# PART 1 - GENERAL

## 1.01 OVERVIEW

1. This section addresses emergency shower and eye wash equipment and associated accessories.
2. DEFINITIONS
   1. Emergency Shower: a unit that cascades water over the whole body.

* 1. Eyewash: A unit that flushes water specifically to the eyes.
  2. Eye/Face Wash: An eye/face wash is capable of flushing both the eyes and the face.
  3. Drench Hose: Hand-held units that are intended to supplement existing shower and eyewash units (but do not replace them).
  4. Combination Units or Safety Stations: Units that consist of both the emergency shower and an eye/face wash.
  5. Hands-Free or Stay-Open Valve: A valve that opens and closes the water supply to the emergency units and stays open until it is manually turned off.

C. REFERENCES

* 1. 29 CFR 1910.151 (c), Occupational Safety and Health Administration (OSHA) “Medical Services and First Aid”.
  2. Z358.1 American National Standards Institute (ANSI) "Emergency Eye Wash and Shower Equipment".
  3. **Florida Building Code – Plumbing;** Chapter 4 Fixtures, Faucets and Fixture Fittings, Section 411 Emergency Showers and Eyewash Stations.

# PART 2 - DESIGN CRITERIA

## 2.01 GENERAL

1. Where the eyes or body of any person may be exposed to injurious corrosive or infectious materials, suitable fixed facilities for quick drenching or flushing of the eyes and body shall be provided within the work area for immediate emergency use.
2. Emergency shower and eyewash equipment design, installation and location shall meet current ANSI Z358.1 and OSHA 29 CFR 1910.151 standards and deliver clean water to users.
3. Emergency equipment location shall be based on the estimated time of travel for a person with compromised vision. Safety drenching equipment shall be located in accessible locations on the same level as the hazard and the path of travel shall be free of obstructions that may inhibit the immediate use of the equipment. A door is considered to be an obstruction. If the hazard is not a corrosive, one intervening door can be present between hazard and emergency equipment so long as:
   1. The door opens in the same direction of travel as the person attempting to reach the emergency equipment.
   2. The door is equipped with a closing mechanism that cannot be locked to impede access to the emergency equipment.
4. Emergency equipment shall be located within 10 seconds travel distance and not more than 75 feet of where toxic chemicals or infectious materials are used. For strong acids or caustics, the unit shall be located immediately adjacent to the hazard but far enough away from the hazard so that additional exposure to the hazard or exposure does not occur. The A/E shall utilize Material Safety Data Sheets (MSDS) consult with the School Board’s Industrial Hygienist in determining hazard of chemicals or materials.
5. Coordinate location of all safety drenching equipment with structural members, walls, doors, windows, ceilings or other building components that may interfere with the installation. This task shall be accomplished during the schematic design phase of the Project.
6. Coordinate location of safety drenching equipment on upper levels with spaces below to avoid areas where water leakage would cause major property loss or contamination, including but not limited to computer data centers, electrical rooms, telecommunications rooms, food preparation, food storage, food serving, critical patient care areas, etc. This task shall be accomplished during the schematic design phase of the Project. The A/E shall insure that all holes in floor slabs are sealed to prevent water from flowing to lower floors due to discharge of emergency equipment.
7. Safety drenching equipment shall not be located within 18 inches of electrical apparatus, telephones, thermostats, or power outlets.
8. Emergency shower heads shall be positioned 82 to 96 inches from the floor and shall have a spray pattern of a minimum diameter of 20 inches at 60 inches above the floor. The center of the spray pattern shall be located at least 16 inches from wall or nearest obstruction.
9. Emergency eyewash nozzles shall be positioned 33 to 45 inches from the floor and a minimum of 6 inches from the wall or nearest obstruction.
10. The emergency equipment location must provide a level surface area for user.
11. A hand held drench hose or personal eyewash station may be installed in laboratory or shop areas as a supplement, not a substitute, for eyewash devices.
12. The water temperature in emergency eye wash and shower equipment shall be “tepid.” “Tepid water” is defined as water with a temperature between 60°F and 100°F. In circumstances where chemical reaction is accelerated by flushing fluid temperature, the A/E shall consult with the School Board’s Industrial Hygienist to determine the optimum temperature for each application.
13. Safety drenching equipment shall be identified with a highly visible sign using universal symbols or text that describes the installed equipment appropriately
14. Area lighting shall be adequate to facilitate use.
15. Combination showers with eye and eye/face wash shall be connected to a potable water system capable of supplying adequate flushing fluid to meet the requirements of each component when all components are operated simultaneously. Combination units shall be positioned so they can be used simultaneously by the user under the shower.
16. Provide and accessible ball type shutoff valve in individual water supply line serving safety drenching equipment. Valves shall be labeled for identification and locked in the open position.
17. Provide Code compliant drainage to drain/dispose of water during emergency equipment usage and testing.

# PART 3 - SPECIAL CONTRACT DOCUMENT REQUIREMENTS

## 3.01 GENERAL

A. All emergency shower and eyewash equipment and trim shall be scheduled on Contract Drawings indicating manufacturer’s model numbers and sufficient additional information to allow cross referencing to other acceptable manufacturer’s products.

B. Include a fixture rough in schedule on Contract Drawings identifying minimum service pipe sizes required by code and as recommended by the manufacturer for all fixtures and trim to be installed within the Project.

C. Include schedules and/or detail elevations on Contract Drawings identifying required mounting heights for all fixtures and trim to be installed within the Project.

D. Clearly designate on Contract Drawings that a four square feet area under emergency showers be identified with, “Keep Area Clear” for the use of the emergency shower.

E. Identification shall utilize a distinctive pattern and color to facilitate promoting a clear path of access.

# PART 4 - PRODUCTS

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## 4.01 GENERAL

1. Final selection of emergency equipment and trim shall be determined by coordination with the School Board’s Industrial Hygienist and Project Manager to determine functionality and aesthetic requirements for selection of appropriate equipment types.
2. Emergency shower and eyewash equipment, trim and accessories of any one type shall be by the same manufacturer.
3. All emergency equipment shall meet American with Disabilities Act (ADA) accessibility requirements for activation of controls and height of eye/face outlets with the following exceptions:
   1. Equipment within boiler rooms or central plants.
   2. Eye/face outlets located in countertops that are not required to be accessible.
4. Emergency equipment activation devices shall be designed so that the flushing water remains on without requiring the use of the operator's hands. The valve shall be designed to remain activated until intentionally shut off.
5. Shower head flow rate shall be 20 gallons per minute at a minimum 30 pounds per square inch water pressure for a minimum of 15 minutes.
6. Eye Wash unit shall provide flushing fluid at 0.4 gallons per minute at a minimum 30 pounds per square inch water pressure for a minimum of 15 minutes.
7. Face Wash unit shall provide flushing fluid at 3 gallons per minute at a minimum 30 pounds per square inch water pressure for a minimum of 15 minutes.

# PART 5 – INSTALLATION AND TESTING

1. All Emergency Eye Wash Equipment and Accessories shall be installed in accordance with Manufacturer’s instructions and shall conform to all of the requirements of ANSI Z358.1 "Emergency Eye Wash and Shower Equipment".
2. The Installing Contractor shall ensure that all Emergency Eye Wash Equipment and Accessories are tested and certified in accordance with the requirements of ANSI Z358.1 "Emergency Eye Wash and Shower Equipment". A tag shall be affixed to the equipment containing the date and initial of the individual performing testing. A Test Certification Report/Form shall be provided to the A/E and Project Manager.

**END OF SECTION**