SECTION 020500 – DEMOLITION

1.1. The A/E of Record shall establish the limits of the construction site in coordination with the University Project Manager. These limits shall be shown on the construction drawings and be comprehensive including, but not limited to circulation, site utilities, lighting, landscaping, etc.. The location of site fences, staging, and contractor parking shall also be shown.

1.2. All projects must maintain safe pedestrian access into/exiting extant facilities during renovations, as well as, safe circulation adjacent to demolition and new construction sites. Accommodation and clear signage must be provided for fire lanes and accessibility routes for persons withdisabilities.

1.3. The Architect of Record shall provide direction to the Contractor to prevent dust and debris from penetrating all adjacent building and utility air intakes during all phases of demolition.

1.4. Materials Ownership: Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain University's property, demolished materials shall become Contractor's property and shall be legally removed from Project site.

1.5. Vermin Eradication

1.5.1. Buildings to be razed, or partially razed, shall be treated with a pesticide(s) to ensure that the building(s) is free of vermin (rodents, insects).

1.5.2. A pest control operator that is licensed by the Minnesota Department of Agriculture shall apply pesticide.

1.5.3. All pesticides shall be EPA-registered and applied according to the manufacturer's recommendations.

1.5.4. The Environmental Hygiene Officer (EHO) at the Department of Environmental Health and Safety (DEHS) shall be notified at least two weeks before application of any pesticide.

1.5.5. Treatment shall be done at least one week before razing the building(s).

1.5.6. After the initial treatment, the EHO and the pest control operator shall arrange a date and time to do a joint inspection of the building(s) to be razed. Together, they shall certify that the pesticide treatment was effective and that the building is vermin-free.

1.5.7. If vermin are found during the joint inspection, the building(s) shall be treated again. Once treated again, the EHO shall certify that the building(s) are vermin free before razing.

1.5.8. A record of certificate of pesticide application shall be submitted to the EHO. The application shall note the pesticide(s) used and quantity, method of application, location of application, targeted vermin, and pretreatment and post-treatment inspection results. The EHO shall approve and return the certificate to the contractor for *inclusion in the final closeout documents*. Refer to Division I, Section 01700 - Contract Closeout.

1.5.9. Refer to Appendix U - Pest and Insect Control for more information.

End of Section 020500

SECTION 024116 – BUILDING/STRUCTURE DEMOLITION

1.1. Demolition of Existing Buildings/Structures: Demolition of existing buildings/structures shall be included in the A/E's work. See Division One – General Requirements and related sub-divisions for additional requirements including, but not limited to:

A. 013500 - Special Project Procedures
B. 014100 - Regulatory Requirements – Building Code
C. 015000 - Temporary Construction Facilities And Controls
D. 015500 - Vehicular Access And Parking
E. 015600 - Temporary Barriers And Enclosures
F. 015700 - Temporary Controls
G. 015800 - Project Identification
H. 017419 - Construction Waste Management And Disposal
I. 017700 - Contract Closeout Requirements

1.2. Foundations, sub-grade walls, footings etc.: To facilitate landscaping, all parts of the building/structure shall be razed to a minimum of 3 feet below grade. Basement floors shall be broken up to facilitate drainage. All razed material shall be legally removed from university property. The A/E shall confirm with the university project manager if building foundations, sub-grade walls and floors can be abandoned in place or whether complete removal is required.

1.3. Utility Disconnects:

1.3.1. Fire Alarm: Coordinate with the university project manager.

1.3.2. Electric: Coordinate with the university project manager and University Energy Management.

1.3.3. Steam: Coordinate with the university project manager and University Energy Management.

1.3.4. Domestic Water: Water service shall be capped after service valve in manhole if the city allows reuse. If not, the city shall remove service at the main. The university shall be responsible for removing manhole ring and cover per city specifications.

1.3.5. Well Abandonment: Coordinate with the university project manager and DEHS.

1.3.6. Storm and Sanitary Sewer: The sanitary sewer shall be capped at a location that the city determines, as well as dictated by the storm and sanitary sewer separation plan.

1.3.7. Fire Protection Water: Coordinate with the university project manager.

1.3.8. Chilled Water: Coordinate with the university project manager and University Energy Management.

1.3.9. Natural Gas: Gas service to university property shall be cut and capped at the street as close to the main as possible by the gas company that has jurisdiction.

1.3.10. Telephone/Telecommunications: Coordinate with the university project manager.

1.3.11. BSAC: Coordinate with the university project manager.

1.3.12. Meters shall be returned to the respective utility companies.

1.4. Miscellaneous Removals: Coordinate with the university project manager.

1.4.1 Salvage to be retained for university reuse as defined by university project manager

1.4.2 Useful items as requested by Facilities Management Zone Office

1.4.3 Key cores

1.4.4 Building cornerstone/time capsule

1.4.5 Potable water, lab water, industrial water, DI water, RO water, natural gas, lab air, lab vacuum and all medical gases

1.4.6 Elevator decommissioning shall be coordinated with the university project manager as well as the State of Minnesota Elevator Inspector.

1.5. Pre-Demolition Considerations:

1.5.1. Vibration monitoring: Survey adjacent buildings for equipment that is vibration-sensitive

1.5.2. Condition survey of adjacent buildings/tunnels

1.5.3. Protection of pedestrian and accessibility routes

1.5.4. Additional protection for adjacent fresh air intakes

1.5.5. Vehicle traffic routing and staging for dump trucks

1.5.6. Dust control/water hydrants/sufficient water pressure

1.5.7. Protection of adjacent building structures

1.1.1. Method of detaching demolished building from remaining building

1.6. Hazardous Materials: The demolition specifications shall state that the handling and removal of all hazardous materials shall be conducted in accordance with University Hazardous Materials Program (HMP). See Section 017419 - Construction Waste Management And Disposal and the HMP website can be found at: https://facilities.umn.edu/reuse-recycling-waste/hazardous-materials-program

1.7. Demolition Record Drawings: The contractor shall submit a record drawing to the university that indicates the below grade elements left in place. Refer to Division 1, Section 017700 - Contract Closeout Requirements and Section 017800, Closeout Submittals.

1.8. Interior Demolition

1.8.1. Areas occupied by the university during demolition shall be protected from dust and noise by temporary dust-tight and sound-retardant partitions. Refer to Division One, including but not limited to, Sections 015000 - Temporary Construction Facilities and Controls, 015500 - Vehicular Access and Parking, 015600 - Temporary Barriers and Enclosures, and 015700 - Temporary Controls.

1.8.2. Demolition operations such as pneumatic hammering, sledging and drilling shall be scheduled at times when the building is not normally occupied. Consult with the university project manager to establish a schedule to be included in the project manual.

1.9. Maintenance of Services and Access: Due to the fact that university research projects are often conducted over many years, it is critical that demolition during remodeling projects does not interrupt the building utilities services. The A/E shall specify the university operations, utility services, and egress and ingress requirements that must remain operational during the demolition. These services may include plumbing, heating, ventilation, lighting, power, communication, elevator systems, and building ingress and egress.

1.10. Removed and Salvaged Items: A/E to include contract document direction for the following contractor requirements;

1.10.1. Clean salvaged items.

1.10.2. Pack or crate items after cleaning.

1.10.3. Identify contents of containers both inside and outside the packing/crate.

1.10.4. Store items in a secure area until delivery to University.

1.10.5. Transport items to University's storage area designated by University.

1.10.6. Protect items from damage during transport and storage.

1.11. Removal and Disposal of Debris: A/E to include contract document direction that debris resulting from demolition in occupied areas shall be removed daily. No debris shall be disposed of in university facilities, containers or on university property.

1.12. Removed and Reinstalled Items: A/E to include contract document direction for the following contractor requirements;

1.12.1 Clean and repair items to functional condition adequate for intended reuse. Paint equipment to match new equipment.

1.12.2 If long term storage is required, pack or crate items after cleaning and repairing. Identify contents of containers both inside and outside.

1.12.3 Protect items from damage during transport and storage.

1.12.4 Reinstall items in locations as necessary to meet design intent. Comply with original manufacturer's installation requirements for both new and reused materials and equipment. Include directions to provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

1.13 Existing Items to Remain: Protect construction indicated to remain against damage and soiling during demolition. Where necessary, items may be removed to a suitable, protected storage location during demolition and cleaned and reinstalled in their original locations after demolition/construction operations are complete.

END OF SECTION 024116