*Office of the State Fire Marshal*

# Overview of Revised School Regulation

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**Director, OSFM**
**October, 2003**

# Training

**Effective Fire Prevention through Public Education**

# Introduction

- Purpose to bring fire officials and school officials together to review regulation
- Enforcement of the regulation is by fire official
- Review 527 CMR 10.09 governing paper decorations
- Learn about regulation and its exceptions
- Public hearing Nov. 2003
- Questions

# Agenda

- Review Regulation
- Review “typical layouts”
- Questions

# Overview

- To ensure a safe learning and nurturing school environment
- Combine safety with learning

# Major Changes

- Now looks at paper materials
- Plexiglas is not acceptable
- Allows flame retardant paper materials
- Allows up to 10% in corridors/assembly
- Allows paper materials in corridors
  - Limited density of 72 sq. ft.
- Allows paper materials in assembly areas
  - Limited density of 72 sq. ft.
- Allows 50% if protected with automatic sprinklers

# Vocabulary

- Education Use as defined by 780 CMR
- Flame retardant paper material
- Paper materials
- Classroom
- Exit access passageways
- Exits and enclosed exit stairs
- Assembly Areas

# Definitions

- Educational Use Group by 780 CMR 305.1
  - All structures other than those occupied for business training or vocational training, which accommodate more than 5 persons for educational purposes through the 12th grade.
  - A child day care center which provides care for children more than 2 yrs. 9 mos. Shall classified as use Group E.

# Definitions

- Flame retardant
  - Generally a paper material that has been treated by chemicals, processes or coatings that create a product that does not ignite readily, or propogate under small to moderate fire exposure

# Definitions

- Paper Materials
  - Generally any readily combustible material made from paper

# Definitions

- Classroom
  - An area designed and designated for teaching students under the State Building Code.

# Definitions

- Exit Access Passageways
  - A portion of a corridor, which leads to an entrance or exit

# Definitions

- Corridors
  - An enclosed passageway, which limits the means of egress to a single path of travel

# Definitions

- Exits and enclosed exit stairs
  - The portion of a means of egress which is separated from all other spaces of a building or structure by construction or protected openings

# Definitions

- Assembly Areas
  - An area of the building with legal occupancy, posted by the building official, of greater than 50 people

# Classroom

- Allows for 20% of the aggregate of the total wall area to be covered
- Not permitted to be within 5 ft of a door
- During calculation includes door and window openings

Paper Background counts to the 20 %

# Classroom

- EXCEPTIONS
  - Allows glass or polycarbonates
    - Plexiglas is not acceptable!
  - Paper material in fully enclosed viewing cabinets
  - Paper material covered with a sheet material
  - Flame retardant paper material
  - May cover upto 50% if provided with automatic sprinklers

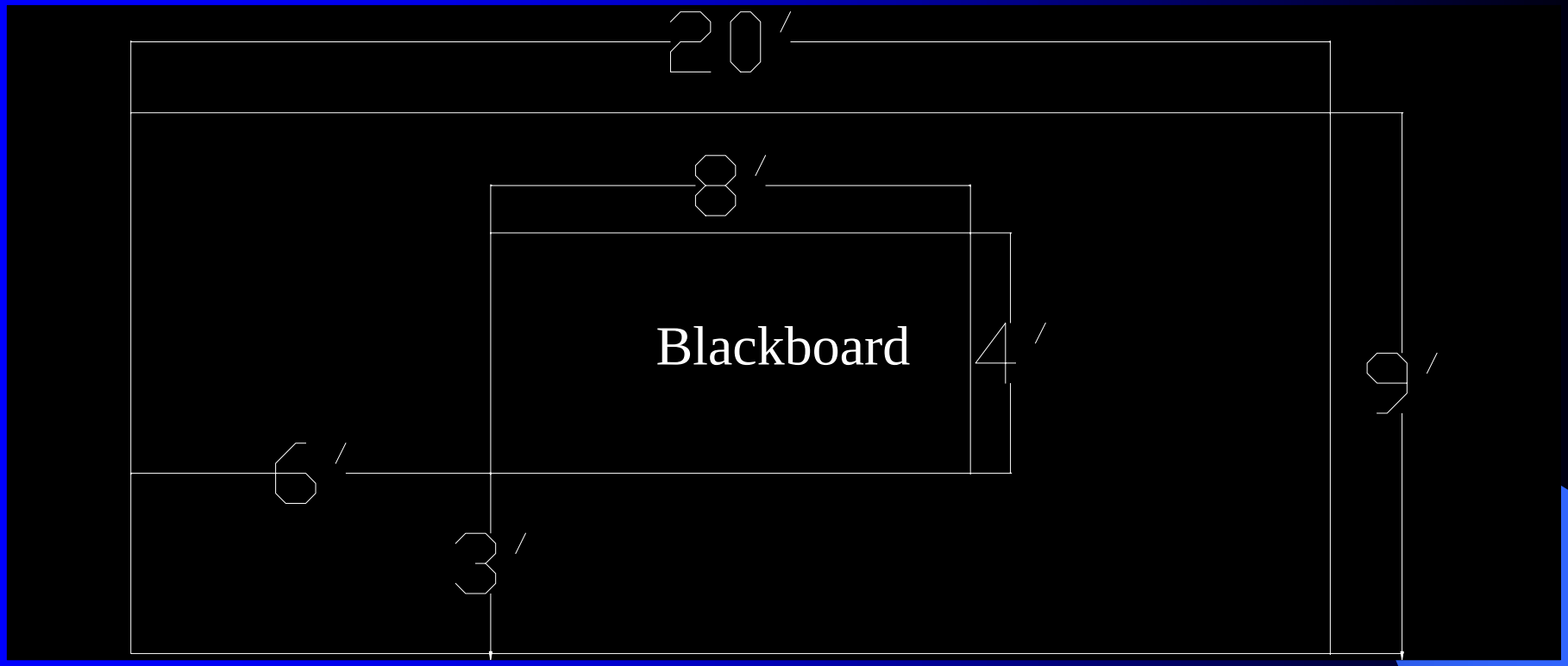
- EXAMPLE
- 8.5 in. X 11 in. piece of paper = .65 sq. ft.
- 11 in. X 17 in. = 1.3 sq. ft.

- EXAMPLE
- Classroom w/ 10 ft. ceilings and 20 ft. long
- 200 sq. ft. per wall
- 200 sq. ft. per wall X 20% = 40 sq. ft. per wall
- 40 sq. ft. / .65 sq. ft. = 61 pieces of paper
- 40 sq. ft. / 1.3 sq. ft. = 30 pieces of paper

- EXAMPLE
- 40 sq. ft. / .65 sq. ft. = 61 pieces of paper
- 40 sq. ft. / 1.3 sq. ft. = 30 pieces of paper

- Over four walls --
- 244 pieces of 8.5 in. X 11 in.
- 120 pieces of 11 in. X 17 in.

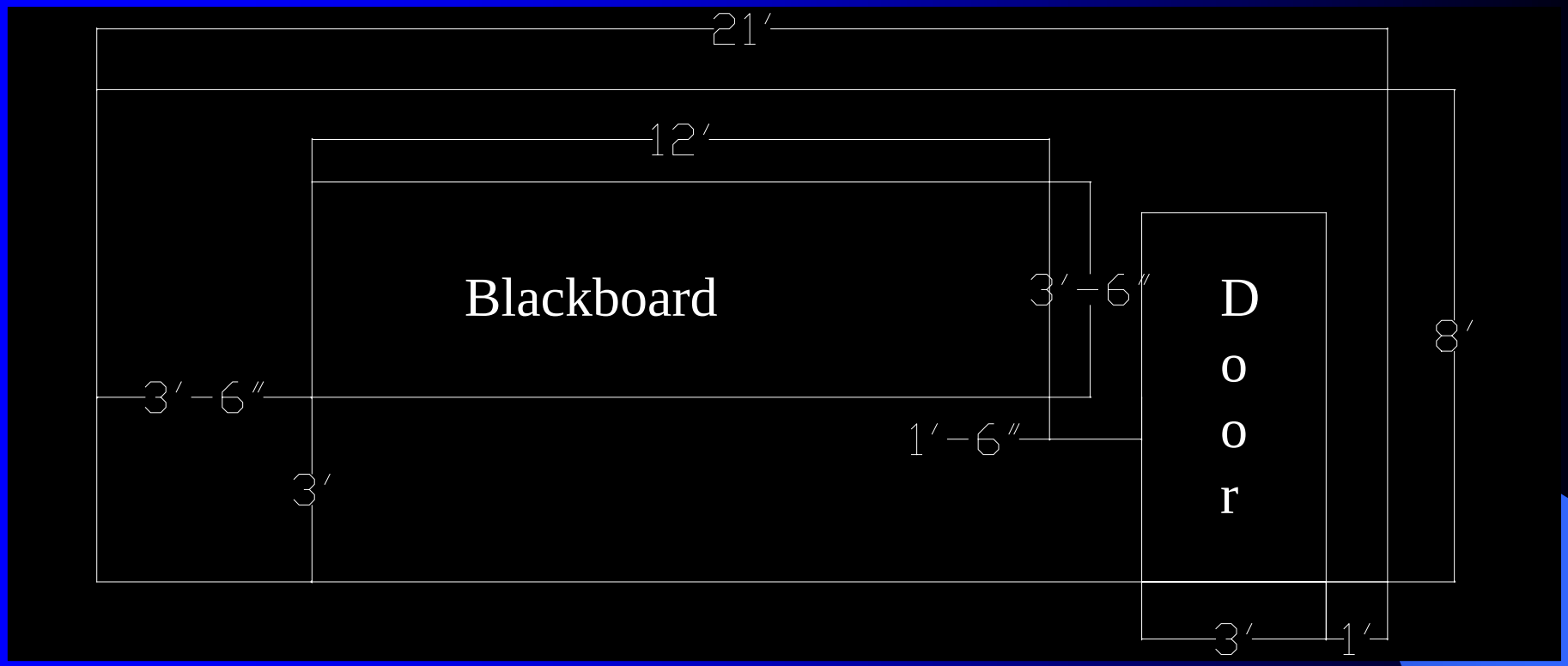
# Classroom wall




Wall area = 180 sf or 36 sf to be covered

Eliminate blackboard & beneath leaves 64 sf

# Classroom wall w/ door

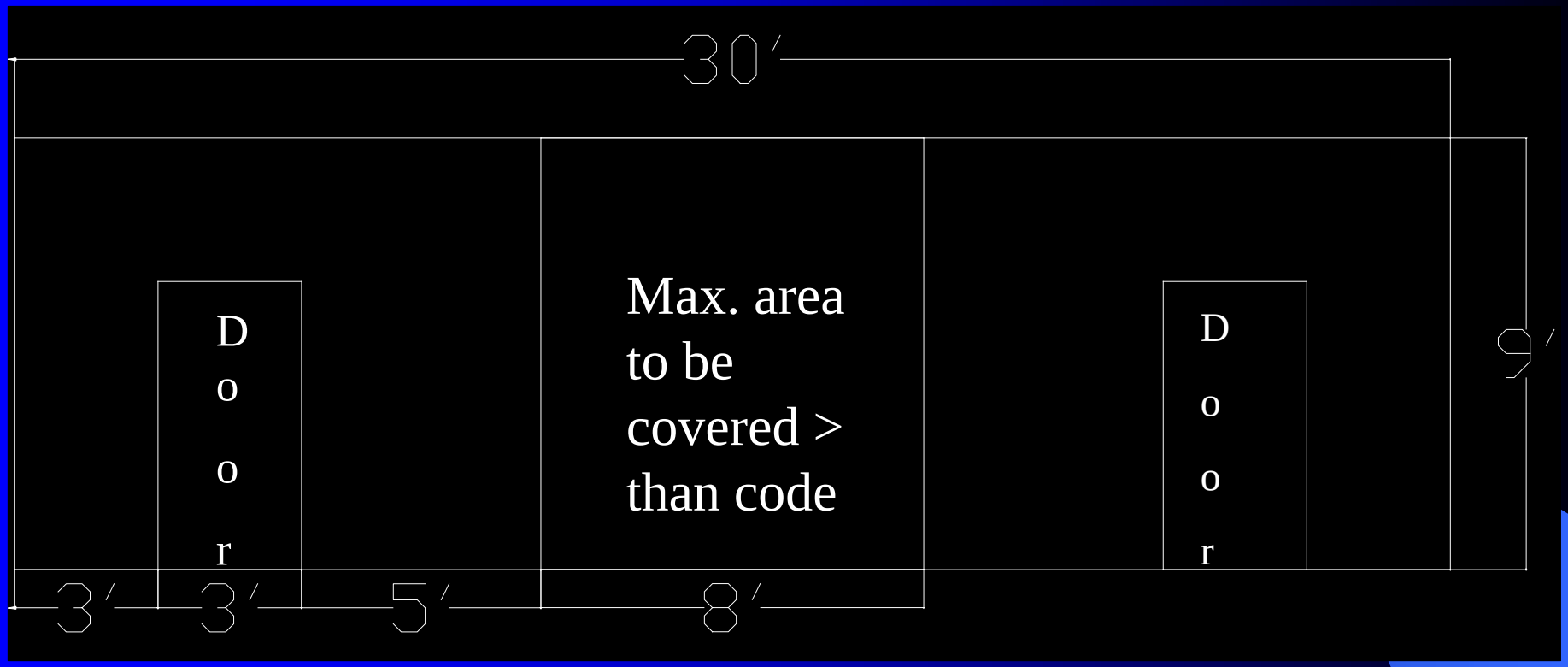



Wall area 168 sf or about 33% to be covered

Area remaining 18 sf (w/o board/door and area under)

POPCORN WORDS

# Classroom wall w/ doors




Wall area 270 sf or 54 sf to be covered

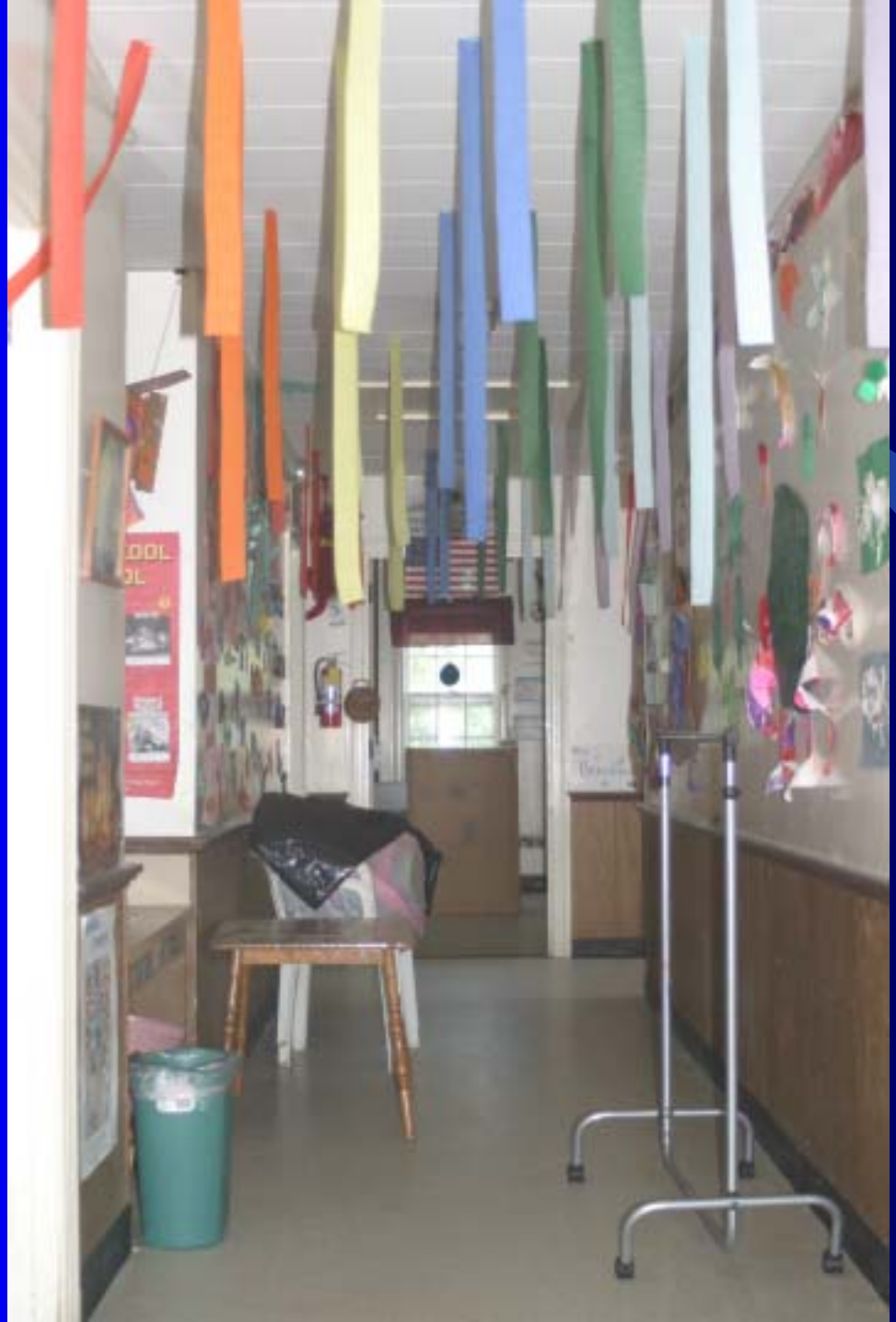
Area around doors 198 sf leaves 72 sf

# Exit access passageways, assembly areas & corridors

- Allows for 10% of the surface of one wall to be covered
- Minimize flame spread
- Maximum grouping 72 sq. ft.
  - 12 ft. horizontally & 6 ft. vertically
- Space between equal to horizontal width of largest adjacent display
- Not allowed within 5 ft. of an egress door or to cover door

# Exit access passageways, assembly areas & corridors

- EXCEPTIONS
  - Allows glass or polycarbonates
    - Plexiglas is not acceptable!
  - Paper material in fully enclosed viewing cabinets
  - Paper material covered with a sheet material
  - Flame retardant paper material
  - May cover upto 50% if provided with automatic sprinklers
  - Reduces spacing to ½ the horizontal width of largest display
  - Not allowed within 5 ft. of an egress door or to cover door



# MAXIMUM SIZE AREA

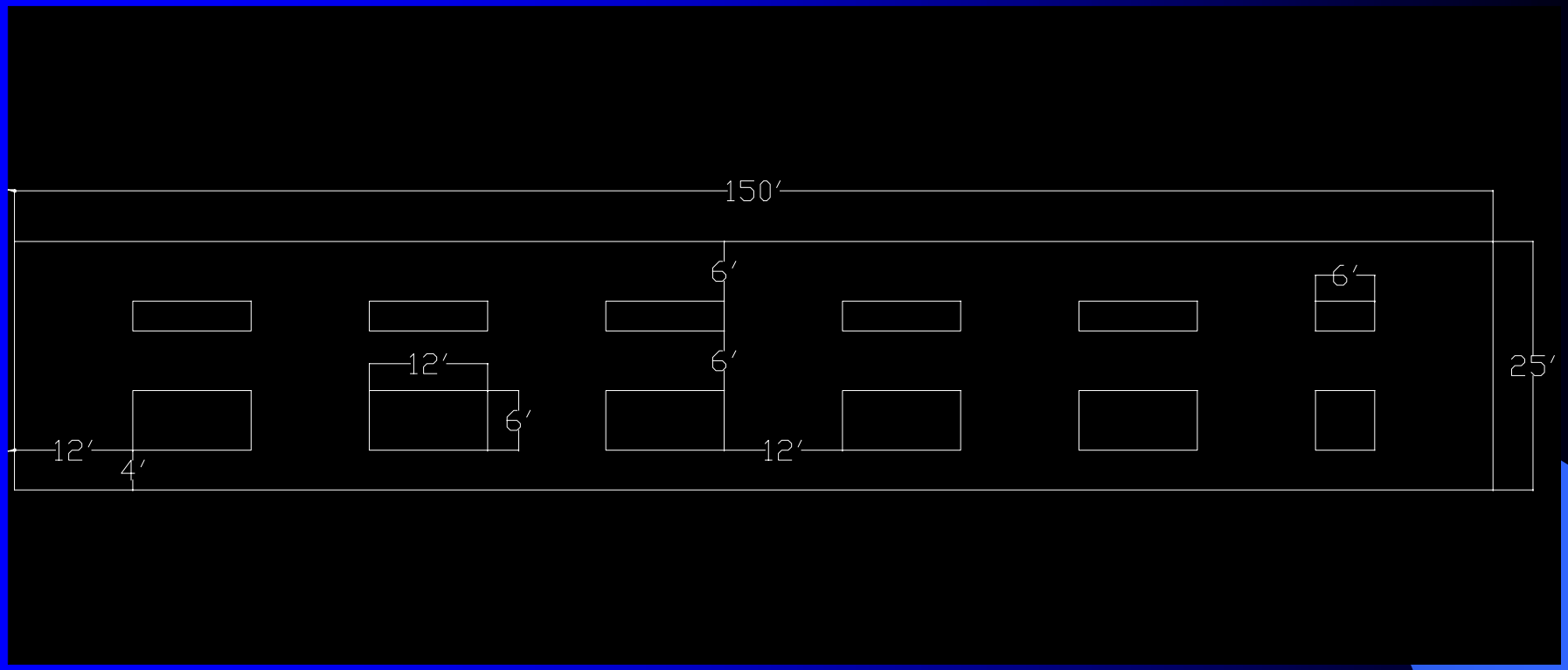
AUDITORIUMS

# CAFETERIAS

GYMS

HALLWAYS

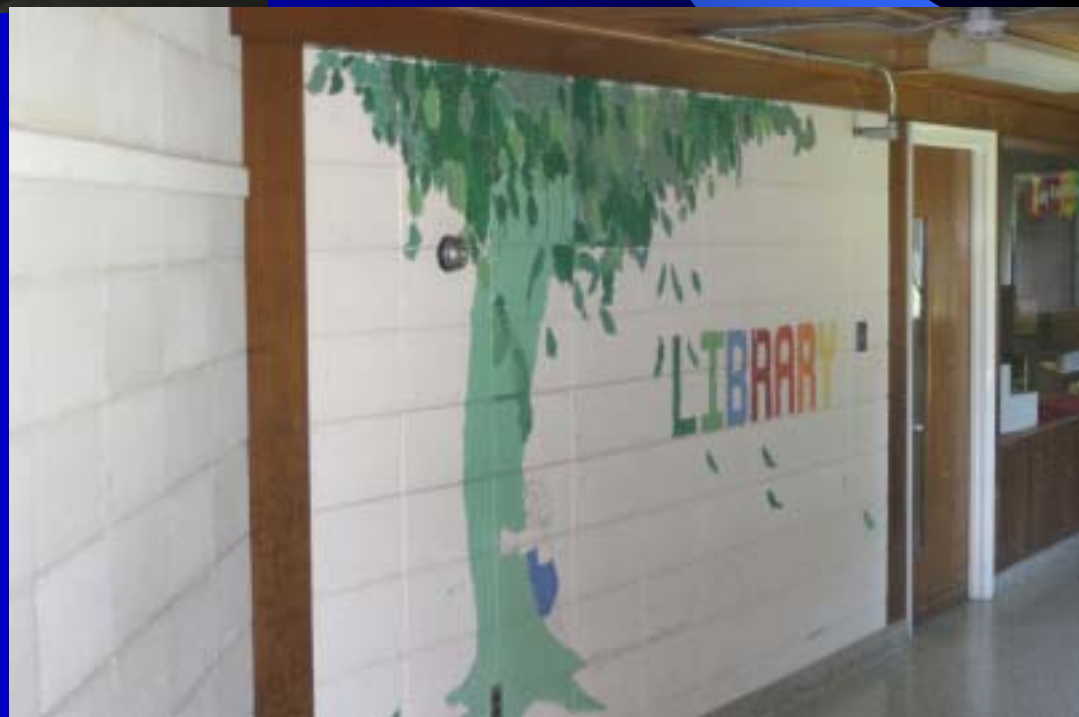
# Exit access passageways, assembly areas & corridors



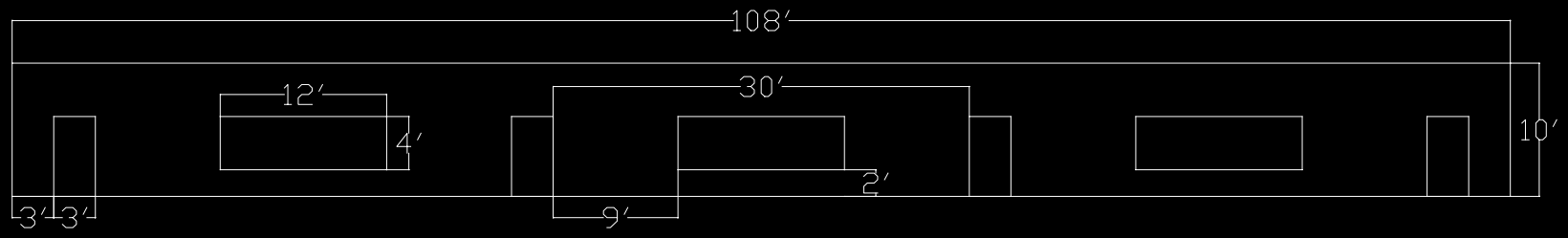

Wall area 3,750 sf or 375 sf to be covered

Groups of 72 sf -- 5.2 sections

Physical
Emotional
Social
Environmental


LIBRARY

# Exit access passageways, assembly areas & corridors




One wall area 1,080 sf or 108 sf to be covered

Max. area between doors is 200 sf

Example uses 48 sf between to comply with code

# Exits and enclosed stairs

- Displayed paper materials shall not be permitted

# Exceptions to 527 CMR 10.09

- Shall not prohibit the posting of exit signage or evacuation plans established in accordance with 527 CMR 10.09 (1).
- Shall not apply to any election materials required by law to be posted during any local, state or federal election.

# Other codes cites of interest

- 780 CMR 805.3
  - Interior floor finish in vertical exits, exit passageways and exit access corridors shall not be less than Class II. In all other areas, the interior floor finish shall comply with the DOC FF-1 “pill test” (CPSC 16 CFR, Part 1630).
  - Section 805.5 requires other materials to meet at least the minimum resistantance as the “pill test” referenced above.

Rugs and Upholstered Furniture
must be approved and listed
NEBRASKA
IOWA
KANSAS
MISSOURI
ARKANSAS
INDIANA
OHIO
NEW YORK
VERMONT

# Other codes cites of interest

- School Plays & Special Effects
  - Special effect:  any material, composition or device for the purposes of producing a visibile or audible effect for entertainment purposes by combustion, deflagration, or detonation…..
  - MGL 148 Section 39 – allows board to oversee these displays by licensed individuals only – criminal offense!

# Other codes cites of interest

- 527 CMR 10.09
  - Responsible school official responsible to formulate a plan for protection/evacuation of all persons. Shall include alternate means of evacuation. Shall be presented and approved by the head of the fire dept.
  - Responsible person shall see that each instructor receives proper instructions
  - Every student in every school shall be advised of procedure or take part in a drill within 3 days after entering school
  - Fire dept. shall visit 4 times/year to conduct a drill

# Other codes cites of interest

- 527 CMR 14
  - Requires a permit for the storage of flammable/combustible liquids
- 527 CMR 21 – Decorations, Curtains, Draperies, Blinds and other window treatments

# Other codes cites of interest

- 527 CMR 29 – Upholstered Furniture, Molded Seating, and Re-upholstered Furniture
  - Applies to purchased, leased and rented units on or after 5/1994 – CA TB 133
  - With a/s needs to meet CA TB 117
  - Fire dept. needs copy of certification

# Other codes cites of interest

- 527 CMR 39 -- Welding and Cutting Processes
  - Requires a permit from the fire dept.

# Summary

- Overview of regulations and its exceptions
- Examples of various areas
- Public Hearing is scheduled for Nov. 2003

# How to reach us

- Web Site: www.state.ma.us/dfs

- Board of Fire Prevention Regulations
- V. Carlisle Smith, Chairman
- Post Office Box 1025
- Stow, MA 01775

*Office of the State Fire Marshal*

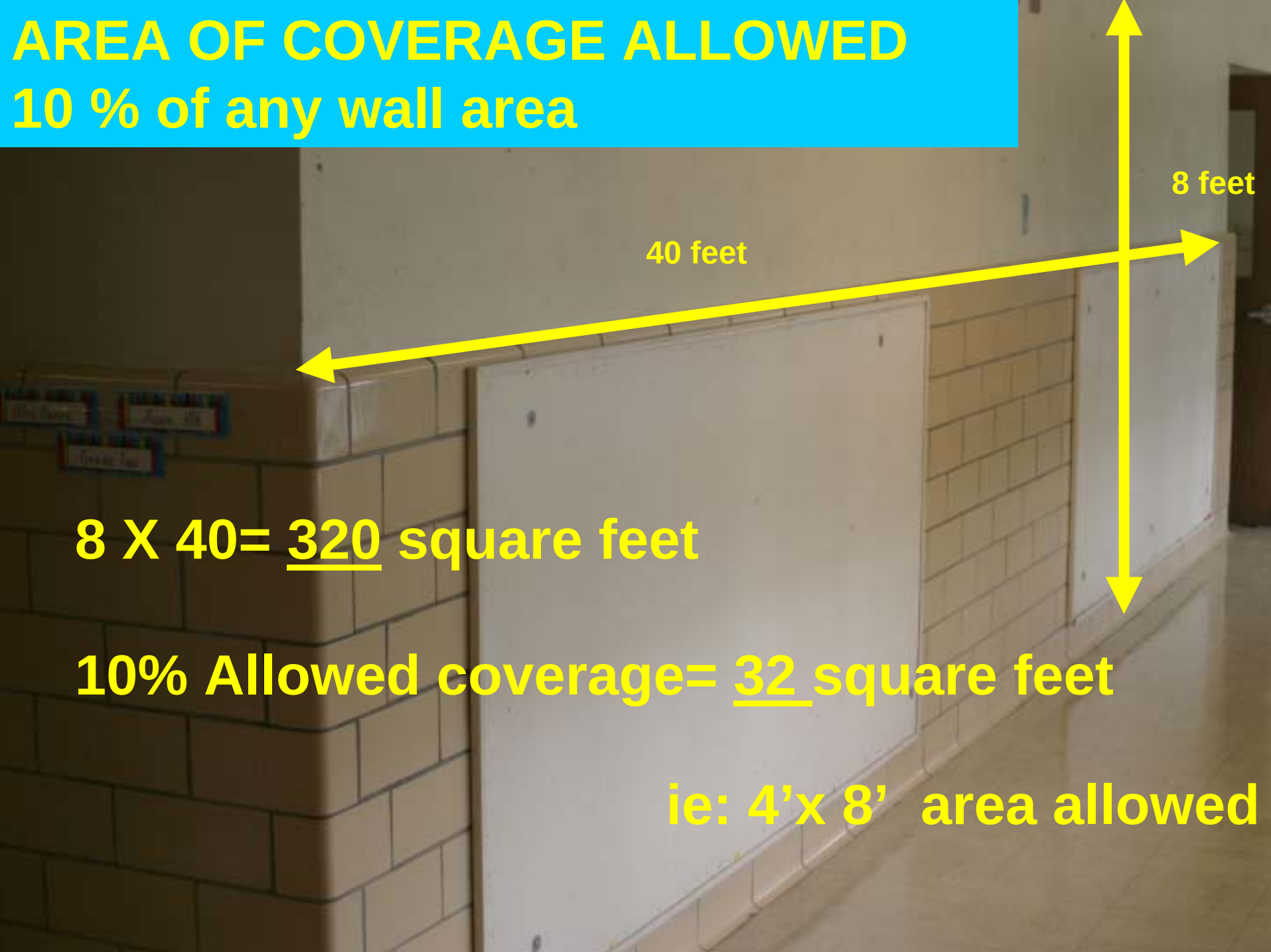
# Overview of Revised School Regulation

***Thank you!***

2003

POPCORN WORDS

# AREA OF COVERAGE ALLOWED
# 10 % of any wall area

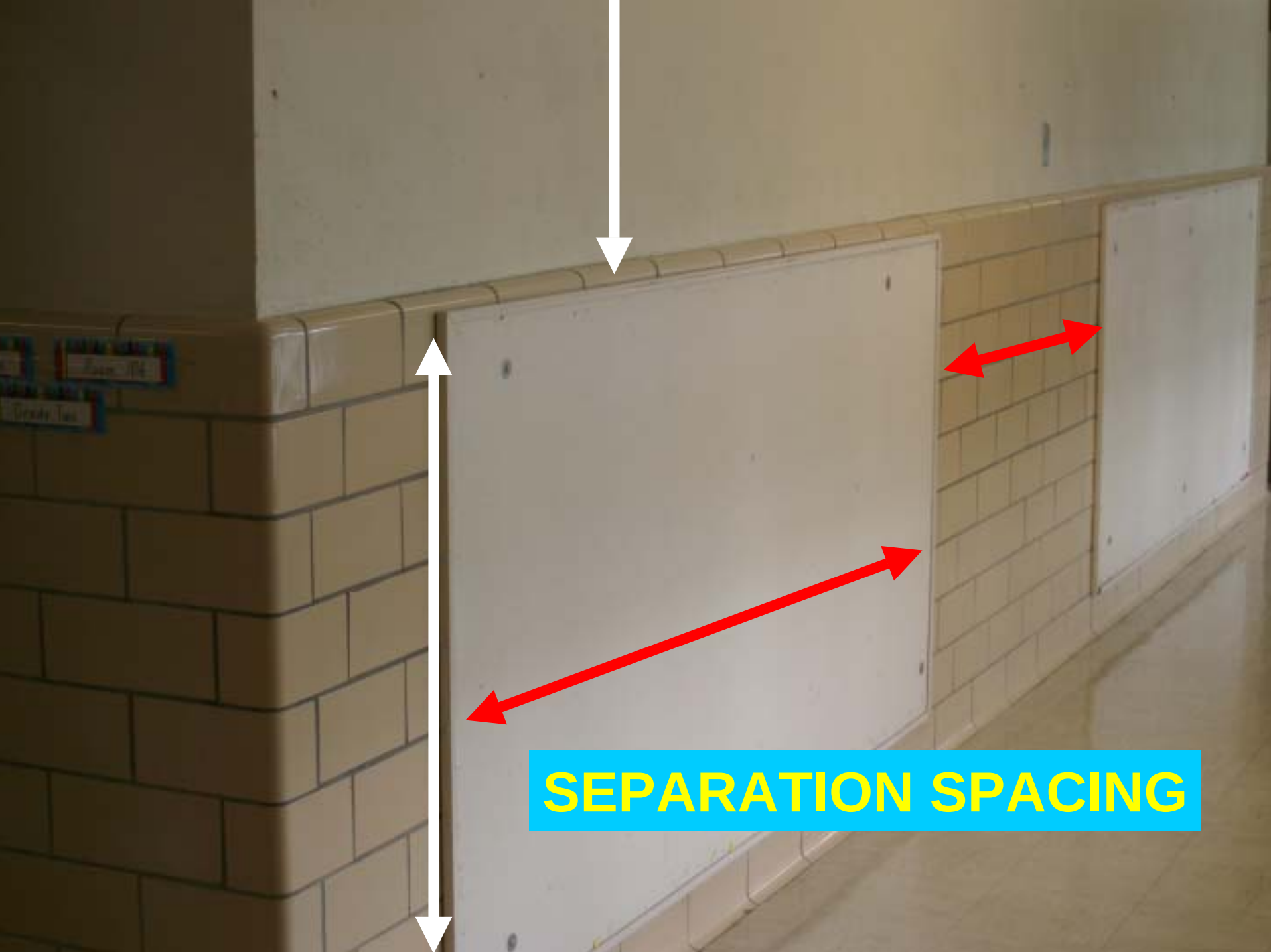



**8 X 40= 320 square feet**

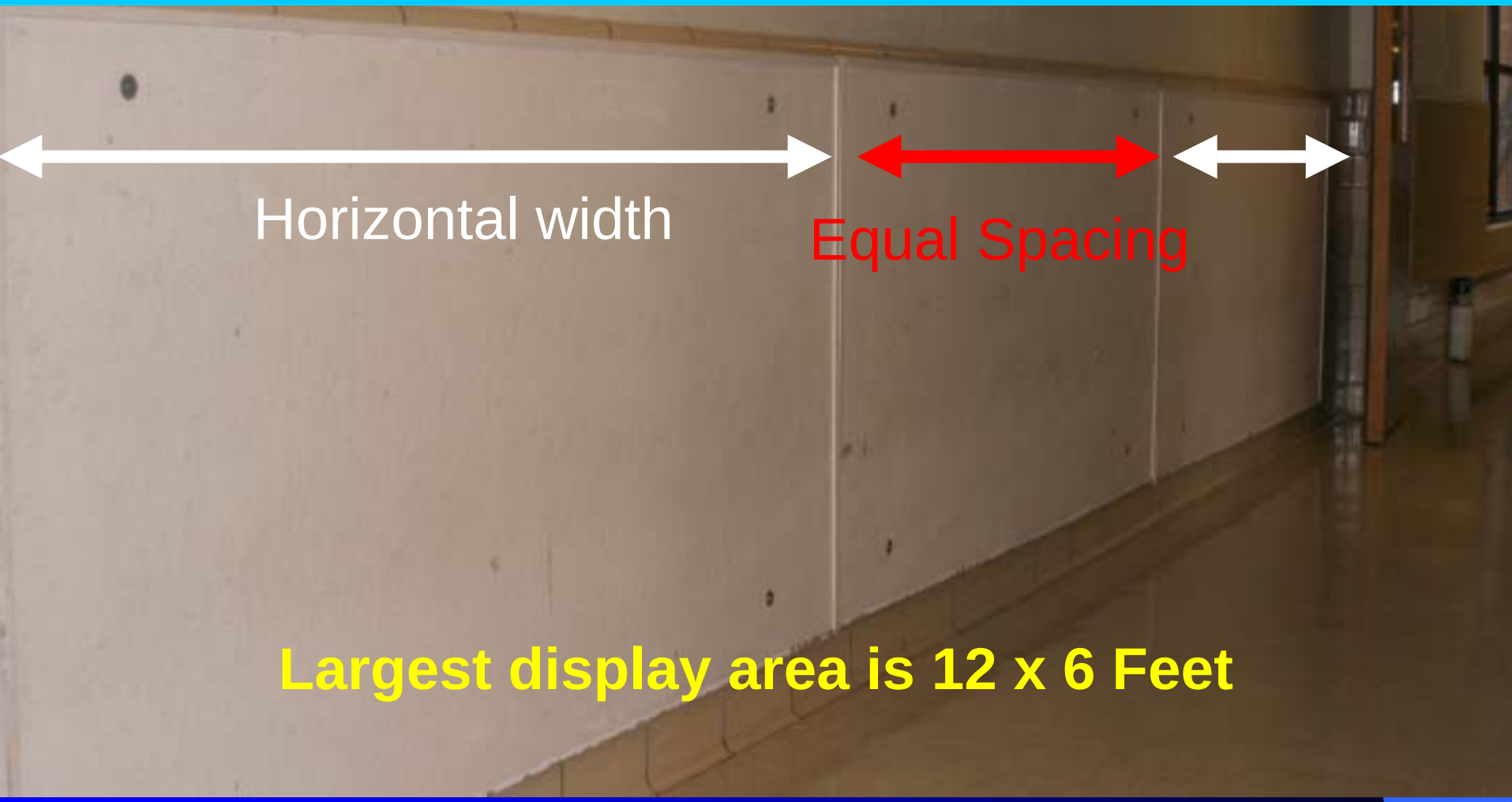
**10% Allowed coverage= 32 square feet**

**ie: 4'x 8' area allowed**

# LOCATION OF DISPLAY


SEPARATION SPACING

# Spacing between displays equal to largest horizontal width




**Largest display area is 12 x 6 Feet**

# Enclosed Viewing Cabinets

# Enclosed with Glass or Polycarbonate

# Thermoplastic materials as *plexiglas are not acceptable*

# CLASS ROOMS

20 % of Total wall area
can have combustible hangings
** 30% WITH ADEQUATE SPRINKLERS
MATERIAL MUST BE ATTACHED DIRECTLY TO WALLS
** EXCEPT IN FULLY ENCLOSED VIEWING CABINETS

# NOTHING HANGING FROM CEILINGS

# Post Emergency Route Information

**Have material made "Fire Retardant"**

( Must have yearly certificate on file )

( Check with **LOCAL Fire** Department prior )

# USE NON COMBUSTIBLE MATERIALS

# Combustible Furniture & Rugs etc.

# Limit Combustible Storage

# EGRESS DOORS

Nothing within Five feet
&
Doors Cannot be covered

The portion of a means of egress which is separated from all other spaces of a building or structure by construction or protected openings