

TO: Inspections Department

FROM: Philip DiPierro, Development Review Coordinator

DATE: October 17, 2009

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

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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



CITY OF PORTLAND, MAINE  
Department of Building Inspection

# Certificate of Occupancy

LOCATION

16 STORER ST

CBL 061 F003001

Issued to

Waynflete School The/Stroudwater Construction

Date of Issue

11/25/2009

**This is to certify** that the building, premises, or part thereof, at the above location, built — altered — changed as to use under Building Permit No. 07-1184 has had final inspection, has been found to conform substantially to requirements of Zoning Ordinance and Building Code of the City, and is hereby approved for occupancy or use, limited or otherwise, as indicated below.

PORTION OF BUILDING OR PREMISES

New Addition

APPROVED OCCUPANCY

Theater & Classrooms  
Use Group : A1 Type : 3B  
IBC 2003

Limiting Conditions:

None

This certificate supersedes  
certificate issued 6-27-09

Approved:

11-25-09  
.....  
(Date) Inspector

.....  
Inspector of Buildings

Notice: This certificate identifies lawful use of building or premises, and ought to be transferred from owner to owner when property changes hands. Copy will be furnished to owner or lessee for one dollar.



# CITY OF PORTLAND, MAINE

## Department of Building Inspections

9-21-07  
\_\_\_\_\_ 20

Received from \_\_\_\_\_

Location of Work \_\_\_\_\_

Cost of Construction \$ \_\_\_\_\_

Permit Fee \$ 130.11

Building (I1)  Plumbing (I5)  Electrical (I2)  Site Plan (U2)

Other \_\_\_\_\_

CBL: U1F3

Check #: 1776

**Total Collected \$** 128,100  
130.11  
128,230.11

# THIS IS NOT A PERMIT

No work is to be started until PERMIT CARD is actually posted upon the premises. Acceptance of fee is no guarantee that permit will be granted. PRESERVE THIS RECEIPT. In case permit cannot be granted the amount of the fee will be refunded upon return of the receipt less \$10.00 or 10% whichever is greater.

WHITE - Applicant's Copy  
YELLOW - Office Copy  
PINK - Permit Copy



# CITY OF PORTLAND, MAINE

Department of Building Inspections

*Handwritten initials*

## Original Receipt

June 11 20 09

Received from Summitwater Construction Company LLC

Location of Work 16 Seaside Street

Cost of Construction \$ \_\_\_\_\_ Building Fee: \_\_\_\_\_

Permit Fee \$ \_\_\_\_\_ Site Fee: \_\_\_\_\_

Certificate of Occupancy Fee: \_\_\_\_\_

**Total:** \_\_\_\_\_

Building (I1) \_\_\_\_\_ Plumbing (I5) \_\_\_\_\_ Electrical (I2) \_\_\_\_\_ Site Plan (U2) \_\_\_\_\_

Other Permit Application Fee

CBL: 0601 F. 103

Check #: 4364 **Total Collected \$** 15.00

**No work is to be started until permit issued.  
Please keep original receipt for your records.**

Taken by: *[Signature]*

- WHITE - Applicant's Copy
- YELLOW - Office Copy
- PINK - Permit Copy

# Sprinkler Systems, Inc.

## Contractor's Material & Test Certificate for Aboveground Pipe

**Procedure**

Upon completion of work, inspection and tests shall be made by the contractor's representative and witnessed by an owner's representative. All defects shall be corrected and system left in service before contractor's personnel finally leave the job.

A certificate shall be filled out and signed by both representatives. Copies shall be prepared for approving authorities, owners, and contractor. It is understood the owner's representative signature in no way prejudices any claim against contractor for faulty material, poor workmanship, or failure to comply with approving authority's requirements or local ordinances.

<b>Property Name</b> <u>WAYNFLETE ARTS CENTER - PHASE 2</u>	<b>Date</b> <u>12-12-08</u>
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**Property Address** 360 SPRING STREET, PORTLAND, ME 04102

<b>Plans</b>	Accepted by approving authorities (Names) <u>MAINE STATE FIRE MARSHAL'S OFFICE</u> Address <u>45 COMMERCE DRIVE, SUITE #1, AUGUSTA, ME 04330</u> Installation conforms to accepted plans <span style="float: right;"><input checked="" type="radio"/> Yes <input type="radio"/> No</span> Equipment used is approved, if no, explain deviations <span style="float: right;"><input checked="" type="radio"/> Yes <input type="radio"/> No</span>
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<b>Instructions</b>	Has person in charge of fire equipment been instructed as to location of control valve and care and maintenance of this new equipment? <span style="float: right;"><input checked="" type="radio"/> Yes <input type="radio"/> No</span> If no, explain:  Have copies of the following been left on the premises? 1. System components instructions <span style="float: right;"><input checked="" type="radio"/> Yes <input type="radio"/> No</span> 2. Care and maintenance instructions <span style="float: right;"><input checked="" type="radio"/> Yes <input type="radio"/> No</span> 3. NFPA 25 <span style="float: right;"><input type="radio"/> Yes <input checked="" type="radio"/> No</span>
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<b>Location of System</b>	Supplies Buildings: <u>ENTIRE</u>
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	Make	Model	Year of Mfg.	Orifice Size	Quantity	Temp Rating	
<b>Sprinklers</b>	RELIABLE	OR UPR.	FIRE	2008	1/2"	72	200°
	RELIABLE	OR REC PEND	FIRE	2008	1/2"	63	155°
	RELIABLE	OR UPR.	FIRE	2008	1 1/32"	42	200°
	RELIABLE	OR PEND	FIRE	2008	1/2"	16	155°

<b>Pipe and Fittings</b>	Type of pipe <u>NFPA &amp; ASTM</u>	Type of fittings <u>NFPA &amp; ASTM</u>
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<b>Alarm Valve or Flow Indicator</b>	<b>Alarm Device</b>			<b>Maximum time to operate through test connection</b>	
	Type	Make	Model	Min	Sec

<b>Dry Pipe Operating Test</b>	<b>Dry Valve</b>				<b>QOD</b>		
	Make	Model	Serial #	Make	Model	Serial #	
	Time to trip through test connection	Water Pressure	Air Pressure	Trip Point Air Pressure	Time Water Reached Test Outlet	Alarm Operated Properly	
	With QOD	MIN SEC	PSI	PSI	PSI	MIN SEC	YES NO
	W/O QOD	MIN SEC	PSI	PSI	PSI	MIN SEC	YES NO
	If no, explain:						

# INSPECTION AND TESTING FORM

**PROPERTY NAME**

W/a Yoe Place Aris

**MONITORING ENTITY**

NAME: Belmont Title

**ADDRESS:** 3600 Spring St Pullman

**TELEPHONE:** 574 5176

**OWNER CONTACT:** \_\_\_\_\_

**MONITORING ACCOUNT REF. NO.:** 4548

**TELEPHONE:** \_\_\_\_\_

\* Add to existing system \*

**TYPE TRANSMISSION**

- Digital Communicator
- Reverse Polarity
- Masterbox

**SERVICE**

- Monthly
- Quarterly
- Semi-annually
- Annually

**PANEL MANUFACTURER:** Not Acc

**MODEL NO.:** AIP 200

**CIRCUIT STYLES:** 4

## **ALARM-INITIATING DEVICES AND CIRCUIT INFORMATION**

**QTY OF**

6  
\_\_\_\_\_  
10  
\_\_\_\_\_  
3  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- ALARM ZONES
- MANUAL STATIONS
- ION DETECTORS
- PHOTO DETECTORS
- DUCT DETECTORS
- HEAT DETECTORS
- WATERFLOW SWITCHES
- SUPERVISORY SWITCHES
- OTHER (SPECIFY): \_\_\_\_\_

## **ALARM NOTIFICATION APPLIANCES AND CIRCUIT INFORMATION**

**QTY OF**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
35  
\_\_\_\_\_

- HORN/STROBES
- BELLS
- HORNS
- CHIMES
- STROBES
- SPEAKERS
- OTHER (SPECIFY): \_\_\_\_\_

**NO. OF ALARM INDICATING CIRCUITS:** 5

**ARE CIRCUITS SUPERVISED?**  YES       NO

**SIGNALING LINE CIRCUITS**

Quantity 1

Style(s) 4

**PRIOR TO ANY TESTING**

NOTIFICATIONS ARE MADE:	YES	NO	WHO	TIME
MONITORING ENTITY	(✓)	( )	<u>DFD</u>	_____
BUILDING OCCUPANTS	(✓)	( )	<u>ADNTW</u>	_____
BUILDING MANAGEMENT	(✓)	( )	<u>"</u>	_____

**SYSTEM TESTS AND INSPECTIONS**

TYPE	VISUAL	FUNCTIONAL	COMMENTS
CONTROL PANEL	(✓)	(✓)	_____
INTERFACE EQ.	(✓)	(✓)	_____
LAMPS/LEDS	(✓)	(✓)	_____
FUSES	(✓)	(✓)	_____
TROUBLE SIGNALS	(✓)	(✓)	_____
GROUND FAULT MONITORING	(✓)	(✓)	_____

**SECONDARY POWER**

TYPE	VISUAL	FUNCTIONAL	COMMENTS
BATTERY CONDITION	(✓)		_____
LOAD VOLTAGE		(✓)	_____
CHARGER TEST		(✓)	_____

REMOTE ANNUNCIATORS	VISUAL	FUNCTIONAL	COMMENTS
	(✓)	(✓)	_____

NOTIFICATION APPLIANCES	VISUAL	FUNCTIONAL	COMMENTS
AUDIBLE	(✓)	(✓)	_____
VISUAL	(✓)	(✓)	_____

EMERGENCY COMMUNICATIONS EQUIP.	VISUAL	FUNCTIONAL	COMMENTS
PHONE SET	( )	( )	_____
PHONE JACKS	( )	( )	_____
OFF-HOOK INDICATOR	( )	( )	_____
AMPLIFIER(S)	( )	( )	_____
TONE GENERATOR(S)	( )	( )	_____
CALL-IN SIGNAL	( )	( )	_____
SYSTEM PERFORMANCE	( )	( )	_____

ON/OFF PREMISES MONITORING:	YES	NO	TIME	COMMENTS
ALARM SIGNAL	( )	( )	_____	_____
ALARM RESTORAL	( )	( )	_____	_____
TROUBLE SIGNAL	( )	( )	_____	_____
TROUBLE RESTORAL	( )	( )	_____	_____
SUPERVISORY SIGNAL	( )	( )	_____	_____
SUPERVISORY RESTORAL	( )	( )	_____	_____

NOTIFICATIONS THAT TESTING IS COMPLETE:	YES	NO	WHO	TIME
BUILDING MANAGEMENT	(✓)	( )	_____	_____
MONITORING AGENCY	(✓)	( )	_____	_____
BUILDING OCCUPANTS	(✓)	( )	_____	_____

**Record of Completion** \* ADD to existing system \*

Name of Protected Property: Weymouth ARTS Center

Address: 360 SPRING STREET PORTLAND

Rep. of Protected Property (Name/Phone): \_\_\_\_\_

Authority Having Jurisdiction: PORTLAND FIRE DEPARTMENT

Address/Phone Number: 874-8576

1. Type(s) of System or Service:

NFPA 72, Chapter 3 - Local

If alarm is transmitted to location(s) off premise, list where received:

NFPA 72, Chapter 3 - Emergency Voice/Alarm Service

Quantity of voice/alarm channels: \_\_\_\_\_ Single: \_\_\_\_\_ Multiple: \_\_\_\_\_

Quantity of speakers installed: \_\_\_\_\_ Quantity of speaker zones: \_\_\_\_\_

Quantity of telephones or telephone jacks included in system: \_\_\_\_\_

NFPA 72, Chapter 4 - Auxiliary

Indicate type of connection:

Local energy:  Shunt: \_\_\_\_\_ Parallel telephone: \_\_\_\_\_

Location and telephone number for receipt of signals:

PFID 874-8576

NFPA 72, Chapter 4 - Remote Station

Alarm signal received at: \_\_\_\_\_

Supervisory signal received at: \_\_\_\_\_

NFPA 72, Chapter 4 - Proprietary

If alarms are retransmitted to public fire service communications center or others, indicate location and telephone number of the organization receiving alarm:

Indicate how alarm is retransmitted:

NFPA 72, Chapter 4 - Central Station

The Prime Contractor:

Central Station Location:

Means of transmission of signals from the protected premise to the central station:

McCulloh  Multiplex  One-Way Radio

Digital Alarm Communicator  Two-Way Radio  Others

Means of transmission of alarm to the public fire service communications center:

a. \_\_\_\_\_

b. \_\_\_\_\_

System location: \_\_\_\_\_



Installer	Organization Name/Phone	Representative Name/Phone
Supplier	_____	_____
Service Organization	_____	_____
Location of Record (As-Built) Drawings:	_____	_____

Location of Owner's Manuals: \_\_\_\_\_

Location of Test Reports: \_\_\_\_\_

A contract, dated \_\_\_\_\_, for test and inspection in accordance with NFPA Standards No.(s) \_\_\_\_\_, dated \_\_\_\_\_, is in effect.

2. Record of System Installation. (Fill out after installation is complete and wiring checked for opens, shorts, ground faults, and improper branching, but prior to conducting operational acceptance tests.)

This system has been installed in accordance with the NFPA Standards as listed below, was inspected by Mike Lurie on 12-8-08, includes the devices listed below and has been in service since 12-8-08.

\_\_\_\_ NFPA 72, Chapters 1 3 4 5 6 7 (circle all that apply)

\_\_\_\_ NFPA 70, National Electrical Code, Article 760

Manufacturer's Instructions

\_\_\_\_ Other (specify): \_\_\_\_\_

Signed: [Signature] Date: 12-8-08

Organization: E.S. Paulos (207) 464-3706

3. Record of System Operation:

All operational features and functions of this system were tested by Craig Eikenich on 12-8-08 and found to be operating properly in accordance with the requirements of:

\_\_\_\_ NFPA 72, Chapters 1 3 4 5 6 7 (circle all that apply)

\_\_\_\_ NFPA 70, National Electrical Code, Article 760

Manufacturer's Instructions

\_\_\_\_ Other (specify): \_\_\_\_\_

Signed: [Signature] Date: 12-8-08

Organization: Novis Inc 1 800-370-3173

4. Alarm Initiating Devices and Circuits (Use blanks to indicate quantity of devices.)

MANUAL

a) \_\_\_\_ Manual Stations \_\_\_\_ Noncoded, Activating \_\_\_\_ Transmitters \_\_\_\_ Coded

b) \_\_\_\_ Combination Manual Fire Alarm and Guard's Tour Coded Stations

AUTOMATIC

Coverage: Complete: \_\_\_\_\_ Partial: \_\_\_\_\_

a) 10 Smoke Detectors \_\_\_\_ Ion \_\_\_\_ Photo

b) \_\_\_\_ Duct Detectors \_\_\_\_ Ion \_\_\_\_ Photo

c) 3 Heat Detectors \_\_\_\_ FT \_\_\_\_ RR / FT/RR \_\_\_\_ RC

d) \_\_\_\_ Sprinkler Water Flow Switches: \_\_\_\_ Transmitters \_\_\_\_ Noncoded, Activating \_\_\_\_ Coded

e) \_\_\_\_ Other (list): \_\_\_\_\_

5. Supervisory Signal Initiating Devices and Circuits (Use blanks to indicate quantity of devices.)

GUARD'S TOUR:

- a) \_\_\_\_\_ Coded Stations
- b) \_\_\_\_\_ Noncoded Stations \_\_\_\_\_ Transmitters
- c) \_\_\_\_\_ Compulsory Guard Tour System Comprised of \_\_\_\_\_ Transmitter Stations and \_\_\_\_\_ Intermediate Stations

Note: Combination devices recorded under 4(b) and 5(a).

SPRINKLER SYSTEM:

- a) \_\_\_\_\_ Coded Valve Supervisory Signaling Attachments
- b) \_\_\_\_\_ Valve Supervisory Switches \_\_\_\_\_ Transmitters
- c) \_\_\_\_\_ Building Temperature Points
- d) \_\_\_\_\_ Site Water Temperature Points
- e) \_\_\_\_\_ Site Water Supply Level Points

ELECTRIC FIRE PUMP:

- a) \_\_\_\_\_ Fire Pump Power
- b) \_\_\_\_\_ Fire Pump Running
- c) \_\_\_\_\_ Phase Reversal

ENGINE-DRIVEN FIRE PUMP:

- a) \_\_\_\_\_ Selector in Auto Position
- b) \_\_\_\_\_ Engine or Control Panel Trouble
- c) \_\_\_\_\_ Fire Pump Running

ENGINE-DRIVEN GENERATOR:

- a) \_\_\_\_\_ Selector in Auto Position
- b) \_\_\_\_\_ Control Panel Trouble
- c) \_\_\_\_\_ Transfer Switches
- d) \_\_\_\_\_ Engine Running

OTHER SUPERVISORY FUNCTION(S) (SPECIFY) \_\_\_\_\_

6. Alarm Notification Appliances and Circuits

Quantity of notification appliance circuits connected to the system: \_\_\_\_\_

Types and quantities of alarm notification appliances installed:

- a) \_\_\_\_\_ Bells \_\_\_\_\_ Inch
- b) \_\_\_\_\_ Speakers
- c) \_\_\_\_\_ Horns
- d) \_\_\_\_\_ Chimes
- e) \_\_\_\_\_ Other: \_\_\_\_\_
- f) 35 Visible Signals Type: SPEAKERS \_\_\_\_\_ with audible \_\_\_\_\_ without audible
- g) \_\_\_\_\_ Local Annunciator

7. Signaling Line Circuits:

Quantity and Style (See NFPA 72, Table 3-6) of signaling line circuits connected to System:

Quantity: 1 Style: 4

8. System Power Supplies

a) Primary (Main): Nominal Voltage: 120 VAC Current Rating: \_\_\_\_\_  
 Overcurrent Protection: Type: Breaker Current Rating: \_\_\_\_\_  
 Location: 31 Piped PPI

b) Secondary (Standby):

Storage Battery: Amp-Hour Rating 2 12AH  
 Calculated capacity to drive system, in hours: \_\_\_\_\_ 24 X 60  
 Engine-driven generator dedicated to fire alarm system:  
 Location of fuel storage: \_\_\_\_\_

c) Emergency or Standby System used as backup to Primary Power Supply, instead of using a Secondary Power Supply:

Emergency System described in NFPA 70, Article 700  
 Legally Required Standby System described in NFPA 70, Article 701  
 Optional Standby System described in NFPA 70, Article 702, which also meets the performance requirements of Article 700 or 701.

9. System Software

a) Operating System Software Revision Level(s): \_\_\_\_\_  
 b) Application Software Revision Level(s): \_\_\_\_\_  
 c) Revision Completed by: \_\_\_\_\_

(name)

(firm)

10. Comments:

\_\_\_\_\_  
 (signed) for Central Station or Alarm Service Company (title) (date)

Frequency of routine tests and inspections, if other than in accordance with the referenced NFPA Standard(s):

System deviations from the referenced NFPA standard(s) are:

\_\_\_\_\_  
 (signed) for Central Station or Alarm Service Company (title) (date)

Upon completion of the system(s) satisfactory test(s) witnessed (if required by Authority Having Jurisdiction):

\_\_\_\_\_  
 (signed) Representative of the Authority Having Jurisdiction (title) (date)

# INITIATING AND SUPERVISORY DEVICE TESTS AND INSPECTIONS

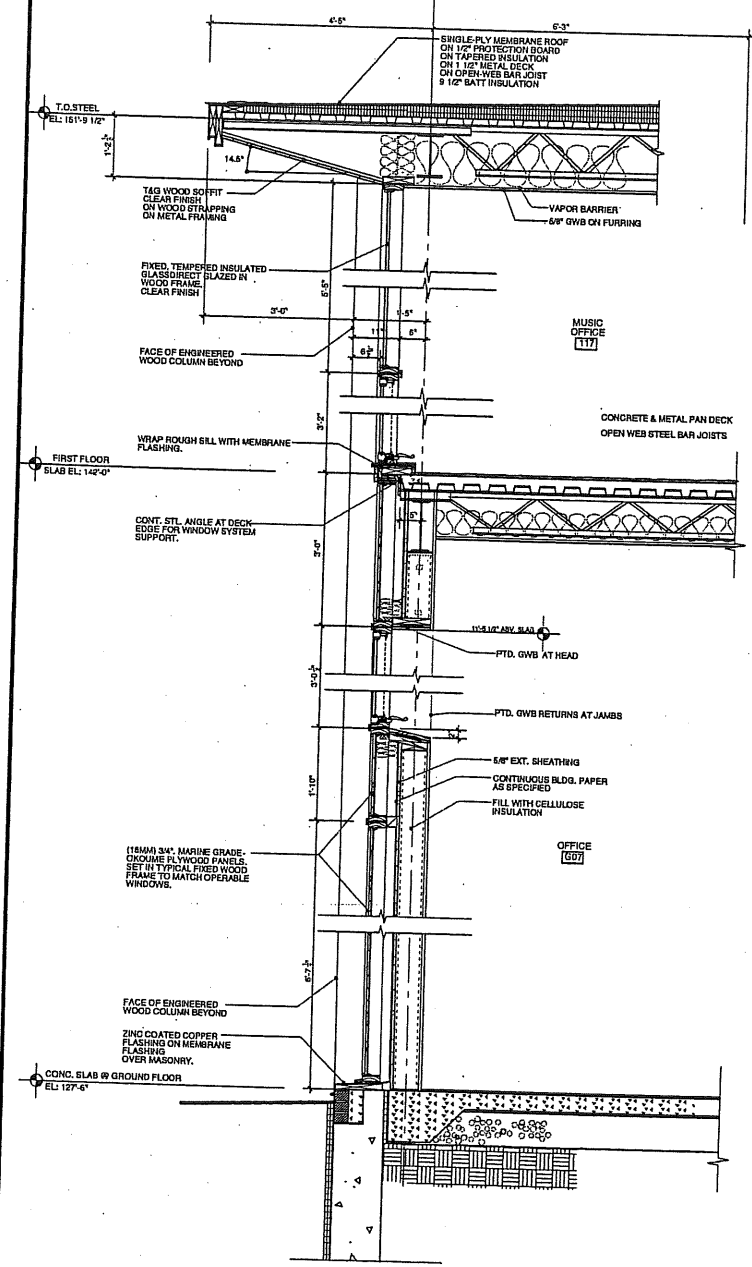
LOCATION	DEVICE TYPE	PASS	FAIL
M-1 Hall Cor	PS	( )	( )
A-50 Reception Rm	PS	( )	( )
M-101 Storage Cor	PS	( )	( )
M-102 Administration Cor	PS	( )	( )
M-103 Hall Cor	PS	( )	( )
M-104 IS Stair 2 Corridor	PS	( )	( )
M-105 OS Stair 2 Corridor	PS	( )	( )
M-106 IS Stair 2	PS	( )	( )
D-1 Lobby 101	SD	( )	( )
D-2 2nd Floor Corridor	SD	( )	( )
D-3 1st Floor	SD	( )	( )
D-4 OS Stairway 1	SD	( )	( )
D-5 1st Floor 2nd	SD	( )	( )
D-6 Cor Cor	SD	( )	( )
D-7 Corridor Cor Rm	SD	( )	( )
D-8 Storage Cor	ID	( )	( )
D-9	ID	( )	( )
D-10	ID	( )	( )
D-11	SD	( )	( )
D-12	SD	( )	( )
D-13	SD	( )	( )
D-14	SD	( )	( )
D-15	SD	( )	( )
D-16	SD	( )	( )
D-17	SD	( )	( )
D-18	SD	( )	( )
D-19	SD	( )	( )
D-20	SD	( )	( )
D-21	SD	( )	( )
D-22	SD	( )	( )
D-23	SD	( )	( )
D-24	SD	( )	( )
D-25	SD	( )	( )
D-26	SD	( )	( )
D-27	SD	( )	( )
D-28	SD	( )	( )
D-29	SD	( )	( )
D-30	SD	( )	( )
D-31	SD	( )	( )
D-32	SD	( )	( )
D-33	SD	( )	( )
D-34	SD	( )	( )
D-35	SD	( )	( )
D-36	SD	( )	( )
D-37	SD	( )	( )
D-38	SD	( )	( )
D-39	SD	( )	( )
D-40	SD	( )	( )
D-41	SD	( )	( )
D-42	SD	( )	( )
D-43	SD	( )	( )
D-44	SD	( )	( )
D-45	SD	( )	( )
D-46	SD	( )	( )
D-47	SD	( )	( )
D-48	SD	( )	( )
D-49	SD	( )	( )
D-50	SD	( )	( )

THE FOLLOWING DID NOT OPERATE CORRECTLY: All OK

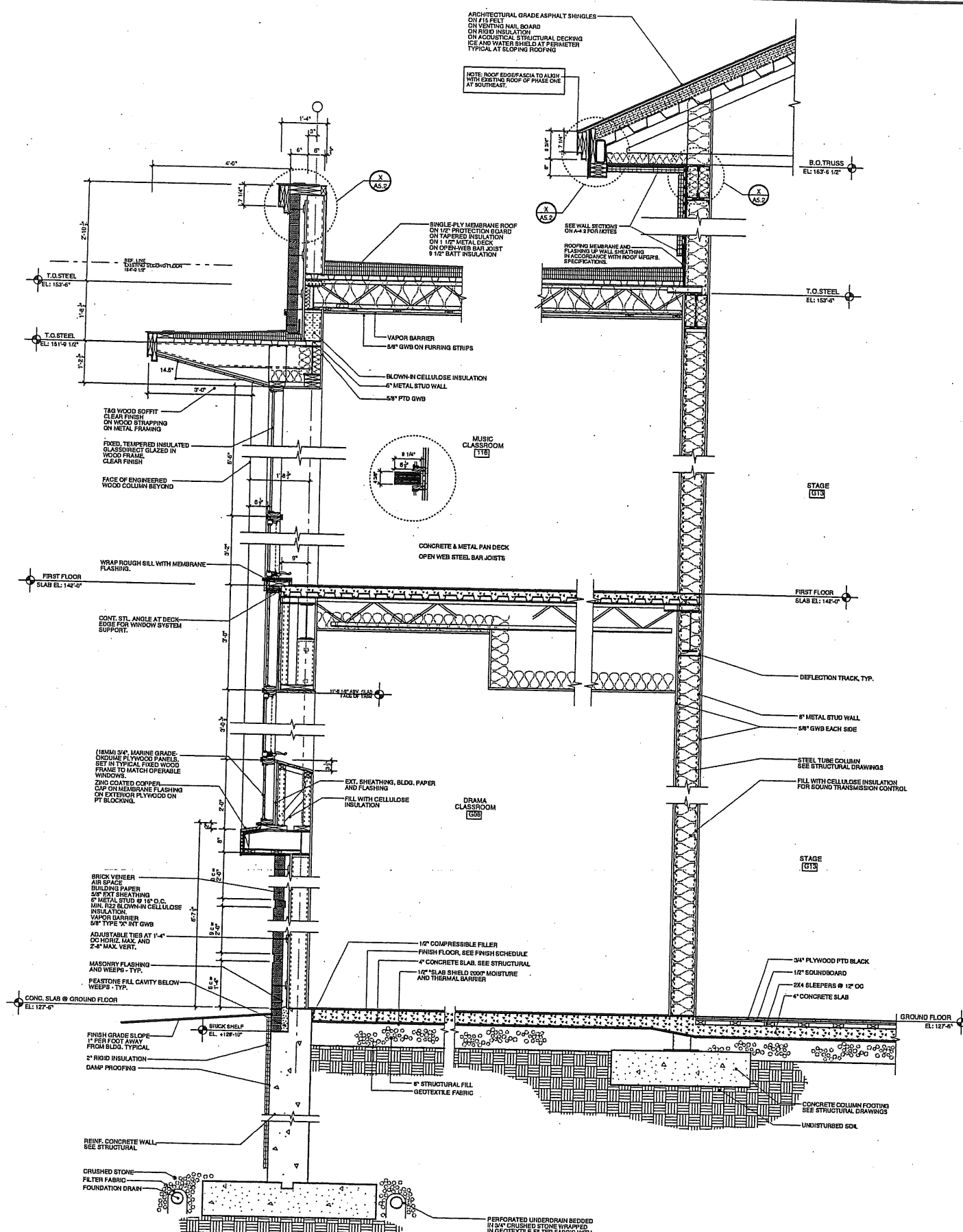
SYSTEM RESTORED TO NORMAL OPERATION: DATE 12-8-08 TIME \_\_\_\_\_

**THIS TESTING WAS PERFORMED IN ACCORDANCE WITH APPLICABLE NFPA STANDARDS.**

NAME OF INSPECTOR: Gregg Fikarich DATE: 12-8-08 TIME: \_\_\_\_\_  
 SIGNATURE: \_\_\_\_\_  
 NAME OF OWNER OR REPRESENTATIVE: \_\_\_\_\_  
 DATE: \_\_\_\_\_ TIME: \_\_\_\_\_  
 SIGNATURE: \_\_\_\_\_



1 WALL SECTION  
SCALE: 3/4\"/>



2 WALL SECTION  
SCALE: 3/4\"/>

3 WALL SECTION  
SCALE: 3/4\"/>

Scott Sines Architects
   
 73 York Street
   
 Portland, Maine 04101
   
 phone 207.773.1489
   
 fax 207.528.4556

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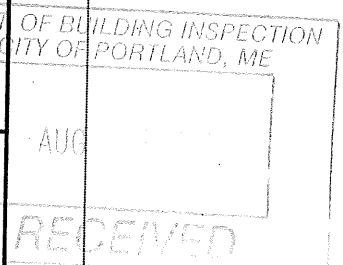
PROJECT  
**WAYNFLETE ARTS CENTER PHASE TWO**
  
 ADDITION/ RENOVATION
   
 360 SPRING STREET
   
 PORTLAND, ME

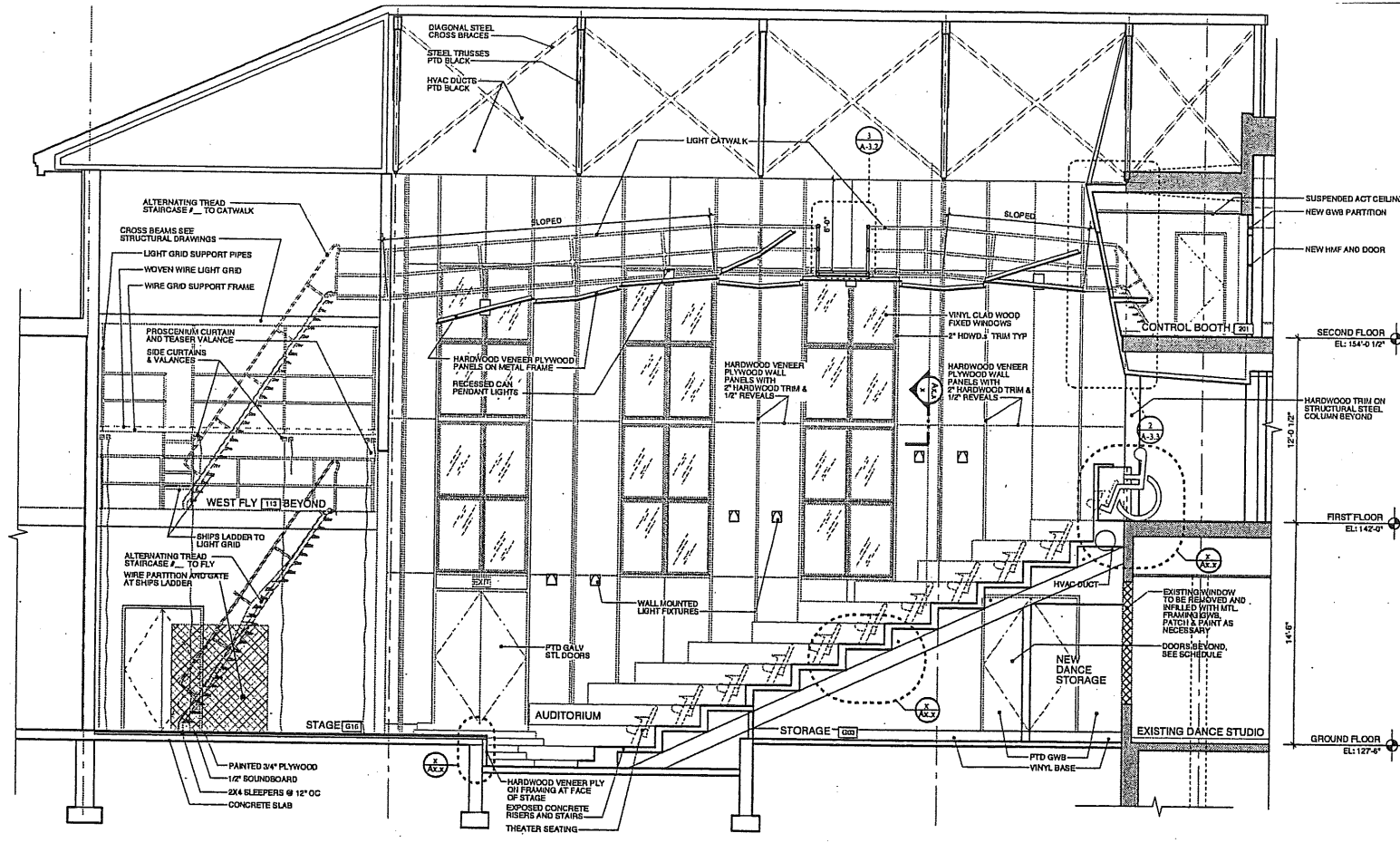
TITLE  
**WALL SECTIONS**

STATUS:  
 Historic Preservation Submission
   
 NOT FOR CONSTRUCTION

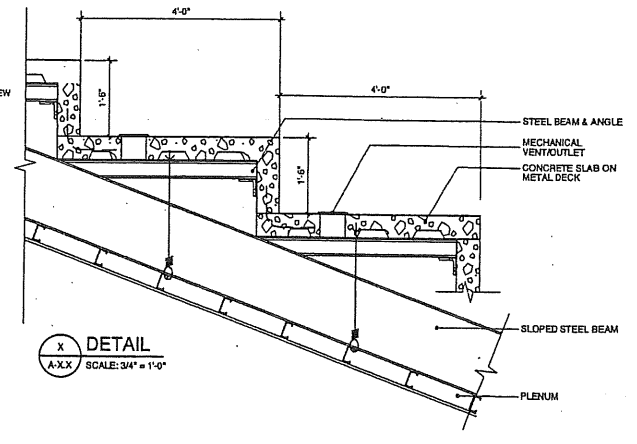
DATE: 07.30.2007
   
 PROJECT NO.: 2003-0045.00
   
 DRAWN BY:

DWG NO. **A-4.1**

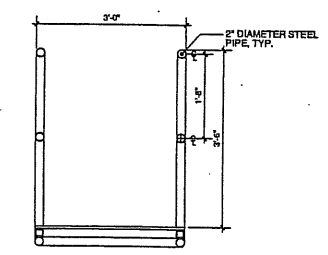




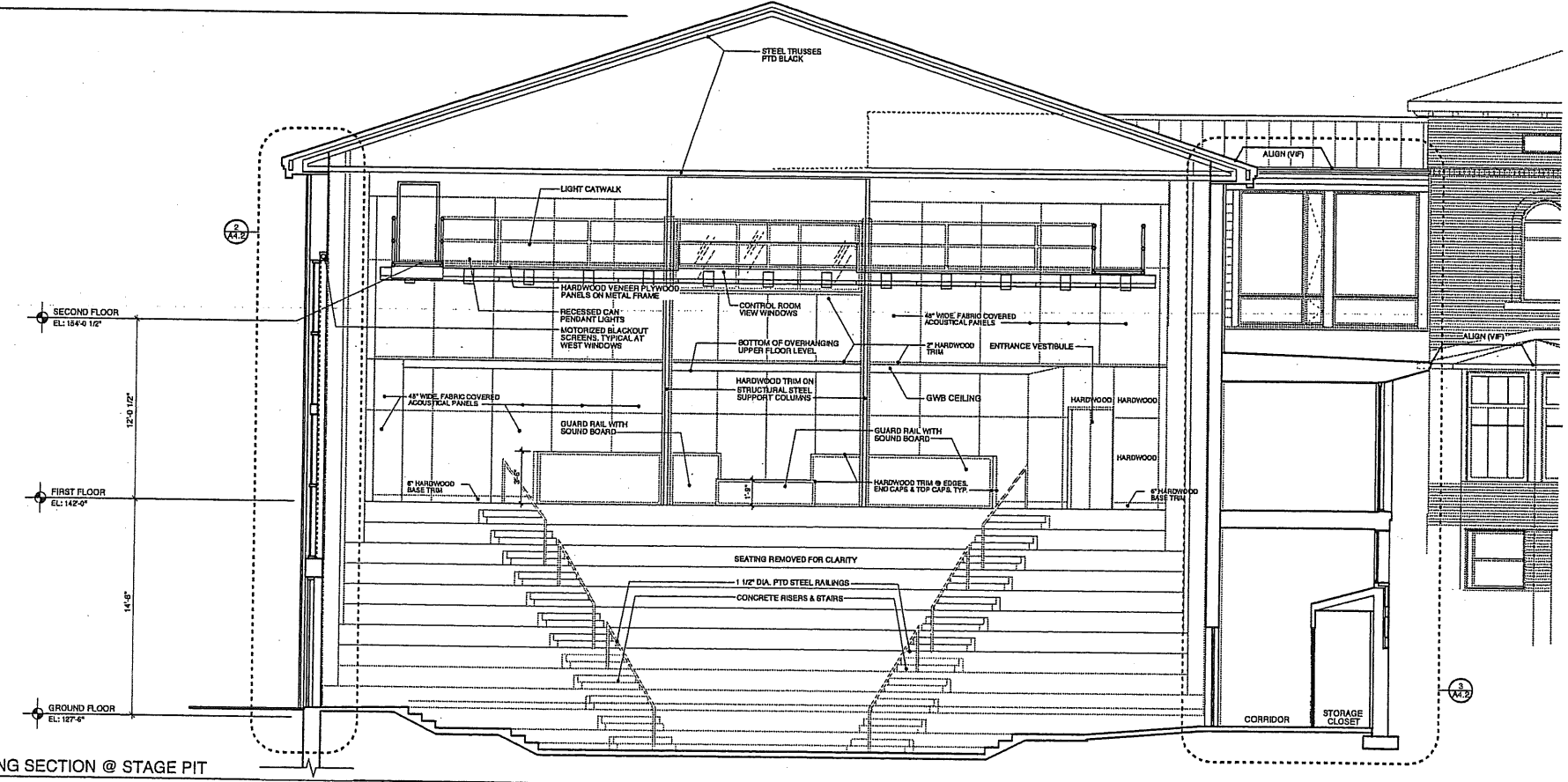
1 BUILDING SECTION  
SCALE: 1/4" = 1'-0"




2 DETAIL  
SCALE: 3/4" = 1'-0"



3 DETAIL @ CATWALK  
SCALE: 3/4" = 1'-0"



2 ENLARGED BUILDING SECTION @ STAGE PIT  
SCALE: 1/4" = 1'-0"

  
 Scott Shomo Architects  
 75 York Street  
 Portland, Maine 04101  
 Phone: 207 773 1565  
 Fax: 207 822 1684

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PROJECT  
**WAYNFLETE ARTS CENTER  
 PHASE TWO**  
 ADDITION/ RENOVATION  
 360 SPRING STREET  
 PORTLAND, ME

TITLE  
**ENLARGED  
 BUILDING SECTIONS**

STATUS:  
 Historic Preservation Submission  
 NOT FOR CONSTRUCTION

DATE: 07-20-2007  
 REVISION / DATE:

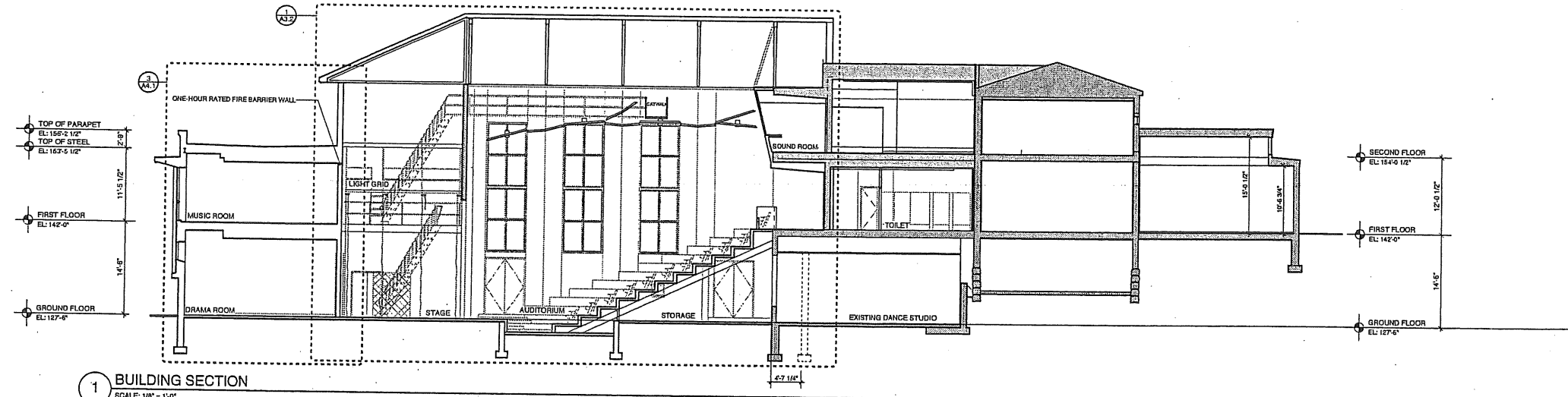
PROJECT NO.  
 2003-0048-00  
 DRAWN BY:

DWG NO.  
**A-3.2**

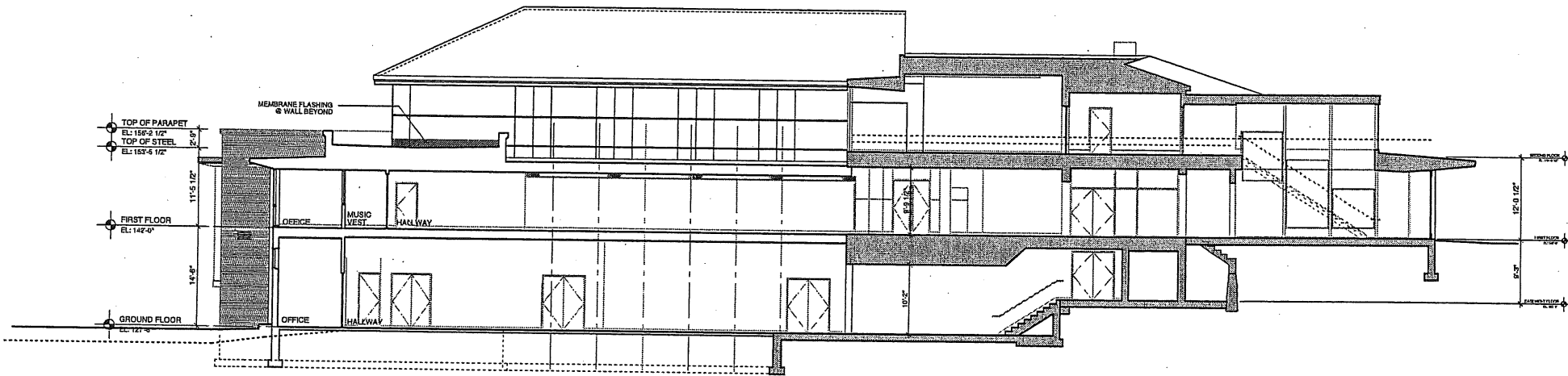
DEPT. OF BUILDING INSPECTION  
CITY OF PORTLAND, ME

AUG 1 2007

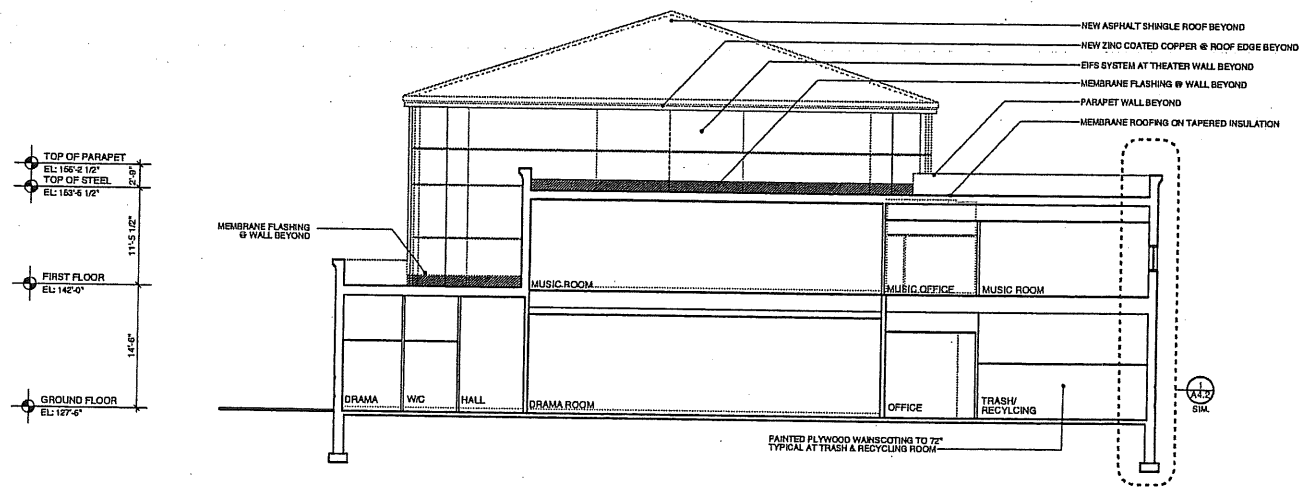
RECEIVED




1 BUILDING SECTION  
SCALE: 1/8" = 1'-0"



2 BUILDING SECTION  
SCALE: 1/8" = 1'-0"



3 BUILDING SECTION  
SCALE: 1/8" = 1'-0"

  
 Scott Simon Architects  
 72 York Street  
 Portland, Maine 04101  
 Phone 207 777 4500  
 Fax 207 828 4556

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PROJECT  
**WAYNFLETE ARTS CENTER  
 PHASE TWO**  
 ADDITION/ RENOVATION  
 360 SPRING STREET  
 PORTLAND, ME

TITLE  
**BUILDING SECTIONS**

STATUS:  
**Historic Preservation Submission**  
 NOT FOR CONSTRUCTION

DATE: 07.20.2007  
 REVISION/DATE:

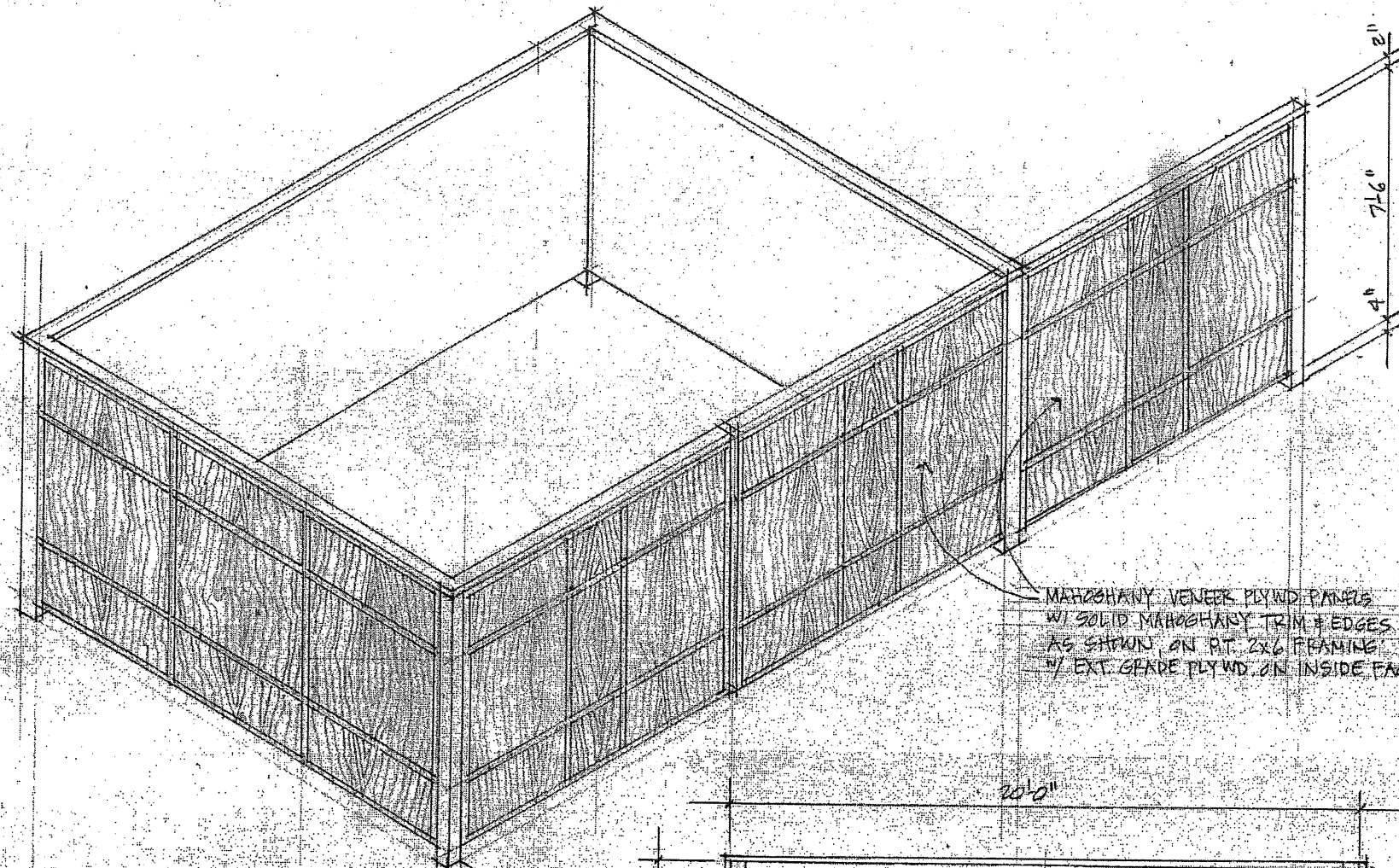
PROJECT NO.: 2002-0049.00  
 DRAWN BY:

DWG NO.: **A-3.1**

DEPT. OF BUILDING INSPECTION  
 CITY OF PORTLAND, ME

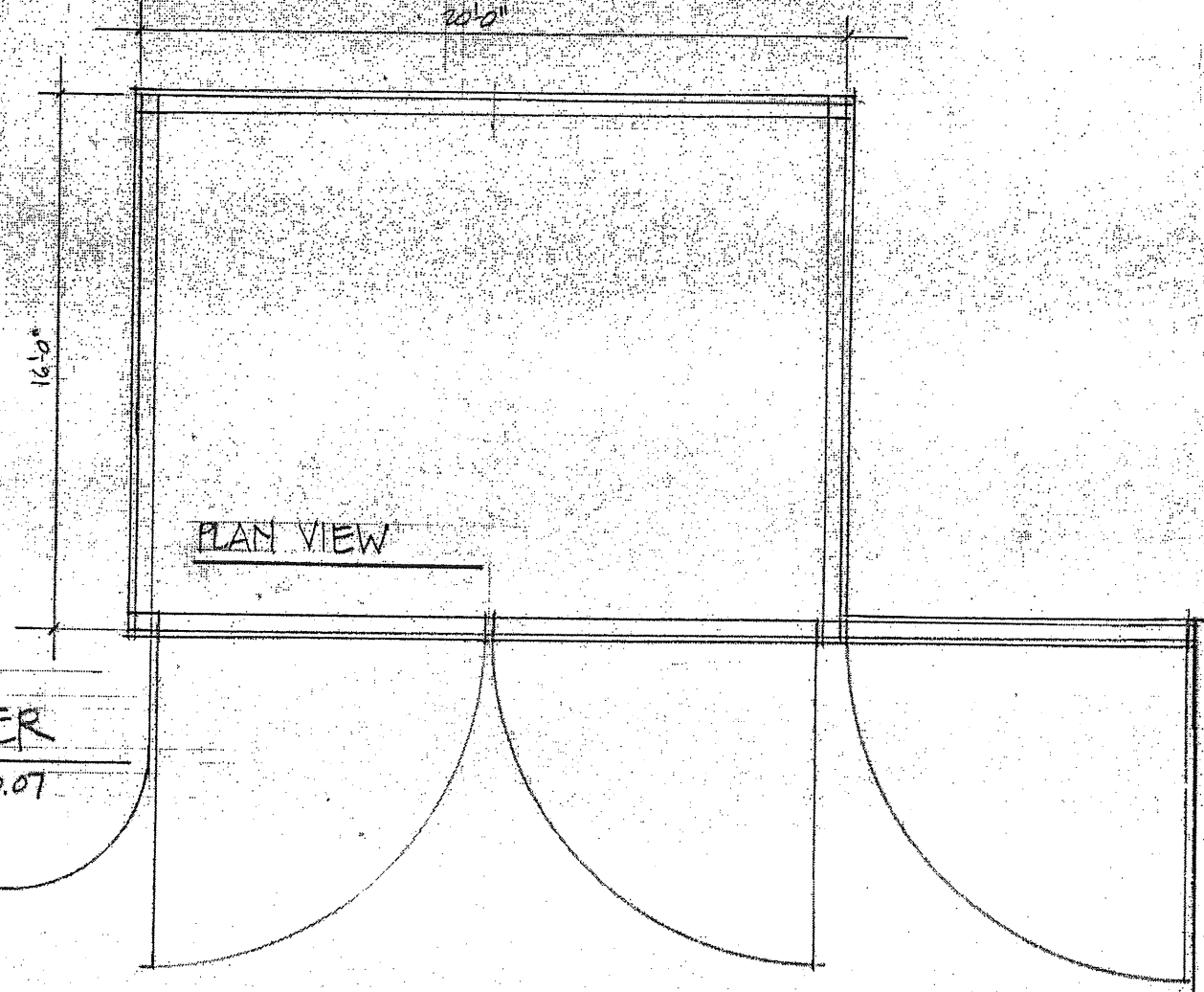
AUG 1 2007

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MAHOGANY VENEER PLYWD. PANELS  
W/ SOLID MAHOGANY TRIM EDGES  
AS SHOWN ON RT. 2x6 FRAMING  
1/2" EXT. GEXDE PLYWD. ON INSIDE FACE TYP.

ISOMETRIC VIEW

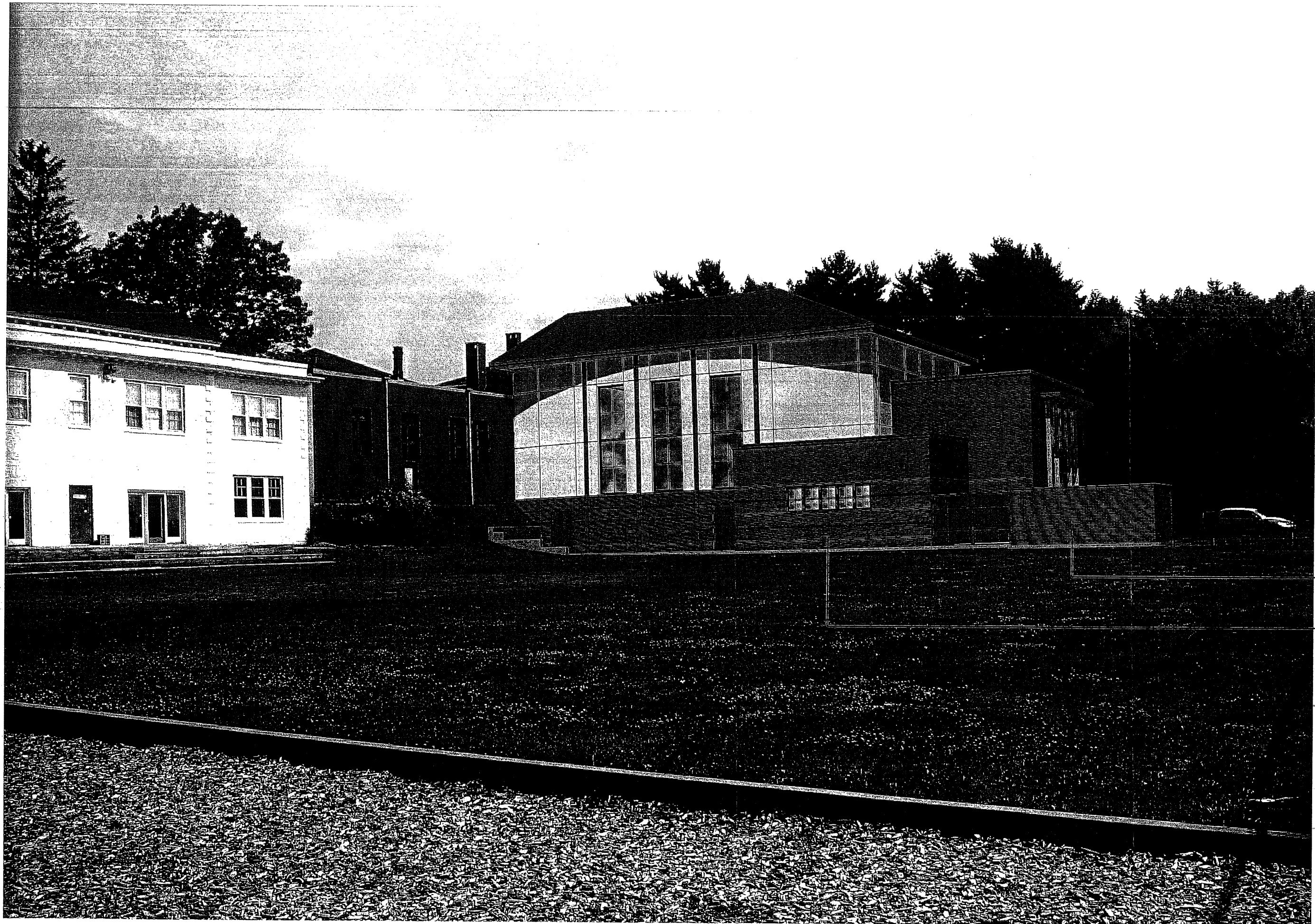


PLAN VIEW

DUMPSTER ENCLOSURE FOR  
WAYNFLETE ARTS CENTER  
SCOTT SIMONS ARCHITECTS 07.23.07

DEPT. OF BUILDING INSPECTION  
CITY OF PORTLAND, ME  
AUG 1 2007  
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ENCLOSURE  
OPTION 2

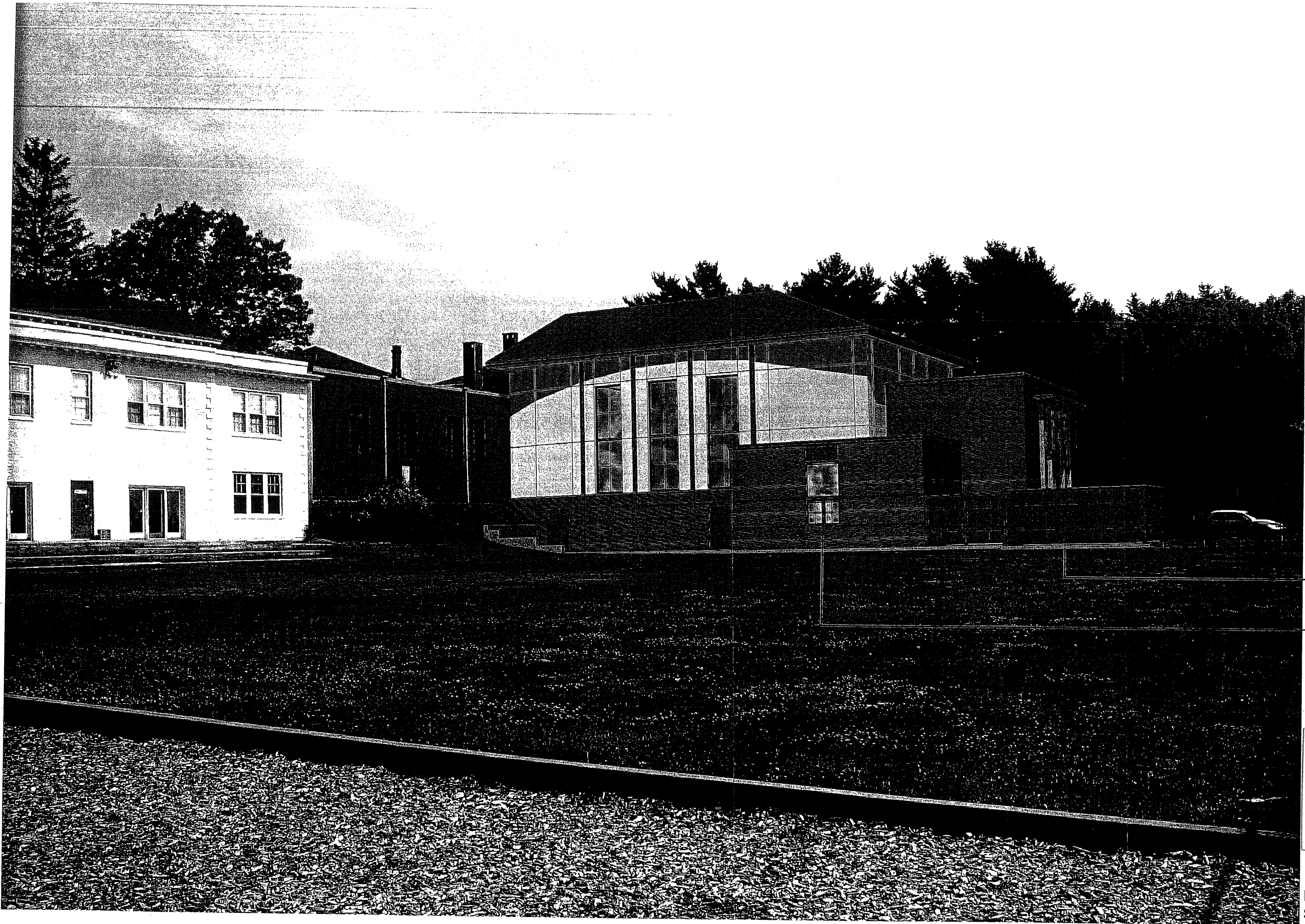
WINDOW  
OPTION 3

DEPT. OF BUILDING INSPECTION  
CITY OF PORTLAND, ME

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Historic Preservation  
Submission 7.30.07



ENCLOSURE  
OPTION 1

WINDOW  
OPTION 2

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CITY OF PORTLAND, ME  
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Submission 7.30.07



Figure A  
Rendering of addition  
Danforth Street at Fletcher  
View from an eastbound vehicle



Figure B  
Rendering of addition  
View from South West corner of field

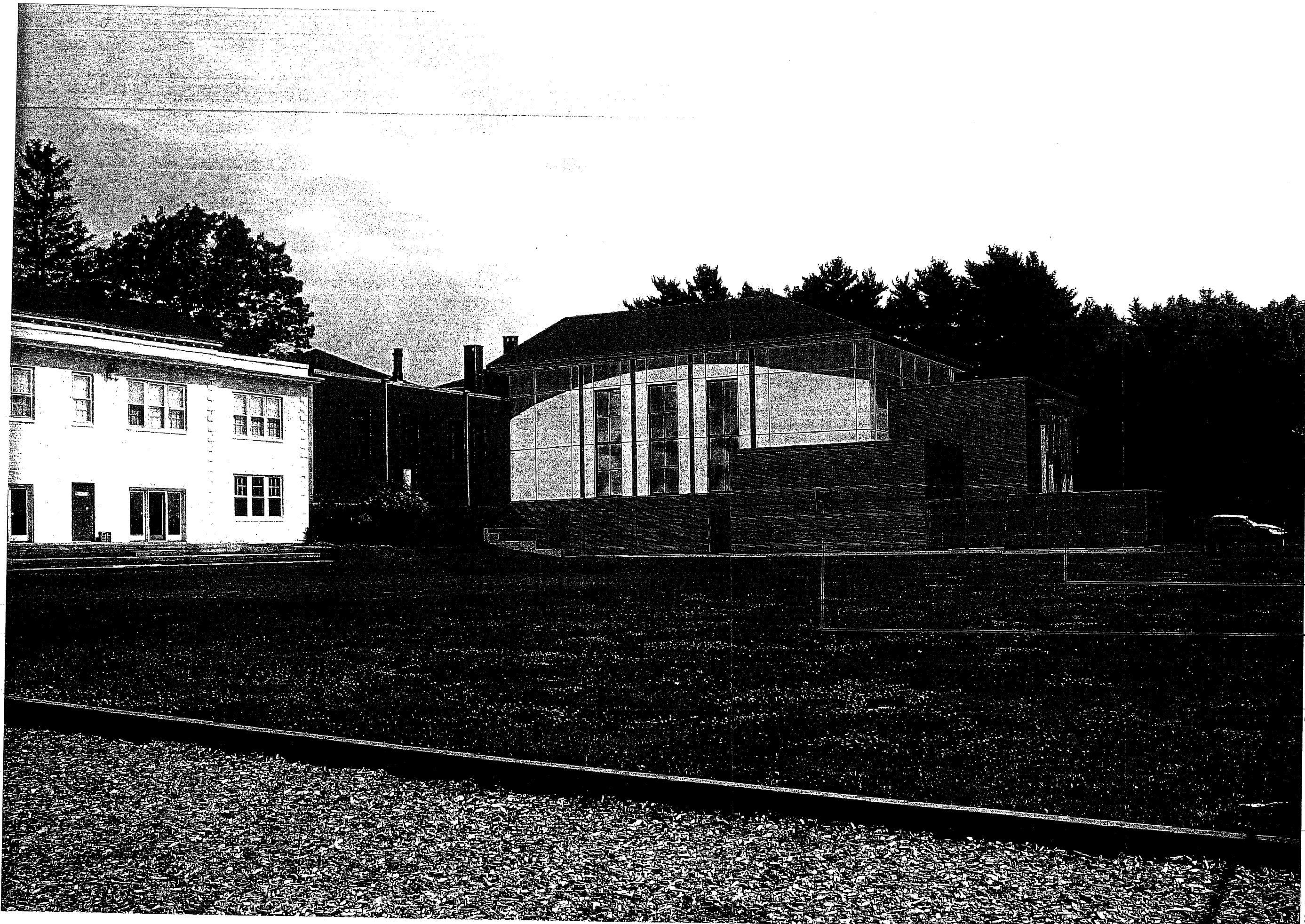


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CITY OF PORTLAND, ME

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Submission 7.30.07



ENCLOSURE  
OPTION 1

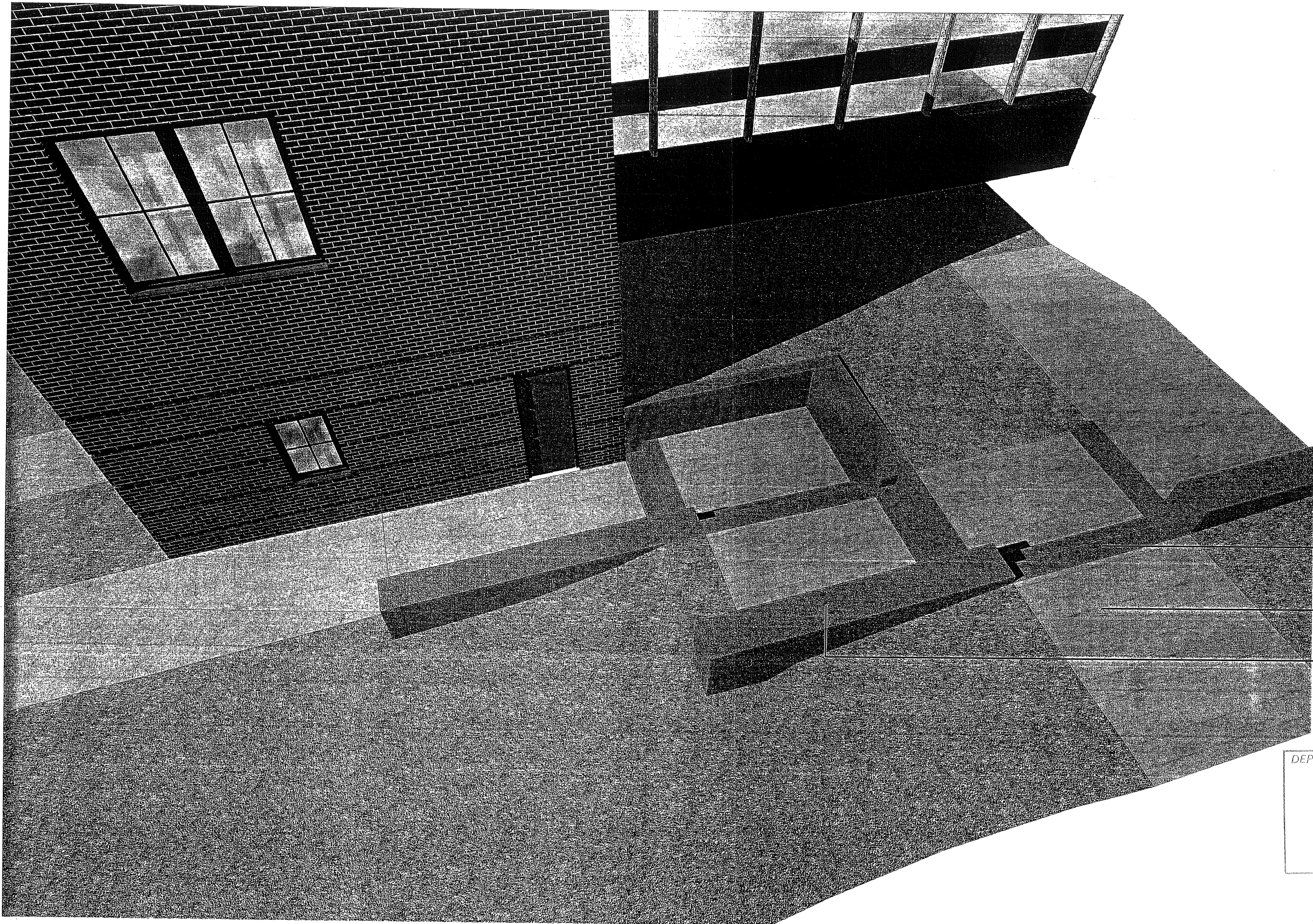
WINDOW  
OPTION 1

DEPT. OF BUILDING INSPECTION  
CITY OF PORTLAND, ME

AUG 1 2007

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Historic Preservation  
Submission 7.30.07



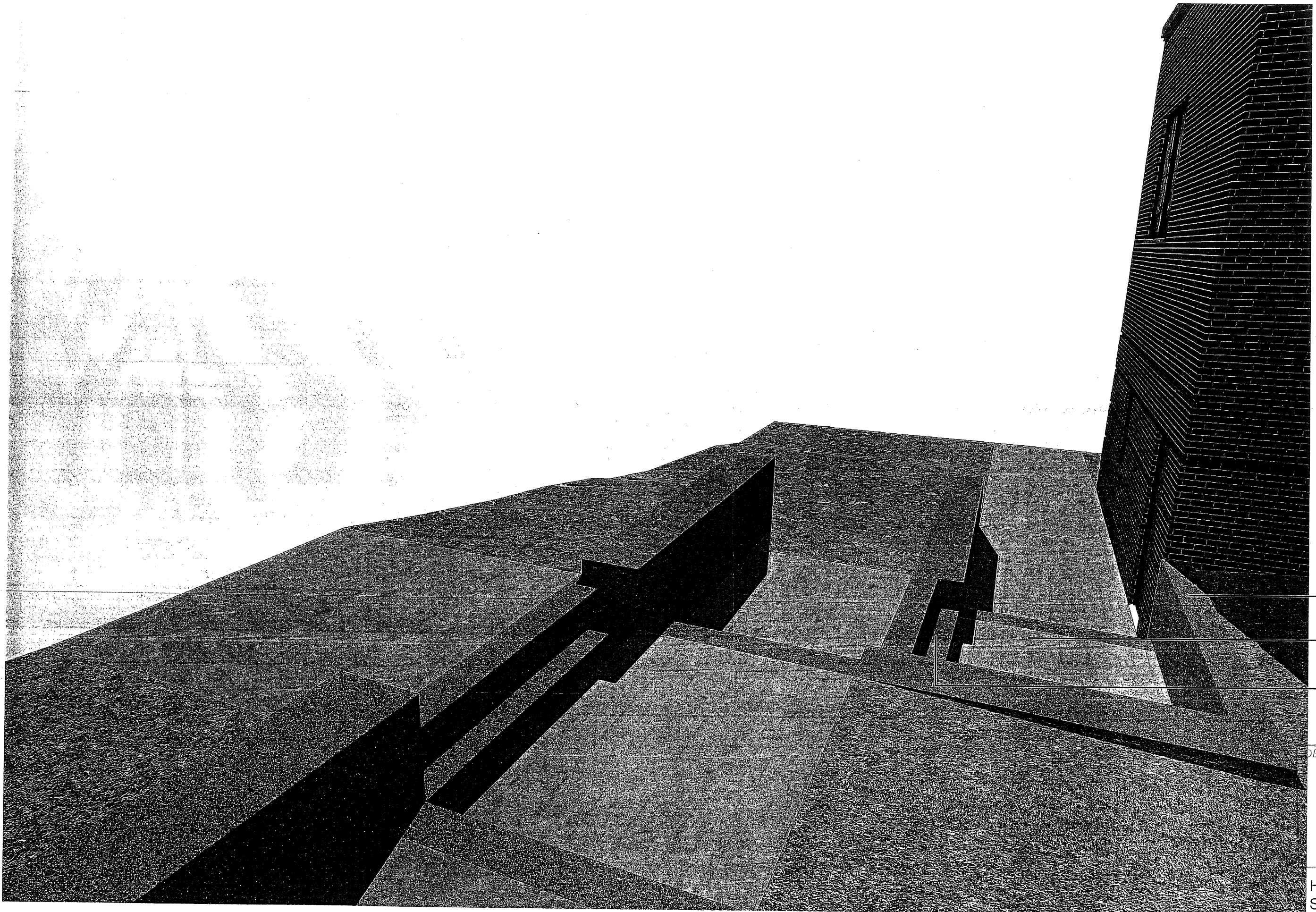
GRANITE  
STEP

CONCRETE  
PAVEMENT

GRANITE  
SEAT WALL

DEPT. OF BUILDING INSPECTION  
CITY OF PORTLAND, ME  
AUG 1 2007  
RECEIVED

Historic Preservation  
Submission 7.30.07



GRANITE  
SEAT WALL

CONCRETE  
PAVEMENT

GRANITE  
STEP

DEPT. OF BUILDING INSPECTION  
CITY OF PORTLAND, ME

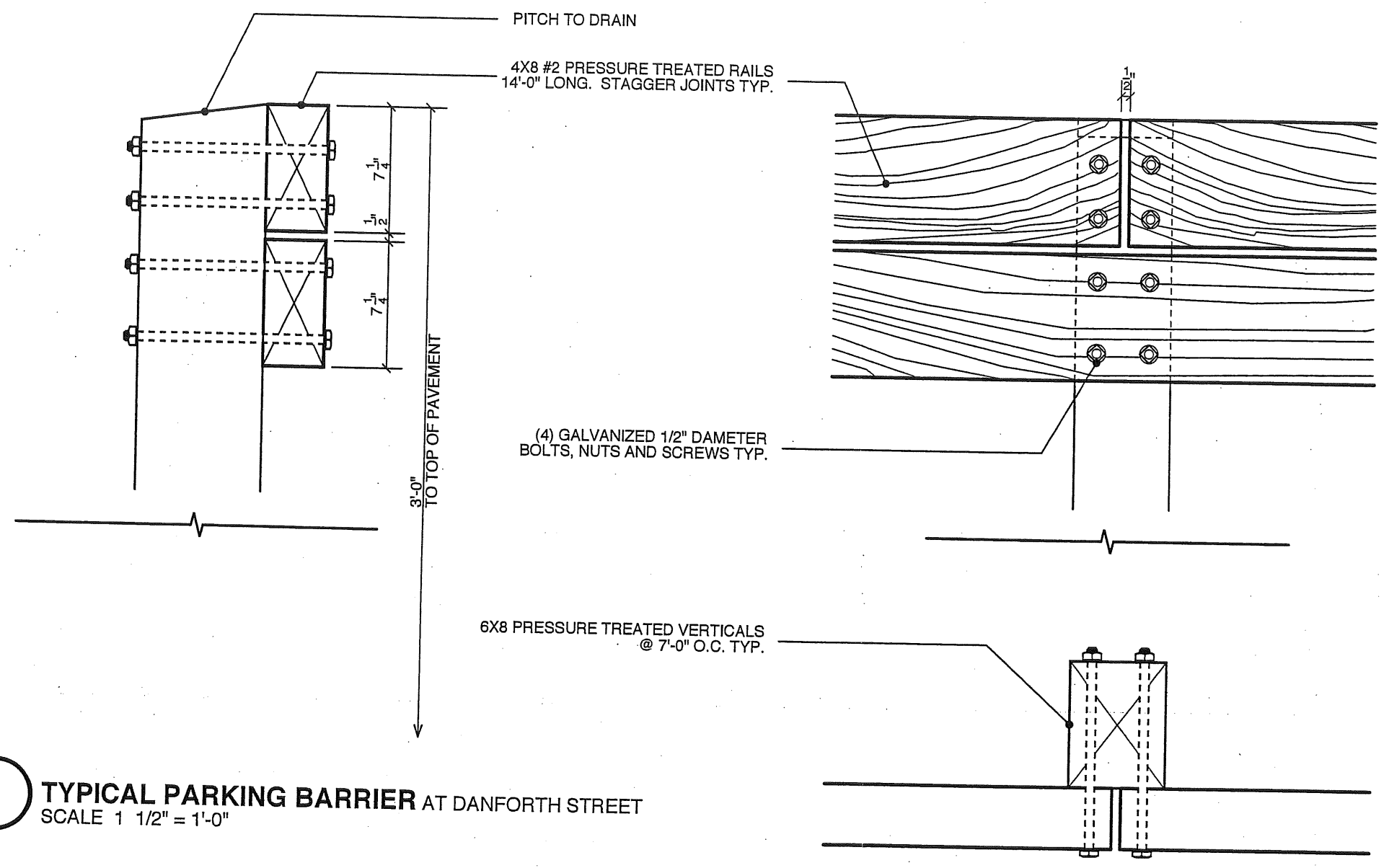
AUG 1 2007

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Historic Preservation  
Submission 7.30.07



AS AGREED UPON WITH MIKE FARMER OF PORTLAND PUBLIC WORKS ON 7.25.07



**1** TYPICAL PARKING BARRIER AT DANFORTH STREET  
SCALE 1 1/2" = 1'-0"

DEPT. OF BUILDING INSPECTION  
CITY OF PORTLAND, ME  
AUG 1 2007  
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**SSA**  
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PROJECT  
**WAYNFLETE  
ARTS CENTER  
PHASE TWO**  
360 SPRING STREET  
PORTLAND, MAINE

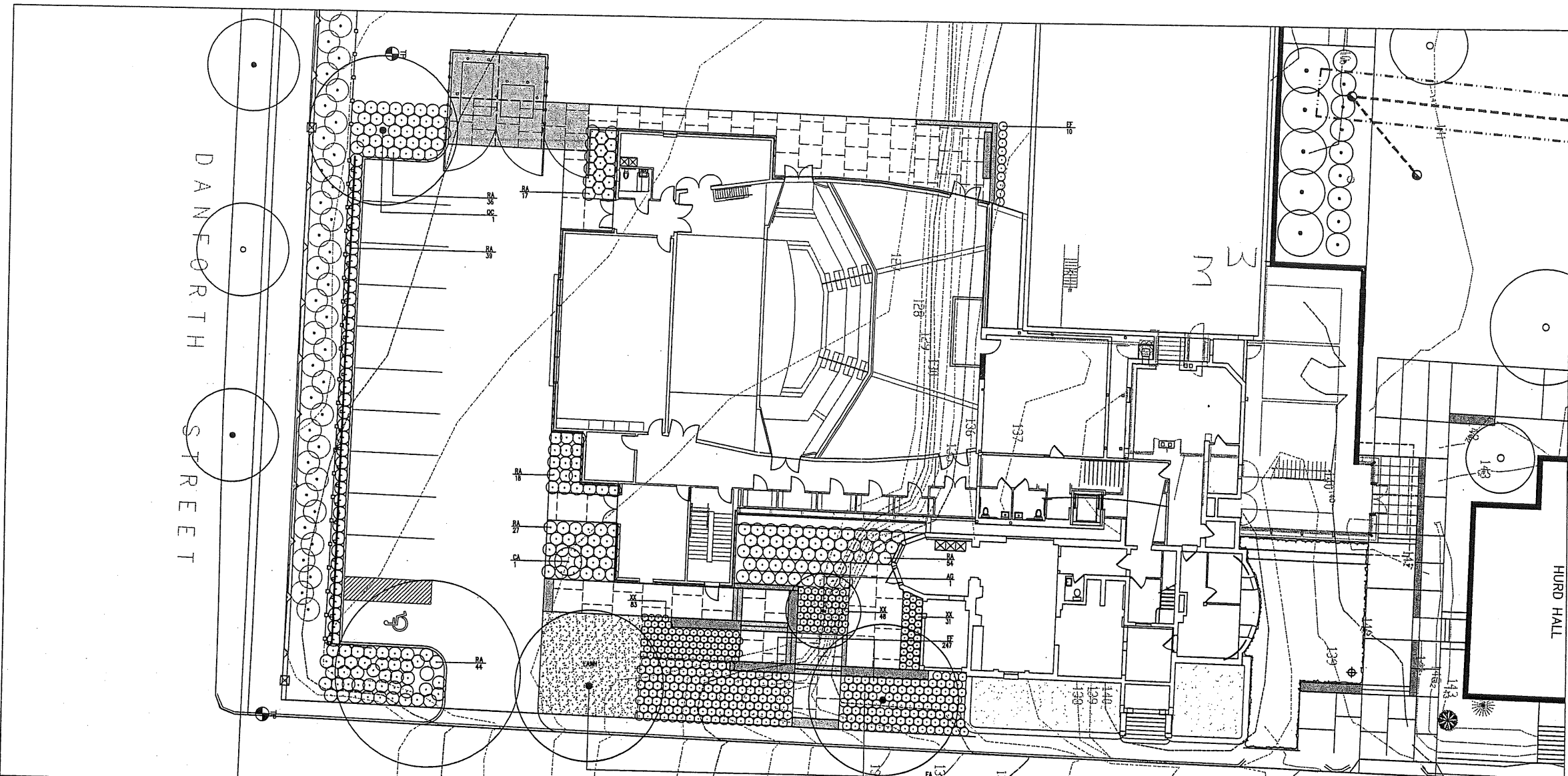
TITLE  
PARKING BARRIER

STATUS:  
HISTORIC PRESERVATION  
SUBMISSION 7.30.07

DATE: 7.30.07	REVISION /DATE:
SCALE:	
PROJECT NO. 2003-0040.00	
DRAWN BY:	

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DWG NO.:



DANFORTH STREET

HURD HALL

1 PLANTING PLAN  
SCALE: 1"=10'

PLANT LIST

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	COMMENTS
<b>TREES</b>							
AG	1	ACER GINHALA	AMUR MAPLE	8 - 10' CLUMP	B&B	SEE PLAN	MULTISTEMMED SPECIMEN
FA	2	FRAXINUS AMERICANA	GREEN ASH	3.5 - 4" CAL	B&B	SEE PLAN	SINGLE LEADER, MATCHED
OC	1	QUERCUS COCCINEA	SCARLET OAK	4" CAL	B&B	SEE PLAN	HEAVY SPECIMEN
<b>SHRUBS / GROUNDCOVERS</b>							
CA	1	CLETHRA ALNIFOLIA	SWEET PEPPERBUSH	3-6'	CONT.		
EF	257	EUONYMUS FORTUNEI	WINTERCREEPER EUONYMUS	2 GAL.	CONT.		
RA	235	RHUS AROMATICA 'ORO-LO'	FRAGRANT SUMAC	1 GAL.	CONT.		
XX	152	PERENNIAL - TBD		1 GAL.	CONT.		

DEPT. OF BUILDING INSPECTION  
CITY OF PORTLAND, ME

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PROJECT  
WAYNFLETE ARTS CENTER  
PHASE TWO

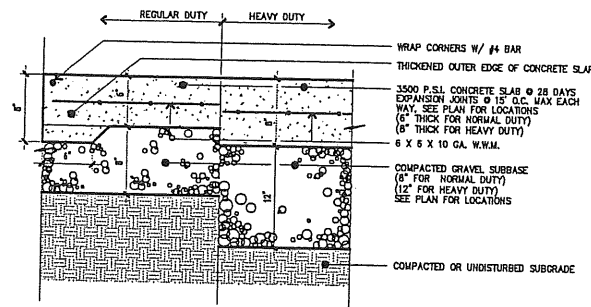
ADDITION/ RENOVATION  
380 SPRING STREET  
PORTLAND, ME

TITLE  
PLANTING PLAN

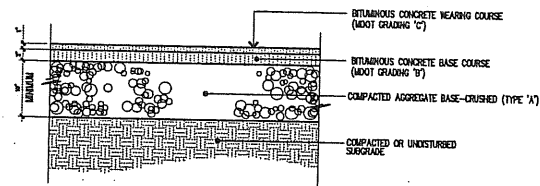
STATUS:  
Planning Board Submission  
NOT FOR CONSTRUCTION

DATE: 07.23.2007  
SCALE: 1"=10'  
PROJECT NO.: 2003-0040.00  
DRAWN BY: [Signature]

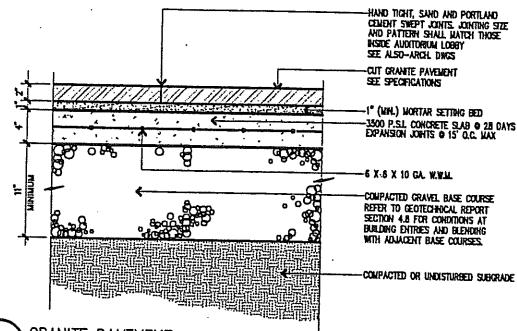
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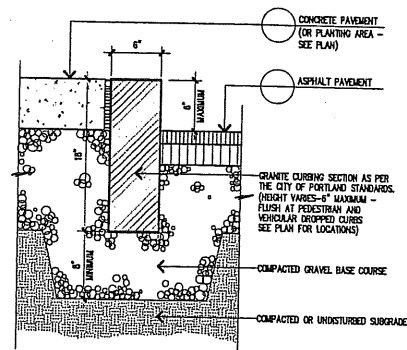
1 CONCRETE PAVEMENT  
L-1.4 SCALE: 1 1/2" = 1'-0"



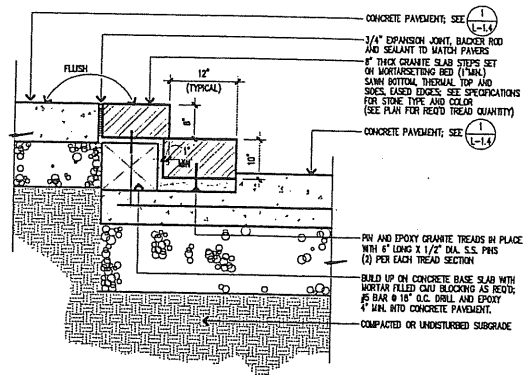
2 ASPHALT PAVEMENT  
L-1.4 SCALE: 1" = 1'-0"



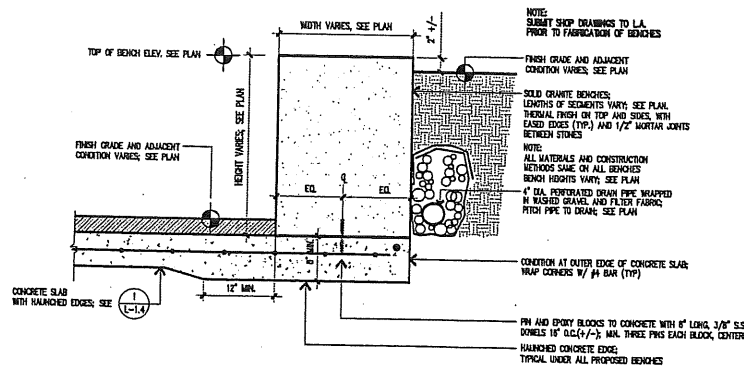
3 GRANITE PAVEMENT  
L-1.4 SCALE: 1 1/2" = 1'-0"



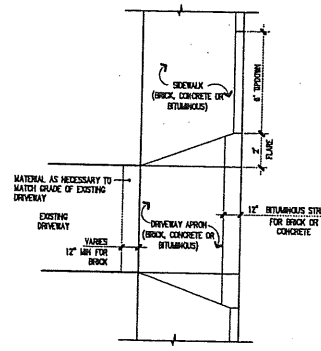
4 GRANITE CURB  
L-1.4 SCALE: 1 1/2" = 1'-0"



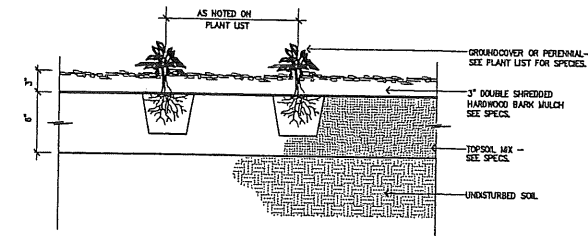
5 GRANITE STEPS ON BASE SLAB  
L-1.4 SCALE: 1" = 1'-0"



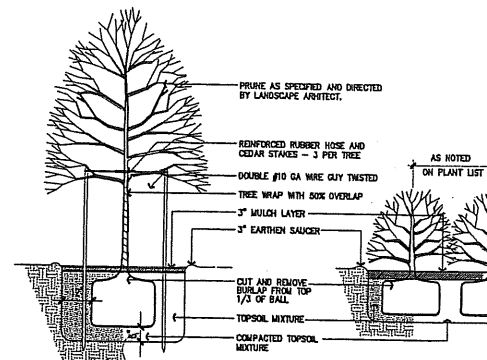
6 GRANITE SEAT WALL  
L-1.4 SCALE: 1" = 1'-0"



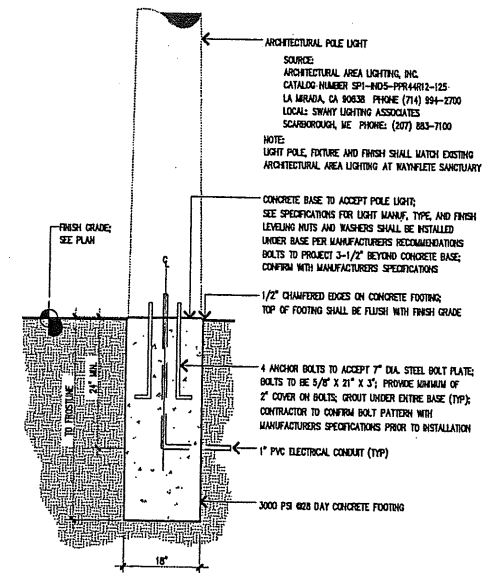
6 CITY OF PORTLAND SIDEWALK & DRIVEWAY DETAIL  
L-1.4 SCALE: 1/4" = 1'-0"



X GROUNDCOVER PLANTING DETAIL  
L-1.4 NOT TO SCALE



X TREE / SHRUB PLANTING DETAIL  
L-1.4 NOT TO SCALE



X LIGHT POLE BASE DETAIL  
L-1.4 SCALE: 3/4" = 1'-0"

DEPT. OF BUILDING INSPECTION  
CITY OF PORTLAND, ME  
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fax 207.772.4608

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PROJECT  
WAYNFLEETE ARTS CENTER  
PHASE TWO  
ADDITION/ RENOVATION  
360 SPRING STREET  
PORTLAND, ME

TITLE  
SITE DETAILS

STATUS:  
Planning Board Submission  
NOT FOR CONSTRUCTION

DATE: 07.20.2007  
SCALE: 1"=10'  
PROJECT NO.: 2003-2040.00  
DRAWN BY:

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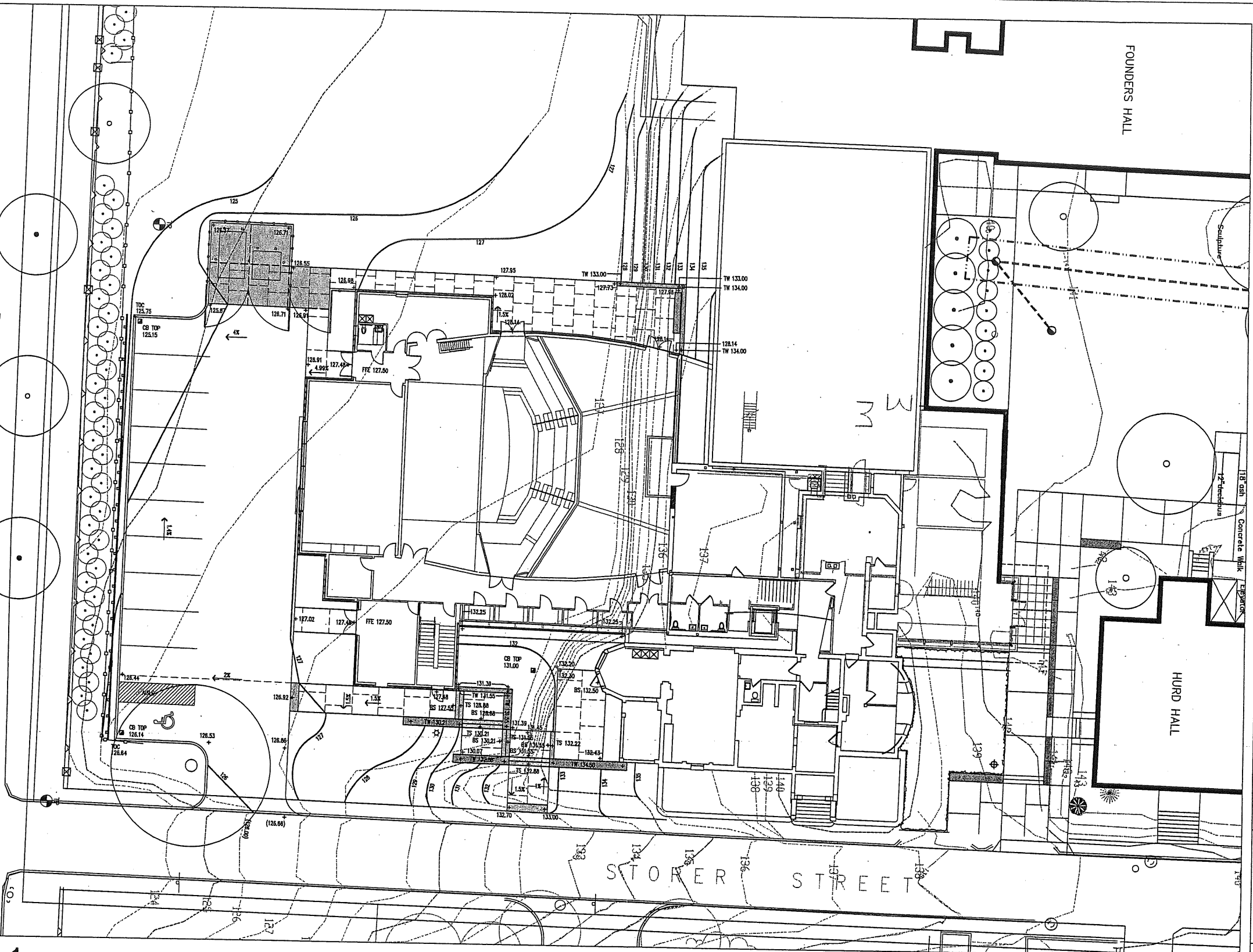
L-1.4

DANFORTH STREET

FOUNDERS HALL

HURD HALL

STORER STREET



1 GRADING PLAN  
SCALE: 1"=10'

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CITY OF PORTLAND, ME

AUG 2007

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PROJECT  
WAYFLEETE ARTS CENTER  
PHASE TWO

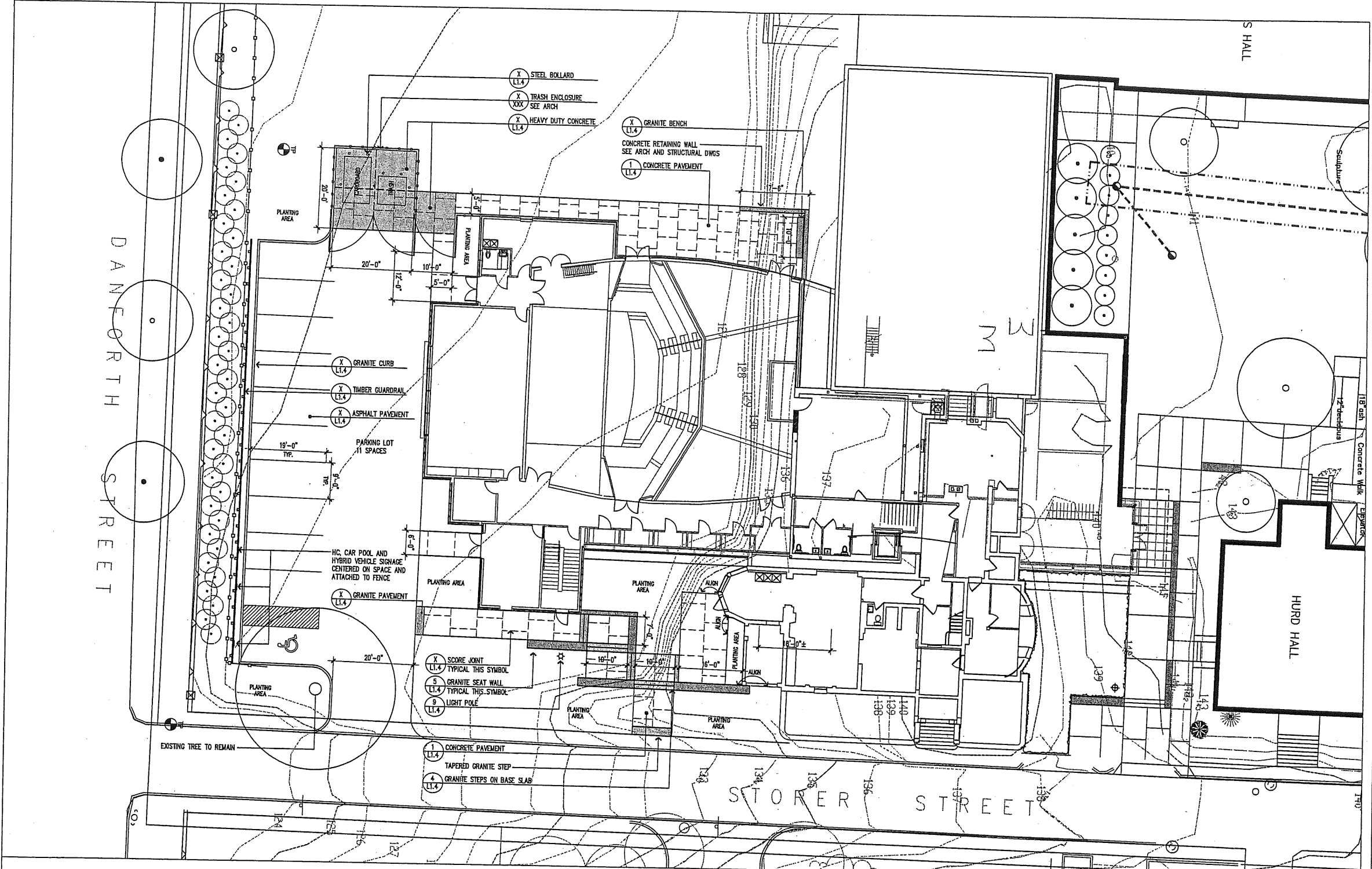
ADDITION/ RENOVATION  
360 SPRING STREET  
PORTLAND, ME

TITLE  
GRADING PLAN

STATUS:  
Planning Board Submission  
NOT FOR CONSTRUCTION

DATE: 07.20.2007  
SCALE: 1"=10'  
PROJECT NO.: 2003-046120  
DRAWN BY: 2007 Scott Simons Architects

DWG NO. L-1.2



**1** LAYOUT AND MATERIALS PLAN  
SCALE: 1"=10'

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CITY OF PORTLAND, ME.  
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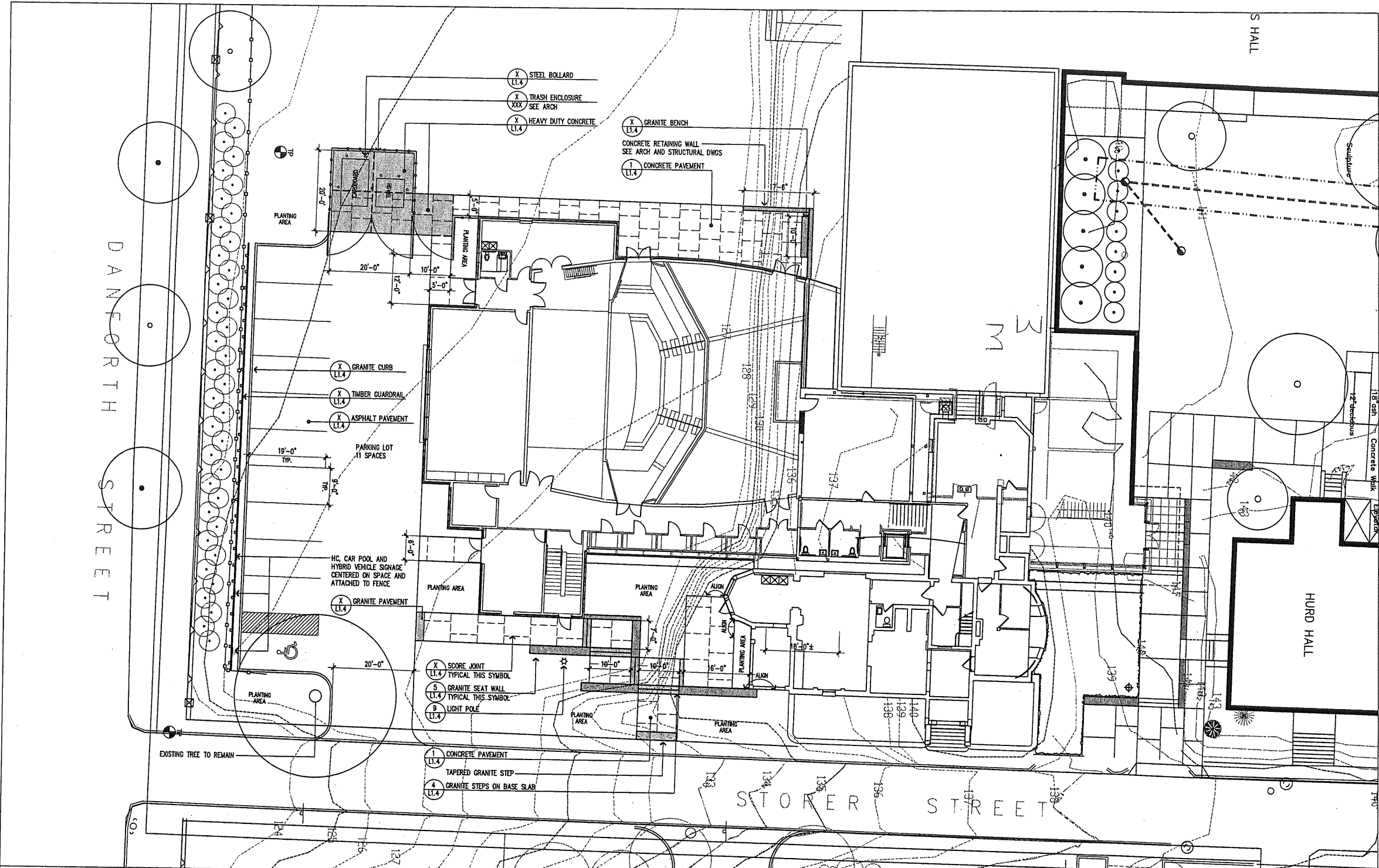
PROJECT  
WAYNFLETE ARTS CENTER  
PHASE TWO  
ADDITION/ RENOVATION  
380 SPRING STREET  
PORTLAND, ME

TITLE  
LAYOUT AND  
MATERIALS PLAN

STATUS:  
Planning Board Submission  
NOT FOR CONSTRUCTION

DATE: 07.23.2007	REVISION / DATE:
SCALE: 1"=10'	
PROJECT NO. 2003-0049.00	
DRAWN BY:	
DWG NO.	

L-1.1



DANFORTH STREET

STORER STREET

S HALL

HURD HALL

**1** LAYOUT AND MATERIALS PLAN  
SCALE: 1"=10'

DEPT. OF BUILDING INSPECTION  
CITY OF PORTLAND, ME  
AUG 1 2007  
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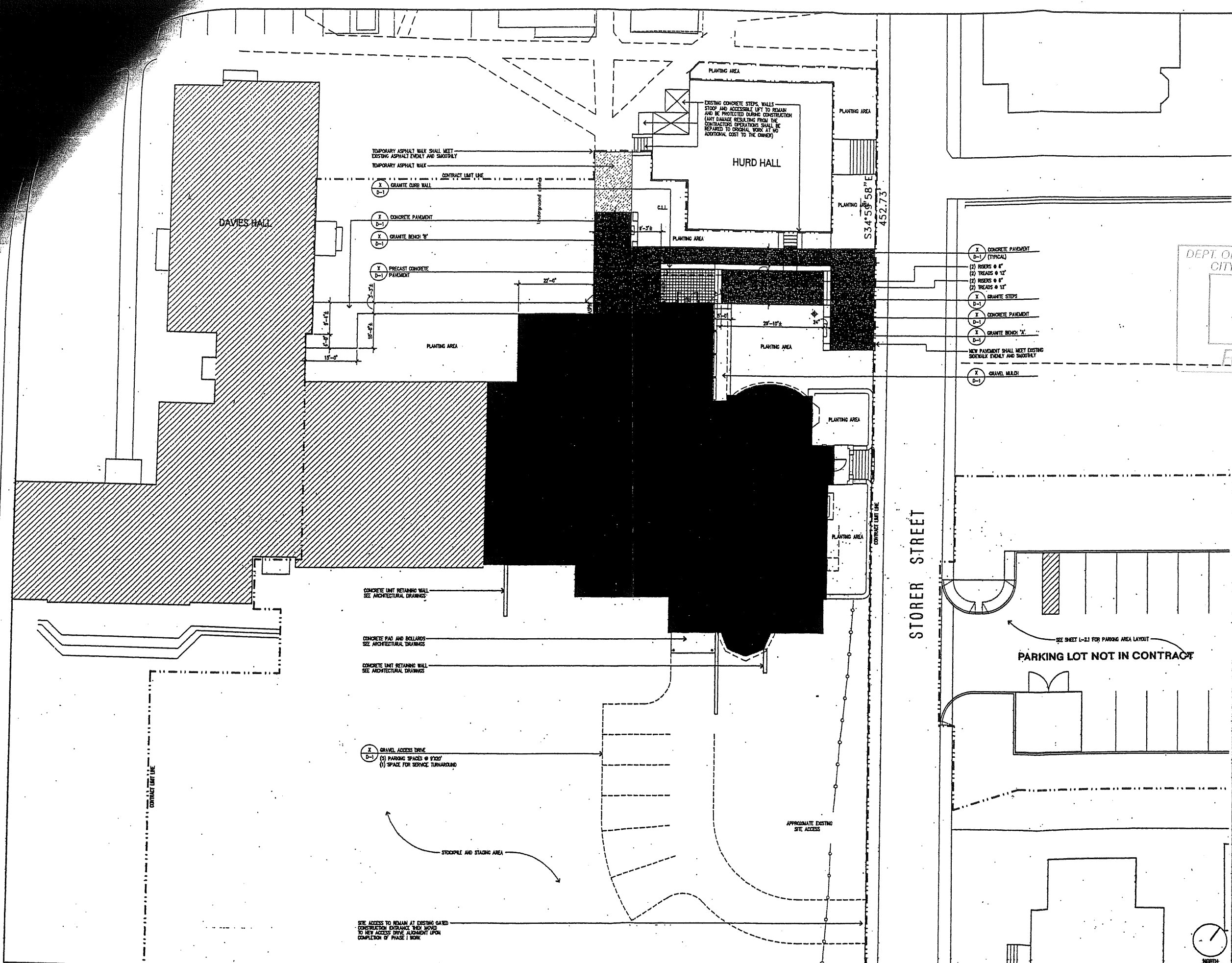
PROJECT  
WAYNFLETE ARTS CENTER  
PHASE TWO  
ADDITION/ RENOVATION  
360 SPRING STREET  
PORTLAND, ME

TITLE  
LAYOUT AND  
MATERIALS PLAN

STATUS:  
Planning Board Submission  
NOT FOR CONSTRUCTION

DATE: 07.22.2007	REVISION /DATE:
SCALE: 1"=10'	
PROJECT NO. 2003-0046.00	
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michael@boucherlandscape.com

PROJECT  
**WAYNFLETE SCHOOL**  
300 SPINNEY STREET  
PORTLAND, ME  
Issued for Pricing  
April 25, 2001

TITLE  
**LAYOUT + MATERIALS PLAN 'A'**

STATUS:  
**CONSTRUCTION DRAWINGS  
NOT FOR CONSTRUCTION**

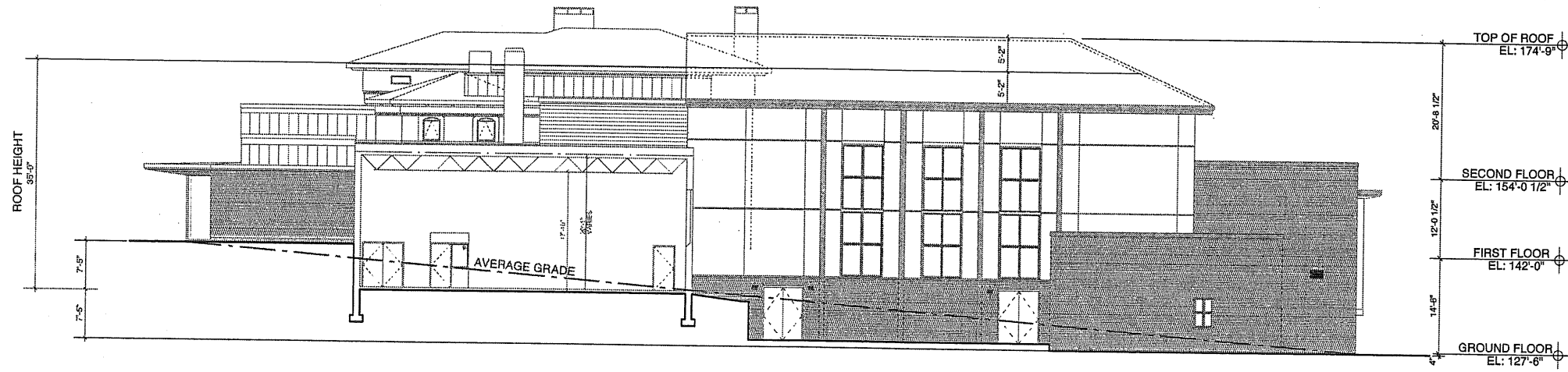
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PROJECT NO.: 01001.00  
DRAWN BY: RWV  
DWG NO.: 2001-04 Scott Stann Architects

L-2.0

l.e



① EAST ELEVATION  
SCALE: 1/8" = 1'-0"



② WEST ELEVATION  
SCALE: 1/8" = 1'-0"

DEPT. OF BUILDING INSPECTION  
CITY OF PORTLAND, ME  
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PROJECT  
**WAYNFLETE ARTS CENTER  
PHASE TWO**  
ADDITION/ RENOVATION  
360 SPRING STREET  
PORTLAND, ME

TITLE  
**BUILDING HEIGHT  
DIAGRAM**

STATUS:  
PLANNING BOARD SUBMISSION

DATE: 07.31.2007    REVISION / DATE:

PROJECT NO.  
2002-0443.00

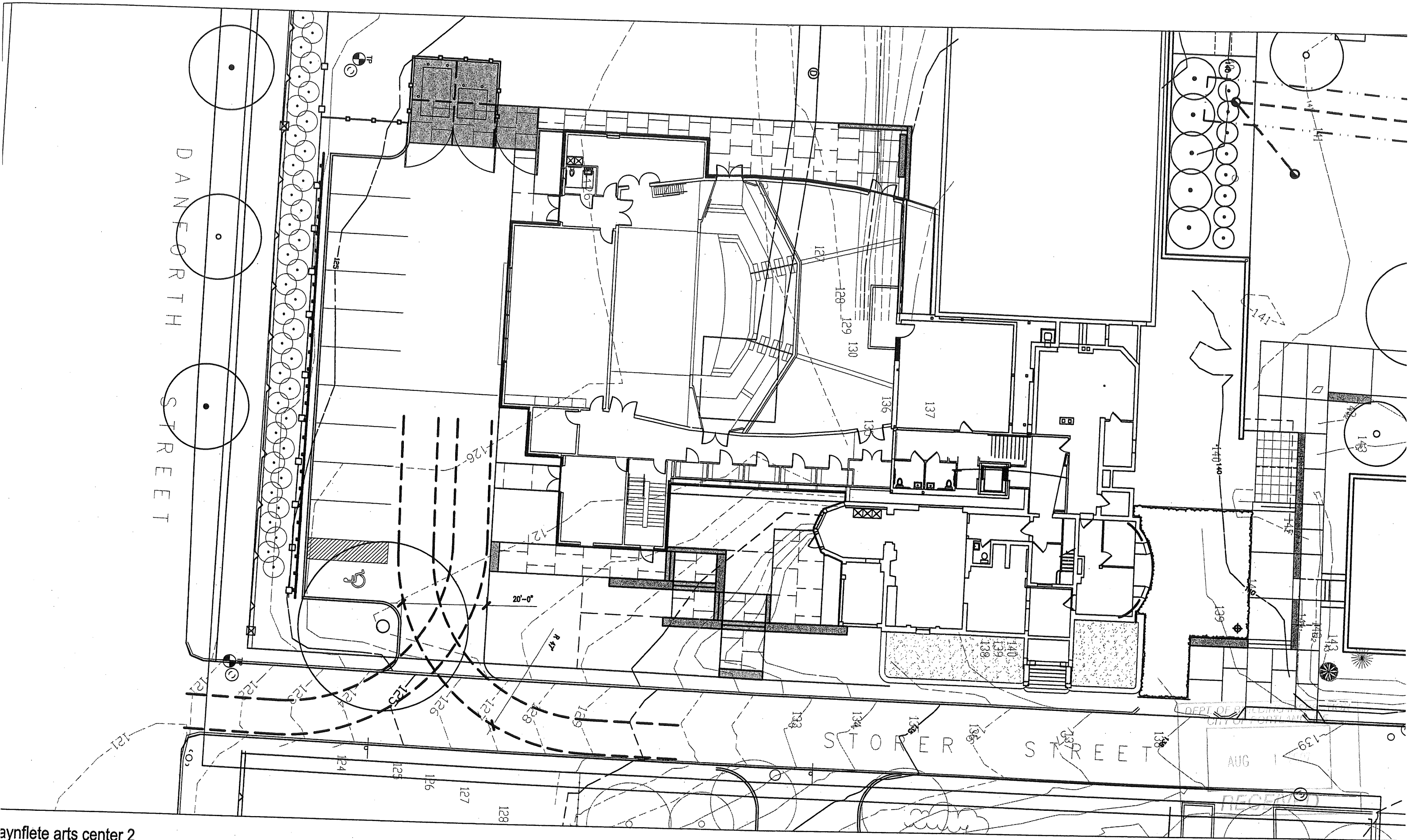
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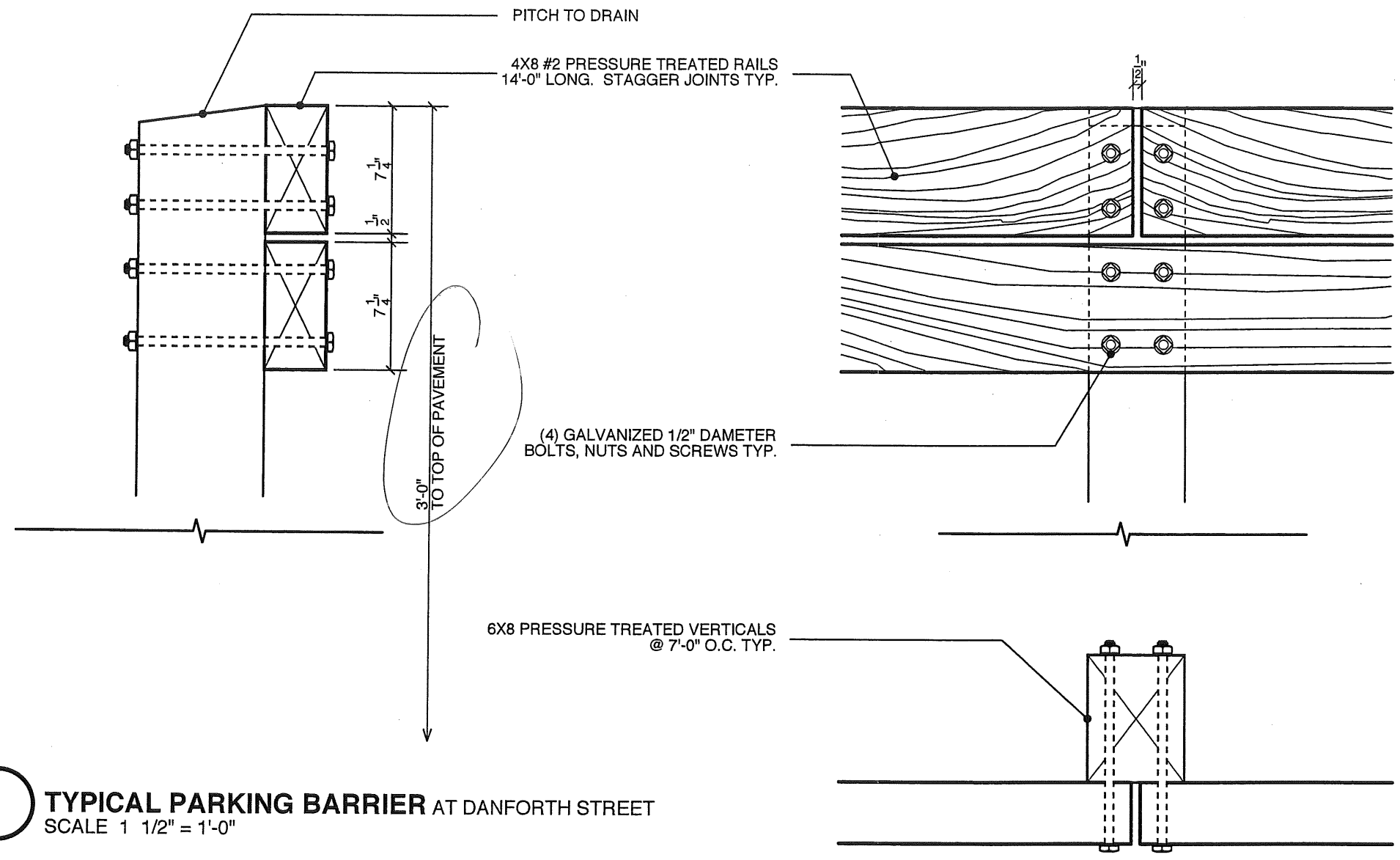
DWG NO.

*Haight  
Submittal*





danflete arts center 2  
 SANITATION VEHICLE TURNING RADII  
 Scale: 1"=20'



**1** TYPICAL PARKING BARRIER AT DANFORTH STREET  
SCALE 1 1/2" = 1'-0"

AS AGREED UPON WITH MIKE FARMER OF PORTLAND PUBLIC WORKS ON 7.25.07

DEPT. OF BUILDING INSPECTION  
CITY OF PORTLAND, ME

AUG 1 2007

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PROJECT  
**WAYNFLETE  
ARTS CENTER  
PHASE TWO**  
360 SPRING STREET  
PORTLAND, MAINE

TITLE  
PARKING BARRIER

STATUS:  
PLANNING BOARD  
JULY 31, 2007

DATE:  
7.31.07

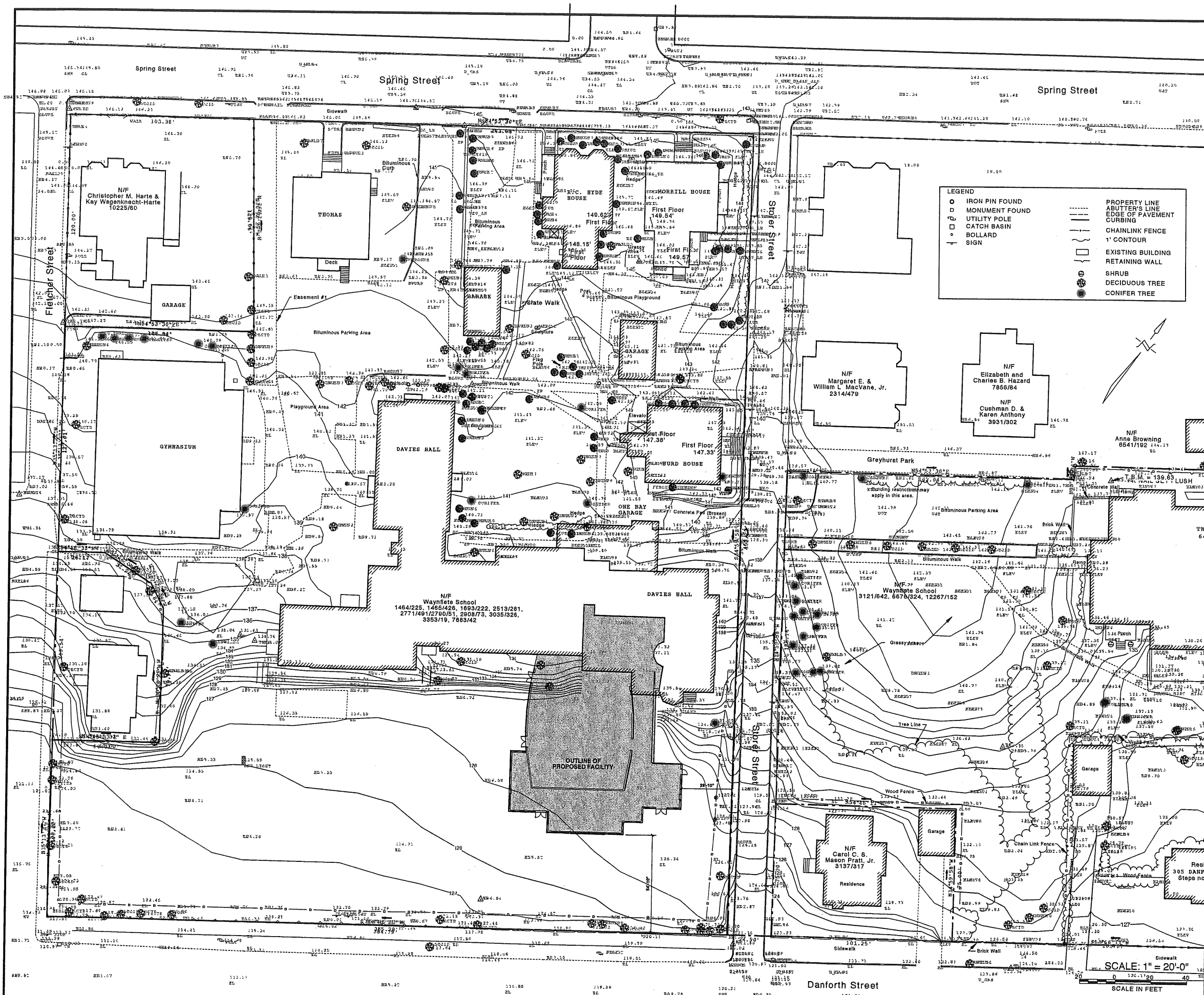
SCALE:

PROJECT NO.  
2003-0040.00

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DWG NO.



**LEGEND**

○	IRON PIN FOUND	---	PROPERTY LINE
□	MONUMENT FOUND	---	ABUTTER'S LINE
○	UTILITY POLE	---	EDGE OF PAVEMENT
□	CATCH BASIN	---	CURBING
○	BOLLARD	---	CHAINLINK FENCE
+	SIGN	---	1' CONTOUR
		---	EXISTING BUILDING
		---	RETAINING WALL
		○	SHRUB
		○	DECIDUOUS TREE
		○	CONIFER TREE



DEPT. OF BUILDING INSPECTION  
CITY OF PORTLAND, ME

AUG 1 2007

RECEIVED

**PROJECT**

**WAYNFLETE ARTS CENTER  
PHASE TWO**

**ADDITION/RENOVATION  
380 SPRING STREET  
PORTLAND, ME**

**TITLE**

**SITE SURVEY**

**STATUS:**  
Planning Board Submission  
NOT FOR CONSTRUCTION

**DATE:**  
05.18.2007

**REVISION DATE:**

**PROJECT NO.:**  
2006-0040.00

**DRAWN BY:**  
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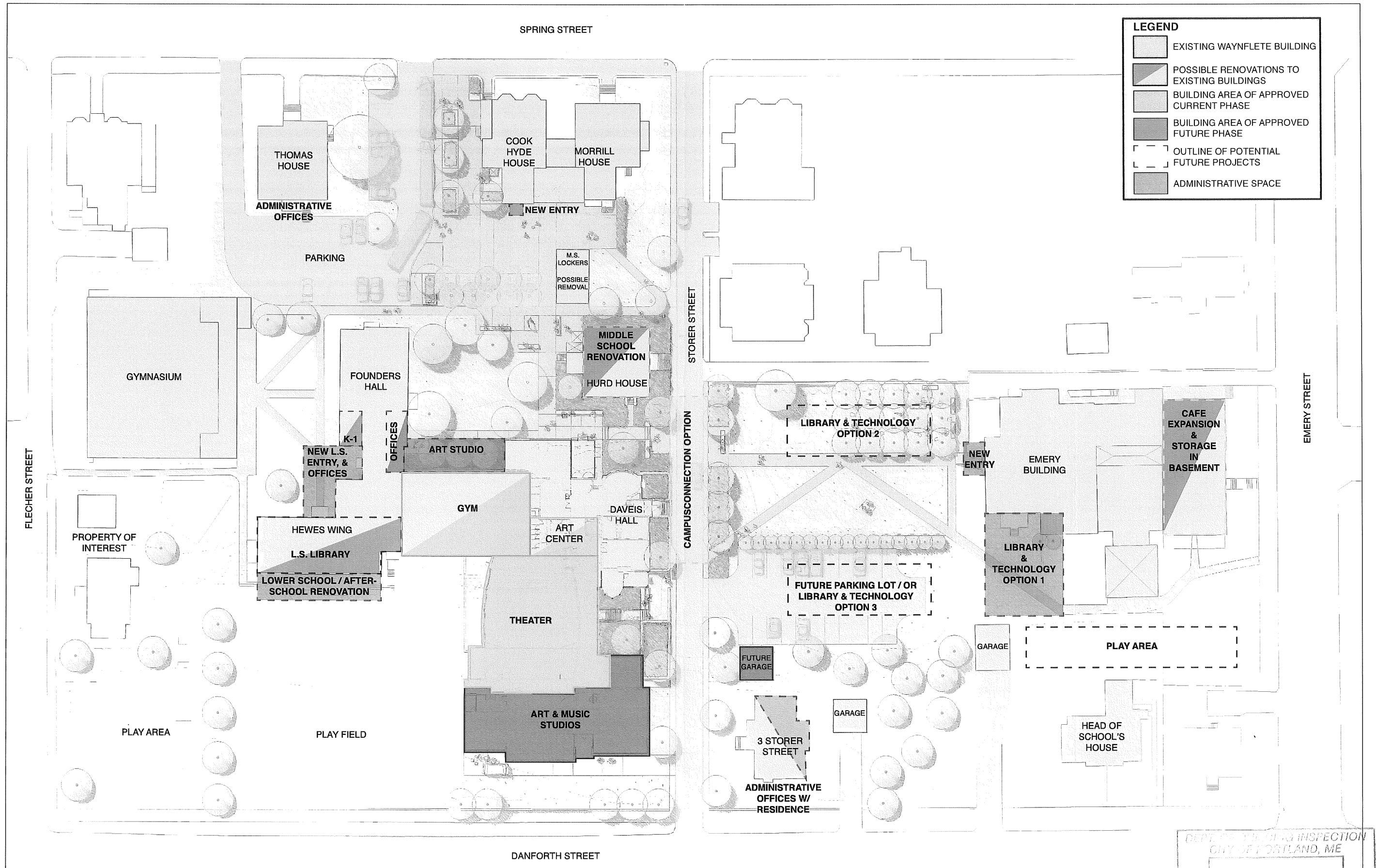
**DWG NO.:**

**SCALE: 1" = 20'-0"**

**SCALE IN FEET**

0 20 40 60

Danforth Street



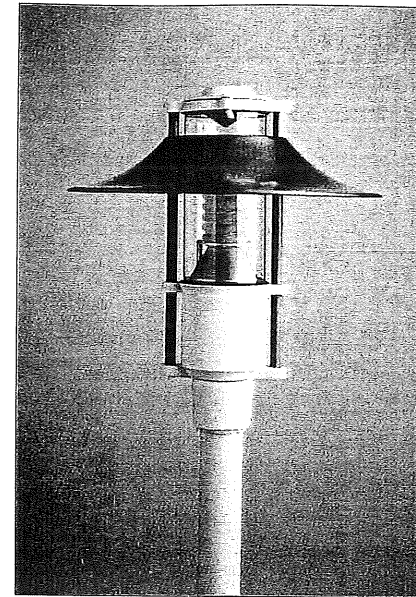
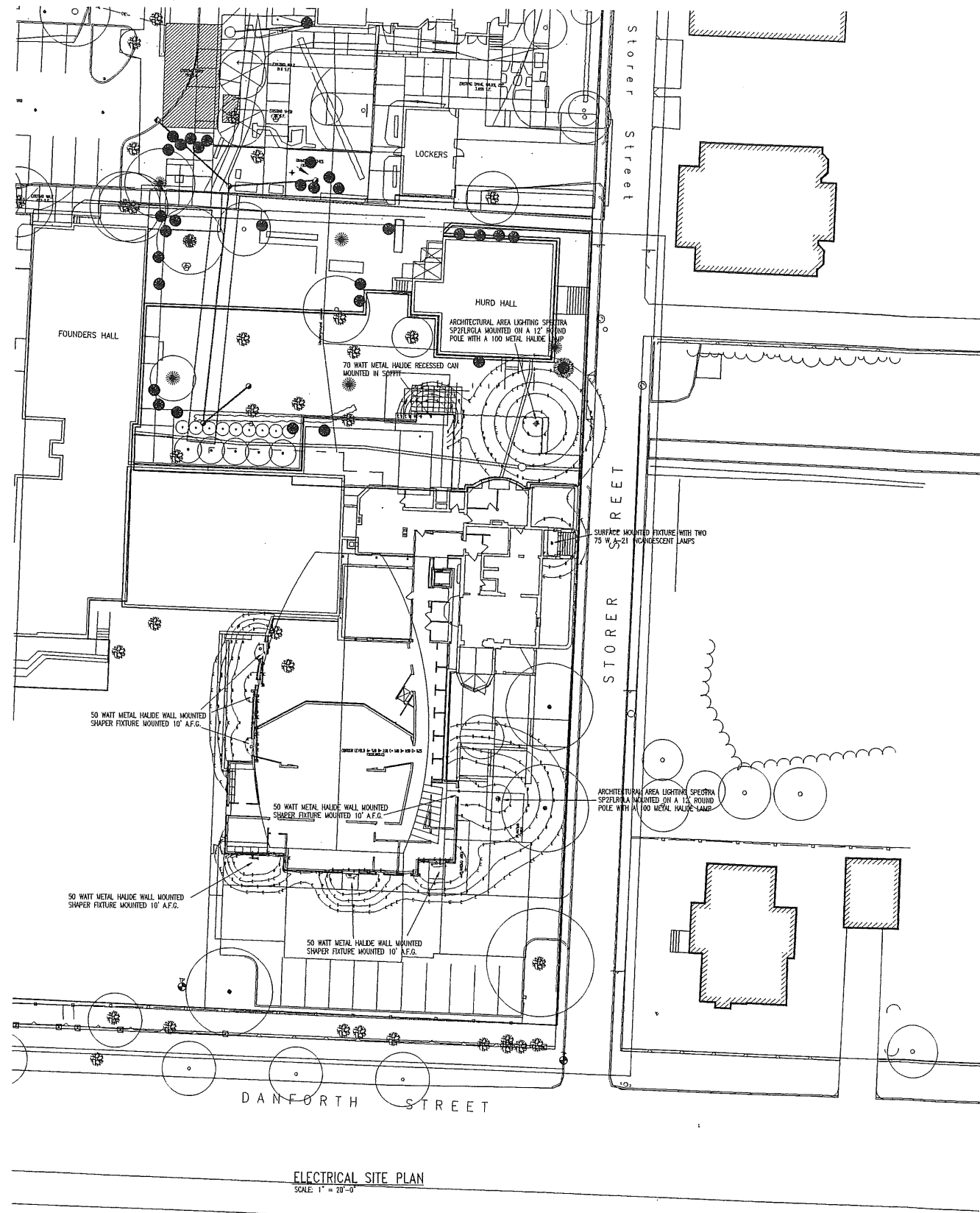
# Waynflete School Master Plan Update

May 09, 2006

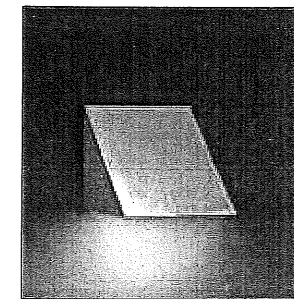
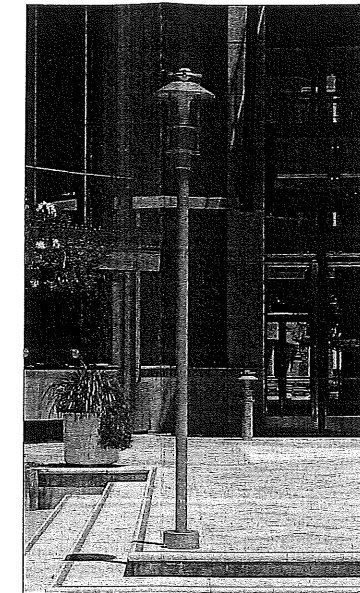
DEPT. OF BUILDING INSPECTION  
CITY OF PORTLAND, ME

JUL 3 2007

RECEIVED



AAL SPECTRA POLE FIXTURE  
SCALE: N.T.S.



SHAPER WALL MOUNTED FIXTURE  
SCALE: N.T.S.



Neill and Gunter  
FIG CAD 255992007

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PROJECT

WAYNFLETE ARTS CENTER  
PHASE TWO

ADDITION/ RENOVATION

360 SPRING STREET  
PORTLAND, ME

TITLE

ELECTRICAL  
SITE LIGHTING  
PLAN

STATUS:

Planning Board Submission  
NOT FOR CONSTRUCTION

DATE:  
05.18.2007

REVISION /DATE:

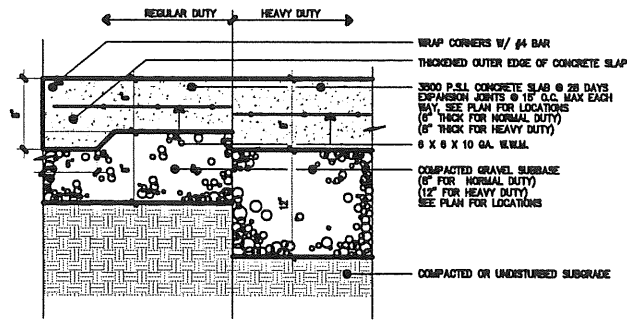
RAH/RJB

PROJECT NO.  
2003-0040.00

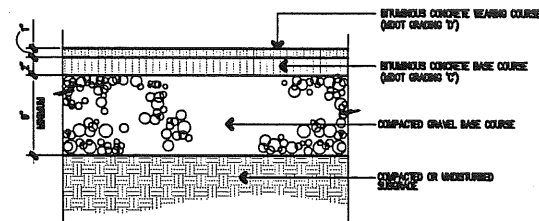
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JME

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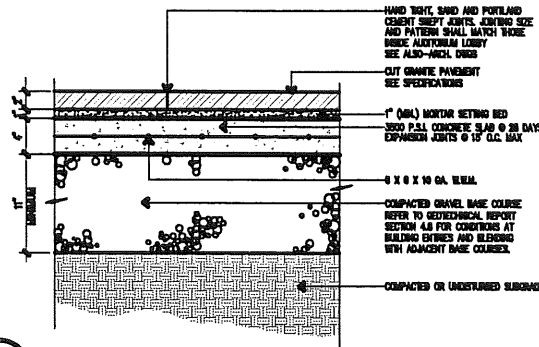
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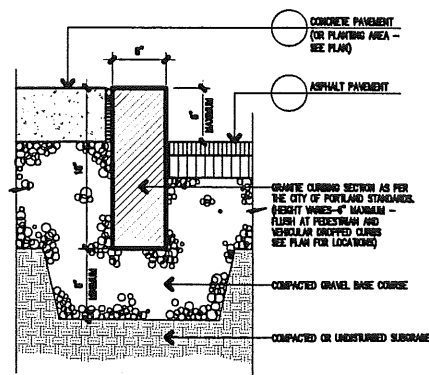
1 CONCRETE PAVEMENT  
L-1.4 SCALE: 1 1/2" = 1'-0"



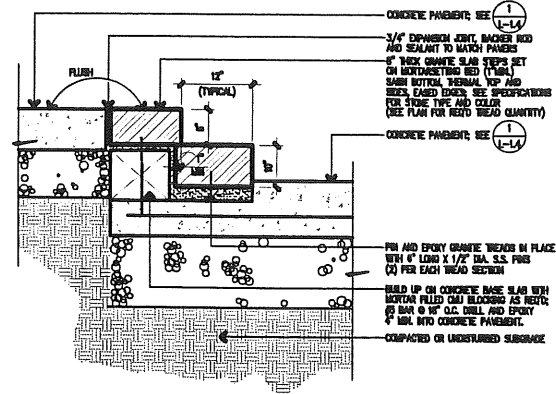
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L-1.4 SCALE: 1 1/2" = 1'-0"



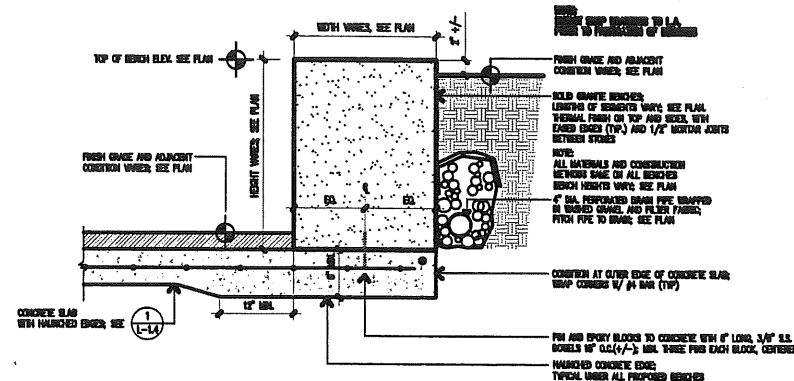
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L-1.4 SCALE: 1 1/2" = 1'-0"



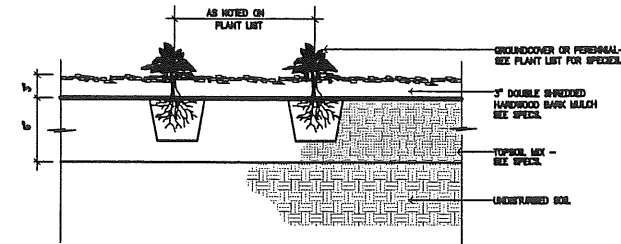
4 GRANITE CURB  
L-1.4 SCALE: 1 1/2" = 1'-0"



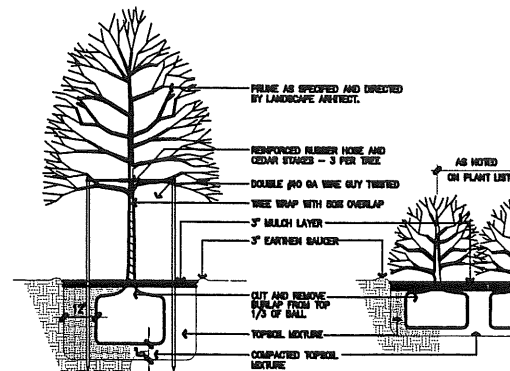
5 GRANITE STEPS ON BASE SLAB  
L-1.4 SCALE: 1" = 1'-0"



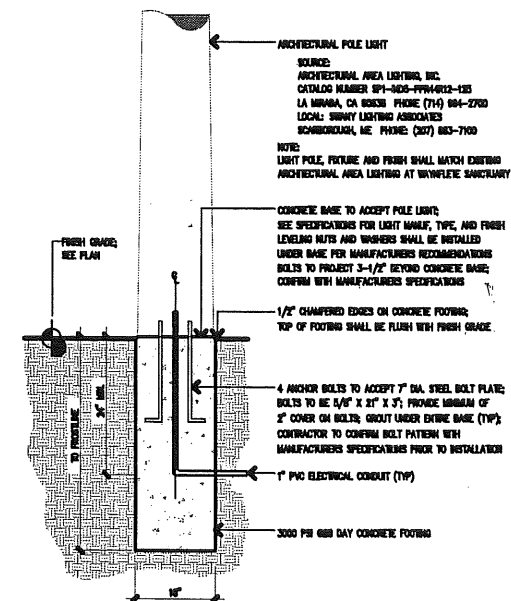
6 GRANITE SEAT WALL  
L-1.4 SCALE: 1" = 1'-0"



X GROUNDCOVER PLANTING DETAIL  
L-1.4 NOT TO SCALE



X TREE / SHRUB PLANTING DETAIL  
L-1.4 NOT TO SCALE



X LIGHT POLE BASE DETAIL  
L-1.4 SCALE: 3/4" = 1'-0"

michael boucher landscape architecture  
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PROJECT  
WAYNFLEETE ARTS CENTER  
PHASE TWO  
ADDITION/ RENOVATION  
360 SPRING STREET  
PORTLAND, ME

TITLE  
SITE DETAILS

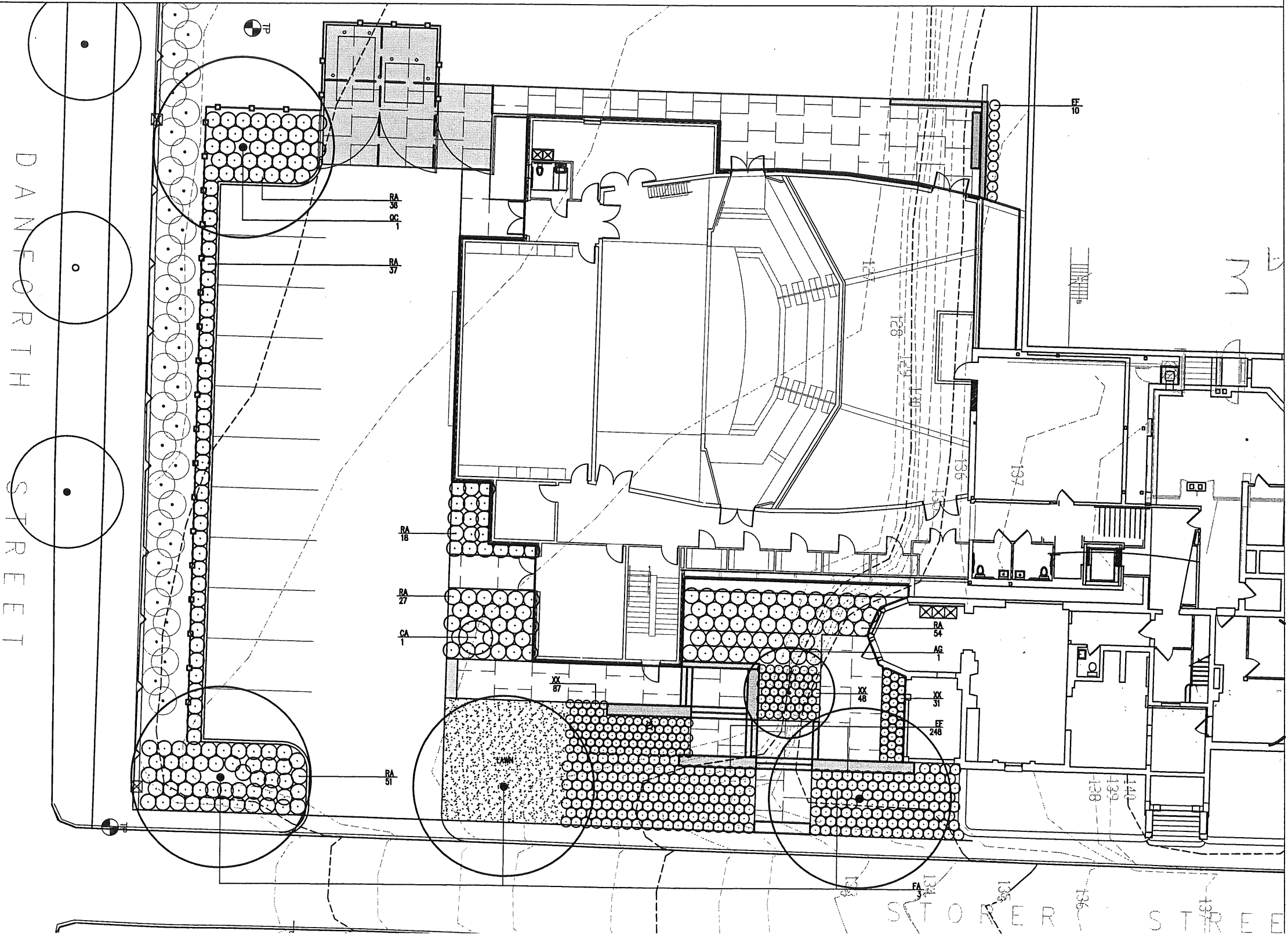
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NOT FOR CONSTRUCTION

DATE:  
07.02.2007  
SCALE:  
1"=10'  
PROJECT NO.  
2003-0040.00  
DRAWN BY:

DWG NO.  
L-1.4

PLANT LIST

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	COMMENTS
<b>TREES</b>							
AG	1	ACER GRINALA	AMUR MAPLE	8 - 10' CLUMP	B&B	SEE PLAN	MULTISTEMMED SPECIMEN
FA	3	FRAXINUS AMERICANA	GREEN ASH	3.5 - 4" CAL	B&B	SEE PLAN	SINGLE LEADER, MATCHED
QC	1	QUERCUS COCCINEA	SCARLET OAK	4" CAL.	B&B	SEE PLAN	HEAVY SPECIMEN
<b>SHRUBS / GROUNDCOVERS</b>							
CA	1	CLETHRA ALNIFOLIA	SWEET PEPPERBUSH	3-4'	CONT.		
EF	248	EUONYMUS FORTUNEI	WINTERCREEPER EUONYMUS	2 GAL	CONT.		
RA	223	RHUS AROMATICA 'GRO-LO'	FRAGRANT SUMAC	1 GAL	CONT.		
XX	184	PERENNIAL - TBD		1 GAL	CONT.		



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PROJECT  
**WAYNFLETE ARTS CENTER  
 PHASE TWO**  
 ADDITION/ RENOVATION  
 360 SPRING STREET  
 PORTLAND, ME

TITLE  
**PLANTING PLAN**

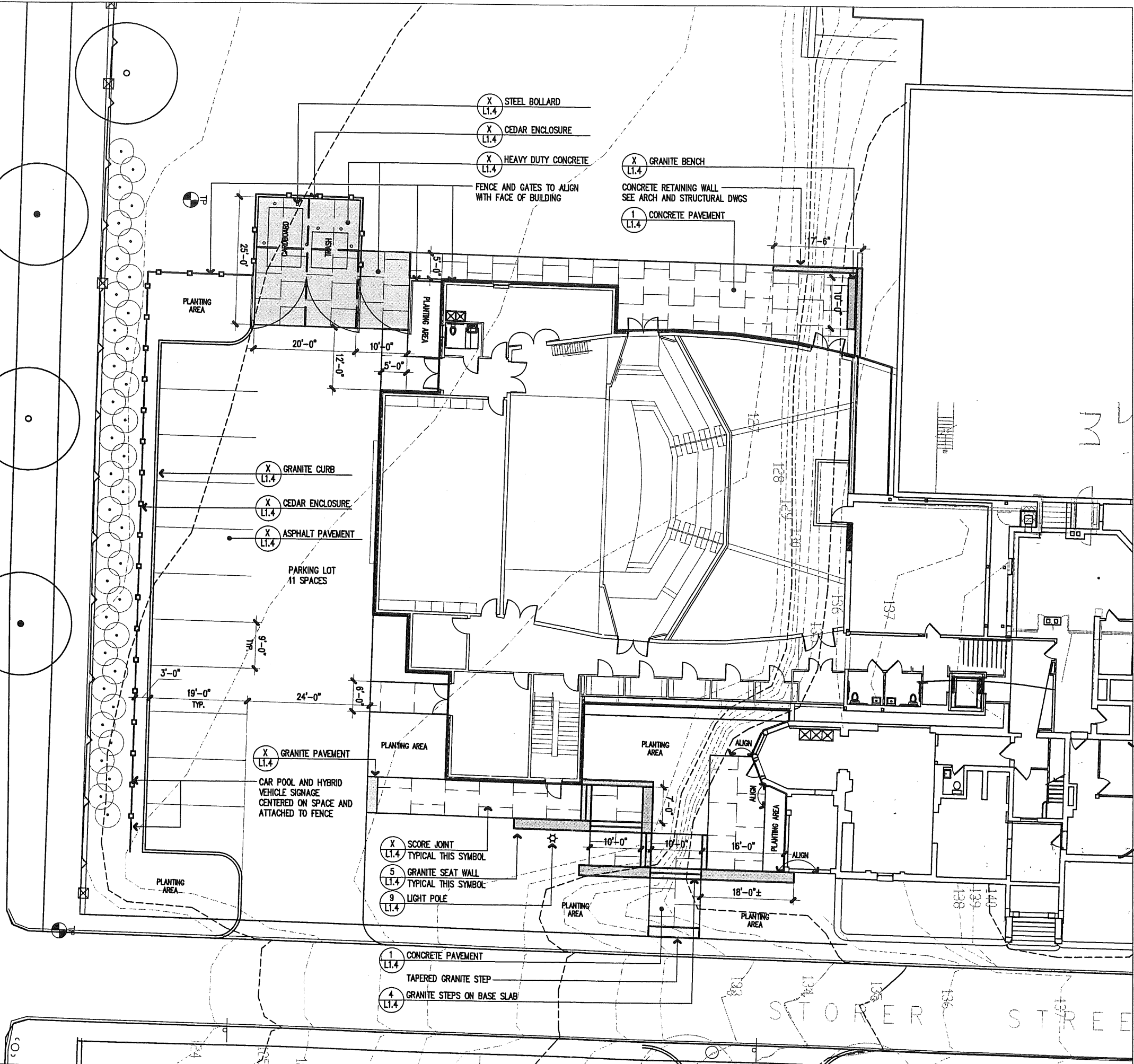
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 NOT FOR CONSTRUCTION

DATE:  
 07.02.2007  
 SCALE:  
 1"=20'  
 PROJECT NO.  
 2003-0046.00  
 DRAWN BY:  
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DWG NO.  
**L-1.3**

DANFORTH STREET

STORER STREET



- X LT.4 STEEL BOLLARD
- X LT.4 CEDAR ENCLOSURE
- X LT.4 HEAVY DUTY CONCRETE
- FENCE AND GATES TO ALIGN WITH FACE OF BUILDING
- X LT.4 GRANITE BENCH
- CONCRETE RETAINING WALL SEE ARCH AND STRUCTURAL DWGS
- 1 LT.4 CONCRETE PAVEMENT

- X LT.4 GRANITE CURB
- X LT.4 CEDAR ENCLOSURE
- X LT.4 ASPHALT PAVEMENT

- X LT.4 GRANITE PAVEMENT
- CAR POOL AND HYBRID VEHICLE SIGNAGE CENTERED ON SPACE AND ATTACHED TO FENCE

- X LT.4 SCORE JOINT TYPICAL THIS SYMBOL
- 5 LT.4 GRANITE SEAT WALL TYPICAL THIS SYMBOL
- 9 LT.4 LIGHT POLE

- 1 LT.4 CONCRETE PAVEMENT
- TAPERED GRANITE STEP
- 4 LT.4 GRANITE STEPS ON BASE SLAB

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PROJECT  
 WAYNFLETE ARTS CENTER  
 PHASE TWO  
 ADDITION/ RENOVATION  
 360 SPRING STREET  
 PORTLAND, ME

TITLE  
 LAYOUT AND  
 MATERIALS PLAN

STATUS:  
 Planning Board Submission  
 NOT FOR CONSTRUCTION

DATE:  
 07/22/2007

SCALE  
 1"=20'

PROJECT NO.  
 2003-0040 00

DRAWN BY:  
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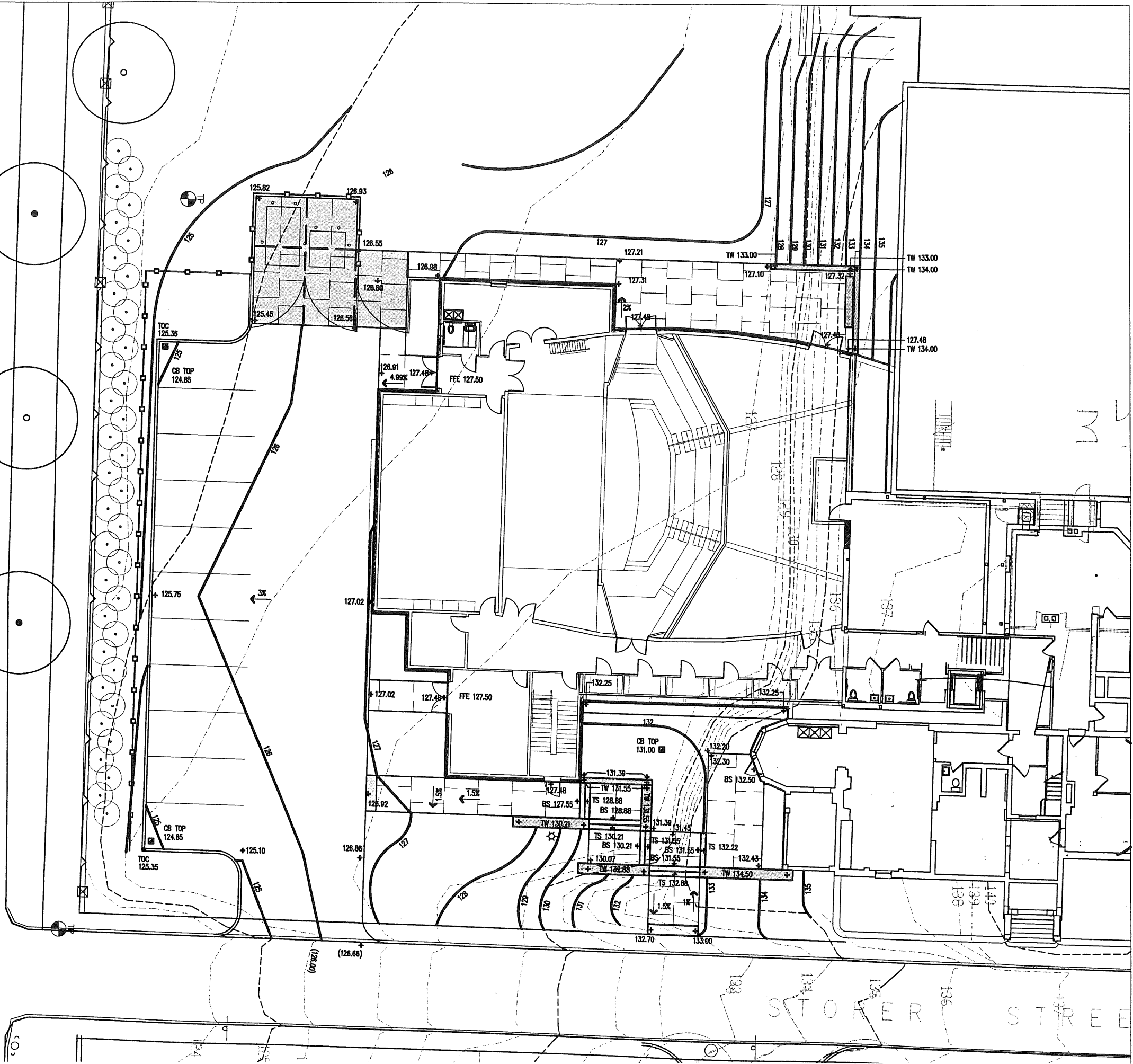
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REVISION /DATE:

L-1.1



DANFORTH STREET



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PROJECT  
WAYNFLETE ARTS CENTER  
PHASE TWO  
ADDITION/ RENOVATION  
360 SPRING STREET  
PORTLAND, ME

TITLE  
GRADING PLAN

STATUS: Planning Board Submission  
NOT FOR CONSTRUCTION

DATE:  
07.02.2007

SCALE:  
1"=20'

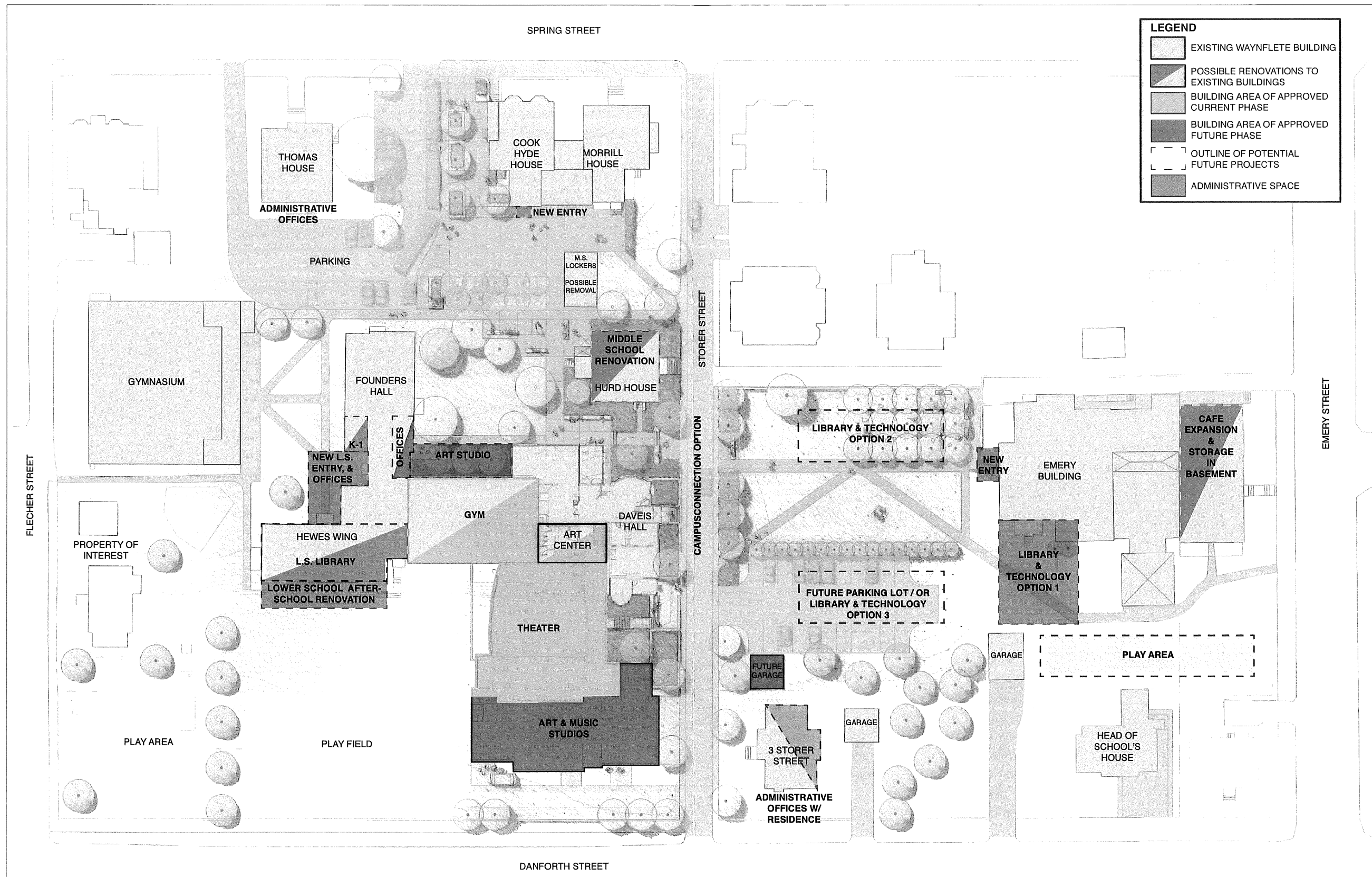
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REVISION / DATE:

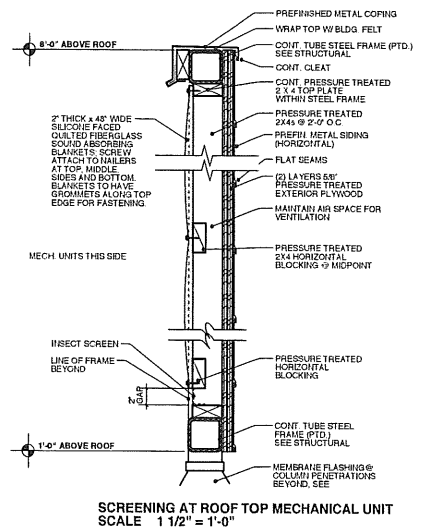
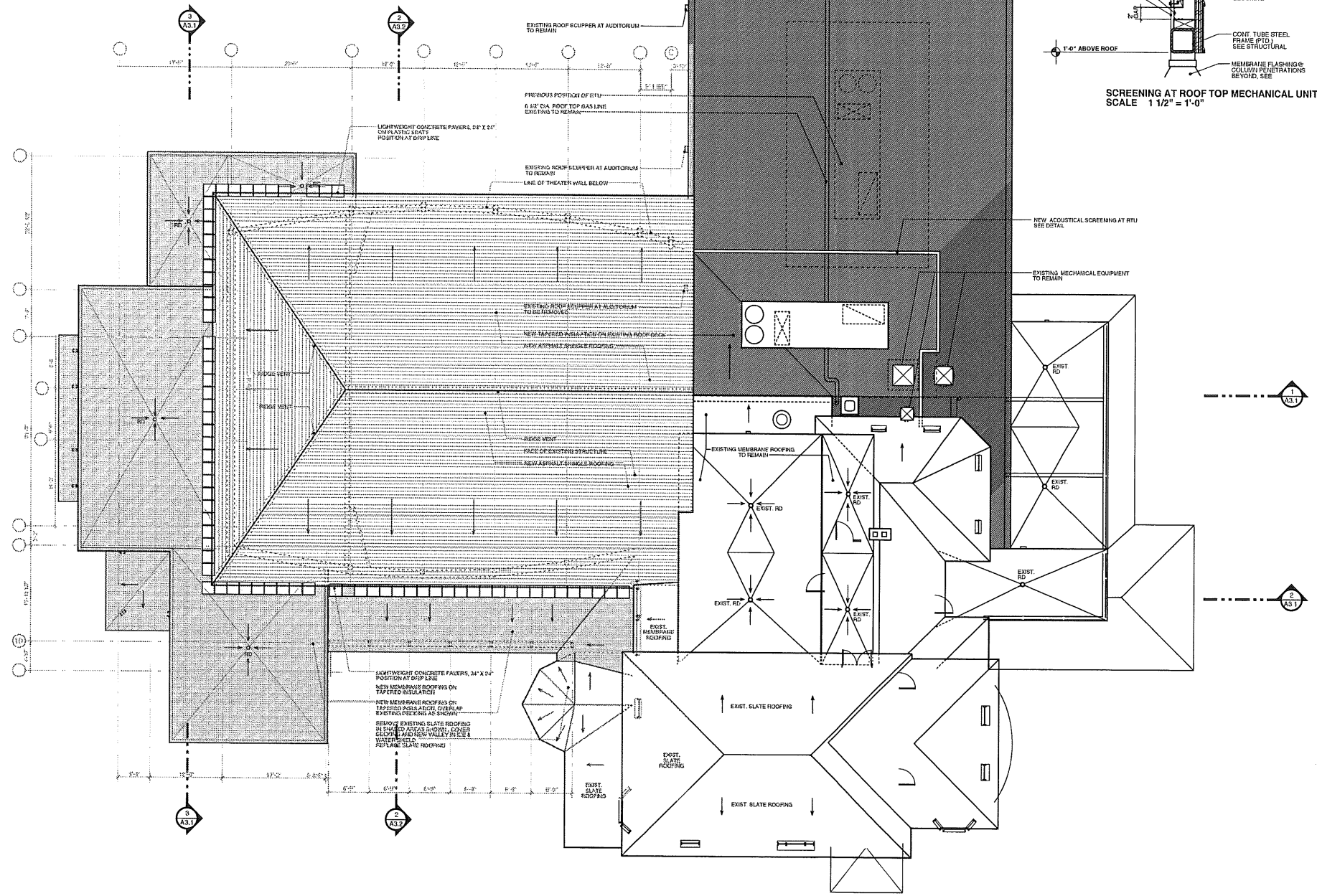
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L-1.2



# Waynflete School Master Plan Update

May 09, 2006



**1 ROOF PLAN**  
SCALE: 1/8" = 1'-0"



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**PROJECT**  
**WAYNFLETE ARTS CENTER**  
**PHASE TWO**  
**ADDITION/ RENOVATION**  
**360 SPRING STREET**  
**PORTLAND, ME**

**TITLE**  
**ROOF PLAN**

**STATUS:**  
**PLANNING BOARD SUBMISSION**  
**NOT FOR CONSTRUCTION**

**DATE:** 07.02.2007 **REVISION DATE:**

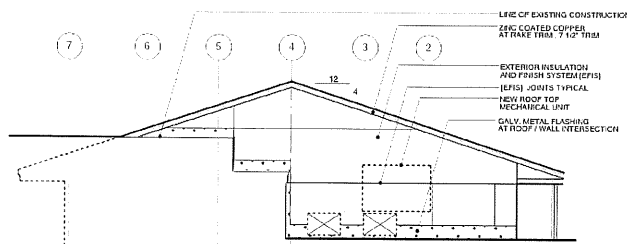
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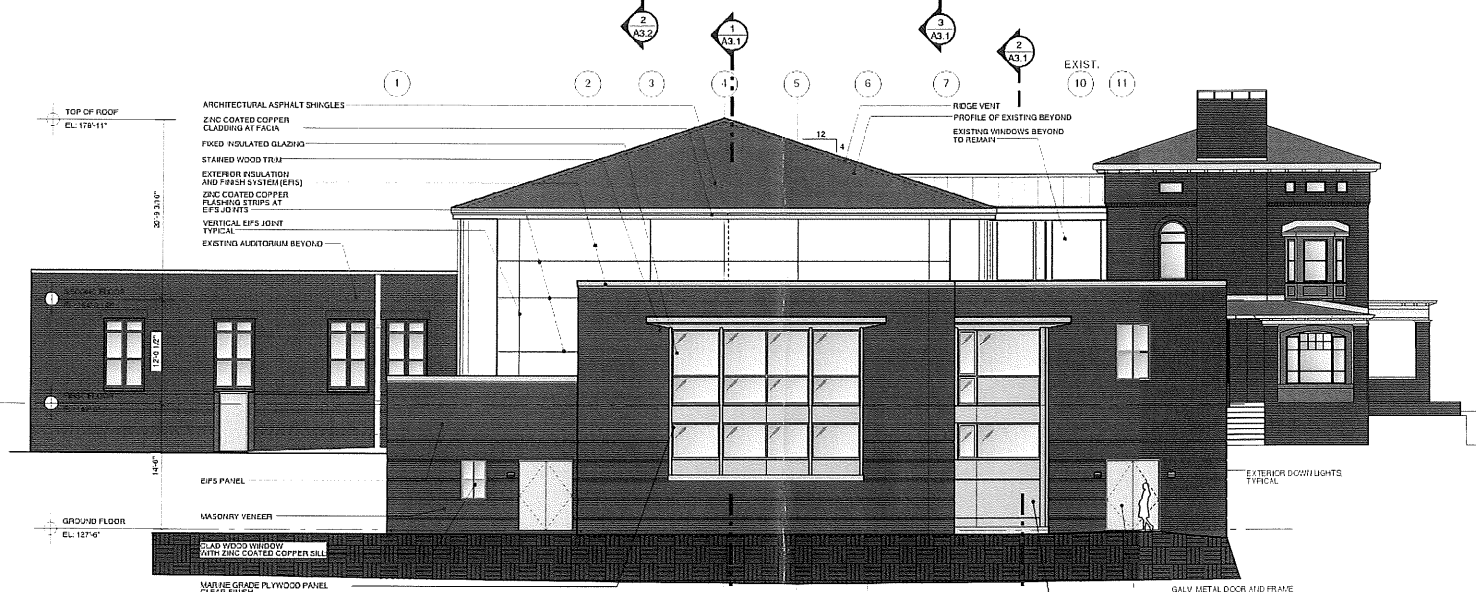




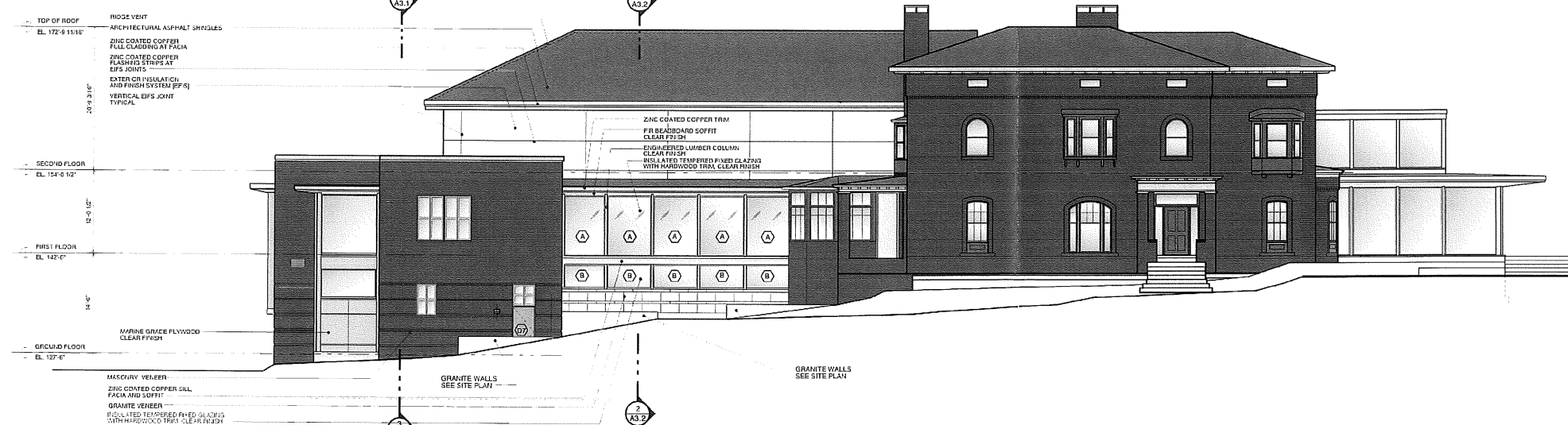
1 WEST ELEVATION  
SCALE: 1/8" = 1'-0"



4 NORTH / ROOF ELEVATION  
SCALE: 1/8" = 1'-0"



2 SOUTH ELEVATION  
SCALE: 1/8" = 1'-0"



4 EAST ELEVATION  
SCALE: 1/8" = 1'-0"

7 VERTICAL EIFS JOINT  
NOT TO SCALE

6 HORIZONTAL FLASHING DETAIL  
NOT TO SCALE

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PROJECT  
**WAYNFLETE ARTS CENTER  
PHASE TWO**  
ADDITION/ RENOVATION  
360 SPRING STREET  
PORTLAND, ME

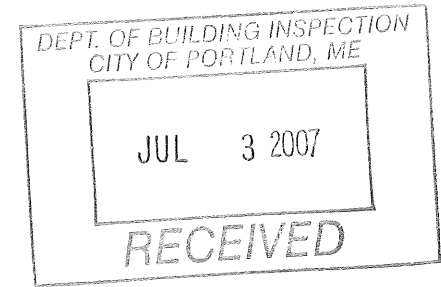
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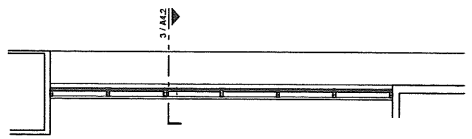
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JULY 02, 2007 NOT FOR CONSTRUCTION

DATE: 07/02/2007  
REVISION DATE:

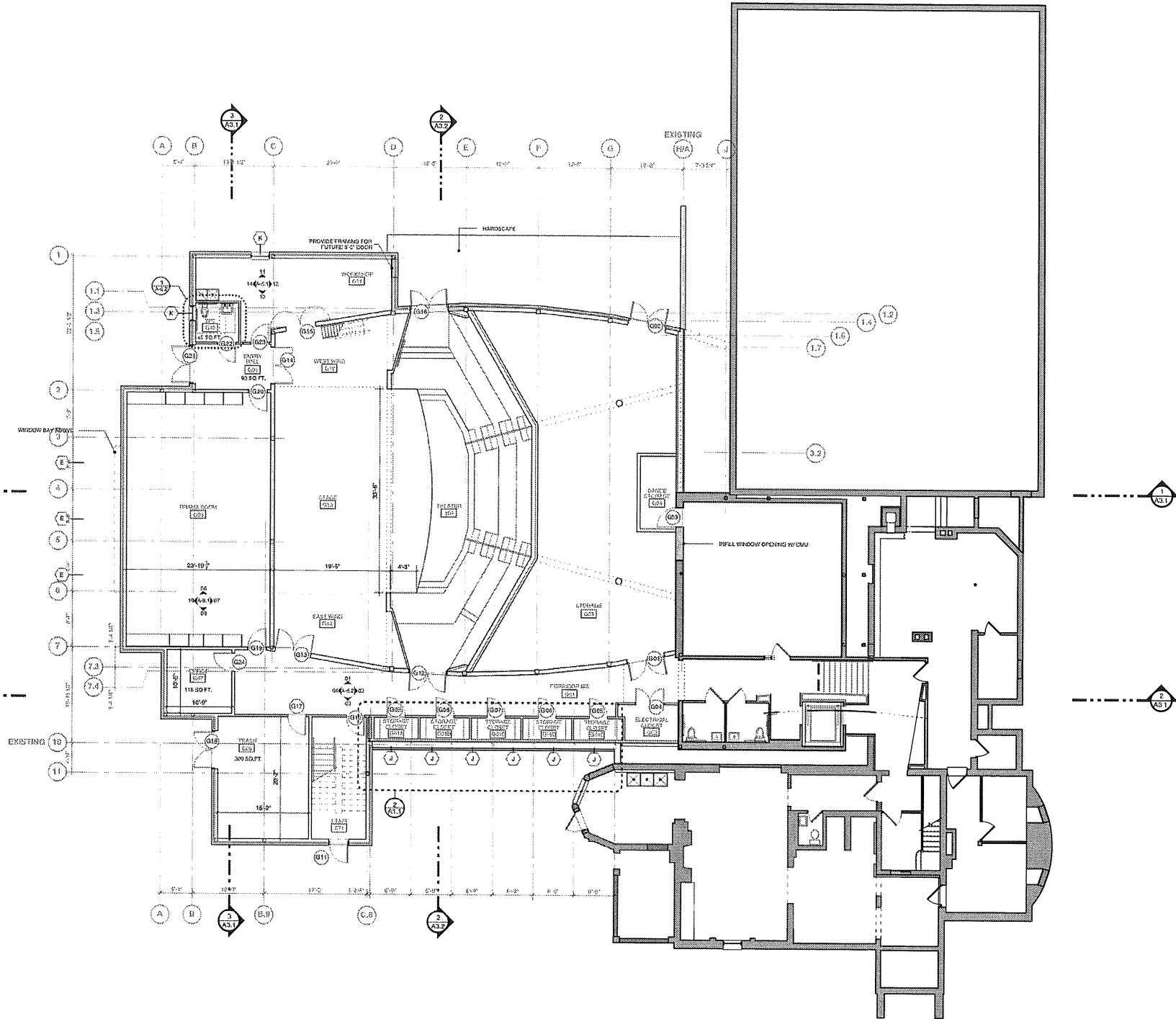
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DWG NO. **A-2.1**





2 CLEAR-STORY PLAN  
SCALE: 1/8" = 1'-0"



1 GROUND FLOOR PLAN  
SCALE: 1/8" = 1'-0"



**PARTITION SCHEDULE**

- [REFER TO PARTITION GENERAL NOTES ALSO]
- 1" PARTITIONS -**  
2x4 @ 16" STEEL STUDS @ 16" O.C. - EXTEND FROM FLOOR RUNNER TO RUNNER AT STRUCTURE ABOVE
- PROVIDE ONE LAYER 5/8" TYPE "X" ARJISE RESISTANT (A.R.) BOARD ON CORRIDOR SIDE OF WALL - FULL HEIGHT TIGHT TO DECK ABOVE
  - SOULD ATTENUATION INSULATION
  - ONE LAYER 5/8" TYPE "X" ARJISE RESISTANT (A.R.) BOARD ON OTHER SIDE OF WALL - FULL HEIGHT TIGHT TO DECK ABOVE
  - ONE HOUR RATING
- 2" PARTITIONS -**  
2x4 @ 16" STEEL STUDS @ 16" O.C. - EXTEND FROM FLOOR RUNNER TO RUNNER AT STRUCTURE ABOVE
- PROVIDE ONE LAYER 5/8" TYPE "X" ARJISE RESISTANT (A.R.) BOARD ON BOTH SIDES OF WALL
  - PROVIDE ONE LAYER 5/8" TYPE "X" ARJISE RESISTANT (A.R.) BOARD ON BOTH SIDES OF WALL
  - SOULD ATTENUATION INSULATION
  - ONE LAYER 5/8" TYPE "X" ARJISE RESISTANT (A.R.) BOARD ON OTHER SIDE OF WALL
  - SOULD ATTENUATION INSULATION
  - ONE LAYER 5/8" TYPE "X" ARJISE RESISTANT (A.R.) BOARD ON OTHER SIDE OF WALL
  - PROVIDE ONE LAYER 5/8" MOISTURE RESISTANT (M.R.) BOARD ON BATHROOM SIDE OF WALL
  - SOULD ATTENUATION INSULATION
  - ONE LAYER 5/8" TYPE "X" ARJISE RESISTANT (A.R.) BOARD ON OTHER SIDE OF WALL
  - PROVIDE ONE LAYER 5/8" TYPE "X" ARJISE RESISTANT (A.R.) BOARD ON BOTH SIDES OF WALL
  - SOULD ATTENUATION INSULATION
  - ONE LAYER 5/8" TYPE "X" ARJISE RESISTANT (A.R.) BOARD ON OTHER SIDE OF WALL
  - SOULD ATTENUATION INSULATION
  - ONE LAYER 5/8" TYPE "X" ARJISE RESISTANT (A.R.) BOARD ON OTHER SIDE OF WALL
  - PROVIDE ONE LAYER 5/8" MOISTURE RESISTANT (M.R.) BOARD ON BATHROOM SIDE OF WALL
  - SOULD ATTENUATION INSULATION
  - ONE LAYER 5/8" TYPE "X" ARJISE RESISTANT (A.R.) BOARD ON OTHER SIDE OF WALL
  - PROVIDE ONE LAYER 5/8" HARDWOOD VENEER PLYWOOD PANELING ON BOTH SIDES OF WALL
  - SOULD ATTENUATION INSULATION
  - ONE HOUR RATING
  - PROVIDE ONE LAYER ACOUSTICAL BOARD ON AUDITORIUM SIDE OF WALL
  - SOULD ATTENUATION INSULATION
  - ONE LAYER 5/8" TYPE "X" ARJISE RESISTANT (A.R.) BOARD ON OTHER SIDE OF WALL
  - ONE HOUR RATING
  - PROVIDE ONE LAYER 5/8" MOISTURE RESISTANT (M.R.) BOARD ON BOTH SIDES OF WALL
  - SOULD ATTENUATION INSULATION
  - PROVIDE ONE LAYER 5/8" MOISTURE RESISTANT (M.R.) BOARD ON BATHROOM SIDE OF WALL
  - SOULD ATTENUATION INSULATION
  - ONE LAYER 5/8" TYPE "X" ARJISE RESISTANT (A.R.) BOARD ON OTHER SIDE OF WALL
  - PROVIDE ONE LAYER 5/8" HARDWOOD VENEER PLYWOOD PANELING ON BOTH SIDES OF WALL
  - SOULD ATTENUATION INSULATION
  - ONE LAYER 5/8" BOARD ON BOTH SIDES OF WALL - FULL HEIGHT TIGHT TO DECK ABOVE
  - ONE HOUR RATING
- 10" PARTITIONS -**  
2x4 @ 16" STEEL STUDS @ 16" O.C. - EXTEND FROM FLOOR RUNNER TO RUNNER AT STRUCTURE ABOVE
- PROVIDE ONE LAYER 5/8" BOARD ON BOTH SIDES OF WALL
  - PROVIDE ONE LAYER 5/8" TYPE "X" ARJISE RESISTANT (A.R.) BOARD ON BOTH SIDES OF WALL
  - PROVIDE ONE LAYER 5/8" TYPE "X" ARJISE RESISTANT (A.R.) BOARD ON BOTH SIDES OF WALL
  - SOULD ATTENUATION INSULATION
  - PROVIDE ONE LAYER 5/8" MOISTURE RESISTANT (M.R.) BOARD ON BATHROOM SIDE OF WALL
  - SOULD ATTENUATION INSULATION
  - ONE LAYER 5/8" TYPE "X" ARJISE RESISTANT (A.R.) BOARD ON OTHER SIDE OF WALL
  - PROVIDE ONE LAYER 5/8" HARDWOOD VENEER PLYWOOD PANELING ON BOTH SIDES OF WALL
  - SOULD ATTENUATION INSULATION
  - ONE LAYER 5/8" BOARD ON BOTH SIDES OF WALL - FULL HEIGHT TIGHT TO DECK ABOVE
  - ONE HOUR RATING
- 12" PARTITIONS -**  
2x4 @ 16" STEEL STUDS @ 16" O.C. - EXTEND FROM FLOOR RUNNER TO BOTTOM OF CONCRETE FLOOR ABOVE
- PROVIDE ONE LAYER 5/8" BOARD ON BOTH SIDES OF WALL
  - PROVIDE ONE LAYER 5/8" TYPE "X" ARJISE RESISTANT (A.R.) BOARD ON BOTH SIDES OF WALL
  - PROVIDE ONE LAYER 5/8" TYPE "X" ARJISE RESISTANT (A.R.) BOARD ON BOTH SIDES OF WALL
  - SOULD ATTENUATION INSULATION
  - ONE LAYER 5/8" BOARD ON BOTH SIDES OF WALL - FULL HEIGHT TIGHT TO DECK ABOVE
  - ONE HOUR RATING
- 14" PARTITIONS -**  
2x4 @ 16" STEEL STUDS @ 16" O.C. - EXTEND FROM FLOOR RUNNER TO RUNNER AT STRUCTURE ABOVE
- PROVIDE ONE LAYER 5/8" BOARD ON BOTH SIDES OF WALL
  - PROVIDE ONE LAYER 5/8" TYPE "X" ARJISE RESISTANT (A.R.) BOARD ON BOTH SIDES OF WALL
  - PROVIDE ONE LAYER 5/8" TYPE "X" ARJISE RESISTANT (A.R.) BOARD ON BOTH SIDES OF WALL
  - SOULD ATTENUATION INSULATION
  - ONE LAYER 5/8" BOARD ON BOTH SIDES OF WALL - FULL HEIGHT TIGHT TO DECK ABOVE
  - ONE HOUR RATING
- ONE HOUR RATED WALL - - - - -**

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PROJECT  
**WAYNFLETE ARTS CENTER PHASE TWO**  
ADDITION/ RENOVATION  
360 SPRING STREET  
PORTLAND, ME

TITLE  
**GROUND FLOOR PLAN**

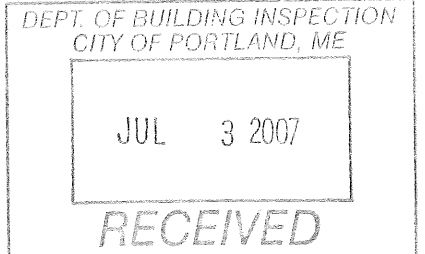
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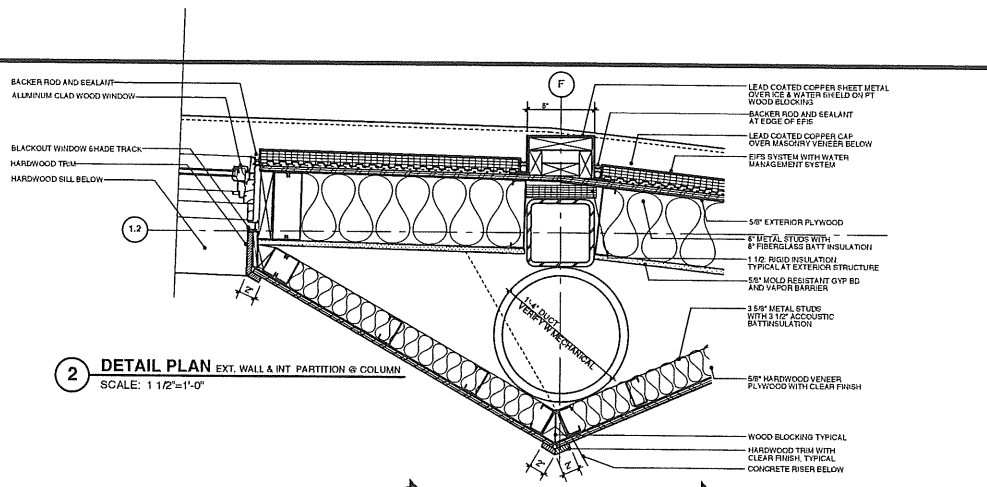
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PROJECT NO. 2000-0040.00

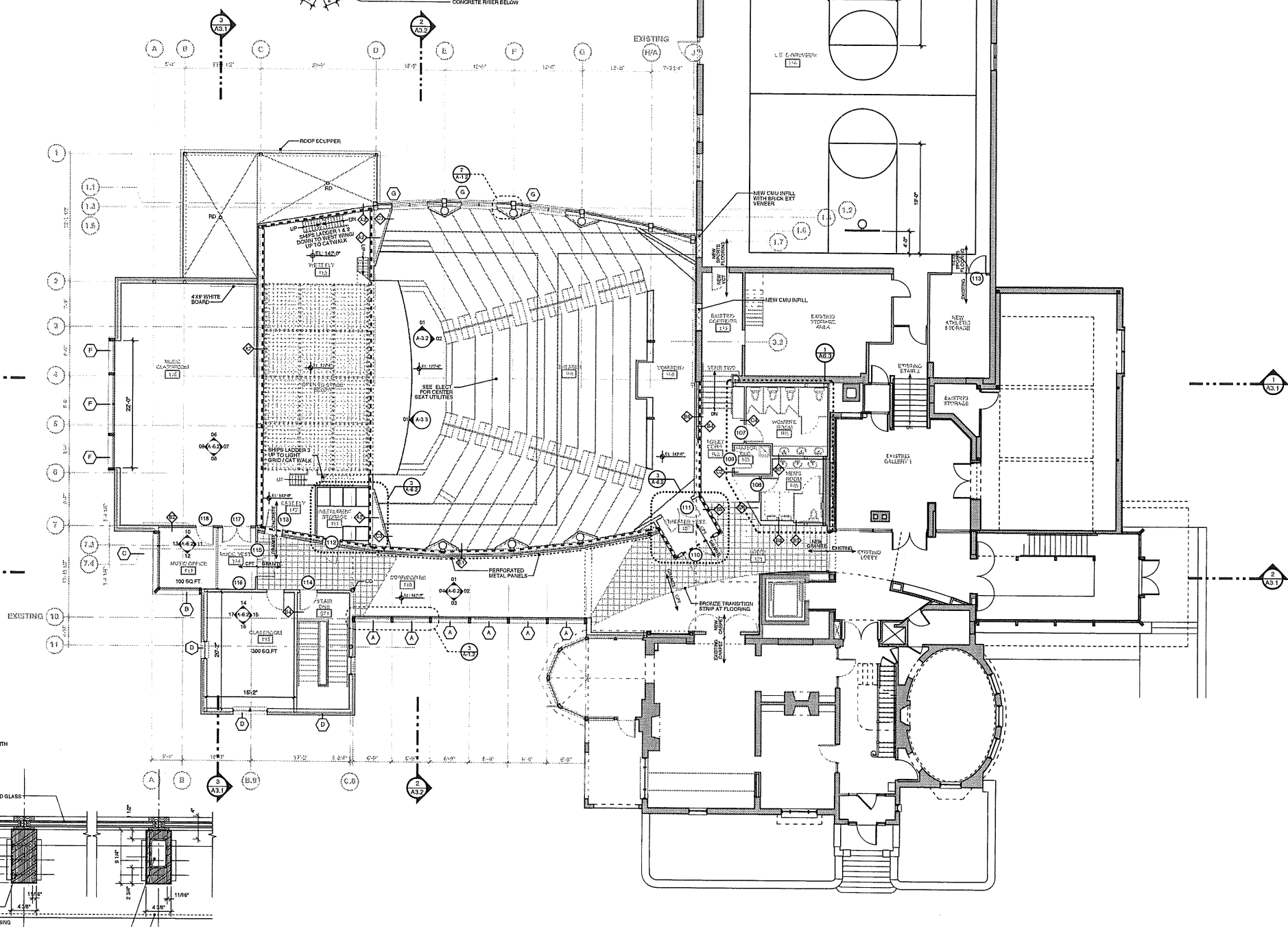
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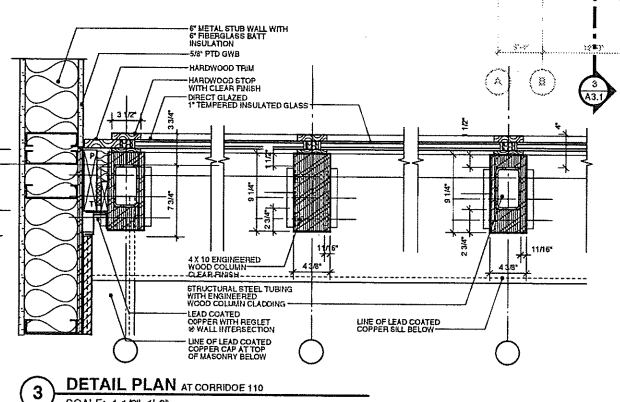




2 **DETAIL PLAN EXT. WALL & INT. PARTITION @ COLUMN**  
SCALE: 1/2"=1'-0"



1 **FIRST FLOOR PLAN**  
SCALE: 1/8"=1'-0"



3 **DETAIL PLAN AT CORRIDOR 110**  
SCALE: 1/2"=1'-0"



**◇ PARTITION SCHEDULE**  
REFER TO PARTITION GENERAL NOTES ALSO

**\*1" PARTITIONS -**  
22 GA. 18" STEEL STUDS @ 18" O.C. - EXTEND FROM FLOOR RUNNER TO RUNNER AT STRUCTURE ABOVE.  
PROVIDE ONE LAYER 5/8" TYPE "X" ABUSE RESISTANT (A.R.) BOARD ON INSIDING SIDE OF WALL - FULL HEIGHT TIGHT TO DECK ABOVE.  
SOUND ATTENUATION INSULATION.  
ONE LAYER 5/8" TYPE "X" GIB BOARDS ON OTHER SIDE OF WALL - FULL HEIGHT TIGHT TO DECK ABOVE.  
ONE HOUR RATING.

**◇ 18" PARTITIONS -**  
22 GA. 18" STEEL STUDS @ 18" O.C. - EXTEND FROM FLOOR RUNNER TO RUNNER AT STRUCTURE ABOVE.  
PROVIDE ONE LAYER 5/8" TYPE "X" ABUSE RESISTANT (A.R.) BOARD ON BOTH SIDES OF WALL.  
PROVIDE ONE LAYER 5/8" TYPE "X" ABUSE RESISTANT (A.R.) BOARD ON INSIDING SIDE OF WALL - SOUND ATTENUATION INSULATION.  
PROVIDE ONE LAYER 5/8" TYPE "X" ABUSE RESISTANT (A.R.) BOARD ON OTHER SIDE OF WALL.  
SOUND ATTENUATION INSULATION.

**◇ 12" PARTITIONS -**  
22 GA. 18" STEEL STUDS @ 18" O.C. - EXTEND FROM FLOOR RUNNER TO RUNNER AT STRUCTURE ABOVE. AND AT.  
PROVIDE ONE LAYER 5/8" BOARD ON BOTH SIDES OF WALL.  
PROVIDE ONE LAYER 5/8" TYPE "X" ABUSE RESISTANT (A.R.) BOARD ON BOTH SIDES OF WALL.  
PROVIDE ONE LAYER 5/8" TYPE "X" ABUSE RESISTANT (A.R.) BOARD ON INSIDING SIDE OF WALL - SOUND ATTENUATION INSULATION.  
PROVIDE ONE LAYER 5/8" TYPE "X" ABUSE RESISTANT (A.R.) BOARD ON OTHER SIDE OF WALL.  
SOUND ATTENUATION INSULATION.

**◇ 10" PARTITIONS -**  
22 GA. 18" STEEL STUDS @ 18" O.C. - EXTEND FROM FLOOR RUNNER TO RUNNER AT STRUCTURE ABOVE. AND AT.  
PROVIDE ONE LAYER 5/8" BOARD ON BOTH SIDES OF WALL.  
PROVIDE ONE LAYER 5/8" TYPE "X" ABUSE RESISTANT (A.R.) BOARD ON BOTH SIDES OF WALL.  
PROVIDE ONE LAYER 5/8" TYPE "X" ABUSE RESISTANT (A.R.) BOARD ON INSIDING SIDE OF WALL - SOUND ATTENUATION INSULATION.  
PROVIDE ONE LAYER 5/8" TYPE "X" ABUSE RESISTANT (A.R.) BOARD ON OTHER SIDE OF WALL.  
SOUND ATTENUATION INSULATION.

**◇ 8" PARTITIONS -**  
22 GA. 18" STEEL STUDS @ 18" O.C. - EXTEND FROM FLOOR RUNNER TO RUNNER AT STRUCTURE ABOVE. AND AT.  
PROVIDE ONE LAYER 5/8" BOARD ON BOTH SIDES OF WALL.  
PROVIDE ONE LAYER 5/8" TYPE "X" ABUSE RESISTANT (A.R.) BOARD ON BOTH SIDES OF WALL.  
PROVIDE ONE LAYER 5/8" TYPE "X" ABUSE RESISTANT (A.R.) BOARD ON INSIDING SIDE OF WALL - SOUND ATTENUATION INSULATION.  
PROVIDE ONE LAYER 5/8" TYPE "X" ABUSE RESISTANT (A.R.) BOARD ON OTHER SIDE OF WALL.  
SOUND ATTENUATION INSULATION.

**◇ 6" PARTITIONS -**  
22 GA. 18" STEEL STUDS @ 18" O.C. - EXTEND FROM FLOOR RUNNER TO RUNNER AT STRUCTURE ABOVE. AND AT.  
PROVIDE ONE LAYER 5/8" BOARD ON BOTH SIDES OF WALL.  
PROVIDE ONE LAYER 5/8" TYPE "X" ABUSE RESISTANT (A.R.) BOARD ON BOTH SIDES OF WALL.  
PROVIDE ONE LAYER 5/8" TYPE "X" ABUSE RESISTANT (A.R.) BOARD ON INSIDING SIDE OF WALL - SOUND ATTENUATION INSULATION.  
PROVIDE ONE LAYER 5/8" TYPE "X" ABUSE RESISTANT (A.R.) BOARD ON OTHER SIDE OF WALL.  
SOUND ATTENUATION INSULATION.

**◇ ONE HOUR RATED WALL**  
22 GA. 18" STEEL STUDS @ 18" O.C. - EXTEND FROM FLOOR RUNNER TO RUNNER AT STRUCTURE ABOVE.  
PROVIDE SOUND ATTENUATION INSULATION.  
ONE LAYER 5/8" BOARD ON INSIDING SIDE OF WALL - FULL HEIGHT TIGHT TO DECK ABOVE.  
ONE LAYER 5/8" BOARD ON OTHER SIDE OF WALL - FULL HEIGHT TIGHT TO DECK ABOVE.  
ONE HOUR RATING.

Scott Simons Architects  
78 York Street  
Portland, Maine 04101  
phone: 774-4664  
fax: 207-858-4666

THIS DRAWING IS THE PROPERTY OF SCOTT SIMONS ARCHITECTS AND IS NOT TO BE COPIED OR REPRODUCED IN PART OR WHOLE

PROJECT  
**WAYNFLETE ARTS CENTER PHASE TWO**  
ADDITION/ RENOVATION  
360 SPRING STREET  
PORTLAND, ME

TITLE  
**FIRST FLOOR PLAN**

STATUS:  
**PLANNING BOARD SUBMISSION**  
NOT FOR CONSTRUCTION

DATE: 07.02.2007  
REVISION DATE:

PROJECT NO. 2000-2000-00  
DRAWN BY: [Blank]  
DWG NO. **A-1.2**

2007 © Scott Simons Architects

**B E C K E R**  
structural engineers, inc.

**Structural Special Inspections Report**

**Waynflete Arts Center Phase II**

Portland, Maine

October 8, 2008

Report prepared by:

Structural Engineer of Record  
Becker Structural Engineers, Inc.  
75 York Street  
Portland, Maine 04101

# Waynflete Arts Center Phase II

Portland, Maine

October 8, 2008

## Table of Contents

### Exhibit A

- 01000 Special Inspections - General
  - 01000.1 Statement of Special Inspections
  - 01000.2 List of Agents
  - 01000.3 Final Report of Special Inspections
  - 01000.4 Special Inspector/Agent Report
  - 01000.5 Disclaimers and Qualifications

### Exhibit B

- 01000 Special Inspections – Qualifications of Inspectors and Technicians
  
- 02300 Soil and Foundation Construction
  - 02300.1 Testing Agency/SI2 Reports
  
- 03300 Cast-in-Place Concrete
  - 03300.1 BSE Observation Reports
  - 03300.2 Mix Designs/Product Data
  - 03300.3 Testing Agency Reports
  
- 05120 Structural Steel
  - 5120.1 BSE Observation Reports
  - 5120.2 Testing Agency Reports
  - 5120.3 Fabricator Quality Control / Certifications
  - 5120.4 Product Data / Material Certifications

### Exhibit C

- 01000 Quality Assurance
  - 01000.1 Seismic Resistance Checklist
- 01001 Wind Requirements Checklist

### Exhibit D

Statements of Responsibility



# **EXHIBIT A**

## **01000 Special Inspections - General**

**Statement of Special Inspections**

Waynflete Arts Center Phase II  
Portland, Maine  
September 17, 2007

Statement Prepared by  
Structural Engineer of Record  
Becker Structural Engineers, Inc.  
75 York Street  
Portland, ME 04101  
207. 879. 1838

Owner  
Waynflete School  
360 Spring Street  
Portland, ME 04102  
207. 683. 2201

Architect of Record  
Scott Simons Architects  
75 York Street  
Portland, ME 04101  
207. 772. 4656

Contractor  
Stroudwater Construction  
96 Ocean Street  
South Portland, ME 04106  
207. 767. 9111

**Special Inspections – Exhibit A**

Statement of Special Inspections  
List of Agents  
Final Report of Special Inspections  
Special Inspector/Agent Report

# Statement of Special Inspections - Exhibit A

Project: *Waynflete Arts Center Phase II*

Location: *Portland, Maine*

Owner: *Waynflete School*

This *Statement of Special Inspections* encompass the following discipline:

- Structural
- Mechanical/Electrical/Plumbing
- Architectural
- Other: \_\_\_\_\_

Design Professional in Responsible Charge: *Paul B. Becker, P.E.*

Firm Name: *Becker Structural Engineers, Portland, ME*

(Note: *Statement of Special Inspections* for other disciplines may be included under a separate cover)

This *Statement of Special Inspections* is submitted as a condition for permit issuance in accordance with the Special Inspection and Structural Testing requirements of the Building Code. It includes a schedule of Special Inspection services applicable to this project as well as the name of the Structural Special Inspection Coordinator (SSIC) and the identity of other approved agencies to be retained for conducting these inspections and tests.

The Structural Special Inspection Coordinator shall keep records of all inspections and shall furnish inspection reports to the Building Code Official (BCO) and the Structural Registered Design Professional in Responsible Charge (SRDP). Discovered discrepancies shall be brought to the immediate attention of the Contractor for correction. If such discrepancies are not corrected, the discrepancies shall be brought to the attention of the Building Official and the Structural Registered Design Professional in Responsible Charge. The Special Inspection program does not relieve the Contractor of his or her responsibilities.

Interim reports shall be submitted to the Building Official and the Structural Registered Design Professional in Responsible Charge at an interval determined by the SSIC and the BCO.

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

Job site safety and means and methods of construction are solely the responsibility of the Contractor.

Interim Report Frequency:  Upon request of Building Official \_\_\_\_\_ or  per attached schedule.

Prepared by:

*Paul B. Becker, P.E.*

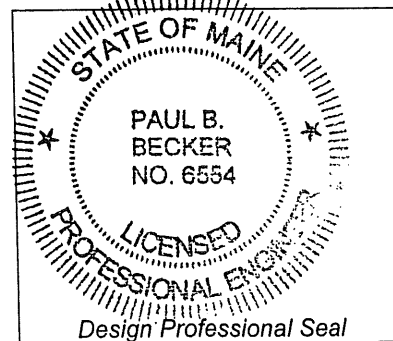
(type or print name of the Structural Registered Design Professional in Responsible Charge)

*[Handwritten Signature]*

Signature

*9-17-07*

Date



Owner's Authorization:

Building Code Official's Acceptance:

Signature

Date

Signature

Date

## Statement of Special Inspections (Continued) - Exhibit A

### List of Agents

Project: *Waynflete Arts Center Phase II*

Location: *Portland, Maine*

Owner: *Waynflete School*

This *Statement of Special Inspections* encompass the following discipline:

- Structural                     Mechanical/Electrical/Plumbing  
 Architectural                 Other: \_\_\_\_\_

(Note: *Statement of Special Inspections* for other disciplines may be included under a separate cover)

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

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Soils and Foundations  | <input type="checkbox"/> Spray Fire Resistant Material         |
| <input checked="" type="checkbox"/> Cast-in-Place Concrete | <input type="checkbox"/> Cold-Formed Steel Framing             |
| <input type="checkbox"/> Precast Concrete                  | <input type="checkbox"/> Exterior Insulation and Finish System |
| <input type="checkbox"/> Masonry                           | <input type="checkbox"/> Mechanical & Electrical Systems       |
| <input checked="" type="checkbox"/> Structural Steel       | <input type="checkbox"/> Architectural Systems                 |
| <input type="checkbox"/> Wood Construction                 | <input type="checkbox"/> Special Cases                         |

Special Inspection Agencies	Firm	Address, Telephone, e-mail
1. Structural Special Inspection Coordinator (SSIC)	<i>Becker Structural Engineers (BSE)</i>	<i>75 York Street Portland, ME 04107 (207) 879-1838 info@beckerstructural.com</i>
2. Special Inspector (SI 1)	<i>Becker Structural Engineers (BSE)</i>	<i>75 York Street Portland, ME 04107 (207) 879-1838 info@beckerstructural.com</i>
3. Special Inspector (SI 2)	<i>S.W. Cole Engineering, Inc.</i>	<i>PO Box 378 Gray, ME 04039 (207) 657-2866 infogray@swcole.com</i>
4. Testing Agency (TA 1)	<i>To Be Determined</i>	
5. Testing Agency (TA 2)		
6. Other (O1)		

Note: The inspectors and testing agencies shall be engaged by the Owner or the Owner's Agent, and not by the Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the Building Official, prior to commencing work.

Statement of Special Inspections (Continued) - Exhibit A

Final Report of Special Inspections (SSIC/SI 1)

[To be completed by the Structural Special Inspections Coordinator (SSIC/SI 1). Note that all Agent's Final Reports must be received prior to issuance.]

Project: Waynflete Arts Center Phase II
Location: Portland, Maine
Owner: Waynflete School
Owner's Address: 360 Spring St.
Portland, ME 04102

Architect of Record: Austin Smith (name) Scott Simons Architects (firm)

Structural Registered Design Professional in Responsible Charge: Paul B. Becker (name) Becker Structural Engineers (firm)

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

Comments:

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

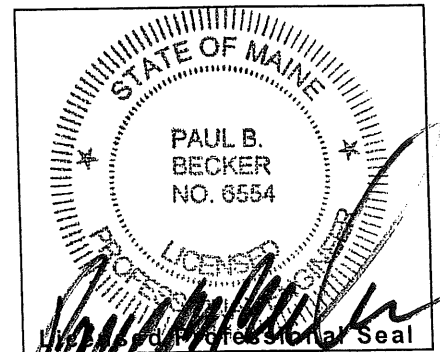
Interim reports submitted prior to this final report form a basis for and are to be considered an integral part of this final report.

Respectfully submitted,
Structural Special Inspection Coordinator

PAUL B. BECKER
(Type or print name)

BECKER STRUCTURAL ENGINEERS, INC.
(Firm Name)

Signature: [Handwritten Signature] Date: 10.8.08



Statement of Special Inspections (Continued) - Exhibit A  
Special Inspector's/Agent's Final Report

Project: *Waynflete Arts Center Phase II*  
Special Inspector or Agent: PAUL F. KOHLER, PE SW Cole Engineering Inc  
(name) (firm)  
Designation: SI-2

To the best of S. W. COLE ENGINEERING, INC.'s information, knowledge and belief, the foundation subgrade preparation portion of the Special Inspections or testing required for this project, and designated for this Inspector/Agent in the Statement of Special Inspections submitted for permit, have been performed at a certain location (see below) and all discovered discrepancies have been reported and resolved other than the following:

Comments:

S. W. COLE ENGINEERING, INC. met on site with the contractor, Architect and Structural Engineer on October 31, 2007 to discuss Special Inspections and to observe the subgrade area exposed that day. At the meeting, it was indicated to us that S. W. COLE ENGINEERING, INC. would be on an on-call basis and would be contacted once a section of foundation subgrade was exposed to visit the site and make observations. We did observe native soil at footing subgrade on Line 8 from D.6 to C.7 and C.7 Line from 8 to 9 (see SWCE Field report dated 10/31/07). S. W. COLE ENGINEERING, INC. was not contacted specifically to visit the site to observe native soil at footing subgrades after that date. Scheduling after that date was specifically for concrete testing. Although S. W. COLE ENGINEERING, INC. did not observe the subgrade soils, based on the geotechnical exploration information and the observations made on 10/31/07, the footing subgrades would likely have been suitable provided the subgrade was the native dense glacial till and the soils were not disturbed prior to footing placement.

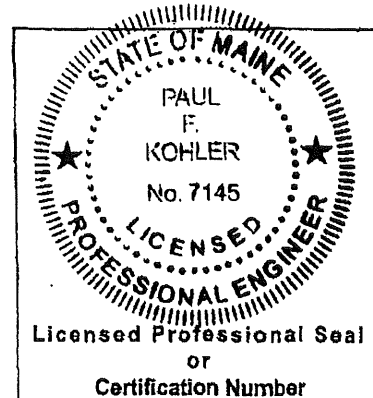
*(Attach continuation sheets if required to complete the description of corrections.)*

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

Respectfully submitted,  
Special Inspector or Agent:

PAUL F. KOHLER  
(Type or print name)

Paul F. Kohler 9/16/08  
Signature Date



Statement of Special Inspections (Continued) - Exhibit A  
Special Inspector's/Agent's Final Report

Project: *Waynflete Arts Center Phase II*

Special Inspector  
or Agent:

*Roger E. Domingo* *SW. Cole Engineering, Inc*  
(name) (firm)

Designation: TL1

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

Comments:

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

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

Respectfully submitted,  
Special Inspector or Agent:

*Roger E. Domingo*  
(Type or print name)

*RED*  
Signature

*9/15/08*  
Date

SEAL NOT REQUIRED FOR  
TESTING AGENCY  
  
Licensed Professional Seal  
or  
Certification Number



## 01000.5 Disclaimers and Qualifications

The program of Structural/Special Tests and Inspections does not relieve the Contractor or its Subcontractors of their responsibilities and obligations for quality control of the work, for any design work which is included in the scope of services, and for full compliance with the requirements of the Construction Documents. Furthermore, the detection of, or the failure to detect, deficiencies or defects in work during testing and inspection conducted pursuant to the Program does not relieve the Contractor or its subcontractors of their responsibility to correct all deficiencies or defects, whether detected or undetected, in all parts of work, and to otherwise comply with all requirements of the Construction Documents. No warrantee is expressed or implied by the issuance of this document. Additional disclaimers and/or qualifications may be included in the Owner-Special Inspection agreement.

**Special Inspections – Exhibit B**

Qualifications of Inspectors and Test Agency  
List of Minimum Qualifications  
Schedule of Structural Inspections

## Schedule of Special Inspections - Exhibit B

---

### Qualifications of Inspectors and Testing Technicians

The qualifications of all personnel performing Special Inspection and testing activities are subject to the approval of the Building Official. The credentials of all Inspectors and testing technicians shall be provided if requested.

#### Key for Minimum Qualifications of Inspection Agents:

When the Registered Design Professional in Responsible Charge deems it appropriate that the individual performing a stipulated test or inspection have a specific certification or license as indicated below, such designation shall appear below the *Agency Number* on the Schedule.

PE/SE	Structural Engineer – a licensed SE or PE specializing in the design of building structures
PE/GE	Geotechnical Engineer – a licensed PE specializing in soil mechanics and foundations
EIT	Engineer-In-Training – a graduate engineer who has passed the Fundamentals of Engineering examination

#### American Concrete Institute (ACI) Certification

ACI-CFTT	Concrete Field Testing Technician – Grade 1
ACI-CCI	Concrete Construction Inspector
ACI-LTT	Laboratory Testing Technician – Grade 1&2
ACI-STT	Strength Testing Technician

#### American Welding Society (AWS) Certification

AWS-CWI	Certified Welding Inspector
AWS/AISC-SSI	Certified Structural Steel Inspector

#### American Society of Non-Destructive Testing (ASNT) Certification

ASNT	Non-Destructive Testing Technician – Level II or III.
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#### International Code Council (ICC) Certification

ICC-SMSI	Structural Masonry Special Inspector
ICC-SWSI	Structural Steel and Welding Special Inspector
ICC-SFSI	Spray-Applied Fireproofing Special Inspector
ICC-PCSI	Prestressed Concrete Special Inspector
ICC-RCSI	Reinforced Concrete Special Inspector

#### National Institute for Certification in Engineering Technologies (NICET)

NICET-CT	Concrete Technician – Levels I, II, III & IV
NICET-ST	Soils Technician - Levels I, II, III & IV
NICET-GET	Geotechnical Engineering Technician - Levels I, II, III & IV

#### Exterior Design Institute (EDI) Certification

EDI-EIFS	EIFS Third Party Inspector
----------	----------------------------

#### Other

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## **EXHIBIT B**

**02300 Soil and Foundation Construction**

# Schedule of Special Inspections – Exhibit B

## SOILS & FOUNDATION CONSTRUCTION

Project: Waynflete Arts Center Phase II, Portland, ME  
 Date Prepared: 09/17/2007

VERIFICATION AND INSPECTION	Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	DATE	INITIAL
IBC Section 1704.7, 1704.8, 1704.9							
1. Verify existing soil conditions, fill placement and load bearing requirements							
a. Prior to placement of prepared fill, determine that the site has been prepared in accordance with the approved soils report.	Y	P	IBC 1704.7.1	SI2	PE/GE or EIT	10/31/07 -SEE COMMENTS	USE SEE FINAL RPT.
b. During placement and compaction of fill material, verify material being used and maximum lift thickness comply with the approved soils report.	Y	P	IBC 1704.7.2	SI2	PE/GE or EIT	4/15/08 -INTERIOR CRUSHED STONE	USE
c. Test in-place dry density of compacted fill complies with the approved soils report.	Y	P	IBC 1704.7.2	TA1	NICET-ST or NICET-GET	} N/A - FTGS BEARING ON UNDISTURBED NATIVE SOIL	
2. Pile foundations:							
a. Observe and record procedures for static load testing of piles.	N	C	IBC 1704.8	SI2	PE/GE or EIT		
b. Observe and record procedures for dynamic load testing of piles.	N	C		SI2	PE/GE or EIT		
c. Record installation of each pile and results of load test. Include cutoff and tip elevations of each pile relative to permanent reference.	N	C		TA1	NICET-GET		
d. Test welded splices of steel piles	N	C	AWS D1.1	TA1	AWS-CWI		
3. Pier foundations: Verify installation of pier foundations for buildings assigned to Seismic Design Category C, D, E or F.							
a. Verify pier diameter and length	N	C	IBC 1704.9	SI2	PE/GE or EIT		
b. Verify pier embedment (socket) into bedrock	N	P		SI2	PE/GE or EIT		
c. Verify suitability of end bearing strata	N	P		SI2	PE/GE or EIT		

**Special Inspections – Exhibit B**

Qualifications of Inspectors and Test Agency  
List of Minimum Qualifications  
Schedule of Structural Inspections

## Schedule of Special Inspections - Exhibit B

---

### Qualifications of Inspectors and Testing Technicians

The qualifications of all personnel performing Special Inspection and testing activities are subject to the approval of the Building Official. The credentials of all Inspectors and testing technicians shall be provided if requested.

#### Key for Minimum Qualifications of Inspection Agents:

When the Registered Design Professional in Responsible Charge deems it appropriate that the individual performing a stipulated test or inspection have a specific certification or license as indicated below, such designation shall appear below the *Agency Number* on the Schedule.

PE/SE	Structural Engineer – a licensed SE or PE specializing in the design of building structures
PE/GE	Geotechnical Engineer – a licensed PE specializing in soil mechanics and foundations
EIT	Engineer-In-Training – a graduate engineer who has passed the Fundamentals of Engineering examination

#### American Concrete Institute (ACI) Certification

ACI-CFTT	Concrete Field Testing Technician – Grade 1
ACI-CCI	Concrete Construction Inspector
ACI-LTT	Laboratory Testing Technician – Grade 1&2
ACI-STT	Strength Testing Technician

#### American Welding Society (AWS) Certification

AWS-CWI	Certified Welding Inspector
AWS/AISC-SSI	Certified Structural Steel Inspector

#### American Society of Non-Destructive Testing (ASNT) Certification

ASNT	Non-Destructive Testing Technician – Level II or III.
------	---

#### International Code Council (ICC) Certification

ICC-SMSI	Structural Masonry Special Inspector
ICC-SWSI	Structural Steel and Welding Special Inspector
ICC-SFSI	Spray-Applied Fireproofing Special Inspector
ICC-PCSI	Prestressed Concrete Special Inspector
ICC-RCSI	Reinforced Concrete Special Inspector

#### National Institute for Certification in Engineering Technologies (NICET)

NICET-CT	Concrete Technician – Levels I, II, III & IV
NICET-ST	Soils Technician - Levels I, II, III & IV
NICET-GET	Geotechnical Engineering Technician - Levels I, II, III & IV

#### Exterior Design Institute (EDI) Certification

EDI-EIFS	EIFS Third Party Inspector
----------	----------------------------

#### Other

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# Soils Observation Report

**Project Name/Location:** Waynflete School / Portland  
**Client/Client's Rep.:** Scott Simons Arch / Austin Smith  
**General Contractor:** Stroudwater Construction  
**Earthwork Contractor:** Dugas

**Project No:** 01-0120.5  
**Date:** 10-31-07  
**Sheet:** 1 of 1  
**SWCE Rep.:** PFK  
**Arrived at Site:** 11  
**Left Site:** 11:45am

Weather			Site Conditions		Materials Used	
<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Snow	<input type="checkbox"/> Warm	<input type="checkbox"/> Clear	<input type="checkbox"/> Dusty	<input type="checkbox"/> Site Fill	<input type="checkbox"/> Non Frost Susceptible
<input type="checkbox"/> Overcast	<input type="checkbox"/> Fog	<input type="checkbox"/> Hot	<input type="checkbox"/> Muddy	<input checked="" type="checkbox"/> 50's	<input type="checkbox"/> Utility Bedding	<input type="checkbox"/> Subbase
<input type="checkbox"/> Rain	<input checked="" type="checkbox"/> Cold	<input type="checkbox"/> Windy	<input type="checkbox"/> Frozen	Temperatures:	<input type="checkbox"/> Base	<input type="checkbox"/> _____

**Soils Work Performed:**  
 Site Prep (Sect. 2230)       Earthwork (Sect. 2300)  
 Building Earthwork (Sect. 2315)       Utilities Earthwork (Sect. 2316)  
 Planting Soils (Sect. 2310)  
 \_\_\_\_\_

**Compaction Equipment Used:**     Large Roller     Small Roller     Trench Roller     Large Plate Tamp  
 Small Tamp     Jumping Jack     \_\_\_\_\_

Soils Observations	Observed		Comments
Site Preparation	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Footing Subgrade
Fill Placement:	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Material Type (proper material used for construction)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Lift Size	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Compaction	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
In-place Densities	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
In-place Density Frequency	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
<b>Non-Conformance Items Observed</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Non-Conformance Item Description:			
Action Taken by SWCE:			
Person(s) Notified:			

**Areas of Observation:**

Scott Dugas Trucking & Excavating (earthwork contractor) excavated 8" below bottom of footing to prepare for geotextile fabric and 8" of crushed stone (see note below). Observed 8 line from D.6 to C.7 and C.7 line from 8 to 9. Phil (Stroudwater Construction Superintendent) said they plan to dig to about A/6 by mid afternoon today.

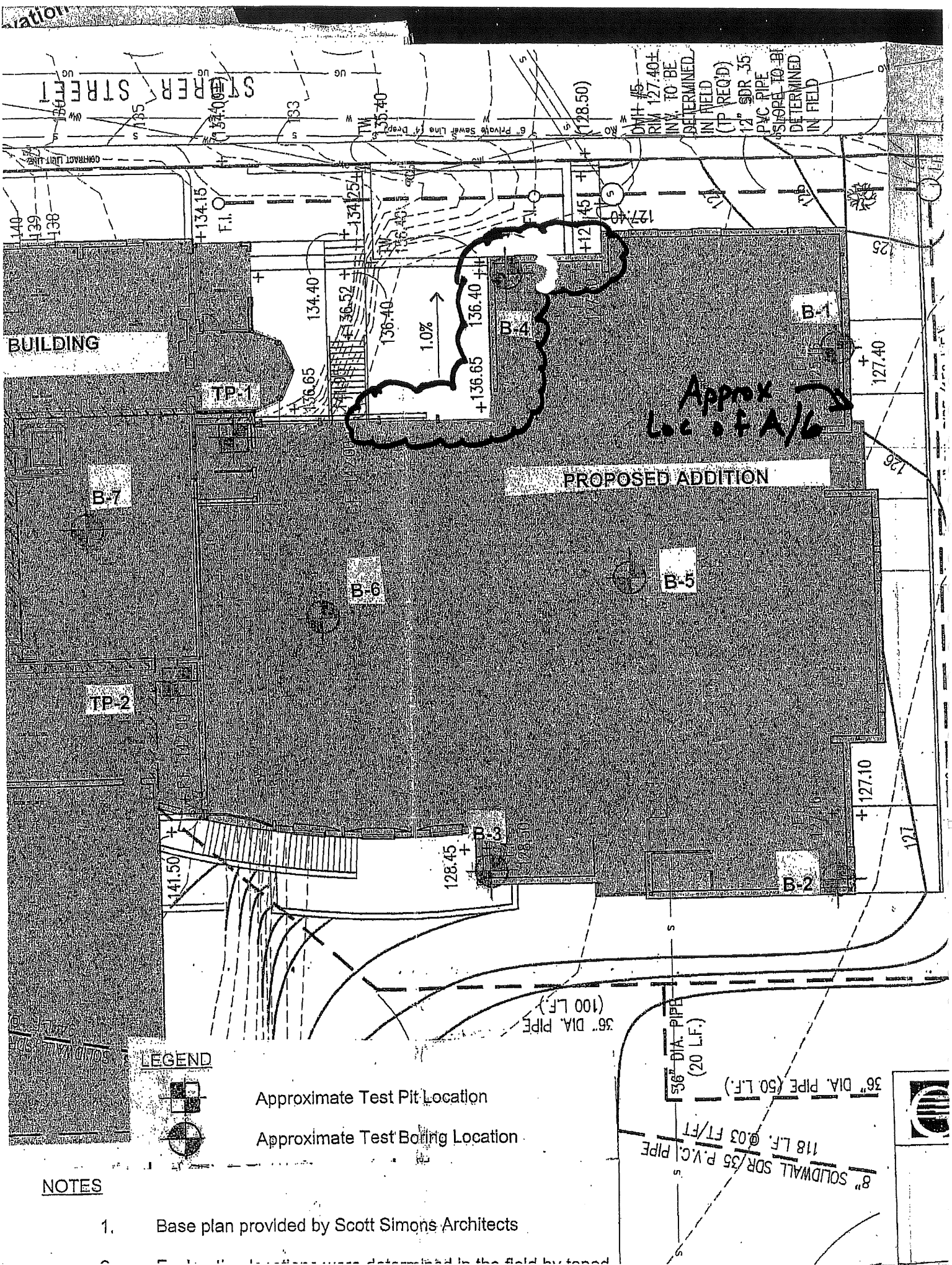
**Notes:**

Subgrade at area observed consisted of moist, dense, gray glacial till. This is the soil material SWCE expected to see and was determined to be suitable subgrade. Phil will call if they don't see the dense gray till while excavating to A/6 today. Also, discussed with Dave Cimino (Stroudwater Construction) that geotextile fabric and crushed stone was not required beneath footings in S. W. COLE ENGINEERING, INC. report. Footings can be placed directly on undisturbed, dense till unless required otherwise by project plans and specs.

Attachments: Photos, Plan

Reviewed By: PKF





**NOTES**

1. Base plan provided by Scott Simons Architects

**LEGEND**



Approximate Test Pit Location  
 Approximate Test Boring Location

8" SOLIDWALL SDR 35 P.V.C. PIPE  
 118 L.F. @ .03 FT/FT  
 36" DIA. PIPE (50 L.F.)  
 36" DIA. PIPE (20 L.F.)

*Approx  
 Loc of A/G*

D.M.H. #5  
 RIM 127.40±  
 INV. TO BE  
 DETERMINED  
 IN FIELD  
 (TP REQ'D)  
 12" SDR 35  
 PVC PIPE  
 SHOULD TO BE  
 DETERMINED  
 IN FIELD

**BUILDING**

**PROPOSED ADDITION**

**STERER STREET**



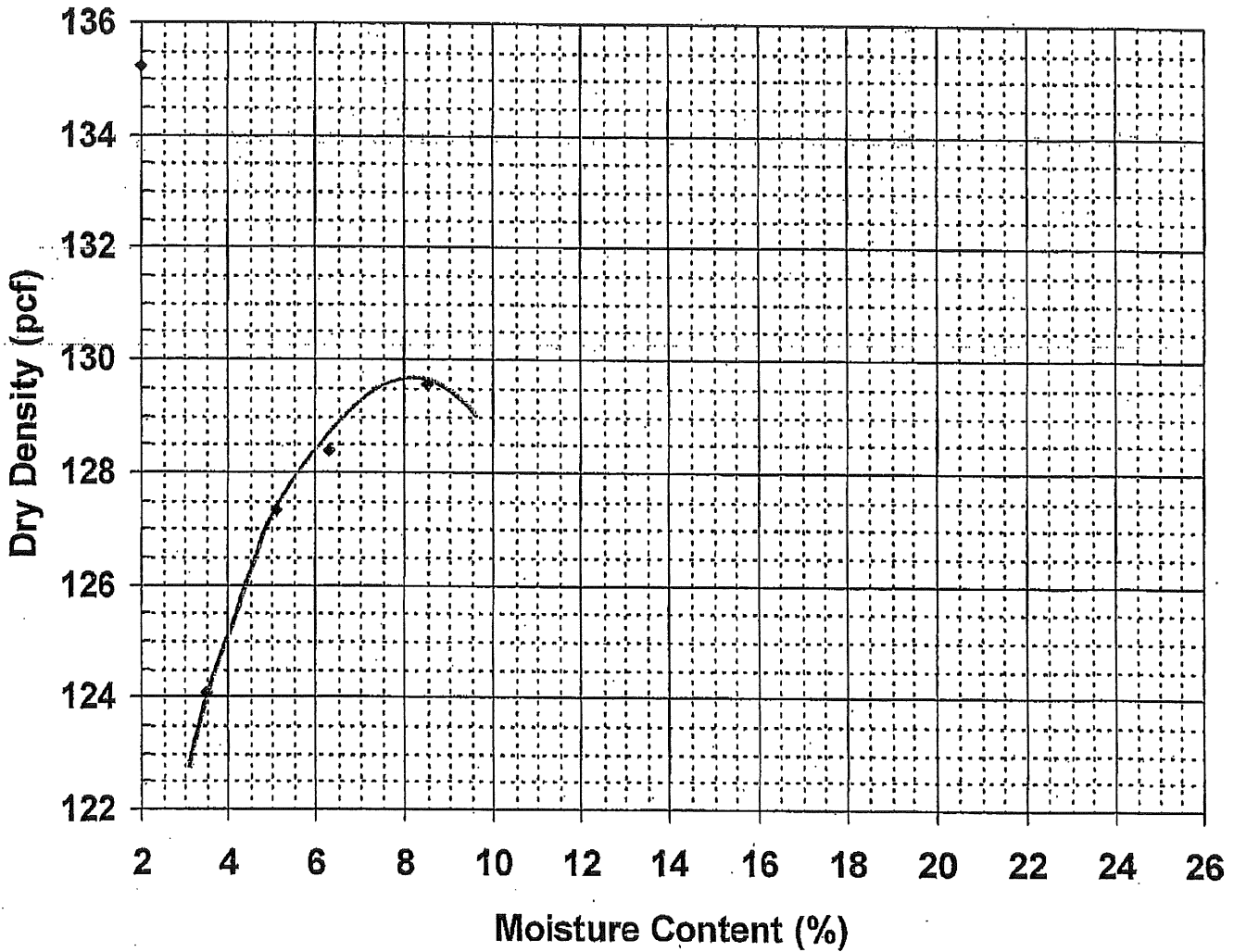
# Report of Moisture-Density

Method ASTM D-1557 MODIFIED Procedure C

Project Name PORTLAND - WAYNFLETE ART CENTER - 360 SPRING STREET - ART CENTER PHASE 2 - MATERIALS TESTING  
 Client SCOTT SIMONS ARCHITECTS INC.  
 Material Type 4" GRAVEL  
 Material Source DUGAS

Project Number 01-0120.5  
 Lab ID 8060G  
 Date Received 1/29/2008  
 Date Completed 1/31/2008  
 Tested By CRAIG TURCOTTE

## Moisture-Density Relationship Curve



Maximum Dry Density (pcf) 129.7  
 Optimum Moisture Content (%) 8  
 Percent Oversized 30.0%

Corrected Dry Density (pcf) **136.9**  
Corrected Moisture Content (%) **6.2**

Comments

Roger E. Domingo



**Construction Observation Report**

**Project Name/Location:** Waynflete School **Project No:** 01-0120.5  
**Client:** Scott Simon **Date:** 4-15-08  
**Client's Rep.:** \_\_\_\_\_ **Sheet:** 1 of 1  
**Contractor:** Stroudwater Construction **SWCE Rep.:** C. Wight

**Weather** **Site Conditions**  
 Clear     Snow     Warm     Clear     Dusty  
 Overcast     Fog     Hot     Muddy     \_\_\_\_\_  
 Rain     Cold     Windy     Frozen    **Temperatures:**  
High 40's

**Arrived at Site:** 2:00 pm  
**Left Site:** 3:00 pm

<input type="checkbox"/> Soil		<input type="checkbox"/> Concrete		<input type="checkbox"/> Site Meeting	<input type="checkbox"/> Field Testing	<input checked="" type="checkbox"/> Observations
<input type="checkbox"/> Masonry		<input type="checkbox"/> Asphalt		<input checked="" type="checkbox"/> Crushed Stone		

**Equipment Used**  
 Core Drill     Generator     Windsor Probe     Rebar Locator     Digital Camera     GPS  
 Nuclear Densometer     Shove & Tape

**Construction Activities Observed:**

Checked 3/4" crushed stone depths inside building on ground level. Results are as Follows:

LOCATION	DEPTH
1) 15' from N. wall, 11' from E. wall	8 3/8"
2) 29' From N. wall, 17' from E. wall	8 1/2"
3) 42' From N. wall, 21' from E. wall	8 7/8"
4) Stage area	6 1/2 "
5) Stage area	6 5/8"

Crushed stone seemed well compacted in stage area.

**Discussions, Recommendations:**

Recommend making another pass with compactor in area behind stage before placing floor.

**Items Observed Not In Conformance to Project Specifications:**

Less than 8" of stone in stage area.

Attachments: \_\_\_\_\_ Reviewed By: RED

## **EXHIBIT B**

**03300 Cast-in-Place Concrete**

# Schedule of Special Inspections – Exhibit B

## CONCRETE CONSTRUCTION

Project: Waynflete Arts Center Phase II, Portland, ME  
 Date Prepared: 09/17/2007

VERIFICATION AND INSPECTION	Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	DATE	INITIAL
IBC Section 1704.4							
1. Inspection of reinforcing steel, including prestressing tendons, and placement	Y	P	ACI 318: 3.5, 7.1-7.7	SII	PE/SE or EIT	11/07-6/08	MSF
2. Inspection of reinforcing steel welding in accordance with Table 1704.3, Item 5B	N		Welding of Reinf Not Allowed	TA1	AWS-CWI		
3. Inspect bolts to be installed in concrete prior to and during placement of concrete where allowable loads have been increased	N	C	IBC 1912.5	SII	PE/SE or EIT		
4. Verifying use of required design mix	Y	P	ACI 318: Ch 4, 5.2-5.4	SII	PE/SE or EIT	11/07-6/08	MSF
5. At time fresh concrete is sampled to fabricate specimens for strength test, perform slump and air content test and temperature	Y	C	ASTM C 172 ASTM C 31 ACI 318: 5.6, 5.8	TA1	ACI-CFTT or ACI-STT	11/07-6/08	MSF
6. Inspection of concrete and shotcrete placement for proper application techniques	Y	C	ACI 318: 5.9, 5.10	SII	PE/SE or EIT	11/07-6/08	MSF
7. Inspection for maintenance of specified curing temperature and techniques	Y	P	ACI 318: 5.11-5.13	SII	PE/SE or EIT	11/07-6/08	MSF
8. Inspection of Prestressed Concrete							
a. Application of prestressing force.	N	C	ACI 318: 18.20	SII	PE/SE or EIT		
b. Grouting of bonded prestressing tendons in seismic force resisting system	N	C	ACI 318: 18.18.4	SII	PE/SE or EIT		
9. Erection of precast concrete members	N	P	ACI 318: Ch 16	SII	PE/SE or EIT		
10. Verification of in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms beams and structural slabs	N	P	ACI 318: 6.2	TA1	ACI-STT		

Concrete Construction has been reviewed in accordance with section 1704.4 of the IBC Code

Special Inspector [Signature] Date 10/2/08

# B E C K E R

structural engineers, inc.

03300

<b>Project:</b>	Waynflete Arts Center Ph. 2
<b>Location:</b>	Portland, Maine
<b>Becker Job No:</b>	1775

## OBSERVATION REPORT

Cast in Place Concrete

<b>Date:</b>	11-2-07
<b>Time:</b>	8:30 AM
<b>Temp:</b>	45 F
<b>Weather:</b>	sunny

**Observation Location:** Exterior wall footings: 8 & C.8 line

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Placement	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below
Embed/Anchors	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Lap Splices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

**Notes:**

Advised Superintendent of one location where reinforcement contacted forms.  
Reinforcement to be re-positioned prior to placement.

**Signed:** Daniel S. Burne, P.E.

<b>Project:</b>	Waynflete Arts Center Ph. 2
<b>Location:</b>	Portland, Maine
<b>Becker Job No:</b>	1775

**OBSERVATION REPORT**

Cast in Place Concrete

<b>Date:</b>	11-9-07
<b>Time:</b>	10:30 AM
<b>Temp:</b>	50 F
<b>Weather:</b>	sunny

**Observation Location:** Exterior walls: 8, C.8, 9, & B.4 lines

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Placement	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below
Embed/Anchors	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Lap Splices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

**Notes:**

Noted location from last footing placement where reinforcement was exposed. Discussed patching area with grout with Superintendent. Three areas had insufficient reinforcement cover. Follow up visit will be performed prior to placement.

**Signed:** Daniel S. Burne, P.E.

# B E C K E R

structural engineers, inc.

03300

<b>Project:</b>	Waynflete Arts Center Ph. 2
<b>Location:</b>	Portland, Maine
<b>Becker Job No:</b>	1775

## OBSERVATION REPORT

Cast in Place Concrete

<b>Date:</b>	11-12-07
<b>Time:</b>	2:30 PM
<b>Temp:</b>	45 F
<b>Weather:</b>	sunny

**Observation Location:** Footings: B.4, 7, A.5, 6, A & 2 lines

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Placement	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Embed/Anchors	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Lap Splices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

**Notes:**

**Signed:** Nathan Merrill, E.I.



# B E C K E R

structural engineers, inc.

03300

<b>Project:</b>	Waynflete Arts Center Ph. 2
<b>Location:</b>	Portland, Maine
<b>Becker Job No:</b>	1775

## OBSERVATION REPORT

Cast in Place Concrete

<b>Date:</b>	11-19-07
<b>Time:</b>	8:30 AM
<b>Temp:</b>	30 F
<b>Weather:</b>	sunny

**Observation Location:** Walls: 8 & C.7 lines

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Placement	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Embed/Anchors	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Lap Splices	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	see notes below
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

**Notes:**

2'-6" Lap as shown on 5A/S2.2 was observed to be typically less. Discussed this with Phil Doria of Stroudwater Construction who informed me that this would be corrected before placement. Placement not to take place until 11/21.

**Signed:** Nathan Merrill, E.I.

# B E C K E R

structural engineers, inc.

03300

<b>Project:</b>	Waynflete Arts Center Ph. 2
<b>Location:</b>	Portland, Maine
<b>Becker Job No:</b>	1775

## OBSERVATION REPORT

Cast in Place Concrete

<b>Date:</b>	11-28-07
<b>Time:</b>	3:30 PM
<b>Temp:</b>	30 F
<b>Weather:</b>	sunny

**Observation Location:** Walls: B.4, 7, A.5, 6, A & 2 lines

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Placement	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Embed/Anchors	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Lap Splices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	see notes below
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

**Notes:**

Placement not expected until 11-30-07 according to Phil Doria of Stroudwater Construction. Shear key locations must be coordinated prior to placement.

**Signed:** Nathan Merrill, E.I.

# BECKER

structural engineers, inc.

03300

<b>Project:</b>	Waynflete Arts Center Ph. 2
<b>Location:</b>	Portland, Maine
<b>Becker Job No:</b>	1775

## OBSERVATION REPORT

Cast in Place Concrete

<b>Date:</b>	12-07-07
<b>Time:</b>	9:00 AM
<b>Temp:</b>	20 F
<b>Weather:</b>	Partly sunny

**Observation Location:** Exterior Footings: 2, B, 1 & D lines

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Placement	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Embed/Anchors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Lap Splices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

**Notes:**

**Signed:** Nathan Merrill, E.I.

# B E C K E R

structural engineers, inc.

03300

<b>Project:</b>	Waynflete Arts Center Ph. 2
<b>Location:</b>	Portland, Maine
<b>Becker Job No:</b>	1775

## OBSERVATION REPORT

Cast in Place Concrete

<b>Date:</b>	12-21-07
<b>Time:</b>	10:00 AM
<b>Temp:</b>	20 F
<b>Weather:</b>	sunny

**Observation Location:** Exterior Walls: B, 1 & D lines

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Placement	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below
Embed/Anchors	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below
Lap Splices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

**Notes:**

Insufficient cover at approximately (4) locations. Stirrup incorrectly tied at (1) location. Superintendent was made aware and all was to be corrected prior to placement. Top corner bars at one corner not yet in place. Anchor bolts not yet in place.

**Signed:** Daniel S. Burne, P.E.

# B E C K E R

03300

structural engineers, inc.

<b>Project:</b>	Waynflete Arts Center Ph. 2
<b>Location:</b>	Portland, Maine
<b>Becker Job No:</b>	1775

## OBSERVATION REPORT

Cast in Place Concrete

<b>Date:</b>	1-9-08
<b>Time:</b>	9:30 AM
<b>Temp:</b>	40 F
<b>Weather:</b>	Cloudy

**Observation Location:** Foundation wall H line

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Placement	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below
Embed/Anchors	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below
Lap Splices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

**Notes:**

Advised Superintendent to secure slab dowels in place prior to placement. Discussed reinforcement cover at end pier and advised that ties may be angled to allow proper attachment. All to be completed prior to placement.

**Signed:** Daniel S. Burne, P.E.

# B E C K E R

structural engineers, inc.

03300

<b>Project:</b>	Waynflete Arts Center Ph. 2
<b>Location:</b>	Portland, Maine
<b>Becker Job No:</b>	1775

## OBSERVATION REPORT

Cast in Place Concrete

<b>Date:</b>	1-16-08
<b>Time:</b>	1:30 PM
<b>Temp:</b>	30 F
<b>Weather:</b>	sunny

**Observation Location:** Exterior Wall Footings: segmented wall from D to H lines

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Placement	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Embed/Anchors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Lap Splices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

**Notes:**

**Signed:** Nathan Merrill, E.I.



# Concrete Construction Observation Report

**Project Name:** Waynelete-Portland Art Center Phase II  
**Client:** Scott Simons Architects  
**Placement Type:** Footing  Wall  Column  Slab  Other   
**Placement Location:** Line 1.1 to 1.4, D to H

**Project No:** 01-0120.5  
**Date:** 1-16-08

<u>PRE PLACEMENT OBSERVATIONS</u>	<u>In Compliance</u>		<u>N/O</u>	<u>Comments</u>
Bar Size (diameter, length, bend and anchorage)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	2 #5's cont. horiz.
Location (# of bars, spacing, and cover)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	7 #5's vert. pier column
Splicing (weld joint, overlap)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	
Stability (wiring, chairs, and spacers)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	Rebar insp. By Becker
Reinforcement free from mud, oil, rust, or other nonmetallic coatings	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	
Reinforcement appears in conformance to specifications	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	See notes
Soil subgrade prepared in accordance with project specifications	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input checked="" type="checkbox"/>	

<u>Referenced Drawings</u>	<u>Date</u>	<u>Page</u>	<u>Rev.</u>	<u>ASTM</u>	<u>GRADE</u>
Simons Architect FND Plan		S.1		A 615 <input checked="" type="checkbox"/>	40 <input type="checkbox"/> 50 <input type="checkbox"/> 60 <input checked="" type="checkbox"/>
				A 616 <input type="checkbox"/>	75 <input type="checkbox"/>
				A 617 <input type="checkbox"/>	
				A 706 <input type="checkbox"/>	A 775 Epoxy <input type="checkbox"/>

<u>CONCRETE PLACEMENT OBSERVATIONS</u>	<u>In Compliance</u>		<u>N/O</u>	<u>Comments</u>
Required mix used	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	3000psi 3/4"
Placement and consolidation of concrete observed	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	
Concrete properly conveyed to all areas of placement	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	
Depth of layer maximum limits not exceeded	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	
Internal vibration (depth of insertion, spacing, time, vertical insertion, no conveyance of concrete by vibration)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	
Even layering around openings and embedments	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	
Removal of temporary ties and spacers	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input checked="" type="checkbox"/>	

**FIELD TESTING OF CONCRETE PERFORMED**

\*CYLINDER SET NO: 814-8

Yes  No

←\*refer to associated concrete test report

<u>POST PLACEMENT OBSERVATIONS</u>	<u>In Compliance</u>		<u>N/O</u>	<u>Comments</u>
Specified finish	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	Troweled
Protection of surfaces from cracking due to rapid drying	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input checked="" type="checkbox"/>	
Proper curing procedures implemented	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input checked="" type="checkbox"/>	

**NON-CONFORMANCE ITEMS OBSERVED**

Yes  No

Non-conformance item description:

Action taken by SWCE:

N/O = Not Observed

NOTES:

SWCE observed crushed stone and snow on existing footing intersection line D and 1.4. Forms for footing to be placed were not connected to existing footing. See picture. Advised Stroudwater construction who stated forms and rebar inspected and approved by Becker.

ATTACHMENTS Y  N

SWCE REPRESENTATIVE: VLT

REVIEWED BY: RED

1207

# B E C K E R

structural engineers, inc.

03300

<b>Project:</b>	Waynflete Arts Center Ph. 2
<b>Location:</b>	Portland, Maine
<b>Becker Job No:</b>	1775

## OBSERVATION REPORT

Cast in Place Concrete

<b>Date:</b>	1-22-08
<b>Time:</b>	9:00 AM
<b>Temp:</b>	20 F
<b>Weather:</b>	sunny

**Observation Location:** Segmented wall D line - H line

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Placement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Embed/Anchors	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Anchor bolts not yet installed
Lap Splices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

**Notes:**

**Signed:** Daniel S. Burne, P.E.



# BECKER

structural engineers, inc.

03300

<b>Project:</b>	Waynflete Arts Center Ph. 2
<b>Location:</b>	Portland, Maine
<b>Becker Job No:</b>	1775

## OBSERVATION REPORT

Cast in Place Concrete

<b>Date:</b>	1-25-08
<b>Time:</b>	8:30 AM
<b>Temp:</b>	20 F
<b>Weather:</b>	sunny

**Observation Location:** Interior footings G2.2, G4, G4.8, & J line cheek wall

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Placement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Embed/Anchors	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Anchor bolts not yet installed
Lap Splices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

**Notes:**

**Signed:** Daniel S. Burne, P.E.

# B E C K E R

structural engineers, inc.

03300

<b>Project:</b>	Waynflete Arts Center Ph. 2
<b>Location:</b>	Portland, Maine
<b>Becker Job No:</b>	1775

## OBSERVATION REPORT

Cast in Place Concrete

<b>Date:</b>	1-30-08
<b>Time:</b>	9:30 AM
<b>Temp:</b>	25 F
<b>Weather:</b>	overcast

**Observation Location:** Footing CF-2, CF-3

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Placement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Embed/Anchors	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below
Lap Splices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

**Notes:**

Anchor bolts not yet placed at CF-2, Bolts at CF-3 satisfactory. Bolts to be placed prior to placement.

**Signed:** Nathan Merrill, E.I.

<b>Project:</b>	Waynflete Arts Center Ph. 2
<b>Location:</b>	Portland, Maine
<b>Becker Job No:</b>	1775

**OBSERVATION REPORT**  
Cast in Place Concrete

<b>Date:</b>	2-1-08
<b>Time:</b>	8:30 AM
<b>Temp:</b>	25 F
<b>Weather:</b>	overcast

**Observation Location:** Upper slab H-J line, Spread footings: D 6.2, C.7 7, C.3 7

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Placement	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Below
Embed/Anchors	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Lap Splices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

**Notes:**

Rebar mat location was observed to be placed with insufficient bottom cover on one footing and placed too high on the other two. Rebar was being re-located to be completed prior to placement.

**Signed:** Daniel S. Burne, P.E.

<b>Project:</b>	Waynflete Arts Center Ph. 2
<b>Location:</b>	Portland, Maine
<b>Becker Job No:</b>	1775

**OBSERVATION REPORT**

Cast in Place Concrete

<b>Date:</b>	2-11-08
<b>Time:</b>	8:30 AM
<b>Temp:</b>	15 F
<b>Weather:</b>	Sunnyt

**Observation Location:** Mat footing at base of seating

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Placement	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below
Embed/Anchors	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Lap Splices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

**Notes:**

Advised Superintendent of insufficient cover at two locations. Cover to be corrected prior to placement.

**Signed:** Daniel S. Burne, P.E.



# Concrete Construction Observation Report

**Project Name:** Waynelete-Portland Art Center Phase II  
**Client:** Scott Simons Architects  
**Project No:** 01-0120.5  
**Placement Type:** Footing  Wall  Column  Slab  Other   
**Placement Location:** Footing for Staging Area  
**Date:** 2-12-08

<u>PRE PLACEMENT OBSERVATIONS</u>	<u>In Compliance</u>		<u>N/O</u>	<u>Comments</u>
Bar Size (diameter, length, bend and anchorage)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	Rebar Insp. By Becker
Location (# of bars, spacing, and cover)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	
Splicing (weld joint, overlap)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	
Stability (wiring, chairs, and spacers)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	
Reinforcement free from mud, oil, rust, or other nonmetallic coatings	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	
Reinforcement appears in conformance to specifications	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	
Soil subgrade prepared in accordance with project specifications	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	Compacted subgrade

<u>Referenced Drawings</u>	<u>Date</u>	<u>Page</u>	<u>Rev.</u>	<u>ASTM</u>	<u>GRADE</u>
Simons Architect FND Plan		S.1		A 615 <input checked="" type="checkbox"/>	40 <input type="checkbox"/> 50 <input type="checkbox"/> 60 <input checked="" type="checkbox"/>
				A 616 <input type="checkbox"/>	75 <input type="checkbox"/>
				A 617 <input type="checkbox"/>	
				A 706 <input type="checkbox"/>	A 775 Epoxy <input type="checkbox"/>

<u>CONCRETE PLACEMENT OBSERVATIONS</u>	<u>In Compliance</u>		<u>N/O</u>	<u>Comments</u>
Required mix used	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	3000psi ¾"
Placement and consolidation of concrete observed	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	
Concrete properly conveyed to all areas of placement	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	
Depth of layer maximum limits not exceeded	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	
Internal vibration (depth of insertion, spacing, time, vertical insertion, no conveyance of concrete by vibration)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	
Even layering around openings and embedments	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	
Removal of temporary ties and spacers	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input checked="" type="checkbox"/>	

**FIELD TESTING OF CONCRETE PERFORMED** Yes  No   
 \*CYLINDER SET NO: 814-18 ←\*refer to associated concrete test report

<u>POST PLACEMENT OBSERVATIONS</u>	<u>In Compliance</u>		<u>N/O</u>	<u>Comments</u>
Specified finish	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	Troweled
Protection of surfaces from cracking due to rapid drying	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input checked="" type="checkbox"/>	
Proper curing procedures implemented	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input checked="" type="checkbox"/>	Thermal blankets.

**NON-CONFORMANCE ITEMS OBSERVED** Yes  No   
 Non-conformance item description:  
 Action taken by SWCE:

N/O = Not Observed  
 NOTES:

ATTACHMENTS Y  N

SWCE tested 2<sup>nd</sup> truck. Slump 3 ¾" Air 5.3%. Concrete temp. 53 degrees. Air temp 22 degrees. Concrete blocks used to raise rebar. No crushed stone just compacted subgrade. 1' thick footing for staging area inside building walls. Ice melted on subgrade with propane heaters. Placement covered with thermal blankets.

SWCE REPRESENTATIVE: VLT

REVIEWED BY: RED

*Red*

# B E C K E R

structural engineers, inc.

03300

<b>Project:</b>	Waynflete Arts Center Ph. 2
<b>Location:</b>	Portland, Maine
<b>Becker Job No:</b>	1775

## OBSERVATION REPORT

Cast in Place Concrete

<b>Date:</b>	2-15-08
<b>Time:</b>	10:30 AM
<b>Temp:</b>	30 F
<b>Weather:</b>	Sunny

**Observation Location:** Spread footing @ C-4 & Combined footing CF1

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Placement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Embed/Anchors	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Lap Splices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

**Notes:**

Signed: Nathan Merrill, E.I.

<b>Project:</b>	Waynflete Arts Center Ph. 2
<b>Location:</b>	Portland, Maine
<b>Becker Job No:</b>	1775

**OBSERVATION REPORT**  
Cast in Place Concrete

<b>Date:</b>	2-21-08
<b>Time:</b>	12:30 PM
<b>Temp:</b>	20 F
<b>Weather:</b>	Sunny

**Observation Location:** Stage wall footing

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Placement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Embed/Anchors	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Lap Splices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

**Notes:**

Advised superintendent to plumb vertical dowels and provide additional #5 at segmented corner.

**Signed:** Daniel S. Burne, P.E.

# BECKER

structural engineers, inc.

03300

<b>Project:</b>	Waynflete Arts Center Ph. 2
<b>Location:</b>	Portland, Maine
<b>Becker Job No:</b>	1775

## OBSERVATION REPORT

Cast in Place Concrete

<b>Date:</b>	3-6-08
<b>Time:</b>	9:00 AM
<b>Temp:</b>	35 F
<b>Weather:</b>	Sunny

**Observation Location:** Stem walls at auditorium exit Line 1.3-2

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Placement	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Embed/Anchors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Lap Splices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

**Notes:**

**Signed:** Nathan Merrill, E.I.



# B E C K E R

structural engineers, inc.

03300

<b>Project:</b>	Waynflete Arts Center Ph. 2
<b>Location:</b>	Portland, Maine
<b>Becker Job No:</b>	1775

## OBSERVATION REPORT

Cast in Place Concrete

<b>Date:</b>	3-18-08
<b>Time:</b>	1:00 PM
<b>Temp:</b>	38 F
<b>Weather:</b>	Sunny

**Observation Location:** Walls at lower auditorium entrance: D-E, 5-6

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Placement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Below
Embed/Anchors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Lap Splices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

**Notes:**

Advised Superintendent of two areas with insufficient cover. Both to be corrected prior to placement.

**Signed:** Daniel S. Burne, P.E.

<b>Project:</b>	Waynflete Arts Center Ph. 2
<b>Location:</b>	Portland, Maine
<b>Becker Job No:</b>	1775

**OBSERVATION REPORT**  
Cast in Place Concrete

<b>Date:</b>	5-29-08
<b>Time:</b>	1:00 PM
<b>Temp:</b>	60 F
<b>Weather:</b>	Sunny

**Observation Location:** Retaining Wall footing Line H

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Placement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Embed/Anchors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Lap Splices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

**Notes:**

**Signed:** Nathan Merrill, E.I.

# B E C K E R

03300

structural engineers, inc.

<b>Project:</b>	Waynflete Arts Center Ph. 2
<b>Location:</b>	Portland, Maine
<b>Becker Job No:</b>	1775

## OBSERVATION REPORT

Cast in Place Concrete

<b>Date:</b>	6-4-08
<b>Time:</b>	10:00 AM
<b>Temp:</b>	60 F
<b>Weather:</b>	Rainy

**Observation Location:** Retaining Wall Line H

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Placement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	One area insufficient cover, being corrected
Embed/Anchors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Lap Splices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

**Notes:**

**Signed:** Daniel S. Burne, P.E.

Dragon Products Company  
 38 Preble St. \* P.O. Box 1521  
 Portland, Maine, 04104  
 207-774-6355

seeMIX II Mix Report  
 304120M  
 Strength Compressive: 3,000 psi  
 10/13/2008

Contractor : STROUDWATER CONSTRUCTION  
 Project : WAYNEFLETE  
 Source of Concrete : DRAGON PRODUCTS COMPANY  
 Construction Type : MIX #2  
 Placement : CHUTE, PUMP

Weights per Cubic Yard	(Saturated, Surface-Dry)		
	Quantity	Density	Yield, ft <sup>3</sup>
DRAGON, TYPE II, lb	400	3.150	2.04
LAFARGE, NEWCEM, lb	100	2.820	0.57
Water, lb	265	1.000	4.25
3/4" QUARRY STONE, ASTM C-33, lb	1,750	2.700	10.39
FINE AGGREGATE, ASTM C-33, lb	1,359	2.650	8.22
BASF: GLENIUM 7500, MID-RANGE DOSE, oz (US)	12.5	1.000	0.01
BASF: AE-90, oz (US)	2.5	1.000	0.00
Total Air, %	6.0 ± 1.5		1.63
		TOTAL	27.10
Water/Cement Ratio, lbs/lb	0.53		
Slump, High, in	6.00		
Low, in	4.00		
Concrete Unit Weight, pcf	143.01		
Yield, %	100.4		
Exposure Condition : Severe exposure			

NEWCEM PERCENTAGE MAY BE ADJUSTED FOR AMBIENT TEMP VARIATIONS

Prepared by :

---

TECHNICAL SERVICES

Dragon Products Company  
38 Preble St. \* P.O. Box 1521  
Portland, Maine, 04104  
207-774-6355

seeMIX II Mix Report  
354141M  
Strength Compressive:3,000 psi  
10/13/2008

Contractor : STROUDWATER CONSTRUCTION  
Project : WAYNEFLETE  
Source of Concrete : DRAGON PRODUCTS COMPANY  
Construction Type : MIX #3  
Placement : PUMP

Weights per Cubic Yard	(Saturated, Surface-Dry)		
	Quantity	Density	Yield, ft <sup>3</sup>
DRAGON, TYPE II, lb	424	3.150	2.16
LAFARGE, NEWCEM, lb	106	2.820	0.60
Water, lb	280	1.000	4.49
3/4" QUARRY STONE, ASTM C-33, lb	1,750	2.700	10.39
FINE AGGREGATE, ASTM C-33, lb	1,473	2.650	8.91
BASF: GLENIUM 7500, MID-RANGE DOSE, oz (US)	13.3	1.000	0.01
Total Air, %	2.0 ± 1.5		0.54
		TOTAL	27.10
Water/Cement Ratio, lbs/lb	0.53		
Slump, High, in	6.00		
Low, in	4.00		
Concrete Unit Weight, pcf	148.87		
Yield, %	100.4		

NEWCEM PERCENTAGE MAY BE ADJUSTED FOR AMBIENT TEMP VARIATIONS  
AIR CONTENT MAY EXCEED 3% WITH MID-RANGE  
(OPTIONAL) FIBERMESH: POLYPROPYLENE FIBER REINFORCEMENT

Prepared by :

---

TECHNICAL SERVICES

Dragon Products Company  
 38 Preble St. \* P.O. Box 1521  
 Portland, Maine, 04104  
 207-774-6355

seeMIX II Mix Report  
 454110M  
 Strength Compressive: 4,500 psi  
 10/13/2008

Contractor : STROUDWATER CONSTRUCTION  
 Project : WAYNEFLETE  
 Source of Concrete : DRAGON PRODUCTS COMPANY  
 Construction Type : MIX #4  
 Placement : CHUTE

	Weights per Cubic Yard (Saturated, Surface-Dry)		
	Quantity	Density	Yield, ft <sup>3</sup>
DRAGON, TYPE II, lb	504	3.150	2.56
LAFARGE, NEWCEM, lb	126	2.820	0.72
Water, lb	265	1.000	4.25
3/4" QUARRY STONE, ASTM C-33, lb	1,830	2.700	10.86
FINE AGGREGATE, ASTM C-33, lb	1,168	2.650	7.07
BASF: GLENIUM 7500, MID-RANGE DOSE, oz (US)	15.8	1.000	0.02
BASF: AE-90, oz (US)	3.2	1.000	0.00
Total Air, %	6.0 ± 1.5		1.63
		<b>TOTAL</b>	<b>27.10</b>
Water/Cement Ratio, lbs/lb	0.42		
Slump, High, in	6.00		
Low, in	4.00		
Concrete Unit Weight, pcf	143.71		
Yield, %	100.4		
Exposure Condition : Severe exposure			

NEWCEM PERCENTAGE MAY BE ADJUSTED FOR AMBIENT TEMP VARIATIONS

Prepared by :

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TECHNICAL SERVICES

Dragon Products Company, Inc.  
Material Safety Data Sheet  
For  
Ready Mix Concrete  
October 2002

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**Section I – Identity**

---

**Material Name:** Portland cement concrete  
**Manufacturer's Name:** Dragon Products Company, Inc.  
**Address:** 38 Prebble Street, PO Box 1521  
Portland, ME 04101  
**Chemical Name:** Not Applicable  
**Chemical Family:** Portland cement product  
**Chemical Formula:** Mixture cementitious material, aggregates and water  
**Trade Name & Synonyms:** Ready mix concrete; concrete  
**Molecular Weight:** Not Applicable  
**Material Use:** Construction materials

---

**Section II – Hazardous Ingredients**

---

Concrete is a mixture of inert gravel or rock, sand, portland cement and water. It may also contain chemical admixtures, and/or flyash, and/or granulated slag, and/or silica fume, and/or color pigment. The chemical admixtures are present in quantities comprising less than 2% of the material.

**Hazardous Ingredients**

Portland cement (CAS 65997-15-1)	10 – 20%
Quartz (SiO <sub>3</sub> ) (CAS 14808-60-7)	3 – 7%
Portlandite (Ca (OH) <sub>2</sub> ) (CAS 1305-62-0)	2 – 4%

The hazardous ingredients in plastic (wet) concrete cannot become airborne. However, water added to the materials reacts with some of the ingredients to form calcium hydroxide, a corrosive chemical, which will irritate the eyes and skin upon contact. Concrete dust from dried portland cement concrete may also contain hazardous ingredients in sufficient concentrations to cause skin, eye, or respiratory irritation.

---

**Section III – Physical Data**

---

Boiling Point (°F.) N/A  
Vapor Pressure (mm Hg.) N/A

Dragon Products Company  
 38 Preble St. \* P.O. Box 1521  
 Portland, Maine, 04104  
 207-774-6355

seeMIX II Mix Report  
 454110M  
 Strength Compressive: 4,500 psi  
 10/13/2008

Contractor : STROUDWATER CONSTRUCTION  
 Project : WAYNEFLETE  
 Source of Concrete : DRAGON PRODUCTS COMPANY  
 Construction Type : MIX #4  
 Placement : CHUTE

Weights per Cubic Yard	(Saturated, Surface-Dry)		
	Quantity	Density	Yield, ft <sup>3</sup>
DRAGON, TYPE II, lb	504	3.150	2.56
LAFARGE, NEWCEM, lb	126	2.820	0.72
Water, lb	265	1.000	4.25
3/4" QUARRY STONE, ASTM C-33, lb	1,830	2.700	10.86
FINE AGGREGATE, ASTM C-33, lb	1,168	2.650	7.07
BASF: GLENIUM 7500, MID-RANGE DOSE, oz (US)	15.8	1.000	0.02
BASF: AE-90, oz (US)	3.2	1.000	0.00
Total Air, %	6.0 ± 1.5		1.63
		TOTAL	27.10
Water/Cement Ratio, lbs/lb	0.42		
Slump, High, in	6.00		
Low, in	4.00		
Concrete Unit Weight, pcf	143.71		
Yield, %	100.4		
Exposure Condition : Severe exposure			

NEWCEM PERCENTAGE MAY BE ADJUSTED FOR AMBIENT TEMP VARIATIONS

Prepared by :

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TECHNICAL SERVICES



Dragon Products Company, Inc.  
Material Safety Data Sheet  
For  
Ready Mix Concrete  
October 2002

### Section I – Identity

<b>Material Name:</b>	Portland cement concrete
<b>Manufacturer's Name:</b>	Dragon Products Company, Inc.
<b>Address:</b>	38 Prebble Street, PO Box 1521 Portland, ME 04101
<b>Chemical Name:</b>	Not Applicable
<b>Chemical Family:</b>	Portland cement product
<b>Chemical Formula:</b>	Mixture cementitious material, aggregates and water
<b>Trade Name &amp; Synonyms:</b>	Ready mix concrete; concrete
<b>Molecular Weight:</b>	Not Applicable
<b>Material Use:</b>	Construction materials

### Section II – Hazardous Ingredients

Concrete is a mixture of inert gravel or rock, sand, portland cement and water. It may also contain chemical admixtures, and/or flyash, and/or granulated slag, and/or silica fume, and/or color pigment. The chemical admixtures are present in quantities comprising less than 2% of the material.

#### Hazardous Ingredients

Portland cement (CAS 65997-15-1)	10 – 20%
Quartz (SiO <sub>3</sub> ) (CAS 14808-60-7)	3 – 7%
Portlandite (Ca (OH) <sub>2</sub> ) (CAS 1305-62-0)	2 – 4%

The hazardous ingredients in plastic (wet) concrete cannot become airborne. However, water added to the materials reacts with some of the ingredients to form calcium hydroxide, a corrosive chemical, which will irritate the eyes and skin upon contact. Concrete dust from dried portland cement concrete may also contain hazardous ingredients in sufficient concentrations to cause skin, eye, or respiratory irritation.

### Section III – Physical Data

Boiling Point (°F.)	N/A
Vapor Pressure (mm Hg.)	N/A

Vapor Density (Air=1)	N/A
Solubility in water	0.1%
pH	12 – 13
Specific Gravity (H <sub>2</sub> O=1)	1.5 – 2.9
Percent, Volatile By Volume (%)	N/A
Evaporation Rate	N/A
Appearance and Odor	Gray unless color pigment has been added.

**Section IV – Fire and Explosion Hazard Data**

N/A

**Section V – Health Hazard Data**

**(a) Plastic Concrete**

**Toxicological Properties**

Plastic concrete has an alkalinity level of pH12 to pH13.

<b>Route of Entry:</b>	Skin contact, eye contact, ingestion.
<b>Effects of Acute Exposure:</b>	Plastic concrete can cause dry skin, alkali burns, eye irritations and burns. Ingestion may cause irritation of the throat.
<b>Effects of Chronic Exposure:</b>	Damage to the epidermis and dermis (outer layers of skin).

**(b) Hardened or “Set” Concrete**

**Toxicological Properties**

In place, hardened concrete does not present a health hazard. Sawing or other demolition techniques may result in exposure to dust, which may contain portland cement, portlandite, quartz, and trace admixtures. The ingredients in concrete

**Section V – Health Hazard Data (Cont'd)**

dust, when in contact with water or perspiration, may cause the same health effects as plastic concrete.

The following information concerns dry concrete dust:

<b>Route of Entry:</b>	Skin contact, eye contact, inhalation, and ingestion.
<b>Effects of Acute Exposure:</b>	Concrete dusts can cause dry skin and skin, eye, and upper respiratory tract irritation.

**Effects of Chronic Exposure:** Concrete dust can cause inflammation of the tissue lining, the interior of the nose and the cornea (white) of the eye. Hypersensitive people may develop allergic dermatitis.

Chronic exposure to respirable dust containing quartz at levels exceeding exposure limits has caused silicosis.

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### Section VI – First Aid Measures

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Wash exposed areas of the body with soap and water. Irrigate eyes with large amounts of water. Consult a physician in cases of severe exposure. In case of accidental ingestion, drink two or three glasses of milk, call a physician and do not induce vomiting.

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### Section VII – Reactivity Data

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<b>Stability:</b>	Product is stable
<b>Conditions to Avoid:</b>	N/A
<b>Incompatibility (Materials to avoid):</b>	Acids
<b>Hazardous Decomposition Products:</b>	N/A
<b>Hazardous Polymerization:</b>	Will not occur
<b>Conditions to Avoid:</b>	N/A

---

### Section VIII – Spill or Leak Procedures

---

**Leak and Spill Procedure:** Sweep and shovel into waste disposal containers. Flush with water hose for final clean-up of floors, walkways, etc. Ready mixed concrete or flushing water should not be allowed to reach surface water (rivers, lakes, streams).

**Waste Disposal:** At approved landfill or waste disposal sites in accordance with all applicable state, federal and local regulations.

---

### Section IX – Special Protection Information

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#### **Personal Equipment:**

Use gloves, boots and clothing to prevent skin contact. Wear safety glasses or goggles to prevent contact with eyes. Wear an approved respirator if exposed to dust from hardened concrete when sawing or using other demolition methods.

#### **Engineering Controls:**

Provide ventilation when sawing or using other demolition techniques to maintain dust concentrations below exposure limits.

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**Section X – Special Precautions**

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See: Section V – Health Hazard Data  
Section VIII – Spill and Leak Procedures  
Section IX – Special Protection Information

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**The information contained herein is based on knowledge believed to be reliable, but Dragon Products Company makes no warranties, expressed or implied, as to the accuracy or adequacy thereof. Nothing herein excused the recipient hereof from such duties as shall be imposed by the Occupational Safety & Health Act of 1970 and regulations issued pursuant thereto.**



## Report of Concrete Compressive Strength

ASTM C-31 & C-39

**Project Name:** PORTLAND - WAYNFLETE SCHOOL ADDITION - 360  
 SPRING STREET - ART CENTER - PHASE 2 - MATERIALS

**Project Number:** 01-0120.5

**Client:** SCOTT SIMONS ARCHITECTS INC.

**Client Contract Number:**

**General Contractor:**

**Concrete Supplier:** DRAGON PRODUCTS

**PLACEMENT INFORMATION**

**Date Cast:** 11/2/2007      **Time Cast:** 1:20      **Date Received:** 11/3/2007

**Placement Location:** FOOTINGS: LINE 7 & 8 - C.2 TO C.9

**Placement Method:** TAILGATE

**Placement Vol. (yd³):** 10

**Cylinders Made By:** VLT

**Aggregate Size (in):** 3/4

**INITIAL CURING CONDITIONS**

**Temperatures**

**Minimum (°F)**                      **Maximum (°F)**

**DELIVERY INFORMATION**

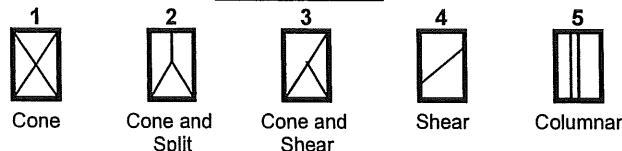
**Admixtures:** N/A

**TEST RESULTS**

<b>Slump (in) (C-143):</b>	<b>Slump WR:</b>	4	<b>Load Number:</b>	1
<b>Air Content (%) (C-231):</b>	<b>Air WR:</b>	5.5	<b>Mixer Number:</b>	177
<b>Air Temp (°F):</b>	60		<b>Ticket Number:</b>	3928267
<b>Conc. Temp (°F) (C-1064):</b>	64		<b>Cubic Yards:</b>	10
			<b>Design (psi):</b>	3000

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In <sup>2</sup> )	Date Of Test	Cure Type	Age (days)	Fracture Type	Load (kips)	Strength (psi)
814-1A		6.00	28.27	11/9/2007	Lab	7	4	87.0	3080
814-1B		6.00	28.27	11/30/2007	Lab	28	4	133.5	4720
814-1C		6.00	28.27	11/30/2007	Lab	28	4	131.0	4630
814-1D				Hold	Lab				

Fracture Types



Remarks:

## Report of Concrete Compressive Strength

ASTM C-31 & C-39

**Project Name:** PORTLAND - WAYNFLETE SCHOOL ADDITION - 360  
 SPRING STREET - ART CENTER - PHASE 2 - MATERIALS

**Project Number:** 01-0120.5

**Client:** SCOTT SIMONS ARCHITECTS INC.

**Client Contract Number:**

**General Contractor:**

**Concrete Supplier:** DRAGON PRODUCTS

### PLACEMENT INFORMATION

**Date Cast:** 11/13/2007    **Time Cast:** 8:25    **Date Received:** 11/14/2007

**Placement Location:** WALLS 9 & B.4 FOOTING 7, A.5 AND A LINE

**Placement Method:** TAILGATE

**Placement Vol. (yd<sup>3</sup>):** 13

**Cylinders Made By:** DMR

**Aggregate Size (in):** 3/4

### INITIAL CURING CONDITIONS

#### Temperatures

**Minimum (°F)**                      **Maximum (°F)**

### DELIVERY INFORMATION

**Admixtures:**

### TEST RESULTS

**Slump (in) (C-143):** 5  
**Air Content (%) (C-231):** 6.8  
**Air Temp (°F):** 40  
**Conc. Temp (°F) (C-1064):** 52

**Load Number:** 1  
**Mixer Number:** 190  
**Ticket Number:** 3928372  
**Cubic Yards:** 6.5  
**Design (psi):** 3000

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area (in) <sup>2</sup>	Date Of Test	Cure Type	Age (days)	Fracture Type	Load (kips)	Strength (psi)
814-2A		6.00	28.27	11/20/2007	Lab	7	4	89.0	3150
814-2B		6.00	28.27	12/11/2007	Lab	28	4	128.0	4530
814-2C		6.00	28.27	12/11/2007	Lab	28	4	125.0	4420

#### Fracture Types



Cone



Cone and Split



Cone and Shear



Shear



Columnar

Remarks:



# Report of Concrete Compressive Strength

ASTM C-31 & C-39

**Project Name:** PORTLAND - WAYNFLETE SCHOOL ADDITION - 360  
 SPRING STREET - ART CENTER - PHASE 2 - MATERIALS

**Project Number:** 01-0120.5

**Client:** SCOTT SIMONS ARCHITECTS INC.

**Client Contract Number:**

**General Contractor:**

**Concrete Supplier:** DRAGON PRODUCTS

## PLACEMENT INFORMATION

**Date Cast:** 11/21/2007    **Time Cast:** 1:45    **Date Received:** 11/22/2007

**Placement Location:** WALLS C.7 & 8 LINE

**Placement Method:** PUMP

**Placement Vol. (yd<sup>3</sup>):** 20

**Cylinders Made By:** DMR

**Aggregate Size (in):** 3/4

## INITIAL CURING CONDITIONS

### Temperatures

**Minimum (°F)**                      **Maximum (°F)**

## DELIVERY INFORMATION

**Admixtures:**

## TEST RESULTS

**Slump (in) (C-143):** 5.5  
**Air Content (%) (C-231):** 6.6  
**Air Temp (°F):** 40  
**Conc. Temp (°F) (C-1064):** 54

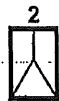
**Load Number:** 2  
**Mixer Number:** 176  
**Ticket Number:** 3928495  
**Cubic Yards:** 10  
**Design (psi):** 3000

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In) <sup>2</sup>	Date Of Test	Cure Type	Age (days)	Fracture Type	Load (kips)	Strength (psi)
814-3A		6.00	28.27	11/28/2007	Lab	7	4	58.5	2070
814-3B		6.00	28.27	12/19/2007	Lab	28	4	132.5	4690
814-3C		6.00	28.27	12/19/2007	Lab	28	4	124.5	4400
814-3D				Hold	Lab				

### Fracture Types



Cone



Cone and Split



Cone and Shear



Shear



Columnar

Remarks:



# Report of Concrete Compressive Strength

ASTM C-31 & C-39

**Project Name:** PORTLAND - WAYNFLETE SCHOOL ADDITION - 360  
 SPRING STREET - ART CENTER - PHASE 2 - MATERIALS

**Project Number:** 01-0120.5

**Client:** SCOTT SIMONS ARCHITECTS INC.

**Client Contract Number:**

**General Contractor:**

**Concrete Supplier:** DRAGON PRODUCTS

## PLACEMENT INFORMATION

**Date Cast:** 12/5/2007      **Time Cast:** 7:30      **Date Received:** 12/6/2007

**Placement Location:** EAST WALL OF AUDITORIUM ON A-LINE

**Placement Method:** TAILGATE

**Placement Vol. (yd<sup>3</sup>):** 14

**Cylinders Made By:** C WRIGHT

**Aggregate Size (in):** 3/4

## INITIAL CURING CONDITIONS

### Temperatures

**Minimum (°F)**      **Maximum (°F)**

## DELIVERY INFORMATION

**Admixtures:** 1% ACCELERATOR

## TEST RESULTS

**Slump (in) (C-143):** 3 3/4  
**Air Content (%) (C-231):** 4.6  
**Air Temp (°F):** 18  
**Conc. Temp (°F) (C-1064):** 53

**Load Number:** 1  
**Mixer Number:** 190  
**Ticket Number:** 3928628  
**Cubic Yards:** 10  
**Design (psi):** 3000

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area (in) <sup>2</sup>	Date Of Test	Cure Type	Age (days)	Fracture Type	Load (kips)	Strength (psi)
814-4A		6.00	28.27	12/12/2007	Lab	7	4	97.5	3450
814-4B		6.00	28.27	1/2/2008	Lab	28	4	141.0	4990
814-4C		6.00	28.27	1/2/2008	Lab	28	4	127.5	4510
814-4D				Hold	Lab				

### Fracture Types



Cone



Cone and Split



Cone and Shear



Shear



Columnar

Remarks:





## Report of Concrete Compressive Strength

ASTM C-31 & C-39

**Project Name:** PORTLAND - WAYNFLETE SCHOOL ADDITION - 360  
 SPRING STREET - ART CENTER - PHASE 2 - MATERIALS

**Project Number:** 01-0120.5

**Client:** SCOTT SIMONS ARCHITECTS INC.

**Client Contract Number:**

**General Contractor:**

**Concrete Supplier:** DRAGON PRODUCTS

### PLACEMENT INFORMATION

**Date Cast:** 12/7/2007      **Time Cast:** 1:35      **Date Received:** 12/8/2007  
**Placement Location:** A-1 TO A-2 FOOTER  
 A-1 TO C-1 FOOTER  
**Placement Method:** CHUTE      **Placement Vol. (yd³):** 7  
**Cylinders Made By:** CKT      **Aggregate Size (in):** 3/4

### INITIAL CURING CONDITIONS

**Temperatures**

**Minimum (°F)**                      **Maximum (°F)**

### DELIVERY INFORMATION

**Admixtures:**

### TEST RESULTS

<b>Slump (in) (C-143):</b> 3/4	<b>Load Number:</b> 1
<b>Air Content (%) (C-231):</b> 4.	<b>Mixer Number:</b> 169
<b>Air Temp (°F):</b> 24	<b>Ticket Number:</b> 3928687
<b>Conc. Temp (°F) (C-1064):</b> 65	<b>Cubic Yards:</b> 7
	<b>Design (psi):</b> 3000

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)²	Date Of Test	Cure Type	Age (days)	Fracture Type	Load (kips)	Strength (psi)
814-5A		6.00	28.27	12/14/2007	Lab	7	4	95.5	3380
814-5B		6.00	28.27	1/4/2008	Lab	28	4	125.0	4420
814-5C		6.00	28.27	1/4/2008	Lab	28	4	125.0	4420
814-5D				Hold	Lab				

Fracture Types



Cone



Cone and Split



Cone and Shear



Shear



Columnar

Remarks:



# Report of Concrete Compressive Strength

ASTM C-31 & C-39

**Project Name:** PORTLAND - WAYNFLETE ART CENTER - 360 SPRING STREET - ART CENTER PHASE 2 - MATERIALS TESTING

**Project Number:** 01-0120.5

**Client:** SCOTT SIMONS ARCHITECTS INC.

**Client Contract Number:**

**General Contractor:**

**Concrete Supplier:** DRAGON PRODUCTS

## PLACEMENT INFORMATION

**Date Cast:** 12/21/2007 **Time Cast:** 3:18

**Date Received:** 12/22/2007

**Placement Location:** WALLS B.1 & D LINE

**Placement Method:** TAILGATE

**Placement Vol. (yd³):**

**Cylinders Made By:** DMR

**Aggregate Size (in):** 3/4

## INITIAL CURING CONDITIONS

### Temperatures

**Minimum (°F)**                      **Maximum (°F)**

## DELIVERY INFORMATION

**Admixtures:** 1% POZZUTEC 20

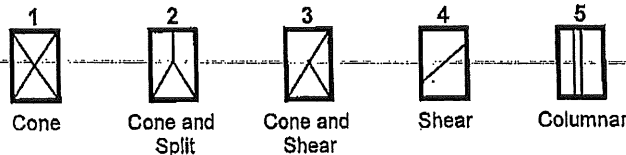
## TEST RESULTS

**Slump (in) (C-143):** 5  
**Air Content (%) (C-231):** 5.6  
**Air Temp (°F):** 25  
**Conc. Temp (°F) (C-1064):** 60

**Load Number:** 2  
**Mixer Number:** 177  
**Ticket Number:** 3928832  
**Cubic Yards:** 6  
**Design (psi):** 3000

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)²	Date Of Test	Cure Type	Age (days)	Fracture Type	Load (kips)	Strength (psi)
814-6A		6.00	28.27	12/28/2007	Lab	7	4	64.0	2260
814-6B		6.00	28.27	1/18/2008	Lab	28	4	119.0	4210
814-6C		6.00	28.27	1/18/2008	Lab	28	4	119.5	4230
814-6D				Hold	Lab				

### Fracture Types



Remarks:



# Report of Concrete Compressive Strength

ASTM C-31 & C-39

**Project Name:** PORTLAND - WAYNFLETE ART CENTER - 360 SPRING STREET - ART CENTER PHASE 2 - MATERIALS TESTING

**Project Number:** 01-0120.5

**Client:** SCOTT SIMONS ARCHITECTS INC.

**Client Contract Number:**

**General Contractor:**

**Concrete Supplier:** DRAGON PRODUCTS

**PLACEMENT INFORMATION**

**Date Cast:** 1/11/2008      **Time Cast:** 1:35      **Date Received:** 1/12/2008  
**Placement Location:** WALL H LINE4 + 1.5  
 1.7 LINE BETWEEN H - 5  
**Placement Method:** PUMPED      **Placement Vol. (yd³):** 10  
**Cylinders Made By:** DMR      **Aggregate Size (in):** 3/4

**INITIAL CURING CONDITIONS**

**Temperatures**

**Minimum (°F)**      **Maximum (°F)**

**DELIVERY INFORMATION**

**Admixtures:** 1% POZZUTEC 20

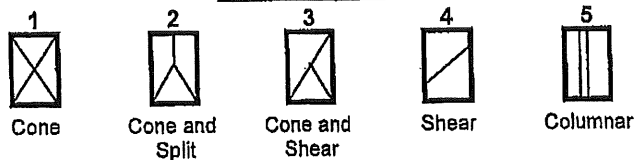
**TEST RESULTS**

**Slump (in) (C-143):** 4  
**Air Content (%) (C-231):** 5.0  
**Air Temp (°F):** 32  
**Conc. Temp (°F) (C-1064):** 52

**Load Number:** 1  
**Mixer Number:** 190  
**Ticket Number:** 3929023  
**Cubic Yards:** 10  
**Design (psi):** 3000

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)²	Date Of Test	Cure Type	Age (days)	Fracture Type	Load (kips)	Strength (psi)
814-7A		6.00	28.27	1/18/2008	Lab	7	4	91.0	3220
814-7B		6.00	28.27	2/8/2008	Lab	28	4	147.5	5220
814-7C		6.00	28.27	2/8/2008	Lab	28	4	153.0	5410
814-7D				Hold	Lab				

Fracture Types



Remarks:



# Report of Concrete Compressive Strength

ASTM C-31 & C-39

**Project Name:** PORTLAND - WAYNFLETE ART CENTER - 360 SPRING STREET - ART CENTER PHASE 2 - MATERIALS TESTING

**Project Number:** 01-0120.5

**Client:** SCOTT SIMONS ARCHITECTS INC.

**Client Contract Number:**

**General Contractor:**

**Concrete Supplier:** DRAGON PRODUCTS

## PLACEMENT INFORMATION

**Date Cast:** 1/16/2008      **Time Cast:** 4:50

**Date Received:** 1/17/2008

**Placement Location:** FOOTING 1.1 TO 1.4, D TO H

**Placement Method:** TAILGATE

**Placement Vol. (yd³):** 6

**Cylinders Made By:** VLT

**Aggregate Size (in):** 3/4

## INITIAL CURING CONDITIONS

### Temperatures

**Minimum (°F)**                      **Maximum (°F)**

## DELIVERY INFORMATION

**Admixtures:**                      POZZUTEC 20%

## TEST RESULTS

**Slump (in) (C-143):**

**Slump WR:** 4

**Load Number:** 1

**Air Content (%) (C-231):**

**Air WR:** 5.5

**Mixer Number:** 176

**Air Temp (°F):** 30

**Ticket Number:** 3929056

**Conc. Temp (°F) (C-1064):** 53

**Cubic Yards:** 6

**Design (psi):** 3000

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area (In)²	Date Of Test	Cure Type	Age (days)	Fracture Type	Load (kips)	Strength (psi)
814-8A		6.00	28.27	1/23/2008	Lab	7	4	75.5	2670
814-8B		6.00	28.27	2/13/2008	Lab	28	4	123.0	4350
814-8C		6.00	28.27	2/13/2008	Lab	28	4	118.0	4170
814-8D				Hold	Lab				

### Fracture Types



Cone



Cone and Split



Cone and Shear



Shear



Columnar

Remarks:



# Report of Concrete Compressive Strength

ASTM C-31 & C-39

**Project Name:** PORTLAND - WAYNFLETE ART CENTER - 360 SPRING STREET - ART CENTER PHASE 2 - MATERIALS TESTING

**Project Number:** 01-0120.5

**Client:** SCOTT SIMONS ARCHITECTS INC.

**Client Contract Number:**

**General Contractor:**

**Concrete Supplier:** DRAGON PRODUCTS

## PLACEMENT INFORMATION

**Date Cast:** 1/23/2008      **Time Cast:** 3:45      **Date Received:** 1/24/2008

**Placement Location:** S.WALL OF AUDITORIUM BETWEEN LINES J + D AND 1.7 - 1.2

**Placement Method:** TAILGATE

**Placement Vol. (yd³):** 10

**Cylinders Made By:** C.WRIGHT

**Aggregate Size (in):** 3/4

## INITIAL CURING CONDITIONS

### Temperatures

**Minimum (°F)**                      **Maximum (°F)**

## DELIVERY INFORMATION

**Admixtures:** 1% POZZUTEC 20

## TEST RESULTS

**Slump (in) (C-143):** 3/4

**Load Number:** 1

**Air Content (%) (C-231):** 5.4

**Mixer Number:** 169

**Air Temp (°F):** 32

**Ticket Number:** 3929136

**Conc. Temp (°F) (C-1064):** 55

**Cubic Yards:** 10

**Design (psi):** 3000

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area (In) <sup>2</sup>	Date Of Test	Cure Type	Age (days)	Fracture Type	Load (kips)	Strength (psi)
814-9A		6.00	28.27	1/30/2008	Lab	7	4	89.0	3150
814-9B		6.00	28.27	2/20/2008	Lab	28	4	129.0	4560
814-9C		6.00	28.27	2/20/2008	Lab	28	4	113.5	4020
814-9D				Hold	Lab				

### Fracture Types



Cone



Cone and Split



Cone and Shear



Shear



Columnar

Remarks:

Report of Concrete Compressive Strength

ASTM C-31 & C-39

**Project Name:** PORTLAND - WAYNFLETE ART CENTER - 360 SPRING STREET - ART CENTER PHASE 2 - MATERIALS TESTING

**Project Number:** 01-0120.5

**Client:** SCOTT SIMONS ARCHITECTS INC.

**Client Contract Number:**

**General Contractor:**

**Concrete Supplier:** DRAGON PRODUCTS

PLACEMENT INFORMATION

**Date Cast:** 1/28/2008      **Time Cast:** 11:20

**Date Received:** 1/29/2008

**Placement Location:** FOOTING REINFORCEMENT  
(4) FOOTING PIERS LINE C

**Placement Method:** PUMP TRUCK

**Placement Vol. (yd³):** 8

**Cylinders Made By:** JO

**Aggregate Size (in):** 3/4

INITIAL CURING CONDITIONS

Temperatures

**Minimum (°F)**      **Maximum (°F)**

DELIVERY INFORMATION

**Admixtures:** 1% POZZUTEC 20

TEST RESULTS

**Slump (in) (C-143):** 4.5

**Load Number:** 1

**Air Content (%) (C-231):**

**Mixer Number:** 177

**Air Temp (°F):** 30

**Ticket Number:** 3929181

**Conc. Temp (°F) (C-1064):**

**Cubic Yards:** 8

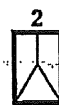
**Design (psi):** 3000

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)²	Date Of Test	Cure Type	Age (days)	Fracture Type	Load (kips)	Strength (psi)
814-10A		6.00	28.27	2/4/2008	Lab	7	4	83.0	2940
814-10B		6.00	28.27	2/25/2008	Lab	28	4	118.5	4190
814-10C		6.00	28.27	2/25/2008	Lab	28	4	117.5	4160
814-10D				Hold	Lab				

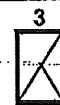
Fracture Types



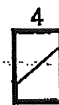
Cone



Cone and Split



Cone and Shear



Shear



Columnar

Remarks:



## Report of Concrete Compressive Strength

ASTM C-31 & C-39

**Project Name:** PORTLAND - WAYNFLETE ART CENTER - 360 SPRING STREET - ART CENTER PHASE 2 - MATERIALS TESTING

**Project Number:** 01-0120.5

**Client:** SCOTT SIMONS ARCHITECTS INC.

**Client Contract Number:**

**General Contractor:**

**Concrete Supplier:** DRAGON PRODUCTS

### PLACEMENT INFORMATION

**Date Cast:** 1/30/2008      **Time Cast:** 1:30      **Date Received:** 1/31/2008  
**Placement Location:** LINE 6.2 E - F  
 LINE C 1.6 - 2  
**Placement Method:** DIRECT      **Placement Vol. (yd³):** 17  
**Cylinders Made By:** TRP      **Aggregate Size (in):** 3/4

### INITIAL CURING CONDITIONS

#### Temperatures

**Minimum (°F)**      **Maximum (°F)**

### DELIVERY INFORMATION

**Admixtures:** 2 POZZUTEC 20

### TEST RESULTS

**Slump (in) (C-143):** 3.5      **Load Number:** 1  
**Air Content (%) (C-231):** 5.5      **Mixer Number:** 169  
**Air Temp (°F):** 39      **Ticket Number:** 3929219  
**Conc. Temp (°F) (C-1064):** 68      **Cubic Yards:** 10  
**Design (psi):** 3000

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)²	Date Of Test	Cure Type	Age (days)	Fracture Type	Load (kips)	Strength (psi)
814-11A		6.00	28.27	2/6/2008	Lab	7	4	85.0	3010
814-11B		6.00	28.27	2/27/2008	Lab	28	4	133.5	4720
814-11C		6.00	28.27	2/27/2008	Lab	28	4	131.5	4650
814-11D				Hold	Lab				

#### Fracture Types



Cone



Cone and Split



Cone and Shear



Shear



Columnar

Remarks:



# Report of Concrete Compressive Strength

ASTM C-31 & C-39

**Project Name:** PORTLAND - WAYNFLETE ART CENTER - 360 SPRING STREET - ART CENTER PHASE 2 - MATERIALS TESTING **Project Number:** 01-0120.5

**Client:** SCOTT SIMONS ARCHITECTS INC. **Client Contract Number:**

**General Contractor:**

**Concrete Supplier:** DRAGON PRODUCTS

## PLACEMENT INFORMATION

**Date Cast:** 2/1/2008 **Time Cast:** 11:30 **Date Received:** 2/2/2008

**Placement Location:** UPPER RAT SLAB AGAINST EXISTING BLDG

**Placement Method:** EXCAVATOR

**Placement Vol. (yd³):** 10.5

**Cylinders Made By:** DMR

**Aggregate Size (in):** 3/4

## INITIAL CURING CONDITIONS

### Temperatures

**Minimum (°F)** **Maximum (°F)**

## DELIVERY INFORMATION

**Admixtures:** 1% POZZUTEC 20

## TEST RESULTS

**Slump (in) (C-143):** 4  
**Air Content (%) (C-231):** 5.0  
**Air Temp (°F):** 22  
**Conc. Temp (°F) (C-1064):** 54

**Load Number:** 1  
**Mixer Number:** 177  
**Ticket Number:** 3929235  
**Cubic Yards:** 10.5  
**Design (psi):** 3000

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area (in) <sup>2</sup>	Date Of Test	Cure Type	Age (days)	Fracture Type	Load (kips)	Strength (psi)
814-12A		6.00	28.27	2/8/2008	Lab	7	4	81.5	2880
814-12B		6.00	28.27	2/29/2008	Lab	28	4	127.0	4490
814-12C		6.00	28.27	2/29/2008	Lab	28	4	127.0	4490
814-12D				Hold	Lab				

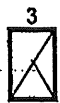
### Fracture Types



Cone



Cone and Split



Cone and Shear



Shear



Columnar

Remarks:





# Report of Concrete Compressive Strength

ASTM C-31 & C-39

**Project Name:** PORTLAND - WAYNFLETE ART CENTER - 360 SPRING STREET - ART CENTER PHASE 2 - MATERIALS TESTING **Project Number:** 01-0120.5

**Client:** SCOTT SIMONS ARCHITECTS INC. **Client Contract Number:**

**General Contractor:** **Concrete Supplier:** DRAGON PRODUCTS

## PLACEMENT INFORMATION

**Date Cast:** 2/12/2008 **Time Cast:** 12:00 **Date Received:** 2/13/2008

**Placement Location:** FOOTING: STAGING AREA

**Placement Method:** TAILGATE

**Placement Vol. (yd³):** 30

**Cylinders Made By:** VLT

**Aggregate Size (in):** 3/4

## INITIAL CURING CONDITIONS

### Temperatures

**Minimum (°F)** **Maximum (°F)**

## TEST RESULTS

**Slump (in) (C-143):** **Slump WR:** 3 3/4  
**Air Content (%) (C-231):** **Air WR:** 5.3  
**Air Temp (°F):** 22  
**Conc. Temp (°F) (C-1064):** 53

## DELIVERY INFORMATION

**Admixtures:** POZZUTEC 20 2%

**Load Number:** 2  
**Mixer Number:** 181  
**Ticket Number:** 3929341  
**Cubic Yards:** 10  
**Design (psi):** 3000

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)²	Date Of Test	Cure Type	Age (days)	Fracture Type	Load (kips)	Strength (psi)
814-13A		6.00	28.27	2/19/2008	Lab	7	4	67.5	2390
814-13B		6.00	28.27	3/11/2008	Lab	28	4	123.5	4370
814-13C		6.00	28.27	3/11/2008	Lab	28	4	119.0	4210
814-13D				Hold	Lab				

### Fracture Types



Cone



Cone and Split



Cone and Shear



Shear



Columnar

Remarks:



# Report of Concrete Compressive Strength

ASTM C-31 & C-39

**Project Name:** PORTLAND - WAYNFLETE ART CENTER - 360 SPRING STREET - ART CENTER PHASE 2 - MATERIALS TESTING

**Project Number:** 01-0120.5

**Client:** SCOTT SIMONS ARCHITECTS INC.

**Client Contract Number:**

**General Contractor:**

**Concrete Supplier:** DRAGON PRODUCTS

## PLACEMENT INFORMATION

**Date Cast:** 2/15/2008      **Time Cast:** 2:11      **Date Received:** 2/16/2008

**Placement Location:** INTERIOR SPREAD FOOTINGS C LINE 4 THRU 6

**Placement Method:** DIRECT DISCHARGE

**Placement Vol. (yd³):** 8

**Cylinders Made By:** DAC

**Aggregate Size (in):** 3/4

## INITIAL CURING CONDITIONS

### Temperatures

**Minimum (°F)**      **Maximum (°F)**

## DELIVERY INFORMATION

**Admixtures:** 2% POZZUTEC 20  
HOT H2O

## TEST RESULTS

**Slump (in) (C-143):** 5.5

**Load Number:** 1

**Air Content (%) (C-231):** 6.2

**Mixer Number:** 169

**Air Temp (°F):** 38

**Ticket Number:** 3929360

**Conc. Temp (°F) (C-1064):** 42

**Cubic Yards:** 8

**Design (psi):** 3000

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area (In)²	Date Of Test	Cure Type	Age (days)	Fracture Type	Load (kips)	Strength (psi)
814-14A		6.00	28.27	2/22/2008	Lab	7	4	66.0	2340
814-14B		6.00	28.27	3/14/2008	Lab	28	4	109.5	3870
814-14C		6.00	28.27	3/14/2008	Lab	28	4	105.0	3710
814-14D				Hold	Lab				

### Fracture Types



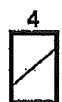
Cone



Cone and Split



Cone and Shear



Shear



Columnar

Remarks:



# Report of Concrete Compressive Strength

ASTM C-31 & C-39

**Project Name:** PORTLAND - WAYNFLETE ART CENTER - 360 SPRING STREET - ART CENTER PHASE 2 - MATERIALS TESTING

**Project Number:** 01-0120.5

**Client:** SCOTT SIMONS ARCHITECTS INC.

**Client Contract Number:**

**General Contractor:**

**Concrete Supplier:** DRAGON PRODUCTS

## PLACEMENT INFORMATION

**Date Cast:** 2/21/2008      **Time Cast:** 2:30      **Date Received:** 2/26/2008

**Placement Location:** FOOTING; STAGING AREA @ D LINE

**Placement Method:** TAILGATE

**Placement Vol. (yd<sup>3</sup>):** 13

**Cylinders Made By:** VLT

**Aggregate Size (in):** 3/4

## INITIAL CURING CONDITIONS

### Temperatures

**Minimum (°F)**      **Maximum (°F)**

## DELIVERY INFORMATION

**Admixtures:** POZZUTEC 20%

## TEST RESULTS

**Slump (in) (C-143):**      **Slump WR:** 4 3/4  
**Air Content (%) (C-231):**      **Air WR:** 5.0  
**Air Temp (°F):** 30  
**Conc. Temp (°F) (C-1064):** 56

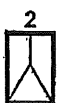
**Load Number:** 1  
**Mixer Number:** 177  
**Ticket Number:** 3929397  
**Cubic Yards:** 7  
**Design (psi):** 3000

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In) <sup>2</sup>	Date Of Test	Cure Type	Age (days)	Fracture Type	Load (kips)	Strength (psi)
814-15A		6.00	28.27	2/28/2008	Lab	7	4	65.0	2300
814-15B		6.00	28.27	3/20/2008	Lab	28	4	121.5	4300
814-15C		6.00	28.27	3/20/2008	Lab	28	4	126.0	4460
814-15D				Hold	Lab				

### Fracture Types



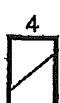
Cone



Cone and Split



Cone and Shear



Shear



Columnar

Remarks:



# Report of Concrete Compressive Strength

ASTM C-31 & C-39

**Project Name:** PORTLAND - WAYNFLETE ART CENTER - 360 SPRING STREET - ART CENTER PHASE 2 - MATERIALS TESTING  
**Project Number:** 01-0120.5  
**Client:** SCOTT SIMONS ARCHITECTS INC.  
**Client Contract Number:**  
**General Contractor:**  
**Concrete Supplier:** DRAGON PRODUCTS

## PLACEMENT INFORMATION

**Date Cast:** 2/28/2008      **Time Cast:** 2:40      **Date Received:** 2/29/2008  
**Placement Location:** WALL @ STAGING AREA LINE D TO E GOOTING + PIER @ LINE D

**Placement Method:** TAILGATE      **Placement Vol. (yd³):** 4  
**Cylinders Made By:** VLT      **Aggregate Size (in):** 3/4

## INITIAL CURING CONDITIONS

### Temperatures

**Minimum (°F)**      **Maximum (°F)**

## DELIVERY INFORMATION

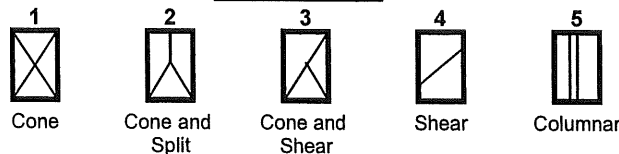
**Admixtures:** POZZUTEC 20 - 1%

## TEST RESULTS

<b>Slump (in) (C-143):</b>	<b>Slump WR:</b>	4.5	<b>Load Number:</b>	1
<b>Air Content (%) (C-231):</b>	<b>Air WR:</b>	4.8	<b>Mixer Number:</b>	177
<b>Air Temp (°F):</b>	27		<b>Ticket Number:</b>	3929480
<b>Conc. Temp (°F) (C-1064):</b>	59		<b>Cubic Yards:</b>	4
			<b>Design (psi):</b>	3000

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area (In)²	Date Of Test	Cure Type	Age (days)	Fracture Type	Load (kips)	Strength (psi)
814-16A		6.00	28.27	3/6/2008	Lab	7	4	76.0	2690
814-16B		6.00	28.27	3/27/2008	Lab	28	4	127.5	4510
814-16C		6.00	28.27	3/27/2008	Lab	28	4	125.5	4440
814-16D				Hold	Lab				

### Fracture Types



Remarks:



# Report of Concrete Compressive Strength

ASTM C-31 & C-39

**Project Name:** PORTLAND - WAYNFLETE ART CENTER - 360 SPRING STREET - ART CENTER PHASE 2 - MATERIALS TESTING

**Project Number:** 01-0120.5

**Client:** SCOTT SIMONS ARCHITECTS INC.

**Client Contract Number:**

**General Contractor:**

**Concrete Supplier:** DRAGON PRODUCTS

## PLACEMENT INFORMATION

**Date Cast:** 3/6/2008      **Time Cast:** 11:30

**Date Received:** 3/7/2008

**Placement Location:** LINES B + E AND 1.9 + 1.6

**Placement Method:** TAILGATE

**Placement Vol. (yd<sup>3</sup>):** 2

**Cylinders Made By:** C.WRIGHT

**Aggregate Size (in):** 3/4

## INITIAL CURING CONDITIONS

### Temperatures

**Minimum (°F)**      **Maximum (°F)**

## DELIVERY INFORMATION

**Admixtures:** 1% POZZUTEC 20

## TEST RESULTS

**Slump (in) (C-143):** 4  
**Air Content (%) (C-231):** 5.5  
**Air Temp (°F):** 38  
**Conc. Temp (°F) (C-1064):** 53

**Load Number:** 1  
**Mixer Number:** 185  
**Ticket Number:** 3929531  
**Cubic Yards:** 2  
**Design (psi):** 3000

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area (in <sup>2</sup> )	Date Of Test	Cure Type	Age (days)	Fracture Type	Load (kips)	Strength (psi)
814-17A		6.00	28.27	3/13/2008	Lab	7	4	82.0	2900
814-17B		6.00	28.27	4/3/2008	Lab	28	4	136.5	4830
814-17C		6.00	28.27	4/3/2008	Lab	28	4	138.5	4900
814-17D				Hold	Lab				

### Fracture Types



1  
Cone



2  
Cone and Split



3  
Cone and Shear



4  
Shear



5  
Columnar

Remarks:

**Project Name:** PORTLAND - WAYNFLETE ART CENTER - 360 SPRING STREET - ART CENTER PHASE 2 - MATERIALS TESTING

**Project Number:** 01-0120.5

**Client:** SCOTT SIMONS ARCHITECTS INC.

**Client Contract Number:**

**General Contractor:**

**Concrete Supplier:** DRAGON PRODUCTS

### PLACEMENT INFORMATION

**Date Cast:** 3/19/2008      **Time Cast:** 8:45      **Date Received:** 3/21/2008

**Placement Location:** INTERIOR WALLS BETWEEN 5+7 AND D+F

**Placement Method:** BOBCAT + BUCKETS

**Placement Vol. (yd<sup>3</sup>):** 4

**Cylinders Made By:** DMR

**Aggregate Size (In):** 3/4

### INITIAL CURING CONDITIONS

#### Temperatures

**Minimum (°F)**                      **Maximum (°F)**

### DELIVERY INFORMATION

**Admixtures:** 1% POZZUTEC 20

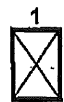
### TEST RESULTS

**Slump (in) (C-143):** 3/4  
**Air Content (%) (C-231):** 4.6  
**Air Temp (°F):** 35  
**Conc. Temp (°F) (C-1064):** 56

**Load Number:** 1  
**Mixer Number:** 181  
**Ticket Number:** 3929632  
**Cubic Yards:** 4  
**Design (psi):** 3000

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area (in <sup>2</sup> )	Date Of Test	Cure Type	Age (days)	Fracture Type	Load (kips)	Strength (psi)
814-18A		6.00	28.27	3/26/2008	Lab	7	4	98.0	3470
814-18B		6.00	28.27	4/16/2008	Lab	28	4	145.0	5130
814-18C		6.00	28.27	4/16/2008	Lab	28	4	147.0	5200
814-18D				Hold	Lab				

#### Fracture Types



1  
Cone



2  
Cone and Split



3  
Cone and Shear



4  
Shear



5  
Columnar

Remarks:



# Report of Concrete Compressive Strength

ASTM C-31 & C-39

**Project Name:** PORTLAND - WAYNFLETE ART CENTER - 360 SPRING STREET - ART CENTER PHASE 2 - MATERIALS TESTING

**Project Number:** 01-0120.5

**Client:** SCOTT SIMONS ARCHITECTS INC.

**Client Contract Number:**

**General Contractor:**

**Concrete Supplier:** DRAGON PRODUCTS

## PLACEMENT INFORMATION

**Date Cast:** 4/9/2008      **Time Cast:** 8:20      **Date Received:** 4/10/2008

**Placement Location:** SLAB ON DECK - 1ST FLOOR

**Placement Method:** PUMP\*

**Placement Vol. (yd³):** 27

**Cylinders Made By:** VLT

**Aggregate Size (in):** 3/4

## INITIAL CURING CONDITIONS

### Temperatures

**Minimum (°F)**      **Maximum (°F)**

## TEST RESULTS

**Slump (in) (C-143):**      **Slump WR:** 5  
**Air Content (%) (C-231):**      **Air WR:** 4.0  
**Air Temp (°F):** 30  
**Conc. Temp (°F) (C-1064):** 64

## DELIVERY INFORMATION

**Admixtures:** POZZUTEC 20 2%

**Load Number:** 2  
**Mixer Number:** 190  
**Ticket Number:** 3929844  
**Cubic Yards:** 10.5  
**Design (psi):** 3000

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area (in)²	Date Of Test	Cure Type	Age (days)	Fracture Type	Load (kips)	Strength (psi)
814-19A		6.00	28.27	4/16/2008	Lab	7	4	80.5	2850
814-19B		6.00	28.27	5/7/2008	Lab	28	4	129.5	4580
814-19C		6.00	28.27	5/7/2008	Lab	28	4	134.5	4760
814-19D				Hold	Lab				

### Fracture Types



Cone



Cone and Split



Cone and Shear



Shear



Columnar

Remarks: \* NORTHEAST CONCRETE PUMPING



# Report of Concrete Compressive Strength

ASTM C-31 & C-39

**Project Name:** PORTLAND - WAYNFLETE ART CENTER - 360 SPRING STREET - ART CENTER PHASE 2 - MATERIALS TESTING

**Project Number:** 01-0120.5

**Client:** SCOTT SIMONS ARCHITECTS INC.

**Client Contract Number:**

**General Contractor:**

**Concrete Supplier:** DRAGON PRODUCTS

## PLACEMENT INFORMATION

**Date Cast:** 4/16/2008      **Time Cast:** 7:50      **Date Received:** 4/17/2008

**Placement Location:** GRAND STAND SEATING

**Placement Method:** PUMP\*

**Placement Vol. (yd³):** 20

**Cylinders Made By:** VLT

**Aggregate Size (in):** 3/8

## INITIAL CURING CONDITIONS

### Temperatures

**Minimum (°F)**      **Maximum (°F)**

## DELIVERY INFORMATION

**Admixtures:** NA

## TEST RESULTS

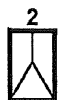
<b>Slump (in) (C-143):</b>	<b>Slump WR:</b> 5.5	<b>Load Number:</b> 1
<b>Air Content (%) (C-231):</b>	<b>Air WR:</b> 2.9	<b>Mixer Number:</b> 183
<b>Air Temp (°F):</b> 45		<b>Ticket Number:</b> 3929973
<b>Conc. Temp (°F) (C-1064):</b> 65		<b>Cubic Yards:</b> 10
		<b>Design (psi):</b> 3000

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area (in)²	Date Of Test	Cure Type	Age (days)	Fracture Type	Load (kips)	Strength (psi)
814-20A		6.00	28.27	4/23/2008	Lab	7	4	59.0	2090
814-20B		6.00	28.27	5/14/2008	Lab	28	4	100.5	3560
814-20C		6.00	28.27	5/14/2008	Lab	28	4	102.0	3610
814-20D				Hold	Lab				

### Fracture Types



Cone



Cone and Split



Cone and Shear



Shear



Columnar

Remarks: \* NORTHEAST CONCRETE PUMPING



## Report of Concrete Compressive Strength

ASTM C-31 & C-39

**Project Name:** PORTLAND - WAYNFLETE ART CENTER - 360 SPRING STREET - ART CENTER PHASE 2 - MATERIALS TESTING

**Project Number:** 01-0120.5

**Client:** SCOTT SIMONS ARCHITECTS INC.

**Client Contract Number:**

**General Contractor:**

**Concrete Supplier:** DRAGON PRODUCTS

### PLACEMENT INFORMATION

**Date Cast:** 4/17/2008      **Time Cast:** 7:54      **Date Received:** 4/21/2008

**Placement Location:** GRAND STAND SEATING  
SLAB ON GRADE FOR STAGE AREA

**Placement Method:** PUMP\*

**Placement Vol. (yd<sup>3</sup>):** 20

**Cylinders Made By:** VLT

**Aggregate Size (in):** 3/8

### INITIAL CURING CONDITIONS

#### Temperatures

**Minimum (°F)**                      **Maximum (°F)**

### DELIVERY INFORMATION

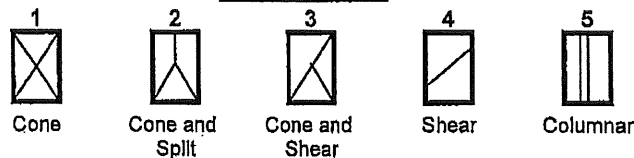
**Admixtures:**                      POZZUTEC 20 1%

### TEST RESULTS

<b>Slump (in) (C-143):</b>	<b>Slump WR:</b> 5	<b>Load Number:</b> 1
<b>Air Content (%) (C-231):</b>	<b>Air WR:</b> 3.5	<b>Mixer Number:</b> 180
<b>Air Temp (°F):</b> 40		<b>Ticket Number:</b> 3930016
<b>Conc. Temp (°F) (C-1064):</b> 67		<b>Cubic Yards:</b> 10
		<b>Design (psi):</b> 3000

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(in) <sup>2</sup>	Date Of Test	Cure Type	Age (days)	Fracture Type	Load (kips)	Strength (psi)
814-21A		6.00	28.27	4/24/2008	Lab	7	4	66.5	2350
814-21B		6.00	28.27	5/15/2008	Lab	28	4	118.5	4190
814-21C		6.00	28.27	5/15/2008	Lab	28	4	114.0	4030
814-21D				Hold	Lab				

#### Fracture Types



Remarks: \* NORTHEAST CONCRETE PUMPING

## Report of Concrete Compressive Strength

ASTM C-31 & C-39

**Project Name:** PORTLAND - WAYNFLETE ART CENTER - 360 SPRING STREET - ART CENTER PHASE 2 - MATERIALS TESTING

**Project Number:** 01-0120.5

**Client:** SCOTT SIMONS ARCHITECTS INC.

**Client Contract Number:**

**General Contractor:**

**Concrete Supplier:** DRAGON PRODUCTS

### PLACEMENT INFORMATION

**Date Cast:** 4/25/2008      **Time Cast:** 8:05      **Date Received:** 4/29/2008

**Placement Location:** 1ST FLOOR SLAB ON GRADE + UPPER MEZZANINE

**Placement Method:** PUMPED

**Placement Vol. (yd<sup>3</sup>):** 65

**Cylinders Made By:** DMR

**Aggregate Size (in):** 3/4

### INITIAL CURING CONDITIONS

#### Temperatures

**Minimum (°F)**                      **Maximum (°F)**

### DELIVERY INFORMATION

**Admixtures:** FIBERMESH

### TEST RESULTS

**Slump (in) (C-143):** 8

**Load Number:** 3

**Air Content (%) (C-231):** 9.0

**Mixer Number:** 173

**Air Temp (°F):** 65

**Ticket Number:** 3930147

**Conc. Temp (°F) (C-1064):** 60

**Cubic Yards:** 10

**Design (psi):** 3000

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area (in) <sup>2</sup>	Date Of Test	Cure Type	Age (days)	Fracture Type	Load (kips)	Strength (psi)
814-22A		6.00	28.27	5/2/2008	Lab	7	4	59.5	2110
814-22B		6.00	28.27	5/23/2008	Lab	28	4	90.0	3180
814-22C		6.00	28.27	5/23/2008	Lab	28	4	94.0	3330
814-22D				Hold	Lab				

#### Fracture Types



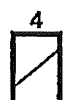
Cone



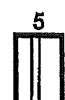
Cone and Split



Cone and Shear



Shear



Columnar

Remarks:



# Report of Concrete Compressive Strength

ASTM C-31 & C-39

**Project Name:** PORTLAND - WAYNFLETE ART CENTER - 360 SPRING STREET - ART CENTER PHASE 2 - MATERIALS TESTING

**Project Number:** 01-0120.5

**Client:** SCOTT SIMONS ARCHITECTS INC.

**Client Contract Number:**

**General Contractor:**

**Concrete Supplier:** DRAGON PRODUCTS

## PLACEMENT INFORMATION

**Date Cast:** 6/4/2008      **Time Cast:** 3:15      **Date Received:** 6/6/2008

**Placement Location:** F.5 TO H/1.2 10' RETAIN WALL EAST SIDE EXERIOR

**Placement Method:** PUMP

**Placement Vol. (yd³):** 12

**Cylinders Made By:** JJR

**Aggregate Size (in):** 3/4

## INITIAL CURING CONDITIONS

### Temperatures

**Minimum (°F)**      **Maximum (°F)**

## DELIVERY INFORMATION

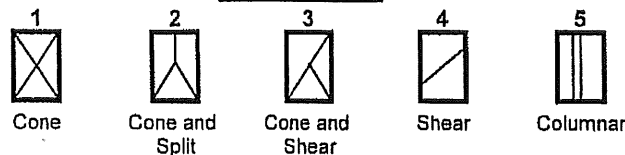
**Admixtures:** MRWR POLYHEED 997

## TEST RESULTS

<b>Slump (in) (C-143):</b>	<b>Slump WR:</b> 5	<b>Load Number:</b> 1
<b>Air Content (%) (C-231):</b>	<b>Air WR:</b> 7.25	<b>Mixer Number:</b> 190
<b>Air Temp (°F):</b> 60		<b>Ticket Number:</b> 9369
<b>Conc. Temp (°F) (C-1064):</b> 69		<b>Cubic Yards:</b> 6
		<b>Design (psi):</b> 3500

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)²	Date Of Test	Cure Type	Age (days)	Fracture Type	Load (kips)	Strength (psi)
814-23A		6.00	28.27	6/11/2008	Lab	7	4	88.0	3110
814-23B		6.00	28.27	7/2/2008	Lab	28	4	120.0	4250
814-23C		6.00	28.27	7/2/2008	Lab	28	4	120.0	4250
814-23D				Hold	Lab				

### Fracture Types



Remarks:

# **EXHIBIT B**

**05120 Structural Steel**

# Schedule of Special Inspections – Exhibit B

## STEEL CONSTRUCTION

Project: Waynflete Arts Center Phase II, Portland, ME

Date Prepared: 09/17/2007

VERIFICATION AND INSPECTION	Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	DATE	INITIAL
IBC Section 1704.3							
1. Material verification of high-strength bolts, nuts and washers:							
a. Identification markings to conform to ASTM standards specified in the approved construction documents.	Y	S	Applicable ASTM material specifications; AISC 335, Section A3.4; AISC LRFD, Section A3.3	SII	PE/SE or EIT	6/08	V/SB
b. Manufacturer's certificate of compliance required.	Y	S		SII	PE/SE or EIT	6/08	V/SB
2. Inspection of high-strength bolting							
a. Bearing-type connections.	Y	P	AISC LRFD Section M2.5 IBC Sect 1704.3.3	TL	AWS/AISC-SSI	4/08-5/08	V/SB
b. Slip-critical connections.	Y	C or P (method dependent)		TL	AWS/AISC-SSI	4/08-5/08	V/SB
3. Material verification of structural steel (IBC Sect 1708.4):							
a. Identification markings to conform to ASTM standards specified in the approved construction documents.	Y	S	ASTM A 6 or ASTM A 568 IBC Sect 1708.4	SII	PE/SE or EIT	6/08	V/SB
b. Manufacturers' certified mill test reports.	Y	S	ASTM A 6 or ASTM A 568 IBC Sect 1708.4	SII	PE/SE or EIT	6/08	V/SB
4. Material verification of weld filler materials:							
a. Identification markings to conform to AWS specification in the approved construction documents.	Y	S	AISC, ASD, Section A3.6; AISC LRFD, Section A3.5	SII	PE/SE or EIT	6/08	V/SB
b. Manufacturer's certificate of compliance required.	Y	S		SII	PE/SE or EIT	6/08	V/SB

Steel Construction has been reviewed in accordance with section 1704.3 of the IBC Code

Special Inspector V/SB Date 10/18/07

# Schedule of Special Inspections – Exhibit B

## STEEL CONSTRUCTION

Project: Waynflete Arts Center Phase II, Portland, ME  
 Date Prepared: 09/17/2007

VERIFICATION AND INSPECTION	Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	DATE	INITIAL
IBC Section 1704.3							
5. Submit current AWS D1.1 welder certificate for all field welders who will be welding on this project.	Y	S	AWS D1.1	SII	PE/SE or EIT	6/08	USP
6. Inspection of welding (IBC 1704.3.1):							
a. Structural steel:							
1) Complete and partial penetration groove welds.	Y	C	AWS D1.1	TA1	AWS-CWI	4/08-5/08	USP
2) Multipass fillet welds.	Y	C		TA1	AWS-CWI	4/08-5/08	USP
3) Single-pass fillet welds > 5/16"	Y	C		TA1	AWS-CWI	4/08-5/08	USP
4) Single-pass fillet welds < 5/16"	Y	P		TA1	AWS-CWI	4/08-5/08	USP
5) Floor and Roof deck welds.	Y	P	AWS D1.3	TA1	AWS-CWI	4/08-5/08	USP
b. Reinforcing steel (IBC Sect 1903.5.2):							
1) Verification of weldability of reinforcing steel other than ASTM A706.	N		Welding of Reinforcement not permitted	N/A			
2) Reinforcing steel-resisting flexural and axial forces in intermediate and special moment frames, and boundary elements of special reinforced concrete shear walls and shear reinforcement.	N	C	AWS D1.4 ACI 318: 3.5.2	TA1	AWS-CWI		
3) Shear reinforcement.	N	C		TA1	AWS-CWI		
4) Other reinforcing steel.	N	P		TA1	AWS-CWI		
7. Inspection of steel frame joint details for compliance (IBC Sect 1704.3.2) with approved construction documents:							
a. Details such as bracing and stiffening.	Y	P		SII	PE/SE or EIT	3/08-8/08	USP
b. Member locations.	Y	P		SII	PE/SE or EIT	3/08-8/08	USP
c. Application of joint details at each connection.	Y	P		SII	PE/SE or EIT	3/08-8/08	USP

Steel Construction has been reviewed in accordance with section 1704.3 of the IBC Code

Special Inspector

*[Signature]*

Date 10/8/08

# Schedule of Special Inspection Services – Exhibit B

## FABRICATION AND IMPLEMENTATION PROCEDURES – STRUCTURAL STEEL

©Becker Structural Engineers, Inc. 2005

Project: Waynflete Arts Center Phase II, Portland, ME  
 Date Prepared: 09/17/2007

VERIFICATION AND INSPECTION	Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	DATE	INITIAL
IBC Section 1704.2							
1. Fabrications Procedures: Review of fabricator's written procedural and quality control manuals and periodic auditing of fabrication practices by an approved special inspection agency. At the completion of fabrication, the approved fabricator shall submit a certificate of compliance to the building code official stating that the work was performed in accordance with the approved construction documents. -OR- 2. AISC or SSFNE Certification ← AISC CERTIFIED	Y	S	Fabricator shall submit one of the two qualifications	SII	PE/SE or EIT	6/08	UJS
3. At completion of fabrication, the approved fabricator shall submit a certificate of compliance to the building code official stating that the work was performed in accordance with the approved construction documents.	Y	S	IBC 1704.2.2	SII	PE/SE or EIT	6/08	UJS

Fabricator Qualifications have been reviewed in accordance with section 1704.2 of the IBC Code

Special Inspector

*Uad LR*

Date 10/8/08

Page 3 of 3

<b>OBSERVATION REPORT</b>
Structural Steel

<b>Date:</b>	3-10-08
<b>Time:</b>	12:30 PM
<b>Temp:</b>	30 F
<b>Weather:</b>	Partly Cloudy

<b>Project:</b>	Waynflete Arts Center
<b>Location:</b>	Portland, Maine
<b>Becker Job No:</b>	1775

**Observation Location:**  
 Steel Erection (in progress): Majority of structural steel in place, floor joists being set at time of visit.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	
Bolt Condition	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Comments
Weld Condition	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Anchor Bolts, Nuts, & Washers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Grout/Leveling Plates	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Fit Up/Plumbness	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Metal Deck Welds	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Pour Stops	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Bracing	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Additional Items	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Below
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

**Notes:**

Low roof beam at D-6.2 - E-6.4 observed to have small dent at side of bottom flange. Reviewed and found to be acceptable.

**Signed:** Daniel S. Burne, P.E.



# B E C K E R

05120

structural engineers, inc.

<b>OBSERVATION REPORT</b>
Structural Steel

<b>Date:</b>	3-17-08
<b>Time:</b>	12:30 PM
<b>Temp:</b>	35 F
<b>Weather:</b>	Sunny

Project:                   Waynflete Arts Center

Location:                 Portland, Maine

Becker Job No:         1775

**Observation Location:**

Steel Erection (in progress): Majority of structural steel in place, decking being placed, field welding in progress.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	
Bolt Condition	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Weld Condition	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Anchor Bolts, Nuts, & Washers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Grout/Leveling Plates	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Fit Up/Plumbness	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Metal Deck Welds	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Pour Stops	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Bracing	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

**Notes:**

No deficiencies observed.

Signed: Daniel S. Burne, P.E.

# B E C K E R

05120

structural engineers, inc.

<b>OBSERVATION REPORT</b>
Structural Steel

<b>Date:</b>	3-27-08
<b>Time:</b>	1:30 PM
<b>Temp:</b>	35 F
<b>Weather:</b>	Partly Cloudy

<b>Project:</b>	Waynflete Arts Center
<b>Location:</b>	Portland, Maine
<b>Becker Job No:</b>	1775

**Observation Location:**  
 Steel Erection (in progress): Majority of structural steel in place, roof curbing being constructed, seating risers being finalized.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	
Bolt Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test Report Required
Weld Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test Report Required
Anchor Bolts, Nuts, & Washers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Grout/Leveling Plates	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Fit Up/Plumbness	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Metal Deck Welds	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test Report Required
Pour Stops	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bracing	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Additional Items	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Below
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

**Notes:**

Discussed the following with superintendent (follow-up visit will occur):

1. Coped beam at c.8 line bears only on cope. Field welded 3/8" shear tab required.
2. L6x4 brick support over office 117 has been notched. Field welded stiffened seat is required.
3. Roof Deck at 1.9 line extends over the brick support plate. Deck needs to be cut back and deck re-welded. Superintendent to review other similar areas.
4. Pieces have been added to the seating risers that will interfere with the duct chases. Superintendent to review and modify.

**Signed:** Daniel S. Burne, P.E.

# B E C K E R

05120

structural engineers, inc.

<b>OBSERVATION REPORT</b>
Structural Steel

<b>Date:</b>	4-7-08
<b>Time:</b>	10:00 AM
<b>Temp:</b>	40 F
<b>Weather:</b>	Sunny

<b>Project:</b>	Waynflete Arts Center
<b>Location:</b>	Portland, Maine
<b>Becker Job No:</b>	1775

**Observation Location:**  
 Steel Erection (in progress): Majority of structural steel in place, roof trusses in place, majority of connections to existing complete.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	
Bolt Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Comments
Weld Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Test Report Required
Anchor Bolts, Nuts, & Washers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test Report Required
Grout/Leveling Plates	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Fit Up/Plumbness	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Metal Deck Welds	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Test Report Required
Pour Stops	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bracing	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Additional Items	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Below
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

**Notes:**

Discussed the following with superintendent (follow-up visit will occur):

1. Items identified in 3/27 report not yet complete.
2. W12 & W8 beams at H2.9-HEX4.5 were fabricated and installed reversed. Condition will be reviewed by engineer.
3. Deck support missing at corridor roof deck C.8-D line
4. Truss cross bracing at segmented walls, as shown in dwg S3.3 had not been installed.
5. T plate above cross bracing had not been installed. Roof deck is required to be fastened to T plate after installation.

**Signed:** Daniel S. Burne, P.E.

# B E C K E R

05120

structural engineers, inc.

<b>OBSERVATION REPORT</b>
Structural Steel

<b>Date:</b>	4-15-08
<b>Time:</b>	12:30 PM
<b>Temp:</b>	60 F
<b>Weather:</b>	Sunny

Project:	Waynflete Arts Center
Location:	Portland, Maine
Becker Job No:	1775

**Observation Location:**

Steel Erection (in progress): Majority of structural steel in place, field welding underway, second floor slab in place, CFMF installation in progress.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Bolt Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Test Report Required
Weld Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Test Report Required
Anchor Bolts, Nuts, & Washers	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Grout/Leveling Plates	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Fit Up/Plumbness	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Metal Deck Welds	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Test Report Required
Pour Stops	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bracing	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Additional Items	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Below
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

**Notes:**

Discussed the following with superintendent (follow-up visit will occur):

1. Items identified in 3/27 & 4/7 report not yet complete.
2. Instructed Superintendent to provide angle kickers at quarter points at W12 & W8 beams at H2.9-HEX4.5..
3. Roof deck had been cut back at 1.9 line but not refastened.

Signed: Daniel S. Burne, P.E.

<b>OBSERVATION REPORT</b>
Structural Steel

<b>Date:</b>	4-24-08
<b>Time:</b>	1:00 PM
<b>Temp:</b>	65 F
<b>Weather:</b>	Sunny

Project:	Waynflete Arts Center
Location:	Portland, Maine
Becker Job No:	1775

**Observation Location:**  
CFMF installation in progress, first floor slab prepped to be placed, work at gym joists nearly complete.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	
Bolt Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Test Report Required
Weld Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Test Report Required
Anchor Bolts, Nuts, & Washers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Grout/Leveling Plates	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Fit Up/Plumbness	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Metal Deck Welds	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Test Report Required
Pour Stops	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bracing	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Additional Items	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Below
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

**Notes:**

- Discussed the following with superintendent (follow-up visit will occur):
1. Roof deck missing support at (4) locations: (2) bays in vicinity of 6.2-C.8 & low roof edges at A & B.4 lines
  2. Missing kicker at first floor, A.5 line.
  3. Lag bolts at new gym joists not yet installed.

Signed: Daniel S. Burne, P.E.

# B E C K E R

05120

structural engineers, inc.

<b>OBSERVATION REPORT</b>
Structural Steel

<b>Date:</b>	5-22-08
<b>Time:</b>	10:30 AM
<b>Temp:</b>	60 F
<b>Weather:</b>	Cloudy

Project:	Waynflete Arts Center
Location:	Portland, Maine
Becker Job No:	1775

**Observation Location:**  
 Densglass on building, work on cloud ceiling beginning, CFMF completed.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	
Bolt Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Test Report Required
Weld Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Test Report Required
Anchor Bolts, Nuts, & Washers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Grout/Leveling Plates	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Fit Up/Plumbness	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Metal Deck Welds	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Test Report Required
Pour Stops	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bracing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Additional Items	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Below
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

**Notes:**  
 Missing kicker at A.5 installed & roof deck supports in place. Gym joist work not complete.  
 Discussed the following with superintendent (follow-up visit will occur):

1. Additional kickers needed at H line W8.
2. Additional bolts needed at exterior PSLs at bay window.

Signed: Daniel S. Burne, P.E.

# B E C K E R

structural engineers, inc.

05120

<b>OBSERVATION REPORT</b>
Structural Steel

<b>Date:</b>	8-20-08
<b>Time:</b>	2:00 PM
<b>Temp:</b>	75 F
<b>Weather:</b>	Sunny

Project:	Waynflote Arts Center
Location:	Portland, Maine
Becker Job No:	1775

**Observation Location:**  
Completed Joist Reinforcement at Existing Gym, General Walk-through

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	
Bolt Condition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<div style="text-align: center; font-weight: bold;">Comments</div> <hr/> Test Report Required
Weld Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Anchor Bolts, Nuts, & Washers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Grout/Leveling Plates	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Fit Up/Plumbness	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Metal Deck Welds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Pour Stops	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bracing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Additional Items	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

- Notes:**
1. Joist reinforcement satisfactory.
  2. Found no issues in general walk-through.

Signed: Daniel S. Burne, P.E.



220 Industrial Way Unit 1  
Portland, ME 04103

CUSTOMER 8W Cole

JOB Wayne Street Art Center

SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_

CHECKED BY AE Callant DATE 4/7/08

SCALE \_\_\_\_\_

Structural Steel Inspection - Lines A-H, 1-B

1st Floor Framing

Bolts - COMPLETE

BRACING - COMPLETE

JOISTS AND BRIDGING - COMPLETE

DECKING WELDS AND FASTENERS - USED PERMITS  
WOOD AT "A" LINE, REMAINDER COMPLETE

2nd Floor Framing

Bolts - IN PROGRESS

BRACING - IN PROGRESS

JOISTS + BRIDGING - COMPLETE

DECKING WELDS AND FASTENERS - COMPLETE

Roof Framing - ALL STEEL IN PROGRESS

AE Callant  
CW1 # 90100091



# B E C K E R

structural engineers, inc.

05120

<b>OBSERVATION REPORT</b>
Structural Steel

<b>Date:</b>	8-20-08
<b>Time:</b>	2:00 PM
<b>Temp:</b>	75 F
<b>Weather:</b>	Sunny

Project:	Waynflete Arts Center
Location:	Portland, Maine
Becker Job No:	1775

**Observation Location:**  
Completed Joist Reinforcement at Existing Gym, General Walk-through

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	
Bolt Condition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<div style="text-align: center; font-weight: bold;">Comments</div> <hr/> Test Report Required
Weld Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Anchor Bolts, Nuts, & Washers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Grout/Leveling Plates	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Fit Up/Plumbness	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Metal Deck Welds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Pour Stops	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bracing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Additional Items	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

- Notes:**
1. Joist reinforcement satisfactory.
  2. Found no issues in general walk-through.

Signed: Daniel S. Burne, P.E.



220 Industrial Way Unit 1  
Portland, ME 04103

CUSTOMER 8W Cole

JOB Wayne Street Ash Carter

SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_

CHECKED BY As Callout DATE 4/7/08

SCALE \_\_\_\_\_

*Structural Steel Inspection - Lines A-H, 1-8*

*1st Floor Framing*

*Balks - COMPLETE*

*BRACING - COMPLETE*

*JOISTS AND BRIDGING - COMPLETE*

*DECKING WELDS AND FASTENERS - NEED REWORK  
WELD AT "A" LINE, REMAINDER COMPLETE*

*2nd Floor Framing*

*Balks - In Progress*

*BRACING - In Progress*

*JOISTS + BRIDGING - COMPLETE*

*DECKING WELDS AND FASTENERS - COMPLETE*

*Roof Framing - all items in progress*

*As Callout  
CWI # 50100091*

**Quality Assurance Labs Inc.**  
NON-DESTRUCTIVE TESTING AND INSPECTION SERVICES

80 PLEASANT AVENUE • SOUTH PORTLAND, MAINE 04108 • TEL: (207) 799-8811 • FAX: (207) 799-7251

# INSPECTION REPORT

CUSTOMER: S. W. COLE ENG.		PAGE 1	OF 1
ADDRESS: GRAY, ME.			
ATTENTION: ROGER DOMINGO			
COPIES:			
PROJECT: WAYNFLETE SCHOOL			
OWNER:			
CONTRACTOR:			
JOB No.: 01-0120.2	REPORT No.: QAL-08-0782	P.O. NUMBER:	DATE(S) INSPECTED: 04-24-08

### REMARKS

>>> SITE VISIT FOR VISUAL INSPECTION OF STRUCTURAL STEEL CONNECTIONS: UPPER LEVEL TO INCLUDE ROOF FRAMING PLAN GRID LINES 1,3-9, A-J.

- > DIAGONAL WIND BRACE CONNECTIONS COMPLETE.
- > ROOF FRAMING PLAN SHOWS NUMEROUS LOCATIONS WITH UN-TORQUED 3/4" AND 1" HIGH STRENGTH T/C BOLTS.
- > BAR JOIST AND HORIZONTAL BRIDGING CONNECTIONS COMPLETE.
- > HIGH ROOF AREA DECKING ATTACHMENTS APPROX. 90% COMPLETE.
- > HIGH ROOF TRUSS GIRDER CROSS BRIDGING IN-PROGRESS.

COMPLETED ITEMS COMPLY WITH SITE DOCUMENTS AND AWS D1.1, D1.3 REQUIREMENTS FOR VISUAL ACCEPTANCE.

END ITEMS ///

FAA REPAIR STATION NUMBER RX5R187N  
METHOD(S), PROCESS(ES), PROCEDURE(S) MERCURY FREE

ADDITIONAL INFORMATION - SEE ATTACHED: <input type="checkbox"/> SKETCH(ES) <input type="checkbox"/> SUPPLEMENTARY SHEET(S) <input type="checkbox"/> NDI REPORTS <input type="checkbox"/> VIDEO			
SIGNATURES		CERTIFICATION	
		M	DATE
INSPECTOR MICHAEL DREW CWI# 99050211 <i>Michael Drew</i>			D Y
SUPERVISOR			04   24   08

# Quality Assurance Labs Inc

NON-DESTRUCTIVE TESTING AND INSPECTION SERVICES

80 PLEASANT AVENUE • SOUTH PORTLAND, MAINE 04106 • TEL: (207) 789-8911 • FAX: (207) 789-7251

## INSPECTION REPORT

CUSTOMER: S. W. COLE ENG.		PAGE 1 OF 1	
ADDRESS: GRAY, ME.			
ATTENTION: ROGER DOMINGO			
COPIES:			
PROJECT: WAYNFLETE SCHOOL - NEW ARTS CENTER			
OWNER: WAYNFLETE SCHOOL			
CONTRACTOR: STROUDWATER CONSTRUCTION INC.			
JOB No.: 01-0120.2	REPORT No.: QAL-08-0984	P. O. NUMBER:	DATE INSPECTED: 05-22-08

### REMARKS

>>>> FINAL VISUAL INSPECTION OF COMPLETED STRUCTURAL STEEL CONNECTIONS: LOCATIONS GRIDS 1.1-6.4, A-J. ALL UPPER ELEVATIONS.

> UPPER LEVEL CAT WALK FRAME ASSEMBLIES SHOW (9) LOCATIONS MARKED WITH BLUE FLAG TAPE FOR UN-TORQUED 3/4" T/C BOLTS.

> ALL TRUSS GIRDER AND CROSS BRIDGING CONNECTIONS COMPLETE. HOWEVER, LOCATION H-1.5 MARKED WITH BLUE FLAG TAPE TO SHOW (1) MISSING GIRDER TO COLUMN SEAT WELD.

> ALL REMAINING WELDED AND HIGH STRENGTH BOLTED CONNECTIONS COMPLETE FOR STRUCTURAL STEEL.

COMPLETED ITEMS COMPLY WITH SITE DOCUMENTS AND AWS D1.1 REQUIREMENTS FOR VISUAL ACCEPTANCE.

END ITEMS ///

FAA REPAIR STATION NUMBER RX5R187N  
METHOD(S), PROCESS(ES), PROCEDURE(S) MERCURY FREE

<b>SS</b> Scott Simons Architects	
Job Name:	WAYNFLETE ARTS
Job No:	2005-0040
Date Rec'd:	05.28.09
File:	
Cc:	ANNE HAGSTROM @ WAYNFLETE DAVID CIMINO @ STROUDWATER.
Consultants:	DAN BURNS @ BSE
Other:	VIDEO JOBSITE

ADDITIONAL INFORMATION - SEE ATTACHED:	<input type="checkbox"/> SKETCHES	<input type="checkbox"/> SUPPLEMENTARY SHEET(S)	<input type="checkbox"/> NDT REPORTS
SIGNATURES			
INSPECTOR	MICHAEL DREW CWI# 99050211	CERTIFICATION	DATE M D Y 05   22   08
SUPERVISOR			

*American Institute of Steel Construction, Inc.*

*is proud to recognize*

**James A. McBrady, Inc.**

Scarborough, ME

*for successfully meeting the quality certification requirements for*

**Standard for Steel Building Structures**

*Roger E. Ferch*

---

Roger E. Ferch



*Bobbi Marsteller*

---

Bobbi Marsteller

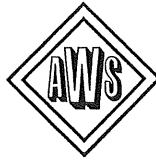
*Certification valid through September 2008*



**Rolland L Amen**

Cert # 0409037W

SSN # XXX-XX-2344



**1-800-443-9353**  
Information relating to identification and certification of the  
bearer of this card may be verified by calling or writing:  
CERTIFICATION DEPARTMENT OF THE AMERICAN WELDING SOCIETY  
650 N.W. LeJeune Road, Miami, FL 33126

**AMERICAN WELDING SOCIETY**

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**Brian P Joy**

Cert # 0409036W

SSN # XXX-XX-4652



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**AMERICAN WELDING SOCIETY**

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**Roland A Mckeen**

Cert # 0409035W

SSN # XXX-XX-1164

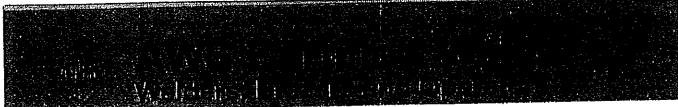


**1-800-443-9353**  
Information relating to identification and certification of the  
bearer of this card may be verified by calling or writing:  
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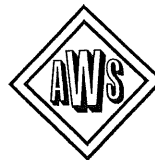
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**Alan R. Mcphee**

Cert # 0409033W

SSN # XXX-XX-9076



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**AMERICAN WELDING SOCIETY**

**VALID ONLY IF ACCOMPANIED BY PHOTO ID**

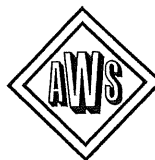
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**James Oliver**

Cert # 0409034W

SSN # XXX-XX-1307



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Rolland L Amen

#	Test Date	Sup	Code	Process	Gas	Filler	Metal	Base Metal	Position	Thickness	Expires
1	09/07/90	1	D1	SMAW	N/A	F4		P	F	U	08/15/08

Brian P Joy

#	Test Date	Sup	Code	Process	Gas	Filler	Metal	Base Metal	Position	Thickness	Expires
1	05/06/93	1	D1	SMAW	N/A	F4		P	A	L	08/15/08

Roland A Mckeen

#	Test Date	Sup	Code	Process	Gas	Filler	Metal	Base Metal	Position	Thickness	Expires
1	09/13/90	1	D1	SMAW	N/A	F4		P	F	U	08/15/08

Alan R. Mcphee

#	Test Date	Sup	Code	Process	Gas	Filler	Metal	Base Metal	Position	Thickness	Expires
1	06/07/96	G	D1.1	SMAW	N/A	F4		P	A	L	08/15/08

James Oliver

#	Test Date	Sup	Code	Process	Gas	Filler	Metal	Base Metal	Position	Thickness	Expires
1	01/22/92	1	D1	SMAW	N/A	F4		P	A	L	08/15/08
2	09/06/90	1	D1	SMAW	N/A	F4		P	F	U	08/15/08



**AWS Certified Welder**  
Welders, Fabricators and Operators

**Mark W Yattaw**

Cert # 0409032W

SSN # XXX-XX-6312



**1-800-443-9353**

Information relating to identification and certification of the  
bearer of this card may be verified by calling or writing:  
**CERTIFICATION DEPARTMENT OF THE AMERICAN WELDING SOCIETY**  
550 N.W. LeJeune Road, Miami, FL 33126

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**Wayne A Wilson**

Cert # 0703059W

SSN # XXX-XX-3467



**1-800-443-9353**

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bearer of this card may be verified by calling or writing:  
**CERTIFICATION DEPARTMENT OF THE AMERICAN WELDING SOCIETY**  
550 N.W. LeJeune Road, Miami, FL 33126

**AMERICAN WELDING SOCIETY**

**VALID ONLY IF ACCOMPANIED BY PHOTO ID**

This Card is the property of AWS and shall be returned on demand.



Mark W Yattaw

#	Test Date	Sup Code	Process	Gas	Filler	Metal	Base Metal	Position	Thickness	Expires
1	05/23/97	1	D1.1	SMAW	N/A	F4	P1	A	U	08/15/08

Wayne A Wilson

#	Test Date	Sup Code	Process	Gas	Filler	Metal	Base Metal	Position	Thickness	Expires
1	10/02/90	1	D1	SMAW	N/A	F4	P	F	U	08/15/08
2	05/23/97	1	D1.1	SMAW	N/A	F4	P1	A	U	08/15/08

James A. McBrady, Inc.  
Waynelete - Performing Arts Center  
LEED recycled content information - Division 5

Item	Manufacturer	Amount	Recyc'd content	Post Con %	Post Ind %	PC + 1/2 PI	Recycled content source	Recycled Value
Steel Bar, Anle & Channel	Nucor	21,808	99%	83%	17%	90.6%	Manufacturer's letters & Industry info	19,754
Steel Bar, Anle & Channel	Gerdau - Whitby	1,640	100%	80%	20%	90.0%		1,476
Steel Bar, Anle & Channel	Gerdau - Cart.	17,081	100%	75%	25%	87.5%		14,946
Steel Bar, Anle & Channel	Gerdau - Calv.	1,820	99%	50%	50%	74.3%		1,352
Steel Bar, Anle & Channel	Gerdau - Peter	10,922	100%	83%	17%	91.5%		9,994
Steel Tube & Pipe	Atlas	32,813	41%	83%	17%	37.5%		12,310
Steel Tube & Pipe	Nova	9,117	63%	83%	17%	57.2%		5,214
Steel Tube & Pipe	Independence	56,251	63%	83%	17%	57.6%		32,426
Steel Tube & Pipe	Bull Moose - Elk	11,459	32%	65%	35%	26.2%		2,997
Steel Tube & Pipe	Bull Moose - Trent	7,173	96%	60%	40%	76.4%		5,480
Bolts, Nuts & Washers	Charter, Gerdau, Prestige, etc.	16,207	95%	83%	17%	86.9%		14,088
Steel Plate	Mittal	4,971	25%	30%	70%	15.9%		792
Steel Beams	Nucor - Yamato	3,641	95%	83%	17%	86.9%		3,165
Steel Beams	Nucor - Berkeley	70,278	65%	83%	17%	59.5%		41,798
Steel Beams	Chapparal	910	90%	78%	23%	79.9%		727
Steel Beams & Channel	Steel Dynamics	1,171	92%	83%	17%	84.2%		986
Steel Beams & Channel	Bayou	5,005	100%	90%	10%	95.0%		4,755
Miscellaneous Products	Paint, Galv., Weld Mat., etc.	12,157	N/A	N/A	N/A	N/A	0	
		<u>284,425</u>						<u>172,258</u>
<b>Total Value of Contract</b>		<b>\$ 284,425</b>					<b>Recycled Percentage</b>	<b>60.6%</b>

NOTE: Manufacturer's letters to be emailed under separate cover.



# METAL-COR 6

**GAS-SHIELDED METAL-CORED WIRE**  
AWS E70C-6M H4

051021— (replaces 050513)

**METAL-COR 6** is a metal cored wire with higher manganese and silicon levels, lower spatter, and higher strength than other wires. It has increased deoxidization levels to allow for more tolerance of mill scale, with fewer root pores. METAL-COR 6 is recommended for single-pass and multi-pass welding in flat and horizontal positions with 75-95% Ar/CO<sub>2</sub>. The wetting action is better than solid wire, minimizing cold lap on heavier sections of steel.

### PRODUCT CHARACTERISTICS:

- Higher deoxidizer levels for improved performance on mill scale plate.
- Better wetting action than solid wire minimizes cold lap.
- Superb operator appeal.
- Good choice to use for short-circuit or pulse applications.

### SPECIFICATIONS:

E70C-6M H4 per AWS A5.18, ASME SFA 5.18  
CWB E491C-6M-H4  
Lloyd's Register of Shipping Grade 3S, 3Y40S  
ABS Grade 3SA, 3YSA

DNV Grade III Y40MS  
Bureau Veritas SA 3YM  
Germanischer Lloyd 3Y40H5S

### SHIELDING GAS:

75-95% Ar/Bal CO<sub>2</sub>, 35-50 C.F.H.

### WELDING POSITIONS:

Flat, horizontal, vertical down; all positions with pulse

### STANDARD DIAMETERS:

.035", .045", .052", 1/16", 5/64", 3/32"

### WELD TEST PARAMETERS:

METAL-COR 6 1/16" diameter electrode was welded using 75% Ar/25% CO<sub>2</sub> shielding gas with flow rate of 50 cfh, 350 amps (325 IPM), DCEP, and 30 volts, both with 3/4" electrical stick-out and 300°±25°F interpass temperature. A total of six layers were welded, two passes each for Layers 1 through 6. The direction of travel was reversed for each layer.

### TYPICAL UNDILUTED WELD METAL CHEMISTRY\*:

	C	Mn	Si	P	S
75% Ar/25% CO <sub>2</sub>	0.08	1.57	0.69	0.015	0.014
90% Ar/10% CO <sub>2</sub>	0.05	1.69	0.78	0.012	0.013

**TYPICAL DIFFUSIBLE HYDROGEN\*:** 2.10 ml/100 gr (75% Ar/25% CO<sub>2</sub>)  
2.15 ml/100 gr (90% Ar/10% CO<sub>2</sub>)

### TYPICAL MECHANICAL PROPERTIES\*:

	75% Ar/25% CO <sub>2</sub>	90% Ar/10% CO <sub>2</sub>
Tensile Strength:	90,000 psi (622 MPa)	92,500 psi (638 MPa)
Yield Strength:	79,000 psi (545 MPa)	82,600 psi (570 MPa)
Elongation:	26%	26%
CVN @ 0°F (-18°C)	72 ft-lbs.(98 J)	68 ft-lbs.(92 J)
CVN @ -20°F (-29°C)	75 ft-lbs.(101 J)	46 ft-lbs.(62 J)

\*The information contained or otherwise referenced herein is presented only as "typical" without guarantee or warranty, and Hobart Brothers Company expressly disclaims any liability incurred from any reliance thereon. Typically data is obtained when welded and tested in accordance with AWS A5.18 specification. Other tests and procedures may produce different results. No data is to be construed as a recommendation for any welding condition or technique not controlled by Hobart Brothers Company.

www.hobartbrothers.com  
400 Trade Square East  
Troy, OH 45373  
PH: 1-800-424-1543  
FX: 1-800-541-6607

# METAL-COR 6

GAS-SHIELDED METAL-CORED WIRES  
AWS E70C-6M H4



## RECOMMENDED OPERATING PARAMETERS:

The information below was determined by welding performed with 75% Ar/25% CO<sub>2</sub> shielding gas at a flow rate of 40 cfh.

Diameter Electrical Stickout (ES) Position	Arc Voltage (volts)	Current DCEP (+) (amps)	Approx. Wire Feed Speed (in/min)	Deposition Rate (lbs/hr)
.035" 1/2" ± 1/8" Flat and Horizontal	26	200	550	8.47
	<b>28</b>	<b>250</b>	<b>760</b>	<b>11.97</b>
	30	260	791	12.54
.045" 5/8" ± 1/8" Flat and Horizontal	27	200	273	6.11
	29	250	395	9.42
	<b>31</b>	<b>300</b>	<b>520</b>	<b>13.0</b>
34	350	645	16.51	
.052" 5/8" ± 1/8" Flat and Horizontal	28	250	265	7.95
	30	300	355	11.64
	<b>32</b>	<b>350</b>	<b>450</b>	<b>15.11</b>
34	400	640	16.51	
1/16" 3/4" ± 1/4" Flat and Horizontal	30	275	185	7.66
	30	300	220	9.66
	<b>31</b>	<b>350</b>	<b>270</b>	<b>12.44</b>
	32	400	330	15.75
36	450	381	18.21	
3/32" 1" ± 1/4" Flat and Horizontal	31	400	132	10.8
	<b>34</b>	<b>500</b>	<b>176</b>	<b>16.2</b>
	39	600	247	22.7
5/64" 1" ± 1/4" Flat and Horizontal	28	350	160	11.41
	31	400	200	15.38
	34	475	250	19.50

**Bold:** Optimum parameters for welder appeal.

### Notice:

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### Caution:

Consumers should be thoroughly familiar with the safety precautions shown on the Warning Label posted on each shipment in and in American National Standard Z49.1, "Safety in Welding and Cutting," published by the American Welding Society, 550 NW LeJeune Road, Miami, FL 33126, and OSHA Safety and Health Standards 29 CFR 1910, available from the U.S. Department of Labor, Washington, D.C. 20210.

Product Type: METAL-COR 6  
 Classification: E70C-6M H4  
 Specifications: AWS A5.18-2005; ASME SFA5.18  
 Diameter Tested: .045"  
 Date Tested: 6/16/06  
 Date Generated: 12/18/2006

This is to certify that the product named above and supplied on the referenced order number is of the same classification, manufacturing process, and material requirements as the material which was used for the test that was concluded on the date shown, the results of which are shown below. All tests required by the specifications shown for classification were performed at that time and the material tested met all requirements. It was manufactured and supplied by the Quality System Program of Hobart Brothers, which meets the requirements of ISO9000, ANSI/AWS A5.01, and other specification and Military requirements, as applicable.

### Test Settings

Shielding Medium	Amps / Polarity	Volts	WFS in/min (m/min)	ESO in(mm)	Preheat F(C)	Interpass F(C)	Travel Speed in/min(cm/min)
SG-AC-25	250 / DCEP	28	380 (9.7)	3/4 (19)	60(16)	300(149)	12 (30.5)

### Mechanical Properties - Tensile

Shielding Medium	Ref. No.	Testing Conditions	Ult. Tensile Strength psi (MPa)	Yield Strength psi (MPa)	Elong. % in 2"
SG-AC-25	PA3124	As Welded	87,000 ( 597 )	68,000 ( 472 )	28

### Mechanical Properties - Impact

Shielding Medium	Ref. No.	Testing Conditions	Temp. F (C)	Individuals ft.lb.(J)	Avg. ft.lb.(J)	Type
SG-AC-25	PA3124	As Welded	-20 (-29)	78,70,77 (106,95,104)	75 ( 102 )	Charpy-V-Notch

Ref.No.	Radlographic Inspection	Fillet Weld Test		
PA3124	Conforms	Horizontal :	Overhead :	Vertical :

### Chemical Analysis

Shielding Medium / Ref. No	C	Mn	P	S	Si	Cu	Cr	V	Ni	Mo	Al	Ti	Nb	Co	B	W	Sn	Fe	Sb	N	Mg	Zn	Be
SG-AC-25 / CA38629	0.06	1.70	0.014	0.016	0.74	0.06	0.05	0.01	0.02	0.02													

### Diffusible Hydrogen Collected per AWS A4.3

SG-AC-25	1.3 ml/100g of weld metal for .045 in diameter
----------	--

*J. H. O'Leary*

*Melvin Seitz*

Joe O'Leary, Manager, Quality Assurance

Melvin Seitz, Quality Manager

The information contained or otherwise referenced herein is presented without guarantee or warranty. Hobart Brothers Company ("Hobart") expressly disclaims any liability incurred from any reliance thereon. Data for the above-supplied product are those obtained during the welding process and tested in accordance with the above specification with electrodes of the same manufacturing processes and material requirements. All tests for the above classification were performed satisfactorily. No data is to be construed as a recommendation for any welding condition or technique not controlled by Hobart. Hobart produces welding consumables under continuing quality assurance programs audited and approved by the American Bureau of Shipping ("ABS"). Please refer to the Hobart Brothers Company website at [www.hobartbrothers.com](http://www.hobartbrothers.com) for current Material Safety Data Sheets ("MSDS").



# VERTI-COR I

GAS-SHIELDED FLUX-CORED WIRE  
AWS E71T-1C H8, E71T-1M H8

061107 (Replaces 040601)

VERTI-COR I is a gas-shielded flux-cored wire for the semi-automatic welding of carbon steels. It can also be used for welding higher strength steels in applications where E71T-1 filler metal properties are deemed adequate. The wire is recommended for single-and multiple-pass welding in all positions. Its stiff arc action enhances deep penetration and arc control for out-of-position welding. Arc characteristics are superior with both 100% CO<sub>2</sub> and 75% Ar/25% CO<sub>2</sub> gas shielding. VERTI-COR I has a quick-freezing slag which facilitates welding, and the attainment of good bead contour, in the vertical up and overhead positions. Typical applications include shipbuilding and repair, and general structure and fabrication work.

### PRODUCT CHARACTERISTICS:

- Eliminates lack of fusion problems in all-position weldments.
- Higher deposition rates than GMAW wires in out-of-position welding.
- Stiff arc transfer for overhead welding.
- Can be used with straight CO<sub>2</sub> or 75% Ar/25% CO<sub>2</sub>.

### SPECIFICATIONS:

E71T-1C H8, E71T-1M H8 per AWS A5.20, ASME SFA 5.20  
ABS Grade 2SA, 2YSA

### SHIELDING GAS:

100% CO<sub>2</sub>, 75% Ar/25% CO<sub>2</sub>, 35-50 cfh

### WELDING POSITION:

All Positions

### STANDARD DIAMETERS:

.035", .045", .052", 1/16"

### WELD TEST PARAMETERS:

VERTI-COR I 1/16" diameter electrode was welded using 100% CO<sub>2</sub> shielding gas with flow rate of 40 cfh, 350 amps (330 IPM), DCEP, and 30 volts, and using 75% Ar/25% CO<sub>2</sub> shielding gas with flow rate of 50 cfh, 350 amps (330 IPM), DCEP, and 30 volts, both with 3/4" electrical stick-out and 300°± 25°F interpass temperature. A total of six layers were welded, two passes each for Layers 1 through 6. The direction of travel was reversed for each layer.

### TYPICAL UNDILUTED WELD METAL CHEMISTRY\*:

	C	Mn	Si	P	S
100% CO <sub>2</sub>	0.04	1.22	0.58	0.020	0.015
75% Ar/25% CO <sub>2</sub>	0.07	1.43	0.68	0.018	0.11

### TYPICAL MECHANICAL PROPERTIES\*:

	100% CO <sub>2</sub>	75% Ar/25% CO <sub>2</sub>
Tensile Strength	85,000 psi (585 MPa)	96,000 psi (664 MPa)
Yield Strength	73,000 psi (506 MPa)	85,000 psi (587 MPa)
Elongation	28%	24%
CVN @ 0°F (-18°C):	54 ft•lbs (73 J)	34 ft•lbs (46 J)

\*The information contained or otherwise referenced herein is presented only as "typical" without guarantee or warranty, and Hobart Brothers Company expressly disclaims any liability incurred from any reliance thereon. Typical data are obtained when welded and tested in accordance with AWS A5.20 specification. Other tests and procedures may produce different results. No data is to be construed as a recommendation for any welding condition or technique not controlled by Hobart Brothers Company.

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FX: 1-800-541-6607

Product Type: METAL-COR 6  
 Classification: E70C-6M H4  
 Specifications: AWS A5.18-2005; ASME SFA5.18  
 Diameter Tested: .045"  
 Date Tested: 6/16/06  
 Date Generated: 12/18/2006

This is to certify that the product named above and supplied on the referenced order number is of the same classification, manufacturing process, and material requirements as the material which was used for the test that was concluded on the date shown, the results of which are shown below. All tests required by the specifications shown for classification were performed at that time and the material tested met all requirements. It was manufactured and supplied by the Quality System Program of Hobart Brothers, which meets the requirements of ISO9000, ANSI/AWS A5.01, and other specification and Military requirements, as applicable.

### Test Settings

Shielding Medium	Amps / Polarity	Volts	WFS in/min (m/min)	ESO in(mm)	Preheat F(C)	Interpass F(C)	Travel Speed in/min(cm/min)
SG-AC-25	250 / DCEP	28	380 (9.7)	3/4 (19)	60(16)	300(149)	12 (30.5)

### Mechanical Properties - Tensile

Shielding Medium	Ref. No.	Testing Conditions	Ult. Tensile Strength psi (MPa)	Yield Strength psi (MPa)	Elong. % in 2"
SG-AC-25	PA3124	As Welded	87,000 ( 597 )	68,000 ( 472 )	28

### Mechanical Properties - Impact

Shielding Medium	Ref. No.	Testing Conditions	Temp. F (C)	Individuals ft.lb.(J)	Avg. ft.lb.(J)	Type
SG-AC-25	PA3124	As Welded	-20 (-29)	78,70,77 (106,95,104)	75 ( 102 )	Charpy-V-Notch

Ref.No.	Radlographic Inspection	Fillet Weld Test		
PA3124	Conforms	Horizontal :	Overhead :	Vertical :

### Chemical Analysis

Shielding Medium / Ref. No	C	Mn	P	S	Si	Cu	Cr	V	Ni	Mo	Al	Ti	Nb	Co	B	W	Sn	Fe	Sb	N	Mg	Zn	Be
SG-AC-25 / CA38629	0.06	1.70	0.014	0.016	0.74	0.06	0.05	0.01	0.02	0.02													

### Diffusible Hydrogen Collected per AWS A4.3

SG-AC-25	1.3 ml/100g of weld metal for .045 in diameter
----------	--

*Joe O'Leary*

Joe O'Leary, Manager, Quality Assurance

*Melvin Seitz*

Melvin Seitz, Quality Manager

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# VERTI-COR I

GAS-SHIELDED FLUX-CORED WIRE  
AWS E71T-1C H8, E71T-1M H8

061107 (Replaces 040601)

VERTI-COR I is a gas-shielded flux-cored wire for the semi-automatic welding of carbon steels. It can also be used for welding higher strength steels in applications where E71T-1 filler metal properties are deemed adequate. The wire is recommended for single-and multiple-pass welding in all positions. Its stiff arc action enhances deep penetration and arc control for out-of-position welding. Arc characteristics are superior with both 100% CO<sub>2</sub> and 75% Ar/25% CO<sub>2</sub> gas shielding. VERTI-COR I has a quick-freezing slag which facilitates welding, and the attainment of good bead contour, in the vertical up and overhead positions. Typical applications include shipbuilding and repair, and general structure and fabrication work.

### PRODUCT CHARACTERISTICS:

- Eliminates lack of fusion problems in all-position weldments.
- Higher deposition rates than GMAW wires in out-of-position welding.
- Stiff arc transfer for overhead welding.
- Can be used with straight CO<sub>2</sub> or 75% Ar/25% CO<sub>2</sub>.

### SPECIFICATIONS:

E71T-1C H8, E71T-1M H8 per AWS A5.20, ASME SFA 5.20  
ABS Grade 2SA, 2YSA

### SHIELDING GAS:

100% CO<sub>2</sub>, 75% Ar/25% CO<sub>2</sub>, 35-50 cfh

### WELDING POSITION:

All Positions

### STANDARD DIAMETERS:

.035", .045", .052", 1/16"

### WELD TEST PARAMETERS:

VERTI-COR I 1/16" diameter electrode was welded using 100% CO<sub>2</sub> shielding gas with flow rate of 40 cfh, 350 amps (330 IPM), DCEP, and 30 volts, and using 75% Ar/25% CO<sub>2</sub> shielding gas with flow rate of 50 cfh, 350 amps (330 IPM), DCEP, and 30 volts, both with 3/4" electrical stick-out and 300°± 25°F interpass temperature. A total of six layers were welded, two passes each for Layers 1 through 6. The direction of travel was reversed for each layer.

### TYPICAL UNDILUTED WELD METAL CHEMISTRY\*:

	C	Mn	Si	P	S
100% CO <sub>2</sub>	0.04	1.22	0.58	0.020	0.015
75% Ar/25% CO <sub>2</sub>	0.07	1.43	0.68	0.018	0.11

### TYPICAL MECHANICAL PROPERTIES\*:

	100% CO <sub>2</sub>	75% Ar/25% CO <sub>2</sub>
Tensile Strength	85,000 psi (585 MPa)	96,000 psi (664 MPa)
Yield Strength	73,000 psi (506 MPa)	85,000 psi (587 MPa)
Elongation	28%	24%
CVN @ 0°F (-18°C):	54 ft•lbs (73 J)	34 ft•lbs (46 J)

\*The information contained or otherwise referenced herein is presented only as "typical" without guarantee or warranty, and Hobart Brothers Company expressly disclaims any liability incurred from any reliance thereon. Typical data are obtained when welded and tested in accordance with AWS A5.20 specification. Other tests and procedures may produce different results. No data is to be construed as a recommendation for any welding condition or technique not controlled by Hobart Brothers Company.

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# METAL-COR 6

**GAS-SHIELDED METAL-CORED WIRE**  
AWS E70C-6M H4

051021— (replaces 050513)

**METAL-COR 6** is a metal cored wire with higher manganese and silicon levels, lower spatter, and higher strength than other wires. It has increased deoxidization levels to allow for more tolerance of mill scale, with fewer root pores. METAL-COR 6 is recommended for single-pass and multi-pass welding in flat and horizontal positions with 75-95% Ar/CO<sub>2</sub>. The wetting action is better than solid wire, minimizing cold lap on heavier sections of steel.

### PRODUCT CHARACTERISTICS:

- Higher deoxidizer levels for improved performance on mill scale plate.
- Better wetting action than solid wire minimizes cold lap.
- Superb operator appeal.
- Good choice to use for short-circuit or pulse applications.

### SPECIFICATIONS:

E70C-6M H4 per AWS A5.18, ASME SFA 5.18  
CWB E491C-6M-H4  
Lloyd's Register of Shipping Grade 3S, 3Y40S  
ABS Grade 3SA, 3YSA

DNV Grade III Y40MS  
Bureau Veritas SA 3YM  
Germanischer Lloyd 3Y40H5S

### SHIELDING GAS:

75-95% Ar/Bal CO<sub>2</sub>, 35-50 C.F.H.

### WELDING POSITIONS:

Flat, horizontal, vertical down; all positions with pulse

### STANDARD DIAMETERS:

.035", .045", .052", 1/16", 5/64", 3/32"

### WELD TEST PARAMETERS:

METAL-COR 6 1/16" diameter electrode was welded using 75% Ar/25% CO<sub>2</sub> shielding gas with flow rate of 50 cfh, 350 amps (325 IPM), DCEP, and 30 volts, both with 3/4" electrical stick-out and 300°±25°F interpass temperature. A total of six layers were welded, two passes each for Layers 1 through 6. The direction of travel was reversed for each layer.

### TYPICAL UNDILUTED WELD METAL CHEMISTRY\*:

	C	Mn	Si	P	S
75% Ar/25% CO <sub>2</sub>	0.08	1.57	0.69	0.015	0.014
90% Ar/10% CO <sub>2</sub>	0.05	1.69	0.78	0.012	0.013

### TYPICAL DIFFUSIBLE HYDROGEN\*:

2.10 ml/100 gr (75% Ar/25% CO<sub>2</sub>)  
2.15 ml/100 gr (90% Ar/10% CO<sub>2</sub>)

### TYPICAL MECHANICAL PROPERTIES\*:

	75% Ar/25% CO <sub>2</sub>	90% Ar/10% CO <sub>2</sub>
Tensile Strength:	90,000 psi (622 MPa)	92,500 psi (638 MPa)
Yield Strength:	79,000 psi (545 MPa)	82,600 psi (570 MPa)
Elongation:	26%	26%
CVN @ 0°F (-18°C)	72 ft-lbs.(98 J)	68 ft-lbs.(92 J)
CVN @ -20°F (-29°C)	75 ft-lbs.(101 J)	46 ft-lbs.(62 J)

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# METAL-COR 6

GAS-SHIELDED METAL-CORED WIRES  
AWS E70C-6M H4



## RECOMMENDED OPERATING PARAMETERS:

The information below was determined by welding performed with 75% Ar/25% CO<sub>2</sub> shielding gas at a flow rate of 40 cfh.

Diameter Electrical Stickout (ES) Position	Arc Voltage (volts)	Current DCEP (+) (amps)	Approx. Wire Feed Speed (in/min)	Deposition Rate (lbs/hr)
.035" 1/2" ± 1/8" Flat and Horizontal	26	200	550	8.47
	<b>28</b>	<b>250</b>	<b>760</b>	<b>11.97</b>
	30	260	791	12.54
.045" 5/8" ± 1/8" Flat and Horizontal	27	200	273	6.11
	29	250	395	9.42
	<b>31</b>	<b>300</b>	<b>520</b>	<b>13.0</b>
	34	350	645	16.51
.052" 5/8" ± 1/8" Flat and Horizontal	28	250	265	7.95
	30	300	355	11.64
	<b>32</b>	<b>350</b>	<b>450</b>	<b>15.11</b>
	34	400	640	16.51
1/16" 3/4" ± 1/4" Flat and Horizontal	30	275	185	7.66
	30	300	220	9.66
	<b>31</b>	<b>350</b>	<b>270</b>	<b>12.44</b>
	32	400	330	15.75
	36	450	381	18.21
3/32" 1" ± 1/4" Flat and Horizontal	31	400	132	10.8
	<b>34</b>	<b>500</b>	<b>176</b>	<b>16.2</b>
	39	600	247	22.7
5/64" 1" ± 1/4" Flat and Horizontal	28	350	160	11.41
	31	400	200	15.38
	34	475	250	19.50

**Bold:** Optimum parameters for welder appeal.

### Notice:

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# VERTI-COR I

GAS SHIELDED FLUX-CORED WIRE  
AWS E71T-1C H8, E71T-1M H8



## RECOMMENDED OPERATING PARAMETERS:

The information below was determined by welding performed with 100% CO<sub>2</sub> shielding gas at a flow rate of 35 cfh. For Ar/CO<sub>2</sub> shielding gas, reduce voltage by approximately one (1) volt.

Diameter Electrical Stickout (ES) Position	Arc Voltage (volts)	Current DCEP (+) (amps)	Approx. Wire Feed Speed (in/min)	Deposition Rate (lbs/hr)
.035" 1/2" to 3/4" Flat and Horizontal	22	100	195	2.4
	<b>28</b>	<b>225</b>	610	to
	29	250	720	8.4
.035" 1/2" to 3/4" Vertical and Overhead	22	100	195	2.4
	<b>25</b>	<b>200</b>	525	to
	29	225	720	7.1
.045" 1/2" to 3/4" Flat and Horizontal	24	150	190	3.6
	<b>31</b>	<b>300</b>	<b>555</b>	10.6
	36	350	705	14.4
.045" 1/2" to 3/4" Vertical and Overhead	24	150	220	3.8
	<b>26</b>	<b>225</b>	<b>345</b>	6.5
	27	275	460	9.3
.052" 1/2" to 3/4" Flat and Horizontal	23	150	145	3.6
	<b>30</b>	<b>325</b>	<b>460</b>	9.5
	31	350	474	12.2
.052" 1/2" to 3/4" Vertical and Overhead	25	150	155	3.7
	<b>26</b>	<b>225</b>	<b>260</b>	5.5
	26	275	365	9.1
1/16" 1/2" to 1" Flat and Horizontal	23	150	100	3.2
	<b>30</b>	<b>350</b>	<b>330</b>	8.0
	37	400	395	13.5
1/16" 1/2" to 1" Vertical and Overhead	23	150	110	3.3
	<b>25</b>	<b>225</b>	<b>175</b>	3.8
	26	250	210	6.8

**Bold:** Optimum parameters for welder appeal.

### Notice:

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### Caution:

Consumers should be thoroughly familiar with the safety precautions shown on the Warning Label posted on each shipment in and in American National Standard Z49.1, "Safety in Welding and Cutting," published by the American Welding Society, 550 NW LeJeune Road, Miami, FL 33126, and OSHA Safety and Health Standards 29 CFR 1910, available from the U.S. Department of Labor, Washington, D.C. 20210.

Product Type: VERTI-COR I  
 Classification: E71T-1C H8, E71T-1M H8  
 Specifications: AWS A5.20-2005; ASME SFA5.20  
 Diameter Tested: 1/16"  
 Date Tested: 09/28/06  
 Date Generated: 12/18/2006

This is to certify that the product named above and supplied on the referenced order number is of the same classification, manufacturing process, and material requirements as the material which was used for the test that was concluded on the date shown, the results of which are shown below. All tests required by the specifications shown for classification were performed at that time and the material tested met all requirements. It was manufactured and supplied by the Quality System Program of Hobart Brothers, which meets the requirements of ISO9000, ANSI/AWS A5.01, and other specification and Military requirements, as applicable.

### Test Settings

Shielding Medium	Amps / Polarity	Volts	WFS in/min (m/min)	ESO in(mm)	Preheat F(C)	Interpass F(C)	Travel Speed in/min(cm/min)
SG-AC-25	275 / DCEP	26	240 (6.1)	3/4 (19)	60(16)	300(149)	10 (25.4)
SG-C 100%CO2	275 / DCEP	27	240 (6.1)	3/4 (19)	60(16)	300(149)	10 (25.4)

### Mechanical Properties - Tensile

Shielding Medium	Ref. No.	Testing Conditions	Ult. Tensile Strength psi (MPa)	Yield Strength psi (MPa)	Elong.% in 2"
SG-AC-25	PA3454	As Welded	95,000 ( 655 )	86,000 ( 594 )	24
SG-C 100%CO2	PA3470	As Welded	87,000 ( 603 )	77,000 ( 532 )	26

### Mechanical Properties - Impact

Shielding Medium	Ref. No.	Testing Conditions	Temp. F (C)	Individuals ft.lb.(J)	Avg. ft.lb.(J)	Type
SG-AC-25	PA3454	As Welded	0 (-18)	35,33,30 (47,45,41)	33 ( 44 )	Charpy-V-Notch
SG-C 100%CO2	PA3470	As Welded	0 (-18)	34,32,36 (46,43,49)	34 ( 46 )	Charpy-V-Notch

Ref.No.	Radiographic Inspection	Fillet Weld Test			
PA3454	Conforms	Horizontal :	Overhead :	Conforms	Vertical :
PA3470	Conforms	Horizontal :	Overhead :	Conforms	Vertical :

### Chemical Analysis

Shielding Medium / Ref. No	C	Mn	P	S	Si	Cu	Cr	V	Ni	Mo	Al	Ti	Nb	Co	B	W	Sn	Fe	Sb	N	Mg	Zn	Be
SG-C 100%CO2 / CA38719	0.07	1.33	0.020	0.017	0.54	0.03	0.04	0.03	< .01	0.01													
SG-AC-25 / PA3454	0.06	1.35	0.018	0.015	0.64	0.04	0.04	0.02	0.02	0.03													

### Diffusible Hydrogen Collected per AWS A4.3

SG-C 100%CO2	4.4 ml/100g of weld metal for 1/16 in diameter
SG-AC-25	5.4 ml/100g of weld metal for 1/16 in diameter

*J. H. O'Leary*

Joe O'Leary, Manager, Quality Assurance

*Melvin Seitz*

Melvin Seitz, Quality Manager

The information contained or otherwise referenced herein is presented without guarantee or warranty. Hobart Brothers Company ("Hobart") expressly disclaims any liability incurred from any reliance thereon. Data for the above-supplied product are those obtained during the welding process and tested in accordance with the above specification with electrodes of the same manufacturing processes and material requirements. All tests for the above classification were performed satisfactorily. No data is to be construed as a recommendation for any welding condition or technique not controlled by Hobart. Hobart produces welding consumables under continuing quality assurance programs audited and approved by the American Bureau of Shipping ("ABS"). Please refer to the Hobart Brothers Company website at [www.hobartbrothers.com](http://www.hobartbrothers.com) for current Material Safety Data Sheets ("MSDS").

# Bolts

# Cert Summary Page HAYDON BOLTS, INC.

P.O.# 14725

JAMES A. MC BRADY INC

Customer PO 14725

Invoice No. B8020537 Invoice Date 02/14/08 Sales Order K26052

Cert No	Inv Line No	Item No	Quantity	Lot No	Heat	Assembly No	Haydon PO
34765	40000	PTU100200	150	KA401A	7240516		A48149
		Description: 1(8)X 2" F1852-1/A325 PT DOMESTIC			Manufacturer: UNYTITE INC.		
34766	50000	PTU100225	140	KX131B	7242328		A48149
		Description: 1(8)X 2-1/4 F1852-1/A325 PT DOMESTIC			Manufacturer: UNYTITE INC.		
34581	70000	PTU075175	1,500	MA361B	7347046		A48149
		Description: 3/4(10)X 1-3/4 F1852-1/A325 PT DOMESTIC			Manufacturer: UNYTITE INC.		
35045	80000	PTU075200	840	MD511	7243663		A48149
		Description: 3/4(10)X 2" F1852-1/A325 PT DOMESTIC			Manufacturer: UNYTITE INC.		
35046	90000	PTU075225	540	MD541	20029990		A48149
		Description: 3/4(10)X 2-1/4 F1852-1/A325 PT DOMESTIC			Manufacturer: UNYTITE INC.		
28598	100000	PTU075500	16	AF061A	390980		A44771
		Description: 3/4(10)X 5" F1852-1/A325 PT DOMESTIC			Manufacturer: UNYTITE INC.		
34266	110000	PTU075600	8	BC561A	7326632		A48149
		Description: 3/4(10)X 6" F1852-1/A325 PT DOMESTIC			Manufacturer: UNYTITE INC.		
34793	120000	AAA075700	17	599398	CR 507310		A49817
		Description: 3/4(10)X 7" A325-1 BOLT			Manufacturer: ST. LOUIS SCREW & BOLT		
34074	130000	VUC075	17	07-42-042	461160		A47287
		Description: 3/4(10) HVY HEX NUT A563-C DOMESTIC			Manufacturer: DECKER MANUFACTURING CORP.		
35087	140000	AAW075	17	224258	274959		Z00137
		Description: 3/4 F436-1 STRUCTURAL WASHER			Manufacturer: WROUGHT WASHER MFG INC.		

# HAYDON BOLTS, INC.

JAMES A. MC BRADY INC

Customer PO 14725

Invoice No. B8020537

Invoice Date 02/14/08

Sales Order K26052

Cert No	Inv Line No	Item No
34765	40000	PTU100200

Quantity	Lot No
150	KA401A

Heat
7240516

Assembly No

Haydon PO  
A48149

SET LOT NO. KA401A

# INSPECTION CERTIFICATE



**UNYTITE, INC.**  
 One Unytite Drive  
 Peru, Illinois 61354  
 815-224-2221 — FAX # 815-224-3434

Specification	Size	Quantity
ASTM F1852 Type 1 ASTM A563 Grade DH ASTM F436 Type 1	1 - 8 UNC X 2	4,625 pcs.

Mechanical properties tested in accordance to ASTM F606/F606M, ASTM A370, ASTM E18

BOLT LOT NO. KA401

Date: May 19, '07

	Mechanical Property of Full Size Bolts				Heat Treatment		IDENTIFICATION	Chemical Composition %										
	Tensile Strength		Proof Load 51500 lb. (Length Method)	Hardness HRC	°F (°C)				C	Si	Mn	P	S	Cu	Ni	Cr	Mo	B
	Load (lbf)	Position of fracture			Quench	Temper			x 100	x 100	x 100	x 1000	x 1000	x 100	x 100	x 100	x 100	x 100
Spec.	Min. 72700	Part of Screw	Max. +/- 0.0005 in.	34 MAX	-	Min. 800	Heat No.		30	15	Min.	Max.	Max.	-	-	-	-	-
Average	87975	Part of Screw	ALL PASS	31.9	1580	890	7240516	52	30	60	40	50	-	-	-	-	-	

NUT LOT NO. KC921

Hardness (HRC)	Hardness After 24 hr x 1000° F HRB	Proof Load (Lbf)	Heat Treatment		IDENTIFICATION	Chemical Composition %								Thread Accuracy			
			°F (°C)				C	Si	Mn	P	S	Cu	Ni	Cr	Bolt	Nut	
			Quench	Temper			x 100	x 100	x 100	x 1000	x 1000	x 100	x 100	x 100			
Spec.	24 - 38	HRB 89	06050	-	800		Heat No.	20	-	Min.	Max.	Max.	-	-			-
Mean/5pcs.	28.4	-	ALL PASS	1562	1049	793198	55	-	60	40	50	-	-	-	-	-	ANSI B1.1 Class 2B

WASHER LOT NO. WB8990

Hardness (HRC)	IDENTIFICATION	Chemical Composition %							
		C	Si	Mn	P	S	Cu	Ni	Cr
		x 100	x 100	x 100	x 1000	x 1000	x 100	x 100	x 100
Spec.		-	-	-	Max.	Max.	-	-	-
Mean/5 Pcs.	Heat No.	37	8	75	40	50	-	-	-
	9502641	37	8	75	14	3	-	-	-

### Fastener Tension

Fastener Tension	
Spec. (lbf.)	Min. 54000
Mean / 6 sets.	72932
Standard Deviation	3746

Thread Accuracy (Bolt & Nut)	
Bolt	ASME B1.1 Class 2A
Nut	ANSI B1.1 Class 2B

REMARKS

*Jean Margherio*

OFFICIAL SEAL  
 JEAN MARGHERIO  
 NOTARY PUBLIC - STATE OF ILLINOIS  
 MY COMMISSION EXPIRES 10/15/08

DL-18-07

Material used for the bolt, nut and washer were melted & manufactured in the USA. The product was manufactured in the USA to ASTM specifications. The bolt and nut are manufactured by Unytite. We hereby certify that the material described has been manufactured and inspected satisfactory with requirement of the above specification.

Chief of Quality Assurance Section

*[Signature]*





1807 EAST 28TH ST.  
PHONE: 330-438-5694

LORAIN, OH 44055  
FAX: 330-438-5905

CERTIFICATE OF TESTS

REPUBLIC ENGINEERED PRODUCTS

March 5, 2007  
PAGE 1

OF 2

PURCHASE ORD: 14216  
PART NUMBER: 3BC101U  
ORDER NUMBER: 1318347 - 01  
HEAT: 7240516

PURCHASE ORDER DATE: 1/3/2007  
ACCOUNT NUMBER: 5376-1348-01  
SCHEDULE: 1279-83  
REVISION: 1

CHARGE ADDRESS

SHIP TO

O & K AMERICAN  
4630 WEST 55TH ST  
CHICAGO, IL 60632

O & K AMERICAN  
MIKE PASEK  
4630 WEST 55TH ST  
CHICAGO, IL 60632

MATERIAL DESCRIPTION

HOT ROLLED STEEL COILS CARBON O&K AMERICAN SPEC #OKA-009 PART #3BC101U REVISION 2 EXC CHEM, APPENDIX II (10B30M) GRADE-10B30-MOD FINE GRAIN COLD WORKING QUALITY FIXED PRACTICE PART RESTRICTED CHEMISTRY RESTRICTED MAX INCIDENTAL ELEMENTS  
SIZE: RDS 1.0150 DIAM X COIL  
RDS 25.7810MM DIAM X COIL

LADLE CHEMISTRY %

C	MN	P	S	SI	CU	NI	CR
0.31	0.79	0.008	0.010	0.25	0.02	0.03	0.06
V	MO	SN	AL	TI	B	CB	N
0.003	0.01	0.002	0.031	0.036	0.0012	0.001	0.0038

CALCULATED TESTS

ACTION RATIO 44.5 TO 1

AUSTENITIC GRAIN SIZE 5 OR FINER BASED ON A TOTAL ALUMINUM CONTENT EQUAL TO OR GREATER THAN .020% PER ASTM A29.

SEMI - FINISHED RESULTS

JOMINY HARDNESS TEST SAE J406/ASTM A255  
1 2 3 4 5 6 7 8 9  
51 49 48 44 37 27 24 21 20

FINISHED SIZE RESULTS

DECARBURIZATION TEST SAE J419/ASTM EI077  
ETCHANT = NITAL MAGNIFICATION = 100X  
COMPLETE DEPTH  
INCHES INCHES  
PCE 2885 0 0.004

NOTES

REPUBLIC ENGINEERED PRODUCTS HEREBY CERTIFY THAT THE MATERIAL LISTED HEREIN HAS BEEN INSPECTED AND TESTED IN ACCORDANCE WITH THE METHODS PRESCRIBED IN THE GOVERNING SPECIFICATIONS AND BASED UPON THE RESULTS OF SUCH INSPECTION AND TESTING HAS BEEN APPROVED FOR CONFORMANCE TO THE SPECIFICATIONS.

CERTIFICATE OF TESTS SHALL NOT BE REPRODUCED EXCEPT IN FULL.

ALL TESTING HAS BEEN PERFORMED USING THE CURRENT REVISION OF THE TESTING SPECIFICATIONS.

RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FED STATUES TITLE 18 CHAPTER 47.

CHEMICAL ANALYSIS CONFORMS TO APPLICABLE SPECS: ASTM E415, ASTM E1019 AND/OR ASTM E1085.

THE MATERIAL WAS NOT EXPOSED TO MERCURY OR ANY METAL ALLOY THAT IS LIQUID AT AMBIENT TEMPERATURE

A. SZELIGA  
MANAGER TECH. SERVICES

BY DEBRA L. BARTON

*R. A. Szeliga*

*AS 3/14/2007*



# Republic

ENGINEERED PRODUCTS

1807 EAST 28TH ST.  
PHONE: 330-438-5694

LORAIN, OH 44055  
FAX: 330-438-5905

CERTIFICATE OF TESTS

REPUBLIC ENGINEERED PRODUCTS

March 5, 2007  
PAGE 2

OF 2

=====

PURCHASE ORD: 14216  
PART NUMBER: 3BC101U  
ORDER NUMBER: 1318347 - 01  
HEAT: 7240516  
DURING PROCESSING OR WHILE IN OUR POSSESSION.

=====

PURCHASE ORDER DATE: 1/3/2007  
ACCOUNT NUMBER: 5376-1348-01  
SCHEDULE: 1279-83  
REVISION: 1

NO WELD OR WELD REPAIR WAS PERFORMED ON THIS MATERIAL.

----- NOTES (CONTINUED) -----

MANUFACTURED IN THE U.S.A.

----- SOURCE INFORMATION -----

MELT SOURCE: LORAIN BILLET MELT COUNTRY: U.S.A HOT ROLL SOURCE: LORAIN 9/10, U.S.A  
MELT METHOD: BILLET RED. RATIO: 44.5

----- END OF DATA -----

CC

----- END OF DATA -----

FAX SHIP TO 1 COPY ATTENTION MIKE PASEK 17737674717  
WITH SHIPMENT 1 COPY PRINTED AT SHIPPING AREA  
FILE 1 COPY

A. SZELIGA  
MANAGER TECH. SERVICES

BY DEBRA L. BARTON

*A. A. Szeliga*

# TEST REPORT

**MITTAL**

REQ., JOB, CONTRACT NO.		PURCHASE ORDER NO. <b>P001398</b>	
V E N D O R  MITTAL STEEL USA INC. INDIANA HARBOR BAR PRODUCTS 3300 DICKEY ROAD EAST CHICAGO, INDIANA 46312	SHIPPER'S NO.	BILL ORDER NO. <b>229030</b>	
	REPORT PRINT DATE <b>02/14/2007</b>		

TEST REPORT TO: <b>UNYTITE</b>	SHIP TO: <b>UNYTITE, INC</b>
<b>1 UNYTITE DR</b>	<b>ONE UNYTITE DRIVE</b>
<b>PERU IL 61354</b>	<b>PERU IL, 61354</b>

CMS (REG TM) SQ HOT ROLLED ROUNDS SAE 1045 MOD /RMS-009 (03/09/01) 5 / FINE GRAIN/CWQ/RESTRICTED CHEMICAL REQ/RESTRICTED MAX INCIDENTAL ELEMENTS/MRR FOR SPEC SURF & CLEAN/SPECIAL STRAIGHTENED/EDDY CURRENT TESTED/

RND 1.2500 IN X 24 FT 10 1/2 IN

HEAT: 793198 C : 0.44 Mn: 0.66 P : .012 S : .020 Si: 0.19  
 Cu: .11 Ni: 0.07 Cr: 0.09 Mo: .03 Al: .021  
 Cb: .001 V : .002 N : .009 Ti: .001

Ni+Cr = 0.16

MICROCLEANLINESS per A (SULF) B (ALUM) C (SILI) D (OXID)  
 ASTM E45 METHOD A 2.0T 0.0H 0.0T 0.0H 0.0T 0.0H 1.0T 0.0H

DECARBURIZATION: A.A.D. 0.008"

PART NUMBER: CSRB1045M1250

MATERIAL MEETS AUSTENITIC GRAIN SIZE REQUIREMENT OF 5 OR FINER  
 MATERIAL IS 100% SMELT/MELT AND MANUFACTURED IN THE U.S.A.  
 THIS STEEL IS WARRANTED TO MEET OR EXCEED MACRO/RATING OF " S4 R4 C4"

**NOTARY**

Unless otherwise stated, the steel described herein was manufactured, inspected and tested in accordance with the requirements of the contract or purchase order and conform to those requirements. This steel is compliant with European Union Directive 2002/95/EC. No mercury, radium or alpha source materials were used in the production of this steel. This steel has not been welded nor repair welded. Heat analyses are reported in weight percent. Heat analyses and test results marked with an asterisk (\*) were reported by a Mittal Steel USA Inc., Indiana Harbor Bar Products approved third party. The "+" sign at the beginning of any line indicates an amendment to that line from a previously issued report for the same heat/order. All tests were performed by Mittal Steel USA Inc., Indiana Harbor Bar Products, in accordance with the following, unless otherwise specified: Chemistry per ASTM E415 & E1019; Hardenability per ASTM A255 and SAE J406; Macrostructure per ASTM E381 & E1180; Mechanical Properties per ASTM A370, E8 & E23; Hardness per ASTM E10, E18 & SAE J417; Cleanliness per SAE J421; Microstructure/Microcleanliness per ASTM E3, E45, E112, E1077, J419, J422 & J15 G0555; NDT per ASNT-TC-1A; Rounding per ASTM E29. Tested per most recent standard, unless otherwise noted. Measurement uncertainty was determined and is available upon request. We hereby certify that the heat and/or test results in this report are applicable only to the items described herein, and are correct as contained in the records of the Company. This document shall not be reproduced except in full.

The management system governing the manufacturing processes of this product, at Mittal Steel USA Inc., Indiana Harbor Bar Products, is ISO/TS 16949:2002 certified, Certificate No. 38325; ISO 14001:2004 certified, Certificate No. 36274 and A2LA accredited in the fields of: Chemical, Mechanical and Environmental Testing - Certificate Nos. 111.01, 111.02 and 111.03

*Kevin R. Oberembt*  
 Kevin R. Oberembt  
 Manager - Quality Department



LOT  
B9990

640 Lavoy Road  
Erie, MI 48133  
Phone: 734/848-2915 Fax: 734/848-8734

# CERTIFICATE OF ANALYSIS

CUSTOMER ORDER No: 14632	CERTIFICATION No: 2 -219028	SHIPPER No: 2 -219028	CERTIFIED DATE: 12/13/06
CUSTOMER PART No: P1900H01	RF	SIZE: .1360 <sub>x</sub> 5.5800 <sub>x</sub> COIL	
CUSTOMER:  PRESTIGE STAMPING INC. **  P O BOX 1086  WARREN MI 480901086		GRADE: SAE J403 1040	
		COATING SPECIFICATION: MELTED AND MANUFACTURED IN THE U.S.A.	

ATTENTION:

~~All units of measurement for chemistry are in weight percent.~~

COIL NO.	HEAT NUMBER	CHEMISTRY AND MECHANICAL PROPERTIES
JH5302	9502641	C = 0.370 MN= 0.750 P = 0.014 S = 0.003 SI= 0.080 AL= 0.045

THE ABOVE MECHANICAL AND CHEMICAL ANALYSES WERE SUPPLIED  
BY THE PRODUCING MILL OR TESTED ON OUR OWN EQUIPMENT.

Form No. FOC 001 Rev. 2

Agent for Heidman Steel Products, Inc.

# HAYDON BOLTS, INC.

JAMES A. MC BRADY INC

Customer PO 14725

Invoice No. B8020537

Invoice Date 02/14/08

Sales Order K26052

Cert No Inv Line No Item No

Quantity Lot No

Heat

Assembly No

Haydon PO

34766 50000 PTU100225

140 KX131B

7242328

A48149

SET LOT NO. KX131B

# INSPECTION CERTIFICATE




**UNYTITE, INC.**  
 One Unytite Drive  
 Peru, Illinois 61354  
 815-224-2221 — FAX # 815-224-3434

Specification	Size	Quantity
ASTM F1852 Type 1 ASTM A563 Grade DH ASTM F436 Type 1	1 - 8 UNC X 2-1/4	2,520 pcs


Mechanical properties tested in accordance to ASTM F606/F606M, ASTM A370, ASTM E18

BOLT LOT NO. KX131

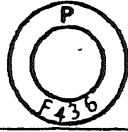
Date: Nov. 21, '07

	Mechanical Property of Full Size Bolts			Heat Treatment		IDENTIFICATION 	Chemical Composition %										
	Tensile Strength		Proof Load 51500 lbf. (Length Method)	Hardness HRC	°F (°C)		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	B	
	Load (lbf)	Position of fracture			Quench		Temper	x 100	x 100	x 100	x 1000	x 1000	x 100	x 100	x 100	x 100	x 100
Spec.	Min. 72700	Part of Screw	Max. +/- 0.0005 in.	34 MAX	--	Min. 800	Heat No.	30 52	15 30	Min. 60	Max. 40	Max. 50	--	--	--	--	--
Average	90025	Part of Screw	ALL PASS	31.9	1580	890	7242328	32	26	81	14	10	3	2	8	1	13

NUT LOT NO. KW241

Hardness (HRC)	Hardness After 24 hr x 1000° F HRB	Proof Load (Lbf)	Heat Treatment		IDENTIFICATION 	Chemical Composition %								Thread Accuracy		
			°F (°C)			C	Si	Mn	P	S	Cu	Ni	Cr	(Bolt & Nut)		
			Quench	Temper		x 100	x 100	x 100	x 1000	x 1000	x 100	x 100	x 100			
Spec.	24 - 38	HRB 89	106050	--	800	Heat No.	20 55	--	Min. 60	Max. 40	Max. 50	--	--	--	Bolt ASME B1.1 Class 2A Nut ANSI B1.1 Class 2B	
Mean/5pcs.	29.3	--	ALL PASS	1562	1220	M26051	45	24	85	9	30	13	6	12		

WASHER LOT NO. WB9549

Hardness (HRC)	IDENTIFICATION 	Chemical Composition %								
		C	Si	Mn	P	S	Cu	Ni	Cr	
		x 100	x 100	x 100	x 1000	x 1000	x 100	x 100	x 100	
Spec.	38 - 45	Heat No.	--	--	--	Max. 40	Max. 50	--	--	--
Mean/5 Pcs.	41.5	0832818	48	20	64	8	3	--	--	--

**Fastener Tension**

Fastener Tension	
Spec. (lbf.)	Min. 54000
Mean / 6 sets.	65704
Standard Deviation	3107

**REMARKS**

OFFICIAL SEAL  
 JEAN MARGHERIO  
 NOTARY PUBLIC - STATE OF ILLINOIS  
 MY COMMISSION EXPIRES: 10/16/08

Chief of Quality Assurance Section

Material used for the bolt, nut and washer were melted & manufactured in the USA. The product was manufactured in the USA to ASTM specifications. The bolt and nut are manufactured by Unytite. We hereby certify that the material described has been manufactured and inspected satisfactory with requirement of the above specification.

*[Signature]*



# Republic

ENGINEERED PRODUCTS

1807 EAST 28TH ST.  
PHONE: 330-438-5694

LORAIN, OH 44055  
FAX: 330-438-5905

CERTIFICATE OF TESTS

REPUBLIC ENGINEERED PRODUCTS

August 6, 2007  
PAGE 1

OF 2

PURCHASE ORD: 14734		PURCHASE ORDER DATE: 5/23/2007	
PART NUMBER: 3BC101U		ACCOUNT NUMBER: 5376-1348-01	
ORDER NUMBER: 1336397 - 01		SCHEDULE: 8233-83	
HEAT: 7242328		REVISION: 1	
===== CHARGE ADDRESS =====		===== SHIP TO =====	

O & K AMERICAN  
4630 WEST 55TH ST  
CHICAGO, IL 60632

O & K AMERICAN  
MIKE PASEK  
4630 WEST 55TH ST  
CHICAGO, IL 60632

----- MATERIAL DESCRIPTION -----  
HOT ROLLED STEEL COILS CARBON O&K AMERICAN SPEC #OKA-009 PART #3BC101U REVISION 2 EXC CHEM, APPENDIX II (10B30M) GRADE-10B30-MOD FINE GRAIN COLD WORKING QUALITY TRANSPLANT FIXED PRACTICE PART RESTRICTED CHEMISTRY RESTRICTED MAX INCIDENTAL ELEMENTS  
SIZE: RDS 1.0150 DIAM X COIL  
RDS 25.7810MM DIAM X COIL

----- LADLE CHEMISTRY % -----							
C	MN	P	S	SI	CU	NI	CR
0.32	0.81	0.014	0.010	0.26	0.03	0.02	0.08
V	MO	SN	AL	TI	B	CB	N
0.003	0.01	0.003	0.036	0.033	0.0013	0.001	0.0043

----- CALCULATED TESTS -----  
REDUCTION RATIO 44.5 TO 1

AUSTENITIC GRAIN SIZE 5 OR FINER BASED ON A TOTAL ALUMINUM CONTENT EQUAL TO OR GREATER THAN .020% PER ASTM A29.

----- SEMI - FINISHED RESULTS -----

JOMINY HARDNESS TEST SAE J406/ASTM A255  
1 2 3 4 5 6 7 8 9 10 11 12 13 14  
51 50 50 48 43 34 28 23 22 21 20 20 20 20

----- FINISHED SIZE RESULTS -----

DECARBURIZATION TEST SAE J419/ASTM E1077  
ETCHANT = NITAL MAGNIFICATION = 100X

	TOTAL
COMPLETE	DEPTH
INCHES	INCHES
PCE 10446	0 0.003

*DS 8/15/2007*

----- NOTES -----  
CHEMICAL ANALYSIS CONFORMS TO APPLICABLE SPECS: ASTM E415, LBL10129, LBL10130, ASTM E1019, LBL10158, LBL10114, AND ASTM E1085, LBL10184, LBL10188.

REPUBLIC ENGINEERED PRODUCTS HEREBY CERTIFY THAT THE MATERIAL LISTED HEREIN HAS BEEN INSPECTED AND TESTED IN ACCORDANCE WITH THE METHODS PRESCRIBED IN THE GOVERNING SPECIFICATIONS AND BASED UPON THE RESULTS OF SUCH INSPECTION AND TESTING HAS BEEN APPROVED FOR CONFORMANCE TO THE SPECIFICATIONS.

CERTIFICATE OF TESTS SHALL NOT BE REPRODUCED EXCEPT IN FULL.

ALL TESTING HAS BEEN PERFORMED USING THE CURRENT REVISION OF THE TESTING SPECIFICATIONS.

RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FED STATUTES TITLE 18 CHAPTER 47.

R. A. SZELIGA  
MANAGER TECH. SERVICES

BY JANET K. HARTLINE

*R. A. Szeliga*



1807 EAST 28TH ST.  
PHONE: 330-438-5694

LORAIN, OH 44055  
FAX: 330-438-5905

CERTIFICATE OF TESTS

REPUBLIC ENGINEERED PRODUCTS

August 6, 2007  
PAGE 2

OF 2

=====	
PURCHASE ORD: 14734	PURCHASE ORDER DATE: 5/23/2007
PART NUMBER: 3BC101U	ACCOUNT NUMBER: 5376-1348-01
ORDER NUMBER: 1336397 - 01	SCHEDULE: 8233-83
HEAT: 7242328	REVISION: 1

THE MATERIAL WAS NOT EXPOSED TO MERCURY OR ANY METAL ALLOY THAT IS LIQUID AT AMBIENT TEMPERATURE DURING PROCESSING OR WHILE IN OUR POSSESSION.

NO WELD OR WELD REPAIR WAS PERFORMED ON THIS MATERIAL.

----- NOTES (CONTINUED) -----

MANUFACTURED IN THE U.S.A.

----- SOURCE INFORMATION -----

MELT SOURCE: LORAIN BILLET	MELT COUNTRY: U.S.A	HOT ROLL SOURCE: LORAIN 9/10, U.S.A
MELT METHOD: BILLET	RED. RATIO: 44.5	

-----	END OF DATA	-----	CC	-----	END OF DATA	-----
WITH SHIPMENT	1 COPY	PRINTED AT SHIPPING AREA				
FILE	1 COPY					

R. A. SZELIGA  
MANAGER TECH. SERVICES

BY JANET K. HARTLINE

*R. A. Szeliga*



## CERTIFIED MATERIAL TEST REPORT

<b>CUSTOMER ORDER NUMBER</b> PO01898	<b>CUSTOMER PART NUMBER</b> B1045SC12500	<b>HEAT NUMBER</b> M26051	<b>WORK ORDER NUMBER</b> 212190 101	<b>DATE</b> 10/03/07
---	---	------------------------------	--	-------------------------

**REPORT TO**  
TRACI  
UNYTITE, INC.

ONE UNYTITE DRIVE  
PERU, IL 61354-9710

**SHIP TO**

UNYTITE, INC.  
ONE UNYTITE DRIVE  
PERU, IL 61354

### ORDERED

<b>GRADE</b> 1045	<b>SIZE</b> 1 1/4" RND	<b>LENGTH</b> 24' 10 1/2"
----------------------	---------------------------	------------------------------

**CUSTOMER SPECIFICATIONS**  
SAE 1045; ASTM E381-01

### CHEMICAL ANALYSIS - (BAR AVERAGE)

C	Mn	P	S	Si	Ni	Cr	Mo	Cu	Sn	Al
0.45	0.85	0.009	0.030	0.24	0.06	0.12	0.03	0.13	0.006	0.002
V	Nb									
0.062	0.001									

**GRAIN SIZE** SPECIFICATION ASTM E112 FINE GRAIN 5-8

**MACROCLEANLINESS** SPECIFICATION ASTM E381

#### PLATE I

#### PLATE II

	S	R	C
FRONT	1	1	1
MIDDLE	1	1	1
BACK	1	1	1
AVERAGE	1	1	1

NONE

**DECARB** SPECIFICATION ASTM E1077

F TOTAL= 0.006

PAGE 1

We certify that these data are correct and in compliance with specified requirements.

**MacSteel Monroe**  
3000 East Front Street  
Monroe, MI 48161

  
Chris Easter  
Quality Assurance Representative

### CERTIFIED MATERIAL TEST REPORT

CUSTOMER ORDER NUMBER	CUSTOMER PART NUMBER	HEAT NUMBER	WORK ORDER NUMBER	DATE
PO01898	B1045SC12500	M26051	212190 101	10/03/07

REPORT TO  
TRACI  
UNYTITE, INC.

ONE UNYTITE DRIVE  
PERU, IL 61354-9710

SHIP TO

UNYTITE, INC.  
ONE UNYTITE DRIVE  
PERU, IL 61354

### ORDERED

GRADE	SIZE	LENGTH
1045	1 1/4" RND	24' 10 1/2"

### CUSTOMER SPECIFICATIONS

SAE 1045; ASTM E381-01

### REDUCTION RATIO

RATIO= 29.3 TO 1.0

\*\* MATERIAL 100% MELTED AND MANUFACTURED IN THE U.S.A. BY THE ELECTRIC ARC FURNACE AND CONTINUOUS CASTING METHOD. THE PRODUCT HAS NOT BEEN REPAIRED BY WELDING AND THIS MATERIAL HAS NOT BEEN EXPOSED TO MERCURY OR TO ANY OTHER METAL ALLOY THAT IS LIQUID AT AMBIENT TEMPERATURES DURING PROCESSING OR WHILE IN OUR POSSESSION. \*\*

We certify that these data are correct and in compliance with specified requirements.



**PRODUCT CERTIFICATION**

CERTIFICATION NUMBER

55685

THIS IS TO CERTIFY THE PRODUCT STATED BELOW WAS FABRICATED AND PROCESSED TO THE ORDER AS INDICATED AND CONFORMS TO THE APPLICABLE SPECIFICATIONS AND STANDARDS.

Customer: UNYTITE INNOVATIVE FASTENER  
ACCOUNTS PAYABLE DEPARTMENT  
1 UNYTITE DRIVE  
PERU, IL  
61354

Customer Part: 1" F436 PLN  
Prestige Part: P1900H01  
Part Name: 1"F436 PLN  
Purchase Order: P002089-1  
Shipment ID: A0124943  
Quantity: 53884  
Manufacturers Marking: "P"

Steel Supplier: IMPACT STEEL CO.  
Grade: SAE C1050 STEEL  
Lot: B9549  
Heat: 0832818  
Carbon: .48  
Manganese: .64  
Phosphorous: .008  
Sulfur: .003


SPECIFICATIONS

HARDNESS: TEST METHOD: ASTM E18  
HRC 38 - 45  
ASTM F606

TEST RESULTS

HARDNESS:  
HRC 39 - 44

Chemistry is as reported from raw material certification and does not fall under Prestige Stamping's accreditation.  
This product was produced under an ISO/TS 16949 Quality Assurance System.  
ISO/TS 16949 Certification No: 0011579-800334, Expiration Date: 02/16/2008.  
Material was melted and manufactured in the U.S.A.  
This product was manufactured in Warren, Michigan U.S.A.  
This product conforms to all requirements for washers as produced according to A.S.T.M. F-436.  
Sampling Plan per P.S.I W.I. # 5.4.18.015.  
The test results only apply to the items tested.  
This test report must not be reproduced except in full without prior written approval.

  
FRANK SCHUBERT  
Quality Assurance Manager

CERTIFICATE OF CONFORMANCE

B 9579

IMPACT STEEL, INC.  
1551 ACADEMY AVENUE  
FERNDALE, MI 48220  
248-414-6100

DATE: 5/31/07

SOLD TO: PRESTIGE STAMPING, INC.  
P.O. BOX 1086  
WARREN, MI 48090-1086

SHIP TO: PRESTIGE STAMPING, INC.

Cust P/O# 15119 Part# P1901HQ01

SIZE: .136 MIN X 5.58 X COIL

GRADE: HOT ROLLED PICKLED & OILED- 1050 SECONDARY

DATE SHPPD: 5/31/07

B/L# 021256

Wt. Shipped 22880

CHEMICAL ANALYSIS

Heat Number 0832818

C : .48	Mn: .64	P : .008	S : .003
Si: .203		Cr: .020	
Cu: .03	Al: .040		
		Ni: .0100	

PHYSICAL PROPERTIES

Misc Info MELTED & MFG IN THE USA

WE HEREBY CERTIFY THE ABOVE FIGURES ARE ACCURATELY STATED, AND ARE TRACEABLE IN OUR RECORDS BACK TO THE SUPPLIER AND/OR AN ACCREDITED TEST LABORATORY.

.....  
QUALITY ASSURANCE MANAGER

RECEIVED

MAY 31 2007

Time JA

# HAYDON BOLTS, INC.

JAMES A. MC BRADY INC

Customer PO 14725

Invoice No. B8020537

Invoice Date 02/14/08

Sales Order K26052

Cert No Inv Line No Item No

Quantity Lot No

Heat

Assembly No

Haydon PO

34581 70000 PTU075175

1,500 MA361B

7347046

A48149

SET LOT NO. MA361B

# INSPECTION CERTIFICATE




**UNYTITE, INC.**  
 One Unytite Drive  
 Peru, Illinois 61354  
 815-224-2221 — FAX # 815-224-3434

Specification	Size	Quantity
ASTM F1852 Type 1 ASTM A563 Grade DH ASTM F436 Type 1	3/4-10 UNC X 1-3/4	35,100 pcs.

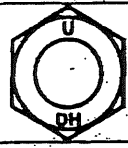
Mechanical properties tested in accordance to ASTM F606/F606M, ASTM A370, ASTM E18

BOLT LOT NO. MA361

Date: Dec. 04, '07

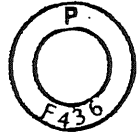
	Mechanical Property of Full Size Bolts			Heat Treatment		IDENTIFICATION 	Chemical Composition %										
	Tensile Strength		Proof Load 28400 lbf. (Length Method)	Hardness HRC	°F (°C)		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	B	
	Load (lbf)	Position of fracture			Quench		Temper	x 100	x 100	x 100	x 1000	x 1000	x 100	x 100	x 100	x 100	x 100
Spec.	Min. 40100	Part of Screw	Max. +/- 0.0005 in.	34 MAX	-	Min. 800	30	15	Min.	Max.	Max.	-	-	-	-	-	-
Average	47175	Part of Screw	ALL PASS	32.0	1580	890	52	30	60	40	50	-	-	-	-	-	-
							Heat No. 7347046	30	23	82	9	8	2	2	6	1	17

NUT LOT NO. KX551


Hardness (HRC)	Hardness After 24 hr x 1000° F HRB	Proof Load (Lbf)	Heat Treatment		IDENTIFICATION 	Chemical Composition %											
			°F (°C)			C	Si	Mn	P	S	Cu	Ni	Cr				
			Quench	Temper.		X 100	X 100	X 100	X 1000	X 1000	X 100	X 100	X 100				
Spec.	24 - 38	HRB 89	58450	-	800	Heat No.	20	-	Min.	Max.	Max.	-	-	-	-	-	-
Mean/Spcs.	28.9	-	ALL PASS	1562	1202	M26051	45	24	85	9	30	13	6	12			

Thread Accuracy (Bolt & Nut)	
Bolt	ASME B1.1 Class 2A
Nut	ANSI B1.1 Class 2B

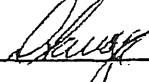
WASHER LOT NO. WB9890

Hardness (HRC)	IDENTIFICATION 	Chemical Composition %								
		C	Si	Mn	P	S	Cu	Ni	Cr	
		x 100	x 100	x 100	x 1000	x 1000	x 100	x 100	x 100	
Spec.	38 - 45	Heat No.	-	-	-	40	50	-	-	-
Mean/5 Pcs.	42.5	0132215	48	25	.60	17	2	-	-	-

Fastener Tension	
Spec. (lbf.)	Min. 29000
Mean / 6 sets.	36002
Standard Deviation	1790

REMARKS  


Material used for the bolt, nut and washer were melted & manufactured in the USA. The product was manufactured in the USA to ASTM specifications. The bolt and nut are manufactured by Unytite. We hereby certify that the material described has been manufactured and inspected satisfactory with requirement of the above specification.

Chief of Quality Assurance Section  




# Republic

ENGINEERED PRODUCTS

2633 EIGHTH ST. N.E.  
PHONE: 330-438-5694

CANTON, OH 44704  
FAX: 330-438-5695

CERTIFICATE OF TESTS

REPUBLIC ENGINEERED PRODUCTS

September 27, 2007  
PAGE 1

OF 2

PURCHASE ORD: 14737		PURCHASE ORDER DATE: 5/23/2007	
PART NUMBER: 3BC750U		ACCOUNT NUMBER: 5376-1348-01	
ORDER NUMBER: 1336400 - 01		SCHEDULE: 1107-84	
HEAT: 7347046		REVISION: 1	
===== CHARGE ADDRESS =====		===== SHIP TO =====	

O & K AMERICAN  
4630 WEST 55TH ST  
CHICAGO, IL 60632

O & K AMERICAN  
MIKE PASEK  
4630 WEST 55TH ST  
CHICAGO, IL 60632

----- MATERIAL DESCRIPTION -----  
 HOT ROLLED STEEL COILS CARBON O&K AMERICAN SPEC #OKA-009 PART #3BC750U REVISION 2 EXC CHEM, APPENDIX II (10B30M) GRADE-10B30-MOD FINE GRAIN COLD WORKING QUALITY TRANSPLANT FIXED PRACTICE PART RESTRICTED CHEMISTRY RESTRICTED MAX INCIDENTAL ELEMENTS  
 SIZE: RDS .7500 DIAM X COIL  
 RDS 19.0500MM DIAM X COIL

----- LADLE CHEMISTRY % -----							
C	MN	P	S	SI	CU	NI	CR
0.30	0.82	0.009	0.008	0.23	0.02	0.02	0.06
V	MO	SN	AL	TI	B	CB	N
0.003	0.01	0.001	0.022	0.023	0.0017	0.001	0.0041

----- CALCULATED TESTS -----  
 REDUCTION RATIO .81.5 TO 1  
 AUSTENITIC GRAIN SIZE 5 OR FINER BASED ON A TOTAL ALUMINUM CONTENT EQUAL TO OR GREATER THAN .020% PER ASTM A29.

----- SEMI - FINISHED RESULTS -----  
 JOMINY HARDNESS TEST SAE J406/ASTM A255  
 1 2 3 4 5 6 7 8 9  
 51 50 49 47 38 30 23 21 20

----- FINISHED SIZE RESULTS -----  
 DECARBURIZATION TEST SAE J419/ASTM E1077  
 ETCHANT = NITAL MAGNIFICATION = 100X  

	TOTAL
COMPLETE	DEPTH
INCHES	INCHES
PCE 13065	0.004

----- NOTES -----  
 CHEMICAL ANALYSIS CONFORMS TO APPLICABLE SPECS: ASTM E415, LBL10129, LBL10130, ASTM E1019, LBL10158, LBL10114, AND ASTM E1085, LBL10184, LBL10188.

*AS 10/1/2009*

REPUBLIC ENGINEERED PRODUCTS HEREBY CERTIFY THAT THE MATERIAL LISTED HEREIN HAS BEEN INSPECTED AND TESTED IN ACCORDANCE WITH THE METHODS PRESCRIBED IN THE GOVERNING SPECIFICATIONS AND BASED UPON THE RESULTS OF SUCH INSPECTION AND TESTING HAS BEEN APPROVED FOR CONFORMANCE TO THE SPECIFICATIONS.

CERTIFICATE OF TESTS SHALL NOT BE REPRODUCED EXCEPT IN FULL.

ALL TESTING HAS BEEN PERFORMED USING THE CURRENT REVISION OF THE TESTING SPECIFICATIONS.

RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FED STATUES TITLE 18 CHAPTER 47.

R. A. SZELIGA  
MANAGER TECH. SERVICES

BY JANET K. HARTLINE

*R. A. Szeliga*



# Republic

ENGINEERED PRODUCTS

2633 EIGHTH ST. N.E.  
PHONE: 338-438-5694

CANTON, OH 44704  
FAX: 338-438-5695

CERTIFICATE OF TESTS

REPUBLIC ENGINEERED PRODUCTS

September 27, 2007  
PAGE 2

OF 2

=====	
PURCHASE ORD: 14737	PURCHASE ORDER DATE: 5/23/2007
PART NUMBER: 3BC750U	ACCOUNT NUMBER: 5376-1348-01
ORDER NUMBER: 1336400 - 01	SCHEDULE: 1107-84
HEAT: 7347046	REVISION: 1

THE MATERIAL WAS NOT EXPOSED TO MERCURY OR ANY METAL ALLOY THAT IS LIQUID AT AMBIENT TEMPERATURE DURING PROCESSING OR WHILE IN OUR POSSESSION.

NO WELD OR WELD REPAIR WAS PERFORMED ON THIS MATERIAL.

----- NOTES (CONTINUED) -----

MANUFACTURED IN THE U.S.A.

----- SOURCE INFORMATION -----

MELT SOURCE: LORAIN BILLET	MELT COUNTRY: U.S.A	HOT ROLL SOURCE: LORAIN 9/10, U.S.A
MELT METHOD: BILLET	RED. RATIO: 81.5	

----- END OF DATA -----

CC

----- END OF DATA -----

WITH SHIPMENT	1 COPY	PRINTED AT SHIPPING AREA
FILE	1 COPY	

R. A. SZELIGA  
MANAGER TECH. SERVICES

BY JANET K. HARTLINE

*R. A. Szeliga*



**CERTIFIED MATERIAL TEST REPORT**

<b>CUSTOMER ORDER NUMBER</b> P001898	<b>CUSTOMER PART NUMBER</b> B1045SC10000	<b>HEAT NUMBER</b> M26051	<b>WORK ORDER NUMBER</b> 212189 102	<b>DATE</b> 10/22/07
---	---	------------------------------	--	-------------------------

REPORT TO  
TRACI  
UNYTITE, INC.

SHIP TO

UNYTITE, INC.

ONE UNYTITE DRIVE  
PERU , IL 61354-9710

ONE UNYTITE DRIVE  
PERU , IL 61354

**ORDERED**

<b>GRADE</b> 1045	<b>SIZE</b> 1" RND	<b>LENGTH</b> 24' 10 1/2"
----------------------	-----------------------	------------------------------

**CUSTOMER SPECIFICATIONS**  
SAE 1045; ASTM E381-01

**CHEMICAL ANALYSIS - (BAR AVERAGE)**

C	Mn	P	S	Si	Ni	Cr	Mo	Cu	Sn	Al
0.45	0.85	0.009	0.030	0.24	0.06	0.12	0.03	0.13	0.006	0.002
V	Nb									
0.062	0.001									

GRAIN SIZE SPECIFICATION ASTM E112 FINE GRAIN 5-8

MACROCLEANLINESS SPECIFICATION ASTM E381

**PLATE I**

**PLATE II**

	S	R	C	
FRONT	1	1	1	
MIDDLE	1	1	1	
BACK	1	1	1	
AVERAGE	1	1	1	NONE

DECARB SPECIFICATION ASTM E1077

F TOTAL= 0.004

We certify that these data are correct and in compliance with specified requirements.

**MacSteel Monroe**  
3000 East Front Street  
Monroe, MI 48161

  
Chris Easter  
Quality Assurance Representative

**MacSteel**

ONE JACKSON SQUARE  
SUITE 500  
JACKSON, MICHIGAN 49201

**CERTIFIED MATERIAL TEST REPORT**

<b>CUSTOMER ORDER NUMBER</b> PO01898	<b>CUSTOMER PART NUMBER</b> B1045SC10000	<b>HEAT NUMBER</b> M26051	<b>WORK ORDER NUMBER</b> 212189 102	<b>DATE</b> 10/22/07
---	---	------------------------------	--	-------------------------

**REPORT TO**  
TRACI  
UNYTITE, INC.

ONE UNYTITE DRIVE  
PERU , IL 61354-9710

**SHIP TO**

UNYTITE, INC.  
ONE UNYTITE DRIVE  
PERU , IL 61354

**ORDERED**

<b>GRADE</b> 1045	<b>SIZE</b> 1" RND	<b>LENGTH</b> 24' 10 1/2"
----------------------	-----------------------	------------------------------

**CUSTOMER SPECIFICATIONS**  
SAE 1045; ASTM E381-01

**REDUCTION RATIO**

RATIO= 45.8 TO 1.0

\*\* MATERIAL 100% MELTED AND MANUFACTURED IN THE U.S.A. BY THE ELECTRIC ARC FURNACE AND CONTINUOUS CASTING METHOD. THE PRODUCT HAS NOT BEEN REPAIRED BY WELDING AND THIS MATERIAL HAS NOT BEEN EXPOSED TO MERCURY OR TO ANY OTHER METAL ALLOY THAT IS LIQUID AT AMBIENT TEMPERATURES DURING PROCESSING OR WHILE IN OUR POSSESSION. \*\*

We certify that these data are correct and in compliance with specified requirements.

**MacSteel Monroe**  
3000 East Front Street  
Monroe, MI 48161

  
Chris Easter  
Quality Assurance Representative



**PRODUCT CERTIFICATION**

CERTIFICATION NUMBER

56190

THIS IS TO CERTIFY THE PRODUCT STATED BELOW WAS FABRICATED AND PROCESSED TO THE ORDER AS INDICATED AND CONFORMS TO THE APPLICABLE SPECIFICATIONS AND STANDARDS.

Customer: UNYTITE INNOVATIVE FASTENER  
ACCOUNTS PAYABLE DEPARTMENT  
1 UNYTITE DRIVE  
PERU, IL  
61354

Customer Part: 3/4" F436 PLN  
Prestige Part: P1480H01  
Part Name: 3/4" F436 PLN  
Purchase Order: P002137-1  
Shipment ID: A0125438  
Quantity: 507428

Manufacturers Marking: "P"

Steel Supplier: IMPACT STEEL CO.  
Grade: SAE C1050 STEEL  
Lot: B9890  
Heat: 0132215  
Carbon: .48  
Manganese: .60  
Phosphorous: .017  
Sulfur: .002

SPECIFICATIONS

HARDNESS: TEST METHOD: ASTM E18  
HRC 38 - 45  
CHECK TO ASTM F606

TEST RESULTS

HARDNESS:  
HRC 39 - 45

Chemistry is as reported from raw material certification and does not fall under Prestige Stamping's accreditation.

This product was produced under an ISO/TS 16949 Quality Assurance System.  
ISO/TS 16949 Certification No: 0011579-800334, Expiration Date: 02/16/2008.

Material was melted and manufactured in the U.S.A.

This product was manufactured in Warren, Michigan U.S.A.

This product conforms to all requirements for washers as produced according to A.S.T.M. F-436.

Sampling Plan per P.S.I W.I. # 5.4.18.015.

The test results only apply to the items tested.

This test report must not be reproduced except in full without prior written approval.

  
FRANK SCHUBERT  
Quality Assurance Manager



LOT  
B9990

640 Lavoy Road  
Erie, MI 48133  
Phone: 734/848-2915 Fax: 734/848-8734

# CERTIFICATE OF ANALYSIS

CUSTOMER ORDER NO: 14632	CERTIFICATION NO: 2 -219028	SHIPPER NO: 2 -219028	CERTIFIED DATE: 12/13/06
CUSTOMER PART NO: P1900H01	RF	SIZE: .1360 <sub>x</sub> 5.5800 <sub>x</sub> COIL	
CUSTOMER:  PRESTIGE STAMPING INC, **  P O. BOX 1086  WARREN MI 480901086		GRADE: SAE J403 1040	
		COATING SPECIFICATION: MELTED AND MANUFACTURED IN THE U.S.A.	

ATTENTION:

~~All units of measurement for chemistry are in weight percent.~~

COIL NO.	HEAT NUMBER	CHEMISTRY AND MECHANICAL PROPERTIES
JH5302	9502641	C = 0.370 MN= 0.750 P = 0.014 S = 0.003 SI= 0.080 AL= 0.045

J.A

THE ABOVE MECHANICAL AND CHEMICAL ANALYSES WERE SUPPLIED  
BY THE PRODUCING MILL OR TESTED ON OUR OWN EQUIPMENT.  
Form No. FQC 001 Rev. 2

*[Signature]*  
Agent for Heidman Steel Products, Inc.

# HAYDON BOLTS, INC.

JAMES A. MC BRADY INC

Customer PO 14725

Invoice No. B8020537

Invoice Date 02/14/08

Sales Order K26052

Cert No	Inv Line No	Item No
35045	80000	PTU075200

Quantity	Lot No
840	MD511

Heat
7243663

Assembly No

Haydon PO  
A48149

MD511

# INSPECTION CERTIFICATE

SET LOT NO. \_\_\_\_\_

Specification	Size	Quantity
ASTM F1852 Type 1 ASTM A563 Grade DH ASTM F436 Type 1	3/4-10 UNC X 2	35,280 pcs



**UNYTITE, INC.**


One Unytite Drive  
Peru, Illinois 61354

815-224-2221 — FAX # 815-224-3434

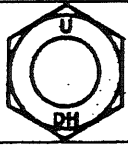
Mechanical properties tested in accordance to ASTM F606/F606M, ASTM A370, ASTM E18

**BOLT LOT NO.** MD511

Date: Jan. 24, '08

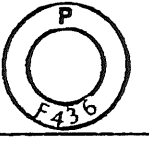
	Mechanical Property of Full Size Bolts				Heat Treatment		IDENTIFICATION 	Chemical Composition %									
	Tensile Strength		Proof Load 28400 lbf. (Length Method)	Hardness HRC	°F (°C)			C x 100	Si x 100	Mn x 100	P x 1000	S x 1000	Cu x 100	Ni x 100	Cr x 100	Mo x 100	B x 10,000
	Load (lbf)	Position of fracture			Quench	Temper											
Spec.	Min. 40100	Part of Screw	Max. +/- 0.0005 in.	34 MAX	-	Min. 800	Heat No.	30 52	15 30	Min. 60	Max. 40	Max. 50	-	-	-	-	-
Average	52650	Part of Screw	ALL PASS	31.7	1580	869	7243663	32	24	81	11	10	4	3	8	2	13

**NUT LOT NO.** MA521

Hardness (HRC)	Hardness After 24 hr x 1000° F HRB	Proof Load (Lbf)	Heat Treatment		IDENTIFICATION 	Chemical Composition %											
			°F (°C)			C X 100	Si X 100	Mn X 100	P X 1000	S X 1000	Cu X 100	Ni X 100	Cr X 100				
			Quench	Temper													
Spec.	Min. 24 - 38	HRB 89	58450	-	Min. 800	Heat No.	20 55	-	Min. 60	Max. 40	Max. 50	-	-	-	-	-	-
Mean/5pcs	29.3	—	ALL PASS	1562	1175	M636881	45	20	72	8	32	26	9	14			

Thread Accuracy (Bolt & Nut)	
Bolt	ASME B1.1 Class 2A
Nut	ANSI B1.1 Class 2B

**WASHER LOT NO.** WB9890

Hardness (HRC)	IDENTIFICATION 	Chemical Composition %								
		C x 100	Si x 100	Mn x 100	P x 1000	S x 1000	Cu x 100	Ni x 100	Cr x 100	
		Spec.	38 - 45	Heat No.	-	-	-	40	50	-
Mean/5 Pcs.	42.5	0132215	48	25	60	17	2	-	-	-

Fastener Tension	
Spec. (lbf.)	Min. 29000
Mean / 6 sets.	35078
Standard Deviation	697

**REMARKS**  
*Jean Margherio*  
 OFFICIAL SEAL  
 JEAN MARGHERIO  
 NOTARY PUBLIC - STATE OF ILLINOIS  
 MY COMMISSION EXPIRES 10/18/09  
 01-28-08

Material used for the bolt, nut and washer were melted & manufactured in the USA. The product was manufactured in the USA to ASTM specifications. The bolt and nut are manufactured by Unytite. We hereby certify that the material described has been manufactured and inspected satisfactory with requirement of the above specification.

Chief of Quality Assurance Section  
*Shaw*



1807 EAST 28TH ST. LORAIN, OH 44055  
PHONE: 330-438-5658 FAX: 330-438-5656

CERTIFICATE OF TESTS REPUBLIC ENGINEERED PRODUCTS

FEBRUARY 05, 2003  
PAGE: 1 OF 2

=====  
PURCHASE ORDER: 9003  
AT NUMBER : 3BC750U PURCHASE ORDER DATE: 10/04/02  
ORDER NUMBER: 04-59225-01 403 ACCOUNT NUMBER : 55891601  
HEAT : 7243663 SCHEDULE : 04106-80  
=====  
CHARGE ADDRESS SHIP TO

O & K AMERICAN  
4630 WEST 55TH ST  
CHICAGO IL 60632

O & K AMERICAN  
LEONA O'CONNELL  
4630 WEST 55TH ST  
CHICAGO IL 60632



*02/05/2003*

----- MATERIAL DESCRIPTION -----  
HOT ROLLED STEEL COILS CARBON O&K AMERICAN SPEC #OKA-009 REV 3 DTD 01/09/01 EXC  
CHEM. APPENDIX II GRADE-10B30-MOD FINE GRAIN COLD WORK Q FIXED PRACTICE PART  
REST CHEM REST MAX INCID ELEM

SIZE: RDS 3/4 X COIL  
COIL WT 3800/4400 ID 37 MN OD 54 MX  
RDS 19.05 MM X COILS

LADLE CHEMISTRY									
C	MN	P	S	SI	CU	NI	CR	MO	AL
0.32	00.80	.011	.011	0.25	0.01	00.01	00.08	0.01	00.030
Y	N	CB	B	SN					
0.001	.0045	0.001	.0014	.001					

----- SEMI-FINISH RESULTS -----  
AUSTENITIC GRAIN SIZE  
AUST GRAIN SZ 7.

JOMINY STD SAE J406 ASTM A255  
1 2 3 4 5 6 7 8  
51 50 49 38 26 22 20

FINISH SIZE RESULTS		SCHEDULE: 0410680
DECARBURIZATION	SAE J419	ASTM E1077
COMPLETE	TOTAL DEPTH	
INCHES	INCHES	
PCE 19461 .000	.002	
PCE 19462 .000	.001	

----- NOTES -----  
MELT SOURCE: REP-LORAIN  
MELT COUNTRY: U.S.A.  
HOT ROLL SRCE: REP-LORAIN- 10"  
HOT ROLL COUNTRY: U.S.A.  
MELT METHOD: STRAND CAST

CHEMICAL ANALYSIS IS DETERMINED BY METHODS DEFINED IN THE  
APPLICABLE SPECIFICATIONS OF ASTM E415, E1019, E1085

REPUBLIC ENGINEERED PRODUCTS LORAIN HOT ROLLED BAR PLANT IS QS-9000  
REGISTERED.

REPUBLIC ENGINEERED PRODUCTS HEREBY CERTIFY THAT THE MATERIAL  
LISTED HEREIN HAS BEEN INSPECTED AND TESTED IN ACCORDANCE WITH THE  
METHODS PRESCRIBED IN THE GOVERNING SPECIFICATION AND BASED UPON THE  
RESULTS OF SUCH INSPECTION AND TESTING HAS BEEN APPROVED FOR  
CONFORMANCE TO THE SPECIFICATION.

CERTIFICATION OF TESTS SHALL NOT BE REPRODUCED EXCEPT IN FULL

THE MATERIAL WAS NOT EXPOSED TO MERCURY OR ANY METAL ALLOY THAT IS  
LIQUID AT AMBIENT TEMPERATURE DURING PROCESSING OR WHILE IN OUR  
POSSESSION. NO WELDING OR WELD REPAIR WAS PERFORMED ON THIS MATERIAL

R. A. SZELIGA  
MANAGER TECH. SERVICES

BY D. STOKES

*R. A. Szeliga*



1807 EAST 28TH ST. LORAIN, OH 44055  
PHONE: 330-438-5658 FAX: 330-438-5656

CERTIFICATE OF TESTS REPUBLIC ENGINEERED PRODUCTS

FEBRUARY 05, 2003  
PAGE: 2 OF 2

=====		=====	
PURCHASE ORDER: 9003		PURCHASE ORDER DATE: 10/04/02	
ART NUMBER : 38C750U		ACCOUNT NUMBER . . . : 55891601	
ORDER NUMBER: 04-59225-01 403		SCHEDULE . . . . . : 04106-80	
HEAT . . . . . : 7243663			
-----		-----	

NOTES (CONTINUED)

ALL TESTING HAS BEEN PERFORMED USING THE CURRENT REVISION OF THE TESTING SPECIFICATION

MFG IN THE U.S.A.

----- END OF DATA -----

CC

----- END OF DATA -----

FAX BY FAX PC	COPY	ATTENTION LEONA OCONNELL	773-767-4717
FILE	COPY		
WITH SHIPMENT	COPY	PRINTED AT SHIPPING AREA	

R. A. SZELIGA  
MANAGER TECH. SERVICES

BY D. STOKES

*P. A. Szeliga*





ST PAUL STEEL MILL  
1678 RED ROCK ROAD  
ST PAUL MN 55119 USA  
(651) 731-5600

Chemical and Physical Test Report

MADE IN UNITED STATES

M-049026

PRODUCED IN: ST PAUL

<b>SHIP TO</b> UNYTITE INC 1 UNYTITE DRIVE  PERU, IL 61354		<b>INVOICE TO</b> UNYTITE INC 1 UNYTITE DRIVE  PERU, IL 61354		<b>SHIP DATE</b> 10/30/07  <b>CUST. ACCOUNT NO</b> 70000042	
--	--	---	--	---	--

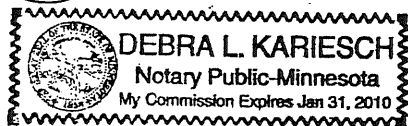
<b>SHAPE + SIZE</b>		<b>GRADE</b>		<b>SPECIFICATION</b>													<b>SALES ORDER</b>		<b>CUST P.O. NUMBER</b>														
R1SBQ		C1045M23F		A29/A29M-05 A576-90B (2000), HEAT 072516M													7063021-01		P001793-01														
<b>HEAT I.D.</b>	<b>C</b>	<b>Mn</b>	<b>P</b>	<b>S</b>	<b>Si</b>	<b>Cu</b>	<b>Ni</b>	<b>Cr</b>	<b>Mo</b>	<b>V</b>	<b>Nb</b>	<b>N</b>	<b>Sn</b>	<b>Al</b>	<b>Ti</b>	<b>Ca</b>	<b>Co</b>																
M636881	.45	.72	.008	.032	.20	.26	.09	.14	.023	.025	.001	.0065	.010	.002	.00200	.00120	.007																

Mechanical Test: Red R 28.4  
Customer Requirements SOURCE: GA-STP CASTING: STRAND CAST  
Comment: Steel not exposed to mercury, no weld repairment performed. Quality program manual rev. 2, dtd 6/18/07  
CUST ITEM NUMBER: B1045SC1.0000

<b>SHAPE + SIZE</b>		<b>GRADE</b>		<b>SPECIFICATION</b>													<b>SALES ORDER</b>		<b>CUST P.O. NUMBER</b>														
R1 1/8SBQ		C1045M23F		A29/A29M-05 A576-90B (2000), HEAT 073141M													7071867-02		P001837-02														
<b>HEAT I.D.</b>	<b>C</b>	<b>Mn</b>	<b>P</b>	<b>S</b>	<b>Si</b>	<b>Cu</b>	<b>Ni</b>	<b>Cr</b>	<b>Mo</b>	<b>V</b>	<b>Nb</b>	<b>N</b>	<b>Sn</b>	<b>Al</b>	<b>Ti</b>	<b>Ca</b>	<b>Co</b>																
M638086	.43	.70	.013	.022	.22	.31	.09	.16	.021	.028	.002	.0067	.021	.003	.00200	.00110	.008																

Mechanical Test: Red R 30.78  
Customer Requirements SOURCE: GA-STP CASTING: STRAND CAST  
Comment: Steel not exposed to mercury, no weld repairment performed. Quality Program Manual Rev. 2, dtd 6/18/07  
CUST ITEM NUMBER: B1045SC1.1250

*Debra L Kariesch*



This material, including the billets, was produced and manufactured in the United States of America

Bhaskar Yalamanchili  
Quality Director  
Gerdau Ameristeel

*Bhaskar*

THE ABOVE FIGURES ARE CERTIFIED EXTRACTS FROM THE ORIGINAL CHEMICAL AND PHYSICAL TEST RECORDS AS CONTAINED IN THE PERMANENT RECORDS OF COMPANY.

Mgr. Metallurg. Svcs.  
ST PAUL STEEL MILL

Seller warrants that all material furnished shall comply with specifications subject to standard published manufacturing variations. NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, ARE MADE BY THE SELLER, AND SPECIFICALLY EXCLUDED ARE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. In no event shall seller be liable for indirect, consequential or punitive damages arising out of or related to the materials furnished by seller. Any claim for damages for materials that do not conform to specifications must be made from buyer to seller immediately after delivery of same in order to allow the seller the opportunity to inspect the material in question.



**GERDAU AMERISTEEL™**

**Lead and Mercury Content of Steel**

Lead and mercury are not purposefully introduced in the Gerdau Ameristeel steel manufacturing process, and are not present at levels that would require disclosure on Material Safety Data Sheets. To the best of our knowledge, no mercury is present in our steel products.

Sincerely,

Gerdau Ameristeel

A. James Turner  
Director, Environment & Quality



**GERDAU AMERISTEEL™**

**Weld Repair of Finished Product**

We hereby certify that weld repair of finished products is not performed at Gerda Ameristeel.

Sincerely,

Gerda Ameristeel

A. James Turner  
Director, Environment & Quality



**PRODUCT CERTIFICATION**

CERTIFICATION NUMBER

56190

THIS IS TO CERTIFY THE PRODUCT STATED BELOW WAS FABRICATED AND PROCESSED TO THE ORDER AS INDICATED AND CONFORMS TO THE APPLICABLE SPECIFICATIONS AND STANDARDS.

**Customer:** UNYTITE INNOVATIVE FASTENER  
ACCOUNTS PAYABLE DEPARTMENT  
1 UNYTITE DRIVE  
PERU, IL  
61354

**Customer Part:** 3/4" F436 PLN  
**Prestige Part:** P1480H01  
**Part Name:** 3/4" F436 PLN  
**Purchase Order:** P002137-1  
**Shipment ID:** A0125438  
**Quantity:** 507428

**Manufacturers Marking:** "P"

**Steel Supplier:** IMPACT STEEL CO.  
**Grade:** SAE C1050 STEEL  
**Lot:** B9890  
**Heat:** 0132215  
**Carbon:** .48  
**Manganese:** .60  
**Phosphorous:** .017  
**Sulfur:** .002

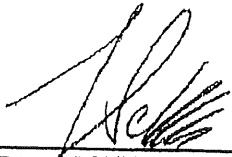
SPECIFICATIONS

**HARDNESS:** TEST METHOD: ASTM E18  
HRC 38 - 45  
CHECK TO ASTM F606

TEST RESULTS

**HARDNESS:**  
HRC 39 - 45

Chemistry is as reported from raw material certification and does not fall under Prestige Stamping's accreditation.  
This product was produced under an ISO/TS 16949 Quality Assurance System.  
ISO/TS 16949 Certification No: 0011579-800334, Expiration Date: 02/16/2008.  
Material was melted and manufactured in the U.S.A.  
This product was manufactured in Warren, Michigan U.S.A.  
This product conforms to all requirements for washers as produced according to A.S.T.M. F-436.  
Sampling Plan per P.S.I W.I. # 5.4.18.015.  
The test results only apply to the items tested.  
This test report must not be reproduced in full without prior written approval.

  
FRANK SCHUBERT  
Quality Assurance Manager



LOT  
B 9990

640 Lavoy Road  
Erie, MI 48133  
Phone: 734/848-2915 Fax: 734/848-8734

# CERTIFICATE OF ANALYSIS

CUSTOMER ORDER No: 14632	CERTIFICATION No: 2-219028	SHIPPER No: 2-219028	CERTIFIED DATE: 12/13/06
CUSTOMER PART No: P1900H01	RF	SIZE: .1360 <sub>x</sub> 5.5800 <sub>x</sub> COIL	
CUSTOMER:  PRESTIGE STAMPING INC, **  P O. BOX 1086  WARREN MI 480901086		GRADE: SAE J403 1040	
COATING SPECIFICATION: MELTED AND MANUFACTURED IN THE U.S.A.			

ATTENTION:

~~All units of measurement for chemistry are in weight percent.~~

COIL NO.	HEAT NUMBER	CHEMISTRY AND MECHANICAL PROPERTIES
JH5302	9502641	C = 0.370 MN= 0.750 P = 0.014 S = 0.003 SI= 0.080 AL= 0.045

JA

THE ABOVE MECHANICAL AND CHEMICAL ANALYSES WERE SUPPLIED BY THE PRODUCING MILL OR TESTED ON OUR OWN EQUIPMENT.

Form No. FQC.001 Rev. 2

Agent for Heitman Steel Products, Inc.

# HAYDON BOLTS, INC.

JAMES A. MC BRADY INC

Customer PO 14725

Invoice No. B8020537

Invoice Date 02/14/08

Sales Order K26052

Cert No	Inv Line No	Item No
35046	90000	PTU075225

Quantity	Lot No
540	MD541

Heat
20029990

Assembly No

Haydon PO  
A48149

SET LOT NO. MD541

# INSPECTION CERTIFICATE




**UNYTITE, INC.**  
 One Unytite Drive  
 Peru, Illinois 61354  
 815-224-2221 — FAX # 815-224-3434

Specification	Size	Quantity
ASTM F1852 Type 1 ASTM A563 Grade DH ASTM F436 Type 1	3/4-10 UNC X 2-1/4	34,045 pcs.

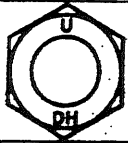
Mechanical properties tested in accordance to ASTM F606/F606M, ASTM A370, ASTM E18

**BOLT LOT NO.** MD541

Date: Jan. 28, '08

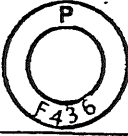
	Mechanical Property of Full Size Bolts				Heat Treatment		IDENTIFICATION 	Chemical Composition %									
	Tensile Strength		Proof Load 28400 lb. (Length Method)	Hardness HRC	°F (°C)			C x 100	Si x 100	Mn x 100	P x 1000	S x 1000	Cu x 100	Ni x 100	Cr x 100	Mo x 100	B x 10,000
	Load (lb)	Position of fracture			Quench	Temper											
Spec.	Min. 40100	Part of Screw	Max. +/- 0.0005 in.	34 MAX		Min. 800	30 52	15 30	Min. 60	Max. 40	Max. 50	-	-	-	-	-	
Average	50450	Part of Screw	ALL PASS	32.3	1580	869	20029990	32	27	75	13	1	8	4	8	2	19

**NUT LOT NO.** MB911

Hardness (HRC)	Hardness After 24 hr x 1000° F HRB	Proof Load (Lbf)	Heat Treatment		IDENTIFICATION 	Chemical Composition %										
			°F (°C)			C X 100	Si X 100	Mn X 100	P X 1000	S X 1000	Cu X 100	Ni X 100	Cr X 100			
			Quench	Temper												
Spec.	24 - 38	HRB 89	58450	-	800	Heat No.	20 55	-	Min. 60	Max. 40	Max. 50	-	-	-	-	-
Mean/5pcs.	29.6	—	ALL PASS	1562	1202	M639023	44	20	67	14	24	25	10	12		

Thread Accuracy (Bolt & Nut)	
Bolt	ASME B1.1 Class 2A
Nut	ANSI B1.1 Class 2B

**WASHER LOT NO.** WB9890

Hardness (HRC)	IDENTIFICATION 	Chemical Composition %											
		C x 100	Si x 100	Mn x 100	P x 1000	S x 1000	Cu x 100	Ni x 100	Cr x 100				
		Max.		Max.									
Spec.	38 - 45	-	-	-	40	50	-	-	-	-	-	-	-
Mean/5 Pcs.	42.5	0132215	48	25	60	17	2	-	-	-	-	-	-

**Fastener Tension**

Fastener Tension	
Spec. (lb.)	Min. 29000
Mean / 6 sets.	41188
Standard Deviation	920

REMARKS

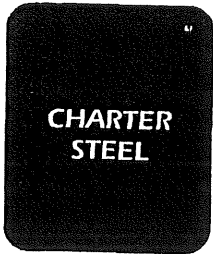
*Jean Margherio*  
 OFFICIAL SEAL  
 JEAN MARGHERIO  
 NOTARY PUBLIC - STATE OF ILLINOIS  
 MY COMMISSION EXPIRES: 10/18/09  
 01-29-08

Material used for the bolt, nut and washer were melted & manufactured in the USA. The product was manufactured in the USA to ASTM specifications. The bolt and nut are manufactured by Unytite. We hereby certify that the material described has been manufactured and inspected satisfactory with requirement of the above specification.

Chief of Quality Assurance Section

*[Signature]*

LOAD



# CHARTER STEEL

A Division of  
Charter Manufacturing Company, Inc.

## CHARTER STEEL TEST REPORT Reverse Has Text And Codes

1658 Cold Springs Road  
Saukville, Wisconsin 53080  
(262) 268-2400  
1-800-437-8789  
FAX (262) 268-2570

UNYTITE, INC.  
ONE UNYTITE DRIVE  
PERU, IL 61354-  
Attn: ATTN: JEAN MARGHERIO

Cust. P.O.	29646
Cust Part#	C10B30SCO.732D
Charter Sales Order	177723
Heat #	20029990
Ship Lot #	537592
Grade#	10B30 M SK FG RHQ
Process	DD
Finish Size	0.732

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed below and on the reverse side, and that it satisfies those requirements.

Lab Code: 125544 Test Results of Heat Lot# 20029990

Chemistry	C	MN	P	S	SI	NI	CR	MO	CU	SN	V	
Wt%	0.32	0.75	0.013	0.001	0.270	0.04	0.08	0.02	0.08	0.001	0.005	
	AL	N	B	TI	NB							
	0.029	0.0080	0.0019	0.031	0.001							
Jominy (HRC)	JOM01	JOM02	JOM03	JOM04	JOM05	JOM06	JOM07	JOM08	JOM09	JOM10	JOM11	JOM12
	52	51	51	48	33	24	21	0	0	0	0	0
	JOM13	JOM14	JOM15	JOM16	JOM18	JOM20	JOM22	JOM24	JOM26	JOM28	JOM30	JOM32
	0	0	0	0	0	0	0	0	0	0	0	0

JOMINY SAMPLE TYPE ENGLISH = R JOMINY LAB = \*

CHEM. DEVIATION EXT.-GREEN = N/R

LOC1 = S1B2 AT = 1.0	AH = 0.0	BT = 1.0	BH = 1.0	CT = 0.0	CH = 0.0	DT = 1.0	DH = 0.5
LOC2 = S3B2 AT = 1.0	AH = 0.5	BT = 0.0	BH = 1.0	CT = 1.0	CH = 0.0	DT = 1.0	DH = 0.0
LOC3 = S3B7 AT = 1.0	AH = 0.5	BT = 1.0	BH = 1.0	CT = 0.0	CH = 0.0	DT = 1.0	DH = 0.5
LOC4 = S3B13 AT = 1.0	AH = 0.0	BT = 0.0	BH = 1.0	CT = 2.0	CH = 0.0	DT = 1.0	DH = 0.0
LOC5 = S4B7 AT = 2.0	AH = 0.0	BT = 0.0	BH = 0.0	CT = 1.0	CH = 0.0	DT = 1.0	DH = 0.5
LOC6 = S4B13 AT = 0.0	AH = 0.0	BT = 0.0	BH = 1.0	CT = 0.0	CH = 0.0	DT = 1.0	DH = 1.0

Test Results of Rolling Lot # 645503

# of Tests	Min Value	Max Value	Mean Value
NUM DECARB = 1	FREE FERRITE DECARB = 0.000	AVE DECARB = 0.004	
QC DEVIATION EXT.-GREEN = N/R			

Test Results of Processing Lot # 537592

# of Tests	Min Value	Max Value	Mean Value
TENSILE (KSI)	100.1	100.3	100.2
REDUCTION OF AREA (%)	53	54	54
ROCKWELL B (HRBW)	94	96	95
ROCKWELL C (HRC)	0	0	0
WIRE SIZE (Inches)	0.730	0.731	0.730
WIRE OUT OF ROUND (Inches)	0.000	0.000	0.000
QC DEVIATION EXT.-PROCESSED = N/R			

TENSILE LAB = 0358-02  
RA LAB = 0358-02  
RB LAB = 0358-02  
RC LAB = N/R

Specifications: Manufactured per Charter Steel Quality Manual Rev 8, 12-05-07  
Meets customer specifications with any applicable Charter Steel exceptions for the following customer documents:  
Customer Document = UNYTITE Revision = 5 Dated = 8-MAY-2003

Additional Comments:

Charter Steel  
Cuyahoga Heights, OH, USA



*Tim Leahy*  
Tim Leahy  
Manager of Quality Assurance  
12/26/2007

Fax number: ( ) - - - Rem: Load1,Mail0,Fax0



SET LOT NO. MD541

# INSPECTION CERTIFICATE




**UNYTITE, INC.**  
 One Unytite Drive  
 Peru, Illinois 61354  
 815-224-2221 — FAX # 815-224-3434

Specification	Size	Quantity
ASTM F1852 Type 1 ASTM A563 Grade DH ASTM F436 Type 1	3/4-10 UNC X 2-1/4	34,045 pcs.

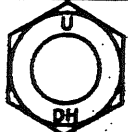
Mechanical properties tested in accordance to ASTM F606/F606M, ASTM A370, ASTM E18

BOLT LOT NO. MD541

Date: Jan. 28, '08

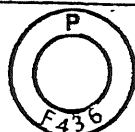
	Mechanical Property of Full Size Bolts				Heat Treatment		IDENTIFICATION 	Chemical Composition %									
	Tensile Strength		Proof Load 28400 lb. (Length Method)	Hardness HRC	°F (°C)			C x 100	Si x 100	Mn x 100	P x 1000	S x 1000	Cu x 100	Ni x 100	Cr x 100	Mo x 100	B x 10,000
	Load (lbf)	Position of fracture			Quench	Temper											
Spec.	Min. 40100	Part of Screw	Max. +/- 0.0005 in.	34 MAX		Min. 800	30										
Average	50450	Part of Screw	ALL PASS	32.3	1580	869	20029990	32	27	75	13	1	8	4	8	2	19

NUT LOT NO. MB911

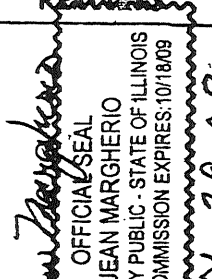
Hardness (HRC)	Hardness After 24 hr x 1000° F HRB	Proof Load (Lbf)	Heat Treatment		IDENTIFICATION 	Chemical Composition %								
			°F (°C)			C X 100	Si X 100	Mn X 100	P X 1000	S X 1000	Cu X 100	Ni X 100	Cr X 100	
			Quench	Temper										
Spec.	24 - 38	HRB 89	58450	-	800									Heat No.
Mean/5pcs.	29.6	-	ALL PASS	1562	1202	M639023	44	20	67	14	24	25	10	12

Thread Accuracy (Bolt & Nut)	
Bolt	ASME B1.1 Class 2A
Nut	ANSI B1.1 Class 2B

WASHER LOT NO. WB9890

Hardness (HRC)	IDENTIFICATION 	Chemical Composition %							
		C x 100	Si x 100	Mn x 100	P x 1000	S x 1000	Cu x 100	Ni x 100	Cr x 100
		Max.		Max.					
Spec.	38 - 45	-	-	-	40	50	-	-	-
Mean/5 Pcs.	42.5	0132215	48	25	60	17	2	-	-

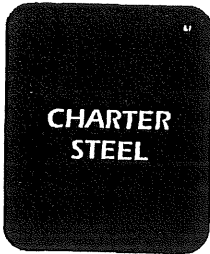
Fastener Tension	
Spec. (lbf.)	Min. 29000
Mean / 6 sets.	41188
Standard Deviation	920

REMARKS  
  
 OFFICIAL SEAL  
 JEAN MARGHERIO  
 NOTARY PUBLIC - STATE OF ILLINOIS  
 MY COMMISSION EXPIRES: 10/18/09  
 01-29-08

Material used for the bolt, nut and washer were melted & manufactured in the USA. The product was manufactured in the USA to ASTM specifications. The bolt and nut are manufactured by Unytite. We hereby certify that the material described has been manufactured and inspected satisfactory with requirement of the above specification.

Chief of Quality Assurance Section  


LOAD



# CHARTER STEEL

A Division of  
Charter Manufacturing Company, Inc.

## CHARTER STEEL TEST REPORT

Reverse Has Text And Codes

1658 Cold Springs Road  
Saukville, Wisconsin 53080  
(262) 268-2400  
1-800-437-8789  
FAX (262) 268-2570

UNYTITE, INC.  
ONE UNYTITE DRIVE  
PERU, IL 61354-  
Attn: ATTN: JEAN MARGHERIO

Cust. P.O.	29646
Cust Part#	C10B30SCO.732D
Charter Sales Order	177723
Heat #	20029990
Ship Lot #	537592
Grade#	10B30 M SK FG RHQ
Process	DD
Finish Size	0.732

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed below and on the reverse side, and that it satisfies those requirements.

Lab Code: 125544

Test Results of Heat Lot# 20029990

Chemistry	C	MN	P	S	SI	NI	CR	MO	CU	SN	V	
Wt%	0.32	0.75	0.013	0.001	0.270	0.04	0.08	0.02	0.08	0.001	0.005	
	AL	N	B	TI	NB							
	0.029	0.0080	0.0019	0.031	0.001							
Jominy (HRC)	JOM01	JOM02	JOM03	JOM04	JOM05	JOM06	JOM07	JOM08	JOM09	JOM10	JOM11	JOM12
	52	51	51	48	33	24	21	0	0	0	0	0
	JOM13	JOM14	JOM15	JOM16	JOM18	JOM20	JOM22	JOM24	JOM26	JOM28	JOM30	JOM32
	0	0	0	0	0	0	0	0	0	0	0	0

JOMINY SAMPLE TYPE ENGLISH = R JOMINY LAB = \*

CHEM. DEVIATION EXT.-GREEN = N/R

LOC1 = S1B2 AT = 1.0	AH = 0.0	BT = 1.0	BH = 1.0	CT = 0.0	CH = 0.0	DT = 1.0	DH = 0.5
LOC2 = S3B2 AT = 1.0	AH = 0.5	BT = 0.0	BH = 1.0	CT = 1.0	CH = 0.0	DT = 1.0	DH = 0.0
LOC3 = S3B7 AT = 1.0	AH = 0.5	BT = 1.0	BH = 1.0	CT = 0.0	CH = 0.0	DT = 1.0	DH = 0.5
LOC4 = S3B13 AT = 1.0	AH = 0.0	BT = 0.0	BH = 1.0	CT = 2.0	CH = 0.0	DT = 1.0	DH = 0.0
LOC5 = S4B7 AT = 2.0	AH = 0.0	BT = 0.0	BH = 0.0	CT = 1.0	CH = 0.0	DT = 1.0	DH = 0.5
LOC6 = S4B13 AT = 0.0	AH = 0.0	BT = 0.0	BH = 1.0	CT = 0.0	CH = 0.0	DT = 1.0	DH = 1.0

# of Tests Test Results of Rolling Lot # 645503  
Min Value Max Value Mean Value

NUM DECARB = 1 FREE FERRITE DECARB = 0.000 AVE DECARB = 0.004  
QC DEVIATION EXT.-GREEN = N/R

Test Results of Processing Lot # 537592

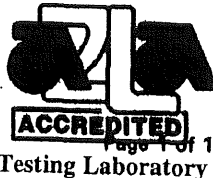
	# of Tests	Min Value	Max Value	Mean Value	
TENSILE (KSI)	3	100.1	100.3	100.2	TENSILE LAB = 0358-02
REDUCTION OF AREA (%)	3	53	54	54	RA LAB = 0358-02
ROCKWELL B (HRBW)	3	94	96	95	RB LAB = 0358-02
ROCKWELL C (HRC)	0	0	0	0	RC LAB = N/R
WIRE SIZE (Inches)	11	0.730	0.731	0.730	
WIRE OUT OF ROUND (Inches)	11	0.000	0.000	0.000	
QC DEVIATION EXT.-PROCESSED = N/R					

Specifications:

Manufactured per Charter Steel Quality Manual Rev 8, 12-05-07  
Meets customer specifications with any applicable Charter Steel exceptions for the following customer documents:  
Customer Document = UNYTITE Revision = 5 Dated = 8-MAY-2003

Additional Comments:

Charter Steel  
Cuyahoga Heights, OH, USA



Fax number: ( ) - - - Rem: Load1,Mail0,Fax0

*Tim Leahy*  
Tim Leahy  
Manager of Quality Assurance  
12/26/2007

The following statements are applicable to the material described on the front of this Test Report:

1. Except as noted, the steel supplied for this order was melted, rolled and processed in the United States.
2. Mercury was not used during the manufacture of this product; nor was the steel contaminated with mercury during processing.
3. Unless directed by the customer, there are no welds in any of the coils produced for this order.
4. The laboratory that generated the analytical or test results can be identified by the following key:

Certificate Number	Lab Code	Laboratory		Address
0358-01	7388	<b>CSMD</b>	Charter Steel Melting Division	1658 Cold Springs Road, Saukville, WI 53080
0358-02	8171	<b>CSR/ CSPD</b>	Charter Steel Rolling/ Processing Division	1658 Cold Springs Road, Saukville, WI 53080
0358-03	123633	<b>P4</b>	Charter Steel Ohio Processing Division	6255 US Highway 23, Risingsun, OH 43457
0358-04	125544	<b>CSC</b>	Charter Steel Cleveland	4300 E. 49 <sup>th</sup> St., Cuyahoga Heights, OH 44125-1004
0358.05	128003	<b>CSDT</b>	Charter Steel Detroit	23860 Sherwood Ave. Center Line, MI 48015
*	*	--	Subcontracted test performed by laboratory not in Charter Steel system	

5. When run by a Charter Steel laboratory, the following tests were performed according to the latest revisions of the specifications listed below, as noted in the Charter Steel Laboratory Quality Manual:

Test	Possible Laboratory	Specification
Chemistry Analysis	CSMD, CSC	ASTM E415; ASTM E1019
X-ray Fluorescence Stainless and Alloy Steel	CSC	ASTM E572
Macroetch	CSMD, CSC	ASTM E381
Hardenability (Jominy)	CSMD, CSC	ASTM A255; SAE J406; JIS G0561
Grain Size	CSMD	ASTM E112
Tensile Test	CSR/ CSPD, P4, CSC, CSDT	ASTM E8; ASTM A370
Rockwell Hardness	CSMD, CSR/ CSPD, P4, CSC, CSDT	ASTM E18; ASTM A370
Microstructure (spheroidization)	CSR/ CSPD, P4	ASTM A892
Inclusion Content (Methods A, E)	CSR/ CSPD, CSC	ASTM E45

Charter Steel has been accredited to perform all of the above tests by the American Association for Laboratory Accreditation (A2LA). These accreditations expire 01/31/09

All other test results associated with a Charter Steel laboratory that appear on the front of this report, if any, were performed according to documented procedures developed by Charter Steel and are not accredited by A2LA.

6. The test results on the front of this report are the true values measured on the samples taken from the production lot. They do not apply to any other sample.
7. This test report cannot be reproduced or distributed except in full without the written permission of Charter Steel. The primary customer whose name and address appear on the front of this form may reproduce this test report, subject to the following restrictions:
  - It may be distributed only to their customers
  - Both sides of all pages must be reproduced in full
8. This certification is given subject to the terms and conditions of sale provided in Charter Steel's acknowledgment (designated by our Sales Order number) to the customer's purchase order. Both Order numbers appear on the front page of this Report.
9. Where the customer has provided a specification, the results on the front of this test report conform to that specification unless otherwise noted on this test report.



Testing Laboratory



ST PAUL STEEL MILL  
 1678 RED ROCK ROAD  
 ST PAUL MN 55119 USA

Chemical and Physical Test Report

MADE IN UNITED STATES

SHAPE + SIZE	GRADE		SPECIFICATION																	SALES ORDER	CUST P.O. NUMBER
R1SBQ	C1045M23F		A29/A29M-05 A576-90b (2000)																		
HEAT I.D.	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Nb	N	Sn	Al	Ti	Ca	Co				
M639023	.44	.67	.014	.024	.20	.25	.10	.12	.026	.028	.001	.0010	.006	.004	.00300	.00280	.007				

Mechanical Test: Red R 38.95 Std Dev:0 Idl Diam: 1.312  
 Grain Test: Grain Size Units Fine (5-8)  
 Customer Requirements SOURCE: GA-STP CASTING: STRAND CAST

This material, including the billets, was produced and manufactured in the United States of America

*Bhaskar*

Bhaskar Yalamanchili  
 Quality Director  
 Gerdau Ameristeel

THE ABOVE FIGURES ARE CERTIFIED EXTRACTS FROM THE ORIGINAL CHEMICAL AND PHYSICAL TEST RECORDS AS CONTAINED IN THE PERMANENT RECORDS OF COMPANY.

Mgr. Metallurg. Svcs.  
 ST PAUL STEEL MILL

Seller warrants that all material furnished shall comply with specifications subject to standard published manufacturing variations. NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, ARE MADE BY THE SELLER, AND SPECIFICALLY EXCLUDED ARE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. In no event shall seller be liable for indirect, consequential or punitive damages arising out of or related to the materials furnished by seller. Any claim for damages for materials that do not conform to specifications must be made from buyer to seller immediately after delivery of same in order to allow the seller the opportunity to inspect the material in question.



**GERDAU AMERISTEEL™**

**Lead and Mercury Content of Steel**

Lead and mercury are not purposefully introduced in the Gerdau Ameristeel steel manufacturing process, and are not present at levels that would require disclosure on Material Safety Data Sheets. To the best of our knowledge, no mercury is present in our steel products.

Sincerely,

Gerdau Ameristeel

A. James Turner  
Director, Environment & Quality



**GERDAU AMERISTEEL**<sup>TM</sup>

**Weld Repair of Finished Product**

We hereby certify that weld repair of finished products is not performed at Gerda Ameristeel.

Sincerely,

Gerda Ameristeel

A. James Turner  
Director, Environment & Quality



23513 Groesbeck Highway, Post Office Box 1086  
Warren, Michigan 48090-1086  
(586) 773-2700 \* Fax (586) 773-2298  
www.prestigestamping.com

**PRODUCT CERTIFICATION**

CERTIFICATION NUMBER  
56190

THIS IS TO CERTIFY THE PRODUCT STATED BELOW WAS FABRICATED AND PROCESSED TO THE ORDER AS INDICATED AND CONFORMS TO THE APPLICABLE SPECIFICATIONS AND STANDARDS.

Customer: UNYTITE INNOVATIVE FASTENER  
ACCOUNTS PAYABLE DEPARTMENT  
1 UNYTITE DRIVE  
PERU, IL  
61354

Customer Part: 3/4" F436 PLN  
Prestige Part: P1480H01  
Part Name: 3/4" F436 PLN  
Purchase Order: P002137-1  
Shipment ID: A0125438  
Quantity: 507428

Manufacturers Marking: "P"

Steel Supplier: IMPACT STEEL CO.  
Grade: SAE C1050 STEEL  
Lot: B9890  
Heat: 0132215  
Carbon: .48  
Manganese: .60  
Phosphorous: .017  
Sulfur: .002


SPECIFICATIONS

HARDNESS: TEST METHOD: ASTM E18  
HRC 38 - 45  
CHECK TO ASTM F606

TEST RESULTS

HARDNESS:  
HRC 39 - 45

Chemistry is as reported from raw material certification and does not fall under Prestige Stamping's accreditation.  
This product was produced under an ISO/TS 16949 Quality Assurance System.  
ISO/TS 16949 Certification No: 0011579-800334, Expiration Date: 02/16/2008.  
Material was melted and manufactured in the U.S.A.  
This product was manufactured in Warren, Michigan U.S.A.  
This product conforms to all requirements for washers as produced according to A.S.T.M. F-436.  
Sampling Plan per P.S.I W.I. # 5.4.18.015.  
The test results only apply to the items tested.  
This test report must not be reproduced except in full without prior written approval.

  
FRANK SCHUBERT  
Quality Assurance Manager



640 Lavoy Road  
Erie, MI 48133  
Phone: 734/848-2915

Fax: 734/848-8734

**CERTIFICATE  
OF  
ANALYSIS**

LOT  
B9990

CUSTOMER ORDER NO: 14632	CERTIFICATION NO: 2 -219028	SHIPPER NO: 2 -219028	CERTIFIED DATE: 12/13/06
CUSTOMER PART NO: P1900H01	RF	SIZE: .1360 <sub>x</sub> 5.5800 <sub>x</sub> COIL	
CUSTOMER:  PRESTIGE STAMPING INC. **  P O. BOX 1086  WARREN MI 480901086		GRADE: SAE J403 1040	
		COATING SPECIFICATION: MELTED AND MANUFACTURED IN THE U.S.A.	

ATTENTION:

~~All units of measurement for chemistry are in weight percent.~~

COIL NO.	HEAT NUMBER	CHEMISTRY AND MECHANICAL PROPERTIES
JH5302	9502641	C = 0.370 MN= 0.750 P = 0.014 S = 0.003 SI= 0.080 AL= 0.045

J.A

THE ABOVE MECHANICAL AND CHEMICAL ANALYSES WERE SUPPLIED  
BY THE PRODUCING MILL OR TESTED ON OUR OWN EQUIPMENT.  
Form No. FQC 001 Rev. 2

Agent for Heidman Steel Products, Inc.



# HAYDON BOLTS, INC.

JAMES A. MC BRADY INC

Customer PO 14725

Invoice No. B8020537

Invoice Date 02/14/08

Sales Order K26052

Cert No Inv Line No Item No

Quantity Lot No

Heat

Assembly No

Haydon PO

28598 100000 PTU075500

16 AF061A

390980

A44771

AF061A

# INSPECTION CERTIFICATE

SET LOT NO. \_\_\_\_\_

Specification	Size	Quantity
ASTM F1852 Type 1 ASTM A563 Grade DH ASTM F436 Type 1	3/4-10 UNC X 5	2,955 pcs.



**UNYTITE, INC.**

One Unytite Drive  
Peru, Illinois 61354


815-224-2221 — FAX # 815-224-3434

Mechanical properties tested in accordance to ASTM F606/F606M, ASTM A370, ASTM E18

AF061


Date: Jan. 20, '06

BOLT LOT NO. \_\_\_\_\_

	Mechanical Property of Full Size Bolts				Heat Treatment		IDENTIFICATION 	Chemical Composition %									
	Tensile Strength		Proof Load 28400 lbf. (Length Method)	Hardness HRC	°F (°C)			C x 100	Si x 100	Mn x 100	P x 1000	S x 1000	Cu x 100	Ni x 100	Cr x 100	Mo x 100	B x 10,000
	Load (lbf)	Position of fracture			Quench	Temper											
Spec.	Min. 40100	Part of Screw	Max. +/- 0.0005 in.	34 MAX	--	Min. 800	Heat No.	30 52	15 30	Min. 60	Max. 40	Max. 50	--	--	--	--	
Average	51075	Part of Screw	ALL PASS	31.5	1580	878	390980	3.3	23	88	11	9	7	4	7	2	25

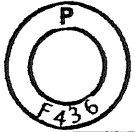
AE462

NUT LOT NO. \_\_\_\_\_

Hardness (HRC)	Hardness After 24 hr x 1000° F HRB	Proof Load (Lbf)	Heat Treatment		IDENTIFICATION 	Chemical Composition %										
			°F (°C)			C X 100	Si X 100	Mn X 100	P X 1000	S X 1000	Cu X 100	Ni X 100	Cr X 100			
			Quench	Temper												
Spec.	24 - 38	HRB 89	58450	--	Min. 800	Heat No.	20 55	--	Min. 60	Max. 40	Max. 50	--	--	--	--	--
Mean/5pcs.	29.6	—	ALL PASS	1562	1211	S73129	43	20	69	10	25	25	9	11		

WB7433

WASHER LOT NO. \_\_\_\_\_

Hardness (HRC)	IDENTIFICATION 	Chemical Composition %											
		C x 100	Si x 100	Mn x 100	P x 1000	S x 1000	Cu x 100	Ni x 100	Cr x 100				
		Max.		Max.									
Spec.	38 - 45	Heat No.	--	--	--	40	50	--	--	--	--	--	--
Mean/5 Pcs.	39.1	9500913	35	8	73	11	2	--	--	--	--	--	--

### Fastener Tension

Fastener Tension	
Spec. (lbf.)	Min. 29000
Mean / 6 sets.	38478
Standard Deviation	1147

### REMARKS

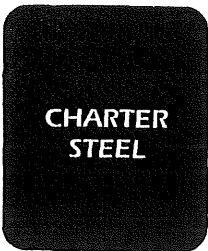
*Jean Margherio*  
OFFICIAL SEAL  
JEAN MARGHERIO  
NOTARY PUBLIC - STATE OF ILLINOIS  
MY COMMISSION EXPIRES: 10/18/09  
01-23-06

Material used for the bolt, nut and washer were melted & manufactured in the USA. The product was manufactured in the USA to ASTM specifications. The bolt and nut are manufactured by Unytite. We hereby certify that the material described has been manufactured and inspected satisfactory with requirement of the above specification.

Chief of Quality Assurance Section

*[Signature]*

LOAD



# CHARTER STEEL

## CHARTER STEEL TEST REPORT Reverse Has Text And Codes

A Division of  
Charter Manufacturing Company, Inc.

1658 Cold Springs Road  
Saukville, Wisconsin 53080  
(262) 268-2400  
1-800-437-8789  
FAX (262) 268-2570

UNYTITE, INC.  
ONE UNYTITE DRIVE  
PERU, IL 61354-  
Attn: ATTEN: JEAN MARGHERIO

Cust. P.O.	29646
Cust Part#	C10B30SCO.732D
Charter Sales Order	177723
Heat #	390980
Ship Lot #	472862
Grade#	10B30 M SK FG RHQ
Process	DD
Finish Size	0.732

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed below and on the reverse side, and that it satisfies those requirements.

### Test Results of Heat Lot# 390980

LAB CODE: 7388

Chemistry	C	MN	P	S	SI	NI	CR	MO	CU	SN	V
Wt%	0.33	0.88	0.011	0.009	0.230	0.04	0.07	0.02	0.07	0.005	0.001
	AL	N	B	TI	NB						
	0.022	0.0050	0.0025	0.017	0.001						

Jominy (HRC)	JOM01	JOM02	JOM03	JOM04	JOM05	JOM06	JOM07	JOM08	JOM09	JOM10	JOM11	JOM12
	53	53	52	51	42	28	24	22	22	21	20	20
	JOM13	JOM14	JOM15	JOM16	JOM18	JOM20	JOM22	JOM24	JOM26	JOM28	JOM30	JOM32
	0	0	0	0	0	0	0	0	0	0	0	0

JOMINY SAMPLE TYPE ENGLISH = R      JOMINY LAB = 0358-01  
CHEM. DEVIATION EXT.-GREEN = N/R  
E45 INCLUSION LAB = 0358-02

Cleanliness	ASTM-E45 Method A				
	A	B	C	D	
	Thin	0.5	0.5	0.0	0.5
	Heavy	0.0	0.0	0.0	0.0

### Test Results of Rolling Lot # 326974

QC DEVIATION EXT.-GREEN = N/R

### Test Results of Processing Lot # 472862

	# of Tests	Min Value	Max Value	Mean Value	
TENSILE (KSI)	3	97.6	98.1	97.8	TENSILE LAB = 0358-02
REDUCTION OF AREA (%)	3	54	55	54	RA LAB = 0358-02
ROCKWELL B (HRBW)	3	91	92	92	RB LAB = 0358-02
WIRE SIZE (Inches)	14	0.731	0.732	0.731	
WIRE OUT OF ROUND (Inches)	14	0.000	0.000	0.000	

QC DEVIATION EXT.-PROCESSED = N/R

Specifications:      Meets customer specifications with any applicable Charter Steel exceptions for the following customer documents:  
Customer Document = UNYTITE      Revision = 5      Dated = 8-MAY-2003

Charter Steel  
Saukville, WI, USA

Fax number: ( ) -

Rem: Load1,Mail0,Fax0



Page 1 of 1

Tim Leahy  
Manager of Quality Assurance  
12/18/2005

The following statements are applicable to the material described on the front of this Test Report:

1. Except as noted, the steel supplied for this order was melted, rolled and processed in the United States.
2. Mercury was not used during the manufacture of this product; nor was the steel contaminated with mercury during processing.
3. Unless directed by the customer, there are no welds in any of the coils produced for this order.
4. The laboratory that generated the analytical or test results can be identified by the following key:

Certificate Number	Lab Code	Laboratory		Address
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0358-02	8171	<b>CSR/ CSPD</b>	Charter Steel Rolling/ Processing Division	1658 Cold Springs Road, Saukville, WI 53080
0358-03	123633	<b>P4</b>	Charter Steel Ohio Processing Division	6255 US Highway 23, Risingsun, OH 43457
0358-04	125544	<b>CSC</b>	Charter Steel Cleveland	4300 E. 49 <sup>th</sup> St., Cuyahoga Heights, OH 44125-1004
*	*	--	Subcontracted test performed by laboratory not in Charter Steel system	

5. When run by a Charter Steel laboratory, the following tests were performed according to the latest revisions of the specifications listed below, as noted in the Charter Steel Laboratory Quality Manual:

Test	Possible Laboratory	Specification
Chemistry Analysis	CSMD	ASTM E415; ASTM E1019
Macroetch	CSMD	ASTM E381
Hardenability (Jominy)	CSMD	ASTM A255; JIS G0561
Grain Size	CSMD	ASTM E112
Tensile Test	CSR/ CSPD, P4, CSC	ASTM E8; ASTM A370
Rockwell Hardness	CSR/ CSPD, P4, CSC	ASTM E18; ASTM A370
Microstructure (spheroidization)	CSR/ CSPD, P4	ASTM A892
Cleanliness	CSR/ CSPD, CSC	ASTM E45

Charter Steel has been accredited to perform all of the above tests by the American Association for Laboratory Accreditation (A2LA). These accreditations expire 01/31/07.

All other test results associated with a Charter Steel laboratory that appear on the front of this report, if any, were performed according to documented procedures developed by Charter Steel and are not accredited by A2LA.

6. The test results on the front of this report are the true values measured on the samples taken from the production lot. They do not apply to any other sample.
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8. This certification is given subject to the terms and conditions of sale provided in Charter Steel's acknowledgment (designated by our Purchase Order number) to the customer's purchase order. Both Purchase Order numbers appear on the front page of this Report.
9. Where the customer has provided a specification, the results on the front of this test report conform to that specification unless otherwise noted on this test report.



M519416

P.O Box 64189  
1678 Red Rock Road  
Saint Paul, Minnesota 55164

Heat #:	S73129
Size:	1"
Product:	Round Bar
Grade:	C1045M23FC
Date Rolled:	11-01-2005
P.O	32485
M.O #:	508728801
lgth 24'10"	

# CERTIFIED TEST REPORT

## CHEMICAL ANALYSIS (WT %)

C	Mn	P	S	Si	Sn	Cu	Ni	Cr	Mo	Cb	V	Co	Al	Ti	Ca ppm	N ppm
0.43	.69	0.01	0.025	0.2	0.016	0.25	0.09	0.11	0.02	0.001	0.03	0.01	0.003	0.0026	15	66

MATERIAL 100% MELTED AND ROLLED IN THE USA. MANUFACTURING PROCESSES FOR THIS STEEL, WHICH MAY INCLUDE SCRAP MELTED IN AN ELECTRIC ARC FURNACE AND HOT ROLLING, HAVE BEEN PERFORMED AT GERDAU AMERISTEEL MINNESOTA, 1678 RED ROCK ROAD, SAINT PAUL MINNESOTA, USA. ALL PRODUCT PRODUCED FROM STRAND CAST BILLETS. NO WELD REPAIRMENT PERFORMED. STEEL NOT EXPOSED TO MERCURY OR ANY LIQUID ALLOY WHICH IS LIQUID AT AMBIENT TEMPERATURES DURING PROCESSING OR WHILE IN GERDAU AMERISTEEL MINNESOTA POSSESSION.

## JOMINY END QUENCH HARDENABILITY RESULTS (HRC)

* J1	J2	J3	J4	J5	J6	J7	J8	J9	J10	J11	J12
J13	J14	J15	J16	J18	J20	J22	J24	J26	J28	J30	J32

## MECHANICAL TEST REPORT

SPECIMEN AREA (in <sup>2</sup> )	YIELD (Kips)	YIELD (Ksi)	TENSILE (Kips)	TENSILE (Ksi)	GAUGE LENGTH (in)	% ELONG	BEND	% R.A.

### Additional Specifications/Comments:

A576-90b (2000)  
A29/A29M-05

Grain Size: <input type="text" value="Fine"/>	Reduction Ratio: <input type="text" value="38.5:1"/>	C.E Per: <input type="text"/>	As Rolled surface Hardness
Coding: <input type="text"/>	D.I: <input type="text" value="1.29"/> in. Ms: <input type="text" value="627.1"/> Deg F.	C.E: <input type="text"/>	HBW <input type="text"/> HRC <input type="text"/>
			Test 1: <input type="text"/>
			Test 2: <input type="text"/>

CHARPY IMPACT TEST		
* Temp (F)	Test 1	Test 2
ft-lb 1		
ft-lb 2		
ft-lb 3		

ASTM E45 is not a laboratory accredited test.

Micro Clean Average									
At: <input type="text"/>	Ah: <input type="text"/>	Bt: <input type="text"/>	Bh: <input type="text"/>	Ct: <input type="text"/>	Ch: <input type="text"/>	Dt: <input type="text"/>	Dh: <input type="text"/>	S-Rating: <input type="text"/>	O-Rating: <input type="text"/>
Macro Etch: <input type="text"/>									

### ASTM Test Method

Accredited to:	ASTM A370	ASTM E8	ASTM E10	ASTM E18	ASTM E23	ASTM E112	ASTM E265	ASTM E290	ASTM E416	ASTM E1019
ISO 17025	X	X	X	X				X	X	X
subcontractor (ISO 170 25)		*			*	*	*			

The above results relate only to the items tested.

Chemical tests performed in accordance with ASTM E415 and E1019. Mechanical tests performed in accordance to ASTM E8, E10, E18, E290 and A370. All other tests performed in accordance with the requirements of applicable specifications unless otherwise noted above. We hereby certify that the above test results are representative of those contained in the records of the company.

Any modification to this certificate as provided by Gerdau Ameristeel - Minnesota without the expressed written consent of Gerdau Ameristeel - Minnesota negates the validity of this test report. This report shall not be reproduced except in full, without the expressed written consent of Gerdau Ameristeel Minnesota. Gerdau Ameristeel - Minnesota is not responsible for the inability of this material to meet specific applications.

X Gerdau Ameristeel Minnesota, A2LA Certification #1055-01 Exp. 6/30/06

\* Denotes Testing By Sub-Contractor:  
Metallurgical Services Inc., A2LA Certification #510-01 Exp. 12/31/06  
Stork Twin City Testing, A2LA Certification #1479-03 Exp. 2/28/06

Measurement of unpeened Charpy impact by **DEBRA L. KARIESCH** Notary Public - Minnesota

**DEBRA L. KARIESCH**  
Notary Public - Minnesota  
My Commission Expires Jan 31, 2010  
SWORN AND SUBSCRIBED TO BEFORE ME

THIS 11 DAY Jan 2006  
*Debra Kariesch*  
(NOTARY PUBLIC)

THIS CERTIFICATE IS NOTARIZED ONLY WHEN REQUESTED.

SIGNED:

DATE: 01-11-2006

APPROVAL:

QA Approval  
*K. Wong*  
Ken Wong



640 Lavoy Road  
Erie, MI 48133  
Phone: 734/848-2915 Fax: 734/848-8734

B7433

# CERTIFICATE OF ANALYSIS

CUSTOMER ORDER No: 13532	CERTIFICATION No: 2 -203214	SHIPPER No: 2 -203214	CERTIFIED DATE: 10/11/05
CUSTOMER PART No: P1580HP200	DH	SIZE: .1220 x 5.7000 x COIL	
CUSTOMER:  PRESTIGE STAMPING INC. **  P O BOX 1086  WARREN MI 480901086		GRADE: SAE J403 1035	
		COATING SPECIFICATION: MELTED AND MANUFACTURED IN THE U.S.A.	

ATTENTION:

~~All units of measurement for chemistry are in weight percent.~~

COIL NO.	HEAT NUMBER	CHEMISTRY AND MECHANICAL PROPERTIES
EU4904	9500913	C = 0.360 MN= 0.750 P = 0.010 S = 0.002 SI= 0.100 AL= 0.047
COMMENT:** MILL CERTIFICATION WITH LOAD **		

## RECEIVED

OCT 12 2005

THE ABOVE MECHANICAL AND CHEMICAL ANALYSES WERE SUPPLIED  
BY THE PRODUCING MILL OR TESTED ON OUR OWN EQUIPMENT.  
Form No. FQC 001 Rev. 1

Heidman Steel Products, Inc.

# HAYDON BOLTS, INC.

JAMES A. MC BRADY INC

Customer PO 14725

Invoice No. B8020537

Invoice Date 02/14/08

Sales Order K26052

Cert No Inv Line No Item No

Quantity Lot No

Heat

Assembly No

Haydon PO

34266 110000 PTU075600

8 BC561A

7326632

A48149

BC561A

# INSPECTION CERTIFICATE

SET LOT NO. \_\_\_\_\_

Specification	Size	Quantity
ASTM F1852 Type 1 ASTM A563 Grade DH ASTM F436 Type 1	3/4-10 UNC X 6	7,952 pcs.

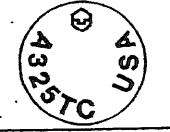


**UNYTITE, INC.**  
One Unytite Drive  
Peru, Illinois 61354  
815-224-2221 — FAX # 815-224-3434

Mechanical properties tested in accordance to ASTM F606/F606M, ASTM A370, ASTM E18  
BC561

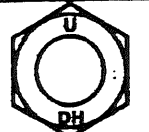
Date: Nov. 02, '06

BOLT LOT NO. \_\_\_\_\_

	Mechanical Property of Full Size Bolts				Heat Treatment		IDENTIFICATION 	Chemical Composition %									
	Tensile Strength		Proof Load lb. (Length Method)	Hardness HRC	°F (°C)			C	Si	Mn	P	S	Cu	Ni	Cr	Mo	B
	Load (lbf)	Position of fracture			Quench	Temper		x 100	x 100	x 100	x 1000	x 1000	x 100	x 100	x 100	x 100	x 100
Spec.	Min. 40100	Part of Screw	Max. +/- 0.0005 in.	34 MAX	-	Min. 800	Heat No.	30 52	15 30	Min. 60	Max. 40	Max. 50	-	-	-	-	-
Average	51900	Part of Screw	ALL PASS	32.1	1580	860	7326632	31	26	79	9	9	3	3	7	3	13

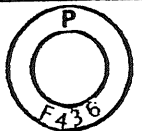
BB461

NUT LOT NO. \_\_\_\_\_

Hardness (HRC)	Hardness After 24 hr x 1000° F HRB	Proof Load (Lbf)	Heat Treatment		IDENTIFICATION 	Chemical Composition %											
			°F (°C)			C	Si	Mn	P	S	Cu	Ni	Cr				
			Quench	Temper		x 100	x 100	x 100	x 1000	x 1000	x 100	x 100	x 100				
Spec.	24 - 38	HRB 89	Min. 58450	-	Min. 800	Heat No.	20 55	-	Min. 60	Max. 40	Max. 50	-	-	-	-	-	-
Mean/5pcs.	29.2	—	ALL PASS	1562	1184	S77126	46	22	70	8	28	20	10	14			

WB8218

WASHER LOT NO. \_\_\_\_\_

Hardness (HRC)	IDENTIFICATION 	Chemical Composition %								
		C	Si	Mn	P	S	Cu	Ni	Cr	
		x 100	x 100	x 100	x 1000	x 1000	x 100	x 100	x 100	
Spec.	38 - 45	Heat No.	-	-	-	Max. 40	Max. 50	-	-	-
Mean/5 Pcs.	41.5	9502020	34	8	74	6	4	-	-	-

### Fastener Tension

Fastener Tension	
Spec. (lbf.)	Min. 29000
Mean / 6 sets.	36578
Standard Deviation	1147

Thread Accuracy (Bolt & Nut)	
Bolt	ASME B1.1 Class 2A
Nut	ANSI B1.1 Class 2B

Material used for the bolt, nut and washer were melted & manufactured in the USA. The product was manufactured in the USA to ASTM specifications. The bolt and nut are manufactured by Unytite. We hereby certify that the material described has been manufactured and inspected satisfactory with requirement of the above specification.

Chief of Quality Assurance Section

*[Signature]*

REMARKS

*[Handwritten signature]*

OFFICIAL SEAL  
JEAN MARGHERIO  
NOTARY PUBLIC - STATE OF ILLINOIS  
MY COMMISSION EXPIRES: 10/18/09

11/06/06





1807 EAST 28TH ST. LORAIN, OH 44055  
PHONE: 330-438-5694 FAX: 330-438-5905

CERTIFICATE OF TESTS REPUBLIC ENGINEERED PRODUCTS

MAY 15, 2006  
PAGE: 1 OF 2

=====  
PURCHASE ORDER: 13274 PURCHASE ORDER DATE: 03/06/06  
P. I. NUMBER : 3BC750J ACCOUNT NUMBER . . . : 55891601  
ORDER NUMBER: 04-31169-01 403 SCHEDULE . . . . . : 02567-00  
HEAT . . . . . : 7326632  
=====  
CHARGE ADDRESS ===== SHIP TO =====

O & K AMERICAN  
4630 WEST 55TH ST  
CHICAGO IL 60632

O & K AMERICAN  
MIKE PASEK  
4630 WEST 55TH ST  
CHICAGO IL 60632

*05/15/2006*

----- MATERIAL DESCRIPTION -----  
HOT ROLLED STEEL COILS CARBON O&K AMERICAN SPEC #OKA-009 REV 3 DTD 01/09/01 EXC  
CHEM, APPENDIX II GRADE-10B30-MOD FINE GRAIN COLD WORK Q FIXED PRACTICE PART  
REST CHEM REST MAX INCID ELEM

SIZE: RDS 3/4 X COIL  
COIL WT 3800/4800 ID 37 MN OD 54 MX  
RDS 19.05 MM X COILS

LADLE CHEMISTRY %									
C	MN	P	S	SI	CU	NI	CR	MO	AL
0.31	00.79	.009	.009	0.26	0.03	00.03	00.07	0.03	00.035
Y	N	CB	B	SN					
0.004	.0065	0.001	.0013	.002					

----- SEMI-FINISH RESULTS -----  
AUSTENITIC GRAIN SIZE  
AUST GRAIN SZ 7.

JOMINY STD SAE J406 ASTM A255  
1 2 3 4 5 6 7 8 9 10  
5. 50 49 46 40 31 26 24 22 21

----- FINISH SIZE RESULTS -----  
DECARBURIZATION SAE J419 SCHEDULE: 0256780  
ASTM E1077  
COMPLETE TOTAL DEPTH  
INCHES INCHES  
PCE 01 .000 .003

----- NOTES -----  
MELT SOURCE: REP-LORAIN MELT COUNTRY: U.S.A.  
HOT ROLL SRCE: REP-LORAIN- 10" HOT ROLL COUNTRY: U.S.A.  
MELT METHOD: STRAND CAST

CHEMICAL ANALYSIS CONFORMS TO APPLICABLE SPECS: ASTM E415, ASTM E1019,  
AND ASTM E1085.

REPUBLIC ENGINEERED PRODUCTS LORAIN HOT ROLLED BAR PLANT IS ISO/TS  
16949 REGISTERED

WHEN EVALUATED, MACRO ETCHES WERE VISUALLY RATED ON SAMPLES ETCHED  
USING HYDROCHLORIC ACID AT A TEMPERATURE OF 170 DEGREES(F)  
(+/-10 DEGREES F)

WHEN PERFORMED, MICROSCOPIC TESTS WERE UTILIZED TO DETERMINE  
DECARBURIZATION USING NITAL AS THE ETCHANT AND WERE RATED AT 100X  
MAGNIFICATION

REPUBLIC ENGINEERED PRODUCTS HEREBY CERTIFY THAT THE MATERIAL  
LISTED HEREIN HAS BEEN INSPECTED AND TESTED IN ACCORDANCE WITH THE  
METHODS PRESCRIBED IN THE GOVERNING SPECIFICATION AND BASED UPON THE  
RESULTS OF SUCH INSPECTION AND TESTING HAS BEEN APPROVED FOR  
CONFORMANCE TO THE SPECIFICATION.  
THE RESULTS RELATE ONLY TO THE ITEMS TESTED

CERTIFICATION OF TESTS SHALL NOT BE REPRODUCED EXCEPT IN FULL

R A SZELIGA  
MANAGER TECH. SERVICES

BY D. BARTON

*R. A. Szeliga*



1807 EAST 28TH ST. LORAIN, OH 44055  
PHONE: 330-438-5694 FAX: 330-438-5905

CERTIFICATE OF TESTS REPUBLIC ENGINEERED PRODUCTS

MAY 15, 2006  
PAGE: 2 OF 2

=====

CHASE ORDER:	13274
ART NUMBER :	3BC750U
ORDER NUMBER:	04-31169-01 403
HEAT . . . . :	7326632

PURCHASE ORDER DATE:	03/06/06
ACCOUNT NUMBER . . . :	55891601
SCHEDULE . . . . . :	02567-80

----- NOTES (CONTINUED) -----

THE MATERIAL WAS NOT EXPOSED TO MERCURY OR ANY METAL ALLOY THAT IS LIQUID AT AMBIENT TEMPERATURE DURING PROCESSING OR WHILE IN OUR POSSESSION. NO WELDING OR WELD REPAIR WAS PERFORMED ON THIS MATERIAL

ALL TESTING HAS BEEN PERFORMED USING THE CURRENT REVISION OF THE TESTING SPECIFICATION

RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENT OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FED STATUES TITLE 18 CHAPTER 47.

MFG IN THE U.S.A.

----- END OF DATA ----- CC ----- END OF DATA -----  
FAX BY FAX PC | COPY ATTENTION MIKE PASEK 773-767-4717  
FILE | COPY  
WITH SHIPMENT | COPY PRINTED AT SHIPPING AREA

R A SZELIGA  
MANAGER TECH. SERVICES

BY D. BARTON

Heat #:	S77126
Size:	1"
Product:	Round Bar
Grade:	C1045M23FC
Date Rolled:	08-06-2006
P.O	P001009
M.O #:	607174001

# CERTIFIED TEST REPORT

## CHEMICAL ANALYSIS (WT %)

C	Mn	P	S	Si	Sn	Cu	Ni	Cr	Mo	Cb	V	Co	Al	Ti	Ca ppm	N ppm
0.46	.70	0.008	0.028	0.22	0.019	0.2	0.1	0.14	0.03	0.001	0.028	0.009	0.002	0.0028	19	87

MATERIAL 100% MELTED AND ROLLED IN THE USA. MANUFACTURING PROCESSES FOR THIS STEEL, WHICH MAY INCLUDE SCRAP MELTED IN AN ELECTRIC ARC FURNACE AND HOT ROLLING, HAVE BEEN PERFORMED AT GERDAU AMERISTEEL MINNESOTA, 1678 RED ROCK ROAD, SAINT PAUL MINNESOTA, USA. ALL PRODUCT PRODUCED FROM STRAND CAST BILLETS. NO WELD REPAIRMENT PERFORMED. STEEL NOT EXPOSED TO MERCURY OR ANY LIQUID ALLOY WHICH IS LIQUID AT AMBIENT TEMPERATURES DURING PROCESSING OR WHILE IN GERDAU AMERISTEEL MINNESOTA POSSESSION.

## JOMINY END QUENCH HARDENABILITY RESULTS (HRC)

J1	J2	J3	J4	J5	J6	J7	J8	J9	J10	J11	J12
J13	J14	J15	J16	J18	J20	J22	J24	J26	J28	J30	J32

## MECHANICAL TEST REPORT

SPECIMEN AREA (in <sup>2</sup> )	YIELD (Kips)	YIELD (Ksi)	TENSILE (Kips)	TENSILE (Ksi)	GAUGE LENGTH (in)	% ELONG	BEND	% R.A.

### Additional Specifications/Comments:

A576-90b (2000)  
A29/A29M-05

Quality Program Manual Rev. 1, dtd 6/10/05

Grain Size: <input type="text" value="Fine"/>	Reduction Ratio: <input type="text" value="38.5:1"/>	C.E Per: <input type="text"/>	As Rolled surface Hardness
Coding: <input type="text"/>	D.I: <input type="text" value="1.45"/> in. Ms: <input type="text" value="599.3"/> Deg F.	C.E: <input type="text"/>	HBW <input type="text"/>
			Hrc <input type="text"/>
			Test 1: <input type="text"/>
			Test 2: <input type="text"/>

### CHARPY IMPACT TEST

* Test 1	Test 2
Temp (F)	
ft-lb 1	
ft-lb 2	
ft-lb 3	

ASTM E45 is not a laboratory accredited test.

Micro Clean Average

At:  Ah:  Bt:  Bh:  Ct:  Ch:  Dt:  Dh:  S-Rating  O-Rating:

Macro Etch:

The above results relate only to the items tested.

Chemical tests performed in accordance with ASTM E415 and E1019. Mechanical tests performed in accordance to ASTM E8, E10, E18, E290 and A370. All other tests performed in accordance with the requirements of applicable specifications unless otherwise noted above. We hereby certify that the above test results are representative of those contained in the records of the company.

Any modification to this certificate as provided by Gerdau Ameristeel - Minnesota without the expressed written consent of Gerdau Ameristeel - Minnesota negates the validity of this test report. This report shall not be reproduced except in full, without the expressed written consent of Gerdau Ameristeel Minnesota. Gerdau Ameristeel- Minnesota is not responsible for the inability of this material to meet specific applications.

SIGNED: \_\_\_\_\_  
DATE: 10-11-2006  
APPROVAL: \_\_\_\_\_

**QA Approval**  
*K. Wong*  
**Ken Wong**

### ASTM Test Method

Accredited to:	ASTM A370	ASTM E8	ASTM E10	ASTM E18	ASTM E23	ASTM E112	ASTM E255	ASTM E290	ASTM E415	ASTM E1019
ISO 17025	X	X	X	X				X	X	X
subcontractor (ISO 170 25)		*			*	*	*			

X Gerdau Ameristeel Minnesota, A2LA Certification #1055-01 Exp. 6/30/06

\* Denotes Testing By Sub-Contractor:  
Metallurgical Services Inc., A2LA Certification #510-01 Exp. 12/31/06  
Stork Twin City Testing, A2LA Certification #1479-01 Exp 12/31/06

Measurement of uncertainty information is available upon request.

### SWORN AND SUBSCRIBED TO BEFORE ME

THIS 11 DAY Oct 2006  
*Debra L. Kariesch*  
(NOTARY PUBLIC)

THIS CERTIFICATE IS NOT VALID UNLESS REQUESTED.  
**DEBRA L. KARIESCH**  
Notary Public-Minnesota  
My Commission Expires Jan 31, 2010

B8218



640 Lavoy Road  
 Erie, MI 48133  
 Phone: 734/848-2915 Fax: 734/848-8734

**CERTIFICATE  
 OF  
 ANALYSIS**

CUSTOMER ORDER NO: 14154	CERTIFICATION NO: 2-210194	SHIPPER NO: 2-210194	CERTIFIED DATE: 04/27/06
CUSTOMER PART NO: P1480H01	RF	SIZE: .1220 x 5.7000 x COIL	
CUSTOMER:  PRESTIGE STAMPING INC. ***  P O BOX 1086  WARREN MI 480901086		GRADE: SAE J403 1035	
		TESTING SPECIFICATION METTED AND MANUFACTURED IN THE U.S.A.	

ATTENTION:

~~All units of measurement for chemistry are in weight percent.~~

COIL NO.	HEAT NUMBER	CHEMISTRY AND MECHANICAL PROPERTIES
GM4302	9502020	C = 0.340 MN= 0.740 P = 0.006 S = 0.004 SI= 0.080 AL= 0.049

**RECEIVED**

APR 27 2006  
 JA

THE ABOVE MECHANICAL AND CHEMICAL ANALYSES, WERE SUPPLIED  
 BY THE PRODUCING MILL OR TESTED ON OUR OWN EQUIPMENT.  
 Form No. FQC 001 Rev. 2

Agent for Heidtmann Steel Products, Inc.

# HAYDON BOLTS, INC.

JAMES A. MC BRADY INC

Customer PO 14725

Invoice No. B8020537

Invoice Date 02/14/08

Sales Order K26052

Cert No	Inv Line No	Item No
34793	120000	AAA075700

Quantity	Lot No
17	599398

Heat
CR 507310

Assembly No

Haydon PO  
A49817



# TEST REPORT

**Operations Center**  
3281 West County Road 0 NS  
Frankfort, IN 46041-6966  
T. 765.654.0477  
F. 765.654.0857

Ship Date	12-20-07
Certification	190847*2*12
Report Date	12-20-07

Cust PO	SL14348-SEPT
Lot Nbr	599398
Quantity	1260
Mfg Date	12-11-07

St. Louis Screw & Bolt  
2000 ACCESS BLVD  
MIKE GILL  
MADISON, IL 62060

## PART INFORMATION

Part Number	AAA075700	Finish	PLAIN
Description	3/4-10 X 7 A325-1 HEAVY HEX STRUCTURAL BOLT	Head Marking	A325 TYPE 1 - 1 DOT SL

## RAW MATERIAL ANALYSIS

Steel Heat Nbr	Steel Supplier	Steel Grade	Code	Element	Percent
CR507310	Charter Steel	4037M SKFG LE 354-3	C	Carbon	0.4100
			Mn	Manganese	0.9700
			P	Phosphorus	0.0070
			S	Sulfur	0.0110
			Si	Silicon	0.2400
			Ni	Nickel	0.0400
			Cr	Chromium	0.3500
			Mo	Molybdenum	0.2200
			Cu	Copper	0.0800
			Sn	Tin	0.0050
			V	Vanadium	0.0010
			Al	Aluminum	0.0240
			N	Nitrogen	0.0060
			B	Boron	0.0003

Certification test results include those reported by the following laboratories:

Charter Steel, A2LA, 10-31-07
LEP Special Fasteners, Inc, A2LA 0122.02, 05-31-08

## MECHANICAL PROPERTIES

Wedge Angle	10			
Proof Load	28400/85000 (lbs/Psi)			
Test Performed	High	Low	Average	Samples
Tensile, PSI	152000	149000	150000	8
Proof Load Elongation	0.0004	0.0000	0.0002	8
Superficial R30N	51.0	49.0	50.0	8

Test Performed	High	Low	Average	Samples
Core Hardness, HRC	32.0	30.0	30.9	8



# TEST REPORT

Operations Center  
3281 West County Road 0 NS  
Frankfort, IN 46041-6966  
T. 765.654.0477  
F. 765.654.0857

Ship Date	12-20-07
Certification	190847*2*12
Report Date	12-20-07

Cust PO	SL14348-SEPT
Lot Nbr	599398
Quantity	1260
Mfg Date	12-11-07

St. Louis Screw & Bolt  
2000 ACCESS BLVD  
MIKE GILL  
MADISON, IL 62060

### Applicable Standards, Specifications, and Sampling Schemes:

Results reported in the mechanical properties section were determined in accordance with the following test methods: ASTM A370, E18, F606/M. Dimensional properties are compliant to ASTM B18.2.6. Product passed a surface discontinuity inspection following ASTM F788/M. The sampling plan is based off ASTM F1470 - Prevention. Product was not produced from heats in which Bismuth, Selenium, Tellurium, or Lead was intentionally added, nor were they exposed to Mercury or any other metal alloy that is liquid at ambient temperature during processing or while in our possession. Product was manufactured in the U.S.A. from domestic material. ASTM A490 Type 1 and Type 3 bolts passed \*magnetic particle inspection for surface discontinuities per ASTM E709 and E1444. \*Magnetic particle inspection is not included in our laboratory scope of accreditation.

The listed standards, specifications, and sampling schemes are of the revision in effect on the date of manufacture unless noted otherwise. Only those standards specifically noted under "test methods" or "additional test methods" are included on LE's scope of laboratory accreditation.

### Additional Information

None

This lot has been found to conform to the requirements of the above standards and specifications

We certify: The product furnished by LEP Special Fasteners was manufactured, sampled, tested, and inspected in accordance with the standards and specifications listed above and with LEP Special Fasteners Quality Manual in effect as of the date of manufacture. The above data accurately represents values provided by LEP Special Fasteners suppliers and/or values generated in one of LEP Special Fasteners A2LA accredited laboratories. Statistical process control data is on file.  
This test report relates only to the sample tested above. This document may only be reproduced unaltered and may not be used for any purpose other than the purpose of certifying the same or lesser quantity of the product specified herein. Reproduction, alteration or use of this document for any other purpose is prohibited, except as expressly provided in this certification. LEP Special Fasteners makes no (and disclaims all) representations, warranties and guarantees whatsoever, whether express, implied or statutory, including, without limitation, any warranty of merchantability or fitness for a particular purpose.

**LEP Special Fasteners**

Michael A. Schwark  
Director of Engineering/Quality Manager



CERT #0122.02  
"MECHANICAL FIELD OF TESTING"





# CHARTER STEEL

EMAIL

1658 Cold Springs Road  
Saukville, Wisconsin 53080

(262) 268-2400

1-800-437-8789

FAX (262) 268-2570

A Division of  
Charter Manufacturing Company, Inc.

## CHARTER STEEL TEST REPORT Reverse Has Text And Codes

LEP Special Fasteners, Inc.  
3595 West State Road 28  
Frankfort, IN 46041-6708  
Attn: John Shambora

Cust. P.O.	66565
Cust Part#	95101198421
Charter Sales Order	250591
Heat #	507310
Ship Lot #	581506
Grade#	LE354 M SK FG RHQ
Process	H1
Finish Size	25/32

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed below and on the reverse side, and that it satisfies those requirements.

### Test Results of Heat Lot# 507310

Lab Code: 7388

OUTS. MELT SOURCE HEAT NUM. = N/R

Chemistry	C	MN	P	S	SI	NI	CR	MO	CU	SN	V
Wt%	0.41	0.97	0.007	0.011	0.240	0.04	0.35	0.22	0.08	0.005	0.001
	AL	N	B	TI	NB						
	0.024	0.0060	0.0003	0.001	0.001						

Jominy (HRC)	JOM01	JOM02	JOM03	JOM04	JOM05	JOM06	JOM07	JOM08	JOM09	JOM10	JOM11	JOM12
	57	57	55	52	47	42	0	0	0	0	0	0
JOM13	JOM14	JOM15	JOM16	JOM18	JOM20	JOM22	JOM24	JOM26	JOM28	JOM30	JOM32	
	0	0	0	0	0	0	0	0	0	0	0	

JOMINY SAMPLE TYPE ENGLISH = C JOMINY LAB = 0358-01 DI = 3.25  
CHEM. DEVIATION EXT.-GREEN = N/R

### Test Results of Rolling Lot # 378280

	# of Tests	Min Value	Max Value	Mean Value	
ROD SIZE (Inches)	30	0.777	0.784	0.781	ASTA29 = Y
ROD OUT OF ROUND (Inches)	9	0.002	0.007	0.004	
QC DEVIATION EXT.-GREEN = N/R					

### Test Results of Processing Lot # 581506 580616

	# of Tests	Min Value	Max Value	Mean Value	
TENSILE (KSI)	2	78.6	79.3	79.0	TENSILE LAB = 0358-03
REDUCTION OF AREA (%)	2	62	65	64	RA LAB = 0358-03
ROCKWELL B (HRBW)	2	81	81	81	RB LAB = 0358-03

NUM DECARB = 2 FREE FERRITE DECARB = 0.000 FREE FERR & PARTIAL DECARB = 0.000  
CP SPHERO % LAB = 0358-03 NUM SPHERO = 2 SPHERODIZATION (%) = 95.0  
QC DEVIATION EXT.-PROCESSED = N/R

Specifications: Manufactured per Charter Steel Quality Manual Rev 7, 10-27-06  
Meets customer specifications with any applicable Charter Steel exceptions for the following customer documents:  
Customer Document = LE 1.1 Revision = 8 Dated = 12-NOV-2007

Additional Comments:

Charter Steel  
Saukville, WI, USA



Tim Leahy  
Manager of Quality Assurance  
11/29/2007

The following statements are applicable to the material described on the front of this Test Report:

1. Except as noted, the steel supplied for this order was melted, rolled, and processed in the United States.
2. Mercury was not used during the manufacture of this product, nor was the steel contaminated with mercury during processing.
3. Unless directed by the customer, there are no welds in any of the coils produced for this order.
4. The laboratory that generated the analytical or test results can be identified by the following key:

Certificate Number	Lab Code	Laboratory		Address
0358-01	7388	<b>CSMD</b>	Charter Steel Melting Division	1653 Cold Springs Road, Saukville, WI 53080
0358-02	8171	<b>CSR/CDPD</b>	Charter Steel Rolling/Processing Division	1658 Cold Springs Road, Saukville, WI 53080
0358-03	123633	<b>P4</b>	Charter Steel Ohio Processing Division	6255 US Highway 23, Risingsun, OH 43457
0358-04	125544	<b>CSC</b>	Charter Steel Cleveland	4300 E. 49th St., Cuyahoga Heights, OH 44125-1004
358.05	128003	<b>CSDT</b>	Charter Steel Detroit	23860 Sherwood Ave. Center Line, MI 48015
*	*	--	Subcontracted test performed by laboratory not in Charter Steel system	

5. When run by a Charter Steel laboratory, the following tests were performed according to the latest revisions of the specifications listed below, as noted in the Charter Steel Laboratory Quality Manual:

Test	Possible Laboratory	Specification
Chemistry Analysis	CSMD, CSC	ASTM E415; ASTM E1019
X-ray Fluorescence Stainless and Alloy Steel	CSC	ASTM E572
Macroetch	CSMD, CSC	ASTM E381
Hardenability (Jominy)	CSMD, CSC	ASTM A255; SAE J406; JIS G0561
Grain Size	CSMD	ASTM E112
Tensile Test	CSR/CDPD, P4, CSC, CSDT	ASTM E8; ASTM A370
Rockwell Hardness	CSMD, CSR/CDPD, P4, CSC, CSDT	ASTM E18; ASTM A370
Microstructure (spheroidization)	CSR/CDPD, P4	ASTM A892
Inclusion Content (Methods A, E)	CSR/CDPD, CSC	ASTM E45

Charter Steel has been accredited to perform all of the above tests by the American Association for Laboratory Accreditation (A2LA). These accreditations expire 01/31/09.

All other test results associated with a Charter Steel laboratory that appear on the front of this report, if any, were performed according to documented procedures developed by Charter Steel and are not accredited by A2LA.

6. The test results on the front of this report are the true values measured on the samples taken from the production lot. They do not apply to any other sample.
7. This test report cannot be reproduced or distributed except in full without the written permission of Charter Steel. The primary customer whose name and address appear on the front of this form may reproduce this test report subject to the following restrictions:
  - It may be distributed only to their customers
  - Both sides of all pages must be reproduced in full
8. This certification is given subject to the terms and conditions of sale provided in Charter Steel's acknowledgement (designated by our Purchase Order number) to the customer's purchase order. Both Purchase Order numbers appear on the front page of this Report.
9. Where the customer has provided a specification, the results on the front of this test report conform to that specification unless otherwise noted on this test report.



# HAYDON BOLTS, INC.

JAMES A. MC BRADY INC

Customer PO 14725

Invoice No. B8020537

Invoice Date 02/14/08

Sales Order K26052

Cert No	Inv Line No	Item No
34074	130000	VUC075

Quantity	Lot No
17	07-42-042

Heat
461160

Assembly No

Haydon PO  
A47287

**DECKER****MANUFACTURING CORPORATION**

MANUFACTURERS OF INDUSTRIAL FASTENERS &amp; PIPE PLUGS

703 North Clark Street Albion, Michigan 49224-0380

HAYDON BOLTS INC

1181 UNITY STREET

PHILADELPHIA PA 19124

Phone 517-629-3535

FAX 517-629-3535

October 17, 2007

D-U-N-S 00-661-8720

Page 1 of 1

## PRODUCT MATERIAL CERTIFICATION

CUSTOMER PART NUMBER: VUC075  
CUSTOMER P.O. NUMBER: A47287

INVOICE: 42181

LOT NUMBER : 07-42-042  
DATE : 05/15/07  
HEAT NUMBER : 461180  
MATERIAL : C1020DESCRIPTION : 3/4-10 HVY HX A563  
QUANTITY : 234,000  
MATERIAL SUPPLIER: CHARTER

We certify the product above was manufactured at DECKER MANUFACTURING CORPORATION from the specified raw material and that said product is certified to be manufactured, randomly sampled, tested and/or inspected and conforms to applicable specifications. We additionally certify that said raw material was domestically manufactured in the United States of America and that said raw material was manufactured free of mercury contamination.

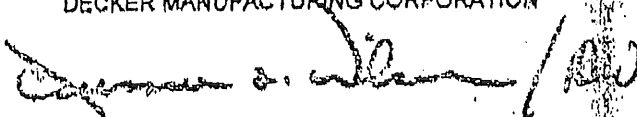
The items were processed under the Decker Quality Manual. The current revision is dated January/12/2005  
No welding was performed.

This document accurately represents values and statements provided by our suppliers accredited testing facility. The original metallurgical test report shall be retained on file by DECKER MANUFACTURING CORPORATION for a period of not less than (10) years.

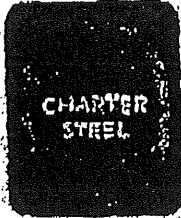
## CHEMICAL ANALYSIS BY MATERIAL SUPPLIER:

CARBON : 0.230  
MANGANESE : 0.350PHOSPHORUS : 0.007  
SULFUR : 0.011

DECKER MANUFACTURING CORPORATION

  
Russell L. Wilson  
Quality Assurance Manager

The above results pertain only to the items tested. This report shall not be reproduced except in full without the approval of this testing facility.



# CHARTER STEEL

## CHARTER STEEL TEST REPORT Reverse Has Text And Codes

A Division of  
 Charter Manufacturing Company, Inc.

1658 Cold Springs Road  
 Saukville, Wisconsin 53080

(262) 268-2400

1-800-437-8789

FAX (262) 268-2570

Decker Manufacturing Corp.  
 703 N. Clark St.  
 Albion, MI 49224  
 Attn: Steve Kankla

Rolling Lot #	42384
Rolling Lot #	
Rolling Lot #	234722
Rolling Lot #	461180
Rolling Lot #	706590
Rolling Lot #	1020 A AK FG RHQ
Rolling Lot #	CC
Rolling Lot #	1-178

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed below and on the reverse side, and that it satisfies those requirements.

Test Results of Heat Lot# 461180

Lab Code: 7388  
 XRTS. BILT SOURCE HEAT NUM. = N/R

Chemistry	C	MN	P	S	SI	NI	CR	MO	CU	SN	V
Y%	0.23	0.35	0.007	0.011	0.000	0.05	0.07	0.02	0.09	0.008	0.001
	AL	N	B	TI	NS						
	0.022	0.0070	0.0001	0.001	0.001						

HEM, DEVIATION EXT - GREEN = N/R

	# of Tests	Test Results of Rolling Lot # 962789			RC LAB = 0358-02 RC LAB = N/R
		Min Value	Max Value	Mean Value	
ROCKWELL B (HRBW)	3	70	72	71	
ROCKWELL C (HRC)	0	0	0	0	
OD SIZE (Inches)	20	1.118	1.128	1.124	
OD OUT OF ROUND (Inches)	9	0.004	0.006	0.005	

IC DEVIATION EXT - PROCESSED = N/R

Test Results of Processing Lot # 705590

Manufactured per Charter Steel Quality Manual Rev 7, 10-27-06  
 Meets customer specifications with any applicable Charter Steel exceptions for the following customer documents:  
 Customer Document = Revision = Dated =

Additional Comments:



*Wesley*

1.125

The following statements are applicable to the material described on the front of this Test Report:

1. Except as noted, the steel supplied for this order was melted, rolled, and processed in the United States.
2. Mercury was not used during the manufacture of this product, nor was the steel contaminated with mercury during processing.
3. Unless directed by the customer, there are no welds in any of the coils produced for this order.
4. The laboratory that generated the analytical or test results can be identified by the following key:

Certificate Number	Lab Code	Laboratory		Address
0358-01	7388	CSMD	Charter Steel Melting Division	1653 Cold Springs Road, Saukville, WI 53080
0358-02	8171	CSR/D/CRPD	Charter Steel Rolling/Processing Division	1658 Cold Springs Road, Saukville, WI 53080
0358-03	123633	P4	Charter Steel Ohio Processing Division	6255 US Highway 23, Risingsun, OH 43457
0358-04	125544	CSC	Charter Steel Cleveland	4300 E. 40th St., Cuyahoga Heights, OH 44125-1004
0358-05	128003	CSDT	Charter Steel Detroit	23650 Sherwood Ave. Center Line, MI 48015
		--	Subcontracted test performed by laboratory not in Charter Steel system	

5. When run by a Charter Steel laboratory, the following tests were performed according to the latest revisions of the specifications listed below, as noted in the Charter Steel Laboratory Quality Manual:

Test	Possible Laboratory	Specification
Chemistry Analysis	CSMD, CSC	ASTM E415; ASTM E1019
Ray Fluorescence Stainless and Alloy Steel	CSC	ASTM E572
Macroetch	CSMD, CSC	ASTM E381
Hardenability (Jominy)	CSMD, CSC	ASTM A255; SAE J405; JIS G551
Grain Size	CSMD	ASTM E112
Tensile Test	CSR/D/CRPD, P4, CSC, CSDT	ASTM E8; ASTM A370
Rockwell Hardness	CSMD, CSR/D/CRPD, P4, CSC, CSDT	ASTM E18; ASTM A370
Microstructure (Spheroidization)	CSR/D/CRPD, P4	ASTM A892
Inclusion Content (Methods A, E)	CSR/D/CRPD, CSC	ASTM E45

Charter Steel has been accredited to perform all of the above tests by the American Association for Laboratory Accreditation (A2LA). These accreditations expire 01/31/09.

All other test results associated with a Charter Steel laboratory that appear on the front of this report, if any, were performed according to documented procedures developed by Charter Steel and are not accredited by A2LA.

6. The test results on the front of this report are the true values measured on the samples taken from the production lot. They do not apply to any other sample.
7. This test report cannot be reproduced or distributed except in full without the written permission of Charter Steel. The primary customer whose name and address appear on the front of this form may reproduce this test report subject to the following restrictions:
  - It may be distributed only to their customers
  - Both sides of all pages must be reproduced in full
8. This certification is given subject to the terms and conditions of sale provided in Charter Steel's acknowledgement (designated by our Purchase Order number) to the customer's purchase order. Both Purchase Order numbers appear on the front page of this Report.
9. Where the customer has provided a specification, the results on the front of this test report conform to that specification unless otherwise noted on this test report.



# HAYDON BOLTS, INC.

JAMES A. MC BRADY INC

Customer PO 14725

Invoice No. B8020537

Invoice Date 02/14/08

Sales Order K26052

Cert No	Inv Line No	Item No
35087	140000	AAW075

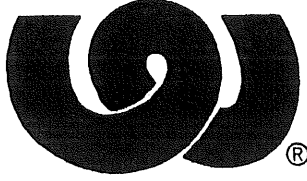
Quantity	Lot No
17	224258

Heat
274959

Assembly No

Haydon PO  
Z00137

**STAMPING THE FUTURE**  
WROUGHT WASHER MFG., INC.



February 1, 2008

**Certification of Compliance**

007594  
HAYDON BOLTS, INC  
1181 UNITY STREET  
PHILADELPHIA, PA 19124

**Wrought Washer  
Ordr/Lot Number**  
224258

HT ORDER 222949

**Heat Number**  
274959

**Chemical Analysis**  
C Mn P S Si  
0.360 0.680 0.010 0.001 0.259

**Purchase  
Order Number**  
Z00137

**Part Description**  
3/4 S MARK HT

**Date  
Shipped**  
02/01/2008

**Quantity  
Shipped**  
21,375

We hereby certify that the subject parts conform to the requirements of the applicable specification indicated for the subject parts and are in complete conformance to F436-04. We hereby certify that the subject parts were hardened to RC 38-45.

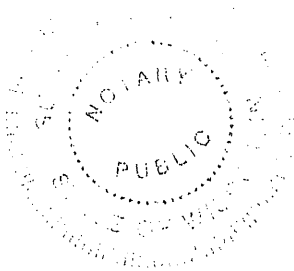
We hereby certify that all statutory requirements as to American Production and Labor Standards and all conditions of purchase applicable to the transaction have been complied with and that the subject parts were melted and manufactured in the U.S.A.

Truly yours,  
Wrought Washer Mfg., Inc.

Paul Schaefer  
Q.C. Manager

Sworn and subscribed before me on February 1, 2008  
My commission expires June 21, 2009

(030) SMARK, HT, F436  
WW INTERNAL USE : 52004101/002/017298/36095





**NUCOR**  
SHEET MILL GROUP

Nucor Steel-Crawfordsville  
4537 South Nucor Road  
Crawfordsville, IN 47933-9450

Order Number: 176497 - 0001  
Order Dimensions: 0.1240 in X 51.0000 in  
HRPO, MILL, 1035

SAE J403 1035

METALLURGICAL TESTING CERTIFICATION

C125051

Certificate Number: 232630  
Date Issued: 20070910  
Page: 1 of 3

Customer Name: WROUGHT WASHER MFG. INC.  
Customer Address: 2100 SOUTH BAY STREET

MILWAUKEE

WI 53207

Cust PO Number: H1668

Coil Number 1215988.000  
Rockwell B: 87  
TAIL

Part Number  
842122

CHEMICAL ANALYSIS

Heat	Slab	C	Mn	P	S	Si	Cu	Sn	Ni	Cr	Mo	Al	N	V	Nb	Ti	B	Sb
274959	04	0.36	0.680	0.010	<0.001	0.259	0.118	0.008	0.032	0.050	0.016	0.034	0.009	0.002	0.002	0.003	<0.0005	0.002

Coil Number 1215989.000  
Rockwell B: 87  
TAIL

Part Number  
842122

CHEMICAL ANALYSIS

Heat	Slab	C	Mn	P	S	Si	Cu	Sn	Ni	Cr	Mo	Al	N	V	Nb	Ti	B	Sb
274959	05	0.36	0.680	0.010	<0.001	0.259	0.118	0.008	0.032	0.050	0.016	0.034	0.009	0.002	0.002	0.003	<0.0005	0.002

**MO 36095**

WE HEREBY CERTIFY THE ABOVE IS CORRECT AS CONTAINED IN THE RECORDS OF THE CORPORATION  
MELTED AND ROLLED IN THE USA

NUCOR QUALITY ASSURANCE

*[Signature]*  
Daniel E. Larson

HEAT TREAT PROCESSING CHART

WWF - 10' 20' 2/06

CUSTOMER 3/4 SMARK BULK TAG # 913256 WT. 3743  
 I.C. # 017290 LOT # 36075 FURNACE # 2001 Set-up Checklist  
 ORDER # 222949 O.D. 1.468 I.D. .828 THK. .128 Verification

#1

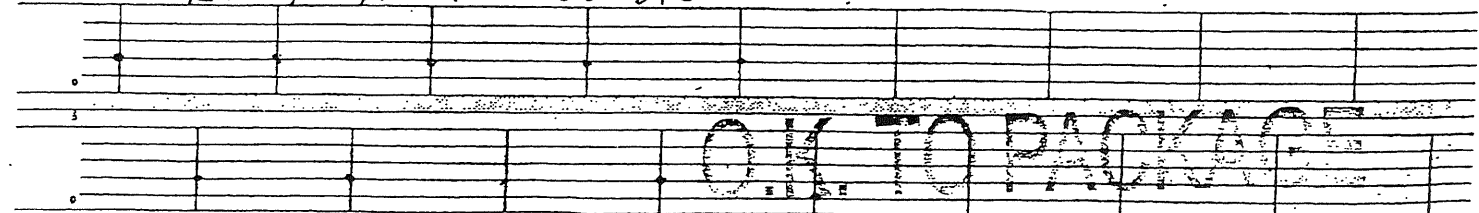
DATE	1/19																			
TIME		7 <sup>30</sup>		8 <sup>30</sup>		9 <sup>30</sup>		10 <sup>30</sup>		11 <sup>30</sup>										
OPERATOR #	180																			
CARBON	36																			
Mn	68																			
GAS FLOW RATE	80																			
NITROGEN FLOW	600																			
DRAW TEMP	735																			
QUENCH %	6%																			
RETORT SPEED	4.5																			
RC SPECS	HIGH 43	LOW	38																	
BEND TEST	5																			
DYE PEN. TEST	5																			
RC TEST BLOCK	40																			

	Quench	Temp	Quench	Temp	Quench	Temp	Quench	Temp	Quench	Temp	Quench	Temp	Quench	Temp	Quench	Temp	Quench	Temp
Sample	1	54	42	56	43	56	42	56	41	55	42							
Measurement	2	55	43	55	41	54	41	55	43	54	41							
	3	55	41	54	41	55	43	54	42	55	42							
	4	55	42	54	43	55	42	54	42	56	41							
	5	56	43	55	42	56	41	55	43	55	41							
Sum		275	211	274	212	276	209	274	211	275	207							
Average X		55	42	55	42	55	42	55	42	55	41							
Range R		2	2	2	2	2	2	2	2	2	1							
Notes																		
Core Hardness		56																

RC 40-41 1-21-08 DPJ

Range as Quenched

Range as Tempered



OK TO PACKAGE

**Cert Summary Page** HAYDON BOLTS, INC.

JAMES A. MC BRADY INC.

Customer PO 14188

P.O. # 14188

Invoice No. B7100731 Invoice Date 10/15/07 Sales Order K20827

Cert No	Inv Line No	Item No	Quantity	Lot No	Heat	Assembly No	Haydon PO
30410	40000	HXHD	120	H02368	B4629		HAYDON
		Description: 3/4"(10) X 14" HVY HEX HD F1554-GR55			Manufacturer: HAYDON		
24301	60000	HNA075	120	C OF C	C OF C		A43770
		Description: 3/4(10) HEX NUT A563A			Manufacturer: STELFAST FASTENERS INC.		
33206	70000	WFA075	120				A48390
		Description: 3/4 FLAT ROUND WASHER F844			Manufacturer: COATESVILLE WASHER CO.		
33888	90000	HXHD	80		C6003		A49280
		Description: 1"(8) X 17" HVY HEX HD F1554-GR55			Manufacturer: NUCOR STEEL AUBURN, INC		
24303	110000	HNA100	80	C OF C	C OF C		A43770
		Description: 1"(8) HEX NUT A563A			Manufacturer: STELFAST FASTENERS INC.		
33208	120000	WFA100	80				A48390
		Description: 1" FLAT ROUND WASHER F844			Manufacturer: COATESVILLE WASHER CO.		

HAYDON BOLTS, INC.

JAMES A. MC BRADY INC.

Customer PO 14188

Invoice No. B7100731

Invoice Date 10/15/07

Sales Order K20827

Cert No Inv Line No Item No  
30410 40000 HXHD

Quantity Lot No  
120 H02368

Heat  
B4629

Assembly No

Haydon PO  
HAYDON

770 pcs. = 25400  
 HEAT# B4629  
 DATE SHIPPED 7/24/2006  
 SHIPMENT# 0281844  
 SIZE: RD 3/4  
 ORDER ITEM# 175338/ 03  
 SOLD TO: HAYDON BOLTS INC  
 FAX#/EMAIL: 2157446450

**CERTIFIED TEST REPORT**

**NUCOR**  
 BAR MILL-AUBURN  
 NUCOR STEEL AUBURN, INC.  
 P.O. BOX 2008  
 QUARRY ROAD  
 AUBURN, NY 13021

CUST. P.O. A46784  
 PART #:  
 GRADE : F1554-04 GR55 SECTIONS  
 SPEC 8, 9.1 S1.5.2.1 ONLY  
 SUPP. REQ:  
 SHIP TO: HAYDON BOLTS

**CHEMICAL ANALYSIS %**

C	MN	SI	P	S	CU	NI	CR	MO	SN	V	CB	TI	B	N2	O2
.220	.950	.230	.015	.038	.340	.1200	.160	.049	.015	.003	.0250	.0030	.0017	XXX	XXX

**MECHANICAL RESULTS**

YIELD	TENSILE	GAUGE	%	BEND	%
K.S.I.	K.S.I.	LENGTH	ELONG	PIN. DIA	R.A.
62.20	86.10	8	25.6	.0	57.4
62.30	86.30	8	25.0	.0	57.3
MPa	MPa	GAUGE	%	BEND	
		LENGTH	ELONG	PIN. DIA	R.A.

**CHARPY IMPACT TEST**

TEMP. F	FT./LB.	SUBSIZE SPECIMEN	SAMPLE

I CERTIFY THESE RESULTS TO BE CORRECT AS CONTAINED IN THE RECORDS OF THE COMPANY.

JIM BIERNAT, METALLURGIST  
 STATE OF NEW YORK SS.  
 COUNTY OF CAYUGA

Jim Biernat

Grain Size: XXX Reduction Ratio: XXX As Rolled Hardness: XXX D.I.: XXX C.F.: .407 C.I.: XXX

**JOMINY END-QUENCH HARDENABILITY RESULTS (HRC)**

J1	J2	J3	J4	J5	J6	J7	J8	J9	J10	J11	J12
J13	J14	J15	J16	J18	J20	J22	J24	J26	J28	J30	J32

ALL MANUFACTURING PROCESSES FOR THIS STEEL, INCLUDING MELTING FROM SCRAP AND HOT ROLLING HAVE BEEN PERFORMED IN THE U.S.A. NO WELD REPAIR PERFORMED, STEEL NOT EXPOSED TO MERCURY OR ANY LIQUID ALLOY WHICH IS LIQUID AT AMBIENT TEMPERATURES.

NOTARIZED CERTIFICATION

**CUSTOMER SPECIAL INSTRUCTIONS:**

ASTM F1554-04 GR. 55 IS DUAL CERTIFIED TO AASHTO M314-90 GR.55.

C. E. REQUIRED ON BW & BV CHEM. CODES ONLY

JUL 27 2006

(print)

AFTER BEING DULY SWORN BY ME, DECLARES THAT: THESE RESULTS ARE CORRECT AS CONTAINED IN THE RECORDS OF NUCOR STEEL AUBURN, INC

*Jim Biernat*

(sign)

SUBSCRIBED AND SHOWN BEFORE ME

THIS 25 DAY OF July  
 L.S. Cathy Ann Peluso

THIS CERTIFICATE IS NOTARIZED ONLY WHEN REQUESTED

BW/05177-T 128600 CATHY ANN PELUSO  
 Notary Public, State of New York  
 No. 01PE6101856  
 Qualified in Cayuga County  
 Commission Expires 11/17/2007

# HAYDON BOLTS, INC.

JAMES A. MC BRADY INC.

Customer PO 14188

Invoice No. B7100731

Invoice Date 10/15/07

Sales Order K20827

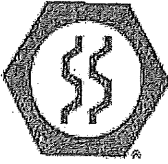
Cert No	Inv Line No	Item No
24301	60000	HNA075

Quantity	Lot No
120	C OF C

Heat
C OF C

Assembly No

Haydon PO  
A43770



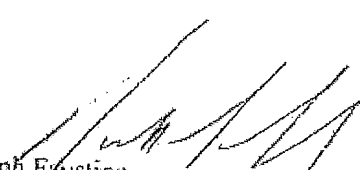
**STELFAST<sup>®</sup> INC.**  
ISO 9002 / QS 9000 CERTIFIED

SALES OFFICE  
901 - 13th Avenue  
Prospect Park, PA 19076  
Phone: (877) 999-7027  
(610) 534-5624  
Fax: (610) 534-5664

Certificate of Compliance

To Whom It May Concern:

We certify that the products shown in our catalog conform to IFT standards.

  
Ralph Faustino  
Philadelphia Sales Manager

E-mail: [info@stelfast.com](mailto:info@stelfast.com) • Website: [www.stelfast.com](http://www.stelfast.com)  
Atlanta • Cleveland • Dallas • Edmonton • Houston • Montreal • Toronto

# HAYDON BOLTS, INC.

JAMES A. MC BRADY INC.

Customer PO 14188

Invoice No. B7100731

Invoice Date 10/15/07

Sales Order K20827

Cert No	Inv Line No	Item No
33206	70000	WFA075

Quantity	Lot No
120	

Heat

Assembly No

Haydon PO  
A48390





JUL 20 2007  
JUL 20 2007  
COATESVILLE WASHER COMPANY

CERTIFICATE OF COMPLIANCE

JUL 20 2007

TO: HAYDON BOLTS, INC.  
1181 UNITY STREET  
PHILADELPHIA, PA 19124

DATE: July 16, 2007

PART: WASHERS, STEEL, PLAIN(FLAT), UNHARDENED FOR GENERAL  
USE.

SPEC.: ASTM F844 & ANSI B18.22.1

FINISH : PLAIN, ZINC & CLEAR DICHROMATE , HOT DIP GALV. &  
MECH. GALV.

GENTLEMEN:

I HEREBY CERTIFY THAT THE ABOVE SUPPLIES CALLED FOR BY  
PURCHASE ORDER/CONTRACT A48390 WERE MANUFACTURED IN  
CHINA USING MILD STEEL , IN ACCORDANCE WITH ALL APPLICABLE  
SPECIFICATIONS, AND THAT SUCH SUPPLIES WERE IN THE QUANTITY  
AND QUALITY CALLED FOR, AND WERE IN ALL RESPECTS IN  
ACCORDANCE WITH THE APPLICABLE SPECIFICATIONS. ALL  
DIMENSIONAL INSPECTION REPORTS ARE ON FILE AND AVAILABLE FOR  
REVIEW UPON REQUEST. CHEMICAL & PHYSICAL REPORTS ARE NOT  
AVAILABLE SINCE THEY ARE OPTIONAL AND NOT REQUIRED BY THE  
ABOVE REFERENCED SPECIFICATIONS.

COATESVILLE WASHER COMPANY

BY: 

GENERAL MANAGER

# HAYDON BOLTS, INC.

JAMES A. MC BRADY INC.

Customer PO 14188

Invoice No. B7100731

Invoice Date 10/15/07

Sales Order K20827

Cert No	Inv Line No	Item No
33888	90000	HXHD

Quantity	Lot No
80	

Heat
C6003

Assembly No

Haydon PO  
A49280

348 pcs. = 20440

HEAT# C6003  
DATE SHIPPED 9/27/2007  
SHIPMENT# 0302807  
SIZE: RD 1 22' 0"  
ORDER ITEM# 193745/ 07  
SOLD TO: HAYDON BOLTS INC  
FAX#/EMAIL: CERTS@HAYDONBOLTS.COM

### CERTIFIED TEST REPORT

# NUCOR

BAR MILL-AUBURN  
NUCOR STEEL AUBURN, INC.

P.O. BOX 2008  
QUARRY ROAD  
AUBURN, NY 13021

CUST. P.O. A49280  
PART #:  
GRADE : F1554-04 GR55 SECTIONS  
SPEC 8, 9.1 S1.5.2.1 ONLY  
SUPP. REQ:  
SHIP TO: HAYDON BOLTS

### CHEMICAL ANALYSIS %

C	MN	SI	P	S	CU	NI	CR	MO	SN	V	CB	TI	B	N2	O2
220	950	190	.014	.044	330	0800	130	025	.019	.029	0030	0010	.0013	XXX	XXX

### MECHANICAL RESULTS

YIELD	TENSILE	GAUGE	%	BEND	%
K.S.I.	K.S.I.	LENGTH	ELONG	PIN. DIA	R.A.
61.30	84.20	8	19.4	.0	41.6
61.20	84.20	8	25.0	.0	41.0
MPa	MPa	GAUGE	%	BEND	
		LENGTH	ELONG	PIN. DIA	R.A.

### CHARPY IMPACT TEST

TEMP. F	FT./LB.	SUBSIZE	SPECIMEN	SAMPLE

I CERTIFY THESE RESULTS TO BE CORRECT AS CONTAINED IN THE RECORDS OF THE COMPANY.

JIM BIERNAT, METALLURGIST  
STATE OF NEW YORK SS.  
COUNTY OF CAYUGA

Jim Biernat

(print)

AFTER BEING DULY SWORN BY ME, DECLARES THAT: THESE RESULTS ARE CORRECT AS CONTAINED IN THE RECORDS OF NUCOR STEEL AUBURN, INC



(sign)

SUBSCRIBED AND SHOWN BEFORE ME

Grain Size      Reduction Ratio      As Rolled Hardness      D.I.      C.E.      C.I.  
 XXX                      XXX                      XXX                      XXX                      .400                      XXX

### JOMINY END-QUENCH HARDENABILITY RESULTS (HRC)

J1	J2	J3	J4	J5	J6	J7	J8	J9	J10	J11	J12
J13	J14	J15	J16	J18	J20	J22	J24	J26	J28	J30	J32

ALL MANUFACTURING PROCESSES FOR THIS STEEL, INCLUDING MELTING FROM SCRAP AND HOT ROLLING HAVE BEEN PERFORMED IN THE U.S.A. NO WELD REPAIR PERFORMED, STEEL NOT EXPOSED TO MERCURY OR ANY LIQUID ALLOY WHICH IS LIQUID AT AMBIENT TEMPERATURES.

NOTARIZED CERTIFICATION

### CUSTOMER SPECIAL INSTRUCTIONS:

ASTM F1554-04 GR. 55 IS DUAL CERTIFIED TO AASHTO M314-90 GR.55.

C. E. REQUIRED ON BW & BV CHEM. CODES ONLY

THIS 27 DAY OF September  
L.S. Cathy Ann Peluso

THIS CERTIFICATE IS NOTARIZED ONLY WHEN REQUESTED

BW/05178  
128600

CATHY ANN PELUSO  
Notary Public, State of New York  
No. 01PEC101656  
Qualified in Cayuga County  
Commission Expires 11/17/2007

# HAYDON BOLTS, INC.

JAMES A. MC BRADY INC.

Customer PO 14188

Invoice No. B7100731

Invoice Date 10/15/07

Sales Order K20827

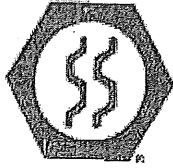
Cert No	Inv Line No	Item No
24303	110000	HNA100

Quantity	Lot No
80	C OF C

Heat
C OF C

Assembly No

Haydon PO  
A43770



**STELFAST<sup>®</sup> INC.**

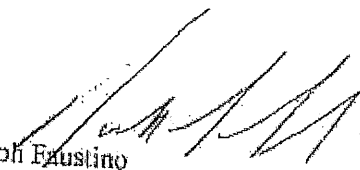
ISO 9002 / QS 9000 CERTIFIED

SALES OFFICE  
901 - 13th Avenue  
Prospect Park, PA 19076  
Phone: (877) 999-7027  
(610) 534-5624  
Fax: (610) 534-5664

Certificate of Compliance

To Whom It May Concern:

We certify that the products shown in our catalog conform to IFI standards.

  
Ralph Faustino  
Philadelphia Sales Manager

E-mail: [info@stelfast.com](mailto:info@stelfast.com) • Website: [www.stelfast.com](http://www.stelfast.com)

Atlanta • Cleveland • Dallas • Edmonton • Houston • Montreal • Toronto

# HAYDON BOLTS, INC.

JAMES A. MC BRADY INC.

Customer PO 14188

Invoice No. B7100731

Invoice Date 10/15/07

Sales Order K20827

Cert No	Inv Line No	Item No
33208	120000	WFA100

Quantity	Lot No
80	

Heat

Assembly No

Haydon PO  
A48390



COATESVILLE WASHER COMPANY

JUL 20 2007  
JUL 20 2007

CERTIFICATE OF COMPLIANCE

JUL 20 2007

TO: HAYDON BOLTS, INC.  
1181 UNITY STREET  
PHILADELPHIA, PA 19124

DATE: July 16, 2007

PART: WASHERS, STEEL, PLAIN(FLAT), UNHARDENED FOR GENERAL  
USE.

SPEC.: ASTM F844 & ANSI B18.22.1

FINISH : PLAIN, ZINC & CLEAR DICHROMATE , HOT DIP GALV. &  
MECH. GALV.

GENTLEMEN:

I HEREBY CERTIFY THAT THE ABOVE SUPPLIES CALLED FOR BY  
PURCHASE ORDER/CONTRACT A48390 WERE MANUFACTURED IN  
CHINA USING MILD STEEL , IN ACCORDANCE WITH ALL APPLICABLE  
SPECIFICATIONS, AND THAT SUCH SUPPLIES WERE IN THE QUANTITY  
AND QUALITY CALLED FOR, AND WERE IN ALL RESPECTS IN  
ACCORDANCE WITH THE APPLICABLE SPECIFICATIONS. ALL  
DIMENSIONAL INSPECTION REPORTS ARE ON FILE AND AVAILABLE FOR  
REVIEW UPON REQUEST. CHEMICAL & PHYSICAL REPORTS ARE NOT  
AVAILABLE SINCE THEY ARE OPTIONAL AND NOT REQUIRED BY THE  
ABOVE REFERENCED SPECIFICATIONS.

COATESVILLE WASHER COMPANY

BY:   
GENERAL MANAGER

# Structural Members



BULL MOOSE TUBE ELKHART FACILITY  
 CERTIFICATION OF TESTS

10/24/07  
 Page 1 of 1

P.O. #  
 14564

~~BULL MOOSE TUBE~~  
 COMPANY

1819 Clarkson Rd.  
 Chesterfield, Missouri 63017

BILL TO Infra-Metals Corporation  
 8 Pent Highway  
 Wallingford CT 06492

SHIP TO Infra-Metals Corporation(Parent)  
 8 Pent Highway  
 Wallingford

CT 06492

B/L Number 149781

Ship Via

430\_797

8" SQ X 0.375 HR X 30'				Ladle Analysis and Physicals				Order #	226164				
203.2 mm								Purchase Order #	C1085B-MF				
ASTM A500-03 Grade C								Item #	117817 5120				
Ticket # = 59218741				Heat # = 48801M07				P					
C	MN	P	S	AL	SI	CB	CU	CR	NI	VA	YLD psi	TSN psi	ELN %
.060	.760	.007	.006	.049	.013	.030	.020	.030	.010	.001	60400	68714	35

8" SQ X 0.375 HR X 35'				Ladle Analysis and Physicals				Order #	226164				
203.2 mm								Purchase Order #	C1085B-MF				
ASTM A500-03 Grade C								Item #	111154 5120				
Ticket # = 59218739				Heat # = 48801M07				P					
C	MN	P	S	AL	SI	CB	CU	CR	NI	VA	YLD psi	TSN psi	ELN %
.060	.760	.007	.006	.049	.013	.030	.020	.030	.010	.001	60400	68714	35

8" SQ X 0.375 HR X 40'				Ladle Analysis and Physicals				Order #	226164				
203.2 mm								Purchase Order #	C1085B-MF				
ASTM A500-03 Grade C								Item #	118540 5120				
Ticket # = 59218737				Heat # = 48801M07				P					
C	MN	P	S	AL	SI	CB	CU	CR	NI	VA	YLD psi	TSN psi	ELN %
.060	.760	.007	.006	.049	.013	.030	.020	.030	.010	.001	60400	68714	35

8" SQ X 0.375 HR X 45'				Ladle Analysis and Physicals				Order #	226164				
203.2 mm								Purchase Order #	C1085B-MF				
ASTM A500-03 Grade C								Item #	122853 5120				
Ticket # = 59218732				Heat # = 48801M07				P					
C	MN	P	S	AL	SI	CB	CU	CR	NI	VA	YLD psi	TSN psi	ELN %
.060	.760	.007	.006	.049	.013	.030	.020	.030	.010	.001	60400	68714	35

Quality Manager: *Richard Long*

THIS WELDED STEEL TUBING IS MANUFACTURED IN THE UNITED STATES OF AMERICA AND HAS BEEN PRODUCED IN ACCORDANCE WITH THE STATED SPECIFICATION. LADLE CHEMISTRIES ARE REPORTED FROM DOCUMENTS PROVIDED BY THE SUPPLYING STEEL MILL. ANY PHYSICAL AND MECHANICAL TESTING RESULTS SHOWN ON THIS CERTIFICATION ARE CORRECT AS CONTAINED IN THE RECORDS OF THE COMPANY.

22Oct07 10: 7

T E S T C E R T I F I C A T E

No: MAR 471771

Sold By:

INDEPENDENCE TUBE CORPORATION  
6226 W. 74TH STREET  
CHICAGO, IL 60638  
Tel: 708-496-0380 Fax: 708-563-1950

P/O No C10508FF  
Rel PART II OF II  
S/O No MAR 129541-007  
B/L No MAR 79284-009 Shp 20Oct07  
Inv No MAR -004 Inv 22Oct07

Sold To: ( 914)  
INFRA-METALS  
8 PENT HIGHWAY  
WALLINGFORD, CT 06492

Ship To: ( 2)  
INFRA-METALS (RAIL)  
8 PENT HIGHWAY  
TRACK #953  
WALLINGFORD, CT

Tel: 203-294-2980 Fax: 203 294-2993

CERTIFICATE of ANALYSIS and TESTS

Cert. No: MAR 471771  
22Oct07

Part No  
TUBING A500C  
8" SQ X 1/4" X 40'

Pcs Wgt  
36 37,179

Heat Number	Tag No		
D43364	60359	YLD=51900/TEN=71270/ELG=36.5	
D43364	60360		
D43364	60361		
D43364	60362		
D43364	60363		
T43945	60364	YLD=58050/TEN=78020/ELG=32.5	
T43945	60365		
T43945	60366		
T43945	60367		

Pcs	Wgt
4	4,131
4	4,131
4	4,131
4	4,131
4	4,131
4	4,131
4	4,131
4	4,131
4	4,131

Heat Number	*** Chemical Analysis ***
D43364	C=0.2200 Mn=0.8400 P=0.0170 S=0.0080 Si=0.0230 Al=0.0410 Cu=0.0200
T43945	C=0.2300 Mn=0.8000 P=0.0130 S=0.0080 Si=0.0110 Al=0.0470 Cu=0.0300

MANUFACTURED IN USA  
MEETS THE REQUIREMENTS ASTM A-500 GRADE B(C)-03a

25Oct07 9:54

T E S T C E R T I F I C A T E

No: MAR 472549

Sold By:

INDEPENDENCE TUBE CORPORATION

6226 W. 74TH STREET

CHICAGO, IL 60638

Tel: 708-496-0380 Fax: 708-563-1950

P/O No C10508FF

Rel PART II OF II

S/O No MAR 129560-005

B/L No MAR 79489-003

Inv No MAR

Shp 24Oct07

Inv 25Oct07

Sold To: ( 914)

INFRA-METALS

8 PENT HIGHWAY

WALLINGFORD, CT 06492

Ship To: ( 2)

INFRA-METALS (RAIL)

8 PENT HIGHWAY

TRACK #953

WALLINGFORD, CT

Tel: 203-294-2980 Fax: 203 294-2993

CERTIFICATE of ANALYSIS and TESTS

Cert. No: MAR 472549

25Oct07

Part No

TUBING A500C

5" SQ X 3/8" X 45'

Pcs	Wgt
32	32,212

Heat Number

Tag No

M46252

62397

Pcs	Wgt
8	8,053

YLD=60880/TEN=76500/ELG=35.2

M46252

62398

8 8,053

M46252

62399

8 8,053

M46252

62400

8 8,053

Heat Number

\*\*\* Chemical Analysis \*\*\*

M46252

C=0.2200 Mn=0.7800 P=0.0140 S=0.0110 Si=0.0110 Al=0.0480

Cu=0.0200

MANUFACTURED IN USA

MEETS THE REQUIREMENTS ASTM A-500 GRADE B(C)-03a

22Oct07 10:10

T E S T C E R T I F I C A T E

No: MAR 471795

Sold By:

INDEPENDENCE TUBE CORPORATION  
6226 W. 74TH STREET  
CHICAGO, IL 60638  
Tel: 708-496-0380 Fax: 708-563-1950

P/O No C10508FF  
Rel PART II OF II  
S/O No MAR 129558-007  
B/L No MAR 79435-005 Shp 20Oct07  
Inv No MAR -005 Inv 22Oct07

Sold To: ( 914)  
INFRA-METALS  
8 PENT HIGHWAY  
WALLINGFORD, CT 06492

Ship To: ( 2)  
INFRA-METALS (RAIL)  
8 PENT HIGHWAY  
TRACK #953  
WALLINGFORD, CT

Tel: 203-294-2980 Fax: 203 294-2993

CERTIFICATE of ANALYSIS and TESTS

Cert. No: MAR 471795  
22Oct07

Part No  
TUBING A500C  
5" SQ X 1/4" X 50'

Pcs Wgt  
48 37,488

Heat Number Tag No  
E44470 62204  
YLD=57000/TEN=74640/ELG=33.8  
E44470 62205  
E44470 62206  
E44470 62207

Pcs Wgt  
12 9,372  
12 9,372  
12 9,372  
12 9,372

Heat Number \*\*\* Chemical Analysis \*\*\*  
E44470 C=0.2100 Mn=0.7400 P=0.0120 S=0.0130 Si=0.0130 Al=0.0370  
Cu=0.0200

MANUFACTURED IN USA  
MEETS THE REQUIREMENTS ASTM A-500 GRADE B(C)-03a

BULL MOOSE TUBE TRENTON FACILITY  
 CERTIFICATION OF TESTS

08/17/07

**BULL MOOSE TUBE  
 COMPANY**

1819 Clarkson Rd.  
 Chesterfield, Missouri 63017

BILL TO Infra-Metals Corporation  
 8 Pent Highway  
 Wallingford CT 06492

SHIP TO Infra-Metals Corporation(Parent)  
 8 Pent Highway  
 Wallingford CT 06492

B/L Number 145442

Ship Via

726\_281287

5" SQ X 0.250 HR X 48'  
 127.0 mm  
 ASTM A500-03 Grade B  
 Ticket # = 25157492

Ladle Analysis and Physicals

Heat # = X43461

C	MN	P	S
.080	.670	.008	.012

AL	SI	CB	CU	CR	NI	VA	YLD psi	TSN psi	ELI
.037	.011	.001	.020	.030	.020	.050	58302	70969	34

Order # 221030  
 Purchase Order # C1037B-MF  
 Item # 100263 3200

P

5" SQ X 0.250 HR X 48'  
 127.0 mm  
 ASTM A500-03 Grade B  
 Ticket # = 25157488

Ladle Analysis and Physicals

Heat # = S73141

C	MN	P	S
.040	.790	.008	.003

AL	SI	CB	CU	CR	NI	VA	YLD psi	TSN psi	ELI
.027	.026	0.000	.080	.030	.040	.036	59070	71487	32

Order # 221030  
 Purchase Order # C1037B-MF  
 Item # 100263 3200

P

5" SQ X 0.250 HR X 48'  
 127.0 mm  
 ASTM A500-03 Grade B  
 Ticket # = 25148274

Ladle Analysis and Physicals

Heat # = C45035

C	MN	P	S
.090	.650	.008	.010

AL	SI	CB	CU	CR	NI	VA	YLD psi	TSN psi	ELI
.050	.022	.001	.020	.030	.010	.054	59816	71027	29

Order # 221030  
 Purchase Order # C1037B-MF  
 Item # 100263 3200

P

5" SQ X 0.250 HR X 48'  
 127.0 mm  
 ASTM A500-03 Grade B  
 Ticket # = 25157484

Ladle Analysis and Physicals

Heat # = S73141

C	MN	P	S
.040	.790	.008	.003

AL	SI	CB	CU	CR	NI	VA	YLD psi	TSN psi	ELI
.027	.026	0.000	.080	.030	.040	.036	59070	71487	32

Order # 221030  
 Purchase Order # C1037B-MF  
 Item # 100263 3200

P

QC Technician:

*Carol Holcomb QATech*

THIS WELDED STEEL TUBING IS MANUFACTURED IN THE UNITED STATES OF AMERICA AND HAS BEEN PRODUCED IN ACCORDANCE WITH THE STATED SPECIFICATION. LADLE CHEMISTRIES ARE REPORTED FROM DOCUMENTS PROVIDED BY THE SUPPLYING STEEL MILL. ANY PHYSICAL AND MECHANICAL TESTING RESULTS SHOWN ON THIS CERTIFICATION ARE CORRECT AS CONTAINED IN THE RECORDS OF THE COMPANY.

NOVA TUBE AND STEEL CORPORATION  
 600 Dean Sievers Place  
 Morrisville, PA, 19067  
 Tel: 215-295-8813 Fax: 215-295-8798

TEST CERTIFICATE

Sold to: INFRA-METALS CORP. DATE SHIPPED: 10/16/07  
 Ship to: INFRA-METALS CORP. B/L #: 154307  
 8 PENT HIGHWAY P.O. #: C10738-WF  
 WALLINGFORD, CONNECTICUT SALES ORDER #: 128430

06492

Description	Dimensions	Pcs	Mill/Heat Number	Specifications
HSS Square Tubing	5x5x0.250x360 7054 x 30	12	FAR /FAR6801723	ASTM A 500 B/C
HSS Square Tubing	5x5x0.250x420 " x 35	16	FAR /FAR6801723	ASTM A 500 B/C
HSS Square Tubing	5x5x0.250x540 " 45	16	FAR /FAR6801723	ASTM A 500 B/C
HSS Square Tubing	5x5x0.250x600 " 50	24	FAR /FAR6801723	ASTM A 500 B/C
HSS Square Tubing	5x5x0.250x600 " 50	8	FAR /FAR6831724	ASTM A 500 B/C

Heat Number	Chemical Analysis															
	C	Mn	P	S	Si	Cu	Ni	Cr	Cb	Mo	V	Al	N	Sn	B	Ti
FAR FAR6801723	0.190	0.750	0.007	0.011	0.006	0.049	0.036	0.020	-	0.003	0.002	0.041	0.004	0.002	0.000	0.005
	Manufactured in the U.S.A.															
FAR FAR6831724	0.200	0.750	0.011	0.009	0.008	0.044	0.027	0.028	-	0.004	0.003	0.046	0.005	0.002	0.000	0.005
	Manufactured in the U.S.A.															

Mechanical Test Results					
Heat Number/Size or Ser#	Yield	Tensile	Elong.%	N-fact	Crush
FAR6801723 HSS 5x5x0.25(Tail)	55,862 PSI	68,096 PSI	31.00(2")		
FAR6831724 HSS 5x5x0.25(Tail)	53,040 PSI	64,398 PSI	32.00(2")		

Heat # Manufactured in  
 FAR6801723 United States DUFERCO FARRELL CORP  
 FAR6831724 United States DUFERCO FARRELL CORP

Authorized by Andrew Hurlbrink, Quality Ctrl Dept

OCT 16, 2007N

10Oct07-10:57

TEST CERTIFICATE

No: MAR 469893

Sold By:

INDEPENDENCE TUBE CORPORATION

6226 W. 74TH STREET

CHICAGO, IL 60638

Tel: 708-496-0380 Fax: 708-563-1950

P/O No C10508FF

Rel PART I OF II

S/O No MAR 129536-007

B/L No MAR 79069-008 Shp 09Oct07

Inv No MAR -003 Inv 10Oct07

Sold To: ( 914)

INFRA-METALS

8 PENT HIGHWAY

WALLINGFORD, CT 06492

Ship To: ( 2)

INFRA-METALS (RAIL)

8 PENT HIGHWAY

TRACK #953

WALLINGFORD, CT

Tel: 203-294-2980 Fax: 203 294-2993

CERTIFICATE of ANALYSIS and TESTS

Cert. No: MAR 469893

10Oct07

Part No

TUBING A500C

4" SQ X 1/4" X 50'

Pcs Wgt  
66 40,295

Heat Number

Tag No

Y47958

59056

Pcs Wgt  
15 9,158

YLD=56370/TEN=73540/ELG=35.3

Y47958

59057

15 9,158

Y47958

59060

15 9,158

Y47958

59061

15 9,158

Y47958

59062

6 3,663

Heat Number

\*\*\* Chemical Analysis \*\*\*

Y47958

C=0.2000 Mn=0.7600 P=0.0110 S=0.0080 Si=0.0140 Al=0.0370

Cu=0.0300

MANUFACTURED IN USA

MEETS THE REQUIREMENTS ASTM A-500 GRADE B(C)-03a

NUCOR STEEL - BERKELEY  
P.O. Box 2259  
Mt. Pleasant, S.C. 29464  
Phone: (843) 336-6000

MILL TEST REPORT

12/13/07 5:59:12  
100% MELTED AND MANUFACTURED IN THE USA  
All beams produced by Nucor-Berkeley are cast and rolled to a fully killed and fine grain practice.

Sold To: INFRA METALS CORP - CT  
8 PENI HIGHWAY

Ship To: INFRA METALS CORP - CT  
8 PENI HIGHWAY

Customer H.: 502 - 1  
Customer PO: C1107A  
B.o.L. H...: 659520

WALLINGFORD, CT 06492

WALLINGFORD, CT 06492

SPECIFICATIONS: Tested in accordance with ASIM specification A6/A6M and A370.  
AASBIO : M270-36-05/M270-50-05  
ASME : SA-36 07a  
ASIM : A992-06a;//A36-05/A572-D6-50/A709-06a36/A709-07 50/A709-345M  
CSA : CSA-44W/G40.21-50W

PO # 14563

Description	Heat# Grade(s) Test	Yield/ Tensile Ratio	Yield (PSI) (MPa)	Tensile (PSI) (MPa)	Elong %	C	Mn	P	S	Si	Cu	Ni	CE1
						Cr	Mo	Su	Al	V	Nb	***** CI	CE2
W14X38 050' 00.00' W360X57.8 015.2400m	1718130 A992-06a	.79	54800 378	69300 478	24.48	.0690 .0230	1.0570 .0250	.0072 .0055	.0184 .0032	.2420 .0035	.0780 .0295	.0240	.2623 .3085
		.78	54000 372	69000 476	23.78	.0089 10 Piece(s)	.0014	.0004	.0007	.0046	.0000	2.4161 Inv#:	.1408 0
W14X38 050' 00.00' W360X57.8 015.2400m	1718131 A992-06a	.80	56300 388	70000 483	24.61	.0660 .0270	1.0700 .0240	.0093 .0045	.0191 .0032	.2400 .0034	.0730 .0293	.0220	.2615 .3074
		.79	54800 378	69700 481	22.06	.0042 10 Piece(s)	.0013	.0016	.0010	.0047	.0000	2.3433 Inv#:	.1397 0
W4X13 040' 00.00' W100X19.3 012.1920m	2715308 A992-06a	.82	57800 399	70800 488	24.81	.0680 .0400	.8700 .0200	.0084 .0071	.0260 .0014	.2010 .0035	.1470 .0293	.0430	.2384 .2777
		.81	57500 396	70800 488	24.90	.0050 16 Piece(s)	.0021	.0011	.0010	.0051	.0000	3.7121 Inv#:	.1348 0
W4X13 040' 00.00' W100X19.3 012.1920m	1715303 A992-06a	.81	57100 394	70400 485	25.45	.0700 .0460	.8220 .0290	.0100 .0062	.0268 .0030	.2070 .0026	.1270 .0254	.0410	.2337 .2733
		.82	57200 394	70100 483	24.00	.0042 32 Piece(s)	.0020	.0005	.0019	.0057	.0000	3.4185 Inv#:	.1389 0
W4X13 050' 00.00' W100X19.3 015.2400m	2715332 A992-06a	.80	56900 392	71100 490	25.05	.0700 .0220	.8710 .0170	.0041 .0055	.0229 .0000	.2020 .0025	.0810 .0271	.0300	.2309 .2700
		.82	57400 396	70100 483	22.96	.0000 32 Piece(s)	.0014	.0008	.0005	.0056	.0000	2.3835 Inv#:	.1297 0

Elongation based on 8" (20.32cm) gauge length. 'No Weld Repair' was performed. Hg free and no contact with Hg during manufacture.  
CI = 26.01Cu+3.88Ni+1.20Cr+1.49Si+17.28P-(7.29Cu\*Ni)-(9.10Ni\*P)-33.39(Cu\*Cu) CE1 = C+(Mn/6)+((Cr+Mo+V)/5)+((Ni+Cu)/15)  
Pcm = C+(Si/30)+(Mn/20)+(Cu/20)+(Ni/60)+(Cr/20)+(Mo/15)+(V/10)+5B CE2 = C+((Mn+Si)/6)+((Cr+Mo+V+Cb)/5)+((Ni+Cu)/15)

I hereby certify that the contents of this report are accurate and correct. All test results and operations performed by the material manufacturer are in compliance with material specifications, and when designated by the Purchaser, meet applicable specifications.

Bruce A. Work  
Metallurgist

(State of South Carolina  
County of Berkeley  
Sworn and subscribed before me

\_\_\_\_\_ day of \_\_\_\_\_



NUCOR STEEL - BERKELEY  
P.O. Box 2259  
Mt. Pleasant, S.C. 29464  
Phone: (843) 336-6000

MILL TEST REPORT

9/04/06 3:40:25  
100% MELTED AND MANUFACTURED IN THE USA  
All beams produced by Nucor-Berkeley are cast and rolled to a fully killed and fine grain practice.

Sold To: INFRA-METALS CORP. - CI  
B PENT HIGHWAY  
WALLINGFORD, CT 06492

Ship To: INFRA-METALS CORP.  
INFRA METALS CORP  
8 PENT HIGHWAY  
WALLINGFORD, CT 06492

Customer H.: 502 - 1  
B.o.L. H...: 561512

SPECIFICATIONS: Tested in accordance with ASTM specification A6/A6M and A370.  
AASHIO : M270-36-00/M270-50-00  
ASME : SA-36  
ASTM : A992-04a://A36-05/A572-06-50/A709-06a36/A709-06a50/A709-345M  
CSA : CSA-44W/G40.21-50W

3:42 09-04 TO: 12036794260 FROM: NUCOR STEEL - HUGER

Description	Heat# Grade(s) Test	Yield/ Tensile Ratio	Yield (PSI) (MPa)	Tensile (PSI) (MPa)	Elong %	C Cr Pb	Mn Mo Ti	P Sn Ca	S Al B	Si V N	Cu Nb Zr	Ni xxxxxx CI	CE1 CE2 Pcm
W10X45.0 045' 00.00' W250X67 013.7160m	1614697 A992-04a	.75	54700	72800	22.78	.0690 .0340 .0156	1.1220 .0270 .0021	.0141 .0051 .0025	.0284 .0031 .0026	.2850 .0054 .0068	.1170 .0301 .0000	.0390 3.4082 InvH:	.2797 .3332 .1580 0
W10X45.0 060' 00.00' W250X67 018.2880m	2614700 A992-04a	.76	55000	72100	22.88	.0740 .0330 .0133	1.0740 .0260 .0018	.0111 .0052 .0000	.0237 .0018 .0019	.2640 .0050 .0055	.1300 .0288 .0000	.0420 3.5607 InvH:	.2773 .3270 .1569 0
W10X45.0 060' 00.00' W250X67 018.2880m	2614688 A992-04a	.77	55800	72500	21.43	.0700 .0310 .0151	1.1060 .0290 .0018	.0124 .0054 .0010	.0279 .0023 .0026	.3100 .0052 .0070	.1280 .0304 .0000	.0420 3.6146 InvH:	.2787 .3365 .1596 0
W4X13 035' 00.00' W100X19.3 010.6680m	1614171 A992-04a	.80	54000	67700	23.74	.0660 .0420 .0068	.8110 .0260 .0016	.0122 .0059 .0002	.0355 .0038 .0004	.2150 .0035 .0057	.1220 .0250 .0000	.0430 3.3816 InvH:	.2265 .2673 .1266 0
W4X13 045' 00.00' W100X19.3 013.7160m	1614308 A992-04a	.78	55400	71200	24.23	.0700 .0380 .0115	.9000 .0260 .0017	.0132 .0055 .0005	.0253 .0019 .0022	.1730 .0054 .0070	.1240 .0246 .0000	.0380 3.3518 InvH:	.2447 .2784 .1426 0

Elongation based on 8' (20.32cm) gauge length. 'No Weld Repair' was performed.  
CI = 26.01Cu+3.88Ni+1.20Cr+1.49Si+17.28P-(7.29Cu×Ni)-(9.10Ni×P)-33.39(Cu×Cu)  
Pcm = C+(Si/30)+(Mn/20)+(Cu/20)+(Ni/60)+(Cr/20)+(Mo/15)+(V/10)+5B

$$CE1 = C + (Mn/6) + ((Cr+Mo+V)/5) + ((Ni+Cu)/15)$$

$$CE2 = C + ((Mn+Si)/6) + ((Cr+Mo+V+Cb)/5) + ((Ni+Cu)/15)$$

I hereby certify that the contents of this report are accurate and correct. All test results and operations performed by the material manufacturer are in compliance with material specifications, and when designated by the Purchaser, meet applicable specifications.

Bruce A. Work  
Metallurgist

(State of South Carolina)  
(County of Berkeley)  
Sworn and subscribed before me

\_\_\_\_\_ day of \_\_\_\_\_

NUCOR STEEL - BERKELEY  
P.O. Box 2259  
Mt. Pleasant, S.C. 29464  
Phone: (843) 336-6000

MILL TEST REPORT

11/19/07 7:36:54  
100% MELTED AND MANUFACTURED IN THE USA  
All beams produced by Nucor-Berkeley are cast and rolled to a fully killed and fine grain practice.

Sold To: INFRA METALS CORP - CI  
8 PENT HIGHWAY  
WALLINGFORD, CI 06492

Ship To: INFRA METALS CORP - CI  
8 PENT HIGHWAY  
WALLINGFORD, CI 06492

Customer H.: 502 - 1  
B.o.I. H...: 654803

SPECIFICATIONS: Tested in accordance with ASTM specification A6/A6M and A370.  
AASHTO : M270-36-00/M270-50-00  
ASME : SA-36 04  
ASTM : A992-06a://A36-05/A572-06-50/A709-06a36/A709-07 50/A709-345M  
CSA : CSA-44W/G40.21-50W

Description	Heat Grade(s) Test	Yield/ Tensile Ratio	Yield (PSI) (MPa)	Tensile (PSI) (MPa)	Elong %	C		Mn		P		S		Si		Cu		Ni		CE1		
						Cr	Pb	Mo	Ti	Sn	Ca	Al	B	V	N	Nb	Zr	xxxxxx	CI	CE2	Pcm	
W10x15	1715445	.81	53400	65900	29.94	.0690		.8060		.0070		.0258		.2150		.0580		.0210		.2191		
040' 00.00'	A992-06a		368	454		.0230		.0270		.0044		.0029		.0024		.0113				.2572		
W250x22.3		.81	53600	65900	26.39	.0039		.0017		.0004		.0004		.0045		.0000		1.9364		.1248		
012.1920m			370	454		32 Piece(s)		Customer PO: C1100A													InvH:	0
W10x45.0	2713667	.77	53200	69500	23.34	.0710		1.0990		.0090		.0256		.2620		.0750		.0330		.2739		
060' 00.00'	A992-06a		367	479		.0400		.0190		.0053		.0022		.0036		.0271				.3230		
W250x67		.76	53000	69600	23.48	.0072		.0022		.0006		.0015		.0044		.0000		2.4641		.1500		
018.2880m			365	480		4 Piece(s)		Customer PO: C1100A													InvH:	0
W10x45.0	2713669	.76	53200	69700	22.26	.0690		1.1040		.0091		.0240		.2510		.0760		.0340		.2731		
060' 00.00'	A992-06a		367	481		.0390		.0210		.0049		.0025		.0039		.0292				.3208		
W250x67		.76	52600	69300	23.40	.0084		.0024		.0027		.0019		.0045		.0000		2.4722		.1500		
018.2880m			363	478		4 Piece(s)		Customer PO: C1100A													InvH:	0
W4x13	2715297	.82	57800	70200	23.29	.0680		.8620		.0073		.0274		.2100		.1330		.0440		.2347		
045' 00.00'	A992-06a		399	484		.0330		.0200		.0069		.0009		.0034		.0277				.2753		
W100x19.3		.81	57300	70800	22.94	.0062		.0022		.0000		.0011		.0057		.0000		3.4725		.1342		
013.7160m			395	488		16 Piece(s)		Customer PO: C1100A													InvH:	0
W4x13	1715294	.80	56300	70400	25.03	.0660		.8090		.0070		.0258		.2440		.1330		.0410		.2263		
045' 00.00'	A992-06a		388	485		.0380		.0290		.0060		.0029		.0025		.0262				.2722		
W100x19.3		.80	56000	70200	23.51	.0040		.0020		.0004		.0018		.0048		.0000		3.5155		.1349		
013.7160m			386	484		1 Piece(s)		Customer PO: C1100A													InvH:	0

Elongation based on 8" (20.32cm) gauge length. 'No Weld Repair' was performed. Hg free and no contact with Hg during manufacture.  
CE1 = C + (Mn/6) + ((Cr+Mo+V)/5) + ((Ni+Cu)/15)  
CI = 26.01Cu + 3.88Ni + 1.20Cr + 1.49Si + 17.28P - (7.29Cu+Ni) - (9.10Ni+P) - 33.39(Cu+Cu)  
CE2 = C + ((Mn+Si)/6) + ((Cr+Mo+V+Cb)/5) + ((Ni+Cu)/15)  
Pcm = C + (Si/30) + (Mn/20) + (Cu/20) + (Ni/60) + (Cr/20) + (Mo/15) + (V/10) + 5B

I hereby certify that the contents of this report are accurate and correct. All test results and operations performed by the material manufacturer are in compliance with material specifications, and when designated by the Purchaser, meet applicable specifications.

Bruce A. Work  
Metallurgist

(State of South Carolina  
County of Berkeley  
Sworn and subscribed before me

day of \_\_\_\_\_

NUCOR STEEL - BERKELEY  
P.O. Box 2259  
Mt. Pleasant, S.C. 29464  
Phone: (843) 336-6000

MILL TEST REPORT

10/03/07 4:46:29  
100% MELTED AND MANUFACTURED IN THE USA  
All beams produced by Nucor-Berkeley are cast and  
rolled to a fully killed and fine grain practice.

Sold To: INFRA METALS CORP - CT  
8 PENT HIGHWAY  
WALLINGFORD, CT 06492

Ship To: INFRA METALS CORP - CT  
8 PENT HIGHWAY  
WALLINGFORD, CT 06492

Customer H.: 502 - 1  
Customer PO: C1043KFF  
B.o.I. H...: 645182

SPECIFICATIONS: Tested in accordance with ASTM specification A6/A6M and A370.

AASHTO : M270-36-00/M270-50-00  
ASME : SA-36 04  
ASTM : A992-06a://A36-05/A572-06-50/A709-06a36/A709-07 50/A709-345M  
CSA : CSA-44W/G40.21-50W

Description	Heat# Grade(s) Test	Yield/ Tensile Ratio	Yield (PSI)	Tensile (PSI)	Elong %	C Cr Pb	Mn Mo Ti	P Sn Ca	S Al B	Si V N	Cu Nb Zr	Ni ***** CI	CE1
													CE2 Pcm
C10X15.5 030' 00.00' C250X22.8 009.1440m	1714837 A992-06a	.85	59900	70400	26.19	.0730	.8520	.0070	.0347	.2340	.0690	.0270	.2322
			413	485		.0250	.0270	.0082	.0035	.0022	.0296		.2772
C250X30 015.2400m	2714812 A992-06a	.85	58400	68900	25.53	.0024	.0023	.0011	.0008	.0049	.0000	2.2248	.1345
			403	475		48 Piece(s)							InvH:
C10X20 050' 00.00' C250X30 015.2400m	2714812 A992-06a	.80	54900	68600	24.30	.0700	.8660	.0066	.0258	.1630	.0650	.0270	.2296
			379	473		.0260	.0170	.0060	.0015	.0027	.0245		.2617
C200X17.1 009.1440m	2709863 A992-06a	.82	55400	67300	24.85	.0033	.0015	.0000	.0012	.0055	.0000	2.0280	.1310
			382	464		24 Piece(s)							InvH:
C8X11.5 030' 00.00' C200X17.1 009.1440m	2709863 A992-06a	.82	53300	65300	27.49	.0650	.8660	.0077	.0250	.2120	.0810	.0480	.2281
			368	450		.0330	.0150	.0054	.0016	.0029	.0115		.2657
C200X17.1 009.1440m	2709863 A992-06a	.81	53100	65900	27.34	.0000	.0013	.0000	.0007	.0048	.0000	2.5308	.1266
			366	454		9 Piece(s)							InvH:
C8X11.5 030' 00.00' C200X17.1 009.1440m	2709902 A992-06a	.80	53100	66300	26.55	.0650	.8450	.0070	.0233	.2200	.0810	.0290	.2244
			366	457		.0320	.0220	.0043	.0019	.0022	.0114		.2634
C200X17.1 009.1440m	2709902 A992-06a	.81	52700	65300	28.31	.0027	.0017	.0004	.0008	.0050	.0000	2.4684	.1263
			363	450		3 Piece(s)							InvH:
C8X11.5 030' 00.00' C200X17.1 009.1440m	2709903 A992-06a	.81	55700	68800	27.79	.0660	.8610	.0063	.0236	.2250	.0840	.0330	.2266
			384	474		.0280	.0150	.0057	.0020	.0033	.0147		.2670
C200X17.1 009.1440m	2709903 A992-06a	.81	55400	68200	28.53	.0000	.0014	.0002	.0001	.0052	.0000	2.5329	.1244
			382	470		24 Piece(s)							InvH:

Elongation based on 8' (20.32cm) gauge length. 'No Weld Repair' was performed.  
CI = 26.01Cu+3.88Ni+1.20Cr+1.49Si+17.28P-(7.29CuXNi)-(9.10NiXP)-33.39(CuXCu)  
Pcm = C+(Si/30)+(Mn/20)+(Cu/20)+(Ni/60)+(Cr/20)+(Mo/15)+(V/10)+5B

Hg free and no contact with Hg during manufacture.  
CE1 = C+(Mn/6)+((Cr+Mo+V)/5)+((Ni+Cu)/15)  
CE2 = C+((Mn+Si)/6)+((Cr+Mo+V+Cb)/5)+((Ni+Cu)/15)

I hereby certify that the contents of this report are accurate and correct. All test results and operations performed by the material manufacturer are in compliance with material specifications, and when designated by the Purchaser, meet applicable specifications.

Bruce A. Work  
Metallurgist

(State of South Carolina  
County of Berkeley  
Sworn and subscribed before me

\_\_\_\_\_ day of \_\_\_\_\_

材质书  
MILL TSET CERTIFICATE

产品名称: 热轧槽钢

DESCRIPTION OF CARGO: HOT ROLLED STRUCTURAL CHANNELS ASTM A6-05a

产品规格: A36 10 IN × 15.3 LBS × 4 0FT

SIZE AND SPECIFICATION: A36 10 IN × 15.3 LBS × 4 0FT

牌号 (级别代号): ASTM A6-05a

STANDARD: ASTM A6-05a SPECIFICATIONS AND TOLERANCE ACCORDING TO ASTM A6-05a

原产地: 中国

ORIGIN: CHINA

生产厂家: 唐山市福明钢铁有限公司

MILL: TANGSHAN FUMING

编号:

2006-10-006

NO.:

TOYOTA  
C20390

订购号 TOYOTA TSUSHO AMERICA INC.,TII NUMBER AND CUSTOMER PURCHASE ORDER NUMBER	炉号 HEAT NO.	件数 NO. OF BUNDLES	化 学 成 分 (%) CHEMICAL COMPOSITION (PCT)												机 械 性 能 MECHANICAL PROPERTIES					
			C	SI	MN	P	S	NI	CR	CU	V	MO	NB	屈服强度 YIELD STRENG TH Mpa Test No.1	屈服强度 YIELD STRENGTH Mpa Test No.2	抗拉强度 TENSILE STRENGTH Mpa Test No.1	抗拉强度 TENSILE STRENGTH Mpa Test No.2	延伸率 ELONGATIO N % 2"	冷弯 COLD BENDING (180°) d=5 a	
														Test No.1	Test No.2	Test No.1	Test No.2			
TH3193/PO NO.C20390	C10085	17	0.23	0.35	0.80	0.035	0.037	0.11	0.15	0.31	0.005	0.027	0.005	275	280	465	465	24.0	OK	
TH3193/PO NO.C20390	C10082	17	0.19	0.37	0.80	0.030	0.039	0.11	0.14	0.32	0.005	0.026	0.005	265	260	460	450	25.0	OK	
TH3193/PO NO.C20390	C10081	17	0.25	0.35	0.77	0.035	0.038	0.09	0.12	0.30	0.005	0.023	0.005	265	275	475	450	26.0	OK	
TH3193/PO NO.C20390	C10083	17	0.20	0.30	0.76	0.029	0.033	0.10	0.17	0.28	0.005	0.025	0.006	275	260	465	445	23.0	OK	
TH3193/PO NO.C20390	C10080	17	0.23	0.28	0.80	0.032	0.040	0.13	0.15	0.29	0.005	0.022	0.005	255	255	480	450	24.0	OK	
TH3193/PO NO.C20390	C10087	17	0.24	0.33	0.78	0.033	0.043	0.10	0.14	0.31	0.005	0.028	0.005	280	290	470	465	22.0	OK	
TH3193/PO NO.C20390	C10089	7	0.22	0.29	0.79	0.030	0.040	0.13	0.17	0.32	0.005	0.027	0.005	290	285	460	485	25.0	OK	
TH3193/PO NO.C20390	C10089	1*	0.20	0.35	0.76	0.030	0.040	0.12	0.15	0.30	0.005	0.028	0.005	275	275	465	440	26.0	OK	

TANGSHAN FUMING

检验员: 任亚静 刘丹丹

日期: 2006.10.15

尊敬的客户: 用前请先验证, 如有异议请保留实物并来函说明

DATED: Oct 15, 2006

For Customers: TEST BEFORE USED ,CLAIM FOR DISCREPANCIES WITH DEFAULT GOODS INSPECTOR:



Chemical and Physical Test Report

Y-035689

CALVERT CITY STEEL MILL  
 1035 SHAR-CAL ROAD  
 CALVERT CITY KY 42029 USA  
 (270) 395-3100

MADE IN UNITED STATES

ID: #414863

PRODUCED IN: CALVERT CITY

<b>SHIP TO</b> INFRA METAL-PREUSSAG INTN'L 8 PENT HIGHWAY 203-294-2980 APPT/JOE COSTELLO WALLINGFORD, CT 06492	<b>INVOICE TO</b> INFRA METALS CT ATTN: RALPH CAIAZZA 8 PENT HIGHWAY WALLINGFORD, CT 06492	<b>SHIP DATE</b> 09/14/07  <b>CUST. ACCOUNT NO</b> 50042985
--	--	---

SHAPE + SIZE	GRADE	SPECIFICATION																SALES ORDER	CUST P.O. NUMBER						
C8 X 21.4#MC	A36	ASTM A36-05, ASTM A709 GR36																7014292-03	C21098-03						
HEAT I.D.	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Nb	B	N	Sn	Al	Ti	C Eqv								
Y704371	.16	.71	.011	.033	.21	.28	.09	.05	.022	.001	<.008	.0004	.0083	.009	.001	.00100	.353								

Mechanical Test: Yield 48000 PSI, 330.95 MPA Tensile: 71000 PSI, 489.53 MPA %El: 24.0/8in, 24.0/203.2mm Std Dev:0 Corrosion Index: 5.38  
 Customer Requirements: CASTING: STRAND CAST  
 Mechanical Test: Yield 48000 PSI, 330.95 MPA Tensile: 70000 PSI, 482.63 MPA %El: 23.0/8in, 23.0/203.2mm Std Dev:0  
 Customer Requirements: CASTING: STRAND CAST

Ph: 1(800)237-0230

Name: Gerdau Ameristeel AutoFax System

Customer Notes

A36: ASTM A36-00A & ASTM A709 GR36

This material, including the billets, was melted and manufactured in the United States of America

THE ABOVE FIGURES ARE CERTIFIED EXTRACTS FROM THE ORIGINAL CHEMICAL AND PHYSICAL TEST RECORDS AS CONTAINED IN THE PERMANENT RECORDS OF COMPANY.

*Bhaskar*  
 Bhaskar Yalamanchi  
 Quality Director  
 Gerdau Ameristeel

*Alice L. P...*  
 Alice L. P...  
 Mgr. Metallurg. Svcs.  
 CALVERT CITY STEEL MILL

Seller warrants that all material furnished shall comply with specifications subject to standard published manufacturing variations. NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, ARE MADE BY THE SELLER, AND SPECIFICALLY EXCLUDED ARE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

In no event shall seller be liable for indirect, consequential or punitive damages arising out of or related to the materials furnished by seller.

Any claim for damages for materials that do not conform to specifications must be made from buyer to seller immediately after delivery of same in order to allow the seller the opportunity to inspect the material in question.

09/14/2007 Fri 13:27

MILL TEST CERTIFICATE

AMESI  
C20419

订货单位:  
CONSIGNEE:

BALI I STEEL P.L.C.

发货日期: 2007年2月23日  
DATE OF ISSUING: FEB23,2007  
合同号:  
CONTRACT NO.

06E10Z0144

产品名称: 热轧槽钢  
DESC OF GOODS: PRIME NEWLY PRODUCED STEEL CHANNEL

原产地: 中国  
ORIGIN: CHINA

订购号: C20419  
P.O. NO.  
牌号(级别代号): ASTM A572 GR80/A6-06A  
STEEL GRADE: ASTM A572/A6-06A

供货单位: TANGSHAN GRAND PAITH STEEL CO., LTD  
MILL:  
编号: 019  
NO.:

规格 SPEC.	炉号 HEAT NO.	长度 LENGTH	支数 PIECES OF EACH BUNDLE	件数 NO. OF BUNDLES	化学成分(%) CHEMICAL COMPOSITION (PCT)											机械性能 MECHANICAL PROPERTIES			
					C	Si	Mn	P	S	Ni	Cr	Cu	V	Mo	Nb	屈服强度 YIELD STRENGTH Mpa	抗拉强度 TENSILE STRENGTH Mpa	延伸率 ELONGATION % 2"	冲击 GOOD BENDING (180°) d=3a
C7*9.8	X-4823	12.2	28	8	0.13	0.27	1.23	0.024	0.026	0.09	0.16	0.32	0.014	0.020	0.007	370	480	24	GOOD
C8*11.5	X-5878	6.1	24	17	0.13	0.34	1.27	0.015	0.016	0.12	0.17	0.20	0.010	0.020	0.008	373	480	23	GOOD
C8*11.5	X-6328	12.2	20	46	0.15	0.30	1.27	0.023	0.015	0.10	0.17	0.29	0.013	0.023	0.005	368	476	24	GOOD
C8*11.5	X-7388	15.25	18	11	0.13	0.27	1.23	0.024	0.026	0.09	0.16	0.32	0.010	0.020	0.007	370	480	24	GOOD
C12*20.7	F7918	6.10	12	24	0.13	0.34	1.27	0.015	0.016	0.12	0.17	0.20	0.011	0.020	0.008	373	480	23	GOOD
C12*20.7	F7918	12.20	12	18	0.13	0.27	1.35	0.020	0.024	0.12	0.10	0.27	0.011	0.020	0.006	365	476	26	GOOD
C12*20.7	F7966	15.25	11	14	0.14	0.31	1.26	0.022	0.019	0.11	0.18	0.25	0.020	0.020	0.006	351	478	27	GOOD

验证, 如有异议请保留实物并来函说明  
AIM FOR DISCREPANCIES WITH DEFAULT GOODS

检验员:  
INSPECTOR



日期:  
DATED: FEB23,2007

C20886  
Amesi

MILL TEST CERTIFICATE

订货单位: 江苏舜天股份有限公司  
CONSIGNEE:  
发货日期: 2007年5月19日  
DATE OF ISSUING: MAY 19, 2007  
合同号:  
CONTRACT NO. JSHH1201

产品名称: 热轧槽钢  
COMMODITY: PRIME STEEL CHANNELS  
订购号: C10886  
P.O. NO.  
牌号 (钢号): ASTM A572 GR50/A6-05A  
STEEL GRADE: ASTM A572 GR50/A6-05A

原产地: 中国  
ORIGIN: CHINA  
制表单位: 唐山宏志钢铁有限公司  
MILL: TANGSHAN GRAND FATEH STEEL CO., LTD  
编号: 70519021  
NO.:

规格 SPEC. IN INCH	炉号 HEAT NO.	支数 PIECES OF EACH BUNDLE	件数 NO. OF BUNDLES	化学成分(%) CHEMICAL COMPOSITION (PCT)											机械性能 MECHANICAL PROPERTIES			
				C	Si	Mn	P	S	Ni	Cr	Cu	V	Mo	Nb	屈服强度 YIELD STRENGTH Mpa	抗拉强度 TENSILE STRENGTH Mpa	延伸率 ELONGATION % 1"	冷弯 COLD BENDING (180°) 0-5d
6*8.2*20	X-2917	36	12	0.19	0.26	1.30	0.029	0.031	0.13	0.16	0.23	0.026	0.024	0.006	356	525	26	OK
8*11.5*20	X-3023	24	8	0.15	0.25	1.31	0.022	0.027	0.12	0.13	0.22	0.017	0.022	0.006	357	524	25	OK
6*8.2*40	X-2917	32	18	0.19	0.26	1.30	0.029	0.031	0.13	0.16	0.23	0.026	0.024	0.006	356	525	26	OK
7*9.8*40	X-6308	28	6	0.19	0.30	1.24	0.025	0.022	0.12	0.13	0.28	0.016	0.026	0.008	360	565	24	OK
8*11.5*40	X-0917	20	21	0.16	0.31	1.25	0.022	0.017	0.13	0.16	0.23	0.026	0.024	0.006	362	553	25	OK
8*11.5*50	X-0817	18	9	0.15	0.26	1.29	0.022	0.023	0.12	0.13	0.22	0.026	0.024	0.006	360	533	24	OK
TOTAL:			74															

原检专用章

REMARKS: 检验员: 日期: 5月19日  
INSPECTOR: 日期: DATED: MAY 19, 2007

PO-# 14563

Bill To: INFR-METALS CORPORATION-CT, R  
DIV PREUSSAG INTERNATIONAL CO  
8 PENT HWY  
WALLINGFORD CT 06492  
Ship To: 1 INFR-METALS CORPORATION-CT  
8 PENT HIGHWAY  
TRACK# 953  
WALLINGFORD CT 06492

Order Date: 08/22/2007  
PO No: C1052A  
Mill Order No: 3354755  
Load No: 1150673  
Manifest No: 1861443

CERTIFIED MATERIAL TEST REPORT  
GERDAU AMERISTEEL  
Petersburg Mill  
25801 Hofheimer Way  
Petersburg, VA 23803  
(804) 524-2855  
PRODUCT  
WF BEAMS

SIZE: W 18 X 40# / W460 X 60  
SPECIFICATION: ASTM A6-05a, A992-06a, A572-06  
GRADE: 992/572-50  
LENGTH: 60 FT / 18.288 M

HEAT NO: 30392020

CHEMICAL ANALYSIS

C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Sn	V	Al	Nb	CE
.09	.95	.011	.025	.22	.35	.11	.08	.020	.013	.002	.004	.020	.3

PHYSICAL PROPERTIES

Yield Strength		Tensile Strength		Specimen Area		Elongation		Bend Test		ROA
KSI	MPa	KSI	MPa	Sq In	Sq cm	%	Gage Length	Dia.	Result	%
54.9	378.5	71.8	495.0	0.897	5.79	24.4	8In	200 mm		
55.9	385.4	71.7	494.4	0.871	5.62	22.4	8In	200 mm		

All manufacturing processes of this product, including electric arc melting and continuous casting, occurred in the U.S.A. CMTR complies with DIN EN 10204 3.1.B

"I hereby certify that the contents of this report are correct and accurate. All tests and operations performed by this material manufacturer or its sub-contractors, when applicable, are in compliance with the requirements of the material specifications and applicable purchaser designated requirements."

Signed: Tom L. Harrington Date: Nov. 16, 2007 Signed: \_\_\_\_\_ Date: \_\_\_\_\_  
Tom L. Harrington: Quality Assurance Manager Notary Public (if applicable)



3:17 08-25 To: 12036794260 From: NUCOR STEEL - HUCER Page 11 of 148

NUCOR STEEL - BERKELEY  
 P.O. Box 2259  
 Mt. Pleasant, S.C. 29464  
 Phone: (843) 336-6000

MILL TEST REPORT

8/25/06 13:11:42  
 100% MELIED AND MANUFACTURED IN THE USA  
 All beams produced by Nucor-Berkeley are cast and rolled to a fully killed and fine grain practice.

Sold To: INFRA-METALS CORP. - CI  
 8 PENT HIGHWAY  
 WALLINGFORD, CT 06492

Ship To: INFRA-METALS CORP. - CI  
 INFRA-METALS  
 8 PENT HWY  
 WALLINGFORD, CT 06492

Customer H.: 502 - 7  
 B.o.L. H...: 559470

PO # 14563

SPECIFICATIONS: Tested in accordance with ASTM specification A6/A6M and A370.

: mil 22698c  
 AASHTO : M270-36-00/M270-50-00  
 ABS : AB/AB36:  
 ASME : SA-36  
 ASTM : /A131-04a/A36-05/A529-05-50/A572-06-50/A709-06a36/A709-06a50/A7

Description	Heat Grade(s) Test	Yield/Tensile Ratio	Yield (PSI)	Tensile (PSI)	Elong %	C Cr Pb	Mn Mo Ti	P Sn Ca	S Al B	Si V N	Cu Nb Zr	Ni	CE1
												xxxxxx CI	CE2 Pcm
W12x16 030' 00.00' W310X23.8 009.1440m	2613251 A992-04a	.80	52600 363	65800 454	27.14	.0690 .0300	.8630 .0220	.0125 .0052	.0257 .0020	.1730 .0051	.0850 .0095	.0390	.2325 .2633
						8 Piece(s)		Customer PO: C19723				2.6021	.1366
												InvH:	0
W12x16 032' 06.00' W310X23.8 009.9060m	1613260 A992-04a	.81	53300 381	68000 469	26.69	.0680 .0320	.8630 .0220	.0104 .0051	.0311 .0023	.2320 .0046	.0850 .0146	.0390	.2318 .2734
		.81	55000 379	67800 467	25.83	16 Piece(s)		Customer PO: C19928				2.6569	.1387
												InvH:	0
W12x16 035' 00.00' W310X23.8 010.6680m	2613272 A992-04a	.82	54600 376	66900 461	28.55	.0730 .0290	.8650 .0220	.0093 .0048	.0243 .0022	.2230 .0050	.0780 .0129	.0350	.2359 .2756
		.81	54200 374	67300 464	28.51	40 Piece(s)		Customer PO: C19723				2.4663	.1409
												InvH:	0
W12x16 040' 00.00' W310X23.8 012.1920m	1613256 A992-04a	.81	56700 391	70300 485	27.50	.0730 .0320	.8560 .0240	.0098 .0049	.0313 .0022	.2120 .0032	.0890 .0121	.0360	.2358 .2736
		.81	56700 391	70100 483	28.30	24 Piece(s)		Customer PO: C19928				2.6871	.1363
												InvH:	0
W12x16 040' 00.00' W310X23.8 012.1920m	1613256 A992-04a	.81	56700 391	70300 485	27.50	.0730 .0320	.8560 .0240	.0098 .0049	.0313 .0022	.2120 .0032	.0890 .0121	.0360	.2358 .2736
		.81	56700 391	70100 483	28.30	1 Piece(s)		Customer PO: C19723				2.6871	.1363
												InvH:	0

Elongation based on 8' (20.32cm) gauge length. 'No Weld Repair' was performed.  
 CI = 26.01Cu+3.88Ni+1.20Cr+1.49Si+17.28P-(7.29Cu\*Ni)-(9.10Ni\*P)-33.39(Cu\*Cu)  
 Pcm = C+(Si/30)+(Mn/20)+(Cu/20)+(Ni/60)+(Cr/20)+(Mo/15)+(V/10)+5B

CE1 = C+(Mn/6)+((Cr+Mo+V)/5)+((Ni+Cu)/15)  
 CE2 = C+((Mn+Si)/6)+((Cr+Mo+V+Cb)/5)+((Ni+Cu)/15)

I hereby certify that the contents of this report are accurate and correct. All test results and operations performed by the material manufacturer are in compliance with material specifications, and when designated by the Purchaser, meet applicable specifications.

Bruce A. Work  
 Metallurgist

(State of South Carolina)  
 (County of Berkeley)  
 Sworn and subscribed before me

day of \_\_\_\_\_

NUCOR STEEL - BERKELEY  
 P.O. Box 2259  
 Mt. Pleasant, S.C. 29464  
 Phone: (843) 336-6000

MILL TEST REPORT

11/12/06 1:17:39  
 100% MELTED AND MANUFACTURED IN THE USA  
 All beams produced by Nucor-Berkeley are cast and  
 rolled to a fully killed and fine grain practice.

Sold To: INFRA METALS CORP - CT  
 8 PENT HIGHWAY  
 WALLINGFORD, CT 06492

Ship To: INFRA METALS CORP - CT  
 8 PENT HIGHWAY  
 WALLINGFORD, CT 06492

Customer H.: 502 - 1  
 B.o.L. H...: 578021

SPECIFICATIONS: Tested in accordance with ASTM specification A6/A6M and A370.  
 AASHIO : M270-36-00/M270-50-00  
 ASME : SA-36  
 ASIM : A992-06://A36-05/A572-06-50/A709-06a36/A709-06a50/A709-345M  
 CSA : CSA-44W/G40.21-50W

1:18 11-12 TO: 12036794260 From: NUCOR STEEL HUGER

Description	Heat Grade(s) Test	Yield/Tensile Ratio	Yield (PSI) (MPa)	Tensile (PSI) (MPa)	Elong %	C Cr Pb	Mn Mo Ti	P Sn Ca	S Al B	Si V N	Cu Nb Zr	Ni ***** CI	CE1
													CE2 Pcm
W12x14 035' 00.00' W310X21.0 010.6680m	1616873 A992-06	.81	56900 392	70400 485	28.28	.0670 .0360	.8980 .0280	.0129 .0046	.0286 .0039	.2350 .0038	.1010 .0133	.0380 3.0177	.2395 .2813 .1313
													InvH: 0
W12x14 035' 00.00' W310X21.0 010.6680m	2616800 A992-06	.81	57800 399	71400 492	27.46	.0740 .0450	.8290 .0280	.0078 .0060	.0294 .0001	.1950 .0038	.1100 .0139	.0560 3.1048	.2386 .2739 .1443
													InvH: 0
W12x16 035' 00.00' W310X23.8 010.6680m	2606476 A992-06	.83	59200 408	71000 490	28.31	.0710 .0430	.8140 .0210	.0063 .0074	.0328 .0025	.2240 .0040	.1360 .0278	.0470 3.5471	.2325 .2754 .1366
													InvH: 0
W12x16 045' 00.00' W310X23.8 013.7160m	1611997 A992-06	.83	57600 397	69100 476	26.63	.0660 .0310	.8090 .0190	.0092 .0046	.0283 .0002	.2070 .0038	.0790 .0263	.0310 2.4508	.2189 .2587 .1294
													InvH: 0
W12x16 045' 00.00' W310X23.8 013.7160m	2612000 A992-06	.82	56900 392	69100 476	28.19	.0670 .0220	.8430 .0190	.0069 .0050	.0253 .0002	.2180 .0038	.0810 .0255	.0330 2.4647	.2241 .2655 .1321
													InvH: 0

Elongation based on 8" (20.32cm) gauge length. 'No Weld Repair' was performed.  
 $CI = 26.01Cu + 3.88Ni + 1.20Cr + 1.49Si + 17.28P - (7.29Cu \times Ni) - (9.10Ni \times P) - 33.39(Cu \times Cu)$   
 $Pcm = C + (Si/30) + (Mn/20) + (Cu/20) + (Ni/60) + (Cr/20) + (Mo/15) + (V/10) + 5B$

$$CE1 = C + (Mn/6) + ((Cr+Mo+V)/5) + ((Ni+Cu)/15)$$

$$CE2 = C + ((Mn+Si)/6) + ((Cr+Mo+V+Cb)/5) + ((Ni+Cu)/15)$$

I hereby certify that the contents of this report are accurate and correct. All test results and operations performed by the material manufacturer are in compliance with material specifications, and when designated by the Purchaser, meet applicable specifications.

Bruce A. Work  
 Metallurgist

(State of South Carolina)  
 (County of Berkeley)  
 Sworn and subscribed before me

\_\_\_\_\_ day of \_\_\_\_\_

11/24/06 19:08:17

NUCOR STEEL - BERKELEY  
P.O. Box 2259  
Mt. Pleasant, S.C. 29464  
Phone: (843) 336-6000

MILL TEST REPORT

100% MELTED AND MANUFACTURED IN THE USA  
All beams produced by Nucor-Berkeley are cast and rolled to a fully killed and fine grain practice.

Sold To: INFRA METALS CORP - CI  
8 PENI HIGHWAY  
WALLINGFORD, CI 06492

Ship To: INFRA METALS CORP - CI  
8 PENI HIGHWAY  
WALLINGFORD, CI 06492

Customer #: 502 - 1  
B.o.L. #: 579923

SPECIFICATIONS: Tested in accordance with ASTM specification A6/A6M and A370.  
AASHTO : M270-36-00/M270-50-00  
ASME : SA-36  
ASTM : A992-06://A36-05/A572-06-50/A709-06a36/A709-06a50/A709-345M  
CSA : CSA-44W/G40.21-50W

From: NUCOR STEEL - HUGER

3:08 11-24 TO: 12036794260

Description	Heat# Grade(s) Test	Yield/ Tensile Ratio	Yield (PSI) (MPa)	Tensile (PSI) (MPa)	Elong %	C Cr Pb	Mn Mo Ti	P Sb Ca	S Al B	Si V N	Cu Nb Zr	Ni xxxxxx CI	CE1 CE2 Pcm
C8X18.75 040' 00.00' C200X27.9 012.1920m	1618630 A992-06	.76	51100 352	67500 465	24.64	.0670 .0250 .0043	.7940 .0180 .0015	.0102 .0054 .0010	.0257 .0037 .0008	.2110 .0041 .0061	.0830 .0281 .0000	.0360 2.5640 InvH:	.2167 .2575 .1252 0
C8X18.75 040' 00.00' C200X27.9 012.1920m	2618634 A992-06	.76	52700 363	69400 479	23.53	.0660 .0260 .0040	.8660 .0190 .0014	.0136 .0053 .0000	.0246 .0026 .0009	.1830 .0043 .0076	.0850 .0279 .0000	.0350 2.6183 InvH:	.2282 .2643 .1276 0
C8X18.75 040' 00.00' C200X27.9 012.1920m	2618638 A992-06	.74	50700 350	68700 474	20.86	.0720 .0290 .0077	.8660 .0250 .0019	.0085 .0041 .0003	.0190 .0036 .0000	.1930 .0035 .0060	.0820 .0256 .0000	.0320 2.4801 InvH:	.2354 .2727 .1297 0
C8X18.75 050' 00.00' C200X27.9 015.2400m	1618630 A992-06	.76	51100 352	67500 465	24.64	.0670 .0250 .0043	.7940 .0180 .0015	.0102 .0054 .0010	.0257 .0037 .0008	.2110 .0041 .0061	.0830 .0281 .0000	.0360 2.5640 InvH:	.2167 .2575 .1252 0
W12x14 040' 00.00' W310X21.0 012.1920m	2617859 A992-06	.82	56900 392	69700 481	28.69	.0650 .0330 .0032	.8220 .0260 .0015	.0083 .0057 .0033	.0298 .0005 .0023	.1910 .0034 .0066	.1050 .0153 .0000	.0450 2.9673 InvH:	.2245 .2594 .1336 0

Elongation based on 8" (20.32cm) gauge length. 'No Weld Repair' was performed.  
CI = 26.01Cu+3.88Ni+1.20Cr+1.49Si+17.28P-(7.29Cu\*Ni)-(9.10Ni\*P)-33.39(Cu\*Cu)  
Pcm = C+(Si/30)+(Mn/20)+(Cu/20)+(Ni/60)+(Cr/20)+(Mo/15)+(V/10)+5B

CE1 = C+(Mn/6)+((Cr+Mo+V)/5)+((Ni+Cu)/15)  
CE2 = C+((Mn+Si)/6)+((Cr+Mo+V+Cb)/5)+((Ni+Cu)/15)

I hereby certify that the contents of this report are accurate and correct. All test results and operations performed by the material manufacturer are in compliance with material specifications, and when designated by the Purchaser, meet applicable specifications.

Bruce A. Work  
Metallurgist

(State of South Carolina  
County of Berkeley  
Sworn and subscribed before me

day of \_\_\_\_\_

NUCOR STEEL - BERKELEY  
 P.O. Box 2259  
 Mt. Pleasant, S.C. 29464  
 Phone: (843) 336-6000

MILL TEST REPORT

11/18/06 4:15:36  
 100% MELTED AND MANUFACTURED IN THE USA  
 All beams produced by Nucor-Berkeley are cast and rolled to a fully killed and fine grain practice.

Sold To: INFRA METALS CORP - CI  
 8 PENT HIGHWAY

Ship To: INFRA METALS CORP - CI  
 8 PENT HIGHWAY

Customer #: 502 - 1  
 B.o.I. #: 579277

WALLINGFORD, CI 06492

WALLINGFORD, CI 06492

SPECIFICATIONS: Tested in accordance with ASTM specification A6/A6M and A370.

AASBIO : M270-36-00/M270-50-00  
 ASME : SA-36  
 ASTM : A992-06://A36-05/A572-06-50/A709-06a36/A709-06a50/A709-345M  
 CSA : CSA-44W/G40.21-50W

From: NUCOR STEEL HUGER

Description	Heat Grade(s) Test	Yield/Tensile Ratio	Yield (PSI)	Tensile (PSI)	Elong %	C Cr Pb	Mn Mo Ti	P Sn Ca	S Al B	Si Al N	Cu Nb Zr	Ni ***** CI	CE1 CE2 Pcm
W12x14 050' 00.00' W310X21.0 015.2400m	1614951 A992-06	.81	54100 373	66900 461	28.80	.0660 .0170 .0038	.8000 .0220 .0014	.0077 .0033 .0018	.0285 .0036 .0012	.1620 .0025 .0070	.0650 .0101 .0000	.0260 2.0312	.2137 .2427 .1236
8 Piece(s) Customer PO: C19818 InvH: 0													
W12x14 050' 00.00' W310X21.0 015.2400m	2614946 A992-06	.80	53300 368	66400 458	30.94	.0710 .0220 .0114	.8980 .0240 .0014	.0123 .0048 .0000	.0240 .0014 .0017	.1550 .0043 .0073	.0700 .0115 .0000	.0290 2.2215	.2373 .2655 .1365
70 Piece(s) Customer PO: C19818 InvH: 0													
W12x14 050' 00.00' W310X21.0 015.2400m	1614943 A992-06	.81	54600 376	67800 467	29.16	.0710 .0200 .0048	.8430 .0230 .0015	.0108 .0043 .0020	.0326 .0035 .0014	.1780 .0026 .0064	.0830 .0112 .0000	.0290 2.4968	.2281 .2600 .1334
2 Piece(s) Customer PO: C19818 InvH: 0													
W12x14 055' 00.00' W310X21.0 016.7640m	2612902 A992-06	.82	56600 390	68800 474	28.75	.0730 .0590 .0040	.8620 .0240 .0018	.0163 .0065 .0009	.0297 .0016 .0010	.1960 .0036 .0051	.1390 .0096 .0000	.0390 3.7208	.2459 .2804 .1400
24 Piece(s) Customer PO: C20398 InvH: 0													
W12x14 055' 00.00' W310X21.0 016.7640m	2611872 A992-06	.82	56500 390	69300 478	27.94	.0710 .0270 .0063	.8770 .0210 .0014	.0065 .0062 .0007	.0252 .0012 .0015	.1890 .0041 .0071	.0960 .0114 .0000	.0390 2.7373	.2366 .2704 .1371
16 Piece(s) Customer PO: C20398 InvH: 0													

Elongation based on 8" (20.32cm) gauge length. 'No Weld Repair' was performed.  
 CI = 26.01Cu+3.88Ni+1.20Cr+1.49Si+17.28P-(7.29Cu\*Ni)-(9.10Ni\*P)-33.39(Cu\*Cu)  
 Pcm = C+(Si/30)+(Mn/20)+(Cu/20)+(Ni/60)+(Cr/20)+(Mo/15)+(V/10)+5B

CE1 = C+(Mn/6)+((Cr+Mo+V)/5)+((Ni+Cu)/15)  
 CE2 = C+((Mn+Si)/6)+((Cr+Mo+V+Cb)/5)+((Ni+Cu)/15)

I hereby certify that the contents of this report are accurate and correct. All test results and operations performed by the material manufacturer are in compliance with material specifications, and when designated by the Purchaser, meet applicable specifications.

Bruce A. Work  
 Metallurgist

(State of South Carolina  
 County of Berkeley  
 Sworn and subscribed before me

day of \_\_\_\_\_

4:21 11-18 TO: 12036794260

NUCOR STEEL - BERKELEY  
 P.O. Box 2259  
 Mt. Pleasant, S.C. 29464  
 Phone: (843) 336-6000

Sold To: INFRA METALS CORP - CI  
 8 PENT HIGHWAY

WALLINGFORD, CI 06492

MILL TEST REPORT

Ship To: INFRA METALS CORP - CI  
 8 PENT HIGHWAY

WALLINGFORD, CI 06492

2/12/07 10:52:19  
 100% MELIED AND MANUFACTURED IN THE USA  
 All beams produced by Nucor-Berkeley are cast and  
 rolled to a fully killed and fine grain practice.

Customer #: 502 - 1  
 Customer PO: C19818  
 B.o.L. #: 588342  
 Invoice #: 850554

SPECIFICATIONS: Tested in accordance with ASTM specification A6/A6M and A370.  
 AASHIO : M270-36-00/M270-50-00  
 ASME : SA-36  
 ASTM : A992-06://A36-05/A572-06-50/A709-06a36/A709-06a50/A709-345M  
 CSA : CSA-44W/G40.21-50W

From: NUCOR STEEL - HUGER

Description	Heat Grade(s) Test	Yield/ Tensile Ratio	Yield (PSI) (MPa)	Tensile (PSI) (MPa)	Elong %	C Cr Pb	Mn Mo Ti	P Sb Ca	S Al B	Si V N	Cu Nb Zr	Ni ***** CI	CE1 CE2 Pcm
W10X39.0 030' 00.00'	1700225 A992-06	.79	56000 386	71200 491	22.76	.0680 .0250 .0115	1.1910 .0210 .0028	.0082 .0049 .0006	.0275 .0040 .0012	.2990 .0037 .0075	.0840 .0279 .0000	.0360 2.6814	.2844 .3399 .1512
W250X58 009.1440m		.78	55200 381	71000 490	23.05	30 Piece(s)							
W10X39.0 040' 00.00'	2700240 A992-06	.77	54700 377	71100 490	22.65	.0660 .0240 .0051	1.0720 .0210 .0015	.0076 .0058 .0002	.0217 .0009 .0012	.2050 .0039 .0059	.0910 .0271 .0000	.0380 2.6756	.2630 .3026 .1405
W250X58 012.1920m		.75	52900 365	70100 483	23.11	60 Piece(s)							
W10X45.0 055' 00.00'	2620410 A992-06	.75	54400 375	72100 497	21.26	.0670 .0320 .0056	1.0050 .0210 .0014	.0048 .0061 .0000	.0295 .0025 .0014	.2520 .0037 .0070	.1220 .0288 .0000	.0390 3.2880	.2566 .3043 .1426
W250X67 016.7640m		.74	53600 370	72200 498	23.05	4 Piece(s)							
W10X45.0 055' 00.00'	2620408 A992-06	.77	54400 375	70800 488	22.60	.0690 .0300 .0055	1.0210 .0220 .0015	.0050 .0062 .0000	.0248 .0026 .0011	.2200 .0037 .0059	.1180 .0295 .0000	.0400 3.1734	.2608 .3034 .1427
W250X67 016.7640m		.77	55300 381	71400 492	21.66	16 Piece(s)							

52 02-12 TO: 12036794260

Elongation based on 8" (20.32cm) gauge length. 'No Weld Repair' was performed.  
 $CI = 26.01Cu + 3.88Ni + 1.20Cr + 1.49Si + 17.28P - (7.29Cu \times Ni) - (9.10Ni \times P) - 33.39(Cu \times Cu)$   
 $Pcm = C + (Si/30) + (Mn/20) + (Cu/20) + (Ni/60) + (Cr/20) + (Mo/15) + (V/10) + 5B$

I hereby certify that the contents of this report are accurate and correct. All test results and operations performed by the material manufacturer are in compliance with material specifications, and when designated by the purchaser, meet applicable specifications.

$$CE1 = C + (Mn/6) + ((Cr+Mo+V)/5) + ((Ni+Cu)/15)$$

$$CE2 = C + ((Mn+Si)/6) + ((Cr+Mo+V+Cb)/5) + ((Ni+Cu)/15)$$

Bruce A. Work  
 Metallurgist





A03 **Certificate Nr 950/8-2007** 1/1  
Advice Nr A1508026

A02 Inspection Certificate 3.1  
according to ASTM A6

A04 **SWT**  
A06

Arcelor International America, LLC  
Mill business, Long Products  
350 Hudson Street  
10014 NEW YORK  
UNITED STATES OF AMERICA

A01 Stahlwerk Thüringen GmbH  
A05 Qualitätsstelle  
Kronacher Straße 6  
07333 Unterwellenborn  
Germany

A08 Order Nr: 1700006317  
A07 Customer Nr: C1010A

B02 Quality: A992 DUAL  
according to: ASTM A992/98 - A572 GR50  
PER AISC TB3 - ASTM A572/97C GR50  
FINE GRAIN SILICON KILLED

Lot Nr	Heat Nr	Dimension	Length	Pieces	Weight (t)	Customer Nr
A10	B07	B01	B09	B08	B12	A11
008	50490	W 16X5,5X31	35'	60	29.529	PURCHASE ORDER # C10
008	50492	W 16X5,5X31	35'	4	1.969	PURCHASE ORDER # C10

Heat Analysis [%]

Heat Nr	C	Si	Mn	P	S	N	Nb	V	Cr	Cu
B07	C71	C72	C73	C74	C75	C76	C77	C78	C79	C80
max	0.23	0.40	1.50	0.035	0.045	0.012	0.050	0.110	0.35	0.60
min		0.10	0.50				0.005			
50490	0.08	0.20	1.16	0.017	0.026	0.008	0.013	0.006	0.09	0.28
50492	0.08	0.21	1.12	0.016	0.024	0.008	0.013	0.007	0.09	0.30

Heat Analysis [%]

Heat Nr	Ni	Mo	CEV1	Sn
B07	C81	C82	C83	C84
max	0.45	0.15	0.45	
min				
50490	0.13	0.03	0.33	0.016
50492	0.12	0.03	0.32	0.020

Tensile test

Heat Nr	Yield stress [PSI]	Tensile strength [PSI]	Elongation 50 mm [%]	Ys/Ts
B07	C11	C12	C13	C14
max	65000			0.85
min	50000	65000	21.0	
50490	52780	70325	40.9	0.75
50492	54085	72645	42.2	0.74

B14

Z03 Works Inspector  
Renate Schmidt

Z02 Aug 15, 2007

Bill To: INFRA-METALS CORPORATION-CT, R  
 DIV PREUSSAG INTERNATIONAL CO  
 8 PENT HWY  
 WALLINGFORD CT 06492

Ship To: 1  
 INFRA-METALS CORPORATION-CT  
 8 PENT HIGHWAY  
 TRACK# 953  
 WALLINGFORD CT 06492

Order Date: 08/30/2007  
 PO No: C1060A  
 Mill Order No: 3359459  
 Load No: 1154573  
 Manifest No: 1865390

CERTIFIED MATERIAL TEST REPORT  
 GERDAU AMERISTEEL  
 Petersburg Mill  
 25801 Hofheimer Way  
 Petersburg, VA 23803  
 (804) 524-2855  
 PRODUCT  
 WF BEAMS

SIZE: W 16 X 31# / W410 X 46.1  
 GRADE: 992/572-50  
 LENGTH: 50 FT / 15.24 M  
 SPECIFICATION: ASTM A6-05a, A992-06a, A572-06

HEAT NO: 30394970

CHEMICAL ANALYSIS													
C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Sn	V	Al	Nb	CE
.07	.86	.012	.034	.23	.32	.10	.10	.019	.013	.000	.000	.009	.27

PHYSICAL PROPERTIES				Tensile Strength				Specimen Area		Elongation		Bend Test		ROA
Yield Strength				KSI	MPa	KSI	MPa	Sq In	Sq cm	%	Gage Length	Dia.	Result	%
55.6	383.3	70.4	485.4	0.411	2.65	29.3	8In	200 mm						
54.3	374.4	70.5	486.1	0.418	2.70	28.3	8In	200 mm						

All manufacturing processes of this product, including electric arc melting and continuous casting, occurred in the U.S.A. CMTR complies with DIN EN 10204 3.1.B

"I hereby certify that the contents of this report are correct and accurate. All tests and operations performed by this material manufacturer or its sub-contractors, when applicable, are in compliance with the requirements of the material specifications and applicable purchaser designated requirements."

Signed: Tom L. Harrington Date: Dec. 09, 2007 Signed: \_\_\_\_\_ Date: \_\_\_\_\_  
 Tom L. Harrington: Quality Assurance Manager Notary Public (if applicable)



Bill To: INFRA-METALS CORPORATION-CT, R  
 DIV PREUSSAG INTERNATIONAL CO  
 8 PENT HWY  
 WALLINGFORD CT 06492

Ship To: 1 INFRA-METALS CORPORATION-CT  
 8 PENT HIGHWAY  
 TRACK# 953  
 WALLINGFORD CT 06492

Order Date: 08/30/2007  
 PO No: C1060A  
 Mill Order No: 3359443  
 Load No: 1152884  
 Manifest No: 1863507

CERTIFIED MATERIAL TEST REPORT  
 GERDAU AMERISTEEL  
 Petersburg Mill  
 25801 Hofheimer Way  
 Petersburg, VA 23803  
 (804) 524-2855  
 PRODUCT  
 WF BEAMS

SIZE: W 16 X 26# / W410 X 38.8  
 GRADE: 992/572-50  
 LENGTH: 45 FT / 13.716 M  
 SPECIFICATION: ASTM A6-05a, A992-06a, A572-06

HEAT NO: 30394130

CHEMICAL ANALYSIS

C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Sn	V	Al	Nb	CE
.08	.87	.011	.029	.22	.36	.10	.09	.017	.019	.000	.000	.010	.28

PHYSICAL PROPERTIES

Yield Strength		Tensile Strength		Specimen Area		Elongation		Bend Test		ROA
KSI	MPa	KSI	MPa	Sq In	Sq cm	%	Gage Length	Dia.	Result	%
59.2	408.2	71.4	492.3	0.371	2.39	27.9	8In	200 mm		
60.6	417.8	72.1	497.1	0.372	2.40	23.4	8In	200 mm		

All manufacturing processes of this product, including electric arc melting and continuous casting, occurred in the U.S.A. CMTR complies with DIN EN 10204 3.1.B

"I hereby certify that the contents of this report are correct and accurate. All tests and operations performed by this material manufacturer or its sub-contractors, when applicable, are in compliance with the requirements of the material specifications and applicable purchaser designated requirements."

Signed: Tom L. Harrington  
 Tom L. Harrington: Quality Assurance Manager

Date: Nov. 30, 2007

Signed: \_\_\_\_\_  
 Notary Public (if applicable)

Date: \_\_\_\_\_

NUCOR STEEL - BERKELEY  
P.O. Box 2259  
Mt. Pleasant, S.C. 29464  
Phone: (843) 336-6000

MILL TEST REPORT

12/11/07 6:30:15  
100% MELTED AND MANUFACTURED IN THE USA  
All beams produced by Nucor-Berkeley are cast and rolled to a fully killed and fine grain practice.

Sold To: INFRA METALS CORP - CT  
8 PENT HIGHWAY  
WALLINGFORD, CT 06492

Ship To: INFRA METALS CORP - CT  
8 PENT HIGHWAY  
WALLINGFORD, CT 06492

Customer H.: 502 - 1  
Customer PO: C1098A  
B.o.L. H...: 658873

SPECIFICATIONS: Tested in accordance with ASTM specification A6/A6M and A370.  
AASHTO : M270-36-05/M270-50-05  
ASME : SA-36 D7a  
ASTM : A992-06a://A36-05/A572-06-50/A709-06a36/A709-07 50/A709-345M  
CSA : CSA-44W/G40.21-50W

Description	Beat# Grade(s) Test	Yield/ Tensile Ratio	Yield (PSI) (MPa)	Tensile (PSI) (MPa)	Elong %	C Cr Pb	Mn Mo Ti	P Sn Ca	S Al B	Si V N	Cu Nb Zr	Ni ***** CI	CE1	CE2	Pcm	
													.2514	.2920		
W14x22 030' 00.00' W360X32.9 009.1440m	2718561 A992-06a	.84	59400 410	70600 487	26.80	.0750 .0340 .0028	.9090 .0210 .0019	.0105 .0069 .0000	.0235 .0026 .0016	.2060 .0033 .0051	.1500 .0312 .0000	.0490 3.8113	.2514 .2920 .1470		InvH: 17 Piece(s)	0
W14x22 030' 00.00' W360X32.9 009.1440m	2718564 A992-06a	.84	59400 410	70700 487	27.25	.0670 .0300 .0001	.8590 .0180 .0016	.0088 .0063 .0001	.0265 .0018 .0013	.2220 .0026 .0045	.1410 .0292 .0000	.0480 3.6555	.2329 .2757 .1346		InvH: 25 Piece(s)	0
W14x22 040' 00.00' W360X32.9 012.1920m	2718588 A992-06a	.81	54600 376	67000 462	27.54	.0670 .0300 .0034	.8290 .0180 .0017	.0082 .0062 .0000	.0260 .0022 .0017	.1830 .0031 .0054	.1390 .0134 .0000	.0430 3.5407	.2275 .2607 .1336		InvH: 28 Piece(s)	0
W14x22 040' 00.00' W360X32.9 012.1920m	2718592 A992-06a	.81	53700 370	66200 456	29.06	.0670 .0300 .0034	.8020 .0190 .0016	.0087 .0074 .0000	.0288 .0023 .0012	.2190 .0031 .0052	.1570 .0139 .0000	.0530 3.9140	.2251 .2644 .1321		InvH: 28 Piece(s)	0
W14x22 055' 00.00' W360X32.9 016.7640m	4718338 A992-06a	.82	56200 387	68600 473	25.66	.0710 .0260 .0000	.9140 .0160 .0016	.0073 .0052 .0007	.0188 .0021 .0008	.2440 .0028 .0061	.0800 .0135 .0000	.0270 2.4752	.2394 .2828 .1358		InvH: 7 Piece(s)	0

Elongation based on 8" (20.32cm) gauge length. 'No Weld Repair' was performed.  
CI = 26.01Cu+3.88Ni+1.20Cr+1.49Si+17.28P-(7.29Cu×Ni)-(9.10Ni×P)-33.39(Cu×Cu)  
Pcm = C+(Si/30)+(Mn/20)+(Cu/20)+(Ni/60)+(Cr/20)+(Mo/15)+(V/10)+5B

Hg free and no contact with Hg during manufacture.  
CE1 = C+(Mn/6)+((Cr+Mo+V)/5)+((Ni+Cu)/15)  
CE2 = C+{(Mn+Si)/6}+{(Cr+Mo+V+Cb)/5}+{(Ni+Cu)/15}

I hereby certify that the contents of this report are accurate and correct. All test results and operations performed by the material manufacturer are in compliance with material specifications, and when designated by the Purchaser, meet applicable specifications.

Bruce A. Work  
Metallurgist

(State of South Carolina  
County of Berkeley  
Sworn and subscribed before me

day of \_\_\_\_\_

Bill To: INFRA-METALS CORPORATION-CT, R INFRA-METALS CORPORATION-CT  
 DIV PREUSSAG INTERNATIONAL CO 8 PENT HIGHWAY  
 8 PENT HWY WALLINGFORD CT WALLINGFORD CT  
 06492 US 06492 US

Order Date: 08/30/2007  
 PO No: C1060A  
 Mill Order No: 3359443  
 Load No: 1152884  
 Manifest No: 1863507

CERTIFIED MATERIAL TEST REPORT  
 GERDAU AMERISTEEL  
 Petersburg Mill  
 25801 Hofheimer Way  
 Petersburg, VA  
 23803  
 (804) 524-2855  
 PRODUCT  
 WF BEAMS

SIZE  
 W 16 X 26# / W410 X 38.8  
 SPECIFICATION  
 ASTM A6-05a, A992-06a, A572-06

GRADE  
 992/572-50  
 LENGTH  
 45 FT / 13.716 M

HEAT NO: 30394130

CHEMICAL ANALYSIS

C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Sn	V	Al	Nb	CE
.08	.87	.011	.029	.22	.36	.10	.09	.017	.019	.000	.000	.010	.28

PHYSICAL PROPERTIES

Yield Strength		Tensile Strength		Specimen Area		Elongation		Bend Test		ROA
KSI	MPa	KSI	MPa	Sq In	Sq cm	%	Gage Length	Dia.	Result	%
59.2	408.2	71.4	492.3	0.371	2.39	27.9	8In 200 mm			
60.6	417.8	72.1	497.1	0.372	2.40	23.4	8In 200 mm			

All manufacturing processes of this product, including electric arc melting and continuous casting, occurred in the U.S.A. CMTR complies with DIN EN 10204 3.1.B

"I hereby certify that the contents of this report are correct and accurate. All tests and operations performed by this material manufacturer or its sub-contractors, when applicable, are in compliance with the requirements of the material specifications and applicable purchaser designated requirements."

Signed: Tom L. Harrington Date: Nov. 30, 2007 Signed: \_\_\_\_\_ Date: \_\_\_\_\_  
 Tom L. Harrington: Quality Assurance Manager Notary Public (if applicable)

NUCOR STEEL - BERKELEY  
 P.O. Box 2259  
 Mt. Pleasant, S.C. 29464  
 Phone: (843) 336-6000

MILL TEST REPORT

12/11/07 6:30:15  
 100% MELIED AND MANUFACTURED IN THE USA  
 All beams produced by Nucor-Berkeley are cast and rolled to a fully killed and fine grain practice.

Sold To: INFRA METALS CORP - CT  
 8 PENT HIGHWAY

Ship To: INFRA METALS CORP - CT  
 8 PENT HIGHWAY

Customer H.: 502 - 1  
 Customer PO: C1098A  
 B.o.L. H...: 658873

WALLINGFORD, CT 06492

WALLINGFORD, CT 06492

SPECIFICATIONS: Tested in accordance with ASTM specification A6/A6M and A370.

AASHTO : M270-36-05/M270-50-05  
 ASME : SA-36 07a  
 ASTM : A992-06a//A36-05/A572-06-50/A709-06a36/A709-07 50/A709-345M  
 CSA : CSA-44W/G40.21-50W

Description	Heat# Grade(s) Test	Yield/ Tensile Ratio	Yield (PSI) (MPa)	Tensile (PSI) (MPa)	Elong %	C Cr Pb	Mn Mo Ti	P Sn Ca	S Al B	Si V N	Cu Nb Zr	Ni ***** CI	CE1	CE2
													Pcm	
W14x22 030' 00.00' W360X32.9 009.1440m	2718561 A992-06a	.84	59400 410	70600 487	26.80	.0750 .0340	.9090 .0210	.0105 .0069	.0235 .0026	.2060 .0033	.1500 .0312	.0490 3.8113	.2514 .2920	.1470
		.83	58600 404	70200 484	28.05	.0028	.0019	.0000	.0016	.0051	.0000	InvH:	0	
W14x22 030' 00.00' W360X32.9 009.1440m	2718564 A992-06a	.84	59400 410	70700 487	27.25	.0670 .0300	.8590 .0180	.0088 .0063	.0265 .0018	.2220 .0026	.1410 .0292	.0480 3.6555	.2329 .2757	.1346
		.84	59600 411	70700 487	26.56	.0001	.0016	.0001	.0013	.0045	.0000	InvH:	0	
W14x22 040' 00.00' W360X32.9 012.1920m	2718588 A992-06a	.81	54600 376	67000 462	27.54	.0670 .0300	.8290 .0180	.0082 .0062	.0260 .0022	.1830 .0031	.1390 .0134	.0430 3.5407	.2275 .2607	.1336
		.81	53900 372	66700 460	27.53	.0034	.0017	.0000	.0017	.0054	.0000	InvH:	0	
W14x22 040' 00.00' W360X32.9 012.1920m	2718592 A992-06a	.81	53700 370	66200 456	29.06	.0670 .0300	.8020 .0190	.0087 .0074	.0288 .0023	.2190 .0031	.1570 .0139	.0530 3.9140	.2251 .2644	.1321
		.81	52600 363	65300 450	26.00	.0034	.0016	.0000	.0012	.0052	.0000	InvH:	0	
W14x22 055' 00.00' W360X32.9 016.7640m	4718338 A992-06a	.82	56200 387	68600 473	25.66	.0710 .0260	.9140 .0160	.0073 .0052	.0188 .0021	.2440 .0028	.0800 .0135	.0270 2.4752	.2394 .2828	.1358
		.81	55900 385	69000 476	26.70	.0000	.0016	.0007	.0008	.0061	.0000	InvH:	0	

Elongation based on 8" (20.32cm) gauge length. 'No Weld Repair' was performed.  
 CI = 26.01Cu+3.88Ni+1.20Cr+1.49Si+17.28P-(7.29Cu\*Ni)-(9.10Ni\*P)-33.39(Cu\*Cu)  
 Pcm = C+(Si/30)+(Mn/20)+(Cu/20)+(Ni/60)+(Cr/20)+(Mo/15)+(V/10)+5B

Hg free and no contact with Hg during manufacture.  
 CE1 = C+(Mn/6)+((Cr+Mo+V)/5)+((Ni+Cu)/15)  
 CE2 = C+((Mn+Si)/6)+((Cr+Mo+V+Cb)/5)+((Ni+Cu)/15)

I hereby certify that the contents of this report are accurate and correct. All test results and operations performed by the material manufacturer are in compliance with material specifications, and when designated by the Purchaser, meet applicable specifications.

Bruce A. Work  
 Metallurgist

(State of South Carolina  
 County of Berkeley  
 Sworn and subscribed before me

day of \_\_\_\_\_

NUCOR STEEL - BERKELEY  
P.O. Box 2259  
Mt. Pleasant, S.C. 29464  
Phone: (843) 336-6000

MILL TEST REPORT

12/16/07 5:32:17  
100% MELTED AND MANUFACTURED IN THE USA  
All beams produced by Nucor-Berkeley are cast and rolled to a fully killed and fine grain practice.

Sold To: INFRA METALS CORP - CT  
8 PENT HIGHWAY

Ship To: INFRA METALS CORP - CT  
8 PENT HIGHWAY

Customer H.: 502 - 1  
Customer PO: C1107A  
B.o.L. H...: 660173

WALLINGFORD, CT 06492

WALLINGFORD, CT 06492

SPECIFICATIONS: Tested in accordance with ASTM specification A6/A6M and A370.  
AASBIO : M270-36-05/M270-50-05  
ASME : SA-36 07a  
ASTM : A992-06a://A36-05/A572-06-50/A709-06a36/A709-07 50/A709-345M  
CSA : CSA-44W/G40.21-50W

Description	Heat# Grade(s) Test	Yield/ Tensile Ratio	Yield (PSI) (MPa)	Tensile (PSI) (MPa)	Elong %	C	Mn	P	S	Si	Cu	Ni	CE1
						Pb	Ti	Ca	B	N	Zr	***** CI	Pcm
W10x22.0 040' 00.00'	2714383 A992-06a	.82	56800 392	69500 479	28.54	.0660 .0310	.8170 .0190	.0061 .0058	.0239 .0007	.1920 .0034	.1220 .0256	.0430	.2238 .2610
W250X32.7 012.1920m		.84	58400 403	69900 482	29.15	.0063	.0014	.0000	.0015	.0051	.0000	3.2311	.1306
						36 Piece(s)						InvH:	0
W10x30 040' 00.00'	1714613 A992-06a	.81	55300 381	68200 470	25.78	.0710 .0360	.8560 .0200	.0065 .0064	.0170 .0024	.2000 .0031	.1300 .0295	.0410	.2369 .2761
W250X44.8 012.1920m		.82	55700 384	68000 469	25.11	.0052	.0019	.0003	.0007	.0072	.0000	3.3883	.1345
						12 Piece(s)						InvH:	0
W14x22 030' 00.00'	1700399 A992-06a	.83	58800 405	70900 489	25.19	.0670 .0410	.8990 .0300	.0093 .0075	.0319 .0048	.2370 .0031	.1480 .0252	.0450	.2445 .2891
W360X32.9 009.1440m		.84	60500 417	72100 497	27.16	.0075	.0024	.0018	.0002	.0077	.0000	3.8034	.1333
						28 Piece(s)						InvH:	0
W14x22 050' 00.00'	2718561 A992-06a	.84	59400 410	70600 487	26.80	.0750 .0340	.9090 .0210	.0105 .0069	.0235 .0026	.2060 .0033	.1500 .0312	.0490	.2514 .2920
W360X32.9 015.2400m		.83	58600 404	70200 484	28.05	.0028	.0019	.0000	.0016	.0051	.0000	3.8113	.1470
						14 Piece(s)						InvH:	0
W14x22 050' 00.00'	2718564 A992-06a	.84	59400 410	70700 487	27.25	.0670 .0300	.8590 .0180	.0088 .0063	.0265 .0018	.2220 .0026	.1410 .0292	.0480	.2329 .2757
W360X32.9 015.2400m		.84	59600 411	70700 487	26.56	.0001	.0016	.0001	.0013	.0045	.0000	3.6555	.1346
						14 Piece(s)						InvH:	0

Elongation based on 8" (20.32cm) gauge length. 'No Weld Repair' was performed. Hg free and no contact with Hg during manufacture.  
CI = 26.01Cu+3.88Ni+1.20Cr+1.49Si+17.28P-(7.29Cu\*Ni)-(9.10Ni\*P)-33.39(Cu\*Cu) CE1= C+(Mn/6)+((Cr+Mo+V)/5)+((Ni+Cu)/15)  
Pcm = C+(Si/30)+(Mn/20)+(Cu/20)+(Ni/60)+(Cr/20)+(Mo/15)+(V/10)+5B CE2 = C+((Mn+Si)/6)+((Cr+Mo+V+Cb)/5)+((Ni+Cu)/15)

I hereby certify that the contents of this report are accurate and correct. All test results and operations performed by the material manufacturer are in compliance with material specifications, and when designated by the Purchaser, meet applicable specifications.

Bruce A. Work  
Metallurgist

(State of South Carolina  
County of Berkeley  
Sworn and subscribed before me

\_\_\_\_\_ day of \_\_\_\_\_

NUCOR STEEL - BERKELEY  
 P.O. Box 2259  
 Mt. Pleasant, S.C. 29464  
 Phone: (843) 336-6000

MILL TEST REPORT

11/03/06 19:33:04  
 100% MELTED AND MANUFACTURED IN THE USA  
 All beams produced by Nucor-Berkeley are cast and  
 rolled to a fully killed and fine grain practice.

Sold To: INFRA METALS CORP - CI  
 8 PENT HIGHWAY  
 WALLINGFORD, CT 06492

Ship To: INFRA METALS CORP - CI  
 8 PENT HIGHWAY  
 WALLINGFORD, CT 06492

Customer #: 502 - 1  
 B.o.L. #: 576287

SPECIFICATIONS: Tested in accordance with ASTM specification A6/A6M and A370.  
 AASHIO : M270-36-00/M270-50-00  
 ASME : SA-36  
 ASTM : A992-06:///A36-05/A572-06-50/A709-06a36/A709-06a50/A709-345M  
 CSA : CSA-44W/G40.21-50W

From: NUCOR STEEL HUGER  
 B:33 11-03 To: 12036794260

Description	Heat# Grade(s) Test	Yield/ Tensile Ratio	Yield (PSI) (MPa)	Tensile (PSI) (MPa)	Elong %	C Cr Pb	Mn Mo Ti	P S Ca	S Al B	Si V N	Cu Nb Zr	Ni ***** CI	CE1
													CE2 Pcm
C12X25 050' 00.00' C310X37 015.2400m	2617786 A992-06	.82	57200 394	69900 482	25.15	.0750 .0390	.8290 .0280	.0057 .0049	.0234 .0007	.1990 .0039	.1100 .0284	.0430	.2375 .2764
						16 Piece(s)		Customer PO: C19420		Inv#:		0	
C12X25 050' 00.00' C310X37 015.2400m	2617790 A992-06	.82	57200 394	70100 483	25.69	.0670 .0360	.8150 .0270	.0059 .0040	.0212 .0003	.1970 .0035	.0930 .0253	.0390	.2249 .1259
						8 Piece(s)		Customer PO: C19420		Inv#:		0	
C12X30 050' 00.00' C310X45 015.2400m	2514806 A992-06	.79	56500 390	71700 494	24.15	.0660 .0370	1.0360 .0200	.0130 .0064	.0224 .0007	.2940 .0048	.1030 .0284	.0510	.2613 .3160
						16 Piece(s)		Customer PO: C20592		Inv#:		0	
W12x22 030' 00.00' W310X32.7 009.1440m	2617898 A992-06	.83	58800 405	70800 488	26.05	.0720 .0360	.8450 .0240	.0084 .0063	.0289 .0006	.2430 .0035	.1060 .0295	.0470	.2357 .2821
						16 Piece(s)		Customer PO: C19818		Inv#:		0	
W12x22 030' 00.00' W310X32.7 009.1440m	1611995 A992-06	.82	55600 383	67800 467	26.88	.0660 .0300	.8980 .0190	.0097 .0045	.0293 .0000	.2400 .0033	.0760 .0298	.0290	.2331 .2791
						4 Piece(s)		Customer PO: C19818		Inv#:		0	

Elongation based on 8' (20.32cm) gauge length. 'No Weld Repair' was performed.  
 CI = 26.01Cu+3.88Ni+1.20Cr+1.49Si+17.28P-(7.29Cu\*Ni)-(9.10Ni\*P)-33.39(Cu\*Cu)  
 Pcm = C+(Si/30)+(Mn/20)+(Cu/20)+(Ni/60)+(Cr/20)+(Mo/15)+(V/10)+5B

$$CE1 = C + (Mn/6) + ((Cr+Mo+V)/5) + ((Ni+Cu)/15)$$

$$CE2 = C + ((Mn+Si)/6) + ((Cr+Mo+V+Cb)/5) + ((Ni+Cu)/15)$$

I hereby certify that the contents of this report are accurate and correct. All test results and operations performed by the material manufacturer are in compliance with material specifications, and when designated by the Purchaser, meet applicable specifications.

Bruce A. Work  
 Metallurgist

(State of South Carolina  
 County of Berkeley  
 Sworn and subscribed before me

\_\_\_\_\_ day of \_\_\_\_\_

NUCOR STEEL - BERKELEY  
P.O. Box 2259  
Mt. Pleasant, S.C. 29464  
Phone: (843) 336-6000

MILL TEST REPORT

11/07/06 19:01:27  
100% MELTED AND MANUFACTURED IN THE USA  
All beams produced by Nucor-Berkeley are cast and rolled to a fully killed and fine grain practice.

Sold To: INFRA METALS CORP - CT  
8 PENT HIGHWAY  
WALLINGFORD, CT 06492

Ship To: INFRA METALS CORP - CT  
8 PENT HIGHWAY  
WALLINGFORD, CT 06492

Customer H.: 502 - 1  
B.o.I. H...: 577026

SPECIFICATIONS: Tested in accordance with ASTM specification A6/A6M and A370.  
AASHIO : M270-36-00/M270-50-00  
ASME : SA-36  
ASTM : A992-06://A36-05/A572-06-50/A709-06a36/A709-06a50/A709-345M  
CSA : CSA-44W/G40.21-50W

FROM: NUCOR STEEL HUGER  
12036794260  
19:02 11-07 TO:

Description	Heat# Grade(s) Test	Yield/ Tensile Ratio	Yield (PSI) (MPa)	Tensile (PSI) (MPa)	Elong %	C Cr Pb	Mn Mo Ti	P Sn Ca	S Al B	Si V N	Cu Nb Zr	Ni xxxxxx CI	CE1	
													CE2	
W12x19 035' 00.00' W310X28.3 010.6680m	2618051 A992-06	.83	60000 414	72000 496	24.94	.0650 .0230 .0054	.8560 .0210 .0013	.0082 .0050 .0009	.0245 .0025 .0017	.2800 .0039 .0064	.0630 .0000	.0290 2.1896	.2234 .2761 .1321	
													InvH:	0
W12x19 035' 00.00' W310X28.3 010.6680m	2618053 A992-06	.83	58100 401	69600 480	27.86	.0670 .0240 .0054	.8360 .0200 .0019	.0088 .0044 .0007	.0207 .0027 .0014	.2040 .0039 .0059	.0530 .0266 .0000	.0260 1.8583	.2212 .2605 .1285	
													InvH:	0
W12x19 035' 00.00' W310X28.3 010.6680m	2618078 A992-06	.82	58900 406	71500 493	26.63	.0650 .0210 .0050	.8140 .0220 .0010	.0070 .0060 .0009	.0250 .0020 .0015	.1900 .0040 .0066	.0990 .0250 .0000	.0350 2.7853	.2190 .2557 .1278	
													InvH:	0
W12x22 035' 00.00' W310X32.7 010.6680m	1600763 A992-06	.82	57300 395	69900 482	28.94	.0700 .0200 .0014	.8230 .0140 .0024	.0095 .0030 .0009	.0251 .0029 .0003	.2170 .0028 .0054	.0650 .0285 .0000	.0250 2.1441	.2205 .2624 .1257	
													InvH:	0
W12x22 035' 00.00' W310X32.7 010.6680m	2600771 A992-06	.84	62300 430	73900 510	27.54	.0720 .0250 .0015	1.0150 .0170 .0021	.0080 .0034 .0006	.0241 .0002 .0016	.2690 .0039 .0060	.0710 .0331 .0000	.0310 2.3494	.2571 .3086 .1464	
													InvH:	0

Elongation based on 8" (20.32cm) gauge length. 'No Weld Repair' was performed.  
CI = 26.01Cu+3.88Ni+1.20Cr+1.49Si+17.28P-(7.29Cu\*Ni)-(9.10Ni\*P)-33.39(Cu\*Cu)  
Pcm = C+(Si/30)+(Mn/20)+(Cu/20)+(Ni/60)+(Cr/20)+(Mo/15)+(V/10)+5B

$$CE1 = C + (Mn/6) + ((Cr+Mo+V)/5) + ((Ni+Cu)/15)$$

$$CE2 = C + ((Mn+Si)/6) + ((Cr+Mo+V+Cb)/5) + ((Ni+Cu)/15)$$

I hereby certify that the contents of this report are accurate and correct. All test results and operations performed by the material manufacturer are in compliance with material specifications, and when designated by the Purchaser, meet applicable specifications.

Bruce A. Work  
Metallurgist

(State of South Carolina  
County of Berkeley  
Sworn and subscribed before me

\_\_\_\_\_ day of \_\_\_\_\_

JUCOR STEEL - BERKELEY  
 P.O. Box 2259  
 4t. Pleasant, S.C. 29464  
 Phone: (843) 336-6000

MILL TEST REPORT

9/24/07 2:16:59

100% MELTED AND MANUFACTURED IN THE USA  
 All beams produced by Nucor-Berkeley are cast and rolled to a fully killed and fine grain practice.

Sold To: INFRA METALS CORP - CT  
 8 PENI BIGWAY

Ship To: INFRA METALS CORP - CT  
 8 PENI BIGWAY

Customer H.: 502 - 1

WALLINGFORD, CT 06492

WALLINGFORD, CT 06492

B.o.L. H...: 643108

SPECIFICATIONS: Tested in accordance with ASTM specification A6/A6M and A370.  
 AASHIO : M270-36-00/M270-50-00  
 ASME : SA-36 04  
 ASTM : A992-06a://A36-05/A572-06-50/A709-06a36/A709-07 50/A709-345M  
 CSA : CSA-44W/G40.21-50W

*P.O. # 14563*

02:17 09-24 TO: 12036794260 From: NUCOR STEEL HUGER

Description	Heat# Grade(s) Test	Yield/ Tensile Ratio	Yield (PSI) (MPa)	Tensile (PSI) (MPa)	Elong %	C Cr Pb	Mn Mo Ti	P Sn Ca	S Al B	Si V N	Cu Nb Zr	Ni ***** CI	CE1 CE2 Pcm
C12X20.7 050' 00.00' C310X30.8 015.2400m	2616174 A992-06a	.82	56900 392	69800 481	26.31	.0660 .0260 .0135	.8220 .0230 .0020	.0097 .0049 .0036	.0241 .0039 .0026	.2130 .0043 .0056	.0780 .0262 .0000	.0360 2.4579	.2213 .2620 .1348
						6 Piece(s) Customer PO: C1043KFF InvH: 0							
C12X25 050' 00.00' C310X37 015.2400m	1614491 A992-06a	.80	56400 389	70700 487	24.09	.0750 .0270 .0108	.8960 .0250 .0018	.0079 .0057 .0000	.0241 .0021 .0027	.2440 .0044 .0072	.0850 .0261 .0000	.0410 2.6328	.2440 .2899 .1497
						32 Piece(s) Customer PO: C1043KFF InvH: 0							
W10x30 040' 00.00' W250X44.8 012.1920m	1714596 A992-06a	.84	56700 391	67900 468	25.19	.0710 .0930 .0043	.8250 .0280 .0019	.0069 .0066 .0005	.0295 .0034 .0004	.2350 .0040 .0049	.1190 .0265 .0000	.0710 3.4128	.2462 .2906 .1360
						36 Piece(s) Customer PO: C21398 InvH: 0							
W8X48 040' 00.00' W200X71 012.1920m	2710720 A992-06a	.75	51800 357	69000 476	21.20	.0650 .0360 .0000	1.0080 .0180 .0012	.0093 .0073 .0000	.0247 .0016 .0013	.2560 .0034 .0045	.1150 .0263 .0000	.0450 3.2680	.2551 .3031 .1402
						2 Piece(s) Customer PO: C1071A InvH: 0							
W8X48 040' 00.00' W200X71 012.1920m	2710722 A992-06a	.74	50800 350	68500 472	22.35	.0700 .0350 .0010	1.0340 .0180 .0020	.0100 .0070 .0000	.0250 .0020 .0009	.2870 .0040 .0048	.1090 .0270 .0000	.0440 3.2126	.2639 .3172 .1452
						2 Piece(s) Customer PO: C1071A InvH: 0							

Elongation based on 8' (20.32cm) gauge length. 'No Weld Repair' was performed. Hg free and no contact with Hg during manufacture.  
 CE1 = C + (Mn/6) + ((Cr+Mo+V)/5) + ((Ni+Cu)/15)  
 CE2 = C + ((Mn+Si)/6) + ((Cr+Mo+V+Cb)/5) + ((Ni+Cu)/15)  
 Pcm = C + (Si/30) + (Mn/20) + (Cu/20) + (Ni/60) + (Cr/20) + (Mo/15) + (V/10) + 5B

I hereby certify that the contents of this report are accurate and correct. All test results and operations performed by the material manufacturer are in compliance with material specifications, and when designated by the Purchaser, meet applicable specifications.

Bruce A. Work  
 Metallurgist

(State of South Carolina  
 County of Berkeley  
 Sworn and subscribed before me

\_\_\_\_\_ day of \_\_\_\_\_

*See Correct Sheet on the back*



NUCOR STEEL - BERKELEY  
P.O. Box 2259  
Mt. Pleasant, S.C. 29464  
Phone: (843) 336-6000

MILL TEST REPORT

11/07/06 19:01:27  
100% MELTED AND MANUFACTURED IN THE USA  
All beams produced by Nucor-Berkeley are cast and rolled to a fully killed and fine grain practice.

Sold To: INFRA METALS CORP - CT  
8 PENT HIGHWAY  
WALLINGFORD, CT 06492

Ship To: INFRA METALS CORP - CT  
8 PENT HIGHWAY  
WALLINGFORD, CT 06492

Customer H.: 502 - 1  
B.o.I. H...: 577026

SPECIFICATIONS: Tested in accordance with ASTM specification A6/A6M and A370.  
AASHIO : M270-36-00/M270-50-00  
ASME : SA-36  
ASTM : A992-06://A36-05/A572-06-50/A709-06a36/A709-06a50/A709-345M  
CSA : CSA-44W/G40.21-50W

FROM: NUCOR STEEL HUGER  
19:02 11-07 TO: 12036794260

Description	Heat# Grade(s) Test	Yield/ Tensile Ratio	Yield (PSI) (MPa)	Tensile (PSI) (MPa)	Elong %	C Cr Pb	Mn Mo Ti	P Sn Ca	S Al B	Si V N	Cu Nb Zr	Ni XXXXXX CI	CE1 CE2 Pcm
W12x19 035' 00.00' W310X28.3 010.6680m	2618051 A992-06	.83	60000 414	72000 496	24.94	.0650 .0230 .0054	.8560 .0210 .0013	.0082 .0050 .0009	.0245 .0025 .0017	.2800 .0039 .0064	.0630 .0301 .0000	.0290 2.1896	.2234 .2761 .1321
						14 Piece(s)		Customer PO: C19818		InvH:		0	
W12x19 035' 00.00' W310X28.3 010.6680m	2618053 A992-06	.83	58100 401	69600 480	27.86	.0670 .0240 .0054	.8360 .0200 .0019	.0088 .0044 .0007	.0207 .0027 .0014	.2040 .0039 .0059	.0530 .0266 .0000	.0260 1.8583	.2212 .2605 .1285
						58 Piece(s)		Customer PO: C19818		InvH:		0	
W12x19 035' 00.00' W310X28.3 010.6680m	2618078 A992-06	.82	58900 406	71500 493	26.63	.0650 .0210 .0050	.8140 .0220 .0010	.0070 .0060 .0009	.0250 .0020 .0015	.1900 .0040 .0066	.0990 .0250 .0000	.0350 2.7853	.2190 .2557 .1278
						8 Piece(s)		Customer PO: C19818		InvH:		0	
W12x22 035' 00.00' W310X32.7 010.6680m	1600763 A992-06	.82	57300 395	69900 482	28.94	.0700 .0200 .0014	.8230 .0140 .0024	.0095 .0030 .0009	.0251 .0029 .0003	.2170 .0028 .0054	.0650 .0285 .0000	.0250 2.1441	.2205 .2624 .1257
						17 Piece(s)		Customer PO: C20398		InvH:		0	
W12x22 035' 00.00' W310X32.7 010.6680m	2600771 A992-06	.84	62300 430	73900 510	27.54	.0720 .0250 .0015	1.0150 .0170 .0021	.0080 .0034 .0006	.0241 .0002 .0016	.2690 .0039 .0060	.0710 .0331 .0000	.0310 2.3494	.2571 .3086 .1464
						5 Piece(s)		Customer PO: C20398		InvH:		0	

Elongation based on 8" (20.32cm) gauge length. 'No Weld Repair' was performed.  
CI = 26.01Cu+3.88Ni+1.20Cr+1.49Si+17.28P-(7.29Cu×Ni)-(9.10Ni×P)-33.39(Cu×Cu)  
Pcm = C+(Si/30)+(Mn/20)+(Cu/20)+(Ni/60)+(Cr/20)+(Mo/15)+(V/10)+5B

$$CE1 = C + (Mn/6) + ((Cr+Mo+V)/5) + ((Ni+Cu)/15)$$

$$CE2 = C + ((Mn+Si)/6) + ((Cr+Mo+V+Cb)/5) + ((Ni+Cu)/15)$$

I hereby certify that the contents of this report are accurate and correct. All test results and operations performed by the material manufacturer are in compliance with material specifications, and when designated by the Purchaser, meet applicable specifications.

Bruce A. Work  
Metallurgist

(State of South Carolina  
County of Berkeley  
Sworn and subscribed before me  
\_\_\_\_\_ day of \_\_\_\_\_

JUCOR STEEL - BERKELEY  
 P.O. Box 2259  
 Ft. Pleasant, S.C. 29464  
 Phone: (843) 336-6000

MILL TEST REPORT

9/24/07 2:16:59

100% MELTED AND MANUFACTURED IN THE USA  
 All beams produced by Nucor-Berkeley are cast and rolled to a fully killed and fine grain practice.

Sold To: INFRA METALS CORP - CT  
 8 PENI BIGWAY

Ship To: INFRA METALS CORP - CT  
 8 PENI BIGWAY

Customer #: 502 - 1

WALLINGFORD, CT 06492

WALLINGFORD, CT 06492

B.o.L. #: 643108

SPECIFICATIONS: Tested in accordance with ASTM specification A6/A6M and A370.  
 AASHTO : M270-36-00/M270-50-00  
 ASME : SA-36 04  
 ASTM : A992-06a://A36-05/A572-06-50/A709-06a36/A709-07 50/A709-345M  
 CSA : CSA-44W/G40.21-50W

*PO-14563*

02:17 09-24 TO: 12036794260 From: NUCOR STEEL HUGER

Description	Heat# Grade(s) Test	Yield/ Tensile Ratio	Yield (PSI) (MPa)	Tensile (PSI) (MPa)	Elong %	C		Mn	P	S	Si	Cu	Ni	CE1
						Cr	Pb	Mo	Sn	Al	V	Nb	***** CI	CE2
C12X20.7	2616174	.82	56900	69800	26.31	.0660		.8220	.0097	.0241	.2130	.0780	.0360	.2213
050' 00.00'	A992-06a		392	481		.0260		.0230	.0049	.0039	.0043	.0262		.2620
C310X30.8		.82	55900	68300	27.69	.0135		.0020	.0036	.0026	.0056	.0000	2.4579	.1348
015.2400m			385	471		6 Piece(s)		Customer PO: C1043KFF				InvH:		0
C12X25	1614491	.80	56400	70700	24.09	.0750		.8960	.0079	.0241	.2440	.0850	.0410	.2440
050' 00.00'	A992-06a		389	487		.0270		.0250	.0057	.0021	.0044	.0261		.2899
C310X37		.81	57200	70600	24.95	.0108		.0018	.0000	.0027	.0072	.0000	2.6328	.1497
015.2400m			394	487		32 Piece(s)		Customer PO: C1043KFF				InvH:		0
W10x30	1714596	.84	56700	67900	25.19	.0710		.8250	.0069	.0295	.2350	.1190	.0710	.2462
040' 00.00'	A992-06a		391	468		.0930		.0280	.0066	.0034	.0040	.0265		.2906
W250x44.8		.83	56500	68300	24.54	.0043		.0019	.0005	.0004	.0049	.0000	3.4128	.1360
012.1920m			390	471		36 Piece(s)		Customer PO: C21398				InvH:		0
W8x48	2710720	.75	51800	69000	21.20	.0650	1.0080		.0093	.0247	.2560	.1150	.0450	.2551
040' 00.00'	A992-06a		357	476		.0360	.0180		.0073	.0016	.0034	.0263		.3031
W200x71		.75	52400	69500	22.71	.0000	.0012		.0000	.0013	.0045	.0000	3.2680	.1402
012.1920m			361	479		2 Piece(s)		Customer PO: C1071A				InvH:		0
W8x48	2710722	.74	50800	68500	22.35	.0700	1.0340		.0100	.0250	.2870	.1090	.0440	.2639
040' 00.00'	A992-06a		350	472		.0350	.0180		.0070	.0020	.0040	.0270		.3172
W200x71		.77	53000	68900	21.69	.0010	.0020		.0000	.0009	.0048	.0000	3.2126	.1452
012.1920m			365	475		2 Piece(s)		Customer PO: C1071A				InvH:		0

Elongation based on 8' (20.32cm) gauge length. 'No Weld Repair' was performed. Hg free and no contact with Hg during manufacture.  
 CI = 26.01Cu+3.88Ni+1.20Cr+1.49Si+17.28P-(7.29Cu×Ni)-(9.10Ni×P)-33.39(Cu×Cu) CE1= C+(Mn/6)+((Cr+Mo+V)/5)+((Ni+Cu)/15)  
 Pcm = C+(Si/30)+(Mn/20)+(Cu/20)+(Ni/60)+(Cr/20)+(Mo/15)+(V/10)+5B CE2 = C+((Mn+Si)/6)+((Cr+Mo+V+Cb)/5)+((Ni+Cu)/15)

I hereby certify that the contents of this report are accurate and correct. All test results and operations performed by the material manufacturer are in compliance with material specifications, and when designated by the Purchaser, meet applicable specifications.

(State of South Carolina  
 County of Berkeley  
 Sworn and subscribed before me

Bruce A. Work  
 Metallurgist

\_\_\_\_\_ day of \_\_\_\_\_

*See Coarced  
 sheet on the  
 back*

UCOR STEEL - BERKELEY  
 P.O. Box 2259  
 Mt. Pleasant, S.C. 29554  
 Phone: (803) 336-6000

MILL TEST REPORT

10/26/97 0:05:12  
 100% MELTED AND MANUFACTURED IN THE USA  
 All beams produced by Ucor-Berkeley are cast and  
 rolled to a fully killed and fine grain practice.

Sold To: INFRA METALS CORP - CT  
 8 PENN HIGHWAY

Shipped To: INFRA METALS CORP - CT  
 8 PENN HIGHWAY

Customer #.: 502  
 Customer PO: C1003A  
 B.S.I. #.: 550213

SPECIFICATIONS: Tested in accordance with ASTM specification #6/A6M and #370.  
 AASHTO : M270-35-90/M270-50-90  
 ASME : SA-36 84  
 ASTM : A992-06a // A36-05/A572-05-50/A709-06a36/A709-07 51/A709-345M  
 CSA : CSA-44W/C40.21-50W

Description	Heat Grade(s) Test	Yield/ Tensile Ratio	Yield (PSI) (MPa)	Tensile (PSI) (MPa)	Elong %	C	Mn	P	S	Si	Cu	Ni	CE1	CE2
W10x22.0 840' 00.00' W250x32.7 012.1920m	716596 A992-06a	.82	56900 392	69000 475	28.33	.0710 .0430	.0250 .0200	.0069 .0065	.0255 .0634	.2350 .0840	.1150 .0265	.0710	.2462 .2506	
W10x26.0 050' 00.00' W250x38.5 015.2480m	714559 A992-06a	.82	56500 350	69100 476	27.18	.0730 .0270	.0270 .0170	.0050 .0071	.0237 .0312	.2150 .0330	.0760 .0260	.0380	.2345 .2755	
W10x30 840' 00.00' W250x44.8 012.1920m	710614 A992-06a	.83	57100 394	68600 473	25.66	.0700 .0390	.0300 .0210	.0075 .0060	.0237 .0021	.1940 .0034	.1260 .0274	.0450	.2416 .2797	
W10x33.0 055' 00.00' W250x49.1 016.7640m	2713967 A992-06a	.80	55400 382	69000 476	25.14	.0720 .0490	1.0596 .0250	.0121 .0075	.0243 .0032	.2300 .0043	.1200 .0265	.0390	.2753 .3100	

Elongation based on 8" (20.32cm) gauge length. 'No Weld Repair' was performed.  
 $CE1 = C1 \{ (Mn/6) + (Cr+Mo+V)/5 \} + (Ni+Cu)/15$   
 $CE2 = C1 \{ (Mn+Si)/6 \} + (Cr+Mo+V+Cu)/5 + (Ni+Cu)/15$   
 $Pcm = C1 \{ (Si/30) + (Mn/20) + (Cu/20) + (Ni/60) + (Cr/20) + (Mo/15) + (V/10) \} + 5B$

I hereby certify that the contents of this report are accurate and correct. All test results and operations performed by the material manufacturer are in compliance with material specifications, and when designated by the purchaser, meet applicable specifications.

Bruce A. Work  
 Metallurgist

To: Alan

P.1/1

JAN 25 '08 01:18PM INFRA-METALS

NUCOR STEEL - BERKELEY  
 P.O. Box 2259  
 Mt. Pleasant, S.C. 29464  
 Phone: (843) 336-6000

MILL TEST REPORT

5/02/06 6:39:57  
 100% MELTED AND MANUFACTURED IN THE USA  
 All beams produced by Nucor-Berkeley are cast and  
 rolled to a fully killed and fine grain practice.

Sold To: INFRA-METALS CORP. - CI  
 8 PENT HIGHWAY  
 WALLINGFORD, CT 06492

Ship To: INFRA-METALS CORP.  
 INFRA METALS CORP  
 8 PENT HIGHWAY  
 WALLINGFORD, CT 06492

Customer #: 502 - 1  
 Customer PO: C19697  
 B.o.L. #: 531231

SPECIFICATIONS: Tested in accordance with ASTM specification A6/A6M and A370.  
 AASHTO : M270-36-00/M270-50-00  
 ASME : SA-36  
 ASTM : A992-04a/A36-04/A529-03-50/A572-04-50/A709-04a36/A709-04a50/A7  
 CSA : CSA-44W/G40.21-50W

06:44 05-02 TO: 12036794260 FROM: NUCOR STEEL HUGER

Description	Heat# Grade(s) Test	Yield/ Tensile Ratio	Yield (PSI) (MPa)	Tensile (PSI) (MPa)	Elong %	C Cr Pb	Mn Mo Ti	P Sn Ca	S Al B	Si V N	Cu Nb Zr	Ni Nb CI xxxxxx	CE1 CE2 Pcm
W10x15 040' 00.00' W250X22.3 012.1920m	2604035 A992-04a	.81	55700 384	68700 474	27.16	.0710 .0430	.8150 .0240	.0086 .0078	.0247 .0011	.2220 .0041	.1130 .0153	.0680 3.2463	.2331 .2732 .1375 InvH: 0
W10x17 040' 00.00' W250X25.3 012.1920m	2606077 A992-04a	.80	55500 383	69100 476	27.36	.0700 .0480	.8710 .0180	.0083 .0063	.0310 .0018	.2530 .0039	.1430 .0137	.0440 3.7362	.2416 .2865 .1447 InvH: 0
W10x17 040' 00.00' W250X25.3 012.1920m	2606070 A992-04a	.80	52000 359	65000 448	27.81	.0690 .0360	.8510 .0180	.0085 .0043	.0234 .0034	.1890 .0048	.0950 .0146	.0490 2.7937	.2322 .2666 .1407 InvH: 0
W10x17 050' 00.00' W250X25.3 015.2400m	2603925 A992-04a	.79	53100 366	67100 463	28.63	.0650 .0220	.8520 .0160	.0119 .0066	.0239 .0020	.2350 .0045	.0700 .0136	.0270 2.3273	.2220 .2639 .1293 InvH: 0
W10x17 050' 00.00' W250X25.3 015.2400m	1604043 A992-04a	.80	55400 382	69000 476	27.26	.0610 .0430	.8790 .0200	.0133 .0063	.0256 .0043	.1800 .0037	.1270 .0093	.0550 3.4702	.2330 .2648 .1269 InvH: 0

Elongation based on 8' (20.32cm) gauge length. 'No Weld Repair' was performed.  
 CI = 26.01Cu+3.88Ni+1.20Cr+1.49Si+17.28P-(7.29Cu\*Ni)-(9.10Ni\*P)-33.39(Cu\*Cu)  
 Pcm = C+(Si/30)+(Mn/20)+(Cu/20)+(Ni/60)+(Cr/20)+(Mo/15)+(V/10)+5B

$$CE1 = C + (Mn/6) + ((Cr+Mo+V)/5) + ((Ni+Cu)/15)$$

$$CE2 = C + ((Mn+Si)/6) + ((Cr+Mo+V+Cb)/5) + ((Ni+Cu)/15)$$

I hereby certify that the contents of this report are accurate and correct. All test results and operations performed by the material manufacturer are in compliance with material specifications, and when designated by the Purchaser, meet applicable specifications.

Bruce A. Work  
 Metallurgist

(State of South Carolina)  
 (County of Berkeley)  
 Sworn and subscribed before me

\_\_\_\_\_ day of \_\_\_\_\_

NUCOR STEEL - BERKELEY  
P.O. Box 2259  
Mt. Pleasant, S.C. 29464  
Phone: (843) 336-6000

MILL TEST REPORT

11/18/07 3:49:27  
100% MELIED AND MANUFACTURED IN THE USA  
All beams produced by Nucor-Berkeley are cast and rolled to a fully killed and fine grain practice.

Sold To: INFRA METALS CORP - CT  
8 PENT HIGHWAY  
WALLINGFORD, CT 06492

Ship To: INFRA METALS CORP - CT  
8 PENT HIGHWAY  
WALLINGFORD, CT 06492

Customer H.: 502 - 1  
Customer PO: C1100A  
B.o.L. H...: 654703

SPECIFICATIONS: Tested in accordance with ASTM specification A6/A6M and A370.

AASHTO : M270-36-00/M270-50-00  
ASME : SA-36 04  
ASTM : A992-06a//A36-05/A572-06-50/A709-06a36/A709-07 50/A709-345M  
CSA : CSA-44W/G40.21-50W

Description	Heat Grade(s) Test	Yield/Tensile Ratio	Yield (PSI) (MPa)	Tensile (PSI) (MPa)	Elong %	C	Mn	P	S	Si	Cu	Ni	CE1		
						Cr Pb	Mo Ti	Sn Ca	Al B	V N	Zr	Nb CI	CE2 Pcm		
W10x12 030' 00.00' W250X17.9 009.1440m	2714239 A992-06a	.82	56000	68600	27.71	.0650	.7950	.0065	.0237	.2350	.1190	.0370	.2180		
			386	473		.0310	.0170	.0061	.0000	.0027	.0107		.2593		
			.81	55900	68700	29.36	.0009	.0017	.0007	.0011	.0051	.0000	3.2313	.1275	
						3 Piece(s)								InvH:	0
W10x12 030' 00.00' W250X17.9 009.1440m	2714241 A992-06a	.81	55400	68100	29.39	.0720	.8420	.0071	.0209	.2060	.1220	.0370	.2329		
			382	470		.0300	.0170	.0061	.0007	.0028	.0107		.2694		
			.81	55100	68100	25.49	.0007	.0025	.0008	.0003	.0052	.0000	3.2501	.1320	
						21 Piece(s)								InvH:	0
W10x15 030' 00.00' W250X22.3 009.1440m	2715435 A992-06a	.80	52300	65300	28.14	.0720	.8200	.0053	.0300	.2090	.0680	.0300	.2241		
			361	450		.0220	.0190	.0100	.0006	.0034	.0108		.2611		
			.80	52400	65800	30.24	.0066	.0020	.0000	.0012	.0058	.0000	2.1438	.1325	
						16 Piece(s)								InvH:	0
W10x15 040' 00.00' W250X22.3 012.1920m	1715445 A992-06a	.81	53400	65900	29.94	.0690	.8060	.0070	.0258	.2150	.0580	.0210	.2191		
			368	454		.0230	.0270	.0044	.0029	.0024	.0113		.2572		
			.81	53600	65900	26.39	.0039	.0017	.0004	.0004	.0045	.0000	1.9364	.1248	
						8 Piece(s)								InvH:	0
W10x15 040' 00.00' W250X22.3 012.1920m	2714247 A992-06a	.82	55700	67600	26.84	.0720	.8280	.0074	.0239	.1870	.1160	.0480	.2328		
			384	466		.0360	.0200	.0063	.0000	.0031	.0115		.2662		
			.81	54900	67700	31.13	.0052	.0019	.0010	.0009	.0059	.0000	3.1600	.1341	
						24 Piece(s)								InvH:	0

Elongation based on 8' (20.32cm) gauge length. 'No Weld Repair' was performed.  
CI = 26.01Cu+3.88Ni+1.20Cr+1.49Si+17.28P-(7.29Cu×Ni)-(9.10Ni×P)-33.39(Cu×Cu)  
Pcm = C+(Si/30)+(Mn/20)+(Cu/20)+(Ni/60)+(Cr/20)+(Mo/15)+(V/10)+5B

Hg free and no contact with Hg during manufacture.  
CE1 = C+(Mn/6)+((Cr+Mo+V)/5)+((Ni+Cu)/15)  
CE2 = C+((Mn+Si)/6)+((Cr+Mo+V+Cb)/5)+((Ni+Cu)/15)

I hereby certify that the contents of this report are accurate and correct. All test results and operations performed by the material manufacturer are in compliance with material specifications, and when designated by the Purchaser, meet applicable specifications.


Bruce A. Work  
Metallurgist

(State of South Carolina  
County of Berkeley  
Sworn and subscribed before me

\_\_\_\_\_ day of \_\_\_\_\_

6457

A01 ArcelorMittal Poland S.A. Oddział w Dąbrowie Górniczej al. J. Piłsudskiego 92 41-308 Dąbrowa Górnicza	A02 <b>ŚWIADCTWO ODBIORU 3.1</b> <b>INSPECTION CERTIFICATE 3.1</b> <b>ABNAHMEPRÜFZEUGNIS 3.1</b> EN 10204	Z01.1 Dąbrowa Górnicza, 15.10.2007 A03 Nr: <b>1000056778</b>	ArcelorMittal
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A06.1 Zamawiający: ARCELOR COMMERCIAL SECTIONS S A Purchaser: 4221 ESCH-SUR-ALZETTE, 66 RUE DE LUXEMBOURG Besteller: Luksemburg / Luxembourg / Luxemburg	Z.10 
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A06.2 Adres wysyłkowy: ARCELOR COMMERCIAL SECTIONS S A Address: 4221 ESCH-SUR-ALZETTE, 66 RUE DE LUXEMBOURG Versandadresse: Luksemburg / Luxembourg / Luxemburg
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A07	Nr zamówienia klienta No of purchase order No der Bestellung	Nr kontraktu Contract No Vertrag No	Nr zlecenia Manuf. Order No Auftrag No	Dowód dostawy Delivery Note Lieferschein Nr	Nr wagonu Wagon No Wagon No
		PL/277838653/07-10064363	20001540	60337382	316153749058
	ORDER: C1010A				
	LOT: New Haven				

**Wyszczególnienie zamówienia - Order Specification - Specification der Bestellung**  
 Normy, rodzaj materiału, stan dostawy - Standard, state of delivery - Norm, Art., Des Materials, Lieferzustand

B03	Norma przedmiotowa According Nech	Norma klasyfikacyjna Classification standards Materialnorm	Norma wymiarowa Dimensional standards Messnorm
	ASTM A 6-07	ASTM A 992/A 992M-06A	ASTM A 6-07

Kod wyrobu: IH  
 801, 809-B11  
 Dwaćceowniki ciężkie Dwuteownik CAL-W 10 X 12 długość: 12192,00 mm gatunek stali: A 992  
 Heavy I-beams W-10 X-12 length: 12192,00 mm steel grade: A 992

B07.1	Nr partii badanej - QM Batch No. - WK Los Nr	804: Sztuki/paczki/więzaki - No of packages/bundles Pakietanzahl/Bündelanzahl	805: Tonaż (teorok)
	W10X12723716A 992	40	43,109

C71-C92 Skład chemiczny - Chemical composition - Chemische Zusammensetzung																
B07.2	Wytoc - Heat - Abstrich 723716	C(%) 0,17	Mn(%) 0,78	Si(%) 0,18	P(%) 0,020	S(%) 0,011	Cu(%) 0,04	Cr(%) 0,02	Nb(%) 0,02	Al(%) 0,007	Am(%) 0,006	V(%) 0,0000	Mg(%) 0,004	Ni(%) 0,0010	CEV(%) 0,3188	
	Ti(%) 0,0010	As(%) 0,001	N <sub>2</sub> (%) 0,0050	Ca(%) 0,0005	Pb(%) 0,0020	Sn(%) 0,0040	Sb(%) 0,0010	O(%)	H <sub>2</sub> (%)	Zn(%)	W(%)	Bi(%)	Zr(%)			

**Właściwości mechaniczne - Mechanical properties - Mechanische Eigenschaften**


B07.1	Nr partii badanej QM Batch No WK Los Nr	σ <sub>1.2</sub> Re	σ <sub>1.2</sub> R <sub>m</sub>	σ <sub>1.2</sub> A	σ <sub>1.2</sub> A (%)	δ <sub>5g</sub> ReL <sub>5g</sub>								
	W10X12723716A 992	395,0	495,0	200	25,0	0,80								
	W10X12723716A 992	443,0	516,0	200	25,5	0,85								

THIS MATERIAL/GRADE COVERS -ASTM A572 Gr.50 KILLED STEEL

D01 Powierzchnia i wymiary - Sprawdzono zgodność z zamówieniem Surface and dimension - tested according to purchase order Oberfläche und Maße - Geprüft entsprechend der Bestellung	
Z01 Na podstawie przeprowadzonych badań uznano, że wykonany wyrób jest zgodny z warunkami zamówienia On the basis of the tests it has been recognized that the product conforms with the order requirements Nach der durchgeführten Prüfungen wurde festgestellt, daß das Erzeugnis den Anforderungen der Bestellung entspricht	A06, Z02.2 Biuro Kontroli Jakości Quality Control Office Büro der Qualitätskontrolle  JOSEPHINE DZAKU Dokumentacja Kontrolnej Inwentaryzacji Wytworów Adrian FENET

6457

A01 ArcelorMittal Poland S.A. Oddział w Dąbrowie Górniczej al. J. Piłsudskiego 92 41-308 Dąbrowa Górnicza	A02 <b>ŚWIADECTWO ODBIORU 3.1</b> <b>INSPECTION CERTIFICATE 3.1</b> <b>ABNAHMEPRÜFZEUGNIS 3.1</b> EN 10204	Z01.1 Dąbrowa Górnicza, 15.10.2007 A03 Nr: <b>1000056878</b>	ArcelorMittal
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A06.1 Zamawiający: Purchaser: Besteller:	ARCELOR COMMERCIAL SECTIONS S A 4221 ESCH-SUR-ALZETTE, 66 RUE DE LUXEMBOURG, Luksemburg / Luxembourg / Luxemburg	Z.10 
A06.2 Adres wysyłkowy: Address: Versandadresse:	ARCELOR COMMERCIAL SECTIONS S A 4221 ESCH-SUR-ALZETTE,, 66 RUE DE LUXEMBOURG Luksemburg / Luxembourg / Luxemburg	

A07	Nr zamówienia klienta No of purchase order No der Bestellung	Nr kontraktu Contract No Vertrag No	Nr zlecenia Manuf. Order No Auftrag No	Dowód dostawy Delivery Note Lieferschein Nr	Nr wagonu Wagon No Wagon No
		PL/277839653/07-10064383	20001540	60337011	315139083598
	ORDER: C1010A				
	LOT: New Haven				

Wyszczególnienie zamówienia - Order Specification - Specification der Bestellung  
 Normy, rodzaj materiału, stan dostawy - Standard, state of delivery - Norm, Art., Des Materials, Lieferzustand

B03	Norma przedmiotowa According Nach	Norma klasyfikacyjna Classification standards Materialnorm	Norma wymiarowa Dimensional standards Messnorm
	ASTM A 6-07	ASTM A 992/A 992M-06A	ASTM A 6-07

Kod wyrobu: IH 902 Gatunek - Steel grade - Marks: A 992  
 801, 809-811  
 Dwaćceownik ciężki Dwuceownik CAE W 10 X 12 długość: 15240,00 mm gatunek stali: A 992  
 Heavy-I-beams - W 10 X 12 - length: 15240,00 mm steel grade: A 992


B07.1	Nr partii badanej CM Batch No WK Los Nr	50'	Sztuki/paczki/wiązek Packets/Bundles	108	Pis. Tonad Rabotort	29,39t
	W10X12713204A-992					

C71-992 Skład chemiczny - Chemical composition - Chemische Zusammensetzung														
B07.2	Wytap - Heat - Abartich	Ci%	Mn%	Sr%	P%	Si%	Cu%	Cr%	Ni%	Al%	Am%	V%	Mo%	Nb%
	713204	0,17	0,80	0,18	0,015	0,010	0,02	0,02	0,02	0,005	0,003	0,0050	0,005	0,0010
		Ti%	As%	N2%	Cu%	Pb%	Sn%	Sb%	O%	H2%	Zn%	W%	Bi%	Zr%
		0,0010	0,002	0,0050	0,0005	0,0010	0,0030	0,0010						CEV%
														0,3210

Właściwości mechaniczne - Mechanical properties - Mechanische Eigenschaften

B07.1	C11 Re	C12 Rm	C13 A	C13 A (%)	C73 B4/Rp				
	(MPa)	(MPa)	(mm)	(%)					
W10X1271320 4A 992	388,0	488,0	200	24,5	0,82				
W10X1271320 4A 992	386,0	489,0	200	25,0	0,79				

THIS MATERIAL/GRADE COVERS -ASTM A572 Gr.50 KILLED STEEL

D01 Powierzchnia i wymiary - Sprawdzono zgodność z zamówieniem Surface and dimension - tested according to purchase order Oberfläche und Masse - geprüft entsprechend der Bestellung	
Z01 Na podstawie przeprowadzonych badań uznano, że wykonany wyrób jest zgodny z warunkami zamówienia On the basis of the tests it has been recognized that the product conforms with the order requirements Nach der durchgeführten Prüfungen wurde festgestellt, daß das Erzeugnis den Anforderungen der Bestellung entspricht	A05, Z02.2 Biuo Kontroli Jakości Quality Control Office Büro der Qualitätskontrolle KIEROWNIK BIURA Dokumentacji Kontrolnej i Jakościowej Wyrobów  ANNA FERET

NUCOR STEEL - BERKELEY  
 P.O. Box 2259  
 Mt. Pleasant, S.C. 29464  
 Phone: (843) 336-6000

MILL TEST REPORT

12/22/06 17:50:16  
 100% MELTED AND MANUFACTURED IN THE USA  
 All beams produced by Nucor-Berkeley are cast and  
 rolled to a fully killed and fine grain practice.

Sold To: INFRA METALS CORP - CT  
 8 PENI HIGHWAY  
 WALLINGFORD, CT 06492

Ship To: INFRA METALS CORP - CT  
 8 PENI HIGHWAY  
 WALLINGFORD, CT 06492

Customer #: 502 - 1  
 B.O.L. #: 585842

SPECIFICATIONS: Tested in accordance with ASTM specification A6/A6M and A370.  
 AASHTO : M270-36-00/M270-50-00  
 ASME : SA-36  
 ASIM : A992-06://A36-05/A572-06-50/A709-06a36/A709-06a50/A709-345M  
 CSA : CSA-44W/G40.21-50W

From: NUCOR STEEL HUGER

Description	Heat# Grade(s) Test	Yield/ Tensile Ratio	Yield (PSI) (MPa)	Tensile (PSI) (MPa)	Elong %	C Cr Pb	Mn Mo Ti	P Sn Ca	S Al B	Si V N	Cu Nb Zr	Ni XXXXXX CI	CE1 CE2 Pcm
WBX10 045' 00.00' W200X15.0 013.7160m	2619339 A992-06	.83	57300 395	69400 479	26.71	.0680 .0300	.8640 .0180	.0081 .0056	.0270 .0024	.2270 .0036	.0850 .0122	.0330	.2302 .2705 .1320
		.82	57500 396	69800 481	27.31	.0023	.0014	.0012	.0011	.0062	.0000	2.5890	InvH: 0
						1 Piece(s)		Customer PO: C20398					
WBX10 060' 00.00' W200X15.0 018.2880m	2619333 A992-06	.83	58500 403	70400 485	27.28	.0650 .0480	.8800 .0260	.0083 .0109	.0303 .0025	.1770 .0036	.1950 .0152	.0700	.2449 .2774 .1387
		.84	59200 408	70100 483	29.04	.0020	.0013	.0006	.0017	.0075	.0000	4.4339	InvH: 0
						104 Piece(s)		Customer PO: C20398					
WBX10 060' 00.00' W200X15.0 018.2880m	2619335 A992-06	.84	59000 407	70500 486	23.54	.0670 .0360	.8560 .0210	.0073 .0077	.0276 .0022	.2080 .0034	.1290 .0146	.0460	.2334 .2710 .1329
		.83	58100 401	70000 483	26.64	.0015	.0013	.0002	.0011	.0063	.0000	3.4111	InvH: 0
						16 Piece(s)		Customer PO: C20398					

Elongation based on 8" (20.32cm) gauge length. 'No Weld Repair' was performed.  
 CI = 26.01Cu+3.88Ni+1.20Cr+1.49Si+17.28P-(7.29Cu\*Ni)-(9.10Ni\*P)-33.39(Cu\*Cu)  
 Pcm = C+(Si/30)+(Mn/20)+(Cu/20)+(Ni/60)+(Cr/20)+(Mo/15)+(V/10)+5B

$$CE1 = C + (Mn/6) + ((Cr+Mo+V)/5) + ((Ni+Cu)/15)$$

$$CE2 = C + ((Mn+Si)/6) + ((Cr+Mo+V+Cb)/5) + ((Ni+Cu)/15)$$

I hereby certify that the contents of this report are accurate and correct. All test results and operations performed by the material manufacturer are in compliance with material specifications, and when designated by the Purchaser, meet applicable specifications.

Bruce A. Work  
 Metallurgist

8:08 12-22 To: 12036794260



Bill To: INFRA-METALS CORPORATION-CT,R  
 DIV PREUSSAG INTERNATIONAL CO  
 8 PENT HWY  
 WALLINGFORD CT 06492

Ship To: 1  
 INFRA-METALS CORPORATION-CT  
 8 PENT HIGHWAY  
 TRACK# 953  
 WALLINGFORD CT 06492

Order Date: 11/03/2006  
 PO No: C20723  
 Mill Order No: 3216972  
 Load No: 1069911  
 Manifest No: 1785733

CHAPARRAL STEEL  
 CERTIFIED MATERIAL TEST REPORT  
 CHAPARRAL STEEL  
 300 Ward Rd.  
 Midlothian, TX  
 76065-9651  
 (972) 775-8241

SIZE: W 8 X 10# / W200 X 15.0  
 SPECIFICATION: ASTM A6-05a, A992-06a, A572-06  
 GRADE: 992/572-50  
 LENGTH: 35 FT / 10.668 M  
 PRODUCT: WF BEAMS

HEAT NO: 22363340

CHEMICAL ANALYSIS

C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Sn	V	Al	Nb	CE
.08	.90	.009	.035	.21	.34	.20	.14	.048	.010	.002	.004	.013	.3

PHYSICAL PROPERTIES

Yield Strength		Tensile Strength		Specimen Area		Elongation		Bend Test		ROA
KSI	MPa	KSI	MPa	Sq In	Sq cm	%	Gage Length	Dia.	Result	%
59.1	407.5	73.0	503.3	0.256	1.65	24.0	8In	200 mm		
60.1	414.4	72.0	496.4	0.254	1.64	24.6	8In	200 mm		

All manufacturing processes of this product, including electric arc melting and continuous casting, occurred in the U.S.A. CMTR complies with DIN EN 10204 3.1.B

"I hereby certify that the contents of this report are correct and accurate. All tests and operations performed by this material manufacturer or its sub-contractors, when applicable, are in compliance with the requirements of the material specifications and applicable purchaser designated requirements."

Signed: Tom L. Harrington Date: Nov. 08, 2006  
 Tom L. Harrington: Quality Assurance Manager

Signed: \_\_\_\_\_ Date: \_\_\_\_\_  
 Notary Public (if applicable)

Page: 6 of 24

NUCOR STEEL - BERKELEY  
P.O. Box 2259  
Mt. Pleasant, S.C. 29464  
Phone: (843) 336-6000

MILL TEST REPORT

8/09/07 0:58:34  
100% MELTED AND MANUFACTURED IN THE USA  
All beams produced by Nucor-Berkeley are cast and  
rolled to a fully killed and fine grain practice.

Sold To: INFRA METALS CORP - CT  
8 PENT HIGHWAY

Ship To: INFRA METALS CORP - CT  
8 PENT HIGHWAY

Customer H.: 502 - 1

B.o.L. H...: 633291

WALLINGFORD, CT 06492

WALLINGFORD, CT 06492

SPECIFICATIONS: Tested in accordance with ASTM specification A6/A6M and A370.

AASHTO : M270-36-00/M270-50-00  
ASME : SA-36 04  
ASTM : A992-06a//A36-05/A572-06-50/A709-06a36/A709-07 50/A709-345M  
CSA : CSA-44W/G40.21-50W

Description	Heat# Grade(s) Test	Yield/ Tensile Ratio	Yield Tensile		Elong %	C Cr Pb	Mn Mo Ti	P Sn Ca	S Al B	Si V N	Cu Nb Zr	Ni ***** CI	CE1
			(PSI)	(PSI)									(MPa)
W8X10	2711905	.79	51900	65800	27.86	.0650	.8010	.0066	.0243	.2070	.0740	.0310	.2145
040' 00.00'	A992-06a		358	454		.0240	.0180	.0049	.0020	.0029	.0099		.2510
W200X15.0		.81	54600	67300	25.56	.0000	.0013	.0000	.0006	.0051	.0000	2.2949	.1218
012.1920m			376	464		96 Piece(s)		Customer PO: C21398				Inv#:	0

=====  
Elongation based on 8' (20.32cm) gauge length. 'No Weld Repair' was performed.  
CI = 26.01Cu+3.88Ni+1.20Cr+1.49Si+17.28P-(7.29Cu\*Ni)-(9.10Ni\*P)-33.39(Cu\*Cu)  
Pcm = C+(Si/30)+(Mn/20)+(Cu/20)+(Ni/60)+(Cr/20)+(Mo/15)+(V/10)+5B

CE1 = C+(Mn/6)+((Cr+Mo+V)/5)+((Ni+Cu)/15)  
CE2 = C+((Mn+Si)/6)+((Cr+Mo+V+Cb)/5)+((Ni+Cu)/15)

I hereby certify that the contents of this report are accurate and correct. All test results and operations performed by the material manufacturer are in compliance with material specifications, and when designated by the Purchaser, meet applicable specifications.

Bruce A. Work  
Metallurgist

NUCOR STEEL - BERKELEY  
P.O. Box 2259  
Mt. Pleasant, S.C. 29464  
Phone: (843) 336-6000

MILL TEST REPORT

8/04/07 7:15:06  
100% MELTED AND MANUFACTURED IN THE USA  
All beams produced by Nucor-Berkeley are cast and rolled to a fully killed and fine grain practice.

Sold To: INFRA METALS CORP - CI  
8 PENI HIGHWAY  
WALLINGFORD, CT 06492

Ship To: INFRA METALS CORP - CI  
8 PENI HIGHWAY  
WALLINGFORD, CT 06492

Customer H.: 502 - 1  
Customer PO: C21398  
B.O.L. H...: 632458

SPECIFICATIONS: Tested in accordance with ASTM specification A6/A6M and A370.  
AASHTO : M270-36-00/M270-50-00  
ASME : SA-36 04  
ASTM : A992-06a://A36-05/A572-06-50/A709-06a36/A709-07 50/A709-345M  
CSA : CSA-44W/G40.21-50W

Description	Heat# Grade(s) Test	Yield/ Tensile Ratio	Yield (PSI) (MPa)	Tensile (PSI) (MPa)	Elong %	C Cr Pb	Mn Mo Ti	P Sn Ca	S Al B	Si V N	Cu Nb Zr	Ni xxxxxx CI	CE1
													CE2 Pcm
W8X10 045' 00.00' W200X15.0 013.7160m	2711774 A992-06a	.83	60000 414	72400 499	25.89	.0650 .0670	.8420 .0450	.0066 .0098	.0336 .0019	.1810 .0035	.2120 .0129	.3190	.2638 .2966
			59700 412	71900 496	26.10	.0000	.0013	.0000	.0017	.0063	.0000	5.2031	.1441
						96 Piece(s)						InvH:	0
W8X13 035' 00.00' W200X19.3 010.6680m	2711719 A992-06a	.85	63000 434	74300 512	24.76	.0700 .0600	.8360 .0400	.0068 .0094	.0326 .0027	.1880 .0035	.2240 .0273	.2850	.2640 .3008
		.84	62700 432	74500 514	22.56	.0000	.0015	.0000	.0013	.0060	.0000	5.2433	.1464
						24 Piece(s)						InvH:	0
W8X13 045' 00.00' W200X19.3 013.7160m	2711714 A992-06a	.85	63800 440	75300 519	24.55	.0670 .0780	.8550 .0420	.0074 .0092	.0347 .0026	.2320 .0037	.2170 .0271	.2670	.2665 .3106
		.85	64300 443	75300 519	24.58	.0000	.0016	.0001	.0017	.0063	.0000	5.2346	.1482
						24 Piece(s)						InvH:	0
W8X15 045' 00.00' W200X22.5 013.7160m	2604113 A992-06a	.82	57200 394	69500 479	26.40	.0670 .0310	.8120 .0180	.0123 .0075	.0300 .0024	.2370 .0056	.1040 .0301	.0430	.2231 .2686
		.83	58000 400	70100 483	26.61	.0060	.0024	.0000	.0017	.0055	.0000	3.0762	.1330
						36 Piece(s)						InvH:	0
W8X15 045' 00.00' W200X22.5 013.7160m	2604115 A992-06a	.82	56600 390	68900 475	27.28	.0680 .0260	.8090 .0150	.0085 .0053	.0260 .0034	.2530 .0030	.0830 .0266	.0330	.2194 .2669
		.83	56800 392	68800 474	28.38	.0013	.0025	.0033	.0000	.0058	.0000	2.5694	.1241
						48 Piece(s)						InvH:	0

Elongation based on 8' (20.32cm) gauge length. 'No Weld Repair' was performed.  
CI = 26.01Cu+3.88Ni+1.20Cr+1.49Si+17.28P-(7.29Cu×Ni)-(9.10Ni×P)-33.39(Cu×Cu)  
Pcm = C+(Si/30)+(Mn/20)+(Cu/20)+(Ni/60)+(Cr/20)+(Mo/15)+(V/10)+5B

Hg free and no contact with Hg during manufacture.  
CE1 = C+(Mn/6)+((Cr+Mo+V)/5)+((Ni+Cu)/15)  
CE2 = C+((Mn+Si)/6)+((Cr+Mo+V+Cb)/5)+((Ni+Cu)/15)

I hereby certify that the contents of this report are accurate and correct. All test results and operations performed by the material manufacturer are in compliance with material specifications, and when designated by the Purchaser, meet applicable specifications.

Bruce A. Work  
Metallurgist

(State of South Carolina  
County of Berkeley  
Sworn and subscribed before me

\_\_\_\_\_ day of \_\_\_\_\_

Atlas Tube Canada ULC  
200 Clark St.  
Harrow, Ontario, Canada  
N0R 1G0  
Tel: 519-738-3541  
Fax: 519-738-3537



Ref.B/L: 80274093  
Date: 01.07.2008  
Customer: 66

P.O. # 14562

Sold to

George Dean  
PO Box 81066  
WARWICK RI 02888  
USA

MATERIAL TEST REPORT

Shipped to

George Dean  
2095 Elmwood Avenue  
WARWICK RI 28888  
USA

Material: 10.0x6.0x250x40'0"0(2x1).  
Sales order: 357637

Material No: 100060250  
Purchase Order: 40657

Made in: Canada

Heat No	Pcs	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
751386		0.190	0.820	0.013	0.007	0.014	0.051	0.034	0.003	0.003	0.014	0.035	0.000

Bundle No	Yield	Tensile	Eln.2in
M200496251	059390 Psi	072780 Psi	35.5 %

Certification  
ASTM A500-03A GRADE B&C

Material Note:  
Sales Or.Note:

Material: 18.0x6.0x250x40'0"0(1x4)PB  
Sales order: 359344

Material No: 180060250  
Purchase Order: 40680

Made in: Canada

Heat No	Pcs	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
751708		0.200	0.810	0.012	0.010	0.015	0.045	0.064	0.005	0.003	0.019	0.041	0.000

Bundle No	Yield	Tensile	Eln.2in
M200496157	057790 Psi	069140 Psi	33.6 %

Certification  
ASTM A500-03A GRADE B&C

Material Note:  
Sales Or.Note:

Material: 12.0x6.0x500x40'0"0(2x2).  
Sales order: 357637

Material No: 1200605004000  
Purchase Order: 40657

Made in: Canada

Heat No	Pcs	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
584467	4	0.200	0.780	0.013	0.004	0.160	0.030	0.025	0.005	0.005	0.012	0.050	0.000

Bundle No	Yield	Tensile	Eln.2in
M200499018	059420 Psi	077550 Psi	30.4 %

Certification  
ASTM A500-03A GRADE B&C

Material Note:  
Sales Or.Note:

Material: 12.0x12.0x375x40'0"0(2x2).  
Sales order: 357637

Material No: 1201203754000  
Purchase Order: 40657

Made in: Canada

Heat No	Pcs	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
481939	4	0.200	0.810	0.011	0.004	0.160	0.035	0.025	0.005	0.005	0.016	0.055	0.000

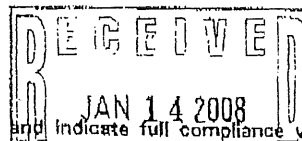
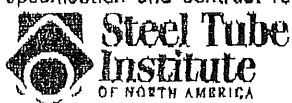
Bundle No	Yield	Tensile	Eln.2in
M200499699	055880 Psi	071340 Psi	29.2 %

Certification  
ASTM A500-03A GRADE B&C

Material Note:  
Sales Or.Note:

Authorized by Quality Assurance: *M. Wheeler*

The results reported on this report represent the actual attributes of the material furnished and indicate full compliance with all applicable specification and contract requirements.



NUCOR STEEL - BERKELEY  
P.O. Box 2259  
Mt. Pleasant, S.C. 29464  
Phone: (843) 336-6000

MILL TEST REPORT

8/04/07 7:15:06  
100% MELTED AND MANUFACTURED IN THE USA  
All beams produced by Nucor-Berkeley are cast and rolled to a fully killed and fine grain practice.

Sold To: INFRA METALS CORP - CT  
8 PENI HIGHWAY  
WALLINGFORD, CT 06492

Ship To: INFRA METALS CORP - CT  
8 PENI HIGHWAY  
WALLINGFORD, CT 06492

Customer H.: 502 - 1  
Customer PO: C21398  
B.O.L. H...: 632458

SPECIFICATIONS: Tested in accordance with ASTM specification A6/A6M and A370.  
AASHTO : M270-36-00/M270-50-00  
ASME : SA-36 04  
ASTM : A992-06a://A36-05/A572-06-50/A709-06a36/A709-07 50/A709-345M  
CSA : CSA-44W/G40.21-50W

Description	Heat# Grade(s) Test	Yield/ Tensile Ratio	Yield (PSI) (MPa)	Tensile (PSI) (MPa)	Elong %	C Cr Pb	Mn Mo Ti	P Sn Ca	S Al B	Si V N	Cu Nb Zr	Ni xxxxxx CI	CE1
													CE2 Pcm
W8X10 045' 00.00' W200X15.0 013.7160m	2711774 A992-06a	.83	60000 414	72400 499	25.89	.0650 .0670	.8420 .0450	.0066 .0098	.0336 .0019	.1810 .0035	.2120 .0129	.3190	.2638 .2966
96 Piece(s)													InvH: 0
W8X13 035' 00.00' W200X19.3 010.6680m	2711719 A992-06a	.85	63000 434	74300 512	24.76	.0700 .0600	.8360 .0400	.0068 .0094	.0326 .0027	.1880 .0035	.2240 .0273	.2850	.2640 .3008
24 Piece(s)													InvH: 0
W8X13 045' 00.00' W200X19.3 013.7160m	2711714 A992-06a	.85	63800 440	75300 519	24.55	.0670 .0780	.8550 .0420	.0074 .0092	.0347 .0026	.2320 .0037	.2170 .0271	.2670	.2665 .3106
24 Piece(s)													InvH: 0
W8X15 045' 00.00' W200X22.5 013.7160m	2604113 A992-06a	.82	57200 394	69500 479	26.40	.0670 .0310	.8120 .0180	.0123 .0075	.0300 .0024	.2370 .0056	.1040 .0301	.0430	.2231 .2686
36 Piece(s)													InvH: 0
W8X15 045' 00.00' W200X22.5 013.7160m	2604115 A992-06a	.82	56600 390	68900 475	27.28	.0680 .0260	.8090 .0150	.0085 .0053	.0260 .0034	.2530 .0030	.0830 .0266	.0330	.2194 .2669
48 Piece(s)													InvH: 0

Elongation based on 8" (20.32cm) gauge length. 'No Weld Repair' was performed. Hg free and no contact with Hg during manufacture.  
CI = 26.01Cu+3.88Ni+1.20Cr+1.49Si+17.26P-(7.29Cu×Ni)-(9.10Ni×P)-33.39(Cu×Cu) CE1= C+(Mn/6)+((Cr+Mo+V)/5)+((Ni+Cu)/15)  
Pcm = C+(Si/30)+(Mn/20)+(Cu/20)+(Ni/60)+(Cr/20)+(Mo/15)+(V/10)+5B CE2 = C+((Mn+Si)/6)+((Cr+Mo+V+Cb)/5)+((Ni+Cu)/15)

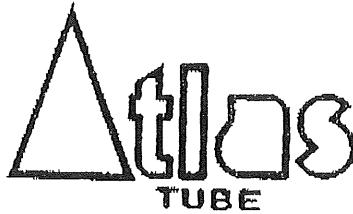
I hereby certify that the contents of this report are accurate and correct. All test results and operations performed by the material manufacturer are in compliance with material specifications, and when designated by the Purchaser, meet applicable specifications.

Bruce A. Work  
Metallurgist

(State of South Carolina  
County of Berkeley  
Sworn and subscribed before me

\_\_\_\_\_ day of \_\_\_\_\_

Atlas Tube Canada ULC  
200 Clark St.  
Harrow, Ontario, Canada  
N0R 1G0  
Tel: 519-738-3541  
Fax: 519-738-3537



Ref./L: 80274093  
Date: 01.07.2008  
Customer: 66

P.O. # 14562

Sold to

George Dean  
PO Box 81066  
WARWICK RI 02888  
USA

MATERIAL TEST REPORT

Shipped to

George Dean  
2095 Elmwood Avenue  
WARWICK RI 28888  
USA

Material: 10.0x6.0x250x40'0"0(2x1),  
Sales order: 357637

Material No: 100060250  
Purchase Order: 40657

Made in: Canada

Heat No	Pcs	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
751386		0.190	0.820	0.013	0.007	0.014	0.051	0.034	0.003	0.003	0.014	0.035	0.000
Bundle No	Yield	Tensile	Eln.2in		Certification								
M200496251	059390 Psi	072780 Psi	35.5 %		ASTM A500-03A GRADE B&C								

Material Note:  
Sales Or.Note:

Material: 18.0x6.0x250x40'0"0(1x4)PB  
Sales order: 359344

Material No: 180060250  
Purchase Order: 40680

Made in: Canada

Heat No	Pcs	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
751708		0.200	0.810	0.012	0.010	0.015	0.045	0.064	0.005	0.003	0.019	0.041	0.000
Bundle No	Yield	Tensile	Eln.2in		Certification								
M200496157	057790 Psi	069140 Psi	33.6 %		ASTM A500-03A GRADE B&C								

Material Note:  
Sales Or.Note:

Material: 12.0x6.0x500x40'0"0(2x2),  
Sales order: 357637

Material No: 1200605004000  
Purchase Order: 40657

Made in: Canada

Heat No	Pcs	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
584467	4	0.200	0.780	0.013	0.004	0.160	0.030	0.025	0.005	0.005	0.012	0.050	0.000
Bundle No	Yield	Tensile	Eln.2in		Certification								
M200499018	059420 Psi	077550 Psi	30.4 %		ASTM A500-03A GRADE B&C								

Material Note:  
Sales Or.Note:

Material: 12.0x12.0x375x40'0"0(2x2),  
Sales order: 357637

Material No: 1201203754000  
Purchase Order: 40657

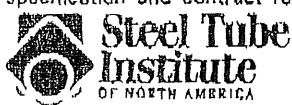
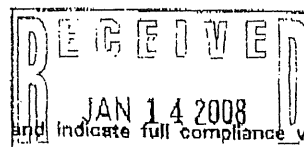
Made in: Canada

Heat No	Pcs	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
481939	4	0.200	0.810	0.011	0.004	0.160	0.035	0.025	0.005	0.006	0.016	0.055	0.000
Bundle No	Yield	Tensile	Eln.2in		Certification								
M200499699	055880 Psi	071340 Psi	29.2 %		ASTM A500-03A GRADE B&C								

Material Note:  
Sales Or.Note:

Authorized by Quality Assurance: *M. Wheeler*

The results reported on this report represent the actual attributes of the material furnished and indicate full compliance with all applicable specification and contract requirements.



P.O. #14562

LOT 19  
ITEM 1  
MATERIAL

ERW STEEL BLACK SQUARE HOLLOW SECTION, PLAIN END.

SIZE CODE	DIMENSIONS			HEAT NUMBER	MECHANICAL TEST RESULTS			CHEMICAL ANALYSIS					GRADE	
	SIZE IN INCH	TAG THICK.	LENGTH IN FEET		YIELD STRESS (N/MM2)	TENSILE TEST (N/MM2)	ELONGATION (%)	C	Mn	P	S	Si		
46	1 X 1	1/8	24	GB 709	343	448	30							
157	2 X 2	1/8	24	GB 709	343	448	30	0.144	0.482	0.003	0.001	0.002	B	
163	2 X 2	1/4	24	GB 709	343	448	30	0.144	0.482	0.003	0.001	0.002	B	
163	2 x 2	1/4	40	GB 709	343	448	30	0.144	0.482	0.003	0.001	0.002	B	
206	2 1/2 X 2 1/2	1/4	24	GB 709	343	448	30	0.144	0.482	0.003	0.001	0.002	B	
206	2-1/2 x 2-1/2	1/4	40	GB 709	343	448	30	0.144	0.482	0.003	0.001	0.002	B	
229	3 X 3	1/4	40	GB 709	343	448	30	0.144	0.482	0.003	0.001	0.002	B	
229	3 X 3	1/4	48	GB 709	343	448	30	0.144	0.482	0.003	0.001	0.002	B	
251	4 X 4	3/16	40	GB 709	343	448	30	0.144	0.482	0.003	0.001	0.002	B	
253	4 X 4	1/4	24	GB 710	345	452	32	0.146	0.483	0.002	0.001	0.002	B	
253	4 X 4	1/4	40	GB 710	345	452	32	0.146	0.483	0.002	0.003	0.004	B	
253	4 X 4	1/4	48	GB 710	345	452	32	0.146	0.483	0.002	0.003	0.004	B	
275	5 X 5	1/4	40	GB 710	345	452	32	0.146	0.483	0.002	0.003	0.004	B	
275	5 X 5	1/4	48	GB 710	345	452	32	0.146	0.483	0.002	0.003	0.004	B	
284	6 X 6	1/4	40	GB 711	347	454	31	0.147	0.485	0.003	0.001	0.002	B	
284	6 X 6	1/4	45	GB 711	347	454	31	0.147	0.485	0.003	0.001	0.002	B	
284	6 X 6	1/4	48	GB 711	347	454	31	0.147	0.485	0.003	0.001	0.002	B	

DEBORAH ZF

2153482218

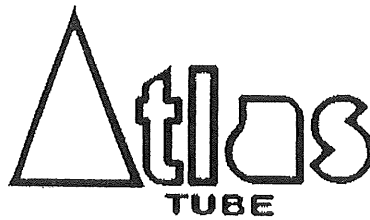
03:10

07/25/2005

RECEIVED  
OCT 25 2006

Atlas ABC Corp (Atlas Tube Chicago)  
 1855 East 122nd Street  
 Chicago, Illinois, USA  
 60633  
 Tel: 773-646-4500  
 Fax: 773-646-6128

Ref.B/L: 80268024  
 Date: 11.22.2007  
 Customer: 66



**MATERIAL TEST REPORT**

Sold to

George Dean  
 PO Box 81066  
 WARWICK RI 02888  
 USA

Shipped to

George Dean  
 2095 Elmwood Avenue  
 WARWICK RI 28888  
 USA

Material: 8.0x8.0x375x33'5"0(3x1).

Material No: 80080375

Made in: USA

Melted & Manufactured in USA

Sales order: 348841

Purchase Order: 40528

Heat No	Pcs	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
E45112	3	0.200	0.820	0.019	0.010	0.012	0.054	0.030	0.001	0.005	0.010	0.040	0.001

Bundle No	Yield	Tensile	Eln.2in
M900142168	053670 Psi	078720 Psi	34 %

Certification  
 ASTM A500-03A GRADE B&C

Material Note:  
 Sales Or.Note:

Material: 3.0x3.0x250x40'0"0(6x3).

Material No: 300302504000

Made in: USA

Melted & Manufactured in USA

Sales order: 349922

Purchase Order: 40540

Heat No	Pcs	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
W46665	18	0.220	0.770	0.012	0.009	0.010	0.049	0.020	0.001	0.003	0.010	0.030	0.001

Bundle No	Yield	Tensile	Eln.2in
M700054025	066810 Psi	078940 Psi	29 %

Certification  
 ASTM A500-03A GRADE B&C

Material Note:  
 Sales Or.Note:

Material: 3.0x3.0x250x40'0"0(6x3).

Material No: 300302504000

Made in: USA

Melted & Manufactured in USA

Sales order: 349922

Purchase Order: 40540

Heat No	Pcs	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
W46665	18	0.220	0.770	0.012	0.009	0.010	0.049	0.020	0.001	0.003	0.010	0.030	0.001

Bundle No	Yield	Tensile	Eln.2in
M700054026	066810 Psi	078940 Psi	29 %

Certification  
 ASTM A500-03A GRADE B&C

Material Note:  
 Sales Or.Note:

RECEIVED  
 NOV 29 2007

Authorized by Quality Assurance: *M. Welch*

The results reported on this report represent the actual attributes of the material furnished and indicate full compliance with all applicable specification and contract requirements.





NOVA TUBE AND STEEL CORPORATION  
 600 Dean Sievers Place  
 Morrisville, PA, 19067  
 Tel: 215-295-8813 Fax: 215-295-8798

TEST CERTIFICATE

Sold to: GEORGE DEAN INC.  
 Ship to: GEORGE DEAN INC.  
 P.O. BOX 81066  
 2095 ELMWOOD AVE  
 WARWICK, RI  
 02888

DATE SHIPPED: 11/05/07  
 B/L #: 154836  
 P.O. #: A40356  
 SALES ORDER #: 128989

Description	Dimensions	Pcs	Mill/Heat Number	Specifications
Hot Roll Rectangular Tub	3x2x0.125x288	42	STE /751258	ASTM A 500 C
Hot Roll Rectangular Tub	3x2x0.250x480	16	STE /893719	ASTM A 500 C
Hot Roll Rectangular Tub	6x2x0.188x480	15	FAR /FAR7800083	ASTM A 500 C
Hot Roll Rectangular Tub	6x4x0.375x480	6	MIT /422H7601	ASTM A 500 C
HSS Square Tubing	1x1x0.125x288	100	STE /582146	ASTM A 513
HSS Square Tubing	2x2x0.125x288	64	STE /751254	TO FOLLOW
HSS Square Tubing	2x2x0.250x288 ←	36	MIT /422H7611	ASTM A 500 C

Chemical Analysis

Heat Number	C	Mn	P	S	Si	Cu	Ni	Cr	Cb	Mo	V	Al	N	Sn	B	Ti
STE 751258	0.060	0.570	0.013	0.008	0.011	0.043	0.016	0.031	0.009	0.003	0.002	0.029	0.004	0.003	0.000	0.002
STE 893719	0.060	0.590	0.013	0.006	0.012	0.056	0.015	0.034	0.025	0.003	0.002	0.031	-	-	0.000	0.002
FAR FAR7800083	0.180	0.740	0.012	0.010	0.019	0.040	0.027	0.014	-	0.004	0.002	0.040	0.005	0.001	0.000	0.005
MIT 422H7601	0.100	0.690	0.014	0.017	0.014	0.020	0.020	0.030	0.005	0.005	0.003	0.055	0.006	-	-	-
STE 582146	0.170	0.230	0.011	0.008	0.022	0.030	0.010	0.037	0.005	0.003	0.002	0.044	-	-	0.000	0.002
STE 751254	0.060	0.590	0.011	0.009	0.012	0.061	0.019	0.040	0.011	0.005	0.002	0.025	0.004	0.004	0.000	0.002
MIT 422H7611	0.100	0.630	0.013	0.017	0.007	0.030	0.020	0.030	0.005	0.011	0.003	0.052	0.005	-	-	-

Mechanical Test Results

Heat Number/Size or Ser#	Yield	Tensile	Elong.%	N-fact	Crush
751258 HSR 3x2x0.125 (Tab1)	54,650 PSI	63,207 PSI	33.00(2")		

continue . . .

RECEIVED  
 NOV 06 2007

Sold By:

INDEPENDENCE TUBE CORPORATION  
6226 W. 74TH STREET  
CHICAGO, IL 60638  
Tel: 708-496-0380 Fax: 708-563-1950

F/D No 40383  
Rel  
S/D No MAR 132274-002  
B/L No MAR 80166-001 Shp 15Nov07  
Inv No Inv

Sold To: ( 427 )  
GEORGE H. DEAN, INC.  
P.O. BOX 81066  
WARWICK, RI 02888

Ship To: ( 1 )  
GEORGE H. DEAN, INC.  
2095 ELMWOOD AVENUE  
WARWICK, RI

Tel: 401-785-2050 Fax: 401 781-8320

CERTIFICATE of ANALYSIS and TESTS

Cert. No: MAR 476057  
16Nov07

Part No  
TUBING A500 GRADE B(C)  
6" SQ X 1/4" X 40'

Pcs      Wgt  
9      6,847

Heat Number      Tag No  
51031      368583

Pcs      Wgt  
9      6,847

YLD=56910/TEN=75780/ELG=34.9

Heat Number  
51031

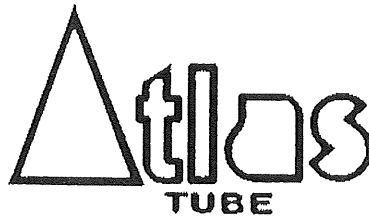
\*\*\* Chemical Analysis \*\*\*  
C=0.2100 Mn=0.7800 P=0.0070 S=0.0040 Si=0.0130 Al=0.0320  
Cu=0.0100

MANUFACTURED IN USA  
MEETS THE REQUIREMENTS ASTM A-500 GRADE B(C)-03a

RECEIVED  
NOV 21 2007

Atlas Tube Canada ULC  
 200 Clark St.  
 Harrow, Ontario, Canada  
 NOR 1G0  
 Tel: 519-738-3541  
 Fax: 519-738-3537

Ref.B/L: 80273303  
 Date: 12.29.2007  
 Customer: 66



**MATERIAL TEST REPORT**

Sold to

George Dean  
 PO Box 81066  
 WARWICK RI 02888  
 USA

Shipped to

George Dean  
 2095 Elmwood Avenue  
 WARWICK RI 28888  
 USA

Material: 4.0x4.0x375x48'0"0(4x2).  
 Sales order: 330092

Material No: 400403754800  
 Purchase Order: 40204  
 Made in: Canada

Heat No	Pcs	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
482050	7	0.200	0.800	0.010	0.003	0.160	0.047	0.033	0.006	0.003	0.012	0.042	0.000

Bundle No	Yield	Tensile	Eln.2in	Certification
M100702497	068010 Psi	078530 Psi	27.2 %	ASTM A500-03A GRADE B&C

Material Note:  
 Sales Or.Note:

Material: 4.0x4.0x375x48'0"0(4x2).  
 Sales order: 330092

Material No: 400403754800  
 Purchase Order: 40204  
 Made in: Canada

Heat No	Pcs	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
682376	1	0.200	0.820	0.009	0.002	0.170	0.056	0.030	0.006	0.002	0.012	0.031	0.000

Bundle No	Yield	Tensile	Eln.2in	Certification
M100702497	067940 Psi	077230 Psi	28.9 %	ASTM A500-03A GRADE B&C

Material Note:  
 Sales Or.Note:

Material: 6.0x6.0x250x48'0"0(3x2).  
 Sales order: 330091

Material No: 600602504800  
 Purchase Order: 40203  
 Made in: Canada

Heat No	Pcs	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
895438	6	0.200	0.800	0.014	0.008	0.017	0.041	0.035	0.005	0.004	0.014	0.039	0.000

Bundle No	Yield	Tensile	Eln.2in	Certification
M100699567	061590 Psi	076150 Psi	33.2 %	ASTM A500-03A GRADE B&C

Material Note:  
 Sales Or.Note:

Material: 12.0x8.0x625x48'0"0(2x1).  
 Sales order: 357207

Material No: 1200806254800  
 Purchase Order: 40649  
 Made in: Canada

Heat No	Pcs	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
681917	2	0.190	0.800	0.007	0.002	0.160	0.030	0.026	0.005	0.002	0.012	0.023	0.000

Bundle No	Yield	Tensile	Eln.2in	Certification
M200498104	060650 Psi	077430 Psi	38.8 %	ASTM A500-03A GRADE B&C

Material Note:  
 Sales Or.Note:

Authorized by Quality Assurance: *M. White*

The results reported on this report represent the actual attributes of the material furnished and indicate full compliance with all applicable specification and contract requirements.



Sold By:  
INDEPENDENCE TUBE CORPORATION  
6226 W. 74TH STREET  
CHICAGO, IL 60638  
Tel: 708-496-0380 Fax: 708-563-1950

F/O No 39678  
Re:  
S/O No MAR 125002-001  
B/L No MAR 75644-001 Shp 16May07  
Inv No Inv

Sold To: ( 427 )  
GEORGE H. DEAN, INC.  
P.O. BOX 81066  
WARWICK, RI 02888

Ship To: ( 1 )  
GEORGE H. DEAN, INC.  
2095 ELMWOOD AVENUE  
WARWICK, RI

Tel: 401-785-2050 Fax: 401 781-8320

CERTIFICATE of ANALYSIS and TESTS

Cert. No: MAR 450858  
16May07

Part No  
TUBING A500 GRADE B(C)  
1.2" X 6" X 3/2" X 40'

Pcs wgt  
4 6.846

Heat Number Tag No  
D40352 342550

Pcs Wgt  
4 6.846

YLD=52510/TEN=70210/ELG=39.4

Heat Number  
D40352

\*\*\* Chemical Analysis \*\*\*  
C=0.2200 Mn=0.7800 P=0.0150 S=0.0080 Si=0.0080 Al=0.0460  
Cu=0.0100

MANUFACTURED IN USA  
MEETS THE REQUIREMENTS ASTM A-500 GRADE B(C)-03a

RECEIVED  
MAY 24 2007

Atlas Tube Inc.  
 200 Clark St.  
 Harrow, Ontario, Canada  
 NOR 1G0  
 Tel: 519-738-3541  
 Fax: 519-738-3537

Ref.B/L: 80206302  
 Date: 08.26.2006  
 Customer: 66



**MATERIAL TEST REPORT**

Sold to

George Dean  
 PO Box 81066  
 WARWICK RI 02888  
 USA

Shipped to

George Dean  
 2095 Elmwood Avenue  
 WARWICK RI 28888  
 USA

Material: 8.0x8.0x375x48'0"(2x2).  
 Sales order: 247265

Material No: 800803754800  
 Purchase Order: 38194  
 Made in: Canada

Heat No	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
103291	0.160	0.780	0.018	0.007	0.070	0.050	0.060	0.000	0.008	0.060	0.050	0.004

Bundle No	Yield	Tensile	Eln.2in	Certification
M200369060	059880 Psi	069790 Psi	31.9 %	ASTM A500-03A GRADE C & B

Material Note:  
 Sales Or.Note:

Material: 10.0x6.0x500x48'0"(2x2).  
 Sales order: 247870

Material No: 1000605004800  
 Purchase Order: 38305  
 Made in: Canada

Heat No	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
3952E	0.210	0.830	0.011	0.007	0.030	0.018	0.000	0.000	0.000	0.000	0.000	0.000

Bundle No	Yield	Tensile	Eln.2in	Certification
M200368450	060400 Psi	073640 Psi	31.9 %	ASTM A500-03A GRADE C & B

Material Note:  
 Sales Or.Note:

Material: 2.375x154x24'0"(34x1)PB-D  
 Sales order: 247676

Material No: R02375154  
 Purchase Order: 38304  
 Made in: USA

Heat No	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
4366289	0.190	0.810	0.009	0.007	0.019	0.044	0.060	0.000	0.000	0.020	0.040	0.000

Bundle No	Yield	Tensile	Eln.2in	Certification
M300252109	064100 Psi	074430 Psi	28.1 %	ASTM A500-03A GRADE C & B

Material Note:  
 Sales Or.Note:

Material: 6.625x500x42'0"(5x1).  
 Sales order: 247864

Material No: R066255004200  
 Purchase Order: 38305  
 Made in: Canada

Heat No	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
202892	0.170	0.700	0.010	0.013	0.200	0.055	0.000	0.000	0.000	0.000	0.000	0.000

Bundle No	Yield	Tensile	Eln.2in	Certification
M100529936	065281 Psi	078940 Psi	27.8 %	ASTM A500-03A GRADE C & B

Material Note:  
 Sales Or.Note:

Authorized by Quality Assurance: \_\_\_\_\_

RECEIVED

AUG 26 2006



Sold To:  
 INDEPENDENCE TUBE CORPORATION  
 6226 W. 74TH STREET  
 CHICAGO, IL 60638  
 Tel: 708-478-0380 Fax: 708-563-1950

P/O No 40522  
 Re: S/O No MAR 122861-001  
 B/L No MAR 80534-002  
 Inv No

See Order 06Dec07  
 Inv

Sold To: ( 427 )  
 GEORGE H. DEAN, INC.  
 P.O. BOX 81066  
 WARWICK, RI 02886

Ship To: ( 1 )  
 GEORGE H. DEAN, INC.  
 2095 ELMWOOD AVENUE  
 WARWICK, RI

*P.O.# 14562*

Tel: 401-785-2050 Fax: 401 761-8320

CERTIFICATE of ANALYSIS and TESTS

Cert. No: MAR 47953:  
 10Dec07

Part No  
 TUBING A500 GRADE B(C)  
 10" X 6" X 3/8" X 48'

Pcs 4  
 Wgt 7,236

Heat Number 50118  
 Tag No 60058

Pcs 4  
 Wgt 7,236

YLD=61200/TEN=77340/ELG=35.4

Heat Number 50118

\*\*\* Chemical Analysis \*\*\*  
 C=0.2000 Mn=0.8400 P=0.0090 S=0.0030 Si=0.0260 Al=0.0470  
 Cu=0.0200

MANUFACTURED IN USA  
 MEETS THE REQUIREMENTS ASTM A-500 GRADE B(C)-03a

RECEIVED  
 DEC 12 2007

1819 Clarkson Rd.  
Chesterfield, Missouri 63017

BILL TO Dean Steel  
2095 Elmwood Ave.  
Warwick RI 02888

SHIP TO George Dean, Inc.  
2095 Elmwood Ave.  
Warwick

RI 02888

B/L Number 152428

Ship Via

85\_994

10" X 5" X 0.375 HR X 48'  
127.0 X 254.0 mm  
ASTM A500-03 Grade B

Ladle Analysis and Physicals

Heat # = 48910M07

C	MN	P	S
.070	.750	.009	.006

AL	SI	CB	CU
.046	.014	.030	.030

Order # 230971  
Purchase Order # 40398  
Item # 107670 3210

P	VA	YLD psi	TSN psi	ELT
.001	.001	60120	70126	37

10" X 6" X 0.375 HR X 40'  
152.4 X 254.0 mm  
ASTM A500-03 Grade B

Ladle Analysis and Physicals

Heat # = 51122M07

C	MN	P	S
.060	.750	.013	.007

AL	SI	CB	CU
.040	.014	.031	.030

Order # 230971  
Purchase Order # 40398  
Item # 108072 3848

P	VA	YLD psi	TSN psi	ELT
.001	.001	63740	74280	35

10" X 4" X 0.375 HR X 40'  
101.6 X 254.0 mm  
ASTM A500-03 Grade B

Ladle Analysis and Physicals

Heat # = 50518M07

C	MN	P	S
.060	.750	.007	.006

AL	SI	CB	CU
.045	.012	.030	.020

Order # 231244  
Purchase Order # 40504  
Item # 107518 2567

P	VA	YLD psi	TSN psi	ELT
.001	.001	60390	70087	38

10" X 6" X 0.250 HR X 40'  
152.4 X 254.0 mm  
ASTM A500-03 Grade B

Ladle Analysis and Physicals

Heat # = 48802M07

C	MN	P	S
.060	.780	.011	.005

AL	SI	CB	CU
.060	.013	.031	.030

Order # 231244  
Purchase Order # 40504  
Item # 101412 3848

P	VA	YLD psi	TSN psi	ELT
.001	.001	62980	71768	32

Quality Manager:

*Richard Carr*

RECEIVED  
NOV 15 2007

THIS WELDED STEEL TUBING IS MANUFACTURED IN THE UNITED STATES OF AMERICA AND HAS BEEN PRODUCED IN ACCORDANCE WITH THE STATED SPECIFICATION. LADLE CHEMISTRIES ARE REPORTED FROM DOCUMENTS PROVIDED BY THE SUPPLYING STEEL MILL. ANY PHYSICAL AND MECHANICAL TESTING RESULTS SHOWN ON THIS CERTIFICATION ARE CORRECT AS CONTAINED IN THE RECORDS OF THE COMPANY.

Sold By:

INDEPENDENCE TUBE CORPORATION  
6226 W. 74TH STREET  
CHICAGO, IL 60638  
Tel: 708-496-0380 Fax: 708-563-1950

P/O No 40218  
Rel  
S/O No MAR 129976-003  
B/L No MAR 78892-004  
Inv No

Shp 01Oct07  
Inv

Sold To: ( 427)  
GEORGE H. DEAN, INC.  
P.O. BOX 81066  
WARWICK, RI 02888

Ship To: ( 1)  
GEORGE H. DEAN, INC.  
2095 ELMWOOD AVENUE  
WARWICK, RI

Tel: 401-785-2050 Fax: 401 781-8320

CERTIFICATE of ANALYSIS and TESTS

Cert. No: MAR 468774  
02Oct07

Part No  
TUBING A500 GRADE B(C)  
8" X 6" X 1/4" X 40'

Pcs Wgt  
10 8.968

Heat Number Tag No  
W45279 362173

Pcs Wgt  
6 5.381

W45279 362191 YLD=60750/TEN=76330/ELG=34.5

4 3.587

Heat Number  
W45279

\*\*\* Chemical Analysis \*\*\*  
C=0.2300 Mn=0.7700 P=0.0120 S=0.0090 Si=0.0200 Al=0.0450  
Cu=0.0200

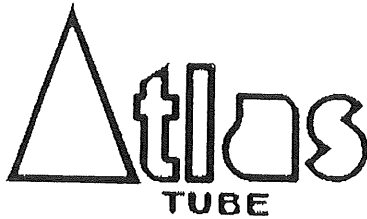
MANUFACTURED IN USA  
MEETS THE REQUIREMENTS ASTM A-500 GRADE B(C)-03a

RECEIVED  
OCT 09 2007



Atlas Tube Canada ULC  
 200 Clark St.  
 Harrow, Ontario, Canada  
 NOR 1G0  
 Tel: 519-738-3541  
 Fax: 519-738-3537

Ref.B/L: 80266153  
 Date: 11.09.2007  
 Customer: 66



**MATERIAL TEST REPORT**

Sold to

George Dean  
 PO Box 81066  
 WARWICK RI 02888  
 USA

Shipped to

George Dean  
 2095 Elmwood Avenue  
 WARWICK RI 28888  
 USA

Material: 7.0x3.0x375x40"0"0(3x2).-CSA  
 Sales order: 345406

Material No: 70030375  
 Purchase Order: 40388

Made in: Canada

Heat No	Pcs	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
681333	6	0.200	0.800	0.012	0.004	0.150	0.030	0.045	0.006	0.002	0.014	0.039	0.000

Bundle No	Yield	Tensile	Eln.2in	Certification
M100679613	064680 Psi	074720 Psi	30.5 %	CSA G40.21-04 50W CLASS C

Material Note:  
 Sales Or.Note:

Material: 7.0x3.0x375x40"0"0(3x2).-CSA  
 Sales order: 345406

Material No: 70030375  
 Purchase Order: 40388

Made in: Canada

Heat No	Pcs	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
681333	6	0.200	0.800	0.012	0.004	0.150	0.030	0.045	0.006	0.002	0.014	0.039	0.000

Bundle No	Yield	Tensile	Eln.2in	Certification
M100679602	064680 Psi	074720 Psi	30.5 %	CSA G40.21-04 50W CLASS C

Material Note:  
 Sales Or.Note:

Material: 10.0x4.0x250x40"0"0(2x3).  
 Sales order: 339265

Material No: 100040250  
 Purchase Order: 40312

Made in: Canada

Heat No	Pcs	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
894967	6	0.200	0.800	0.014	0.008	0.011	0.036	0.023	0.005	0.003	0.010	0.039	0.002

Bundle No	Yield	Tensile	Eln.2in	Certification
M100684675	058000 Psi	072460 Psi	34.2 %	ASTM A500-03A GRADE B&C

Material Note:  
 Sales Or.Note:

Material: 10.0x8.0x500x30"0"0(1x1)REC  
 Sales order: 345867

Material No: 100080500  
 Purchase Order: 40395

Made in: Canada

Heat No	Pcs	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
681595		0.180	0.820	0.010	0.005	0.180	0.037	0.042	0.005	0.002	0.016	0.042	0.000

Bundle No	Yield	Tensile	Eln.2in	Certification
M200487663	064130 Psi	075640 Psi	34.0 %	ASTM A500-03A GRADE B&C

Material Note:  
 Sales Or.Note:

Authorized by Quality Assurance: *M. White*

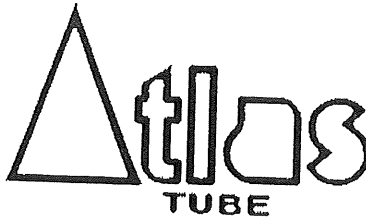
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NOV 14 2007

The results reported on this report represent the actual attributes of the material furnished and indicate full compliance with all applicable specification and contract requirements.



Atlas Tube Canada ULC  
 200 Clark St.  
 Harrow, Ontario, Canada  
 NOR 1G0  
 Tel: 519-738-3541  
 Fax: 519-738-3537



Ref.B/L: 80262551  
 Date: 10.18.2007  
 Customer: 66

Sold to

George Dean  
 PO Box 81066  
 WARWICK RI 02888  
 USA

**MATERIAL TEST REPORT**

Shipped to

George Dean  
 2095 Elmwood Avenue  
 WARWICK RI 28888  
 USA

Material: 9.0x7.0x375x32'0"0(1x1)REC  
 Sales order: 340149

Material No: 90070375  
 Purchase Order: 40331

Made in: Canada

Heat No	Pcs	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
583451		0.190	0.770	0.009	0.003	0.150	0.038	0.029	0.005	0.002	0.010	0.037	0.000
Bundle No	Yield	Tensile		Eln.2in		Certification							
0001759387	055320 Psi	064900 Psi		33.6 %		ASTM A500-03A GRADE B&C							

Material Note:  
 Sales Or.Note:

Material: 8.0x4.0x250x40'0"0(2x4).  
 Sales order: 330094

Material No: 800402504000  
 Purchase Order: 40206

Made in: Canada

Heat No	Pcs	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
583561	8	0.190	0.810	0.010	0.008	0.011	0.048	0.044	0.006	0.005	0.015	0.047	0.002
Bundle No	Yield	Tensile		Eln.2in		Certification							
M100675215	064340 Psi	077390 Psi		32.1 %		ASTM A500-03A GRADE B&C							

Material Note:  
 Sales Or.Note:

Material: 8.0x4.0x250x48'0"0(2x3).  
 Sales order: 330094

Material No: 800402504800  
 Purchase Order: 40206

Made in: Canada

Heat No	Pcs	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
583561	6	0.190	0.810	0.010	0.008	0.011	0.048	0.044	0.006	0.005	0.015	0.047	0.002
Bundle No	Yield	Tensile		Eln.2in		Certification							
M100675208	064340 Psi	077390 Psi		32.1 %		ASTM A500-03A GRADE B&C							

Material Note:  
 Sales Or.Note:

Material: 8.0x8.0x250x48'0"0(3x2).  
 Sales order: 330091

Material No: 800802504800  
 Purchase Order: 40203

Made in: Canada

Heat No	Pcs	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
751005	6	0.190	0.790	0.019	0.008	0.008	0.037	0.037	0.004	0.005	0.014	0.042	0.000
Bundle No	Yield	Tensile		Eln.2in		Certification							
M200478849	064840 Psi	076280 Psi		35.0 %		ASTM A500-03A GRADE B&C							

Material Note:  
 Sales Or.Note:

Authorized by Quality Assurance: *M. White*

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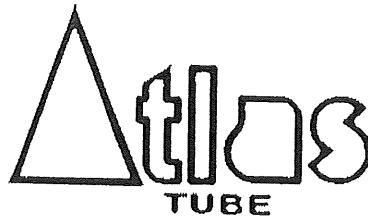
The results reported on this report represent the actual attributes of the material furnished and indicate full compliance with all applicable specification and contract requirements.

OCT 19 2007



Steel Tube Canada ULC  
 Clark St.  
 Row, Ontario, Canada  
 OR 1G0  
 Tel: 519-738-3541  
 Fax: 519-738-3537

Ref.B/L: 80266853  
 Date: 11.14.2007  
 Customer: 66



**MATERIAL TEST REPORT**

Sold to

George Dean  
 PO Box 81066  
 WARWICK RI 02888  
 USA

Shipped to

George Dean  
 2095 Elmwood Avenue  
 WARWICK RI 28888  
 USA

Material: 10.0x6.0x375x39'0"0(2x1). Material No: 100060375 Made in: Canada  
 Sales order: 341560 Purchase Order: 40341

Heat No	Pcs	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
681806	2	0.200	0.810	0.011	0.003	0.170	0.039	0.018	0.005	0.002	0.006	0.033	0.002

Bundle No: M200489067  
 Yield: 059200 Psi  
 Tensile: 073210 Psi  
 Eln.2in: 34.0 %  
 Certification: ASTM A500-03A GRADE B&C

Material Note:  
 Sales Or.Note:

Material: 8.0x2.0x188x40'0"0(2x7). Material No: 800201884000 Made in: Canada  
 Sales order: 341198 Purchase Order: 40339

Heat No	Pcs	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
6709G	11	0.160	0.750	0.009	0.005	0.020	0.027	0.020	0.000	0.020	0.010	0.030	0.000

Bundle No: M100689069  
 Yield: 052250 Psi  
 Tensile: 062620 Psi  
 Eln.2in: 40.0 %  
 Certification: ASTM A500-03A GRADE B&C

Material Note:  
 Sales Or.Note:

Material: 8.0x2.0x188x40'0"0(2x7). Material No: 800201884000 Made in: Canada  
 Sales order: 341198 Purchase Order: 40339

Heat No	Pcs	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
6710G	3	0.160	0.760	0.010	0.006	0.010	0.028	0.020	0.000	0.010	0.010	0.020	0.000

Bundle No: M100689069  
 Yield: 054710 Psi  
 Tensile: 067510 Psi  
 Eln.2in: 37.0 %  
 Certification: ASTM A500-03A GRADE B&C

Material Note:  
 Sales Or.Note:

Material: 8.0x2.0x250x40'0"0(2x5). Material No: 800202504000 Made in: Canada  
 Sales order: 345613 Purchase Order: 40388

Heat No	Pcs	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
5758G	4	0.200	0.820	0.008	0.004	0.020	0.025	0.010	0.000	0.010	0.010	0.020	0.000

Bundle No: M100679540  
 Yield: 057760 Psi  
 Tensile: 072630 Psi  
 Eln.2in: 33.3 %  
 Certification: ASTM A500-03A GRADE B&C

Material Note:  
 Sales Or.Note:

Authorized by Quality Assurance: *M. White*

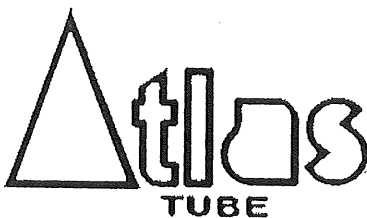
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 NOV 19 2007

The results reported on this report represent the actual attributes of the material furnished and indicate full compliance with all applicable specification and contract requirements.



Atlas Tube Canada ULC.  
 200 Clark St.  
 Harrow, Ontario, Canada  
 N0R 1G0  
 Tel: 519-738-3541  
 Fax: 519-738-3537

Ref.B/L: 80260796  
 Date: 10.08.2007  
 Customer: 66



**MATERIAL TEST REPORT**

Sold to

George Dean  
 PO Box 81066  
 WARWICK RI 02888  
 USA

Shipped to

George Dean  
 2095 Elmwood Avenue  
 WARWICK RI 28888  
 USA

Material: 6.0x6.0x500x30'0"0(3x2).

Sales order: 330093

Material No: 60060500

Made in: Canada

Purchase Order: 40205

Heat No	Pcs	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
5511G	6	0.190	0.840	0.011	0.004	0.020	0.028	0.010	0.000	0.010	0.010	0.020	0.000

Bundle No	Yield	Tensile	Eln.2in
M100676246	057820 Psi	069710 Psi	38.3 %

Certification  
 ASTM A500-03A GRADE B&C

Material Note:  
 Sales Or.Note:

Material: 12.0x12.0x250x38'0"0(2x2).

Sales order: 331418

Material No: 120120250

Made in: Canada

Purchase Order: 40224

Heat No	Pcs	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
681623	4	0.200	0.800	0.005	0.010	0.020	0.044	0.046	0.004	0.004	0.017	0.023	0.002

Bundle No	Yield	Tensile	Eln.2in
M200477985	052480 Psi	075080 Psi	31.5 %

Certification  
 ASTM A500-03A GRADE B&C

Material Note:  
 Sales Or.Note:

RECEIVED

OCT 12 2007

Authorized by Quality Assurance: *M. White*

The results reported on this report represent the actual attributes of the material furnished and indicate full compliance with all applicable specification and contract requirements.



10Dec07 9:26

TEST CERTIFICATE

No: CHI 4800

Sold By:

INDEPENDENCE TUBE CORPORATION

6226 W. 74TH STREET

CHICAGO, IL 60638

Tel: 708-496-0380 Fax: 708-563-1950

P/O No 40518

Rel

S/O No CHI 139925-002

B/L No CHI 80879-001

Inv No

Shp 07Dec07  
Inv

Sold To: ( 427 )  
GEORGE H. DEAN, INC.  
P.O. BOX 81066  
WARWICK, RI 02888

Ship To: ( 1 )  
GEORGE H. DEAN, INC.  
2095 ELMWOOD AVENUE  
WARWICK, RI

Tel: 401-785-2050 Fax: 401 781-8320

CERTIFICATE of ANALYSIS and TESTS

Cert. No: CHI 480093  
07Dec07

Part No  
TUBING A500 GRADE B(C)  
6" X 4" X 3/8" X 48'

Pcs Wgt  
4 4,295

Heat Number Tag No  
D44050 317248

Pcs Wgt  
4 4,295

YLD=66349/TEN=70061/ELG=26.24

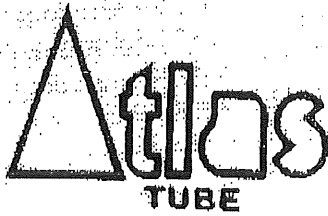
Heat Number  
D44050

\*\*\* Chemical Analysis \*\*\*  
C=0.1900 Mn=0.4100 P=0.0160 S=0.0080 Si=0.0070 Al=0.0330  
Cu=0.0200

MANUFACTURED IN USA  
MEETS THE REQUIREMENTS ASTM A-500 GRADE B(C)-03a

RECEIVED  
DEC 12 2007

Atlas ABC Corp (Atlas Tube Chicago)  
1355 East 122nd Street  
Chicago, Illinois, USA  
60633  
Tel: 773-646-4500  
Fax: 773-646-6128



Ref.B/L: 80271773  
Date: 12.19.2007  
Customer: 1637

PO # 14584

Sold to

Metals USA - Northeast, L.P  
50 Cabot Blvd. East  
LANGHORNE PA 19047  
USA

MATERIAL TEST REPORT

Shipped to

Metals USA - Northeast, L.P  
75 Stonewood Road  
YORK PA 17402  
USA

Material: 4.0x4.0x375x48"0"0(4x2).

Material No: 400403754800

Made in: USA

Sales order: 352576

Purchase Order: YRK414

Melted & Manufactured in USA

Cust Material #: 4375-48

Element	Pcs	C	Mn	P	S	Si	Al	Cu	Co	Mo	Ni	Cr	V
0.015	8	0.200	0.760	0.014	0.009	0.010	0.056	0.020	0.000	0.000	0.020	0.040	0.000

Element No	Yield	Tensile	Elon. 2in
061970	061970 Psi	074510 Psi	31 %

Certification  
ASTM A500-03A GRADE B&C

Material Note:  
Sales Or. Note:

Material: 6.0x6.0x375x48"0"0(3x2).

Material No: 600603754800

Made in: USA

Sales order: 352584

Purchase Order: YRK414

Melted & Manufactured in USA

Cust Material #: 6375-48

Element	Pcs	C	Mn	P	S	Si	Al	Cu	Co	Mo	Ni	Cr	V
0.012	6	0.200	0.800	0.010	0.012	0.010	0.048	0.030	0.001	0.003	0.010	0.020	0.001

Element No	Yield	Tensile	Elon. 2in
059480	059480 Psi	074090 Psi	33 %

Certification  
ASTM A500-03A GRADE B&C

Material Note:  
Sales Or. Note:

Material: 6.0x6.0x500x48"0"0(3x1)

Material No: 600605004800

Made in: USA

Sales order: 352671

Purchase Order: YRK414

Melted & Manufactured in USA

Cust Material #: 6500-48

Element	Pcs	C	Mn	P	S	Si	Al	Cu	Co	Mo	Ni	Cr	V
0.014	3	0.220	0.800	0.011	0.008	0.015	0.063	0.030	0.001	0.003	0.010	0.030	0.001

Element No	Yield	Tensile	Elon. 2in
081980	081980 Psi	076740 Psi	34 %

Certification  
ASTM A500-03A GRADE B&C

Material Note:  
Sales Or. Note:

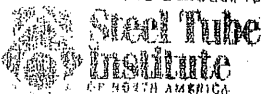
METALS USA

CUST. PO # \_\_\_\_\_

OUR ORDER # \_\_\_\_\_

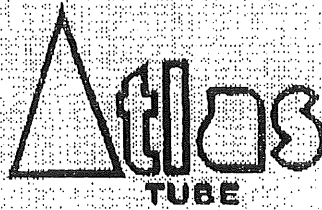
Witnessed by Quality Assurance: *M. White*

The results reported on this report represent the actual attributes of the material furnished and indicate full compliance with all applicable specifications and contract requirements.



Vertical text on the right edge of the page, including 'METALS USA' and 'STEEL TUBE INSTITUTE'.

Atlas ABC Corp (Atlas Tube, Chicago)  
1865 East 122nd Street  
Chicago, Illinois, USA  
60633  
Tel: 773-646-4500  
Fax: 773-646-6128



Ref. B/L: 80272687  
Date: 12.20.2007  
Customer: 801

*2.0 # 14582*

Sold to

Metals USA - Northeast, L.P.  
10 Tower Road  
SEEKONK MA 02771  
USA

MATERIAL TEST REPORT

Shipped to

Metals USA - Northeast, L.P.  
10 Tower Road  
SEEKONK MA 27711  
USA

Material: 6.0x6.0x376x48'0"0(3x2)

Material No: 800503754800

Made In: USA

Melted & Manufactured In: USA

Sales order: 354271

Purchase Order: SKO-3145

Heat No	Pcs	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
A43779	6	0.050	0.930	0.020	0.004	0.340	0.026	0.350	0.002	0.020	0.200	0.470	0.032

Bundle No	Yield	Tensile	Elon. 2in	Certification
M900141403	074300 Psi	086990 Psi	27 %	ASTM A500-03A GRADE B&C

Material Note:  
Sales Cr. Note:

Material: 8.0x8.0x260x40'0"0(3x3)

Material No: 800802504000

Made In: USA

Melted & Manufactured In: USA

Sales order: 354271

Purchase Order: SKO-3145

Heat No	Pcs	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
T45086	9	0.210	0.770	0.009	0.007	0.017	0.038	0.020	0.001	0.003	0.010	0.040	0.001

Bundle No	Yield	Tensile	Elon. 2in	Certification
M900142029	057100 Psi	072900 Psi	35 %	ASTM A500-03A GRADE B&C

Material Note:  
Sales Cr. Note:

Material: 8.0x8.0x600x48'0"0(2x2)

Material No: 800805004800

Made In: USA

Melted & Manufactured In: USA

Sales order: 352003

Purchase Order: SKO-3132

Heat No	Pcs	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
M47605	4	0.200	0.810	0.012	0.010	0.012	0.047	0.020	0.001	0.003	0.010	0.020	0.000

Bundle No	Yield	Tensile	Elon. 2in	Certification
M900142240	064980 Psi	077420 Psi	34 %	ASTM A500-03A GRADE B&C

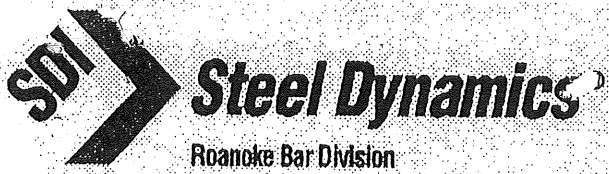
Material Note:  
Sales Cr. Note:

Authorized by Quality Assurance: *M. W. [Signature]*

The results reported on this report represent the actual attributes of the material furnished and indicate full compliance with all applicable specification and contract requirements.



JAMES A. MCGRADY, INC.  
1000 S. QUINN ST. #100  
CHICAGO, IL 60608  
TEL: 773-646-4500  
FAX: 773-646-6128  
E-MAIL: JAM@JAMC.COM  
WEB: WWW.JAMC.COM



Steel Dynamics - Roanoke Bar Division  
 P.O. Box 13948 Roanoke, VA 24038  
 Office: 540-342-1831 Fax: 540-342-9437

Test and Inspection Report

NO. 54462-0  
 ROANOKE

METALS USA P&S YORK \*\*  
 JANICE ROWE  
 50 CABOT BLVD EAST  
 LANGHORNE PA 19047-0000

PO # 14574

Date 1/08/08

HEAT NUMBER	SIZE	1-YIELD Pt. KSI	ULTIMATE KSI	ELONG 8 IN. TEST	BEND TEST	GRADE				
JG1606	ANGLES 2 X 2 X 1/4	44.7	66.4	31.3		A36				
PURCHASE ORDER NUMBER	NUMBER PIECES	2-YIELD PT. KSI	ULTIMATE KSI	ELONG 8 IN. TEST	BEND TEST	GRADE				
YRK11221	162 PIECES 20'	43.7	65.9	27.5		A36				
HEAT NUMBER	SIZE	1-YIELD Pt. MPA	ULTIMATE MPA	ELONG 203mm TEST	BEND TEST	GRADE				
JG1606	ANGLES 50.8 X 50.8 X 6.4	308.2	457.8	31.3		A36				
PURCHASE ORDER NUMBER	NUMBER PIECES	2-YIELD PT. MPA	ULTIMATE MPA	ELONG 203mm TEST	BEND TEST	GRADE				
YRK11221	162 PIECES 20'	301.3	454.4	27.5		A36				
C	MN	S	P	SI	CR	NI	MO	CU	V	NB
.12	.73	.023	.012	.20	.11	.09	.02	.32	.004	.001

METALS USA  
 CUST. PO # \_\_\_\_\_  
 OUR ORDER # \_\_\_\_\_

MERCURY, RADIUM OR OTHER ALPHA SOURCE MATERIALS IN ANY FORM HAVE NOT BEEN USED IN THE PRODUCTION OF THIS MATERIAL. NO WELD REPAIR HAS BEEN PERFORMED.

Approved ABS QA Mill. Certificate No. 00NN10108-X.

This material was melted and manufactured in the USA by basic Electric Furnace processes to meet specification: ASTM A36-05 ASME SA36 QOS741D A709-06A GR36 AASHTO M270 GR 36 IMPACTS WAIVED

The tensile values stated in either inch-pound units or SI units are to be regarded as separate as defined in the ASTM scope for this material. Unless a metric specification is ordered, this material has been tested and meets the requirements of the inch-pound ranges.

This is to certify the above to be a true and accurate report as contained in the records of this company.

Engineer of Tests: Charles R. Charlton

AL... Carbon Steel Bar Angle A 36 2 X 2 X 1/4 X 20 PART NO.  
 PO-14574  
 POREQ  
 HEAT JG1606  
 SKO-145783-1  
 28-Jan-2008  
 Page 1 of 1





**BAYOU STEEL CORPORATION**

RIVER ROAD P.O. BOX 5000  
LA PLACE, LOUISIANA 70069-1156  
Telephone (985) 652-4900

**MATERIAL CERTIFICATION REPORT**

METALS USA-PLATES & SHAPES-NE  
50 CABOT BOULEVARD EAST  
LANGHORNE, PA 19047

METALS USA (INTERSTATE)  
50 CABOT BOULEVARD  
LANGHORNE, PA 19047

TESTED IN **ASTM A6**  
ACCORDANCE  
WITH

INVOICE NO. BSPT07302357  
PRODUCT **UNEQUAL ANGLES**  
HEAT NO. 55801 24 PCS  
Length 40'0"

DATE 06/01/07  
Cust M-1134 -0000  
GRADE **A36 -05**  
SIZE U 6 X 4 X 5/16 X 10.3  
PO: PHI-10328  
Prod Id: 4604000501

CHEMICAL ANALYSIS	
C	.09
Mn	.91
P	.030
S	.037
Si	.17
Cu	.23
Ni	.17
Cr	.14
Mo	.045
Cb	.004
V	.000
B	
Al	
Sn	
N	
Ti	

MECHANICAL PROPERTIES	TEST 1		TEST 2		TEST 3	
	IMPERIAL	METRIC	IMPERIAL	METRIC	IMPERIAL	METRIC
YIELD STRENGTH	52,143 PSI	360 MPa	52,033 PSI	359 MPa		
TENSILE STRENGTH	69,644 PSI	480 MPa	69,626 PSI	480 MPa		
ELONGATION	34.0 %	34.0 %	34.0 %	34.0 %		
GAUGE LENGTH	8 in	203 mm	8 in	203 mm		
BEND TEST DIAMETER	d	d	d	d		
BEND TEST RESULTS						
SPECIMEN AREA	sq in	sq mm	sq in	sq mm		
REDUCTION OF AREA	%	%	%	%		
IMPACT STRENGTH	ft-lbs	J	ft-lbs	J		

IMPACT STRENGTH	IMPERIAL	METRIC	INTERNAL CLEANLINESS		GRAIN SIZE	
AVERAGE	ft-lbs	J	SEVERITY		HARDNESS	
TEST TEMP	F	C	FREQUENCY		GRAIN PRACTICE	
ORIENTATION			RATING		REDUCTION RATIO	

Customer Grade & Specs: **ASTMA36/ASMESA36 A709-36**  
This material was produced in accordance with Revision 0 dated 5/13/99 of the Bayou Steel Quality Manual and 10 CFR Part 21.

I HEREBY CERTIFY THAT THE MATERIAL TEST RESULTS PRESENTED HERE ARE FROM THE REPORTED HEAT AND ARE CORRECT. ALL TESTS WERE PERFORMED IN ACCORDANCE TO THE SPECIFICATIONS REPORTED ABOVE. ALL STEEL IS ELECTRIC FURNACE MELTED, MANUFACTURED, PROCESSED, AND TESTED IN THE U.S.A WITH SATISFACTORY RESULTS, AND IS FREE OF MERCURY CONTAMINATION IN THE PROCESS.

NOTARIZED UPON REQUEST:

SWORN TO AND SUBSCRIBED BEFORE ME IN AND FOR ST. JOHN  
PARISH ON THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_

SIGNED \_\_\_\_\_

*Mark Edwards*

MARK EDWARDS, QUALITY ASSURANCE SUPERVISOR

DIRECT ANY QUESTIONS OR NECESSARY CLARIFICATIONS CONCERNING THIS REPORT TO THE SALES DEPARTMENT.

Michael E. Soileau, # 81887, Notary Public

1-800-535-7692 (USA)



# BAYOU STEEL CORPORATION

RIVER ROAD P.O. BOX 5000  
LA PLACE, LOUISIANA 70069-1156  
Telephone (985) 652-4900

## MATERIAL CERTIFICATION REPORT

METALS USA-PLATES & SHAPES-NE  
50 CABOT BOULEVARD EAST  
LANGHORNE, PA 19047

METALS USA (LEVINSON)  
75 STONEWOOD ROAD  
YORK, PA 17402

TESTED IN ASTM A6  
ACCORDANCE WITH

INVOICE NO. BSPT07302758  
PRODUCT UNEQUAL ANGLES  
HEAT NO. 56049 17 Pcs  
Length 40' 0"

DATE 07/26/07 PO:YRK-10357  
Cust M-1134 -0001 Prod Id:4603500801  
GRADE A36 -05  
SIZE U 6 X 3-1/2 X 1/2 X 15.300

CHEMICAL ANALYSIS	
C	.12
Mn	.74
P	.012
S	.034
Si	.19
Cu	.20
Ni	.16
Cr	.15
Mo	.056
Cb	.000
V	.000
B	
Al	
Sn	
N	
Ti	

MECHANICAL PROPERTIES	TEST 1		TEST 2		TEST 3	
	IMPERIAL	METRIC	IMPERIAL	METRIC	IMPERIAL	METRIC
YIELD STRENGTH	47,881 PSI	330 MPa	48,028 PSI	331 MPa		
TENSILE STRENGTH	70,039 PSI	483 MPa	70,143 PSI	484 MPa	PSI	MPa
ELONGATION	36.0 %	36.0 %	35.0 %	35.0 %	%	%
GAUGE LENGTH	8 in	203 mm	8 in	203 mm	in	mm
BEND TEST DIAMETER	d	d	d	d	d	d
BEND TEST RESULTS						
SPECIMEN AREA	sq in	sq mm	sq in	sq mm	sq in	sq mm
REDUCTION OF AREA	%	%	%	%	%	%
IMPACT STRENGTH	ft-lbs	J	ft-lbs	J	ft-lbs	J

IMPACT STRENGTH	IMPERIAL	METRIC	INTERNAL CLEANLINESS		GRAIN SIZE HARDNESS
AVERAGE	ft-lbs	J	SEVERITY		
TEST TEMP	F	C	FREQUENCY		
ORIENTATION			RATING		GRAIN PRACTICE REDUCTION RATIO

Cl	
CE	.31

Customer Grade & Specs: ASTM A36/ASMESA36 A709-36  
This material was produced in accordance with Revision 0 dated 5/13/99 of the Bayou Steel Quality Manual and 10 CFR Part 21.

METALS USA

CUST. PO # \_\_\_\_\_

OUR ORDER # \_\_\_\_\_

I HEREBY CERTIFY THAT THE MATERIAL TEST RESULTS PRESENTED HERE ARE FROM THE REPORTED HEAT AND ARE CORRECT. ALL TESTS WERE PERFORMED IN ACCORDANCE TO THE SPECIFICATIONS REPORTED ABOVE. ALL STEEL IS ELECTRIC FURNACE MELTED, MANUFACTURED, PROCESSED, AND TESTED IN THE U.S.A WITH SATISFACTORY RESULTS, AND IS FREE OF MERCURY CONTAMINATION IN THE PROCESS.

NOTARIZED UPON REQUEST:

SWORN TO AND SUBSCRIBED BEFORE ME IN AND FOR ST. JOHN

PARISH ON THIS 15<sup>th</sup> DAY OF Aug, 2007

Michael E. Soileau, # 81887, Notary Public

SIGNED

*Mark Edwards*  
MARK EDWARDS, QUALITY ASSURANCE SUPERVISOR

DIRECT ANY QUESTIONS OR NECESSARY CLARIFICATIONS CONCERNING THIS REPORT TO THE SALES DEPARTMENT.

1-800-535-7692 (USA)



# AMERICAN CHEMICAL SOCIETY

RIVER ROAD P.O. BOX 5000  
LA PLACE, LOUISIANA 70069-1156  
Telephone (985) 652-4900

## MATERIAL CERTIFICATION REPORT

METALS USA NORTHEAST  
50 CABOT BOULEVARD EAST  
LANGHORNE, PA 19047

METALS USA (LEVINSON)  
75 STONEWOOD ROAD  
YORK, PA 17402

TESTED IN ACCORDANCE WITH **ASTM A6**

INVOICE NO. **BSPT07303347**  
PRODUCT **UNEQUAL ANGLES**  
HEAT NO. **55944 15 Pcs**  
Length **40'0"**

DATE **09/28/07** PO: **YRK-10716**  
Cust M-1134 -0001 Prod Id: **4604000801**  
GRADE **A36 -05**  
SIZE **U 6 X 4 X 1/2 X 16.2**

CHEMICAL ANALYSIS	MECHANICAL PROPERTIES	TEST 1		TEST 2		TEST 3	
		IMPERIAL	METRIC	IMPERIAL	METRIC	IMPERIAL	METRIC
C .10	YIELD STRENGTH	44,010 PSI	303 MPa	44,975 PSI	310 MPa	PSI	MPa
Mn .71	TENSILE STRENGTH	65,476 PSI	451 MPa	66,876 PSI	461 MPa	PSI	MPa
P .038	ELONGATION	35.0 %	35.0 %	40.0 %	40.0 %	%	%
S .030	GAUGE LENGTH	8 in	203 mm	8 in	203 mm	in	mm
Si .19	BEND TEST DIAMETER	d	d	d	d	d	d
Cu .21	BEND TEST RESULTS						
Ni .17	SPECIMEN AREA	sq in	sq mm	sq in	sq mm	sq in	sq mm
Cr .15	REDUCTION OF AREA	%	%	%	%	%	%
Mo .046	IMPACT STRENGTH	ft-lbs	J	ft-lbs	J	ft-lbs	J
Cb .000							
V .000							
B							
Al							
Sn							
N							
Ti							

IMPACT STRENGTH	IMPERIAL	METRIC	INTERNAL CLEANLINESS		GRAIN SIZE HARDNESS
AVERAGE TEST TEMP ORIENTATION	ft-lbs F	J C	SEVERITY FREQUENCY RATING		GRAIN PRACTICE REDUCTION RATIO

Ci	
CE	.28

Customer Grade & Specs: **ASTMA36/ASMESA36 A709-36**  
This material was produced in accordance with Revision 0 dated 5/13/99 of the Bayou Steel Quality Manual and 10 CFR Part 21.

**METALS USA**  
CUST. PO # \_\_\_\_\_  
OUR ORDER # \_\_\_\_\_

I HEREBY CERTIFY THAT THE MATERIAL TEST RESULTS PRESENTED HERE ARE FROM THE REPORTED HEAT AND ARE CORRECT. ALL TESTS WERE PERFORMED IN ACCORDANCE TO THE SPECIFICATIONS REPORTED ABOVE. ALL STEEL IS ELECTRIC FURNACE MELTED, MANUFACTURED, PROCESSED, AND TESTED IN THE U.S.A WITH SATISFACTORY RESULTS, AND IS FREE OF MERCURY CONTAMINATION IN THE PROCESS.

NOTARIZED UPON REQUEST:  
SWORN TO AND SUBSCRIBED BEFORE ME IN AND FOR ST. JOHN PARISH ON THIS 19th DAY OF oct, 2007  
  
Michael E. Soileau, # 81887, Notary Public

SIGNED Mark Edwards  
MARK EDWARDS, QUALITY ASSURANCE SUPERVISOR  
  
DIRECT ANY QUESTIONS OR NECESSARY CLARIFICATIONS CONCERNING THIS REPORT TO THE SALES DEPARTMENT.  
1-800-535-7692 (USA)

**ACEROS CORSA, S.A. DE C.V.**  
 AV. DE LA PRESA No. 2 FRACCIONAMIENTO IND. LA PRESA  
 C.P. 54187 TLALNEPANTLA, EDO. DE MEXICO  
 TEL.: 5062-1916 FAX: 5586-8138  
 www.aceroscorsa.com



Sold To: TRIAD METALS INTERNATIONAL

Date: 13/11/2007  
 P.O.: 3453  
 Invoice: EX00538  
 Shipped To: 2300 Computer Ave.  
 Willow Grove PA, 19090

PO#  
14573

Certified to ASTM - A6 / 2006  
 MILL TEST REPORT

Heat	Size	ASTM	Length	tons	# bds	# Pieces	Total Pieces	Chemical								Mechanical Properties						
								% C	% Mn	% P	% S	% Si	% Cu	% Cr	% Ni	% Sn	% Nb	% V	% Mo	Tensile PSI	Yield PSI	Elong % 8
E00134	Angle 3" X 3" X 1/4"	A36/529G50	6.10 20'	3.996	2	45	90	0.210	1.000	0.009	0.025	0.350	0.190	0.040	0.070	0.000	0.000	0.001	0.017	77,300	52,400	22.20
42434	Angle 3" X 3" X 1/4"	A572/A572M04G5C	12.20	16.570	4	45	180	0.230	0.990	0.011	0.024	0.240	0.200	0.110	0.080	0.010	0.000	0.016	0.019	82,400	53,100	21.60
42437	Angle 3" X 3" X 1/4"	A572/A572M04G5C	12.20 40'	11.730	3	45	135	0.200	1.090	0.015	0.025	0.180	0.200	0.130	0.080	0.020	0.000	0.016	0.017	81,700	56,800	22.00
42438	Angle 3" X 3" X 1/4"	A572/A572M04G5C	12.20	23.650	6	45	270	0.210	0.880	0.017	0.032	0.170	0.210	0.120	0.090	0.020	0.000	0.015	0.016	77,900	53,100	24.70
42609	Angle 4" X 4" X 5/16"	A36/A36M05	12.20	4.303	1	27	27	0.170	1.050	0.012	0.025	0.240	0.200	0.090	0.090	0.010	0.000	0.003	0.018	75,200	51,500	23.20
42615	Angle 4" X 4" X 5/16"	A36/529G50	12.20 40'	15.795	4	27	108	0.210	0.940	0.008	0.026	0.220	0.420	0.130	0.180	0.030	0.000	0.002	0.017	74,500	51,000	22.50
T00030	Channel 4" X 5.40"	A36/529G50	6.10 20'	10.294	5	42	210	0.220	0.960	0.010	0.037	0.260	0.250	0.100	0.080	0.000	0.000	0.001	0.021	75,700	49,500	25.60
																				75,000	48,700	24.80
																				75,600	50,400	25.20
																				74,700	50,000	24.60
																				79,500	54,600	22.30
																				78,700	54,000	21.50

MELTED AND MANUFACTURED IN MEXICO

Authorized Signature



**ACEROS CORSA, S.A. DE C.V.**  
 AV. DE LA PRESA No. 2 FRACCIONAMIENTO IND. LA PRESA  
 C.P. 54187 TLALNEPANTLA, EDO. DE MEXICO  
 TEL.: 5062-1916 FAX: 5586-8138  
 www.aceroscorsa.com

EX00535

Sold To: TRIAD METALS INTERNATIONAL

Date: 13/11/2007

P.O.: 3462  
 Invoice: EX00535  
 Shipped To: 2300 Computer Ave.  
 Willow Grove PA, 19090

Certified to ASTM - A6 / 2006  
 MILL TEST REPORT

Heat	Size	ASTM	Length	tons	# bcls	# Pieces	Total Pieces	Chemical										Mechanical Properties				
								% C	% Mn	% P	% S	% Si	% Cu	% Cr	% Ni	% Sn	% Nb	% V	% Mo	Tensile PSI	Yield PSI	Elong % 8
H00785	Angle 3 1/2" X 3 1/2" X 1/4"	A36/529G50	12.20	84.239	20	40	800	0.250	0.960	0.010	0.016	0.300	0.040	0.010	0.010	0.000	0.000	0.001	0.004	78,300	52,700	23.60
																				77,700	51,700	23.00
T00030	Channel 4" X 5.40"	A36/529G50	6.10	4.118	3	42	125	0.220	0.960	0.010	0.037	0.260	0.250	0.100	0.080	0.000	0.000	0.001	0.021	79,500	54,600	22.30
																				78,700	54,000	21.50

MELTED AND MANUFACTURED IN MEXICO

\_\_\_\_\_  
 Authorized Signature



Thursday, 07-Feb-2008

**From:**

Joanne Vey  
62 Maple Street  
Manchester, NH  
03103  
Phone : (603) 626-7351  
Fax : (603) 626-7820  
Email : jvey@millmetals.net

**To:**

MCBRADY INC., JAMES A.  
P.O. Box 8239  
Portland, ME  
04104  
Phone : (207) 883-4176  
Fax : (207) 883-0276

20\* 14836

### Document Summary Page

The MTR's are printed in the following order:

#	Heat	Item ID	Description
1	G800075	A64516	ANGLE HR 6 X 4 X 5/16
2	1709062	W1017	BEAM W10"X 17# (WIDE FLANGE)

*The attached documents were produced using Mill Metals MetalTrace ScanStation.*

MTRs produced using MetalTrace®. Visit [www.TraceApps.com](http://www.TraceApps.com) or call toll-free 1-866-429-7007 for more information.

NUCOR STEEL - BERKELEY  
P.O. Box 2259  
Mt. Pleasant, S.C. 29464  
Phone: (843) 336-6000

CERTIFIED MILL TEST REPORT

6/28/07 9:00:57  
100% MELTED AND MANUFACTURED IN THE USA  
All beams produced by Nucor-Berkeley are cast and rolled to a fully killed and fine grain practice.

Sold To: METALS USA-AMBRIDGE  
50 CABOT BLVD  
A992 ONLY  
LANGHORNE, PA 19047

Ship To: METALS USA-AMBRIDGE  
75 STONEWOOD ROAD  
YORK, PA 17402

Customer #: 1852 - 7  
Customer PO: YRK-10146  
B.o.L. #: 624823  
Invoice #: 903621

SPECIFICATIONS: Tested in accordance with ASTM specification A6/A6M and A370.  
AASHTO : M270-36-00/M270-50-00  
ASME : SA-36 04  
ASTM : A992-06a://A36-05/A572-06-50/A709-06a36/A709-07 50/A709-345M  
CSA : CSA-44W/G40.21-50W

*W1017*

Description	Heat# Grade(s) Test	Yield/ Tensile Ratio	Yield (PSI) (MPa)	Tensile (PSI) (MPa)	Elong %	C		Mn		P	S		Si		Cu	Ni	CE1
						Cr	Pb	Mo	Ti	Sn	Ca	Al	B	V	N	Nb	Zr
W10x12 050' 00.00"	1709160 A992-06a	.80	54300 374	67900 468	30.05	.0650 .0330		.8800 .0270		.0074 .0078		.0325 .0037	.2360 .0028	.1230 .0141		.0380	.2350 .2771
W250X17.9 015.2400m		.81	55400 382	68300 471	29.10	.0073		.0020		.0005		.0003	.0050	.0000		3.3240	.1288
16 Piece(s)																	
W10x12 050' 00.00"	2709167 A992-06a	.80	54300 374	68300 471	25.84	.0650 .0270		.8520 .0170		.0079 .0060		.0247 .0019	.2170 .0035	.0810 .0129		.0370	.2244 .2631
W250X17.9 015.2400m		.80	55600 383	69300 478	25.64	.0035		.0014		.0000		.0005	.0049	.0000		2.4990	.1247
8 Piece(s)																	
W10x17 040' 00.00"	1709062 A992-06a	.81	56300 388	69700 481	27.78	.0700 .0400		.8340 .0290		.0130 .0066		.0294 .0032	.2100 .0030	.1020 .0149		.0540	.2338 .2718
W250X25.3 012.1920m		.79	54900 379	69100 476	27.81	.0079		.0018		.0004		.0001	.0055	.0000		3.0541	.1293
7 Piece(s)																	
W10x17 040' 00.00"	1709070 A992-06a	.80	55900 385	70000 483	26.88	.0670 .0390		.8530 .0270		.0155 .0072		.0373 .0038	.2180 .0029	.1420 .0147		.0420	.2352 .2745
W250X25.3 012.1920m		.80	55200 381	68700 474	25.91	.0052		.0017		.0038		.0002	.0073	.0000		3.7732	.1297
1 Piece(s)																	
W12x16 050' 00.00"	2708496 A992-06a	.81	54600 376	67700 467	28.49	.0660 .0310		.8260 .0220		.0062 .0058		.0301 .0035	.2340 .0041	.1330 .0131		.0440	.2269 .2685
W310X23.8 015.2400m		.80	54400 375	68000 469	27.61	.0069		.0016		.0003		.0009	.0060	.0000		3.4873	.1303
8 Piece(s)																	

Elongation based on 8" (20.32cm) gauge length. 'No Weld Repair' was performed. Hg free and no contact with Hg during manufacture.  
CI = 26.01Cu+3.88Ni+1.20Cr+1.49Si+17.28P-(7.29Cu\*Ni)-(9.10Ni\*P)-33.39(Cu\*Cu) CE1= C+(Mn/6)+((Cr+Mo+V)/5)+((Ni+Cu)/15)  
Pcm = C+(Si/30)+(Mn/20)+(Cu/20)+(Ni/60)+(Cr/20)+(Mo/15)+(V/10)+5B CE2 = C+((Mn+Si)/6)+((Cr+Mo+V+Cb)/5)+((Ni+Cu)/15)

I hereby certify that the contents of this report are accurate and correct. All test results and operations performed by the material manufacturer are in compliance with material specifications, and when designated by the Purchaser, meet applicable specifications.

Bruce A. Work  
Metallurgist

(State of South Carolina  
County of Berkeley  
Sworn and subscribed before me

*08<sup>th</sup>* day of *June* 2007

*C. A. Work*  
MY COMMISSION EXPIRES MAY 17, 2015

METALS USA

CUST. PO# \_\_\_\_\_

OUR ORDER # \_\_\_\_\_



Monday, 28-Jan-2008

**From:**

Joanne Vey  
62 Maple Street  
Manchester, NH  
03103  
Phone : (603) 626-7351  
Fax : (603) 626-7820  
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Phone : (207) 883-4176  
Fax : (207) 883-0276

PO # 14823

## Document Summary Page

The MTR's are printed in the following order:

#	Heat	Item ID	Description
1	B44060	A6412	ANGLE HR 6 X 4 X 1/2

*The attached documents were produced using Mill Metals MetalTrace ScanStation.*

MTRs produced using MetalTrace®. Visit [www.TraceApps.com](http://www.TraceApps.com) or call toll-free 1-866-429-7007 for more information.





Chemical and Physical Test Report

W-076860

WHITBY STEEL MILL  
HOPKINS STREET SOUTH  
WHITBY ON L1N 5T1 CAN  
(905) 668-8811

MADE IN CANADA

JAN 17 2008

PRODUCED IN: WHITBY

<b>SHIP TO</b> MILL METALS CORPORATION 603-626-7351 62 MAPLE ST. MANCHESTER, NH 03103	<b>INVOICE TO</b> MILL METALS MILL STEEL INC 62 MAPLE STREET MANCHESTER, NH 03103	<b>SHIP DATE</b> 01/15/08  <b>CUST. ACCOUNT NO</b> 60076023
---	---	---

SHAPE + SIZE	GRADE	SPECIFICATION														SALES ORDER	CUST P.O. NUMBER										
A6 X 4 X 1/2	A36	C.S.A. G40.21-04 44W/50W; ASTM: A36 - 05a ASTMA709- 05b ASME: SA36 (A)														8003352-04	48832-04										
HEAT I.D.	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Nb	B	N	Sn	Al	Ti	Zr	Ca	C Eqv								
B44060	.09	.74	.011	.040	.17	.34	.09	.04	.024	<.008	.015	.0000	.0000	.010	.000	.00000	.000	.00000	.252								

*A6412*

Mechanical Test: Yield 56797 PSI, 391.6 MPA Tensile: 71575 PSI, 493.49 MPA %El: 20.6/8in, 20.6/200MM  
 Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST  
 Mechanical Test: Yield 58455 PSI, 403.03 MPA Tensile: 71735 PSI, 494.6 MPA %El: 23.1/8in, 23.1/200MM  
 Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST

SHAPE + SIZE	GRADE	SPECIFICATION														SALES ORDER	CUST P.O. NUMBER										
A3 X 2 X 1/4	A36	C.S.A. G40.21-04 44W/50W; ASTM: A36 - 05a ASTMA709- 05b ASME: SA36 (A)														8003352-01	48832-01										
HEAT I.D.	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Nb	B	N	Sn	Al	Ti	Zr	Ca	C Eqv								
B44071	.17	.71	.013	.043	.21	.35	.10	.05	.028	<.008	<.008	.0000	.0000	.010	.000	.00000	.000	.00000	.336								

*A3214*

Mechanical Test: Yield 51698 PSI, 356.45 MPA Tensile: 70334 PSI, 484.94 MPA %El: 25.0/8in, 25.0/200MM  
 Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST  
 Mechanical Test: Yield 51802 PSI, 357.16 MPA Tensile: 71293 PSI, 491.55 MPA %El: 25.0/8in, 25.0/200MM  
 Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST

This material, including the billets, was produced and manufactured in Canada

*Bhaskar*  
 Bhaskar Yalamanchili  
 Quality Director  
 Gerdau Ameristeel

THE ABOVE FIGURES ARE CERTIFIED EXTRACTS FROM THE ORIGINAL CHEMICAL AND PHYSICAL TEST RECORDS AS CONTAINED IN THE PERMANENT RECORDS OF COMPANY.

*B.R. B...*  
 Mgr. Metallurg. Svcs.  
 WHITBY STEEL MILL

Seller warrants that all material furnished shall comply with specifications subject to standard published manufacturing variations. NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, ARE MADE BY THE SELLER, AND SPECIFICALLY EXCLUDED ARE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. In no event shall seller be liable for indirect, consequential or punitive damages arising out of or related to the materials furnished by seller. Any claim for damages for materials that do not conform to specifications must be made from buyer to seller immediately after delivery of same in order to allow the seller the opportunity to inspect the material in question.

NOVA TUBE AND STEEL CORPORATION  
 600 Dean Sievers Place  
 Morrisville, PA, 19067  
 Tel: 215-295-8813 Fax: 215-295-8798

*-mittal*

*P.O.#  
14718*

TEST CERTIFICATE

Sold to: NORTHSTAR STEEL INC. DATE SHIPPED: 11/19/07  
 Ship to: NORTHSTAR STEEL INC. B/L #: 155229  
 P.O. BOX 4886 P.O. #: M01022214  
 205 BOUCHARD ST. SALES ORDER #: 129350  
 MANCHESTER, NH  
 03103

Description	Dimensions	Pcs	Mill/Heat Number	Specifications
Hot Rolled Plate	0.313x48x96	10	MIT /412J2001	ASTM A36/SA 36 <i>74291</i>
Pickled & Oil Sheet	11 GA x48x96	25	MIT /412J0214	ASTM A 1011-06B, CS TYPE B <i>T4292</i>

Chemical Analysis																
Heat Number	C	Mn	P	S	Si	Cu	Ni	Cr	Cb	Mo	V	Al	N	Sn	B	Ti
MIT 412J2001	0.210	0.820	0.015	0.012	0.016	0.050	0.020	0.040	0.001	0.001	0.002	0.045	0.004	-	-	-
Melted & Manufactured in the U.S.A.																
MIT 412J0214	0.110	0.430	0.018	0.010	0.005	0.020	0.030	0.003	0.001	0.002	0.050	0.004	-	-	-	
Melted & Manufactured in the U.S.A.																

Mechanical Test Results					
Heat Number/Size or Ser#	Yield	Tensile	Elong.%	N-fact	Crush
412J2001 (Tail)	47,900 PSI	69,700 PSI	31.00(2")		

Heat # Origin  
 412J2001 United States MITTAL STEEL - SPT  
 412J0214 United States MITTAL STEEL - SPT

Authorized by Andrew Hurlbrink, Quality Ctrl Dept

# **EXHIBIT C**

**01000 Quality Assurance**

**Quality Assurance Plan – Exhibit C**  
**QUALITY ASSURANCE FOR SEISMIC RESISTANCE CHECK LIST [IBC 1705]**

Project: Waynflete Arts Center Phase II, Portland, ME

Date Prepared: 09/17/2007

**SEISMIC DESIGN CATEGORY: B**

**QUALITY ASSURANCE PLAN REQUIREMENTS**

(A Quality Assurance Plan, enacted through the Special Inspections requirements for this project, are in place for the following systems)

**FOR SEISMIC DESIGN CATEGORY C OR HIGHER:**

**Structural:**

- The seismic-force-resisting systems
  - Steel Braced Frames and associated connections/anchorage
  - Steel Moment Frames and associated connections
  - Shear walls:  CMU  Wood  Concrete
  - Diaphragms:  Floor  Roof
  - Other:

SER

**Mechanical/Piping:**

- Heating, ventilating and air-conditioning (HVAC) ductwork containing hazardous materials and anchorage of such ductwork
  - Hazardous Material:
  - Hazardous Material:
- Piping systems and mechanical units containing flammable, combustible or highly toxic materials
  - Material:
  - Material:

MER

**Electrical:**

- Anchorage of electrical equipment used for emergency or standby power systems
  - Equipment:
  - Equipment:
  - Equipment:

EER

**ADDITIONAL SYSTEMS FOR SEISMIC DESIGN CATEGORY D OR HIGHER:**

**Architectural:**

- Exterior wall panels and their anchorage
  - Precast Concrete
  - Brick
  - Stone:
  - Other:
- Suspended ceiling systems and their anchorage
- Access floors and their anchorage
- Steel storage racks and their anchorage
  - Retail Storage Racks
  - High Density Files
  - Other:
- Life-safety component required to function after an earthquake:
  - Engineered Egress Stairs
  - Fire Protection Sprinkler System
  - Other:
  - Other:
  - Other:

RAR

**ADDITIONAL SYSTEMS FOR SEISMIC DESIGN CATEGORY D OR HIGHER:**

**Electrical:**

- Electrical equipment

EER

Structural Engineer of Record (SER):

Registered Architect of Record (RAR):

Signature \_\_\_\_\_ Date \_\_\_\_\_  
 Mechanical Engineer of Record (MER):

Signature \_\_\_\_\_ Date \_\_\_\_\_  
 Electrical Engineer of Record (EER):

Signature \_\_\_\_\_ Date \_\_\_\_\_  
 Building Code Official's Acceptance:

Signature \_\_\_\_\_ Date \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_  
 ©Becker Structural Engineers, Inc. 2005

NOT REQUIRED: SEISMIC DESIGN CATEGORY B

# Quality Assurance Plan – Exhibit C

## QUALITY ASSURANCE FOR WIND REQUIREMENTS CHECK LIST [IBC 1706]

Project: Waynflete Arts Center Phase II, Portland, ME

Date Prepared: 09/17/2007

Wind Exposure: **B**

REQUIRED	NOT REQUIRED	NOT APPLICABLE	<p style="text-align: center;"><b>QUALITY ASSURANCE PLAN REQUIREMENTS</b> (A Quality Assurance Plan is required where indicated below)</p>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	In wind exposure Categories A and B, where the 3-second-gust basic wind speed is 120 miles per hour (mph) (52.8 m/sec) or greater.
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	In wind exposure Categories C and D, where the 3-second-gust basic wind speed is 110 mph (49 m/sec) or greater.

Prepared by:

Building Code Official's Acceptance:

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

# **EXHIBIT D**

## **Statements of Responsibility**

# Fabricator's Certificate of Compliance – Exhibit D

Each approved fabricator that is exempt from Special Inspection of shop fabrication and implementation procedures per section 1704.2 of the International Building Code must submit a *Fabricator's Certificate of Compliance* at the completion of fabrication.

Project: Waynathete Performing Arts Center

Fabricator's Name: James A. McBride, Inc.

Address: 29 Parkway Dr. Scarborough, ME 04074

Certification or Approval Agency: AISC

Certification Number:

Date of Last Audit or Approval: ~~August~~ August, 2007

Description of structural members and assemblies that have been fabricated:

Structural Steel Framing

I hereby certify that items described above were fabricated in strict accordance with the approved construction documents.

James McBride  
Signature James McBride

8/22/07  
Date

Manager  
Title

Attach copies of fabricator's certification or building code evaluation service report and fabricator's quality control manual

# Contractor's Statement of Responsibility – Exhibit D

---

Each contractor responsible for the construction or fabrication of a system or component designated in the Quality Assurance Plan must submit a Statement of Responsibility. Make additional copies of this form as required.

Project:

Contractor's Name:

Address:

License No.:

Description of designated building systems and components included in the Statement of Responsibility:

## Contractor's Acknowledgment of Special Requirements

I hereby acknowledge that I have received, read, and understand the Quality Assurance Plan and Special Inspection program.

I hereby acknowledge that control will be exercised to obtain conformance with the construction documents approved by the Building Official.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

## Contractor's Provisions for Quality Control

Procedures for exercising control within the contractor's organization, the method and frequency of reporting and the distribution of reports is attached to this Statement.

Identification and qualifications of the person(s) exercising such control and their position(s) in the organization are attached to this Statement.



**End of Special Inspections Report**