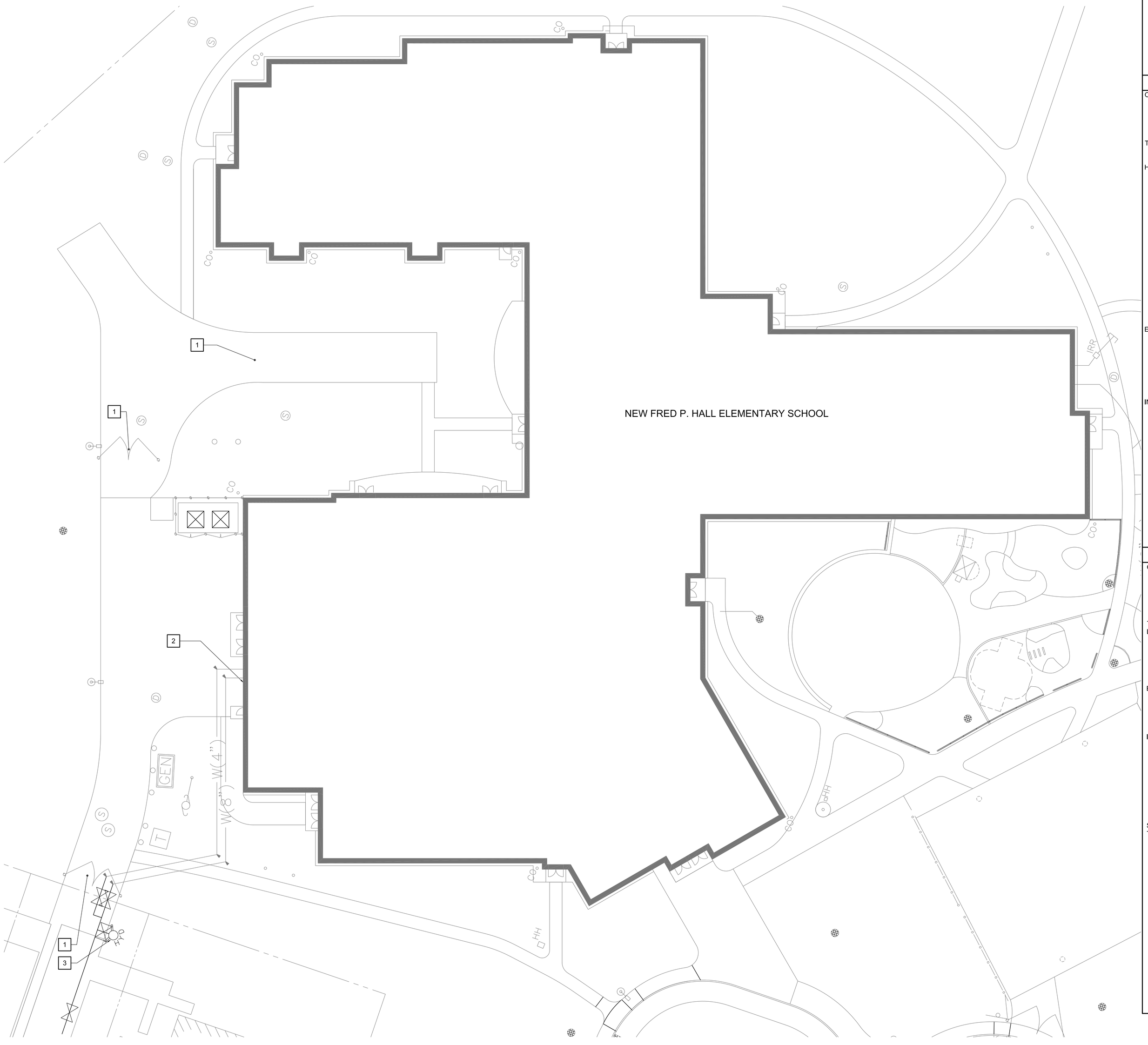

GENERAL CODE INFORMATION

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/Education, A-3/E) If = [381'/531'-0.25] x30'/30'=.46
  - Frontage Increase Zone 2 (Educational, E) If = [1,299'/1,449'-0.25] x30'/30'=.64
  - Sprinkler Increase Is = 2.0 (IBC, Section 506.3)
- Area Modifications with Increases (IBC, Equation 5-1):
  - Zone 1 (A-2/A-3/E) = 9,500+[9,500x.47]+[9,500x2.0] = 32,965 SF
  - Zone 2 (E)=14,500+[14,500x.60]+[14,500x2.0]=52,200 SF
- Actual Areas vs. Allowable Areas:
  - Zone 1 (A-2/A-3/E) = 16,000 SF vs. 32,965 SF Allowable
  - Zone 2 (E) = 44,500 SF vs. 52,200 SF Allowable

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 1022.6)
- 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 11; 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 CEILINGS (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
- Stage: 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 CEILINGS (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 firewall) (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 CEILINGS (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
- Stage: 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 CEILINGS (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

PLAN NORTH

NO.	DATE	DESCRIPTION	BY
		REVISIONS	

DRAWN BY: MDF
CHECKED BY: LEC
NO.
DATE: 03/17/17

STATE OF MAINE
PUBLIC SCHOOL PROJECT

TITLE: PORTLAND PUBLIC SCHOOLS
NEW FRED P. HALL ELEMENTARY SCHOOL
LOCATION: 23 ORONO ROAD, PORTLAND, ME

TITLE THIS DWG.
CODE INFORMATION

LAURA E. DUBIAK No. 10417 LICENSED PROFESSIONAL ENGINEER 3/17

OAK POINT ASSOCIATES
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DRAWING NO. G-101
SHEET NO. 4 OF 312