex gloves. Bags shall be Profo' Bag manufactured by Asbestos Control Technology, Inc., or Asbest'O'Saf/SAC by Control Resource Systems, Inc., or approved.

K. Remote Filter Housing: Stainless steel housing with pre-filters and HEPA filter sealed to cabinet flanges by Century Equipment "Advance Guard II" or approved equal.

L. Other Tools and Equipment: Provide other suitable tools for the removal, enclosure, encapsulation, patching, and disposal activities including but not limited to: hand-held scrapers, wire brushes, sponges, and rounded-edge shovels.

PART 3 - EXECUTION

3.01 FULL ISOLATION WORK AREA PREPARATION

A. Contractor shall perform the following isolation procedures in the order in which they are presented. Any alternative control measures considered for Class I work shall be performed in accordance with 29 CFR 1926.1101.

1. Shut down, remove filters and isolate HVAC systems to prevent contamination and fiber dispersal. Coordinate with Owner prior to shutdown.
2. Coordinate all electrical, safety and other service connections, requirements and equipment with the Owner. It is the Contractor's responsibility to verify operation of systems that will be shut off during abatement. If any system is found to be defective or not operating satisfactorily, the Contractor shall notify the Owner in writing prior to shutoff.
3. Install critical barriers as follows. Seal off all openings, including but not limited to doorways, windows, and other penetrations of the work area, with solid critical barriers, except openings left for HEPA air-purification system, which shall be properly HEPA- filtered. Where doors exist, sealing may be done by closing door, sealing with tape on both sides, then covering both sides with two layers of plastic sheeting.
4. Pre-clean movable objects, such as furniture and equipment to be removed (and

carpeting), within the proposed work areas using HEPA-filtered vacuum equipment and/or wet cleaning methods as appropriate, and remove such objects from work areas to a temporary location, or consolidate such objects away from removal work and enclose with critical barriers.

5. Pre-clean fixed objects within the proposed work areas, using HEPA-filtered vacuum equipment and/or wet cleaning methods as appropriate, and enclose with critical barriers. Equipment which must continue operating shall be enclosed and ventilated to avoid damage.
6. Set up the worker decontamination enclosure system (decon). Once this system is installed and abatement commences, it shall be utilized in the specified manner for the ingress and egress of all personnel and equipment, except in emergency situations. All personnel shall sign the Worksite Entry Logbook each time they pass in or out of the decontamination enclosure.
7. Install HEPA air-purifying equipment pressure differential fan system so as to ensure lower static pressure in the isolated work area than in surrounding areas, a flow of air through all parts of the isolated work area towards the air-purifying equipment, and minimum air contamination levels at abatement worker breathing zones. Discharge from air-purifying equipment shall be ducted outside the building. Use one or more units of capacity as recommended by the manufacturer for the volume of the isolated work area, but in no case, shall airflow be less than 6 air changes every 60 minutes with a minimum pressure differential of 0.02" wg between the work area and the decon clean room.
8. Cover floor and wall surfaces with plastic sheeting sealed with tape. Cover floors first so that plastic extends at least 12" up on walls, then cover walls with plastic sheeting to overlap floor plastic by a minimum of 24", thus overlapping the horizontal floor material by a minimum of 12". Install additional layer of plastic sheeting on floor and walls in similar manner. Contractor may use mechanical fastening techniques, such as tack strips, as necessary to secure wall plastic sheeting. Contractor shall repair any damage resulting from mechanical fasteners.
9. Maintain emergency and fire exits from the work areas, or establish alternative exits satisfactory to the local building or fire department officials. Ensure that all exits remain unobstructed and well marked.
10. Adequate portable fire extinguishing equipment shall be maintained within work area as defined by OSHA and/or local fire department officials.

B. No asbestos abatement work shall occur unless the work area isolation has been found acceptable for Specification compliance by the Owner.

C. Isolated work area enclosure system maintenance. The Contractor shall be responsible for daily documentation of the following:

1. Prior to the first use and at the beginning of each shift during abatement work, containments shall be given a complete visual inspection by the Contractor's shift

foreman and Industrial Hygienist. This shall include inspection of the HEPA air-purification system and associated filters. A smoke tube test by the shift foreman shall then be made of the worker decontamination enclosure system and other critical areas to verify that the isolated area is under negative air pressure. Work shall not begin until all defects have been repaired.

2. Periodic inspections shall be made as required during each shift to assure continued proper functioning of the containment and HEPA system.

3.02 NON-ISOLATED WORK AREA PREPARATION

A. Contractor shall perform the following procedures in the order in which they are presented and describe procedures for glove bag work and other work in non-isolated work areas. Any alternative control measures considered for Class II work shall be performed in accordance with 29 CFR 1926.1101.

1. Shut down HVAC systems. Coordinate with the Owner prior to shutdown.
2. Restrict access to work area and post warning signs. Do not perform glove bag work or any abatement work in an occupied area.
3. Completely pre-clean entire work area using HEPA vacuum equipment or wet cleaning methods.
4. Set up the worker decontamination enclosure system. Once this system is installed and abatement commences, it shall be utilized in the specified manner for the ingress and egress of all personnel, except in emergency situations. All personnel shall sign the Worksite Entry Logbook each time they pass in or out of the decontamination enclosure.
5. At the direction of the Owner, install HEPA exhaust fan in work area. Duct fan intake to immediate area of work in such a manner that any fibers released will be drawn away from the worker and into intake duct.
6. Cover floor and other surfaces below work area with 6-mil plastic sheeting. Seal openings and install curtained doorways and air locks as directed by the Owner.
7. Have emergency cleanup equipment and supplies, including HEPA vacuum, amended water, disposal bags, mop, buckets, towels and sponges, on hand prior to start of abatement work.

B. No asbestos abatement work shall occur unless the work area has been found acceptable for Specification compliance by the Owner.

3.03 REMOVAL OF ASBESTOS-CONTAINING MATERIALS IN FULL ISOLATION WORK AREAS

A. Contractor shall isolate work area as specified.

B. Contractor shall remove all asbestos-containing pipe insulation, surfacing material and other asbestos-containing materials as defined in the project-specific scope of work.

1. Contractor shall spray the asbestos material with amended water. A fine spray of

this solution shall be applied to prevent fiber disturbance preceding the removal of the asbestos material. The asbestos shall be sufficiently saturated to prevent emission of airborne fibers in excess of specified fiber levels.

2. Contractor shall remove asbestos material while damp and pack in sealable plastic bags (6-mil minimum thickness). Move bags to bag load out facility or equipment room in the worker decontamination system. Wash outside surface and place inside a second plastic bag (6-mil minimum thickness) bearing DEQ warning label and name of waste generator and location from which waste was generated.
3. After completion of stripping work, Contractor shall clean all surfaces from which asbestos has been removed by brushing and/or wet sponging or cleaning by an equivalent method to remove all visible material. During this work the surfaces being cleaned shall be kept wet. Avoid using wire brushes if possible.
4. Contractor shall collect all water used in the removal and cleaning process and dispose of as contaminated waste or filter to remove all fibers more than five microns in length before disposal in the municipal sewer system, or as required by local regulations. Water filters shall be disposed of as asbestos-contaminated material.

C. Removal of non-friable materials such as floor tiles shall be accomplished by such manner as to minimize breakage and to maintain non-friability. Do not drop, throw, saw or scrape non-friable materials during removal, handling or disposal. The use of spud bars to remove floor tiles is an acceptable practice.

D. Contractor shall maintain a safe and uncluttered work area, worker decontamination system, and bag load out facility on a daily basis.

3.04 REMOVAL OF ASBESTOS-CONTAINING MATERIALS IN NON-ISOLATED AREAS

A. Contractor shall apply spray coat of amended water to material to be removed. Keep material damp during entire removal process.

B. Glove bag work shall be as follows. All removal using the glove bag method shall be performed strictly according to regulations, manufacturer's printed instructions, and as demonstrated by the manufacturer's representative or as further specified in this section. Workers are not to smoke or wear hand or wrist jewelry while using glove bags.

1. Contractor shall coordinate the shutoff of all sources of heat to objects to be worked on. Do no work on objects above 150^{o}F.
2. Contractor shall install port for hose of HEPA vacuum to create reduced pressure inside glove bag. Installing of fresh air intake and/or bridging to prevent collapse of bag are acceptable. Reduced pressure shall be maintained throughout entire abatement procedure.
3. During the removal phase, Contractor shall utilize amended water to reduce potential for airborne fibers.

4. After completion of insulation removal and cleaning, but prior to removal of glove bag, Contractor shall apply a single "tack" coat of penetrating encapsulant to surface of pipe and any remaining non-asbestos insulation, within the glove bag.
5. After the pipe has been sealed, but prior to removal of glove bag, Contractor shall thoroughly wash the upper chamber of the glove bag and seal the contents of the bag in the lower chamber.
6. Contractor shall seal flap if used and, utilizing a HEPA vacuum, remove all contaminated air in the upper chamber.
7. Follow procedures set forth in Section 02 82 13.11 in case of a spill or if air analysis indicates a fiber count in excess of limits.
8. Contractor shall promptly double-bag the glove bag after removal is complete, place into a sealed container and remove to the bag holding enclosure.
9. Contractor shall cover ends of remaining existing insulation with rewettable lagging cloth. Extend lagging cloth a minimum of 6" back along existing insulation.

C. Wrap and Cut Method shall be as follows: At intervals determined by the Contractor, glove bag-remove two to three feet of asbestos-containing pipe insulation as specified. Seal remaining pipe, with asbestos-containing pipe insulation intact, in two separate layers of 6-mil plastic sheeting. Cut pipe wrap sections at ends, taking care to not damage adjacent wrapped or unwrapped insulated sections. Label double-wrapped pipe as specified for disposal. Obtain approval of landfill prior to utilizing this method. Dispose as contaminated waste in accordance with Specifications and approved landfill requirements.

D. Removal of cement asbestos board and similar material shall be as follows: Material shall be removed one sheet or piece at a time. Material shall be kept continuously wet. Cut or remove fasteners one at a time while running HEPA vacuum at the point where work is being done so as to collect all dislodged particles and fibers.

1. When all fasteners have been removed, carefully remove entire sheet or piece and wrap in 6-mil plastic sheeting while still wet. Do not drop, throw, break, saw or scrape cement asbestos board during removal, handling or disposal.
2. Label, transport, and dispose of wrapped sheets as specified in the Disposal section.
3. Clean entire substrate with HEPA vacuum or wet cleaning methods and leave ready for application of replacement material.

3.05 CLEANUP IN FULL ISOLATION WORK AREAS

A. At the conclusion of removal in the isolated work area, conduct cleanup in the sequence described below. Windows, doors, HVAC vents, etc. shall remain sealed and HEPA-filtered pressure differential fan systems shall remain in service.

1. REMOVE MATERIAL AND EQUIPMENT. Contractor shall remove visible

accumulations of material and debris (including filters removed from HVAC equipment and HEPA air-purification equipment). Contractor shall include all sealed containers and equipment used in the work area in the cleanup and remove them from work area, after decontamination of outer surfaces.

2. FIRST CLEAN. Contractor shall clean all surfaces in the work area and any other contaminated areas with water and/or with HEPA-filtered vacuum equipment.
3. WAIT 24 HOURS. After the first cleaning of the work area, wait 24 hours to allow for settlement of dust. During this settling period, no entry to the work area shall be allowed.
4. SECOND CLEAN. Wet-clean or clean with HEPA-filtered vacuum equipment all surfaces in the work area. After completion of the second cleaning operation, perform a complete visual inspection of the work area to ensure that the work area is free of visible debris.
5. FINAL VISUAL INSPECTION. Prior to application of post- removal encapsulant, contact the Owner for a visual observation of the work area. The work area shall be free of visible debris. Observation by the Owner does not alleviate the Contractor of responsibility to provide work in compliance with Specifications. Contractor shall contact Owner at least twenty-four (24) hours prior to desired inspection time.
6. REMOVE PLASTIC SHEETING. After visual observation by the Owner, Contractor shall apply a coat of approved encapsulant to all surfaces in the work area where asbestos has been removed and to disposable plastic sheeting as a post-removal encapsulant. Encapsulant application shall follow all applicable manufacturer's recommendations and shall provide a compatible bonding agent for application of new material. Encapsulant shall be applied using an airless sprayer.
7. FINAL CLEAN. After the encapsulation is complete, the Contractor shall remove all noncritical plastic and clean all floors, walls, fixtures and other surfaces within the work area with only critical barriers in place using wet methods or HEPA-filtered vacuum equipment. Plastic sheeting over carpets may remain in place.
8. CONTACT OWNER. Contact the Owner for a visual observation of the work area. The work area shall be free of visible debris. Observation by the Owner does not alleviate the Contractor of responsibility to provide work in compliance with Specifications. Contractor shall contact Owner at least twenty-four (24) hours prior to desired inspection time. Consultant shall conduct final air monitoring as specified after work area has been allowed sufficient time to dry.
9. CARPETS AND TEARDOWN. When the final observation by the Owner and air sampling test results are satisfactory, steam-clean and HEPA-vacuum carpet left in place during abatement. Contractor shall then remove the decontamination systems and remaining barriers.
10. DISPOSAL. Contractor shall properly dispose of all waste materials. All polyethylene material, tape, cleaning material, and contaminated clothing shall be double-bagged, sealed and labeled as described above for asbestos waste material.

3.06 CLEANUP IN NON-ISOLATED WORK AREAS

A. FIRST CLEAN. Contractor shall remove visible accumulations of asbestos material and debris. Clean all surfaces within the affected work area. Cleaning shall be with amended water and/or HEPA-filtered vacuum equipment. In a large open area, the affected work area shall include the immediate work area and an area that encompasses at least six feet in all directions or as defined by the Owner. In small work areas, the affected work area shall include the entire room.

B. AFFECTED AREA. The affected work area may be further defined in the scope of work by the Owner. During the work, high fiber levels as indicated by air monitoring results may increase the area to be cleaned. The increase in affected area due to high fiber levels or other indications of fiber dispersal will be defined by the Owner and the Contractor shall bear all costs of additional cleaning.

C. FINAL VISUAL INSPECTION. After completion of the cleaning operation, the Owner shall perform a visual observation of the affected work area to ensure that the affected work area is free of visible dust and debris. Observation by the Owner does not alleviate the Contractor of responsibility to provide work in compliance with Specifications. Contractor shall contact Owner at least twenty-four (24) hours prior to desired inspection time.

D. ENCAPSULANT. After visual observation by the Owner, Contractor shall spray-apply encapsulant to the material substrate, all temporary plastic sheeting and other temporary protective materials. Encapsulant shall be applied using an airless sprayer.

E. CLEARANCE SAMPLING. Post-abatement air sampling shall be at the discretion of the Owner and will be determined by the ongoing sample results.

F. TEARDOWN. When the final observation by the Owner and air sampling test results (if required) are satisfactory, the temporary plastic sheeting and other temporary protective materials shall be removed by the Contractor.

G. DISPOSAL. Contractor shall properly dispose of all waste materials, all polyethylene material, tape, cleaning material, and contaminated clothing shall be double-bagged, sealed and labeled as described for asbestos waste material.

3.07 RE-ESTABLISHMENT OF OBJECTS AND SYSTEMS

A. When cleanup is complete, Contractor shall:

1. Relocate objects moved to temporary locations in the course of the work to their former positions. Coordinate with the Owner.
2. Clean, repair and/or repaint all surfaces soiled, discolored or damaged by removal of tape, adhesive or other work of this contract to match existing surfaces. The Contractor shall bear all costs associated with damage incurred during the abatement, which includes but is not limited to gypsum board, windows, mullions, and elevator cars.

3. If the Contractor uses caulking to seal cracks in concrete floor the caulking must be removed to Owner's satisfaction at completion of project.
4. Return mechanical, electrical, and other systems shut down by the Contractor to complete and functional operation.
5. Re-secure objects removed in the course of work in their former positions, including air dampers in plenums, and adjust for proper operation.
6. Clean, repair and/or repaint all surfaces soiled, discolored or damaged by removal of tape, adhesive or other work of this contract to match adjacent surfaces.

3.08 DISPOSAL

A. Contractor shall affix warning labels having waterproof print and permanent adhesive, to the lid and sides of all containers. Warning labels shall be conspicuous and legible, and contain the following words:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD
AVOID BREATHING AIRBORNE ASBESTOS FIBERS

B. The Contractor shall determine current waste handling, transportation, and disposal regulations for the work site and for each waste disposal landfill. The Contractor must comply with these regulations and all U.S. Department of Transportation, DEQ and EPA requirements. Double-bagged material in containers shall be delivered to the pre-designated disposal site for burial. Labels and all necessary signs shall be in accordance with DEQ and OSHA standards.

C. Contractor shall remove decontaminated containers from site as soon as possible. Notify disposal site in advance of delivery of material to assure immediate burial of containers.

D. If the bags are broken or damaged, or the container is contaminated, the Contractor shall clean and decontaminate the entire container for reuse.

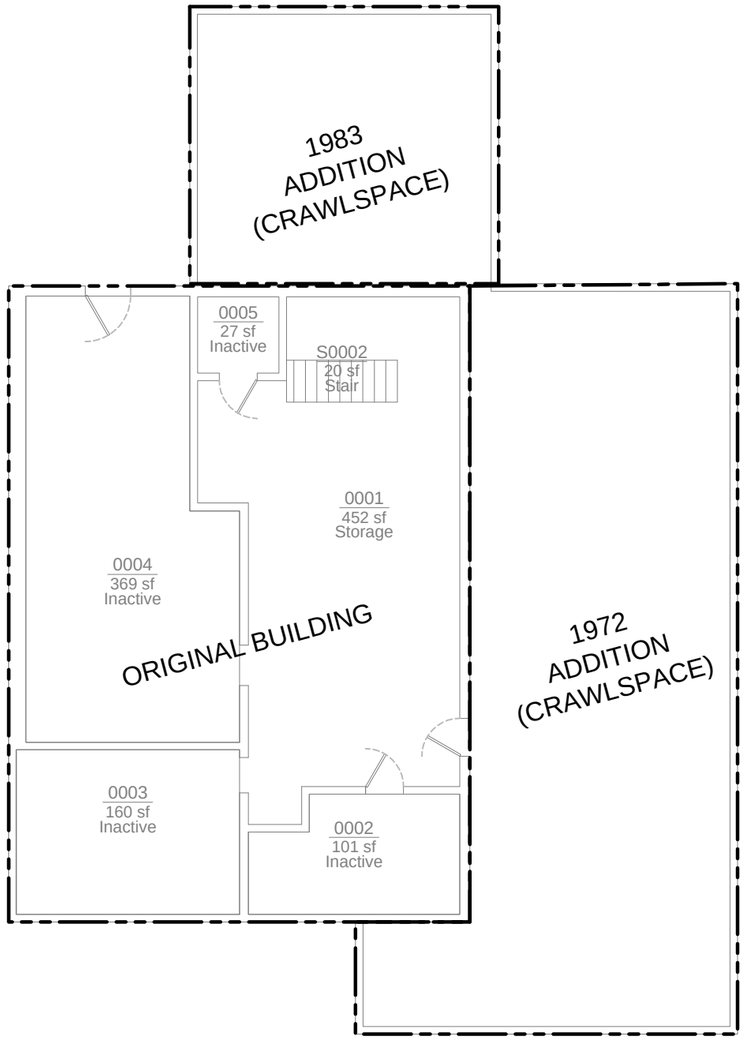
E. Contractor shall submit three copies of written proof of disposal at approved disposal site to the Owner prior to completion of the abatement work specified in this Section. Use copies of the DEQ Waste Shipment Record ASN-4, completely filled out and signed, and accompanied by tickets and/or receipts from disposal site.

END OF SECTION 02075

GENERAL NOTES

1. THIS DRAWING IS DIAGRAMMATIC. IT IS FOR GENERAL INFORMATION AND SAMPLE LOCATIONS.

2. ACCESSIBLE SPACES WERE SURVEYED FOR SUSPECT ASBESTOS-CONTAINING MATERIALS. WHEN OBSERVED, THE MATERIALS WERE NOTED ON THE DRAWING.



BASEMENT PLAN

BUILDING ADDITIONS

SCALE: 1" = 10'

0 5' 10' 20'

PREPARED FOR: OREGON STATE UNIVERSITY

PBS Engineering and Environmental Inc.
2645 Willamette St, Ste A
Eugene, OR 97405
541.686.8684
pbsusa.com

ASBESTOS ABATEMENT PLAN

SUNFLOWER HOUSE

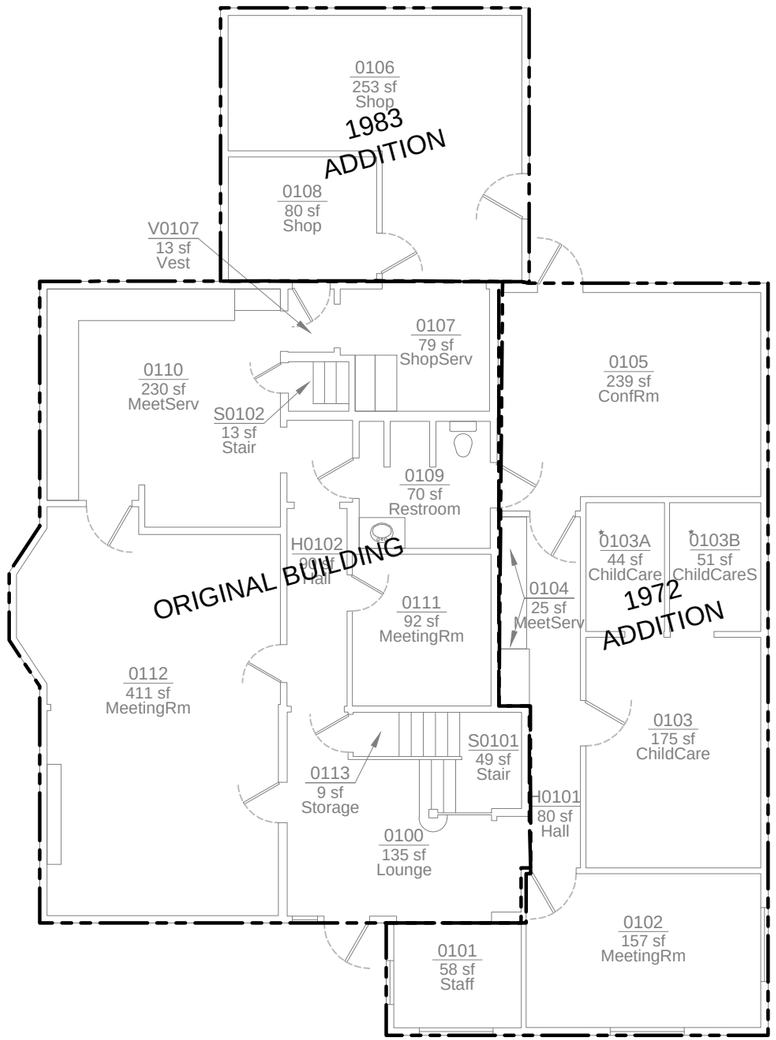
128 SW 9TH STREET, CORVALLIS, OREGON

PROJECT
52327.000
DATE
FEBRUARY 2018
FIGURE
HM1

GENERAL NOTES

1. THIS DRAWING IS DIAGRAMMATIC. IT IS FOR GENERAL INFORMATION AND SAMPLE LOCATIONS.

2. ACCESSIBLE SPACES WERE SURVEYED FOR SUSPECT ASBESTOS-CONTAINING MATERIALS. WHEN OBSERVED, THE MATERIALS WERE NOTED ON THE DRAWING.



FIRST FLOOR PLAN

BUILDING ADDITIONS

SCALE: 1" = 10'

0 5' 10' 20'

PREPARED FOR: OREGON STATE UNIVERSITY

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ASBESTOS ABATEMENT PLAN

SUNFLOWER HOUSE

128 SW 9TH STREET, CORVALLIS, OREGON

PROJECT
52327.000
DATE
FEBRUARY 2018
FIGURE
HM2

GENERAL NOTES

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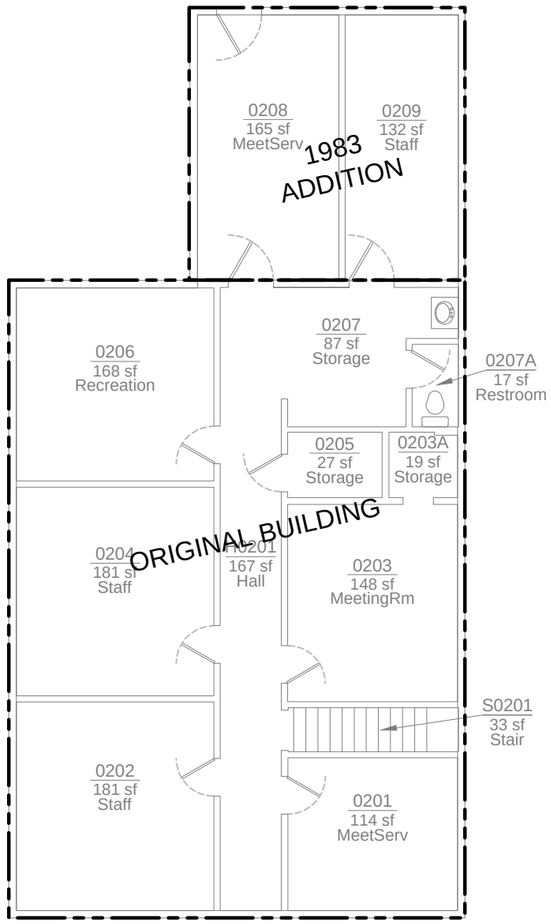

SECOND FLOOR PLAN

BUILDING ADDITIONS

SCALE: 1" = 10'

0 5' 10' 20'

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2645 Willamette St, Ste A
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ASBESTOS ABATEMENT PLAN

SUNFLOWER HOUSE

128 SW 9TH STREET, CORVALLIS, OREGON

PROJECT
52327.000
DATE
FEBRUARY 2018
FIGURE
HM3

GENERAL NOTES

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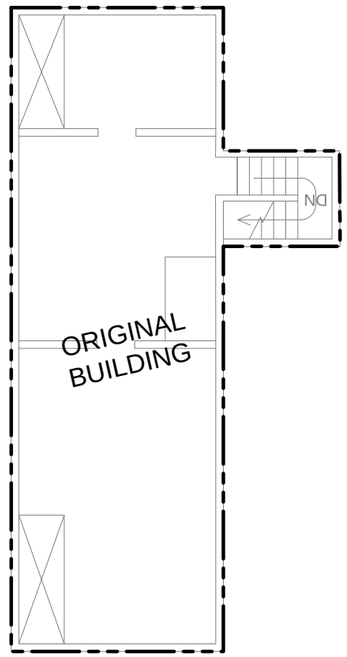

ATTIC PLAN

BUILDING ADDITIONS

SCALE: 1" = 10'

0 5' 10' 20'

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2645 Willamette St, Ste A
Eugene, OR 97405
541.686.8684
pbsusa.com

ASBESTOS ABATEMENT PLAN

SUNFLOWER HOUSE

128 SW 9TH STREET, CORVALLIS, OREGON

PROJECT
52327.000

DATE
FEBRUARY 2018

FIGURE
HM4

Full Size Sheet Format Is 11x17; If Printed Size Is Not 11x17, Then This Sheet Format Has Been Modified & Indicated Drawing Scale Is Not Accurate.

GENERAL NOTES

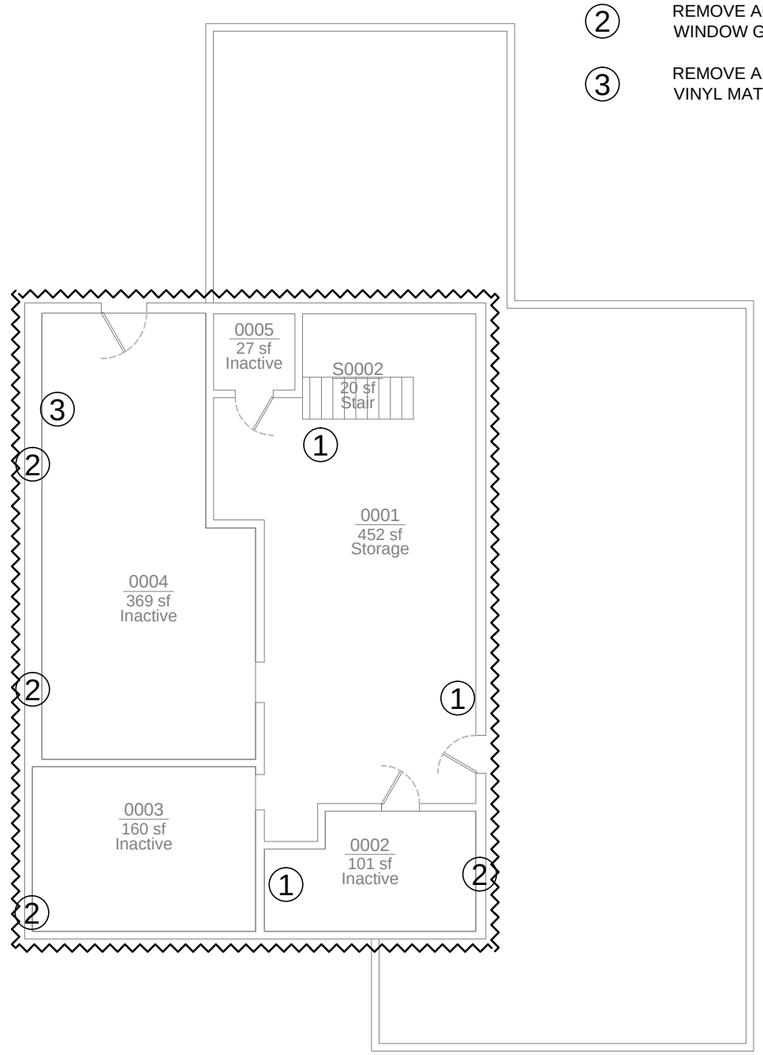
1. THIS DRAWING IS DIAGRAMMATIC. IT IS FOR GENERAL INFORMATION AND SAMPLE LOCATIONS.
2. ACCESSIBLE SPACES WERE SURVEYED FOR SUSPECT ASBESTOS-CONTAINING MATERIALS. WHEN OBSERVED, THE MATERIALS WERE NOTED ON THE DRAWING.
3. BUILDING DRAWING FOOTPRINT MAY BE INACCURATE OR NOT TO SCALE. CONTRACTOR IS TO FIELD VERIFY ALL MATERIAL LOCATIONS AND QUANTITIES.
4. ABATEMENT CONTRACTOR IS TO COORDINATE HIS WORK WITH THE OWNER AND GENERAL CONTRACTOR INCLUDING BUT NOT LIMITED TO; SCHEDULING, PHASING, ACCESS, SECURITY, STAGING, ITEMS TO PROTECT AND SAVE, SALVAGE, ISOLATION OR LOCKOUT/TAGOUT OF UTILITIES, AND DEMOLITION.
5. IF SUSPECT MATERIALS ARE UNCOVERED DURING ABATEMENT, DEMOLITION, OR RENOVATION THAT ARE NOT IDENTIFIED OR SAMPLED IN THE HAZARDOUS MATERIALS SURVEY REPORT OR SHOWN ON THIS DRAWING, STOP WORK AND CONTACT THE HAZARDOUS MATERIALS CONSULTANT AND THE JOB SUPERINTENDENT FOR ADDITIONAL TESTING.
6. ABATEMENT CONTRACTOR SHALL PERFORM ALL SELECTIVE DEMOLITION AS NEEDED TO ACCESS AND ABATE ASBESTOS-CONTAINING MATERIALS. THIS INCLUDES, BUT IS NOT LIMITED TO, DEMOLITION OF NON-ASBESTOS FLOORING LAYERS OR CABINETRY AND CASEWORK TO ACCESS CONCEALED ASBESTOS-CONTAINING MATERIALS.
7. CLEANUP AND DISPOSAL OF ALL GENERAL WASTES GENERATED AS A RESULT OF SELECTIVE DEMOLITION ACTIVITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
8. CONTRACTOR SHALL VERIFY SPECIFIC ITEMS TO BE SAVED AND PROTECTED WITH THE OWNER PRIOR TO THE START OF ABATEMENT AND DEMOLITION WORK.
9. LEAD-BASED AND LEAD-CONTAINING PAINTS HAVE BEEN IDENTIFIED ON INTERIOR AND EXTERIOR SURFACES THROUGHOUT THE BUILDING. ALL CONTRACTORS AND SUB-CONTRACTOR PERFORMING DEMOLITION OR RENOVATION ACTIVITIES ON PAINTED SURFACES ARE TO COMPLY WITH ALL APPLICABLE LEAD PAINT REGULATIONS IN OAR 437-DIVISION 3, 1926.62 LEAD IN CONSTRUCTION INDUSTRY STANDARDS.
10. CONTRACTOR SHALL PROTECT ALL SYSTEMS OUTSIDE OF THE SCOPE OF WORK OF THIS PROJECT FROM DAMAGE AS A RESULT OF WORK INCLUDED IN THIS PROJECT.
11. CONTRACTOR SHALL COORDINATE DISCONNECTION AND DE-ENERGIZING OF ALL OPERATIONAL COMPONENTS WITH THE OWNER PRIOR TO THE START OF ASBESTOS ABATEMENT AND DEMOLITION WORK.

ABATEMENT NOTES

1. FLOORING SUBSTRATES BENEATH ASBESTOS-CONTAINING FLOORING FINISHES HAVE BEEN IDENTIFIED AS PLYWOOD OR WOOD BOARD SUB-FLOORING IN ALL AREAS WHERE LIMITED INVESTIGATORY DEMOLITION HAS BEEN PERFORMED.
2. ASBESTOS-CONTAINING DUCT JOINT TAPE WAS OBSERVED APPLIED TO ORIGINAL DUCTWORK THROUGHOUT THE BUILDING. THIS MATERIAL HAS BEEN SHOWN ON THE DRAWINGS WHEN OBSERVED, BUT SIGNIFICANT QUANTITIES OF THIS MATERIAL ARE EXPECTED TO BE CONCEALED WITHIN WALLS AND INTERSTITIAL SPACES BETWEEN FLOORS. THE CONTRACTOR SHALL PERFORM ALL DEMOLITION REQUIRED TO ACCESS AND REMOVE THIS MATERIAL. FOR REFERENCE, LOCATIONS OF KNOWN DUCT REGISTERS ARE SHOWN ON THE DRAWINGS.
3. WORK WILL BE DEEMED SUBSTANTIALLY COMPLETE WHEN ALL SPECIFIED MATERIALS HAVE BEEN REMOVED, FINAL SUCCESSFUL COMPLETION OF VISUAL INSPECTIONS AND CLEARANCE AIR MONITORING IS CONCLUDED, ALL CONTAINMENT BARRIERS ARE REMOVED, AND ALL WASTE IS REMOVED FROM THE PREMISES AND PROPERLY DISPOSED OF.

LEGEND

- REMOVE AND DISPOSE OF ASBESTOS-CONTAINING ASPHALTIC WATERPROOF COATING APPLIED TO OUTSIDE PERIMETER OF CONCRETE FOUNDATION WALLS OF ORIGINAL BUILDING (ALTERNATIVE BID)
- (1) REMOVE AND DISPOSE OF ASBESTOS-CONTAINING DUCT JOINT TAPE APPLIED TO ORIGINAL HVAC DUCTING
- (2) REMOVE AND DISPOSE OF WINDOW UNITS WITH ASBESTOS-CONTAINING WINDOW GLAZING COMPOUND
- (3) REMOVE AND DISPOSE OF LOOSE SHEETS OF ASBESTOS-CONTAINING SHEET VINYL MATERIAL FROM WASH SINK CUPBOARDS



BASEMENT PLAN

SCALE: 1" = 10'

0 5' 10' 20'

PREPARED FOR: OREGON STATE UNIVERSITY

PBS Engineering and Environmental Inc.
2645 Willamette St, Ste A
Eugene, OR 97405
541.686.8684
pbsusa.com

ASBESTOS ABATEMENT PLAN

SUNFLOWER HOUSE

128 SW 9TH STREET, CORVALLIS, OREGON

PROJECT
52327.000
DATE
FEBRUARY 2018
FIGURE
HM5

GENERAL NOTES

1. THIS DRAWING IS DIAGRAMMATIC. IT IS FOR GENERAL INFORMATION AND SAMPLE LOCATIONS.
2. ACCESSIBLE SPACES WERE SURVEYED FOR SUSPECT ASBESTOS-CONTAINING MATERIALS. WHEN OBSERVED, THE MATERIALS WERE NOTED ON THE DRAWING.
3. BUILDING DRAWING FOOTPRINT MAY BE INACCURATE OR NOT TO SCALE. CONTRACTOR IS TO FIELD VERIFY ALL MATERIAL LOCATIONS AND QUANTITIES.
4. ABATEMENT CONTRACTOR IS TO COORDINATE HIS WORK WITH THE OWNER AND GENERAL CONTRACTOR INCLUDING BUT NOT LIMITED TO; SCHEDULING, PHASING, ACCESS, SECURITY, STAGING, ITEMS TO PROTECT AND SAVE, SALVAGE, ISOLATION OR LOCKOUT/TAGOUT OF UTILITIES, AND DEMOLITION.
5. IF SUSPECT MATERIALS ARE UNCOVERED DURING ABATEMENT, DEMOLITION, OR RENOVATION THAT ARE NOT IDENTIFIED OR SAMPLED IN THE HAZARDOUS MATERIALS SURVEY REPORT OR SHOWN ON THIS DRAWING, STOP WORK AND CONTACT THE HAZARDOUS MATERIALS CONSULTANT AND THE JOB SUPERINTENDENT FOR ADDITIONAL TESTING.
6. ABATEMENT CONTRACTOR SHALL PERFORM ALL SELECTIVE DEMOLITION AS NEEDED TO ACCESS AND ABATE ASBESTOS-CONTAINING MATERIALS. THIS INCLUDES, BUT IS NOT LIMITED TO, DEMOLITION OF NON-ASBESTOS FLOORING LAYERS OR CABINETRY AND CASEWORK TO ACCESS CONCEALED ASBESTOS-CONTAINING MATERIALS.
7. CLEANUP AND DISPOSAL OF ALL GENERAL WASTES GENERATED AS A RESULT OF SELECTIVE DEMOLITION ACTIVITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
8. CONTRACTOR SHALL VERIFY SPECIFIC ITEMS TO BE SAVED AND PROTECTED WITH THE OWNER PRIOR TO THE START OF ABATEMENT AND DEMOLITION WORK.
9. LEAD-BASED AND LEAD-CONTAINING PAINTS HAVE BEEN IDENTIFIED ON INTERIOR AND EXTERIOR SURFACES THROUGHOUT THE BUILDING. ALL CONTRACTORS AND SUB-CONTRACTOR PERFORMING DEMOLITION OR RENOVATION ACTIVITIES ON PAINTED SURFACES ARE TO COMPLY WITH ALL APPLICABLE LEAD PAINT REGULATIONS IN OAR 437-DIVISION 3, 1926.62 LEAD IN CONSTRUCTION INDUSTRY STANDARDS.
10. CONTRACTOR SHALL PROTECT ALL SYSTEMS OUTSIDE OF THE SCOPE OF WORK OF THIS PROJECT FROM DAMAGE AS A RESULT OF WORK INCLUDED IN THIS PROJECT.
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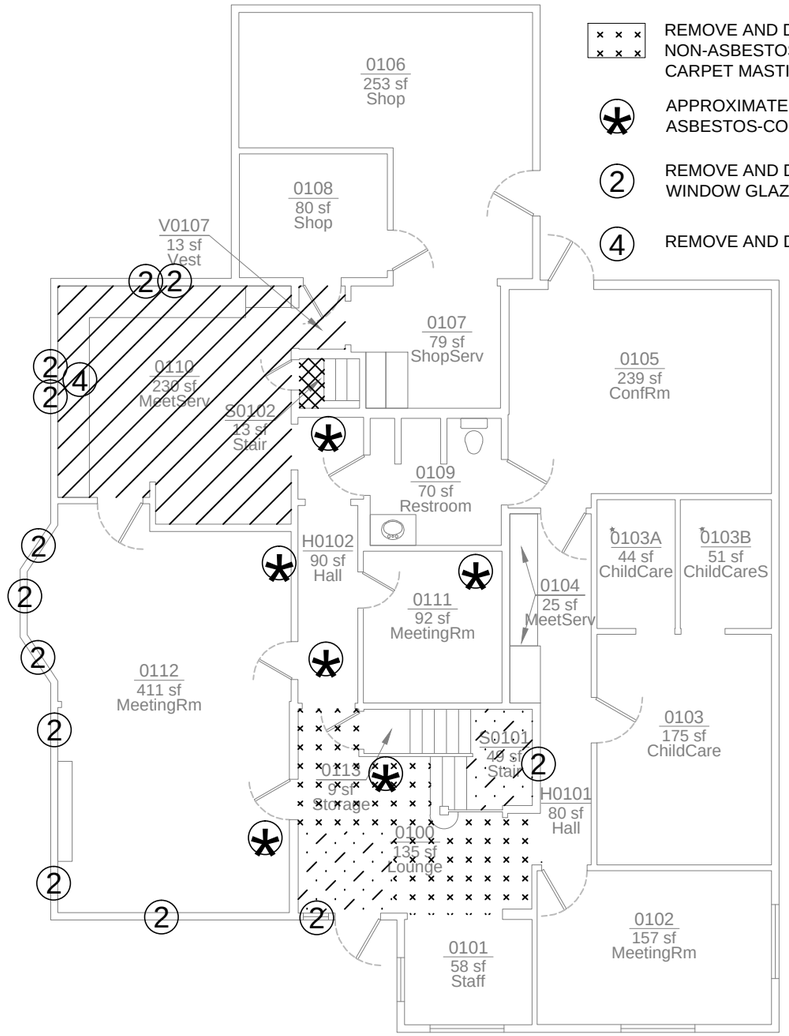
ABATEMENT NOTES

1. FLOORING SUBSTRATES BENEATH ASBESTOS-CONTAINING FLOORING FINISHES HAVE BEEN IDENTIFIED AS PLYWOOD OR WOOD BOARD SUB-FLOORING IN ALL AREAS WHERE LIMITED INVESTIGATORY DEMOLITION HAS BEEN PERFORMED.
2. ASBESTOS-CONTAINING DUCT JOINT TAPE WAS OBSERVED APPLIED TO ORIGINAL DUCTWORK THROUGHOUT THE BUILDING. THIS MATERIAL HAS BEEN SHOWN ON THE DRAWINGS WHEN OBSERVED, BUT SIGNIFICANT QUANTITIES OF THIS MATERIAL ARE EXPECTED TO BE CONCEALED WITHIN WALLS AND INTERSTITIAL SPACES BETWEEN FLOORS. THE CONTRACTOR SHALL PERFORM ALL DEMOLITION REQUIRED TO ACCESS AND REMOVE THIS MATERIAL. FOR REFERENCE, LOCATIONS OF KNOWN DUCT REGISTERS ARE SHOWN ON THE DRAWINGS.
3. WORK WILL BE DEEMED SUBSTANTIALLY COMPLETE WHEN ALL SPECIFIED MATERIALS HAVE BEEN REMOVED, FINAL SUCCESSFUL COMPLETION OF VISUAL INSPECTIONS AND CLEARANCE AIR MONITORING IS CONCLUDED, ALL CONTAINMENT BARRIERS ARE REMOVED, AND ALL WASTE IS REMOVED FROM THE PREMISES AND PROPERLY DISPOSED OF.

Full Size Sheet Format Is 11x17; If Printed Size Is Not 11x17, Then This Sheet Format Has Been Modified & Indicated Drawing Scale Is Not Accurate.

LEGEND

- REMOVE AND DISPOSE OF ASBESTOS-CONTAINING SHEET FLOOR COVERING
- REMOVE AND DISPOSE OF ASBESTOS-CONTAINING SHEET FLOOR COVERING (CONCEALED BENEATH MULTIPLE LAYERS OF NON-ASBESTOS FLOORING MATERIALS)
- REMOVE AND DISPOSE OF ASBESTOS-CONTAINING VINYL FLOOR TILE AND NON-ASBESTOS MASTIC
- REMOVE AND DISPOSE OF ASBESTOS-CONTAINING VINYL FLOOR TILE AND NON-ASBESTOS MASTIC (CONCEALED BENEATH CARPET AND NON-ASBESTOS CARPET MASTIC)
- (*) APPROXIMATE LOCATION OF DUCT REGISTER. REMOVE AND DISPOSE OF ASBESTOS-CONTAINING DUCT JOINT TAPE APPLIED TO ORIGINAL HVAC DUCTING
- (2) REMOVE AND DISPOSE OF WINDOW UNITS WITH ASBESTOS-CONTAINING WINDOW GLAZING COMPOUND
- (4) REMOVE AND DISPOSE OF SINK WITH ASBESTOS-CONTAINING UNDERCOATING



FIRST FLOOR PLAN

SCALE: 1" = 10'

0 5' 10' 20'

PREPARED FOR: OREGON STATE UNIVERSITY

PBS Engineering and Environmental Inc.
2645 Willamette St, Ste A
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PBS

OSU Oregon State University

ASBESTOS ABATEMENT PLAN

SUNFLOWER HOUSE

128 SW 9TH STREET, CORVALLIS, OREGON

PROJECT
52327.000
DATE
FEBRUARY 2018
FIGURE
HM6

GENERAL NOTES

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ABATEMENT NOTES

1. FLOORING SUBSTRATES BENEATH ASBESTOS-CONTAINING FLOORING FINISHES HAVE BEEN IDENTIFIED AS PLYWOOD OR WOOD BOARD SUB-FLOORING IN ALL AREAS WHERE LIMITED INVESTIGATORY DEMOLITION HAS BEEN PERFORMED.
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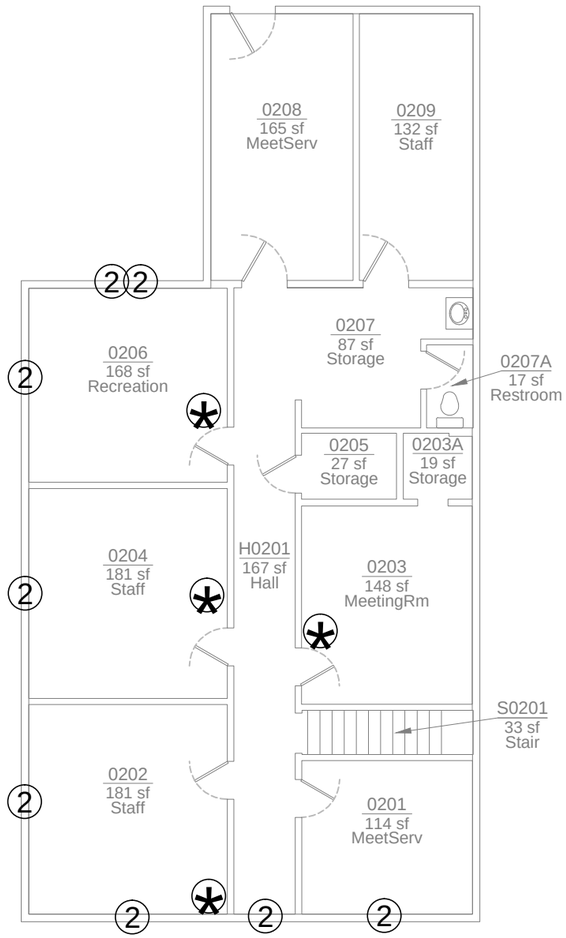
ABATEMENT NOTES

✱ APPROXIMATE LOCATION OF DUCT REGISTER. REMOVE AND DISPOSE OF ASBESTOS-CONTAINING DUCT JOINT TAPE APPLIED TO ORIGINAL HVAC DUCTING

(2) REMOVE AND DISPOSE OF WINDOW UNITS WITH ASBESTOS-CONTAINING WINDOW GLAZING COMPOUND



SECOND FLOOR PLAN

SCALE: 1" = 10'

0 5' 10' 20'

PREPARED FOR: OREGON STATE UNIVERSITY

PBS Engineering and Environmental Inc.
2645 Willamette St, Ste A
Eugene, OR 97405
541.686.8684
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ASBESTOS ABATEMENT PLAN
SUNFLOWER HOUSE
128 SW 9TH STREET, CORVALLIS, OREGON

PROJECT
52327.000
DATE
FEBRUARY 2018
FIGURE
HM7

GENERAL NOTES

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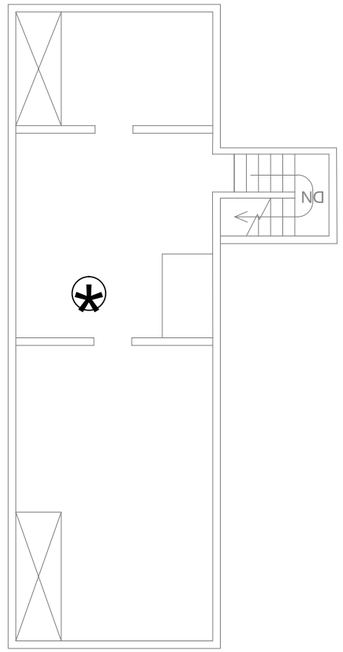
7. CLEANUP AND DISPOSAL OF ALL GENERAL WASTES GENERATED AS A RESULT OF SELECTIVE DEMOLITION ACTIVITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
8. CONTRACTOR SHALL VERIFY SPECIFIC ITEMS TO BE SAVED AND PROTECTED WITH THE OWNER PRIOR TO THE START OF ABATEMENT AND DEMOLITION WORK.
9. LEAD-BASED AND LEAD-CONTAINING PAINTS HAVE BEEN IDENTIFIED ON INTERIOR AND EXTERIOR SURFACES THROUGHOUT THE BUILDING. ALL CONTRACTORS AND SUB-CONTRACTOR PERFORMING DEMOLITION OR RENOVATION ACTIVITIES ON PAINTED SURFACES ARE TO COMPLY WITH ALL APPLICABLE LEAD PAINT REGULATIONS IN OAR 437-DIVISION 3, 1926.62 LEAD IN CONSTRUCTION INDUSTRY STANDARDS.
10. CONTRACTOR SHALL PROTECT ALL SYSTEMS OUTSIDE OF THE SCOPE OF WORK OF THIS PROJECT FROM DAMAGE AS A RESULT OF WORK INCLUDED IN THIS PROJECT.
11. CONTRACTOR SHALL COORDINATE DISCONNECTION AND DE-ENERGIZING OF ALL OPERATIONAL COMPONENTS WITH THE OWNER PRIOR TO THE START OF ASBESTOS ABATEMENT AND DEMOLITION WORK.

ABATEMENT NOTES

1. FLOORING SUBSTRATES BENEATH ASBESTOS-CONTAINING FLOORING FINISHES HAVE BEEN IDENTIFIED AS PLYWOOD OR WOOD BOARD SUB-FLOORING IN ALL AREAS WHERE LIMITED INVESTIGATORY DEMOLITION HAS BEEN PERFORMED.
2. ASBESTOS-CONTAINING DUCT JOINT TAPE WAS OBSERVED APPLIED TO ORIGINAL DUCTWORK THROUGHOUT THE BUILDING. THIS MATERIAL HAS BEEN SHOWN ON THE DRAWINGS WHEN OBSERVED, BUT SIGNIFICANT QUANTITIES OF THIS MATERIAL ARE EXPECTED TO BE CONCEALED WITHIN WALLS AND INTERSTITIAL SPACES BETWEEN FLOORS. THE CONTRACTOR SHALL PERFORM ALL DEMOLITION REQUIRED TO ACCESS AND REMOVE THIS MATERIAL. FOR REFERENCE, LOCATIONS OF KNOWN DUCT REGISTERS ARE SHOWN ON THE DRAWINGS.
3. WORK WILL BE DEEMED SUBSTANTIALLY COMPLETE WHEN ALL SPECIFIED MATERIALS HAVE BEEN REMOVED, FINAL SUCCESSFUL COMPLETION OF VISUAL INSPECTIONS AND CLEARANCE AIR MONITORING IS CONCLUDED, ALL CONTAINMENT BARRIERS ARE REMOVED, AND ALL WASTE IS REMOVED FROM THE PREMISES AND PROPERLY DISPOSED OF.

ABATEMENT NOTES

APPROXIMATE LOCATION OF DUCT REGISTER. REMOVE AND DISPOSE OF ASBESTOS-CONTAINING DUCT JOINT TAPE APPLIED TO ORIGINAL HVAC DUCTING



ATTIC PLAN

SCALE: 1" = 10'

0 5' 10' 20'

PREPARED FOR: OREGON STATE UNIVERSITY

PBS Engineering and Environmental Inc.
2645 Willamette St, Ste A
Eugene, OR 97405
541.686.8684
pbsusa.com

PBS

OSU Oregon State University

ASBESTOS ABATEMENT PLAN

SUNFLOWER HOUSE

128 SW 9TH STREET, CORVALLIS, OREGON

PROJECT
52327.000
DATE
FEBRUARY 2018
FIGURE
HM8