



GENERAL CODE INFORMATION

APPLICABLE LIFE SAFETY/BUILDING CODES:
 Maine Uniform Building and Energy Code (MUBEC) which is based on the 2009 International Building Code (IBC) and the 2009 International Existing Building Code (IEBC)
 2009 National Fire Protection Association (NFPA) 1, adopted by the State Fire Marshal's Office and City of Portland
 2009 NFPA 101, adopted by the State Fire Marshal's Office and City of Portland
 City of Portland Chapter 10 Fire Prevention and Protection Ordinance

AUTOMATIC SUPPRESSION SYSTEM: Fully Sprinklered in accordance with NFPA 13.

FIRE ALARM SYSTEM: Addressable, voice evacuation system in accordance with NFPA 72.

BUILDING CODE SUMMARY (IBC)

OCCUPANCY CLASSIFICATION:
 IBC: Mixed Use, Non-Separated Occupancies (IBC, Sections 508 and 508.3)
 Classifications of A-2/A-3/E (Zone 1, to West of fire wall) and E (Zone 2, to East of fire wall) (IBC, Sections 303.1, 305.1)

TYPE OF CONSTRUCTION:
 IBC Type IIB (IBC, Section 602.3 and Table 601).

HEIGHT AND AREA LIMITATIONS (based on IBC Type IIB classification):
 Height: 55' Allowable/30' Actual (IBC, Table 503)
 Stories: 2 stories Allowable/2 stories Actual (IBC, Table 503)
 Base Areas per zone (IBC, Table 503):
 Zone 1 (A-2/A-3/E) = 9,500 SF
 Zone 2 (E) = 14,500 SF
 Frontage & Automatic Sprinkler System Increases (IBC 506.2, Equation 5-2):
 Frontage Increase Zone 1 (Assembly/Educational, A-2/A-3/E)
 $I_f = [581/531^{1-0.25}] \times 30^{0.30} = 46$
 Frontage Increase Zone 2 (Educational, E)
 $I_f = [1,076/1,449^{1-0.25}] \times 30^{0.30} = 49$
 Sprinkler Increase Zone 1 (Assembly/Educational, A-2/A-3/E)
 $I_s = 3.0$ (IBC, Section 506.3)
 Sprinkler Increase Zone 2 (Educational, E)
 $I_s = 2.0$ (IBC, Section 506.3)
 Area Modifications with Increases (IBC, Equation 5-1):
 Zone 1 (A-2/A-3/E) = $9,500 + [9,500 \times 46] + [9,500 \times 3.0] = 42,370$ SF
 Zone 2 (E) = $14,500 + [14,500 \times 49] + [14,500 \times 2.0] = 50,605$ SF
 Actual Areas vs. Allowable Areas:
 Zone 1 (A-2/A-3/E) = 16,000 SF vs. 42,370 SF Allowable
 Ratio of Actual to Allowable = 0.37
 Zone 2 (E) = 44,500 SF vs. 50,605 SF Allowable
 Ratio of Actual to Allowable = 0.88

EXTERIOR FIRE RESISTANCE RATINGS:
 Exposure to Other Buildings: No rating required (Table 602)
 Stair Enclosures with Exterior Walls with Exposure at <180°: 1 hour required for 10' (IBC, Section 1022.5)
 Fire Wall Intersecting Exterior Wall at <180°: 1 hour required for 4' on each side of fire wall, with 45 min penetrations (IBC, Section 706.5.1)
 Roof Rating: Min. Class C roof covering required (IBC, Table 1505.1)

INTERIOR FIRE RESISTANCE RATINGS:
 Exit Stair Enclosures: 1 hour required (IBC, Sections 707.3.2 and 1022.1)
 Exit Access Stairways: no rating required (IBC, Sections 708.2, exception 1; 1016.1, exceptions 3 and 4; and 1021.1, exception 3)
 Fire Wall: 2 hour required (IBC, Section 706.4, Table 706.4, and Table 706.4 footnote a)
 Horizontal Exit: 2 hour required (IBC, Section 1025.2)
 Elevator Shafts: 1 hour required (IBC, Sections 708.2, 708.4, and 708.14)
 Elevator Machine Room: 1 hour required (IBC, Section 3006.4)
 Ductwork Shafts: NA, fire dampers required at floor (IBC, Sections 708.2 exception 4 and 716.6)
 Areas with Increased Hazard: smoke partitions required (IBC, Table 508.2.5)
 Corridors: no rating required (IBC, Table 1018.1)
 Vertical Opening Protection: see schedule on G-103

STRUCTURAL ELEMENTS - FIRE RESISTANCE RATINGS REQUIRED FOR THE TYPE OF CONSTRUCTION (IBC, Table 601):
 Exterior load bearing walls: 0 hour
 Exterior non-load bearing walls: 0 hour
 Non-load bearing partitions: 0 hour
 Interior load bearing walls: 0 hour
 Structural Frame: 0 hour
 Floor Construction: 0 hour
 Roof Construction: 0 hour

STRUCTURAL ELEMENTS SUPPORTING FIRE RATED BARRIERS INCLUDING FLOORS, WALLS OR CEILING (IBC, Section 707.5.1):
 Rating to Match Barrier.

OCCUPANCY LOAD FACTORS (IBC, Table 1004.1.1):
 Classrooms: 20 net SF per occupant
 Assembly Unconcentrated (tables and chairs): 15 net SF per occupant
 Assembly Concentrated (chairs - not fixed): 7 net SF per occupant
 Stages: 15 net SF per occupant
 Administration/Clinic/Office: 100 gross SF per occupant
 Mechanical Spaces: 300 gross SF per occupant
 Storage Rooms: 500 gross SF per occupant

TOTAL CALCULATED BUILDING OCCUPANT LOAD: 3,396
 First Floor Occupant Load: 2,772
 Second Floor Occupant Load: 624

CAPACITY OF EGRESS COMPONENTS (IBC, Section 1005.1):
 Clear Width per person:
 0.2' per person for doors, corridors, and ramps
 0.3' per person for stairs

EXIT DISCHARGE (IBC, Section 1027.1):
 Exits discharge directly to the exterior.

COMMON PATH, DEAD-END, AND TRAVEL DISTANCE LIMITS (IBC, Sections 1014.3 and 1018.4, and Table 1016.1):
 Travel Distance: 250' Allowable/167' Actual
 Common Path of Travel: 75' Allowable/69' Actual
 Dead End Lengths for Assembly Occupancies: 20' Allowable/0' Actual
 Dead End Lengths for Educational Occupancies: 50' Allowable/20' Actual

INTERIOR FINISH REQUIREMENTS FOR WALLS AND CEILING (IBC, Table 803.9):
 A-2/A-3/E (Zone 1):
 Exit Enclosures (Stairs): Minimum of Class B
 Corridors: Minimum of Class B
 Individual Rooms: Minimum of Class C
 E (Zone 2):
 Exit Enclosures (Stairs): Minimum of Class B
 Corridors: Minimum of Class C
 Individual Rooms: Minimum of Class C

LIFE SAFETY CODE SUMMARY (NFPA 101)

OCCUPANCY CLASSIFICATION:
 NFPA 101: Multiple, Mixed Occupancy (NFPA 101, Sections 6.1.14.2.1, and 6.1.14.3)
 Classifications of Assembly/Educational (Zone 1, to West of fire wall) (NFPA 101, Sections 6.1.2 and 6.1.3) and Educational (Zone 2, to East of fire wall) (NFPA 101, Section 6.2.3)

TYPE OF CONSTRUCTION AND ASSEMBLY OCCUPANT LOAD LIMITATIONS:
 Type of Construction is NFPA Type II(000), Non-Rated Construction, Non-Combustible (2006 NFPA 220, Section 4.3.1 and Table 4.1.1)
 Type II(000) permits any Assembly occupant load at the level of exit discharge.

EXTERIOR FIRE RESISTANCE RATINGS:
 Stair Enclosures with Exterior Walls with Exposure at <180°: 1 hour required for 10' (NFPA 101, Section 7.2.2.5.2.1)
 Horizontal Exit Exposure at <180°: 1 hour required for 10' (NFPA 101, Section 7.2.4.3.4)

INTERIOR FIRE RESISTANCE RATINGS:
 Exit Stair Enclosures: 1 hour required (NFPA 101, Section 7.1.3.2.1)
 Horizontal Exit: 2 hour required (NFPA 101, Section 7.2.4.3.1)
 Elevator Shafts: 1 hour required (NFPA 101, Section 8.6.5(2))
 Ductwork Shafts: NA, fire dampers required at floor (NFPA 101, Section 9.2.1 and 2009 NFPA 90A, Section 5.3.4.3.1)
 Areas with Increased Hazard: smoke partitions required (NFPA 101, Sections 8.7, 12.3.2.1.2, and 14.3.2.1)
 Corridors: smoke partitions (NFPA 101, Sections 12.3.6 and 14.3.6)
 Vertical Opening Protection: see schedule on G-103

STRUCTURAL ELEMENT FIRE RESISTANCE RATINGS REQUIRED FOR THE TYPE OF CONSTRUCTION (2006 NFPA 220, Table 4.1.1):
 Type II(000) Construction:
 Exterior load bearing walls: 0 hour, non-combustible
 Exterior non-load bearing walls: 0 hour, non-combustible
 Non-load bearing partitions: 0 hour, non-combustible
 Interior load bearing walls: 0 hour, non-combustible
 Structural Frame: 0 hour, non-combustible
 Floor Construction: 0 hour, non-combustible
 Roof Construction: 0 hour, non-combustible

STRUCTURAL ELEMENTS SUPPORTING FIRE RATED BARRIERS INCLUDING WALLS, FLOORS OR CEILING (2009 NFPA 221, Section 7.2.5):
 Rating to Match Barrier.

OCCUPANCY LOAD FACTORS (NFPA 101, Table 7.3.1.2):
 Classrooms: 20 net SF per occupant
 Assembly (less concentrated): 15 net SF per occupant
 Assembly (concentrated): 7 net SF per occupant
 Stages: 15 net SF per occupant
 Administration/Clinic/Office: 100 gross SF per occupant
 Mechanical Spaces: 300 gross SF per occupant
 Storage Rooms: 500 gross SF per occupant

TOTAL CALCULATED BUILDING OCCUPANT LOAD: 3,396
 First Floor Occupant Load: 2,772
 Second Floor Occupant Load: 624

CAPACITY OF EGRESS COMPONENTS (NFPA 101, Table 7.3.3.1):
 Clear Width per person:
 0.2' per person for doors, corridors, and ramps
 0.3' per person for stairs

EXIT DISCHARGE (NFPA 101, Section 7.7.1):
 Exits discharge directly to the exterior.

COMMON PATH, DEAD-END, AND TRAVEL DISTANCE LIMITS (NFPA 101, Table A.7.6):
 Travel Distance elsewhere: 200' Allowable/167' Actual
 Common Path of Travel from Assembly Occupancies with more than 50 occupants: 20' Allowable/0' Actual
 Common Path of Travel elsewhere: 100' Allowable/69' Actual
 Dead End Lengths for Assembly Occupancies: 20' Allowable/0' Actual
 Dead End Lengths elsewhere: 50' Allowable/20' Actual

INTERIOR FINISH REQUIREMENTS FOR WALLS AND CEILING (NFPA 101, Table A.10.2.2):
 Exit Enclosures (Stairs and Exit Passageway): Minimum of Class B
 Corridors: Minimum of Class C
 Individual Rooms: Minimum of Class C
 Textile Finishes: Class A (NFPA 101, Section 10.2.4.1)

GENERAL NOTE:
 1. FIRE PROTECTION FEATURES OF THE BUILDING SHOWN IN SITE LAYOUT SKETCH ARE SHOWN FOR GENERAL INFORMATION ONLY. REFER TO APPLICABLE CIVIL, FIRE ALARM AND SPRINKLER SHEETS FOR DESIGN INFORMATION.

KEYNOTES: (THIS SHEET ONLY)
 1 FIRE DEPARTMENT ACCESS
 2 FIRE DEPARTMENT CONNECTION
 3 FIRE HYDRANT

1 SITE LAYOUT SKETCH G-101 NOT TO SCALE



LINE TYPE LEGEND: (THIS SHEET ONLY)
 ◆◆◆◆◆ DOUBLE FIRE WALL
 - - - - - ASSEMBLY/EDUCATIONAL WING FRONTAGE
 - - - - - EDUCATIONAL WING FRONTAGE

STATE OF MAINE PUBLIC SCHOOL PROJECT

TITLE: PORTLAND PUBLIC SCHOOLS
 NEW FRED P. HALL ELEMENTARY SCHOOL
 LOCATION: 53 OROND ROAD, PORTLAND, ME

TITLE THIS DWG: CODE INFORMATION

DATE: 06/12/17

DRAWN BY: MDF
 CHECKED BY: LEC

OAK POINT ASSOCIATES

NO. DATE DESCRIPTION BY NO. DATE DESCRIPTION BY NO.

REVISIONS

DRAWING NO. G-101
 SHEET NO. 4 OF 312