SECTION 32 90 00 - LANDSCAPING

1.1 GENERAL

A. Plantings shall be not greater than 4 feet in width, to allow for debris removal and maintenance.

B. Planting in non-bed locations shall have a minimum clearance of 72 inches from buildings, walls, each other, etc., to allow for mower access.

C. Planting shall not be used in areas where individuals could be expected to use them for personal concealment.

D. Local plant species shall be used whenever possible, due to severe range of temperatures (104^{o} F to -24^{o} F) and other local climate constraints.

E. All plant selections shall be subject to review and approval by Owner.

F. All grass seed mixes shall be subject to review and approval by Owner. Grass seed shall be by Lesco unless otherwise directed by Owner.

G. All grass seed and plants shall be planted in accordance with American Nurseryman's Standards.

1. Grass Seed Mixture:

a. 50% Perennial Rye and 50% Perennial Kentucky Bluegrass.

H. All irrigation systems shall be as manufactured by Hunter. Pipes shall be Class 200 or better.

1.2 LEED SUBMITTALS

A. Plant List indicating.

B. Irrigation System Product Data and Shop Drawings.

END OF SECTION

SECTION 33 05 00 - COMMON WORK FOR SITE UTILITIES

1.1 SITE DOMESTIC WATER DISTRIBUTION

A. Underground water piping shall be type "K" copper only. Piping over 3" shall be Ductile Iron class 55, cement lined and shall meet the ANSI standard in the plumbing code.

1.2 SITE STEAM AND CHILLED WATER DISTRIBUTION

A. Utility chilled water and steam is supplied by The Medical Center Co. All installations, tie-ins, etc. shall be in accordance with The Medical Center Co. specifications which are located at http://www.mcco.org/img/mir12.10.1.pdf .

END OF SECTION

C. Regulatory Requirements: Assure that Contractor complies with hauling and disposal regulations of authorities having jurisdiction.

D. Waste Management Conference: Contractor's Waste Management Coordinator shall conduct a conference at Project site prior to the start of any work, to review methods and procedures related to waste management including, but not limited to, the following:

1. Review and discuss draft waste management plan including responsibilities of waste management coordinator.
2. Review requirements for documenting quantities of each type of waste and its disposition.
3. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
4. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
5. Review waste management requirements for each trade.
6. Representatives from the University Office for Sustainability as well as the Design Team LEED Coordinator must be present at these conferences.

1.4 PERFORMANCE GOALS AND REQUIREMENTS

A. End-of-Project Salvage/Recycle Goal: The University desires to strive for exemplary performance of 95% of all demolition and/or construction waste to receive an innovation point/credit.

B. End-of-Project Salvage/Recycle Minimum Requirement: 75% of all demolition and/or construction waste.

1.5 ACTION SUBMITTALS

A. Draft Waste Management Plan: Assure that Contractor prepares and presents draft Waste Management Plan at Waste Management Conference for review and discussion.

B. Final Waste Management Plan: Assure that Contractor submit final Waste Management Plan within fourteen (14) days of the Waste Management Conference.

1.6 INFORMATIONAL SUBMITTALS

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

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

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

by the Work.

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

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

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

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

G. LEED Submittal: LEED letter template for Credit MR 2, signed by Contractor, tabulating total waste material, quantities diverted and means by which it is diverted, and statement that requirements for the credit have been met.

H. Qualification Data: For waste management coordinator and, if appropriate, refrigerant recovery technician.

I. Statement of Refrigerant Recovery, if included in the Work: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.

1.7 WASTE MANAGEMENT PLAN

A. General: Develop a Waste Management Plan for both demolition and construction waste, according to the USGBC and requirements in this Section. Plan shall consist of waste identification, waste reduction work plan, and cost/revenue analysis. Indicate quantities by weight or volume, but use same units of measure throughout waste management plan.

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

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

1. Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work.
2. Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.
3. Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.
4. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.

5. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
6. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location where materials separation will be performed.

D. Cost/Revenue Analysis: Indicate total cost of waste disposal as if there was no waste management plan and net additional cost or net savings resulting from implementing waste management plan. Include the following:

1. Total quantity of waste.
2. Estimated cost of disposal (cost per unit). Include hauling and tipping fees and cost of collection containers for each type of waste.
3. Total cost of disposal (with no waste management).
4. Revenue from salvaged materials.
5. Revenue from recycled materials.
6. Savings in hauling and tipping fees by donating materials.
7. Savings in hauling and tipping fees that are avoided.
8. Handling and transportation costs. Include cost of collection containers for each type of waste.
9. Net additional cost or net savings from waste management plan.

E. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work.

1. Documentation of each training class shall be submitted to Owner and the Architect's LEED Coordinator for record.
2. The status of this training shall be an agenda item at every Progress Meeting.

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

1.8 SALVAGING NONHAZARDOUS CONSTRUCTION AND/OR DEMOLITION WASTE

A. Salvaged Items for Reuse in the Work: Salvage items for reuse and handle as follows:

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

B. Salvaged Items for Sale and/or Donation: Not permitted on Project site.

C. Salvaged Items for Owner's Use: Salvage items for Owner's use and handle as follows:

1. Clean salvaged items.
2. Pack or crate items after cleaning. Identify contents of containers with label indicating elements, date of removal, quantity, and location where removed.

3. Store items in a secure area until delivery to Owner.
4. Transport items to Owner's on-campus storage area designated by Owner.
5. Protect items from damage during transport and storage.

D. Doors and Hardware: Brace open end of door frames. Except for removing door closers, leave door hardware attached to doors.

E. Equipment: Drain tanks, piping, and fixtures. Seal openings with caps or plugs. Protect equipment from exposure to weather.

F. Plumbing Fixtures: Separate by type and size.

G. Lighting Fixtures: Separate lamps by type and protect from breakage.

H. Electrical Devices: Separate switches, receptacles, switchgear, transformers, meters, panelboards, circuit breakers, and other devices by type.

1.9 RECYCLING GENERAL OFFICE, NON-CONSTRUCTION WASTE

A. General: Recycle general office paper, plastic, metal, glass, and cardboard used by on-site workers.

1. Contractor may use Owner’s Recycling Center for this purpose.

1.10 RECYCLING AND DISPOSAL OF NONHAZARDOUS DEMOLITION AND/OR CONSTRUCTION WASTE

A. Recycling: Contractor shall engage the services of a Construction/Demolition Waste Recycling Company to:

1. provide dumpster(s) to the job for the use of all construction personnel;
2. remove and sort contents of dumpster(s) at their own, off-site, local facility, on a regular basis, recording and recycling/disposing of the contents of the dumpster(s);
3. recycle all waste that can be recycled and legally dispose of all waste that cannot be recycled, and;
4. submit their Recycling and Processing Records as well as their Landfill and Incinerator Records, demonstrating their efforts to meet or exceed the goals, to the Owner and Architect on a monthly basis.

END OF SECTION

1. Three (3) complete sets of all Contract Documents.

    a. Note: larger Projects may require review by additional Owner entities and additional sets of documents shall be provided as appropriate.

2. A list of suggested Bidders.
3. A program estimate of the annual energy consumption of the building's mechanical and electrical systems.

H. Owner has preferred pricing Contracts for selected products and services, e.g., hardware and furniture. Design Team shall contact Owner for details regarding how these products should be specified.

I. All design structural load values, i.e. Dead Loads, Live Loads, Wind Loads, Seismic Loads, etc. shall be determined/calculated by the Structural Engineer member of the Design Team. All of these design loads shall be shown in tabular format, on a single sheet, in the Structural Drawings, and in turn, all other members of the Design Team shall refer to those loadings for their work in all other locations.

J. All Contract/Bidding Documents shall be prepared using AUTOCAD or BIM, and shall be provided to Owner in hard copy as well as an agreed upon electronic format.

1.3 BUILDING CODES

A. All designs shall comply with current Ohio Building Code, current NEC Standards, current Municipal Building Codes if applicable, current Municipal Zoning Ordinances, and any other applicable specialized codes and ordinances.

B. All designs shall comply with current ADA Requirements.

C. All designs shall exceed current ASHRAE 90.1 Standards by 30%.

D. All designs shall comply with current EPA Energy Star Standards.

1.4 SPECIAL CONDITIONS

A. The following Special Conditions shall apply to all construction. Design Team shall assure that these directions are included in the Contract Documents.

1. Contractor(s) shall have a CWRU service vehicle permit for all vehicles parked at the site.
2. Normal work hours in buildings shall be 7:30 am to 4:30 pm unless stated otherwise in the Bidding Documents.
3. Buildings shall normally be open to the public from 9:00 am to 5:00 pm unless stated otherwise in the Bidding Documents. All noisy construction operations shall be performed prior to or after these public hours. All overtime expenses for these operations shall be included in the Bid.
4. The Contractor shall clean and protect all finishes in the work areas to minimize dust transmission throughout the building, vacuum carpeting as required but not less than once a day, and shall leave work area in a "like new" condition.

5. Some areas of work may require access by appointment only, premium time, and/or protective clothing. All overtime expenses for these operations shall be included in the Bid.
6. Contractor shall be responsible for painting and patching all surfaces where existing equipment or wiring has been removed. All painting shall cover a wall from corner to corner and floor to ceiling and shall cover the ceiling from wall to wall or break in ceiling plane.
7. The expense of all bonds, permits, etc. shall be included in the Bid.
8. Contractor shall submit a Work Schedule for the project with their Bid. This Work Schedule shall include all significant milestones, particularly milestones identified by CWRU.
9. Contractor shall be responsible for protecting all occupants' private property within the construction area in existing buildings. All methods of protection shall be approved by the Owner prior to commencing work.
10. Existing buildings may be occupied during the construction period. A class schedule will be provided to the Contractor as soon as available. Noisy construction operations shall be suspended during mid-term and final exams.
11. Some areas of buildings may operate 24 hours per day, 7 days a week. Extreme care shall be utilized while working in these areas to minimize noise transmission and dust generation.
12. Areas of work may have Asbestos Containing Materials (ACM). Contractor shall coordinate with the Owner all work in areas with ACM. All work in or on ACM or demolition of ACM shall be provided by the Owner's asbestos abatement contractor under a separate agreement with the Owner.

END OF SECTION