CODE SUMMARY

Applicable Codes
- MUBEC - Maine Uniform Building and Energy Code
  2009 International Building Code - IBC (except chapters 11 and 30)
  2009 IECC: International Energy Conservation Code
- NFPA 101 Life Safety

Accessibility Codes
- UFAS Fair Housing Act Section 504
- State of Maine Human Rights Act

PROJECT SUMMARY:

This is the first phase in the renovation of the Reed school. The school consists of the original 1926 building and a 1960 addition. Phase 1 consists of converting the school's 1960 addition into a daycare facility and installing sprinklers in the 1926 building and the 1960 addition. Phase 2 (not submitted for permiting here) will involve converting the original 1926 building into apartment units.

Square Footages:

I-4 = 16,509 SF (PHASE 1)
R-2 = 13,908 SF (PHASE 2)

CODE SUMMARY :

Chapter 3- Use and Occupancy Classification Mixed Use)

308.5.2	Day Care
310.1 Residential Group R-2	Apartments

Chapter 5- General Building Heights and Areas

Table 503 Allowable Heights and Areas

Institutional Group I-4	Type VB Construction - 1 stories - 9,000 sf
Residential Group R-2	Type VB Construction - 2 stories - 7,000 sf

504.2 Automatic Sprinkler System Increase (Building Height) - Where a building is equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1, the value specified in table 503 for maximum building height is increased by 20 feet and the maximum number of stories is increased by one.

506.2 Frontage Increase Equation 5-2- Not Applied

506.3 Automatic Sprinkler System Increase (Building Area)
Where a building is equipped throughout with an automatic approved sprinkler system in accordance with Section 903.3.1.1, the building area limitation in Table 503 is permitted to be increased by an additional 200% for buildings with more than one story above grade plane and an additional 300% for buildings with with no more than one story above grade plane.

Group I-4: Type VB: 9,000 + 3 x (9,000) = 27,000 sf allowable
Group R-2: Type VB: 7,000 + 2 x (7,000) = 21,000 sf allowable

508 Mixed Use and Occupancy
508.4 Separated Occupancies
508.4.2 Allowable building area
In each story, the building area shall be such that the sum of the ratios of the actual building area of each separated occupancy divided by the allowable building area of each separated occupancy shall not exceed 1.

16,509 sf /story(actual group I-4) + 4,636sf (actual group R-2) =.83 < 1
27,000 sf (allowable group I-4) 21,000sf (allowable group I-4)

508.4.3 Allowable height.
Each separated occupancy shall comply with the building height limitations based on the type of construction of the building in accordance with Section 503.1.

Type VB:

Occupancy	**Allowed**	**Actual**
R-2 Residential	4 stories	4 stories
I-4 Institutional	2 story	1 story

508.4.4 Separation.
Individual occupancies shall be separated from adjacent occupancies in accordance with Table 508.4 (sprinklered group R to group I-4 = 1hr)

508.4.4.1 Construction.
Required separations shall be fire barriers constructed in accordance with Section 707, so as to completely separate adjacent occupancies.

Chapter 6- Types of Construction
Table 601 - Fire Resistance Ratings for Building Elements

Building Element	**Type IIIB**
Primary Structural Frame	0 hour
Bearing Walls	
Exterior Walls	0 hours
Interior Walls	0 hour
Non-Bearing Walls and Partitions. Exterior	(See Table 602)
Non-Bearing Walls and Partitions, Interior	0 hour
Floor Construction and Secondary Members	0 hour
Roof Construction and Secondary Members	0 hour

Table 602- Fire Resistance Rating Requirements For Exterior Walls Based on Fire Separation Distance (non-loadbearing walls)

Fire Separation Dist.	Construction Type	Group I,R
x < 5'	All	1 hour
5' ≤ x <10'	Type VB	1 hour
10' ≤ x < 30'	Type VB	0 hour
x ≥ 30'	All	0 hour

***Higher of 2 determining factors (Tables 601 and 602) indicate exterior bearing walls to be 0 hour fire resistance rated.*

602.3 Type V Construction
Structural elements, exterior walls, and interior walls are of any materials permitted by Code.

Chapter 7- Fire and Smoke Protection Features

Table 705.8 Maximum Area of Wall Openings Based on Fire Separation Distance and Degree of Opening Protection

Fire Separation Dist.	**Degree of Opening Protection**	**Allowable Area**
0' to less than 3'	Unprotected, Sprinklered	Not Permitted
3' to less than 5'	Unprotected, Sprinklered	15%
5' to less than 10'	Unprotected, Sprinklered	25%
10' to less than 15'	Unprotected, Sprinklered	45%
15' to less than 20'	Unprotected, Sprinklered	75%
20' to less than 25'	Unprotected, Sprinklered	No Limit
25' to less than 30'	Unprotected, Sprinklered	No Limit
30' or greater	Unprotected, Sprinklered	Not Required

705.8.5 Vertical Separation of openings
Not Required, Exception no. 2, Automatic Sprinkler System in Accordance with 903.3.1.1

705.11 Parapets
Not required on exterior walls per Exception No. 1 - The wall is not required to be fire-resistance rated in accordance with Table 602because of fire separation distance.

707 Fire Barriers

707.3.8 Separated occupancies.
Where the provisions of Section 508.4 are applicable, the fire barrier separating mixed occupancies shall have a fire-resistance rating of not less than that indicated in table 508.4 based on the occupancies being separated. (1hr)

707.5 Continuity.
Fire barriers 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 and shall be securely attached thereto. Such fire barriers shall be continuous through concealed spaces, such as the space above a suspended ceiling.

717.4 Draft Stopping In Attics
717.4.3 Other Groups Not required in attics and concealed roof spaces per Exception, Sprinkler system provided in accordance with Section 903.3.1.1.

Chapter 8- Interior Finishes

Table 803.9 Interior Wall and Ceiling Finish Requirements By Occupancy- Sprinklered

Group	**Exit Enclosures**	**Corridors**	**Rooms and Enclosed Spaces**
I-4	Class B	Class B	Class B

Chapter 9- Fire Protection Systems

Table 903.2 Occupancy Related Automatic Sprinkler Requirements

	Threshold	**Occupant Load**
I-4	sprinklers required	any

903.3.1.1 NFPA 13 Sprinkler Systems
The building will be equipped throughout with an automatic sprinkler system in accordance with NFPA 13.

903.4 Valve controlling water supply for automatic sprinkler system shall be electronically supervised by a fire alarm control unit.

905 Standpipe Systems
905.2 Standpipe Systems will be provided in accordance with NFPA 14

905.3.1 Height- Class I Standpipes are allowed in buildings equipped throughout with an automatic sprinkler system.

905.4 Class I standpipe hose connections shall be provided in the following locations:
- In every stairway at an intermediate floor level between floors, unless otherwise approved by the fire code official
- Where roof slope is less than 4:12 each standpipe shall be provided with a hose a connection either on the roof or the highest landing of a stairway with stair access to roof.
- On each side of the wall adjacent to exit opening of horizontal exit (Not required where hose stream is reachable).

906 Portable Fire Extinguishers.
906.1 Where required.
1. in Group I occupancies: provided in accordance with NFPA 10
2. Within 30 feet of commercial cooking equipment
3. In areas where flammable or combustible liquids are stored, used or dispensed
4. On each floor under construction, in accordance with section 1415.1 of the International Fire Code.
5. Where required in table 906.1 (not applicable).
6. Special hazard areas (not applicable).

907 Fire Alarm and Detection Systems
907.2 Where Required-New Buildings and Structures
- Exception 2: Automatic heat detection is not required in buildings with automatic sprinkler system

907.2.6 Group I: A manual fire alarm system that activates the occupant notification system shall be installed in Group I occupancies.

912.2.1 Fire Department Connections: Locations as approved by fire chief so vehicles and hose lines will not interfere with building access (visible location on street side of building).

Chapter 10- Means of Egress

1004 Occupant Load
Table 1004.1 Maximum Floor Area Allowances per Occupant
Day care 35 net sf. Un-concentrated

1005 Egress Width

Function of Space	**Floor Area**	**Occupants**	**Req'd Egress Width (1005.1)**
Day care	16,509 sf	472 x .2"	94.3" Other

(3) 72" wide egress doors provided.

1008 Doors, Gates and Turnstiles
1008.1.1 Size of Doors- Minimum Clear width = 32", maximum leaf width 48"

1008.1.5 Provide a level landing on each side of door, except at exterior locations with 2% slope pitch for drainage.

1008.1.8 48" plus door width required minimum space between doors in series.

Section 1014 Exit Access
1014.3 Common Path of Egress Travel.
REFERENCE NFPA 101 PER MUBEC
NFPA 101 16.2.5.3.1 Common path of travel shall not exceed 100 ft in a building protected throughout by an approved, supervised automatic sprinkler system in accordance with Section 9.7.

1015- Exit and Exit Access Doorways

1015.2.1 Two Exits or Exit Access Doorways
Exit doors shall be placed not less than 1/3 (exception #2) the length of the maximum overall diagonal dimension.

1016 Exit Access Travel Distance
Table 1016.1 Exit Access Travel Distance

Occupancy	**Max. Distance Sprinklered**	**Actual Distance**
I-4 - Institutional	200'	130'-8"

1018 Corridors
Table 1018.1 Corridor Fire Resistance Rating

Occupancy	**Occupant Load**	**Fire Rating with Sprinkler System**
I-4	All	0 hour

1018.2 Corridor Width: Minimum 44" or as determined by 1005.1 (94.3")
120" provided.

1018.4 Dead Ends: 25' maximum dead end corridor allowed per Exception No. 3, length is less than 2.5 times the corridor width

LICENSED ARCHITECT DAVID LLOYD NO. 936 STATE OF MAINE
Date: 01/24/18

Prepared For: Children's Odyssey

Consultant:

Architect: ARCHETYPE Architects
48 Union Wharf Portland, Maine 04101
(207) 772-6022 ARCHETYPE@ARCHETYPEPA.COM

Project: CHILDREN'S ODYSSEY
19 LIBBY STREET
PORTLAND, ME 04103

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CODE SUMMARY

AC0.1