



A CODE STUDY SCHEMATIC
 REFERENCED FROM: SCALE: 1" = 20'-0"

Category	Reference	BOCA 1999	Reference	NFPA 101 - 2000	Proposed
Use Group	304.2	B - Business (Showroom & Office) Storage 1, Mod. Haz. (Service Area) Storage 2, Low Haz. (Parts Storage)	3.3.120 3.3.134.3 3.3.134.14 3.3.134.2	Lodging or rooming houses - CH 28 New business occupancies - CH 38 Storage occupancies - CH 41 Assembly - Incidental to business	
Building Construction	Table 602	Type 2C - Non-combustible Unprotected Foundation - Concrete floor wall and slab Exterior walls - Light gauge metal studs with EFRS Interior walls - Light gauge metal stud frame with GFRS surfacing Roof - Steel trusses and beams with metal decking	NFPA 220	Unprotected Non-Combustible, Type II (000)	
Height & Area Limitations	Table 503	Area (see Building Area Calculations) Height (RCS2), 3 Stories / 40' Height (S1), 2 Stories / 30'	7.1.3.2.1 8.2.5.4(2) 38.36.1.3(3)	Fire resistances of exit enclosures - 1 hr Vertical Opening rating - 1 hour Exit access corridors - (N.R. (Sprinkled))	0 hour 0 hour 1 hour 1 hour 0 hour 0 hour 0 hour
Height Modifications	504.2 506.2 506.3	Height (RCS2), 3 Stories / 40' Height (S1), 2 Stories / 30' NFPA 13 Sprinkler - Add 1st story and 20' above SF - 14.150% NFPA 13 Sprinkler - Add 200% (See Building Area Calculations)			39.157 S.F. 2 Stories/31' 1 Story/23'
Maximum allowable area		Height (RCS2), 4 Stories / 60' Height (S1), 3 Stories / 40'			
Fire ratings	Table 705.2 Table 705.2 Section 1014.11 Section 710.3 Section 1011.4 Table 602 Table 602 Table 602 Table 602	Loadbearing Ext. walls - 0 hr Nonloadbearing Ext. walls - 0 hr Fire enclosure of exits - 1 hour Shafts and elevator hoistways - 1 hr Exit access corridors - 0 hour (Sprinkled) Smoke Barriers - 1 hour Other nonloadbearing walls - 0 hour Interior loadbearing walls - 0 hour Floor Construction - 0 hour Roof construction - 0 hour			
Separation of Use	Table 313.1.2	Shown as reduced by 1 Hour per exception to 313.1.2, Separated use groups: B to S1: 2 Hours; B to S2: 1 Hour; S1 to S2: 2 Hours	6.1.14.1 26.12.3 (Exc #2)	Reference specific occupancy chapters for requirements Fire separation of occupancies not required when sprinklered.	B to S1: 2 Hours; B to S2: 1 Hour S1 to S2: 2 Hours
Specific Occupancy Areas	Table 3002.1.1 Table 3002.1.1 Table 3002.1.1	Boiler and Furnace Rooms - 1 hr or sprinkler with smoke partitions Storage 50-100 sq. ft. - 1 hr or sprinkler with smoke partitions Storage greater than 100 sq. ft. - sprinkler with smoke partitions			Sprinkler with smoke partitions Sprinkler with smoke partitions Sprinkler with smoke partitions
Opening Protectives	Table 717.1	At the Shafts & Exit Enclosures - 1 hr		At 1 hr vertical openings: 1 hr & A11 hr Horizontal openings: 40 minutes	1 hr 45 Min 1 hr 12 hr
Fire Damper Rating	Table 718.1 Table 718.1	1-hour rated assembly - 1-hour Unprotected floor assemblies - 1/2 hr			
Interior Flame Spread Index	Table 803.4 Table 803.4 Table 803.4	Required vertical exits & passageways - 1 Conditions providing exit access - III Rooms or enclosed spaces - III	7.1.4 26.3.2.2	Interior finish of exits - Class A or B Class A, B or C in occupied spaces	Class I(A, B or C) Class II(A, B or C) Class III
Means of Egress	T1006.5 T1010.2 T010.3 T011.2 (3) T011.2 (1)	Length of travel <250' (Sprinkled) Number of exits per 500 = 2 Bldgs with one Exit, Bldgs (A, O) 75' Dead ends <50' Common path of travel <100'	38.2.6 7.4.1.1 38.2.5.2 38.2.5.3	Travel distance to exits <300' Minimum number of exits = 2 Dead ends <50' Common path of travel = 100' max.	See Plan See Plan See Plan See Plan
Occupant Load	T 1008.1.2 T 1008.1.2 T 1008.1.2	Business Areas = 1 per 100 GSF Restrooms = By count Storage areas, mechanical and equipment rooms = 1 per 300 gsf	7.3.1.2 7.3.1.2		See Building Area Calculations
2nd Floor Egress	T 1009.2	Egress width capacity = 0.157/occupant @ doors and corridors		Capacity Factor @ Level Components = .2*	
1st Floor Egress	T 1009.2 T 1017.3 T 1014.3 T 1011.3 (2) T 1009.2 T 1009.2 T 1017.3 T 1013.1 (1) T 1014.3	Egress width capacity = 0.27/occupant @ stairs Minimum door opening width = 32" Minimum Stair Width = 44" Minimum corridor width = 44" Egress width capacity = 0.157/occupant @ doors and corridors Egress width capacity = 0.27/occupant @ stairs Minimum door opening width = 32" Minimum corridor width = 44" Minimum Stair Width = 44"	7.2.1.2.3 T 7.2.2.2.1 12.2.2.3.5 7.3.4.1 7.2.1.2.3 7.3.4.1 T 7.2.2.2.1	Capacity Factor @ Stairs = .3* Minimum door opening width = 32" Minimum stair width = 44" Minimum corridor width = 44" Egress width capacity = .27/occupant @ doors and corridors = 16' Min. Capacity Factor @ Stairs = .3* x 88 = 26.4* Minimum door opening width = 32" Minimum corridor width = 36" Minimum Stair width = 44"	34' Doors 44' Stairs 52' Corridor 34' Doors 48' Corridors 48' Stairs
Emergency Lighting	1023.1	Exit Signs are required Emergency lighting is required	7.10.1.2 7.9.1.1	Exit signs are required Emergency lighting is required	Provided Provided
Fire Suppression Systems	904 918.4.2 919 920	Required Required Required Required	26.3.3.2 26.3.3.5 26.3.4	Required Required Required Smoke Walls between Escape Route	Provided Provided Provided Provided
Fire Alarm Systems	918.4.2	Required	26.3.3.2	Required	Provided
Automatic Fire Detection	919	Required	26.3.3.5	Required	Provided
Smoke Detectors	920	Required	26.3.4	Required	Provided
Separation of Sleeping Rooms					
Extinguishment requirements	921.2 (2)	Portable fire extinguishers shall be installed as per NFPA 10	38.3.5	Required	Provided

Building Area Calculations	Use Group	1st Floor SF	Mezzanine SF	2nd Floor SF	Total Building Floor Area	Allowable Area (1)	Area Modifications (2)(5)	Adjusted Area (6)	Separated Use Area Ratio (7)	Floor Area / Occupant (8)	Occupant Load
Business	7,256		7,256	14,512		14,400	450%	64,800	11.20%	100	72.6
Showroom	11,937		7,012	22,030		14,400	450%	64,800	18.42%	100	119.4
Office (Includes Stairs/Elevator)	16,532		784	18,593		8,400	450%	37,800	49.03%	300	61.8
Service	1,312		5,499	4,686	11,497	14,400	450%	64,800	2.02%	300	4.4
Storage 2 (Low Hazard)											
Storage 1 (Moderate Hazard)											
Storage 2 (Low Hazard)											
Partn Storage											
Totals	39,037	784	12,511	52,332							286.1

B CODE STUDY
 REFERENCED FROM: SCALE: N.T.S.

Notes:

- Allowable Area Limitations (BOCA 1999 Table 503)
- Street Frontage Increase: Add 150% (BOCA 1999 Section 506.2) for 100% building perimeter access.
- Automatic Sprinkler System: Add 200% (BOCA 1999 Section 506.3) for 2 story building.
- Separated Use Group Building Area Ratio (BOCA 1999 Section 3.13.1.2)
- Adjusted Area = Separated Use Area Ratio x Total Building Area
- Adjusted Area Ratio = Adjusted Area / Total Building Area
- Building Area Ratio = Actual 1st Floor SF divided by Adjusted Allowable SF, the sum of which can not exceed 100%.
- Floor Area Allowances (BOCA 1999 Table 1003.1.2)

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Client: Owner:

MAINE MALL MOTORS
 EXIT 8
 RIVERSIDE DRIVE
 PORTLAND, MAINE

Project No: 03409 MLT
 Date: AS NOTED
 Progress: 03/08/04

Scale: AS NOTED
 Date: AS NOTED
 Progress: 03/08/04

Project Title: **CODE STUDY**

Drawing Number: **CS**

ISSUED FOR PROGRESS AS OF 03/03/03