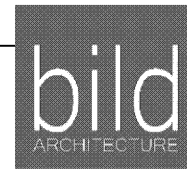


**Adult Rehabilitation Center**  
The Salvation Army

**Area Summary**



Unmodified Areas		
Use Group	Room or Area	Square Footage
A-3	Chapel	1,689
R-2	First Floor Nontransient Boarding House	3,906
S-2	Storage	2,504
R-2	Second Floor Nontransient Boarding House	4,428
R-2	Third Floor Nontransient Boarding House	6,231
M	Mercantile	4,216
Modified Areas		
Use Group	Room or Area	Square Footage
A-2	Kitchen	926
A-2	Office (Accessory)	48
A-2	ADA Bath (Accessory)	42
A-2	Dining Hall	2,821
R-3	Apartment (Single Dwelling Unit)	1,012
R-2	Second Floor Corridor	308
R-2 (accessory)	Second Floor Community Room	408
<b>Total Net Square Footage</b>		<b>28,539</b>

**Code Summary**

	Existing	Proposed
IBC Use	R-2 (Nontransient Boarding House) S-2 (Low Hazard Storage) A-3 (Chapel)	R-2 (Nontransient Boarding House) S-2 (Low Hazard Storage) A-3 (Chapel) R-3 (Single Dwelling Unit) A-2 (Dining Hall)
NFPA 101 Use	Assembly, Dormitory	Assembly, Dormitory, and One- and Two-Family Dwellings
Sprinkler	Yes	Yes
Fire separation of uses	N/A	Separated
Building footprint:	13,274 sf	17,462sf
Area of work (within existing footprint):	N/A	1,780sf
Area of new addition:	N/A	4,188sf

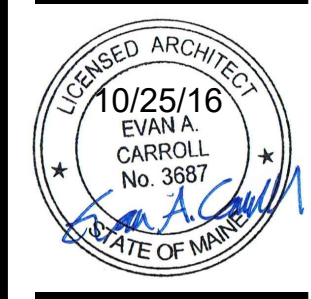
**IEBC 2009**

- 404.1 Level 2 Alteration: Conversion of dining hall to apartment is less than 50% of building area
- 404.2 Chapters 6 for Level 1 alterations & 7 shall apply
- 406.2 Change of Occupancy – Chapter 9 shall apply
- 407.2 Additions to existing building – Chapter 10 shall apply
- 601.2 An existing building or portion thereof shall not be altered such that the building becomes less safe than its existing condition.
- 602.1 All newly installed interior wall and ceiling finishes shall comply with Chapter 8 of the IBC.
- 603.1 Alterations shall be done in a manner that maintains the level of fire protection provided.
- 604.1 Alterations shall be done in a manner that maintains the level of protection provided for the means of egress.
- 605.1 Comply with applicable provisions of Section 605.1.1 through 605.1.14 and ICC A117.1.
- 605.2 Type B dwelling or sleeping units required by Section 1107 of the IBC are not required to be provided in existing buildings and facilities.
- 701.3 Where an alteration affects the accessibility to an area of primary function, the route to the primary function area shall be accessible. The accessible route to the primary function area shall include toilet facilities or drinking fountains serving the area of primary function.
- 703.2.1 The length of dead-end corridors in newly constructed spaces shall only be required to comply with Section 705.6
- 703.2.1 All existing interior vertical openings connecting two or more floors shall be enclosed with approved assemblies having a fire-resistance rating of not less than 1 hour.
- 703.2.1 Exception: In Group R-2 the enclosure is not required in buildings protected throughout by an approved automatic sprinkler system.
- 703.2.1 Exception: 1 and 2 family dwellings
- 704.1.1 Where an approved automatic sprinkler system is installed throughout the story, the required fire-resistance rating for any corridor located on the story shall be permitted to be reduced in accordance with the IBC. Such system shall provide coverage for the stairwell landings serving the floor and the intermediate landings immediately below.
- 704.2 Automatic sprinkler systems shall be provided in accordance with the IBC.
- 704.4.1.6 A fire alarm system shall be installed in work areas of group R-2 as required by the IBC.
- 704.4.3 Individual sleeping units and individual dwelling units in Group R-2 shall be provided with smoke alarms.
- 705.2 Means of egress conforming to the requirements of the building code under which the building was constructed shall be considered compliant means of egress, if in the opinion of the code official, they do not constitute a distinct hazard to life.
- 705.3.1.2 When more than one exit is required, an existing fire escape shall be accepted as providing one of the required means of egress.
- 705.3.1.2.2 The fire escape shall be designed to support a live load of 100 lbs per square foot.
- 705.3.1.2.3 Stairs shall be at least 22 inches wide with risers not more than, and treads not less than 8 inches. Landings at the foot of stairs shall not be less than 40 inches wide by 36 inches long, and located not more than 8 inches below the door.
- 705.4.1.1 In any work area, all rooms and spaces having an occupant load greater than 50 or in which the travel distance to an exit exceeds 75 feet shall have a minimum of two egress doorways.
- 705.5.1 Corridor doors in the work area shall not be constructed of hollow core wood and shall not contain louvers. All dwelling unit corridor doors shall be at least 1-3/8 inch solid core wood and shall not have any glazed panels, other than approved wired glass. All dwelling unit corridor doors shall be equipped with approved door closers. Exception: door assemblies having a fire-protection rating of at least 20 minutes.
- 705.6 Dead-end corridors in any work area shall not exceed 50 ft when equipped with an automatic sprinkler system.
- 705.8.1 Means of egress in all work areas shall be provided with exit signs in accordance with requirements of the IBC.
- 803.1 Existing stairways that are part of the means of egress shall be enclosed in accordance with Section 703.2.1 from the highest work area floor to the level of exit discharge and all floors below.

- 803.2.1 Where work area is attached to a dwelling unit in R-3, walls separating the dwelling unit shall be constructed to provide a continuous fire separation using construction materials consistent with the existing wall or complying with the requirements for new structures. All work shall be performed on the side of the dwelling unit wall that is part of the work area.
  - 805.2 Means of egress from the highest work area floor to the floor of exit discharge shall be provided with artificial lighting within the exit enclosure.
  - 805.3 Means of egress from the highest work area floor to the floor of exit discharge shall be provided with exit signs in accordance with the IBC.
  - 901.3.1 Where a portion of an existing building is changed to a new occupancy classification, Section 912 shall apply.
  - 912.1.1.2 Where a portion of an existing building that is changed to a new occupancy classification and that portion is separated from the remainder of the building with fire barriers per IBC, the portion shall comply with all requirements of Chapter 8, IBC Table 508.4: No separation required between R occupancies.
  - 912.4.2 When a change of occupancy is made to an equal or lesser hazard category, existing elements of the means of egress shall comply with the requirements of Section 805 for the new occupancy classification.
  - 1001.2 An addition shall not create or extend any nonconformity in the existing building to which the addition is being made with regard to accessibility, structural strength, fire safety, means of egress, or the capacity of mechanical, plumbing, or electrical systems.
  - 1002.2 No addition shall increase the areas of an existing building beyond that permitted under Chapter 5 of the IBC for new buildings unless fire separation as required by the IBC is provided.
  - 1005.1 Accessibility provisions for new construction shall apply to additions. An additional that affects the accessibility to, or contains an areas of primary function shall comply with the requirements of Section 605 and 706.
- IBC 2009**
- 303.1 Assembly Group A: A-2 (Dining Hall)
  - 308.2 Residential Group R: R-2 (Nontransient Boarding House)
  - 310.1 Residential Group R: R-3 (Single Dwelling Unit)
  - 420.2 Walls separating units from other units and occupancies must be fire partitions
  - 420.3 Horizontal assemblies separating units from other units and occs must be rated
  - 503 Group A-2 Type III-B 9,500sf 2 stories 55' High
- | Occupancy | Occupancy | Required Separation    |
|-----------|-----------|------------------------|
| A         | R         | 2 HR                   |
| R-2       | R-3       | No separation required |
- \* Commercial kitchen need not be separated from the restaurant seating areas they serve.
- | Occupancy            | Construction Type | Actual Area             | Allowable Area | Ratio |
|----------------------|-------------------|-------------------------|----------------|-------|
| Boarding House (R-2) | III-B             | 3,906sf                 | 48,000sf*      | .09   |
| Chapel (A-3)         | III-B             | 1,689sf                 | 28,500sf*      | .06   |
| Thrill Store (M)     | III-B             | 4,216sf                 | 37,500sf*      | .12   |
| Storage (S-2)        | III-B             | 2,504sf                 | 78,000sf*      | .04   |
| Dining Hall (A-2)    | III-B             | 4,188sf                 | 9,500sf        | .44   |
|                      |                   | First Floor Ratio: .75  |                |       |
| Apartment (R-3)      | III-B             | 1,012sf                 | UL sf          | N/A   |
| Boarding House (R-2) | III-B             | 5,144sf                 | 48,000sf       | .11   |
|                      |                   | Second Floor Ratio: N/A |                |       |
- \* 200 percent allowable area added increase w/ automatic sprinkler system
- 601 Entire building is Type III-B
  - 602 Exterior Bearing walls must have 2-hour fire resistance rating
  - 602 Exterior non-bearing walls have no fire resistance rating requirement (except by 602)
  - 602.3 Separation Distance Construction Type Occupancy Group Fire Rating
  - X ≥ 30 III-B All occupancies 0 HR
  - 602.3 Exterior walls must be of noncombustible construction
  - 705.2.2 Projections from a Type III exterior wall may be of any approved material.
  - 705.8 Fire Separation Distance (ft) Degree of Opening Protection Allowable Area
  - 30 or greater Unprotected, Sprinkled Not Required
  - 705.11 Parapets are not required due to Exception 1
  - 707.3.1 Shaft enclosures shall be fire barriers
  - 707.3.2 Exis enclosures shall be fire barriers
  - 707.3.8 Occupancies shall be separated by fire barriers
  - 707.3.9 Fire areas shall be separated by fire barriers
  - 707.5 2-hr rating required for fire barrier separating fire areas in assembly and residential occupancies
  - 707.5 Fire Barriers shall be continuous from top of floor decking to underside of floor decking, and shall be continuous through concealed spaces.
  - 709 Fire partitions separating dwelling units to be altered, repaired, and replaced according to this section.
  - 709.3 Dwelling units and sleeping unit separations in buildings of Type IIB construction shall have fire-resistance ratings of not less than 1/2 hour in buildings equipped with an automatic sprinkler system.
  - 709.4 Fire partitions shall extend from the top of the foundation or floor/ceiling assembly below to the underside of the floor or roof sheathing, slab or deck above or to the fire-resistance-rated floor/ceiling or roof/ceiling assembly above, and shall be securely attached thereto.
  - 712 Fire rated floor assemblies to be altered, repaired, and replaced according to this section.
  - 712.3 Dwelling unit and sleeping unit separations in buildings of Type IIB construction shall have fire-resistance ratings of not less than 1/2 hour in buildings equipped with an automatic sprinkler system.
  - 712.4 Assemblies shall be continuous without openings, penetrations or joints.
  - 713 Exception: In buildings of Type IIB construction, the construction supporting horizontal assemblies is not required to be fire-resistance-rated at horizontal assemblies at separations or incidental uses or horizontal assemblies at the separations of dwelling units and sleeping units.
  - 713 Penetrations of horizontal assemblies and fire-resistance-rated wall assemblies to comply with this section.
  - 714 Joints installed in or between fire-resistance-rated walls, floor or floor/ceiling assemblies and roof or roof/ceiling assemblies shall comply with this section.
  - 715.4 Type of Assembly Required Assembly Rating Min. Fire Door Rating
  - Fire barriers 1 1
  - Fire barriers 2 1-1/2
  - Fire Partitions (Corridor Walls) 0.5 1/3
  - 716 Duct penetrations and air transfer openings shall comply with this section.
  - 716.5.4 Fire Dampers are not required in corridor walls in buildings protected with a sprinkler system.
  - 717.3.2 Draftstopping shall not be required in buildings equipped with automatic sprinkler system, provided that sprinklers are also installed in the combustible concealed spaces.

- 803.9 A-2 exit enclosures, exit passageways, and corridors to be Class B. Rooms and enclosed spaces to be Class C.
  - 803.11.1 R-2 & R-3 exit enclosures, exit passageways, corridors, rooms, and enclosed spaces to be Class C.
  - 803.11.1 Where walls and ceilings are required to be of fire-resistance-rated or non-combustible construction, the interior finish material shall be applied directly against such construction or to furring strips not exceeding 1 3/4 inches. The intervening spaces between furring strips shall be filled with material that is inorganic or non-combustible or a material that meets the requirements of a Class A material, or be fireblocked at a maximum of 8' in any direction.
  - 903.2.1.2 An automatic sprinkler system is required for Group A-2 where the fire area has an occupant load of 300 or more. (Per edit by State of Maine)
  - 903.2.8 Sprinkler system is not required for dining hall addition.
  - 903.2.11.5 An automatic sprinkler system is required for Group R.
  - 903.2.11.5 An automatic sprinkler system shall be installed in commercial kitchen exhaust hood and duct system.
  - 903.3.1 Sprinklers required by this code shall be installed in accordance with NFPA 13
  - 904.11 Sprinkler system and monitoring system design is delegated to contractor.
  - 904.11 The automatic fire-extinguishing system for commercial cooking systems shall be of a type recognized for protection of commercial cooking equipment and exhaust systems of the type and arrangement protected.
  - 906.1 Portable fire extinguishers shall be installed in Group A-2, R-2 occupancies and within 30 feet of commercial cooking equipment.
  - 907.2.1 Group A. Manual fire alarm boxes are not required when occupancy of that assembly space is less than 300.
  - 907.2.8.2 An automatic smoke detection system shall be installed throughout all interior corridors serving sleeping units.
  - 907.2.8.3 Single- and multiple-station smoke alarms shall be installed.
  - 907.2.9 A fire alarm system and smoke alarms shall be installed in R-2 occupancies.
  - 907.2.11.1 Single- or multiple-station smoke alarms are required.
  - 1004.1.1 Residential (Apartment) 1,012sf 200 gross 6 occupants
  - Kitchens 926 sf 200 gross 5 occupants
  - Assembly (Dining Hall Addition) 2,821sf 15 net 189 occupants
  - (unconcentrated tables and chairs)
  - Residential (boarding house units) 15,281sf 200 gross 77 occupants
  - Accessory Storage Areas 2,503 sf 300 gross 9 occupants
  - Assembly (Chapel Concentrated chairs) 1,372 sf 7 net 196 occupants
  - Mercantile 4,216 sf 60 gross 71 occupants
  - Total Building Occupants 547 occupants**
  - 1004.3 Every room or space that is an assembly occupancy shall have the occupant load of the room or space posted in a conspicuous place, near the main exit or exit access doorway.
  - 1005.1 Min total egress width of egress components:
  - Dining Hall and Kitchen 194 x 3" (stairways) = 58.2"
  - Dining Hall and Kitchen 194 x 2" (other components) = 38.8"
  - Residential Apartment 6 x 2" (other components) = 1.2"
  - Entire Building 510 x 2" (other components) = 102"
  - 1006 Means of egress shall be illuminated according to this section.
  - 1007.1 Accessible means of egress are not required in alterations to existing buildings.
  - 1008.1 Min clear door width: 32" (does not apply to door openings not part of means of egress is Group R-2)
  - 1008.1.5 Floors shall be at same elevation on either side of doors.
  - 1008.1.6 Landings shall have a width not less than the width of the stairway or the door, whichever is greater.
  - 1008.1.8 Doors in sequence shall be arranged so that they are separated by 48" plus the door swing of doors swinging into space.
  - 1008.1.9 Doors are permitted to be electromagnetically locked if equipped with listed hardware that incorporates a built-in switch.
  - 1009.1 Min stairway width: 44"
  - 1009.6.3 Max ramp slope: 1:12 (8%)
  - 1010.2 Min ramp clear width: 36"
  - 1010.5.1 Min ramp landing length: 60"
  - 1010.6.3 Exits and exit access doors shall be marked by an approved exit sign.
  - 1011.1 Handrails shall be according to this section
  - 1012 Guards shall be according to this section
  - 1013 Max common path of egress travel: 75'
  - 1014.3 Max common path of egress travel (R-2): 125' w/ automatic sprinkler
  - 1015.1 Two exits required for Group A with an occupant load over 49.
  - 1015.1 One exit is acceptable for Group R with less than 10 occupants.
  - 1015.1.2 In group R-2 occupancy, one means of egress is permitted within and from individual dwelling units with a max occupant load of 20 where the dwelling is sprinklered.
  - 1015.2.1 Where two exits are required, the exit doors shall be placed a distance apart equal to not less than one-third of the length of the maximum overall diagonal dimension of the building or area to be served measured in a straight line between exit doors when equipped with an automatic sprinkler system.
  - 1016.1 Max exit access travel distance:
  - Group A 200'
  - Group R 250' (with automatic sprinkler system)
  - 1018.1 Occupancy Occupant Load Corridor Fire-Resistance Rating
  - R Greater than 10 0.5-Hr
  - \* Fire-resistance rating is not required for corridors contained within a dwelling or sleeping unit.
  - 1018.2 Min corridor width: 44" (36" within a dwelling unit)
  - 1018.4 Max dead end corridor: 20' (50' allowed in Groups R-2 w/ automatic sprinkler system)
  - 1021.1 Minimum number of exits (per story) for occupant load: 1-500 occupants, 2 exits
  - 1028.7 Max travel distance: 200'
  - 1028.8 Common path of travel: 30' from any seat to point where occupant has choice of two paths of egress travel to two exits
  - 1108.2.9 In dining areas, the total floor area allotted for seating and tables shall be accessible.
  - 1207.2 Walls, partitions and floor/ceiling assemblies separating dwelling units from each other from public or service areas shall have a sound transmittance rating (STC) of not less than 50 for air-borne noise when tested in accordance with ASTM E90.
- IECC**
- | Climate Zone 6A | Element:                      | Required:                     |
|-----------------|-------------------------------|-------------------------------|
| 301.1           | Roofs – Insulation above deck | R-20ci                        |
| 502.2(1)        | Roofs – Attic and other       | R-38 min.                     |
|                 | Walls – Metal Framed          | R-13 + R-5.6 ci min.          |
|                 | Walls – Wood Framed/Other     | R-13 + R-7.5 ci min.          |
|                 | Slab – Unheated               | R-10 for 24 inches below min. |
|                 | Fenestration – Entrance Doors | U-0.80 max.                   |
|                 | Fenestration – all other      | U-0.55 max.                   |

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PROJECT NO.  
**15031**

PROJECT NAME  
**SALVATION ARMY ARC  
PORTLAND, ME**

REVISIONS

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**CONSTRUCTION DOCUMENTS**

DRAWN BY  
**AEW**

ISSUE DATE  
**10/25/16**

SHEET SCALE  
**AS NOTED**

SHEET TITLE  
**CODE SUMMARY**