

OCCUPANT LOADS					
FLOOR	ROOM NAME	OCCUPANCY	AREA	SF/PERSON	OCC. LOAD
FIRST	PARKING GARAGE	S-2 PARKING GARAGE	35,232	200 GROSS	177
SECOND	PARKING GARAGE	S-2 PARKING GARAGE	35,232	200 GROSS	177

CODE ANALYSIS

CODE SUMMARY: PARKING GARAGE
 THE BUILDING IS DESIGNED IN COMPLIANCE WITH THE MAINE UNIFORM BUILDING AND ENERGY CODE (MUBEC) WITH AMENDMENTS WHICH INCLUDES IBC 2009, IECC 2009, IRC 2009, IPC 2009, NEC 2011, STATE FIRE CODE SAF-C 6000, AND ADAAG, ICC/ANSI A117.1-2003, ASME A17.1, AND ALL LOCAL, STATE AND FEDERAL CODES.

BUILDING DATA:
 2 STORY
 CONSTRUCTION TYPE IIB (FULLY SUPERVISED AUTOMATIC SPRINKLER SYSTEM, IN ACCORDANCE WITH NFPA 13, NOT 13R) (SECTION 903.3.1.1)
 OCCUPANCY: LOW-HAZARD STORAGE, GROUP S-2 (SECTION 311.3)
 THE FIRST FLOOR AND SECOND FLOOR CONTAIN PARKING USE WITH NO SEPARATION.
 THE PARKING GARAGE HAS BEEN SEPARATED VERTICALLY FROM THE RETAIL/RESIDENTIAL BUILDING WITH A 2-HOUR FIRE WALL (TABLE 706.4, NOTE A AND SECTION 706.1.1 STEPPED BUILDINGS EXCEPTION 1 AND 2).

FIRE PROTECTION FEATURES:
 THE ENTIRE STRUCTURE IS PROVIDED WITH A SUPERVISED FULLY AUTOMATIC FIRE SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1 (NFPA 13). FIRE ALARM, SMOKE, AND CARBON MONOXIDE DETECTION SYSTEMS ARE PROVIDE PER APPLICABLE CODES.

SINGLE OCCUPANCY

Story	Group	Actual Area (s.f.)	Adjusted Area (s.f.)	Allowable Area (s.f.)	Ratio of Area	Actual Height	Adjusted Height	Allowable Height
1	S2	35,232	78,000	26,000	0.4517	15 ft. 1 stories	75ft. 4 stories	55ft. 3 stories
2	S2	35,232	78,000	26,000	0.4517	15 ft. 1 stories	75ft. 4 stories	55ft. 3 stories

Total sum of ratios = 0.9034 <= 3

Permitted types of construction IA, IB, IIA, IIB, IIA, IIB, IV, VA Type specified IIB

FIRE RESISTANCE RATING FOR BUILDING ELEMENTS - IBC TABLE 601

BUILDING ELEMENT	REQUIRED	PROVIDED	CODE REFERENCE
STRUCTURAL FRAME	0	0	
FIRE WALLS AND PARTY WALLS	2	2	TABLE 706.4 AND SECTION 706.6.1
BEARING WALLS			
EXTERIOR*	0	0	
INTERIOR	0	0	
NONBEARING WALLS			
EXTERIOR*	0	0	
INTERIOR	0	0	
FLOOR CONSTRUCTION	NA	NA	
ROOF CONSTRUCTION	0	0	

MEANS OF EGRESS - STORAGE OCCUPANCY (ORDINARY HAZARD)

EGRESS COMPONENT	REQUIRED	PROVIDED	CODE REFERENCE
NUMBER OF EXITS	2	2	IBC TABLE 1021.1.2
TRAVEL DISTANCE:	300' MAX.	<300'	IBC 1016.1
EGRESS DOOR WIDTH	32" (CLEAR)	>32"	IBC 1008.1.1
EGRESS STAIR WIDTH	44" MIN.	>44"	IBC 1018.2

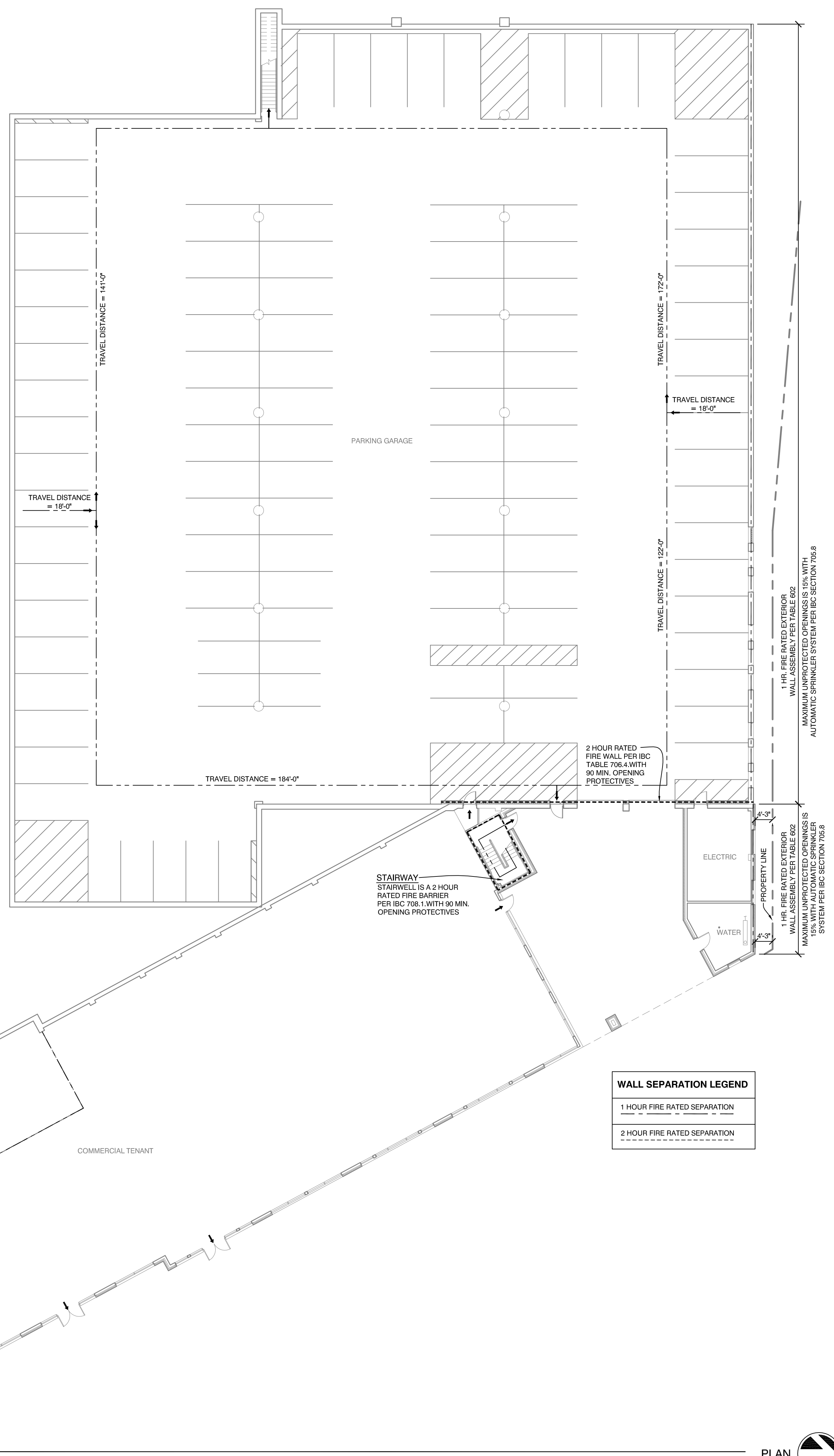
PARKING GARAGE CODE INFORMATION

Story	Group	Actual Area (s.f.)	Adjusted Area (s.f.)	Allowable Area (s.f.)	Ratio of Area	Actual Height	Adjusted Height	Allowable Height
1	A-2	17,321	38,000	9,500	0.4716	15 ft. 1 stories	75ft. 4 stories	55ft. 3 stories
2	R-2	20,015	48,000	16,000	0.4170	15 ft. 1 stories	75ft. 5 stories	55ft. 4 stories

STAIRWAY: STAIRWELL IS A 2 HOUR RATED FIRE BARRIER PER IBC 708.1 WITH 90 MIN. OPENING PROTECTIVES

RESIDENTIAL STORAGE: STORAGE IS A 1 HOUR RATED FIRE SEPARATION PER IBC TABLE 508.4 WITH 45 MIN. OPENING PROTECTIVES

ELEVATOR: 2 HOUR FIRE BARRIER PER IBC 708.1 WITH 90 MIN. FIRE RATED OPENING PROTECTIVES



WALL SEPARATION LEGEND

1 HOUR FIRE RATED SEPARATION
2 HOUR FIRE RATED SEPARATION

OCCUPANT LOADS

FLOOR	RM. #	ROOM NAME	OCCUPANCY	AREA	SF/PERSON	OCC. LOAD	
FIRST	1CT	COMMERCIAL TENANT	A-3 UNCONCENTRATED ASSEMBLY	14,350	15 NET	957	
	1RS	RESIDENTIAL STORAGE	S-1 ACCESSORY STORAGE	2,022	300 GROSS	7	
TOTAL FIRST FLOOR OCCUPANCY LOAD							964
SECOND	201-216	APARTMENTS	R-2 RESIDENTIAL	17,920	200 GROSS	90	
	2TR	TRASH	S-1 ACCESSORY STORAGE	280	300 GROSS	2	
	2ML 2LB 2VS	MAIL LOBBY VESTIBULE	A-3 UNCONCENTRATED ASSEMBLY	448	15 NET	30	
	2FT	FITNESS	A-3 UNCONCENTRATED ASSEMBLY	510	50 GROSS	11	
TOTAL SECOND FLOOR OCCUPANCY LOAD							133
THIRD	301-316	APARTMENTS	R-2 RESIDENTIAL	19,260	200 GROSS	97	
FOURTH	401-416	APARTMENTS	R-2 RESIDENTIAL	19,260	200 GROSS	97	
FIFTH	501-516	APARTMENTS	R-2 RESIDENTIAL	19,260	200 GROSS	97	
TOTAL OCCUPANCY LOAD, THIRD - FIFTH FLOORS							291
TOTAL OCCUPANCY							1,388

CODE ANALYSIS

CODE SUMMARY: RETAIL/RESIDENTIAL
 THE BUILDING IS DESIGNED IN COMPLIANCE WITH THE MAINE UNIFORM BUILDING AND ENERGY CODE (MUBEC) WITH AMENDMENTS WHICH INCLUDES IBC 2009, IECC 2009, IRC 2009, IPC 2009, NEC 2011, STATE FIRE CODE SAF-C 6000, AND ADAAG, ICC/ANSI A117.1-2003, ASME A17.1, AND ALL LOCAL, STATE AND FEDERAL CODES.

BUILDING DATA:
 5 STORY
 CONSTRUCTION TYPE IIB (FULLY SUPERVISED AUTOMATIC SPRINKLER SYSTEM, IN ACCORDANCE WITH NFPA 13, NOT 13R) (SECTION 903.3.1.1)
 OCCUPANCY: MIXED USE: ASSEMBLY GROUP A-2 (RESTAURANT, SECTION 303.1) AND RESIDENTIAL GROUP R-2 (APARTMENT, SECTION 310.1).
 THE FIRST FLOOR CONTAINS AN UNDETERMINED USE GROUP (DESIGNED AS MOST RESTRICTIVE USE, ASSEMBLY (RESTAURANT), AND STORAGE USE FOR RESIDENTIAL USE ABOVE. THE ASSEMBLY AREA USE HAS BEEN SEPARATED FROM THE STORAGE USE (S-1) FOR THE RESIDENTIAL BY A FIRE SEPARATION ASSEMBLY WITH A 1 HOUR RATING. THE ENTIRE FIRST FLOOR HAS BEEN SEPARATED FROM THE SECOND FLOOR BY A 1 HOUR FIRE-RESISTIVE HORIZONTAL ASSEMBLY (SECTION AND TABLE 508.4).
 THE RETAIL/RESIDENTIAL BUILDING HAS BEEN SEPARATED VERTICALLY FROM THE PARKING GARAGE WITH A 2-HOUR FIRE WALL (TABLE 706.4, NOTE A AND SECTION 706.1.1 STEPPED BUILDINGS EXCEPTION 1 AND 2).
 THE SECOND FLOOR CONTAINS USE GROUPS R-2, ACCESSORY USES B AND S. SEPARATION IS NOT REQUIRED FOR AN ACCESSORY USE WITH AN AGGREGATE AREA LESS THAN 10% OF THE MAIN USE GROUP. GROUP R-2 OCCUPANCY MEETS THE HEIGHT AND AREA LIMITATIONS FOR ITS USE GROUP (TABLE 503). INCIDENTAL ACCESSORY OCCUPANCY AREAS HAVE BEEN PROTECTED IN ACCORDANCE WITH THE REQUIREMENTS OF TABLE 508.2.5. THE SECOND FLOOR IS SEPARATED FROM THE FIRST FLOOR WITH A 1 HOUR HORIZONTAL ASSEMBLY FOR USE GROUP SEPARATION (SECTION AND TABLE 508.4).
 THE THIRD, FOURTH AND FIFTH FLOORS CONTAIN USE GROUP R-2. GROUP R-2 OCCUPANCY MEETS THE HEIGHT AND AREA LIMITATIONS FOR ITS USE GROUP (TABLE 503). THE FLOORS ARE SEPARATED FROM EACH OTHER WITH A 1/2 HOUR HORIZONTAL ASSEMBLY AS REQUIRED BY SECTION 709.3, EXCEPTION 2 FOR DWELLING UNITS.

FIRE PROTECTION FEATURES:
 THE ENTIRE BUILDING IS PROVIDED WITH A SUPERVISED FULLY AUTOMATIC FIRE SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1 (NFPA 13). A CLASS 1 STANDPIPE IS LOCATED IN EACH STAIRWELL. FIRE ALARM, SMOKE, AND CARBON MONOXIDE DETECTION SYSTEMS ARE PROVIDE PER APPLICABLE CODES.

MEANS OF EGRESS - PER OCCUPANCY

EGRESS COMPONENT	REQUIRED	PROVIDED	CODE REFERENCE
NUMBER OF EXITS	2 PER FLOOR	2	IBC TABLE 1021.1
TRAVEL DISTANCE:	250' MAX.	<250'	IBC 1016.1
COMMON PATH OF TRAVEL	75' MAX.	<75'	IBC 1014.3
DEAD END CORRIDOR	20' MAX.	<20'	IBC 1018.4
CORRIDOR WIDTH	44" MIN.	>44"	IBC 1005.1
EGRESS DOOR WIDTH	32" (CLEAR)	>32"	IBC 1008.1.1
EGRESS STAIR WIDTH	44" MIN.	>44"	IBC 1005.1

MEANS OF EGRESS - RESIDENTIAL OCCUPANCY

EGRESS COMPONENT	REQUIRED	PROVIDED	CODE REFERENCE
NUMBER OF EXITS	2 PER FLOOR	2	IBC TABLE 1021.1
TRAVEL DISTANCE:	250' MAX.	<250'	IBC 1016.1
COMMON PATH OF TRAVEL	125' MAX.	<125'	IBC 1014.3
DEAD END CORRIDOR	50' MAX.	<50'	IBC 1018.4
CORRIDOR WIDTH	44" MIN.	>44"	IBC 1005.1
EGRESS DOOR WIDTH	32" (CLEAR)	>32"	IBC 1008.1.1
EGRESS STAIR WIDTH	44" MIN.	>44"	IBC 1005.1

GYPSUM BOARD MATERIALS AND ACCESSORIES

GYPSUM BOARD MATERIALS AND ACCESSORIES SHALL COMPLY WITH THE FOLLOWING:
 ACCESSORIES FOR GYPSUM BOARD ASTM C 1047
 ADHESIVES FOR FASTENING GYPSUM WALLBOARD ASTM C 557
 EXTERIOR SOFFIT BOARD ASTM C 931
 FIBER-REINFORCED GYPSUM PANEL ASTM C 1278
 GLASS MAT GYPSUM BACKING PANEL ASTM C 1178
 GLASS MAT GYPSUM SUBSTRATE ASTM C 1177
 GYPSUM BACKING BOARD AND GYPSUM SHAFTLINER BOARD ASTM C 442
 GYPSUM CEILING BOARD ASTM C 1395
 GYPSUM SHEATHING ASTM C 79
 GYPSUM WALLBOARD ASTM C 36
 JOINT REINFORCING TAPE AND COMPOUND ASTM C 474; C 475
 STEEL SCREWS ASTM C 954; C 1002
 STEEL STUDS, NONLOAD BEARING ASTM C 645
 STANDARD SPECIFICATION FOR GYPSUM BOARD ASTM C 1396
 TESTING GYPSUM AND GYPSUM PRODUCTS ASTM C 22; C 472; C 473
 WATER-RESISTANT GYPSUM BACKING BOARD ASTM C 630

MIXED OCCUPANCIES

Story	Group	Actual Area (s.f.)	Adjusted Area (s.f.)	Allowable Area (s.f.)	Ratio of Area	Actual Height	Adjusted Height	Allowable Height
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2	R-2	20,015	48,000	16,000	0.4170	15 ft. 1 stories	75ft. 5 stories	55ft. 4 stories
3	R-2	20,015	48,000	16,000	0.4170	15 ft. 1 stories	75ft. 5 stories	55ft. 4 stories
4	R-2	20,015	48,000	16,000	0.4170	15 ft. 1 stories	75ft. 5 stories	55ft. 4 stories
5	R-2	20,015	48,000	16,000	0.4170	15 ft. 1 stories	75ft. 5 stories	55ft. 4 stories

Total sum of ratios = 2.1395 <= 3

FIRE RESISTANCE RATING FOR BUILDING ELEMENTS - IBC TABLE 601

BUILDING ELEMENT	REQUIRED	PROVIDED	CODE REFERENCE
STRUCTURAL FRAME	0	0	
BEARING WALLS			
EXTERIOR*	0	0	
INTERIOR	0	0	
NONBEARING WALLS			
EXTERIOR*	0	1 (WHERE REQUIRED, SEE PLAN)	
INTERIOR	0	0	
FLOOR CONSTRUCTION	0	1 AT FIRST, 1/2 AT UPPER	
ROOF CONSTRUCTION	0	0	

RESIDENTIAL UNIT BREAKDOWN

	2ND FLOOR	3RD FLOOR	4TH FLOOR	5TH FLOOR	TOTAL
ONE BEDROOM	4	4	4	3	15
ACCESSIBLE ONE BEDROOM W/ DEN	0	0	0	1	1
TWO BEDROOM	10	10	11	11	42
ACCESSIBLE TWO BEDROOM	0	1	0	0	1
THREE BEDROOM	0	1	1	1	3
ACCESSIBLE THREE BEDROOM	1	0	0	0	1
TOTAL	15	16	16	16	63

ACCESSIBLE ROOM MATRIX

ROOM TYPE	REQD COUNT	PROVD COUNT	RM NUMBERS
ONE BEDROOM			504
TWO BEDROOM	3	1	308
THREE BEDROOM		1	215
TOTAL	3	3	

INTERIOR FINISH REQUIREMENTS (IBC TABLE 803.9)

USE GROUP	VERTICAL EXITS AND EXIT PASSAGEWAYS	EXIT ACCESS CORRIDORS AND OTHER EXITS	ROOMS AND ENCLOSED SPACES
A2-RESTAURANTS	B	B	C
R2-APARTMENTS	B	C	C

WALL AND CEILING FINISHES SHALL BE TESTED IN ACCORDANCE WITH ASTM E 84
 CLASS A: FLAME SPREAD 0-25; SMOKE-DEVELOPMENT 0-450
 CLASS B: FLAME SPREAD 26-75; SMOKE-DEVELOPMENT 0-450
 CLASS C: FLAME SPREAD 76-200; SMOKE-DEVELOPMENT 0-450
 DECORATIVE MATERIALS SHALL MEET NFPA 701 IN ACCORDANCE WITH IBC SECTION 806.2 OR BE NONCOMBUSTIBLE
 DECORATIVE TRIM SHALL MEET IBC SECTION 806.5.
 NOTE: INTERIOR FLOOR FINISHES IN VERTICAL EXITS, EXIT PASSAGEWAYS AND EXIT ACCESS CORRIDORS SHALL BE CLASS II AS CLASSIFIED PER NFPA 253 AND TESTED IN ACCORDANCE WITH ASTM E 648.

MIXED USE RETAIL/RESIDENTIAL CODE INFORMATION

USE GROUP	VERTICAL EXITS AND EXIT PASSAGEWAYS	EXIT ACCESS CORRIDORS AND OTHER EXITS	ROOMS AND ENCLOSED SPACES
A2-RESTAURANTS	B	B	C
R2-APARTMENTS	B	C	C

Mixed Use Development
 York & High Street
 Portland, Maine

REVISION:
 05-13-16 EXTENDED FIREWALL

ISSUED:
 04-01-16 FOR STATE FIRE MARSHAL
 05-09-16 FOR BUILDING PERMIT

project architect: KAK
 drawn by: JUD

LIFE SAFETY
 BLDG FIRST FLOOR PLAN

sheet number:
LS1.01

