OSHA On-Site CONSULTATION

Pacific Cost Safety Fest 2026

Emergency Exit Routes: Compliance and Safety

OSHA Occupational Safety and Health Administration

On-Site Consultation

The Station Fire / Great White - Rhode Island, 2003 - YouTube

The arrangement of Fire Protection Industry

THREE COMPONENT PARTS

FIRE SUPPRESSION
FIRE PREVENTION
FIRE PROTECTION

Fire Suppression

- Problem, after the fact
- This is the way we have approached fire for the last 200 years
- Not cost effective
- Limited and minimal success to limit fire loss

FIRE PREVENTION

PREVENT IT BEFORE IT STARTS

The best practice

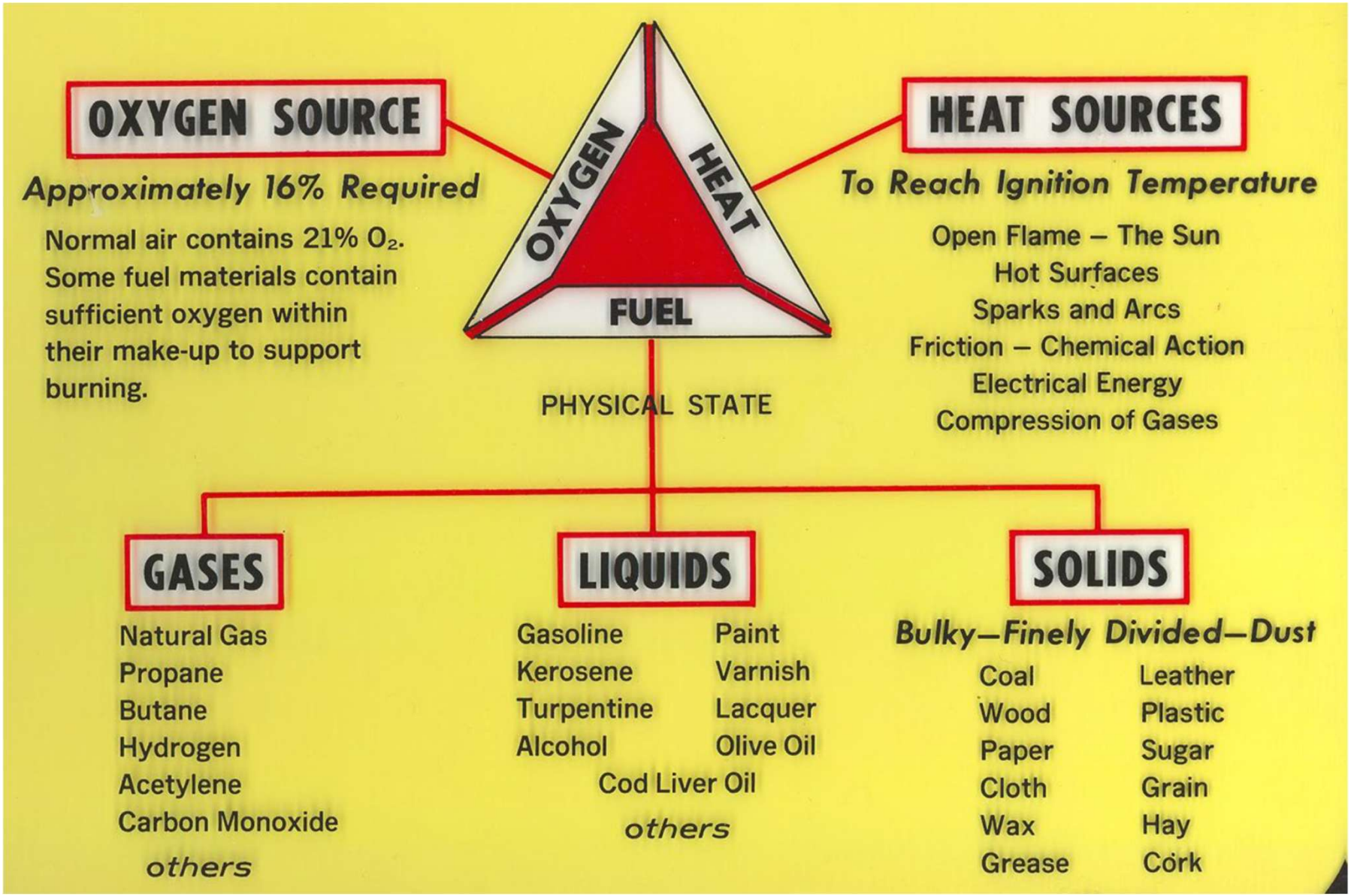
- Stop it before it starts, no loss or injury
- Problem with prevention, no one believes it can happen to them, and they can’t die in a fire
- Has had limited success

FIRE PROTECTION

ASSUME YOU WILL HAVE A FIRE-MANAGE IT

- Design building assuming fire will occur, minimize impact

- Use all available elements of each—suppression, prevention, isolation and protection skills to prevent and minimize the impact of fire or like emergency.


OXYGEN SOURCE
Approximately 16% Required
Normal air contains 21% O_2.
Some fuel materials contain sufficient oxygen within their make-up to support burning.
OXYGEN
HEAT
FUEL
HEAT SOURCES
To Reach Ignition Temperature
Open Flame – The Sun
Hot Surfaces
Sparks and Arcs
Friction – Chemical Action
Electrical Energy
Compression of Gases
PHYSICAL STATE
GASES
Natural Gas
Propane
Butane
Hydrogen
Acetylene
Carbon Monoxide
others
LIQUIDS
Gasoline
Kerosene
Turpentine
Alcohol
Paint
Varnish
Lacquer
Olive Oil
Cod Liver Oil
others
SOLIDS
Bulky–Finely Divided–Dust
Coal
Wood
Paper
Cloth
Wax
Grease
Leather
Plastic
Sugar
Grain
Hay
Cork

BUILDING CONTENTS AND FUEL LOAD

- CONTENTS ARE THE PROBLEM
- LEAST REGULATED.
- THE BUILDING CONTENTS IS THE PRIMARY FUEL LOAD IN MOST CASES.
- BUILDING CONSTRUCTION MAY CONTRIBUTE TO FUEL LOAD BUT CONTENTS USUALLY INVOLVE IN EARLY STAGE OF FIRE.

L o w H a z a r d C o n t e n t s

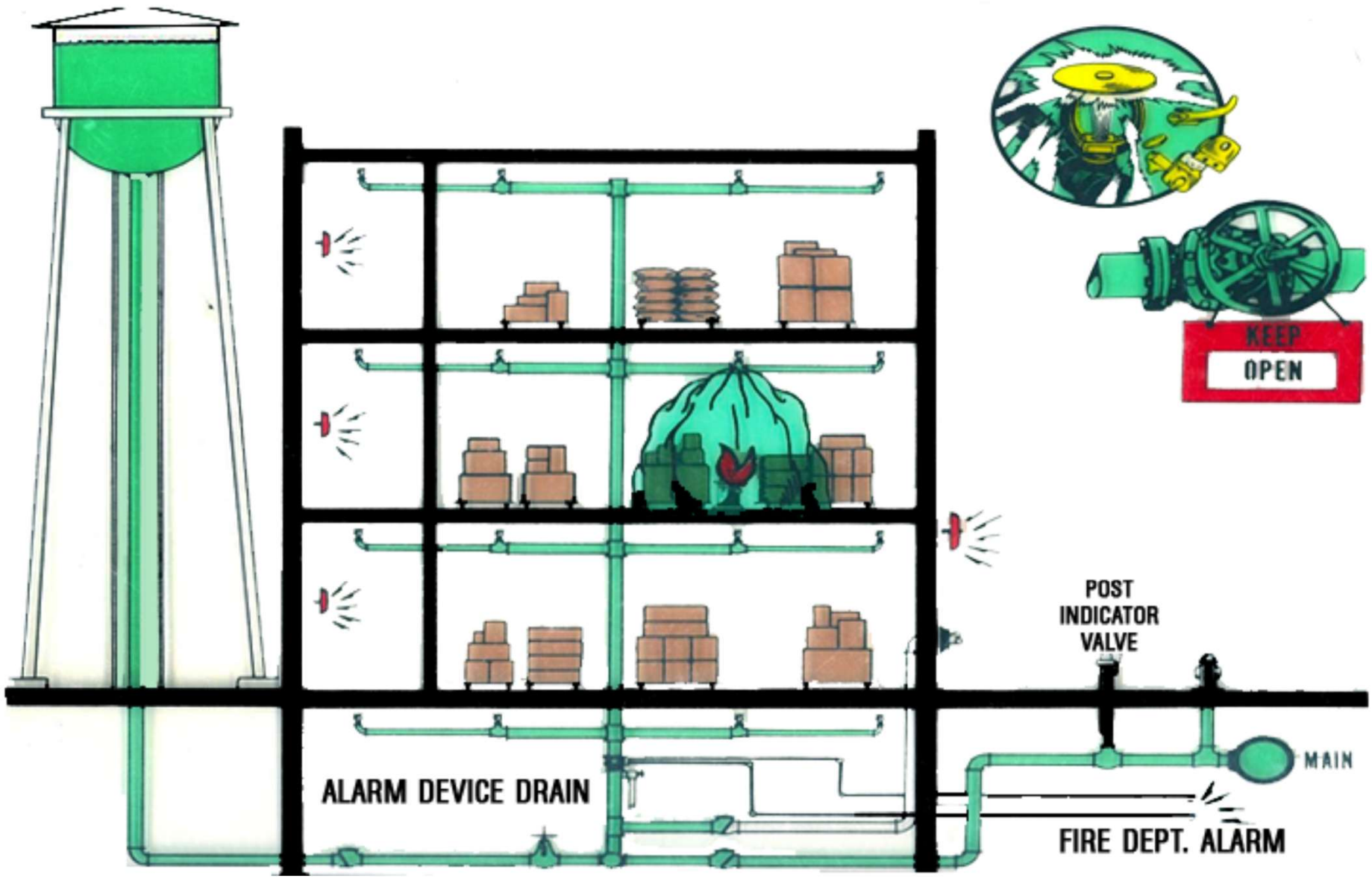
O r d i n a r y H a z a r d C o n t e n t s

High Hazard Contents

AUTOMATIC SPRINKLER SYSTEMS

WET PIPE

- WATER TO THE HEAD ALL THE TIME,
- SIMPLEST SYSTEM
- MOST RELIABLE
- ALL SPRINKLER HEADS ARE CLOSED
- ONLY ONE HEAD GOES OFF AT A TIME


KEEP
OPEN
POST
INDICATOR
VALVE
MAIN
ALARM DEVICE DRAIN
FIRE DEPT. ALARM

SPECIAL CONCERNS

- 18-INCH CLEARANCE
  - THIS IS THE MINIMUM DISTANCE THAT ANY STORAGE (OR OBJECT) MUST BE BELOW ANY SPRINKLER HEAD. IF CLOSER THAN 18 INCHES, THEN SPRINKLER HEAD CANNOT FUNCTION PROPERLY.

FIRE ALARM AND DETECTION SYSTEMS

- A system or portion of a combination system that consists of components and circuits arranged to monitor and annunciate the status of fire alarm or supervisory signal initiating devices and to initiate the appropriate response to those signals.

FIRE ALARM COMPONENTS

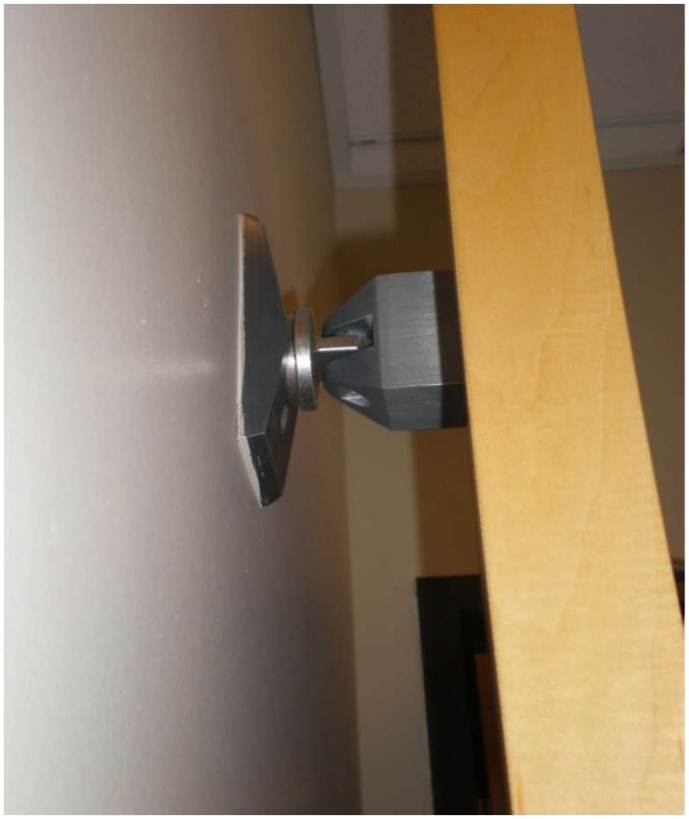
- Initiating Circuits & Devices
  - Manual Pull Stations
  - Smoke Detectors
  - Heat Detectors
  - Flame Detectors

FIRE ALARM COMPONE

- Indicating Circuits & Devices
  - Bells
  - Horns
  - Sirens
  - Strobes
  - Voice Speakers

FIRE ALARM COMPONENTS

- Output Circuits & Devices
  - Release Suppression/Extinguishing Systems
  - Close Doors
  - Start/Stop Fans
  - Call Fire Department

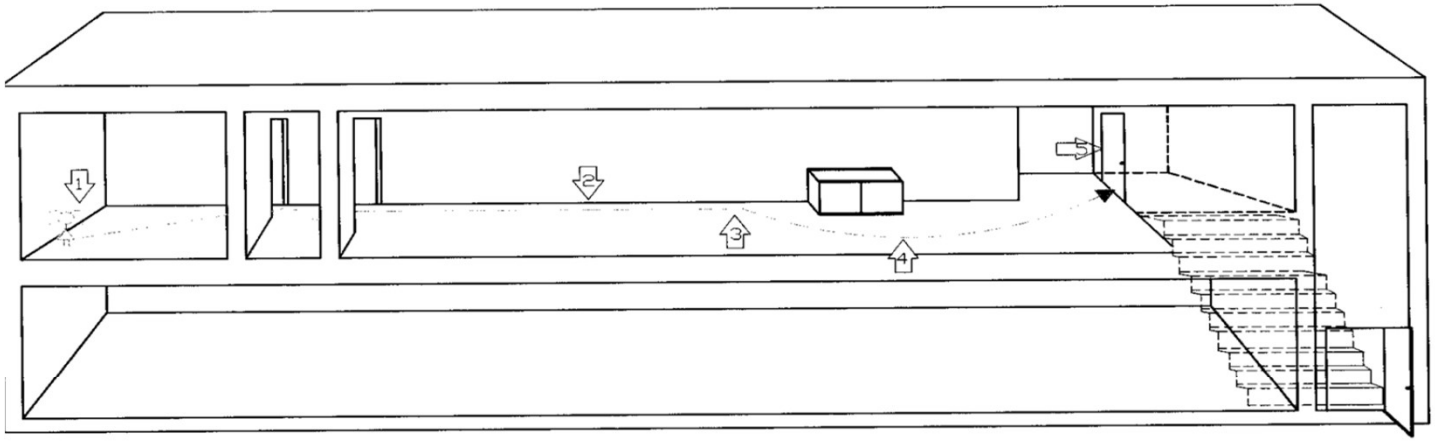


Chapter 7 – E G R E S S

MEANS of EGRESS COMPONENTS

- Exit Access
  - Leads to an exit
- Exit
  - Starts when step into an exit, ends when step into discharge. Fire Protected Route
- Exit Discharge
  - From exit to public way

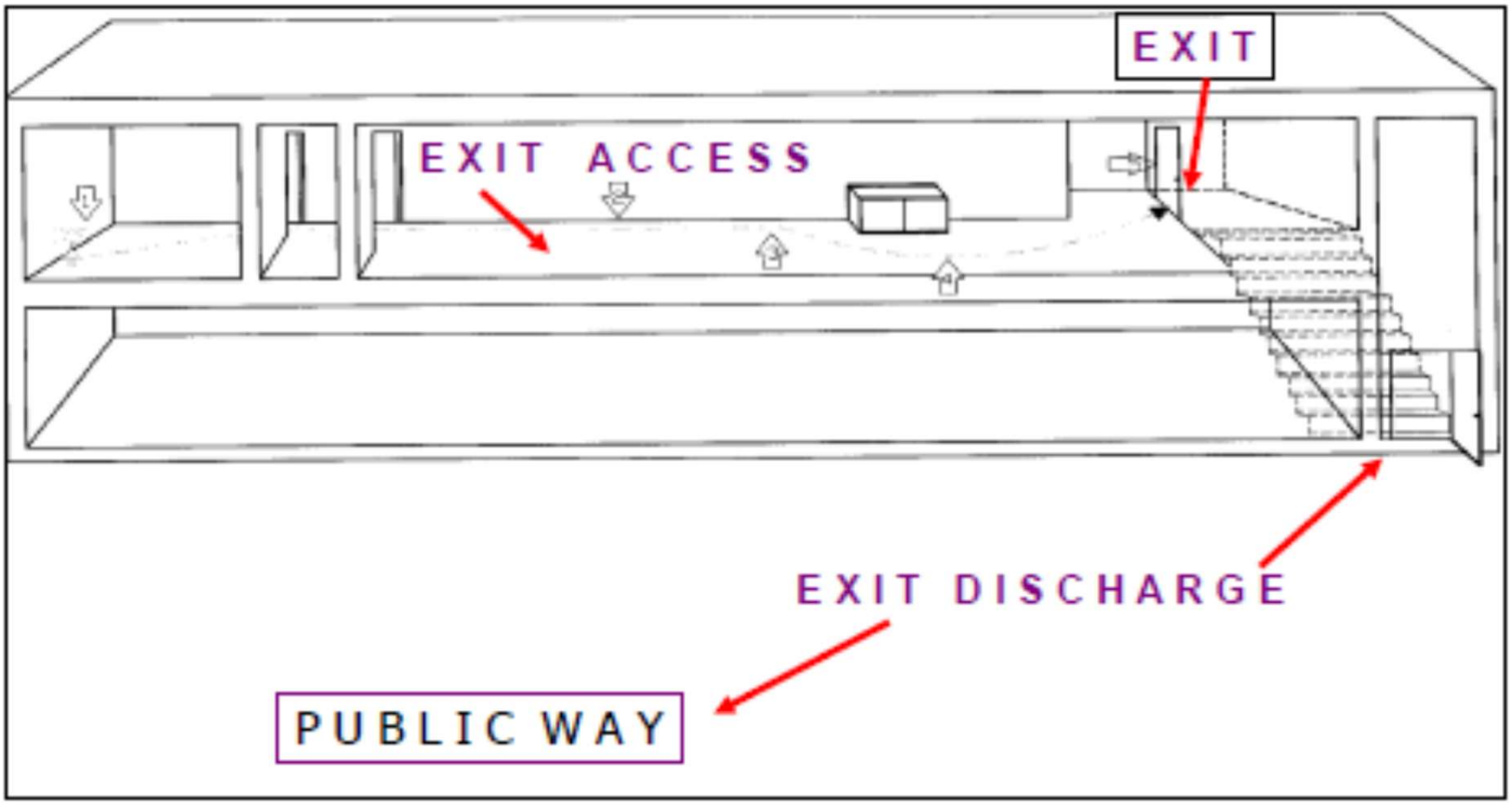
COMPONENT PARTS of EGRESS



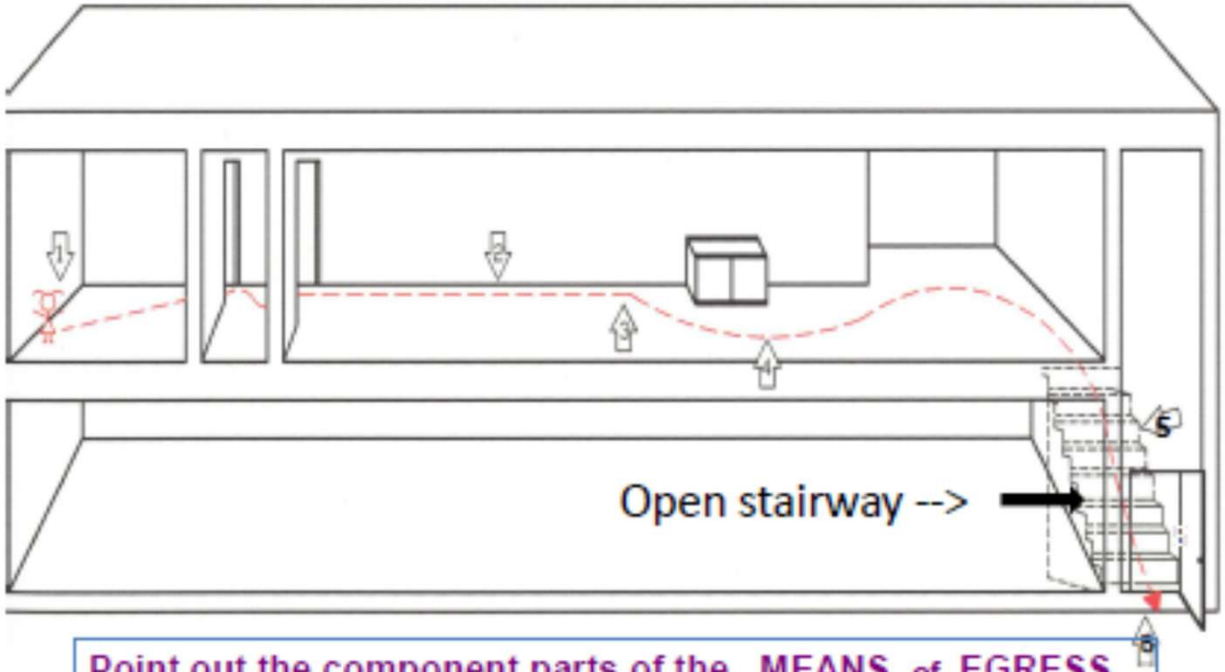
Point out the component parts of the MEANS of EGRESS

- E X I T A C C E S S
- E X I T
- E X I T D I S C H A R G E

COMPONENT PARTS of EGRESS



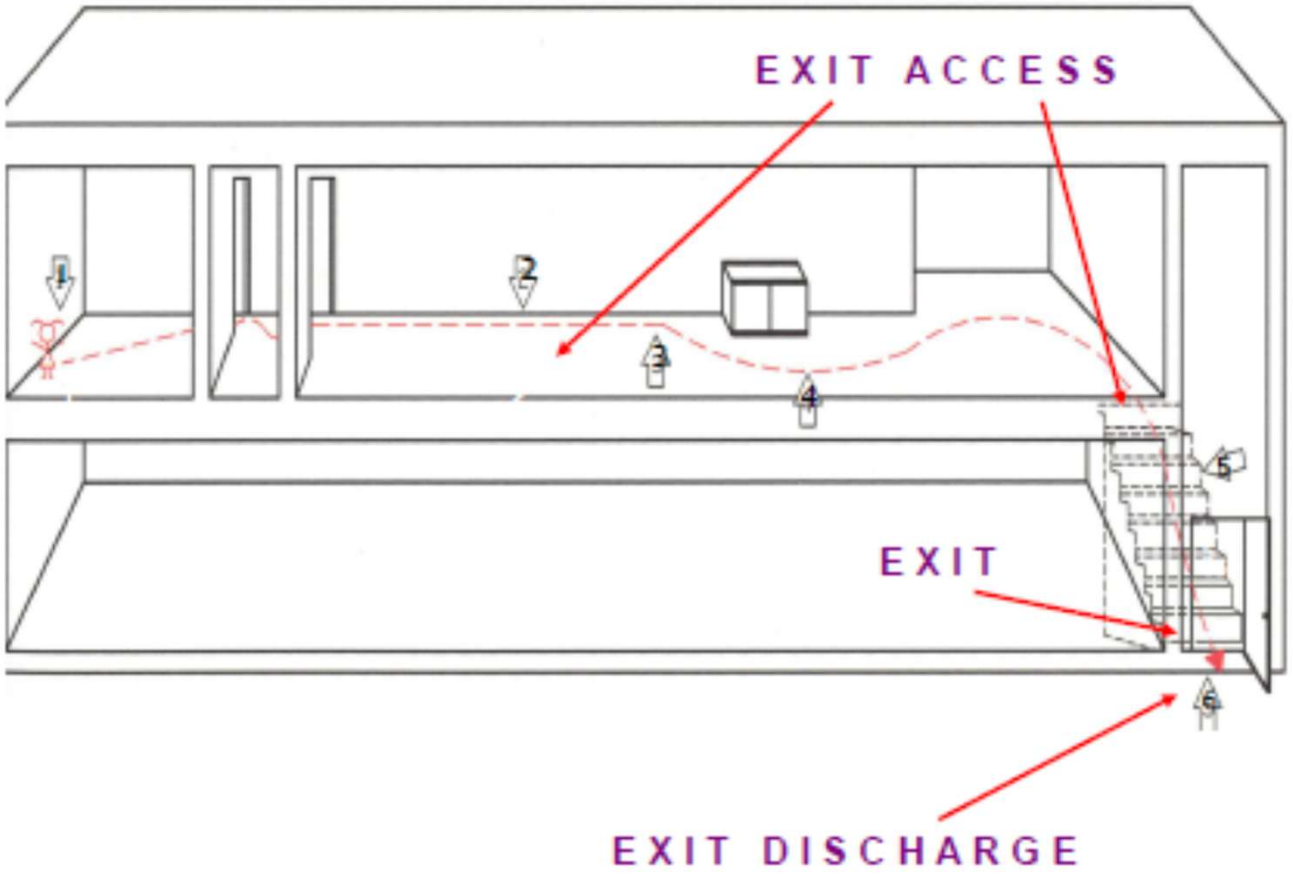
COMPONENT PARTS of EGRESS



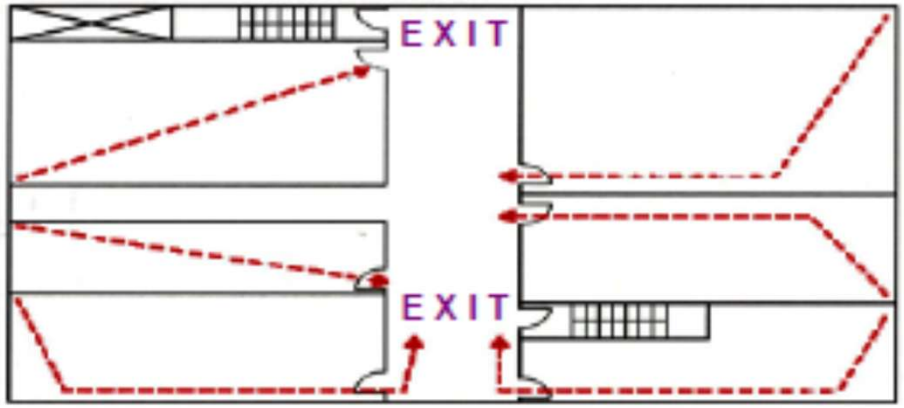
Point out the component parts of the **MEANS of EGRESS**

- EXIT ACCESS
- EXIT
- EXIT DISCHARGE

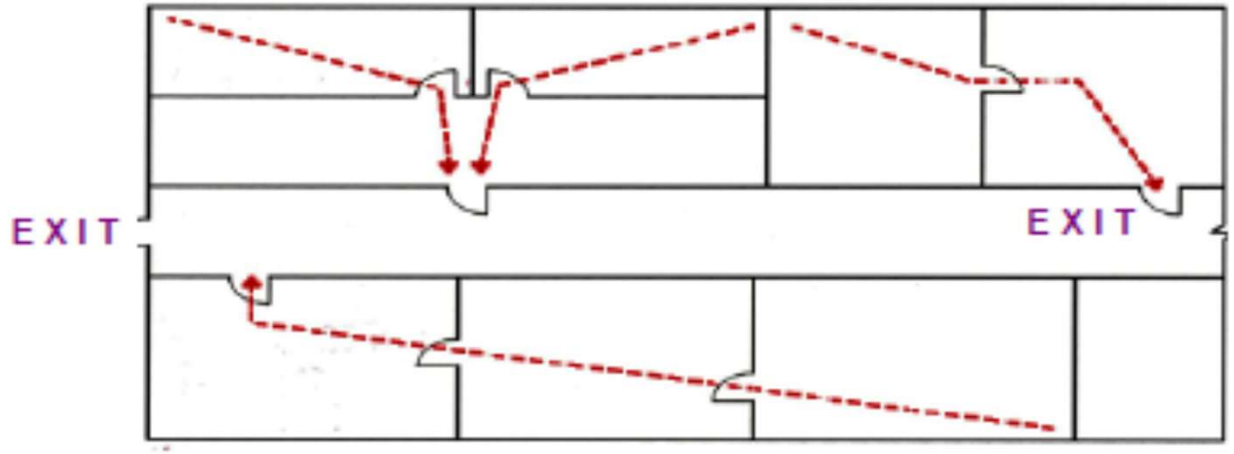
COMPONENT PARTS of EGRESS



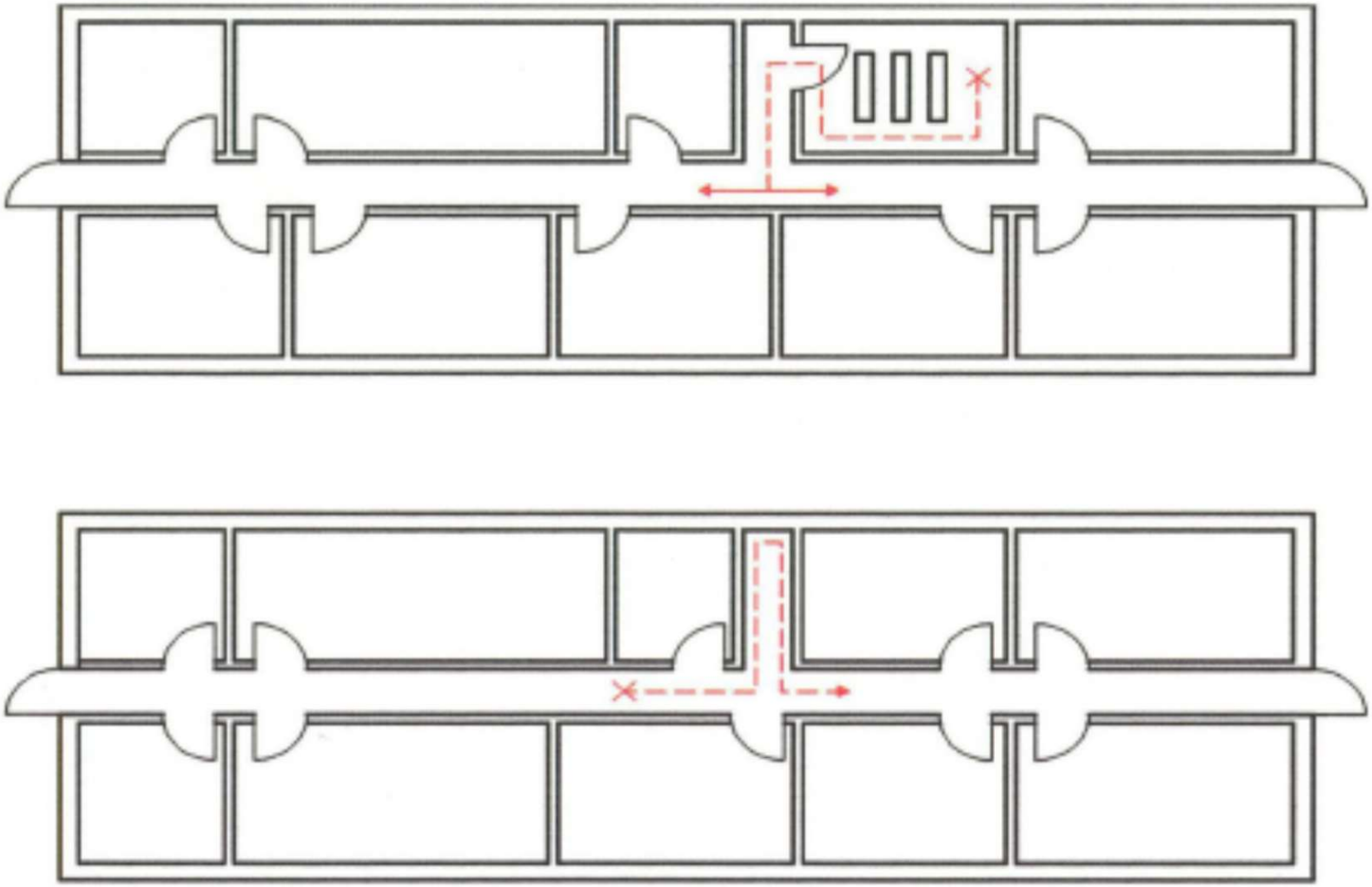
COMMON PATH of TRAVEL



THAT PORTION TRAVELED BEFORE CHOICE OF TWO EXITS IS COMMON PATH OF TRAVEL



DEAD ENDS, COMMON PATH and REMOTENESS



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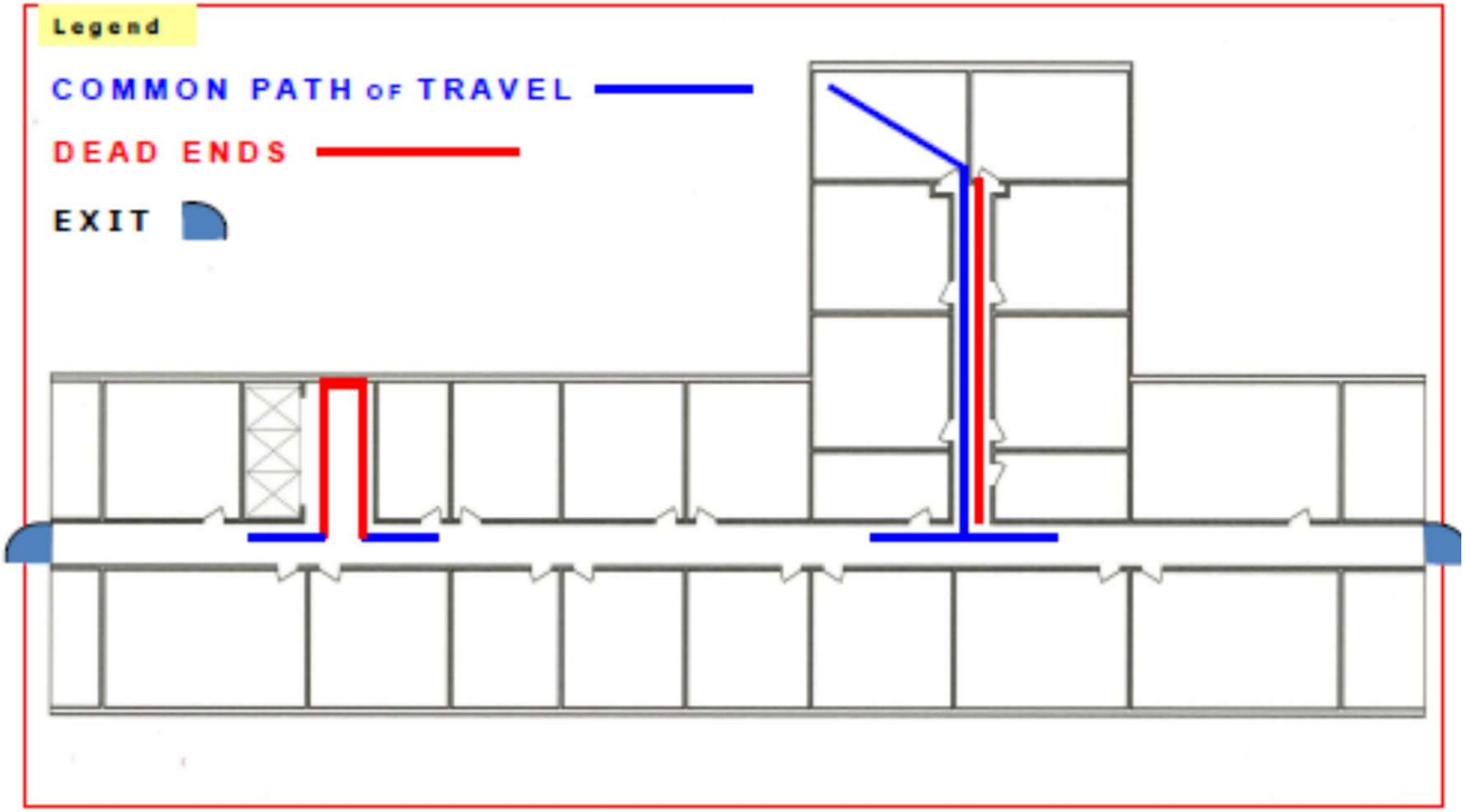
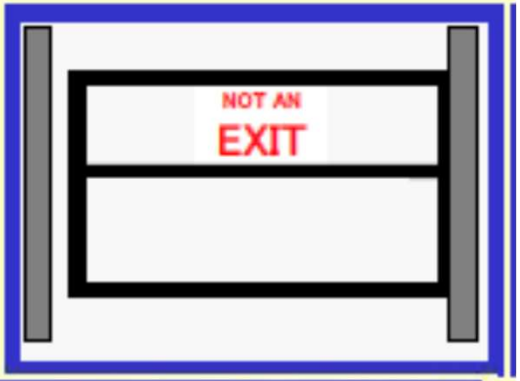


Exit discharge



Exit stairs that continue beyond

the level on which the exit discharge is located must be **interrupted at that level by** doors, partitions, or other **effective means** that clearly indicate the direction of travel leading to the exit discharge.

1910.36 (c)(3)

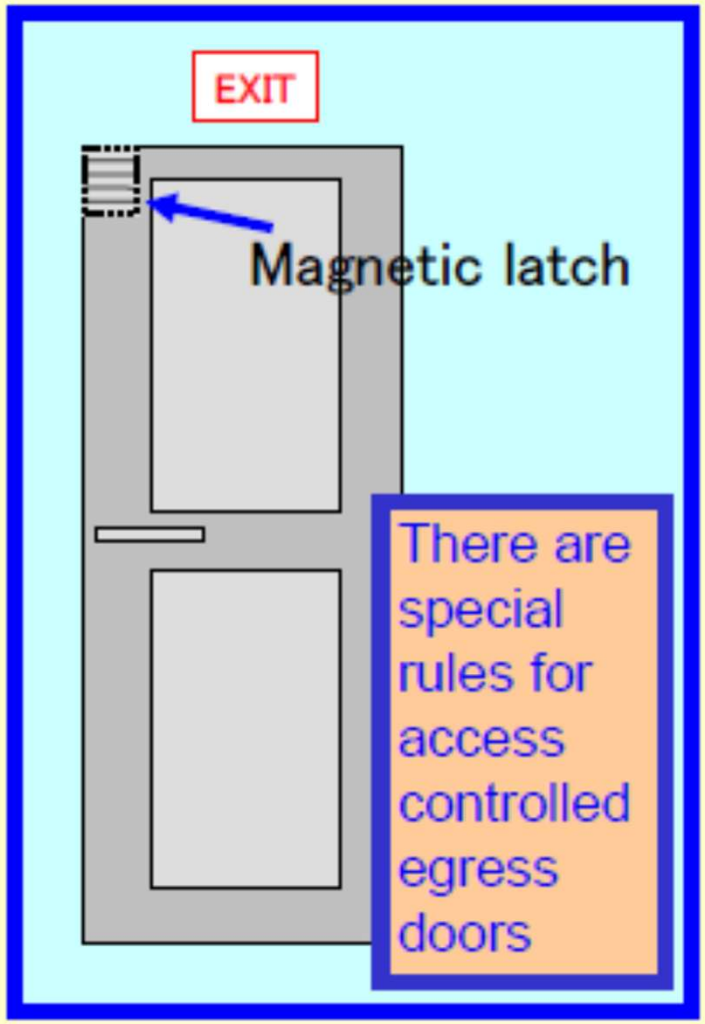
Exit Doors Must Be Unlocked

- **Must be able to open from the inside** at all times without
- keys,
- tools, or
- special knowledge

Panic bars are permitted

Must be free of any device or alarm that could restrict emergency use if the device or alarm fails

1910.36 (d)(1) and (2)



Side Hinged Doors

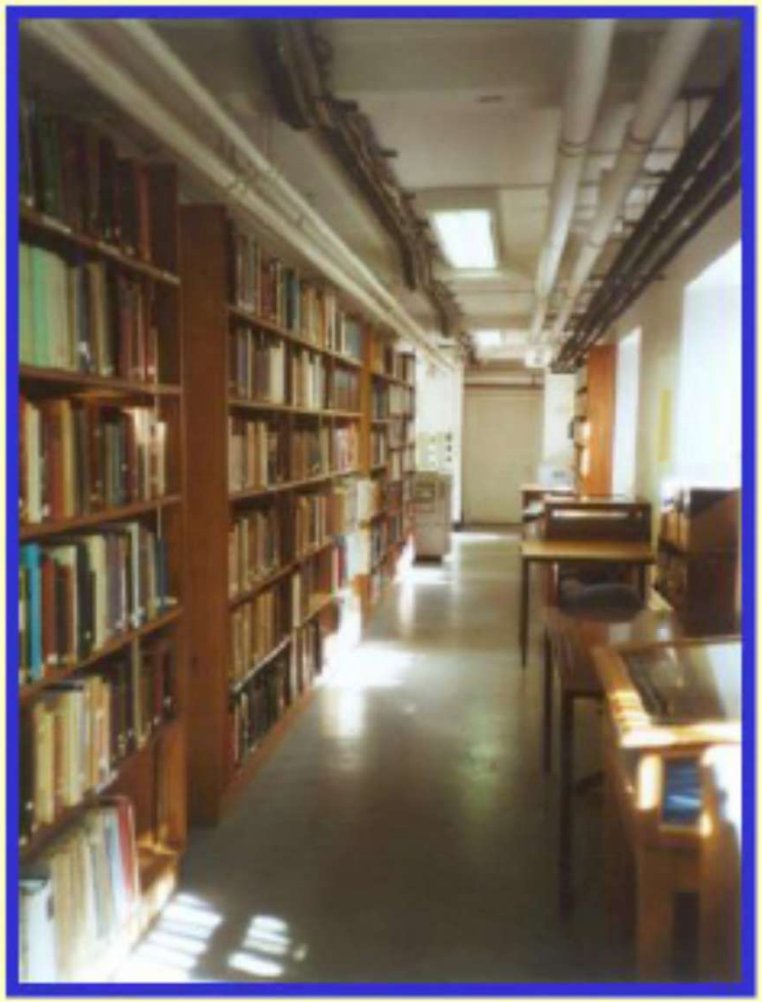
- Must be used to connect any room to an exit route
- Must swing in the direction of exit travel if:
  - Designed to be occupied by more than **50 people**
  - Or room is a high hazard area

1910.36 (e)(1)&(2)

Exit Route Capacity and Dimensions

Objects that project

into the exit route must not reduce the width of the exit route to less than the minimum width requirements for exit routes.



1910.36 (g)(4)

Minimize Danger to Employees

Exit routes must be kept free of explosive or highly flammable furnishings or other decorations.

1910.37 (a)(1)

Minimize Danger to Employees

Exit routes must be free and unobstructed

1910.37 (a)(3)

Minimize Danger to Employees

Exit routes must be free and unobstructed

Door locked and blocked

1910.37 (a)(3)

Minimize Danger to Employees

- Arrange exit routes so that employees will **not have to travel toward a high hazard area**, unless it is effectively shielded
- **Emergency** safeguards (e.g., sprinkler **systems**, alarm systems, fire doors, exit lighting) must be in proper **working** order at all times

1910.37 (a)(2) and (4)

Flammable vapors and gases
Combustible dusts
Combustible fibers or flyings
Chemical or explosives manufacturing storage or handling

Exit routes must be maintained during construction, repairs, or alterations

Employees must not be exposed to hazards of flammable or explosive substances or equipment used during construction, repairs, or alterations, that are beyond the normal permissible conditions in the workplace, or that would impede exiting the workplace.

1910.37 (d)(3)

Contractor supplies stored in exit stair shafts

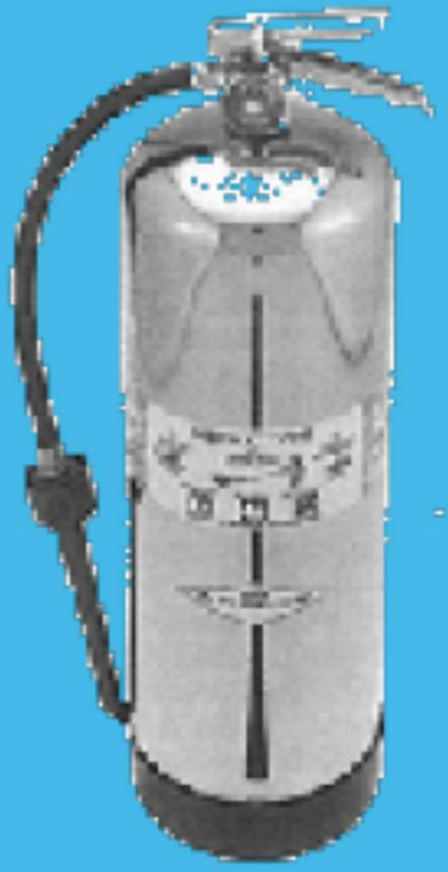
1910. 157(a) Portable Fire Extinguishers

Scope and Application

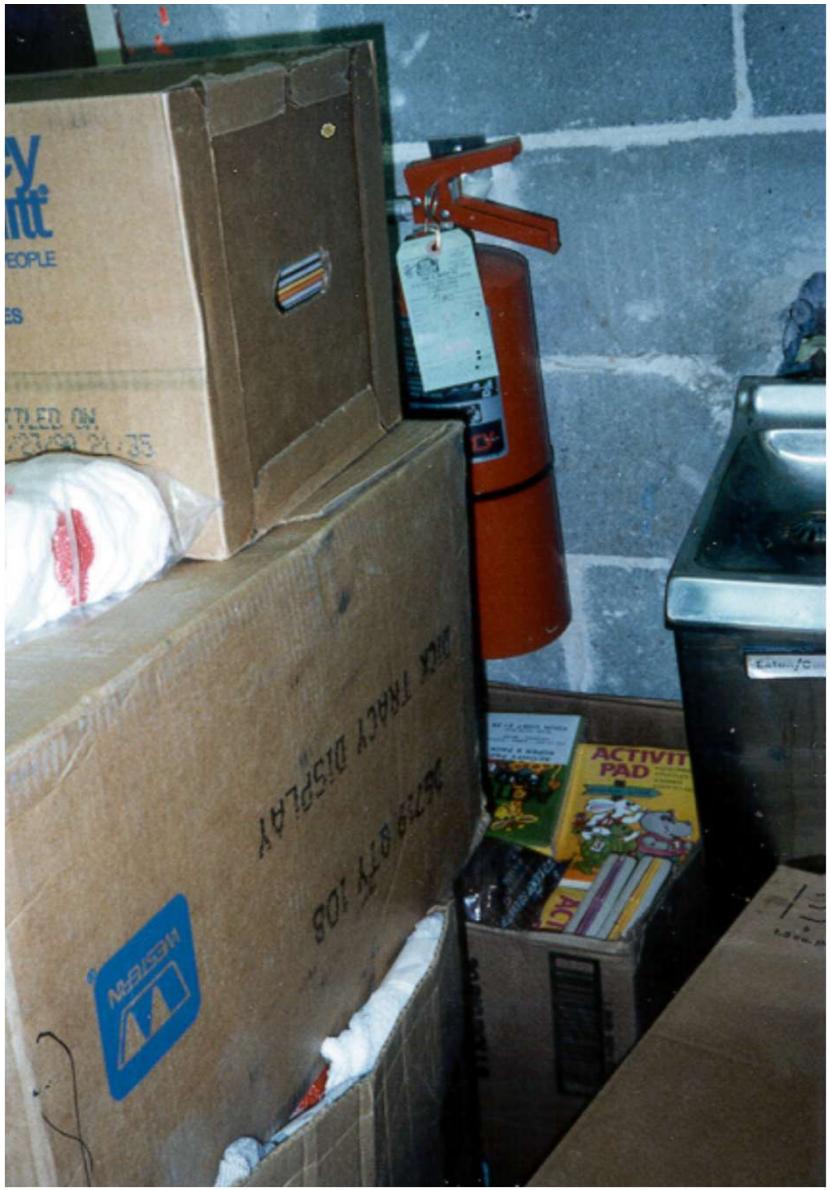
Requirements:

- placement
- use
- maintenance
- testing

of fire extinguishers provided for use by employees



This guy is blocked


ACTIVITY
PAD

- Emergency Action Plan
- Fire Prevention Plan
- 1910.38
- 1910.39
- CPL 2-1.037

What is an Emergency Action Plan (EAP)

- Facilitate and organize employer and employee actions during workplace emergencies.

- Well developed emergency plans and proper employee training will result in fewer and less severe employee injuries.

- A poorly prepared plan, likely will lead to a disorganized evacuation or emergency response, resulting in confusion, injury and fatalities.

EAP Written or Oral?

- EAP must be in writing
  - Kept at workplace
  - Available for review

- 10 or fewer Employees
  - May be communicated orally

EAP Minimum 6 Elements

1. Procedures for reporting a fire or other emergency
2. Procedures for emergency evacuation, including type of evacuation and exit route assignments
3. Procedures to be followed by employees who remain to operate critical plant operations before they evacuate
4. Procedures to account for all employees after evacuation
5. Procedures to be followed by employees performing rescue or medical duties
6. The name or job title of every employee who may be contacted by employees who need more information about the plan or an explanation of their duties under the plan

What is a FPP

- To prevent a fire from occurring in a workplace.

- It describes the fuel sources (hazardous or other materials) on site that could initiate or contribute both to the spread of a fire

- Details the building systems, such as fixed fire extinguishing systems and alarm systems, in place to control the ignition or spread of a fire.