

**City of Portland, Maine – Building or Use Permit Application** 389 Congress Street, 04101, Tel: (207) 874-8703, FAX: 874-8716

Location of Construction: 1001 Westbrook St		Owner: City of Portland		Phone:		Permit No: 981356			
Owner Address:		Lessee/Buyer's Name:		Phone:		BusinessName:			
Contractor Name: Atlantic Coast Contractors		Address: P.O. Box 10792 Portland, ME 04104		Phone: 761-9468		<div style="border: 2px solid black; padding: 5px; text-align: center;"> <b>PERMIT ISSUED</b>                  Permit issued:  <b>DEC - 3 1998</b>  <b>CITY OF PORTLAND</b> </div>			
Past Use: Jetport		Proposed Use: Same		COST OF WORK: \$ 217,000.00 FIRE DEPT. <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Denied Signature: <i>[Signature]</i>				PERMIT FEE: \$ 1,105/Trans (?) INSPECTION: Use Group: 21 Type: Signature: <i>[Signature]</i>	
Proposed Project Description: Construction of Sand/Salt Storage Bldg & Rooftop Walkway				PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.) Action: Approved <input type="checkbox"/> Approved with Conditions: <input type="checkbox"/> Denied: <input type="checkbox"/> Signature: _____ Date: _____				Zone: _____ CBL: 204-A-001 Zoning Approval: <i>[Handwritten]</i> <b>Special Zone or Reviews:</b> <input type="checkbox"/> Shoreland <input type="checkbox"/> Wetland <input type="checkbox"/> Flood Zone <input type="checkbox"/> Subdivision <input checked="" type="checkbox"/> Site Plan maj <input type="checkbox"/> minor <input type="checkbox"/> mm <input type="checkbox"/>	
Permit Taken By: NG		Date Applied For: 24 November 1998							

1. This permit application does not preclude the Applicant(s) from meeting applicable State and Federal rules.
2. Building permits do not include plumbing, septic or electrical work.
3. Building permits are void if work is not started within six (6) months of the date of issuance. False information may invalidate a building permit and stop all work..

PERMIT ISSUED WITH REQUIREMENTS

**CERTIFICATION**

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

24 November 1998

SIGNATURE OF APPLICANT	ADDRESS:	DATE:	PHONE:
RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE		PHONE:	

**Zoning Appeal**

Variance  
 Miscellaneous  
 Conditional Use  
 Interpretation  
 Approved  
 Denied

**Historic Preservation**

Not in District or Landmark  
 Does Not Require Review  
 Requires Review

**Action:**

Approved  
 Approved with Conditions  
 Denied

Date: *[Handwritten Signature]*

**CEO DISTRICT**

COMMENTS

10-5-99 Building is all Finished all Truss clips are installed and painted all Hangers, Trusses have all Purlins Installed. (TR)

Inspection Record

Type	Date
Foundation: _____	_____
Framing: _____	_____
Plumbing: _____	_____
Final: _____	_____
Other: _____	_____

**THIS IS NOT A PERMIT/CONSTRUCTION CANNOT COMMENCE UNTIL THE PERMIT IS ISSUED**

**Building or Use Permit Pre-Application  
Attached Single Family Dwellings/Two-Family Dwelling  
Multi-Family or Commercial Structures and Additions Thereto**

In the interest of processing your application in the quickest possible manner, please complete the Information below for a Building or Use Permit.

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

Location/Address of Construction (include Portion of Building) : <u>1001 Westbrook St</u>		
Total Square Footage of Proposed Structure		Square Footage of Lot
Tax Assessor's Chart, Block & Lot Number Chart# <u>204</u> Block# <u>A001</u> Lot#	Owner: <u>City of Portland</u>	Telephone#:
Owner's Address: <u>1001 Westbrook St. Portland</u>	Lessee/Buyer's Name (If Applicable)	Cost Of Work: <u>\$ 217K</u> Fee <u>1/105</u> <u>\$ NA</u>
Proposed Project Description:(Please be as specific as possible) <u>Sand / Salt Storage Bldg. &amp; Roof Top Walkway</u>		
Contractor's Name, Address & Telephone <u>Atlantic Coast Contractors Inc PO Box 10792 Portland ME 04104</u>		Rec'd By <u>MJ</u>
Current Use: <u>Jetport</u>	Proposed Use: <u>same w/ storage bldg</u>	

Separate permits are required for Internal & External Plumbing, HVAC and Electrical installation.

- All construction must be conducted in compliance with the 1996 B.O.C.A. Building Code as amended by Section 6-Art II.
- All plumbing must be conducted in compliance with the State of Maine Plumbing Code.
- All Electrical Installation must comply with the 1996 National Electrical Code as amended by Section 6-Art III.
- HVAC (Heating, Ventilation and Air Conditioning) installation must comply with the 1993 BOCA Mechanical Code.

You must Include the following with you application:

- 1) A Copy of Your Deed or Purchase and Sale Agreement
- 2) A Copy of your Construction Contract, if available
- 3) A Plot Plan/Site Plan

Minor or Major site plan review will be required for the above proposed projects. The attached checklist outlines the minimum standards for a site plan.

**4) Building Plans**

**Unless exempted by State Law, construction documents must be designed by a registered design professional.**

A complete set of construction drawings showing all of the following elements of construction:

- Cross Sections w/Framing details (including porches, decks w/ railings, and accessory structures)
- Floor Plans & Elevations
- Window and door schedules
- Foundation plans with required drainage and dampproofing
- Electrical and plumbing layout. Mechanical drawings for any specialized equipment such as furnaces, chimneys, gas equipment, HVAC equipment (air handling) or other types of work that may require special review must be included.

**Certification**

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

Signature of applicant: <u>Dan Berni</u>	Date: <u>11/24/98</u>
--	-----------------------

Building Permit Fee: \$25.00 for the 1st \$1000.cost plus \$5.00 per \$1,000.00 construction cost thereafter.  
Additional Site review and related fees are attached on a separate addendum



Applicant:

Date: 12/1/98

Address: 1001 Westbrook St -  
Yellowbnd Rd

C-B-L: 204-A-001

CHECK-LIST AGAINST ZONING ORDINANCE

Date - Existing

Zone Location - AB zone

Interior or corner lot -

Proposed Use/Work - construct storage Bldg for salt etc

Sevage Disposal -

Lot Street Frontage -

Front Yard -  
Rear Yard -  
Side Yard - } none req.

Projections -

Width of Lot -

Height -

Lot Area -

Lot Coverage/ Impervious Surface -

Area per Family -

Off-street Parking -

Loading Bays -

Site Plan - approved minor site plan

Shoreland Zoning/ Stream Protection - over 75' from High water mark

Flood Plains - Zone C



## BUILDING PERMIT REPORT

DATE: 29 NOV. 98 ADDRESS: 1001 Westbrook ST. CBL 204-A-001  
REASON FOR PERMIT: To Construct Sand/SALT Storage bldg.  
BUILDING OWNER: City of Portland  
CONTRACTOR: ATLANTIC COAST CONTRACTORS  
PERMIT APPLICANT: ↑  
USE GROUP (B) SALT/Sand Bldg. BOCA 1996 CONSTRUCTION TYPE 3-B

### CONDITION(S) OF APPROVAL

This Permit is being issued with the understanding that the following conditions are met:

Approved with the following conditions: \*1, \*2, \*3, \*24, \*26, 17

1. This permit does not excuse the applicant from meeting applicable State and Federal rules and laws.
2. Before concrete for foundation is placed, approvals from the Development Review Coordinator and Inspection Services must be obtained. (A 24 hour notice is required prior to inspection)
- 2.5 Foundation drain shall be placed around the perimeter of a foundation that consists of gravel or crushed stone containing not more than 10 percent material that passes through a No. 4 sieve. The drain shall extend a minimum of 12 inches beyond the outside edge of the footing. The thickness shall be such that the bottom of the drain is not higher than the bottom of the base under the floor, and that the top of the drain is not less than 6 inches above the top of the footing. The top of the drain shall be covered with an approved filter membrane material. Where a drain tile or perforated pipe is used, the invert of the pipe or tile shall not be higher than the floor elevation. The top of joints or top of perforations shall be protected with an approved filter membrane material. The pipe or tile shall be placed on not less than 2" of gravel or crushed stone, and shall be covered with not less than 6" of the same material. Section 1813.5.2
- 2.6 Foundations anchors shall be a minimum of 1/2" in diameter, 7" into the foundation wall, minimum of 12" from corners of foundation and a maximum 6' o.c. between bolts. (Section 2305.17)
3. Precaution must be taken to protect concrete from freezing. Section 1908.0
4. It is strongly recommended that a registered land surveyor check all foundation forms before concrete is placed. This is done to verify that the proper setbacks are maintained.
5. Private garages located beneath habitable rooms in occupancies in Use Group R-1, R-2, R-3 or I-1 shall be separated from adjacent interior spaces by fire partitions and floor/ceiling assembly which are constructed with not less than 1-hour fire resisting rating. Private garages attached side-by-side to rooms in the above occupancies shall be completely separated from the interior spaces and the attic area by means of 1/2 inch gypsum board or the equivalent applied to the garage means of 1/2 inch gypsum board or the equivalent applied to the garage side. (Chapter 4 Section 407.0 of the BOCA/1996)
6. All chimneys and vents shall be installed and maintained as per Chapter 12 of the City's Mechanical Code. (The BOCA National Mechanical Code/1993). Chapter 12 & NFPA 211
7. Sound transmission control in residential building shall be done in accordance with Chapter 12 section 1214.0 of the city's building code.
8. Guardrails & Handrails: A guardrail system is a system of building components located near the open sides of elevated walking surfaces for the purpose of minimizing the possibility of an accidental fall from the walking surface to the lower level. Minimum height all Use Groups 42", except Use Group R which is 36". In occupancies in Use Group A, B, H-4, I-1, I-2 M and R and public garages and open parking structures, open guards shall have balusters or be of solid material such that a sphere with a diameter of 4" cannot pass through any opening. Guards shall not have an ornamental pattern that would provide a ladder effect. (Handrails shall be a minimum of 34" but not more than 38". Use Group R-3 shall not be less than 30", but not more than 38".) Handrail grip size shall have a circular cross section with an outside diameter of at least 1 1/4" and not greater than 2". (Sections 1021 & 1022.0) - Handrails shall be on both sides of stairway. (Section 1014.7)
9. Headroom in habitable space is a minimum of 7'6". (Section 1204.0)
10. Stair construction in Use Group R-3 & R-4 is a minimum of 10" tread and 7 3/4" maximum rise. All other Use group minimum 11" tread. 7" maximum rise. (Section 1014.0)
11. The minimum headroom in all parts of a stairway shall not be less than 80 inches. (6' 8") 1014.4

12. Every sleeping room below the fourth story in buildings of use Groups R and I-1 shall have at least one operable window or exterior door approved for emergency egress or rescue. The units must be operable from the inside without the use of special knowledge or separate tools. Where windows are provided as means of egress or rescue they shall have a sill height not more than 44 inches (1118mm) above the floor. All egress or rescue windows from sleeping rooms shall have a minimum net clear opening height dimension of 24 inches (610mm). The minimum net clear opening width dimension shall be 20 inches (508mm), and a minimum net clear opening of 5.7 sq. ft. ( Section 1018.6 )
13. Each apartment shall have access to two (2) separate, remote and approved means of egress. A single exit is acceptable when it exits directly from the apartment to the building exterior with no communications to other apartment units. Section 1010.1
14. All vertical openings shall be enclosed with construction having a fire rating of at least one (1)hour, including fire doors with self closer's. (Over 3 stories in height requirements for fire rating is two (2) hours.) Section 710.0
15. The boiler shall be protected by enclosing with (1) hour fire-rated construction including fire doors and ceiling, or by providing automatic extinguishment. Table 302.1.1
16. All single and multiple station smoke detectors shall be of an approved type and shall be installed in accordance with the provisions of the City's Building Code Chapter 9, Section 920.3.2 (BOCA National Building Code/1996), and NFPA 101 Chapter 18 & 19. (Smoke detectors shall be installed and maintained at the following locations):
  - In the immediate vicinity of bedrooms
  - In all bedrooms
  - In each story within a dwelling unit, including basements
 In addition to the required AC primary power source, required smoke detectors in occupancies in Use Groups R-2, R-3 and I-1 shall receive power from a battery when the AC primary power source is interrupted. (Interconnection is required) Section 920.3.2
17. A portable fire extinguisher shall be located as per NFPA #10. They shall bear the label of an approved agency and be of an approved type. Section 921.0
18. The Fire Alarm System shall be maintained to NFPA #72 Standard.
19. The Sprinkler System shall be maintained to NFPA #13 Standard.
20. All exit signs, lights, and means of egress lighting shall be done in accordance with Chapter 10 Section & Subsections 1023. & 1024. Of the City's building code. (The BOCA National Building Code/1996)
21. Section 25-135 of the Municipal Code for the City of Portland states, "No person or utility shall be granted a permit to excavate or open any street or sidewalk from the time of November 15 of each year to April 15 of the following year".
22. The builder of a facility to which Section 4594-C of the Maine State Human Rights Act Title 5 MRSA refers, shall obtain a certification from a design professional that the plans commencing construction of the facility, the builder shall submit the certification to the Division of Inspection Services.
23. Ventilation shall meet the requirements of Chapter 12 Sections 1210. Of the City's Building Code. (crawl spaces & attics)
24. All electrical, plumbing and HVAC permits must be obtained by a Master Licensed holders of their trade.
25. All requirements must be met before a final Certificate of Occupancy is issued.
26. All building elements shall meet the fastening schedule as per Table 2305.2 of the City's Building Code. (The BOCA National Building Code/1996).
27. Ventilation of spaces within a building shall be done in accordance with the City's Mechanical Code (The BOCA National Mechanical Code/1993). ( Chapter M-16 )
28. Please read and implement the attached Land Use-Zoning report requirements.
29. Boring, cutting and notching shall be done in accordance with Sections 2305.4.4, 2305.5.1 and 2305.3. of the City's building code.
30. Glass and glazing shall meet the requirements of Chapter 24 of the building code.
- \*31. \_\_\_\_\_
32. \_\_\_\_\_
33. \_\_\_\_\_

 Building Inspector

cc: Lt. McDougal, PFD

Marge Schmuckal, Zoning Administrator

# **PDA** Phillip J. Doughty Associates — Architects

364 U.S. Route One, Falmouth, Maine 04105

Telephone 207•781•5346

## PRE-BID WALKTHROUGH AND MEETING MINUTES

PROJECT: Jetport Sand/Salt/Walkway  
PDA #970-011

DATE: October 23, 1998

PRESENT: Arthur Sewall City of Portland (Jetport)  
Paul Bradbury City of Portland (Jetport)  
Karen Marston City of Portland Purchasing  
Marco DiSanto J.B. DiSanto & Sons  
Jim Hoy Keeley Construction  
Jim LaPointe Hardy Pond Construction  
Dave Bisson, Mike Albert Atlantic Coast Construction  
Jim Ellsworth Langford & Low  
Scott Labreque Labreque Construction  
Phil Doughty Phillip J. Doughty Associates — Architects

CC: Distribution, File-5.2.2

Artie Sewall raised the following issues:

1. The notice to proceed should be awarded two weeks from receipt of bids.
2. Electrical service from maintenance building: General Contractor to dig trench. Provide and install conduit and pull string for future wire pull and installation by others. GC to provide 90° bends and risers at each end.
3. Temporary electrical service at site: by Jetport.
4. No lighting in this contract.
5. Exterior door controls will be exterior push button-weathertight by door manufacturer.
6. Final connections of door and lights will be by the Jetport.
7. Permits by General Contractor — no fees will be charged to the G.C.'s. (This will be handled via internal transfer.)
8. Run perimeter foundation drains to daylight from the embankment behind the building. Artie stated that the site would be available to anyone wishing to examine the site further and take measurements "at the outfall — provide 6" rip rap and filter fabric."
9. Paul Bradbury stated the importance of not allowing FOD (debris) to land on the runway apron where it could be ingested by the jet aircraft engines.
10. Pavement depth will be changed to 3".
11. Be mindful of insurance and bonding requirements.



**Site Review Pre-Application  
Multi-Family/Attached Single Family Dwellings/Two-Family Dwelling  
or Commercial Structures and Additions Thereto**

In the interest of processing your application in the quickest possible manner, please complete the Information below for Site Plan Review

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

Applicant  
City of Portland

Application Date  
10-21-98

Applicant's Mailing Address  
1001 WESTBROOK ST. PORTLAND 04102

Project Name/Description  
CONSTRUCT SAND/SMART STORAGE BUILDING

Consultant/Agent  
ARTHUR SEWALL - AIRMOT OPERA, MGR,

Address Of Proposed Site  
YSALOWBIRD RD. - JEWELL MARKET BUILDING SITE

Applicant/Agent Daytime telephone and FAX  
874-8876 / 774-9740

Assessor's Reference, Chart#, Block. Lot# 204-A-001

Proposed Development (Check all that apply)  New Building  Building Addition  Change of Use  Residential  Office  Retail  
 Manufacturing  Warehouse/Distribution  Other(Specify) SMART STORAGE

2850  
Proposed Building Square Footage and /or # of Units

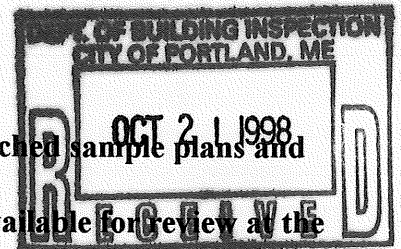
7000  
Acreage of Site

AB  
Zoning

You must Include the following with you application:

- 1) A Copy of Your Deed or Purchase and Sale Agreement
- 2) 7 sets of Site Plan packages containing the information found in the attached sample plans and checklist.

(Section 14-522 of the Zoning Ordinance outlines the process, copies are available for review at the counter, photocopies are \$ 0.25 per page)



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

Signature of applicant: <u>Arthur Sewall</u>	Date: <u>10-21-98</u>
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Site Review Fee: Major \$500.00 Minor 400.00

This application is for site review ONLY, a Building Permit application and associated fees will be required prior to construction.

*fees waived*

CBL 204-A-002



## CITY OF PORTLAND

October 30, 1998

Arthur Sewall  
Operations Manager  
Portland International Jetport  
1001 Westbrook Street  
Portland, ME 04102

re: Jetport Salt Shed

Dear Mr. Sewall:

On October 29, 1998 the Portland Planning Authority approved the site plan for the salt shed and rooftop walkway at the Jetport.

The approval is based on the submitted site plan. If you need to make any modifications to the approved site plan, you must submit a revised site plan for staff review and approval.

Please note the following provisions and requirements for all site plan approvals:

1. A performance guarantee covering the site improvements as well as an inspection fee payment of 1.7% of the guarantee amount and 7 final sets of plans must be submitted to and approved by the Planning Division and Public Works prior to the release of the building permit. If you need to make any modifications to the approved site plan, you must submit a revised site plan for staff review and approval.
2. The site plan approval will be deemed to have expired unless work in the development has commenced within one (1) year of the approval or within a time period agreed upon in writing by the City and the applicant. Requests to extend approvals must be received before the expiration date.
3. A defect guarantee, consisting of 10% of the performance guarantee, must be posted before the performance guarantee will be released.
4. Prior to construction, a preconstruction meeting shall be held at the project site with the contractor, development review coordinator, Public Work's representative and owner to review the construction schedule and critical aspects of the site work. At that time, the site/building contractor shall provide three (3) copies of a detailed construction schedule to the attending City representatives. It shall be the contractor's responsibility to arrange a mutually agreeable time

O:\PLAN\CORRESP\SECRETAR\FORMS\SITEPLAN.WPD

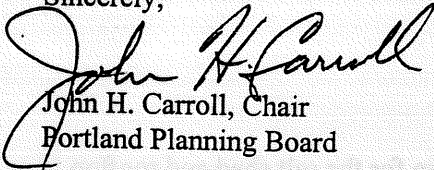
for the preconstruction meeting.

5. If work will occur within the public right-of-way such as utilities, curb, sidewalk and driveway construction, a street opening permit(s) is required for your site. Please contact Carol Merritt at 874-8300, ext. 8828. (Only excavators licensed by the City of Portland are eligible.)

The Development Review Coordinator (874-8300 ext. 8722) must be notified five (5) working days prior to date required for final site inspection. Please make allowances for completion of site plan requirements determined to be incomplete or defective during the inspection. This is essential as all site plan requirements must be completed and approved by the Development Review Coordinator prior to issuance of a Certificate of Occupancy. Please schedule any property closing with these requirements in mind.

If there are any questions, please contact the Planning Staff.

Sincerely,



John H. Carroll, Chair  
Portland Planning Board

cc: Joseph E. Gray, Jr., Director of Planning and Urban Development  
Alexander Jaegerman, Chief Planner  
Sarah Hopkins, Senior Planner  
P. Samuel Hoffses, Building Inspector  
Marge Schmuckal, Zoning Administrator  
Tony Lombardo, Project Engineer  
Development Review Coordinator  
William Bray, Director of Public Works  
Jeff Tarling, City Arborist  
Penny Littell, Associate Corporation Counsel  
Lt. Gaylen McDougall, Fire Prevention  
- Mary Gresik, Building Permit Secretary  
Kathleen Brown, Director of Economic Development  
Susan Doughty, Assessor's Office  
Approval Letter File







Mary this would be the appropriate address. - 5

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

19980144

I. D. Number

City of Portland/Airport Opera

Applicant

1001 Westbrook St, Portland, ME 04102

Applicant's Mailing Address

Arthur Sewall

Consultant/Agent

874-8876 774-7740

Applicant or Agent Daytime Telephone, Fax

10/21/98

Application Date

Salt Storage Building

Project Name/Description

Yellowbird Rd

Address of Proposed Site

204-A-001+

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) **Salt Storage**

2880 700+

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
- Historic Preservation
- DEP Local Certification
- Zoning Conditional Use (ZBA/PB)
- Zoning Variance
- Other

Fees Paid: Site Plan Subdivisio Engineer Review Date 10/21/98

Planning Approval Status:

Reviewer sarah

- Approved
- Approved w/Conditions See Attached
- Denied

Approval Date 10/29/98 Approval Expiration Extension to Additional Sheets Attached

OK to Issue Building Permi sarah hopkins 10/29/98 signature date

Performance Guarantee  Required\*  Not Required

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

<input type="checkbox"/> Performance Guarantee Accepted	date	amount	expiration date
<input type="checkbox"/> Inspection Fee Paid	date	amount	
<input type="checkbox"/> Building Permit Issue	date		
<input type="checkbox"/> Performance Guarantee Reduced	date	remaining balance	signature
<input type="checkbox"/> Temporary Certificate of Occupancy	date	<input type="checkbox"/> Conditions (See Attached)	
<input type="checkbox"/> Final Inspection	date	signature	
<input type="checkbox"/> Certificate Of Occupancy	date		
<input type="checkbox"/> Performance Guarantee Released	date	signature	
<input type="checkbox"/> Defect Guarantee Submitted	submitted date	amount	expiration date
<input type="checkbox"/> Defect Guarantee Released	date	signature	



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

19980144

I. D. Number

City of Portland/Airport Opera

10/21/98

Applicant

Application Date

1001 Westbrook St, Portland, ME 04102

Salt Storage Building

Applicant's Mailing Address

Project Name/Description

Arthur Sewall

Yellowbird Rd

Consultant/Agent

Address of Proposed Site

874-8876 774-7740

204-A-001+

Applicant or Agent Daytime Telephone, Fax

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) **Salt Storage**

2880 700+

Proposed Building square Feet or # of Units

Acreage of Site

Zoning

**Check Review Required:**

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

Fees Paid: Site Plan \_\_\_\_\_ Subdivision \_\_\_\_\_ Engineer Review \_\_\_\_\_ Date: 10/21/98

**DRC Approval Status:**

Reviewer sarah

- Approved  Approved w/Conditions  
see attache  Denied

Approval Date 10/29/98 Approval Expiration \_\_\_\_\_ Extension to \_\_\_\_\_  Additional Sheets Attached

Condition Compliance sarah 10/29/98  
signature date

Performance Guarantee  Required\*  Not Required

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

<input type="checkbox"/> Performance Guarantee Accepted	_____	_____	_____
	date	amount	expiration date
<input type="checkbox"/> Inspection Fee Paid	_____	_____	
	date	amount	
<input type="checkbox"/> Building Permit	_____		
	date		
<input type="checkbox"/> Performance Guarantee Reduced	_____	_____	_____
	date	remaining balance	signature
<input type="checkbox"/> Temporary Certificate Of Occupancy	_____	<input type="checkbox"/> Conditions (See Attached)	
	date		
<input type="checkbox"/> Final Inspection	_____	_____	
	date	signature	
<input type="checkbox"/> Certificate Of Occupancy	_____		
	date		
<input type="checkbox"/> Performance Guarantee Released	_____	_____	
	date	signature	
<input type="checkbox"/> Defect Guarantee Submitted	_____	_____	_____
	submitted date	amount	expiration date
<input type="checkbox"/> Defect Guarantee Released	_____	_____	
	date	signature	

204-A-001  
# 98-1357

# PROJECT MANUAL

## PORTLAND INTERNATIONAL JETPORT SAND/SALT STORAGE FACILITY AND TERMINAL BUILDING ROOFTOP WALKWAY

CITY OF PORTLAND BID NO. 3199

Issued for Bid:  
October 18, 1998

Prepared for:  
City of Portland, ME

Phillip J. Doughty Associates — Architects  
364 U.S. Route One  
Falmouth, Maine 04105  
Tel: (207) 781-5346

JETPORT SAND/SALT STORAGE AND  
ROOFTOP WALKWAY

SECTION 05500

METAL FABRICATIONS  
(ROOFTOP WALKWAY)

PART 1 - GENERAL

1.01 RELATED DOCUMENTS:

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

1.02 DESCRIPTION OF WORK:

- A. Definition: Metal fabrications includes items made from iron, aluminum and steel shapes, plates bars, strips, tubes, pipes and castings which are not a part of structural steel or other metal systems specified elsewhere.
- B. Types of work in this section include metal fabrications for: (See structural drawings: Sand/Salt)
  - 1. Rough Hardware.
  - 2. Ladders.
  - 3. Loose bearing and leveling plates.
  - 4. Miscellaneous framing and supports.
  - 5. Miscellaneous steel trim.
  - 6. Steel angles.
  - 7. Structural steel tube sections and light beams (walkway).
- C. Structural steel is specified in another section within Division 5.

1.03 QUALITY ASSURANCE:

- A. Field Measurements: Take field measurements prior to preparation of shop drawings and fabrication, where possible. Do not delay job progress; allow for trimming and fitting where taking field measurements before fabrication might delay work.
- B. Shop Assembly: Preassemble items in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary to shipping and handling limitations. Clearly mark units for reassembly and coordinated installation.

1.04 SUBMITTALS:

- A. Product Data: Submit manufacturer's specifications, anchor details and installation instructions for products used in miscellaneous metal fabrications, including paint products and grout.
- B. Shop Drawings: Submit shop drawings for fabrication and erection of miscellaneous metal fabrications. Include plans, elevations and details of sections and connections. Show anchorage and accessory items. Provide templates for anchor and bolt installation by others.
  - 1. Where materials or fabrications are indicated to comply with certain requirements for design loadings, include structural computations, material properties and other information needed for structural analysis.
- C. Samples: Submit representative samples of materials and finished products as may be requested by Architect.



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PART 2 - PRODUCTS

2.01 MATERIALS:

A. Metals:

1. Metal Surfaces, General: For fabrication of miscellaneous metal work which will be exposed to view, use only materials which are smooth and free of surface blemishes including pitting, seam marks, roller marks, rolled trade names and roughness.
2. Steel Plates, Shapes and Bars: ASTM A 36.
3. Steel Bar Grating: ASTM A 569 or ASTM A 36.
4. Steel Tubing: Cold formed, ASTM A 500; or hot-rolled, ASTM A 501.
5. Structural Steel Sheet: Hot rolled, ASTM A 570; or cold-rolled ASTM A 611, Class 1; of grade required for design loading.
6. Galvanized Structural Steel Sheet: ASTM A 446, of grade required for design loading. Coating designation as indicated, or if not indicated, G90.
7. Steel Pipe: ASTM A 53; Type and grade (if applicable) as selected by fabricator and as required for design loading; black finish unless galvanized is indicated; standard weight (schedule 40), unless otherwise indicated.
8. Gray Iron Castings: ASTM A 48, Class 30.
9. Malleable Iron Castings: ASTM A 47, grade as selected by fabricator.
10. Brackets, flanges and Anchors: Cast or formed metal of the same type material and finish as supported rails, unless otherwise indicated.
11. Concrete Inserts (if any): Threaded or wedge type; galvanized ferrous castings, either malleable iron, ASTM A 47, or cast steel, ASTM A 27. Provide bolts, washers and shims as required, hot-dip galvanized, ASTM A 153.

B. Fasteners:

1. General: Provide zinc-coated fasteners for exterior use or where built into exterior walls. Provide stainless steel fasteners for use with aluminum. Select fasteners for the type, grade and class required.
2. Bolts and Nuts: Regular hexagon head type, ASTM A 307, Grade A galvanized),  $\frac{3}{8}\phi$
3. Lag Bolts: Square head type, FS FF-B-561.
4. Machine Screws: Cadmium plated steel, FS FF-S-92.
5. Wood Screws: Flat head carbon steel, FS FF-S-111.
6. Plain Washers: Round, carbon steel, FS FF-W-92.
7. Masonry Anchorage Devices: Expansion shields, FS-FF-S- 325.
8. Toggle Bolts: Tumble-wing type, FS FF-B-588, type, class and style as required.
9. Lock Washers: Helical spring type carbon steel, FS-FF- W-84.

G. Paint:

1. Metal Primer Paint: Tnemec 37-77 Chem-Prime over SSPC- SP6 - Commercial Blast surface preparation. Equal primers by DuPont Co. or Koppers Co. are acceptable.

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2. Primer selected must be compatible with finish coats of paint. Coordinate selection of metal primer with finish paint requirements specified in Division 9.
3. Galvanizing Repair Paint: High zinc dust content paint for regalvanizing welds in galvanized steel, complying with the Military Specifications MIL-P-21035 (Ships).

2.02 FABRICATION, GENERAL:

- A. Workmanship: Use materials of size and thickness indicated or, if not indicated, as required to produce strength and durability in finished product for use intended. Work to dimensions shown or accepted on shop drawings, using proven details of fabrication and support. Use type of materials shown or specified for various components of work.
- B. Form exposed work true to line and level with accurate angles and surfaces and straight sharp edges. Ease exposed edges to a radius of approximately 1/32" unless otherwise shown. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.
- C. Weld corners and seams continuously, complying with AWS recommendations. At exposed connections, grind exposed welds smooth and flush to match and blend with adjoining surfaces.
- D. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners wherever possible. Use exposed fasteners of type shown or, if not shown, Philip flat-head (countersunk) screws or bolts.
  1. Provide for anchorage of type shown, coordinated with supporting structure. Fabricate and space anchoring devices to provide adequate support for intended use.
  2. Cut reinforce, drill and tap miscellaneous metal work as indicated to receive finish hardware and similar items.
- E. Fabricate joints which will be exposed to weather in a manner to exclude water or provide weep holes where water may accumulate.

2.03 METAL FINISHES:

- A. General: Comply with NAAMM "Metal Finishes Manual" for recommendations and designations of finishes, except as otherwise indicated.
- B. Galvanized coatings on W 6x9 BMS and short columns through roof and (plates).
- C. Galvanizing (structural beams, short posts, and bolts):
  1. Provide a zinc coating for those items shown or specified to be galvanized, as follows:
    - a. ASTM A 153 for galvanizing iron and steel hardware.
    - b. ASTM A 123 for galvanizing rolled, pressed and forged steel shapes, plates, bars and strip 1/8" thick and heavier.
    - c. ASTM A 386 for galvanizing assembled steel products.

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D. Shop Painting:

1. Shop paint miscellaneous metal work, except members or portions of members to be embedded in concrete or masonry, surfaces and edges to be field welded, and galvanized surfaces, unless otherwise indicated.
2. Remove scale, rust and other deleterious materials before applying shop coat. Clean off heavy rust and loose mill scale in accordance with SSPC SP-2 "Hand Tool Cleaning" or SSPC SP-3 "Power Tool Cleaning", or SSPC SP-6 "Commercial Blast Cleaning".
3. Remove oil, grease and similar contaminants in accordance with SSPC SP-1 "Solvent Cleaning".
4. Immediately after surface preparation, brush or spray on primer in accordance with manufacturer's instructions, and at a rate to provide uniform dry film thickness of 2.5 to 3.0 mils for each coat. Use painting methods which will result in full coverage of joints, corners, edges and exposed surfaces.
5. Apply one shop coat to fabricated metal items, except apply 2 coats of paint to surfaces inaccessible after-assembly or erection. Change color of second coat to distinguish it from the first.

2.04 MISCELLANEOUS METAL FABRICATIONS:

A. Rough Hardware:

1. Furnish bent or otherwise custom fabricated bolts, plates, anchors, hangers, dowels and other miscellaneous steel and iron shapes as required for framing and supporting woodwork, and for anchoring or securing woodwork to concrete or other structures. Straight bolts and other stock rough hardware items are specified in Division 6 sections.
2. Fabricate items to sizes, shapes and dimensions required. Furnish malleable iron washers for heads and nuts which bear on wood structural connections; elsewhere, furnish steel washers.

B. Ladders (provide with OSHA approved cage construction. Prime and field paint.):

1. Fabricate ladders for the locations shown, with dimensions, spacing, details and anchorages as indicated. Comply with the requirements of ANSI A 14.3, except as otherwise indicated.
  - a. Unless otherwise shown, provide 1/2" x 3" continuous structural steel flat bar or 1/2" x 2- 1/2" x 2 1/2" aluminum angle side rails as indicated, spaced 18" apart.
  - b. Provide 3/4" square solid structural steel bar with abrasive filler rungs as indicated, spaced 12" o.c. Prefabricated rungs of steel or aluminum may be provided at Contractor's option.
2. Fit rungs in centerline of side rails, plug weld and grind smooth on outer rail faces.
3. Support each ladder at top and bottom and at intermediate points spaced not more than 4'-0" o.c. Use welded or bolted steel brackets, designed for adequate support and anchorage, and to hold the ladder clear of the wall surface with a minimum of 7" clearance from wall to centerline of rungs. Extend rails 42" above top rungs, and return rails to wall or structure unless other secure handholds are provided. If the adjacent structure does not extend above the top rung, gooseneck the extended rails back to the structure to provide secure ladder access.



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### C. Bearing Plates:

1. Provide bearing plates for steel items bearing on steel concrete construction, made flat, free from warps or twists, and of required thickness and bearing area. Drill plates to receive bolts and for grouting as required. Galvanize after fabrication. Fabricate plates as part of short and long columns.

### E. Miscellaneous Framing and Supports:

1. Provide miscellaneous steel framing and supports which are not a part of structural steel framework, as required to complete work.
  - a. Welding is acceptable as an alternative to bolting upon request.
2. Fabricate miscellaneous units to sizes, shapes and profiles shown, or, if not shown, of required dimensions to receive adjacent other work to be retained by framing. Except as otherwise shown, fabricate from structural steel shapes and plates and steel bars of welded construction using metered joints for field connection. Cut, drill and tap units to receive hardware and similar items.
3. Equip units with integrally welded anchors for casting into concrete or building into masonry. Furnish inserts if units must be installed after concrete is placed. (Expansion or epoxy bolts okay.)

### G. Steel Angles:

1. Provide structural steel angles of sizes shown for containment of grating.
2. Galvanize angles to be installed along edges of walkway.

## PART 3 - EXECUTION

### 3.01 PREPARATION:

- A. Coordinate and furnish anchorages, setting drawings, diagrams, templates, instructions, and directions for installation of anchorages, such as concrete inserts, sleeves, anchor bolts and miscellaneous items having integral anchors, which are to be embedded in concrete or masonry construction. Coordinate delivery of such items to project site.
- B. Field Measurements: Take field measurements prior to preparation of shop drawings and fabrication, where possible. Do not delay job progress; allow for adjustments during installation where taking field measurements before fabrication might delay work.

### 3.02 INSTALLATION:

#### A. General:

1. Fastening to In-Place Construction: Provide anchorage devices and fasteners where necessary for securing miscellaneous metal fabrications to in-place construction; including, threaded fasteners for concrete and masonry inserts, toggle bolts, through- bolts, lag bolts, wood screws and other connectors as required. Do not cut holes in insulated sidewalk any larger than required.
2. Cutting, Fitting and Placement: Perform cutting, drilling and fitting required for installation of miscellaneous metal fabrications. Set work accurately in location, alignment and elevation, plumb, level, true and free of rack, measured from established lines and levels. Provide temporary bracing or anchors in formwork for items which are to be built into concrete, masonry or similar construction.

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3. Fit exposed connections accurately together to form tight hairline joints. Weld connections which are not to be left as exposed joints, but cannot be shop welded because of shipping size limitations. Grind exposed joints smooth and touch-up shop paint coat. Do not weld, cut or abrade the surfaces of exterior units which have been hot-dip galvanized after fabrication, and are intended for bolted or screwed field connections.
  4. Field Welding: Comply with AWS Code for procedures of manual shielded metal-arc welding, appearance and quality of welds made, and methods used in correcting welding work.
  5. Corrosion Protection: Coat concealed surfaces of aluminum, which will be in contact with grout, concrete, masonry, wood, or dissimilar metals, with a heavy coat of bituminous paint.
- B. Fiberglass Grating by McNichols Co. or architect approved equal — design for 80 lb. p.s.f.loading, minimum 1 1/4" bars. Provide 3'-6" wide sections 2'0" long (other sizes only as required).

3.03 ADJUST AND CLEAN:

- A. Touch-Up Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with same material as used for shop painting. Apply by brush or spray to provide a minimum dry film thickness of 2.5 mils.
- B. For galvanized surfaces: Clean field welds, bolted connections and abraded areas and apply 2 coats of galvanizing repair paint.

END OF SECTION 05500

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SECTION 06100

ROUGH CARPENTRY

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specifications sections, apply to work of this Section.

1.02 DESCRIPTION OF WORK:

- A. Definition: Rough carpentry includes carpentry work not specified as part of other sections and which is generally not exposed, except as otherwise indicated. Type of work in this section include rough carpentry for:
1. Wood framing.
  2. Exterior textured finish system (including cement board).
  3. Wood grounds, nailers, blocking and sleepers.
  4. Wood furring.
  5. Sheathing.
- B. Finish carpentry is specified in another Division 6 Section.
- C. Fabricated wood trusses are specified in another Division 6 Section.

1.03 REFERENCES:

- A. Lumber Standards: Comply with PS 20 and with applicable rules of the respective grading and inspecting agencies for species and products indicated.
- B. Plywood Product Standards: Comply with PS 1 (ANSI A 199.1) or, for products not manufactured under PS 1 provisions, with applicable APA Performance Standard for type of panel indicated.

1.04 SUBMITTALS:

- A. Product Data: Submit manufacturer's specifications and installation instructions for materials listed below:
1. 3/4" Plywood roof sheathing.
- B. Material Certificates: Where dimensional lumber is provided to comply with minimum allowable unit stresses, submit listing of species and grade selected for each use, and submit evidence of compliance with specified requirements. Compliance may be in the form of a signed copy of applicable portion of lumber producer's grading rules showing design values for selected species and grade. Design values shall be as approved by the Board of Review of American Lumber Standards Committee.
- C. Wood Treatment Data: Submit treatment manufacturer's instructions for proper use of each type of treated material.
1. For Waterborne preservatives, include statement that moisture content of treated materials was reduced to a maximum of 15% prior to shipment to project site.



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2. Fire-Retardant Treatment: Include certification by treating plant that treatment material complies with governing ordinances and that treatment will not bleed through finished surfaces.

1.05 PRODUCT HANDLING:

- A. Delivery and Storage: Keep materials dry at all times. Protect against exposure to weather and contact with damp or wet surfaces. Stack lumber and plywood, and provide air circulation within stacks.

1.06 JOB CONDITIONS:

- A. Coordination: Fit carpentry work to other work; scribe and cope as required for accurate fit. Correlate location of furring, nailers, blocking, grounds and similar supports to allow proper attachment of other work.

PART 2 - PRODUCTS

2.01 MATERIALS:

A. Lumber, General:

1. Factory-mark each piece of lumber with type, grade, mill and grading agency, except omit marking from surfaces to be exposed with transparent finish or without finish.
2. Nominal sizes are indicated, except as shown by detail dimensions. Provide actual sizes as required by PS 20, for moisture content specified for each use.
  - a. Provide dressed lumber, S4S, unless otherwise indicated.
  - b. Provide seasoned lumber with 19% maximum moisture content at time of dressing.
3. Dimension Lumber (2" through 4" thick)
  - a. For light framing (less than 6" wide), provide "Stud" grade lumber for stud framing and "Standard" grade for other light framing, any species.
  - b. For structural framing (6" and wider and from 2" to 4" thick), provide any species and grade which meets or exceeds the following values:
    - 1) Fb (minimum extreme fiber stress in single member bending); 1000 psi.
    - 2) Fc (minimum compression parallel to grain); 725 psi.
    - 3) (minimum modulus of elasticity); 1,300,000.
4. Timber (5" and thicker): N/A
5. Miscellaneous Lumber:
  - a. Provide wood for support or attachment of other work including cant strips, bucks, nailers, blocking, furring, grounds, stripping and similar members. Provide lumber of sizes indicated, worked into shapes shown, and as follows:
    - 1) Moisture content: 15% maximum for lumber items not specified to receive wood preservative treatment.
  - b. Grade: No. 2 Dimension Spruce, Pine or Fir.

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B. Plywood:

1. Trademark: Identify each plywood panel with appropriate APA trademark.
2. Concealed Performance-Rated Plywood: Where plywood panels will be used for concealed types of applications, provide APA Performance-Rated Panels complying with requirements indicated for grade designation, span rating, exposure durability classification, edge detail (where applicable) and thickness.
  - a. Wall Sheathing: APA Rated Sheathing.
    - 1) Exposure Durability Classification: Exposure 1.
    - 2) Span Rating: 24/16 or as required to suit stud spacing indicated.
  - b. Roof Sheathing: APA Rated Sheathing.
    - 1) Exposure Durability Classification: Exposure 1.
    - 2) Span Rating: 24/16 or as required to suit truss spacing indicated.
3. Exposed Plywood: Where plywood will be exposed in finished work, provide the following:
4. Plywood Backing Panels: For mounting electrical or telephone equipment, provide fire-retardant treated plywood panels with grade designation, APA C-D Plugged/Int with exterior glue, in thickness indicated, or, if not otherwise indicated, not less than 1/2".

C. Durock exterior cement board (1/2" thick) for use as a base for exterior textured finish system:

1. Joint reinforcement: Durock 4" tape.
2. Screws: Durock 1 5/8" wood screws.
3. USG exterior base coat.
4. USG finish coat (ready mixed acrylic coating).
5. All wood to be pressure treated where shown.

Manufacturer United States Gypsum Company or architect approved equal.

D. Miscellaneous Materials:

1. Fasteners and Anchorages: Provide size, type, material and finish as indicated and as recommended by applicable standards, complying with applicable Federal Specifications for nails, staples, screws, bolts, nuts, washers and anchoring devices. Provide metal hangers and framing anchors of the size and type recommended by the manufacturer for each use including recommending nails.
  - a. Where rough carpentry work is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners and anchorages with a hot-dip zinc coating (ASTM A153).
2. Building Paper: Asphalt saturated felt, non-perforated, ASTM 226.

2.02 WOOD TREATMENT:

- A. Preservative Treatment: Where lumber or plywood is indicated treated, or is specified herein to be treated, comply with applicable requirements of AWPB Standards C2 (Lumber) and C9 (Plywood) and of AWPB Standards listed below. Mark each treated item with the AWPB Quality Mark Requirements.

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1. Treat members indicated on all six sides with a wood preservative such as "Cuprinol" as manufactured by Darworth Company, Avon, CT, "Woodlife" as manufactured by Roberts Consolidated Industries, City of Industry, CA. Preservative shall be air dried for not less than 24 hours to allow all solvents to dissipate. All sawn edges shall be treated before installation.
  - a. Wood cants, nailers, curbs, blocking, stripping and similar members in connection with roofing, flashing, vapor barriers and waterproofing.
  - b. Wood sills, sleepers, blocking, furring, stripping and similar concealed members in contact with masonry or concrete.
2. Pressure-treat the following with water-borne preservatives for ground contact use complying with AWPB LP-22.
  - a. Wood members in contact with ground.
3. Complete fabrication of treated items prior to treatment, where possible. If cut after treatment, coat cut surfaces with heavy brush coat of same chemical used for treatment. Inspect each piece of lumber or plywood after drying and discard damaged or defective pieces.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. General

1. Discard units of material with defects which might impair quality of work, and units which are too small to fabricate work with minimum joints or optimum joint arrangement.
2. Set carpentry work accurately to required levels and lines, with members plumb and true and accurately cut and fitted.
3. Securely attach carpentry work to substrate by anchoring and fastening as shown and as required by recognized standards. Countersink nail heads on exposed carpentry work and fill holes.
4. Use common wire nails, except as otherwise indicated. Use finishing nails for finish work. Select fasteners of size that will not penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting of wood; predrill as required.

B. Wood Grounds, Nailers, Blocking and Sleepers:

1. Provide wherever shown and where required for screeding or attachment of other work. Form to shapes as shown and cut as required for true line and level of work to be attached. Coordinate location with other work involved.
2. Attach to substrates as required to support applied loading. Countersink bolts and nuts flush with surfaces, unless otherwise shown. Build into masonry during installation of masonry work. Where possible, anchor to formwork before concrete placement.
3. Provide permanent grounds of dressed, preservative treated, key-bevelled lumber not less than 1-1/2" wide and of thickness required to bring face of ground to exact thickness of finish material involved. Remove temporary grounds when no longer required.



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C. Wood Furring:

1. Install plumb and level with closure strips at edges and openings. Shim with wood as required for tolerance of adjacent work.
  - a. Firestop furred spaces on walls at each floor level, with wood blocking or incombustible materials, accurately fitted to close furred spaces.

D. Wood Framing, General:

1. Provide framing members of sizes and on spacings shown, and frame openings as shown, or if not shown, comply with recommendations of "Manual for House Framing" of National Forest Products Association. Do not splice structural members between supports.
2. Anchor and nail as shown, and to comply with "Recommended Nailing Schedule" of "Manual for House Framing" and other recommendations of N.F.P.A.

E. Stud Framing:

1. General: Provide stud framing where shown. Unless otherwise shown, use 2" x 6" wood studs spaced 24" o.c. with 6" face perpendicular to direction of wall or partition. Provide single bottom plate and double-top plates 2" thick by width of studs; except single top plate may be used for non-load-bearing partitions. nail or anchor plates to supporting construction.
  - a. Provide shear wall construction where shown on structural drawings.

F. Joist Framing: N/A — See structural drawings for wood truss information.

G. Rafter and Ceiling Joist Framing: N/A

H. Installation of Plywood:

1. General: Comply with applicable recommendations contained in Form No. E 304, "APA Design/Construction Guide - Residential & Commercial," for types of plywood products and applications indicated.
2. Fastening Methods: Fasten panels as indicated below:
  - a. Sheathing: Nail to framing.
  - b. Plywood Backing Panels: Nail to supports.

I. Installation of textured Durock cement board and finish system.

1. Closely follow manufacturer's installation recommendations.

END OF SECTION 06100

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SECTION 07530

FLEXIBLE SHEET ROOFING SYSTEM

PART 1 - GENERAL

1.01 RELATED DOCUMENTS:

- A. Drawings and general provisions of the Contract, including General and supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.02 DESCRIPTION OF WORK:

- A. Extent of flexible sheet roofing is indicated on drawings and is hereby defined to include non-traffic-bearing sheet membrane system intended for weather exposure as primary roofing. Similar membranes concealed by a wearing surface are excluded by definition. Other roofing work involves replacing roofing membrane where removed to install walkway post supports.
- B. Aluminum coping and flashing is specified in Section 07600.
- C. Types of flexible sheet roofing specified in this section include the following:
  - 1. Mechanically fastened polyvinyl chloride (PVC) roof system.
- D. Roof insulation related to flexible sheet roofing is specified in this section.
- E. Related materials to complete the installation include but are not limited to the following:
  - 1. Wood nailers.
  - 2. Sealants and adhesives.

1.03 QUALITY ASSURANCE:

- A. Obtain primary flexible sheet roofing from a single manufacturer. Provide secondary materials as recommended by manufacturer of primary materials.
- B. Approved Manufacturers:
  - 1. Sarnafil
  - 2. Firestone
  - 3. Bond Cote (Provide project specific data).
  - 4. Fiber Tite
  - 5. Architect Approved Equal
    - a. Manufacturer shall send qualified technical representative to project site for purposes of advising Installer of procedures and precautions for use of roofing materials. Technical representative shall be present at pre-bid walk-through, at bid opening, visit the Project site twice with Architect, during construction and be present during final punch list efforts.
    - b. Installer: A firm with not less than 3 years of successful experience in installation of roofing systems similar to those required for this project and which is acceptable to or licensed by manufacturer of primary roofing materials.

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1. Work closely associated with flexible sheet roofing, including (but not limited to) insulation, flashing and counterflashing, nailers, expansion joints, and joint sealers, is to be performed by the Installer of flexible sheet roofing.
- c. Pre-Roofing Conference: Prior to installation of roofing and associated work, meet at project site with Installer, installer's project foreman, roofing manufacturer, installers of related work, and other entities concerned with roofing performance, including (where applicable) Owner's insurer, test agencies, governing authorities, Architect, and Owner. Record discussions and agreements and furnish copy to each participant. Provide at least 72 hours advance notice to participants prior to convening pre-roofing conference.
- d. Insurance Certification: Assist Owner in preparation and submittal of roof installation acceptance certification necessary in connection with fire and extended coverage insurance on roofing and associated work.
- e. Provided labeled materials that have been tested and approved by the following laboratories for the application indicated: (uplift in particular)
  1. Underwriters Laboratories (UL) Class A.
  2. Factory Mutual (FM) I-90.

1.04 SUBMITTALS:

- A. Product Data: Submit specifications, installation instructions and general recommendations from manufacturers of flexible sheet roofing system materials, for types of roofing required. Include data substantiating that materials comply with requirements.
- B. Shop Drawings: Submit complete shop drawings showing roof configuration and sheet layout, details at perimeter, and special conditions.
  1. **Submit a drawing showing the layout of new insulation board with fastening pattern indicated.**
  2. Submit a drawing showing flexible sheet layout and seam locations.  
  
Show mechanical fastening layout.
  3. Submit sample of fastener to be used for insulation attachment and for mechanical membrane fasteners.
  4. Samples of required insulation, sample of representative seam treatment.
- C. Pre-Roofing Conference: Submit copies of pre-roofing conference records.

1.05 JOB CONDITIONS:

- A. Weather: Proceed with roofing work when existing and forecasted weather conditions permit work to be performed in accordance with manufacturers' recommendations and warranty requirements.
- B. Substrate Conditions: Do not begin roofing installation until substrates have been inspected and are determined to be in satisfactory condition.
- C. Only as much of the new roofing as can be made weathertight each day, including all flashing work, shall be installed.



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- D. All work shall be scheduled and executed without exposing the interior building areas to the effects of inclement weather. The existing building and its contents shall be protected against all risks.
- E. **The roofing contractor shall run pullout tests of fasteners to verify condition of deck/substrate and confirm pullout values prior to installation of membrane.**
- F. All new and temporary construction, including equipment and accessories, shall be secured in such a manner, at all times, as to preclude wind blow-off or damage.
- G. Temporary waterstops shall be installed at the end of each day's work, and shall be removed before proceeding with the next day's work. Waterstops shall be compatible with all materials and shall not emit dangerous or incompatible fumes.
- H. Arrange work sequence to avoid use of newly-constructed roofing for storage, walking surface, and equipment movement. Where such access is absolutely required, the contractor shall provide all necessary protection and barriers to segregate the work area and to prevent damage to adjacent areas. Both plywood and polyester felt protection shall be provided for all new and existing roof areas which receive traffic during construction.
- I. Prior to and during application, all dirt, debris and dust shall be removed from surfaces either by vacuuming, sweeping, blowing with compressed air and/or similar methods.
- J. The contractor shall follow all safety regulations as recommended by OSHA.
- K. The contractor should take care during application and storage that overloading of deck and structure does not occur.
- L. Liquid materials such as solvents and adhesives shall be stored and used away from open flames, sparks and excessive heat.
- M. Contaminants, such as grease, fats, oils, and solvents, shall not be allowed to come into contact with the roofing membrane. Any such contact shall be reported to the Architect.
- N. If any unusual or concealed condition is discovered, notify the Owner and the Architect immediately in writing.
- O. Site clean-up, including both interior and exterior building areas which have been affected by construction, shall be completed to the Owner's satisfaction.

1.06 SPECIAL PROJECT WARRANTY:

- A. Provide written warranty, signed by Manufacturer of primary roofing materials and his authorized Installer, agreeing to replace/repair defective materials and workmanship. Repairs and replacements required because of events beyond Contractor's/Installer's/Manufacturer's control (and which exceed performance requirements) shall be completed by Contractor/Installer and paid by Owner.
  - 1. Warranty period of 10 years (materials and labor) after date of substantial completion.
  - 2. Provide a letter addressed to the Owner, which warranties the performance and compatibility of the insulation board with the single membrane system and its components.

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- B. **Roofing Contractor's Warranty:** The roofing contractor shall supply the owner with a minimum two-year workmanship warranty. In the event any work related to roofing, flashing, or metal work is found to be defective or otherwise not in accordance with the Contract Documents within two years of substantial completion, the roofing contractor shall remove and replace at not cost to the Owner. The Contractor's warranty shall not limit the Contractor's obligation with respect to State or Government laws or statutes.

PART 2 - PRODUCTS

2.01 GENERAL:

- A. **Compatibility:** Provide products which are recommended by manufacturer to be fully compatible with indicated substrates, or provide separation materials as required to eliminate contact between incompatible materials.

2.02 MECHANICALLY FASTENED PVC MEMBRANE:

- A. **Virgin polyvinyl chloride (PVC) with plasticizers and modifiers, formed into uniform flexible sheets, complying ASTM D4434, type to suit project.**
1. Thickness: .033 mils nominal (minimum allowable).
  2. Membrane reinforcing: Manufacturer's standard glass fiber or polyester scrim.
  3. Exposed face color: Gray or white. (Gray preferred.)
- B. As manufactured, PVC membrane for mechanically fastened application shall conform to the following physical properties:

Material Property	ASTM Test Method (Units)	Product Data
Thickness	D751	.033
Minimum Tensile	D751 (lbs.)	375x350
Minimum Strength	D882 (psi.)	8500
Minimum Elongation	D751 (%)	20 warp x 30 fill
Tear Strength (8"x10" sample)	D751 (lbs.)	100
Puncture	Fed. Std. 101B	250
Resistance	Method 2031 (lbs.)	
Water Vapor Transmission	E96 Proc. A (gm/m 2/24 hours)	1.3
Water Absorption 14 days @ 70F	D471 (%)	1
Maximum Dimensional Stability	D1204 (%)	0.5
Low Temperature Flexibility	D2136 (F)	-30
Factory Seam Strength	D751, Grab Method (% of Fabric Strength)	100
Shore "A"	D2240	80
Hardness Accelerated Weathering	Carbon Arc with water spray	5,000 hrs. No cracking, blistering, or crazing.
Hydrostatic Resistance	D751 Method A.Proc.1 (psi)	500
Wicking Test (Maximum)	U.S. Army Natick Test (inches)	1/8"
Flame Resistance	Mil-C-20696C	Pass
Oil Resistance	Mil-20696C	No swelling, cracking, or leaking
Hydrocarbon Resistance	Mil-C-20696C	No swelling, cracking, or leaking

\*Failure occurs through membrane rupture, not seam failure.

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2.04 MISCELLANEOUS MATERIALS FOR MEMBRANE ROOF SYSTEM:

- A. Sheet Seaming System: Manufacturer's standard materials for sealing lapped joints, including edge sealer to cover exposed spliced edges as recommended by manufacturer of membrane system.
- B. Cant Strips and Flashing Accessories: Types recommended by manufacturer of roofing material, provided at locations indicated and at locations recommended by manufacturer, and including adhesive tapes, flashing cements, and sealants.
- C. Membrane adhesive: As recommended by roofing manufacturer.

2.05 INSULATION

- A. General: Thickness shown are for thermal conductivity ((k-value) at 75 deg. F or 24 deg. C) specified for each material. Provide adjusted thicknesses as directed for equivalent use of material having different thermal conductivity; provide thickness as shown on drawings.
- B. Isocyanurate Plastic Board Insulation (tapered 1/8" per foot): Rigid closed-cell isocyanurate insulation panels consisting of glass-fiber reinforced polyisocyanurate foam plastic core between protective manufacturer's standard facings with an aged k-value of 0.14; min. 20 psi compressive strength; 1.5% max. water absorption; in manufacturer's standard lengths and widths with square edges and thicknesses indicated.
  - 1. FM approved for Class 1, I-90 assemblies with mechanically attached systems.
  - 2. UL Class A
  - 3. Density: ASTM D-1622: 2.0 pcf
  - 4. Compressible strength: ASTM D-1621: 18 psi
  - 5. Flame spread: ASTM E-84, 25 max.

2.06 MISCELLANEOUS INSULATION MATERIALS:

- A. Adhesive for Bonding Insulation: Type recommended by insulation manufacturer and complying with fire resistance requirements.
- B. Mastic Sealer: Type recommended by insulation manufacturer for bonding edge joints and filling voids.
- C. Mechanical Anchors: Corrosion-resistant type as recommended by insulation manufacturer for deck type and complying with fire and insurance uplift rating requirements.
  - 1. Provide system tested and approved for FM I-90 wind uplift rating.
  - 2. **Roofer to note salt-corrosive environment and consider fasteners in this regard.**

2.07 MISCELLANEOUS ROOFING ACCESSORIES:

- A. Flashing Material: Manufacturer's standard system compatible with flexible sheet membrane. Edge facia shall be pre-finished with integral layer of PVC for bonding membrane to its surface.
- B. Wood Nailers: Treated wood nailers shall be installed at the perimeter of the entire roof and around such other roof projections and penetrations as specified on drawings. Height of nailers as shown on details.
  - 1. Wood edge strips shall be treated for fire and rot resistance (wolmanized or osmose treated), #2 or better lumber. Creosote or asphaltic-treated lumber is not acceptable.

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2. Wood nailers shall conform to Factory Mutual's Loss Prevention Data 1-49.
3. All wood shall have a maximum moisture content of 19% by weight on a dry weight basis.

PART 3 - EXECUTION

3.01 PREPARATION OF SUBSTRATE:

- A. General: Comply with manufacturers' instructions for preparation of substrate to receive FSR system.
- B. Clean substrate of dust, debris, and other substances detrimental to FSR system work. Remove sharp projections.
- C. Install cant strips, flashings, and accessory items as shown, or as recommended by manufacturer if not shown.
- D. Prime substrate where recommended by manufacturer of materials being installed.

3.02 INSTALLATION:

- A. General: Comply with manufacturers' instructions, except where more stringent requirements are indicated.
- B. Insulation Installation:
  1. General: Extend insulation fill thickness over entire surface to be insulated, cutting and fitting tightly around obstructions. Form cant strips, crickets, saddles, and tapered areas with additional material as shown and as required for proper drainage of membrane.
    - a. Stagger joints in one direction for each course.
  2. Do not install more insulation each day than can be covered with membrane before end of day and before start of inclement weather.
  3. Coat edges of closed-cell (non-breathing) units with either adhesive or mastic sealer, and shove into place against installed units so that joints are filled and sealed, if recommended by manufacturer.
  4. Secure roof insulation to substrate with mechanical anchors of type and spacing indicated but in no case provide less than one anchor per 4 square feet of surface area or less anchorage than required by FM "Loss Prevention Data Sheet 1-28".
- C. MECHANICALLY FASTENED PVC MEMBRANE:
  1. General: Start installation only in the presence of manufacturer's technical representative.
  2. Cut sheets to maximum size possible, in order to minimize seams and to accommodate contours of roof deck and proper drainage across shingled laps of sheets.
  3. Install membrane by unrolling over prepared substrate, lapping adjoining sheets as recommended by manufacturer and bonding and sealing seams. Install mechanical fasteners at spacing recommended by manufacturer, covering with adhesive applied membrane so that no fasteners are exposed. Install flashings and counterflashings as shown or recommended by manufacturer.



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3.03 PROTECTION OF ROOFING:

1. Upon completion of roofing (including associated work), institute appropriate procedures for surveillance and protection of roofing during remainder of construction period. At end of construction period, or at time when remaining construction will in no way affect or endanger roofing, make a final inspection of roofing and prepare a written report to Owner, describing nature and extent of deterioration or damage found.
2. Prior to demobilization from the site, the work shall be reviewed by the Owner, Architect and Contractor. All defects noted, noncompliance with the specifications or the recommendations of roofing manufacturer shall be itemized in a punch list. These items must be corrected immediately by the contractor prior to demobilization to the satisfaction of the Owner, Architect and roof manufacturer.
3. All required warranties shall be submitted for approval prior to final payment.

END OF SECTION 07530

SECTION 08100

HOLLOW METAL DOORS AND FRAMES (WELDED ASSEMBLIES)

PART 1 - GENERAL

1.01 RELATED DOCUMENTS:

- A. Drawings and general provisions of the contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.02 DESCRIPTION OF WORK:

- A. This section requires that all labor, material, equipment and related items, necessary to supply hollow metal doors and frames for the project, shall be in accordance with the following specification.
- B. The material supplied shall meet all minimum requirements as set forth in the plans and specifications and shall include, but not be limited to furnishing the following:
  - 1. Hollow metal frames for doors and interior and exterior glazing frames where indicated on plans, schedules or details.
  - 2. Hollow metal doors for all openings where indicated on plans, schedules or details.

1.03 RELATED WORK:

- A. Glass and Glazing: Section 08800
- B. Painting: Section 09900
- C. Caulking and Sealants: Section 07900

1.04 QUALITY ASSURANCE:

- A. All material furnished and installed in accordance with this section of the specification shall meet the minimum requirements of size, design, gauges, insulating values and prime finish specified herein.
- B. The successful subcontractor shall furnish a letter signed by an officer or principal of the firm, stating that the materials being submitted for approval by the Architect, all of the requirements in Paragraph "A" above.

1.05 REFERENCES:

The following references apply to requirements for this project:

- A. NFPA 80 Standard for Fire Doors and Windows
- B. NFPA 101 Life Safety Code
- C. Steel Door Institute SDI-100
- D. All applicable Life Safety and Building Codes

1.06 SUBMITTALS:

- A. Product Data: Submit manufacturers technical product data substantiating that all components of the hollow metal doors and frames conform, in all respects, to the requirements of the plans and specifications.

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- B. Shop Drawings: Submit for approval six sets of shop drawings for hollow metal doors and frames. These shop drawings shall include individual listings and elevations of each door and frame opening, details of construction, joints, connections, label requirements, reinforcements, glazing, anchors and accessories and installation information.
- C. Samples: If requested by the Architect, the subcontractor shall supply the following samples for approval.
  - 1. Corner sample of hollow metal door.
  - 2. Corner sample of welded hollow metal door frame.

1.07 LABELING FOR FIRE RATED DOORS AND FRAMES:

- A. Where indicated, provide fire rated doors and frames in accordance with the requirements of NFPA 80 Fire Doors and Windows and for the rating listed on the door schedule.
- B. Doors and frames requirement a fire rating, shall bear a label indicating the name of the testing agency, the hourly or alphabetical rating, and the latchbolt throw required for locksets for all fire rated doors. Labels shall be affixed to the hinge edge of hollow metal (steel) doors. Labels for frames shall be affixed to the hinge rabbet of the frame.
- C. For fire rated doors requiring exit devices, the doors shall have a second label indicating that the door has been mortised and reinforced to accept the fire rated exit device.
- D. Only labels issued by testing laboratories having follow up service, such as Underwriters Laboratories or Warnock Hersey shall be considered acceptable for this project.

1.08 DELIVERY, STORAGE AND HANDLING:

- A. Doors and frames shall be delivered to the job site, and be received and stored there by the Contractor. The General Contractor shall provide storage space for set up and welded door frames. It shall also be the General Contractor's responsibility to provide enclosed covered storage space for hollow metal doors. The storage space shall be a dry, secure and lockable area.
- B. All doors and frames shall have the necessary anchors, plates, screws, bolts, and other fastenings required for accurate and correct installation.
- C. Doors and frames shall be clearly marked with the respective architectural door number identification shown on the Architect's door schedule.

1.09 WARRANTY:

- A. All material specified in this section of the specifications shall be guaranteed against defects in material and workmanship for a period of one (1) year from date of substantial completion.
- B. If any door or frame is found to be defective in material and workmanship, it shall be replaced by this subcontractor at no charge to the Owner. The cost for installation of the replacement item shall be the responsibility of the contractor if within the building guarantee period specified under General Conditions, or of the Owner if beyond the guarantee period.

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**1.10 APPROVAL OF SUBSTITUTION:**

- A. Manufacturers of doors and frames are listed herein to establish a standard of quality. If products other than those specifically identified herein are to be considered for use on this project, they must be submitted for approval by the construction manager at least ten (10) calendar days prior to receipt of bids by the Architect or construction manager.
- B. Requests for approval of substitutions shall be submitted in writing, to the Architect, and must be accompanied by catalog cuts, technical information and physical samples.
- C. Approval for substitutions will only be valid when issued to all bidders, by the Architect, or construction manager in the form of an addendum to this specification.

**PART 2 - PRODUCTS**

**2.01 HOLLOW METAL DOORS:**

- A. All hollow metal doors shall be equal to Steelcraft Manufacturing Series L28 or Type 707N as manufactured by Curries Manufacturing, Inc., Mason City, Iowa. All doors shall be 18 gauge cold rolled stretcher leveled steel, 1 2/3", full flush construction and reinforced, stiffened, insulated and sound deadened with a solid slab of expanded polystyrene foam permanently bonded to the inside face of each skin, or reinforced, stiffened and sound deadened with impregnated kraft honeycomb core laminated to the inside faces of the panels.
- B. The lock and hinge stiles shall be reinforced with one piece, full height, steel channel which shall be embossed, drilled and tapped for hinges and strike. The hinge and lock stile reinforcing channel shall be 14 gauge steel. As an alternate to the 14 gauge one piece reinforcing channel, the hinge reinforcement shall be 8 gauge extra heavy duty steel plate, drilled and tapped for 12-24 hinge screws.
- C. Top and bottom of door shall have 16 gauge steel inverted closure channels. The top channel shall have a steel closure cap to prevent water penetration to the door core.
- D. All doors shall be beveled 1/8" in 2" at lock edge. Square edge doors with hinge filler plates shall not be considered acceptable.
- E. All doors shall be bonderized and finished with one coat of baked-on primer. Exposed wipe coat galvanized finish shall not be considered acceptable.
- F. Reinforcing for door closer shall be 14 gauge steel.
- G. For all exterior doors, provide a certificate by the door manufacturer, verifying that the door has been tested and certified as having a maximum .24 "U" value, in accordance with ASTM C236. Doors with "U" values greater than .24 shall not be considered acceptable for exterior application.

**2.02 HOLLOW METAL FRAMES:**

- A. Hollow metal door and window frames shall have a 2" face and be as detailed on the architectural drawings. Exterior steel door and window frames shall be manufactured of 16 gauge cold rolled galvanized steel manufactured according to ASTM A525, A60, or G90 standard. Interior steel door and window frames shall be manufactured from 16 gauge cold rolled steel.
- B. All hollow metal frames shall be saw-mitred on a high speed metal cutting saw, corner joints shall be welded, filled and ground smooth to a perfectly smooth surface at all exposed faces.



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- C. All hollow metal frames shall be thoroughly degreased and cleaned of all imperfections before painting. All frames shall be bonderized and shall receive a factory coat of baked on rust inhibitive primer. Frames with an exposed Wipe Coat Galvanized Finish will not be considered acceptable for this project. Where welded joints at corners and mullions occur, the exposed steel shall be painted to match the prime coat finish of the frame. For galvanized frames, the exposed areas where zinc coating has been removed through grinding, shall be touched up with an approved zinc rich primer similar to ZRC or Galvvacon. The zinc rich primer shall then receive a prime coat finish.
- D. Frames shall be reinforced, drilled and tapped for all mortise hinges, locks and lock strikes. Frames shall be reinforced only for surface applied hardware, with drilling and tapping to be done in the field by this subcontractor. The hinge reinforcement for all frames shall be 7 gauge steel. The door closer reinforcing shall be 12 gauge steel. Lock strike reinforcing shall be 14 gauge.
- E. Provide metal plaster and mortar guards for all mortise cutouts.
- F. All three sided hollow metal door frames shall be set up and welded. The shall be shipped with a spreader bar welded to the base (bottom) of each frame for intransit support. Spreader bars shall be removed at the time of frame installation, and replaced by a metal or wood spreader carefully dimensioned to permit square, true installation.
  - 1. It shall be the installation contractors responsibility to obtain from the hollow metal door and frame supplier detailed information and rough opening dimensions for all sidelight, borrowed light and regular door frames.
- G. Provide masonry or stud anchors for installation of hollow metal (steel) frames in masonry or drywall. Where frames must be installed after masonry walls are in place, furnish anchors for existing masonry complete with anchor bolts of sufficient diameter and length to provide firm and secure fastening. Provide 3 jamb anchors and one base anchor for each jamb section of each frame.
- H. Frames for single doors shall have three rubber silencers on lock jamb stop. For pairs of doors, provide two rubber silencers at the head stop.
- I. The General Contractor shall be responsible for applying a bituminous coating to completely cover the inside throat surface of frame sections exposed to and installed in masonry walls.
- J. Weatherstripping, thresholds and door bottoms are specified under the finish hardware portion of this section of the specification.
- K. Hollow metal (steel) doors and frames manufactured by the following firms, meeting all requirements of this specifications, shall be considered acceptable for this project.
  - 1. Curries Mfg., Inc., Mason City, Iowa
  - 2. Steelcraft Mfg. Company, Cincinnati, Ohio
  - 3. Ceco Door Division, Milan, Tennessee
  - 4. Pioneer Industries, Carlstadt, New Jersey

PART 3 - EXECUTION

3.01 INSTALLATION OF HOLLOW METAL DOORS AND FRAMES:

- A. Hollow metal frames shall be set square, plumb and level. They shall have wood spreader bars wired to each jamb at the sill and at the vertical centerline of the frame opening. The spreader bars shall remain in place until the wall has completely enclosed frame perimeter.

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- B. Where frames are delivered to the site with metal spreader bards attached to the sill anchor, the spreader bars shall be removed and a wood spreader installed in its place in the manner noted above.
- C. Frame installation jacks of approved design may be used in lieu of wood spreader bards if approved by the Architect.
- D. It shall be this subcontractor's responsibility to install each frame in a workmanlike manner to permit the door to be installed with the nominal recommended clearance at jambs and head.
- E. Where galvanized coating has been removed, due to handling or grinding, touch up areas of hollow metal doors and frames with an approved zinc-rich primer.
- F. Protect hollow metal doors and frames during transportation and storage. Store undercover on wood blocking. Handle and store in a manner to prevent rusting and other damage. After installation, protect doors from damage during subsequent activity.
- G. Hollow metal doors shall be shimmed, as necessary, to allow equal clearance at hinge and lock stile, to permit symmetric appearance of clearance at hinge and lock stile and jamb. Clearance shall not exceed 3/16" at either jamb.

END OF SECTION 08100

SECTION 08330

ROLLING DOORS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. All of the contract documents, including General and Supplementary Conditions, and Division 1 General Requirements, apply to the work of this section.

1.02 SUMMARY

- A. The work of this section includes rolling doors.
- B. Related sections: Other specification sections which directly relate to the work of this section include, but are not limited to, the following:
  - 1. Section 08710 — Finish Hardware; key cylinders for locks.
  - 2. Section 16100 — Electrical; wiring (of door motors to panelboard) supplied by others.

1.03 SUBMITTALS

- A. Product Data: Submit manufacturer's product data and installation instructions for each type of rolling door. Include both published data and any specific data prepared for this project.
- B. Shop Drawings: Submit shop drawings for approval prior to fabrication. Include detailed plans, elevations, details of framing members, required clearances, anchors, and accessories. Include relationship with adjacent materials.

1.04 QUALITY ASSURANCE

- A. Manufacturer: Rolling doors shall be manufactured by a firm with a minimum of five years experience in the fabrication and installation of rolling doors. Manufacturers proposed for use, which are not named in these specifications, shall submit evidence of ability to meet performance and fabrication requirements specified, and include a list of five projects of similar design and complexity completed within the past five years.
- B. Installer: Installation of rolling doors shall be performed by an authorized representative of the manufacturer.
- C. Single-Source Responsibility: Provide doors, guides, motors, and related primary components from one manufacturer for each type of door. Provide secondary components from source acceptable to manufacturer of primary components.
- D. Pre-installation Conference: Schedule and convene a pre-installation conference just prior to commencement of field operations, to establish procedures to maintain optimum working conditions and to coordinate this work with related and adjacent work.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials and products in labeled protective packages. Store and handle in strict compliance with manufacturer's instructions and recommendations. Protect from damage from weather, excessive temperatures and construction operations.

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PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURER

- A. Provide rolling doors by Overhead Door Corporation, Pennsylvania Division; Telephone 800-929-2553 or 717-248-0131; Fax 800-929-1274.
- B. Or architect approved equal.

2.02 ROLLING DOORS

- A. Trade Reference: 620 Series Stormtite Service Doors by Overhead Door Corporation.
- B. Curtain: Interlocking roll-formed slats as specified following. Endlocks shall be attached to each end of alternate slats to prevent lateral movement.
  - 1. Flat profile type F-265 for doors up to 18'-4" wide, fabricated of 22 gauge galvanized steel.
- C. Finish:
  - 1. Galvanized Steel: Slats and hood shall be galvanized steel in accordance with ASTM A 525 and receive rust-inhibitive, roll coating process, including bonderizing, 0.2 mils thick baked-on prime paint, and 0.6 mils thick baked-on polyester white top coat. Non-galvanized exposed ferrous surfaces shall receive one coat of rust-inhibitive primer.
- D. Color: Gray polyester top coat.
- E. Windload Design: 20 PSF.
- F. Weatherseals: Vinyl bottom seal, exterior guide and internal hood seals and lintel weatherseal.
- G. Bottom Bar: Two galvanized steel angles.
- H. Guides: Roll-formed steel shapes attached to continuous steel wall angle for doors up to 15'-4" wide. Three structural steel angles with minimum thickness of 3/16" for doors over 15'-4" wide. Guides shall be weatherstripped with a vinyl weather seal at each jamb on the exterior curtain side.
- I. Brackets: Galvanized steel to support counterbalance, curtain and hood.
- J. Counterbalance: Helical torsion spring type designed for standard 20,000 cycle life design. Counterbalance shall be housed in a steel tube or pipe barrel, supporting the curtain with deflection limited to 0.03" per foot of span. Counterbalance shall be adjustable by means of an adjusting tension wheel.
- K. Hood: Galvanized steel hood with intermediate supports as required. Provide with internal hood baffle weatherseal.
- L. Electric Motor Operation: Provide UL listed electric operator, size as recommended by manufacturer to move door in either direction at not less than 2/3 foot nor more than one foot per second. Face of hood horizontal mounting.
  - 1. Sensing Edge Protection: Electric sensing edge.
  - 2. Operator Controls: Push-button and key operated control stations with open, close, stop button for surface mounting, for exterior location.



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M. Wall Mounting Condition: Face-of-wall mounting.

PART 3 EXECUTION

3.01 PREPARATION

- A. Take field dimensions and examine conditions of substrates, supports, and other conditions under which this work is to be performed. Do not proceed with work until unsatisfactory conditions are corrected.

3.02 INSTALLATION

- A. Strictly comply with manufacturer's installation instructions and recommendations. Coordinate installation with adjacent work to ensure proper clearances and allow for maintenance.
- B. Instruct owner's personnel in proper operating procedures and maintenance schedule.

3.03 ADJUSTING AND CLEANING

- A. Test rolling doors for proper operation and adjust as necessary to provide proper operation without binding or distortion.
- B. Touch-up damaged coatings and finishes and repair minor damage. Clean exposed surfaces using non-abrasive materials and methods recommended by manufacturer of material or product being cleaned.

END OF SECTION 08830