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CITY OF PORTLAND, MAINE · RESURGAM
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 06/08/16

Date: 28 January, 2016

Memo Report

From: W. Mark Cummings, P.E.

To: Mr. Ryan Senatore; Ryan Senatore Architecture

Subject: **Fire Protection & Life Safety Code Review; ICW Design Plans for the Addition to the Bayside Bowl Facility in Portland, ME**

As requested, Fire Risk Management, Inc. (FRM) has performed reviews of the design documents, including "Code Review" summary sheets, associated with the plans for a new addition to be constructed alongside the existing Bayside Bowl facility located on Alder St. in Portland, ME. The focus for these reviews has been to ensure that all fire protection and life safety requirements are being properly addressed in the proposed design for the building addition.

Background

The proposed design for the new addition to the existing Bayside Bowl facility consists of a single-story addition that also includes a mezzanine level at the east end of the new addition, along with a roof deck that is to be primarily located on the west side of the new addition. Due to the size and configuration of the roof deck, this will need to be treated as a 2nd story to the building. The building will continue to primarily consist of assembly occupancies; both the bowling lanes (Group A-3) and a restaurant (Group A-2). The existing building is reported as consisting of Type IIIB construction and is to be separated from the new addition by a fire wall that is to be provided with a 2-hour fire resistance rating. The new addition is scheduled to consist of Type IIB construction; as defined by the International Building Code (IBC).

Discussion

The design documents that were initially used to support this review were those provided by Senator Architecture that were listed as a "Progress" set with a date of 12 January, 2016. However, some additional floor plan changes resulted during the review and the updated plans reflected a date of 29 January, 2016. In addition to the general site requirements, the architectural floor plans and details included with the progress set provided data regarding the overall dimensions of the building, along with its general layout and the planned fire separation for the various areas/occupancies within the building.

The primary codes and regulations that were referenced during this review to determine code compliance were NFPA 1, the *Maine Uniform Building and Energy Code* (MUBEC) that generally cites the *International Building Code* (IBC), NFPA 101, the *Life Safety Code*®, and the City of Portland's *Fire Department Rules and Regulations* and Section 3 – *Public Safety* of the City's Technical Manual.

In general, based on the updated set of plans that were provided, the building addition appears to meet all applicable code requirements. A sufficient capacity for the means of egress components exists throughout all areas of the new addition, including the doorway(s) that will act as the building's main entrance. The proposed design for the new main entrance will easily accommodate at least 50% of the building's occupants as required by NFPA 101 for an Assembly occupancy of this type. Both the mezzanine and roof deck areas are served by two separate and properly fire-rated exit stair enclosures, along with having access to the elevator. All

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travel distances, including common path of travel, to an approved exit appear to be compliant with requirements outlined by NFPA 101, Chapter 12 – *New Assembly Occupancies*.

FRM's review of the building's proposed site plan indicate that it should easily comply with all requirements outlined in Chapter 18 of NFPA 1 for fire department access and having ready access to an adequate fire water supply. Two hydrants are in close proximity to the facility; at the corners of Kennebec and Preble Streets, as well as Kennebec and Hanover Streets. Although no fire hydrant test data were reviewed, the City of Portland's water distribution system is generally known to provide adequate flow to support fire fighting operations. With ready access to two nearby hydrants, the ability of the water supply system to provide at least 1200 gpm, which is the approximate fire flow requirement for a building of this size and construction type, is considered likely. Since the building and its parking lot will effectively occupy the block on which it is located, fire department access should be readily available on all four sides of the facility.

Although no fire protection system plans were provided with the progress set, the code summary sheets did indicate the plan to include both fire sprinkler and fire alarm/notification systems throughout the new addition. However, it will be necessary to confirm that the existing facility includes properly designed fire sprinkler and alarm/notification systems as well. Although a 2-hour fire-rated wall is scheduled to exist between the existing building and the new addition, the overall facility should be treated as a single building; in terms of any requirements for the installed fire sprinkler and alarm/notification systems.

Summary and Recommendations

Based on the review of the set of "Progress" design drawings, including updates, for the proposed building addition to the Bayside Bowl facility on Alder St., the planned design appears to be generally compliant with the various applicable codes and regulations for an assembly occupancy. This progress set did not include any specific details associated with the individual fire protection and life safety systems that will be required to be installed throughout the addition, but properly designed fire protection systems must be included as part of the construction plan for the building to be fully code compliant.

If you have any additional questions regarding what may be needed to support the fire and life safety requirements for this building, please don't hesitate to contact me.

W. Mark Cummings, P.E.
Principal Fire Protection Engineer