CODE REVIEW FORM

Project Address: Broad Ford Elementary School
607 Harvey Winters Road
Oakland, Maryland 21550

Owner: Garrett County Public Schools
40 South Second Street
Oakland, Maryland 21550

Project Description: Modular classroom addition to the existing school in preparation of future middle school renovation of the adjacent middle school and additional classroom space to relieve overcrowding of the elementary school. 8 classroom and 1 bathroom modular, anticipate 4 classrooms leaving when middle school is renovated and 4 will remain for longer period. Connecting vestibule to provide enclosed area from modular to school due to cold and inclement weather in Garrett County, non-heated area.

Reference Codes: 2012 IBC
2012 Life Safety – NFPA 101
2012 IPC Plumbing Code
2012 IMC Mechanical Code
2011 NEC
2010 MD Accessibility Act
2012 IECC

Approach to Code: Separated area Modular & Vestibule from School; Existing school is not sprinklered, Modular will not have sprinklers, Existing building wall is fire separation wall (masonry wall - CMU & brick), vestibule will have its own supporting structure. Doors being replaced at connection to be fire rated.

BUILDING REQUIREMENTS

Construction type 2B construction type – Existing School Building
5B construction type – Modular building & Vestibule.

Total floor area 52,616 sf – existing School
8,983 sf – Modular and Vestibule

Use Group (see IBC Chapter 3 for Descriptions)

<table>
<thead>
<tr>
<th>Group</th>
<th>Building Area Description</th>
<th>Square Feet</th>
<th>Allowable sf / st</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>Education - modular</td>
<td>8,983 sf</td>
<td>9,500 sf / 1 st (40')</td>
</tr>
<tr>
<td>E</td>
<td>Education - Existing school</td>
<td>52,616 sf</td>
<td>14,500 sf / 2 st (55')</td>
</tr>
</tbody>
</table>

Existing School is not in compliance with current code for area of limitations. The many of the existing classrooms have direct exit to the exterior, others exit through other classrooms as the original design was an open school concept which generally remains as originally designed.

Fire Protection Systems (IBC 903, NFPA 101-7-6): Not required for E occupancies if less than 12,000 sf modular area. Existing school does not conform to current code, however no changes to the existing school except replcement of doors in the fire barrier.
Fire Alarm Systems (907.0) Required. – New system recently installed in Broad Ford ES – will be extended into the modular building.

Emergency Lighting & Exit Signs: Provide. Approved emergency lighting shall be provided for all means of egress to automatically achieve required illumination levels for a period of 1 ½ hours in the event of power failure of normal lighting.

Fire Extinguishers: Provide – max 75 ft distance to extinguisher

Fire Resistance Ratings of Structural Elements (Table 602)

<table>
<thead>
<tr>
<th>Element</th>
<th>5B- modular</th>
<th>2B- existing ES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structural frame</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Bearing frame walls (exterior)</td>
<td>0 hr</td>
<td>0</td>
</tr>
<tr>
<td>(interior)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Nonbearing walls and partitions</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Floor Construction / Including beams</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Roof Construction -</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Interior Finishes
E – Classrooms - min Class A,B,C exits, corridors, rooms

Fire Resistant Materials and Construction
Education to Education is not required to be separated from the other. However due to differing construction types of the modular and connecting vestibule separation is required. The existing masonry wall of the school becomes the firewall. Existing structure does not bear on this wall.

Modular to be placed minimum of 20 feet from the existing building. (two sides)

Occupant Load
Classrooms E 8 rms at 756 sf each 6,048 sf @ 20 sf = 303 occupants

Max travel distance without Sprinklers 200 ft.

Minimum # of exits – E - 2 required; 2 provided

Minimum door width: 36” min
Minimum corridor width: 72” min if required occupant of 100 or more.

Dead Ends (1004.3.2.3) Maximum 20 feet without sprinklers

Common Path of Travel (1011.2.1) 75’ max. E without sprinklers

Door Hardware and Operation (1017.4) Must open in direction of egress travel. All egress doors shall be readily operable from the egress side without use of key, special knowledge or effort, and shall not require more than one release operation.

Loads-table 1607.1
E Education – Live Load – classrooms 40 psf & 1st flr Corridors – 100 psf / 2,000 lbs concentrated;

PLUMBING FIXTURES (IBC Chapter 29): Minimum Plumbing Facilities (Table 2902.1)

<table>
<thead>
<tr>
<th>Fixture Type</th>
<th>Per 50 (M) / (F)</th>
<th>Per 100</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>toilets</td>
<td>4(M) / 4(F)</td>
<td></td>
<td>provided</td>
</tr>
<tr>
<td>1 per 50</td>
<td>3(M) / 3(F)</td>
<td></td>
<td>3M / 4F</td>
</tr>
<tr>
<td>1 per 100</td>
<td>3</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>service sink</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

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