

Brevard Public Schools
Science Laboratory Standards
May 9, 2008

Configure the space to accommodate a demonstration table/teaching station, 24 student desks and 24 lab stations. A space approximately 30' x 50' is the basis of design. Only one door is required – that door shall be located near the demonstration table. Provide a material storage room of approximately 150 square feet. Provide a chemical storage room of approximately 150 square feet with an associated preparation/teacher planning area of approximately 125 square feet – it is desirable to share the chemical storage room and preparation/teacher planning area with other labs if possible, with the sizes adjusted as appropriate.

Lab table configuration shall be 16-island type with 8 perimeter stations against walls (a minimum of one perimeter station shall be designed for ADA compliance). Islands shall be aligned with view from demonstration table/teaching station for optimum student supervision. Student stations shall be “standing room only” (no stools) and cabinetry shall be installed for maximum storage capacity. Counters will overhang cabinets by 6” in lieu of knee space. All doors and drawers shall be locked and keyed-alike. All tops shall have rounded corners. See SBBC Design Standards, Div 12, april1, 2007 revision for additional information.

All lab table tops shall be epoxy-resin. Island stations shall have a center trough connected to one, deep sink on the end with a single, epoxy resin shelf above.

Perimeter stations shall have an integral epoxy sink between every two stations with a 12” wide wall mount shelf made of epoxy resin. Power will be wall outlet(s) in lieu of tombstones.

The demonstration table shall be a 2-level table – the high level shall be 4' long at 34" AFF with an integral sink. The low level shall be 4' long at 28" AFF with cabinetry for a teacher desk. Provide restroom-style soap dispensers and paper towels dispensers for each group of stations and the demonstration table (typically five per lab).

Provide electric, gas and water to every station, the demonstration table and the fume hood. Mount the utilities below the shelf at all stations and on the tabletop at the demonstration table. Secure all conduit and piping below the shelves. Provide cold water to student stations. Provide hot and cold water to the demonstration table and the fume hood. Provide a quad electrical "tombstones" for every two stations mounted above the shelves. Provide four 20 amp circuits for the 24 student stations, one 20 amp circuit for the demonstration table and one 20amp circuit for the fume hood. Locate data and power on the riser between the two levels at the demonstration table.

~~Provide each sink with a 5 gallon acid dilution tank that is located for ease of maintenance. The schedule for cleaning and replacement of limestone chips and shall be posted nearby each tank.~~ Provide acid-resistant PVC piping to the *exterior of building where acid dilution tank located*. Piping from the acid dilution tank *to civil* may be standard sanitary piping. *The use of 5-gallon dilution tanks at each sink in the science lab is acceptable for remodeling/renovation of existing science labs when a new, separate acid waste piping system to a single underground tank is prohibitively expensive. Sanitary piping out of the tank shall be standard PVC waste/vent piping. Approval to use the individual tanks instead of a separate acid waste system with a single tank is by the Project Manager.*

Emergency showers with eyewash stations shall be located in the lab area, away from exits or other high-traffic areas. Floors shall be pitched

to drain. Elevated slab pitch may be accomplished using heavier-gauge, shorter profile deck allowing a decrease in concrete thickness.

Locate emergency shunt trips and valve shut-offs on a wall within 15' of the demonstration table. The shunt trips and shut-offs shall not be located in cabinetry below or on the demonstration table.

Consolidate fixed pieces of equipment on walls to optimize space for teaching aids.

A dishwasher shall be accessible to each lab location and may be shared.

Extend dry-erase boards to the ceiling at projector locations, behind projection screens. Signage adjacent to the board at 7' elevation shall require approved safety stool for use above that elevation.

Provide multiple-light switching to accommodate projectors.

Locate the electric safety goggle case in the class area such that students can access them prior to entering the lab.

Provide a fire blanket case and fire extinguisher in the lab area to be readily available.

Locate the fume hood for optimum viewing. Provide a skirt to conceal ductwork above the equipment and below the ceiling. Provide each fume hood with a separate exhaust duct system – do not group. Roof curbs, exhaust ductwork and sparkless fans shall be stainless steel. Basis of design is 60" Sheldon Air Foil ADA Compliant Hood #92208. Utility arrangement under the hood should maximize usable work space.

The Chemical Storage Room shall be continually exhausted. The door to this room shall be provided with a closer and the lockset shall be a "storeroom" function. Provide a chemical storage cabinet vented to the

exterior. Provide lips on all shelving. Provide a 24/7 night light in this area.