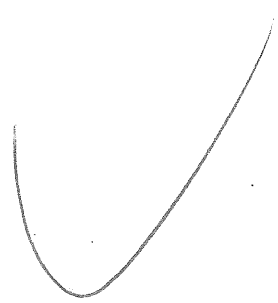


6el-F-3
20 Storer St.
Arts Ctr.-ph. 2
Waynflete



DEVELOPMENT REVIEW COORDINATOR
POST APPROVAL PROJECT CHECKLIST

Date: 12/19/08

Project Name: Waynelete Arts Center - Phase 2

Project Address: 20 Stoner Str.

Site Plan ID Number: 2007-0085

Planning Board/Authority Approval Date: 8/14/07

Site Plan Approval Date: 8/14/07

Performance Guarantee Accepted: 10/11/07

Inspection Fee Paid: 10/11/07

Amount of Disturbed Area in SF or Acres: < 1 Acre

MCGP/Chapter 500 Stormwater PBR: N/A

Plans/CADD Drawings Submitted: 10/15/07

Pre-Construction Meeting: 10/15/07

Conditions of Approval Met: _____

As-Builts Submitted: N/A

Public Services Sign Off: 9/30/09 Total

Certificate of Occupancy Memo Processed: _____

(Temporary or Permanent)

Temp CO 12/19/08 - Expires 6/1/09
Temp CO Extended - Expires 9/20/09
Permanent 10/1/09

Performance Guarantee to Defect Guarantee: _____

Reduction 9/24/08 \$210,352 remains
reduction 7/27/05 \$37,562.20 remains
10/1/09

Defect Guarantee Released: 9/16/10



PORTLAND, MAINE

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Planning and Urban Development
Penny St. Louis Littell, Director

Planning Division
Alexander Jaegerman, Director

TO: Ellen Sanborn, Finance Department
FROM: Alexander Jaegerman, Planning Division Director
DATE: September 16, 2010
SUBJECT: Request for release of Defect Guarantee
Waynefleete Arts Center – Phase 2, 20 Storer Street
(ID# 2007-0085 Lead CBL # 061 F 003001)

Please release the Defect Guarantee, Letter of Credit Account # #20002137 for the Waynefleete Arts Center, Phase 2 Project at 20 Storer Street.

Remaining Balance \$37,565.20

Approved:


Alexander Jaegerman
Planning Division Director

cc: Barbara Barhydt, Development Review Services Manager
Philip DiPierro, Development Review Coordinator
File: Urban Insight

TO: Inspections Department

FROM: Philip DiPierro, Development Review Coordinator

DATE: October 17, 2009

RE: C. of O. for #20 Storer Street, Waynelete Arts Center
(Id#2007-0085) (CBL 061 F 003001)

After visiting the site, I have the following comments:

Site work complete:

At this time, I recommend issuing the permanent Certificate of Occupancy.

Cc: Barbara Barhydt, Development Review Services Manager
Tammy Munson, Inspection Services Manager
File: Urban Insight

From: Lannie Dobson
To: C of O; mem
Date: 9/24/2009 9:36:07 AM
Subject: Certificate of Occupancy/Final Scheduled. Property Addr: 16 STORER ST Parcel ID: 061 F003001 Dist:

Date: 9/30/2009 Time: 6:00:00 AM

Note: David Simino Final for Waynflete Art Center 16 Storer St 650-7802 Property Addr: 16 STORER ST Parcel ID: 061 F003001

Application Type: Prmt
Application ID: 71184

Contact:
Phone1: Phone2:

Owner Name: WAYNFLETE SCHOOL THE
Owner Addr: 256 SPRING ST REAR
PORTLAND, ME 04102

- 9/30/09
- OK for final CO
 - Need as built
 - should caulk curb joints at entrance
 - OK to convert PG to DG

David @ strandwaterconstruction.com



Banknorth

Date: September 9, 2009

TD Bank, N.A.
17 New England Executive Park
1st Floor
Burlington, MA 01803

IRREVOCABLE STANDBY LETTER OF CREDIT NUMBER 20002137

BENEFICIARY

City of Portland
Director of Planning and Development
Attn: Lee Urban
389 Congress Street
Portland, ME 04101

CUSTOMER

The Waynflete School
360 Spring Street
Portland, ME 04102

Dear Beneficiary:

We hereby amend our Irrevocable Standby Letter of Credit Number **20002137**
Amendment Number 2:

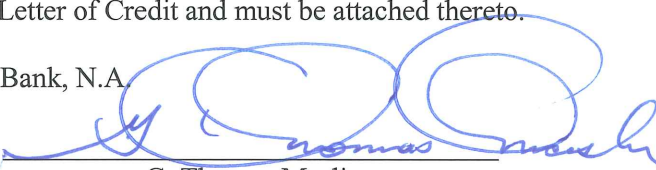
- This Irrevocable Standby Letter of Credit has been reduced by US\$ 172,786.80 to a new aggregate balance of US\$ 37,565.20. This reduction is in accordance with a letter received from the City of Portland dated July 31, 2009 and signed by Ellen Sanborn, Finance Director.

All demands for payment and all other communications to the Bank relative to this Letter of Credit shall be in writing and addressed and presented to TD Bank, N.A, International Banking, 17 New England Executive Park, 1st Floor, and Burlington, MA 01803.

All other terms and conditions remain unchanged. This amendment is considered an integral part of the Letter of Credit and must be attached thereto.

TD Bank, N.A.

By:



G. Thomas Maslin
Vice President

Its:

Please address all inquires related to the contents of this item to the above address, Attn: International Banking, Standby Letter of Credit Dept., or by calling: Tom Maslin @ (781) 229-7139 or John Amuzzini @ 781-229 7141. Our Fax # (781) 229-7127



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Planning and Urban Development
Penny St. Louis Littell, Director

Planning Division
Alexander Jaegerman, Director

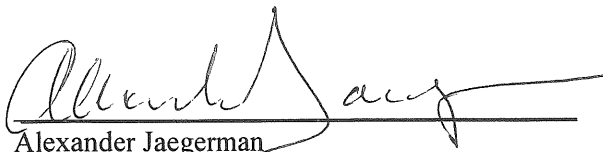
TO: Ellen Sanborn, Finance Department
FROM: Alexander Jaegerman, Planning Division Director
DATE: July 27, 2009
SUBJECT: Request for Reduction of Performance Guarantee
Waynflete School Arts Center, 360 Spring Street
(ID# 2007-0085 Lead CBL #061 F 011001)

Please reduce the letter of credit #20002137 for the Waynflete School Arts Center Project located at 20 Storer Street.

Original Amount	\$375,652.00
First Reduction	\$165,300.00
<u>This Reduction</u>	<u>\$172,786.80</u>
Remaining Balance	\$ 37,565.20

This is the second reduction for the project.

Approved:


Alexander Jaegerman
Planning Division Director

cc: Barbara Barhydt, Development Review Services Manager
Philip DiPierro, Development Review Coordinator
File: Urban Insight

TO: Inspections Department
FROM: Philip DiPierro, Development Review Coordinator
DATE: May 27, 2009
RE: C. of O. for #20 Storer Street, Waynelete Arts Center
(Id#2007-0085) (CBL 061 F 003001)

After visiting the site, I have the following comments:

Site work incomplete:

1. Finish grading, loam and seed,
2. Dumpster pad and fencing,
3. Surface coat paving and striping,
4. Landscaping,
5. Sidewalk and curbing,
6. Miscellaneous site work,

I anticipate this work can be completed by **September 20, 2009**.

At this time, I recommend extending the temporary **Certificate of Occupancy**.

Cc: Barbara Barhydt, Development Review Services Manager
Tammy Munson, Inspection Services Manager
File: Urban Insight

**Planning and Development Department
SUBDIVISION/SITE DEVELOPMENT**

COST ESTIMATE OF IMPROVEMENTS TO BE COVERED BY PERFORMANCE GUARANTEE

Date: 10-4-07

Name of Project: WAYNFLETE ARTS CENTER
 Address/Location: 360 SPRING ST
 Application ID #: # 200-0085
 Developer: WAYNFLETE SCHOOL
 Form of Performance Guarantee: LETTER OF CREDIT

*UPDATED
AUG 1, 2008

UPDATED
JUL 1, 2009*

Type of Development: Subdivision _____ Site Plan (Major/Minor) X

TO BE FILLED OUT BY THE APPLICANT:

Item	PUBLIC			PRIVATE		
	Quantity	Unit Cost	Subtotal	Quantity	Unit Cost	Subtotal
1. STREET/SIDEWALK						
Road/Parking Areas						\$ 5160
Curbing				108 TONS		\$ 10760
Sidewalks	150'		SEE SIDEWALK \$ 19650	175'		\$ 7000 DONE
Esplanades				SIDEWALK & GRANITE BLOCKS		\$ 94258 DONE
Monuments						
Street Lighting						
Street Opening Repairs						
Other						\$ 7750 - DONE
2. EARTH WORK						
Cut						\$ 34200 DONE
Fill						\$ 46250 DONE
3. SANITARY SEWER						
Manholes				3		\$ 9000 DONE
Piping				140'		\$ 5600 DONE
Connections						\$ 1200 DONE
Main Line Piping						
House Sewer Service Piping						
Pump Stations						
Other						\$ 600 DONE
4. WATER MAINS						
5. STORM DRAINAGE						
Manholes				1		\$ 2900 DONE
Catchbasins				4		\$ 7500 DONE
Piping				256'		\$ 7000 DONE
Detention Basin						\$ 5000 DONE
Stormwater Quality Units/PLAN CONTROL						\$ 27000 DONE
Other						\$ 4450 DONE

6. SITE LIGHTING	_____	_____	_____	1	_____	\$2950 DONE
7. EROSION CONTROL	_____	_____	_____	200'	_____	\$600 ✓ DONE
Silt Fence	_____	_____	_____	_____	_____	_____
Check Dams	_____	_____	_____	_____	_____	_____
Pipe Inlet/Outlet Protection	_____	_____	_____	_____	_____	_____
Level Lip Spreader	_____	_____	_____	_____	_____	_____
Slope Stabilization	_____	_____	_____	_____	_____	_____
Geotextile	_____	_____	_____	1000 SY	_____	\$2000 DONE.
Hay Bale Barriers	_____	_____	_____	_____	_____	_____
Catch Basin Inlet Protection	_____	_____	_____	_____	_____	_____
8. RECREATION AND OPEN SPACE AMENITIES	_____	_____	_____	_____	_____	\$6500 DONE
9. LANDSCAPING (Attach breakdown of plant materials, quantities, and unit costs)	_____	_____	_____	_____	_____	\$20117 DONE.
10. MISCELLANEOUS	_____	_____	_____	_____	_____	\$40767 DONE.
TOTAL:	<u>\$19650</u>			\$5160	\$356,002	190,102.00
GRAND TOTAL:	_____				\$375652.00	209752.00
					<u>\$24810.00</u>	

INSPECTION FEE (to be filled out by the City)

	<u>PUBLIC</u>	<u>PRIVATE</u>	<u>TOTAL</u>
A: 2.0% of totals:	_____	_____	_____
or			
B: Alternative Assessment:	_____	_____	_____
Assessed by:	_____	_____	_____
	(name)	(name)	

From: Lannie Dobson
To: C of O; David@stroudwaterconstruction.com; mc
Date: 5/21/2009 2:36:35 PM
Subject: Certificate of Occupancy/Final Scheduled. Property Addr: 16 STORER ST Parcel ID: 061 F003001 Dist:

Date: 5/27/2009 **Time:** 6:00:00 AM Someone will call on 5/27/2009 to set the time. Thank you, Lannie Dobson

Note: Hi, I have a temporary C of O which is contingent on 3 items - install exterior handrails, direct and label interior E-lights, install exterior

E-lights. These items have been completed and I would like to schedule a final inspection before our certificate expire June 1st. Please let me know when that can happen. 650-7802 Dave Property Addr: 16 STORER ST Parcel ID: 061 F003001

Application Type: Prmt
Application ID: 71184

Contact:
Phone1: Phone2:

Owner Name: WAYNFLETE SCHOOL THE
Owner Addr: 256 SPRING ST REAR
PORTLAND, ME 04102

TO: Inspections Department

FROM: Philip DiPierro, Development Review Coordinator

DATE: December 19, 2008

RE: C. of O. for #20 Storer Street, Waynelete Arts Center
(Id#2007-0085) (CBL 061 F 003001)

After visiting the site, I have the following comments:

Site work incomplete:

1. Finish grading, loam and seed,
2. Dumpster pad and fencing,
3. Surface coat paving and striping,
4. Landscaping,
5. Sidewalk and curbing,
6. Miscellaneous site work,

I anticipate this work can be completed by **June 1, 2009**.

At this time, **I recommend issuing a temporary Certificate of Occupancy.**

Cc: Barbara Barhydt, Development Review Services Manager
Tammy Munson, Inspection Services Manager
File: Urban Insight

From: Lannie Dobson
To: C of O; mc
Date: 12/15/2008 2:46:46 PM
Subject: Certificate of Occupancy/Final Scheduled. Property Addr: 16 STORER ST Parcel ID:
061 F003001 Dist:

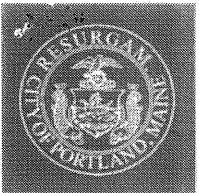
Date: 12/17/2008 Time: 6:00:00 AM

Note: 650-5441 Phil Property Addr: 16 STORER ST Parcel ID: 061 F003001

Application Type: Prmt
Application ID: 71184

Contact:
Phone1: Phone2:

Owner Name: WAYNFLETE SCHOOL THE
Owner Addr: 256 SPRING ST REAR
PORTLAND, ME 04102



PORTLAND MAINE

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Planning and Development Department
Lee D. Urban, Director

Planning Division
Alexander Jaegerman, Director

December 6, 2007

Waynflete School
Anne C. Hagstrom
Director of Finance and Operation
360 Spring Street
Portland, ME 04102-3643

RE: Waynflete Arts Center
CBL: 061 F011001
Application ID: #200-0085

Dear Ms. Hagstrom:

On August 14, 2007 the Portland Planning Board approved the addition to the Waynflete Arts Center, which includes building a three-story addition to the existing Davies Hall structure. The Planning Board approved the project with ten conditions: one of which pertains to the tree on the corner of Storer and Danforth Streets, which states:

Every measure recommended by the City Arborist shall be taken to save the existing Norway maple. If saving the tree is unsuccessful, then the applicant shall plant a 3" 'Autumn Blaze' Maple in the same vicinity along with additional 'Dwarf Korean' Lilacs, as found along the Danforth Street frontage, to continue around the corner of Storer and Danforth Streets. The bituminous 'Cape Cod' curbing shall then be replaced with granite curbing at the access to the parking lot.

dme
12/19/08

Based on a site visit by Jeff Tarling, City Arborist and Shukria Wiar, Planner on November 29, 2007, and letters provide by the Waynflete School, the existing Norway maple tree cannot withstand the root damage that will incur with the excavation so close to the stem of the tree. Due to this, the tree will need to removed and replaced according with the condition above.

If there are any questions regarding this, please contact Shukria Wiar, Planner at 756-8083.

Sincerely,

Alexander Jaegerman,
Planning Division Director

Electronic Distribution:

cc: Lee D. Urban, Planning and Development Department Director

Barbara Barhydt, Development Review Services Manager
Shukria Wiar, Planner/Senior Planner
Philip DiPierro, Development Review Coordinator
Marge Schmuckal, Zoning Administrator
Michael Bobinsky, Public Works Director
Jeanie Bourke, Inspections Division
Lisa Danforth, Administrative Assistant
Kathi Earley, Public Works
Bill Clark, Public works
Jim Carmody, Transportation Manager
Michael Farmer, Public Works
Jeff Tarling, City Arborist
Captain Greg Cass, Fire Prevention
Assessor's Office
Approval Letter File
Austin Smith, Scott Simmons Architects., 75 York Street, Portland, ME 04101

CITY OF PORTLAND, MAINE

PLANNING BOARD

August 28, 2007

Michael Patterson, Chair
Janice E. Tevanian, Vice Chair
Kevin Beal
Bill Hall
Lee Lowry III
Shalom Odokara
David Silk

Waynflete School
Anne C. Hagstrom
Director of Finance and Operation
360 Spring Street
Portland, ME 04102-3643

RE: Waynflete Arts Center
CBL: 061 F011001
Application ID: #200-0085

Dear Ms. Hagstorm:

On August 14, 2007 the Portland Planning Board considered the addition to the Waynflete Arts Center, which includes building a three-story addition to the existing Davies Hall structure. The School will add a theater/ auditorium along with eleven parking spaces. The Planning Board reviewed the proposal for conformance with the standards of Portland's Condition Use regulations and the Site Plan Ordinance. The Planning Board approved the project with the following motions and conditions.

Conditional Use

The Planning Board voted 5-1 (Beal oppose, Tevanian absent) that the proposed plans are in conformance with the Conditional Use Regulations of the Land Use Code, subject to the following condition:

1. The Planning Board finds the proposed conditional use for an expansion of institutional use does meet the standards of Section 14-474 and 14-88.

Waivers

The Planning Board voted unanimously (6-0, Tevanian absent) to waive Technical Standard, Section III 2 A (b), which requires a 24 foot wide driveway for two-way ingress and egress, to allow the access to be 20 feet clear width at the building line on Storer Street as shown on the plan Attachment 3d.

Site Plan

The Planning Board voted unanimously (6-0, Tevanian absent) that the plan is in conformance with the site plan standards of the Land Use Code, subject to the following conditions of approval:

1. A construction mobilization plan must be submitted for review and approval by the City prior to the issuance of a building permit or any site work taking place on the project.
2. The revised site plan drawings shall show the required sidewalk and curbing, which shall be in compliance with City's Sidewalk Policy.
3. At the time of the next Waynflete project subject to Planning Board review,

dave

*dave
10/15/07*

*N/A at
this time*

the parking lot to the south side of the facility may be required to be relocated based upon the conditions presented at that time.

N/A at this time

4. The applicant may use the Arts Center for non-Waynflete events that are noncommercial and which shall not exceed six (6) events during the calendar year.

5. The applicant shall revise the plans in accordance with Dan Goyette's memorandum dated 08.08.2007. Mr. Goyette shall evaluate and determine that proposed development will not exacerbate the surcharging problems of the combined sewers.

done

6. Every measure recommended by the City Arborist shall be taken to save the existing Norway maple. If saving the tree is unsuccessful, then the applicant shall plant a 3" 'Autumn Blaze' Maple in the same vicinity along with additional 'Dwarf Korean' Lilacs, as found along the Danforth Street frontage, to continue around the corner of Storer and Danforth Streets. The bituminous 'Cape Cod' curbing shall then be replaced with granite curbing at the access to the parking lot.

N/A at this time

7. The lighting pole fixtures shall have an upper lens shield to be in compliance with the City's lighting standards.

N/A at this time

8. The effectiveness of the headlights shield post construction shall be assessed and if for not suitable then appropriate increases to screen the headlights will be taken.

N/A at this time

9. With respect to the event parking, **the applicant will provide a written parking management plan prior to issuance of Certificate of Occupancy** and a performance report no less than 18 months to 2 years following Certificate of Occupancy to evaluate effectiveness of the parking management plan. Any identified deficiencies in parking will be rectified by an amendment to the parking management plan subject to approval by the Planning Authority. Prior to the Planning Authority approval, Waynflete shall provide a copy of the plan to the Western Promenade Neighborhood Association for input.

*done
11/17/08
See conditions*

The approval is based on the submitted plan and the findings related to subdivision and site plan standards as contained in Planning Board # 36-07, which is attached.

Please note the following provisions and requirements for all development review approvals:

1. The above approvals do not constitute approval of building plans, which must be reviewed and approved by the City of Portland's Inspection Division.
2. Final sets of plans shall be submitted digitally to the Planning Division, on a CD or DVD, in AutoCAD format (*.dwg), release AutoCAD 2005 or greater.
3. A performance guarantee covering the site improvements as well as an inspection fee payment of 2.0% of the guarantee amount must be submitted to and approved by the Planning Division and Public works prior to the recording of the subdivision plat. The subdivision approval is valid for three (3) years.

*done
11/15/08*

done

4. A defect guarantee, consisting of 10% of the performance guarantee, must be posted before the performance guarantee will be released.
5. Prior to construction, a pre-construction 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 for the pre-construction meeting.
6. 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.)
7. The Development Review Coordinator must be notified five (5) working days prior to date required for final site inspection. The Development Review Coordinator can be reached at the Planning Department at 874-8632. 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 regarding the Board's actions, please contact Shukria Wiar, Planner at 756-8083.

Sincerely,



Michael J. Patterson, Chair
Portland Planning Board

cc: Lee D. Urban, Planning and Development Department Director
Alexander Jaegerman, Planning Division Director
Barbara Barhydt, Development Review Services Manager
Shukria Wiar, Planner
Philip DiPierro, Development Review Coordinator
Marge Schmuckal, Zoning Administrator
Jeanie Bourke, Inspections Division
Michael Bobinsky, Public Works Director
Kathi Earley, Public Works
Bill Clark, Public works
Jim Carmody, Transportation Manager
Michael Farmer, Public Works
Leslie Kaynor, Public Works
Jeff Tarling, City Arborist
Captain Greg Cass, Fire Prevention
Assessor's Office
Approval Letter File
Austin Smith, Scott Simmons Architects., 75 York Street, Portland, ME 04101



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Planning & Urban Development Department
Penny St. Louis Littell, Director

Planning Division
Alexander Jaegerman, Director

November 17, 2008

Waynflete School
Anne C. Hagstrom
Director of Finance and Operation
360 Spring Street
Portland, ME 04102-3643

RE: Waynflete Arts Center – Events Parking Condition of Approval
CBL: 061 F011001
Application ID: #200-0085

Dear Ms. ~~Hagstrom~~ *Anne*:

On August 14, 2007 the Portland Planning Board considered the addition to the Waynflete Arts Center. The Planning Board reviewed the proposal for conformance with the standards of Portland's Condition Use regulations and the Site Plan Ordinance. The Planning Board approved the project with the following condition (among others):

Site Plan

The Planning Board voted unanimously (6-0, Tevanian absent) that the plan is in conformance with the site plan standards of the Land Use Code, subject to the following conditions of approval:

9. With respect to the event parking, the applicant will provide a written parking management plan prior to issuance of Certificate of Occupancy and a performance report no less than 18 months to 2 years following Certificate of Occupancy to evaluate effectiveness of the parking management plan. Any identified deficiencies in parking will be rectified by an amendment to the parking management plan subject to approval by the Planning Authority. Prior to the Planning Authority approval, Waynflete shall provide a copy of the plan to the Western Promenade Neighborhood Association for input.

We have reviewed the materials submitted by Waynflete pursuant to the first part of this condition of approval, including the *Waynflete School Transportation and Parking Management Plan*, dated September 18, 2008. You also sent an email message relating some additional steps Waynflete is taking as follows:

Events: we send email notices to parents before events to encourage carpooling/alternative transportation; for large night events, we clear



Banknorth

Date: October 2, 2008

TD Bank, N.A.
17 New England Executive Park
1st Floor
Burlington, MA 01803

IRREVOCABLE STANDBY LETTER OF CREDIT NUMBER 20002137

BENEFICIARY

City of Portland
Director of Planning and Development
Attn: Lee Urban
389 Congress Street
Portland, ME 04101

CUSTOMER

The Waynflete School
360 Spring Street
Portland, ME 04102

Dear Beneficiary:

We hereby amend our Irrevocable Standby Letter of Credit Number **20002137**
Amendment Number 1:

- This Irrevocable Standby Letter of Credit has been reduced by US\$ 165,300.00 to a new aggregate balance of US\$ 210,352.00. This reduction is in accordance with a letter received from the City of Portland dated September 29, 2008 and signed by Ellen Sanborn, Finance Director.
- All demands for payment and all other communications to the Bank relative to this Letter of Credit shall be in writing and addressed and presented to TD Bank, N.A, International Banking, 17 New England Executive Park, 1st Floor, and Burlington, MA 01803.

All other terms and conditions remain unchanged. This amendment is considered an integral part of the Letter of Credit and must be attached thereto.

TD Bank, N.A.

By: 

G. Thomas Maslin

Its:

Vice President

Please address all inquires related to the contents of this item to the above address, Attn: International Banking, Standby Letter of Credit Dept., or by calling: Tom Maslin @ (781) 229-7139, Mila Kaminsky @ (781) 229-7140 or John Amuzzini @ 781-229 7141. Our Fax # (781) 229-7127



PORTLAND MAINE

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Finance Department
Ellen Sanborn, Director

September 29, 2008

TD Banknorth, N.A.
17 New England Executive Park, 1st floor
Burlington, MA 01803

Re: Waynflete School Arts Center Phase II
Letter of Credit No. 20002137 dated October 5, 2007

This is to inform you that I am authorizing the reduction in the above-named letter of credit by the amount of \$165,300.00, which leaves a balance of \$210,352.00 remaining.

If you require any further information, please let me know.

Sincerely,

Ellen Sanborn
Finance Director

ES:mma

cc: ~~Barbara Barhydt~~, Development Review Services Manager
Philip DiPierro, Development Review Coordinator



PORTLAND, MAINE

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www.portlandmaine.gov

Planning and Urban Development
Penny St. Louis Littell, Director

Planning Division
Alexander Jaegerman, Director

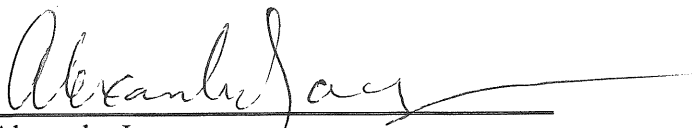
TO: Ellen Sanborn, Finance Department
FROM: Alexander Jaegerman, Planning Division Director
DATE: September 24, 2008
SUBJECT: Request for Reduction of Performance Guarantee
Waynflete School Arts Center, 360 Spring Street
(ID# 2007-0085 Lead CBL #061 F 011001)

Please reduce the letter of credit #20002137 for the Waynflete School Arts Center Project located at 20 Storer Street.

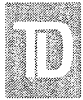
Original Amount	\$375,652.00
<u>This Reduction</u>	\$ 165,300.00
Remaining Balance	\$ 210,352.00

This is the first reduction for the project.

Approved:


Alexander Jaegerman
Planning Division Director

cc: Barbara Barhydt, Development Review Services Manager
Philip DiPierro, Development Review Coordinator
File: Urban Insight



Banknorth, N.A.

TD Banknorth, N.A.
17 New England Executive Park
First Floor
Burlington, MA 001803

**SITE PLAN/DIVISION
PERFORMANCE GUARANTEE
LETTER OF CREDIT No. 20002137**

IRREVOCABLE STANDBY LETTER OF CREDIT

Date of Issue: October 5, 2007
Date of Expiry: September 30, 2008
Letter of Credit Number 20002137

BENEFICIARY

City of Portland
Director of Planning and Development
Attn: Lee Urban
389 Congress Street
Portland, ME 04101

CUSTOMER

The Waynflete School
360 Spring Street
Portland, ME 04102

Dear Beneficiary,

RE: The Waynflete School Arts Center Phase II Site Plan, Portland, Maine

TD Banknorth, N.A. hereby issues its Irrevocable Letter of Credit for the account The Waynflete School. (hereinafter referred to as "Developer"), held for the exclusive benefit of the City of Portland, in the aggregate amount of Three Hundred Seventy Five Thousand Six Hundred Fifty Two and 00/100 United States Dollars (US\$ 375,652.00). These funds represent the estimated cost of installing site improvements as depicted on The Waynflete School Arts Center Phase II Site Plan, Portland, Maine site plan approved on August 14, 2007, as required under Portland Code of Ordinances Chapter 14 §§499, 499.5, 525 and Chapter 25 §§46 through 65.

This Letter of Credit is required under Portland Code of Ordinances Chapter 14 §§499, 499.5, 525 and Chapter 25 §46 through 65 and is intended to satisfy the Developer's obligation, under Portland Code of Ordinances Chapter 14 §§501, 502 and 525, to post a performance guarantee for the above referenced development.

The City, through its Director of Planning and Development and in his sole discretion, may draw on this Letter of Credit by presentation of a sight draft and the Letter of Credit and all amendments thereto, up to thirty (30) days before or sixty (60) days after its expiration, stating any one of the following:

PAGE 2 OF IRREVOCABLE STANDBY LETTER OF CREDIT NO. 20002137

1. the Developer has failed to satisfactorily complete the work on the improvements contained within The Waynflete School Arts Center Phase II Site Plan, Portland, Maine approval, dated August 14, 2007: or
2. the Developer has failed to deliver to the City a deed containing the metes and bounds description of any streets, easements or other improvements required to be deeded to the City; or
3. the Developer has failed to notify the City for inspections

In the event of TD Banknorth, N.A.'s dishonor of the City of Portland's sight draft, TD Banknorth, N.A. shall inform the City of Portland in writing of the reason or reasons thereof within three (3) working days of the dishonor.

After all underground work has been completed and inspected to the satisfaction of the Department of Public Works and Planning, including but not limited to sanitary sewers, storm drains, catch basins, manholes, electrical conduits, and other required improvements constructed chiefly below grade, the City of Portland Director of Planning and Development or its Director of Finance as provided in Chapter 14 §501 of the Portland Code of Ordinances, may authorize the bank, TD Banknorth, N.A., by written certification, to reduce the available amount of the escrowed money by a specified amount.

This performance guarantee shall expire on September 30, 2008 ("Expiration Date"). It is a condition of this Letter of Credit that it is deemed to be automatically extended without amendment for period(s) of one year each from the current Expiration Date hereof, or any future Expiration Date, unless within thirty (30) days prior to any expiration, the Bank notifies the City by certified mail (restricted delivery to Duane Kline, Director of Finance, City of Portland, 389 Congress Street, Portland, Maine 04101) that the Bank elects not to consider this Letter of Credit renewed for any such additional period.

In the event of such notice, the City, in its sole discretion, may draw hereunder by presentation of a sight draft drawn on the Bank, accompanied by this Letter of Credit and all amendments thereto, and a statement purportedly signed by the Director of Planning and Development, at Bank's offices located at TD Banknorth, N.A., 17 New England Executive Park, 1st Floor, Burlington, MA 01803 stating that:

this drawing results from notification that the Bank has elected not to renew its Letter of Credit No. 20002137

On its Expiration Date or on the date the City determines that all improvements guaranteed by this Letter of Credit are satisfactorily completed, this Performance Guarantee Letter of Credit shall be reduced by the City to ten (10) percent of its original amount and shall automatically convert to an Irrevocable Defect Letter of Credit. Written notice of such reduction shall be forwarded by the City to the Bank. The Defect Letter of Credit shall ensure the workmanship and durability of all materials used in the construction of The Waynflete School Arts Center Phase II Site Plan, Portland, Maine approval, dated August 14, 2007 as required by City Code §14-501, 525 and shall automatically expire one (1) year from the date of its creation ("Termination Date").


The City, through its Director of Planning and Development and in his sole discretion, may draw on the Defect Letter of Credit by presentation of a sight draft and this Letter of Credit and all amendments thereto, at Bank's offices located at TD Banknorth, N.A., 17 New England Executive Park, 1st Floor, Burlington, MA 01803, prior to the Termination Date, stating any one of the following:

1. the Developer has failed to complete any unfinished improvements;
or
2. the Developer has failed to correct any defects in workmanship; or
3. the Developer has failed to use durable materials in the construction and installation of improvements contained within The Waynflete School Arts Center Phase II Site Plan, Portland, Maine site improvements.

Sincerely,

TD Banknorth, N.A.

Date: October 5, 2007

By: 
Jonathan M. Campbell
Its: Vice President

Please address all inquires related to this item to the above address, Attn: International Banking, Standby Letter of Credit Dept., or by calling: Tom Maslin @ (781) 229-7139, Mila Kaminsky @ (781) 229-7140 or John Amuzzini @ 781-229 7141. Our Fax # (781) 229-7127

TRANSMITTAL LETTER

STROUDWATER CONSTRUCTION COMPANY, INC.
96 Ocean Street Unit 1
South Portland, ME 04106
TEL 207-767-9111 FAX 207-767-9110

PROJECT: Waynflete Arts Cneter Phase 2
360 Spring St
Portland, Maine 04102

PROJECT #

DATE: 10.4.07

TO: Wynflete School
360 Spring Street
Portland, Maine 04102

If enclosures are not as noted,
please inform us immediately.

ATTN: Anne Hagstrom

If checked below, please:
 Acknowledge receipt.
 Return enclosures to us.

WE TRANSMIT:

- herewith
 in accordance with your request

FOR YOUR:

- approval distribution to parties information
 review & comment record
 use

THE FOLLOWING:

- Drawings Shop Drawing Prints Samples
 Specifications Shop Drawing Reproducible Product Literature
 Change Order

COPIES	DATE	REV. #	DESCRIPTION	ACTION CODE
1	10.4.07		Cost estimate of improvments to be covered by perform. guarantee	

ACTION CODE A. Action indicated on item transmitted D. for signature and forwarding as noted below under REMARKS
B. No action required E. See REMARKS below
C. For signature and return to this office

REMARKS _____

COPIES TO: _____
(with enclosures)

BY: David A. Cimino

**Planning and Development Department
SUBDIVISION/SITE DEVELOPMENT**

COST ESTIMATE OF IMPROVEMENTS TO BE COVERED BY PERFORMANCE GUARANTEE

Date: 10-4-07

Name of Project: WAYNFLETE ARTS CENTER
 Address/Location: 360 SPRING ST
 Application ID #: # 200-0085
 Developer: WAYNFLETE SCHOOL
 Form of Performance Guarantee: LETTER OF CREDIT
 Type of Development: Subdivision _____ Site Plan (Major/Minor) X

TO BE FILLED OUT BY THE APPLICANT:

Item	PUBLIC			PRIVATE		
	Quantity	Unit Cost	Subtotal	Quantity	Unit Cost	Subtotal
1. STREET/SIDEWALK						
Road/Parking Areas				108 tons		\$ 10760
Curbing				175'		\$ 7000
Sidewalks	150'		SEE SIDEWALK \$ 19650	SIDEWALK # GRANITE BLOCKS		\$ 94258
Esplanades						
Monuments						
Street Lighting						
Street Opening Repairs						
Other						\$ 7750
2. EARTH WORK						
Cut						\$ 34200
Fill						\$ 46250
3. SANITARY SEWER						
Manholes				3		\$ 9000
Piping				140'		\$ 5600
Connections						\$ 1200
Main Line Piping						
House Sewer Service Piping						
Pump Stations						
Other						\$ 600
4. WATER MAINS						
5. STORM DRAINAGE						
Manholes				1		\$ 2500
Catchbasins				4		\$ 2500
Piping				256'		\$ 9000
Detention Basin						\$ 5000
Stormwater Quality Units / FLOW CONTROL						\$ 33000
Other						\$ 14150

6. SITE LIGHTING	_____	_____	_____	1	\$ 2950
7. EROSION CONTROL	_____	_____	_____		
Silt Fence	_____	_____	_____	200'	\$ 600
Check Dams	_____	_____	_____	_____	_____
Pipe Inlet/Outlet Protection	_____	_____	_____	_____	_____
Level Lip Spreader	_____	_____	_____	_____	_____
Slope Stabilization	_____	_____	_____	_____	_____
Geotextile	_____	_____	_____	1000 sq	\$ 2000
Hay Bale Barriers	_____	_____	_____	_____	_____
Catch Basin Inlet Protection	_____	_____	_____	_____	_____
8. RECREATION AND OPEN SPACE AMENITIES	_____	_____	_____	_____	\$ 6500
9. LANDSCAPING (Attach breakdown of plant materials, quantities, and unit costs)	_____	_____	_____	_____	\$ 20117
10. MISCELLANEOUS	_____	_____	_____	_____	\$ 40767
TOTAL:	\$ 19,650	_____	_____	\$ 356,002	_____
GRAND TOTAL:	_____	_____	_____	\$ 375,652.00	_____

INSPECTION FEE (to be filled out by the City)

	<u>PUBLIC</u>	<u>PRIVATE</u>	<u>TOTAL</u>
A: 2.0% of totals:	_____	_____	_____
<u>or</u>			
B: Alternative Assessment:	_____	_____	_____
Assessed by:	_____	_____	_____
	(name)	(name)	



AL LAPPIN CO., INC.
Landscape Planning & Consulting
14 Silver Brook Circle
SCARBOROUGH, ME 04074

(207) 839-7700
Fax (207) 839-0444

TO Stroudwater Construction
96 Ocean St.
South Portland ME 04106

LANDSCAPING PROPOSAL

Page of	164
PHONE	DATE
767-9111	8/19/2007
CONTRACTOR LICENSE NO.	JOB PHONE NO.
	Fax 767-9110
JOB NAME / NO. / LOCATION	
Waynefete School	
LANDSCAPE ARCHITECT	DATE OF PLANS
	8/19/2007
APPROXIMATE STARTING DATE	APPROXIMATE COMPLETION DATE

We hereby submit specifications and estimates for:

PLANTING OF TREES, SHRUBS, GROUND COVER, PERENNIALS AND BARK MULCH AS PER DRAWING AS OF 9-14-07

PLEASE NOTE THAT I WASN'T ABLE TO FIND SIZES FOR ACER RUBRUM KAPPICK, CORYLUS COLURNA, QUERCUS COCCINEA. IN BY BID I HAVE A ALLOWANCE FOR THESE TREES AND IS AS FOLLOWS

- 4 ACER RUBRUM KARPICK 4" @ \$ 900.00
- 1 CORYLUS COLURNA 4" \$ 900.00
- 1 QUERCUS COCCINEA 4" \$ 1000.00

WE PROPOSE hereby to furnish material and labor — complete in accordance with the above specifications, for the sum of:

~~Twenty Thousand One Hundred Sixteen and 53/100 Dollars~~

dollars (\$

20,116.53)

\$ 20,116.53

Authorized Signature

Note: This proposal may be withdrawn by us if not accepted within

30

days

All material is guaranteed to be as specified. All work to be completed in a professional manner according to standard practices. Any alteration or deviation from above specifications involving extra costs will be executed only upon written orders, and will become an extra charge over and above the estimate. All agreements contingent upon strikes, accidents or delays beyond our control. Owner to carry fire, tornado, and other necessary insurance. Our workers are fully covered by Worker's Compensation insurance.

You, the buyer, may cancel this transaction at any time prior to midnight of the third business day after the date of this transaction. Cancellation must be done in writing.

ACCEPTANCE OF PROPOSAL

The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payment will be made as outlined above.

Signature

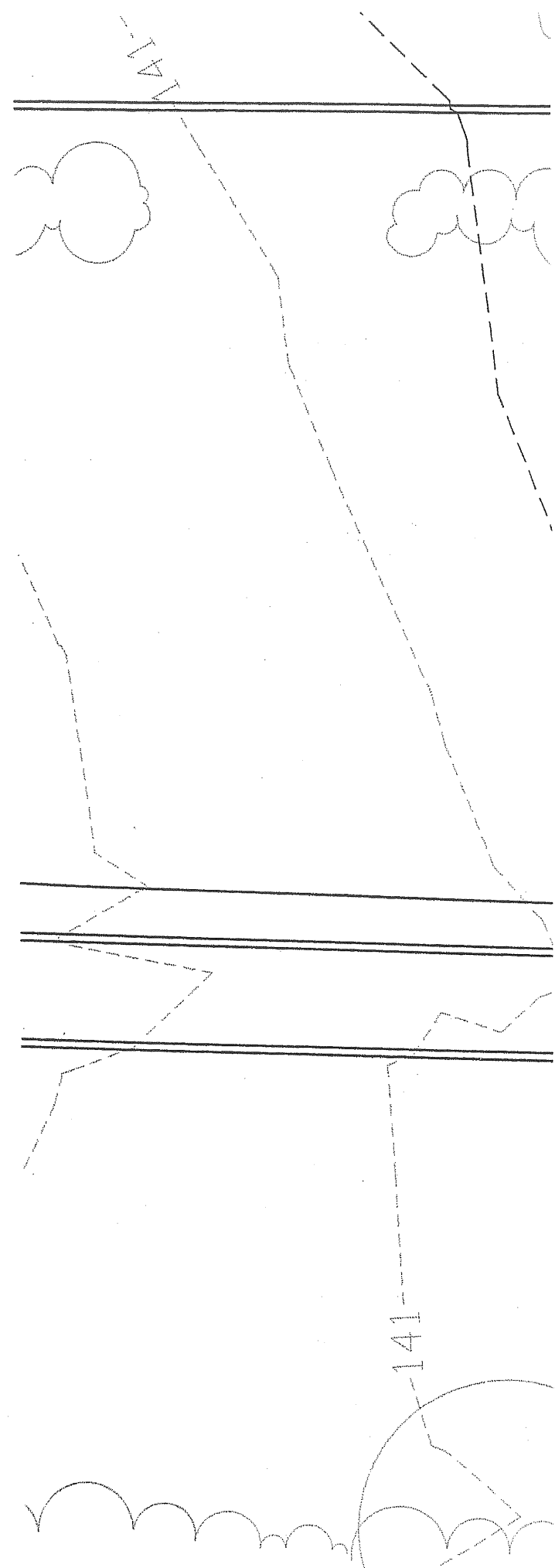
Date

Signature

Date

PLANT LIST

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	COMMENTS
TREES							
AG	1	ACER GINNALA	AMUR MAPLE	8 - 10' CLUMP	B&B	SEE PLAN	MULTITEMMED SPECIMEN
AR	4	ACER RUBRUM 'KARPICK'	KARPICK RED MAPLE	3.5 - 4" CAL	B&B	SEE PLAN	SINGLE LEADER, MATCHED
CC	1	CORYLUS COLURNA	TURKISH FILBERT	4" CAL	B&B	SEE PLAN	HEAVY SPECIMEN
QC	1	QUERCUS COCCINEA	SCARLET OAK	4" CAL	B&B	SEE PLAN	HEAVY SPECIMEN
SHRUBS / GROUNDCOVERS							
CA	1	CLETHRA ALNIFOLIA	SWEET PEPPERBUSH	3-4'	CONT.		
EF	257	EUONYMUS FORTUNEII	WINTERCREEPER EUONYMUS	2 GAL	CONT.		
RA	217	RHUS AROMATICA 'GRO-LO'	FRAGRANT SUMAC	1 GAL	CONT.		
XX	162	PERENNIAL - TBD		1 GAL	CONT.		



**Planning and Development Department
SUBDIVISION/SITE DEVELOPMENT**

COST ESTIMATE OF IMPROVEMENTS TO BE COVERED BY PERFORMANCE GUARANTEE

Date: 10-4-07

Name of Project: WAYNFLETE ARTS CENTER
 Address/Location: 360 SPRING ST
 Application ID #: # 200-0085
 Developer: WAYNFLETE SCHOOL
 Form of Performance Guarantee: LETTER OF CREDIT

Type of Development: Subdivision _____ Site Plan (Major/Minor) X

TO BE FILLED OUT BY THE APPLICANT:

Item	PUBLIC			PRIVATE		
	Quantity	Unit Cost	Subtotal	Quantity	Unit Cost	Subtotal
1. STREET/SIDEWALK						
Road/Parking Areas				102 TONS		\$ 10760
Curbing			SEE SIDEWALK	175'		\$ 7000
Sidewalks	150'		\$ 19650	SIDEWALK & GRANITE BLOCKS		\$ 94258
Esplanades						
Monuments						
Street Lighting						
Street Opening Repairs						
Other						\$ 7750
2. EARTH WORK						
Cut						\$ 34200 ✓
Fill						\$ 46250 ✓
3. SANITARY SEWER						
Manholes				3		\$ 9000 ✓
Piping				140'		\$ 5600 ✓
Connections						\$ 1200 ✓
Main Line Piping						
House Sewer Service Piping						
Pump Stations						
Other						\$ 600
4. WATER MAINS						
5. STORM DRAINAGE						
Manholes				1		\$ 2900 ✓
Catchbasins				4		\$ 2500 ✓
Piping				236'		\$ 9000 ✓
Detention Basin						\$ 5000 ✓
Stormwater Quality Units / FLOW CONTROL						\$ 33000 ✓
Other						\$ 14150 ✓

6. SITE LIGHTING	_____	_____	_____	1	\$ 2950
7. EROSION CONTROL	_____	_____	_____	200'	\$ 600 ✓
Silt Fence	_____	_____	_____	_____	_____
Check Dams	_____	_____	_____	_____	_____
Pipe Inlet/Outlet Protection	_____	_____	_____	_____	_____
Level Lip Spreader	_____	_____	_____	_____	_____
Slope Stabilization	_____	_____	_____	_____	_____
Geotextile	_____	_____	_____	10000 SY	\$ 2000 ✓
Hay Bale Barriers	_____	_____	_____	_____	_____
Catch Basin Inlet Protection	_____	_____	_____	_____	_____
8. RECREATION AND OPEN SPACE AMENITIES	_____	_____	_____	_____	\$ 6500
9. LANDSCAPING (Attach breakdown of plant materials, quantities, and unit costs)	_____	_____	_____	_____	\$ 20117
10. MISCELLANEOUS	_____	_____	_____	_____	\$ 40767
TOTAL:	\$ 19650	_____	_____	\$ 356,002	_____
GRAND TOTAL:	_____	_____	_____	\$ 375,652.00	_____

INSPECTION FEE (to be filled out by the City)

	<u>PUBLIC</u>	<u>PRIVATE</u>	<u>TOTAL</u>
A: 2.0% of totals:	_____	_____	_____
<u>or</u>			
B: Alternative Assessment:	_____	_____	_____
Assessed by:	_____	_____	_____
	(name)	(name)	

~~\$ 170,900~~
 Completed 165,300
 165,300
 Incomplete 210,352
 375,652

Planning and Development Department
SUBDIVISION/SITE DEVELOPMENT

COST ESTIMATE OF IMPROVEMENTS TO BE COVERED BY PERFORMANCE GUARANTEE

Date: 10-4-07

Name of Project: WAYNFLETE ARTS CENTER
 Address/Location: 360 SPRING ST
 Application ID #: # 200-0085
 Developer: WAYNFLETE SCHOOL
 Form of Performance Guarantee: LETTER OF CREDIT

UPDATED
AUG 1, 2008

Type of Development: Subdivision _____ Site Plan (Major/Minor) X

TO BE FILLED OUT BY THE APPLICANT:

Item	PUBLIC			PRIVATE		
	Quantity	Unit Cost	Subtotal	Quantity	Unit Cost	Subtotal
1. STREET/SIDEWALK						
Road/Parking Areas				108 TONS		\$ 10760
Curbing				175'		\$ 7000
Sidewalks	150'		SEE SIDEWALK \$ 19650	SIDEWALK & CURBING BLOCKS		\$ 94258
Esplanades						
Monuments						
Street Lighting						
Street Opening Repairs						
Other						\$ 7750
2. EARTH WORK						
Cur						\$ 34200 DONE
Fill						\$ 46250 DONE
3. SANITARY SEWER						
Manholes				3		\$ 9000 DONE
Piping				140'		\$ 5600 DONE
Connections						\$ 1200 DONE
Main Line Piping						
House Sewer Service Piping						
Pump Stations						
Other						\$ 600 DONE
4. WATER MAINS						
5. STORM DRAINAGE						
Manholes				1		\$ 2500 DONE
Catchbasins				4		\$ 2500 DONE
Piping				236'		\$ 9000 DONE
Detention Basin						\$ 5000 DONE
Stormwater Quality Units / FLOW CONTROL						\$ 33000 DONE
Other						\$ 4150 DONE

6. SITE LIGHTING	_____	_____	_____	_____	_____	\$ 2950
7. EROSION CONTROL	_____	_____	_____	_____	_____	_____
Silt Fence	_____	_____	_____	200	_____	\$ 500 ✓ Done
Check Dams	_____	_____	_____	_____	_____	_____
Pipe Inlet/Outlet Protection	_____	_____	_____	_____	_____	_____
Level Lip Spreader	_____	_____	_____	_____	_____	_____
Slope Stabilization	_____	_____	_____	_____	_____	_____
Geotextile	_____	_____	_____	1000 SY	_____	\$ 2000 Done.
Hay Bale Barriers	_____	_____	_____	_____	_____	_____
Catch Basin Inlet Protection	_____	_____	_____	_____	_____	_____
8. RECREATION AND OPEN SPACE AMENITIES	_____	_____	_____	_____	_____	\$ 6500
9. LANDSCAPING (Attach breakdown of plant materials, quantities, and unit costs)	_____	_____	_____	_____	_____	\$ 20117
10. MISCELLANEOUS	_____	_____	_____	_____	_____	\$ 40767
TOTAL:	\$ 19650	_____	_____	_____	_____	\$ 356,002 190,102. ⁰⁰
GRAND TOTAL:	_____	_____	_____	_____	_____	\$ 375,652.⁰⁰ 209,752. ⁰⁰

INSPECTION FEE (to be filled out by the City)

	PUBLIC	PRIVATE	TOTAL
A: 2.0% of totals:	_____	_____	_____
or			
B: Alternative Assessment:	_____	_____	_____
Assessed by:	_____	_____	_____
	(name)	(name)	

From: "Anne Hagstrom" <anne_hagstrom@waynflete.org>
To: <PD@portlandmaine.gov>
Date: 9/16/2008 3:51:48 PM
Subject: Waynflete Performance Guarantee

Hi Phil,

I am writing about Waynflete's performance guarantee for the new theater. The original value of the site improvements covered by the guarantee was \$375,652.

We have completed a number of the improvements. The value of site improvements still to be completed is \$209,752.

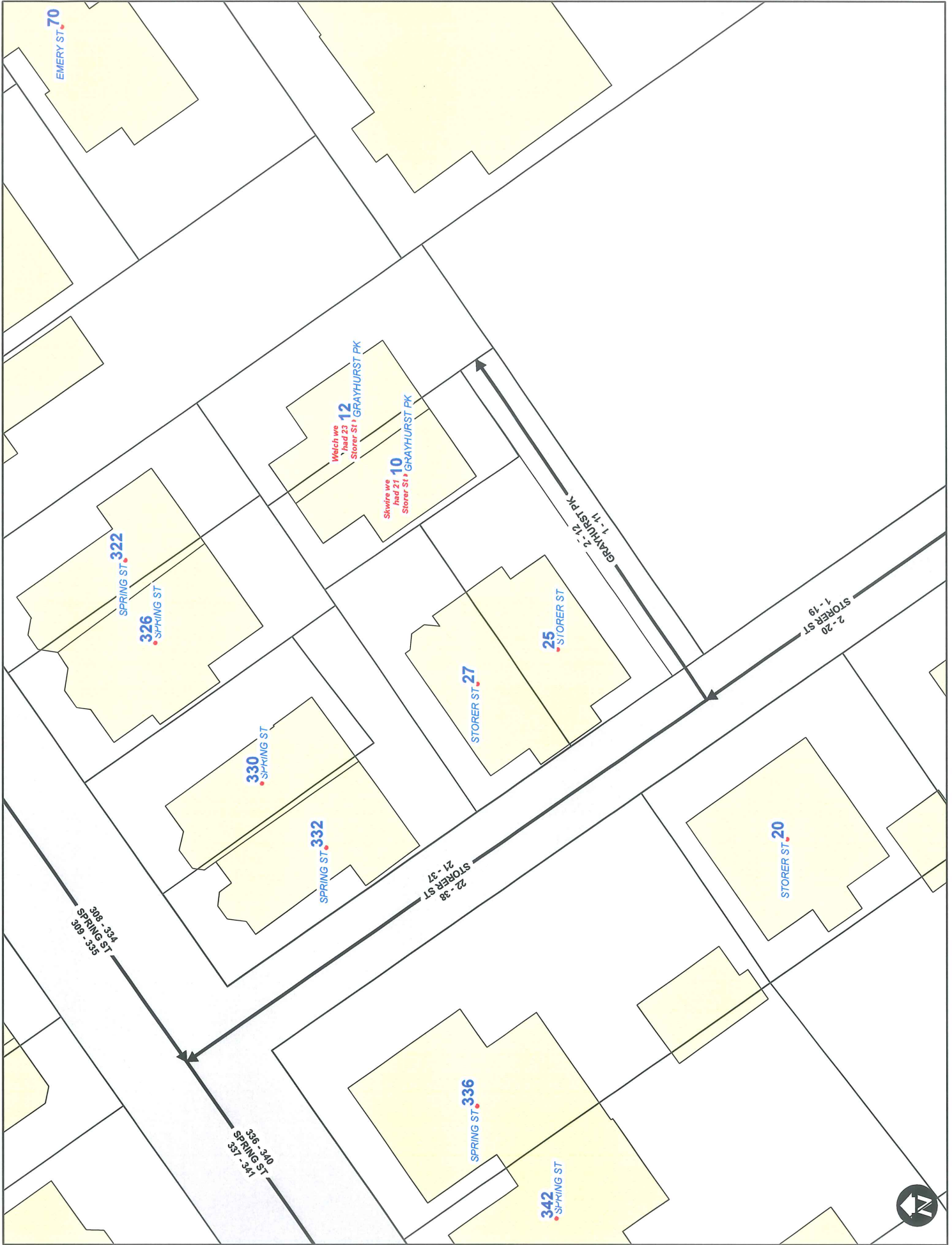
Can we reduce the amount of the guarantee? If so please let me know what you need for documentation; I have an updated cost estimate from the contractor I could provide.

Thank you for your attention to this.

Anne

Anne C. Hagstrom
Director of Finance and Operations
207-774-7863, ext. 227

CC: "Traci Dowd" <Traci_Dowd@waynflete.org>



EMERY ST. 70

326 SPRING ST

330 SHAKING ST

332 SPRING ST

27 STORER ST

25 STORER ST

20 STORER ST

336 SPRING ST

342 SPRING ST

12 Welch we had 23 Storer St + GRAYHURST PK

10 Skwire we had 21 Storer St + GRAYHURST PK

308-334 SPRING ST
309-335

336-340 SPRING ST
337-341

22-38 STORER ST
21-37

2-12 GRAYHURST PK
1-11

2-20 STORER ST
1-19



From: Shukria Wiar
To: Austin Smith; Deb Andrews
Date: 2/15/2008 2:05:59 PM
Subject: Re: Waynflete revisions

Hello Austin,

The Planning staff approves the proposed changes as described in your emailed dated 02.14.2008.

If you have any questions, please do not hesitate to let me know.

Shukria

>>> Austin Smith <austin@simonsarchitects.com> 02/14 1:50 PM >>>
Thursday morning, February 14, 2008
Waynflete Arts Center

Shukria & Deb:

During our design submission for LEED certification, some site lighting modifications have been suggested to satisfy the LEED credit for light trespass.

In submitting for this point, we found that our light levels towards Storer Street were too high.

We would like to adjust by eliminating one wall mounted light fixture and by moving the pole mounted fixture towards the parking lot.

Please note:

These are the same light fixtures submitted during the review process. Light levels at all property lines are within the city standards. (revised photometric plan for suggested locations are enclosed)

Please review and let us know your thoughts.

Austin Smith AIA RLA
Scott Simons Architects
207.772.4656

*
*

CC: Anne Hagstrom; David A. Cimino



636 Riverside St., P.O. Box 958, Portland, Maine 04104 (207) 797-7294

October 9, 2007

DAVID CIMINO
STROUDWATER CONSTRUCTION
96 OCEAN ST., UNIT #1
SO. PORTLAND, ME

Re: Norway Maple, Wayneflete School

Dear Mr. Cimino:

In regards to a large Norway Maple Tree located near the corner of Storer St. and Danforth St., it's understood from a construction standpoint, that it is inevitable that the tree will suffer some root damage. This tree has acclimated well to its site and already has grown roots, which accommodate a sidewalk and road. As much caution as possible should be used to minimize cutting the trees roots. Keep in mind that the roots of this tree extend approximately twice the distance from the drip edge of the canopy to the trunk. All areas in the root zone should be handled with care. Minimize heavy equipment traffic within the root zone.

The entire root system would benefit from a deep watering prior to excavation. It will be important to keep root zone damp during construction. Burlap can be draped over exposed roots and soaked down, to attempt to keep roots from drying out during construction.

When this trees roots are damaged during excavation, a proper pruning cut should be made to the roots when possible. This is simple. After the roots have been damaged, take a sharp saw, preferably not a power saw, and make a clean cut to the root. this minimizes the damaged surface area and expedites healing. It would be good to stay as far away from the main trunk as practically possible. there is no good reason to damage exposed roots and trunk. We recommend installing a barrier around the tree. This should be done prior to any construction to keep construction equipment from accidentally hitting the tree.

The safety of the tree must be considered when the new curb is installed. If large structural roots have to be severed, then the tree's stability will be jeopardized and could become a danger. The extent of the root cutting will not be known until excavation is undertaken. If large roots must be removed, then it would be recommended to remove the tree for public safety.

As soon as construction is complete, a layer of approximately 4" deep of bark mulch should be put down around base of tree and extending as far out as practical. Again the tree should be watered with a deep root soaking.

We can provide deep root fertilization before and after construction. This will provide necessary nutrients and water to help promote new root growth. I do not recommend significant pruning to live branches for several years after the construction. The tree would benefit from a crown cleaning now. That is removing dead, diseased, broken and interfering branches. That way the trees energy will be used in root re-growth and not in compartmentalization of decay and injuries elsewhere.

Feel free to call me with any questions.

Sincerely,

Joe Dumais
Consulting Arborist

"Growing Naturally...Since 1926"

Utility Line Clearance • Distribution Pole Line Construction • Utility Underground Service • Crane Service
Chemical Brush Control • Right of Way Clearing • Residential Tree & Spray Service
Christmas Decor • Landscape Installation • Lawn Care • Vegetation Management

*Call Whitney Tree for
your Tree Care &
Landscaping needs.*



*Member: Maine Arborist Assoc.
Tree Care Industries Assoc.
ISA Certified*

Serving Northern New England
199A Portland Road ☿ Route 100 ☿ Gray, Maine 04039
207-657-3256 ☿ 1-800-660-2456 ☿ Fax 207-657-3240
Web Site ☿ www.whitneytree.com
Email ☿ whitneytree@securespeed.us

September 20, 2007

Stroudwater Construction
96 Ocean St.
So. Portland, ME. 04106

Attn: David Cimino

Dear David:

You asked me to look at a Norway Maple on the corner of Storer & Danforth Street with regard to future construction for Wayne Fleet School.

Because of the amount of excavation being done in close proximity to the tree and subsequent loss of roots, I believe it would be best if the tree were removed.

Sincerely,


E.F. Armstrong Jr. MCA
Whitney Tree Service



PORTLAND MAINE

Strengthening a Remarkable City. Building a Community for Life • www.portlandmaine.gov

Planning and Development Department
Lee D. Urban, Director

Planning Division
Alexander Jaegerman, Director

October 16, 2007

Mr. David Cimino
Stroudwater Construction
96 Ocean Street
South Portland, Maine 04106

RE: 20 Storer Street, Waynflete Arts Center, (Project # 2007-0085), (CBL 061 F 011001)


Dear Mr. Cimino:

On August 14, 2007, the Portland Planning Board granted site plan approval for a project at 20 Storer Street. This letter shall serve as permission to start preliminary site work associated with this approved plan. The extent of work shall include only the following until the issuance of the foundation and/or building permits.

1. Removal of existing pavement.
2. Removal of loam on site.
3. Installation of the construction entrance.
4. Erosion and Sedimentation control shall be established prior to soil disturbance, and shall be done in accordance with Best Management Practices, Maine Department of Environmental Protection Technical and Design Standards and Guidelines.

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

Sincerely,


Alexander Jaegerman
Chief Planner

cc: Inspections Department
Barbara Barhydt, Development Review Services Manager
Marge Schmuckal, Zoning Administrator
Phil DiPierro, Development Review Coordinator
Penny Littell, Corporation Counsel
Approval Letter File



Scott J. Davis
Professional Engineer
License No. 10001
State of Maine

PROJECT
**WAYFLETE ARTS CENTER
PHASE TWO**
ADDITION RENOVATION
380 SPRING STREET
PORTLAND, ME

TITLE
**CONSTRUCTION
MOBILIZATION PLAN**

STATUS
MOBILIZATION PLAN
DATE: 1.2007

PROJECT NO.
380SPRING02

DATE: 1.2007

DESIGNED BY:
DW/ML

SCALE: 1" = 20' PL

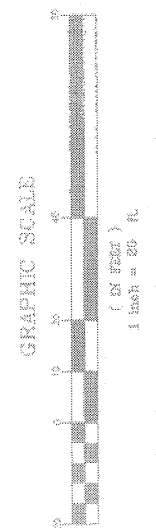
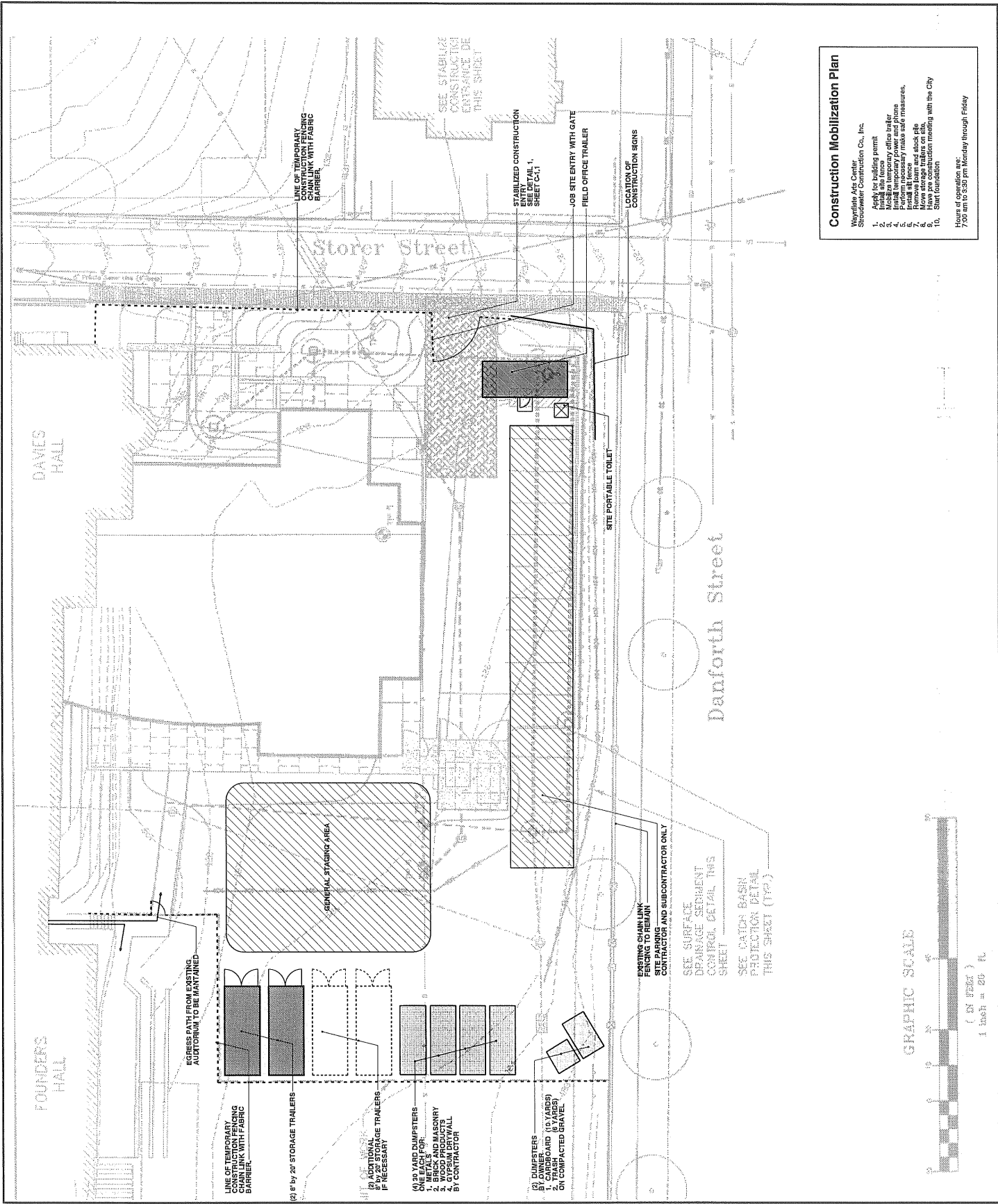
CM-1-0

Construction Mobilization Plan

Wayflete Arts Center
Stoddard Construction Co., Inc.

1. Apply for building permit
2. Mobilize temporary office trailer
3. Mobilize temporary storage trailers
4. Perform necessary traffic safety measures, break off fence
5. Mobilize storage trailers on site
6. Move storage trailers on site
7. Set construction

Hours of operation are:
7:00 am to 5:30 pm Monday through Friday



**Planning and Development Department
SUBDIVISION/SITE DEVELOPMENT**

COST ESTIMATE OF IMPROVEMENTS TO BE COVERED BY PERFORMANCE GUARANTEE

Date: 10-4-07

Name of Project: WAYNFLETE ARTS CENTER
 Address/Location: 360 SPRING ST
 Application ID #: # 200-0085
 Developer: WAYNFLETE SCHOOL
 Form of Performance Guarantee: LETTER OF CREDIT

Type of Development: Subdivision _____ Site Plan (Major/Minor) X

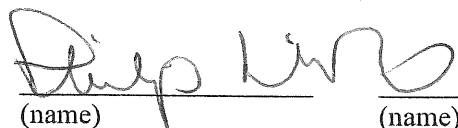
TO BE FILLED OUT BY THE APPLICANT:

Item	PUBLIC			PRIVATE		
	Quantity	Unit Cost	Subtotal	Quantity	Unit Cost	Subtotal
1. STREET/SIDEWALK						
Road/Parking Areas				102 TONS	\$99.60	\$10760
Curbing			SEE SIDEWALK	175'	\$40	\$7000
Sidewalks	150'	\$131	\$19650	SIDEWALK + GRANITE BLOCKS		\$94258
Esplanades						
Monuments						
Street Lighting						
Street Opening Repairs						
Other						\$7750
2. EARTH WORK						
Cut						\$34200
Fill						\$46250
3. SANITARY SEWER						
Manholes				3	\$3000	\$9000
Piping				140'	\$40	\$5600
Connections						\$1200
Main Line Piping						
House Sewer Service Piping						
Pump Stations						
Other						\$600
4. WATER MAINS						
5. STORM DRAINAGE						
Manholes				1	\$2800	\$2800
Catchbasins				4	\$625	\$2500
Piping				256'	\$35.16	\$9000
Detention Basin						\$5000
Stormwater Quality Units / FLOW CONTROL						\$37000
Other						\$4150

6. SITE LIGHTING	_____	_____	_____	1	_____	\$ 2950
7. EROSION CONTROL	_____	_____	_____		_____	
Silt Fence	_____	_____	_____	200'	_____	\$ 600
Check Dams	_____	_____	_____	_____	_____	_____
Pipe Inlet/Outlet Protection	_____	_____	_____	_____	_____	_____
Level Lip Spreader	_____	_____	_____	_____	_____	_____
Slope Stabilization	_____	_____	_____	_____	_____	_____
Geotextile	_____	_____	_____	1000 SY	_____	\$ 2000
Hay Bale Barriers	_____	_____	_____	_____	_____	_____
Catch Basin Inlet Protection	_____	_____	_____	_____	_____	_____
8. RECREATION AND OPEN SPACE AMENITIES	_____	_____	_____	_____	_____	\$ 6500
9. LANDSCAPING (Attach breakdown of plant materials, quantities, and unit costs)	_____	_____	_____	_____	_____	\$ 20117
10. MISCELLANEOUS	_____	_____	_____	_____	_____	\$ 40767
TOTAL:	_____	\$ 19,650	_____	_____	\$ 356,002	_____
GRAND TOTAL:	_____	_____	_____	_____	_____	\$ 375,652.00

\$ 375,652.00
 Deep King
 10/10/07
 OK

INSPECTION FEE (to be filled out by the City)

	<u>PUBLIC</u>	<u>PRIVATE</u>	<u>TOTAL</u>
A: 2.0% of totals:	\$ 393. ⁰⁰	\$ 7,120.04	\$ 7,513.04
or			
B: Alternative Assessment:	_____	_____	_____
Assessed by:	 _____ (name)	10/10/07 _____ (name)	_____



AL LAPPIN CO., INC.
Landscape Planning & Consulting
14 Silver Brook Circle
SCARBOROUGH, ME 04074

(207) 839-7700
Fax (207) 839-0444

TO Stroudwater Construction
96 Ocean St.
South Portland ME 04106

LANDSCAPING PROPOSAL

Page	of	164
PHONE	DATE	
767-9111	8/19/2007	
CONTRACTOR LICENSE NO.	JOB PHONE NO.	
	Fax 767-9110	
JOB NAME / NO. / LOCATION		
Waynefete School		
LANDSCAPE ARCHITECT	DATE OF PLANS	
	8/19/2007	
APPROXIMATE STARTING DATE	APPROXIMATE COMPLETION DATE	

We hereby submit specifications and estimates for:

PLANTING OF TREES, SHRUBS, GROUND COVER, PERENNIALS AND BARK MULCH AS PER DRAWING AS OF 9-14-07

PLEASE NOTE THAT I WASN'T ABLE TO FIND SIZES FOR ACER RUBRUM KARPICK, CORYLUS COLURNA, QUERCUS COCCINEA. IN BY BID I HAVE A ALLOWANCE FOR THESE TREES AND IS AS FOLLOWS

- 4 ACER RUBRUM KARPICK 4" @ \$ 900.00
- 1 CORYLUS COLURNA 4" \$ 900.00
- 1 QUERCUS COCCINEA 4" \$ 1000.00

WE PROPOSE hereby to furnish material and labor — complete in accordance with the above specifications, for the sum of:

~~Twenty Thousand One Hundred Sixteen and 53/100 Dollars~~ dollars (\$) 20,116.53
Payment to be made as follows: \$ 20,116.53

Authorized Signature *[Signature]*

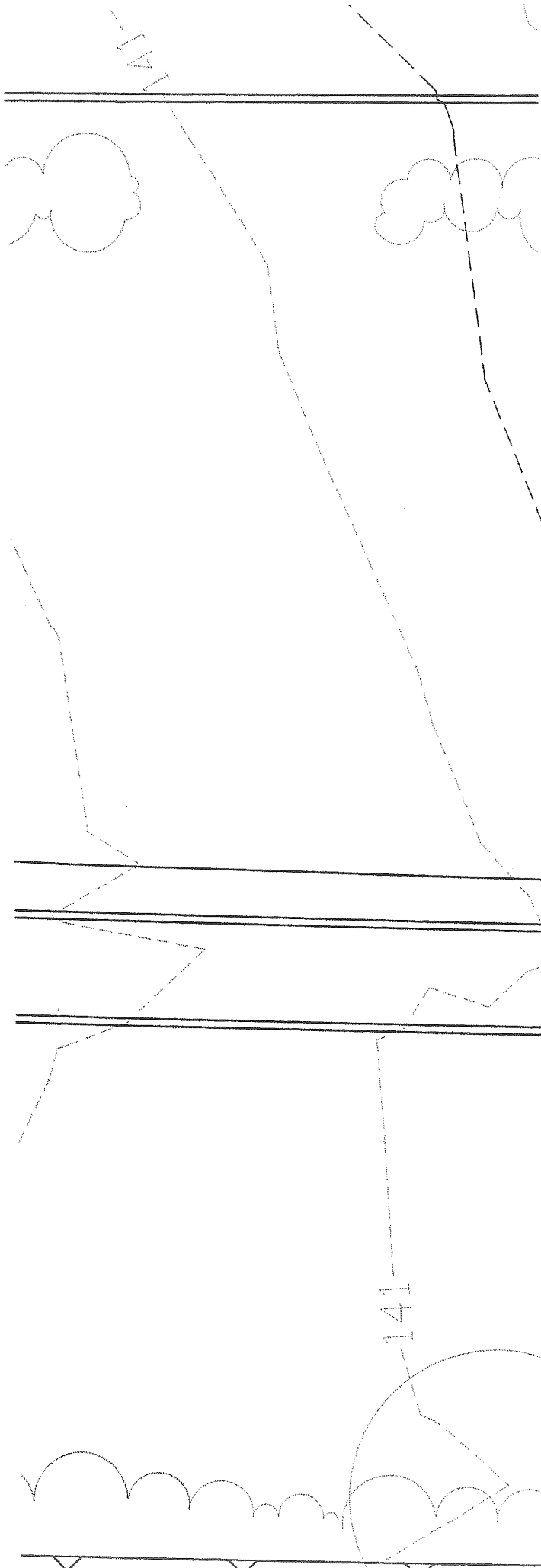
Note: This proposal may be withdrawn by us if not accepted within 30 days

All material is guaranteed to be as specified. All work to be completed in a professional manner according to standard practices. Any alteration or deviation from above specifications involving extra costs will be executed only upon written orders, and will become an extra charge over and above the estimate. All agreements contingent upon strikes, accidents or delays beyond our control. Owner to carry fire, tornado, and other necessary insurance. Our workers are fully covered by Worker's Compensation Insurance.

You, the buyer, may cancel this transaction at any time prior to midnight of the third business day after the date of this transaction. Cancellation must be done in writing.

ACCEPTANCE OF PROPOSAL - The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payment will be made as outlined above.

Signature _____ Date _____ Signature _____ Date _____



PLANT LIST

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	COMMENTS
TREES							
AG	1	ACER GINNALA	AMUR MAPLE	8 - 10' CLUMP	B&B	SEE PLAN	MULTITEMMED SPECIMEN
AR	4	ACER RUBRUM 'KARPICK'	KARPICK RED MAPLE	3.5 - 4" CAL	B&B	SEE PLAN	SINGLE LEADER, MATCHED
CC	1	CORYLUS COLURNA	TURKISH FILBERT	4" CAL	B&B	SEE PLAN	HEAVY SPECIMEN
QC	1	QUERCUS COCCINEA	SCARLET OAK	4" CAL	B&B	SEE PLAN	HEAVY SPECIMEN
SHRUBS / GROUNDCOVERS							
CA	1	CLETHRA ALNIFOLIA	SWEET PEPPERBUSH	3-4'	CONT.		
EF	257	EUONYMUS FORTUNEII	WINTERCREEPER EUONYMUS	2 GAL	CONT.		
RA	217	RHUS AROMATICA 'GRO-LO'	FRAGRANT SUMAC	1 GAL	CONT.		
XX	162	PERENNIAL - TBD		1 GAL	CONT.		

Construction Mobilization Plan

Waynflete Arts Center
Stroudwater Construction Co., Inc.

1. Apply for building permit
2. Install site fence
3. Mobilize temporary office trailer
4. Install temporary power and phone
5. Perform necessary make safe measures.
6. Install silt fence
7. Remove loam and stock pile
8. Move storage trailers on site.
9. Have pre construction meeting with the City
10. Start foundation

TRANSMITTAL LETTER

STROUDWATER CONSTRUCTION COMPANY, INC.
 96 Ocean Street Unit 1
 South Portland, ME 04106
 TEL 207-767-9111 FAX 207-767-9110

PROJECT: Waynflete Arts Cneter Phase 2
 360 Spring St
 Portland, Maine 04102

PROJECT #

DATE: 10.4.07

TO: Wynflete School
 360 Spring Street
 Portland, Maine 04102

If enclosures are not as noted,
 please inform us immediately.

ATTN: Anne Hagstrom

If checked below, please:
 Acknowledge receipt.
 Return enclosures to us.

WE TRANSMIT:

- herewith
 in accordance with your request _____

FOR YOUR:

- approval distribution to parties information
 review & comment record
 use _____

THE FOLLOWING:

- Drawings Shop Drawing Prints Samples
 Specifications Shop Drawing Reproducible Product Literature
 Change Order _____

COPIES	DATE	REV. #	DESCRIPTION	ACTION CODE
1	10.4.07		Cost estimate of improvments to be covered by perform. guarantee	

ACTION CODE A. Action indicated on item transmitted D. for signature and forwarding as noted below under REMARKS
 B. No action required E. See REMARKS below
 C. For signature and return to this office

REMARKS _____

COPIES TO:

(with enclosures)

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

BY: David A. Cimino

Stroudwater Construction Company, Inc.

96 Ocean Street
South Portland, Maine 04106

Tel. (207)767-9111

Fax (207)767-9110

Fax Transmittal Letter

Date: 10-16-07

To: PORTLAND PLANNING

Attention: PHIL D. PIERRO

Re: WAYNEFEST

Total Number of Pages (including this cover sheet) 2

From:

Item: Shop Drawings Prints Specifications

Letter Other

Purpose:

For Approval For Your Use

Review & Comment For Your Information

Other

STROUDWATER
Construction
 GENERAL CONTRACTOR

October 16, 2007

Philip DiPierro
 Development Review Coordinator
 City of Portland Planning Division
 389 Congress Street
 Portland, Maine 04101

Re: Waynflete Art Center
 16 Storer St.

Dear Mr. DiPierro,

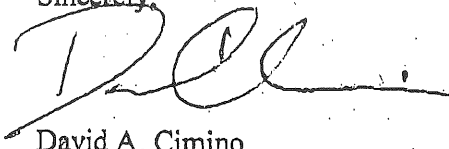
I would like to request that we be allowed to start the site work for the above referenced project.

The following is a list of the items I would like to do:

1. Install new and relocate existing on site private utilities- sewer, storm water
2. Strip site of loam
3. Excavate for foundation
4. Install erosion control
5. Install construction entrance
6. Remove site retaining walls

Please let me know as soon as possible if and when we can begin. Thank you for your consideration

Sincerely,



David A. Cimino

Building on Three Generations of Excellence

TABLE OF CONTENTS

PART A - BIDDING DOCUMENTS

By Others

PART B - CONTRACT FORMS

By Others

PART C - CONDITIONS OF THE CONTRACT

By Others

PART D - SPECIFICATIONS

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By Others

DIVISION 2 SITEWORK

02220 Selective Demolition and Removals 2

DIVISION 3 CONCRETE

03300 Cast-In-Place Concrete 3

DIVISION 4 MASONRY

04200 Unit Masonry System 4

DIVISION 5 METALS

05120 Structural Steel 3

05200 Steel Joists 2

05300 Metal Decking 2

05400 Cold Formed Metal Framing 3

05500 Metal Fabrications 5

DIVISION 6 WOOD AND PLASTIC

06100 Rough Carpentry 3

06200 Finish carpentry 2

06400 Architectural Woodwork 4

DIVISION 7 THERMAL AND MOISTURE PROTECTION

07110	Bituminous Dampproofing	2
07210	Building Insulation	2
07310	Shingles	2
07531	Adhered Single Ply Roofing	4
07620	Sheet Metal Flashing and Trim	2
07840	Firestopping	3
07900	Joint Sealants	3

DIVISION 8 DOORS AND WINDOWS

08110	Steel Doors and Frames	4
08210	Wood Doors	3
08410	Aluminum Entrances and Storefronts	4
08550	Wood Windows	3
08710	Door Hardware	9
08800	Glazing	3

DIVISION 9 FINISHES

09210	Gypsum Plaster	4
09250	Gypsum Board	3
09510	Suspended Acoustic Ceilings	2
09650	Resilient Flooring	3
09680	Carpet	2
09900	Paints and Coatings	5

DIVISION 10 SPECIALTIES

10100	Visual Display Boards	2
10800	Toilet and Bath Accessories	2
10950	Building Specialties	1

DIVISION 11 EQUIPMENT

Not Used

DIVISION 12 FURNISHINGS

12355	Laboratory Casework	6
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DIVISION 13 SPECIAL CONSTRUCTION

Not Used

DIVISION 14 CONVEYING SYSTEMS

14420	Wheelchair Lifts	4
14425	LU/LA Elevators	6

DIVISION 15 MECHANICAL

15000 Mechanical

DIVISION 16 ELECTRICAL

16000 Electrical

SECTION 01210

ALLOWANCES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Cash Allowances

1.2 DEFINITIONS

- A. Certain requirements of the work related to each allowance are shown and specified in contract documents. The allowance has been established in lieu of additional requirements for that work, and further requirements thereof (if any) will be issued by change order.

1.3 ADMINISTRATIVE REQUIREMENTS

- A. Selected materials and equipment are specified in the Contract Documents by allowances. In some cases, these allowances include installation. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is available for evaluation. If necessary, additional requirements will be issued by Change order.
- B. Include all allowances in the Contract Sum.
- C. Include overhead and profit expenses in the Contract Sum.
- D. Each allowance includes:
 1. The cost of the product to the Contractor or Subcontractor, less any applicable trade discounts.
 2. Delivered to the site.
 3. Applicable taxes.
 4. Handling at the site; including unloading, uncrating, and storage.
 5. Protection from the elements and from damage.
 6. Labor for installation and finishing.
 7. Other expenses required to complete the installation.

1.4 SELECTION AND PURCHASE:

- A. At earliest feasible date after award of Contract, advise Architect/Engineer of scheduled date when final selection and purchase of each product or system described by each allowance must be accomplished in order to avoid delays in performance of the work.
- B. Purchase products and systems as specifically selected (in writing) by the Architect/Engineer.

1.5 SCHEDULE OF CASH ALLOWANCES:

Allowance No. 1: Allow \$ 500.00 for providing exterior light fixtures.

END OF SECTION

SECTION 01230

ALTERNATES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Alternate submission procedures.
- B. Documentation of changes to Contract Sum/Price and Contract Time.

1.3 SUBMISSION REQUIREMENTS

- A. Submit Alternates identifying the effect on adjacent or related components.
- C. Coordinate related work and modify surrounding work to integrate the Work of each Alternate.

1.4 SCHEDULE OF ALTERNATES

A. Alternate No. 1 - Carpet:

Base Bid Item: Provide carpet as specified and indicated in the Room Finish Schedule.

Alternate Item: Provide carpet as specified in additional rooms as instructed on sheet A6.1,

Note: Finish Alternates.

B. Alternate No. 2 - Painting:

Base Bid Item: Provide painting for new work as indicated in the Room Finish Schedule and notes.

Alternate Item: Provide additional painting for existing work as instructed on sheet A6.1, Note: Finish Alternates.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

SECTION 02220

SELECTIVE DEMOLITION AND REMOVALS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Disconnecting, capping or removal of identified utilities.
- B. Removal of designated building equipment and fixtures.
- C. Removal of designated construction.
- D. Disposal of materials.
- E. Identification of utilities.

1.2 PROJECT RECORD DOCUMENTS

- A. Accurately record actual locations of capped utilities.

1.3 REGULATORY REQUIREMENTS

- A. Conform to applicable code for demolition work, safety of adjacent structures, dust control and disposal.
- B. Obtain required permits from authorities.
- C. Do not close or obstruct roadways, sidewalks or hydrants without permits.
- D. Do not disable or disrupt building fire or life safety systems without 3 days prior written notice to Owner.
- E. Conform to applicable regulatory procedures when discovering hazardous or contaminated materials.
 - 1. Should existing asbestos containing materials be encountered during any removal, alteration cutting or patching work, notify Architect immediately and do not proceed with further work involving asbestos.

1.4 SCHEDULING

- A. Schedule Work to coincide with new construction.
- B. Describe demolition removal procedures and schedule.

1.5 CONDITIONS

- A. Conduct demolition to minimize interference with adjacent and occupied building areas.
- B. Cease operations immediately if structure appears to be in danger and notify Architect/Engineer. Do not resume operations until directed.

PART 2 PRODUCTS

2.1 FILL MATERIALS

Not Used.

PART 3 EXECUTION

3.1 PREPARATION

- A. Provide, erect, and maintain temporary barriers and security devices.
- B. Protect existing landscaping materials, structures and materials that are not to be demolished.
- C. Prevent movement or settlement of adjacent structures. Provide bracing and shoring.
- D. Mark location of utilities.
- E. Erect and maintain weatherproof closures for exterior openings.
- F. Erect and maintain temporary partitions to prevent spread of dust, odors, and noise to permit continued Owner occupancy.
- G. Prevent movement of structure; provide bracing and shoring.
- H. Provide appropriate temporary signage including signage for exit or building egress.

3.2 DEMOLITION REQUIREMENTS

- A. Cease operations immediately if adjacent structures appear to be in danger. Notify Architect/Engineer. Do not resume operations until directed.
- B. Conduct operations with minimum interference to public or private accesses. Maintain egress and access at all times.
- C. Obtain written permission from adjacent property owners when demolition equipment will traverse, infringe upon or limit access to their property.
- D. Sprinkle Work with water to minimize dust. Provide hoses and water connections for this purpose.

3.3 DEMOLITION

- A. Disconnect, remove or cap, and identify designated utilities within demolition areas.
- B. Remove materials to be re-installed or retained in manner to prevent damage.
- C. Remove demolished materials from site.
- D. Demolish in an orderly and careful manner. Protect existing supporting structural members.
- E. Remove demolished materials from site except where specifically noted otherwise. Do not burn or bury materials on site.
- F. Remove materials as Work progresses. Upon completion of Work, leave areas in clean condition.
- G. Remove temporary Work.

END OF SECTION

- B. Dovetail Anchors: 24 gage x 1 inch, galvanized to ASTM A153 B2 finish.
 - 1. Duro-wall; D/A 100 with D/A 720-724
 - 2. Heckman; #100 dovetail with 3/16 inch, #103 triangular tie.
 - 3. Hohmann & Barnard; #305 with #315 tie.
 - 4. Weston; Dovetail with Vee tie.
 - 5. Wire-Bond; Dovetail with #2102 triangle tie.

2.4 FLASHINGS

- A. Copper/Kraft Paper Flashings: 5 oz/sq ft sheet copper bonded to fiber reinforced asphalt treated Kraft paper.
 - 1. Afco Flashings; Afco copper - fabric.
 - 2. York Manufacturing; York Copper Fabric Flashing.
 - 3. Sandell Manufacturing Company, Inc.; Copper Fabric.
- B. Plastic Cement: ASTM 4586, Type I.

2.5 ACCESSORIES

- A. Cavity Vents: Provide 1/4 inch round by 4 inch long medium density polyethylene plastic tubes to form vent holes at the tops of walls.
- B. Cavity Weeps: Flexible, polypropylene vent. Provide for weeps in CMU veneer masonry.
 - 1. Dur-O-Wall; D/A 1006 Cell Vent.
 - 2. Hohmann & Barnard; #342 Plastic weep hole.
- C. Cavity Drainage Material: Reticulated, nonabsorbent mesh, made from polypropylene strands and shaped to maintain drainage at weep holes without being clogged by mortar droppings.
 - 1. Mortar Net by Mortar Net USA, LTD.; Model MN10-2.
- D. Cleaning Solution: Non-acidic, not harmful to masonry work or adjacent materials.
- E. Damproofing: See Section 07160 - Bituminous Damproofing.
- F. Steel Drill Screws for Steel Studs: ASTM C954 except manufactured with hex washer head and neoprene washer, No. 10 (4.8 mm) diameter by length required to penetrate steel stud flange by not less than 3 exposed threads, and with corrosion protective coating meeting ASTM B117.
 - 1. Elco Industries, Inc.
 - 2. ITW-Buildex
- G. Building Paper: ASTM D226, No. 15 unperforated asphalt saturated felts as recommended for use in waterproofing and in construction of built-up roofs.

2.6 MANUFACTURERS - PREMIX MORTAR

- A. Blue Circle Cement, Inc.: Eaglebond High Strength Type "S".

2.7 MATERIALS

- A. Portland Cement: ASTM C150, Type I, except Type III may be used for cold weather construction. Provide natural or white cement as required to produce the required color.
- B. Mortar Aggregate: ASTM C144, standard masonry type.
- C. Hydrated Lime: ASTM C207, Type S.
- D. Mortar Color: Natural and synthetic iron oxides and chromium oxides, color as selected by Architect; manufactured by Solomon Grind-Chem Services, Inc. Allow for a two-unit mix with mortar.
- E. Water: Clean and potable.

SECTION 04200

UNIT MASONRY SYSTEM

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Face brick for veneer wythe.
- B. Reinforcement, anchorage, and accessories.
- C. Mortar for masonry.
- D. Damproofing at cavity walls.
- E. Building paper at cavity walls.

1.2 SUBMITTALS

- A. Product Data: Provide data for masonry units, fabricated wire reinforcement, flashings and accessories.
- B. Include design mix, indicate whether the Proportion or Property specification of ASTM C270 is to be used, required environmental conditions, and admixture limitations.
- C. Samples: Submit 2 samples of masonry units to illustrate color, texture and extremes of color range.

1.3 QUALITY ASSURANCE

- A. Perform Work in accordance with ACI 530 and ACI 530.1.

1.4 MOCKUP

- A. Provide mockup of cavity wall masonry under provisions of this Section to be approved by the Architect and Portland Planning Staff.
- B. Construct a masonry wall into a panel sized 4 feet long by 4 feet high, which includes mortar and accessories, structural backup system, wall openings, flashings, control joints with sealant.

PART 2 PRODUCTS

2.1 MANUFACTURERS - BRICK UNITS

- A. Brick Type 1: Old Port Blend, all black, from Morin Brick Company.

2.2 BRICK UNITS

- A. Face Brick: ASTM C216, Type FBS Grade SW.
- B. Size and Shape: Standard modular size of 2 1/4 X 3 5/8 X 7 5/8 inches.
- C. Special Brick Shape: Shaped to profile indicated; surface texture on 1 side and ends.

2.3 REINFORCEMENT AND ANCHORAGE

- A. Wall Ties: Formed steel strap, 14 gage, hot dip galvanized to ASTM A153 B2 steel finish.
 - 1. Duro-wall; D/A 210 with D/A 701.
 - 2. Hohmann & Barnard; DW-10 with 3/16 inch Vee Tie.
 - 3. Wire-Bond; Type III, 1004, Screw-on Strap with 3/16 inch triangular tie.

- B. Dovetail Anchors: 24 gage x 1 inch, galvanized to ASTM A153 B2 finish.
 - 1. Duro-wall; D/A 100 with D/A 720-724
 - 2. Heckman; #100 dovetail with 3/16 inch, #103 triangular tie.
 - 3. Hohmann & Barnard; #305 with #315 tie.
 - 4. Weston; Dovetail with Vee tie.
 - 5. Wire-Bond; Dovetail with #2102 triangle tie.

2.4 FLASHINGS

- A. Copper/Kraft Paper Flashings: 5 oz/sq ft sheet copper bonded to fiber reinforced asphalt treated Kraft paper.
 - 1. Afco Flashings; Afco copper - fabric.
 - 2. York Manufacturing; York Copper Fabric Flashing.
 - 3. Sandell Manufacturing Company, Inc.; Copper Fabric.
- B. Plastic Cement: ASTM 4586, Type I.

2.5 ACCESSORIES

- A. Cavity Vents: Provide 1/4 inch round by 4 inch long medium density polyethylene plastic tubes to form vent holes at the tops of walls.
- B. Cavity Weeps: Flexible, polypropylene vent. Provide for weeps in CMU veneer masonry.
 - 1. Dur-O-Wall; D/A 1006 Cell Vent.
 - 2. Hohmann & Barnard; #342 Plastic weep hole.
- C. Cavity Drainage Material: Reticulated, nonabsorbent mesh, made from polypropylene strands and shaped to maintain drainage at weep holes without being clogged by mortar droppings.
 - 1. Mortar Net by Mortar Net USA, LTD.; Model MN10-2.
- D. Cleaning Solution: Non-acidic, not harmful to masonry work or adjacent materials.
- E. Damproofing: See Section 07160 - Bituminous Damproofing.
- F. Steel Drill Screws for Steel Studs: ASTM C954 except manufactured with hex washer head and neoprene washer, No. 10 (4.8 mm) diameter by length required to penetrate steel stud flange by not less than 3 exposed threads, and with corrosion protective coating meeting ASTM B117.
 - 1. Elco Industries, Inc.
 - 2. ITW-Buildex
- G. Building Paper: ASTM D226, No. 15 unperforated asphalt saturated felts as recommended for use in waterproofing and in construction of built-up roofs.

2.6 MANUFACTURERS - PREMIX MORTAR

- A. Blue Circle Cement, Inc.: Eaglebond High Strength Type "S".

2.7 MATERIALS

- A. Portland Cement: ASTM C150, Type I, except Type III may be used for cold weather construction. Provide natural or white cement as required to produce the required color.
- B. Mortar Aggregate: ASTM C144, standard masonry type.
- C. Hydrated Lime: ASTM C207, Type S.
- D. Mortar Color: Natural and synthetic iron oxides and chromium oxides, color as selected by Architect; manufactured by Solomon Grind-Chem Services, Inc. Allow for a two-unit mix with mortar.
- E. Water: Clean and potable.

2.8 MORTAR MIXES

- A. Mortar For Brick Masonry: ASTM C270, Type S using the Proportion specification. Use mortar additive for brick veneer.

2.9 MORTAR MIXING

- A. Thoroughly mix mortar ingredients in accordance with ASTM C270 in quantities needed for immediate use.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that field conditions are acceptable and are ready to receive work.

3.2 COURSING

- A. Brick Units:
 1. Bond: Running, (soldier and rowlock where indicated).
 2. Coursing: Three units and three mortar joints to equal 8 inches.
 3. Mortar Joints: Concave.

3.3 PLACING AND BONDING

- A. Lay solid masonry units in full bed of mortar, with full head joints, uniformly jointed with other work.
- B. Install mortar in accordance with ASTM C270.
- C. Perform job site cutting of masonry units with proper tools to provide straight, clean, unchipped edges. Prevent broken masonry unit corners or edges.

3.4 MASONRY FLASHINGS

- A. Extend flashings horizontally at foundation walls, above ledge or shelf angles and lintels, under parapet caps, and at bottom of walls.
- B. Turn flashing up minimum 8 inches (200 mm) and seal to concrete or seal to sheathing over back-up. Turn flashing up 2 inches at ends to form pans where installed at lintels.
- C. Lap end joints minimum 6 inches and seal watertight.
- D. Turn flashing, fold, and seal at corners, bends, and interruptions.

3.5 LINTELS

- A. Install loose steel lintels over openings.

3.6 CAVITY WALL

- A. Do not permit mortar to drop or accumulate into cavity air space or to plug weeps. Where weep joints are called for, or at every third brick at the bottom of the cavity wall and above flashings, install the brick dry to allow for the cavity to be cleaned of mortar droppings. Provide weep joints as called for when brick is mortared back in place. Use of Cavity Drainage Material will be allowed in lieu of omitting bricks as indicated above. No other methods of laying are acceptable unless approved by the Architect.

3.7 CONTROL AND EXPANSION JOINTS

- A. Size control joint in accordance with Section 07900 for sealant performance.
- B. Form expansion joint as detailed.

3.8 BUILT-IN WORK

- A. As work progresses, install built-in metal door and glazed frames, fabricated metal frames, window frames, anchor bolts, and other items to be built-in the work and furnished by other sections.

3.9 CUTTING AND FITTING

- A. Cut and fit for chases, pipes, conduit, sleeves, and grounds.. Coordinate with other sections of work to provide correct size, shape, and location.

3.10 CLEANING

- A. Clean exposed brick masonry surfaces by the bucket and brush hand method or by high pressure water method. Comply with requirements of BIA Technical Notes No. 20 "Cleaning Brick Masonry".

3.11 PROTECTION OF FINISHED WORK

- A. Protect finished Work.

END OF SECTION

3.7 CONTROL AND EXPANSION JOINTS

- A. Size control joint in accordance with Section 07900 for sealant performance.
- B. Form expansion joint as detailed.

3.8 BUILT-IN WORK

- A. As work progresses, install built-in metal door and glazed frames, fabricated metal frames, window frames, anchor bolts, and other items to be built-in the work and furnished by other sections.

3.9 CUTTING AND FITTING

- A. Cut and fit for chases, pipes, conduit, sleeves, and grounds.. Coordinate with other sections of work to provide correct size, shape, and location.

3.10 CLEANING

- A. Clean exposed brick masonry surfaces by the bucket and brush hand method or by high pressure water method. Comply with requirements of BIA Technical Notes No. 20 "Cleaning Brick Masonry".

3.11 PROTECTION OF FINISHED WORK

- A. Protect finished Work.

END OF SECTION

SECTION 05400

COLD-FORMED METAL FRAMING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Formed steel stud exterior wall framing.
- B. Formed steel joist framing and bridging for stair and elevator roofs.
- C. Exterior sheathing.

1.2 SYSTEM DESCRIPTION

- A. Maximum Allowable Deflection: 1/360 of span, 1/600 of span for walls supporting masonry veneers.
- B. Wall System:
 - 1. Design to AISI - Cold-Formed Steel Design Manual.
 - 2. Design to provide for movement of components without damage, failure of joint seals, undue stress on fasteners, or other detrimental effects when subject to seasonal or cyclic day/night temperature ranges.
 - 3. Design system to accommodate construction tolerances, deflection of building structural members, and clearances of intended openings.
 - 4. Design shall conform to 1996 Code.
 - 5. Design for a wind pressure of 30 psi.

1.3 SUBMITTALS

- A. Shop Drawings:
 - 1. Indicate component details, framed openings, bearing, anchorage, loading, type and location of fasteners, and accessories or items required of related work.
 - 2. Describe method for securing studs to tracks and for framing connections.
 - 3. Provide calculations for loadings and stresses of framing, bearing the seal and signature of a Professional Structural Engineer registered in the State in which the project is located.
- B. Product Data: Provide data on standard framing members; describe materials and finish, product criteria, and limitations.
- C. Manufacturer's Installation Instructions: Indicate special procedures or perimeter conditions requiring special attention.

1.4 QUALITY ASSURANCE

- A. Calculate structural properties of framing members in accordance with MFMA - Guidelines for the Use of Metal Framing and AWS D1.3 requirements. Maintain one copy for reference.
- B. Installer Qualifications: Company specializing in performing the work of this section with minimum 5 years experience.
- C. Design structural elements under direct supervision of a Professional Structural Engineer experienced in design of this Work and licensed in the State of Maine.
- D. Form, fabricate, install, and connect components in accordance with ML/SFA 540 - Lightweight Steel Framing Systems Manual.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Metal Framing
 - 1. Dietrich Industries, Inc.
 - 2. Marino Industries Corp.
 - 3. Superior, Inc.
 - 4. Unimast, Inc.
 - 5. Substitutions under the provisions of Section 01600.
- B. Gypsum Sheathing Board
 - 1. American Gypsum Co.
 - 2. Flintkote Products, Genstar Building Materials Co.
 - 3. Georgia-Pacific Corp.
 - 4. Gold Bond Building Products Div., National Gypsum Co.
 - 5. United States Gypsum Co.

2.2 FRAMING MATERIALS

- A. Studs and joists: ASTM A 446, formed to channel shape, punched web; provide minimum yield of 50,000 psi. for 12, 14 and 16 gage.
- B. Studs and joists: ASTM A 446, Grade A with a minimum yield of 33,000 psi. for all galvanized 18 and 20 gage studs, joists, track, bridging and accessories.
- C. Track: Formed steel; channel shaped; same width as studs, solid web.
- D. Framing Materials: Roll from new sheet steel; re-rolled steel not acceptable.

2.3 SHEATHING

- A. Gypsum Sheathing Board: ASTM C 79, moisture resistant, type X fire-resistant core, 1/2 inch thickness, 4 foot by 8 foot or 2 foot by 8 foot sheets. Ends square cut, tongue and grooved edges; water repellent paper faces.
- B. Plywood Sheathing: See Section 06100 - Rough Carpentry.

2.4 ACCESSORIES

- A. Bracing, Furring, Bridging: Formed sheet steel, thickness determined by performance requirements specified.
- B. Sill Gasket on Top of Foundation Wall: 1/4 inch thick x plate width wide, closed cell polyethylene foam or glass fiber strip from continuous rolls.
- C. Touch-Up Primer for Galvanized Surfaces: SSPC Paint 20 Type I Inorganic zinc rich.
- D. Thermal Insulation: See Section 07200 - Building Insulation.
- E. Deflection Brackets:
 - 1. Construction: Slotted galvanized steel angle with step bushing to prevent over tightening of fasteners.
 - 2. Vertical Deflection: 1-1/2 inches total travel .
 - 3. Product: Similar to VertiClip, Signature Industries, 919-844-0789.
 - 4. Series: SL, SDL, SLB, and SLS as required by attachment condition.

SECTION 05500

METAL FABRICATIONS

PART 1 GENERAL

1.1 SUMMARY

- A. Metal fabrications include items made from iron and steel shapes, plates, bars, strips, tubes, pipes and castings which are not a part of structural steel or other metal systems specified elsewhere.

1.2 SECTION INCLUDES

- A. Rough Hardware.
- B. Loose bearing and leveling plates.
- C. Loose steel lintels.
- D. Miscellaneous mechanical and electrical equipment supports.
- E. Steel railings.
- F. Metal stairs.
- G. Miscellaneous framing at roof openings.

1.3 PERFORMANCE REQUIREMENTS

- A. Treads and Platforms of Steel Stairs: Capable of withstanding a uniform load of 100 lbs per sq. ft. or a concentrated load of 300 lbs. so located as to produce maximum stress conditions.
- B. Handrails and Toprails: Capable of withstanding the following loads as indicated when tested per ASTM E 935:
 - 1. Concentrated loads of 250 lbs. applied at any point in any direction.
 - 2. Uniform load of 50 lbs. per linear ft. applied simultaneously in both vertical and horizontal directions.
 - 3. Concentrated and uniform loads above need not be assumed to act concurrently.
 - 4. Intermediate rails, balusters and panel fillers capable of withstanding a uniform load of 25 lbs. per sq. ft. of gross area of guard, including any open areas, of which they are a part. Load need not be assumed to be acting concurrently with uniform horizontal loads on toprrails of railing assembly in determining stress on guard supporting members.

1.4 SUBMITTALS

- A. Shop Drawings: Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, elevations, and details where applicable.
- B. Indicate welded connections using standard AWS A2.0 welding symbols. Indicate net weld lengths.

1.5 QUALITY ASSURANCE

- A. Prepare Shop Drawings under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed at the place where the Project is located.
- B. Welders Certificates: Submit under provisions of Section 01330 - Submittals, certifying welders employed on the Work, verifying AWS qualification within the previous 12 months.

- C. Preassemble items in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. clearly mark units for re-assembly and coordinated installation.

PART 2 PRODUCTS

2.1 MATERIALS - STEEL

- A. Steel Sections: ASTM A36. Steel shapes and bars.
- B. Steel Tubing: ASTM A500, Cold formed. ASTM A501, Hot rolled.
- C. Plates: ASTM A283
- D. Pipe: ASTM A53, Type and grade (if applicable) as selected by fabricator and as required for design loading; black finish unless galvanizing is indicated; standard weight (schedule 40), unless otherwise indicated.
- E. Fasteners: Provide galvanized fasteners for exterior use or where built into exterior walls.
- F. Bolts, Nuts, and Washers: ASTM A325 galvanized to ASTM A153 for galvanized components.
- G. Welding Materials: AWS D1.1; type required for materials being welded.
- H. Shop and Touch-Up Primer: SSPC 15, Type 1, red oxide.
- I. Touch-Up Primer for Galvanized Surfaces: SSPC 20 Type I Inorganic zinc rich.

2.2 MISCELLANEOUS MATERIALS

- A. Paint: Alkyd type finish.
- B. Galvanizing repair paint: Zinc Rich Content paint for regalvanizing welds.
- C. Grout: Non-Shrink non-metallic grout.

2.3 FABRICATION

- A. Fit and shop assemble items in largest practical sections, for delivery to site.
- B. Fabricate items with joints tightly fitted and secured.
- C. Continuously seal joined members by continuous welds.
- D. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.
- E. Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of component, except where specifically noted otherwise.
- F. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.
- G. Loose Bearing and Leveling Plates:
 - 1. Provide loose bearing and leveling plates for steel items bearing on masonry or concrete construction, made of flat, free from warps or twists, and of required thickness and bearing area. Drill plates to receive anchor bolts and for grouting as required. Galvanize after fabrication. Sizes are shown on structural drawings.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Metal Framing
 - 1. Dietrich Industries, Inc.
 - 2. Marino Industries Corp.
 - 3. Superior, Inc.
 - 4. Unimast, Inc.
 - 5. Substitutions under the provisions of Section 01600.
- B. Gypsum Sheathing Board
 - 1. American Gypsum Co.
 - 2. Flintkote Products, Genstar Building Materials Co.
 - 3. Georgia-Pacific Corp.
 - 4. Gold Bond Building Products Div., National Gypsum Co.
 - 5. United States Gypsum Co.

2.2 FRAMING MATERIALS

- A. Studs and joists: ASTM A 446, formed to channel shape, punched web; provide minimum yield of 50,000 psi. for 12, 14 and 16 gage.
- B. Studs and joists: ASTM A 446, Grade A with a minimum yield of 33,000 psi. for all galvanized 18 and 20 gage studs, joists, track, bridging and accessories.
- C. Track: Formed steel; channel shaped; same width as studs, solid web.
- D. Framing Materials: Roll from new sheet steel; re-rolled steel not acceptable.

2.3 SHEATHING

- A. Gypsum Sheathing Board: ASTM C 79, moisture resistant, type X fire-resistant core, 1/2 inch thickness, 4 foot by 8 foot or 2 foot by 8 foot sheets. Ends square cut, tongue and grooved edges; water repellent paper faces.
- B. Plywood Sheathing: See Section 06100 - Rough Carpentry.

2.4 ACCESSORIES

- A. Bracing, Furring, Bridging: Formed sheet steel, thickness determined by performance requirements specified.
- B. Sill Gasket on Top of Foundation Wall: 1/4 inch thick x plate width wide, closed cell polyethylene foam or glass fiber strip from continuous rolls.
- C. Touch-Up Primer for Galvanized Surfaces: SSPC Paint 20 Type I Inorganic zinc rich.
- D. Thermal Insulation: See Section 07200 - Building Insulation.
- E. Deflection Brackets:
 - 1. Construction: Slotted galvanized steel angle with step bushing to prevent over tightening of fasteners.
 - 2. Vertical Deflection: 1-1/2 inches total travel .
 - 3. Product: Similar to VertiClip, Signature Industries, 919-844-0789.
 - 4. Series: SL, SDL, SLB, and SLS as required by attachment condition.

2.5 FASTENERS

- A. Self-drilling, Self-tapping Screws, Bolts, Nuts, and Washers: Steel, hot dip galvanized to ASTM A123 1.25 oz/sq ft (380 g/sq m).
- B. Anchorage Devices: Power actuated or drilled expansion bolts.

2.6 FABRICATION

- A. Fabricate assemblies of sizes and profiles required.
- B. Fit, reinforce, and brace framing members to suit design requirements.
- C. Fit and assemble in largest practical sections for delivery to site, ready for installation.

2.7 FINISHES

- A. Studs, joists, track, bridging and accessories: ASTM A525, G60 coating.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that substrate surfaces and building framing components are ready to receive work.

3.2 ERECTION OF STUD WORK

- A. Install components in accordance with manufacturer's instructions.
- B. Align floor and ceiling tracks; locate to wall layout. Secure in place with fasteners at maximum 16 inches o.c. Coordinate installation of acoustic sealant with floor and ceiling tracks.
- C. Place studs at 16 inches o.c.; not more than 2 inches (50 mm) from abutting walls and at each side of openings. Connect studs to tracks using fastener method.
- D. Construct corners using minimum three studs. Double studs at wall openings, door jambs, and window jambs.
- E. Provide deflection allowance in stud track, directly below horizontal building framing at non-load bearing framing.

3.3 ERECTION OF JOISTS AND PURLINS

- A. Install framing components in accordance with manufacturer's instructions.
- B. Place joists and purlins at 16 inches o.c.; not more than 2 inches (50 mm) from abutting walls. Connect joists to supports using fastener method.
- C. Provide web stiffeners at reaction points.

3.4 ERECTION OF SHEATHING

- A. Install exterior gypsum sheathing horizontally, with edges butted tight and ends occurring over firm bearing.

END OF SECTION

- C. Preassemble items in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. clearly mark units for re-assembly and coordinated installation.

PART 2 PRODUCTS

2.1 MATERIALS - STEEL

- A. Steel Sections: ASTM A36. Steel shapes and bars.
- B. Steel Tubing: ASTM A500, Cold formed. ASTM A501, Hot rolled.
- C. Plates: ASTM A283
- D. Pipe: ASTM A53, Type and grade (if applicable) as selected by fabricator and as required for design loading; black finish unless galvanizing is indicated; standard weight (schedule 40), unless otherwise indicated.
- E. Fasteners: Provide galvanized fasteners for exterior use or where built into exterior walls.
- F. Bolts, Nuts, and Washers: ASTM A325 galvanized to ASTM A153 for galvanized components.
- G. Welding Materials: AWS D1.1; type required for materials being welded.
- H. Shop and Touch-Up Primer: SSPC 15, Type 1, red oxide.
- I. Touch-Up Primer for Galvanized Surfaces: SSPC 20 Type I Inorganic zinc rich.

2.2 MISCELLANEOUS MATERIALS

- A. Paint: Alkyd type finish.
- B. Galvanizing repair paint: Zinc Rich Content paint for regalvanizing welds.
- C. Grout: Non-Shrink non-metallic grout.

2.3 FABRICATION

- A. Fit and shop assemble items in largest practical sections, for delivery to site.
- B. Fabricate items with joints tightly fitted and secured.
- C. Continuously seal joined members by continuous welds.
- D. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.
- E. Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of component, except where specifically noted otherwise.
- F. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.
- G. Loose Bearing and Leveling Plates:
 - 1. Provide loose bearing and leveling plates for steel items bearing on masonry or concrete construction, made of flat, free from warps or twists, and of required thickness and bearing area. Drill plates to receive anchor bolts and for grouting as required. Galvanize after fabrication. Sizes are shown on structural drawings.

- H. Loose Steel Lintels:
1. Provide loose structural steel lintels for openings and recesses in masonry walls and partitions as shown. Weld adjoining members together to form a single unit where indicated. Provide not less than 8" bearing at each side of openings, unless otherwise indicated. Sizes are shown on structural drawings.
 2. Galvanize loose steel lintels to be installed in exterior walls.
- I. Miscellaneous Framing and Supports:
1. Provide miscellaneous steel framing and supports that are not a part of structural steel framework, as required to complete work.
 2. Fabricate miscellaneous units to sizes, shapes and profiles indicated or, if not indicated, 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 mitered joints for field connection. Cut, drill and tap units to receive hardware and similar items.
- J. Steel Pipe Railings And Handrails:
1. Fabricate steel pipe railings and handrails to design, dimensions, and details indicated. Provide railings, handrails and vertical supports members formed of pipe of 1-1/4" I.D. extra strong pipe rail of thickness not less than that required to support design loading. Handrail and guardrails shall meet all BOCA 1996 and NFPA 101 requirements.
 2. Interconnect railing and handrail members by butt-welding or welding with internal connectors, at fabricator's option, unless otherwise indicated. All exposed welds shall be ground smooth.
 3. At tee and cross intersections provide coped joints.
 4. Form bends by use of prefabricated elbow fittings and radius bends or by bending pipe, at fabricator's option.
 5. Form simple and compound curves by bending pipe in jigs to produce uniform curvature for each repetitive configuration required; maintain cylindrical cross-section of pipe throughout entire bend without buckling, twisting or otherwise deforming exposed surfaces of pipe.
 6. Provide wall returns at ends of wall mounted handrails, except where otherwise indicated.
 7. Close exposed ends of pipe by welding 3/16" thick steel plate in place or by use of prefabricated fittings.
 8. Brackets, Flanges, Fittings and Anchors: Provide wall brackets, end closures, flanges, miscellaneous fittings and anchors for interconnections of pipe and attachment of railings and handrails to other work. Furnish inserts and other anchorage devices for connecting railings and handrails to concrete or masonry work.
 9. Fabricate brackets for rails at aluminum storefront from 5/8 inch diameter steel arm welded to 2 by 4 by 1/4 inch wall plate. Provide flat mounting plate at wood handrail and curved mounting plate at steel handrail. Provide holes in mounting plates for attaching to rail and storefront.
 10. For railing posts set in concrete provide sleeves of galvanized steel pipe not less than 6" long and with an inside diameter not less than 1/2" greater than the outside diameter of pipe. Provide steel plate closure welded to bottom of sleeve and of width and length not less than 1" greater than outside diameter of sleeve.
 11. Provide friction fit, removable covers designed to keep sleeves clean and hold top edge of sleeve 1/2" below finished surface of concrete.
 12. Provide galvanized finish for all exterior steel railings, including pipe, bars fittings, brackets, fasteners, and other ferrous components. Shop prime steel pipe for interior railings.
- K. Steel Framed Stairs:
1. General: Construct stairs to conform to sizes and arrangements indicated; join pieces together by welding unless otherwise indicated. Provide complete stair assemblies including metal framing, hangers, columns, railings, newels, balusters, struts, clips, brackets, bearing plates and other components necessary for the support of stairs and platforms and as required to anchor and contain the stairs on the supporting structure.
 2. Stair Framing: Fabricate stringers of structural steel channels, or plates, or a combination thereof, as indicated. Provide closures for exposed ends of stringers. Construct platforms of structural steel channel headers and miscellaneous framing members as indicated. Bolt or weld headers to strings and framing members to strings and headers; fabricate and join so bolts, if

used, do not appear on finish surfaces. Where masonry walls support steel stairs, provide temporary supporting struts designed for erection of steel stair components before installation of masonry.

3. Metal Pan Risers, Subtreads, and Subplatforms: Shape metal pans for risers and subtreads to conform to configuration shown. Provide 11 gage structural steel sheet for metal pans unless greater thickness is required to support total design loading.
 - a. Form metal pans of carbon steel sheet or as indicated.
 - b. Attach risers and subtreads to stringers by means of brackets made of steel angles. Weld brackets to stringers and attach metal pans to brackets by welding, riveting or bolting.
 - c. Provide subplatforms of configuration and constructions indicated, or if not indicated, of same metal as risers and subtreads and in thickness' required to support design loading. Attach subplatform to platform framing members with welds.

2.4 FABRICATION TOLERANCES

- A. Squareness: 1/8 inch (3 mm) maximum difference in diagonal measurements.
- B. Maximum Offset Between Faces: 1/16 inch (1.5 mm).
- C. Maximum Misalignment of Adjacent Members: 1/16 inch (1.5 mm).
- D. Maximum Bow: 1/8 inch (3 mm) in 48 inches (1.2 m).
- E. Maximum Deviation From Plane: 1/16 inch (1.5 mm) in 48 inches (1.2 m).

2.5 FINISHES - STEEL

- A. Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.
- B. Do not prime surfaces in direct contact with concrete or where field welding or fireproofing is required.
- C. Prime paint items with one coat.
- D. Structural Steel Members and Non-structural Items: Galvanize after fabrication to ASTM A123. Provide minimum 1.25 oz/sq ft (380 g/sq m) galvanized coating.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that field conditions are acceptable and are ready to receive work.

3.2 PREPARATION

- A. Clean and strip primed steel items to bare metal where site welding is required.
- B. Supply steel items required to be cast into concrete or embedded in masonry with setting templates to appropriate sections.

3.3 INSTALLATION

- A. Install items plumb and level, accurately fitted, free from distortion or defects.
- B. Provide for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.
- C. Field weld components indicated on shop drawings.
- D. Perform field welding in accordance with AWS D1.1.

used, do not appear on finish surfaces. Where masonry walls support steel stairs, provide temporary supporting struts designed for erection of steel stair components before installation of masonry.

3. Metal Pan Risers, Subtreads, and Subplatforms: Shape metal pans for risers and subtreads to conform to configuration shown. Provide 11 gage structural steel sheet for metal pans unless greater thickness is required to support total design loading.
 - a. Form metal pans of carbon steel sheet or as indicated.
 - b. Attach risers and subtreads to stringers by means of brackets made of steel angles. Weld brackets to stringers and attach metal pans to brackets by welding, riveting or bolting.
 - c. Provide subplatforms of configuration and constructions indicated, or if not indicated, of same metal as risers and subtreads and in thickness' required to support design loading. Attach subplatform to platform framing members with welds.

2.4 FABRICATION TOLERANCES

- A. Squareness: 1/8 inch (3 mm) maximum difference in diagonal measurements.
- B. Maximum Offset Between Faces: 1/16 inch (1.5 mm).
- C. Maximum Misalignment of Adjacent Members: 1/16 inch (1.5 mm).
- D. Maximum Bow: 1/8 inch (3 mm) in 48 inches (1.2 m).
- E. Maximum Deviation From Plane: 1/16 inch (1.5 mm) in 48 inches (1.2 m).

2.5 FINISHES - STEEL

- A. Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.
- B. Do not prime surfaces in direct contact with concrete or where field welding or fireproofing is required.
- C. Prime paint items with one coat.
- D. Structural Steel Members and Non-structural Items: Galvanize after fabrication to ASTM A123. Provide minimum 1.25 oz/sq ft (380 g/sq m) galvanized coating.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that field conditions are acceptable and are ready to receive work.

3.2 PREPARATION

- A. Clean and strip primed steel items to bare metal where site welding is required.
- B. Supply steel items required to be cast into concrete or embedded in masonry with setting templates to appropriate sections.

3.3 INSTALLATION

- A. Install items plumb and level, accurately fitted, free from distortion or defects.
- B. Provide for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.
- C. Field weld components indicated on shop drawings.
- D. Perform field welding in accordance with AWS D1.1.

E. Steel Pipe Railings and Handrails:

1. Adjust railings prior to anchoring to ensure matching alignment at abutting joints. Space posts at spacing indicated, or if not indicated, as required by design loadings. Plumb posts in each direction. Secure posts and railing ends to building construction as follows:
 - a. Anchor posts in concrete by means of pipe sleeves preset and anchored into concrete. After posts have been inserted into sleeves, fill annular space between post and sleeve solid with non-shrink, non-metallic grout, mixed and placed to comply with grout manufacturer's directions.
 - b. Leave anchorage joint exposed; wipe off excess grout and leave 1/8" buildup, sloped away from post. For installation exposed on exterior or to flow of water, seal grout to comply with grout manufacturer's directions.
 - c. Anchor posts to steel support with continuous welds ground smooth.
 - d. Anchor rail ends into concrete and masonry where indicated with steel round flanges welded to rail ends and anchored into wall construction with lead expansion shields and bolts.
2. Secure handrails to wall with wall brackets and end fittings.
3. Provide bracket with 1-1/2" clearance from inside face of handrail and finished wall surface. Locate brackets as indicated or, if not indicated, at spacing required for design loading. Secure wall brackets and wall return fittings to building construction as follows:
 - a. Use type of bracket with flange tapped for concealed anchorage to threaded hanger bolt.
 - b. For concrete and solid masonry anchorage, use drilled-in expansion shield and either concealed hanger bolt or exposed lag bolt, as applicable.

END OF SECTION

SECTION 06100

ROUGH CARPENTRY

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Structural floor, wall, and roof framing.
- B. Stair and riser framing.
- C. Roof curbs and perimeter nailers.
- D. Concealed wood blocking.
- E. Floor and wall sheathing.
- F. Floor underlayment.
- G. Telephone and electrical panel back boards.
- H. Preservative treatment of wood.
- I. Fire retardant treatment of wood.

1.2 SUBMITTALS

- A. Product Data: Provide technical data on treated sheathing, wood preservative materials, and application instructions.
- B. Samples of Exposed To View Wood Members: Submit two samples, 6 inch long, illustrating wood grain, stain, and finish.
- C. Manufacturer's Certificate: Certify that Products conform to specified requirements.

1.3 QUALITY ASSURANCE

- A. Perform Work in accordance with the following agencies:
 - 1. Lumber Grading Agency: Certified by NELMA.
 - 2. Plywood Grading Agency: Certified by APA.
- B. In lieu of grade stamping exposed to view lumber and plywood, submit manufacturer's certificate certifying that products meet or exceed specified requirements.

PART 2 PRODUCTS

2.1 LUMBER MATERIALS

- A. Lumber, General: 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.
- B. 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.
 - 1. Provide dressed lumber, S4S, unless otherwise indicated.
 - 2. Provide seasoned lumber with 19% maximum moisture content at time of dressing.
- C. For structural framing (6" and wider and from 2" to 4" thick), provide the following grade and species:
 - 1. Select Structural Grade

2. See structural drawings for grades and bending stress.

D. Miscellaneous Lumber: Provide wood for support or attachment of other work including cant strips, bucks, nails, 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.
2. Grade: Construction Grade light framing size lumber of any species or board size lumber as required.

2.2 SHEATHING AND UNDERLAYMENT

A. Wall Sheathing: APA rated, exterior, exposure 1, 3/4 inch, 48 x 96 inch sized sheets, square edges.

B. Stair Sheathing: APA rated, exterior, exposure 1, 3/4 inch, square edges.

C. Flat Roof Sheathing: APA rated, exterior, exposure 1, 3/4 inch, 48 x 96 inch sized sheets, tongue and groove edges.

D. Sloped Roof Sheathing: APA rated, exterior, exposure 1, 5/8 inch, 48 x 96 inch sized sheets, square edges.

E. Underlayment: APA rated, exterior, exposure 1, thickness varies, 48 x 96 inch sized sheets, square edges.

F. Backing Panels: For mounting electrical or telephone equipment, provide fire-retardant-treated plywood panels with grade C-D, plugged, exposure 1, in 3/4 inch thickness. Paint as required by electrical code.

2.3 ACCESSORIES

A. Fasteners and Anchors:

1. Fasteners (for wood framing): Hot dipped galvanized steel for high humidity and treated wood locations, unfinished steel elsewhere.
2. Fasteners (for metal stud framing): Hilti Kwik-Flex or Elco Dril-Flex; no substitutes, 10-24 x 1-1/4 inch wafer head #3.
3. Anchors: Toggle bolt type for anchorage to hollow masonry. Self-tapping type screw for anchorage to solid masonry or concrete. Bolt or ballistic fastener for anchorages to steel.

B. Subfloor Glue: APA AFG-01, approved for use with type of construction panel indicated by both adhesive and panel manufacturer.

2.4 FACTORY WOOD TREATMENT

A. Wood Preservative (Pressure Treatment): AWPA Treatment C1 using water borne preservative with 0.25 percent retainage.

B. Fire retardant: AWPA Treatment C20, Interior Type A, chemically treated and pressure impregnated.

1. Dricon; Hickson Corporation.
2. Pyro-Guard; Hoover Treated Wood Products.

PART 3 EXECUTION

3.1 FRAMING

A. Set members level and plumb, in correct position.

B. Double members at openings over 24 inches wide. Space short studs over and under opening to stud spacing.

2. See structural drawings for grades and bending stress.

- D. Miscellaneous Lumber: Provide wood for support or attachment of other work including cant strips, bucks, nails, 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.
 2. Grade: Construction Grade light framing size lumber of any species or board size lumber as required.

2.2 SHEATHING AND UNDERLAYMENT

- A. Wall Sheathing: APA rated, exterior, exposure 1, 3/4 inch, 48 x 96 inch sized sheets, square edges.
- B. Stair Sheathing: APA rated, exterior, exposure 1, 3/4 inch, square edges.
- C. Flat Roof Sheathing: APA rated, exterior, exposure 1, 3/4 inch, 48 x 96 inch sized sheets, tongue and groove edges.
- D. Sloped Roof Sheathing: APA rated, exterior, exposure 1, 5/8 inch, 48 x 96 inch sized sheets, square edges.
- E. Underlayment: APA rated, exterior, exposure 1, thickness varies, 48 x 96 inch sized sheets, square edges.
- F. Backing Panels: For mounting electrical or telephone equipment, provide fire-retardant-treated plywood panels with grade C-D, plugged, exposure 1, in 3/4 inch thickness. Paint as required by electrical code.

2.3 ACCESSORIES

- A. Fasteners and Anchors:
1. Fasteners (for wood framing): Hot dipped galvanized steel for high humidity and treated wood locations, unfinished steel elsewhere.
 2. Fasteners (for metal stud framing): Hilti Kwik-Flex or Elco Dril-Flex; no substitutes, 10-24 x 1-1/4 inch wafer head #3.
 3. Anchors: Toggle bolt type for anchorage to hollow masonry. Self-tapping type screw for anchorage to solid masonry or concrete. Bolt or ballistic fastener for anchorages to steel.
- B. Subfloor Glue: APA AFG-01, approved for use with type of construction panel indicated by both adhesive and panel manufacturer.

2.4 FACTORY WOOD TREATMENT

- A. Wood Preservative (Pressure Treatment): AWPA Treatment C1 using water borne preservative with 0.25 percent retainage.
- B. Fire retardant: AWPA Treatment C20, Interior Type A, chemically treated and pressure impregnated.
1. Dricon; Hickson Corporation.
 2. Pyro-Guard; Hoover Treated Wood Products.

PART 3 EXECUTION

3.1 FRAMING

- A. Set members level and plumb, in correct position.
- B. Double members at openings over 24 inches wide. Space short studs over and under opening to stud spacing.

SECTION 06200

FINISH CARPENTRY

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Finish carpentry items.
- B. Wood door frames, glazed frames.
- C. Wood casings and moldings.

1.2 SUBMITTALS

- A. Product Data: Provide data on fire retardant treatment materials and application instructions.
- B. Shop Drawings: Indicate materials, component profiles, fastening methods, jointing details, and accessories, to a minimum scale of 1-1/2 inch to 1 ft.
- C. Samples:
 - 1. Submit two 2 samples of finish plywood, 6 x 6 inch (150 x 150 mm) in size illustrating wood grain and specified finish.
 - 2. Submit two 2 samples of wood trim 6 inch (150 mm) long.

1.3 QUALITY ASSURANCE

- A. Perform work in accordance with AWI Architectural Woodwork Quality Standards, Custom Grade.

PART 2 PRODUCTS

2.1 INTERIOR LUMBER MATERIALS

- A. Softwood Lumber: PS 20; Graded in accordance with AWI Custom; poplar species, plain sawn, maximum moisture content of 6 percent; with mixed grain of quality suitable for transparent finish.
- B. Hardwood Lumber: Graded in accordance with AWI Custom; red oak species, plain sawn, maximum moisture content of 6 percent; with mixed grain of quality suitable for transparent finish.
- C. Wood Handrail: Red Oak rail, Brosco C-6010, for stained finish.

2.2 EXTERIOR LUMBER MATERIALS

- A. Shiplap Wood Siding: Plain sawn, eastern white pine, 1 by 8 inches, D4S, shiplap edges.
- B. Wood Clapboard Siding: Bevel Siding; clear vertical grain, western red cedar, 1/2 by 6 inch, 4-3/8 inch exposure.

2.3 SHEET MATERIALS

- A. MDO Plywood: Exterior type, APA 303-OL, medium density overlay, thickness as indicated.

2.4 FASTENERS

- A. Fasteners: Of size and type to suit application.
- B. Concealed Joint Fasteners: Threaded steel.

2.5 ACCESSORIES

- A. Lumber for Shimming and Blocking: Softwood lumber of pine or spruce species.
- B. Wood Filler: Solvent or Oil base, tinted to match surface finish color.

2.6 FABRICATION

- A. Fabricate to AWI Custom standards.
- B. Shop assemble work for delivery to site, permitting passage through building openings.
- C. Fit exposed sheet material edges with 3/8 inch (9 mm) matching wood edging. Use one piece for full length only.
- D. When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide trim for scribing and site cutting.

2.12 FINISHING

- A. Sand work smooth and set exposed nails.
- B. Apply wood filler in exposed nail indentations.
- C. On items to receive transparent finishes, use wood filler which matches surrounding surfaces and of types recommended for applied finishes.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install work in accordance with AWI Custom quality standard.

3.2 BEVEL SIDING

- A. Install in single-coursing application. Double course at bottom of wall.
- B. Secure siding with 7d (2-1/2 inch) galvanized nails driven about 1-1/4 inch from each edge and not to penetrate the succeeding course.
- C. Install siding with not less than 1/8 inch, nor more than 1/4 inch edge gaps at windows, doors and vertical trim. Lay with 4-3/8 inch exposure unless noted otherwise.

3.3 PREPARATION FOR FINISHING

- A. Set exposed fasteners. Apply wood filler in exposed fastener indentations. Sand work smooth.
- B. Before installation, prime paint surfaces of items or assemblies to be in contact with cementitious materials.

END OF SECTION

- C. Bridge joists and framing in excess of 8 feet span at mid-span. Fit solid blocking at ends of members.

3.2 SHEATHING

- A. Secure wall sheathing with long dimension perpendicular to wall studs, with ends over firm bearing and staggered.
- B. Secure roof sheathing with longer edge perpendicular to framing members and with ends staggered and sheet ends over bearing.
- C. Place building paper horizontally over wall sheathing; weather lap edges and ends.
- D. Secure stair sheathing with longer edge perpendicular to framing and sheet ends over bearing. Attach with subfloor glue and drywall screws.
- E. Install telephone and electrical panel backboards with plywood sheathing material where required. Size as indicated or 6 inch larger than panel space required.

END OF SECTION

2.5 ACCESSORIES

- A. Lumber for Shimming and Blocking: Softwood lumber of pine or spruce species.
- B. Wood Filler: Solvent or Oil base, tinted to match surface finish color.

2.6 FABRICATION

- A. Fabricate to AWI Custom standards.
- B. Shop assemble work for delivery to site, permitting passage through building openings.
- C. Fit exposed sheet material edges with 3/8 inch (9 mm) matching wood edging. Use one piece for full length only.
- D. When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide trim for scribing and site cutting.

2.12 FINISHING

- A. Sand work smooth and set exposed nails.
- B. Apply wood filler in exposed nail indentations.
- C. On items to receive transparent finishes, use wood filler which matches surrounding surfaces and of types recommended for applied finishes.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install work in accordance with AWI Custom quality standard.

3.2 BEVEL SIDING

- A. Install in single-coursing application. Double course at bottom of wall.
- B. Secure siding with 7d (2-1/2 inch) galvanized nails driven about 1-1/4 inch from each edge and not to penetrate the succeeding course.
- C. Install siding with not less than 1/8 inch, nor more than 1/4 inch edge gaps at windows, doors and vertical trim. Lay with 4-3/8 inch exposure unless noted otherwise.

3.3 PREPARATION FOR FINISHING

- A. Set exposed fasteners. Apply wood filler in exposed fastener indentations. Sand work smooth.
- B. Before installation, prime paint surfaces of items or assemblies to be in contact with cementitious materials.

END OF SECTION

SECTION 06400

ARCHITECTURAL WOODWORK

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Laminate-clad cabinets (plastic-covered casework).
- B. Plastic-laminate countertops.
- C. Interior frames and jambs.
- D. Wood bench.

1.2 SUBMITTALS

- A. **Product Data:** Submit for each type of product and process specified and incorporated into items of architectural woodwork during fabrication, finishing, and installation.
- B. **Shop Drawings:** Indicate materials, component profiles and elevations, assembly methods, joint details, fastening methods, accessory listings, hardware location and schedule of finishes.
- C. **Samples**
 - 1. Plastic laminates.
 - 2. Thermoset decorative overlays.
 - 3. Exposed cabinet hardware, one unit for each type and finish.

1.3 QUALITY ASSURANCE

- A. **Fabricator Qualifications:** Company specializing in performing the work of this section with minimum 5 years experience.
- B. **Installer Qualifications:** Arrange for interior architectural woodwork installation by a firm that can demonstrate successful experience in installing architectural woodwork items similar in type and quality to those required for this Project.
- C. **Quality Standard:** Except as otherwise indicated, comply with the following standard:
 - 1. AWI Quality Standard: "Architectural Woodwork Quality Standards" of the Architectural Woodwork Institute for grades of interior architectural woodwork, construction, finishes, and other requirements.
 - 2. The Contract Documents contain selections chosen from options in the Quality Standard as well as additional requirements beyond those of the Quality Standard. Comply with such selections and requirements in addition to the Quality Standard.

PART 2 PRODUCTS

2.1 MATERIALS

- A. **General:** Provide materials that comply with requirements of the AWI quality standard for each type of woodwork and quality grade indicated and, where the following products are part of interior woodwork, with requirements of the referenced product standards that apply to product characteristics indicated:
 - 1. Hardboard: AHA A135.4.
 - 2. Medium-Density Fiberboard: ANSI A208.2.
 - 3. Particleboard: ANSI A208.1, Grade M-2.
 - 4. Softwood Plywood: PS 1.
 - 5. Hardwood Plywood and Face Veneers: HPVA HP-1.

- B. Hardwood Lumber: Graded in accordance with AWI Custom; red oak species, plain sawn, maximum moisture content of 6 percent; with mixed grain of quality suitable for transparent finish.
- C. Particleboard: ANSI A208.1, Grade M-2 made with phenol-formaldehyde resins.
- D. High-Pressure Decorative Laminate: NEMA LD 3, grades as indicated, or if not indicated, as required by woodwork quality standard.
 - 1. Formica Corporation.
 - 2. Laminart.
 - 3. Nevamar Corp.
 - 4. Pioneer Plastics Corp.
 - 5. Colors, Patterns, and Finishes: Provide Architect's selections from laminate manufacturer's full range of colors and finishes in the following categories:
 - a. Solid colors.
 - b. Patterns.
- E. Thermoset Decorative Laminate: Comply with ALA-1988 and NEMA LD 3 for GP 20; melamine.
- F. Adhesive for Bonding Plastic Laminate: Contact cement.

2.2 CABINET HARDWARE

- A. General: Provide cabinet hardware and accessory materials associated with architectural cabinets, except for items specified in Division 8 Section "Door Hardware."
- B. Hardware Standard: Comply with BHMA A156.9 for items indicated by reference to BHMA numbers or referenced to this standard.
- C. Exposed Hardware Finishes: For exposed hardware, provide finish that complies with BHMA A156.18 for BHMA code number indicated.
 - 1. Satin Chromium Plated: BHMA 626 for brass or bronze base; BHMA 652 for steel base.
 - 2. Satin Stainless Steel, Stainless-Steel Base: BHMA 630.
- D. For concealed hardware provide manufacturer's standard finish that complies with product class requirements of BHMA A156.9.
- E. Hinges: Grass 1200, MEPLA SSP 65-254-Z00 3-dimensional adjustable, 170 degree open angle, slide on technique, all metal hinge with automatic steel closing mechanism.
- F. Full Extension Drawer Slides: Grass 6200, MEPLA 3211, 100 pound capacity, almond baked-on epoxy finish.
- G. Door and Drawer Pulls: Ives, Stanley, EPCO, Colonial, 1-5/16 inch projection by 4 inches screw hole spacing. Solid aluminum with a clear anodized satin finish.
- H. Shelf Standards: Knappe & Vogt Mfg. Co.
 - 1. No. 255 nickel finish, 5/8" wide by 3/16" high Standards for shelving in casework, recess mount on 2" centers. Brackets shall be No. 256 series with nickel finish.

2.3 INSTALLATION MATERIALS

- A. Furring, Blocking, Shims, and Hanging Strips: Softwood or hardwood lumber, kiln dried to less than 15 percent moisture content.
- B. Rough Carriages for Stairs: Comply with requirements of Division 6 Section "Rough Carpentry" for structural framing lumber. Kiln dry to less than 15 percent moisture content.
- C. Screws: Select material, type, size, and finish required for each use. Comply with ASME B18.6.1 for applicable requirements.

- B. Hardwood Lumber: Graded in accordance with AWI Custom; red oak species, plain sawn, maximum moisture content of 6 percent; with mixed grain of quality suitable for transparent finish.
- C. Particleboard: ANSI A208.1, Grade M-2 made with phenol-formaldehyde resins.
- D. High-Pressure Decorative Laminate: NEMA LD 3, grades as indicated, or if not indicated, as required by woodwork quality standard.
 - 1. Formica Corporation.
 - 2. Laminart.
 - 3. Nevamar Corp.
 - 4. Pioneer Plastics Corp.
 - 5. Colors, Patterns, and Finishes: Provide Architect's selections from laminate manufacturer's full range of colors and finishes in the following categories:
 - a. Solid colors.
 - b. Patterns.
- E. Thermoset Decorative Laminate: Comply with ALA-1988 and NEMA LD 3 for GP 20; melamine.
- F. Adhesive for Bonding Plastic Laminate: Contact cement.

2.2 CABINET HARDWARE

- A. General: Provide cabinet hardware and accessory materials associated with architectural cabinets, except for items specified in Division 8 Section "Door Hardware."
- B. Hardware Standard: Comply with BHMA A156.9 for items indicated by reference to BHMA numbers or referenced to this standard.
- C. Exposed Hardware Finishes: For exposed hardware, provide finish that complies with BHMA A156.18 for BHMA code number indicated.
 - 1. Satin Chromium Plated: BHMA 626 for brass or bronze base; BHMA 652 for steel base.
 - 2. Satin Stainless Steel, Stainless-Steel Base: BHMA 630.
- D. For concealed hardware provide manufacturer's standard finish that complies with product class requirements of BHMA A156.9.
- E. Hinges: Grass 1200, MEPLA SSP 65-254-Z00 3-dimensional adjustable, 170 degree open angle, slide on technique, all metal hinge with automatic steel closing mechanism.
- F. Full Extension Drawer Slides: Grass 6200, MEPLA 3211, 100 pound capacity, almond baked-on epoxy finish.
- G. Door and Drawer Pulls: Ives, Stanley, EPCO, Colonial, 1-5/16 inch projection by 4 inches screw hole spacing. Solid aluminum with a clear anodized satin finish.
- H. Shelf Standards: Knap & Vogt Mfg. Co.
 - 1. No. 255 nickel finish, 5/8" wide by 3/16" high Standards for shelving in casework, recess mount on 2" centers. Brackets shall be No. 256 series with nickel finish.

2.3 INSTALLATION MATERIALS

- A. Furring, Blocking, Shims, and Hanging Strips: Softwood or hardwood lumber, kiln dried to less than 15 percent moisture content.
- B. Rough Carriages for Stairs: Comply with requirements of Division 6 Section "Rough Carpentry" for structural framing lumber. Kiln dry to less than 15 percent moisture content.
- C. Screws: Select material, type, size, and finish required for each use. Comply with ASME B18.6.1 for applicable requirements.

- D. For metal framing supports, provide screws as recommended by metal-framing manufacturer.
- E. Nails: Select material, type, size, and finish required for each use. Comply with FS FF-N-105 for applicable requirements.
- F. Anchors: Select material, type, size, and finish required for each substrate for secure anchorage. Provide nonferrous metal or hot-dip galvanized anchors and inserts on inside face of exterior walls and elsewhere as required for corrosion resistance. Provide toothed steel or lead expansion bolt devices for drilled-in-place anchors.

2.4 FABRICATION, GENERAL

- A. Fabricate casework and countertops in strict accordance with AWI Quality Standard 400 unless noted otherwise. Minimum nominal thickness for cabinet components shall meet AWI Quality Standard 400-G-8.
- B. Plastic Laminate Casework: Custom grade, with flush overlay construction without face frame cabinet construction.
 1. Body members - ends, bottom, divisions, rails and tops: .028" laminate over .020" cabinet liner particleboard, all exposed and semi-exposed sides.
 2. Shelves: Thermoset Decorative Overlay (melamine) with PVC edging. Provide laminate over plywood where required to meet AWI 400-G-8.
 3. Backs: Thermoset Decorative Overlay (melamine).
 4. Drawer sides, backs and subfronts: Hardwood plywood or solid lumber.
 5. Drawer Bottoms: Hardwood plywood.
 6. Drawer Fronts: .028" laminate over .020" cabinet liner particleboard.
 7. Premanufactured drawer systems: Drawer systems will be acceptable similar to Blum Metabox or approved equal.
 8. Cabinet Doors: .028" laminate over .020" cabinet liner particleboard.
 9. Edging: Band all exposed edges of plywood with 3 mm PVC.
 10. Base Toe Kick: Hardwood plywood; rubber base specified in Section 09650, Resilient Flooring.
- C. Wood Moisture Content: Comply with requirements of referenced quality standard for wood moisture content in relation to relative humidity conditions existing during time of fabrication and in installation areas.
- D. Fabricate Woodwork to Dimensions, Profiles, and Details Indicated. Ease Edges to Radius Indicated for the Following:
 1. Corners of cabinets and edges of solid-wood (lumber) members 3/4 inch (19 mm) thick or less: 1/16 inch (1.5 mm).
 2. Edges of rails and similar members more than 3/4 inch (19 mm) thick: 1/8 inch (3 mm).
 3. Corners of cabinets and edges of solid-wood (lumber) members and rails: 1/16 inch (1.5 mm).
- E. Complete fabrication, including assembly, finishing, and hardware application, before shipment to Project site to maximum extent possible. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.
 1. Trial fit assemblies at the fabrication shop that cannot be shipped completely assembled. Install dowels, screws, bolted connectors, and other fastening devices that can be removed after trial fitting. Verify that various parts fit as intended and check measurements of assemblies against field measurements indicated on approved shop drawings before disassembling for shipment.
- F. Shop-cut openings, to maximum extent possible, to receive hardware, appliances, plumbing fixtures, electrical work, and similar items. Locate openings accurately and use templates or roughing-in diagrams to produce accurately sized and shaped openings. Smooth edges of cutouts and, where located in countertops and similar exposures, seal edges with a water-resistant coating.

2.5 COUNTERTOPS

- A. Quality Standard: Comply with AWI Section 400C requirements for countertops.
 - 1. Grade: Premium.
- B. Type of Top: High-pressure decorative laminate complying with the following:
 - 1. Grade: GP-50, 0.050 inch (1.270 mm) nominal thickness.
 - 2. Grain Direction: Parallel to cabinet fronts.
 - 3. Edge Treatment: Same as laminate cladding on horizontal surfaces.
 - 4. Core Material: Medium-density particleboard.
 - 5. Core Material: Exterior-grade plywood for applications for sinks and wet areas.

2.6 INTERIOR FRAMES AND JAMBS FOR TRANSPARENT FINISH

- A. Quality Standard: Comply with AWI Section 900.
 - 1. Grade: Custom.
- B. Wood Species: Eastern white pine.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Quality Standard: Install woodwork to comply with AWI Section 1700 for the same grade specified in Part 2 of this Section for type of woodwork involved.
- B. Set and secure casework in place; rigid, plumb, and level.

END OF SECTION

2.5 COUNTERTOPS

- A. Quality Standard: Comply with AWI Section 400C requirements for countertops.
 - 1. Grade: Premium.
- B. Type of Top: High-pressure decorative laminate complying with the following:
 - 1. Grade: GP-50, 0.050 inch (1.270 mm) nominal thickness.
 - 2. Grain Direction: Parallel to cabinet fronts.
 - 3. Edge Treatment: Same as laminate cladding on horizontal surfaces.
 - 4. Core Material: Medium-density particleboard.
 - 5. Core Material: Exterior-grade plywood for applications for sinks and wet areas.

2.6 INTERIOR FRAMES AND JAMBS FOR TRANSPARENT FINISH

- A. Quality Standard: Comply with AWI Section 900.
 - 1. Grade: Custom.
- B. Wood Species: Eastern white pine.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Quality Standard: Install woodwork to comply with AWI Section 1700 for the same grade specified in Part 2 of this Section for type of woodwork involved.
- B. Set and secure casework in place; rigid, plumb, and level.

END OF SECTION

SECTION 07110

BITUMINOUS DAMPPROOFING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Cold applied asphalt bitumen dampproofing.

1.2 SUBMITTALS

- A. Product Data: Provide properties of primer, bitumen, and mastics.
- B. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.

1.3 QUALITY ASSURANCE

- A. Perform Work in accordance with NRCA Waterproofing Manual.
- B. Applicator: Company specializing in performing the work of this section with minimum 3 years experience.

1.4 ENVIRONMENTAL REQUIREMENTS

- A. Maintain ambient temperatures above 40 degrees F (5 degrees C) for 24 hours before and during application until dampproofing has cured.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Cold-Applied, Asphalt Emulsion Dampproofing: Asphalt-based emulsions recommended by the manufacturer for Dampproofing use when applied according to the manufacturer's instructions.
 - 1. Trowel Grade: Emulsified asphalt mastic, prepared with mineral-colloid emulsifying agents suitable for application in a relatively thick film, Complying with ASTM D 1187, Type 1.
 - a. Sealmastic, Type 3; W. R. Meadows
 - b. Hydrocide 600; Sonneborn Building Products.
 - c. Dampproofing Asphalt Coatings Mastic; Euclid
 - d. Karnak 920; Karnac Chemical Corp.
 - 2. Semimastic Grade: Emulsified asphalt mastic, prepared with mineral-colloid emulsifying agents and containing fibers other than asbestos, complying with ASTM D 1227, Type 3 or 4.
 - a. Sealmastic, Type 2; W. R. Meadows
 - b. Hydrocide 700; Sonneborn Building Products.
 - c. Dampproofing Asphalt Coatings Semimastic; Euclid
 - d. Karnak 220; Karnac Chemical Corp.
 - 3. Spray Grade: Emulsified asphalt mastic, prepared with mineral-colloid emulsifying agents without fibrous reinforcement, complying with ASTM D 1227, Type 3.
 - a. Sealmastic, Type 1; W. R. Meadows
 - b. Hydrocide 700B; Sonneborn Building Products.
 - c. Karnak 100; Karnac Chemical Corp.

PART 3 EXECUTION

3.1 APPLICATION

- A. Apply cold bitumen with trowel, roller or by spray application.
- B. Apply bitumen at a temperature limited by equiviscous temperature (EVT) plus or minus 25 degrees F (14 degrees C); do not exceed finish blowing temperature for four hours.
- C. Apply bitumen in one or two coats as recommended by the manufacturer.

3.2 SCHEDULE

- A. Basement Foundation Walls: Two coatings of asphalt dampproofing.
- B. CMU at cavity walls: One coat of asphalt dampproofing.

END OF SECTION

PART 3 EXECUTION

3.1 APPLICATION

- A. Apply cold bitumen with trowel, roller or by spray application.
- B. Apply bitumen at a temperature limited by equiviscous temperature (EVT) plus or minus 25 degrees F (14 degrees C); do not exceed finish blowing temperature for four hours.
- C. Apply bitumen in one or two coats as recommended by the manufacturer.

3.2 SCHEDULE

- A. Basement Foundation Walls: Two coatings of asphalt dampproofing.
- B. CMU at cavity walls: One coat of asphalt dampproofing.

END OF SECTION

SECTION 07210

BUILDING INSULATION

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Board insulation at perimeter foundation wall and at interior basement walls.
- B. Batt insulation and vapor retarder in exterior wall and roof construction.
- C. Foamed-in-place insulation for filling perimeter window and door shim spaces, crevices in exterior wall and roof.

1.2 SUBMITTALS

- A. Product Data: Provide data on product characteristics, performance criteria, and limitations.
- B. Manufacturer's Installation Instructions: Indicate special environmental conditions required for installation, installation techniques.
- C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

1.3 ENVIRONMENTAL REQUIREMENTS

- A. Do not install insulation or vapor barriers when temperature or weather conditions are detrimental to successful installation.

PART 2 PRODUCTS

2.1 MANUFACTURERS - INSULATION MATERIALS

- A. Board Insulation (Extruded Polystyrene):
 - 1. Styrofoam by Dow Chemical Co.
 - 2. Foamular 150 and 250 by UC Industries
 - 3. Amofoam by Amoco Foam Products Company
- B. Batt Insulation:
 - 1. Certain-Teed Products Corporation
 - 2. Schuller Corporation
 - 3. Owens-Corning Fiberglas Corp.
- C. Foamed-in-place Insulation:
 - 1. Polycel One by Grace
 - 2. Froth-Pak by Insta-Foam Products, Inc.
- D. Substitutions: Under provisions of Section 01600.

2.2 INSULATION MATERIALS

- A. Extruded Polystyrene Insulation: ASTM C578 Type VI; cellular type, conforming to the following:
 - 1. Board Size: 24 x 96 inch (600 x 2400 mm).
 - 2. Board Thickness: 2 inches (50 mm).
 - 3. Thermal Resistance: R of 5.0 per inch.
 - 4. Water Absorption: In accordance with ASTM D2842 0.3 percent by volume maximum.
 - 5. Compressive Strength: Minimum 25 psi (175 kPa).

6. Board Edges: Square edges.
7. Flame/Smoke Properties: 10/200 in accordance with ASTM E84.

B. Batt Insulation: ASTM C665; preformed glass fiber batt, roll, blanket, friction fit, conforming to the following:

1. Thermal Resistance: R of 3.15 per inch.
2. Batt or Roll Size: As indicated.
3. Facing: [Unfaced] [Faced on one side with asphalt treated Kraft paper].
4. Flame/Smoke Properties: 25/50 in accordance with ASTM E84.

C. Foamed-in-Place Insulation: ASTM C1029, Type I urethane foam insulation, conforming to the following:

1. Density:
2. Flame/Smoke Properties: 15/75 in accordance with ASTM E84.

D. Vapor Retarder: Clear polyethylene film for above grade application, 6 mil (0.15 mm) thick.

2.3 ACCESSORIES

A. Tape: Polyethylene self-adhering type, 2 inch (50 mm) wide.

PART 3 EXECUTION

3.1 INSTALLATION

A. Install insulation in accordance with manufacturer's recommendations.

3.2 SCHEDULES

- A. Foundation Insulation: Extruded polystyrene.
- B. Basement Wall Insulation: Extruded polystyrene.
- C. Slab-on-grade Insulation: Extruded polystyrene.
- D. Thermal and Sound Batt Insulation: Fiberglass.
- E. Gaps around doors, windows and other void spaces in the exterior wall system: Foamed-in-place insulation.

END OF SECTION

6. Board Edges: Square edges.
 7. Flame/Smoke Properties: 10/200 in accordance with ASTM E84.
- B. Batt Insulation: ASTM C665; preformed glass fiber batt, roll, blanket, friction fit, conforming to the following:
1. Thermal Resistance: R of 3.15 per inch.
 2. Batt or Roll Size: As indicated.
 3. Facing: [Unfaced] [Faced on one side with asphalt treated Kraft paper].
 4. Flame/Smoke Properties: 25/50 in accordance with ASTM E84.
- C. Foamed-in-Place Insulation: ASTM C1029, Type I urethane foam insulation, conforming to the following:
1. Density:
 2. Flame/Smoke Properties: 15/75 in accordance with ASTM E84.
- D. Vapor Retarder: Clear polyethylene film for above grade application, 6 mil (0.15 mm) thick.

2.3 ACCESSORIES

- A. Tape: Polyethylene self-adhering type, 2 inch (50 mm) wide.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install insulation in accordance with manufacturer's recommendations.

3.2 SCHEDULES

- A. Foundation Insulation: Extruded polystyrene.
- B. Basement Wall Insulation: Extruded polystyrene.
- C. Slab-on-grade Insulation: Extruded polystyrene.
- D. Thermal and Sound Batt Insulation: Fiberglass.
- E. Gaps around doors, windows and other void spaces in the exterior wall system: Foamed-in-place insulation.

END OF SECTION

SECTION 07310

SHINGLES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Granular surfaced asphalt shingle roofing.
- B. Installation of associated metal flashings, vents and accessories.

1.2 SUBMITTALS

- A. Product Data: Provide product data indicating material characteristics, performance criteria, and limitations.
- B. Samples: Submit two (2) samples of each shingle color indicating color range and finish texture/pattern; for color selection.
- C. Manufacturer's Instructions: Indicate installation criteria and procedures.
- D. Manufacturer's Certificate: Certify that Products meet or exceed specified requirements.

1.3 QUALITY ASSURANCE

- A. Perform Work in accordance with NRCA Steep Roofing Manual.
- B. Maintain one copy of document for review.

1.4 WARRANTY

- A. General Warranty: The special warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provision of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contract under requirements of the Contract Documents.
- B. Special Warranty: Submit a written warranty signed by manufacturer agreeing to repair or replace asphalt shingles that fail in materials or workmanship within the specified warranty period. Failures include, but are no limited to, deformation or deterioration of asphalt shingles beyond normal weathering.
 - 1. Warranty Period: Manufacturer's standard but not less than 25 years after date of Substantial Completion.

1.5 EXTRA MATERIALS

- A. Provide 2 bundles of extra shingles of each color.

PART 2 PRODUCTS

2.1 ASPHALT SHINGLES

- A. Asphalt Shingles: ASTM D3018, Class A with Type I - Self sealing, ASTM D3462; UL Rating of A and Wind Resistance Label, glass fiber mat base, mineral granule surface type; 230 lb/100 sq ft (11.2 kg/sq m) weight; self sealing type; square type; color as selected.
 - 1. Seal King by Bird and Son
 - 2. Royal Sovereign by GAF
 - 3. XT-25 by Certainteed

4. Supreme by Owens Corning
5. Guardsman 25 by Manville
6. Heavyweight by Georgia Pacific

2.2 SHEET MATERIALS

- A. Roll Roofing: ASTM D249, Type I; Asphalt saturated roll roofing; 90 lb/square (4.4 kg/sq m) surfaced on weather side with mineral granules of color as selected.
- B. Underlayment: ASTM D226, No. 15 unperforated asphalt saturated felts as recommended for use in waterproofing and in construction of built-up roofs.

2.3 ACCESSORIES

- A. Nails: Standard round wire shingle type hot dipped zinc coated type, of sufficient length to penetrate through roof sheathing.
- B. Plastic Cement: ASTM D4586, Asphalt type with mineral fiber components, free of toxic solvents, capable of setting within 24 hours at temperatures of 75 degrees F (24 degrees C) and 50 percent RH.
- C. Lap Cement: Fibrated cutback asphalt type, recommended for use in application of underlayment, free of toxic solvents.

2.4 FLASHING MATERIALS

- A. See Section 07620 - Sheet Metal, Flashing and Trim.

PART 3 EXECUTION

3.1 INSTALLATION - PROTECTIVE UNDERLAYMENT

- A. Place one ply of underlayment over area not protected by eave protection, with ends and edges weather lapped minimum 6 inches (150 mm). Stagger end laps of each consecutive layer. Nail in place.

3.2 INSTALLATION - METAL FLASHING AND ACCESSORIES

- A. Weather lap joints minimum 4 inches (100 mm) and seal weather tight with plastic cement.

3.3 INSTALLATION - ASPHALT SHINGLES

- A. Install shingles in accordance with manufacturer's instructions. Fasten with 6 nails per shingle.

END OF SECTION

4. Supreme by Owens Corning
5. Guardsman 25 by Manville
6. Heavyweight by Georgia Pacific

2.2 SHEET MATERIALS

- A. Roll Roofing: ASTM D249, Type I; Asphalt saturated roll roofing; 90 lb/square (4.4 kg/sq m) surfaced on weather side with mineral granules of color as selected.
- B. Underlayment: ASTM D226, No. 15 unperforated asphalt saturated felts as recommended for use in waterproofing and in construction of built-up roofs.

2.3 ACCESSORIES

- A. Nails: Standard round wire shingle type hot dipped zinc coated type, of sufficient length to penetrate through roof sheathing.
- B. Plastic Cement: ASTM D4586, Asphalt type with mineral fiber components, free of toxic solvents, capable of setting within 24 hours at temperatures of 75 degrees F (24 degrees C) and 50 percent RH.
- C. Lap Cement: Fibrated cutback asphalt type, recommended for use in application of underlayment, free of toxic solvents.

2.4 FLASHING MATERIALS

- A. See Section 07620 - Sheet Metal, Flashing and Trim.

PART 3 EXECUTION

3.1 INSTALLATION - PROTECTIVE UNDERLAYMENT

- A. Place one ply of underlayment over area not protected by eave protection, with ends and edges weather lapped minimum 6 inches (150 mm). Stagger end laps of each consecutive layer. Nail in place.

3.2 INSTALLATION - METAL FLASHING AND ACCESSORIES

- A. Weather lap joints minimum 4 inches (100 mm) and seal weather tight with plastic cement.

3.3 INSTALLATION - ASPHALT SHINGLES

- A. Install shingles in accordance with manufacturer's instructions. Fasten with 6 nails per shingle.

END OF SECTION

SECTION 07531

ADHERED SINGLE PLY ROOFING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Insulation.
- B. Membrane roofing, base flashings, roofing membrane expansion joints, cant strips, roof drains, and counter flashings.
- C. The work herein shall also include the removal of existing gravel, roofing plies, insulation flashing, and related items required for the re-roofing work as specified herein and as indicated on the drawings.

1.2 SYSTEM DESCRIPTION

- A. Elastomeric Sheet Membrane Conventional Roofing System: One ply membrane system with vapor retarder, insulation, and adhesive applied membrane.

1.3 SUBMITTALS

- A. Product Data: Provide characteristics on membrane materials, flashing materials, insulation, and vapor retarders.
- B. Shop Drawings: Indicate setting plan for tapered insulation, joint or termination detail conditions, conditions of interface with other materials.
- C. Samples: Submit two 12 x 12 inch (300 x 300 mm) in size illustrating insulation and membrane.
- D. Manufacturer's Installation Instructions: Indicate special precautions required for seaming the membrane.
- E. Manufacturer's Certificate: Certify that products meet or exceed specified requirements. Provide a copy of manufacturer's installation rating.

1.4 QUALITY ASSURANCE

- A. Manufacturer: Company specializing in manufacturing the products specified in this section with five years documented experience.
- B. Applicator: Company specializing in performing the work of this section with 3 years experience and approved by system manufacturer. Contractor shall have installed a minimum of 500,000 square feet and have a manufacturer's installation rating of 8.5 or better.
- C. Obtain primary flexible sheet roofing from a single manufacturer. Provide secondary materials as recommended by manufacturer of primary materials.
- D. Perform Work in accordance with manufacturer's instructions.

1.5 REGULATORY REQUIREMENTS

- A. Conform to applicable code for roof assembly fire hazard requirements.
- B. UL 790: Class A Fire Hazard Classification.
- C. FM 4470: Roof Assembly Classification, of Class 1 Construction, wind uplift requirement of I-60, in accordance with FM Construction Bulletin 1-28.

1.6 WARRANTY

- A. Installer Warranty: Correct defective Work within a 2 year period after Substantial Completion for material and installation. Provide a 20 year warranty on the primary membrane.
- B. Manufacturer's Warranty: Correct defective Work within a 20 year period after Substantial Completion for the primary membrane.

PART 2 PRODUCTS

2.1 MANUFACTURERS - MEMBRANE MATERIAL

- A. Carlisle Syntec System.
- B. Firestone Building Products
- C. Versico Inc.
- D. Substitutions: Not permitted.

2.2 MEMBRANE AND ASSOCIATED MATERIALS

- A. Membrane: EPDM 0.060 inch (1.5 mm) thick, 10 feet (3 m) wide roll; black color conforming to the following criteria:

Properties	Test	Results
1. Tensile Strength	ASTM D412	1400
2. Elongation	ASTM D412	250%
3. Water Absorption	ASTM D471	+8, -2
4. Moisture Vapor Perms	ASTM E96	2.0
5. Low Temperature Brittleness	ASTM D2137	-40 (-40)

- B. Seaming Materials: Seam splicing tapes as recommended by membrane manufacturer.

2.3 ADHESIVE MATERIALS

- A. Membrane Adhesives: As recommended by membrane manufacturer.
- B. Insulation Adhesive: As recommended by insulation manufacturer.
- C. Thinner and Cleaner: As recommended by adhesive manufacturer, compatible with sheet membrane.

2.4 INSULATION

- A. Insulation: ASTM C1013, polyisocyanurate rigid board, closed cell glass fiber reinforced type, conforming to the following:
 - 1. Board Size: 48 x 96 inch (600 x 2400 mm).
 - 2. Board Thickness: Varies.
 - 3. Facing: Factory applied skin of fiber reinforced felt paper on both faces.
 - 4. Thermal Resistance: Aged R of 6.0 per inch.
 - 5. Board Edges: square.
 - 6. Water Absorption: In accordance with ASTM D2842 less than 1 1/2 percent by volume maximum.
 - 7. Flame/Smoke Properties: 25/25 in accordance with ASTM E84.
- B. Tapered Insulation: ASTM C1013, polyisocyanurate rigid board, same manufacturer as flat board, tapered to 1/4 and 1/2 inch per foot slopes.

1.6 WARRANTY

- A. Installer Warranty: Correct defective Work within a 2 year period after Substantial Completion for material and installation. Provide a 20 year warranty on the primary membrane.
- B. Manufacturer's Warranty: Correct defective Work within a 20 year period after Substantial Completion for the primary membrane.

PART 2 PRODUCTS

2.1 MANUFACTURERS - MEMBRANE MATERIAL

- A. Carlisle Syntec System.
- B. Firestone Building Products
- C. Versico Inc.
- D. Substitutions: Not permitted.

2.2 MEMBRANE AND ASSOCIATED MATERIALS

- A. Membrane: EPDM 0.060 inch (1.5 mm) thick, 10 feet (3 m) wide roll; black color conforming to the following criteria:

Properties	Test	Results
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4. Moisture Vapor Perms	ASTM E96	2.0
5. Low Temperature Brittleness	ASTM D2137	-40 (-40)

- B. Seaming Materials: Seam splicing tapes as recommended by membrane manufacturer.

2.3 ADHESIVE MATERIALS

- A. Membrane Adhesives: As recommended by membrane manufacturer.
- B. Insulation Adhesive: As recommended by insulation manufacturer.
- C. Thinner and Cleaner: As recommended by adhesive manufacturer, compatible with sheet membrane.

2.4 INSULATION

- A. Insulation: ASTM C1013, polyisocyanurate rigid board, closed cell glass fiber reinforced type, conforming to the following:
 - 1. Board Size: 48 x 96 inch (600 x 2400 mm).
 - 2. Board Thickness: Varies.
 - 3. Facing: Factory applied skin of fiber reinforced felt paper on both faces.
 - 4. Thermal Resistance: Aged R of 6.0 per inch.
 - 5. Board Edges: square.
 - 6. Water Absorption: In accordance with ASTM D2842 less than 1 1/2 percent by volume maximum.
 - 7. Flame/Smoke Properties: 25/25 in accordance with ASTM E84.
- B. Tapered Insulation: ASTM C1013, polyisocyanurate rigid board, same manufacturer as flat board, tapered to 1/4 and 1/2 inch per foot slopes.

SECTION 07620

SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Flashings and counterflashings, gutters and downspouts, sheet metal roofing.

1.2 SUBMITTALS

- A. Shop Drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashings, terminations, and installation details.
- B. Product Data: Provide data on prefabricated components.
- C. Samples: Submit two samples 6 x 6 inch (150 x 150 mm) in size illustrating metal finish color.

1.3 QUALITY ASSURANCE

- A. Fabricator and Installer Qualifications: Company specializing in sheet metal work with 5 years experience.

PART 2 PRODUCTS

2.1 SHEET MATERIALS

- A. Lead Coated Copper Sheet: ASTM B101 soft temper, 16 oz/sq ft (0.22 gm/sq m). Provide lead coating of 0.06 to 0.075 lbs. per sq. ft.
- B. Pre-Finished Galvanized Steel Sheet: ASTM A361/A361M, ASTM A446/A446M, Grade A, or ASTM A526/A526M, G90 zinc coating; 24 gage, shop pre-coated with Kynar 500 or Hylar 5000 coating meeting AAMA 605.2; black color.

2.2 ACCESSORIES

- A. Fasteners: Same material and finish as flashing metal.
- B. Plastic Cement: ASTM D4586, Type I.
- C. Solder: ASTM B32; 50/50 type.

2.3 FABRICATION

- A. Form sections true to shape, accurate in size, square, and free from distortion or defects.
- B. Fabricate cleats of same material as sheet, minimum 3 inches (75 mm) wide, interlocking with sheet.
- C. Form pieces in longest possible lengths.
- D. Hem exposed edges on underside 1/2 inch (13 mm); miter and seam corners.
- E. Form material with standing seams, except where otherwise indicated. At moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.
- F. Tin edges of copper sheet to be soldered. Solder shop formed metal joints. After soldering, remove flux. Wipe and wash solder joints clean. Weather seal joints.

- G. Fabricate corners from one piece with minimum 18 inch (450 mm) long legs; solder for rigidity, seal with sealant.
- H. Fabricate vertical faces with bottom edge formed outward 1/4 inch (6 mm) and hemmed to form drip.
- I. Fabricate flashings to allow toe to extend as indicated.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install flashings and trim in accordance with SMACNA Architectural Sheet Metal Manual requirements and standard details, except as otherwise noted.

3.2 SCHEDULE

- A. Gravel Stop-Facia at Roof Edge: Lead-coated copper.
 - 1. Conform to details.
- B. Flashings Associated with Shingle Roofing: Lead-coated copper.
 - 1. Eave: Conform to SMACNA; Figure 4-22D
 - 2. Step Flashing: Conform to SMACNA; Figure 4-21A
- C. Flat Seam Siding: Pre-finished steel sheet.
 - 1. Conform to SMACNA; Figure 6-3

END OF SECTION

2.5 FLASHINGS

- A. Flexible Flashings: Same material as membrane or EPDM; black color.
- B. Counterflashings: Metal, as specified in Section 07600.

2.6 ACCESSORIES

- A. Tapered Edge Strips at Roof Drain Sumps: Asphalt impregnated wood fiberboard, preformed to 45 degree angle. Install 1 inch insulation as filler under 2-1/2 inch tapered insulation.
- B. Fiberboard Underlayment: Similar to "Structodek" by Wood Fiber Industries, High Strength Wood Fiber Roof Insulation Board by BPCo. or approved alternate.
- C. Roofing Nails: Galvanized, hot dipped or non-ferrous type, size as required to suit application.
- D. Insulation Fasteners: Appropriate for purpose intended and approved by Factory Mutual and system manufacturer; length required for thickness of material with metal washers.
- E. Sealants: As recommended by membrane manufacturer.
- F. Stack Boots: Flexible boot and collar for pipe stacks through membrane.
- G. Flexi-Drain by Manville, or Uni-Flex by Tek Specialties. Size; 3 inch.

PART 3 EXECUTION

3.1 INSULATION APPLICATION

- A. Mechanically fasten insulation to deck in accordance with insulation manufacturer's instructions.
- B. Place the second layer of insulation with joints staggered minimum 6 inches (150 mm) from joints of first layer.
- C. Install fasteners in accordance with FM, I-60 and manufacturer's requirements.
- D. Place the constant thickness first layer and the tapered thickness insulation second layer to the required slope pattern in accordance with manufacturer's instructions.
- E. Minimum Total Insulation Thickness: 5 inch (114 mm) for roof areas where structure is pitched. To an average R value of 30 for roof areas of tapered insulation.

3.2 MEMBRANE APPLICATION

- A. Apply membrane in accordance with manufacturer's instructions.
- B. Apply adhesive at a rate recommended by manufacturer.

3.3 FLASHINGS AND ACCESSORIES

- A. Apply flexible flashings to seal membrane to vertical elements in accordance with manufacturer's instructions.
- B. Install roof drain in accordance with manufacturer's recommendations.

3.4 FIELD QUALITY CONTROL

- A. Provide for Manufacturer field inspection.

SECTION 07840

FIRESTOPPING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Fireproof firestopping and firesafing materials and accessories unless specified elsewhere.

1.2 DEFINITION

- A. Firestopping (Firesafing): A material or combination of materials designed to prevent the spread of fire, smoke and toxic gasses, through openings in fire resistive wall or floor assemblies to accommodate through-penetrating items such as pipes, ducts, wires, cables and construction joints, and between the top of fire rated walls and the floor above.

1.3 SYSTEM DESCRIPTION

- A. Firestopping Materials: ASTM E119, ASTM E814, UL 263, UL 1479, UL 2079 to achieve a fire rating as noted on Drawings.
- B. Firestop all interruptions to fire rated assemblies, materials, and components.

1.4 SUBMITTALS

- A. Product Data: Provide data on product characteristics, performance and limitation criteria.
- B. Shop Drawings: Indicate dimensions, description of materials and finishes, general construction, specific modifications, component connections, anchorage methods and hardware. Show details of each proposed assembly identifying intended products and applicable UL system number, or UL classified devices. Manufacturer or manufacturer's representative shall provide qualified engineering judgments and drawing relating to non-standard applications as needed.
- C. Manufacturer's Installation Instructions: Indicate preparation and installation instructions.

1.5 QUALITY ASSURANCE

- A. Manufacturer: Company specializing in manufacturing the products specified in this section with minimum three years experience.
- B. Applicator: Company specializing in performing the work of this section approved by manufacturer.
- C. Special Inspections: Allow for 3 of each type of firestopping system to be removed and inspected for conformance with approved submittals. All firestopping shall be inspected prior to the installation of ceilings.
- D. Above Ceiling review: Prior to the installation of ceilings, a review of construction completion shall be done for firestopping and other items that will not be visible when the ceilings have been installed.

1.6 REGULATORY REQUIREMENTS

- E. Conform to authority having jurisdiction for fire resistance ratings and surface burning characteristics.

1.7 ENVIRONMENTAL REQUIREMENTS

- A. Do not apply materials when temperature of substrate material and ambient air is below 40 degrees F (4.5 degrees C).
- B. Maintain this minimum temperature before, during, and for 3 days after installation of materials.

- C. Provide ventilation in areas to receive solvent cured materials.

1.8 SCHEDULING

- A. Coordinate the work of this section with work performed under other sections of the Project Manual. (Refer to Divisions 4, 9, 15 and 16).

PART 2 PRODUCTS

2.1 Manufacturers:

- A. Firestop Systems Inc.
- B. Hilti Construction Chemicals, Inc.
- C. International Protective Coatings Corp.
- D. Nelson Fire Stop Products
- E. RectorSeal Corporation (The).
- F. STI, Specified Technologies, Inc.
- G. Substitutions: Under provisions of Section 01600.

2.2 MATERIALS

- A. Silicone Elastomeric Sealant: Single component silicone elastomeric compound and compatible silicone sealant:
- B. Intumescent Compound: Water-based caulk, spray-applied intumescent mastic, or mastic Portland Cement based firestop mortar.
- A. Formulated Compound Of Incombustible Fibers: Formulated compound mixed with incombustible non-asbestos fibers.
- B. Fiber Stuffing: Mineral fiber stuffing insulation, 4 pcf minimum, non-combustible per ASTM E136.
- C. Mechanical Device With Fillers: Mechanical device with silicone elastomer covered with sheet stainless steel jacket, joined with collars, penetration sealed with flanged stops.
- D. Intumescent Putty: Intumescent putty compound which expands on exposure to surface heat gain.
- E. Firestop Pillows: Formed mineral fiber pillows.
- F. Intumescent Wrap Strip: Single-component intumescent elastomeric sheets with aluminum foil on one side.

2.3 ACCESSORIES

- A. Primer: Type recommended by firestopping manufacturer for specific substrate surfaces.
- B. Installation Accessories: Clips, collars, fasteners, temporary stops or dams, and other devices required to position and retain materials in place.
- C. Labels: Provide labels at both sides of penetrations and joints where firestop systems have been applied.
 - 1. Labels shall be self-adhering, 3 by 5 inches, containing the following information: "Warning Firestop System – Do Not Disturb". List system number, contractor, and date. Include manufacturer's name, address and telephone number.

B. Correct identified defects or irregularities.

END OF SECTION

SECTION 07920

JOINT SEALANTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Sealants and joint backing.

1.2 SUBMITTALS

- A. Product Data: Provide data indicating sealant chemical characteristics, performance criteria, substrate preparation and limitations.
- B. Samples: Submit two sets of samples, illustrating sealant colors for selection.
- C. Manufacturer's Installation Instructions: Indicate special procedures, surface preparation, and perimeter conditions requiring special attention.

1.3 QUALITY ASSURANCE

- A. Applicator Qualifications: Company specializing in performing the work of this section with minimum 3 years experience.

1.4 MOCK-UP

- A. Provide mock-up of sealant joints in conjunction with masonry mock-up panel.
- B. Construct mock-up with specified sealant types and with other components noted.

1.5 ENVIRONMENTAL REQUIREMENTS

- A. Maintain temperature and humidity recommended by the sealant manufacturer during and after installation.

1.6 WARRANTY

- A. Correct defective work within a three year period after Date of Substantial Completion.
- B. Warranty: Include coverage for installed sealants and accessories which fail to achieve watertight seal, exhibit loss of adhesion or cohesion, or do not cure.

PART 2 PRODUCTS

2.1 SEALANTS

- A. Type 1 - General Purpose Exterior Sealant: Polyurethane; ASTM C920, Type S, Grade NS, Class 25; single component.
 - 1. Sonolastic NP-1; Sonneborne
 - 2. Dymonic; Tremco
 - 3. Sikaflex-1a; Sika
 - 4. Dynatrol 1; Pecora
 - 5. Vulkem 921; Vulkem
 - 6. Chem-Calk 900; Bostik
- B. Type 2 - General Purpose Exterior Sealant: Polyurethane; ASTM C920, Type M, Grade NS, Class 25; two component.
 - 1. Sonolastic NP-2; Sonneborne

2. Dymeric; Tremco
 3. Sikaflex-2c, NS; Sika
 4. Dynatrol 2; Pecora
 5. Vulkem 922; Vulkem
 6. Chem-Calk 500; Bostik
- C. Type 3 - General Purpose Interior Sealant: Acrylic emulsion latex; ASTM C834, single component, paintable.
1. Sonolac; Sonneborne
 2. Tremco Acrylic Latex; Tremco
 3. AC-20; Pecora
 4. Chem-Calk 600; Bostik
- D. Type 4 - Bathtub/Tile Sealant: White silicone; ASTM C920, Uses M and A; single component, mildew resistant.
1. Sanitary 1700; GE Silicones
- E. Type 5 - Not Used
- F. Type 6 - Interior Floor Joint Sealant: Polyurethane, self-leveling; ASTM C920, Grade P, Class 25, Uses T, M and A; single component.
1. Sonolastic SL-1; Sonneborne
 2. Tremflex S/L; Tremco
 3. Sikaflex-1CSL; Sika
 4. NR-201; Pecora
 5. Vulkem 45; Vulkem
 6. Chem-Calk 950; Bostik

2.2 ACCESSORIES

- A. Primer: Non-staining type, recommended by sealant manufacturer to suit application.
- B. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.
- C. Joint Backing: Round foam rod compatible with sealant oversized 30 to 50 percent larger than joint width.
- D. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Perform installation in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
- B. Perform installation in accordance with ASTM C1193.
- C. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.
- D. Tool joints concave.

3.2 SCHEDULE

- A. Exterior Joints for Which No Other Sealant Type is Indicated: Type 2 ; colors as selected.

- G. Fabricate corners from one piece with minimum 18 inch (450 mm) long legs; solder for rigidity, seal with sealant.
- H. Fabricate vertical faces with bottom edge formed outward 1/4 inch (6 mm) and hemmed to form drip.
- I. Fabricate flashings to allow toe to extend as indicated.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install flashings and trim in accordance with SMACNA Architectural Sheet Metal Manual requirements and standard details, except as otherwise noted.

3.2 SCHEDULE

- A. Gravel Stop-Facia at Roof Edge: Lead-coated copper.
 - 1. Conform to details.
- B. Flashings Associated with Shingle Roofing: Lead-coated copper.
 - 1. Eave: Conform to SMACNA; Figure 4-22D
 - 2. Step Flashing: Conform to SMACNA; Figure 4-21A
- C. Flat Seam Siding: Pre-finished steel sheet.
 - 1. Conform to SMACNA; Figure 6-3

END OF SECTION

SECTION 08110

STEEL DOORS AND FRAMES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Non-rated, fire rated, thermally insulated steel doors.
- B. Non-rated, fire rated steel frames.
- C. Interior and Exterior glazed light frames.

1.2 SUBMITTALS

- A. Product Data: Indicate door and frame configurations, location of cut-outs for hardware reinforcement and finishes.
- B. Shop Drawings: Indicate door and frame elevations, internal reinforcement, anchor types and spacings, closure method, and cut-outs for hardware, louvers, and finishes.
- C. Door Schedule: Submit schedule of doors and frames using same reference numbers for details and openings as those on Drawings.

1.3 QUALITY ASSURANCE

- A. Conform to requirements of SDI-100 and ANSI A117.1.
- B. Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum three years experience.

1.4 REGULATORY REQUIREMENTS

- A. Fire Rated Door and Frame Construction: Conform to ASTM E152, NFPA 252 and UL 10B.
- B. Fire Rated Door Construction: Rate of rise of 250 F degrees (138 C degrees) across door thickness.
- C. Installed Door and Frame Assembly: Conform to NFPA 80 for fire rated class as scheduled.

1.5 DELIVERY, STORAGE, AND PROTECTION

- A. Accept doors and frames on site in manufacturer's packaging. Inspect for damage.
- B. Break seal on site to permit ventilation.

1.6 PROJECT CONDITIONS

- A. Coordinate frame installation with size, location, and installation of service utilities.
- B. Coordinate the work with door opening construction, door frame, and door hardware installation.
- C. Sequence installation to ensure wire connections are achieved in an orderly and expeditious manner.

PART 2 PRODUCTS

2.1 DOOR MANUFACTURERS

- A. Ceco Door Products: Model Imperial.

- B. Curries /Essex Industries, Inc.: Model 707.
- C. Steelcraft/Division of American Standard Co.: Model L-18.
- D. Section 01600 - Material and Equipment: Substitutions: Permitted.

2.2 FRAME MANUFACTURERS

- A. Ceco Door Products: Model Series SF.
- B. Curries /Essex Industries, Inc.: Model "M" Type.
- C. Steelcraft/Division of American Standard Co.: Model F frames.
- D. Section 01600 - Material and Equipment: Substitutions: Permitted.

2.3 DOORS

- A. Steel Doors: Provide 1-3/4 inch (44 mm) thick doors of materials and ANSI/SDI 100 grades and models specified below, or as indicated on the drawings or schedules:
 1. Interior Doors: Grade II, heavy-duty, Model 2, seamless design, minimum 18 gage thick cold-rolled steel sheet faces.
 2. Exterior Doors: Grade III, extra heavy-duty, Model 2, seamless design, minimum 16 gage thick galvanized cold-rolled steel sheet faces.

2.4 DOOR CONSTRUCTION

- A. Face: Steel sheet in accordance with SDI-100.
- B. End Closure: Channel, 0.047 inches (1.2 mm) thick, flush. Provide steel closure cap at the top channel at exterior doors. Seal joints in top edges of doors against water penetration.
- C. Core: Polystyrene foam, exterior doors; honeycomb, interior doors.
- D. Thermal Insulated Door: Total insulation R value of 14.97 (RSI value of 2.59), measured in accordance with ASTM C236.

2.5 FRAMES

- A. Exterior Frames: SDI-100.
- B. Interior Frames: SDI-100.

2.6 FRAME CONSTRUCTION

- A. Steel sheet in accordance with SDI-100; 14 gage galvanized, exterior doors; 16 gage, interior doors.

2.7 ACCESSORIES

- A. Glass: In accordance with Section 08800 - Glazing.
- B. Removable Stops: Rolled steel, channel shape, butted corners; prepared for countersink style screws.
- C. Bituminous Coating: Fibered asphalt emulsion.
- D. Primer: Zinc chromate type.
- E. Weatherstripping: Specified in Section 08710 Door Hardware.

- C. Provide ventilation in areas to receive solvent cured materials.

1.8 SCHEDULING

- A. Coordinate the work of this section with work performed under other sections of the Project Manual. (Refer to Divisions 4, 9, 15 and 16).

PART 2 PRODUCTS

2.1 Manufacturers:

- A. Firestop Systems Inc.
- B. Hilti Construction Chemicals, Inc.
- C. International Protective Coatings Corp.
- D. Nelson Fire Stop Products
- E. RectorSeal Corporation (The).
- F. STI, Specified Technologies, Inc.
- G. Substitutions: Under provisions of Section 01600.

2.2 MATERIALS

- A. Silicone Elastomeric Sealant: Single component silicone elastomeric compound and compatible silicone sealant:
- B. Intumescent Compound: Water-based caulk, spray-applied intumescent mastic, or mastic Portland Cement based firestop mortar.
- A. Formulated Compound Of Incombustible Fibers: Formulated compound mixed with incombustible non-asbestos fibers.
- B. Fiber Stuffing: Mineral fiber stuffing insulation, 4 pcf minimum, non-combustible per ASTM E136.
- C. Mechanical Device With Fillers: Mechanical device with silicone elastomer covered with sheet stainless steel jacket, joined with collars, penetration sealed with flanged stops.
- D. Intumescent Putty: Intumescent putty compound which expands on exposure to surface heat gain.
- E. Firestop Pillows: Formed mineral fiber pillows.
- F. Intumescent Wrap Strip: Single-component intumescent elastomeric sheets with aluminum foil on one side.

2.3 ACCESSORIES

- A. Primer: Type recommended by firestopping manufacturer for specific substrate surfaces.
- B. Installation Accessories: Clips, collars, fasteners, temporary stops or dams, and other devices required to position and retain materials in place.
- C. Labels: Provide labels at both sides of penetrations and joints where firestop systems have been applied.
 - 1. Labels shall be self-adhering, 3 by 5 inches, containing the following information: "Warning Firestop System – Do Not Disturb". List system number, contractor, and date. Include manufacturer's name, address and telephone number.

SECTION 08210

WOOD DOORS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Wood doors; flush configuration; fire rated and non-rated.
- B. Wood doors; stile and rail configuration.

1.2 SUBMITTALS

- A. Product Data: Indicate door core materials and construction; veneer species, type and characteristics.
- B. Shop Drawings: Illustrate door opening criteria, elevations, sizes, types, swings, undercuts required, special beveling, special blocking for hardware, factory machining criteria, identify cutouts for glazing and louvers.
- C. Manufacturer's Installation Instructions: Indicate special installation instructions.

1.3 QUALITY ASSURANCE

- A. Perform work for Flush Wood Doors in accordance with AWI Quality Standard Section 1300, Premium Grade.
- B. Perform work for Stile and Rail Wood Doors in accordance with AWI Quality Standard Section 1400, Premium Grade.
- C. Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum three years experience.

1.4 REGULATORY REQUIREMENTS

- A. Fire Door and Panel Construction: Conform to ASTM E152, NFPA 252 and UL 10B.
- B. Installed Fire Rated Door and Transom Panel Assembly: Conform to NFPA 80 for fire rated class as scheduled.

1.5 WARRANTY

- A. Provide warranty to the following term:
 - 1. Life of Installation: Interior doors.
- B. Include coverage for delamination of veneer, warping beyond specified installation tolerances, defective materials, and telegraphing core construction.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Algoma Manufacturing Co.
- B. Weyerhaeuser Company.
- C. Eggers Industries.

2.2 DOOR AND TRANSOM PANEL TYPES

- A. Flush Interior Doors: 1-3/4 inches (44 mm) thick; solid core construction, fire rated as indicated.
- B. Stile and Rail Doors: 1-3/4 inches (44 mm) thick; engineered hardwood composite core with lardwood lumber stile and rail banding. 1-1/2 inches (38 mm) thick panels; particleboard core, flat panel with particleboard or mineral core.

2.3 DOOR AND TRANSOM PANEL CONSTRUCTION

- A. Core (Solid, Non-Rated): AWI Section 1300, Type PC 5 - Particleboard.
- B. Core (Solid, Fire Rated): AWI Section 1300, Type as scheduled.

2.4 DOOR FACING

- A. Veneer Facing (Flush Interior Doors): AWI Custom quality species wood, paint grade, rotary cut, natural birch for paint finish.
- B. Veneer Facing (Stile and Rail Interior Doors): AWI Custom quality species wood, paint grade, rotary cut, natural birch for paint finish.
- C. Cross Banding Behind Laminate Finish: 1 ply for fire rated doors.

2.5 ADHESIVE

- A. Facing Adhesive: Type I - waterproof.

2.6 ACCESSORIES

- A. Glazing Stops: Rolled steel shape, mitered corners; prepared for countersink style screws.
- B. Molding: Wood, of same species as door facing, raised contour shape, mitered corners; prepared for countersink style screws.

2.7 FABRICATION

- A. Fabricate non-rated doors in accordance with AWI Quality Standards requirements.
- B. Fabricate fire rated doors in accordance with AWI Quality Standards and to UL or Warnock Hersey requirements. Attach fire rating label to door.
- C. Provide lock blocks at lock edge and top of door for closer for hardware reinforcement.
- D. Vertical Exposed Edge of Stiles: Of same species as veneer facing.
- E. Fit door edge trim to edge of stiles after applying veneer facing.
- F. Bond edge banding to cores.
- G. Factory machine doors for finish hardware in accordance with hardware requirements and dimensions. Do not machine for surface hardware. Provide solid blocking for through bolted hardware.
- H. Factory fit doors for frame opening dimensions identified on shop drawings.
- I. Cut and configure exterior door edge to receive recessed weather stripping devices.
- J. Provide edge clearances in accordance with AWI 1600.

2. Where application occurs at joints in partitions tops, apply one label at 30 foot centers, on one side of partition.

PART 3 EXECUTION

3.1 APPLICATION

- A. Install firestop systems at walls or partition openings that contain penetrating sleeves, piping, ductwork, conduit and other items, requiring firestopping.
- B. Install firestop systems at construction joints in walls or partitions.
- C. Apply primer and systems in accordance with applicable UL system.
- D. Apply firestopping material in sufficient thickness to achieve rating.

3.2 FIELD INSPECTION

- A. Prior to installation of ceilings, inspect penetrations requiring firestopping to verify complete installation of firestopping materials.
- B. The Architect, in the presence of the Authority having Jurisdiction, will remove and inspect 3 of each type of firestopping system for conformance with approved submittals.
- C. Reinstall firestopping materials that have been removed for inspection.

3.3 CLEANING

- A. Clean installed work.
- B. Clean adjacent surfaces of firestopping materials.

END OF SECTION

2. Dymeric; Tremco
 3. Sikaflex-2c, NS; Sika
 4. Dynatrol 2; Pecora
 5. Vulkem 922; Vulkem
 6. Chem-Calk 500; Bostik
- C. Type 3 - General Purpose Interior Sealant: Acrylic emulsion latex; ASTM C834, single component, paintable.
1. Sonolac; Sonneborne
 2. Tremco Acrylic Latex; Tremco
 3. AC-20; Pecora
 4. Chem-Calk 600; Bostik
- D. Type 4 - Bath tub/Tile Sealant: White silicone; ASTM C920, Uses M and A; single component, mildew resistant.
1. Sanitary 1700; GE Silicones
- E. Type 5 - Not Used
- F. Type 6 - Interior Floor Joint Sealant: Polyurethane, self-leveling; ASTM C920, Grade P, Class 25, Uses T, M and A; single component.
1. Sonolastic SL-1; Sonneborne
 2. Tremflex S/L; Tremco
 3. Sikaflex-1CSL; Sika
 4. NR-201; Pecora
 5. Vulkem 45; Vulkem
 6. Chem-Calk 950; Bostik

2.2 ACCESSORIES

- A. Primer: Non-staining type, recommended by sealant manufacturer to suit application.
- B. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.
- C. Joint Backing: Round foam rod compatible with sealant oversized 30 to 50 percent larger than joint width.
- D. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Perform installation in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
- B. Perform installation in accordance with ASTM C1193.
- C. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.
- D. Tool joints concave.

3.2 SCHEDULE

- A. Exterior Joints for Which No Other Sealant Type is Indicated: Type 2 ; colors as selected.

- B. Control, Expansion, and Soft Joints in Masonry, and Between Masonry and Adjacent Work: Type 2.
- C. Joints Between Exterior Metal Frames and Adjacent Work (except masonry): Type 1.
- D. Under Exterior Door Thresholds: Type 1.
- E. Interior Joints for Which No Other Sealant is Indicated: Type 3; colors as selected.
- F. Control and Expansion Joints in Interior Concrete Slabs and Floors: Type 6.
- G. Joints Between Plumbing Fixtures and Walls and Floors, and Between Countertops and Walls: Type 4.

END OF SECTION

- B. Curries /Essex Industries, Inc.: Model 707.
- C. Steelcraft/Division of American Standard Co.: Model L-18.
- D. Section 01600 - Material and Equipment: Substitutions: Permitted.

2.2 FRAME MANUFACTURERS

- A. Ceco Door Products: Model Series SF.
- B. Curries /Essex Industries, Inc.: Model "M" Type.
- C. Steelcraft/Division of American Standard Co.: Model F frames.
- D. Section 01600 - Material and Equipment: Substitutions: Permitted.

2.3 DOORS

- A. Steel Doors: Provide 1-3/4 inch (44 mm) thick doors of materials and ANSI/SDI 100 grades and models specified below, or as indicated on the drawings or schedules:
 - 1. Interior Doors: Grade II, heavy-duty, Model 2, seamless design, minimum 18 gage thick cold-rolled steel sheet faces.
 - 2. Exterior Doors: Grade III, extra heavy-duty, Model 2, seamless design, minimum 16 gage thick galvanized cold-rolled steel sheet faces.

2.4 DOOR CONSTRUCTION

- A. Face: Steel sheet in accordance with SDI-100.
- B. End Closure: Channel, 0.047 inches (1.2 mm) thick, flush. Provide steel closure cap at the top channel at exterior doors. Seal joints in top edges of doors against water penetration.
- C. Core: Polystyrene foam, exterior doors; honeycomb, interior doors.
- D. Thermal Insulated Door: Total insulation R value of 14.97 (RSI value of 2.59), measured in accordance with ASTM C236.

2.5 FRAMES

- A. Exterior Frames: SDI-100.
- B. Interior Frames: SDI-100.

2.6 FRAME CONSTRUCTION

- A. Steel sheet in accordance with SDI-100; 14 gage galvanized, exterior doors; 16 gage, interior doors.

2.7 ACCESSORIES

- A. Glass: In accordance with Section 08800 - Glazing.
- B. Removable Stops: Rolled steel, channel shape, butted corners; prepared for countersink style screws.
- C. Bituminous Coating: Fibered asphalt emulsion.
- D. Primer: Zinc chromate type.
- E. Weatherstripping: Specified in Section 08710 Door Hardware.

SECTION 08410

ALUMINUM FRAMED STOREFRONTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Aluminum doors and frames.
- B. Vision glass.
- C. Door hardware.
- D. Perimeter sealant.

1.2 SYSTEM DESCRIPTION

- A. Aluminum entrances and storefront system includes tubular aluminum sections with supplementary internal support framing, shop fabricated, factory finished, vision glass, glass infill panels, related flashings, anchorage and attachment devices.
- B. System Assembly: Site assembled.

1.3 PERFORMANCE REQUIREMENTS

- A. System Design: Design and size components to withstand dead and live loads caused by positive and negative wind pressure acting normal to plane of wall:
 - 1. To a design pressure of 30 lb/sq ft (.94 kPa),
 - 2. As measured in accordance with ASTM E330.
- B. Deflection: Limit mullion deflection to 3/4 inch (19 mm) of span; with full recovery of glazing materials.
- C. System Assembly: Accommodate without damage to components or deterioration of seals, movement within system, movement between system and peripheral construction, dynamic loading and release of loads, deflection of structural support framing.
- D. Air Infiltration: Limit air leakage through assembly to 0.06 cfm/min/sq ft (0.0003 cu m/s/sq m) of wall area, measured at a reference differential pressure across assembly of 6.24 psf (300 Pa) as measured in accordance with ASTM E283.
- E. Water Leakage: None, when measured in accordance with ASTM E331 with a test pressure difference of 8 lb./sq ft (382.8 N/sq m).
- F. Condensation Resistance Factor: Not less than 59.
- G. Expansion / Contraction: Provide for expansion and contraction within system components caused by cycling temperature range of 170 degrees F (95 degrees C) over a 12 hour period without causing detrimental effect to system components and anchorage.
- H. System Internal Drainage: Drain water entering joints, condensation occurring in glazing channels, or migrating moisture occurring within system, to the exterior by a weep drainage network.

1.4 SUBMITTALS

- A. Product Data: Provide component dimensions, describe components within assembly, anchorage and fasteners, glass and infill, door hardware, and internal drainage details.

- B. Design Data: Provide framing member structural and physical characteristics, calculations, dimensional limitations.
- C. Shop Drawings: Indicate system dimensions, framed opening requirements and tolerances, affected related Work and expansion and contraction joint location and details.
- D. Manufacturer's Certificate: Certify that Products meet or exceed specified requirements.

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with AAMA SFM-1 and AAMA - Metal Curtain Wall, Window, Store Front and Entrance - Guide Specifications Manual.
- B. Conform to requirements of ANSI A117.1.
- C. Design structural support framing components under direct supervision of a Professional Structural Engineer experienced in design of this Work and licensed at the place where the Project is located.

1.6 WARRANTY

- A. Correct defective Work within a five year period after Substantial Completion.
- B. Warranty: Include coverage for complete system for failure to meet specified requirements.
- C. Provide five year manufacturer warranty for glazed units.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Kawneer Company, Inc.: Model 451T
- B. EFCO Corporation: Model S-403
- C. Vistawall: Series 3000 Thermal Storefront System

2.2 MATERIALS

- A. Extruded Aluminum: ASTM B221; 6063 alloy, T5 or T6 temper.
- B. Sheet Aluminum: ASTM B209.
- C. Sheet Steel: ASTM A446/A446M; galvanized in accordance with ASTM 525.
- D. Steel Sections: ASTM A36/A36M; shaped to suit mullion sections.
- E. Fasteners: Stainless steel.

2.3 COMPONENTS

- A. Frame: 2 x 4-1/2 inch (50 x138 mm) nominal dimension; thermally broken with interior tubular section insulated from exterior; applied glazing stops; drainage holes; internal weep drainage system. Thermal slot type frame will not be accepted.
- B. Reinforced Mullion: 2 x 4-1/2 inch (50 x138 mm) nominal dimension; profile of extruded aluminum with internal reinforcement of shaped steel structural section.
- C. Reinforcement Plates: Stainless steel.

2.8 FABRICATION

- A. Astragals for Double Doors: Specified in Section 08710 - Door Hardware.
- B. Finish Hardware Preparation: Prepare doors and frames to receive mortised and concealed finish hardware in accordance with final Finish Hardware Schedule and templates provided by hardware supplier. Comply with applicable requirements of ANSI A115 series specifications for door and frame preparation for hardware. Locate finish hardware as indicated on final shop drawings or, if not indicated, in accordance with "Recommended Locations for Builder's Hardware", published by Door and Hardware Institute. All lockset, latchsets and exit devices shall be mounted 40 3/8" AFF to center line of strike unless indicated otherwise on the drawings.
- C. Fabricate doors with hardware reinforcement welded in place.
 - 1. Hinges, Pivots - 7 gage.
 - 2. Lock face, flush bolts, surface panic devices, concealed holders or surface closers - 12 gage.
 - 3. All other surface mounted hardware (unless otherwise required in ANSI A115) - 16 gage.
- D. Attach fire rated label to each fire rated door unit.
- E. Configure exterior doors with special profile to receive recessed weatherstripping.
- F. Fabricate frames as welded unit.
- G. Fabricate frames with hardware reinforcement plates welded in place. Provide mortar guard boxes.
- H. Reinforce frames wider than 48 inches (1 200 mm) with roll formed steel channels fitted tightly into frame head, flush with top.
- I. Prepare frames for silencers. Provide three single silencers for single doors and mullions of double doors on strike side. Provide two single silencers on frame head at double doors without mullions.
- J. Attach fire rated label to each fire rated door unit.
- K. Fabricate frames to suit masonry wall coursing with 4 inch (100 mm) head member.

2.9 FINISH

- A. Steel Sheet: Galvanized to ASTM A525 G60.
- B. Primer: Baked.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install doors and frames in accordance with SDI-100 and DHI.
- B. At masonry and exterior walls, coat inside of frame profile with bituminous coating to a thickness of 1/16 inch (1.5 mm).

3.2 ADJUSTING

- A. Adjust door for smooth and balanced door movement.

- D. Doors: 1-3/4 inches (43 mm) thick, wide stile with 10 inch bottom rail; square glazing stops.
 - E. Flashings: .063 inch (1.6 mm) thick aluminum, finish to match mullion sections where exposed.
 - F. Thermal Sub-Sill: Manufacturer's standard thermally broken extruded aluminum sill flashing, color to match framing.
 - G. Operable Sash: Awning type, similar to Kawneer Glassvent.
- 2.4 GLASS AND GLAZING MATERIALS
- A. Glazing Materials: As specified in Section 08800. Type to suit application to achieve weather, moisture, and air infiltration requirements.
- 2.5 SEALANT MATERIALS
- A. Sealant and Backing Materials:
 1. Perimeter Sealant: Type 2 as specified in Section 07920.
 2. Sealant Used Within System (Not Used for Glazing): Type as recommended by manufacturer.
- 2.6 HARDWARE
- A. Weather Stripping, Sill Sweep Strips, Thresholds: Manufacturers standard type to suit application.
 - B. Hinges: Manufacturer's standard, continuous, aluminum gear hinges.
 - C. Hardware by others: Push/Pull, Panic Device, Closer, Cylinder Lock; See Section 08710 - Door Hardware.
- 2.7 FABRICATION
- A. Fabricate components with minimum clearances and shim spacing around perimeter of assembly, yet enabling installation and dynamic movement of perimeter seal.
 - B. Accurately fit and secure joints and corners. Make joints flush, hairline, and weatherproof.
 - C. Prepare components to receive anchor devices. Fabricate anchors.
 - D. Arrange fasteners and attachments to conceal from view.
 - E. Prepare components with stainless steel internal reinforcement for door hardware.
 - F. Reinforce framing members for imposed loads.
- 2.8 FINISHES
- A. Class I, Clear Anodic Finish: AA-M12C22A41 (Mechanical Finish: nonspecular as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class I, clear coating 0.018 mm or thicker) complying with AAMA 607.1.
 - B. Exposed Aluminum Surfaces: Fluoropolymer coating, 1.2 mil (0.03 mm) thick, Kynar 500 or Hylar 5000 coating meeting AAMA 605.2; black color.
 - C. Concealed Steel Items: Galvanized in accordance with ASTM A123 to 2.0 oz/sq ft (610 gm/sq m).
 - D. Apply one coat of bituminous paint to concealed aluminum and steel surfaces in contact with cementitious or dissimilar materials.
 - E. Shop and Touch-Up Primer for Steel Components: SSPC Paint 25 red oxide.

- F. Touch-Up Primer for Galvanized Steel Surfaces: SSPC Paint 20 zinc rich.
- G. Extent of Finish:
 - 1. Apply factory coating to all surfaces exposed at completed assemblies.
 - 2. Apply finish to surfaces cut during fabrication so that no natural aluminum is visible in completed assemblies, including joint edges.
 - 3. Apply touch-up materials recommended by coating manufacturer for field application to cut ends and minor damage to factory applied finish.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install wall system in accordance with manufacturer's instructions and AAMA - Metal Curtain Wall, Window, Store Front and Entrance - Guide Specifications Manual.
- B. Install sill flashings. Turn up ends and edges; seal to adjacent work to form water tight dam.
- C. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.
- D. Install hardware using templates provided. Refer to Section 08710 for installation requirements.

3.2 ERECTION TOLERANCES

- A. Maximum Variation from Plumb: 0.06 inches every 3 ft (1.5 mm/m) non-cumulative or 1/16 inches per 10 ft (1.5 mm/3 m), whichever is less.
- B. Maximum Misalignment of Two Adjoining Members Abutting in Plane: 1/32 inch (0.8 mm).

3.3 ADJUSTING

- A. Adjust operating hardware and sash for smooth operation.

END OF SECTION

3.3 SCHEDULE

- A. Refer to Door and Frame Schedule.

END OF SECTION

2.2 DOOR AND TRANSOM PANEL TYPES

- A. Flush Interior Doors: 1-3/4 inches (44 mm) thick; solid core construction, fire rated as indicated.
- B. Stile and Rail Doors: 1-3/4 inches (44 mm) thick; engineered hardwood composite core with lardwood lumber stile and rail banding. 1-1/2 inches (38 mm) thick panels; particleboard core, flat panel with particleboard or mineral core.

2.3 DOOR AND TRANSOM PANEL CONSTRUCTION

- A. Core (Solid, Non-Rated): AWI Section 1300, Type PC 5 - Particleboard.
- B. Core (Solid, Fire Rated): AWI Section 1300, Type as scheduled.

2.4 DOOR FACING

- A. Veneer Facing (Flush Interior Doors): AWI Custom quality species wood, paint grade, rotary cut, natural birch for paint finish.
- B. Veneer Facing (Stile and Rail Interior Doors): AWI Custom quality species wood, paint grade, rotary cut, natural birch for paint finish.
- C. Cross Banding Behind Laminate Finish: 1 ply for fire rated doors.

2.5 ADHESIVE

- A. Facing Adhesive: Type I - waterproof.

2.6 ACCESSORIES

- A. Glazing Stops: Rolled steel shape, mitered corners; prepared for countersink style screws.
- B. Molding: Wood, of same species as door facing, raised contour shape, mitered corners; prepared for countersink style screws.

2.7 FABRICATION

- A. Fabricate non-rated doors in accordance with AWI Quality Standards requirements.
- B. Fabricate fire rated doors in accordance with AWI Quality Standards and to UL or Warnock Hersey requirements. Attach fire rating label to door.
- C. Provide lock blocks at lock edge and top of door for closer for hardware reinforcement.
- D. Vertical Exposed Edge of Stiles: Of same species as veneer facing.
- E. Fit door edge trim to edge of stiles after applying veneer facing.
- F. Bond edge banding to cores.
- G. Factory machine doors for finish hardware in accordance with hardware requirements and dimensions. Do not machine for surface hardware. Provide solid blocking for through bolted hardware.
- H. Factory fit doors for frame opening dimensions identified on shop drawings.
- I. Cut and configure exterior door edge to receive recessed weather stripping devices.
- J. Provide edge clearances in accordance with AWI 1600.

2.8 FINISH

- A. Field finish doors in accordance with Section 09900 – Paints and Coatings.
- B. Seal door top and bottom edges with sealer.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install doors in accordance with manufacturer's instructions.

3.2 ADJUSTING

- A. Adjust door for smooth and balanced door movement.
- B. Adjust closer for full closure.

3.3 SCHEDULE

- A. Refer to Door and Frame Schedule.

END OF SECTION

- B. Design Data: Provide framing member structural and physical characteristics, calculations, dimensional limitations.
- C. Shop Drawings: Indicate system dimensions, framed opening requirements and tolerances, affected related Work and expansion and contraction joint location and details.
- D. Manufacturer's Certificate: Certify that Products meet or exceed specified requirements.

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with AAMA SFM-1 and AAMA - Metal Curtain Wall, Window, Store Front and Entrance - Guide Specifications Manual.
- B. Conform to requirements of ANSI A117.1.
- C. Design structural support framing components under direct supervision of a Professional Structural Engineer experienced in design of this Work and licensed at the place where the Project is located.

1.6 WARRANTY

- A. Correct defective Work within a five year period after Substantial Completion.
- B. Warranty: Include coverage for complete system for failure to meet specified requirements.
- C. Provide five year manufacturer warranty for glazed units.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Kawneer Company, Inc.: Model 451T
- B. EFCO Corporation: Model S-403
- C. Vistawall: Series 3000 Thermal Storefront System

2.2 MATERIALS

- A. Extruded Aluminum: ASTM B221; 6063 alloy, T5 or T6 temper.
- B. Sheet Aluminum: ASTM B209.
- C. Sheet Steel: ASTM A446/A446M; galvanized in accordance with ASTM 525.
- D. Steel Sections: ASTM A36/A36M; shaped to suit mullion sections.
- E. Fasteners: Stainless steel.

2.3 COMPONENTS

- A. Frame: 2 x 4-1/2 inch (50 x138 mm) nominal dimension; thermally broken with interior tubular section insulated from exterior; applied glazing stops; drainage holes; internal weep drainage system. Thermal slot type frame will not be accepted.
- B. Reinforced Mullion: 2 x 4-1/2 inch (50 x138 mm) nominal dimension; profile of extruded aluminum with internal reinforcement of shaped steel structural section.
- C. Reinforcement Plates: Stainless steel.

- F. Touch-Up Primer for Galvanized Steel Surfaces: SSPC Paint 20 zinc rich.
- G. Extent of Finish:
 - 1. Apply factory coating to all surfaces exposed at completed assemblies.
 - 2. Apply finish to surfaces cut during fabrication so that no natural aluminum is visible in completed assemblies, including joint edges.
 - 3. Apply touch-up materials recommended by coating manufacturer for field application to cut ends and minor damage to factory applied finish.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install wall system in accordance with manufacturer's instructions and AAMA - Metal Curtain Wall, Window, Store Front and Entrance - Guide Specifications Manual.
- B. Install sill flashings. Turn up ends and edges; seal to adjacent work to form water tight dam.
- C. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.
- D. Install hardware using templates provided. Refer to Section 08710 for installation requirements.

3.2 ERECTION TOLERANCES

- A. Maximum Variation from Plumb: 0.06 inches every 3 ft (1.5 mm/m) non-cumulative or 1/16 inches per 10 ft (1.5 mm/3 m), whichever is less.
- B. Maximum Misalignment of Two Adjoining Members Abutting in Plane: 1/32 inch (0.8 mm).

3.3 ADJUSTING

- A. Adjust operating hardware and sash for smooth operation.

END OF SECTION

SECTION 08550

WOOD WINDOWS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Factory fabricated metal clad wood windows with operating sash.
- B. Factory glazed.
- C. Operating hardware and insect screens.
- D. Perimeter sealant.

1.2 SYSTEM DESCRIPTION

- A. Windows: Wood metal clad sections, factory fabricated, vision glass, related flashings, anchorage and attachment devices.
- B. Configuration: Awning sash.

1.3 PERFORMANCE REQUIREMENTS

- A. Conform to performance requirements of NWWDA IS-2.
 - 1. Awnings: Class 60.

1.4 SUBMITTALS

- A. Product Data: Provide component dimensions, anchorage and fasteners, and glass.
- B. Shop Drawings: Indicate opening dimensions, framed opening tolerances, affected related work; installation requirements.
- C. Manufacturer's Certificate: Certify that Products meet or exceed specified requirements.

1.5 WARRANTY

- A. Correct defective Work within a five year period after Date of Substantial Completion.
- B. Provide five year manufacturer warranty for insulated glass units from seal failure, interpane dusting or misting, and replacement of same.
- C. Warranty:
 - 1. Include coverage for degradation of color finish.
 - 2. Warranty: Include coverage for delamination or separation of finish cladding from window member.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Marvin Windows
- B. Pella Corporation
- C. Eagle Windows