

**ENVIRONMENTAL HORTICULTURE:  
AGRISCIENCE AND BIOTECHNOLOGY**

September 30, 2010

**I. PROGRAM REQUIREMENTS**

Refer to the project-specific Schedule of Spaces for student stations, square footage, and for any requirements that may differ from the prototype requirements listed below:

- 1 Laboratory
- 1 Related Classroom
- 1 Flammable Storage Room
- 1 Fish/Small Animal Room
- 1 Tissue Culture Room
- 1 Material Storage Room
- 1 Greenhouse
- 1 Land Laboratory

**II. PROGRAM FURNITURE AND EQUIPMENT**

Refer to the Furniture and Equipment List for Owner-provided furniture and equipment.

**III. SPECIAL CONSIDERATIONS**

**1. Heating/Ventilation/Air Conditioning**

Provide exhaust fans in the Flammable Storage Room and in the Fish/Small Animal Room. Provide an emergency exhaust fan, centrally located, in the Laboratory. To prevent overuse, provide a 10-minute timer on the fan.

Provide a thermostat controlled exhaust system in the Greenhouse consisting of two (2) fans on one end wall and an operable shutter on the opposite end wall.

Provide a thermostat controlled tank heater with LP gas tank and electronic ignition in the Greenhouse.

**2. Acoustical**

Standard, refer to the General Design Requirements section.

**3. Floor**

Provide sealed concrete in the Laboratory, Flammable Storage Room, Fish/Small Animal Room, Tissue Culture Room, and in the Material Storage Room.

Provide a concrete center aisle and three concrete lateral aisles in the Greenhouse.

Provide standard flooring elsewhere, in accordance with the General Design Requirements section.

**4. Walls**

Provide plaster or painted masonry walls in the Fish/Small Animal Room.

Provide poly-carbonate covering on the entire Greenhouse structure with the exception of the roll-up side curtains, which are to be manually-operated.

Provide standard walls elsewhere, in accordance with the General Design Requirements section.

**5. Ceiling**

Provide painted exposed structure, minimum 10' high, in the Laboratory.  
Provide standard ceilings elsewhere, in accordance with the General Design Requirements section.

**6. Lighting**

Standard, refer to the General Design Requirements section.  
Provide lighting in the Greenhouse.

**7. Windows**

Provide operable windows in the Fish/Small Animal Room.  
Provide windows, sill height above six (6) feet, in the Laboratory.

**8. Doors**

Provide an exterior overhead roll-up door, 8' wide x 8' high (manually operated) into the Fish/Small Animal Room.  
Provide standard doors elsewhere, in accordance with the General Design Requirements section.

**9. Water**

Related Classroom

Provide one (1) epoxy resin sink with cold water in the teacher demonstration table, in accordance with SDHC standards.

Laboratory

Provide one (1) epoxy resin sink with cold water at each of the student laboratory tables, as described elsewhere in this section.

Provide one (1) pull-cord emergency shower with eyewash, in accordance with SDHC standards.

Provide one (1) molded fiberglass rinse-counter unit with hot and cold water, in accordance with SDHC standards. Provide a garbage disposal.

Fish/Small Animal Room

Provide two (2) hose bibbs and floor drains, located as required.

Provide one (1) molded fiberglass rinse-counter unit with hot and cold water, in accordance with SDHC standards.

Tissue Culture Room

Provide one (1) molded fiberglass rinse-counter unit with hot and cold water, in accordance with SDHC standards.

Land Laboratory

Provide two (2) hose bibbs.

Provide #30 agricultural type sprinkler heads spaced on a 50' x 50' grid and mounted on 36" high risers.

Greenhouse

Provide one (1) exterior hose bibb and one (1) interior hose bibb, located near the door.

Provide two (2) 1" PVC stub-outs with 1" gate valves for connection to future owner-provided irrigation system. One is to be located near the door on the interior wall, and the other is to be located on a side wall, approximately two feet from the back wall.

**10. Communications**

Provide a clock, speaker and intercom handset in the Laboratory and Related Classroom.  
Provide a data connection with adjacent power outlet in the Laboratory and Related Classroom, in accordance with the General Design Requirements section and SDHC standards.

Provide a TV bracket with DVD/VCR bracket, CCTV jack, and adjacent power outlet in the Laboratory and Related Classroom, in accordance with SDHC standards.

**11. Electrical**

Laboratory

Provide two (2) duplex outlets at each student laboratory table, as described elsewhere in this section.

Provide three (3) duplex outlets on each wall.

Tissue Culture Room

Provide one (1) duplex outlet on each wall.

Greenhouse

Provide two (2) duplex weatherproof outlets.

Related Classroom

Provide one (1) duplex outlet in the teacher demonstration table.

**12. Gas and Air**

Provide one (1) double-prong gas jet at each student laboratory table, as described elsewhere in this section, in the Laboratory.

**13. Safety**

Provide a fire blanket and a fire extinguisher in a recessed cabinet in the Laboratory and Related Classroom.

Emergency shut-down devices for gas, water, and receptacles, where required, are to be located so as to be easily accessible to the teacher and must not shut down safety equipment or lighting. Provide a keyed reset mounted adjacent to each electrical shut-down device.

Provide a fire alarm pull station in the Laboratory.

**14. Fencing**

Provide a 6' high chain link fence around the entire Land Laboratory with two 10' wide swinging gates, located as directed.

**15. Service Drives**

Not applicable

**16. Parking**

Not applicable

**17. Contractor-Provided Equipment and Casework**

Laboratory

Provide one (1) rinse-counter unit, in accordance with SDHC standards. Provide a garbage disposal.

Provide one (1) glassware drying rack, mounted above the drain board for the rinse-counter unit, in accordance with SDHC standards.

Provide six (6) student laboratory tables with sinks, in accordance with SDHC standards.

Provide one (1) goggles sanitizing cabinet with goggles, in accordance with SDHC standards.

Provide twelve (12) linear feet of lockable base and wall cabinets, located adjacent to the rinse-counter unit, to include one (1) bank of lockable graduated drawers, countertop to be 36" above the floor. These base cabinets are to be provided with an epoxy resin countertop.

Provide two (2) lockable tote tray storage cabinets, 24" wide x 24" deep x 84" high, with twelve (12) fixed shelves and center divider, complete with tote trays. Tote trays are to be 10 1/2" wide x 19" long x 3 1/2" high, molded plastic.

Related Classroom

Provide one (1) teacher demonstration table, to contain the sink and a base cabinet below, in accordance with SDHC standards.

Fish/Small Animal Room

Provide one (1) rinse-counter unit, in accordance with SDHC standards.

Provide two (2) plastic laminate finished shelving units with 1/2" lips, units to be 36" wide x 18" deep x 84" high with five (5) adjustable shelves. Shelf support clips are to be non-corrosive.

Tissue Culture Room

Provide one (1) built-in double-sided chemical fume hood with a lockable acid storage cabinet in the base section, located in the wall between the Tissue Culture Room and the Laboratory, in accordance with SDHC standards.

**18. Contractor-Provided Instructional Aids**

Laboratory and Related Classroom (each)

Provide a 12' wide x 4' high regular markerboard with a 4' wide x 4' high grid markerboard on one (1) side (grid to be 2" x 2") and a 4' wide x 4' high tackboard on the other side, bottom to be mounted 36" above the floor.

Provide an 8' wide x 4' high regular markerboard on an adjacent wall, bottom to be mounted 36" above the floor.

Provide a wall-mounted audio-visual projection screen, approximately 70" x 70", centered over the markerboard.

**19. Other Considerations**

Provide a three-sided, 2-compartment mulch bin, approximately 6' wide x 30' long x 4' high, located near the Greenhouse.

# SPACE RELATIONSHIPS

