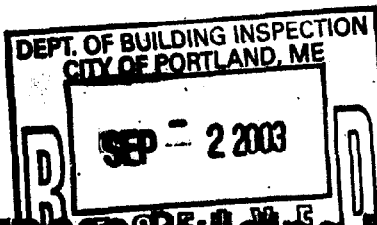


03 1067



9/2/ waiting for check

# All Purpose Building Permit Application

If you or the property owner owes real estate or personal property taxes or user charges on any property within the City, payment arrangements must be made before permits of any kind are accepted.

Location/Address of Construction: <u>344-350 COMMERCIAL STREET</u>		
Total Square Footage of Proposed Structure	Square Footage of Lot <u>7.816 ACRES +/- 340,470 S.F.</u>	
Tax Assessor's Chart, Block & Lot Chart# <u>A2</u> Block# <u>C</u> Lot# <u>1</u>	Owner: <u>GULF OF MAINE RESEARCH Institute</u>	Telephone: <u>207-772-2824</u>
Lessee/Buyer's Name (if Applicable)	Applicant name, address & telephone: <u>OUELLET ASSOC., Inc. 56 Bibber PARKWAY BRUNSWICK ME 04011</u>	Cost Of Work: \$ _____ Fee: \$ _____
Current use: <u>VACANT</u>		
If the location is currently vacant, what was prior use: <u>NAVAL RESERVE TRAINING CENTER</u>		
Approximately how long has it been vacant: <u>6 WEEKS</u>		
Proposed use: <u>GULF OF MAINE RESEARCH Laboratory</u> site plan		
Project description: <u>SEE EXHIBIT "A" ATTACHED &amp; "D" has been approved.</u>		
Contractor's name, address & telephone:		
Who should we contact when the permit is ready: <u>Ouellet Associates, Inc.</u>		
Mailing address: <u>56 Bibber-Parkway Brunswick ME 04011</u>		
We will contact you by phone when the permit is ready. You must come in and pick up the permit and review the requirements before starting any work with a Plan Reviewer. A stop work order will be issued and a \$100.00 fee if any work starts before the permit is picked up. PHONE: <u>207-785-0100</u>		

IF THE REQUIRED INFORMATION IS NOT INCLUDED IN THE SUBMISSIONS THE PERMIT WILL BE AUTOMATICALLY DENIED AT THE DISCRETION OF THE BUILDING/PLANNING DEPARTMENT, WE MAY REQUIRE ADDITIONAL INFORMATION IN ORDER TO APPROVE THIS PERMIT.

I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in this application is issued, I certify that the Code Official's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

Signature of applicant:	Date:
-------------------------	-------

This is NOT a permit, you may not commence ANY work until the permit is issued. If you are in a Historic District you may be subject to additional permitting and fees with the Planning Department on the 4th floor of City Hall

SECTION 01100

SUMMARY

**PART 1 - GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

**1.2 WORK COVERED BY CONTRACT DOCUMENTS**

**A. BID PACKAGES**

**1. BID PACKAGE 1 - SITEWORK**

- a. Bid package 1 includes all site work exclusive of trees, plants and ground covers, tree gratings, site benches, and site lighting. Refer to drawings.

**2. BID PACKAGE 2 - STRUCTURE**

- a. Bid Package 2 includes piles, concrete for structure, and primary steel. Miscellaneous steel which includes steel stairs, handrails, window frames, canopies, and steel trim members, is not included.

**B. Project Identification: Project consists of construction of an office building with laboratories.**

1. Project: Gulf of Maine Research Laboratory
2. Project Location: Portland, Maine.
3. Owner: Gulf of Maine Research Institute

**C. Architect Identification: The Contract Documents, BID PACKAGE 2 - Structure, dated 8/26/03, were prepared for Project by SMRT, 144 Fore Street, P.O. Box 618, Portland, Maine 04104.**

**D. The Work involves the construction for a new office and laboratory facility at location indicated on Drawings. Work includes but is not limited to earthwork, site utilities, site improvements, building construction, and interior finish. This project will be issued in several bid packages as required to meet the project schedule. This Work described herein describes the anticipated full scope of the project.**

**E. Project Description: Briefly and without force and effect upon the Contract Documents, the work of the Contract may be summarized as follows:**

1. Use: Business (B Offices), Assembly (A-3 Exhibit).
2. Approximate Gross Floor Area:
  - a. Level 1: 14,116 gsf
  - b. Level 2: 11,842 gsf
  - c. Level 3: 13,296 gsf
  - d. Level 4: 4,308 gsf
3. Stories: Three plus an unoccupied mechanical equipment floor.
4. Construction Type: Type II (Non-Combustible), Non-Rated
5. Foundations: Steel piles, concrete pile caps and grade beams overlaid by structural slab.
6. Structure: Steel frame of beams and joists, composite floor decks, metal roof deck.
7. Exterior Walls: Steel stud curtain wall with exterior cladding of sheathing and metal panels.

8. Roof: Standing seam sloped roof with membrane roofing at mechanical areas.
9. Partitions: Gypsum systems.
10. Mechanical Systems: Fourth floor air handling units supplying chilled air to variable air volume units for each zone. Pumped heated water for zone reheat. Gas fired boiler, electric air cooled condensing units. 100% exhaust with reclaim for certain laboratory spaces.
11. Plumbing Systems: Hot and cold water, waste, vent, fixtures, gas, compressed air, roof drainage. Separate systems for salt water supply and waste for laboratory use.
12. Fire Protection: Full wet pipe fire sprinklers.
13. Electrical Systems: New electrical service, power distribution, isolated ground for computers and communications systems equipment, lighting, egress lighting, fire alarm and detection. Emergency power generation for emergency circuits, plus power for certain laboratory functions.

**1.3 WORK BY OWNER**

- A. To be determined.

**1.4 CONTRACT**

- A. Project will be constructed under a contract with the Owner by Ouellet Associates, Inc.

**1.5 USE OF PREMISES**

- A. General: Contractor shall have use of premises for construction operations. Contractor's use of premises is limited only by Owner's right to perform work or to retain other contractors to perform other work of the Project.
- B. Coordination: Separate contracts to be determined.

**1.6 SPECIFICATION FORMATS AND CONVENTIONS**

- A. Specification Format: The Specifications are organized into Divisions and Sections using the 16-division format and CSI/CSC's "MasterFormat" numbering system.
  1. Section Identification: The Specifications use section numbers and titles to help cross-referencing in the Contract Documents. Sections in the Project Manual are in numeric sequence. Consult the table of contents at the beginning of the Project Manual to determine numbers and names of sections included in the Contract Documents.
- B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
  1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.
  2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity

to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.

- a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

**PART 2 - PRODUCTS (Not Used) and Part 3 - EXECUTION (Not Used)**

**END OF SECTION 01100**

**CITY OF PORTLAND, MAINE  
DEVELOPMENT REVIEW APPLICATION  
PLANNING DEPARTMENT PROCESSING FORM  
Planning Copy**

**2003-0086**  
Application I. D. Number  
**05/01/2003**  
Application Date  
**Gulf of Maine Aquarium Research Lab**  
Project Name/Description

**Gulf of Maine Aquarium**  
Applicant  
**400 Commercial Street, Portland, ME 04101**  
Applicant's Mailing Address

Consultant/Agent  
**Agent Ph:** \_\_\_\_\_ **Agent Fax:** \_\_\_\_\_  
Applicant or Agent Daytime Telephone, Fax

**344 - 344 Commercial St, Portland, Maine**  
Address of Proposed Site  
**042 C001001**  
Assessor's Reference: Chart-Block-Lot

Proposed Development (check all that apply):  New Building  Building Addition  Change Of Use  Residential  Office  Retail  
 Manufacturing  Warehouse/Distribution  Parking Lot  Other (specify) \_\_\_\_\_

**63,000 s.f.** Proposed Building square Feet or # of Units **WCZ** Zoning  
Acreage of Site \_\_\_\_\_

**Check Review Required:**

<input checked="" type="checkbox"/> Site Plan (major/minor)	<input type="checkbox"/> Subdivision # of lots _____	<input type="checkbox"/> PAD Review	<input type="checkbox"/> 14-403 Streets Review
<input type="checkbox"/> Flood Hazard	<input type="checkbox"/> Shoreland	<input type="checkbox"/> Historic Preservation	<input type="checkbox"/> DEP Local Certification
<input type="checkbox"/> Zoning Conditional Use (ZBA/PB)	<input type="checkbox"/> Zoning Variance	<input type="checkbox"/> Other _____	

Fees Paid: Site Plan \_\_\_\_\_ Subdivision \_\_\_\_\_ Engineer Review \_\_\_\_\_ Date \_\_\_\_\_

**Planning Approval Status:** Reviewer **William B. Needelman**

Approved  Approved w/Conditions See Attached  Denied

Approval Date **08/12/2003** Approval Expiration **08/12/2004** Extension to \_\_\_\_\_  Additional Sheets Attached

OK to Issue Building Permit **William B. Needelman** **09/22/2003**  
signature date

**Performance Guarantee**  Required\*  Not Required

\* No building permit may be issued until a performance guarantee has been submitted as indicated below

<input checked="" type="checkbox"/> Performance Guarantee Accepted	<b>09/16/2003</b> date	<b>\$342,922.00</b> amount	<b>06/30/2005</b> expiration date
<input checked="" type="checkbox"/> Inspection Fee Paid	<b>09/16/2003</b> date	<b>\$6,858.44</b> amount	
<input type="checkbox"/> Building Permit Issue	_____ date		
<input type="checkbox"/> Performance Guarantee Reduced	_____ date	remaining balance	signature
<input type="checkbox"/> Temporary Certificate of Occupancy	_____ date	<input type="checkbox"/> Conditions (See Attached)	expiration date
<input type="checkbox"/> Final Inspection	_____ date	signature	
<input type="checkbox"/> Certificate Of Occupancy	_____ date		
<input type="checkbox"/> Performance Guarantee Released	_____ date	signature	
<input type="checkbox"/> Defect Guarantee Submitted	submitted date	amount	expiration date
<input type="checkbox"/> Defect Guarantee Released	_____ date	signature	

**CITY OF PORTLAND, MAINE  
DEVELOPMENT REVIEW APPLICATION  
PLANNING DEPARTMENT PROCESSING FORM  
Planning Copy**

**2003-0086**  
Application I. D. Number  
**05/01/2003**  
Application Date  
**Gulf of Maine Aquarium Research Lab**  
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Applicant  
**400 Commercial Street, Portland, ME 04101**  
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**Agent Ph: \_\_\_\_\_ Agent Fax: \_\_\_\_\_**  
Applicant or Agent Daytime Telephone, Fax

**344 - 344 Commercial St, Portland, Maine**  
Address of Proposed Site  
**042 C001001**  
Assessor's Reference: Chart-Block-Lot

Proposed Development (check all that apply):  New Building  Building Addition  Change Of Use  Residential  Office  Retail  
 Manufacturing  Warehouse/Distribution  Parking Lot  Other (specify) \_\_\_\_\_

**63,000 s.f.** Proposed Building square Feet or # of Units      \_\_\_\_\_ Acreage of Site      \_\_\_\_\_ **WCZ** Zoning

**Check Review Required:**

- |   |  |  |  |
|---|--|--|--|
| <input checked="" type="checkbox"/> Site Plan (major/minor) | <input type="checkbox"/> Subdivision # of lots _____ | <input type="checkbox"/> PAD Review            | <input type="checkbox"/> 14-403 Streets Review   |
| <input type="checkbox"/> Flood Hazard                       | <input type="checkbox"/> Shoreland                   | <input type="checkbox"/> Historic Preservation | <input type="checkbox"/> DEP Local Certification |
| <input type="checkbox"/> Zoning Conditional Use (ZBA/PB)    | <input type="checkbox"/> Zoning Variance             | <input type="checkbox"/> Other _____           |  |

Fees Paid: Site Plan \_\_\_\_\_ Subdivision \_\_\_\_\_ Engineer Review \_\_\_\_\_ Date \_\_\_\_\_

**Planning Comments**

Conditions were met on 9-22-03 excepting SIGNAGE, which needs approval prior to Cof O. Wbn

**Performance Guarantee**       **Required\***       **Not Required**

\* No building permit may be issued until a performance guarantee has been submitted as indicated below

<input checked="" type="checkbox"/> Performance Guarantee Accepted	<u>09/16/2003</u> date	<u>\$342,922.00</u> amount	<u>06/30/2005</u> expiration date
<input checked="" type="checkbox"/> Inspection Fee Paid	<u>09/16/2003</u> date	<u>\$6,858.44</u> amount	
<input type="checkbox"/> Building Permit Issue	_____ date		
<input type="checkbox"/> Performance Guarantee Reduced	_____ date	_____ remaining balance	_____ signature
<input type="checkbox"/> Temporary Certificate of Occupancy	_____ date	<input type="checkbox"/> Conditions (See Attached)	_____ expiration date
<input type="checkbox"/> Final Inspection	_____ date	_____ signature	
<input type="checkbox"/> Certificate Of Occupancy	_____ date		
<input type="checkbox"/> Performance Guarantee Released	_____ date	_____ signature	
<input type="checkbox"/> Defect Guarantee Submitted	_____ submitted date	_____ amount	_____ expiration date
<input type="checkbox"/> Defect Guarantee Released	_____ date	_____ signature	

**CITY OF PORTLAND, MAINE  
DEVELOPMENT REVIEW APPLICATION  
PLANNING DEPARTMENT PROCESSING FORM  
ADDENDUM**

2003-0086

Application I. D. Number

05/01/2003

Application Date

Gulf of Maine Aquarium Research Lab

Project Name/Description

Gulf of Maine Aquarium

Applicant

400 Commercial Street, Portland, ME 04101

Applicant's Mailing Address

Consultant/Agent

Agent Ph:

Agent Fax:

Applicant or Agent Daytime Telephone, Fax

344 - 344 Commercial St, Portland, Maine

Address of Proposed Site

042 C001001

Assessor's Reference: Chart-Block-Lot

**Approval Conditions of Planning**

1

1.The Board voted 7 to 0 that the additional building setback from Commercial Street complies with the conditions outlined in the Urban Design Guidelines.

2.The Board voted 7 to 0 that the plan provides sufficient parking for the project demand, subject to the following condition:

a)That the phase 2 plan be revised to show no less than 110 spaces on site, unless additional spaces are secured off-site prior to issuance of a phase 2 building permit.

3.The Board voted 7 to 0 that the project is in conformance with the Site Plan standards of the land use code, subject to the following conditions:

a) That the applicant supplies information and details addressing issues included in the DRC Memo dated 8-8-03 (included as attachment 14C of Planning Board report #35-03) for review and approval prior to issuance of a building permit.

b)That utility easements benefiting the abutting Coast Guard property be provided for the review and approval of the City Legal Staff and Planning Staff prior to issuance of a building permit.

c)That tree species and tree planter details for the Commercial Street trees be provided to the City Arborist for review and approval prior to issuance of a building permit.

d)That the City Site Lighting Standards are waived for the installation of decorative bollard lighting and architectural uplighting as shown on the submitted lighting plans.

e)That the applicant submits signage details for review and approval of the Planning Staff prior to issuance of a Certificate of Occupancy.

f)That the applicant provides revised the Phase II plans and site plans, for the review and approval of the City development review staff, showing all improvements sited entirely on the Naval Reserve site.

g)That the applicant provide a pedestrian easement to the City for the side walk area along the Commercial Street frontage of the building.

h)That the applicant supply revised architectural elevation drawings for staff review and approval, understanding that staff can refer back to the Board if the submitted plans differ substantially from the rendered elevations submitted at the Public Hearing.

4.The Board voted 5 to 2 (Delogu and Patterson opposed) that the plan is in conformance with the shoreland standards of the land use code.



ARCHITECTURE  
 ENGINEERING  
 PLANNING

<b>GENERAL INFORMATION</b>	
CLIENT	The Gulf of Maine Research Institute
PROJECT	Gulf of Maine Research Laboratory, Project No. 03034
DATE PREPARED	July-03
CODES USED FOR SUMMARY	BOCA 1999 edition NFPA 101 2000-ME Fire Marshal (2003 Edition will govern) ADA- ME Fire Marshal for Accessibility Guidelines NEC 1999 edition Plumbing, Maine current edition
<b>BUILDING DESCRIPTION</b>	
BUILDING USE	Laboratory (Testing & Research); Offices; Multi-Media Education/Exhibition
BOCA Building Code	Chapter 3, Sect. 302.2 Mixed Use Chapter 3, Sect. 303.0, para. 303.4 Assembly Group A-3, Exhibition and Lecture Hall primarily w/o fixed seating Chapter 3, Sect. 304.0 Business Use Group Chapter 3, Sect. 302.1.2 Accessory areas include S2 storage incidental to other occupancies.
NFPA 101 2000	Chapter 12-New Assembly Occupancies Para. 12.1.2.1 Mixed Occupancies Chapter 38-New Business Occupancies
TYPE OF CONSTRUCTION	2C Non-Combustible Unprotected, BOCA (Chapter 6, Table 602)  Type II (000), NFPA 220, Standard on Types of Building Construction
SPRINKLERED	Fully (In Accordance with BOCA 906.0 and NFPA 13)



**THE GULF OF MAINE AQUARIUM**  
**Fire Protection Code Review**

<b>HEIGHT AND AREA LIMITATIONS</b>		
Use Group	BOCA: New B-Business and New A-3 Assembly S-2 Storage incidental to other occupancies.	NFPA: New Assembly and New Business
Type of Construction	BOCA: 2C Non-Combustible Unprotected	NFPA: Type II (000)
Allowable Tabular Height	BOCA: Table 503 w/o Sprinklers B-Business/2C: 3 Stories/40' A-3 Assembly/2C: 2 Stories/30'	NFPA: Table 12.1.6 No Limitations <b>Any Assembly 2 Levels above LED Not Permitted</b>
Actual Height	4 Stories Above Grade (49.6 Feet) (59.6 Feet to ridge) (Building Height: Vertical Distance from grade plane to average height of the highest roof surface.) (Grade Plane: Average finished ground level adjoining exterior building walls.)	
Height Modification	BOCA: 504.2 Full Sprinkler System B-Business/2C: 4 Stories/60' A-3 Assembly/2C: 3 Stories/50'	NFPA: Table 12.1.6 No Limitations <b>Any Assembly 2 Levels above LED Not Permitted</b>
Allowable Tabular Area	BOCA: Table 503 B-Business/2C: 14,400 SF A-3 Assembly/2C: 8,400 SF	
Height Reduction	BOCA: Table 506.4: 4 Story Type 2C = 20%	

**THE GULF OF MAINE AQUARIUM**  
**Fire Protection Code Review**

<b>BUILDING AREA (Area, or "footprint", within inside surface of exterior walls, excluding vent shafts and courts.)</b>				
<b>Level</b>	<b>Description</b>	<b>Phase I</b>	<b>Phase II</b>	<b>Phases I and II</b>
		<b>Square Feet</b>	<b>Square Feet</b>	<b>Square Feet</b>
Basement - Existing		None	None	
Basement - New		None	None	
<b>Subtotal Basement</b>		<b>0</b>	<b>0</b>	<b>0</b>
First Floor - Business		12,078	10,200	22,278
First Floor - Assembly	Multi-Media Classroom Only	2,038	0	2,038
<b>Subtotal First Floor</b>		<b>14,116</b>	<b>10,200</b>	<b>24,316</b>
Second - Business	Less 810 SF open to Atrium	11,287	4,800	16,087
Second - Assembly		555	0	555
<b>Subtotal Second Floor</b>		<b>11,842</b>	<b>4,800</b>	<b>16,642</b>
Third Floor - Business	Less 586 SF open to Atrium	13,296	4,800	18,096
Third Floor - Assembly		0		0
<b>Subtotal Third Floor</b>		<b>13,296</b>	<b>4,800</b>	<b>18,096</b>
Fourth Floor - Mechanical	Lab Wing	3,384	2,155	5,539
Fourth Floor - Mechanical	Core	924	0	924
<b>Subtotal Fourth Floor</b>		<b>4,308</b>	<b>2,155</b>	<b>6,463</b>
<b>SUBTOTAL PHASE I</b>		<b>43,562</b>		
<b>SUBTOTAL PHASE II</b>			<b>21,955</b>	
<b>TOTAL BUILDING AREA</b>				<b>65,517</b>

**THE GULF OF MAINE AQUARIUM**  
**Fire Protection Code Review**

**ALLOWABLE AREA MODIFICATIONS**

<b>Open Perimeter Allowable Increase</b>	
Total Building Perimeter LF	805
First 25% Perimeter	-201
Obstructed Perimeter LF	0
Total Open Perimeter LF	604
% Open Perimeter	75%
% Area Increase (2 x % Open Perim)	150%
<b>Area Modification Factor to (Table 503)</b>	
% Allowable Tabular Area	100%
% Increase for Open Perimeter (506.2)	150%
% Increase for Automatic Sprinklers(506.3)	100%
% Decrease for Height Table 506.4	-20%
Total % Factor	330%
Conversion Factor	3.3

<b>Business Occupancy (14,400 SF x 3.30) = 47,520 SF</b>	
<b>Assembly Occupancy (8,400 SF x 4.50) = 27,720 SF</b>	
<b>First Floor Area:</b>	<b>Second Floor Area:</b>
$\frac{22,278 + 2038}{47,520 + 27,720} =$	$\frac{16087 + 555}{47,520 + 27,720} =$
0.542	0.359
.542 < 1 OK	.359 < 1 OK
<b>Third Floor Area:</b>	<b>Fourth Floor Area:</b>
Not Mixed	Not Mixed

**THE GULF OF MAINE AQUARIUM**

**Fire Protection Code Review**

<b>FIRE SUPPRESSION SYSTEM</b>					
<b>Building Element</b>	<b>Remarks</b>	<b>Rating(Hrs)/ Size</b>	<b>BOCA 1999 Code Reference</b>	<b>NFPA 101 2000 Code Reference</b>	<b>ADA Code Reference</b>
<b>SPRINKLERS</b>	<b>Required Throughout.</b>		904.6	NFPA 13	
<b>FIRE EXTINGUISHERS (PORTABLE)</b>	<b>Class A,B,C; Max. 75' travel distance to fire extinguisher in egress access. Maximum floor area 11,250 SF per extinguisher.</b>		921.0	NFPA10	
<b>FIRE ALARM SYSTEM</b>					
<b>Building Element</b>	<b>Remarks</b>	<b>Rating(Hrs)/ Size</b>	<b>BOCA 1999 Code Reference</b>	<b>NFPA 101 2000 Code Reference</b>	<b>ADA Code Reference</b>
	<b>Fire Alarm system required.</b>		918.0 & 918.4.4	NFPA 72	

**THE GULF OF MAINE AQUARIUM**  
**Fire Protection Code Review**

<b>MEANS OF EGRESS (CONTINUED)</b>					
<b>Building Element</b>	<b>Remarks</b>	<b>Rating(Hrs)/ Size</b>	<b>BOCA 1999 Code Reference</b>	<b>NFPA 101 2000 Code Reference</b>	<b>ADA Code Reference</b>
<b>STAIRWAYS</b>			<b>1014.0</b>	<b>7.2.2</b>	
	Stair Rating	1	1014.1		
	Stair Doors and Hardware	1			
	Stair Width	44" Min.	1014.3	Table 7.2.2.2.1(a)	
	Stair Width if part accessible means of egress	48" Min.	1007.2		
	Riser	7" max. 4" min.	1014.6	Table 7.2.2.2.1(a)	
	Tread	11" min.	1014.6	Table 7.2.2.2.1(a)	
	Headroom	80" min.	1014.4	Table 7.2.2.2.1(a)	
	Maximun Height Between Landings	12 feet	1014.5	Table 7.2.2.2.1(a)	
	Landing Minimum Dimension	44"	1014.3.2	Table 7.2.2.2.1(a)	
	*No less than the required width of the stairway				
Egress Doors	Shall not reduce landing width to less than 1/2 the required width throughout its swing. When fully open the door shall not project more than 7" into the required width.		1014.8.2	7.2.1.4.4	

**THE GULF OF MAINE AQUARIUM**

**Fire Protection Code Review**

<b>MEANS OF EGRESS (CONTINUED)</b>					
<b>Building Element</b>	<b>Remarks</b>	<b>Rating(Hrs)/ Size</b>	<b>BOCA 1999 Code Reference</b>	<b>NFPA 101 2000 Code Reference</b>	<b>ADA Code Reference</b>
<b>GUARDS</b>			<b>1021.0</b>	<b>7.2.2.4</b>	
Level change	Required where level change > 30".		1021.2		
Guard Height	Guards 42 inch high, Open Guard detail such that max. 4" sphere not pass through up to 34" height		1021.2 & 1021.3		
Guards Both Sides	Continuous Guards and handrails required on each side and within 30" of all portions of required egress width of stair.			7.2.2.4.2	
<b>HANDRAILS</b>			<b>1022.0</b>	<b>7.2.2.4</b>	
Handrail Details	Clear space 1 1/2" except 2 1/2" stairs 3 1/2" max projection, except 4 1/2" at stairs		1022.2 1022.2.1	7.2.2.4.5	
Height	Handrails 34" to 38" high		1022.2.2		
Handrail Ends	Extend horiz. 12" beyond top riser Continue to slope depth one tread beyond bottom riser		1022.2.3		
<b>SPACE UNDER STAIRS</b>	Rated the same as the stair enclosure. No openings from within the stair.	<b>1</b>		7.2.2.5.3	
<b>SMOKE PROOF STAIR ENCLOSURE</b>	Required where exit floor level >75' above level exit discharge (or from 30' below)	<b>NA</b>	1015.2	7.2.3	
<b>ALTERNATING TREAD STAIRS AS EXIT</b>	Qualifies as second exit from Boiler and Mech. Rooms with Maximum 3 person occupancy.				
<b>ELEVATORS</b>	Elevators:ADA controls;Phone		BOCA 7-4	7.2.13	ASME A17.1-96
<b>ELEVATOR SHAFTWAY</b>	Vent when serving > 3 stories.	<b>NA</b>	BOCA 3007.3		

**THE GULF OF MAINE AQUARIUM**  
**Fire Protection Code Review**

<b>MEANS OF EGRESS (CONTINUED)</b>					
<b>OCCUPANT LOAD FACTORS</b>	<b>Remarks</b>	<b>Net SF/Person unless noted GSF</b>	<b>BOCA 1999 Code Reference</b>	<b>NFPA 101 2000 Code Reference</b>	<b>ADA Code Reference</b>
<b>TYPES AND LOCATION MEANS OF EGRESS</b>			<b>1006.0</b>		
	<b>Assembly</b>	<b>250'</b>	<b>Table 1006.5</b>		
	<b>Business</b>	<b>300'</b>		<b>12.2.6, Exception 1 &amp; Table A.7.6.1</b>	
<b>MEANS OF EGRESS DOORWAYS</b>			<b>1017.0</b>		
	<b>Swing in direction of exit travel serving area &gt; 50 persons</b>			<b>7.2.1.4.2</b>	
<b>Number of Doorways</b>	<b>2 exits required except where:</b>		<b>1017.2, Table 1017.2</b>		
	<b>Max. 10 occupant load</b>				
	<b>Max. 75' travel distance</b>				
	<b>Panic Hardware required from occupancy &gt; 100 persons</b>			<b>7.2.1.7</b>	
<b>Size of Doors</b>	<b>Min. clear opening width</b>	<b>32"</b>	<b>1017.3</b>		
	<b>Maximum Nominal swinging door leaf</b>	<b>48"</b>			
<b>Door Hardware</b>	<b>Power-operated doors and horizontally sliding doors shall be capable manual operation with loss of power</b>		<b>1017.4.3 &amp; 1017.4.4</b>		

**THE GULF OF MAINE AQUARIUM**  
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<b>MEANS OF EGRESS (CONTINUED)</b>					
<b>OCCUPANT LOAD FACTORS</b>	<b>Remarks</b>	<b>Net SF/Person unless noted GSF</b>	<b>BOCA 1999 Code Reference</b>	<b>NFPA 101 2000 Code Reference</b>	<b>ADA Code Reference</b>
<b>MECHANICAL EQUIPMENT</b>					
				7.12.2	
<b>EXIT SIGNS</b>	<i>In all spaces that are required to have more than one exit or exit access. Every point in egress corridor within 100 feet of a sign.</i>			7.10.1.4	
<b>MEANS OF EGRESS ILLUMINATION</b>	Minimum 1 foot candle measured at floor.			7.8.1.3	
<b>EMERGENCY ILLUMINATION</b>					
	1 foot candle average with 0.1 min. foot candle for 1 1/2 hr. min. in all spaces required to have more than one exit or exit access.			7.9.2.1	
<b>POWER SUPPLY FOR EXIT SIGNS AND ILLUMINATION</b>				7.10.4	



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<b>MEANS OF EGRESS (CONTINUED)</b>					
<b>Building Element</b>	<b>Remarks</b>	<b>Rating(Hrs)/ Size</b>	<b>BOCA 1999 Code Reference</b>	<b>NFPA 101 2000 Code Reference</b>	<b>ADA Code Reference</b>
<b>RAMPS (Continued)</b>					
Handrails	Required both sides ramp > 1 in 20 Required both sides if rise > 6 inch or horizontal projection > 72 inch		1016.5	7.2.5.4	
Edge Protection	Extend 12" beyond inside face handrail Provide curb prevent passage of min. 4 inch diam. Sphere Min. 4" height		1016.6.1 1016.6.2	7.2.5.4	
<b>DISCHARGE FROM EXITS</b>					
	Roof top Exits permitted IAW 7.7.6			7.7 7.7.1, Exception 2	
	Roof construction equal to fire rating of exit enclosure	1		7.7.6 (1) & (2)	

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<b>MEANS OF EGRESS (CONTINUED)</b>					
<b>OCCUPANT LOAD FACTORS</b>	<b>Remarks</b>	<b>Net SF/Person unless noted GSF</b>	<b>BOCA 1999 Code Reference</b>	<b>NFPA 101 2000 Code Reference</b>	<b>ADA Code Reference</b>
<b>OCCUPANT LOAD</b>			<b>1008.0</b>		
Maximum Floor Areas per Occupant:	Business	100 GSF	Table 1008.1.2	Table 7.3.1.2	
	Assembly w/ Fixed Seats	Actual #	Table 1008.1.2		
	Assembly w/o Fixed Seats-Standing	3 Net	Table 1008.1.2		
	Assembly w/o Fixed Seats-Chairs	7 Net	Table 1008.1.2		
	Assembly w/o Fixed Chairs/Tables	15 Net	Table 1008.1.2		
	Storage, Mechanical Equip. Rooms	300 GSF	Table 1008.1.2		
<b>CAPACITY OF EGRESS COMPONENTS</b>			1009.0		
			Table 1009.2		
			0.2 inch per person		
			0.15 inch per person		
<b>NUMBER OF EXITS</b>			1010.0		
Min # Exits for any Story:	Over 1,000 occupants	4 Exits	Table 1010.2	Section 7-4	
	501-1,000 occupants	3 Exits			
	500 or less	2 Exits			
	Min. two exits per floor/fire area			18.2.4	
Buildings with One Exit	Max. 30 persons and 75' travel, max. two story above grade	1 Exit	Table 1010.3		
<b>Mezzanine/Balconies</b>	Max. 50 Occupants	1 Exit		12.2.4.3	
	<b>Note: Actual 26' Common Path of Travel &gt; Allowable 20' Max.</b>				
	51-100 Occupants	2 Exits		12.2.4.4	
	> 100 Occupants	IAW 7.4.1		12.2.4.5 & 7.4.1	



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<b>FIRE RESISTANT MATERIALS AND CONSTRUCTION (CONTINUED)</b>					
<b>Building Element</b>	<b>Remarks</b>	<b>Fire Rating ( Hours)</b>	<b>BOCA 1999 Code Reference</b>	<b>NFPA 101 2000 Code Reference</b>	<b>ADA Code Reference</b>
<b>Fire Door Assemblies</b>	In Fire Separations for 1 hour Shaft and 1 hour Exit Enclosures	1	Table 717.1		
	In Fire Separations for Other 1 hour Fire Separation Asssemblies	3/4	Table 717.1		
<b>Fire Dampers</b>	Fire Damper rating as per Table 718.1 See Exception 1.3 above		718.0 714.1.5		
<b>Fire Window &amp; Shutters</b>	Same rating as partition		719.0		
<b>Wired Glass</b>	1 Hr. & 1 1/2 Hr. doors <= 100 Sq In		721.0, Table 720.1		
	3/4 Hr. doors <= 1296 Sq In		Table 720.1		
	Fire Windows in <= 1 Hr rated walls shall be <= 1296 Sq In with max. 54" height or width dimension.		Table 720.1, 720.3		
<b>Fireblocking and Draftstopping</b>	Fire Blocking locations required per:		721.0 721.6		
	Draftstopping Not Required only type 3,4,5 construction.	NA	721.7		

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<b>MEANS OF EGRESS</b>					
<b>Building Element</b>	<b>Remarks</b>	<b>Rating(Hrs)/ Size</b>	<b>BOCA 1999 Code Reference</b>	<b>NFPA 101 2000 Code Reference</b>	<b>ADA Code Reference</b>
	<b>ARRANGEMENT OF EGRESS SHALL BE INDICATED ON CD.</b>		1003.1		
	<b>EXIT ACCESS PASSAGEWAYS AND CORRIDORS</b>		1011.0		
<b>PROTECTION</b>	<b>With Sprinkler System:</b>				
Enclosure:		0	Table 1011.4		
<b>CORRIDOR WIDTH</b>	Minimum for B-Business	<b>44 inches</b>	1011.3.3		
	Minimum Calculated by 1009.0		1011.3.5		
	Minimum A-Assembly Aisles		1012		
<b>CEILING HEIGHT</b>	7'-6" Min. for min. 2/3 ceiling area			7-1.5	
	Min. 6'-8" for projections & stairs				
	Min. 7'-0" for projections & 2/3 clng. area		1204.1		
<b>PROJECTIONS</b>					
Doors	Shall not reduce the width of corridors to less than 1/2 the required width at any point in its swing and, when fully open doors shall not project more than 7" into thr required corridor width.		1011.4	7-2.1.4.4	
Handrails	Clear space 1 1/2"		1022.2	7.2.2.4.5	
	Max. 3 1/2 inch projection corridor		1022.2.1	7.3.2	
	Max. 3 1/2" projection stairs			Table 7.2.2.1(a)	
<b>COMMON PATH OF TRAVEL</b>	With Sprinklers	<b>Max.100'</b>	1011.2.1		
	B - Business	<b>Max.100'</b>		38.2.5.3 & Table A.7.6.1	
	A - Assembly > 50'	<b>Max. 20'</b>		Table A.7.6.1	
	A - Assembly < 50'	<b>Max. 75'</b>		Table A.7.6.1	
<b>DEAD ENDS</b>	With Sprinklers				
	B-Business	<b>Max.50'</b>	1011.2	38.2.5.2 w/ Exception & Table A.7.6.1	
	A-Assembly	<b>Not permitted</b>			

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<b>MEANS OF EGRESS (CONTINUED)</b>					
<b>Building Element</b>	<b>Remarks</b>	<b>Rating(Hrs)/ Size</b>	<b>BOCA 1999 Code Reference</b>	<b>NFPA 101 2000 Code Reference</b>	<b>ADA Code Reference</b>
<b>DISCHARGE FROM EXIT STAIRWAYS</b>			1020.0	7.2.6	
<b>EXIT</b>	Rated construction from stair to exterior exit discharge.	1	1020.2	7.2.6.3	
<b>PASSAGEWAYS</b>					
	Vestibules: Exit Stairs to exterior at the 1st Floor; min. 1/4 inch thick wired glass in interior vestibule doors; Max. 10' depth x 20' width	1	1020.3.1 & 1020.3.2		
	Lobby at level of exit discharge: Automatic Sprinkler Required.	0	1020.4		
	Required Width-No less than the width required for the capacity of all required exits emptying into lobby or passageway.		1020.5	7.2.6.4	
	Required Height	8 ft. Min.	1020.5		
<b>RAMPS</b>					
Width	44" minimum width		1016.0 1016.2.1	Table 7.2.5.2(a)	
Headroom	6'-8" min.		1016.2.2		
Restrictions	Max. 3 1/2 " handrail projection Doors opening onto landing not reduce clear width min. 42"		1016.2.3		
Rise	Max. vert. Rise 30 " between landings		1016.2.4		ADAG 4.8.4
Max Slope	1:8 with a 3" max. rise 1:10 with a 6" max. rise				ADAG 4.8.2 ADAG 4.8.2
(when means of egress)	1:12 if > 6" rise		1016.3		
Landings	Same width as ramp; min. 60" by 60" at change in direction		1016.4	7.2.5.3.2	

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<b>FIRE RESISTANT MATERIALS AND CONSTRUCTION (CONTINUED)</b>					
<b>Building Element</b>	<b>Remarks</b>	<b>Fire Rating (Hours)</b>	<b>BOCA 1999 Code Reference</b>	<b>NFPA 101 2000 Code Reference</b>	<b>ADA Code Reference</b>
	and outside wall to outside wall				
<b>Doors Cross-Corridor</b>	Pair opposite swinging doors		712.3		
<b>Opening Protectives</b>	<b>Doors: Self-closing; astragals</b>	<b>20 Minutes</b>	712.4		
	required; vision panels required.				
<b>Door Closers</b>	Hold-opens with fail-safe release		712.4.1		
<b>Smoke Dampers</b>	Not required w/ fully ducted system.		712.5, Exception 2		
<b>Smoke Compartments</b>		<b>NA</b>	409.0 and 712.0		
<b>Floor/Ceiling &amp; Roof/ Ceiling Assemblies</b>	Refer to Table 602	<b>0</b>	713.0		
<b>Penetrations</b>			714.0		
<b>Fire Stopping</b>	Required in all fire rated wall, ceiling and floor openings:at curtain wall & floor.	Equal to wall or floor.			
<b>Ducts through Walls</b>	Fire Dampers required except: HVAC fully ducted Walls 1-Hr or less With Sprinklers		714.1.5 Exception 1.3		
<b>Ducts through Floor</b>	Fire damper permitted connecting max. two stories Damper rated to match partition		714.2.5 Table 718.1		
<b>Roof Construction</b>	Fireblocking as per 721.0		715.0		
<b>Fire Resistance</b>	Not less than the rating of the assembly supported.		716 and 711.4		
<b>Structural Members</b>	In Fire Separations for 1 hour Shaft and 1 hour Exit Enclosures	<b>1</b>	716 and 709.4		
		*Required by Table 602			

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<b>FIRE RESISTANT MATERIALS AND CONSTRUCTION (CONTINUED)</b>					
<b>Building Element</b>	<b>Remarks</b>	<b>Fire Rating ( Hours)</b>	<b>BOCA 1999 Code Reference</b>	<b>NFPA 101 2000 Code Reference</b>	<b>ADA Code Reference</b>
<b>Fire Walls(Continued)</b>	NA - One Building				
<b>Fire Wall Extension Required</b>	Extend Firewall 30 inches above lower roof and exterior wall above = 1 hour for 15 feet. If upper roof is <= 15 feet,extend 1 hour rating to underside upper roof deck.	NA	707.6.4.1		
<b>Fire Wall Extension Not Required</b>	Terminate Firewall @ underside deck provided lower roof 1 hour rated>= 10 feet from firewall.	NA	707.6.4.2		
<b>Noncombustible Framing</b>	Fireproof columns,beams,bracing to equal rating of firewall.	NA	707.7		
<b>Fire-Resistive Joint Systems</b>	Fire-resistive joints shall equal rating of firewall.	NA	707.8,707.9		
<b>Offset Firewalls</b>	Floor construction and offset supports>= fire rating of firewall.	NA	707.9		
<b>Size Firewall Openings</b>	Unlimited opening size with sprinklers,but aggregate width @ each level<= 25% of wall length	NA	708.2 <i>Exception</i>		
<b>Opening Protectives</b>	Minimum Rating.	NA	708.3		
	Maximum width<=25% of wall length				
			711.2 and 711.4		



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<b>FIRE RESISTANT MATERIALS AND CONSTRUCTION</b>					
<b>Building Element</b>	<b>Remarks</b>	<b>Fire Rating (Hours)</b>	<b>BOCA 1999 Code Reference</b>	<b>NFPA 101 2000 Code Reference</b>	<b>ADA Code Reference</b>
<b>Exterior Walls</b>	Fire Resistance Rating > 30'	0	Table 705.2		
	Max. area unprotected exterior wall openings > 30'	Unlimited	Table 705.3		
<b>Vertical Separation</b>	Not required w/ sprinklers	NA	705.4		
<b>Exterior Opening Protectives</b>		NA	706.0		
<b>Fire Walls</b>	Separation between buildings. NA - One Building	NA	707.0		
<b>Continuity of Fire Walls</b>	Extend 32 inches above roof surface. Make smoke tight with exter. Walls	NA	707.6		
<b>Exception to 32 inch extension.</b>	To underside roof deck @ noncombustible roofs. Note: Combustibility of rigid insulation is questionable and dense deck should be added to rate the roof.	NA	707.6.1		
<b>Other Occupancies Exception.</b>	To underside roof deck @ 2 hour firewalls provided: 1.) Roof Assembly= 1 hour w/in 5 feet. 2.) No roof openings w/in 5 feet. 3.) Min. Class B roof covering.	NA	707.6.3		
<b>Buildings with Differing Roof Heights</b>	Where fire walls separate buildings with a difference in roof levels greater than 30 inches.	NA	707.6.4		

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<b>SPECIAL USE AND OCCUPANCY</b>		<b>Rating or NR=not required R=required</b>			
<b>Building Element</b>	<b>Remarks</b>	<b>Fire Rating (Hours)</b>	<b>BOCA 1999 Code Reference</b>	<b>NFPA 101 2000 Code Reference</b>	<b>ADA Code Reference</b>
<b>Atriums</b>	<b>Sprinkler System Required</b>		<b>404.0</b>		
	<b>Fire Windows protected by Sprinklers</b>		<b>Exception 2.1</b>	<b>Sprinkler Heads/Ea. Side: 1' from Glass, 6' O.C.</b>	
	<b>Unseparated spaces include w/ Volume</b>		<b>Exception 2.3</b>		
	<b>Unlimited Fire Windows w/ Sprinklers</b>		<b>Exception 2.4</b>		
<b>Fire Alarm Systems</b>	<b>Voice/Alarm in Assembly Occupancy</b>		<b>404.6</b>		
<b>Means Egress thru Atrium</b>	<b>Permitted to Exit w/ limits.</b>	<b>Max. 150'</b>	<b>404.7</b>		
	<b>1st Floor - Unlimited</b>				
	<b>2nd Floor - Actual 75' &lt; 150' OK</b>				
	<b>3rd Floor - Actual 112' &lt; 150' OK</b>				
<b>Exit Discharge w/in Atrium</b>	<b>Permitted w/ Fire rated Stair Enclosure</b>	<b>IAW 1020.0</b>	<b>404.31</b>		
<b>Compartment</b>	<b>Not Required</b>	<b>NA</b>	<b>409.4 and 702</b>		
<b>Refuge Area</b>					

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<b>BUILDING ELEMENTS FIRE RESISTIVE REQUIREMENTS (CONTINUED)</b>					
<b>Building Element</b>	<b>Remarks</b>	<b>Fire Rating (Hours)</b>	<b>BOCA 1999 Code Reference</b>	<b>NFPA 101 2000 Code Reference</b>	<b>ADA Code Reference</b>
	<b>Fire retardant-treated wood deck required.</b>		<b>715.4</b>		

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SPECIFIC OCCUPANCY AREAS					
Building Element	Remarks	Fire Rating (Hours)	BOCA 1999 Code Reference	NFPA 101 2000 Code Reference	ADA Code Reference
Hazardous Material Storage	Case by case basis.		Section 417.0	8.4	

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<b>INTERIOR FINISHES</b>					
<b>Building Element</b>	<b>Remarks</b>	<b>Class</b>	<b>BOCA 1999 Code Reference</b>	<b>NFPA 101 2000 Code Reference</b>	<b>ADA Code Reference</b>
<b>INTERIOR FINISH AND TRIM</b>					
	With Sprinklers		803.0		
	Vertical Exits/Passageways	II	Table 803.4		
	Exit Access Corridors	II	Table 803.4		
	Rooms/Enclosed Spaces	II	Table 803.4		
Smoke Developed	ASTM-E84	<450	803.3.2		
Flame Spread		Max. 200	803.4.2		
Interior Trim	Area Trim limit for aggregate area of wall/ceiling for any room/space	Max. 10%	803.5		
<b>FLOOR FINISH</b>					
Required Classification	A and B Occupancies	II	805.3		
<b>SAFETY GLAZING</b>					
	Specific Hazardous Locations identified		2406.0 2406.2		
<b>ROOF COVERING</b>					
<b>Building Element</b>	<b>Remarks</b>	<b>Class</b>	<b>BOCA 1999 Code Reference</b>	<b>NFPA 101 2000 Code Reference</b>	<b>ADA Code Reference</b>
Roof Covering	Min. permitted with type 2 construction	C	1506.1.3		

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<b>BUILDING ELEMENTS FIRE RESISTIVE REQUIREMENTS</b>					
<b>Building Element</b>	<b>Remarks</b>	<b>Fire Rating (Hours)</b>	<b>BOCA 1999 Code Reference</b>	<b>NFPA 101 2000 Code Reference</b>	<b>ADA Code Reference</b>
Construction Type	Type 2C Unprotected-Fully Sprinklered Type II (000)		Table 602	NFPA 220	
Fire Walls	*Not Applicable-One Building.	NA	Table 602		
<b>Fire Separation Assemblies</b>					
			Table 602	Section 7.1.3.2.1 (a)	
			BOCA Table 602,	Section 8.2.5.4(2)	
<b>Mixed Use and Fire Area Separations</b>					
	Fire Area Separation between B and A	2	Table 313.1.2	Section 8.2.3.1.2	
		1	Table 1011.4		
& girders					