Sebago Technics
Engineering Expertise You Can Build On

sebagotechnics.com
One Chabot Street
P.O. Box 1339
Westbrook, Maine
04098-1339
Ph. 207-856-0277
Fax 856-2206

60A Danforth St
WPD Zone

04480

2/2/05 called PD & spoke to him

MEMORANDUM

To: Bill Needleman, City of Portland, Planning Department

From: Don McElhinney

Date: February 1, 2005

Subject: Response to DeLuca-Hoffman Comments
Merrill Industries – Rubb #7
Site Location Application

2/2/05

DEPT. OF BUILDING INSPECTION
CITY OF PORTLAND, ME
FEB 2 2005
RECEIVED

Enclosed please find updated site plans for the project. These plans include:

- A Site Circulation Plan by Sebago Technics, Inc. (STI)
- A Revised Grading and Utility Plan by Gagnon Engineering
- An Erosion/Sediment Control Plan by STI
- Two 11 x 17 drawings from Rubb Building Systems

The balance of this memo responds point by point to the comments of DeLuca-Hoffman Associates.

Item 1a – A copy of the response to this application from the Maine Historic Preservation Commission is attached. No response has been received to date from the Maine Inland Fish and Wildlife Department.

Item 1b – The company owns a "Tenant" vacuum sweeper which it uses to clean roadways and parking lots as required. The cleanliness standard is mandated primarily by its customers.

Item 2 – We concur that water quality should be improved simply due to the change in use and elimination of the scrap metal piles which historically occupied the development area.

Item 3a – We have reviewed the project with Portland Water District. A copy of correspondence from them is attached for your use.

Item 3b – A site circulation map has been developed for the site. A copy has been attached. The hydrant located near the proposed building is a private hydrant and as such, the maintenance

of the hydrant has been performed by Merrill Industries and the City of Portland Fire Department has also conducted inspections routinely. During this project, Lt. Gaylon McDougall of the Portland Fire Department was consulted for his input on fire flows at this location. Since we know the available flow/pressure from hydrant testing on West Commercial Street by PWD in the 1990s, Lt. McDougall was not concerned that available water flow and pressure would be available at the private hydrant.

Item 3c – Sebago Technics has reviewed and modified the site grading and stormwater conveyance system. Please refer to the revised plans enclosed herein.

Items 3d – We have received sections of the building from Rubb Building Systems which show the height of the building.

Items 3e – We are in the process of determining whether FAA review is necessary and if we need to file for review with them.

Item 3f – Proper inverts for the stormwater conveyance system have been added to the site utility and grading plan.

Item 3g – The building floor plan showing points of egress has been included with this submittal. Generally, it is seen that personnel doors are located at each corner of the building and one additional personnel door is located midway along the south side of the building.

Item 3h – Lights will be located on all sides of the building. These are now shown on the attached drawings from Rubb and these are generally located 11' from grade.

Item 3i – An Erosion/Sedimentation Control Plan has been developed for the site by STI. This drawing is enclosed.

Items 3j – The proposed building will predominantly be founded on fill material. Dewatering during construction is not anticipated by the geotechnical report Section 11 of the original submittal.

DTM:dlf

MAINE HISTORIC PRESERVATION COMMISSION
55 CAPITOL STREET
65 STATE HOUSE STATION
AUGUSTA, MAINE
04333

JOHN ELIAS BALDACCI
GOVERNOR

EARLE G. SHETTLEWORTH, JR.
DIRECTOR

December 22, 2004

Donald T. McElhinney, VP Environmental Engineering
Sebago Technics
1 Chabot St. / P.O. Box 1339
Westbrook, ME 04098-1339

Project: MHPC #2667-04 - proposed development; Merrill Industries site, Danforth Street
Town: Portland, ME

Dear Mr. McElhinney:

In response to your recent request, I have reviewed the information received December 3, 2004 to initiate consultation on the above referenced project pursuant to Maine's Site Location of Development Law.

Based on the location and scope of work, I have concluded that this project will have no effect upon historic properties [architectural or archaeological].

Please contact Mike Johnson of my staff if we can be of further assistance in this matter.

Sincerely,

Earle G. Shettleworth, Jr.
State Historic Preservation Officer

EGS/mj

12-28-04

PHONE: (207) 287-2132

PRINTED ON RECYCLED PAPER

FAX: (207) 287-2335

Portland Water District
P.O. Box 3553
225 Douglass Street
Portland, Maine 04104-3553

Phone: 207-774-5961
FAX: 207-761-8307
Web Site: www.pwd.org

1/28/2005

Mr. Donald MacElhinney
Sebago Technics
One Chabot St., POB 1339
Westbrook, ME 040981339

With regard to the Project known as Merrill Marine Terminal located on/in Danforth Street, Portland we offer the following comments pertaining to plans received 1/27/2005

It was a pleasure to meet with you on January 26, 2005 to discuss this project. This letter will confirm that an "easement modification agreement" will be needed to permit the fill over our existing 20" water main and any other site improvements that are planned within our easement. As long as no building will be constructed in the easement, this can be handled at staff level without Trustee action being required. If the corner of the proposed building will encroach, then Trustee action would be required. Based on our review of the plans you left with me, it appears that the building will encroach by one foot.

You mentioned that the westerly end of the building may be shortened and moved easterly a few feet, and if this is done it is likely that the encroachment will not occur. If there is no shortening of the building, then, sliding the whole structure to the east a few feet, or to the south a foot would clear the encroachment, too.

As your plans develop, please apply to Norman Twaddel, our Right of Way Agent, to initiate the easement modification process. If I can be of further assistance, please advise me.

received
1-31-05
SEBAGO TECHNICS

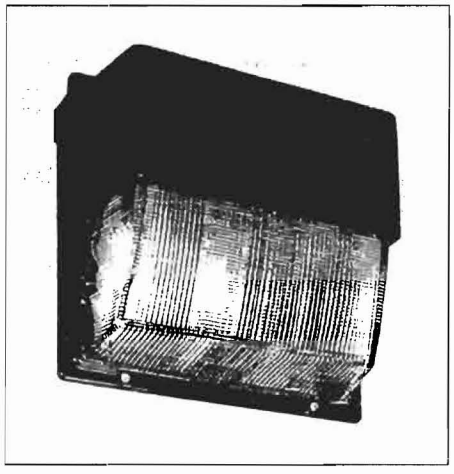
Jay Hewett

Jay Hewett

DocID: 177

TWH

Die-Cast Wall-Paks, Glass Refractor



Intended Use

For outdoor storage areas, warehouse and factory perimeters and loading docks.

Features

Housing – Rugged, die-cast aluminum housing. Corrosion-resistant captive external hardware includes slotted hex-head fasteners. Standard finish is dark bronze polyester powder, electrostatically applied and oven-cured. Other architectural colors available.

Optics – Reflector is specular anodized aluminum. Refractor is prismatic borosilicate glass. Lens is sealed and gasketed to inhibit entrance of outside contaminants.

Ballast – 70-150W HPS & 100-150M: High-reactance, high-power factor. All others: Constant-wattage autotransformer. Encased-and-potted solid-state ignitors (HPS and 100MH). Ballast is copper wound and 100% factory tested. UL listed. Electrical components mounted in hinged front cover that includes prima and secondary electrical disconnect.

Installation – Back housing is separat from front housing, eliminating balla weight and promoting easy handling. T ¾" threaded wiring access. Back acce through removable ¾" knockout. Mou on any flat, non-combustible vertical su face. **Not recommended in applicatio where a sprayed stream of water c come in direct contact with glass len**

Socket – Glazed porcelain (mogul-bas horizontally oriented with copper all nickel-plated screw shell and center co tact. 4KV pulse rated. Medium-base: listed 660W, 600V. Mogul-base: UL list 1500W, 600V.

Listings – UL Listed (standard). CSA NOM Certified (see Options). UL listed wet locations. IP65 rated (250W and l low) or IP54 rated (400W) in accordan with IEC standard 529.

For product details and performance data, see the OUTDO binder or the on-line catalog at *www.lithonia.com*

Ordering Information

Example: **TWH 250S**

Designation

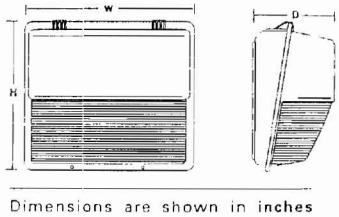
High Pressure Sodium
- **TWH 70S**
- **TWH 100S**
- **TWH 150S**[3]
- **TWH 200S**
- **TWH 250S**
- **TWH 400S**
- **TWH 250/400S**[4]

Metal Haldie
- **TWH 150M**
- **TWH 175M**
- **TWH 200M**[5]
- **TWH 250M**
- **TWH 320M**[5]
- **TWH 350M**[5]
- **TWH 400M**[6]

Mercury Vapor
- **TWH 100H**
- **TWH 175H**
- **TWH 250H**

Low Pressure Sodium
- **TWH 35L**[1]

Incandescent
- **TWH 300I**[2]



Dimensions are shown in **inches (centimeters)** unless otherwise noted.

	TWH
Height	15¾ (40)
Width	16⅛ (40.9)
Depth	8 (20.3)

Voltage

- **120**
- **208**[7]
- **240**[7]
- **277**
- **347**
- **480**[8]
- **TB**[9]

Options/Accessories

Installed
- **SF** Single fuse (120, 277, 347V)[1]
- **DF** Double fuse (208, 240, 480V)[1]
- **EC** Emergency circuit[11,12]
- **QRS** Quartz restrike system[11,12]
- **CR** Corrosion-resistant finish
- **CRT** Corrosion-resistant finish (Teflon)[13]
- **PE** Photoelectric cell – button type
- **PER** NEMA twist-lock receptacle[1,14]
- **LPI** Lamp (shipped in carton with fixture)
- **LS** Lamp support (mogul socket only)
- **FS** Full shield
- **WG** Wireguard[15]
- **VG** Vandal guard[15]
- **SCWA** Super SCWA Pulse Start Ballast (150M-400M only--n/a 175M.)
- **RHP** Reactor High Power factor Ballast (HPS 150W & below only)
- **RNP** Reactor Normal Po factor Ballast (HPS 150W & below only)
- **XHP** Reactance High Power factor ballas (HPS 150W & below only)
- **CSA** CSA Certified
- **NOM** NOM Certified (cons factory)

For optional Architectural Colors se page 349

Lamp/Fixture/Ballast Data[10]

Wattage	Ballast	Weight Lbs.	Kg.
High Pressure Sodium (Med/Clear)			
35	RHPF-RNPF	24	11
50	RHP	24	11
70	HX-HPF	24	11
100	HX-HPF	24	11
150		25	12
High Pressure Sodium (Mog/Clear)			
200		28	13
250	CWA	32	15
400		42	19
Metal Haldie (Med/100) Mog/Clear)			
100	XHP	26	12
150		26	12
175		26	12
250	CWA	32	15
400		42	19
Mercury Vapor (Mog/Coated)			
100		21	10
175	CWA	23	10
250		26	12
Low Pressure Sodium (D C Bay/Clear)			
35	HX-HPF	25	11

Accessories (Order separat

- **RK1 PEB1** Photoelectric control kit, 120V
- **PE3** NEMA twist-lock photocontrol, 34
- **PE4** NEMA twist-lock photocontrol, 48

NOTES:
1. Not available TB.
2. 120V only.
3. Operates 55V lamp.
4. Shipped as 250S.
5. Must be ordered with SCWA.
6. Requires T 15, ED or BT 28 reduced jacket lamp.
7. Consult factory for availability in Canada.
8. Not available in Canada.
9. Optional multi-tap ballast (120, 208, 277V; 120, 277, 347V in Canada).
10. Other ballast types available.
11. Lamp not included.
12. Quartz lamp wattage not to exceed fast wattage rating.
13. Black finish only.
14. Photocell not included.
15. Requires factory modification.

MERRILL INDUSTRIES, INC.

Minutes of Neighborhood Meeting
6:00 PM Monday January 31, 2005
At
601 Danforth Street
Portland, Maine

Attendance: A) Neighborhood: Joan Amory
59 Chadwick Street
Portland

B) Merrill Industries: P.D. Merrill

Subject: Proposed Rubb VII Warehouse Development

Meeting was called to order at 6:10 PM in the lower corridor of the marine terminal office to review the overall site plan and proposed warehouse layout and elevations.

Mrs. Amory was reporting for "Working Waterfront" newspaper and was interested in the building construction, history of the building company, other applications of the building and its performance in fire and other casualty situations.

All questions were covered and the meeting was adjourned at 6:28 PM.

Respectfully submitted,

P.D. Merrill

subject to the following requirements:

(1) *Minimum lot size:* None.

(2) *Minimum frontage:* None.

(3) *Minimum yard dimensions:*

Front setback: None.

Side setback: None.

Rear setback: None.

Setback from pier line: Notwithstanding the above requirements, a minimum setback of five (5) feet from the edge of any pier, wharf or bulkhead shall be required for any structure. The setback area may be utilized for activities related to the principal uses carried on in the structure, subject to the provisions of sections 14-319 and 14-320, but shall not be utilized for off-street parking. The edge of any pier, wharf or bulkhead shall include any attached apron(s).

(4) *Maximum lot coverage:* One hundred (100) percent.

(5) *Maximum building height:* Forty-five (45) feet, except as follows:

a. In the areas bounded as described below, facilities for bulk storage of materials delivered to a site by waterborne transportation or awaiting transportation from the site by means of waterborne transportation may be erected up to the maximum heights indicated (above mean sea level):

1. In the area that lies between Danforth Street and the Veterans Memorial Bridge: One hundred forty-five (145) feet.

2. In the area between Danforth Street and the projection of the centerline of Vaughn Street between its intersections with Orchard Street and Danforth Street: Seventy (70) feet.

3. In the area between the projection of the centerline of Vaughn Street between its intersections with Orchard Street and Danforth Street and the projection of the centerline of Fletcher Street between its intersections with Orchard Street and Danforth Street: Seventy-five (75) feet.

4. In the area formed by the projection of the centerline of Fletcher Street between its intersections with Orchard Street and Danforth Street easterly to the projection of the centerline of Emery Street between its intersections with Taylor Street and Danforth Street: Seventy-five (75) feet.

5. In those areas where the maximum height may not exceed forty-five (45) feet above grade, no structure may exceed sixty-five (65) feet in height above mean sea level.

For purposes of this section, a projection of the centerline of a street shall consist of an extension of the centerline of the street to the water side boundary of the waterfront port development zone.

b. Additional bulk, height and location standards for structures exceeding forty-five (45) feet in height above grade within the waterfront port development zone:

1. The maximum horizontal diagonal measurement of portions of a structure, cluster of structures or equipment exceeding forty-five (45) feet in height above grade shall not exceed one hundred (100) feet, except that for each foot that the structure, cluster of structures, or equipment is lowered from the maximum permitted height, the maximum horizontal measurement may increase by one (1) foot.

2. In addition to any other setback requirements, portions of structures or clusters of

structures exceeding forty-five (45) feet in height above grade shall be set back a minimum of one (1) foot from the exterior property line of the owner of the underlying fee interest for each foot that the structure or cluster of structures exceeds forty-five (45) feet in height above grade.

3. No structure or cluster of structures exceeding forty-five (45) feet in height above grade may be located closer than one hundred fifty (150) feet from any other such structure or cluster of structures.

4. The cumulative width of the portion of structures exceeding forty-five (45) feet in height above grade shall not exceed more than thirty (30) percent of the average width of the lot as measured by a line drawn parallel to the water.

5. No structure shall exceed forty-five (45) feet in height above grade within the view corridors established by the projection of the street right-of-way lines of Vaughn Street or Emery Street.

6. For purposes of this section only, moveable elements such as cranes and gantries, and connection devices such as conveyors or bridges shall not be subject to the space and bulk requirements, but shall be subject to a determination by the Federal Aviation Administration that the location of such equipment will not create a hazard to navigation. Other rooftop appurtenances shall not exceed the maximum height limits set forth in this section.

7. The applicant must provide a determination from the Federal Aviation Administration that structures and equipment will not exceed the applicable height guidelines for the runway approach and will not create a hazard to avigable airspace. Such a determination shall

be accepted as conclusive evidence that the proposed development will not create a hazard.

8. Accessory uses in structures which exceed forty-five (45) feet in height above grade shall not be located higher than forty-five (45) feet within the structure.

(Ord. No. 168-93, § 2, 1-4-93)

Sec. 14-320.3. Performance standards.

All uses in the waterfront port development zone shall comply with the following standards:

(1) *Outdoor storage of materials:* Outdoor storage of commodities and materials accessory to normal conduct of business, except pilings and/or cranes, shall be permitted to a maximum height of forty-five (45) feet, and such materials shall be entirely contained, including runoff contaminants and residual material, within a designated area within the lot boundaries.

(2) *Noise:*

a. The level of sound, measured by a sound level meter with frequency weighting network (manufactured according to standards prescribed by the American National Standards Institute, Inc.), inherently and recurrently generated within the waterfront port development zone between the hours of 7:00 p.m. and 7:00 a.m. from industrial facilities or operation commenced on or after July 1, 1988, shall not exceed fifty-five (55) decibels on the A scale at or within the boundaries of any residential zone, except for sound from construction activities, sound from traffic on public streets, sound from temporary activities such as festivals, and sound created as a result of, or relating to, an emergency, including sound from emergency warning signal devices.

b. In measuring sound levels under this section, sounds with a continuous duration of less than

We Cover The World.®

RUBB BUILDING SYSTEMS

TELEFAX

COMPANY:
ATTN: MIKE NUGENT
FROM: GARY SUTRYN
FAX NO: 207 874 8746
NO. SHEETS: 7
REF: MERRILL 7
DATE: 6/20/05

RUBB INC.,
Sanford Airport
P.O. Box 711
Sanford, Maine 04073
Tel: (207) 324-2877
Fax: (207) 324-2347
E-mail: info@rubbusa.com

Sent [ ]

FIRE INFO FOR PDC

AN INTERNATIONAL COMPANY

CERTIFICATE No. US97/0897

We Cover The World.®
RUBB
BUILDING SYSTEMS

RUBB, INC.
P.O. Box 711, 1 Rubb Lane
Sanford, Maine 04073 USA
Tel: 207 324 2877
Fax: 207 324 2347
E-mail: info@rubbusa.com

June 20, 2005

Mr. Mike Nugent
Inspection Services Manager
City of Portland
389 Congress Street
Portland, ME 04101

By Telefax: 207-874-8716

Re: Merrill VII

Dear Mike:

Here are the NFPA 701 test results for the PVC covering material used on the structure. Also included are the specification sheets for the covering material.

The Merrill VII structure is a newsprint conditioning facility that will be kept at approximately 55° F to 60 ° F. It will be fully insulated with R-19 insulation.

Sincerely,
Rubb, Inc.

Gary E. Sutryn, P.E.
Chief Engineer

Shelter-Rite® By Seaman Corporation

High Performance 8028 Architectural Fabric

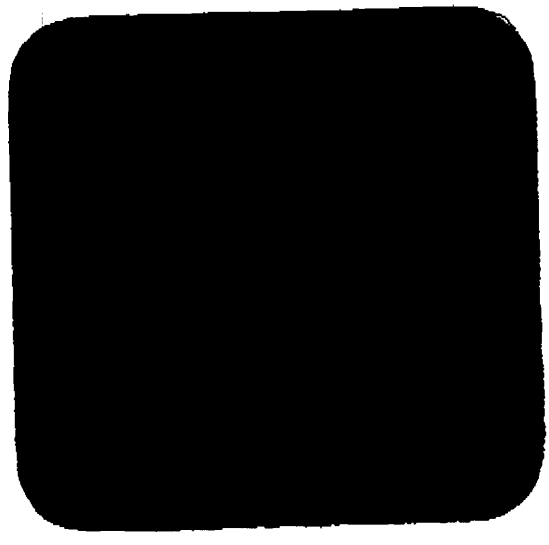
8028 Architectural Fabric	Standard	Metric
Base-Type Fabric-Weight	Polyester 7.5 oz/yd²	Polyester 254 g/m²
Finished Coated Weight ASTM D751	28 oz/yd² +2/-1 oz/yd²	950 g/m² +70/-35 g/m²
Tongue Tear ASTM D751	8"x10" sample @ 12 in/min. 275/275 lb_f	20.3 cm x 25.4 cm sample @ 30.5 cm/min. 1223/1223 N
Trapezoid Tear ASTM D4533	85/85 lb_f	378/378 N
Grab Tensile ASTM D751	700/700 lb_f	3115/3115 N
Strip Tensile ASTM D751 Procedure B	515/515 lb_f/in	458/458 daN/5 cm
Adhesion ASTM D751 Dielectric Weld	10 lb_f/in	9 daN/5 cm
Hydrostatic Resistance ASTM D751 Procedure A	500 psi	3.45 MPa
Dead Load MIL-T-52983E (modified) Para.4.5.2.19	2 in seam, 4 hrs, 1 in strip 266 lb_f @ Room temp. 133 lb_f @ 160° F	5 cm seam, 4 hrs, 2.5 cm strip 1183 N @ Room temp. 591 N @ 71°C
Low Temperature ASTM D2136 LTC 1/8" mandrel, 4 hrs. LTA	Pass -40° F Pass -67° F	Pass -40° C Pass -55° C
Flame Resistance	Meets California fire marshal requirements, UL214, NFPA 701, and FTMS 191 method 5903 - 2 second flameout. ASTM E84 - flame spread index <25, smoke development rating <450	

1000 VENTURE BLVD. WOOSTER. OHIO 44691 USA. U.S. Toll-Free: Phone 800-927-8578. Fax 800-649-2737

Protan Quality 482/782 28 oz/sy FR PVC Coated Polyester

Technical Specifications

Base Type		Polyester, 1100 dtex
Construction:		Woven
Base Fabric Weight:		6.9 oz/sy
Coated Weight:	ASTM D751	28 oz/sy
Tongue Tear:	ASTM D2261	180/180 lbs/in
Trapezoid Tear:	ASTM D5733	80/70 lbs
Grab Tensile:	ASTM D751	690/620 lbs/in
Strip Tensile:	ASTM D5035	340/335 lbs/in
Adhesion (Seam Peel):	ASTM D751	15 lb/in
Hydrostatic Resistance:	ASTM D751 - Procedure A	Over 500 PSI
Low Temperature (-40° F):	ASTM D2136	Pass
Flame Resistance:	NFPA 701	Pass



Quality 482 is provided with a matte finish and quality 782 has a lacquered finish. Standard roll length is 150 meters however the material can be provided in roll lengths from 50m to 500m upon request. Roll goods can normally be slit to custom widths for a nominal charge.

Technical data is based upon average tested production values less one standard deviation and is believed to be representative of the performance characteristics of the material. Specifications and characteristics are subject to change without notice. No obligation or liability whatsoever is assumed in connection with this information. The end user is encouraged to undertake performance testing of their choice to determine the suitability of this material for its intended end use.

NFPA 701 - 1989 Fire Tests For

FLAME-RESISTANT TEXTILES AND FILMS

Prepared for: Rubb Building Systems

Project No.: 91985
Client No.: 1079
Test Date: 7/18/91
Test Engineer: Dingyi Huang

Specimen ID: 8028 - White Translucent Tedlar
Description: 0.028 inch thick white plastic sheet
Fabric Weight: 32 oz/sq.yd.
Conditioning: 140--145°F for greater than 1 h and less than 1-1/2 h only.
Method Used: SMALL SCALE

TEST RESULTS

Specimen	Direction	Afterflame Duration (sec)	Flaming of Drips (sec)	Char Length (in.)
1	Machine	0.0	0.0	2.88
2	Machine	2.0	0.0	2.00
3	Machine	0.0	0.0	2.75
4	Machine	0.0	0.0	2.00
5	Machine	2.0	0.0	2.75
6	Cross	1.0	0.0	3.00
7	Cross	0.0	0.0	3.00
8	Cross	0.0	0.0	3.25
9	Cross	0.0	0.0	3.00
10	Cross	2.0	0.0	3.00
Average		0.7	0.0	2.76

Afterflame requirements (None > 2 Sec.): ***PASSED***
Flaming Drips requirements (None Allowed): ***PASSED***
Char Length requirements (None > 4.5, Average ≤ 3.5): ***PASSED***

Dingyi Huang, Test Engineer

7/18/91
Date

6868 Alamo Downs Parkway
San Antonio, Texas 78238
512 / 647-5253
TELEX: 9102400828 SWCS UQ
FAX: 512 / 647-0615

NFPA 701 - 1996 FIRE TESTS FOR FLAME-RESISTANT TEXTILES AND FILMS TEST 2

Client:	Rubb, Inc.
Address:	Sanford Airport Sanford, ME 04073
Received Date:	September 7, 1999
Test Date:	September 20, 1999
Report Date:	September 21, 1999
Project No:	10790-105539
Sample Identification:	Protan Quality 480
Description:	PVC Coated Polyester
Sample Preparation:	Tested as received.
Specimen Wt.:	27.77 ounces /sq. yd.

SUMMARY OF TEST PROCEDURE

10 specimens of material 4.9 in. x 47.25 in. are cut with their long dimension parallel to the length direction ("with" machine). The test specimens are conditioned to 220-225°F (105-108°C) for not less than one hour and not more than 3 hours. Specimens are removed from the oven one at a time and tested immediately. The specimens are supported with clips in a three-sided vertical column and exposed to an 11" flame for two minutes. The flame impinges approximately 7 inches on the specimen.

TEST CRITERIA

No specimen shall continue flaming for more than two seconds. Length of char shall not exceed 17.13 inches from the bottom edge of the specimen. No flaming on floor of apparatus is allowed for longer than two seconds.

Omega Point Laboratories, Inc.
16015 Shady Falls Road
Elmendorf, Texas 78112-9784
210-635-8100 / FAX: 210-635-8101 / 800-966-5253
www.opl.com / e-mail: moreinfo@opl.com

TEST RESULTS

Specimen	Afterflame Duration (sec)	Floor Flaming (sec)	Char Length (in.)
1	0	0	5.13
2	0	0	5.06
3	0	0	6.19
4	0	0	7.44
5	0	0	8.50
6	1	0	11.81
7	0	0	8.37
8	0	0	10.31
9	0	0	10.00
10	0	0	7.31
Average	0.1	0	8.01

Afterflame requirements (None > 2 Sec.): **PASSED**
Flaming Drips requirements (None > 2 Sec.): **PASSED**
Char Length requirements (None > 17.13 in. from bottom edge): **PASSED**

THIS TEST SPECIMEN PASSED THE NFPA 701 TEST 2 FIRE TEST

This report is for the exclusive use of the client named herein. Omega Point Laboratories, Inc. authorizes the client to reproduce this report only if reproduced in its entirety. The test specimen identification is as provided by the client and Omega Point Laboratories, Inc. accepts no responsibility for any inaccuracies therein. The description of the test procedure, as well as the observations and results obtained, contained herein are true and accurate within the limits of sound engineering practice. These results are valid only for the specimens tested and may not represent the performance of other specimens from the same or other production lots. This report does not imply certification of the product by Omega Point Laboratories, Inc. Any use of the Omega Point Laboratories name, any abbreviation thereof or any logo, mark, or symbol therefor, for advertising material must be approved in writing in advance by Omega Point Laboratories, Inc. The client must have entered into and be actively participating in a Listing & Follow-up Service program. Products must bear labels with the Omega Point Laboratories Certification Mark to demonstrate acceptance by Omega Point Laboratories, Inc. into the Listing program.

This report contains a total of two pages.

Servando Romo
Fire Test Technologist

9-21-99
Date

Reviewed and approved:

Ernst L. Schmidt, Jr.
Manager, Small Scale Testing

9-21-99
Date

OMEGA POINT LABORATORIES

GAGNON ENGINEERING INC.
Structural Consultants

198 MAIN STREET
GORHAM, MAINE 04038
Fax: 207-839-8035

FAX TRANSMISSION COVER SHEET

Date: 6/24/05 From: JC for Roger G.

Attn. To: Mike Nugent Fax No. 874-8716 (8703)

Co./Org.: Portland CE No. of Pgs: 2 (Including Cover Page)

Re: Rubb VII Personnel Door Stairs

Please Call 207-839-8085 if you have any problems receiving this fax.

This message is intended only for the use of the individual or entity to which it is addressed or copied (below), and may contain information that is privileged and confidential. If the reader of this message is not the intended recipient, any dissemination, distribution, or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone.

Special instructions or message:

Revised as requested.

PLEASE REVIEW AND CALL IF YOU HAVE ANY QUESTIONS/PROBLEMS. THANK YOU.

Copied: ~~Ken~~

C.C. to P.D. 846-0100

TYPE:

CATALOG #:

COOPER LIGHTING—LUMARK®

DESCRIPTION

Dominated by flat surfaces and strong lines that emphasize the principles of architecture, the *IMPACT* Trapezoid cutoff wall luminaire make an ideal complement to site design. U.L. Listed and CSA Certified for wet locations in down mount applications and damp locations in up mounted applications.

APPLICATION

The *IMPACT's* rugged die-cast construction and full cutoff classified optics perfectly provide facade and security lighting needs for light restricted zones surrounding schools, office complexes, apartments, and recreational facilities.

SPECIFICATION FEATURES

A—Housing

The housing is a two-piece design of die-cast aluminum for precise control of tolerances and repeatability.

B—Mounting

Gasketed and zinc plated rigid steel mounting attachment fits directly to 4" J-Box or wall with "Hook-N-Lock" mechanism for quick installation. Secured with two (2) captive corrosion resistant black oxide coated allen head set screws concealed but accessible from bottom.

C—Optical Modules

All optical modules utilize high performance 95% reflective sheet. Strong Type II optical module is standard.

D—Ballast

HID luminaires supplied with high power factor ballast with Class H insulation. Minimum starting temperatures are -40°C (-40°F) for HPS and -30°C (-20°F) for MH. Compact Fluorescent luminaires feature program start, high efficient multi-voltage 50/60Hz ballast with -18°C (0°F) minimum starting.

E—Door

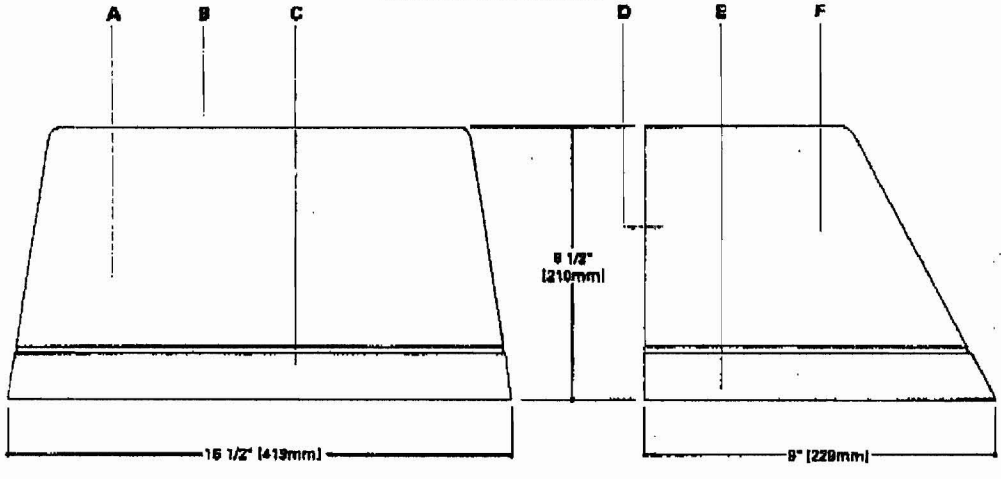
Die-cast door features, 1/8" heat- and impact-resistant clear tempered glass lens mounted with internal plated steel clips and sealed with EPDM gasketing. Hinged door secured in place via two (2) captive fasteners.

F—Finish

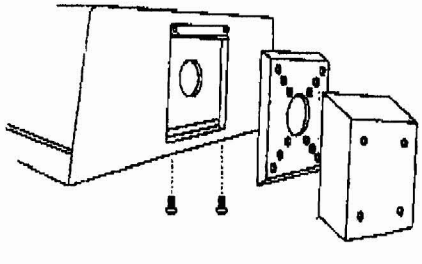
Durable polyester powder coat finish. Standard color is bronze. Optional white, black and silver colors available. Other finish colors available. Consult your Cooper Lighting Representative concerning special color requirements.

Dark Sky Friendly

DARK SKY FRIENDLY
In downlight applications only.



HOOK-N-LOCK MOUNTING (Mounting attachment included. J-Box not included.)



IP IMPACT TRAPEZOID

50-175W
High Pressure Sodium
Metal Halide

26-52W
Compact Fluorescent

FULL CUTOFF
WALL MOUNT
LUMINAIRE

IMPACT™
Cutoff Wall Luminaire

TECHNICAL DATA

25°C Maximum Ambient Temperature
External Supply Wiring 90°C Minimum
Down Mounted—Wet Location
Up Mounted—Damp Location

ENERGY DATA

High Reactance Ballast Input Watts
50W HPS HPF (66 Watts)
50W MH HPF (72 Watts)
70W HPS HPF (91 Watts)
70W MH HPF (90 Watts)
100W HPS HPF (130 Watts)
100W MH HPF (125 Watts)
150W HPS HPF (190 Watts)
150W MH HPF (185 Watts)

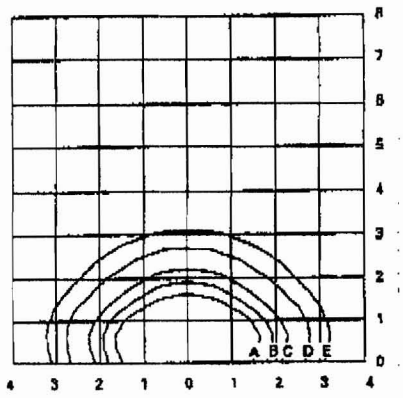
CWA Ballast Input Watts
175W MH HPF (210 Watts)

Electronic Ballast Input Watts
26W PL HPF (29 Watts)
32W PL HPF (36 Watts)
42W PL HPF (46 Watts)
52W PL HPF (55 Watts)

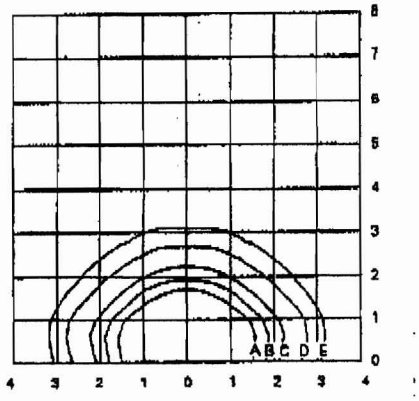
SHIPPING DATA

Approximate Net Weight:
18 lbs. (8 kgs.)

PHOTOMETRICS



MHIP-T-175-MT-LL
175-Watt MH
14,000-Lumen Clear Lamp



HPIP-T-150-MT-LL
150-Watt HPS
16,000-Lumen Clear Lamp

Footcandle Table

Select mounting height and read across for footcandle values of each isofootcandle line. Distance in units of mounting height.

Mounting Height	Footcandle Values for Isofootcandle Lines				
	A	B	C	D	E
10'	4.50	2.25	1.13	0.45	0.22
15'	2.00	1.00	0.50	0.20	0.10
20'	1.12	0.56	0.28	0.11	0.05

ORDERING INFORMATION

SAMPLE NUMBER: MHIP-T-150-MT-LL

	IP	T			
Lamp Type MH=Metal Halide HP=High Pressure Sodium PL=Compact Fluorescent	Fixture Type IP=IMPACT	Fixture Shape T=Trapezoid	Lamp Wattage HID[1] 50=50W[2] 70=70W[2] 100=100W 150=150W 175=175W[4] Compact Fluorescent 26/32/42=26, 32, or 42W 62=62W[4]	Voltage[3] 120V 208V 240V 277V 347V 480V DT=Dual-Tap[3] MT=Multi-Tap[3] TT=Triple-Tap[3] E=Electronic Ballast[16]	Options (add as suffix)[17] Q=Quartz Restrike[5] EM=Emergency Quartz Restrike with Time Delay Relay[6] EM/SC=Emergency Separate Circuit[7] EM/SC/12V=Emergency Separate Circuit (12V)[13] EM90=Emergency CFL Battery Pack[14] F1=Single Fused—120, 277 or 347V (Must Specify Voltage) F2=Double Fused—208 or 240V (Must Specify Voltage) TR=Tamper Resistant Screw (Door and Mounting Plate) PE=Button Photocontrol (Must Specify Voltage) UPL10=10% Uplight LL=Lamp Included (Must Specify Wattage on PL)[8] BK=Black SV=Silver WH=White

STOCK SAMPLE NUMBER (Lamp Included)

SAMPLE NUMBER: MHIT17

	IT	
Lamp Type HP=High Pressure Sodium MH=Metal Halide	Fixture Type[15] IT=IMPACT Trapezoid	Lamp Wattage 10=100W 15=150W 17=175W

NOTES: Options not available with stock products.
Order Accessories as separate items for field installation.
Refer to standard ordering information to add options and accessories.

NOTES: 1 All HID lamps are medium-base. 2 Available only in 120, 277V and Dual-Tap. 3 Not available in 480V. 4 Metal Halide construction only. 5 (2) 26W quad tube lamps only. 6 HID products also available in non-US voltages and 50Hz for international markets. Consult your Cooper Lighting Representative for availability and ordering information. 7 Dual-Tap ballast are 120/277V wired 277V. 8 Multi-Tap ballast are 120/208/240/277V wired 277V. 9 Triple-Tap ballast are 120/277/347V wired 347V. 10 Supplied with 120V through 277V 50/60Hz for Compact Fluorescent. 11 Must be listed in the order shown and separated by a dash. 12 The power might need to cycle and allow HID lamp to cool in warm climates. Available for 70 and 150W HID lamps only. 13 Supplied with 12V Bi-pin socket for connection to emergency battery pack (supplied by others) that will operate up to a 35W MR16 lamp. 14 Cold weather battery pack will operate up to 42W CFL lamp for 90 min. 15 Lamp is shipped separate from luminaire. Lamp is Cooper designated product based on luminaire requirements. Specified lamps must be ordered as a separate line item. 16 Painted bronze. Supplied with lamp and Multi-Tap HPF ballast wired 277V. 17 Specifications and dimensions subject to change without notice. 18 Products also available in non-US voltages and frequencies for international markets. 19 Consult your Cooper Lighting Representative for availability and ordering information.

NOTE: Specifications and dimensions subject to change without notice.

COOPER Lighting
Customer First Center 1121 Highway 74 South Peachtree City, GA 30269 770.486.4800 FAX 770.486.4801 ADH040882
www.cooperlighting.com

From: Marge Schmuckal
To: William Needleman
Date: Fri, Jun 3, 2005 10:44 AM
Subject: 601 Danforth St

Bill,
Has this site plan been approved yet? PD is coming in for his building permit on this. I need the stamped approved site plan from you. Thanks,
Marge

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

2005-0002
Application I. D. Number

1/10/2005
Application Date

Merrill Industries Inc
Applicant

114 Eben Hill Road, Yarmouth, ME 04096
Applicant's Mailing Address

Merrill Marine Terminal
Project Name/Description

Consultant/Agent

601 - 601 Danforth St, Portland, Maine
Address of Proposed Site

Applicant Ph: (207) 846-0100 **Agent Fax:**
Applicant or Agent Daytime Telephone, Fax

072 A003001
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)

56,100 s.f.		**WD**
Proposed Building square Feet or # of Units	Acreage of Site	Zoning

Check Review Required:

☑ Site Plan (major/minor) ☐ Subdivision # of lots ☐ PAD Review ☐ 14-403 Streets Review

☐ Flood Hazard ☐ Shoreland ☐ HistoricPreservation ☐ DEP Local Certification

☐ Zoning Conditional Use (ZBA/PB) ☐ Zoning Variance ☐ Other

Fees Paid: Site Pla **$4,000.00** Subdivision Engineer Review Date **1/10/2005**

Zoning Approval Status:

Reviewer Marge S. - Only As Sheet - No Attachments

☐ **Approved** ☐ **Approved w/Conditions** See Attached ☐ **Denied**

Approval Date Approval Expiration Extension to ☐ Additional Sheets Attached

☐ Condition Compliance signature date

What's up with this?

Performance Guarantee ☐ **Required*** ☐ **Not Required**

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

☐ Performance Guarantee Accepted	date	amount	expiration date
☐ Inspection Fee Paid	date	amount	
☐ Building Permit Issue	date		
☐ Performance Guarantee Reduced	date	remaining balance	signature
☐ Temporary Certificate of Occupancy	date	☐ Conditions (See Attached)	
☐ Final Inspection	date	signature	
☐ Certificate Of Occupancy	date		
☐ Performance Guarantee Released	date	signature	
☐ Defect Guarantee Submitted	submitted date	amount	expiration date
☐ Defect Guarantee Released	date	signature	

DEPT. OF BUILDING INSPECTION
CITY OF PORTLAND, ME
JAN 11 2005
RECEIVED

From: Marge Schmuckal
To: William Needleman
Date: Tue, Feb 8, 2005 10:40 AM
Subject: Merrill Rubb VII building

Bill,
This morning P.D. Merrill dropped off his final plan showing building height for the newly proposed RUBB building. It is meeting the 45 foot building height. Because it is meeting the 45 foot building height, there are no further restrictive dimensional requirements on his building, nor further setback requirements.

Marge Schmuckal
Zoning Administrator

Merrill's Marine Terminal

Weekly Stormwater System Maintenance Report

By: Jeff Brawn Week Ending: 2-May-05

DAILY: Yard sweeping by. Initials required

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
DG	DG	DG	DG	DG		

WEEKLY:

Mead Pad CATCH BASIN #1	Warren Pad CATCH BASIN #2	NORTH TRENCH	EAST TRENCH	SOUTH TRENCH
CLEAN	CLEAN	OK	OK	N/A

SILT FENCE
Check, Clean and Repair/Replace as needed

East Pool OK
Center Pool OK
West Wharf OK

MONTHLY: Open and check on or about the First **4/11/2005**

VORTECH #1 North west 32" SEDIMENT

VORTECH #2 South 38" SEDIMENT

GENERAL COMMENTS (Heavy Precipitation,Spills, System Malfunctions, Cleanings, ETC.)

ALL SILT FENCE REPAIRED

CATCH BASINS AND VORTECS NEED CLEANING AND PUMPING

SHIFT TIME

DAY & DATE 5-14-05 SAT

JOB #

QUOTE / TASK #

CLIENT Sprague Energy Corp

BILLING ADDRESS

CleanHarbors ENVIRONMENTAL SERVICES®

P.O. #/COD AMOUNT

T&M ☐ CONTRACT ☐ CHANGE ORDER ☐

JOB LOCATION Portland Terminal
601A Danforth St.
Portland, ME

CONTACT: Ted Adam Dept

JOB DESCRIPTION:

Pump out Catch Basin Separator, Out Fall

LABOR:

NAME	TITLE	PER DIEM	ST	OT	DT
	SUPERVISOR				
Ben Mitchell	FOREMAN			6	
	EQ. OPERATOR				
Bob Mastrocchio	EQ. OPERATOR			6	
	FIELD TECH				
	FIELD TECH				
	FIELD TECH				

COMMENTS:

Change Trees of Cartridges In First Hole Got Everything But The Vac

DISPOSAL: ON Site

DESTINATION		
	AMOUNT	MANIFEST #
LIQUID (BULK)	GALS.	
SOLID (BULK)	TONS/YDS.	
LIQUID (DRUMS)	# OF DRUMS AMT. GAL.	
SOLID (DRUMS)	# OF DRUMS AMT. GAL.	
LOADING TIME	START	END

JOB COMPLETED ☐ YES ☐ NO

MATERIAL:

QTY.	DESCRIPTION
	SPEEDI DRI
	DRUM TYPE:
	DRUM TYPE:
	RAIN GEAR
	POLY SHEETING ROLL
	POLY BAG ROLL
	SORBENT PADS BL.
	SORBENT BOOM EA.
	SORBENT BOOM BL.
	SORBENT SWEEP BL.
	SORBENT SNARE (ON ROPE) BL.
	ROPE TYPE:
	DEGREASER: WHAT TYPE?
	5 GAL BUCKET
	DUCT TAPE
	SSH&SP
	POLY LINER (ROLL OFF)

NUMBER OF COMPLETE INITIAL PPE SETS	NUMBER OF EMPLOYEES IN PPE

PPE LEVEL (CIRCLE ONE)
A B C D

PPE TYPE (CIRCLE ONE)
1 2 3 4 5

ADDITIONAL PPE ITEMS USED AFTER INITIAL SETS

QTY.	DESCRIPTION
	CARTRIDGE TYPE:
	RESP. TYPE:
	SUIT TYPE:
	INNER GLOVE TYPE:
	OUTER GLOVE TYPE:
	AIR BOTTLES

EQUIPMENT:

QTY.	TYPE	FLEET #	# OF HRS	DAILY RATE
1	PICK-UP TRUCK	8490	6	
	VACUUM TRAILER			
	TRACTOR			
	VACUUM ST. TRUCK			
	BOX TRUCK			
1	VACTOR Curtis	4130	6	
	COMPRESSOR			
	BACKHOE			
	BOBCAT			
	RACK TRUCK			
	METER TYPE:			
	COMMS PACKAGE			
1	Pressure Washer		6 2/5	

ANALYSIS:

QTY.	TYPE	DESTINATION

SUBCONTRACTORS:

NAME OF COMPANY	DESCRIPTION

Customer: Sprague Energy (Company Name)

By:

Portland Water District

FROM SEBAGO LAKE TO CASCO BAY

May 18, 2005

Mr. Donald T. McElhinney, P.E., Vice President
Sebago Technics, Inc.
One Chabot Street
Westbrook, Maine 04098-1339

Subject: Merrill Marine Terminal, Portland, Maine

Dear Mr. McElhinney:

The District will be pleased to serve the expanded Merrill Marine Terminal from the existing water system operating in the area of Danforth and Commercial Streets. This area is supplied by our Sebago Lake system, which is a very high quality public water supply that is carefully monitored and protected from external contamination. This supply currently meets or exceeds all state and federal water quality regulations.

The public water system has ample capacity to supply the minor additional usage of the "Rubb VII " structure. Pressure in the main on Danforth Street is approximately 100 p.s.i. and the flow volume available for fire fighting exceeds 2500 gallons per minute at the Danforth Street / West Commercial Street mains. We cannot verify the water volume available from the private water system that services Merrill Marine Terminal.

We note that water pressures in excess of 80 p.s.i. are considered high for domestic use. The State Plumbing Code requires pressure reducing valves on water service pipes that feed domestic fixtures. Please review the Plumbing Code for additional information.

Please contact me if you need any further information for this project.

Yours truly,
Portland Water District

Jay C. Hewett, P.E.
Chief Engineer

#04480

Post-it® Fax Note 7671	Date 5/19	# of pages ▶ 1
To P D Merrill	From DTM	
Co./Dept. Merrill Dists	Co. STI	
Phone # 846-0100	Phone # 856-0277	
Fax # Same	Fax # -2206	

225 DOUGLASS STREET P.O. BOX 3553 PORTLAND, MAINE 04104-3553
PHONE: 207.774.5961 FAX: 207.761.8307 WEB: WWW.PWD.ORG

Post-it™ brand fax transmittal memo 7671	# of pages ▸ 2
To JANNIE DOUSON	From PD MERRILL
Co. City	Co. Merrill Ent
Dept.	Phone # 846 0100
Fax # 874-8716	Fax # 846 0100

CITY OF PORTLAND
BUILDING CODE CERTIFICATE
389 Congress St., Room 315
Portland, Maine 04101

TO: Inspector of Buildings City of Portland, Maine
Department of Planning & Urban Development
Division of Housing & Community Service

FROM: _____

RE: Certificate of Design

DATE: 5/23/05

These plans and / or specifications covering construction work on:

MERRILL MARINE TERMINAL, RUBB IH STRUCTURE, PORTLAND, ME.

Have been designed and drawn up by the undersigned, a Maine registered Architect / Engineer according to the ***2003 International Building Code*** and local amendments.

STATE OF MAINE
Gary
(SEAL)
No. 8848
REGISTERED
PROFESSIONAL ENGINEER

As per State Law:

$50,000.00 or more in new construction, repair expansion, addition, or modification for Building or Structures, shall be prepared by a registered design Professional.

Signature: _____

Title: CHIEF ENGINEER

Firm: RUBB INC

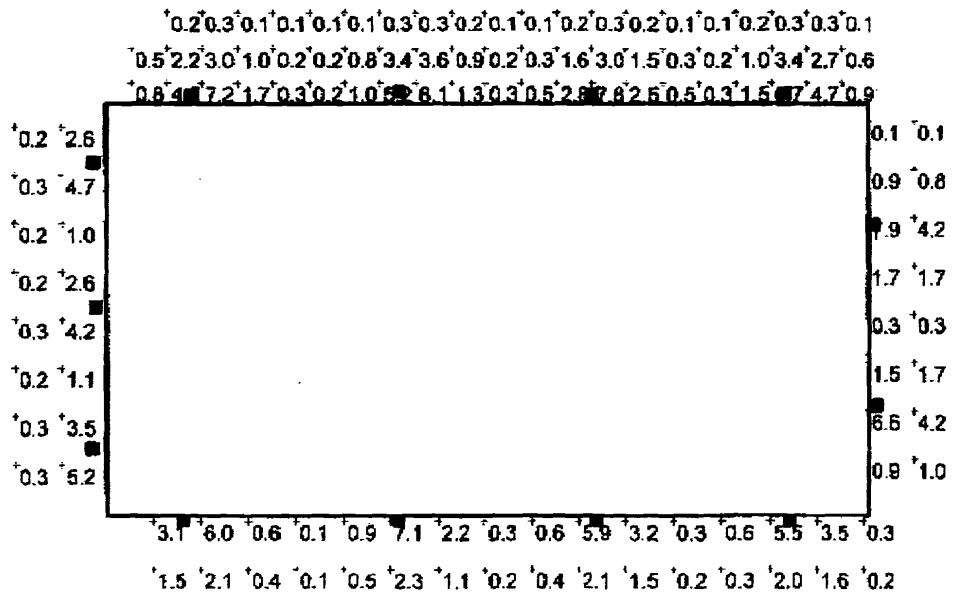
Address: SANFORD, ME

LUMINAIRE SCHEDULE

Symbol	Label	Qty	Catalog Number	Description	Lamp	File	Lumens	LLF	Watts
■	A	13	MH-IT-175	CUT-OFF WALL LUMINAIRE	175 WATT MH ED-17 MEDIUM BASE CLEAR	IP15H.IES	14000	0.75	210

STATISTICS

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
North End	+	1.5 fc	7.8 fc	0.1 fc	78.0:1	14.7:1
South End	+	1.8 fc	7.1 fc	0.1 fc	71.0:1	17.7:1
West End	+	1.7 fc	5.2 fc	0.2 fc	26.0:1	8.4:1
East End	+	2.1 fc	7.9 fc	0.1 fc	79.0:1	21.2:1



Plan View

Scale 1" = 80'

Check again with wall ?

HORIZON

Merrill Marine

RUBB Building Exterior Lighting

Designer MRW

Date Apr 28 2005

Scale

Drawing No.

MERRILL INDUSTRIES, INC.

114 Eben Hill Road, Yarmouth, ME 04096

May 20, 2005

City of Portland
Building Department
Attn: Michael Nugent
389 Congress Street
Portland, ME 04102

Re: Building Permit Application
Rubb VII, 601 Danforth Street

Dear Mr. Nugent:

Merrill Industries is now applying for a building permit to allow construction of Rubb VII as reviewed and approved with certain conditions by the Planning Department on February 8, 2005.

Merrill Industries, Inc. owns the land and improvements and leases them to Sprague Energy Inc. which operates the property as a marine terminal in substantially the same manner as it has been operated since 1982. The proposed building will be constructed on the site of a pad currently used for the accumulation of recycled metal prior to shipment by ocean vessel. This activity will be terminated and the space will be occupied by Rubb VII which will be constructed in substantially the same manner and for the same purpose as Rubb VI which we constructed in 2002. Rubb VII is designed and will be used for the storage of newsprint. This building will be served by rail and truck and will receive cargo from vessels which is currently being transshipped directly from the vessel to South Portland warehouses. The net result is a significant reduction of truck traffic in and out of the terminal because of the elimination of the recycled metal operation.

As with Rubb VI, Rubb VII will have an advanced smoke detection and alarm system. Fire suppression as designed and installed by Dean & Allyn will be provided by six hose reels served by an 8" water main.

Planning Department conditions:

i. A water capacity letter from the Portland Water District is enclosed.
ii. A $5,000 check to the Portland Tree Trust is enclosed.
iii. Evidence of inspection, cleaning and maintenance of the existing vortechnics unit is enclosed.
iv. A revised exterior lighting fixture (copy enclosed) has been submitted to the Planning Board for review and approval.
v. A Permit By Rule application for grading at the water's edge has been filed.

Building Department requirements:

A permit fee based on a construction cost of $2,410,000 is enclosed in the amount of $21,711.

Two sets of stamped drawings and 1 PDF including site plan, grading plan and foundation and slab plan prepared by Gagnon Engineering Inc. of Gorham, Maine are enclosed.

Two sets of stamped drawings and 1 PDF including building plan and elevation, anchor bolt layouts, roof truss, leg truss and axial steel together with cable isometric drawings, purlin and steel layout drawings all prepared by Rubb Buildings of Sanford, Maine are enclosed.

Both firms performed similar work for Rubb VI.

A Signage permit application will be filed separately.

Thanks for your early consideration of this important working waterfront project.

Sincerely,

P.D. Merrill
President

Please call 874-8703 or 874-8693 to schedule your inspections as agreed upon

Permits expire in 6 months, if the project is not started or ceases for 6 months.

The Owner or their designee is required to notify the inspections office for the following inspections and provide adequate notice. Notice must be called in 48-72 hours in advance in order to schedule an inspection:

By initializing at each inspection time, you are agreeing that you understand the inspection procedure and additional fees from a "Stop Work Order" and "Stop Work Order Release" will be incurred if the procedure is not followed as stated below.

A Pre-construction Meeting will take place upon receipt of your building permit.

Call	**Footing/Building Location Inspection:**	Prior to pouring concrete
Call	**Re-Bar Schedule Inspection:**	Prior to pouring concrete
Call	**Foundation Inspection:**	Prior to placing ANY backfill
Call	**Framing/Rough Plumbing/Electrical:**	Prior to any insulating or drywalling
Call	**Final/Certificate of Occupancy:**	Prior to any occupancy of the structure or use. NOTE: There is a $75.00 fee per inspection at this point.

Certificate of Occupancy is not required for certain projects. Your inspector can advise you if your project requires a Certificate of Occupancy. All projects DO require a final inspection

_____ **If any of the inspections do not occur, the project cannot go on to the next phase, REGARDLESS OF THE NOTICE OR CIRCUMSTANCES.**

_____ **CERIFICATE OF OCCUPANICES MUST BE ISSUED AND PAID FOR, BEFORE THE SPACE MAY BE OCCUPIED**

Signature of Applicant/Designee _____ Date _____

Signature of Inspections Official 6/24/05 Date Office Admin

CBL: 072 A003 Building Permit #: 050630

FILL IN AND SIGN WITH INK

APPLICATION FOR PERMIT
HEATING OR POWER EQUIPMENT

PERMIT ISSUED
NOV 9 2005
CITY OF PORTLAND

To the INSPECTOR OF BUILDINGS, PORTLAND, ME.

The undersigned hereby applies for a permit to install the following heating, cooking or power equipment in accordance with the Laws of Maine, the Building Code of the City of Portland, and the following specifications:

Location / CBL 601 Danforth Street Use of Building Paper Storage Date 11/3/05

Name and address of owner of appliance MERRILL MARINE TERMINAL (SPRAGUE ENERGY)
601A DANFORTH ST. PORTLAND ME 04103

Installer's name and address PLATEL INC.
216 LAFAYETTE RD. N HAMPTON NH 03862 Telephone 603 964 9421

Location of appliance:
- ☐ Basement
- ☑ Floor
- ☐ Attic
- ☐ Roof

Type of Fuel:
- ☑ Gas
- ☐ Oil
- ☐ Solid

Appliance Name: Appl Unit
U.L. Approved ☐ Yes ☐ No

Will appliance be installed in accordance with the manufacture's installation instructions? ☐ Yes ☐ No

IF NO Explain:

The Type of License of Installer:
- ☐ Master Plumber #
- ☐ Solid Fuel #
- ☐ Oil #
- ☐ Gas # PMT 3506
- ☐ Other

Type of Chimney:
- ☐ Masonry Lined
  Factory built
- ☐ Metal
  Factory Built U.L. Listing #
- ☑ Direct Vent
  Type 14GA 430 SS UL#

Type of Fuel Tank
- ☐ Oil
- ☐ Gas

Size of Tank

Number of Tanks

Distance from Tank to Center of Flame feet.

Cost of Work: $ 4,950.00

Permit Fee: $ 75.00

Approved

Fire:
Ele.:
Bldg.:

Approved with Conditions

☐ See attached letter or requirement

Inspector's Signature Date Approved

Signature of Installer

White - Inspection Yellow - File Pink - Applicant's Gold - Assessor's Copy

FAXED

We Cover The World.®

RUBB BUILDING SYSTEMS

TELEFAX

COMPANY:
ATTN: MIKE NUGENT
FROM: GARY SUTRYN
FAX NO: 207 874 8716
NO. SHEETS: 7
REF: MERRILL 7
DATE: 6/20/05

RUBB INC.,
Sanford Airport
P.O. Box 711
Sanford, Maine 04073
Tel: (207) 324-2877
Fax: (207) 324-2347
E-mail: info@rubbusa.com

Sent [ ]

FIRE INFO FOR PVC

REGISTERED COMPANY ISO 9001 SGS ACCREDITED ANSI-RAB
CERTIFICATE No. US97/0897

We Cover The World.®
RUBB
BUILDING SYSTEMS

RUBB, INC.
P.O. Box 711, 1 Rubb Lane
Sanford, Maine 04073 USA
Tel: 207 324 2877
Fax: 207 324 2347
E-mail: info@rubbusa.com

June 20, 2005

Mr. Mike Nugent
Inspection Services Manager
City of Portland
389 Congress Street
Portland, ME 04101

By Telefax: 207-874-8716

Re: Merrill VII

Dear Mike:

Here are the NFPA 701 test results for the PVC covering material used on the structure. Also included are the specification sheets for the covering material.

The Merrill VII structure is a newsprint conditioning facility that will be kept at approximately 55° F to 60 ° F. It will be fully insulated with R-19 insulation.

Sincerely,
Rubb, Inc.

Gary E. Sutryn, P.E.
Chief Engineer

Shelter-Rite® By Seaman Corporation

High Performance 8028 Architectural Fabric

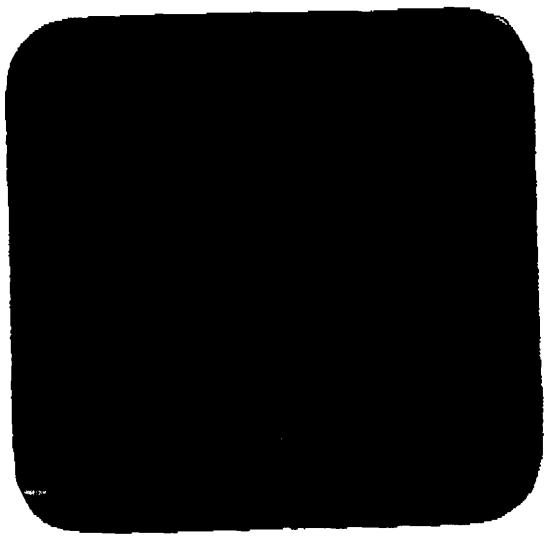
8028 Architectural Fabric	Standard	Metric
Base-Type Fabric-Weight	Polyester 7.5 oz/yd²	Polyester 254 g/m²
Finished Coated Weight ASTM D751	28 oz/yd² +2/-1 oz/yd²	950 g/m² +70/-35 g/m²
Tongue Tear ASTM D751	8"x10" sample @ 12 in/min. 275/275 lb_f	20.3 cm x 25.4 cm sample @ 30.5 cm/min. 1223/1223 N
Trapezoid Tear ASTM D4533	85/85 lb_f	378/378 N
Grab Tensile ASTM D751	700/700 lb_f	3115/3115 N
Strip Tensile ASTM D751 Procedure B	515/515 lb_f/in	458/458 daN/5 cm
Adhesion ASTM D751 Dielectric Weld	10 lb_f/in	9 daN/5 cm
Hydrostatic Resistance ASTM D751 Procedure A	500 psi	3.45 MPa
Dead Load MIL-T-52983E (modified) Para.4.5.2.19	2 in seam, 4 hrs, 1 in strip 266 lb_f @ Room temp. 133 lb_f @ 160° F	5 cm seam, 4 hrs, 2.5 cm strip 1183 N @ Room temp. 591 N @ 71°C
Low Temperature ASTM D2136 LTC 1/8" mandrel, 4 hrs. LTA	Pass -40° F Pass -67° F	Pass -40° C Pass -55° C
Flame Resistance	Meets California fire marshal requirements, UL214, NFPA 701, and FTMS 191 method 5903 - 2 second flameout ASTM E84 - flame spread index <25, smoke development rating <450	

1000 VENTURE BLVD. WOOSTER, OHIO 44691 USA, U.S. Toll-Free: Phone 800-927-8578, Fax 800-649-2737

Protan Quality 482/782 28 oz/sy FR PVC Coated Polyester

Technical Specifications

Base Type		Polyester, 1100 dtex
Construction:		Woven
Base Fabric Weight:		6.9 oz/sy
Coated Weight:	ASTM D751	28 oz/sy
Tongue Tear:	ASTM D2261	180/180 lbs/in
Trapezoid Tear:	ASTM D5733	80/70 lbs
Grab Tensile:	ASTM D751	690/620 lbs/in
Strip Tensile:	ASTM D5035	340/335 lbs/in
Adhesion (Seam Peel):	ASTM D751	15 lb/in
Hydrostatic Resistance:	ASTM D751 - Procedure A	Over 500 PSI
Low Temperature (-40° F):	ASTM D2136	Pass
Flame Resistance:	NFPA 701	Pass



Quality 482 is provided with a matte finish and quality 782 has a lacquered finish. Standard roll length is 150 meters however the material can be provided in roll lengths from 50m to 500m upon request. Roll goods can normally be slit to custom widths for a nominal charge.

Technical data is based upon average tested production values less one standard deviation and is believed to be representative of the performance characteristics of the material. Specifications and characteristics are subject to change without notice. No obligation or liability whatsoever is assumed in connection with this information. The end user is encouraged to undertake performance testing of their choice to determine the suitability of this material for its intended end use.

NFPA 701 - 1989 Fire Tests For

FLAME-RESISTANT TEXTILES AND FILMS

Prepared for: Rubb Building Systems

Project No.: 91985
Client No.: 1079
Test Date: 7/18/91
Test Engineer: Dingyi Huang

Specimen ID: 8028 - White Translucent Tedlar
Description: 0.028 inch thick white plastic sheet
Fabric Weight: 32 oz/sq.yd.
Conditioning: 140~145°F for greater than 1 h and less than 1-1/2 h only.
Method Used: SMALL SCALE

TEST RESULTS

Specimen	Direction	Afterflame Duration (sec)	Flaming of Drips (sec)	Char Length (in.)
1	Machine	0.0	0.0	2.88
2	Machine	2.0	0.0	2.00
3	Machine	0.0	0.0	2.75
4	Machine	0.0	0.0	2.00
5	Machine	2.0	0.0	2.75
6	Cross	1.0	0.0	3.00
7	Cross	0.0	0.0	3.00
8	Cross	0.0	0.0	3.25
9	Cross	0.0	0.0	3.00
10	Cross	2.0	0.0	3.00
Average		**0.7**	**0.0**	**2.76**

Afterflame requirements (None > 2 Sec.): ***PASSED***
Flaming Drips requirements (None Allowed): ***PASSED***
Char Length requirements (None > 4.5, Average ≤ 3.5): ***PASSED***

Dingyi Huang, Test Engineer

7/18/91
Date

6868 Alamo Downs Parkway
San Antonio, Texas 78238
512 / 647-5253
TELEX: 9102400828 SWCS UQ
FAX: 512 / 647-0615

NFPA 701 - 1996 FIRE TESTS FOR FLAME-RESISTANT TEXTILES AND FILMS TEST 2

Client:	Rubb, Inc.
Address:	Sanford Airport Sanford, ME 04073
Received Date:	September 7, 1999
Test Date:	September 20, 1999
Report Date:	September 21, 1999
Project No:	10790-105539
Sample Identification:	Protan Quality 480
Description:	PVC Coated Polyester
Sample Preparation:	Tested as received.
Specimen Wt.:	27.77 ounces /sq. yd.

SUMMARY OF TEST PROCEDURE

10 specimens of material 4.9 in. x 47.25 in. are cut with their long dimension parallel to the length direction ("with" machine). The test specimens are conditioned to 220-225°F (105-108°C) for not less than one hour and not more than 3 hours. Specimens are removed from the oven one at a time and tested immediately. The specimens are supported with clips in a three-sided vertical column and exposed to an 11" flame for two minutes. The flame impinges approximately 7 inches on the specimen.

TEST CRITERIA

No specimen shall continue flaming for more than two seconds. Length of char shall not exceed 17.13 inches from the bottom edge of the specimen. No flaming on floor of apparatus is allowed for longer than two seconds.

Omega Point Laboratories, Inc.
16015 Shady Falls Road
Elmendorf, Texas 78112-9784
210-635-8100 / FAX: 210-635-8101 / 800-966-5253
www.opl.com / e-mail: moreinfo@opl.com

TEST RESULTS

Specimen	Afterflame Duration (sec)	Floor Flaming (sec)	Char Length (in.)
1	0	0	5.13
2	0	0	5.06
3	0	0	6.19
4	0	0	7.44
5	0	0	8.50
6	1	0	11.81
7	0	0	8.37
8	0	0	10.31
9	0	0	10.00
10	0	0	7.31
Average	0.1	0	8.01

Afterflame requirements (None > 2 Sec.): **PASSED**
Flaming Drips requirements (None > 2 Sec.): **PASSED**
Char Length requirements (None > 17.13 in. from bottom edge): **PASSED**

THIS TEST SPECIMEN PASSED THE NFPA 701 TEST 2 FIRE TEST

This report is for the exclusive use of the client named herein. Omega Point Laboratories, Inc. authorizes the client to reproduce this report only if reproduced in its entirety. The test specimen identification is as provided by the client and Omega Point Laboratories, Inc. accepts no responsibility for any inaccuracies therein. The description of the test procedure, as well as the observations and results obtained, contained herein are true and accurate within the limits of sound engineering practice. These results are valid only for the specimens tested and may not represent the performance of other specimens from the same or other production lots. This report does not imply certification of the product by Omega Point Laboratories, Inc. Any use of the Omega Point Laboratories name, any abbreviation thereof or any logo, mark, or symbol therefor, for advertising material must be approved in writing in advance by Omega Point Laboratories, Inc. The client must have entered into and be actively participating in a Listing & Follow-up Service program. Products must bear labels with the Omega Point Laboratories Certification Mark to demonstrate acceptance by Omega Point Laboratories, Inc. into the Listing program.

This report contains a total of two pages.

Servando Romo
Fire Test Technologist

9-21-99
Date

Reviewed and approved:

Ernst L. Schmidt, Jr.
Manager, Small Scale Testing

9-21-99
Date

OMEGA POINT LABORATORIES

City of Portland, Maine - Building or Use Permit

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

Permit No:	Date Applied For:	CBL:
05-0630	05/20/2005	072 A003001

Location of Construction:	Owner Name:	Owner Address:	Phone:
601 DANFORTH ST	MERRILL INDUSTRIES INC	601 DANFORTH ST	
Business Name:	**Contractor Name:**	**Contractor Address:**	**Phone**
	Cianbro Corp.	328 W. Commercial Street Portland	(207) 773-5852
Lessee/Buyer's Name	**Phone:**	**Permit Type:**	
		Additions - Commercial	

Proposed Use:	Proposed Project Description:
Marine Terminal / Add a newsprint warehouse, Vinyl glad galvanized steel frame, insulated heated on reinforced concrete pad	Add a newsprint warehouse, Vinyl glad galvanized steel frame, insulated heated on reinforced concrete pad

Dept: Zoning **Status:** Approved with Conditions **Reviewer:** Marge Schmuckal **Approval Date:** 06/03/2005

Note: 6/3/05 still needs stamped approved site plan from planning before issuing
6/16/05 received the stamped approved plans from B.N. & gave to Mike N.

Ok to Issue: ☑

1) Separate permits shall be required for any new signage.

2) This permit is being approved on the basis of plans submitted. Any deviations shall require a separate approval before starting that work.

Dept: Building **Status:** Approved with Conditions **Reviewer:** Mike Nugent **Approval Date:** 06/22/2005

Note:

Ok to Issue: ☑

1) This use is limited to Newsprint rolls or S2 uses such as
Aircraft hangar
Asbestos
Beverages up to and including 12-percent alcohol in metal, glass or ceramic containers
Cement in bags
Chalk and crayons
Dairy products in nonwaxed coated paper containers
Dry cell batteries
Electrical coils
Electrical motors
Empty cans
Food products
Foods in noncombustible containers
Fresh fruits and vegetables in nonplastic trays or containers
Frozen foods
Glass
Glass bottles, empty or filled with noncombustible liquids
Gypsum board Inert pigments
Ivory
Meats
Metal cabinets
Metal desks with plastic tops and trim
Metal parts
Metals
Mirrors
Oil-filled and other types of distribution transformers
Parking garages, open or enclosed porcelain and pottery
Stoves
Talc and soapstones
Washers and dryers

Any change from the Rolled News Print requires approval. S1 uses shall require a Fire Supression system in accordance with NFPA 13.

Location of Construction:	Owner Name:	Owner Address:	Phone:
601 DANFORTH ST	MERRILL INDUSTRIES INC	601 DANFORTH ST	
Business Name:	**Contractor Name:**	**Contractor Address:**	**Phone**
	Cianbro Corp.	328 W. Commercial Street Portland	(207) 773-5852
Lessee/Buyer's Name	**Phone:**	**Permit Type:**	
		Additions - Commercial	

2) Plans for the exterior stairs must be submitted and approved prior to installation.

Dept: Fire **Status:** Approved with Conditions **Reviewer:** Cptn Greg Cass **Approval Date:** 06/06/2005

Note: **Ok to Issue:** ☑

1) Flow test private hydrant to ensure proper fire flow.

2) To maintain access for fire apperatious at all times

3) Structure to comply with Chapter 42 "storage occupancies" of NFPA 101

Dept: Planning **Status:** Approved with Conditions **Reviewer:** William B. Needelman **Approval Date:** 02/08/2005

Note: Site Plan approval conditions met, but $300 site inspection fee needed prior to building permit. WBN 6-16-0 **Ok to Issue:** ☐

1)

i. ☐ That the applicant provides a water capacity letter prior to issuance of a building permit.

ii. ☐ That the applicant contributes $5000 to the Portland Tree Trust in lieu of on-site landscaping prior to issuance of a building permit.

iii. That the applicant provides evidence that the existing vortechnics unit has been inspected, cleaned and maintained per manufacturer's specifications prior to occupancy of the warehouse.

iv. ☐ That the applicant provides revised lighting fixtures for Planning Authority review and approval.

v. ☐ That the applicant receive approval or waiver from the Maine Department of Environmental Protection for grading and construction at the water's edge.

Comments:

5/20/2005-ldobson: We processed a check for 5000 for tree replacement????? LJD

6/13/2005-mjn: Need Statement of Special Inspections an Fire Separation assembly info. Set up a meeting w/ Gary Surtyn for 3:300 today

GAGNON ENGINEERING, INC.
Structural Consultants
198 Main Street
Gorham, Maine 04038
Tel: 207 839-4085
Fax: 207 839-4035

Re-faxed 6/13/05
756-8090
RG

FAX TRANSMISSION COVER SHEET

No.of Pages: 2 (Incl. Cover Sheet)

Date: 5/25/05 From: Roger G

To: Mike Nugent Fax No.: 874-8716

Co/Org: Portland CE Tel No.: 874-8703

Notice: This message is intended for the individual or entity to which it is addressed or copied (below), and may contain information that is privileged or confidential. If the reader of this message is not the intended recipient, any dissemination, distribution, or copying of this communication is strictly prohibited. If you have received this communication in error, please notify Gagnon Engineering immediately by telephone.

Message: Mike : Re: Merrill / Rubb VII
Floor Loads
(Bldg Loads Snow Wind etc
From Rubb)

Please Review and Call if you have any questions/problems.

Thanks
Roger RG

Copy:
File: CC P.D. 8060100

Fax No:

FROM DESIGNER: Roger R. Gagnon P.E. (DBA Gagnon Eng'

DATE: May 25 05

Job Name: Merrills Marine Terminal / Rubb VI.

Address of Construction: Danforth St Portland ME

2003 International Building Code

Construction project was designed according to the building code criteria listed below:

Building Code and Year IBC/2003 Use Group Classification(s) S2

Type of Construction _____

Will the Structure have a Fire suppression system in Accordance with Section 903.3.1 of the 2003 IRC_____

Is the Structure mixed use?_____ If yes, separated or non separated (see Section 302.3)_____

Supervisory alarm system?_____ Geotechnical/Soils report required?(See Section 1802.2)_____

* STRUCTURAL DESIGN CALCULATIONS

_____ Submitted for all structural members *(106.1, 106.1.1)*

DESIGN LOADS ON CONSTRUCTION DOCUMENTS (1603)

Uniformly distributed floor live loads *(1603.1.1, 1607)*

Floor Area Use	Loads Shown
Storage	1000psf

Wind loads *(1603.1.4, 1609)*

_____ Design option utilized *(1609.1.1, 1609.6)*

_____ Basic wind speed *(1609.3)*

_____ Building category and wind importance factor, I_w *(Table 1604.5, 1609.5)*

_____ Wind exposure category *(1609.4)*

_____ Internal pressure coefficient *(ASCE 7)*

_____ Component and cladding pressures *(1609.1.1, 1609.6.2.2)*

_____ Main force wind pressures *(1609.1.1, 1609.6.2.1)*

Earthquake design data *(1603.1.5, 1614 - 1623)*

_____ Design option utilized *(1614.1)*

_____ Seismic use group ("Category") *(Table 1604.5, 1616.2)*

_____ Spectral response coefficients, S_{DS} & S_{D1} *(1615.1)*

_____ Site class *(1615.1.5)*

_____ Live load reduction *(1603.1.1, 1607.9, 1607.10)*

_____ Roof live loads *(1603.1.2, 1607.11)*

Roof snow loads *(1603.1.3, 1608)*

_____ Ground snow load, P_g *(1608.2)*

_____ If P_g > 10 psf, flat-roof snow load, P_f *(1608.3)*

_____ If P_g > 10 psf, snow exposure factor, C_e *(Table 1608.3.1)*

_____ If P_g > 10 psf, snow load importance factor, I_s *(Table 1604.5)*

_____ Roof thermal factor, C_t *(Table 1608.3.2)*

_____ Sloped roof snowload, P_s *(1608.4)*

_____ Seismic design category *(1616.3)*

_____ Basic seismic-force-resisting system *(Table 1617.6.2)*

_____ Response modification coefficient, R_I, and deflection amplification factor, C_d *(Table 1617.6.2)*

_____ Analysis procedure *(1616.6, 1617.5)*

_____ Design base shear *(1617.4, 1617.5.1)*

Flood loads *(1603.1.6, 1612)*

_____ Flood hazard area *(1612.3)*

_____ Elevation of structure

Other loads

25000# Concentrated loads *(1607.4)* Fork Truck wheels

_____ Partition loads *(1607.5)*

_____ Impact loads *(1607.8)*

_____ Misc. loads *(Table 1607.8, 1607.8.1, 1607.7, 1607.12, 1607.13, 1610, 1611, 2404)*

* Bldg Loads By Rubb

R.G. 5/25/05

Applicant: P.D. Merrill - Date: 2/2/05 & 6/3/05

Address: 601A Danforth St C-B-L: 072-A-005

CHECK-LIST AGAINST ZONING ORDINANCE

#05-0630

Date - Developed Site

Zone Location - WPDZ

Interior or corner lot -

Proposed Use/Work - to construct 170'x330' Rubb VII

Sewage Disposal - City

Lot Street Frontage -

Front Yard - None req

Rear Yard - None req

Side Yard - None req

Projections -

Width of Lot - N/A

Height - 45' - Showing 45'

Lot Area - None

Lot Coverage/Impervious Surface - 100%

Area per Family - N/A

Off-street Parking - ok

Loading Bays -

Site Plan - #2005-0027

Shoreland Zoning/Stream Protection - Exempt - over 75' Anyway

Flood Plains - Panel 16 - Zone C

FROM DESIGNER: GARY SUTRYN

DATE: 5/23/05

Job Name: RUBB/VII STRUCTURE

Address of Construction: MERRILL MARINE TERMINAL, PORTLAND, ME.

2003 International Building Code

Construction project was designed according to the building code criteria listed below:

Building Code and Year IBC 2003 Use Group Classification(s) S2

Type of Construction II B

Will the Structure have a Fire suppression system in Accordance with Section 903.3.1 of the 2003 IBC NO

Is the Structure mixed use? NO If yes, separated or non separated (see Section 302.3)

Supervisory alarm system? NO Geotechnical/Soils report required? (See Section 1802.2) SEE EXISTING REPORT

STRUCTURAL DESIGN CALCULATIONS

_____ Submitted for all structural members (106.1, 106.1.1)

DESIGN LOADS ON CONSTRUCTION DOCUMENTS (1603)

Uniformly distributed floor live loads (1603.1.1, 1607)

Floor Area Use	Loads Shown
NOTE - RUBB ROOF ONLY - STRUCTURE FLOOR & FDN. BY OTHERS	INC

Wind loads (1603.1.4, 1609)

ASCE 7 Design option utilized (1609.1.1, 1609.6)

100 MPH 3 SEC Basic wind speed (1609.3)

CAT C, Iw = 1.07 Building category and wind importance factor, Iw (Table 1604.5, 1609.5)

C Wind exposure category (1609.4)

+/-.18 Internal pressure coefficient (ASCE 7)

MAIN VALUES Component and cladding pressures (1609.1.1, 1609.6.2.2)

ASCE 7 Main force wind pressures (1609.1.1, 1609.6.2.1)

Earthquake design data (1603.1.5, 1614 - 1623)

_____ Design option utilized (1614.1)

I Seismic use group ("Category") (Table 1604.5, 1616.2)

SDS = 0.5 SD1 = 0.27 Spectral response coefficients, SDs & SD1 (1615.1)

E Site class (1615.1.5)

_____ Live load reduction (1603.1.1, 1607.9, 1607.10)

LR = 35 Roof live loads (1603.1.2, 1607.11)

Roof snow loads (1603.1.2, 1608)

50 psf Ground snow load, Pg (1608.2)

30 psf If Pg > 10 psf, flat-roof snow load, Pf (1608.3)

.9 If Pg > 10 psf, snow exposure factor, Ce (Table 1608.3.1)

0.8 If Pg > 10 psf, snow load importance factor, Is (Table 1604.5)

Ct = 1.2 Roof thermal factor, Ct (Table 1608.3.2)

VARIES Sloped roof snowload, Ps (1608.4)

D Seismic design category (1616.3)

2D Basic seismic-force-resisting system (Table 1617.6.2)

R = 5 Cd = 4.5 Response modification coefficient, R, and deflection amplification factor, Cd (Table 1617.6.2)

1617.5 Analysis procedure (1616.6, 1617.5)

1617.5.1 Design base shear (1617.4, 1617.5.1)

Flood loads (1603.1.6, 1612)

_____ Flood hazard area (1612.3)

_____ Elevation of structure

Other loads

_____ Concentrated loads (1607.4)

_____ Partition loads (1607.5)

_____ Impact loads (1607.8)

_____ Misc. loads (Table 1607.8, 1607.8.1, 1607.7, 1607.12, 1607.13, 1610, 1611, 2404)

GAGNON ENGINEERING, INC.
Structural Consultants
198 Main Street
Gorham, Maine 04038
Tel: 207 839-4085
Fax: 207 839-6035

FAX TRANSMISSION COVER SHEET

No.of Pages: 2 (Incl. Cover Sheet)

Date: 5/25/05 From: Roger G

To: Mike Nugent Fax No.: 874-8716

Co/Org: Portland CE Tel No.: 874-8703

Notice: This message is intended for the individual or entity to which it is addressed or copied (below), and may contain information that is privileged or confidential. If the reader of this message is not the intended recipient, any dissemination, distribution, or copying of this communication is strictly prohibited. If you have received this communication in error, please notify Gagnon Engineering immediately by telephone.

Message: Mike : Re: Merrill / Rubb VII
Floor Loads
(Bldg Loads Snow Wind etc
From Rubb)

Please Review and Call if you have any questions/problems.

Thanks
Roger 97

Copy: Fax No:
File:
CC P.D. 8060100

CITY OF PORTLAND
BUILDING CODE CERTIFICATE
389 Congress St., Room 315
Portland, Maine 04101

ACCESSIBILITY CERTIFICATE

Designer: GARY SUTRYN

Address of Project: MERRILL MARINE TERMINAL, PORTLAND

Nature of Project: WAREHOUSE STRUCTURE FOR PRIVATE USE REQUIRED ONE (1) ACCESSIBLE ENTRANCE PER ADAAG 4.1.1(3)

The technical submissions covering the proposed construction work as described above have been designed in compliance with applicable referenced standards found in the Maine Human Rights Law and Federal Americans with Disability Act.

STATE OF MAINE (SEAL) Gary E. Sutryn No. 8848 REGISTERED PROFESSIONAL ENGINEER

Signature: [signature]

Title: CHIEF ENGINEER

Firm: RUBB INC

Address: SANFORD, ME

Phone: 207-324-0877

CITY OF PORTLAND
BUILDING CODE CERTIFICATE
389 Congress St., Room 315
Portland, Maine 04101

TO: Inspector of Buildings City of Portland, Maine
Department of Planning & Urban Development
Division of Housing & Community Service

FROM: _____

RE: Certificate of Design

DATE: 5/23/05

These plans and / or specifications covering construction work on:

MERRILL MARINE TERMINAL, RUBB VII STRUCTURE, PORTLAND, ME.

Have been designed and drawn up by the undersigned, a Maine registered Architect / Engineer according to the ***2003 International Building Code*** and local amendments.

STATE OF MAINE
Gary E. Guthrie
(SEAL)
No. 8848
REGISTERED PROFESSIONAL ENGINEER

As per Maine State Law:

$50,000.00 or more in new construction, repair expansion, addition, or modification for Building or Structures, shall be prepared by a registered design Professional.

Signature: _____

Title: CHIEF ENGINEER

Firm: RUBB INC

Address: SANFORD, ME

FROM DESIGNER: GARY SUTRYN

DATE: 5/23/05

Job Name: RUBB XII STRUCTURE

Address of Construction: MERRILL MARINE TERMINAL, PORTLAND, ME

2003 International Building Code

Construction project was designed according to the building code criteria listed below:

Building Code and Year IBC 2003 Use Group Classification(s) S2

Type of Construction IIB

Will the Structure have a Fire suppression system in Accordance with Section 903.3.1 of the 2003 IRC NO

Is the Structure mixed use? NO If yes, separated or non separated (see Section 302.3)

Supervisory alarm system? NO Geotechnical/Soils report required?(See Section 1802.2) SEE EXISTING REPORT

STRUCTURAL DESIGN CALCULATIONS

_____ Submitted for all structural members *(106.1, 106.1.1)*

DESIGN LOADS ON CONSTRUCTION DOCUMENTS (1603)

Uniformly distributed floor live loads *(1603.1.1, 1607)*

Floor Area Use	Loads Shown
NOTE: RUBB RESPONSIBLE FOR STRUCTURE FLOOR & FDN.	INC ROOF ONLY. BY OTHERS

Wind loads *(1603.1.4, 1609)*

ASCE 7 Design option utilized *(1609.1.1, 1609.6)*

100 MPH 3 SEC Basic wind speed *(1609.3)*

CAT I, Iw = .87 Building category and wind importance factor, *Iw (Table 1604.5, 1609.5)*

C Wind exposure category *(1609.4)*

±.18 Internal pressure coefficient *(ASCE 7)*

MAIN VALUES Component and cladding pressures *(1609.1.1, 1609.6.2.2)*

ASCE 7 Main force wind pressures *(1609.1.1, 1609.6.2.1)*

Earthquake design data *(1603.1.5, 1614 - 1623)*

_____ Design option utilized *(1614.1)*

I Seismic use group ("Category") *(Table 1604.5, 1616.2)*

SDS = 0.5 SD1 = 0.23 Spectral response coefficients, *SDs & SD1 (1615.1)*

E Site class *(1615.1.5)*

_____ Live load reduction *(1603.1.1, 1607.9, 1607.10)*

LC PSF Roof live loads *(1603.1.2, 1607.11)*

Roof snow loads *(1603.1.3, 1608)*

50 PSF Ground snow load, P_g *(1608.2)*

30 psf If P_g > 10 psf, flat-roof snow load, P_f *(1608.3)*

.9 If P_g > 10 psf, snow exposure factor, C_e *(Table 1608.3.1)*

0.8 If P_g > 10 psf, snow load importance factor, I_s *(Table 1604.5)*

C_t = 1.2 Roof thermal factor, C_t *(Table 1608.3.2)*

VARIES Sloped roof snowload, P_s *(1608.4)*

D Seismic design category *(1616.3)*

2D Basic seismic-force-resisting system *(Table 1617.6.2)*

R = 5 C_d = 4.5 Response modification coefficient, R, and deflection amplification factor, C_d *(Table 1617.6.2)*

1617.5 Analysis procedure *(1616.6, 1617.5)*

1617.5.1 Design base shear *(1617.4, 1617.5.1)*

Flood loads *(1603.1.6, 1612)*

_____ Flood hazard area *(1612.3)*

_____ Elevation of structure

Other loads

_____ Concentrated loads *(1607.4)*

_____ Partition loads *(1607.5)*

_____ Impact loads *(1607.8)*

_____ Misc. loads *(Table 1607.8, 1607.8.1, 1607.7, 1607.12, 1607.13, 1610, 1611, 2404)*

FROM DESIGNER: Roger R. Gagnon PE. (DBA Gagnon Engrg

DATE: May 25 05

Job Name: Merrills Marine Terminal / Rubb VII

Address of Construction: Danforth St Portland ME

2003 International Building Code

Construction project was designed according to the building code criteria listed below:

Building Code and Year IBC/2003 Use Group Classification(s) S2

Type of Construction _____

Will the Structure have a Fire suppression system in Accordance with Section 903.3.1 of the 2003 IRC_____

Is the Structure mixed use?_____ if yes, separated or non separated (see Section 302.3)_____

Supervisory alarm system?_____ Geotechnical/Soils report required?(See Section 1802.2)_____

* STRUCTURAL DESIGN CALCULATIONS

_____ Submitted for all structural members *(106.1, 106.1.1)*

DESIGN LOADS ON CONSTRUCTION DOCUMENTS (1603)

Uniformly distributed floor live loads *(1603.1.1, 1607)*

Floor Area Use	Loads Shown
Storage	1000 psf

Wind loads *(1603.1.4, 1609)*

_____ Design option utilized *(1609.1.1, 1609.6)*

_____ Basic wind speed *(1609.3)*

_____ Building category and wind importance factor, I_w *(Table 1604.5, 1609.5)*

_____ Wind exposure category *(1609.4)*

_____ Internal pressure coefficient *(ASCE 7)*

_____ Component and cladding pressures *(1609.1.1, 1609.6.2.2)*

_____ Main force wind pressures *(1609.1.1, 1609.6.2.1)*

Earthquake design data *(1603.1.5, 1614 - 1623)*

_____ Design option utilized *(1614.1)*

_____ Seismic use group ("Category") *(Table 1604.5, 1616.2)*

_____ Spectral response coefficients, S_{DS} & S_{D1} *(1615.1)*

_____ Site class *(1615.1.5)*

_____ Live load reduction *(1603.1.1, 1607.9, 1607.10)*

_____ Roof live loads *(1603.1.2, 1607.11)*

Roof snow loads *(1603.1.3, 1608)*

_____ Ground snow load, P_g *(1608.2)*

_____ If P_g > 10 psf, flat-roof snow load, P_f *(1608.3)*

_____ If P_g > 10 psf, snow exposure factor, C_e *(Table 1608.3.1)*

_____ If P_g > 10 psf, snow load importance factor, I_s *(Table 1604.5)*

_____ Roof thermal factor, C_t *(Table 1608.3.2)*

_____ Sloped roof snowload, P_s *(1608.4)*

_____ Seismic design category *(1616.3)*

_____ Basic seismic-force-resisting system *(Table 1617.6.2)*

_____ Response modification coefficient, R_w and deflection amplification factor, C_d *(Table 1617.6.2)*

_____ Analysis procedure *(1616.6, 1617.5)*

_____ Design base shear *(1617.4, 1617.5.1)*

Flood loads *(1603.1.6, 1612)*

_____ Flood hazard area *(1612.3)*

_____ Elevation of structure

Other loads

25000# Concentrated loads *(1607.4)* Fork Truck wheels

_____ Partition loads *(1607.5)*

_____ Impact loads *(1607.8)*

_____ Misc. loads *(Table 1607.8, 1607.8.1, 1607.7, 1607.12, 1607.13, 1610, 1611, 2404)*

* Bldg Loads By Rubb

5/25/05

GAGNON ENGINEERING, INC.
Structural Consultants
198 Main Street
Gorham, Maine 04038
Tel: 207 839-8085
Fax: 207 839-6035

FAX TRANSMISSION COVER SHEET

No.of Pages: 2 (Incl. Cover Sheet)

Date: 5/25/05 From: Roger G

To: Mike Nugent Fax No.: 874-8716

Co/Org: Portland CE Tel No.: 874-8703

Notice: This message is intended for the individual or entity to which it is addressed or copied (below), and may contain information that is privileged or confidential. If the reader of this message is not the intended recipient, any dissemination, distribution, or copying of this communication is strictly prohibited. If you have received this communication in error, please notify Gagnon Engineering immediately by telephone.

Message: Mike : Re: Merrill / Rubb VII
Floor Loads
(Bldg Loads Snow Wind etc
From Rubb)

Please Review and Call if you have any questions/problems.

Thanks
Roger

Copy:
File: CC P.D.: 8060100

Fax No:

FROM DESIGNER: Roger R. Gagnon PE. (DBA Gagnon Engrg)

DATE: May 25 05

Job Name: Merrills Marine Terminal / Rubb VII

Address of Construction: Danforth St Portland ME

2003 International Building Code

Construction project was designed according to the building code criteria listed below:

Building Code and Year IBC/2003 Use Group Classification(s) S2

Type of Construction _____

Will the Structure have a Fire suppression system in Accordance with Section 903.3.1 of the 2003 IRC_____

Is the Structure mixed use?_____ if yes, separated or non separated (see Section 302.3)_____

Supervisory alarm system?_____ Geotechnical/Soils report required?(See Section 1802.2)_____

* STRUCTURAL DESIGN CALCULATIONS

_____ Submitted for all structural members *(106.1, 106.1.1)*

DESIGN LOADS ON CONSTRUCTION DOCUMENTS (1603)

Uniformly distributed floor live loads *(1603.1.1, 1607)*

Floor Area Use	Loads Shown
Storage	1000 psf

Wind loads *(1603.1.4, 1609)*

_____ Design option utilized *(1609.1.1, 1609.6)*

_____ Basic wind speed *(1609.3)*

_____ Building category and wind importance factor, I_w *(Table 1604.5, 1609.5)*

_____ Wind exposure category *(1609.4)*

_____ Internal pressure coefficient *(ASCE 7)*

_____ Component and cladding pressures *(1609.1.1, 1609.6.2.2)*

_____ Main force wind pressures *(1609.1.1, 1609.6.2.1)*

Earthquake design data *(1603.1.5, 1614 - 1623)*

_____ Design option utilized *(1614.1)*

_____ Seismic use group ("Category") *(Table 1604.5, 1616.2)*

_____ Spectral response coefficients, S_{DS} & S_{D1} *(1615.1)*

_____ Site class *(1615.1.5)*

_____ Live load reduction *(1603.1.1, 1607.8, 1607.10)*

_____ Roof live loads *(1603.1.2, 1607.11)*

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_____ If P_g > 10 psf, snow load importance factor, I_s *(Table 1604.5)*

_____ Roof thermal factor, C_t *(Table 1608.3.2)*

_____ Sloped roof snowload, P_s *(1608.4)*

_____ Seismic design category *(1616.3)*

_____ Basic seismic-force-resisting system *(Table 1617.6.2)*

_____ Response modification coefficient, R_I and deflection amplification factor, C_d *(Table 1617.6.2)*

_____ Analysis procedure *(1616.6, 1617.5)*

_____ Design base shear *(1617.4, 1617.5.1)*

Flood loads *(1603.1.6, 1612)*

_____ Flood hazard area *(1612.3)*

_____ Elevation of structure

Other loads

25000# Concentrated loads *(1607.4)* Fork Truck wheels

_____ Partition loads *(1607.5)*

_____ Impact loads *(1607.8)*

_____ Misc. loads *(Table 1607.8, 1607.8.1, 1607.7, 1607.12, 1607.13, 1610, 1611, 2404)*

* Bldg Loads By Rubb

R. Gagnon 5/25/05

GAGNON ENGINEERING INC.
Structural Consultants
198 MAIN STREET
GORHAM, MAINE 04038
Fax: 207-839-8035

FAX TRANSMISSION COVER SHEET

Date: 04/16/05 From: Gagnon Engineering

Attn. To: Mike Nugent Fax No. 874-8716

Co./Org.: Code Enforcement No. of Pgs: (Including Cover Page)

Re: Merrill / Rubb VIT

Please Call 207-839-8085 if you have any problems receiving this fax.

This message is intended only for the use of the individual or entity to which it is addressed or copied (below), and may contain information that is privileged and confidential. If the reader of this message is not the intended recipient, any dissemination, distribution, or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone.

Special instructions or message:

Merrill Marine Terminal

PLEASE REVIEW AND CALL IF YOU HAVE ANY QUESTIONS/PROBLEMS. THANK YOU.

Copied:

GAGNON ENGINEERING, INC.
Structural Consultants

Statement of Special Inspections

Project: Merrill / Rubb VII, Foundations (& Site) Date: June 14, 2005

Location: West Danforth / West Commerical - Merrill's Marine Terminal

Engineer in Responsible Charge (Foundations & Site): Roger R. Gagnon, P.E.
(Gagnon Engineering, Inc.)

This Statement of Special Inspections is submitted as a condition for permit issuance in accordance with Structural Tests and Special Inspections requirements of IBC (2003, specifically Section 1704. It includes Materials and Work requiring Special Inspections by this Code. The inspections to be performed, list of qualified and approved Individuals & Agencies conducting such inspections.

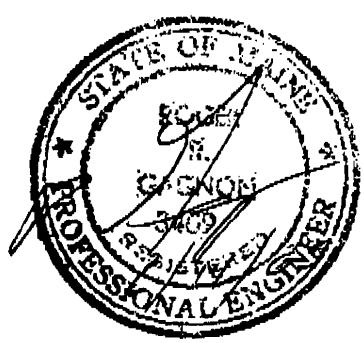
Report Requirements. Special Inspectors shall keep records of inspections. The special inspector shall furnish inspection reports to the Building Official, and to the Design Professional in Responsible Charge. Reports shall indicate

- That the Work inspected was done in conformance with approved construction documents.
- Discrepancies shall be brought to the attention of the immediate attention of the Contractor for Correction.
- If the Discrepancies are not corrected, the Discrepancies shall be brought to the attention of the Building Official and to the Design Professional in Responsible Charge, prior to the completion of that phase of the Work.
- A Final Report documenting Required Inspections and the Corrections of any Discrepancies noted in the Inspections shall be submitted at a point in time agreed upon by the permit applicant and the Building Official prior to the start of Work

Inspection (& Testing) Agents:

Agent #1: Gagnon Engineering, Inc. (Gorham, Maine)

Agent #2: S.W.Cole Engineering, Inc. (Gray, Maine)



GAGNON ENGINEERING, INC.
Structural Consultants

Project: Merrill / Rubb VII

Special Inspections: Concrete

Date 06-14-05 By: RG

No.	Item	Agent #	Scope	Freq.
	(1)	(2)		(3)
1	Reinforcing Shop Drawings	#1	Materials, sizes, Layout, General	
			Compliance, Footings, Walls, Slabs	
2	Concrete Mix Designs	#1	Compressice Strength, Ingredients, w/c,	
			Slump, Additives, Walls, Footings, Slabs	
3	Footings	#1	Forms, Steps, Reinforcing	B/C
4	Walls	#1	Forms, Reinforcing, Protect & Cure	B/C
5	Inserts	#1	Anchor Bolts, Anchors & Inserts	B/C
6	Floor Slabs	#1	Reinforcing Layout, Detials, Surface Preps,	C/W
			Concrete Placements, Protect & Cure	
7	Testing	#2	Strength, Air, Slump, etc.	C/W

Notes.

(1) Refer to Contract Plans & Specifications for Details.
(2) Agents:
#1) Gagnon Engineering, Inc.
#2) SW Cole Engineering, Inc
(3) Frequency Codes. Perform Initial and work-complete inspections for all items; follow-up as required. Perform intermediate inspections or tests as follows:
X/R = min percent / random
C/W = continuous / with work
B/C = Before covered

GAGNON ENGINEERING, INC.
Structural Consultants

Project: Merrill / Rubb VII

Special Inspections: Site Work

Date: 06-14-05 By: RG

No.	Item	Agent #	Scope	Freq.
	(1)	(2)		(3)
1	General Pre-Excavation & Prep	#1	Asphalt Removal, Pre-Excavation,	50/R
			Proof-Compaction	
2	Wall Excavations	#1	Initial Excavations, Bearing Capacity,	B/C
			Sub-Footing Fills	
3	Wall Fills	#2	Materials, Specs/Gradations, ASTM D1557,	C/W
			Placement, Moisture Contr., Compaction	
4	Sub-Floor Fills	#2	Materials, Specs/Gradations, ASTM D1557,	C/W
			Placement, Moisture Contr., Compaction	
5	Storm & Underdrain	#1	Materials, Prep Install, Back-Fill	50/R

Notes.

(1) Refer to Contract Plans & Specifications for Details.
(2) Agents:
#1) Gagnon Engineering, Inc.
#2) SW Cole Engineering, Inc
(3) Frequency Codes. Perform Initial and work-complete inspections for all items; follow-up as required. Perform intermediate inspections or tests as follows:
X/R = min percent / random
C/W = continuous / with work
B/C = Before covered

GAGNON ENGINEERING, INC.
Structural Consultants

Report of Special Inspections

Project: Merrill / Rubb VII (Foundations & Site)

Location: West Commercial – Merrill's Marine Terminal

Owner: Merrill's Marine Terminal

Owner's Address: 601A Danforth Street, Portland ME

Agent:

Special Inspector:

Inspection Item:

To the best of my information, knowledge, and belief, the Special Inspections required for this project, itemized in the *Statement of Special Inspections* submitted for permit, have been performed and all discovered discrepancies have been reported and resolved other than the following:

Comments:

(Attach continuation sheets if required to complete the description of corrections.)

Respectfully submitted,
Agent or Special Inspector

Type or print name

Licensed Professional Seal

Signature Date

GAGNON ENGINEERING, INC.
Structural Consultants

Final Report of Special Inspections

Project: Merrill / Rubb VII, (Foundations & Site)

Location: West Commercial – Merrill's Marine Terminal

Owner: Merrill's Marine Terminal

Owner's Address: 601A Danforth Street, Portland ME

Agent:

Special Inspector:

Inspection Item:

To the best of my information, knowledge. and belief, the Special Inspections or testing required for this project, and designated for this agent in the *Statement of Special Inspections* submitted for permit, have been performed and all discovered discrepancies have been reported and resolved other than the following:

Comments:

(Attach continuation sheets if required to complete the description of corrections.)

Interim reports submitted prior to this final report form a basis for and are to be considered an integral part of this final report.

Respectfully submitted,
Agent or Special Inspector

Type or print name

Licensed Professional Seal

Signature Date

We Cover The World.®

RUBB BUILDING SYSTEMS

TELEFAX

COMPANY:
ATTN: MIKE NUGENT
FROM: GARY SUTRYN
FAX NO: 207-874-8716
NO. SHEETS: 8
REF: MERRILL 7
DATE: 6/15/05

RUBB INC.,
Sanford Airport
P.O. Box 711
Sanford, Maine 04073
Tel: (207) 324-2877
Fax: (207) 324-2347
E-mail: info@rubbusa.com

Sent [ ]

- SPECIAL INSPECTIONS 4 PAGES
- SEISMIC QUALITY PLAN 3 PAGES

} ATTACHED

STATEMENT OF RESPONSIBILITY TO FOLLOW SOON.

AN INTERNATIONAL COMPANY

ISO 9001 REGISTERED COMPANY SGS ACCREDITED ANSI-RAB CERTIFICATE No. US97/0897

We Cover The World.®

RUBB BUILDING SYSTEMS

TELEFAX

COMPANY:
ATTN: MIKE NUGENT
FROM: GARY SUTRYN
FAX NO: 207-874-8716
NO. SHEETS: 8
REF: MERRILL 7
DATE: 6/15/05

RUBB INC.,
Sanford Airport
P.O. Box 711
Sanford, Maine 04073
Tel: (207) 324-2877
Fax: (207) 324-2347
E-mail: info@rubbusa.com

Sent [ ]

- SPECIAL INSPECTIONS 4 PAGES
- SEISMIC QUALITY PLAN 3 PAGES

} ATTACHED

STATEMENT OF RESPONSIBILITY TO FOLLOW SOON.

AN INTERNATIONAL COMPANY

ISO 9001 REGISTERED COMPANY SGS ACCREDITED ANSI-RAB REGISTRAR

CERTIFICATE No. US97/0897

Rubb Inc., Sanford, Me. 04073

Statement of Special Inspections

Project: MERRILL 7 STRUCTURE
Location: MERRILL MARINE TERMINAL, PORTLAND, ME.
Owner: SPRAGUE ENERGY
Design Professional in Responsible Charge: GARY E. SUTRYN, P.E.

This *Statement of Special Inspections* is submitted as a condition for permit issuance in accordance with the Special Inspection and Structural Testing requirements of the Building Code. It includes a schedule of Special Inspections applicable to this project and the name(s) of the Special Inspectors and the identity of other approved agencies (if any) to be retained for conducting these inspections and tests. This *Statement of Special Inspections* encompass the following disciplines:

- [x] Structural
- [ ] Architectural
- [ ] Mechanical/Electrical/Plumbing
- [ ] Other: _____

A *Final Report of Special Inspections* documenting completion of all required Special Inspections, testing and correction of any discrepancies noted in the inspections shall be submitted prior to issuance of a Certificate of Use and Occupancy.

Prepared by:

GARY E. SUTRYN, P.E.
(type or print name)

Signature 6/14/05 Date

STATE OF MAINE
Gary E. Sutryn
No. 8848
REGISTERED PROFESSIONAL ENGINEER
Design Professional Seal

Schedule of Inspection and Testing Agencies

This Statement of Special Inspections / Quality Assurance Plan includes the following building systems:

- ☐ Soils and Foundations
- ☐ Cast-in-Place Concrete
- ☐ Precast Concrete
- ☐ Masonry
- ☒ Structural Steel
- ☐ Cold-Formed Steel Framing
- ☐ Spray Fire Resistant Material
- ☐ Wood Construction
- ☐ Exterior Insulation and Finish System
- ☐ Mechanical & Electrical Systems
- ☐ Architectural Systems
- ☐ Special Cases

Special Inspector	Firm	Address, Telephone, e-mail
1. GARY SUTRYN	RUBB INC.	SANFORD, ME. 207-324-2877
2.		
3.		
4. Testing Agency (if applic.)		
5. Testing Agency (if applic.)		
6. Other		

Note: The special inspections and testing will be performed by qualified Rubb personnel unless another firm is designated in the above table.

Quality Assurance Plan

Quality Assurance for Seismic Resistance

Seismic Design Category D
Quality Assurance Plan Required (Y/N) YES

Description of seismic force resisting system and designated seismic systems:

ORDINARY STEEL CONCENTRIC BRACED FRAMES

Quality Assurance for Wind Requirements

Basic Wind Speed (3 second gust) 100 MPH
Wind Exposure Category C
Quality Assurance Plan Required (Y/N) NO

Description of wind force resisting system and designated wind resisting components:

ORDINARY STEEL CONCENTRIC BRACED FRAMES.

Statement of Responsibility

Each contractor responsible for the construction or fabrication of a system or component designated above must submit a Statement of Responsibility.

Structural Steel

Special Inspection	Inspection frequency	Scope
1. Fabricator Certification/ Quality Control Procedures	*One time report.*	*Review shop fabrication and quality control procedures.*
2. Material Certification	*One time report.*	*Review certified mill test reports, bolt certification and weld electrode certifications.* *Provide structural steel vendor information (name, etc.)*
3. Bolting	*Intermittent.*	*Inspect installation and tightening of pre-tensioned high-strength bolts.*
4. Welding	*100 % visual inspection.*	*Visually inspect all welds. Verify size and length of fillet welds.*
5. Structural Details	*Inspect sample each week.*	*Inspect steel frame for compliance with structural drawings, including bracing, member configuration and connection details.*

RUBB INC., Sanford, Me. 04073

SEISMIC QUALITY PLAN

Project: *Merrill 7 structure*

Location: *Merrill Marine Terminal, Portland, Me.*

Owner: *Sprague Energy*

Design Professional in Responsible Charge: *Gary E. Sutryn, P.E.*

This *Seismic Quality Plan* is submitted prior to commencement of structure fabrication as required in the Building Code.This *Seismic Quality Plan* encompass the following disciplines:

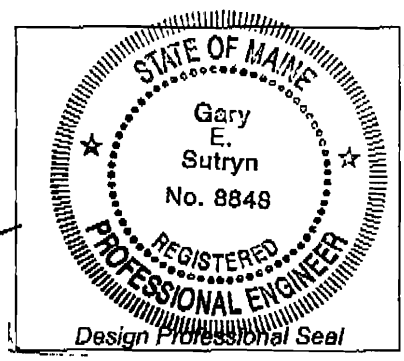
- [X] Structural
- [ ] Architectural
- [ ] Mechanical/Electrical/Plumbing
- [ ] Other: _____

A final letter of completion documenting satisfactory completion of all Seismic Quality Plan requirements shall be submitted prior to issuance of a Certificate of Use and Occupancy.

Prepared by:

GARY E. SUTRYN
(type or print name)

Signature 6/14/05 Date



Design Professional Seal

RUBB INC., Sanford, Me. 04073

SEISMIC QUALITY PLAN – Rubb Structures

DESIGNATED SEISMIC FORCE RESISTING SYSTEMS:

A) Truss arch spans – resists side to side seismic forces.

B) Bracing cables and compression purlins in the braced bays – resists end to end seismic forces.

SPECIAL INSPECTIONS REQUIRED: See also attached table.

1.) Review quality control procedures.

2.) Review purchased material certifications.

3.) Inspect installation of pre-tensioned high strength bolts.

4.) Welding:

- 100 % visual inspection of all welds.
- welding performed according to AWS D1.1
    - use only qualified welders
    - follow written welding procedures.

5.) Inspect completed structural components to verify compliance with construction drawings.

DOCUMENTATION REQUIRED TO SUBMIT TO BUILDING OFFICIAL:

- material certifications for structural steel, structural bolts and welding electrode.
- vendor names of structural steel suppliers.
- statement of responsibility.
- letter of completion of requirements in this plan.

RUBB INC., Sanford, Me. 04073

Seismic Quality Plan – Seismic systems

Special Inspection	Inspection frequency	Scope
1. Fabricator Certification/ Quality Control Procedures	*One time report.*	*Review shop fabrication and quality control procedures.*
2. Material Certification	*One time report.*	*Review certified mill test reports, bolt certification and weld electrode certifications.* *Provide structural steel vendor information (name, etc.)*
3. Bolting	*Intermittent.*	*Inspect installation and tightening of pre-tensioned high-strength bolts.*
4. Welding	*100 % visual inspection.*	*Visually inspect all welds. Verify size and length of fillet welds.*
5. Structural Details	*Inspect sample each week.*	*Inspect steel frame for compliance with structural drawings, including bracing, member configuration and connection details.*

GEI Consultants, Inc.

1021 Main Street
Winchester, MA 01890-1970
781•721•4000
781•721•4073 Fax

July 8, 2004
Project 04082-2

Mr. P. D. Merrill
Merrill Marine Terminal Services, Inc.
601 Danforth Street
Portland, Maine 04102

Re: **Subsurface Investigation and Settlement Analysis**
Proposed Rubb Warehouse No. 7
Merrill Marine Terminal
Portland, Maine

Dear Mr. Merrill:

This letter summarizes the results of our subsurface investigation and settlement analysis for the proposed Rubb Warehouse No. 7 at the Merrill Marine Terminal in Portland Maine. This work was performed in accordance with our proposal dated April 20, 2004.

Project Description

The footprint of the proposed warehouse is shown on Figure 1. The warehouse will consist of a Rubb fabric building supported on shallow footing foundations with a reinforced concrete slab-on-grade floor. The design floor elevation is at El. 22 and up to 4 to 6 feet of fill will have to be placed in portions of the building footprint to create a level surface for the building. The design storage load is 1,000 psf. The Rubb building is very flexible, and it can tolerate relatively large differential settlements. We understand that you would prefer a concrete floor, but would also consider using a flexible asphalt pavement. A concrete floor must be designed to prevent excessive cracking that could result in contamination of the stored product with concrete residue from the floor. Selection of the type of floor will be based on both cost and serviceability considerations.

Existing Subsurface Data

There is a considerable amount of existing soil boring and laboratory test data available from previous investigations at the Merrill Marine Terminal. We reviewed this existing information and have incorporated applicable data from these previous investigations in the evaluation performed for this project.

The following existing soil borings are located close to the location of the proposed warehouse: D-14, B-402, B-216, B-302, B-1, B-2 and B-3. Information on compressibility and preconsolidation of the organic silt and clay strata is available from laboratory consolidation tests performed on samples obtained from the mudflat areas on the south and west sides of the marine terminal and from a storage area located north of the bridge that borders the north side of the marine terminal.

Subsurface Investigation

We engaged Northeast Diamond Drilling Co. to perform two soil borings (B-501 and B-502) to evaluate the thickness of the compressible organic silt and clay strata at the proposed warehouse location and to obtain undisturbed samples for laboratory consolidation tests. The boring locations are shown on Figure 1 and boring logs are contained in Appendix A. These boring locations were selected to obtain samples for laboratory testing from portions of the proposed warehouse footprint that have experienced the least amount of surcharge from previous bulk storage loading.

The borings were advanced by driving a 4-inch ID casing and cleaning out the casing with a roller bit. Standard 2-inch OD (1⅜-inch ID) split spoon samples were obtained in accordance with ASTM D1586 at intervals varying from 5 to 10 feet. Eight undisturbed 3-inch-diameter thin-wall tube samples of the organic silt and clay were obtained with a hydraulic fixed-piston (Osterberg) sampler. The borings were advanced to refusal at depths of 49.6 feet in B-501 and 72.4 feet in B-502.

Laboratory Testing

Five one-dimensional consolidation tests were performed to obtain data on compressibility and preconsolidation of the organic silt and clay strata. Compression curves from the consolidation tests are contained in Appendix B. The test specimen from B-502 U4 appeared to be disturbed by the presence of a piece of gravel that damaged the cutting edge of the thin-wall tube and the test results for this specimen proved to be unusable.

Compressibility indices from the consolidation tests are plotted in Figure 2 and pre-consolidation pressures from the consolidation tests are plotted in Figure 3, along with the data from the previous investigations.

Subsurface Soil Conditions

The general soil profile in the area of the proposed warehouse consists of: 10–20 feet of granular fill and sand; 30-50 feet of soft organic silt and clay; and about 5-10 feet of sand and/or glacial till overlying bedrock.

The granular fill varies from widely-graded sand with gravel to narrowly-graded silty fine sand. The natural sand underlying the fill typically consists of narrowly-graded silty to clayey fine sand. The standard penetration test N-values in the granular fill and sand

indicates that the in-place density of the soil typically ranges from very loose to medium dense, with most of the soil in a loose condition.

The thickness of the soft organic silt and clay increases from about 30 feet at the west end of the warehouse to about 50 feet at the east end. At the west end there is about 10 feet of organic silt overlying about 20 feet of clay. At the east end there is no organic silt and the clay is about 50 feet thick.

The clay is an older marine deposit of glacial origin and the upper portion of the clay stratum has undergone significant geologic preconsolidation due to desiccation. The organic silt is a more recent deposit that has not experienced the same geologic preconsolidation as the clay. The preconsolidation data from the consolidation tests indicate that the preconsolidation profile for the clay at the warehouse location is similar to the preconsolidation profile obtained from the previous tests on samples from the mudflat areas. However, the organic silt at the warehouse location shows significantly higher preconsolidation than indicated by the previous tests on samples from the mudflat areas. This preconsolidation is probably due to surface surcharge loadings.

At the east end of the warehouse the clay stratum contains layers of silty to clayey fine sand varying from less than an inch to several feet in thickness. A surficial geology map for the Portland area indicates that the glacial marine clay stratum transitions to a glacial marine sand to the northeast of the marine terminal site, and this transition can be seen in the northeastern-most borings from the previous site investigations.

The groundwater level at the east end of the warehouse appears to be about El. 13 based on previous measurements performed in boring B-3. The groundwater level at the west end of the warehouse is tidal, and an average level of El. 5 (approximate mean tide level) was assumed for analysis.

Settlement Analyses

We performed one-dimensional settlement analyses to estimate the magnitude of settlement due to compression of the soft organic silt and clay strata under the weight of the new fill and storage loading. Analyses were performed for the soil profiles from borings B-501 (west end) and B-502 (east end) using a recompression index of 0.02 and a virgin compression index of 0.20 for both the organic silt and clay. For the analyses at the east end we applied an adjustment for the estimated percentage of sand layers in the clay stratum. We used the preconsolidation profile shown in Figure 3 where it is greater than the existing vertical effective stress, and we assumed an overconsolidation ratio of 1.05 due to aging where the preconsolidation profile in Figure 3 is less than the existing effective stress. The stresses in the organic silt and clay strata due to the weight of the fill (500 to 600 psf) and storage loading (1,000 psf) were calculated using the Boussinesq elastic solution for uniform loading over a rectangular area, with the fill and storage loading applied over the full warehouse footprint. The settlement calculations were performed using the computer program SAF distributed by Prototype Engineering, Inc.

The estimated settlement due to compression of the organic silt and clay is in the range of 1 to 3 inches. The estimated settlements for the specific cases analyzed are as follows:

Location	Est. Settlement, inches	Notes
West End - South side (boring B-501)	1.0	Location with least preconsolidation, stress increase is less at side
West End - Center in Scrap Steel Storage Area	1.5	Assumed full preconsolidation by steel storage surcharge, stress increase is greatest at center
East End – South side (boring B-502)	2.5 (3.5)	Location with least preconsolidation, stress increase is less at side
East End – Center in Salt Storage Shed Area	3.0 (4.0)	Assumed the existing surcharge is equivalent to a ground level at El. 24, stress increase is greatest at center.

Number in ( ) is the value before adjustment for sand layers.

Differential settlements resulting from the compression of the organic silt and clay are expected to be relatively gradual because the differences in the estimated settlements are largely due to differences in the compression within the lower portion of the clay stratum.

There is a significant potential for differential settlements due to local variations in compression of the loose fill and sand overlying the organic silt and clay, which is not reflected in the settlement analyses summarized above. Because these soils are highly variable and are located directly below the structure, they may produce relatively sharp differential settlements across short distances. These sharp differential settlements can be reduced by providing a layer of compacted fill below the structure

Conclusions and Recommendations

Our subsurface investigation and analyses indicate that the existing preconsolidation of the organic silt and clay is sufficient to prevent large settlements under the weight of the new fill and storage loading. Therefore, we conclude that preloading is not required. It is our understanding that the estimated settlement of 1 to 3 inches due to deep-seated compression of the silt and clay is within the tolerable limits for the Rubb building superstructure. The floor slab should be designed with sufficient reinforcing and control joints to tolerate settlements of this magnitude.

We recommend that the following minimum thicknesses of controlled compacted fill be placed below the footings and floor slab to reduce differential settlements due to the loose fill and sand directly below the structure (includes the 9-inch minimum thickness of Structural Fill directly below the floor slab per our recommendations for the slab design):

- Area surcharged by a minimum 30-foot height of the steel storage pile

  Footings - none
  Floor slab - 1.5 feet

- Areas below the edges of the steel storage pile that may not have been surcharged by a 30-ft height of the storage pile

  Footings - 1.5 feet
  Floor slab - 3 feet

- Other areas

  Footings – 3 feet
  Floor slab - 5 feet

The controlled fill should be a widely-graded sand and gravel with less than 30% silt and should not contain rubble, clay or organic material. If the existing onsite fill is reused, materials that do not fit this description should be separated out and should only be used outside the structure. The natural silty-clayey fine sand below the existing fill is not suitable for reuse as controlled fill below the structure. The fill should be compacted to at least 92% of the maximum dry density obtained from ASTM method D-1557. If the fill material is highly variable, it may be more appropriate to specify a suitable compaction procedure instead of performing field density testing.

We have assumed that the warehouse building will be heated. If it is not heated, a fill material that is not susceptible to frost heave must be placed within the depth of potential ground freezing below the structure. The freezing depth can be reduced by providing insulation below the floor slab and around the perimeter of the structure.

We recommend an allowable bearing pressure of 2 tsf for footings bearing on a minimum 3-foot thickness of compacted fill. The compacted fill below the footing should have a minimum width equal to the width of the footing plus three feet on each side of the footing. Exterior footings should bear at a minimum depth of 4 feet below exterior grade for frost protection.

For the floor slab design we recommend a Westergaard modulus of subgrade reaction of k=100 pounds per cubic inch in accordance with the design criteria in "Slab Thickness for Industrial Concrete Floors on Grade" by the Portland Cement Association. At least 9 inches of Structural Fill meeting the gradation and compaction requirements in Table 1 should be placed immediately below the floor slab. A vapor barrier should be provided below the floor slab and the slab should be provided with suitable joints for crack control.

Please call David Shields at 781-721-4032 or Mike Yako at 781-721-4043 if you have any questions.

Sincerely,

GEI CONSULTANTS, INC.

David R. Shields, P.E.
Senior Technical Consultant

Francis D. Leathers, P.E.
Principal

DRS:FDL/rr
Attachment
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Table 1 - Requirements for Structural Fill
Rubb Warehouse No. 7
Merrill's Marine Terminal
Portland, Maine

Structural Fill shall consist of hard, durable sand and gravel, free of clay, organic matter, surface coatings, and other deleterious materials. Soil finer than the No. 200 sieve (the "fines") shall be nonplastic. Structural Fill shall meet the following gradation requirements:

Sieve Size	Percent Passing by Weight
3 Inches	100
½ Inch	50 – 100
No. 4	35– 85
No. 16	20 – 65
No. 50	5 - 40
No. 200 (fines)	0 – 8

Structural Fill shall be compacted in maximum 9-inch-thick, loose lifts to at least 95 percent of the maximum dry density determined in accordance with ASTM D1557 (Modified AASHTO Compaction).