



September 14, 2004

Mr. Michael Nugent, Codes Office
City of Portland
389 Congress St., Rm 315
Portland, Maine 04101

RE: Maine Yacht Center Phase II - 100 Kensington Street
Building Code Design Review

The following is a concise review of the building design code issues for this facility. In each item, the most restrictive code will control the design.

Codes Used: IBC International Building Code 2003,
(To be adopted by City of Portland 10/07/04)
NFPA 1, 101(2003) & 13 (required by Maine State Fire Marshal)

Building Use: Unit 1, Boat storage/garage (public), IBC = S-1 (storage), NFPA = S (storage)
Unit 2, Business, IBC = B, NFPA = B (office areas)
Unit 3, Retail marine sales, IBC = M, NFPA = M (Mercantile)

Note: With three use groups in this building, we will apply IBC section 302.3, Mixed Occupancy and Use Groups to this project.

Building Construction Type Chosen:
IBC-2B, NFPA-Type-I1(000)
Note: All building elements have a fire resistance rating of 0-hours.

Building Configuration As follows:
Unit 1, Boat storage/garage (public), height= 1 story/35' & area= 36,400 SF
Unit 2, Business, height= 2 story /26' & area= 4,500 SF (second floor 4,500 SF)
Unit 3, Retail marine sales, height= 2 story /25' & area= 2,000 SF (second floor 2,000 SF)
Total building area is 42,900 SF

Table 503 Limitations: Type -2B

Use Group	Heights	Area
B	4-story / 55'	23,000 SF
S-1	3-story / 55'	17,500 SF
M	4-story / 55'	12,500 SF (Most restrictive use)

Note: Entire building fire protected per NFPA 13 & IBC section 903.3.1.1 (automatic fire sprinklers).

Applicable IBC area and height modifications:
Section 506.3, area increase 200 % for sprinklers (multi story buildings)
Section 504.2, height increase 1 story or 20' for sprinklers
Section 506.2, area increase 150% max for street frontage

Designer has chosen to apply IBC Section 302.3.1 Non Separated use groups.



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Compliance review:

1. The building sprinkler system is per code. Thus, area increase of 200% applies (Section 506.3), and height modification of 20' (Section 504.2).
Section 506.2 allows street frontage increase rule to be applied to the increase of the area limits. This building has 90% frontage therefore our increase allowance is 130%.
2. Propose building is two stories / 35' max high, area is 42,900 SF.
3. Allowable building area calculation (use most restrictive Use Group M):
4. M area 12,500 SF plus 12,500 SF x 200% = 25,000 SF (Section 506.3) plus 12,500 SF x 130% = 16,250 SF (Section 506.2) = 53,700 total allowable area with increases.
5. The building is 42,900 SF clearly less than the 53,700 SF allowed by code. Building height is two (2) stories / 35', also less than four (4) stories / 55' allowed by code.
6. The 2B construction type meets the code for this building as a non-separated mixed use.

Additional code information:

Occupancy load: storage, IBC = 1/300 SF, NFPA = employee level
Business, IBC = 1/100 SF, NFPA = 1/100 SF
Mercantile, IBC = 1/60 SF, NFPA = 1/60 SF

Exit travel distance:

Storage, IBC = 250 ft, NFPA = 400 ft
Business, IBC = 300 ft, NFPA = 250 ft
Mercantile, IBC = 250 ft, NFPA = 250
Note: All distances require sprinklers.

Egress capacity factors:

Assembly, Business & Education (data is inches per occupant)
Stairs: IBC = .3 (.2-sprinkled), NFPA = .3
Other components: IBC = .2 (.15-sprinkled), NFPA = .2 (aisle, halls, doors, ramps, etc.)

Exterior wall fire rating: Table 602

Isolation distance 30 feet or more, Use group B, M, & S-1 = 0 hours.

This building complies with these criteria.

Separation walls:

NFPA, State Fire Marshal requires separation between Storage and Business and Storage and Mercantile. One-hour rating.

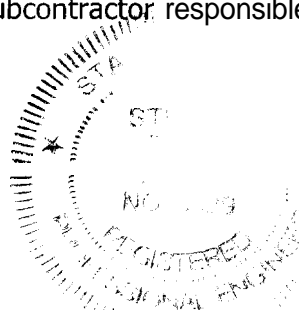
The plans presented reflect this design.

Note: Alarm system may apply Electrical designer / Subcontractor responsible for this item.

Please call me at (207) 453-9311 with any questions.

Yours truly,

Steven P. Daicy, PE





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43. Stair tread and rise are not identified.

A3. Granted this could have been more specific although it is identified on Plan Sheet STR-4. All other stairs are to have the same 7" rise and 11" tread. We include our latest plan identifying these elements.

44. Please forward the State Fire Marshall's Construction and Barrier Free Permit.

A4. We enclose a copy of our submission to the State Fire Marshall. Our Ken Lamoreaux has met with Mr. Richard McCarthy and we have oral approval. The written permits are notoriously slow in being issued after such meetings. We will forward this document to you once they are received here. You are free to call Mr. McCarthy for verification.

45. Fire Dampers were not shown in the fire separation assemblies.

A5. These details are being developed by our mechanical subcontractor and a stamped set of plans will be submitted by them to obtain their necessary permit. All BOCA requirements in this regard will be met.

46. General penetrations were not addressed.

A6. Same as Ans. #5. Wire, cables, and misc. penetrations will have cavities filled with UL approved "fire rated caulking". We and our subcontractors will abide by the BOCA 1999 code in this regard and we will certify that this will be done.

47. Special inspections are required by Strescon (precast planks) and Sheridan for fabricated steel.

A7. We forwarded Strescon's certification with our last transmittal dated 8-26-04 and include it here again. Strescon is member of P.C.I. who is in charge of certification of their operations. This document states in the lower left corner that to obtain PCI certification, Strescon is subject to inspections by PCI. PCI is the independent inspection agency. Butler Manufacturing Co. is covered by their membership in AISC of which you have copy of their certification and we enclose again here. AISC is the agency for responsible for the inspection of their operations.

Any and all local shop or field steel fabrication will be accomplished by The Sheridan Corporation using our own facilities and employees. The Sheridan Corporation will do the special inspections under the direction and oversight of its Chief Engineer, Mr. Steve Daicy. A certification letter will be forwarded for your records at the end of the project. The Section 1705.2.2 does not pertain to our in house and field fabrication. Section 1705.3 addresses this element of work and it does not require an independent agency to perform these duties.

48. Provide information via Section 805 regarding floor and wall finishes and 803.3.2 for wall and ceiling smoke development.

A8. We have shown these finishes on our room and door schedules, Plan Sheet D8. Our client, Maine Yacht Center has not given us a contract for providing flooring or special wall finishes in any of the building units. We will provide 5/8" Type X gypsum for the fire separation walls and the exterior walls on the first floor of Unit #2. All other spaces in Unit #1, Unit #2 or and Unit #3 have no other interior wall or floor finishes. Floors will be unfinished concrete at this juncture. We will be providing a suspended ceiling in the Unit #2 first floor. Our supplier has not yet been determined so any further information is unavailable at this time; however we certify that the ceiling material smoke development index will be less than 450 as per BOCA 803.3.2.

**The Sheridan Corporation**

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City of Portland
Office of Building Inspections
389 Congress St.
Portland, Me 04101
Attn: Mike Nugent

July 2, 2004

Re: Maine Yacht Center
100 Kensington St.
Portland, Me.

Structural Special Inspections

The follow is an outline of the Structural Special Inspections for the project as required by BOCA 99 building code Chapter 17, section 1705.

Sect 1705.1.2 Report Requirement: Special Inspectors shall keep records and provide inspection reports as per this section. These reports will be submitted to the city on a regular basis covering the previous period.

Sect. 1705.2 Steel Fabrication: This building is a pre-engineered building supplied by Butler Manufacturing Co. BMC is a AISC Certified MB Metal Building Systems supplier. As such, no inspections are required on our part and no inspection reports will be furnished. Structural plans will be submitted when they are received.

There are supplemental structural steel pieces that are being furnished by Sheridan Construction Corp and fabricated in our Fairfield Me. fabrication shop. These pieces include four sets of steel pan stairs, an outside walkway deck on building # 3, and structural steel for floor supports in building # 3. These fabricated pieces will be inspected by Steven P. Daicy P.E. according to this section and section 1705.3

Sect. 1705.3 Steel Construction and Erection: The erection of the building will be done according to Butler erection plans as well as Sheridan supplemental steel erection plans. The erector will be Sheridan Construction Corp. Mr. Peter Gaworski is Sheridan's onsite superintendent with over 30 years of construction experience. Mr. Gaworski will monitor and fill out erection reports on a daily basis. Steven P. Daicy P.E. will observe the field erection on a periodic basis.

The building connections are of 'snug tight' bolts with no 'slip critical' bolts and minimal welding such as floor joist bridging. As such, bolt and weld inspections will be by visual observation only.

Sect. 1705.4 Concrete Construction: Formwork, rebar installation and concrete placement and curing will be inspected for conformance to ACI 318 standards. Mr. Gaworski will