

Special Inspections Report

Park Danforth Exterior Renovations
777 Stevens Avenue
Portland, ME 04103

Prepared for:

Owner
The Park Danforth
777 Stevens Avenue
Portland, ME 04103

In conjunction with:

The City of Portland
389 Congress Street
City Hall Room 315
Portland, ME 04101

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Park Danforth Exterior Renovations
777 Stevens Avenue
Portland, ME 04103

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01000.01 Statement of Special Inspections

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: Park Danforth Exterior Renovations

Location: 777 Stevens Avenue, Portland, ME

Owner: The Park Danforth

Owner's Address: 777 Stevens Avenue
Portland, ME 04103

Architect of Record: Richard Curtis CWS Architects
(name) (firm)

Structural Registered Design
Professional in Responsible Charge: Paul B. Becker, P.E. Becker Structural Engineers
(name) (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: None Noted

(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.

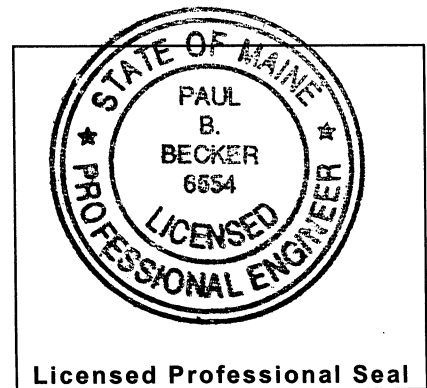
Respectfully submitted,
Structural Special Inspection Coordinator

Paul B. Becker, P.E.
(Type or print name)

Becker Structural Engineers, Inc.
(Firm Name)

Paul B. Becker
Signature

5/15/06
Date



Statement of Special Inspections (Continued) - Exhibit A

Special Inspector's/Agent's Final Report

Project: *Park Danforth Exterior Renovations*

Special Inspector

or Agent:

Michael P. Cyr

Becker Structural Engineers, Inc.

(name)

(firm)

Designation:

SI1

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: *None Noted*

(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:

Michael P. Cyr

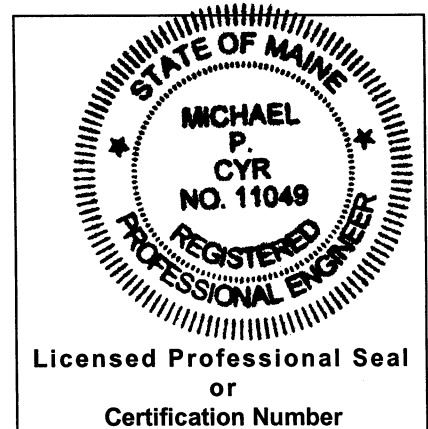
(Type or print name)

Michael P. Cyr

Signature

5/5/06

Date



Schedule of Special Inspections – Exhibit B STEEL CONSTRUCTION

Project: Park Danforth Exterior Renovations, Portland, ME
Date Prepared: 05/27/2005

VERIFICATION AND INSPECTION	Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	DATE	REV
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	SI 1	PE/SE or EIT	---	
b. Manufacturer's certificate of compliance required.		S		SI 1	PE/SE or EIT	---	
2. Inspection of high-strength bolting							
a. Bearing-type connections.	Y	P	AISC LRFD Section M2.5	TL 1	AWS/AISC-SSI	---	
b. Slip-critical connections.	Y	C or P (method dependent)	IBC Sect 1704.3.3	TL 1	AWS/AISC-SSI	---	
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	SI 1	PE/SE or EIT	6/21/05	PBB
b. Manufacturers' certified mill test reports.	Y	S	ASTM A 6 or ASTM A 568 IBC Sect 1708.4	SI 1	PE/SE or EIT	5/2/06	MPC
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	SI 1	PE/SE or EIT	5/2/06	MPC
b. Manufacturer's certificate of compliance required.	Y	S		SI 1	PE/SE or EIT	5/2/06	MPC

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

Special Inspector _____

Date _____

Schedule of Special Inspections – Exhibit B STEEL CONSTRUCTION

Project: Park Danforth Exterior Renovations, Portland, ME
Date Prepared: 05/27/2005

VERIFICATION AND INSPECTION	Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	DATE	REV
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	SI 1	PE/SE or EIT	4/11/06	MPC
6. Inspection of welding (IBC 1704.3.1): a. Structural steel:							
1) Complete and partial penetration groove welds.	Y	C		TA 1	AWS-CWI		
2) Multipass fillet welds.	Y	C	AWS D1.1	TA 1	AWS-CWI		
3) Single-pass fillet welds > 5/16"	Y	C		TA 1	AWS-CWI		
4) Single-pass fillet welds < 5/16"	Y	P		TA 1	AWS-CWI		
5) Floor and deck welds.	Y	P	AWS D1.3	TA 1	AWS-CWI		
b. Reinforcing steel (IBC Sect 1903.5.2):							
1) Verification of weldability of reinforcing steel other than ASTM A706.	N	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	N	AWS D1.4 ACI 318: 3.5.2	TA 1	AWS-CWI		
3) Shear reinforcement.	N	N		TA 1	AWS-CWI		
4) Other reinforcing steel.	N	N		TA 1	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		SI 1	PE/SE or EIT		
b. Member locations.	Y	P		SI 1	PE/SE or EIT		
c. Application of joint details at each connection.	Y	P		SI 1	PE/SE or EIT		

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

Special Inspector _____

Date _____

Schedule of Special Inspections – Exhibit B

Exterior Cold-Formed Metal Framing

©Becker Structural Engineers, Inc. 2005

Project: Park Danforth Exterior Renovations, Portland, ME
 Date Prepared: 05/27/2005

VERIFICATION AND INSPECTION	Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	DATE	REV
I. Cold-Formed Exterior Metal Framing			Upgrades for wind Loads				
a. Special inspection during the erection and fastening of exterior cladding, exterior nonbearing walls and exterior veneer in structures	Y	P	Per Contract Documents	SI-1	PE	10/05/05	MPC
b. Review installation of supplemental clips and pins	Y	P	Per Contract Documents	SI-1	PE	9/27/05	MPC
c. Review reinforcement of jamb studs	Y	P	Per Contract Documents	SI-1	PE	9/27/05	MPC
d. Review reinforcement at wall corner zones(CZ) per drawings	Y	P	Per Contract Documents	SI-1	PE	9/14/05	MPC

Cold Formed Exterior Wall Framing e has been reviewed in accordance with contract documents and the IBC Code

Special Inspector _____

Date _____

Page ___ of ___

**Schedule of Special Inspections – Exhibit B
MASONRY CONSTRUCTION – LEVEL 1 (NON-ESENTIAL FACILITY)**

Project: Park Danforth Exterior Renovations, Portland, ME
Date Prepared: 05/27/2005

VERIFICATION AND INSPECTION	Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	DATE	REV
IBC Section 1704.5							
1. As masonry construction begins, the following shall be verified to ensure compliance:							
a. Proportions of site-prepared mortar.	Y	P	ACI530.1, 2.6A	SI1	PE/SE or EIT	—	
b. Construction of mortar joints.	Y	P	ACI530.1, 3.3B	SI1	PE/SE or EIT	1/04/06	MPC
c. Location of reinforcement and connectors.	Y	P	ACI530.1, 3.4, 3.6A	SI1	PE/SE or EIT	1/04/06	MPC
d. Prestressing technique.	N	N	ACI530.1, 3.6B	SI1	PE/SE or EIT	—	
e. Grade and size of prestressing tendons and anchorages.	N	N	ACI530.1, 2.4B, 2.4H	SI1	PE/SE or EIT	—	
2. The inspection program shall verify:							
a. Size and location of structural elements.	Y	P	ACI530.1, 3.3G	SI1	PE/SE or EIT	1/04/06	MPC
b. Type, size and location of anchors, including other details of anchorage of masonry to structural members, frames or other construction.	Y	P	ACI530, 1.2.2(e), 2.1.4, 3.1.6	SI1	PE/SE or EIT	1/04/06	MPC
c. Specified size, grade and type of reinforcement.	Y	P	ACI530, 1.12, ACI530.1, 2.4, 3.4	SI1	PE/SE or EIT	—	
d. Welding of reinforcing bars.	N	Welding of Reinf. Not permitted	AC530, 2.1.10.6.2, 3.2.4 (b)	AWS-CWI	PE/SE or EIT	—	
e. Protection of masonry during cold weather (temperature below 40°F) or hot weather (temperature above 90°F).	Y	P	IBC 2104.3, 2104.4; ACI530.1, 1.8C, 1.8D	SI1	PE/SE or EIT	1/04/06	MPC
f. Application and measurement of prestressing force.	Y	P	ACI530.1, 3.6B	SI1	PE/SE or EIT	—	
3. Prior to grouting, the following shall be verified to ensure compliance:							
a. Grout space is clean.	Y	P	ACI530.1, 3.2D	SI1	PE/SE or EIT	—	
b. Placement of reinforcement and connectors and prestressing tendons and anchorages.	Y	P	ACI530, 1.12, ACI530.1, 3.4	SI1	PE/SE or EIT	—	

Masonry Construction has been reviewed in accordance with section 1704.5 of the IBC Code

Special Inspector _____ Date _____

Page ___ of ___

Schedule of Special Inspections – Exhibit B
MASONRY CONSTRUCTION – LEVEL 1 (NON-ESSENTIAL FACILITY)

©Becker Structural Engineers, Inc. 2005

Project: Park Danforth Exterior Renovations, Portland, ME
Date Prepared: 05/27/2005

VERIFICATION AND INSPECTION	Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	DATE	REV
IBC Section 1704.5							
c. Proportions of site-prepared grout and prestressing grout for bonded tendons.	Y	P	ACI530.1, 2.6B	SI 1	PE/SE or EIT	—	
d. Construction of mortar joints.	Y	P	ACI530.1, 3.3B	SI 1	PE/SE or EIT	1/04/06	MPC
4. Grout placement shall be verified to ensure compliance with code and construction document provisions.	Y	C	ACI530.1, 3.5	SI 1	PE/SE or EIT	—	
a. Grouting of prestressing bonded tendons.	N	N	ACI530.1, 3.6C	SI 1	PE/SE or EIT	—	
5. Preparation of any required grout specimens, mortar specimens and/or prisms shall be observed.	Y	C	IBC 2105.2.2, 2105.3; ACI530.1, 1.4	SI 1	PE/SE or EIT	Ref: S.W. Cole Test Data	
6. Compliance with required inspection provisions of the construction documents and the approved submittals shall be verified.	Y	P	ACI530.1, 1.5	SI 1	PE/SE or EIT	7/11/05	MPC

Masonry Construction has been reviewed in accordance with section 1704.5 of the IBC Code

Special Inspector _____ Date _____

Page ___ of ___

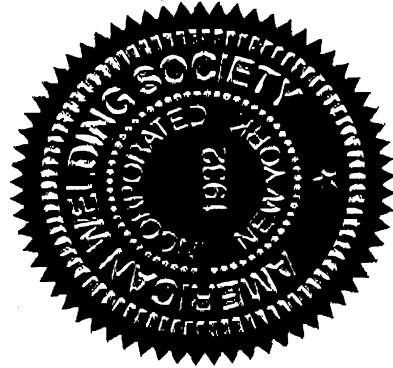
01000.02 Qualification of Inspectors & Testing Agencies

American Welding Society



Certifies that Welding Inspector
Arthur S Gallant

*has complied with the requirements of Section 6.1
of the AWS Standard for Qualification and
Certification of Welding Inspectors QC1-96*



90100091

CERTIFICATE NUMBER

Oct 2005

VALID DATE

EMPLOYER: REFER TO WALLET CARD FOR
VALIDITY AND EXPIRATION DATE

Danmon J. Kotick

PRESIDENT AWS

James F. Lohman

CHAIRMAN QUALIFICATION COMMITTEE

CHAIRMAN CERTIFICATION COMMITTEE



• Geotechnical Engineering • Field & Lab Testing • Scientific & Environmental Consulting

05-0720

April 19, 2006

Allied-Cook Construction Inc.
Paul LaLiberte
PO Box 1396
Portland, ME 04104

Subject: Masonry Mortar and Grout Testing
Park Danforth
777 Stevens Avenue
Portland, Maine

Paul,

As requested, S.W. COLE ENGINEERING, INC. provided material testing services at the Park Danforth project at 777 Stevens Avenue in Portland, Maine. Our services included obtaining samples of masonry mortar and grout between September 28, 2005 and January 19, 2006.

The following American Concrete Institute Level 1 certified technicians obtained and prepared all masonry mortar and grout compressive strength samples.

Technician	ACI Field Certification	Expiration Date
Dale Rickards*	929	2008
John Doughty	1046346	2010
Katie Gustafson	144549	2008

Please call me if you have any questions regarding this letter.

Regards,

S.W. COLE ENGINEERING, INC.

Roger Domingo
Construction Services Manager

C: Mike Cyr/Becker Structural Engineers, Inc.

GRAY, ME OFFICE
286 Portland Road, Gray, ME 04039•Tel (207) 657-2866•Fax (207) 657-2840•E-Mail
infogray@swcole.com•www.swcole.com
Other offices in Augusta, Bangor and Caribou, Maine & in Somersworth, New Hampshire

04200.01 Material Specification Submittals



Gagne & Son

CONCRETE BLOCK

- Service and Quality -
Since 1945

Date: March 14, 2005

Maine Masonry Co., Inc.
75 Manson Libby Road
Scarborough, ME 04074

Attn: Lorraine

Re: Park Danforth
Portland, ME

This is the certification that you requested on our masonry units to be supplied to the above-named project.

It is hereby certified that all masonry units manufactured by GAGNE & SON CONCRETE BLOCK, INC. do meet and exceed ASTM-C90-00 standard specification for load bearing concrete masonry units.

Sincerely,

Kenny Beaulieu
Sales

KB:pml

• HARDSCAPE PRODUCTS • CONSTRUCTION SUPPLIES • CONCRETE BLOCKS • PRECAST PRODUCTS •

270 Riverside Drive
Auburn, ME 04210
1-800-339-1132

Main Office
28 Old Rte. 27 Rd.
Belgrade, ME 04917
1-800-339-3313

1506 State Street
Veazie, ME 04401
1-800-649-7393

70 Warren Avenue
Westbrook, ME 04092
1-800-339-9184

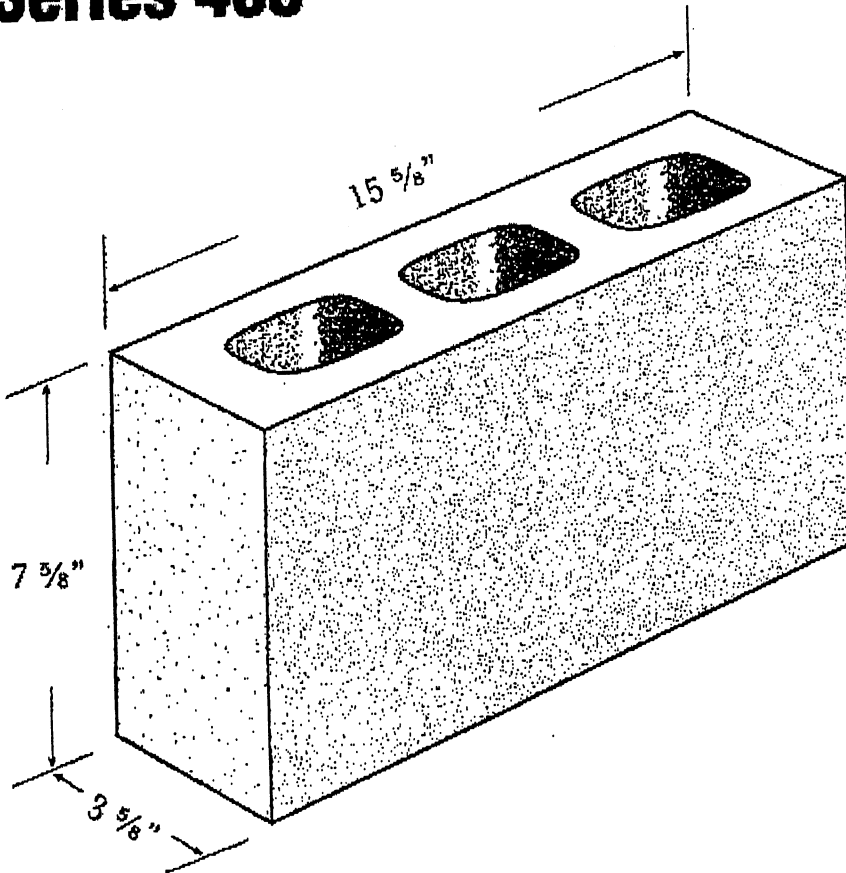
www.gagneandson.com

Gagne & Son CONCRETE BLOCK

Website: gagneandson.com

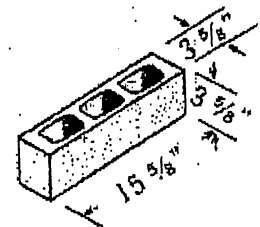
Series 400

G&S 3C-SM 3 Core Smooth

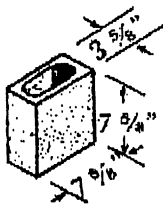


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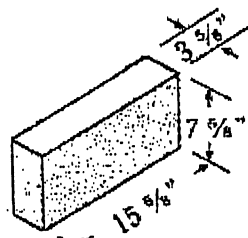
- ASTM C90-00 for concrete
- ASTM C-331 for lightweight



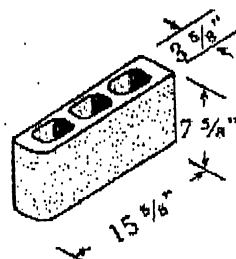
HALF HEIGHT STRETCHER
4" x 4" x 16"



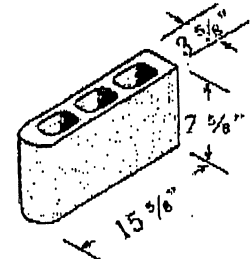
HALF
4" x 8" x 8"



SOLID
4" x 8" x 16"



SINGLE BULLNOSE
4" x 8" x 16"



DOUBLE END BULLNOSE
4" x 8" x 16"

2/2005

APPROVALS:

COMMENTS:

• HARDSCAPE PRODUCTS • CONSTRUCTION SUPPLIES • CONCRETE BLOCKS • PRECAST PRODUCTS •

Auburn
270 Riverside Drive
Auburn, Maine 04210
1-800-339-1132

Belgrade
Rt. 27, Main Office
Belgrade, Maine 04917
1-800-339-3313

Bangor
1506 State Street
Veazle, Maine 04401
1-800-649-7393

Westbrook
70 Warren Avenue
Westbrook, Maine 04092
1-800-339-9184



SUMMIT LABS

1039 Riverside St.
Portland, Maine 04103
tel: (207) 797-3311

Construction Materials
Quality Control Testing Services
Soils, Concrete, Masonry, Steel, Asphalt, Geotechnical Engineering

32 Charles St
Waltham, MA 02453
tel: (781) 893-7333

CONCRETE MASONRY UNITS ASTM C-140

PROJECT NO: 53003 PROJECT NAME: Gagne & Son

CLIENT: Gagne & Son

BLOCK DESCRIPTION: 4 X 8 X 16 Regular

DATE TEST COMPLETED: 2/22/05

AGE: Unknown

DATE MADE: 12/04


DATE RECEIVED: 1/15/05

STRENGTH					
SPECIMEN NO.	NET AREA (square inches)	LOAD (kips)	COMPRESSIVE STRENGTH (psi)	ASTM C90 REQUIREMENTS (minimum psi)	
5A	41.43	167.8	4050	1,700 (individual)	
5B	41.43	155.3	3750		
5C	41.43	161.0	3890		
AVERAGE:			3900	1,900 (average of 3)	
ABSORPTION/MOISTURE CONTENT/DRY UNIT WEIGHT:					
TEST DESCRIPTION	TEST RESULTS		ASTM C90 REQUIREMENTS Average of 3 Units (maximum)		
AVERAGE ABSORPTION	9.0 pcf		13 pcf		
DRY UNIT WEIGHT	129.7 pcf				
MEASUREMENT OF DIMENSIONS					
SPECIMEN NO.	LENGTH (inches)	WIDTH (inches)	HEIGHT (inches)		
5A	15.625	3.625	7.625		
5B	15.625	3.625	7.625		
5C	15.625	3.625	7.625		
			AVERAGE (inches)	ASTM C90 REQUIREMENTS (minimum, inches)	
FACE SHELL THICKNESS (minimum)			1.08	1.25	
WEB THICKNESS (minimum)			1.04	1.00	
EQUIVALENT WEB THICKNESS (per linear foot)			2.41	2.25	
FIRE RESISTANCE RATING (hours) (NCMA TEK 7-1, 1995)			0.9	-	

COMMENTS: Equivalent Thickness = 2.651

SIGNED: _____

F Bartley
Forrest Bartley
Director



Gagne & Son

CONCRETE BLOCK

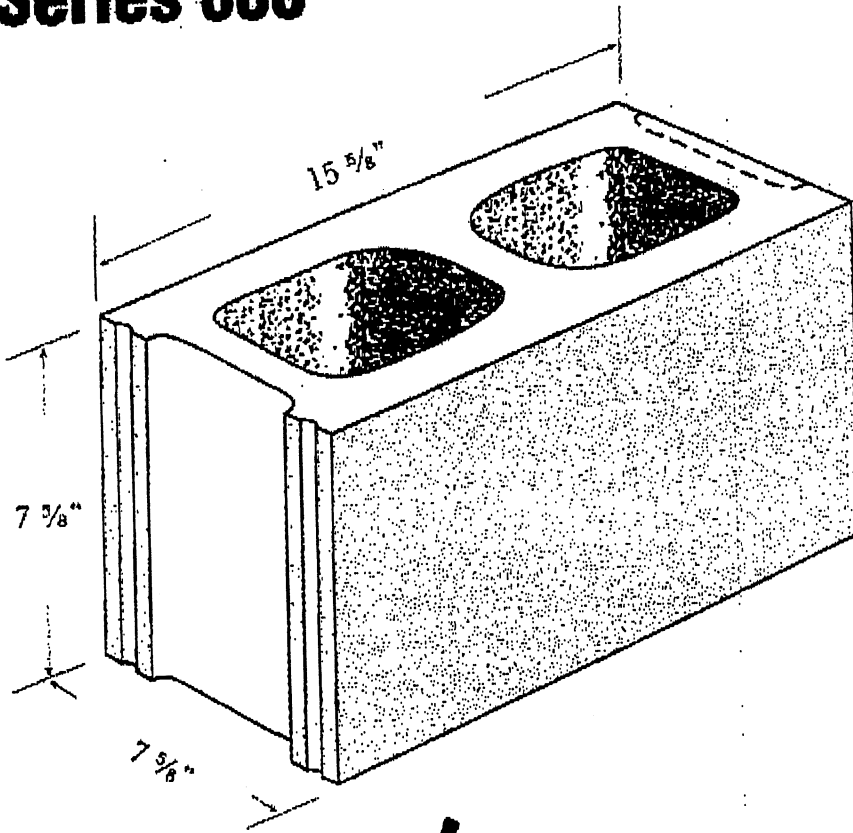
Website: gagneandson.com

Series 800

G&S

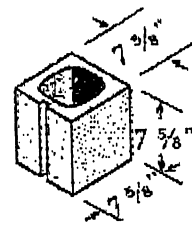
2C-SM

2 Core Smooth

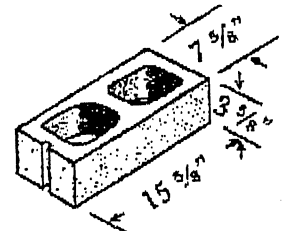


MEETS

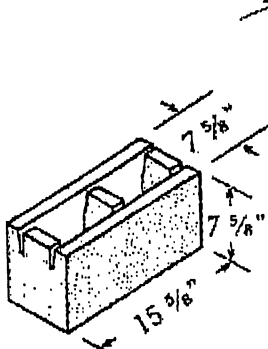
- ASTM C90-00 for concrete
- ASTM C-331 for lightweight



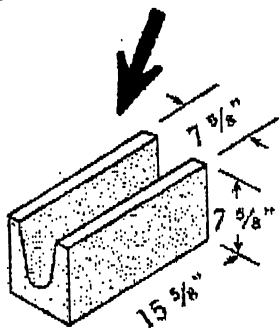
HALF SASH
8" x 8" x 16"



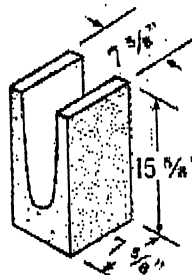
HALF WEIGHT 2 CORE
8" x 4" x 16"



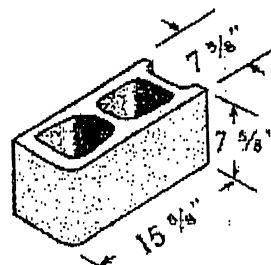
KNOCK OUT BOND BEAM
8" x 8" x 16"



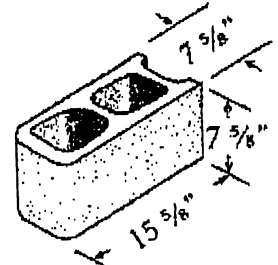
BOND BEAM
8" x 8" x 16"



LINTEL
8" x 16" x 8"



SINGLE BULLNOSE
8" x 8" x 16"



DOUBLE END BULLNOSE
8" x 8" x 16"

2/2005

APPROVALS:

COMMENTS:

HARDSCAPE PRODUCTS • CONSTRUCTION SUPPLIES • CONCRETE BLOCKS • PRECAST PRODUCTS

Auburn
270 Riverside Drive
Auburn, Maine 04210
1-800-339-1132

Belgrade
Rt. 27, Main Office
Belgrade, Maine 04917
1-800-339-3313

Bangor
1506 State Street
Veazie, Maine 04401
1-800-649-7393

Westbrook
70 Warren Avenue
Westbrook, Maine 04092
1-800-339-9184



SUMMIT LABS

1039 Riverside St.
Portland, Maine 04103
tel: (207) 797-3311

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Soils, Concrete, Masonry, Steel, Asphalt, Geotechnical Engineering

32 Charles St
Waltham, MA 02453
tel: (781) 893-7333

**CONCRETE MASONRY UNITS
ASTM C-140**

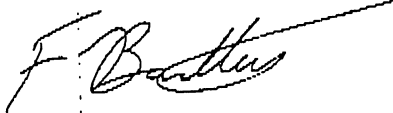
PROJECT NO: 53003 PROJECT NAME: Gagne & Son
 CLIENT: Gagne & Son
 BLOCK DESCRIPTION: 8 X 8 X 16 Regular DATE TEST COMPLETED: 2/22/05
 AGE: 67 days DATE MADE: 12/17/04 DATE RECEIVED: 1/15/05

STRENGTH				
SPECIMEN NO.	NET AREA (square inches)	LOAD (kips)	COMPRESSIVE STRENGTH (psi)	ASTM C90 REQUIREMENTS (minimum psi)
2A	63.46	230.0	3620	1,700 (individual)
2B	63.46	235.8	3720	
2C	63.46	226.8	3570	
AVERAGE:			3640	1,900 (average of 3)

ABSORPTION/MOISTURE CONTENT/DRY UNIT WEIGHT		
TEST DESCRIPTION	TEST RESULTS	ASTM C90 REQUIREMENTS Average of 3 Units (maximum)
AVERAGE ABSORPTION	9.2 pcf	13 pcf
DRY UNIT WEIGHT	127.5 pcf	

MEASUREMENT OF DIMENSIONS					
SPECIMEN NO.	LENGTH (inches)	WIDTH (inches)	HEIGHT (inches)		
2A	15.625	7.625	7.625		
2B	15.625	7.625	7.625		
2C	15.625	7.625	7.625		
				AVERAGE (inches)	ASTM C90 REQUIREMENTS (minimum, inches)
FACE SHELL THICKNESS (minimum)				1.30	1.25
WEB THICKNESS (minimum)				1.06	1.00
EQUIVALENT WEB THICKNESS (per linear foot)				2.45	2.25
FIRE RESISTANCE RATING (hours) (NCMA TEK 7-1, 1995)				1.9	-

COMMENTS: Equivalent Thickness = 4.148

SIGNED: 
 Forrest Bartley
 Director

Glen-Gery Corporation
Technical Services/Research
Route #61 Box 340
Shoemakersville, PA 19555
610/562-3076
Fax: 610/562-2084
<http://www.glengerybrick.com>



16 March 2005

Morin Brick Company
130 Morin Brick Road
Auburn, Maine 04223

REFERENCE: Park Danforth
Architect: F.W.S.
Mason Contractor: Mame Masonry
Dealer/Distributor: Morin Brick Company

To Whom It May Concern,

As requested by our Hanley Plant, please find enclosed a letter of certification and test report typical of the W21-22 Utility Cored size units as manufactured by the Glen-Gery Corporation.

Should you require any additional information, please contact the Hanley Plant. Thank you for your interest in Glen-Gery's line of fine quality products.

Truly yours,
Glen-Gery Corporation

Jerry Carrier
Technical Services Manager

jc:jy

Enclosures

cc: Hanley Plant

Glen-Gery Corporation
Technical Services/Research
Route #61 Box 340
Shoemakersville, PA 19555
610/562-3076
Fax: 610/562-2084
<http://www.glengerybrick.com>



16 March 2005

Morin Brick Company
130 Morin Brick Road
Auburn, Maine 04223

REFERENCE: Park Danforth
Architect: E.W.S.
Mason Contractor: Maine Masonry
Dealer/Distributor: Morin Brick Company

To Whom It May Concern,

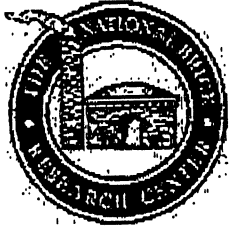
The W21-22 Utility Cored size units as manufactured by the Hanley Plant of the Glen-Gery Corporation meet ASTM Designation C216-01, the Standard Specification for Facing Brick, Grade SW, Type FBX.

Truly yours,
Glen-Gery Corporation

Jerry Carrier
Technical Services Manager

jc:jy

cc: Hanley Plant



The National Brick Research Center
 100 Clemson Research Blvd.
 Anderson, SC 29625
 Ph: (864) 656-1094
 Fax: (864) 656-1094
 www.brickandtile.org

Results of Tests on Brick conducted in accordance with ASTM C67-00
 "Standard Method for Sampling and Testing Brick and Structural Clay Tile"

To:	Glen-Gery Hanley Route 61, PO Box 340 Shoemakersville PA 19555	Report Number:	GGHA-0144
Phone:	610-562-3076	Sampled Date:	August 26, 2003
Fax:	610-562-2084	Report Date:	October 1, 2003
		Lot Number:	063RMD
		Product Code:	2002209171

Sample Description W21-22 Utility Face Brick Extruded Cored

<i>Compressive Strength</i>	1	2	3	4	5	Average
psi	24,496	18,166	16,288	20,704	12,510	18,429
MPa	168.9	125.2	112.1	142.8	86.3	127.1
<i>Absorption</i>	1	2	3	4	5	
24 Hour Submersion in Cold Water (%)	0.93	0.99	0.96	0.93	1.19	1.00
5 Hour Submersion in Boiling Water (%)	1.37	1.38	1.40	1.28	1.60	1.41
Saturation Coefficient (Ratio of 24 H to 5 H)	0.68	0.72	0.69	0.72	0.74	0.71
<i>Initial Rate of Absorption</i>	6	7	8	9	10	
Gain in Weight in one minute (g)	4.6	5.3	1.7	6.4	4.1	4.4
<i>Efflorescence</i>	11	12	13	14	15	
	Not Effloresced	Not Effloresced	Not Effloresced	Not Effloresced	Not Effloresced	

The Brick represented by the test results shown here comply with the standards listed below:

ASTM C 216-01 Standard Specification for Facing Brick (Solid Masonry Units Made from Clay or Shale) Grade:

Grade SW, MW

ASTM C 62-01 Standard Specification for Building Brick (Solid Masonry Units Made From Clay or Shale) Grade:

Grade SW, MW, NW

ASTM C 32-93 (1999) Standard Specification for Sewer and Manhole Brick (Made From Clay or Shale) Grade:

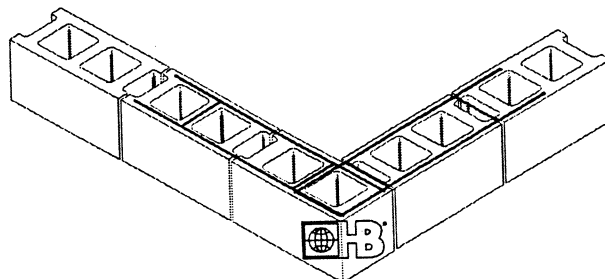
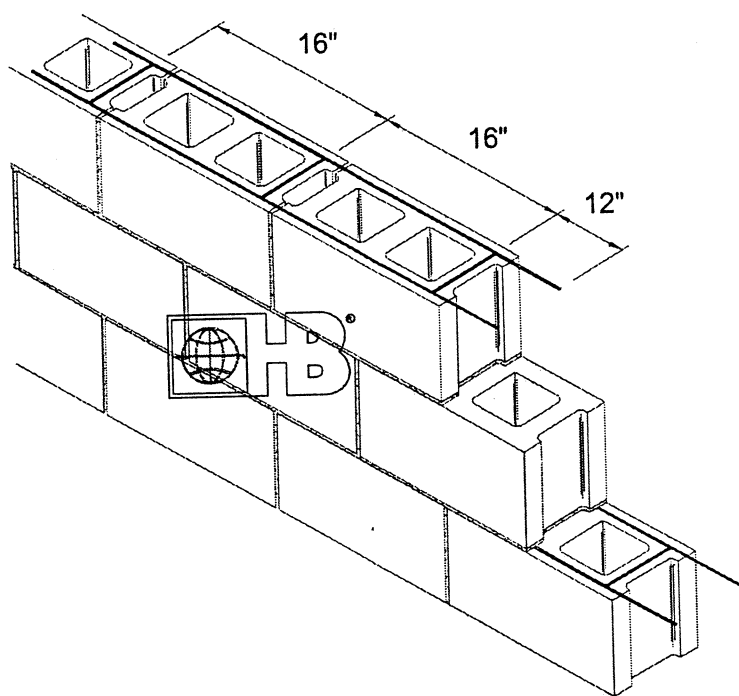
Grade SS, SM / MS, MM

Denis Brosnan, Ph.D., P.E.
 Director
 The National Brick Research Center

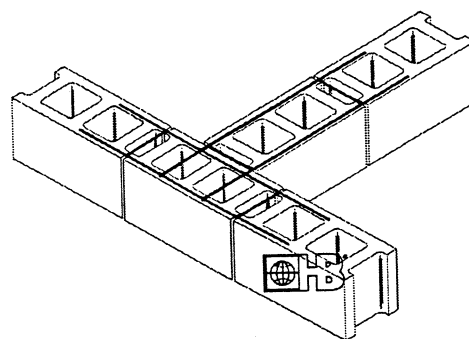
Jim Frederic
 Associate Director
 The National Brick Research Center

8

#220 Ladder-Mesh (For Single Wythe Wall)



PREFABRICATED CORNER



PREFABRICATED TEE

DRAWINGS FOR ILLUSTRATIVE PURPOSES ONLY

MATERIAL CONFORMANCE - JOINT REINFORCEMENT

Hohmann & Barnard joint reinforcement products conform to Standard Specification ASTM A 951 & ACI / ASCE 530 (Building Code Requirements for Masonry Structures)

WIRE: (Carbon Steel): Prefabricated construction from cold-drawn steel wire conforming to ASTM A 82:
Tensile strength - 80,000 p.s.i.,
Yield Point - 70,000 p.s.i. minimum

WIRE DIAMETER:

9 gauge (.148" or W1.7)
3/16" (.187" or W2.8)

Side Rods and Cross Rods available in any combination of the above. Cross Rods welded 16" O.C.
First Cross Rods welded 12" in from each end to allow lap splices per code requirements.

FINISHES:

- Mill galvanized coating: ASTM A 641 (0.1 oz/ft²).
Also available on special order: ASTM A 641 Class 1 (0.4 oz/ft²),
ASTM A 641 Class 3 (0.8 oz/ft²).
- Hot-dip galvanized after fabrication: ASTM A 153 (1.5 oz/ft²).
- Stainless Steel: ASTM A 580 - AISI Type 304 (Type 316 available on special order).
Note: H&B recommends Stainless Steel for maximum protection against corrosion.

WIRE SIZE:

- (S) Standard Weight:
9 Gauge Side Rods x 9 Gauge Cross Rods
- (EH) Extra Heavy:
3/16" Side Rods x 9 Gauge Cross Rods
- (SHD) Super Heavy Duty
3/16" Side Rods x 3/16" Cross Rods

BLOCK SIZE:

- 4" 12"
- 6" 14"
- 8" 16"
- 10"

Note: For Corner or Tee, state width of both block walls.

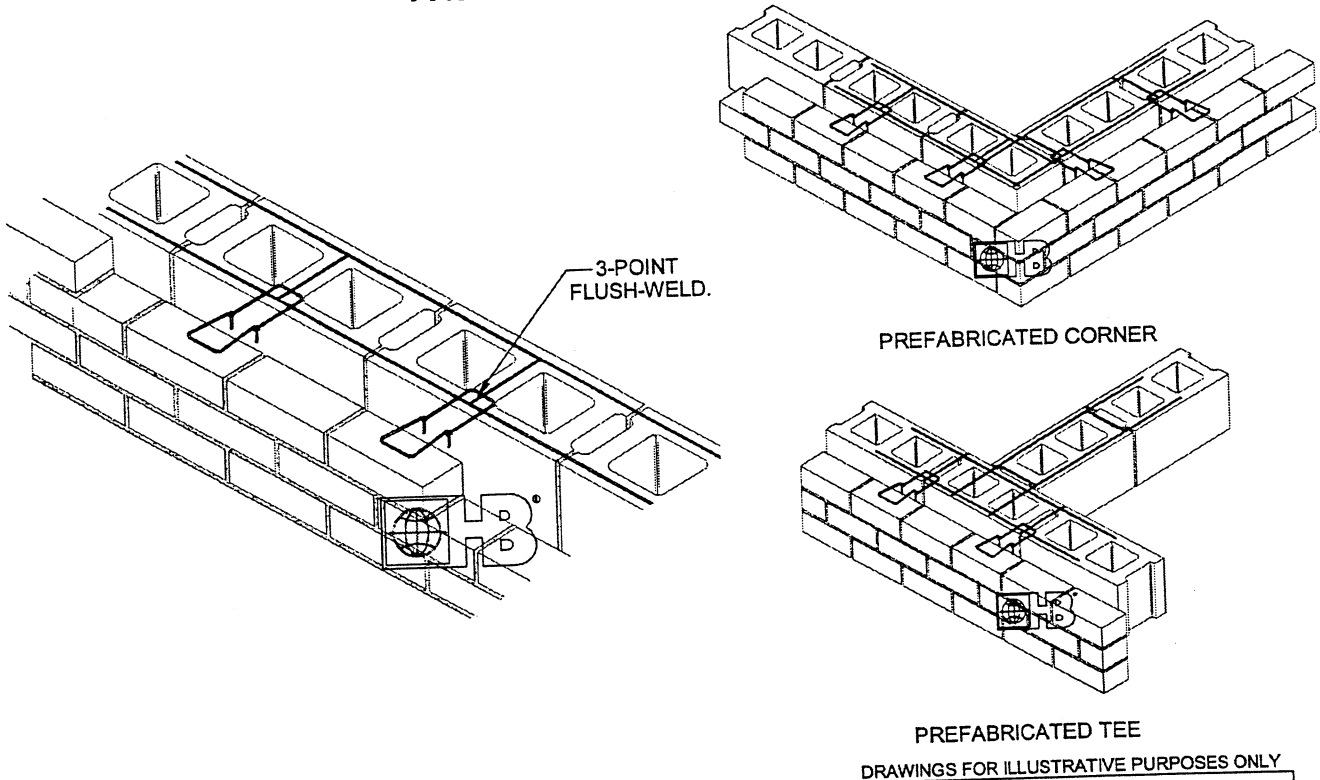


Hohmann & Barnard, Inc.
30 Rasons Court
Hauppauge, New York 11788
TEL: (800) 645-0616 FAX: (631) 234-0683

WEBSITE: www.h-b.com
E-MAIL: weanchor@h-b.com

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#270 Ladder True Joint™ With Tru-Joint™ Feature*



DRAWINGS FOR ILLUSTRATIVE PURPOSES ONLY

MATERIAL CONFORMANCES - JOINT REINFORCEMENT

Hohmann & Barnard joint reinforcement products conform to Standard Specification ASTM A 951 & ACI / ASCE 530 (Building Code Requirements for Masonry Structures)

WIRE: (Carbon Steel): Prefabricated construction from cold-drawn steel wire conforming to ASTM A 82:
Tensile strength - 80,000 p.s.i.
Yield Point - 70,000 p.s.i. minimum

WIRE DIAMETER:

9 gauge (.148" or W1.7)

3/16" (.187" or W2.8)

Side Rods and Cross Rods available in any combination of the above. Eyes and Hooks are 3/16"Ø. Cross Rods welded 16" O.C.

First Cross Rods welded 12" in from each end to allow lap splices per code requirements.

*Tru-Joint™ Feature - Eyes are flush-welded to Ladder to eliminate wire build-up in mortar joint.

FINISHES:

- Mill galvanized coating: ASTM A 641 (0.1 oz/ft²).
Also available on special order: ASTM A 641 Class 1 (0.4 oz/ft²),
ASTM A 641 Class 3 (0.8 oz/ft²).
- Hot-dip galvanized after fabrication: ASTM A 153 (1.5 oz/ft²).
- Stainless Steel: ASTM A 580 - AISI Type 304 (Type 316 available on special order).
Note: H&B recommends Stainless Steel for maximum protection against corrosion.

WIRE SIZE:

- (S) Standard Weight:
9 Gauge Side Rods x 9 Gauge Cross Rods
- (EH) Extra Heavy:
3/16" Side Rods x 9 Gauge Cross Rods
- (SHD) Super Heavy Duty
3/16" Side Rods x 3/16" Cross Rods

BLOCK SIZE:

- 4" 12"
- 6" 14"
- 8" 16"
- 10"

Note: State cavity and/or insulation thickness when ordering.



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Hauppauge, New York 11788
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WEBSITE: www.h-b.com
E-MAIL: weanchor@h-b.com

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10

ASTM STANDARD REINFORCING BARS

BAR SIZE DESIGNATION	NOMINAL AREA SQ. INCHES	NOMINAL WEIGHT POUNDS PER FT.	NOMINAL DIAMETER INCHES
#3	0.11	0.376	0.375
#4	0.20	0.668	0.500
#5	0.31	1.043	0.625
#6	0.44	1.502	0.750
#7	0.60	2.044	0.875
#8	0.79	2.670	1.000
#9	1.00	3.400	1.128
#10	1.27	4.303	1.270
#11	1.56	5.313	1.410
#14	2.25	7.65	1.693
#18	4.00	13.60	2.257

Current ASTM Specifications cover bar sizes #14 and #18
in A615 Grades 60 and 75 and in A706 only.

11

**NORTH CROSSMAN ROAD
SAYREVILLE NJ 08872**
REPORT OF MECHANICAL AND CHEMICAL TESTS

SOLD TO

MAC FARLANE STEEL CORP.
P.O. BOX 142
WOODLAWN ROAD
FRYEBURG, ME 04037

SHIPPERS No.
119518-534-530-546-560

CUSTOMER ORDER No.
VERBAL

NJS No.
37818-37817

SIZE	GRADE	HEAT#	AREA	YIELD	TENSILE	SEL	BEND	C	MN	P	S	SPEC.
5	60	85135	0.3100	64516	101290	15.0	3.50	0.43	0.84	0.024	0.030	A615-95
5	60	85138	0.3100	63581	99355	16.0	3.50	0.43	0.81	0.024	0.038	A615-95
5	60	85050	0.3100	63870	96129	16.0	3.50	0.44	0.86	0.015	0.053	A615-95
5	60	85114	0.3100	65806	105181	13.0		0.42	0.83	0.026	0.032	A615-95
5	60	84885	0.3100	60000	94838	16.0	3.50	0.43	0.83	0.018	0.056	A615-95
5	60	85132	0.3100	64516	101290	15.0	3.50	0.43	0.81	0.025	0.030	A615-95
5	60	85113	0.3100	65806	101935	14.0	3.50	0.45	0.82	0.015	0.035	A615-95
5	60	85151	0.3100	65161	101935	13.0	3.50	0.41	0.87	0.031	0.051	A615-95
11	60	84680	1.5500	71794	104807	14.0	70	0.42	0.84	0.017	0.043	A615-94

This is to certify that the above chemical analysis and/or test results shown are true and accurate reports as contained in the records of the corporation.

Julius J. Gerzanich
CHIEF METALLURGIST

Julius J. Gerzanich

Sworn and subscribed before me this Wednesday
05/01/98

Carol A. Smith Hanney

NOTARY PUBLIC
CAROL A. SMITH HANNEY

Notary Public of New Jersey

My Commission Expires Nov 4 1998

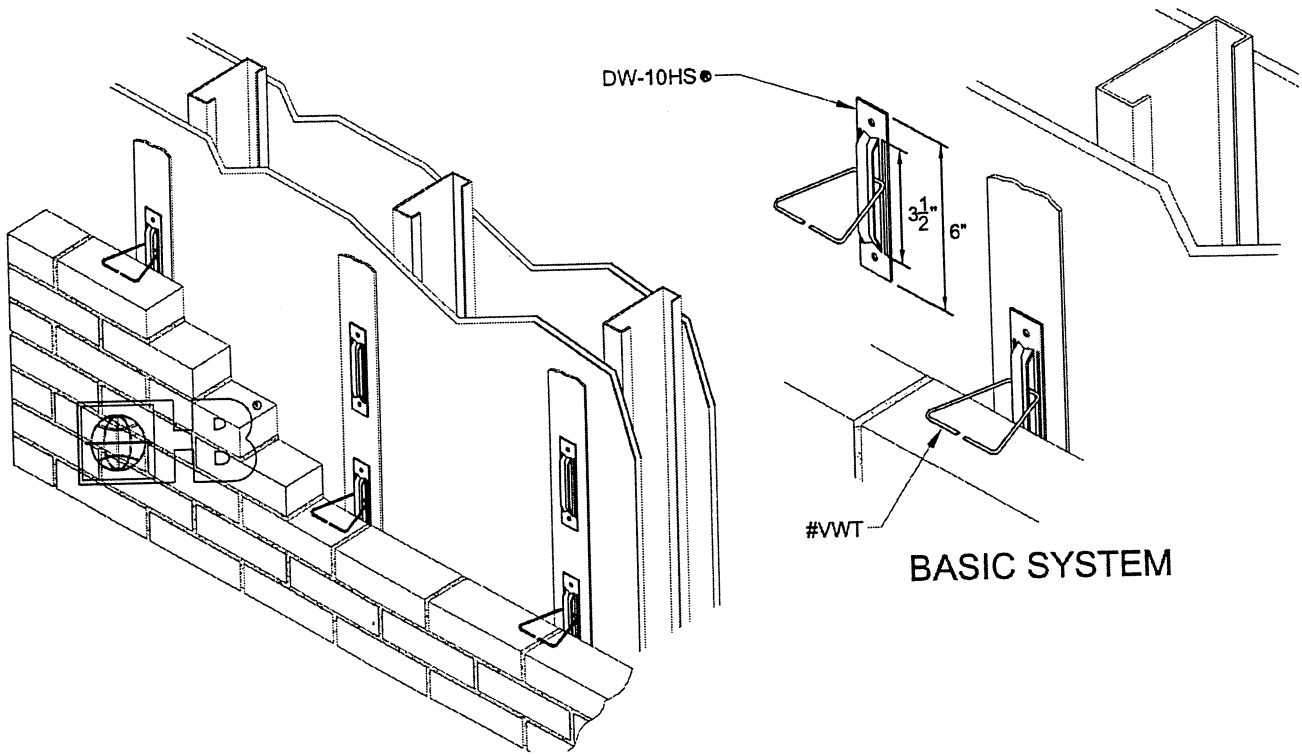
This product has been melted
and manufactured in the U.S.A.



H B DW-10 Series Veneer Anchors

DW-10HS® ANCHOR SYSTEM

04082/HOH
BuyLine 1823



DRAWINGS FOR ILLUSTRATIVE PURPOSES ONLY

WIRE (Carbon Steel):
Cold-drawn steel wire conforming to ASTM A 82:
Tensile strength - 80,000 p.s.i.
Yield Point - 70,000 p.s.i. minimum
Zinc Coating:
Hot-dip galvanized after fabrication: ASTM A 153 (1.5 oz/ft)
Note: Hohmann & Barnard will certify to a minimum of 2.0 oz/ft

WIRE (Stainless Steel):
ASTM A 580 - AISI Type 304. (Type 316 available on special order.)

SHEET METAL (Carbon Steel):
ASTM A 366
Zinc Coating:
ASTM A 153 Class B (sheet metal ties and anchors hot-dip galvanized after fabrication).
Note: Hohmann & Barnard will certify to a minimum of 2.0 oz/ft

SHEET METAL (Stainless Steel):
ASTM A 167 - AISI Type 304 Stainless Steel (sheet metal ties and anchors) (Type 316 available on special order).
Note: H&B recommends Stainless Steel for maximum protection against corrosion.

THICKNESS:

- 14 Gauge
- 12 Gauge

VEE TIE DIAMETER:

- 3/16"Ø Standard
- 1/4"Ø Heavyweight

VEE TIE LENGTH:

- 3" 3 1/2" 4" 4 1/2" 5"
- OTHER LENGTH _____

FINISH:

- Hot Dip Galvanized
- Stainless Steel



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Hauppauge, New York 11788
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E-MAIL: weanchor@h-b.com

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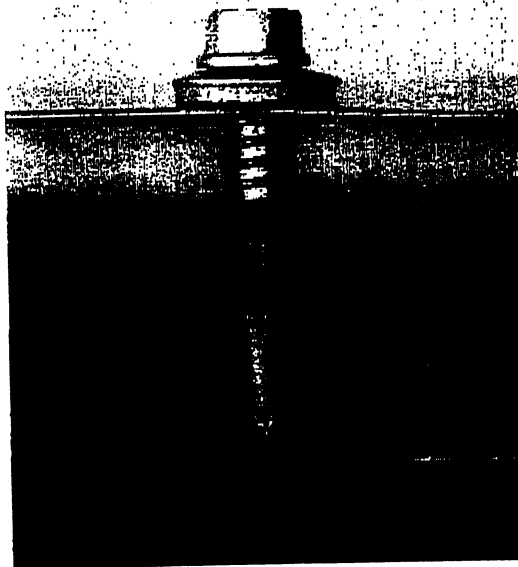


BUILDING IDEAS THAT WORK™

TEKS®

Self-Drilling Fasteners With Bonded Washer

For weather-tight sealing of roof and wall applications.



Applications

- Roof panels to purlin or bar joist.
- Wall panels to girt.
- Mansard panel to structural.

Product Features

- Vulcanized bonding of washer eliminates separation of EPDM from the metal backing.
- Dual sealing bonded washer prevents leaks.
- Climaseal® finish provides excellent corrosion resistance and lower tapping torque.
- Point has precise cutting edges to improve drill performance with less effort.
- Point to thread design maximizes pullout performance and minimizes backout.

Product Specifications

Diameter	#10, #12 & 1/4
Thread Form	10-16 12-14 12-24 1/4-14 1/4-28
Head Style	#10: 5/16" HWH #12: 5/16" HWH 1/4 (stitch): 5/16" HWH 1/4: 3/8" HWH
Washer Style	Galvanized (G-90)

Drill Point	Teks 1 Teks 2 Teks 3 Teks 4 Teks 4.5 Teks 5
Finish	Climaseal® Head Paint Available
	Head Style Hex Washer Head with Bonded Washer



Corrosion Resistance

- Kesternich Results (DIN 50018, 2.0L)**
- 30 Cycles - 10% or less red rust

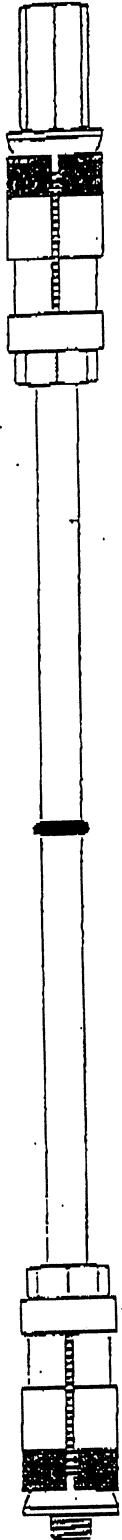
- Salt Spray Results (ASTM B117)**
- 720 hours - 10% or less red rust

14

H-B Repair/Restoration Anchors

04082/HOH
BuyLine 1823

#521RA-B



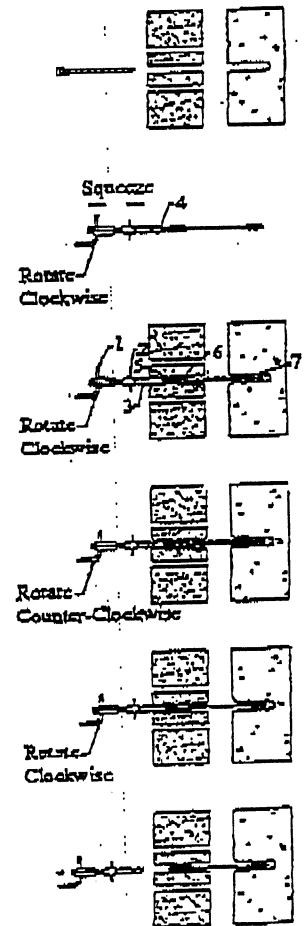
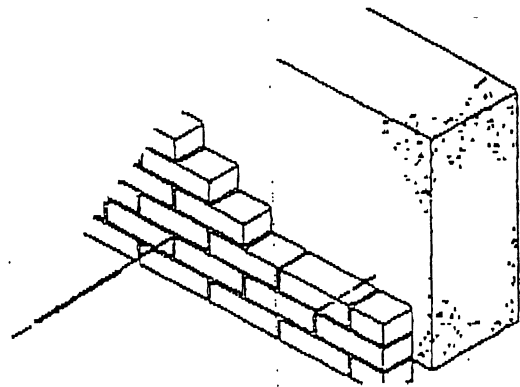
PERFORMANCE DATA #521RA-B

Base Materials	Tension (LBS.)
Mortar Joint (Type "N")	800#
Brick Masonry	1,100#
Concrete Masonry	1,190#
Unit (CMU C-90 Block)	

*Note: The value shown above is the ultimate load capacity which should be reduced by minimum safety factor of 4 to determine the allowable working loads.

INSTALLATION PROCEDURE FOR #521RA-B

- 1) Drill a 1/2" dia. hole to the required depth as shown in the table.
- 2) Compress the spring of the tool by squeezing the handles (1) and (2) together, screw the threaded end (4) part way into the #521RA-B anchor face hexagon (5) and release handle (2) to engage anchor face (5). Holding handle (2) rotate handle (1) clockwise until it locks.
- 3) Push through the outer wall, across the cavity and into the inner wall to the depth indicated by the groove (3). Rotate handle (1) clockwise, leaving handle (2) free to rotate with it until the inner shell (7) is tight. **NOTE:** Check torque of the inner shell (7) by fitting a torque wrench to the head on the tool.
- 4) Hold handle (2) and rotate handle (1) counter-clockwise to release the threaded end of the tool (4) from the face (5). (Full release will be indicated by a click, leaving only the hexagons engaged).
- 5) Rotate handle (1) clockwise to tighten face and expand outer shell (6). **NOTE:** Check torque of the inner shell (6) by fitting a torque wrench to the head on the tool.
- 6) Remove tool by pulling away from face (5). Torque checking is recommended. Recommended torque is 3 to 5 ft-lbs.



See Also Page 21 Hohmann & Barnard Masonry Catalog.



Hohmann & Barnard, Inc.
30 Razons Court
Hauppauge, New York 11788
TEL: (800) 645-0616 FAX: (631) 234-0583

WEBSITE: www.h-b.com
E-MAIL: weanchor@h-b.com

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QUIKRETE®

Bulk Masonry Mortars

PRODUCT DESCRIPTION

QUIKRETE® Bulk Masonry Mortars are contractor grade masonry mortars designed for laying brick, block or stone.

Composition and Materials: QUIKRETE® Bulk Masonry Mortars are pre-blended sanded products. They are available in Types M, N, or S using either Masonry Cement or a Portland/lime blend.

Packaging: Available in 3000 lb (1362 Kg) super sacks.

Color: Standard color is Gray. Additional colors including white are available by special order.

Coverage: Each 3000 lb. (1362 Kg) bag will lay up to approximately 1500-1650 standard bricks or 550-650 standard blocks. Yield will vary with mortar type. Generally a higher yield will be obtained with mortars made from masonry cement.

TECHNICAL DATA

QUIKRETE® Bulk Masonry Mortars meet and exceed the performance requirements of ASTM C 270 for the designated type of mortar as shown below:

Mortar Type	Minimum Compressive Strength
N	750 psi (5.2 MPa)
S	1,800 psi (12.4 MPa)
M	2,500 psi (17.2 MPa)

QUIKRETE® recommends the attached guide specifications when specifying bulk masonry mortars.

APPLICATION

Mixing: QUIKRETE® Bulk Masonry Mortars require only the addition of water. Mix to a plastic-like consistency.

Installation: Apply a full bed of mortar onto the base, approximately 1/4" to 3/4" (6 to 19 mm) thick. Push downward into the mortar bed and sideways against the previously laid block with a slight twisting motion.

Tool the mortar joints when the joints become "thumb print" hard: this will make the mortar joint watertight and provide a neat appearance.

The QUIKRETE® Companies, Inc
One Securities Centre
3490 Piedmont Road
Suite 1300
Atlanta, GA 30329
1/01/02

16

QUIKRETE[®] CERTIFIED TEST REPORT

Product:	Bulk Mortar Type-S (Portland Cement/Lime Blend)
Product Code:	SR20-21
Manufactured by:	QUIKRETE - Boston

Initial Testing

Sample Identification		Test	Specification	Results
Date Received	7/25/01	Water (%)	as required	18
Date Produced	7/19/01	Consistency	105-115% @25d	113
Production Code		Unit Weight	meas.	130
Lab Code:	01-2450	Set Time		

Strength Testing

Test Conditions: Mix Method M, Cure >95% RH

Test Age	Compressive Strength (psi)		Flexural Strength (psi)	
	Specification	Result	Specification	Result
1 day				
7 day	measure	1890		
28 day	1800	3390		

Other Testing

Test	Specification	Test Results
Water Retention	> 75%	84.9%

Certified by: *Richard Nicholson*

Richard Nicholson.

Technical Director



**Maine
Masonry**
co inc

75 MANSON LIBBY ROAD, SCARBOROUGH, ME 04074
207/883-6503 FAX 207/885-0972

MORTAR MIX DESIGN

TO: Allied/Cook Construction ATTN: George Liming DATE: March 21, 2005
FROM: Lorraine Cressey
RE: Park Danforth

MATERIALS FOR MORTAR	ACTION
Quikrete Type S Colored Mortar Preblended	

MORTAR TYPE:		Type S colored mortar
MORTAR LOCATION:		Brick veneer
RATIO	UNITS	MATERIAL
1	unit	Quikrete type S w/ H-Series color
		Water Potable

MORTAR TYPE:		Type S mortar
MORTAR LOCATION:		block
RATIO	UNITS	MATERIAL
1	unit	Quikrete type S mortar
		Water Potable

REMARKS:

Maine Masonry certifies that the mortar used for the above referenced project will meet the specification requirement.



**Maine
Masonry**
co inc

75 MANSON LIBBY ROAD, P.O. BOX 7265, SCARBOROUGH, ME 04070-7265
207/883-6503 FAX 207/885-0972

GROUT SITE MIX DESIGN

TO: Allied/Cook Construction ATTN: George Liming DATE: March 21, 2005
FROM: Lorraine Cressey
RE: Park Danforth

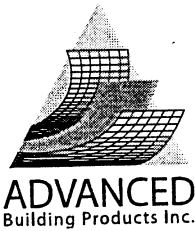
MATERIALS FOR GROUT	ACTION
Portland Cement: Dragon Type I	
Fine aggregate for Grout: Prtl Sand + Gravel, Mortar Sand	
Coarse aggregate for Grout: Prtl Sand + Gravel, 3/8" Pea Stone	
Water: Clean and Potable	

GROUT TYPE:		Fine Grout, Site Mixed
GROUT LOCATION:		CMU Cores
RATIO	UNITS	MATERIAL
1	Bag (CuFt)	Portland Cement: Dragon Type I
2 ¼ - 3	CuFt	Fine aggregate for Grout: Prtl Sand + Gravel, Mortar Sand
		Water: Clean and Potable

GROUT TYPE:		
GROUT LOCATION:		
RATIO	UNITS	MATERIAL
1	Bag (CuFt)	Portland Cement: Dragon Type I
2 ¼ - 3	CuFt	Fine aggregate for Grout: Prtl Sand + Gravel, Mortar Sand
1-2	CuFt	Coarse aggregate for Grout: Prtl Sand + Gravel, 3/8" Pea Stone
		Water: Clean and Potable

REMARKS:
Maine Masonry certifies that the grout used for the above referenced project will meet the ASTM C 476 specification requirement.

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P.O. BOX 98, SPRINGVALE, MAINE 04083
TEL. 1-800-252-2306 or 1-207-490-2306
FAX 207-490-2998
www.advancedflashing.com

ADVANCED COPPER FABRIC

FLASHING

DESCRIPTION:

A full, single sheet of 2, 3, 5 or 7 oz. Copper bonded on both sides to asphalt coated glass fabric with a ductile asphalt.

FEATURES:

A permanent, premium quality laminated thru-wall flashing consisting of five (5) layers of time proven waterproofing materials combined under heat and pressure into a single sheet. It is flexible and is easily formed by hand at the jobsite. Features include:

1. Copper to withstand all harmful acid and alkali action that is present in fresh mortar. Copper is permanently waterproof, high in tensile strength to resist stretching and tough enough to bear the compressive forces in the masonry wall without harmful cold flow.
2. Tough coating of asphalt on both surfaces of the copper core providing additional waterproofing and chemical resistance.
3. Covering of heavy glass fabric on both sides to reinforce the entire assemblage, protect the copper from damage in handling during installation and to provide a rough textured surface which promotes an excellent bond in the mortar joint.
4. Asphalt properly applied in the manufacturing process provides a perfect adhesive between Copper and glass fabric.

MODEL SPECIFICATIONS:

Special Requirements:

All materials specified shall be delivered to the site in approved manufacturer's sealed containers bearing manufacturer's name and material identification.

Preparation:

All masonry surfaces receiving thru-wall flashings shall be free from loose materials, and reasonably smooth. There shall be no slopes that will form pockets or prevent free drainage of water to the exterior surfaces of the wall. All work shall be executed in conformance with accepted trade practice.

Materials:

Flashing shall be Advanced Copper Fabric Flashing consisting of a full, single sheet of copper weighing (specify 2, 3, 5, or 7 oz. copper) per sq. ft. bonded to and between two layers of coarsely woven glass fabric with asphalt.

Applications:

Horizontal Masonry Surfaces:

Flashing shall be laid in a slurry of fresh mortar and topped with a fresh full bed of mortar. Flashing shall be carried through the wall as detailed and left exposed at the exterior for inspections only. After inspection, flashing shall be cut flush with the exterior masonry.

Vertical Masonry Surfaces:

Surfaces receiving the flashing shall be sufficiently spotted with Cop-R-Tite Mastic to hold it in place until masonry is set. Secure in back wall mortar joint or reglet as detailed.

Foundation Sill Flashing:

The flashing for foundation sills shall be laid in a slurry of fresh mortar and topped with a fresh full bed of mortar. Flashing shall be left flush with the exterior face of the masonry and turned up on the inside not less than 2" or be carried upward across the cavity a minimum of 6". Flashing will then be secured in the back wall in a reglet or mortar joint. Where sill and column meet, flashing shall be brought a minimum of 10" up the column and be secured with Cop-R-Tite Mastic.

Cavity Wall Flashing:

Flashing shall be laid in a slurry of fresh mortar and topped with a fresh full slurry of mortar. Flashing shall be left flush with the exterior face of the masonry wall and carried through the wall, upward across the cavity a minimum of 6", and be secured in the back wall mortar joint or reglet.

Spandrel Flashing:

Spandrel flashing shall start from the outside toe of the shelf angle, go up the face of the beam and then through the wall turning up on the inside not less than 2".

Parapet or Copings:

Flashing for parapets or copings shall be laid in a slurry of fresh mortar and topped with a fresh full bed of mortar. Flashing shall come flush with the exterior and interior faces of the masonry wall.

Head and Sill Flashing:

The flashing shall start flush with the outside of the wall or lintel angle, then carried through or up the wall as indicated. Flashing shall extend 6" beyond each side of the opening and be turned up at the sides forming a pan. All corners shall be folded, not cut.

Other Areas:

All membrane flashing at other locations shall be installed in accordance with manufacturer's recommendations.

Joining of Material:

Joint shall be made by lapping a minimum of 4" and coating the contacting surfaces with Cop-R-Tite Mastic.

Weep Holes:

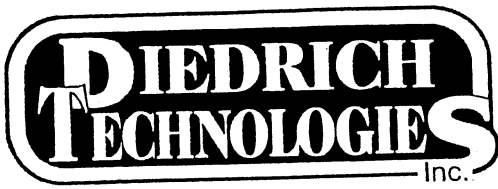
All flashing installed through masonry shall be provided with proper drainage to outside. Weep holes shall be provided in the head joint, the first course immediately above the flashing. Weep holes shall be kept free of mortar droppings.

Mortar Deflection:

A mortar deflection device, such as MORTAR BREAK®, should be installed at all flashing locations to ensure proper weepage.

INSPECTION:

In each area where membrane flashing has been installed, a minimum of three locations in the wall joint above the flashing shall be left clean of mortar for water to be forced into the opening to determine if flashing has been installed properly and weep holes provided in accordance with these specifications. All flashing that has been left exposed to the exterior should be trimmed flush with the exterior masonry at this time.



SPECIFICATION & DATA

DIEDRICH 200 LIME SOLV

PRODUCT NAME:
DIEDRICH 200 LIME SOLV

MANUFACTURER:
Diedrich Technologies Inc.
7373 S. 6th Street
Oak Creek, WI 53154
(414) 764-0058
(800) 323-3565
(414) 764-6993 (FAX)

DESCRIPTION AND USE:
Diedrich 200 Lime Solv is a combination of organic and inorganic acids, wetting agents and inhibitors for use in the final clean up of new masonry. 200 Lime Solv efficiently cleans off residual mortar, day to day soiling and staining that occurs on job sites. It will work on red and dark colored brick, concrete block and varieties of new masonry construction not susceptible to metallic staining.

Diedrich 200 Lime Solv's wetting agents and inhibitors permit it to cling to masonry surfaces for an extended dwell period. This extended dwell time permits a lower acid concentration to be used in comparison to the customary muriatic acid washes. This results in equal if not better cleaning while exposing the masonry to less actual acid.

Diedrich 200 Lime Solv quickly loosens mortar

residue and when removed with high pressure water virtually all residue will be washed away with little or no agitation. When used as directed 200 Lime Solv will not cause acid burns or streaks.

Diedrich 200 Lime Solv, being a concentrate, is a versatile product that can be diluted as job conditions dictate. (Example: 1 gallon of 200 Lime Solv can be diluted to make from 5 to as much as 50 gallons).

LIMITATIONS:
200 Lime Solv is not recommended for use on light colored brick, porous stone (sandstone), large limestone areas (other than trim), or where manganese or metal fillers have been added to brick and tile. (See product literature on Diedrich 202V Vana-Stop.) Extra care should be taken when used on glazed substrates and colored mortar. 200 Lime Solv may not be compatible with these surfaces. Test applications must be accomplished to ensure there are no adverse reactions such as bleaching and etching. 200 Lime Solv will not clean pollution and carbon deposits or smoke and fire residue from masonry and stone surfaces. See product literature on Diedrich Restoration Cleaners

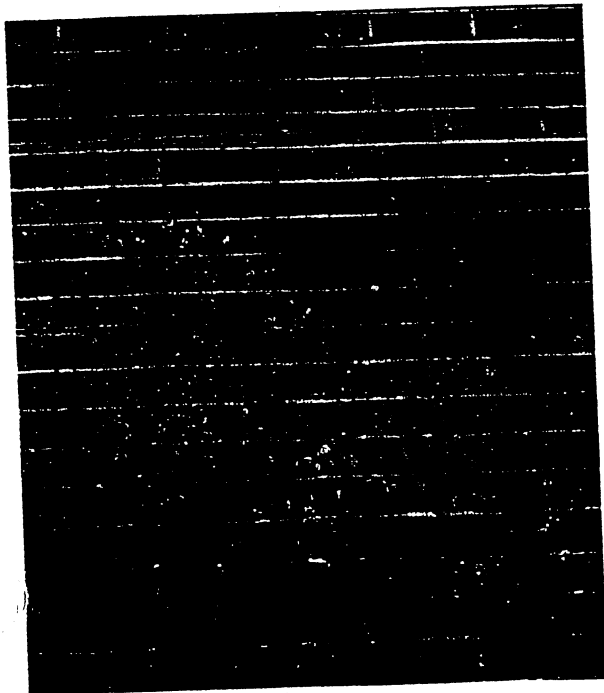
TEST PROCEDURES:
A test patch approximately 4 ft. x 4 ft. is required to be cleaned prior to full scale operations. The

test areas are necessary to determine compatibility and required end result.

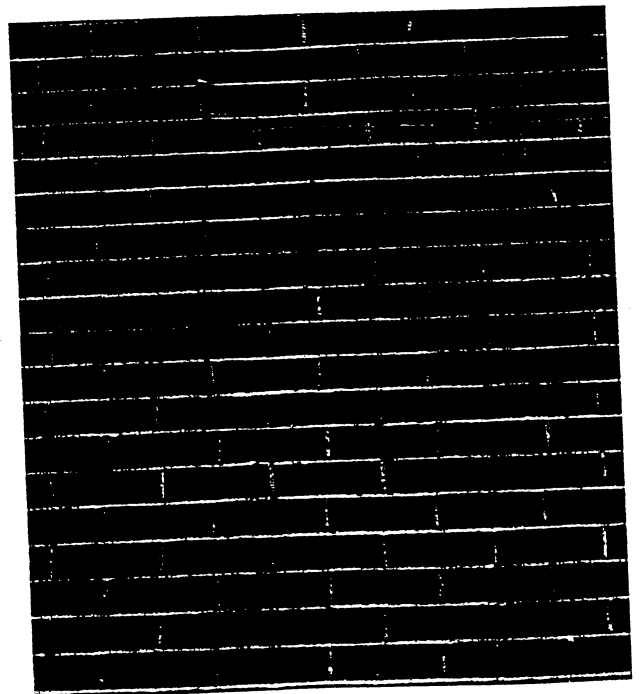
Individual masonry types must be tested. Inspection of the test areas should occur after a 3 to 7 day dry time. The test patch should be available for the architect to inspect and approve, then remain as the standard for the project.

DILUTIONS:
As with any acid based material like 200 Lime Solv, water used for dilution should be placed in a rubber or polyethylene container first, then slowly add the 200 Lime Solv. Metal containers and tools are never to be used, as acids and their fumes will have a detrimental effect on such containers and could explode. The suggested dilution rates of 200 Lime Solv concentrate are 4 to 8 parts water to 1 part 200 Lime Solv. High strength mortar/grout or very porous masonry may necessitate the use of stronger solution than normal. Adjust rates of dilution as indicated by the test patches.

SAFETY:
All workers must be protected by rubber or polyethylene suits, boots, gloves, face shield and protective head gear. Avoid contact with eyes and skin. Use with adequate ventilation. If used in confined area the use of a respirator with the appropriate filter may be required.



BEFORE



AFTER

When product is to be used on occupied building, the following steps should be taken to protect building occupants from fumes. Close all windows and cover air intake and exterior air-conditioning vents. Also shut down air handling equipment during application and for 30 minutes following.

PREPARATORY WORK:

It is highly recommended to complete all masonry cleaning prior to installation of non-masonry items that would be adversely affected by the 200 Lime Solv. Some of these would be doors, windows, light fixtures, hardware etc. If they are already in place, extreme care and thorough protective covering and adequate ventilation are to be used to prevent damage from contact with fumes. All sealant and caulking materials must be in place and cured per manufacturer's instruction, prior to commencement of the cleaning process.

Employ all necessary precautions and coverings to prevent unnecessary damage to the building being cleaned as well as surrounding buildings, landscaping, electrical, adjacent items, etc. Avoid drift and/or overspray as it may injure passersby or damage vehicles.

All surfaces are to be thoroughly pre-soaked with water to prevent absorption of the 200 Lime Solv into the pores of the masonry. It is recommended to place a lawn soaker hose along top of the wall to ensure a complete and uniform pre-soaking of the area to be cleaned. A second hose shall be used to provide a flow of water to insure

a thorough flushing from the cleaned area of the excess mortar and dirt. If the structure is a multi-story building, a lawn soaker hose should be fitted to the face of the scaffold/stage to ensure a continuous wetting of areas below that being worked on. NOTE: Waterproof material is to be used to cover top of all walls during construction to prevent excessive amounts of water entering the wall cavity. This excess moisture is the major contributor causing efflorescence and staining. (Never clean masonry when below freezing temperatures are anticipated or projected overnight). The most effective and satisfactory cleaning and results can be expected if commencement of cleaning occurs within 14 to 28 days of masonry erection. Mortar and grout residue/smears allowed to remain on the substrate beyond this time frame will be difficult to clean off and with less than desirable results.

APPLICATION:

EXTERIOR SURFACES: Test patches must be accomplished prior to full scale cleaning.

1. Pre-soak a large area thoroughly with water.
2. Application of the properly diluted 200 Lime Solv can be either a dense, soft masonry brush or low pressure (40 to 50 psi) airless sprayer of a corrosive/acid resistant type such as Diedrich Technologies' Acid Express. Apply diluted 200 Lime Solv freely to ensure complete coverage.
3. Dwell time on the wall surface should be one to three minutes. Allowing the cleaner to dry on the surface may result in stains and residue.

4. To remove heavy buildup of excess mortar or grout, reapply the 200 Lime Solv solution and use a wooden scraper or piece of brick to scrape off the excess using care not to damage the surface of the masonry.

5. Using fresh water thoroughly rinse the masonry surface for complete removal of chemical residue, free sand and other loose material and debris. For optimum results application of rinse water should be with pressure pumping equipment fitted with a fan type tip providing at least 400 psi at 4 to 6 gallons per minute of water is recommended.

6. If reapplication is necessary repeat steps 1 through 5. (Caution: a lightening of the mortar color may be the result of multiple applications NEVER APPLY DIEDRICH 200 LIME SOLV WITH SPRAY EQUIPMENT GENERATING MORE THAN 50 PSI. EXCESSIVE PRESSURE WILL CAUSE THE CHEMICAL TO BE DRIVEN DEEPLY INTO THE SUBSTRATE. COMPLETE RINSE REMOVAL WILL PROVE DIFFICULT.) NOTE: LOWER AREAS OF WALL BEING CLEANED MUST BE KEPT WET AND RINSED OF CLEANING RESIDUE TO PREVENT A STREAKED APPEARANCE.

INTERIOR SURFACES: Follow all test and preparation procedures applicable to exterior work, i.e., test patches, pre-wetting, protective coverings. Interior new masonry construction cleaning projects should be completed before finished flooring, trim work, any type of metal fixtures or any other non-masonry material are



North Shore Bank, Architect: Eppstein Keller Uhen - Contractor: Hopkins & Hopkins Masonry

2

put in place. If said materials have already been installed, take all necessary precautions to prevent damage from contact with the solution and its fumes by covering with polyethylene sheets and supplying ventilation adequate to prevent accumulation of fumes in concentrations that could cause damage.

Follow procedures for exterior cleaning. But in lieu of rinsing with a hose or pressure wash, a sponge or soft bristled brush can be used to apply the fresh water necessary to thoroughly rinse the cleaning solution. If job conditions dictate limited water use below that required for a thorough rinse, the following steps should be taken.

1. Rinse with as much fresh water as is permitted.
2. A neutralization rinse consisting of 1 gallon of fresh water and 2 oz. of house hold ammonia.
3. Apply the neutralizing solution liberally to the saturation point. Allow a dwell time of approximately 5 minutes.
4. Final rinse, again with fresh water.

EFFLORESCENCE: A Simple Solution

Efflorescence is a deposit of white powdery soluble salts, that sometimes appears on the surface of masonry or concrete construction. Often efflorescence is apparent just after the structure is completed, when the builder, architect and owner are most concerned with the appearance of the new structure. The most common salts that contaminate masonry are sulfates, chlorides, nitrates and phosphates, which are associated with acid rain and air pollution.



EFFLORESCENCE SHOWN ON RED BRICK

A combination of circumstances cause this crystalline deposit. First, there must be a source of water soluble salts in the masonry. Second, moisture must be present to pick up the soluble salts and transfer them to the surface. Third, some force, evaporation or hydrostatic pressure, will cause the solution to migrate. The force of this crystallization, like a disease, can cause the masonry to disintegrate and spall. If any one of

these conditions is eliminated, efflorescence will not occur. In most cases, salts that cause efflorescence come from construction materials - masonry units or mortar.

Moisture may also enter a masonry wall due to vapor from the interior of a building and rainwater may enter the masonry during construction. Proper protection can alleviate this problem. Common sources of excessive moisture entry are water related: rain, roof drainage, leaky gutters and downspouts, missing or eroded mortar, window sills, failure to protect new masonry walls, etc.

Efflorescence is a normal construction phenomenon called new or old "BUILDING BLOOM". Once the building is waterproofed, we can expect a certain amount of efflorescence caused by residual construction moisture. Post World War II brick, containing vanadium and manganese, could leach out as yellow/green or brown stains, so use Diedrich 202V only, on these bricks.

DIEDRICH WATER REPELLENT materials are designed to prevent the formation of efflorescence caused by rainfall. They are not designed to "hold in" efflorescence caused by construction moisture, as this "holding in" could cause a pressure buildup in the wall causing spalling of the surface.

Allow masonry to dry sufficiently (3-5 days) depending on weather conditions before applying DIEDRICH WATER REPELLENTS.

If efflorescence reappears, it tells you there is a leak in the building. When the leak is found and repaired, the cause of the efflorescence problem is removed.

EFFLORESCENCE REMOVAL:

For the removal of efflorescence the dilution ratio should be 5 to 10 parts water to 1 part 200 Lime Solv. The application dwell time should be approximately 10 minutes followed by a garden hose low pressure water fog mist rinse. Do not use high pressure pump because great amounts of pounding water will activate more efflorescence to the surface. NOTE: The building should be thoroughly checked for any water entrance problems at masonry mortar joints, flashing, eaves, gutters, downspout etc., and other drainage problems. These problem areas should be corrected before 200 Lime Solv application and removal.

METALLIC STAINS/DISCOLORATIONS:

Many of today's new colored brick may contain metallic oxides, which cause green and brown stains, as they move to the face of bricks. Where substantial quantities exist in brick or these metallic oxides, incorrect dilution of 200 Lime Solv, in-part may cause an occurrence of oxide

staining.

If metallic stains are present prior to testing or appear after, do not use 200 Limes Solv, rather use 202V Vana-Stop when metallic stains are present prior to testing, or appear after. It is imperative that all directions in this spec sheet and product label be adhered to.

COVERAGE:

1 gallon of 200 Lime Solv full strength will clean 300 to 400 square feet of surface. Area coverage will vary according to roughness and porosity of the brick and mortar.

WARRANTY:

DIEDRICH TECHNOLOGIES INC., warrants that the product will conform to the description and specifications set forth on the product label and will be free from defects in material and workmanship. The exclusive remedy of the Buyer in the event that the product does not conform shall be the replacement of the product. This warranty is expressly made in lieu of any and all other warranties, expressed or implied, including the warranties of merchantability and fitness, and Diedrich Technologies Inc. shall not be liable for any loss or damage, directly or indirectly arising from the use of such merchandise or for consequential or incidental damages.

While Diedrich Technologies Inc. believes that the data contained herein is accurate and the information is based on test and data believed to be reliable, it is the user's responsibility to determine the safety, toxicity and suitability for his own use of the product described herein. Manufacturer shall not be responsible for any contamination, or related testing or removal costs resulting from use of this lead-free product on any materials containing lead or toxic or environmentally hazardous substances. Since the actual use, by others, is beyond our control, no guarantee, expressed or implied, is made by Diedrich Technologies Inc., as to the effects of such use, the results to be obtained, or the safety, toxicity of the product referred to herein. Nor is the information herein to be construed as absolutely complete since additional information may be necessary or desirable when particular conditions or circumstances exist, or because of applicable laws or governmental regulations.

copyright © 1996

ENVIRONMENTAL PROTECTION SYSTEM:
USE DIEDRICH NEUTRA-SOAK "A" FOR ACID, WHICH IS A DRY ABSORBENT COMPOUND, FOR SPILLAGE AND TO DIKE/CONTAIN AND COLLECT WASH-OFF RESIDUE FOR SAFER DISPOSAL AND TO ADDRESS LOCAL ENVIRONMENTAL REQUIREMENTS.



**Maine
Masonry**
co inc

75 MANSON LIBBY ROAD, SCARBOROUGH, ME 04074
207/883-6503 FAX 207/885-0972

RECEIVED
JUN 27 2005
ALLIED CONSTRUCTION

SUBMITTAL INFORMATION

TO: Allied Cook ATTN: Paul Laliberte DATE: June 27, 2005
FROM: Lorraine Cressey
RE: Park Danforth

SUBMITTAL SECTIONS: 04810 Unit Masonry

SPEC. LOCATION	INFORMATION	DESCRIPTION	PAGE	ACTION
04800-2.1	Product data & certification Color chart	Ciment Quebec Pro blend Typs S mortar with #25H SGS color by Morin Brick Company and Ciment Quebec	1-4	

NOTE:

NOTE #	SPEC REF	NOTE
1	04800	Please choose mortar pigment from the H Series by SGS. The Park Danforth wing we completed in 1999 had SGS #25H for the mortar color.

REMARKS: We have decided to use Ciment Quebec on the project instead of Quikrete if it is acceptable to the architect.

SIGNED Lorraine Cressey

ALLIED CONSTRUCTION
SUBMITTAL # 04200-007

REVIEWED
 REVIEWED WITH NOTES
 REVIEWED WITH NOTES
 RESUBMISSION REQUIRED

NOT ACCEPTABLE

CHECK MARKING CASES ACTION TAKEN
 CHECKED BY: R DATE: 6/27/05
 CHECKED FOR TYPE & ARRANGEMENT ONLY
 QUANTITIES & DETAILED DIMENSIONS ARE THE
 RESPONSIBILITY OF SUPPLIER.

Jun 23 05 05:39p

Edward J. Miller

145, boul. Centenaire, St-Basile, Comté de Portneuf, Québec, Canada, G0A 3G0

Téléphone: (418) 329-2100 Télécopieur: (418) 329-3436



Edward J. Miller
5 Central Avenue
Portsmouth, NJ 03801
T/F 603-430-0233
Cell 603-498-4365
E-Mail : CimentQuebecUSA@aol.com

Morin Brick Company

Danville Road
P.O. Box 1510
Auburn, ME 04211

Project: Park-Danforth Building
Contractor: Maine Masonry

23 June 2005

TO : Whom it May Concern

FROM: Ed Miller

RE: CQI Pro-Blend Product Code 844C, Type S, Portland & Lime 3000 lb Sac with SGS 25H.

I am pleased to provide you with certification of our "Pro-Blend" dry packaged cement-lime Type S mortar. Each Super Sac of "Pro-Blend" contains 3000 pounds of dry blended material. We are please to provide a new level of quality and reliability by preparing our dry packaged products in strict compliance with the ASTM C-270 "Proportion-Blended" Specification. Ciment Quebec has been serving the Northeastern US and Eastern Canada construction and masonry community since 1951.

Each 3000 pound sac of "Pro-Blend" by CQI is batch blended in a factory controlled facility "Pro-Blend" by CQI complies with ASTM C-270, Table 1, Proportion Specification, for Type S, proportions by volume, using 1 part CQI ASTM C-150 portland cement, with 1/2 part ASTM C-207 "Minute Man" Type S hydrated lime. The cement-lime is blended with an ASTM C-144 aggregate, supplied by Plourd Sand & Gravel, at a ratio equal to 2 1/4 times the sum of the separate volumes of cementitious material. A pre-weighed SGS 25 H color pigment will be added to each Proportion-Blended batch in accordance with the manufactures recommended pigment weight required for each 3000 pound super sac.

Sincerely,

A handwritten signature in black ink that reads "Edward J. Miller".

Edward J. Miller
Product Manager

Attachment:

- 1) CQI Certificate of Analysis, ASTM C-150, Type I Light
- 2) CEMEX Certificate of Analysis, ASTM C-207, Type S Hydrated Lime
- 3) Plourd Sand & Gravel Certificate of Analysis, ASTM C-144, Aggregate for Unit Masonry

INDUSTRIAL CENTER, ST-BASILE
COMTE DE PORTNEUF, QUÉBEC, CANADA, J3A 3G1
TELEPHONE: (418) 338-2100
TELECOMMUN: (418) 339-3000

Ciment
Québec

ANALYSIS CERTIFICATE

Date : May 2005
Cement type : Portland Cement Type I Light

PHYSICAL TESTS

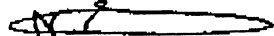
Setting time (Vicat)	Initial	120 minutes	
	Final	250 minutes	
Fineness (Air permeability)		386 m ² /kg	
Air content of mortar		7 %	
False set		74 %	
Fineness (Passing 45 µm sieve)		92 %	
Soundness (Autoclave expansion)		0.13 %	
Compressive strength	3 days	26.9 MPa	3900 psi
	7 days	32.0 MPa	4650 psi
	28 days (Apr-05)	37.7 MPa	5470 psi
Expansion of mortar bars stored in water (14 days)		0.010 %	

CHEMICAL ANALYSIS

Silicon dioxide (SiO ₂)	19.7 %
Aluminium oxide (Al ₂ O ₃)	5.2 %
Ferric oxide (Fe ₂ O ₃)	2.1 %
Total calcium oxide (CaO)	62.3 %
Free calcium oxide (CaO)	1.3 %
Magnesium oxide (MgO)	2.4 %
Sulfur trioxide (SO ₃)	3.8 %
Loss on ignition	2.7 %
Insoluble residue	0.5 %
Alkalies (Na ₂ O equiv.)	0.9 %
Tricalcium silicate (C ₃ S)	55.4 %
Dicalcium silicate (C ₂ S)	14.7 %
Tricalcium aluminate (C ₃ A)	10 %
Tricalcium aluminoferrite (C ₃ AF)	6.5 %

We hereby certify that the cement delivered complies with the current requirements of US standard specification ASTM C 150, type I.

IASTM
* For any information regarding this certificate, please contact our technical service at (418) 329-2100, ext. 220.


Freddy Slim, B.Sc.
Chief Chemist



TECHNICAL DATA SHEET

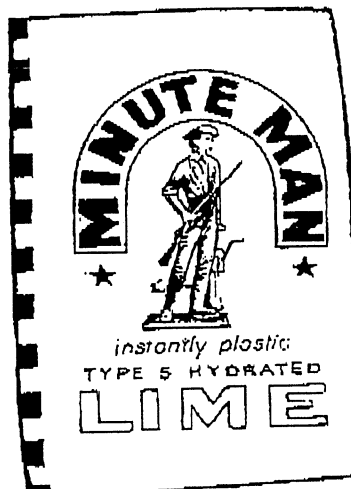
MINUTE MAN TYPE S - HYDRATED LIME

Product Codes

411120 50# Bags
314000 Bulk

ASTM C206-84
Finishing Hydrated Lime

ASTM C207-91
Hydrated Lime for Masonry Purposes



Post-it [®] Fax Note	Date	From	Co.	Phone #	Fax #
	767:		ED MILLER		
To					
Call Dept					
Phone #					
Fax #					

CHEMICAL ANALYSIS - (Typical)

Magnesium Hydroxide - Mg(OH ₂)	42.0 %
Calcium Hydroxide - Ca(OH ₂)	56.0 %
CaO and MgO (non volatile basis)	98.3 %

PHYSICAL PROPERTIES - (Typical)

FINENESS	
% Retained No. 30 U.S. Standard Sieve	0 %
% Retained No. 200 U.S. Standard Sieve	12 %
BULK DENSITY	
LOOSE - #'s / FT ³	41
SETTLED - #'s / FT ³	62
Water Retention - (%)	91
Plasticity Figure - (minutes)	450

United States Operations

P.O. Box 7-0, Lee, Massachusetts 01238, USA, Phone: (413) 243 0053, Fax: (413) 243 4323

REV 08/01

FROM : CONPROCD HOOKSETT DIV.

FAX NO. : 6036681685

Apr. 07 2003 06:52AM P1

Flourde Sand Gravel Co. Inc.

4/4/03

Brick Sand	Initial Weight	Initial Tare	Percent Retained	Percent Passing	ASTM Spec.
3/8"	0	0	0	100	100
#4	216	0.0	0.0	100.0	100
#8	218.2	3.2	0.3	99.7	95-100
#16	405.6	189.6	24.2	75.8	70-100
#30	649.2	433.2	55.4	44.6	40-75
#50	821.4	605.4	77.4	22.6	10-35
#100	951.1	735.1	93.9	6.1	2-15
#200	995.2	779.2	99.6	0.4	

Total

Sample Weight: 998.5 Minus Tare= 782.5

Tare Weight: 216



Northern Design Precast, Inc.

51 INTERNATIONAL DRIVE LOUDON, NEW HAMPSHIRE 03307
P.O. BOX 7305 GILFORD, NEW HAMPSHIRE 03247
(603) 783-8989 FAX (603) 783-9090



SUBMITTAL PACKAGE TO:

Maine Masonry
Attn: Lorraine Cressey
75 Manson Libby Road
Scarborough, Maine 04074
Tel: (207) 883-6503
Fax: (207) 885-0972

NDP Job # 1369

RE: Architectural Precast Concrete Caps and Sills

JOB: Park Danforth
Portland, Maine

ARCHITECT: C W S Architects
434 Cumberland Avenue
Portland, Maine 04101
Tel: (207) 774-4441
Fax: (207) 774-4016

PRESENTED BY: Bradley J. Thompson, President
Northern Design Precast, Inc.
Physical Address:

51 International Drive
Loudon, New Hampshire 03307

Mailing Address:

P.O. Box # 7305
Gilford, New Hampshire 03247

Tel: (603) 783-8989
Fax: (603) 783-9090

March 21st, 2005



- Reviewed
- Rejected
- Submit Specific Item:
- Furnish as Corrected
- Revise and Resubmit

This review is only for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. Corrections or comments made on the shop drawings during this review do not relieve contractor from compliance with the requirements of the plans and specifications. Approval of a specific item shall not include approval of an assembly of which the item is a component. Contractor is responsible for: dimensions to be confirmed and correlated at the jobsite; information that pertains solely to the fabrication processes or to the means, methods, techniques, sequences and procedures of construction; coordination of his or her Work with that of all other trades; and for performing all work in a safe and satisfactory manner.

Becker Structural Engineers, Inc.

Date 6/21/05 By PHB

ARCHITECTURAL PRECAST ASSOCIATION	
SUBMITTAL # <u>04200-001</u>	
<input checked="" type="checkbox"/>	REVIEWED
<input type="checkbox"/>	REJECTED
<input type="checkbox"/>	NOT APPROVED
CHECK MARK INDICATES DATE TAKEN	
CHECKED BY: <u>[Signature]</u>	DATE: <u>5/26/05</u>
CHECKED FOR TYPE & ARRANGEMENT ONLY	
QUANTITIES & DETAILED DIMENSIONS ARE THE RESPONSIBILITY OF SUPPLIER.	



Northern Design Precast, Inc.

51 INTERNATIONAL DRIVE LOUDON, NEW HAMPSHIRE 03307
P.O. BOX 7305 GILFORD, NEW HAMPSHIRE 03247
(603) 783-8989 FAX (603) 783-9090



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(AND / OR)	
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Page 11 & 12	Submittal -- Micro-Air – Air Entrainment Master Builders, Inc.
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Northern Design Precast, Inc.

51 INTERNATIONAL DRIVE LOUDON, NEW HAMPSHIRE 03307
P.O. BOX 7305 GILFORD, NEW HAMPSHIRE 03247
(603) 783-8989 FAX (603) 783-9090



March 21st, 2005

Maine Masonry
Attn: Lorraine Cressey
75 Manson Libby Road
Scarborough, Maine 04074
Tel: (207) 883-6503
Fax: (207) 885-0972

NDP Job # 1369

RE: Architectural Precast Concrete Caps and Sills

JOB: Park Danforth
Portland, Maine

MIX DESIGN: 5000 P.S.I. Minimum Strength Concrete At 28 Days

190 lbs. Coarse Aggregate – ½” Stone -- Pike’s Pit / Hooksett, NH

170 lbs. Fine Aggregate – Fillmore Pit / Loudon, NH

94 lbs. Glens Falls-Lehigh Grey Type III Cement

(AND / OR)

Federal White Type I Cement

4.0 Gallons of Drinkable Water

5% - 7% Air Entrainment – Micro Air By Master Builders

4 Oz. Water Reducing Agent – ADVA 170 by W. R. Grace & Company

Dye May Be Added to Match the Architect’s Sample.

Finish To Be a Light Sand Blast Finish.

Sincerely,

Bradley J. Thompson, President
Northern Design Precast, Inc.

BJT/lj

This Is To Certify That

Northern Design Precast, Inc.

*is in compliance with the requirements of plant certification
thus demonstrating ability to produce Architectural Precast
products of exemplary quality; therefore,
this company is hereby recognized as an*



*and is entitled to all honors, privileges,
and qualifications extended to those recognized within the*

Architectural Precast Association Plant Certification Program

*Certification is contingent upon satisfactory
completion of periodic inspections and compliance
is not affirmed past the expiration date of:*

April 16, 2005

*Approved this seventh
day of March 2005*

Dave P Ramm

Dave Ramm, Committee Chairman

Fred L. McGee

Fred L. McGee, Executive Director





UNITED STATES DEPARTMENT OF COMMERCE
National Institute of Standards and Technology
Gaithersburg, Maryland 20899-

August 2, 2001

Mr. Donald Pollard
Project Manager
John Turner Consulting, Incorporated
818 Central Avenue
Dover, New Hampshire 03820

Subject: Inspection of Concrete Testing Laboratory

Dear Mr. Pollard:

Enclosed is a confirmatory report on Inspection No. P-391, which was completed in your testing laboratory at Dover, New Hampshire, on June 6, 2001, by representatives of the Cement and Concrete Reference Laboratory.

This letter, and the accompanying report, provide written evidence that your laboratory has been inspected during the 31st Inspection Tour.

It is requested that these evidences of the inspection not be used for advertising, publication, or promotional purposes.

Very truly yours,

for James H. Pielert, P.E.
Manager, Cement and Concrete Reference Laboratory
Building Materials Division
Building and Fire Research Laboratory

Enclosure

NIST

Material Safety Data Sheet

March 3, 2003

Date Last Revised: _____

I. General Information	
Chemical Name & Synonyms Architectural Precast Concrete Products	Trade Name & Synonyms Precast Concrete Products
Chemical Family	Formula
Proper DOT Shipping Name	DOT Hazard Classification
Manufacturer Northern Design Precast, Inc.	Manufacturer's Phone Number (603) 783-8989 – Brad Thompson
Manufacturer's Address 51 International Drive -- Loudon, NH 03307	Chemtrec Phone Number N/A

II. Ingredients		
Principal Hazardous Components	Percent	Threshold Limit Value (units)
None (Sawing or Grinding may result in the release of nuisance dust particles)		

III. Physical Data	
Boiling Point (F) Does Not Apply	Specific Gravity (H2O=1) Does Not Apply
Vapor Pressure (mm Hg.) Does Not Apply	Percent Volatile By Volume (%) Does Not Apply
Vapor Density (Air=1) Does Not Apply	Evaporation Rate (___=1) Does Not Apply
Solubility in Water Insoluble	pH Does Not Apply
Appearance & Odor Odorless Solid	

IV. Fire & Explosion Hazard Data		
Flash Point (Test Method) Will not ignite	Auto Ignition Temperature Does Not Apply	
Flammable Limits Does Not Apply	LEL Does Not Apply	UEL Does Not Apply
Extinguishing Media Does Not Apply		
Social Fire Fighting Procedures None		
Unusual Fire & Explosion Hazards None		

V. Health Hazard Data

Threshold Limit Value N/A	OSHA Threshold Limit Value N/A	ACGIH Threshold Limit Value N/A
Carcinogen - NTP Program N/A	Carcinogen - IARC Program N/A	
Symptoms of Exposure Dust From this product cause Irritation of the skin, eyes, or nasal passages. Contact of skin or eyes with dusts may result in Irritation and / or alkali burns		
Medical Conditions Aggravated By Exposure		
Primary Route(s) of Entry		
Emergency First Aid Inhalation: Remove from exposure. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Contact a physician. Eye Contact: Immediately flush eyes with large quantities of water for at least 15 minutes. Consult a physician. Skin Contact: Immediately wash skin thoroughly with soap & water.		

VI. Reactivity Data

Stability	Unstable		Conditions To Avoid
	Stable	X	Does Not Apply
Incompatibility	Materials To Avoid Dusts from product is highly alkaline. Contact with strong acids may produce a violent exothermic reaction and may evolve toxic gases or vapors.		
	Hazardous Polymerization	May Occur Will Not Occur	X
Hazardous Decomposition Products Thermal decomposition may produce oxides of carbon, oxides of silica and other toxic agents.			

VII. Environmental Protection Procedures

Spill Response Clean up of dust may require personal protection equipment to prevent dust exposures and protect against alkali burns or irritation. See Section 8.
Waste Disposal Method If this material, as provided by the manufacturer, becomes a waste, it does not meet the criteria of a hazardous waste as defined by the Environmental Protection Agency under the authority of the Resource Conservation and Recovery Act (40 CFR 261). Dispose of in accordance with Federal, State, and local regulations.

VIII. Special Protection Information

Eye Protection Goggles	Skin Protection Protective Clothing
Respiratory Protection (Specific Type) N/A	Ventilation Recommended General or local exhaust to maintain exposure below
Other Protection Clothing or Equipment	

IX. Special Precautions

Hygienic Practices in Handling & Storage None
Precautions For Repair & Maintenance of Contaminated Equipment - This product is included in the definition of an "Art Stone" as described in the Hazard Communication Standard (29CFR 1910.1200). Under conditions of normal use, the product does not release, or otherwise result in exposure to a hazardous chemical.
Other Precautions - Cutting, grinding, or sawing of this product is not considered normal use, and may result in the evolution of hazardous dusts. The information contained within was obtained from the authoritative sources and is believed to be accurate for the manner in which the product is intended to be used. Other uses could result in consequences which are not considered within this document.

Iron Clad *Type III* Portland Cement

IRON CLAD Complies with all standard chemical and physical requirements for Type III cement contained in American Society for Testing and Materials (ASTM) C-150, "Standard Specification for Portland Cement"

IRON CLAD Will provide strong, durable, long lasting concrete when combined with ASTM approved materials and used according to American Concrete Institute (ACI) recommended practices

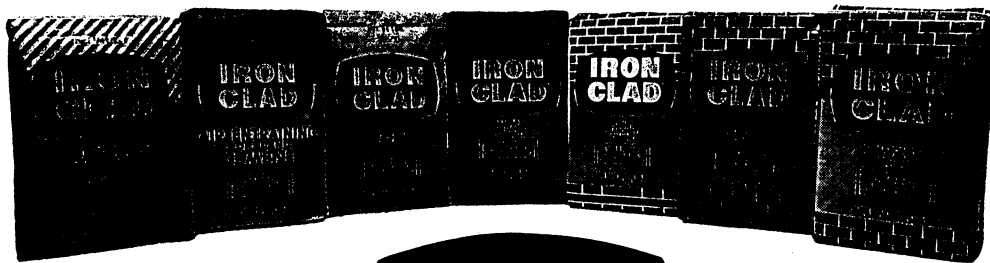
IRON CLAD Will provide Type N, S, or M masonry mortar when used in accordance with ASTM C-270, "Standard Specification for Unit Masonry"

IRON CLAD Sold in bulk or convenient one cubic foot (94 lb.) bags

IRON CLAD Is a *light gray* color often preferred for architectural concrete and masonry mortars

IRON CLAD Recommended for use in precast, prestressed concrete, masonry units, concrete and mortars used in cold weather, and special applications requiring high early strength or early form removal

Get the Iron Clad Advantage



Glens Falls Cement Co., Inc.

Glens Falls, New York 12801

Office 518-792-1137

FAX 518-792-0731 N.E. 800-833-4157

Dyckerhoff 

Glens Falls Lehigh Cement Company



313 Warren Street, PO Box 440
 Glens Falls, NY 12801
 518-792-1137
 800-833-4157
 518-792-0731 (fax)

MILL TEST REPORT

Plant:	Glens Falls	Cement Type :	Type III Portland
Terminal:		Loaded from Silo:	33
Report Date:	1/18/2005 8:59	Lab ID Number:	05-3-005
		Production Date:	1/5/2005

STANDARD CHEMICAL REQUIREMENTS ASTM C 114	TEST RESULTS	ASTM C150 / AASHTO M85
		TYPE III specifications
Silicon Dioxide (SiO ₂), %	19.04	—
Aluminum Oxide (Al ₂ O ₃), %	5.89	—
Ferric Oxide (Fe ₂ O ₃), %	2.03	—
Calcium Oxide (CaO), %	62.06	—
Magnesium Oxide (MgO), %	2.57	6.0 Max
Sulfur Trioxide (SO ₃), %	4.06	4.5 Max**
Loss on Ignition (LOI), %	1.41	3.0 Max
Insoluble Residue, %	0.23	0.75 Max
Total Alkalies (Na ₂ O equivalent), %	1.10	0.60 Max*
Tricalcium Silicate (C ₃ S), %	54.0	—
Dicalcium Silicate (C ₂ S), %	14.0	—
Tricalcium Aluminate (C ₃ A), %	12.2	15 Max
Tetracalcium Aluminoferrite (C ₄ AF), %	6.2	—
PHYSICAL REQUIREMENTS		
(ASTM C 204) Blaine Fineness, cm ² /gm	4930	—
(ASTM C 430) -325 Mesh, % passing	98.5	—
(ASTM C 191) Time of Setting - Initial (Vicat)	110	45 Min
(ASTM C 191) Time of Setting - Final (Vicat)	210	375 Max
(ASTM C 185) Air Content, %	7.1	12 Max
(ASTM C 151) Autoclave Expansion, %	0.07	0.80 Max
(ASTM C 187) Normal Consistency, %	29.0	—
(ASTM C 109) Compressive Strength, psi		
1 Day	4040	1740 Min
3 Day	5050	3480 Min
7 Day	5390	—
28 Day	NA	—

The above test results are representative of cement from which the shipment was made. The cement complies with the requirements of ASTM C150 and AASHTO M85 specifications. This is a high alkali cement.

Donna S Malone

Donna S. Malone, Quality Manager

* Optional requirement
 ** C1038 results available upon request.

L.H. m.v. j.p.
 Tested by GH, JP, and MV



MICRO-AIR®

Admixture for entraining air in concrete

DESCRIPTION:

MICRO-AIR® air-entraining admixture provides concrete with extra protection by creating ultrastable air bubbles that are strong, small and closely spaced—a characteristic especially useful in the types of concrete known for their difficulty to entrain and maintain the air content desired.

Even when used at a lower dosage rate than standard air-entraining admixtures, MICRO-AIR meets the requirements of ASTM C 260, AASHTO M 154, CRD-C 13 and other Federal and State specifications.

ADVANTAGES OF AIR ENTRAINMENT:

The entrainment of optimum air content in concrete results in the following improvements in concrete quality:

- Increased resistance to damage from freeze/thaw cycles and to scaling from deicing salts¹
- Reduced permeability—increased watertightness
- Reduced segregation and bleeding
- Improved plasticity and workability

¹Concrete durability research has established that the best protection for concrete from the adverse effects of freeze/thaw cycles and deicing salts results from: • proper air content in the hardened concrete; • a suitable air-void system in terms of bubble size and spacing; and • adequate concrete strength, assuming the use of sound aggregates and proper mixing, placing, handling and curing techniques.

When unusually low or high amounts of an air-entraining admixture are required to achieve normal ranges of air content or if the required amount of air-entraining admixture necessary to achieve required levels of air content is observed to change significantly under given conditions, the reason should be investigated. In such cases, it is especially important to determine: (a) that a proper amount of air is contained in the fresh concrete at the point of placement; and (b) that a suitable air-void system (spacing factor) is being obtained in the hardened concrete.

ADVANTAGES OF MICRO-AIR:

- Greatly improved stability of air-entrainment
- Improved air-void system in hardened concrete
- Improved ability to entrain and retain air in low-slump concrete; concrete containing high-carbon content fly ash; concrete containing large amounts of fine materials; concrete using high-alkali cements; high-temperature concrete; and concrete with extended mixing times

FEATURES/BENEFITS:

Ready to Use—Solution is the proper concentration for rapid, accurate dispensing.

Compatible for Use—MICRO-AIR admixture is compatible with concrete containing other admixtures—water-reducers, high-range water-reducers, accelerators, retarders, and water repellents.

The use of MICRO-AIR air-entraining admixture with Master Builders water-reducing, set-controlling admixtures forms a desirable combination for producing the highest quality, normal or lightweight concrete. Heavyweight concrete normally does not contain entrained air.

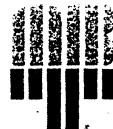
NOTE: As stated in ACI 212 and other publications, when two or more admixtures are used, they must be added to the mix separately (through dispensers or manually) and must not be mixed with each other prior to adding to the concrete mix.

For optimum, consistent performance, the air-entraining admixture should be dispensed on damp, fine aggregate or with the initial batch water. When using lightweight aggregate, field evaluations should be conducted to determine the best method to dispense the air-entraining admixture.

USAGE INFORMATION:

Add MICRO-AIR admixture to the concrete mix using a dispenser designed for air-entraining admixtures; or add manually using a suitable measuring device that ensures accuracy within plus or minus 3% of the required amount.

Measure the air content of the trial mix and either increase or decrease the quantity of MICRO-AIR admixture to obtain the desired air content in the production mix. Check the air content of the first batch and make further adjustments if needed. Due to possible changes in the factors that affect the dosage rate of MICRO-AIR, frequent checks should be made during the course of the work. Adjustments to the dosage should be based on the amount of entrained air in the mix at the point of placement.



QUANTITY TO USE:

There is no standard dosage rate for MICRO-AIR admixture. The exact quantity of air-entraining admixture needed for a given air content of concrete is not predictable because of differences in concrete making materials. Typical factors which might influence the amount of air entrained are: temperature, cement, sand grading, mix proportions, slump, means of conveying and placement, use of extra fine materials such as fly ash, etc.

The amount of MICRO-AIR admixture used will depend upon the amount of entrained air required under actual job conditions. In a trial mix, use 1/8 to 1-1/2 fl oz/100 lb (8 to 98 mL/100 kg) of cement. In mixes containing water-reducing, set-controlling admixtures, the amount of MICRO-AIR needed is somewhat less than the amount required in plain concrete. In mixes requiring a higher or lower dosage to obtain the desired air content, consult your local Master Builders representative.

AIR CONTENT DETERMINATION:

The total air content of normal weight concrete should be measured in strict accordance with ASTM C 231, "Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method" or ASTM C 173, "Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method." The air content of lightweight concrete should only be determined using the Volumetric Method.

The air content should be verified by calculating the gravimetric air content in accordance with ASTM C 138, "Unit Weight, Yield, and Air Content (Gravimetric) of Concrete." If the total air content, as measured by the Pressure Method or Volumetric Method and as verified by the Gravimetric Method, deviates by more than 1-1/2%, the cause should be determined and corrected through equipment calibration or by whatever process is deemed necessary.

TEMPERATURE PRECAUTION:

MICRO-AIR admixture should be stored and dispensed at 35 °F (2 °C) or higher. Although freezing does not harm this product, precautions should be taken to protect it from freezing. If it freezes, thaw and reconstitute by mild mechanical agitation. Do not use pressurized air for agitation.

PACKAGING:

MICRO-AIR admixture is supplied in 55 U.S. gallon (208 liter) drums and bulk delivery.

CAUTION:

MICRO-AIR admixture is a CAUSTIC solution. Chemical goggles and gloves are recommended if transferring or handling large quantities of material. (See MSDS and/or product label for complete information.)

NON-CHLORIDE, NON-CORROSIVE:

MICRO-AIR admixture will not initiate or promote corrosion of reinforcing steel embedded in concrete, prestressed concrete or concrete placed on galvanized steel floor and roof systems. Calcium chloride is not an added ingredient in the manufacture of MICRO-AIR admixture. Based on the chlorides originating from all ingredients used in manufacture, MICRO-AIR admixture contributes less than 0.0001% (1.0 ppm) chloride ions by weight of the cement when used at the rate of 1 fl oz per 100 lb (65 mL per 100 kg) of cement.

For suggested specification information or for additional product data on MICRO-AIR air-entraining admixture, contact your local Master Builders representative.

Master Builders, Inc.

United States

23700 Chagrin Boulevard
Cleveland, Ohio 44122-5554
(800) MBT-9990
Fax (216) 831-6910

Canada

3637 Weston Road
Toronto, Ontario M9L 1W1
(800) 387-5862
Fax (416) 741-7925

Mexico

Blvd. M. Avila Camacho 80, 3er Piso
53390 Naucalpan, México
011-525-557-5544
Fax 011-525-395-7903

P R O D U C T I N F O R M A T I O N

ADVA® 170

High Range Water-Reducing Admixture ASTM C 494, Type F

Description

ADVA® 170 is a high range water-reducing admixture specifically formulated to meet the needs of the Ready-Mix concrete industry. It is a low viscosity liquid, which has been formulated by the manufacturer for use as received. ADVA 170 is manufactured under closely controlled conditions to provide uniform, predictable performance and is formulated to comply with specifications for Chemical Admixtures for Concrete, ASTM Designation C 494 as a Type F admixture. ADVA 170 contains no intentionally added calcium chloride. One

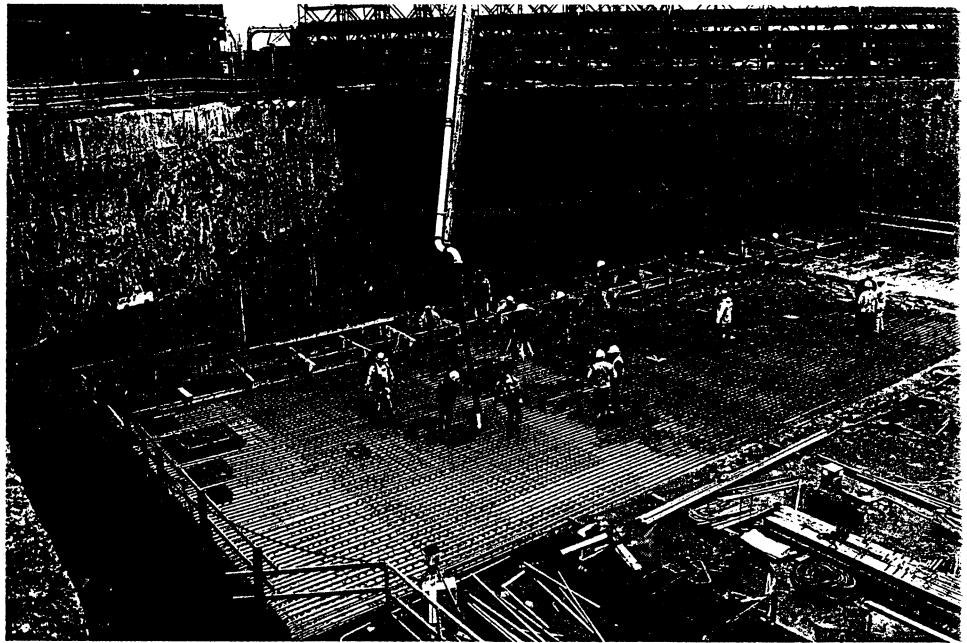


liter weighs approximately 1.10 kg (one gallon weighs approximately 9.2 lbs).

Uses

ADVA 170 Superplasticizer produces concrete with extremely workable characteristics referred to as high slump. It also allows concrete to be produced with very low water/cement ratios for high strength.

While ADVA 170 is ideal for use in any concrete where it is desired to minimize the water/cement



ration yet maintain workability, ADVA 170 is primarily intended for use in Ready-Mix concrete. ADVA 170 is specifically formulated to have enhanced slump life, compared to conventional polycarboxylate high range water reducers, but without set time extension to provide easy placement and user friendly concrete

Advantages

1. ADVA 170 is highly efficient, producing high slump concrete at very low dosages.

2. ADVA 170 is added to the mix water for rapid batching.
3. ADVA 170 provides a superior combination of slump life with near neutral set time.
4. ADVA 170 concrete, even at high slump, exhibits no significant segregation in comparison to concrete without a superplasticizer at the same slump.
5. ADVA 170 concrete finishes easily without stickiness, spotty set, or tearing.

Addition Rate

ADVA 170 Superplasticizer addition rates can vary with type of application, but will normally range from 195 to 590 mL/100 kg (3 to 9 fl oz/100 lbs) of cement. In most instances, the addition of 195 to 375 mL/100 kg (3 to 6 fl oz/100 lbs) of cement will be sufficient. For best results, ADVA 170 should be added to the initial mix water. At a given water/cement ratio, the slump required for placement can be controlled by varying the addition rate. Should conditions require using more than the recommended addition rates, please consult your Grace Representative.

ADVA 170 dosage requirements may also be affected by mix design, cementitious content and aggregate gradations. Please consult with your Grace Construction Products representative for more information and assistance.

Compatibility with Other Admixtures

In concrete containing ADVA 170 Superplasticizer, the use of an air-entraining agent (such as Daravair® 1000 or Darex® II AEA) is recommended to provide suitable air void parameters for resistance against freeze-thaw attack. Due to synergistic effects between ADVA 170 and air-entraining agents, the quantity of air-entraining admixture may be reduced, please consult your Grace Representative.

Most Type A water reducers or Type D water-reducing retarders are compatible with ADVA 170 as long as they are separately added to the concrete. Pre-testing of the concrete should be performed to optimize dosages and addition times of these admixtures. The admixtures should not contact each other before they enter the concrete.

Dispensing Equipment

A complete line of accurate, automatic dispensing equipment is available.

Packaging

ADVA 170 is available in bulk, delivered by metered tank trucks, in 1250 L (330 gal) disposable totes, and in 210 L (55 gal) drums.

It will begin to freeze at approximately 0°C (32°F), but will return to full strength after thawing and thorough agitation.

In storage, and for proper dispensing, ADVA 170 should be maintained at temperatures above 0°C (32°F).

North American Customer Service: 1-877-4AD-MIX1 (1-877-423-6491)



Visit our web site at: www.graceconstruction.com



printed on recycled paper

W. R. Grace & Co.-Conn. 62 Whittemore Avenue Cambridge, MA 02140

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GRACE
Construction Products



FEDERAL WHITE CEMENT INC.

CEMENT TEST REPORT

March 4, 2005

IDENTIFICATION: TYPICAL TEST DATA

SAMPLE SOURCE: PORTLAND TYPE I - JAN. / 2005 INVENTORY

PHYSICAL TESTS

Setting Time, Vicat Initial	<u>125</u> minutes		
Fineness, passing #200 mesh	<u>96.2</u> %		
Fineness, passing #325 mesh	<u>94.5</u> %		
Finess Blaine Specific Surface Area	<u>415</u> m ² /kg		
Autoclave Expansion	<u>0.09</u> %		
Air Content	<u>5.68</u> %		
Compressive Strength at:			
1 day.....	<u>2280</u> psi.		<u>15.7</u> MPa
3 days....	<u>4100</u> psi.		<u>28.3</u> MPa
7 days....	<u>5680</u> psi.		<u>39.2</u> MPa
28 days...	<u>7290</u> psi.		<u>50.3</u> MPa

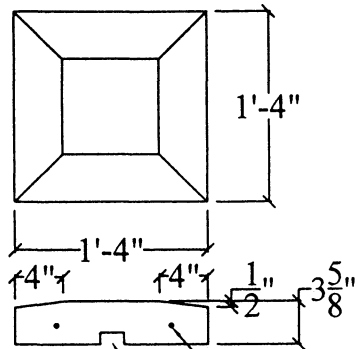
CHEMICAL TESTS

SiO ₂	<u>22.50</u> %	CaO(Free).....	<u>2.49</u> %
Al ₂ O ₃	<u>4.30</u> %	MgO.....	<u>0.90</u> %
Fe ₂ O ₃	<u>0.24</u> %	SO ₃	<u>2.90</u> %
CaO (Total)	<u>64.90</u> %	L.O.I.....	<u>2.89</u> %
Tricalcium Silicate (C ₃ S).....	<u>56</u> %		
Dicalcium Silicate (C ₂ S).....	<u>21</u> %		
Tricalcium Aluminate (C ₃ A).....	<u>11</u> %		

OPTIONAL TESTS:

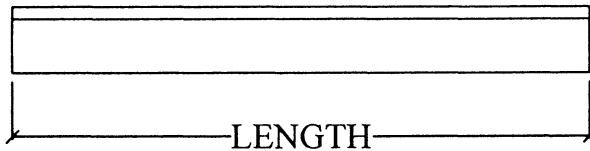
INSOLUBLE RESIDUE.....	<u>0.15</u> %
TOTAL EQUIVALENT ALKALI (AS % Na ₂ O).....	<u>0.07</u> %
TOTAL EQUIVALENT WATER SOLUBLE ALKALI (AS % Na ₂ O).....	<u>0.03</u> %

REFERENCE SPECIFICATION A.S.T.M. C-150

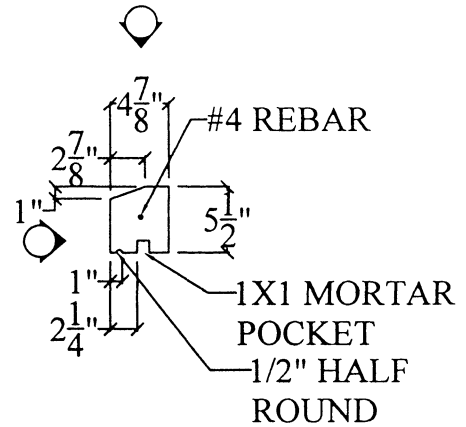


#4 REBAR
BOTH WAYS
2X2X1 DEEP MORTAR
POCKET


C1	QTY 38	WGT 65#
----	--------	---------



	LENGTH	QTY	WGT
S1	5' 11-5/8"	87	150#
S2	3' 11-5/8"	105	100#



ALL DIMENSIONS TO BE
VERIFIED BY OTHERS.

 NORTHERN DESIGN PRECAST LOUDON, N.H.		
JOB: PARK DANFORTH PORTLAND, ME.		TITLE: ARCHITECTURAL PRECAST CONCRETE
ARCHITECT: CWS ARCHITECTS		TYPE: CAPS & SILLS
CONTRACTOR: ALLIED/COOK CONSTRUCTION		JOB # 1369
MASON: MAINE MASONRY		DATE: 3/21/05
DWN: PHIL PELLETIER		SCALE: AS SHOWN
		SHT. 1



**Maine
Masonry**
co inc

BSE COPY

GEORGE LAVIGNE

75 MANSON LIBBY ROAD, SCARBOROUGH, ME 04074
207/883-6503 FAX 207/885-0972

SUBMITTAL INFORMATION

TO: Allied Cook ATTN: Paul Laliberte DATE: July 13, 2005
FROM: Lorraine Cressey
RE: Park Danforth

SUBMITTAL SECTIONS: 04810 Unit Masonry

SPEC. LOCATION	INFORMATION	DESCRIPTION	PAGE	ACTION
04800	Product data & shop drawing	Precast Ties: Type 304 Stainless steel strap anchors 12 gauge 1" wide with 3/4 bend to embed into mortar pocket		
		RECEIVED		
		JUL 14 2005		
		ALLIED CONSTRUCTION		

REMARKS:

SIGNED Lorraine Cressey

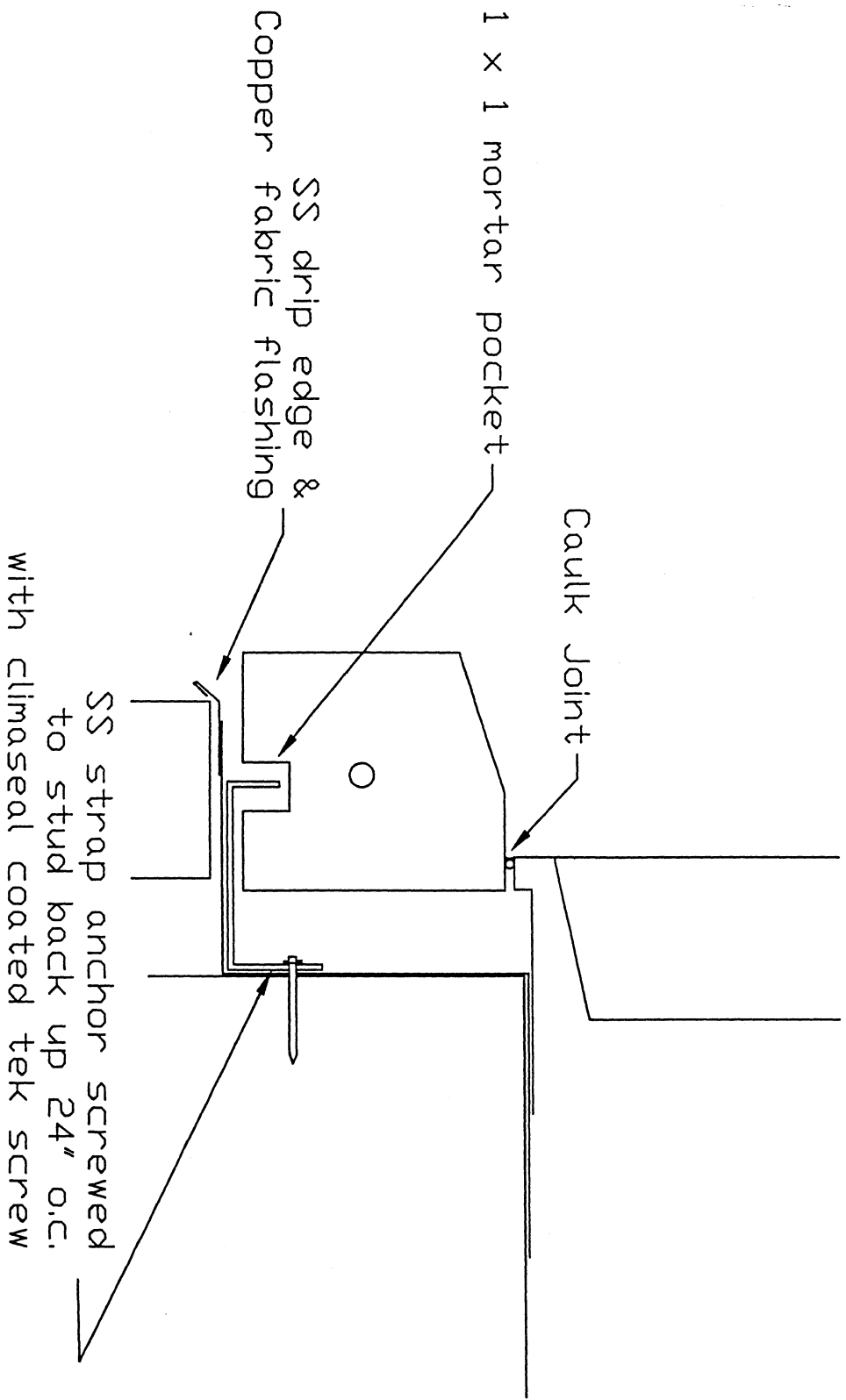
- Reviewed
- Rejected
- Submit Specific Items
- Furnish as Corrected
- Revise and Resubmit

This review is only for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. Corrections or comments made on the shop drawings during this review do not relieve contractor from compliance with the requirements of the plans and specifications. Approval of a specific item shall not include approval of an assembly of which the item is a component. Contractor is responsible for: dimensions to be confirmed and correlated at the jobsite; information that pertains solely to the fabrication processes or to the means, methods, techniques, sequences and procedures of construction; coordination of his or her Work with that of all other trades; and for performing all work in a safe and satisfactory manner.

Becker Structural Engineers, Inc.

Date 7/26/05 By PLK

ALLIED/COOK CONSTRUCTION	
SUBMITTAL # <u>04200-009</u>	
<input checked="" type="checkbox"/>	REVIEWED
<input type="checkbox"/>	REVIEWED WITH NOTES NO RESUBMISSION
<input type="checkbox"/>	REVIEWED WITH NOTES RESUBMISSION REQUIRED
<input type="checkbox"/>	NOT ACCEPTABLE
CHECK MARK INDICATES ACTION TAKEN	
CHECKED BY: <u>[Signature]</u>	DATE: <u>7/13/05</u>
CHECKED FOR TYPE & ARRANGEMENT ONLY QUANTITIES & DETAILED DIMENSIONS ARE THE RESPONSIBILITY OF SUPPLIER.	



MAINE MASONRY Co., Inc.
 75 Manson Libby Rd.
 Scarborough, Maine 04070

Tel (207) 883-6503
 Fax (207) 885-0972
 PROJECT nforth

SIZE	DATE	DRAWN BY	REV
	7/12/05	Lorraine Cresssey	
DESCRIPTION Precast anchors			DWG NO. 1



KRANDO

METAL PRODUCTS INC.



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Products

Adjustable Anchoring System
Channel Attachment Methods
Stone Anchors
Strap and Plate Anchors
Strap Anchors / Screw on Anchors

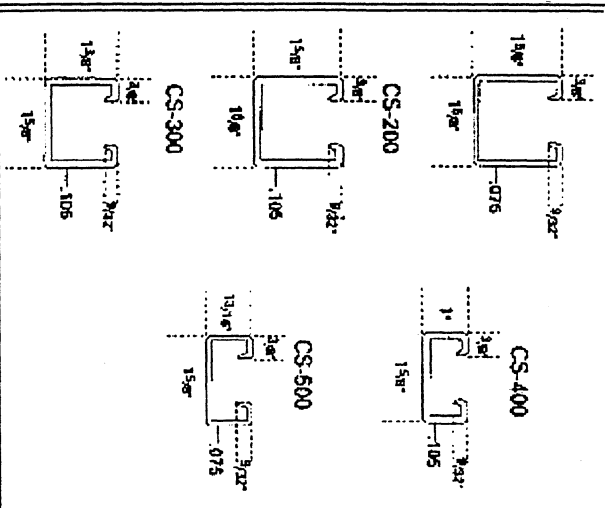
Dowel Anchors
Buck Anchors
Dove Tails
Bent Plates
Angle Clips
Bearing Plates

Bolt, Rod and Dowel Anchors
Anchor Bolts / Threaded Rods
Plug Anchors
Anchor Rods / Dowels
Plastic Shims / Setting Buttons
Metal Shims
Lintels

Adjustable Anchoring System

This unique system consists of channels which attach to the verticle support wall. Anchors for virtually all types of stone applications fit into the channel, sliding vertically for adjustment. The channels can be attached to almost any type of verticle support, using the products and methods described below. Including the Dry-Wall Channel Anchoring System...an industry exclusive.

Channels
Available in five profiles to accommodate job requirements.



Finishes	Material
Pre-galvanized ASTM A525 Grade 90	A446 Grade A
Hot-dipped galvanized ASTM A153	A570 Grade 33
Plain or painted	A570 Grade 33
S/S ASTM A240	Type 304

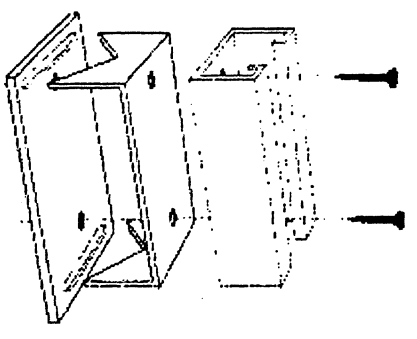
[Back to Top](#)

Channel attachment methods

1. Dry Wall Channel Anchoring System

For attachment directly over dry-wall construction. The three components of the system are situated to maintain the seat tabs in direct contact with the metal stud.

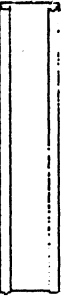
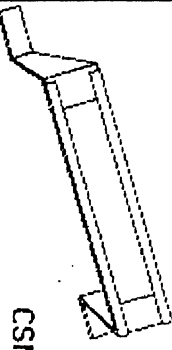
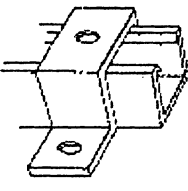
- + Seats available in 1/8" thick material, from 3' to 12' in length.
- + Tabs from 1/2" to 2-1/2" long to accommodate specific thickness of wall board and insulation.
- + Optional closed-cell-neoprene gasket is available to provide extra insulation. It is pre-slotted for exact fit.



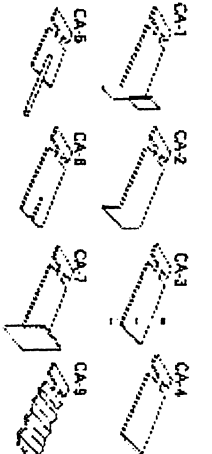
2. Weld-on channels

For welding directly to metal support beams.

- + Available in lengths up to 20'.

 <p>CSW</p>	<p>+See channel description at top of page for finish and material types.</p>
 <p>CSMZ</p>	<p>3. Block-wall Channels To be built into new block, backup walls. +Sized to accommodate block width. +See channel description at top of page for finish and material types.</p>
 <p>CSU</p>	<p>4. "U" Clamps An alternative way to attach continuous channels. Sizes to fit the five channel profiles. Please specify channel code number when ordering.</p>
<p>Back to Top</p>	

Stone Anchors

	<p>We manufacture our anchors to job specifications. The following illustration show the general types available for use with the Adjustable Anchoring System. + Available in 1/16" through 3/16". Width 1-5/8" standard. + Finishes supplied in stainless steel, mill galvanized or hot dipped galvanized. + Leg section after the notch cap can be supplied to any length.</p>
<p>Back to Top</p>	

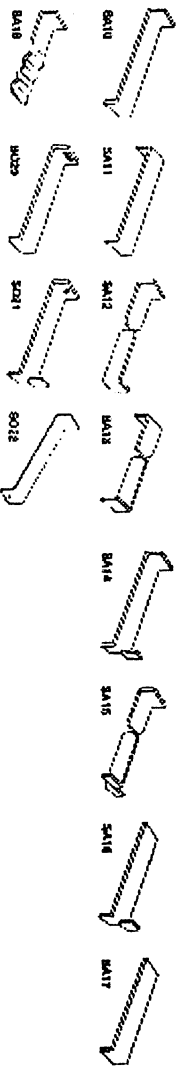
Strap and Plate Anchors For Stone and Masonry

We manufacture all of our strap and plate anchors to job specifications for trouble-free installation and maximum cost effectiveness. All anchors on this page are available in the materials and thicknesses shown in the chart below. Length, width, hole size, placement and other specifications are furnished to your requirements.

GUAGE	FRAC.	MILL GALVANIZED	DEC.	HOT DIPPED GALVANIZED	DEC.	HOT ROLLED STEEL	DEC.	STAINLESS STEEL TYPE	DEC.
16	1/16	ASTM 526	.0635	ATSM A153 CLASS B-2	.0635	ATSM A569	.0598	ASTM A240	.0595
14	5/64	ASTM 526	.0785	ATSM A153 CLASS B-2	.0785	ATSM A569	.0747	ASTM A240	.0751
12	7/64	ASTM 527	.1084	ATSM A153 CLASS B-2	.1084	ATSM A569	.1056	ASTM A240	.1054
11	1/8	ASTM 527	.1233	ATSM A153 CLASS B-2	.1233	ATSM A569	.1196	ASTM A240	.1200
10	9/64	ASTM 527	.1382	ATSM A153 CLASS B-2	.1382	ATSM A569	.1345	ASTM A240	.1350
3/16	3/16	NOT AVAILABLE	.1875	ATSM A153 CLASS B-1	.1875	ATSM A36	.1875	ASTM A240	.1875
1/4	1/4	NOT AVAILABLE	.2500	ATSM A153 CLASS B-1	.2500	ATSM A36	.2500	ASTM A240	.2500

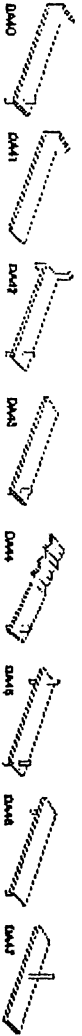
[Back to Top](#)

Strap Anchors / Screw on Anchors



[Back to Top](#)

Dowel Anchors



[Back to Top](#)

Buck Anchors

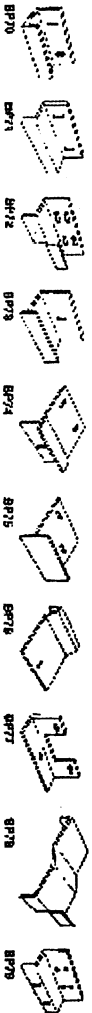


Dove Tails



[Back to Top](#)

Bent Plates



[Back to Top](#)

Angle Clips



[Back to Top](#)

Bearing Plates



[Back to Top](#)

Bolt, Rod and Dowel Anchors

All anchors are manufactured to job requirements. Lengths, shank size, bend diameter, eye and J-hook opening and thread length are made to your specifications. Discs can be furnished welded to rod or threaded.

MATERIAL Bolt: Stainless, plain steel, zinc plated

Rod and Dowel: Stainless, plain steel, galvanized

Disc: Stainless, galvanized, and plain steel

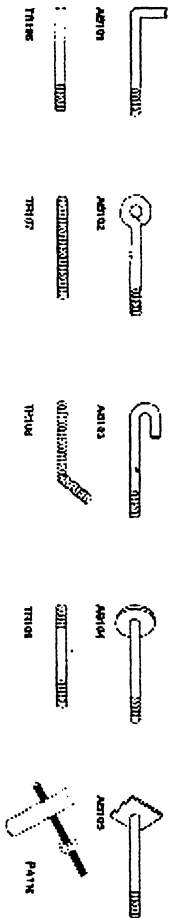
BOLT SIZES (national coarse thread) 1/4-20, 3/8-16, 1/2-13, 5/8-11, 3/4-10, 7/8-9 and 1-8

BOLT, ROD AND DOWEL DIAMETERS: 1/4", 3/8", 1/2", 5/8", 3/4", 7/8", and 1"

DISK THICKNESS: 12 gauge, 1/8", 3/16", 1/4", 3/8", 1/2"

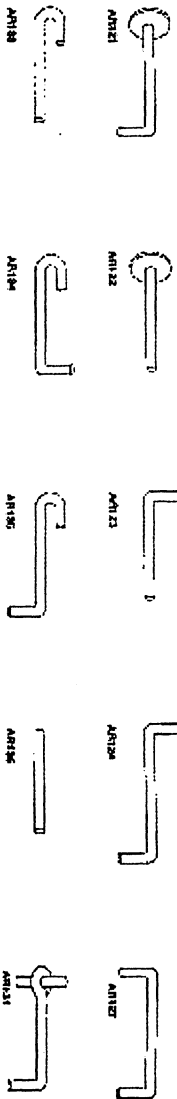
[Back to Top](#)

Anchor Bolts / Threaded Rods / Plug Anchors



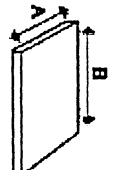
[Back to Top](#)

Anchor Rods / Dowels



[Back to Top](#)

Plastic Shims / Setting Buttons

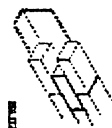
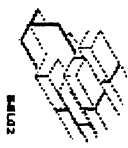
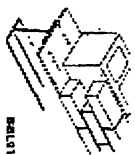
HORSESHOE	A	B	C	SHIM	A	B
1"	2"	5/16"			2"	2"
1-1/2"	2"	1/2"			2"	3"
1-1/2"	3-1/2"	1/2"			2"	4"
1-7/8"	2-5/8"	5/8"			2"	6"
2-15/16"	3"	13/16"			3"	3"
					3"	4"
					4"	4"

Metal Shims



[Back to Top](#)

Lintels



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04200.02 S.W. Cole Grout Specimen Compression Test Reports



Project Name PORTLAND - PARK DANFORTH - MATERIALS TESTING

COPY

Project Number 05-0720

Project Manager ROGER DOMINGO

Client ALLIED/COOK CONSTRUCTION
CORP

Date 3/16/2006

ALLIED/COOK CONSTRUCTION CORP
PO BOX 1396
PORTLAND, ME 04104

Phone Number
Fax Number

Results Being Reported

GROUT SPECIMEN COMPRESSION TEST - ASTM C1019

Copy To:

Remarks:

S. W. COLE ENGINEERING, INC.

BY: 

Roger E. Domingo



Report of Grout Specimen Compressive Strength

ASTM C1019

Project Name: PORTLAND - PARK DANFORTH - MATERIALS TESTING Project Number: 05-0720

Client: ALLIED/COOK CONSTRUCTION CORP

Client Contract Number:

General Contractor:

Supplier:

PLACEMENT INFORMATION

Date Cast: 1/19/2006 Time Cast: 10:00 Date Received: 1/20/2006

Placement Location: 4TH FLOOR COURSE

Placement Method: BUCKET

Placement Vol. (yd³):

Cylinders Made By: JRD

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) Maximum (°F)

DELIVERY INFORMATION

Admixtures:

TEST RESULTS

Slump (in) (C-143):

Batch Number:

Air Temp (°F): 36

Mixer Number:

Grout Temp (°F) (C-1064): 45

Ticket Number:

Design (psi): 3000

Specimen Designation	Area(In) ²	Date Of Test	Age (days)	Load (kips)	Strength (psi)
547-10A	10.56	1/26/2006	7	23.9	2260
547-10B	12.25	2/16/2006	28	40.0	3260
547-10C	12.25	2/16/2006	28	42.1	3440
547-10D	12.25	3/16/2006	56		

Remarks: AMENDED REPORT



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Project Name PORTLAND - PARK DANFORTH - MATERIALS TESTING ALLIED CONSTRUCTION

Project Number 05-0720

Project Manager ROGER DOMINGO

Client ALLIED/COOK CONSTRUCTION CORP

Date 2/16/2006

ALLIED/COOK CONSTRUCTION CORP
PO BOX 1396
PORTLAND, ME 04104

Phone Number
Fax Number

Results Being Reported

MORTAR CUBE COMPRESSION TEST - ASTM C109

Copy To:

Remarks:

S. W. COLE ENGINEERING, INC.

BY: 

Roger E. Domingo



Report of Mortar Compressive Strength

ASTM C109

Project Name: PORTLAND - PARK DANFORTH - MATERIALS TESTING

Project Number: 05-0720

Client: ALLIED/COOK CONSTRUCTION CORP

Client Contract Number:

General Contractor:

Supplier:

PLACEMENT INFORMATION

Date Cast: 1/19/2006 **Time Cast:** 8:55

Date Received: 1/20/2006

Placement Location: 4TH FLOOR COURSE

Placement Method: BUCKET

Placement Vol. (yd³):

Cylinders Made By: JRD

Aggregate Size (in):

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F)

Maximum (°F)

DELIVERY INFORMATION

Admixtures:

TEST RESULTS

Air Temp (°F): 35

Batch Number:

Mortar Temp (°F) (C-1064) 45

Mixer Number:

Ticket Number:

Design (psi): 1800

Cube Designation	Area(In)²	Date Of Test	Age (days)	Load (kips)	Strength (psi)
547-9A	4.00	1/26/2006	7	4.6	1150
547-9B	4.00	1/26/2006	7	4.5	1120
547-9C	4.00	1/26/2006	7	4.9	1220
547-9D	4.00	2/16/2006	28	17.8	4450
547-9E	4.00	2/16/2006	28	16.4	4090
547-9F	4.00	2/16/2006	28	19.1	4780

Remarks: AMENDED REPORT



Report of Grout Specimen Compressive Strength

ASTM C1019

Project Name: PORTLAND - PARK DANFORTH - MATERIALS TESTING

Project Number: 05-0720

Client: ALLIED/COOK CONSTRUCTION CORP

Client Contract Number:

General Contractor:

Supplier:

PLACEMENT INFORMATION

Date Cast: 1/19/2006 Time Cast: 10:00 Date Received: 1/20/2006

Placement Location: 4TH FLOOR COURSE

Placement Method: BUCKET

Placement Vol. (yd³):

Cylinders Made By: JRD

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) Maximum (°F)

DELIVERY INFORMATION

Admixtures:

TEST RESULTS

Slump (in) (C-143):

Batch Number:

Air Temp (°F): 36

Mixer Number:

Grout Temp (°F) (C-1064): 45

Ticket Number:

Design (psi): 3000

Specimen Designation	Area(In)²	Date Of Test	Age (days)	Load (kips)	Strength (psi)
547-10A	10.56	1/26/2006	7	23.9	2260
547-10B	12.25	2/16/2006	28	40.0	3260
547-10C	12.25	2/16/2006	28	42.1	3440
547-10D		3/16/2006	56		

Remarks: AMENDED REPORT



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ALLIED CONSTRUCTION

Project Name PORTLAND - PARK DANFORTH - MATERIALS TESTING

Project Number 05-0720

Project Manager ROGER DOMINGO

Client ALLIED/COOK CONSTRUCTION
CORP

Date 1/31/2006

ALLIED/COOK CONSTRUCTION CORP
PO BOX 1396
PORTLAND, ME 04104

Phone Number

Fax Number

Results Being Reported

MORTAR CUBE COMPRESSION TEST - ASTM C109

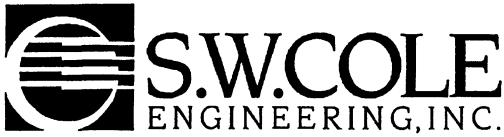
Copy To:

Remarks:

S. W. COLE ENGINEERING, INC.

BY: _____

Roger E. Domingo



Report of Mortar Compressive Strength

ASTM C109

Project Name: PORTLAND - PARK DANFORTH - MATERIALS TESTING

Project Number: 05-0720

Client: ALLIED/COOK CONSTRUCTION CORP

Client Contract Number:

General Contractor:

Supplier:

PLACEMENT INFORMATION

Date Cast: 1/3/2006 Time Cast: Date Received: 1/4/2006

Placement Location: POLAND ST. SITE -- 7TH

Placement Method:

Placement Vol. (yd³):

Cylinders Made By: DMR

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) Maximum (°F)

DELIVERY INFORMATION

Admixtures:

TEST RESULTS

Air Temp (°F):

Batch Number:

Mortar Temp (°F) (C-1064)

Mixer Number:

Ticket Number:

Design (psi): 1800

Cube Designation	Area(In)²	Date Of Test	Age (days)	Load (kips)	Strength (psi)
547-7A	4.00	1/10/2006	7	12.0	3000
547-7B	4.00	1/10/2006	7	9.5	2380
547-7C	4.00	1/10/2006	7	12.6	3140
547-7D	4.00	1/31/2006	28	13.9	3480
547-7E	4.00	1/31/2006	28	12.9	3220
547-7F	4.00	1/31/2006	28	11.1	2760

Remarks:

Project Name PORTLAND - PARK DANFORTH - MATERIALS TESTING

Project Number 05-0720

Project Manager ROGER DOMINGO

Client ALLIED/COOK CONSTRUCTION
CORP

Date 1/27/2006

ALLIED/COOK CONSTRUCTION CORP
PO BOX 1396
PORTLAND, ME 04104

Phone Number
Fax Number

Results Being Reported

MORTAR CUBE COMPRESSION TEST - ASTM C109

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Remarks:

S. W. COLE ENGINEERING, INC.

BY: 

Roger E. Domingo



Report of Mortar Compressive Strength

ASTM C109

Project Name: PORTLAND - PARK DANFORTH - MATERIALS TESTING Project Number: 05-0720

Client: ALLIED/COOK CONSTRUCTION CORP

Client Contract Number:

General Contractor:

Supplier:

PLACEMENT INFORMATION

Date Cast: 1/19/2006 Time Cast: 8:55 Date Received: 1/20/2006

Placement Location: 4TH FLOOR COURSE

Placement Method: BUCKET

Placement Vol. (yd³):

Cylinders Made By: JRD

Aggregate Size (in):

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) Maximum (°F)

DELIVERY INFORMATION

Admixtures:

TEST RESULTS

Air Temp (°F): 35

Batch Number:

Mortar Temp (°F) (C-1064) 45

Mixer Number:

Ticket Number:

Design (psi): ~~3000~~ 1800

Cube Designation	Area(In) ²	Date Of Test	Age (days)	Load (kips)	Strength (psi)
547-9A	4.00	1/26/2006	7	4.6	1150
547-9B	4.00	1/26/2006	7	4.5	1120
547-9C	4.00	1/26/2006	7	4.9	1220
547-9D		2/16/2006	28		
547-9E		2/16/2006	28		
547-9F		2/16/2006	28		

Remarks:



Report of Grout Specimen Compressive Strength

ASTM C1019

Project Name: PORTLAND - PARK DANFORTH - MATERIALS TESTING Project Number: 05-0720

Client: ALLIED/COOK CONSTRUCTION CORP

Client Contract Number:

General Contractor:

Supplier:

PLACEMENT INFORMATION

Date Cast: 1/19/2006 Time Cast: 10:00 Date Received: 1/20/2006

Placement Location: 4TH FLOOR COURSE

Placement Method: BUCKET

Placement Vol. (yd³):

Cylinders Made By: JRD

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) Maximum (°F)

DELIVERY INFORMATION

Admixtures:

TEST RESULTS

Slump (in) (C-143):

Batch Number:

Air Temp (°F): 36

Mixer Number:

Grout Temp (°F) (C-1064): 45

Ticket Number:

Design (psi): ~~4800~~ 3000

Specimen Designation	Area(In) ²	Date Of Test	Age (days)	Load (kips)	Strength (psi)
547-10A	10.56	1/26/2006	7	23.9	2260
547-10B		2/16/2006	28		
547-10C		2/16/2006	28		
547-10D					

Remarks:



Report of Grout Specimen Compressive Strength

ASTM C1019

Project Name: PORTLAND - PARK DANFORTH - MATERIALS TESTING Project Number: 05-0720

Client: ALLIED/COOK CONSTRUCTION CORP Client Contract Number:

General Contractor: Supplier:

PLACEMENT INFORMATION

Date Cast: 1/19/2006 Time Cast: 10:00 Date Received: 1/20/2006
Placement Location: 4TH FLOOR COURSE

Placement Method: BUCKET Placement Vol. (yd³):
Cylinders Made By: JRD Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures
Minimum (°F) Maximum (°F)

DELIVERY INFORMATION

Admixtures:

TEST RESULTS

Slump (in) (C-143):
Air Temp (°F): 36
Grout Temp (°F) (C-1064): 45

Batch Number:
Mixer Number:
Ticket Number:
Design (psi): 3000 *CORRECTION ←*

Specimen Designation	Area(In)²	Date Of Test	Age (days)	Load (kips)	Strength (psi)
547-10A	10.56	1/26/2006	7	23.9	2260
547-10B		2/16/2006	28		
547-10C		2/16/2006	28		
547-10D					

Remarks: AMENDED REPORT



Report of Mortar Compressive Strength

ASTM C109

Project Name: PORTLAND - PARK DANFORTH - MATERIALS TESTING Project Number: 05-0720

Client: ALLIED/COOK CONSTRUCTION CORP Client Contract Number:

General Contractor: Supplier:

PLACEMENT INFORMATION

Date Cast: 1/19/2006 Time Cast: 8:55 Date Received: 1/20/2006

Placement Location: 4TH FLOOR COURSE

Placement Method: BUCKET

Placement Vol. (yd³):

Cylinders Made By: JRD

Aggregate Size (in):

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) Maximum (°F)

DELIVERY INFORMATION

Admixtures:

TEST RESULTS

Air Temp (°F): 35

Batch Number:

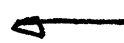
Mortar Temp (°F) (C-1064) 45

Mixer Number:

Ticket Number:

Design (psi): 1800

CORRECTION



Cube Designation	Area(In) ²	Date Of Test	Age (days)	Load (kips)	Strength (psi)
547-9A	4.00	1/26/2006	7	4.6	1150
547-9B	4.00	1/26/2006	7	4.5	1120
547-9C	4.00	1/28/2006	7	4.9	1220
547-9D		2/16/2006	28		
547-9E		2/16/2006	28		
547-9F		2/16/2006	28		

Remarks: AMENDED REPORT



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Project Name PORTLAND - PARK DANFORTH - MATERIALS TESTING

ALLIED CONSTRUCTION

Project Number 05-0720

Project Manager ROGER DOMINGO

Client ALLIED/COOK CONSTRUCTION CORP

Date 2/2/2006

ALLIED/COOK CONSTRUCTION CORP
PO BOX 1396
PORTLAND, ME 04104

Phone Number
Fax Number

Results Being Reported

MORTAR CUBE COMPRESSION TEST - ASTM C109

AMENDED

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Remarks:

S. W. COLE ENGINEERING, INC.

BY: 

Roger E. Domingo



Report of Mortar Compressive Strength

ASTM C109

Project Name: PORTLAND - PARK DANFORTH - MATERIALS TESTING

Project Number: 05-0720

Client: ALLIED/COOK CONSTRUCTION CORP

Client Contract Number:

General Contractor:

Supplier:

PLACEMENT INFORMATION

Date Cast: 1/19/2006 Time Cast: 8:55

Date Received: 1/20/2006

Placement Location: 4TH FLOOR COURSE

Placement Method: BUCKET

Placement Vol. (yd³):

Cylinders Made By: JRD

Aggregate Size (in):

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) Maximum (°F)

DELIVERY INFORMATION

Admixtures:

TEST RESULTS

Air Temp (°F): 35

Batch Number:

Mortar Temp (°F) (C-1064) 45

Mixer Number:

Ticket Number:

Design (psi): 1800

Cube Designation	Area(In) ²	Date Of Test	Age (days)	Load (kips)	Strength (psi)
547-9A	4.00	1/26/2006	7	4.6	1150
547-9B	4.00	1/26/2006	7	4.5	1120
547-9C	4.00	1/26/2006	7	4.9	1220
547-9D		2/16/2006	28		
547-9E		2/16/2006	28		
547-9F		2/16/2006	28		

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FEB - 7 2006

ALLIED CONSTRUCTION

Remarks: AMENDED REPORT



Report of Grout Specimen Compressive Strength

ASTM C1019

Project Name: PORTLAND - PARK DANFORTH - MATERIALS TESTING

Project Number: 05-0720

Client: ALLIED/COOK CONSTRUCTION CORP

Client Contract Number:

General Contractor:

Supplier:

PLACEMENT INFORMATION

Date Cast: 1/19/2006 **Time Cast:** 10:00 **Date Received:** 1/20/2006

Placement Location: 4TH FLOOR COURSE

Placement Method: BUCKET

Placement Vol. (yd³):

Cylinders Made By: JRD

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures:

TEST RESULTS

Slump (in) (C-143):

Batch Number:

Air Temp (°F): 36

Mixer Number:

Grout Temp (°F) (C-1064): 45

Ticket Number:

Design (psi): 3000

Specimen Designation	Area(In) ²	Date Of Test	Age (days)	Load (kips)	Strength (psi)
547-10A	10.56	1/26/2006	7	23.9	2260
547-10B		2/16/2006	28		
547-10C		2/16/2006	28		
547-10D					

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ALLIED CONSTRUCTION

Remarks: AMENDED REPORT



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ALLIED CONSTRUCTION

Project Name PORTLAND - PARK DANFORTH - MATERIALS TESTING

Project Number 05-0720

Project Manager ROGER DOMINGO

Client ALLIED/COOK CONSTRUCTION
CORP

Date 1/20/2006

ALLIED/COOK CONSTRUCTION CORP
PO BOX 1396
PORTLAND, ME 04104

Phone Number
Fax Number

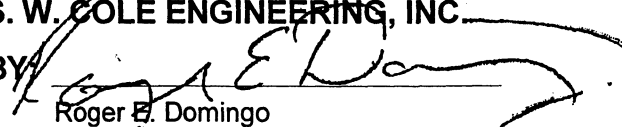
Results Being Reported

MORTAR CUBE COMPRESSION TEST - ASTM C109

Copy To:

Remarks:

S. W. COLE ENGINEERING, INC.

BY 
Roger E. Domingo



Report of Mortar Compressive Strength

ASTM C109

Project Name: PORTLAND - PARK DANFORTH - MATERIALS TESTING

Project Number: 05-0720

Client: ALLIED/COOK CONSTRUCTION CORP

Client Contract Number:

General Contractor:

Supplier:

PLACEMENT INFORMATION

Date Cast: 1/13/2006 Time Cast: Date Received: 1/14/2006

Placement Location: 3RD FLOOR 4TH COURSE -- NORTH SIDE

Placement Method:

Placement Vol. (yd³):

Cylinders Made By: KLG

Aggregate Size (in): SAND

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) Maximum (°F)

DELIVERY INFORMATION

Admixtures:

TEST RESULTS

Air Temp (°F):

Batch Number:

Mortar Temp (°F) (C-1064)

Mixer Number:

Ticket Number:

Design (psi): 1800

Cube Designation	Area(In) ²	Date Of Test	Age (days)	Load (kips)	Strength (psi)
547-8A	4.00	1/20/2006	7	12.1	3020
547-8B	4.00	1/20/2006	7	13.8	3450
547-8C	4.00	1/20/2006	7	11.1	2780
547-8D		2/10/2006	28		
547-8E		2/10/2006	28		
547-8F		2/10/2006	28		

Remarks:



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JAN 10 2006

Project Name PORTLAND - PARK DANFORTH - MATERIALS TESTING ALLIED CONSTRUCTION

Project Number 05-0720

Project Manager ROGER DOMINGO

Client ALLIED/COOK CONSTRUCTION CORP

Date 1/10/2006

ALLIED/COOK CONSTRUCTION CORP
PO BOX 1396
PORTLAND, ME 04104

Phone Number
Fax Number

Results Being Reported

MORTAR CUBE COMPRESSION TEST - ASTM C109

Copy To:

Remarks:

S. W. COLE ENGINEERING, INC.

BY:


Roger E. Domingo



Report of Mortar Compressive Strength

ASTM C109

Project Name: PORTLAND - PARK DANFORTH - MATERIALS TESTING

Project Number: 05-0720

Client: ALLIED/COOK CONSTRUCTION CORP

Client Contract Number:

General Contractor:

Supplier:

PLACEMENT INFORMATION

Date Cast: 1/3/2006 Time Cast: Date Received: 1/4/2006

Placement Location: POLAND ST. SITE -- 7TH

Placement Method:

Placement Vol. (yd³):

Cylinders Made By: DMR

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) Maximum (°F)

DELIVERY INFORMATION

Admixtures:

TEST RESULTS

Air Temp (°F):

Batch Number:

Mortar Temp (°F) (C-1064)

Mixer Number:

Ticket Number:

Design (psi): 1800

Cube Designation	Area(In) ²	Date Of Test	Age (days)	Load (kips)	Strength (psi)
547-7A	4.00	1/10/2006	7	12.0	3000
547-7B	4.00	1/10/2006	7	9.5	2380
547-7C	4.00	1/10/2006	7	12.6	3140
547-7D		1/31/2006	28		
547-7E		1/31/2006	28		
547-7F		1/31/2006	28		

Remarks:



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JAN 18 2006

Project Name PORTLAND - PARK DANFORTH - MATERIALS TESTING

ALLIED CONSTRUCTION

Project Number 05-0720

Project Manager ROGER DOMINGO

Client ALLIED/COOK CONSTRUCTION CORP

Date 1/13/2006

ALLIED/COOK CONSTRUCTION CORP
PO BOX 1396
PORTLAND, ME 04104

Phone Number
Fax Number

Results Being Reported

MORTAR CUBE COMPRESSION TEST - ASTM C109

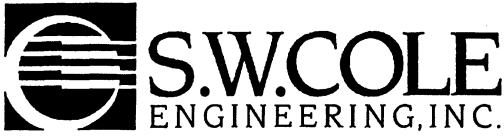
Copy To:

Remarks:

S. W. COLE ENGINEERING, INC.

BY: 

Roger E. Domingo



Report of Mortar Compressive Strength

ASTM C109

Project Name: PORTLAND - PARK DANFORTH - MATERIALS TESTING Project Number: 05-0720

Client: ALLIED/COOK CONSTRUCTION CORP

Client Contract Number:

General Contractor:

Supplier:

PLACEMENT INFORMATION

Date Cast: 12/16/2005 Time Cast: Date Received: 12/17/2005

Placement Location: 2ND FLOOR - SW SIDE OF BUILDING

Placement Method:

Placement Vol. (yd³):

Cylinders Made By: KLG

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) Maximum (°F)

DELIVERY INFORMATION

Admixtures:

TEST RESULTS

Air Temp (°F):

Batch Number:

Mortar Temp (°F) (C-1064)

Mixer Number:

Ticket Number:

Design (psi):

Cube Designation	Area(In) ²	Date Of Test	Age (days)	Load (kips)	Strength (psi)
547-6A	4.00	12/23/2005	7	13.3	3320
547-6B	4.00	1/13/2006	28	12.7	3180
547-6C	4.00	1/13/2006	28	13.7	3420

Remarks:

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JAN 11 2006

Project Name PORTLAND - PARK DANFORTH - MATERIALS TESTING

Project Number 05-0720

Project Manager ROGER DOMINGO

Client ALLIED/COOK CONSTRUCTION CORP

Date 1/6/2006

ALLIED/COOK CONSTRUCTION CORP
PO BOX 1396
PORTLAND, ME 04104

Phone Number
Fax Number

Results Being Reported

MORTAR CUBE COMPRESSION TEST - ASTM C109

Copy To:

Remarks:

S. W. COLE ENGINEERING, INC.

BY:

Roger E. Domingo



Report of Mortar Compressive Strength

ASTM C109

Project Name: PORTLAND - PARK DANFORTH - MATERIALS TESTING

Project Number: 05-0720

Client: ALLIED/COOK CONSTRUCTION CORP

Client Contract Number:

General Contractor:

Supplier:

PLACEMENT INFORMATION

Date Cast: 12/16/2005 **Time Cast:** **Date Received:** 12/17/2005

Placement Location: 2ND FLOOR - SW SIDE OF BUILDING

Placement Method:

Placement Vol. (yd³):

Cylinders Made By: KLG

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures:

TEST RESULTS

Air Temp (°F):

Batch Number:

Mortar Temp (°F) (C-1064)

Mixer Number:

Ticket Number:

Design (psi):

Cube Designation	Area(In) ²	Date Of Test	Age (days)	Load (kips)	Strength (psi)
547-6A	4.00	12/23/2005	7	13.3	3320
547-6B		1/13/2006	28		
547-6C		1/13/2006	28		

Remarks:



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JAN - 9 2006

ALLIED CONSTRUCTION

Project Name PORTLAND - PARK DANFORTH - MATERIALS TESTING

Project Number 05-0720

Project Manager ROGER DOMINGO

Client ALLIED/COOK CONSTRUCTION
CORP

Date 1/4/2006

ALLIED/COOK CONSTRUCTION CORP
PO BOX 1396
PORTLAND, ME 04104

Phone Number
Fax Number

Results Being Reported

MORTAR CUBE COMPRESSION TEST - ASTM C109

Copy To:

Remarks:

S. W. COLE ENGINEERING, INC.

BY: 

Roger E. Domingo



Report of Mortar Compressive Strength

ASTM C109

Project Name: PORTLAND - PARK DANFORTH - MATERIALS TESTING **Project Number:** 05-0720

Client: ALLIED/COOK CONSTRUCTION CORP

Client Contract Number:

General Contractor:

Supplier:

PLACEMENT INFORMATION

Date Cast: 12/7/2005 **Time Cast:** **Date Received:** 12/8/2005

Placement Location: 7TH FLOOR FOREST AVE. SIDE

Placement Method:

Placement Vol. (yd³):

Cylinders Made By: DMR

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures:

TEST RESULTS

Air Temp (°F):

Batch Number:

Mortar Temp (°F) (C-1064)

Mixer Number:

Ticket Number:

Design (psi): 1800

Cube Designation	Area(In) ²	Date Of Test	Age (days)	Load (kips)	Strength (psi)
547-5A	4.00	12/14/2005	7	14.1	3530
547-5B	4.00	12/14/2005	7	14.4	3600
547-5C	4.00	12/14/2005	7	13.7	3410
547-5D	4.00	1/4/2006	28	16.9	4220
547-5E	4.00	1/4/2006	28	14.4	3600
547-5F	4.00	1/4/2006	28	16.4	4100

Remarks:



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DEC 21 2005

Project Name PORTLAND - PARK DANFORTH - MATERIALS TESTING

ALLIED CONSTRUCTION

Project Number 05-0720

Project Manager ROGER DOMINGO

Client ALLIED/COOK CONSTRUCTION
CORP

Date 12/16/2005

ALLIED/COOK CONSTRUCTION CORP
PO BOX 1396
PORTLAND, ME 04104

Phone Number
Fax Number

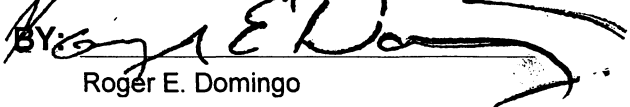
Results Being Reported

MORTAR CUBE COMPRESSION TEST - ASTM C109

Copy To:

Remarks:

S. W. COLE ENGINEERING, INC.

BY: 

Roger E. Domingo



Report of Mortar Compressive Strength

ASTM C109

Project Name: PORTLAND - PARK DANFORTH - MATERIALS TESTING Project Number: 05-0720

Client: ALLIED/COOK CONSTRUCTION CORP

Client Contract Number:

General Contractor:

Supplier:

PLACEMENT INFORMATION

Date Cast: 12/7/2005 Time Cast: Date Received: 12/8/2005

Placement Location: 7TH FLOOR FOREST AVE. SIDE

Placement Method:

Placement Vol. (yd³):

Cylinders Made By: DMR

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) Maximum (°F)

DELIVERY INFORMATION

Admixtures:

TEST RESULTS

Air Temp (°F):

Batch Number:

Mortar Temp (°F) (C-1064)

Mixer Number:

Ticket Number:

Design (psi): 1800

Cube Designation	Area(In) ²	Date Of Test	Age (days)	Load (kips)	Strength (psi)
547-5A	4.00	12/14/2005	7	14.1	3530
547-5B	4.00	12/14/2005	7	14.4	3600
547-5C	4.00	12/14/2005	7	13.7	3410
547-5D		1/4/2006	28		
547-5E		1/4/2006	28		
547-5F		1/4/2006	28		

Remarks:

Project Name PORTLAND - PARK DANFORTH - MATERIALS TESTING

ALLIED CONSTRUCTION

Project Number 05-0720

Project Manager ROGER DOMINGO

Client ALLIED/COOK CONSTRUCTION
CORP

Date 12/27/2005

ALLIED/COOK CONSTRUCTION CORP
PO BOX 1396
PORTLAND, ME 04104

Phone Number
Fax Number

Results Being Reported

MORTAR CUBE COMPRESSION TEST - ASTM C109

Copy To:

Remarks:

S. W. COLE ENGINEERING INC.

BY: 

Roger E. Domingo

Project Name: PORTLAND - PARK DANFORTH - MATERIALS TESTING

Project Number: 05-0720

Client: ALLIED/COOK CONSTRUCTION CORP

Client Contract Number:
General Contractor:
Supplier:
PLACEMENT INFORMATION
Date Cast: 11/28/2005 **Time Cast:** **Date Received:** 11/29/2005
Placement Location: 4TH FLOOR FOREST AVENUE SITE

Placement Method:
Placement Vol. (yd³):
Cylinders Made By: DMR

Aggregate Size (in):
INITIAL CURING CONDITIONS
Temperatures
Minimum (°F) **Maximum (°F)**
DELIVERY INFORMATION
Admixtures:
TEST RESULTS
Air Temp (°F):
Batch Number:
Mortar Temp (°F) (C-1064)
Mixer Number:
Ticket Number:
Design (psi): 1800

Cube Designation	Area(In) ²	Date Of Test	Age (days)	Load (kips)	Strength (psi)
547-4A	4.00	12/5/2005	7	9.0	2250
547-4B	4.00	12/5/2005	7	9.0	2250
547-4C	4.00	12/5/2005	7	10.0	2500
547-4D	4.00	12/26/2005	28	10.1	2520
547-4E	4.00	12/26/2005	28	12.6	3150
547-4F	4.00	12/26/2005	28	12.9	3220

Remarks:



S.W. COLE
ENGINEERING, INC.

COPY

Project Name PORTLAND - PARK DANFORTH - MATERIALS TESTING

Project Number 05-0720

Project Manager ROGER DOMINGO

Client ALLIED/COOK CONSTRUCTION
CORP

Date 12/5/2005

ALLIED/COOK CONSTRUCTION CORP
PO BOX 1396
PORTLAND, ME 04104

Phone Number
Fax Number

Results Being Reported

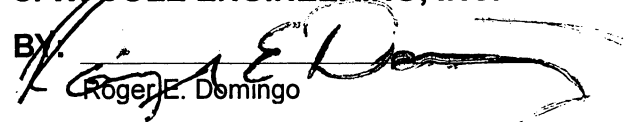
MORTAR CUBE COMPRESSION TEST - ASTM C109

Copy To:

Remarks:

S. W. COLE ENGINEERING, INC.

BY:



Roger E. Domingo

Project Name: PORTLAND - PARK DANFORTH - MATERIALS TESTING

Project Number: 05-0720

Client: ALLIED/COOK CONSTRUCTION CORP

Client Contract Number:
General Contractor:
Supplier:
PLACEMENT INFORMATION
Date Cast: 11/28/2005 **Time Cast:** **Date Received:** 11/29/2005

Placement Location: 4TH FLOOR FOREST AVENUE SITE

Placement Method:
Placement Vol. (yd³):
Cylinders Made By: DMR

Aggregate Size (in):
INITIAL CURING CONDITIONS
Temperatures
Minimum (°F) **Maximum (°F)**
DELIVERY INFORMATION
Admixtures:
TEST RESULTS
Air Temp (°F):
Batch Number:
Mortar Temp (°F) (C-1064)
Mixer Number:
Ticket Number:
Design (psi): 1800

Cube Designation	Area(In) ²	Date Of Test	Age (days)	Load (kips)	Strength (psi)
547-4A	4.00	12/5/2005	7	9.0	2250
547-4B	4.00	12/5/2005	7	9.0	2250
547-4C	4.00	12/5/2005	7	10.0	2500
547-4D		12/26/2005	28		
547-4E		12/26/2005	28		
547-4F		12/26/2005	28		

Remarks:



COPY

Project Name PORTLAND - PARK DANFORTH - MATERIALS TESTING

Project Number 05-0720

Project Manager ROGER DOMINGO

Client ALLIED/COOK CONSTRUCTION
CORP

Date 12/6/2005

ALLIED/COOK CONSTRUCTION CORP
PO BOX 1396
PORTLAND, ME 04104

Phone Number
Fax Number

Results Being Reported

MORTAR CUBE COMPRESSION TEST - ASTM C109

Copy To:

Remarks:

S. W. COLE ENGINEERING, INC.

BY: 

Roger E. Domingo



Report of Mortar Compressive Strength

ASTM C109

Project Name: PORTLAND - PARK DANFORTH - MATERIALS TESTING

Project Number: 05-0720

Client: ALLIED/COOK CONSTRUCTION CORP

Client Contract Number:

General Contractor:

Supplier:

PLACEMENT INFORMATION

Date Cast: 11/4/2005 Time Cast: Date Received: 11/5/2005

Placement Location: NORTH SIDE WALL

Placement Method:

Placement Vol. (yd³):

Cylinders Made By: DMR

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) Maximum (°F)

DELIVERY INFORMATION

Admixtures:

TEST RESULTS

Air Temp (°F):

Batch Number:

Mortar Temp (°F) (C-1064)

Mixer Number:

Ticket Number:

Design (psi): 1800

Cube Designation	Area(In)²	Date Of Test	Age (days)	Load (kips)	Strength (psi)
547-2A	4.00	11/11/2005	7	12.8	3200
547-2B	4.00	11/11/2005	7	12.0	3000
547-2C	4.00	11/11/2005	7	11.8	2950
547-2D	4.00	12/2/2005	28	15.0	3750
547-2E	4.00	12/2/2005	28	13.9	3480
547-2F	4.00	12/2/2005	28	14.6	3650

Remarks:



Report of Grout Compressive Strength

ASTM C109

Project Name: PORTLAND - PARK DANFORTH - MATERIALS TESTING

Project Number: 05-0720

Client: ALLIED/COOK CONSTRUCTION CORP

Client Contract Number:

General Contractor:

Supplier:

PLACEMENT INFORMATION

Date Cast: 11/4/2005 Time Cast: Date Received: 11/5/2005

Placement Location: NORTH SIDE WALL

Placement Method:

Placement Vol. (yd³):

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):

Batch Number:

Air Temp (°F):

Mixer Number:

Grout Temp (°F) (C-1064):

Ticket Number:

Design (psi): 3000

Cube Designation	Area(In) ²	Date Of Test	Age (days)	Load (kips)	Strength (psi)
547-3A	10.56	11/11/2005	7	43.3	4100
547-3B	10.56	12/2/2005	28	57.1	5410
547-3C	10.56	12/2/2005	28	63.9	6050
547-3D					

Remarks:



S.W. COLE
ENGINEERING, INC.

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NOV 23 2005

Project Name PORTLAND - PARK DANFORTH - MATERIALS TESTING

ALLIED CONSTRUCTION

Project Number 05-0720

Project Manager ROGER DOMINGO

Client ALLIED/COOK CONSTRUCTION
CORP

Date 11/21/2005

ALLIED/COOK CONSTRUCTION CORP
PO BOX 1396
PORTLAND, ME 04104

Phone Number
Fax Number

Results Being Reported

GROUT CUBE COMPRESSION TEST - ASTM C109

Copy To:

Remarks:

S. W. COLE ENGINEERING, INC.

BY: 

Roger E. Domingo



Report of Mortar Compressive Strength

ASTM C109

Project Name: PORTLAND - PARK DANFORTH - MATERIALS TESTING

Project Number: 05-0720

Client: ALLIED/COOK CONSTRUCTION CORP

Client Contract Number:

General Contractor:

Supplier:

PLACEMENT INFORMATION

Date Cast: 11/4/2005 Time Cast: Date Received: 11/5/2005

Placement Location: NORTH SIDE WALL

Placement Method:

Placement Vol. (yd³):

Cylinders Made By: DMR

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) Maximum (°F)

DELIVERY INFORMATION

Admixtures:

TEST RESULTS

Air Temp (°F):

Batch Number:

Mortar Temp (°F) (C-1064)

Mixer Number:

Ticket Number:

Design (psi): 1800

Cube Designation	Area(In) ²	Date Of Test	Age (days)	Load (kips)	Strength (psi)
547-2A	4.00	11/11/2005	7	12.8	3200
547-2B	4.00	11/11/2005	7	12.0	3000
547-2C	4.00	11/11/2005	7	11.8	2950
547-2D		12/2/2005	28		
547-2E		12/2/2005	28		
547-2F		12/2/2005	28		

Remarks:



Report of Grout Compressive Strength

ASTM C109

Project Name: PORTLAND - PARK DANFORTH - MATERIALS TESTING Project Number: 05-0720

Client: ALLIED/COOK CONSTRUCTION CORP

Client Contract Number:

General Contractor:

Supplier:

PLACEMENT INFORMATION

Date Cast: 11/4/2005 Time Cast: Date Received: 11/5/2005

Placement Location: NORTH SIDE WALL

Placement Method:

Placement Vol. (yd³):

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):

Batch Number:

Air Temp (°F):

Mixer Number:

Grout Temp (°F) (C-1064):

Ticket Number:

Design (psi): 3000

Cube Designation	Area(In) ²	Date Of Test	Age (days)	Load (kips)	Strength (psi)
547-3A	10.56	11/11/2005	7	43.3	4100
547-3B		12/2/2005	28		
547-3C		12/2/2005	28		
547-3D					

Remarks:

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10/24/05

ALLIED CONSTRUCTION

Project Name PORTLAND - PARK DANFORTH - MATERIALS TESTING

Project Number 05-0720

Project Manager ROGER DOMINGO

Client ALLIED/COOK CONSTRUCTION
CORP

Date 10/20/2005

ALLIED/COOK CONSTRUCTION CORP
PO BOX 1396
PORTLAND, ME 04104

Phone Number
Fax Number

Results Being Reported

MORTAR CUBE COMPRESSION TEST - ASTM C109

Copy To:

Remarks:

S. W. COLE ENGINEERING, INC.

BY: 

Roger E. Domingo



Report of Mortar Compressive Strength

ASTM C109

Project Name: PORTLAND - PARK DANFORTH - MATERIALS TESTING

Project Number: 05-0720

Client: ALLIED/COOK CONSTRUCTION CORP

Client Contract Number:

General Contractor:

Supplier:

PLACEMENT INFORMATION

Date Cast: 9/28/2005 Time Cast: Date Received: 9/29/2005

Placement Location: FRONT SIDE WALL 1ST 10'

Placement Method:

Placement Vol. (yd³):

Cylinders Made By: DMR

Aggregate Size (in):

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) Maximum (°F)

DELIVERY INFORMATION

Admixtures:

TEST RESULTS

Air Temp (°F):

Batch Number:

Mortar Temp (°F) (C-1064)

Mixer Number:

Ticket Number:

Design (psi): 1800

Cube Designation	Area(In)²	Date Of Test	Age (days)	Load (kips)	Strength (psi)
547-1A	4.00	10/5/2005	7	13.3	3340
547-1B	4.00	10/5/2005	7	13.9	3480
547-1C	4.00	10/5/2005	7	12.7	3180
547-1D		10/26/2005	28		
547-1E		10/26/2005	28		
547-1F		10/26/2005	28		

Remarks:

05120.01 Material Specification Submittals



Wednesday, 26-Apr-2006

From:

Jessica Berg
Mill Metals Corporation
62 Maple Street
Manchester, NH
Phone : (603) 626-7351

To:

LMC LIGHT IRON INC
P.O. Box 521
Limerick, ME
04048
Phone : 207-793-9957

Document Summary Cover Page

The MTRs are printed in the following order:

#	Heat#	Item Number	Description
1	JE9009	HRF144	FLAT HR 1/4 X 4

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MTRs produced using MetalTrace (TM) - Visit www.TraceApps.com or call toll-free - 1-866-429-7007.



ROANOKE ELECTRIC STEEL CORPORATION

P.O. BOX 13948

ROANOKE, VIRGINIA 24038-3948

Test and Inspection Report

NO. 03657-2

ROANOKE

MILL METALS - NH

HRF144

62 MAPLE STREET
MANCHESTER, NH

3103-0000

Date 12/14/05

HEAT NUMBER	SIZE	1-YIELD Pt. KSI	ULTIMATE KSI	ELONG 8 IN. TEST	BEND TEST	GRADE				
JE9009	FLATS 1/4 X 4	45.7	67.6	31.3		A36				
PURCHASE ORDER NUMBER	NUMBER PIECES	2-YIELD PT. KSI	ULTIMATE KSI	ELONG 8 IN. TEST	BEND TEST	GRADE				
38500	75 PIECES 20'	45.8	68.1	30.0		A36				
HEAT NUMBER	SIZE	1-YIELD Pt. MPA	ULTIMATE MPA	ELONG 203mm TEST	BEND TEST	GRADE				
JE9009	FLATS 6.4 X 101.6	315.1	466.1	31.3		A36				
PURCHASE ORDER NUMBER	NUMBER PIECES	2-YIELD PT. MPA	ULTIMATE MPA	ELONG 203mm TEST	BEND TEST	GRADE				
38500	75 PIECES 20'	315.8	469.5	30.0		A36				
C	MN	S	P	SI	CR	NI	MO	CU	V	NB
.13	.67	.033	.014	.24	.09	.09	.02	.43	.003	.002

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 A36-04 ASME SA36 QQS741D A709-00A 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

60/50/10
P.O.#2457



Wednesday, 26-Apr-2006

From:

Jessica Berg
Mill Metals Corporation
62 Maple Street
Manchester, NH
Phone : (603) 626-7351

To:

LMC LIGHT IRON INC
P.O. Box 521
Limerick, ME
04048
Phone : 207-793-9957

Document Summary Cover Page

The MTRs are printed in the following order:

#	Heat#	Item Number	Description
1	A6562	HRS34	SQUARE HR 3/4
2	8490846	T63316	TUBE RECT 6 X 3 X 3/16
3	A7224	HRF386	FLAT HR 3/8 X 6

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CERTIFIED TEST REPORT

NUCOR

BAR MILL - AUBURN
NUCOR STEEL AUBURN, INC.

P.O. BOX 2008
QUARRY ROAD
AUBURN, NY 13021

260 pcs. = 9932

HEAT # A6562

DATE SHIPPED 12/09/2005

SHIPMENT # 0269624

SIZE: SQ 3/4

ORDER ITEM# 168273/ 02

SOLD TO: MILL METALS CORP

FAX#/EMAIL:

HRS334

CUST. P.O. #38605

PART #:

GRADE : ASTM A36-04/CSA 44W

SPEC A709-04A GR36

SUPP. REQ:

SHIP TO: MILL METALS CORP

CHEMICAL ANALYSIS %

C	MN	SI	P	S	CU	NI	CR	MO	SN	V	CB	TI	B	N2	O2
150	700	140	017	049	270	1100	150	028	030	002	0040	0010	0016	XXX	001

MECHANICAL RESULTS

YIELD	TENSILE	GAUGE	% ELONG	BEND	PIN DIA	% ELONG	R.A.
K.S.I.	K.S.I.	LENGTH	ELONG	IN.	DIA	ELONG	R.A.
51.10	69.40	8	27.5	.0	.0	.0	.0
MPa	MPa	GAUGE	% ELONG <td>BEND <td>PIN DIA <td>% ELONG <td>R.A.</td> </td></td></td>	BEND <td>PIN DIA <td>% ELONG <td>R.A.</td> </td></td>	PIN DIA <td>% ELONG <td>R.A.</td> </td>	% ELONG <td>R.A.</td>	R.A.
51.30	69.40	8	28.8	.0	.0	.0	.0

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, I DECLARE THAT THESE RESULTS ARE CORRECT AS CONTAINED IN THE RECORDS OF NUCOR STEEL AUBURN

James A. Biernat

(Signature)

SUBSCRIBED AND SHOWN BEFORE

THIS _____ DAY OF _____

L.S.

THIS CERTIFICATE IS NOTARIZED (WHEN REQUESTED

BB/01750
143000

Grain Size	Reduction Ratio	As Rolled Hardness	D.J.	C.F.	C.I.
XXX	XXX	XXX	XXX	.351	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.

CUSTOMER SPECIAL INSTRUCTIONS:



Material Test Report

Ref.B/L:80154013
Date:05.24.2005
Customer:97

200 Clark Street, Harrow, Ontario, Canada N0R 1G0
Tel.: (519) 738-5000 Fax (519) 738-5087
Leroux Steel Inc - Boucherville
1331 Graham Bell
BOUCHERVILLE QC J4B 6A1
CANADA

Shipped to
Leroux Steel Inc - Boucherville
1331 Graham Bell
BOUCHERVILLE QC J4B 6A1
CANADA

Material.	3.0x3.0x188x24'0"0(6x7).				Material No.				300301882400		Made in Canada	
Sales order	162174				Purchase Order				M94005225		Cust Material #	
Heat No	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
10431850	0.180	0.400	0.010	0.001	0.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Bundle No	Yield		Tensile		Eln.2in		Certification					
M100397277	060840 Psi		073050 Psi		31.0 %		ASTM A500-03A GRADE C & B					
Material Note:												
Sales Or.Note:												

Material.	3.0x3.0x188x24'0"0(6x7).				Material No.				300301882400		Made in Canada	
Sales order	162174				Purchase Order				M94005225		Cust Material #	
Heat No	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
10431850	0.180	0.400	0.010	0.001	0.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Bundle No	Yield		Tensile		Eln.2in		Certification					
M100397275	060840 Psi		073050 Psi		31.0 %		ASTM A500-03A GRADE C & B					
Material Note:												
Sales Or.Note:												

Material.	6.0x3.0x188x24'0"0(3x7).				Material No.				600301882400		Made in Canada	
Sales order	160473				Purchase Order				M94004959		Cust Material #	
Heat No	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
8490846	0.220	0.770	0.009	0.003	0.027	0.044	0.030	0.000	0.000	0.000	0.000	0.000
Bundle No	Yield		Tensile		Eln.2in		Certification					
M100398050	061750 Psi		075710 Psi		28.3 %		ASTM A500-03A GRADE C & B					
Material Note:												
Sales Or.Note:												

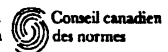
T63316

Material.	6.0x3.0x188x24'0"0(3x7).				Material No.				600301882400		Made in Canada	
Sales order	160473				Purchase Order				M94004959		Cust Material #	
Heat No	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
8490846	0.220	0.770	0.009	0.003	0.027	0.044	0.030	0.000	0.000	0.000	0.000	0.000
Bundle No	Yield		Tensile		Eln.2in		Certification					
M100398048	061750 Psi		075710 Psi		28.3 %		ASTM A500-03A GRADE C & B					
Material Note:												
Sales Or.Note:												



094004730

Authorized by Quality Assurance:



CERTIFIED TEST REPORT

64 pcs. = 9788

HEAT # A7224

DATE SHIPPED 10/31/2005

SHIPMENT # 0267698

SIZE: FL 6 X 3/8

ORDER ITEM# 166920/02

SOLD TO: MILL METALS CORP

FAX#/EMAIL:

NUCOR
BAR MILL - AUBURN
NUCOR STEEL AUBURN, INC.

P.O. BOX 2008
QUARRY ROAD
AUBURN, NY 13021

CUST. P.O. 37941
PART #: ASTM A36-04/CSA-44W
GRADE : A709-04A GR36
SPEC :
SUPP. REQ:
SHIP TO: MILL METALS CORP

HRF386

CHEMICAL ANALYSIS %

C	MN	SI	P	S	CU	NI	CR	MO	SN	V	CB	TI	B	N2	O2
.200	.650	.180	.014	.047	.340	1.000	1.00	.028	.023	.001	.0000	.0010	.0015	.XXX	.001

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, I DECLARE THAT: THESE RESULTS ARE CORRECT AS CONTAINED IN THE RECORDS OF NUCOR STEEL AUBURN, INC

Jim Biernat

(sign)

SUBSCRIBED AND SHOWN BEFORE ME

THIS _____ DAY OF _____

L.S.

THIS CERTIFICATE IS NOTARIZED ONLY WHEN REQUESTED

BC/02008
143000

MECHANICAL RESULTS

YIELD	TENSILE	GAUGE	% ELONG	BEND PIN. DIA	% R.A.
K.S.I.	K.S.I.	LENGTH	ELONG	PIN. DIA	R.A.
49.50	73.50	8	31.3	.0	.0
49.70	73.30	8	32.5	.0	.0
MPa	MPa	GAUGE	% ELONG	BEND PIN. DIA	R.A.
		LENGTH	ELONG	PIN. DIA	R.A.

CHARPY IMPACT TEST

TEMP. F	FT./LB.	SUBSIZE SPECIMEN	SAMPLE

Grain Size: XXX Reduction Ratio: XXX As Rolled Hardness: XXX J1 J2 J3 J4 J5 J6 J7 J8 J9 J10 J11 J12

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.

CUSTOMER SPECIAL INSTRUCTIONS:

P.O. #2457
01/04/06



Wednesday, 26-Apr-2006

From:

Jessica Berg
Mill Metals Corporation
62 Maple Street
Manchester, NH
Phone : (603) 626-7351

To:

LMC LIGHT IRON INC
P.O. Box 521
Limerick, ME
04048
Phone : 207-793-9957

Document Summary Cover Page

The MTRs are printed in the following order:

#	Heat#	Item Number	Description
1	None	HRF3164	STRIP HR 3/16 X 4
2	3M795	HRF3164	STRIP HR 3/16 X 4
3	028364	HRF3161	STRIP HR 3/16 X 1

- CALL US FOR ALL YOUR METAL NEEDS -

MTRs produced using MetalTrace (TM) - Visit www.TraceApps.com or call toll-free - 1-866-429-7007.

ACIER LEROUX INC.

UNE DIVISION DE METAUX RUSSEL INC.
A DIVISION OF RUSSEL METALS INC.

1331 RUE GRAHAM BELL
BOUCHERVILLE, QC J4B 6A1
TEL(450) 641-4360 EXT 2267
FAX(450) 449-5243

LETTRE D'ATTESTATION / LETTER OF COMPLIANCE

Vendu à /Sold to : MILL STEEL CORPORATION
62 MAPLE STREET
MANCHESTER, NH 03103
U.S.A

No. commande du client / Customer order number : 33653
De Facture / Invoice number 94169314

Par la présente nous certifions que le matériel fourni pour le numéro de commande ci-haut mentionné est conforme sur tous les points et répond aux spécifications commandées.

We hereby certify that the material supplied against the above mentioned purchase order number conforms in every respect and is in compliance with the specification as ordered.

Spécifications / Specification :

ITEM # 3/16 x 14 Hot Roll HRF 3164
No Heat #

MADE IN: Canada

DÉCLARATION CERTIFIÉE/CERTIFIED TRUE STATEMENT

Nadeau, Diane

Signé / Signed : _____

12 JAN. 2005

Officier d'assurance qualité / Q. A. Officer

Métaux Russel Inc. cust: M100 cust order: 21588 Sor: 12/30/05 Heat: 31795 Prep by: 15

ACIER NOVA STEEL
 2175, Boul Hymus 1330 Pinebush Road
 Dorval, Qc H9P 1J8 P.O. BOX 3640
 Tel: (514) 335-6682 Cambridge, Ont. N3H 5C6
 Tel: (519) 622-8162

CERTIFICAT D'ESSAI METALLURGIQUE

Vendu a: RUSSEL METALS (LACHINE) Date Expediee: 11/12/01
 Expediee a: RUSSEL METALS (LACHINE) B/L #: 010980
 C.P. 900 # B.C.: M10111291
 5205 FAIRWAY # de Commande: 229570
 LACHINE, QUEBEC
 HBS 4E9

Description	Dimensions	Pcs# Coulee	Specifications
Feuillard a Chaud	Ho:07 GA x4x240	9999 3M859	UNTESTED RESERVAT'N
Feuillard a Chaud	Ho:07 GA x4x240	9999 3M795	UNTESTED RESERVAT'N
Feuillard a Chaud	Ho:07 GA x4x240	9999 3M790	UNTESTED RESERVAT'N
Feuillard a Chaud	Ho:07 GA x4x240	9999 560267	UNTESTED RESERVAT'N

HRF3164

No. Coulee	Analyse Chimique															
	C	Mn	P	S	Si	Cu	Ni	Cr	Cb	Mo	V	Al	N	Sn	B	Ti
3M859	0.150	0.690	0.020	0.018	0.070	0.050	0.040	0.050	-	-	-	0.034	0.008	-	-	-
3M795	0.160	0.710	0.016	0.022	0.040	0.080	0.060	0.040	-	-	-	0.027	0.005	-	-	-
3M790	0.160	0.690	0.009	0.019	0.060	0.040	0.020	0.010	-	-	-	0.056	0.006	-	-	-
560267	0.090	0.490	0.023	0.012	0.010	0.010	0.010	0.020	-	0.010	0.001	0.042	-	-	-	0.001

Heat #	Origin
3M859	TAIWAN
3M795	TAIWAN
3M790	TAIWAN
560267	BREZIL

Authorise par Nancy Zajdler
 Departement - controle de qualite

#4 ACEROS CORSA, S.A. DE C.V.

Apartado Postal 118-269 54180 México, D.F.
Tel.: 5062-1916 Fax: 5586-8138

Date: 1005/01/01

P.O. #94004 R

Sold to: ACIER LEROUX DIVISION OF DRI

1331 RUE GRANAN BELL

Shipped to: A.A. LIC. NUMBERTO GARZA

V/O ALFREDO RAMIREZ

BOUCHERVILLE, QC J4B

RVO LAREDO/LAREDO

MILL TEST REPORT

TESTED ASTM A6

ASTM A36 CSA G4021. 44W

Chemical

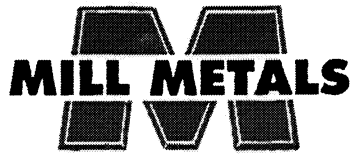
Mechanical Properties

Item	Size Material	Kgs.	No. of Lifts	No. of Pieces	Total Pcs.	Heat No.	C	Mn	Si	S	P	Tensile PSI	Yield PSI	Elong. % (8")
1	3" X 3" X 1/4" X 40'	16.010	6	45	270	027926	0.16	0.95	0.27	.028	.011	69,500	46,900	22.00
2	3" X 3" X 5/16" X 20'	6.665	3	40	120	025795	0.17	0.90	0.22	.029	.016	70,600	52,500	22.40
3	3" X 3" X 3/8" X 20'	16.014	7	35	245	020127	0.22	0.76	0.15	.016	.011	74,100	46,500	22.00
4	3/16 X 1" X 20'	10.188	5	352	1760	021364	0.13	0.89	0.22	.029	.009	67,200	47,700	22.00
5	2" X 2" X 3/16" X 20'	6.272	3	47	141	022226	0.16	0.87	0.21	.027	.014	68,700	47,500	22.00
6						021527	0.17	0.69	0.17	.024	.017	66,600	45,400	22.00
7	2" X 2" X 3/16" X 40'	4.181	1	49	49	021521	0.22	0.95	0.23	.025	.013	75,600	56,000	22.70
8	2 1/2" X 2 1/2" X 3/16" X 90'	6.271	3	75	225	021567	0.14	0.95	0.23	.028	.010	70,700	47,400	22.00
9						021542	0.16	1.02	0.21	.029	.009	71,000	47,400	22.00
10	2 1/2" X 2 1/2" X 3/16" X 40'	11.654	3	75	225	021530	0.19	0.72	0.19	.024	.017	71,400	49,400	22.00
11						021520	0.17	0.99	0.23	.027	.012	75,400	50,400	22.00
12														

A - Equals Legs Angles
FB - Flat Bars
R - Rounds
S - Squares

MELTED AND MANUFACTURED IN MEXICO

Authoriz:



Wednesday, 26-Apr-2006

From:

Jessica Berg
Mill Metals Corporation
62 Maple Street
Manchester, NH
Phone : (603) 626-7351

To:

LMC LIGHT IRON INC
P.O. Box 521
Limerick, ME
04048
Phone : 207-793-9957

Document Summary Cover Page

The MTRs are printed in the following order:

#	Heat#	Item Number	Description
1	STE669086	T63316	TUBE RECT 6 X 3 X 3/16

- CALL US FOR ALL YOUR METAL NEEDS -

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P.O. #2457
12/20/05

ACIER NOVA STEEL

6001, rue Irwin
Ville LaSalle, Qc H8N 1A1
Tel: (514) 335-6682

330 Pinebush Road
P.O. BOX 3640
Cambridge, Ont. N3H 5C6
Tel: (519) 622-8162

C E R T I F I C A T D ' E S S A I M E T A L L U R G I Q U E

Vendu a: ACIER LEROUX
Expediee a: ACIER LEROUX
1331 GRAHAM BELL
BOUCHERVILLE, QC

Date Expediee: 13/05/05
B/L #: 176475
B.C.: M-94005406
de Commande: 304952

Description	Dimensions	Pcs # Coulee	Specifications
Tube Rect. Lamine a chau	6x3x0.188x288	36 STE /669069	ASTM A 500-03 Grade C
Tube Rect. Lamine a chau	6x3x0.188x288	8 STE /669086	ASTM A 500-03 Grade C

T63316

No. Coulee	Composition Chimique															
	C	Mn	P	S	Si	Cu	Ni	Cr	Cb	Mo	V	Al	N	Sn	B	Ti
STE 669069	0.190	0.800	0.007	0.007	0.009	0.010	0.012	0.030	0.004	0.002	-	0.032	-	-	-	0.002
STE 669086	0.180	0.780	0.007	0.007	0.010	0.014	0.012	0.058	0.004	0.002	-	0.042	-	-	-	0.002

Resultats Mecaniques				
# de Coulee/Dimensions	Limite d'elast	Resist a la Trac	%All-2 po	Durete
STE /669069 HSR 6x3x0.1880	52,100 PSI	66,900 PSI	33.00	
STE /669086 HSR 6x3x0.1880	52,800 PSI	66,900 PSI	30.00	
SER#: 4223-070104				

de Coulee Fabrique au(x)
STE /669069 Le Canada
STE /669086 Le Canada



094004393

Authorise par Tony Lentini

MAY 13, 2005 12:26:01D

Departement - controle de qualite



Wednesday, 26-Apr-2006

From:

Jessica Berg
Mill Metals Corporation
62 Maple Street
Manchester, NH
Phone : (603) 626-7351

To:

LMC LIGHT IRON INC
P.O. Box 521
Limerick, ME
04048
Phone : 207-793-9957

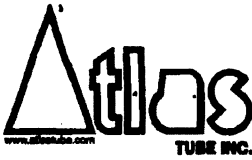
Document Summary Cover Page

The MTRs are printed in the following order:

#	Heat#	Item Number	Description
1	200484	T63316	TUBE RECT 6 X 3 X 3/16
2	STEL08150	T22316	TUBE SQ 2 X 2 X 3/16
3	20438610	T22316	TUBE SQ 2 X 2 X 3/16
4	A6563	HRS34	SQUARE HR 3/4
5	A7273	HRF145	FLAT HR 1/4 X 5
6	G5-5338	HRF147	FLAT HR 1/4 X 7

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MTRs produced using MetalTrace (TM) - Visit www.TraceApps.com or call toll-free - 1-866-429-7007.



Material Test Report

Ref.B/L:80156812
Date:07.07.2005
Customer:97

200 Clark Street, Harrow, Ontario, Canada N0R 1G0
Tel.: (519) 788-5000 Fax (519) 738-5087

Leroux Steel Inc - Boucherville
1331 Graham Bell
BOUCHERVILLE QC J4B 6A1
CANADA

Shipped to
Leroux Steel Inc - Boucherville
1331 Graham Bell
BOUCHERVILLE QC J4B 6A1
CANADA

Table with 12 columns: Material, Sales order, Heat No, Bundle No, M100410733, 5.0x5.0x188x24'0"0(4x4), 166075, 30418250, M100410733, Material No., Purchase Order, M94005832, 500501882400, Made in Canada, Cust Material #, C, Mn, P, S, Si, Al, Cu, Cb, Mo, Ni, Cr, V, Yield, Tensile, Eln.2in, Certification, ASTM A500-03A GRADE C & B

Table with 12 columns: Material, Sales order, Heat No, Bundle No, M100410734, 5.0x5.0x188x24'0"0(4x4), 166075, 30418250, M100410734, Material No., Purchase Order, M94005832, 500501882400, Made in Canada, Cust Material #, C, Mn, P, S, Si, Al, Cu, Cb, Mo, Ni, Cr, V, Yield, Tensile, Eln.2in, Certification, ASTM A500-03A GRADE C & B

Table with 12 columns: Material, Sales order, Heat No, Bundle No, M100408583, 6.0x3.0x188x24'0"0(3x7), 165925, 200484, M100408583, Material No., Purchase Order, M94005800, 600301882400, Made in Canada, Cust Material #, C, Mn, P, S, Si, Al, Cu, Cb, Mo, Ni, Cr, V, Yield, Tensile, Eln.2in, Certification, ASTM A500-03A GRADE C & B

Table with 12 columns: Material, Sales order, Heat No, Bundle No, M100408579, 6.0x3.0x188x24'0"0(3x7), 165925, 200484, M100408579, Material No., Purchase Order, M94005800, 600301882400, Made in Canada, Cust Material #, C, Mn, P, S, Si, Al, Cu, Cb, Mo, Ni, Cr, V, Yield, Tensile, Eln.2in, Certification, ASTM A500-03A GRADE C & B

T6331b



Authorized by Quality Assurance:



Steel Service Center Institute



ACIER NOVA STEEL

6001, rue Irwin
 Ville LaSalle, Qc H8N 1A1
 Tel: (514) 335-6682

330 Pinebush Road
 P.O. BOX 3640
 Cambridge, Ont. N3H 5C6
 Tel: (519) 622-8162

C E R T I F I C A T D ' E S S A I M E T A L L U R G I Q U E

Vendu a: ACIER LEROUX
 Expediee a: ACIER LEROUX
 1331 GRAHAM BELL
 BOUCHERVILLE, QC

Date Expediee: 06/06/05
 B/L #: 179979
 # B.C.: M-94005456
 # de Commande: 305298

Description	Dimensions	Pcs # Coulee	Specifications
Tube Carre Lamine a chau	2x2x0.188x288	196 STE /L08150	ASTM A 500-03 Grade C
Tube Carre Lamine a chau	2x2x0.188x288	98 ALG /2684D	ASTM A 500-03 Grade C
Tube Carre Lamine a chau	2x2x0.188x288	98 STE /574338	ASTM A 500-03 Grade C

T 22316

No. Coulee	Composition Chimique															
	C	Mn	P	S	Si	Cu	Ni	Cr	Cb	Mo	V	Al	N	Sn	B	Ti
STE L08150	0.180	0.680	0.008	0.007	0.006	0.010	0.003	0.020	0.007	0.002	0.002	0.036	-	-	-	-
ALG 2684D	0.210	0.830	0.014	0.006	0.020	0.030	0.020	0.030	-	0.010	0.002	0.028	-	-	-	0.001
STE 574338	0.160	0.550	0.007	0.010	0.010	0.009	0.060	0.025	0.002	0.002	0.002	0.071	-	-	-	-

Resultats Mecaniques				
# de Coulee/Dimensions	Limite d'elast	Resist a la Trac	%All-2 po	Durete
STE /L08150	82,800 PSI	89,900 PSI	26.00	
HSS 2x2x0.1880	SER#: 0200-040805			
ALG /2684D	72,500 PSI	80,300 PSI	28.00	
HSS 2x2x0.1880				
STE /574338	52,400 PSI	62,200 PSI	34.00	
HSS 2x2x0.1880	SER#: 0191-040805			

de Coulee Fabrique au(x)
 STE /L08150 Le Canada
 ALG /2684D Le Canada
 STE /574338 Le Canada

Authorise par Tony Lentini
 ent - controle de qualite

JUN 6, 2005 10:47:41D



094005283

50/70/05
 P.O.# 2457



Material Test Report

Ref. B/L: 80156821
Date: 07.11.2005
Customer: 97

Sold to

Leroux Steel Inc - Boucherville
1331 Graham Bell
BOUCHERVILLE QC J4B 6A1
CANADA

Shipped to

Leroux Steel Inc - Boucherville
1331 Graham Bell
BOUCHERVILLE QC J4B 6A1
CANADA

Material.	2.0x2.0x188x24'0"0(10x5).-D				Material No.	0200201882400-D				Made in USA		
Sales order	163606				Purchase Order	M94005455				Cust Material #		
Heat No	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
4000D	0.170	0.730	0.008	0.007	0.020	0.029	0.040	0.000	0.010	0.030	0.030	0.002
Bundle No	Yield		Tensile		Eln.2in			Certification				
M300189405	075529 Psi		079819 Psi		23.4 %			ASTM A500-03A GRADE C & B				
Material Note:												
Sales Or.Note:												

Material.	2.0x2.0x188x24'0"0(10x5).-D				Material No.	0200201882400-D				Made in USA		
Sales order	163606				Purchase Order	M94005455				Cust Material #		
Heat No	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
20438610	0.170	0.400	0.007	0.003	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Bundle No	Yield		Tensile		Eln.2in			Certification				
M300187324	074413 Psi		078506 Psi		23.4 %			ASTM A500-03A GRADE C & B				
Material Note:												
Sales Or.Note:	T22316											

Material.	2.0x2.0x188x24'0"0(10x5).-D				Material No.	0200201882400-D				Made in USA		
Sales order	163606				Purchase Order	M94005455				Cust Material #		
Heat No	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
4000D	0.170	0.730	0.008	0.007	0.020	0.029	0.040	0.000	0.010	0.030	0.030	0.002
Bundle No	Yield		Tensile		Eln.2in			Certification				
M300189407	075529 Psi		079819 Psi		23.4 %			ASTM A500-03A GRADE C & B				
Material Note:												
Sales Or.Note:												

Material.	2.0x2.0x188x24'0"0(10x5).-D				Material No.	0200201882400-D				Made in USA		
Sales order	163606				Purchase Order	M94005455				Cust Material #		
Heat No	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
20438610	0.170	0.400	0.007	0.003	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Bundle No	Yield		Tensile		Eln.2in			Certification				
M300187333	074413 Psi		078506 Psi		23.4 %			ASTM A500-03A GRADE C & B				
Material Note:												
Sales Or.Note:												

Authorized by Quality Assurance:



094006414

13101 ECKLES ROAD, PLYMOUTH, MICHIGAN 48170
(734) 738-5600 FAX (734) 738-5604

P.O.#2457
12/07/05

CERTIFIED TEST REPORT

NUCOR

BAR MILL - AUBURN
NUCOR STEEL AUBURN, INC.

P.O. BOX 2008
QUARRY ROAD
AUBURN, NY 13021

CUST. P.O. 38605

PART #:

GRADE : ASTM A36-04/CSA 44W

SPEC A709-04A GR36

SUPP. REQ:

SHIP TO: MILL METALS CORP

128 PGS. = 4888

HEAT # A6563

DATE SHIPPED 12/09/2005

SHIPMENT # 0269624

SIZE: SQ 3/4

ORDER ITEM# 168273/02

SOLD TO: MILL METALS CORP

FAX#EMAIL:

HR534

CHEMICAL ANALYSIS %

C	MN	SI	P	S	CU	NI	CR	MO	SN	V	TI	B	N2	O2
140	750	170	.019	.044	280	1100	160	.028	.028	.003	.0010	.0015	XXX	.002

MECHANICAL RESULTS

YIELD	TENSILE	GAUGE	% ELONG	BEND	% ELONG	R.A.
K.S.I.	K.S.I.	LENGTH	ELONG	PIN DIA	PIN DIA	R.A.
53.40	70.60	8	30.0	.0	.0	.0
52.70	70.20	8	28.8	.0	.0	.0
MPa	MPa	GAUGE	% ELONG	BEND	PIN DIA	R.A.
		LENGTH	ELONG	PIN DIA	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, I DECLARE THAT THESE RESULTS ARE CORRECT AS CONTAINED IN THE RECORDS OF NUCOR STEEL AUBURN

Jim Biernat

(sign)

SUBSCRIBED AND SHOWN BEFORE

THIS _____ DAY OF _____

L.S. _____

THIS CERTIFICATE IS NOTARIZED (WHEN REQUESTED)

BB/01750
143000

Grain Size	Reduction Ratio	As Rolled Hardness	D.I.	C.F.	C.I.
XXX	XXX	XXX	XXX	.357	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.

CUSTOMER SPECIAL INSTRUCTIONS:

CERTIFIED TEST REPORT

60 pcs. = 5100
HEAT # A7273
DATE SHIPPED 12/09/2005
SHIPMENT # 0269624
SIZE: FL 5 X 1/4
ORDER ITEM# 168273/ 08
SOLD TO: MILL METALS CORP
FAX#EMAIL:

CUST. P.O. 38605
PART #:
GRADE : ASTM A36-04/CSA-44W
SPEC A709-04A GR36
SUPP. REQ:
SHIP TO: MILL METALS CORP

NUCOR
BAR MILL - AUBURN
NUCOR STEEL AUBURN, INC.
P.O. BOX 2008
QUARRY ROAD
AUBURN, NY 13021

JRF/YS

CHEMICAL ANALYSIS %

C	MIN	SI	P	S	CU	NI	CR	MO	SN	V	CB	TI	B	N2	O2
180	670	190	.013	.050	290	1000	120	.027	.023	.002	.0020	.0020	.0018	XXX	.001

MECHANICAL RESULTS

YIELD	TENSILE	GAUGE	%	BEND	%
K.S.I.	K.S.I.	LENGTH	ELONG	PIN. DIA	R.A.
52.60	74.50	8	32.5	.0	.0
52.20	74.80	8	28.1	.0	.0
MPa	MPa	GAUGE	%	BEND	R.A.
		LENGTH	ELONG	PIN. DIA	

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, I DECLARE THAT: THESE RESULTS ARE CORRECT AS CONTAINED IN THE RECORDS OF NUCOR STEEL AUBURN

James P. Biernat
(sign)

SUBSCRIBED AND SHOWN BEFORE

THIS _____ DAY OF _____

L.S. _____

THIS CERTIFICATE IS NOTARIZED (WHEN REQUESTED

Grain Size: XXX Reduction Ratio: XXX As Rolled Hardness: XXX D.I.: XXX C.F.: .379 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.

CUSTOMER SPECIAL INSTRUCTIONS:

G-062007

Chemical and Physical Test Report
MADE IN THE UNITED STATES



CARTERSVILLE STEEL MILL
384 OLD GRASSDALE RD NE
CARTERSVILLE GA 30121 USA
(770) 387-3300

SHIP TO MILL METALS CORPORATION 603-626-7351 62 MAPLE ST. MANCHESTER, NH 03103		INVOICE TO MILL STEEL CORP. ATTN-ACCTS PAYABLE 62 MAPLE STREET MANCHESTER, NH 03103		SHIP DATE 12/06/05		SALES ORDER 5104122-01		CUST P.O. NUMBER 37986	
SHAPE + SIZE F1/2 X 7		GRADE A36		SPECIFICATION ASTM A36-01, CSA G40.21-87 44W, SA-36 01, ASTM A709 GR36-01B		SALES ORDER 5093731-02		CUST P.O. NUMBER 37524	
HEAT ID. G5-5313		C .17		Si .19		Mn .83		P .015	
		S .021		Cr .06		Ni .09		Mo .026	
		V .003		Nb <.008		B .0003		Sn .010	
		Al .001		C .354					
Mechanical Test: Yield 48300 PSI, 333.02 MPA Tensile: 73300 PSI, 505.39 MPA %El: 23.4/8in, 23.4/200MM									
Mechanical Test: Yield 50000 PSI, 344.74 MPA Tensile: 74500 PSI, 513.66 MPA %El: 24.2/8in, 24.2/200MM									

SHAPE + SIZE F1/2 X 8		GRADE A36		SPECIFICATION ASTM A36-01, CSA G40.21-87 44W, SA-36 01, ASTM A709 GR36-01B		SALES ORDER 5093731-02		CUST P.O. NUMBER 37524	
HEAT ID. G5-5266		C .19		Si .23		Mn .82		P .013	
		S .031		Cr .07		Ni .09		Mo .024	
		V .001		Nb .002		B .0003		Sn .009	
		Al .003		C .373					
Mechanical Test: Yield 51700 PSI, 358.46 MPA Tensile: 78800 PSI, 543.31 MPA %El: 28.3/8in, 28.3/200MM									
Mechanical Test: Yield 51600 PSI, 355.77 MPA Tensile: 77500 PSI, 534.34 MPA %El: 25.1/8in, 25.1/200MM									

SHAPE + SIZE F1/4 X 7		GRADE A36		SPECIFICATION ASTM A36-01, CSA G40.21-87 44W, SA-36 01, ASTM A709 GR36-01B		SALES ORDER 5113776-01		CUST P.O. NUMBER 38396	
HEAT ID. G5-5338		C .17		Si .28		Mn .87		P .012	
		S .022		Cr .06		Ni .09		Mo .023	
		V <.008		Nb <.008		B .0004		Sn .009	
		Al .001		C .36					
Mechanical Test: Yield 52600 PSI, 362.66 MPA Tensile: 72700 PSI, 501.25 MPA %El: 21.8/8in, 21.8/200MM									
Mechanical Test: Yield 52100 PSI, 359.22 MPA Tensile: 73100 PSI, 504.01 MPA %El: 22.1/8in, 22.1/200MM									

JRS/147

This material, including the billets, was produced and manufactured in the United States of America.

A.J. Turner
Quality Assurance Manager
Mill Group

J. Turner

Mgr. Metallurg. Svcs.
CARTERSVILLE STEEL MILL

THE ABOVE FIGURES ARE CERTIFIED EXTRACTS FROM THE ORIGINAL CHEMICAL AND PHYSICAL TEST RECORDS AS CONTAINED IN THE PERMANENT RECORDS OF COMPANY.



Wednesday, 26-Apr-2006

From:

Jessica Berg
Mill Metals Corporation
62 Maple Street
Manchester, NH
Phone : (603) 626-7351

To:

LMC LIGHT IRON INC
P.O. Box 521
Limerick, ME
04048
Phone : 207-793-9957

Document Summary Cover Page

The MTRs are printed in the following order:

#	Heat#	Item Number	Description
1	ALG5182D	T22316	TUBE SQ 2 X 2 X 3/16

- CALL US FOR ALL YOUR METAL NEEDS -

MTRs produced using MetalTrace (TM) - Visit www.TraceApps.com or call toll-free - 1-866-429-7007.

ACIER NOVA STEEL

6001, rue Irwin
 Ville LaSalle, Qc H8N 1A1
 Tel: (514) 335-6682

330 Pinebush Road
 P.O. BOX 3640
 Cambridge, Ont. N3H 5C6
 Tel: (519) 622-8162

T E S T C E R T I F I C A T E

Sold to: MILL METALS CORP.
 Ship to: MILL METALS CORP.
 62 MAPLE STREET
 MANCHESTER, NH

DATE SHIPPED: 04/10/05
 B/L #: 192402
 P.O. #: 36841
 SALES ORDER #: 311006

03103

Description	Dimensions	Pcs	Heat Number	Specifications
Square Hot Rolled Tube	2x2x0.188x288	49	ALG /5182D	ASTM A 500-03 Grade C

T22316

Heat Number	Chemical Analysis															
	C	Mn	P	S	Si	Cu	Ni	Cr	Cb	Mo	V	Al	N	Sn	B	Ti
ALG 5182D	0.200	0.820	0.010	0.006	0.020	0.020	0.020	0.020	-	0.010	0.002	0.029	-	-	-	0.001

Mechanical Test Results				
Heat Number/Size	Yield Strength	Tensile Strength	Elong%-2"	Hardness
ALG /5182D	58,900 PSI	73,400 PSI	30.00	
HSS 2x2x0.188	SER#: 829-01-035			

Heat # ALG /5182D
 Manufactured in Canada

Authorized by Tony Lentini
 Quality Control Department

OCT 4, 2005 10:02:06D

P.O.#2457
 12/07/05



Wednesday, 26-Apr-2006

From:

Jessica Berg
Mill Metals Corporation
62 Maple Street
Manchester, NH
Phone : (603) 626-7351

To:

LMC LIGHT IRON INC
P.O. Box 521
Limerick, ME
04048
Phone : 207-793-9957

Document Summary Cover Page

The MTRs are printed in the following order:

#	Heat#	Item Number	Description
1	JE8986	HRF143	FLAT HR 1/4 X 3

- CALL US FOR ALL YOUR METAL NEEDS -

MTRs produced using MetalTrace (TM) - Visit www.TraceApps.com or call toll-free - 1-866-429-7007.



ROANOKE ELECTRIC STEEL CORPORATION

P.O. BOX 13948

ROANOKE, VIRGINIA 24038-3948

Test and Inspection Report

NO. 00928-1

ROANOKE

MILL METALS - NH

HRF143

62 MAPLE STREET
MANCHESTER, NH

3103-0000

Date 11/02/05

HEAT NUMBER	SIZE	1-YIELD KSI	Pt. KSI	ULTIMATE KSI	ELONG 8 IN. TEST	BEND TEST	GRADE			
JE8986	FLATS 1/4 X 3	51.5		72.8	30.0		A36			
PURCHASE ORDER NUMBER	NUMBER PIECES	2-YIELD KSI	Pt. KSI	ULTIMATE KSI	ELONG 8 IN. TEST	BEND TEST	GRADE			
37634	100 PIECES 20'	50.7		72.7	30.0		A36			
HEAT NUMBER	SIZE	1-YIELD MPA	Pt. MPA	ULTIMATE MPA	ELONG 203mm TEST	BEND TEST	GRADE			
JE8986	FLATS 6.4 X 76.2	355.1		501.9	30.0		A36			
PURCHASE ORDER NUMBER	NUMBER PIECES	2-YIELD MPA	Pt. MPA	ULTIMATE MPA	ELONG 203mm TEST	BEND TEST	GRADE			
37634	100 PIECES 20'	349.6		501.3	30.0		A36			
C	MN	S	P	SI	CR	NI	MO	CU	V	NB
.16	.74	.029	.007	.23	.08	.08	.02	.33	.003	.003

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. OONN10108-X.

This material was melted and manufactured in the USA by basic Electric Furnace processes to meet specification: ASTM A36-04 ASME SA36 Q0S741D A709-00A 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 th

12/07/05
P.O.#2457



Wednesday, 26-Apr-2006

From:

Jessica Berg
Mill Metals Corporation
62 Maple Street
Manchester, NH
Phone : (603) 626-7351

To:

LMC LIGHT IRON INC
P.O. Box 521
Limerick, ME
04048
Phone : 207-793-9957

Document Summary Cover Page

The MTRs are printed in the following order:

#	Heat#	Item Number	Description
1	ALG0796D	T63316	TUBE RECT 6 X 3 X 3/16

- CALL US FOR ALL YOUR METAL NEEDS -

MTRs produced using MetalTrace (TM) - Visit www.TraceApps.com or call toll-free - 1-866-429-7007.

ACIER NOVA STEEL

6001, rue Irwin
 Ville LaSalle, Qc H8N 1A1
 Tel: (514) 335-6682

330 Pinebush Road
 P.O. BOX 3640
 Cambridge, Ont. N3H 5C6
 Tel: (519) 622-8162

T E S T C E R T I F I C A T E

Sold to: MILL METALS CORP.
 Ship to: MILL METALS CORP.
 62 MAPLE STREET
 MANCHESTER, NH

DATE SHIPPED: 28/09/05
 B/L #: 196535
 P.O. #: 37408
 SALES ORDER #: 313540

03103

Page 1 of 2

Description	Dimensions	Pcs	Heat Number	Specifications
Rect. Hot Rolled Tube	3x2x0.188x288	15	ALG /4931D	UNTESTED RESERVATION
Rect. Hot Rolled Tube	3x2x0.250x288	4	ALG /7765C	UNTESTED RESERVATION
Rect. Hot Rolled Tube	3x2x0.250x288	5	STE /57519	UNTESTED RESERVATION
Rect. Hot Rolled Tube	3x2x0.250x288	30	STE /884453	UNTESTED RESERVATION
Rect. Hot Rolled Tube	6x3x0.188x288 <i>T63316</i>	18	ALG /0796D	ASTM A 500-03 Grade C
Rect. Hot Rolled Tube	6x3x0.250x288	30	ALG /5179D	ASTM A 500-03 Grade C
Rect. Hot Rolled Tube	6x4x0.188x480	9	ALG /0685D	ASTM A 500-03 Grade C
Square Hot Rolled Tube	4x4x0.250x288	16	ALG /4523D	UNTESTED RESERVATION
Square Hot Rolled Tube	4x4x0.250x288	16	ALG /4098D	UNTESTED RESERVATION

Heat Number	Chemical Analysis															
	C	Mn	P	S	Si	Cu	Ni	Cr	Cb	Mo	V	Al	N	Sn	B	Ti
ALG 4931D	0.170	0.750	0.015	0.007	0.020	0.020	0.010	0.030	-	0.010	0.003	0.041	-	-	-	0.001
ALG 7765C	0.040	0.170	0.009	0.004	0.010	0.020	0.010	0.020	-	0.010	-	0.035	-	-	-	0.001
STE 884453	0.060	0.580	0.014	0.005	0.013	0.042	0.016	0.026	0.029	0.004	0.002	0.066	-	-	-	-
ALG 0796D	0.200	0.840	0.010	0.006	0.020	0.020	0.010	0.020	-	0.010	0.002	0.030	0.004	0.001	-	0.001
ALG 5179D	0.210	0.850	0.015	0.005	0.010	0.020	0.010	0.030	-	0.010	0.002	0.028	-	-	-	0.001
ALG 0685D	0.200	0.850	0.010	0.006	0.020	0.040	0.030	0.040	-	0.010	0.003	0.033	0.004	0.001	-	0.001
ALG 4523D	0.200	0.820	0.012	0.006	0.020	0.020	0.010	0.020	-	0.010	0.003	0.032	-	-	-	0.001
ALG 4098D	0.210	0.850	0.014	0.007	0.020	0.030	0.020	0.030	-	0.010	0.002	0.032	-	-	-	0.001

continue . . .

ACIER NOVA STEEL

6001, rue Irwin	330 Pinebush Road
Ville LaSalle, Qc H8N 1A1	P.O. BOX 3640
Tel: (514) 335-6682	Cambridge, Ont. N3H 5C6
	Tel: (519) 622-8162

T E S T C E R T I F I C A T E

Sold to: MILL METALS CORP.
 Ship to: MILL METALS CORP.
 62 MAPLE STREET
 MANCHESTER, NH

DATE SHIPPED: 28/09/05
 B/L #: 196535
 P.O. #: 37408
 SALES ORDER #: 313540

03103

Page 2 of 2

Mechanical Test Results

Heat Number/Size	Yield Strength	Tensile Strength	Elong%-2"	Hardness
ALG /0796D HSR 6x3x0.188	60,000 PSI SER#: 806-08-079	71,100 PSI	32.00	
ALG /5179D HSR 6x3x0.250	56,200 PSI SER#: 829-01-017	69,600 PSI	34.00	
ALG /0685D HSR 6x4x0.188	59,600 PSI SER#: 806-06-072	74,000 PSI	34.00	

Heat #	Manufactured in
ALG /4931D	Canada
ALG /7765C	Canada
STE /884453	Canada
ALG /0796D	Canada
ALG /5179D	Canada
ALG /0685D	Canada
ALG /4523D	Canada
ALG /4098D	Canada

Authorized by Tony Lentini

Quality Control Department

SEP 28, 2005 14:17:23D

ACIER NOVA STEEL

6001, rue Irwin	330 Pinebush Road
Ville LaSalle, Qc H8N 1A1	P.O. BOX 3640

12/07/05
P.O.#2457



Wednesday, 26-Apr-2006

From:

Jessica Berg
Mill Metals Corporation
62 Maple Street
Manchester, NH
Phone : (603) 626-7351

To:

LMC LIGHT IRON INC
P.O. Box 521
Limerick, ME
04048
Phone : 207-793-9957

Document Summary Cover Page

The MTRs are printed in the following order:

#	Heat#	Item Number	Description
1	N542524	HRF1112	FLAT HR 1 X 1-1/2
2	ALG7513D	T55316	TUBE SQ 5 X 5 X 3/16
3	885281	T22316	TUBE SQ 2 X 2 X 3/16
4	3251D	T63316	TUBE RECT 6 X 3 X 3/16

- CALL US FOR ALL YOUR METAL NEEDS -

MTRs produced using MetalTrace (TM) - Visit www.TraceApps.com or call toll-free - 1-866-429-7007.

GERDAU AMERISTEEL

CAMBRIDGE STEEL MILL
160 ORION PLACE
CAMBRIDGE ON N1T 1R9 CAN
(519) 740-2488

Chemical and Physical Test Report

MADE IN CANADA

N-035235

SHIP TO LEROUX STEEL 1331 GRAHAM BELL BOUCHERVILLE, PQ J4B 6A1		INVOICE TO LEROUX STEEL INC 1331 GRAHAM BELL BOUCHERVILLE, PQ J4B 6A1		SHIP DATE 11/01/05	CUST. ACCOUNT NO 60005640
SHAPE + SIZE F1 X 1 1/2		GRADE 44W		SPECIFICATION CSA-G40.21-300W-98(44W); ASTM A36M-04	
HEAT I.D. N542624		MECHANICAL TEST: Yield 46654 PSI, 321.67 MPA Yield 49598 PSI, 341.97 MPA		SALES ORDER 5040637-16	
HEAT I.D. N543301		MECHANICAL TEST: Yield 51603 PSI, 355.79 MPA Yield 51320 PSI, 353.84 MPA		CUST. P.O. NUMBER MB4005532	
SHAPE + SIZE F3/16 X 2 1/2		GRADE 44W		SPECIFICATION CSA-G40.21-300W-98(44W); ASTM A36/A36M-04	
HEAT I.D. N540823		MECHANICAL TEST: Yield 45940 PSI, 316.06 MPA Yield 46246 PSI, 318.85 MPA		SALES ORDER 5047064-04	
HEAT I.D. N540823		MECHANICAL TEST: Yield 51603 PSI, 355.79 MPA Yield 51320 PSI, 353.84 MPA		CUST. P.O. NUMBER MB4006252	
SHAPE + SIZE F3/16 X 2 1/2		GRADE 44W		SPECIFICATION CSA-G40.21-300W-98(44W); ASTM A36/A36M-04	
HEAT I.D. N540823		MECHANICAL TEST: Yield 45940 PSI, 316.06 MPA Yield 46246 PSI, 318.85 MPA		SALES ORDER 5047064-04	
HEAT I.D. N540823		MECHANICAL TEST: Yield 51603 PSI, 355.79 MPA Yield 51320 PSI, 353.84 MPA		CUST. P.O. NUMBER MB4005495	

HRF 1112

This material, including the bills, was produced and manufactured in Canada.
 A.J. Turner
 Quality Assurance Manager
 Mill Group

Eric Hand

Mgr. Metallurg. Svcs.
 CAMBRIDGE STEEL MILL

THE ABOVE FIGURES ARE CERTIFIED EXTRACTS FROM THE ORIGINAL CHEMICAL AND PHYSICAL TEST RECORDS AS CONTAINED IN THE PERMANENT RECORDS OF COMPANY.



094009832

ACIER NOVA STEEL

6001, rue Irwin
 Ville LaSalle, Qc H8N 1A1
 Tel: (514) 335-6682

330 Pinebush Road
 P.O. BOX 3640
 Cambridge, Ont. N3H 5C6
 Tel: (519) 622-8162

T E S T C E R T I F I C A T E

Sold to: MILL METALS CORP.
 Ship to: MILL METALS CORP.
 62 MAPLE STREET
 MANCHESTER, NH

DATE SHIPPED: 18/11/05
 B/L #: 204359
 P.O. #: 38056
 SALES ORDER #: 315630

03103

Description	Dimensions	Pcs	Heat Number	Specifications
Square Hot Rolled Tube	5x5x0.188x576	9	ALG /7513D	ASTM A 500-03 Grade C

HSS316

Heat Number	Chemical Analysis															
	C	Mn	P	S	Si	Cu	Ni	Cr	Cb	Mo	V	Al	N	Sn	B	Ti
ALG 7513D	0.200	0.830	0.010	0.007	0.020	0.030	0.020	0.020	-	0.010	0.003	0.029	-	-	-	0.001

Mechanical Test Results				
Heat Number/Size	Yield Strength	Tensile Strength	Elong%-2"	Hardness
ALG /7513D	55,700 PSI	74,700 PSI	33.00	
HSS 5x5x0.188	SER#: 841-03-067			

Heat # ALG /7513D
 Manufactured in Canada

Authorized by Tony Lentini
 Quality Control Department

NOV 18, 2005 15:14:23D

12/06/05
 P.O. #2457



**WELDED TUBE
OF CANADA**

111 RAYETTE ROAD
CONCORD, ONTARIO L4K 2E9
FAX: (905) 738-4070
TEL: (905) 888-1111
TOLL FREE: 1-800-565-TUBE (8823)

LEKROUX STEEL
1331 GRAHAM BELL AVE
BOUCHERVILLE
PQ J4B 6A1 CDA

YOUR P.O. NO.
VOTRE NO DE COMMANDE

OUR ORDER NO./
NOTRE NO DE COMMANDE

DESCRIPTION/
SIGNALEMENT

ITEM NO./
NO DE L'ITEM

N 94005384

234846

S10414

2.000-2.000-188-04-288.000
ASTM A500-03a GR B & C

T22216

HEAT NO. HEAT CODE	Full section specimen																							
	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Sb	V	Cb	Ti	N	B	ASA	Ca	CE	CE	(0.2% offset)	*YIELD**	*TENSILE* ksi(MPa)	ELONG ksi(MPa)	2", %
885281	.200	.810	.011	.008	.012	.024	.014	.025	.004	.002	.004	.004	.004	.004	.004	.044	.044	.343	TUBE	73.9(510)	84.6(583)	32.0		
U40939	.180	.802	.008	.009	.217											.050	.050	.314	TUBE	72.4(499)	81.0(558)	33.0		
885280	.190	.830	.015	.007	.012	.030	.018	.026	.005	.002	.005	.002	.005	.003	.047	.047	.337	TUBE	73.4(505)	84.1(580)	32.0			
741917	.190	.810	.009	.004	.012	.019	.016	.025	.003	.002	.004	.002	.004	.003	.042	.042	.333	TUBE	73.3(505)	83.8(578)	32.0			
574302	.170	.800	.006	.009	.010	.007	.006	.019	.002	.002	.005	.002	.005	.002	.032	.032	.308	TUBE	74.1(511)	84.8(585)	33.0			



094007696

CONTINUED ON PAGE 2

QA00316002

Welded Tube of Canada is Registered to the ISO 9002 Quality System Standard



Material Test Report

Ref.B/L:80156812
 Date:07.07.2005
 Customer:97

200 Clark Street, Harrow, Ontario, Canada N0R 1G0
 Tel.: (519) 738-5000 Fax (519) 738-5087

Leroux Steel Inc - Boucherville
 1331 Graham Bell
 BOUCHERVILLE QC J4B 6A1
 CANADA

Shipped to
 Leroux Steel Inc - Boucherville
 1331 Graham Bell
 BOUCHERVILLE QC J4B 6A1
 CANADA

Material.	6.0x3.0x188x24'0"0(3x7).				Material No.	600301882400				Made in Canada		
Sales order	165925				Purchase Order	M94005800				Cust Material #		
Heat No	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
3251D	0.170	0.730	0.010	0.005	0.020	0.028	0.040	0.000	0.010	0.020	0.020	0.003
Bundle No	Yield		Tensile		Eln.2in		Certification					
M100408579	056390 Psi		067680 Psi		27.0 %		ASTM A500-03A GRADE C & B					
Material Note:												
Sales Or.Note:												

T63316

Material.	8.0x3.0x188x24'0"0(2x5).				Material No.	800301882400				Made in Canada		
Sales order	166075				Purchase Order	M94005832				Cust Material #		
Heat No	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
0162573	0.190	0.830	0.014	0.006	0.023	0.033	0.000	0.000	0.000	0.000	0.000	0.000
Bundle No	Yield		Tensile		Eln.2in		Certification					
M100410306	062570 Psi		077470 Psi		27.1 %		ASTM A500-03A GRADE C & B					
Material Note:												
Sales Or.Note:												

Material.	8.0x3.0x188x24'0"0(2x5).				Material No.	800301882400				Made in Canada		
Sales order	165925				Purchase Order	M94005800				Cust Material #		
Heat No	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
0162573	0.190	0.830	0.014	0.006	0.023	0.033	0.000	0.000	0.000	0.000	0.000	0.000
Bundle No	Yield		Tensile		Eln.2in		Certification					
M100410308	062570 Psi		077470 Psi		27.1 %		ASTM A500-03A GRADE C & B					
Material Note:												
Sales Or.Note:												

Material.	8.0x3.0x188x24'0"0(2x5).				Material No.	800301882400				Made in Canada		
Sales order	165925				Purchase Order	M94005800				Cust Material #		
Heat No	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V
0162573	0.190	0.830	0.014	0.006	0.023	0.033	0.000	0.000	0.000	0.000	0.000	0.000
Bundle No	Yield		Tensile		Eln.2in		Certification					
M100410303	062570 Psi		077470 Psi		27.1 %		ASTM A500-03A GRADE C & B					
Material Note:												
Sales Or.Note:												



Authorized by Quality Assurance:



Steel Tube Institute
 OF NORTH AMERICA



Steel Service Center Institute

Standards Council of Canada



Conseil canadien des normes



Wednesday, 26-Apr-2006

From:

Jessica Berg
Mill Metals Corporation
62 Maple Street
Manchester, NH
Phone : (603) 626-7351

To:

LMC LIGHT IRON INC
P.O. Box 521
Limerick, ME
04048
Phone : 207-793-9957

Document Summary Cover Page

The MTRs are printed in the following order:

#	Heat#	Item Number	Description
1	N541683	HRS34	SQUARE HR 3/4

- CALL US FOR ALL YOUR METAL NEEDS -

MTRs produced using MetalTrace (TM) - Visit www.TraceApps.com or call toll-free - 1-866-429-7007.

GERDAU AMERISTEEL
 CAMBRIDGE STEEL MILL
 160 ORION PLACE
 CAMBRIDGE ON N1T 1R9 CAN
 (519) 740-2488

Chemical and Physical Test Report
 MADE IN CANADA

N-032736

SHIP TO LEROUX STEEL 1331 GRAHAM BELL 450-841-4360 BOUCHERVILLE, PQ J4B 8A1		INVOICE TO LEROUX STEEL INC 1331 GRAHAM BELL BOUCHERVILLE, PQ J4B 8A1		SHIP DATE 08/12/05	CUST. ACCOUNT NO 60005840
SHAPE & SIZE S3/4		GRADE 44W		SALES ORDER 5032131-07	
HEAT I.D. N541683		SPECIFICATION CSA-G40.21-300W-98(44W); ASTM A36/A36M-04		CUST P.O. NUMBER M94004925	
Mechanical Test: Yield 49838 PSI, 343.62 MPA		Tensile: 71692 PSI, 494.3 MPA		%EI: 24.5/8in, 24.5/200MM	
Mechanical Test: Yield 49793 PSI, 336.42 MPA		Tensile: 72284 PSI, 498.38 MPA		%EI: 23.0/8in, 23.0/200MM	
SHAPE & SIZE SS/6		GRADE 44W		SALES ORDER 5032131-04	
HEAT I.D. N541698		SPECIFICATION CSA-G40.21-300W-98(44W); ASTM A36/A36M-04		CUST P.O. NUMBER M94004925	
Mechanical Test: Yield 54041 PSI, 372.6 MPA		Tensile: 70716 PSI, 487.57 MPA		%EI: 24.5/8in, 24.5/200MM	
Mechanical Test: Yield 51702 PSI, 356.47 MPA		Tensile: 70710 PSI, 487.53 MPA		%EI: 23.5/8in, 23.5/200MM	

HPS34

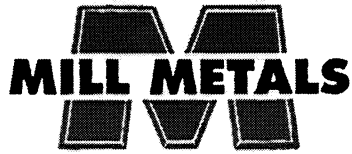


This material, including the billets, was produced and manufactured in Canada.
 A.J. Turner
 Quality Assurance Manager
 M/R Group

Eric H... ..

Mgr. Metallurg. Svas.
 CAMBRIDGE STEEL MILL

THE ABOVE FIGURES ARE CERTIFIED EXTRACTS FROM THE ORIGINAL CHEMICAL AND PHYSICAL TEST RECORDS AS CONTAINED IN THE PERMANENT RECORDS OF COMPANY.



Tuesday, 25-Apr-2006

From:

Jessica Berg
Mill Metals Corporation
62 Maple Street
Manchester, NH
Phone : (603) 626-7351

To:

LMC LIGHT IRON INC
P.O. Box 521
Limerick, ME
04048
Phone : 207-793-9957

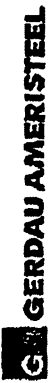
Document Summary Cover Page

The MTRs are printed in the following order:

#	Heat#	Item Number	Description
1	V5-2167	GA5312516	GALV. ANGLE 5X 3 1/2 X 5/16

- CALL US FOR ALL YOUR METAL NEEDS -

MTRs produced using MetalTrace (TM) - Visit www.TraceApps.com or call toll-free - 1-866-429-7007.



JACKSON STEEL MILL
801 AMERISTEEL ROAD
JACKSON TN 38305 USA
(731) 424-5600

Chemical and Physical Test Report
MADE IN THE UNITED STATES

V-565477

SHIP TO SOUTH ATLANTA GALVANIZING 4186 SOUTH CREEK RD 800-770-2031 CHATTANOOGA, TN 37406		INVOICE TO SOUTH ATLANTIC LLC (GALV) SO. ATLANTIC GALV. ATN-ACCT PAY PO BOX 4420 PINEHURST, NC 28374		SHIP DATE 07/22/05		CUST. ACCOUNT NO 60066750			
SHAPE & SIZE A5 X 3 1/2 X 5/16		GRADE A36		SPECIFICATION ASTM A36-04		SALES ORDER 5067000-01		CUST P.O. NUMBER 33370	
HEAT I.D. /5-2167		C		S		P		Mn	
.15		.73		.010		.030		.020	
Si		Cu		Ni		Cr		Mo	
.20		.40		.12		.16		.030	
V		Nb		Sn		C Equ		.343	
<.008		<.008		.010					
Mechanical Test:		Yield 50260 PSI, 346.53 MPA		Tensile: 71030 PSI, 489.73 MPA		%EI: 32.5/200M			
Mechanical Test:		Yield 49830 PSI, 336.67 MPA		Tensile: 69310 PSI, 477.96 MPA		%EI: 32.5/200M			

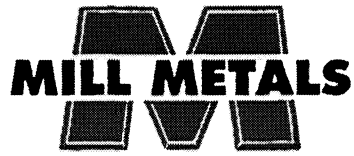
6ASB12S16

This material, including the billets, was produced and manufactured in the United States of America.

A.J. Turner
A.J. Turner
Quality Assurance Manager
MIL Group

THE ABOVE FIGURES ARE CERTIFIED EXTRACTS FROM THE ORIGINAL CHEMICAL AND PHYSICAL TEST RECORDS AS CONTAINED IN THE PERMANENT RECORDS OF COMPANY.

Mr. Heeling
Mr. Heeling, Svcs
JACKSON STEEL MILL



Tuesday, 25-Apr-2006

From:

Jessica Berg
Mill Metals Corporation
62 Maple Street
Manchester, NH
Phone : (603) 626-7351

To:

LMC LIGHT IRON INC
P.O. Box 521
Limerick, ME
04048
Phone : 207-793-9957

Document Summary Cover Page

The MTRs are printed in the following order:

#	Heat#	Item Number	Description
1	B34182	A32316	ANGLE HR 3 X 2 X 3/16
2	B34229	A32316	ANGLE HR 3 X 2 X 3/16

- CALL US FOR ALL YOUR METAL NEEDS -

MTRs produced using MetalTrace (TM) - Visit www.TraceApps.com or call toll-free - 1-866-429-7007.

GERDAU AMERISTEEL

YOUNGSTOWN DEPOT
382 ROSEMONT RD
N JACKSON OH 44451 USA
(866) 658-2958

Chemical and Physical Test Report

MADE IN CANADA

7-009268

SHIP TO MILL METALS CORPORATION 603-626-7351 62 MAPLE ST. MANCHESTER, NH 03103	INVOICE TO MILL STEEL CORP. ATTN-ACCTS PAYABLE 62 MAPLE STREET MANCHESTER, NH 03103	SHIP DATE 11/18/05	CUST. ACCOUNT NO 60076023
---	--	------------------------------	-------------------------------------

SHAPE + SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST P.O. NUMBER
A3 X 2 X 3/16	A36	C.S.A. G40.21-98 44W/50W; ASTM: A36 - 97a ASTM709- 97b ASME: SA36 (A)	5100364-02	37806
HEAT ID. B34182	C	Mn P S Si Cu Ni Cr Mo V Nb B N Sn Al Ti Zr Ca C Eqv		
	.17	.71 .011 .027 .12 .27 .08 .07 .019 <.008 <.008 .0093 .013 .000 .00000 .000 .00000 .331		

A32316

Mechanical Test: Yield 53694 PSI, 370.21 MPA Tensile: 75143 PSI, 518.09 MPA %El: 28.8/8in, 28.8/200MM
Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST

Mechanical Test: Yield 54363 PSI, 374.82 MPA Tensile: 76037 PSI, 524.26 MPA %El: 28.8/8in, 28.8/200MM
Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST

SHAPE + SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST P.O. NUMBER
A3 X 2 X 3/16	A36	C.S.A. G40.21-98 44W/50W; ASTM: A36 - 97a ASTM709- 97b ASME: SA36 (A)	5111768-03	38265
HEAT ID. B34229	C	Mn P S Si Cu Ni Cr Mo V Nb B N Sn Al Ti Zr Ca C Eqv		
	.13	.97 .012 .038 .18 .39 .08 .06 .017 <.008 <.008 .0000 .0118 .015 .000 .00000 .000 .00000 .336		

A32316

Mechanical Test: Yield 53162 PSI, 366.54 MPA Tensile: 74751 PSI, 515.39 MPA %El: 30.0/8in, 30.0/200MM
Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST

Mechanical Test: Yield 53268 PSI, 367.27 MPA Tensile: 75413 PSI, 519.95 MPA %El: 30.0/8in, 30.0/200MM
Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST

This material, including the billets, was produced and manufactured in Canada.

A.J. Turner
A.J. Turner
Quality Assurance Manager
Mill Group

THE ABOVE FIGURES ARE CERTIFIED EXTRACTS FROM THE ORIGINAL CHEMICAL AND PHYSICAL TEST RECORDS AS CONTAINED IN THE PERMANENT RECORDS OF COMPANY.

S.R. Saffell

Mgr. Metallurg. Svcs.
WHITBY STEEL MILL

MILL METALS CORPORATION
 62 MAPLE STREET
 MANCHESTER, NH 03103
 (603) 626-7351

INVOICE	NUMBER #20187630	PAGE 1	DATE 11/21/2005
SALESPERSON: DONNA MAILHOT		SHIP DATE: 11/21/2005	
SHIP VIA:		DRIVER:	CUST ID: 007868
CUST P.O.#: 2457/GARY		COMMENTS:	OUR S.O.#: 1326326

SOLD TO:
 LMC LIGHT IRON INC
 P.O. BOX 521
 LIMERICK, ME 04048

SHIP TO:
 E. RANGE RD

LINE	QTY ORDERED	SHIPPED TO DATE	QTY THIS SHIPMENT	QTY ON BACKORDER	ITEM ID	WIDTH	LENGTH	UNIT QTY	UNIT PRICE	AMOUNT
1	3.00 PCS	0.00	3.00	0.00	A32316 ANGLE HR 3 X 2 X 3/16 CUT TO: 15 @ 7'9" *SHIP DROPS		40'	1.000	238.0000/LOT	238.00
2	3.00 PCS	0.00	3.00	0.00	A32316 ANGLE HR 3 X 2 X 3/16		7' 9"	3.000	18.9000/EAC	56.70

PHONE #: 207-793-9957

FAX #: 207-793-3919

TAX ID: 1028968/T	SHIP WT: 444.850 LBS	SUBTOTAL	294.70
TERMS: NET 30			0.00
PAYMENT DUE BY 12/21/2005.		TOTAL	294.70

ALL RETURNS SUBJECT TO 25% RESTOCK FEE. CUT MATERIAL NONRETURNABLE. MATERIAL REMAINS PROPERTY OF VENDOR UNTIL PAYMENT IN FULL RECEIVED. MA VT & ME ACCTS CHARGED TAX UNLESS CERT ON FILE. F/C OF 18% PER ANNUM FOR PAST DUE ACCOUNTS



Tuesday, 25-Apr-2006

From:

Jessica Berg
Mill Metals Corporation
62 Maple Street
Manchester, NH
Phone : (603) 626-7351

To:

LMC LIGHT IRON INC
P.O. Box 521
Limerick, ME
04048
Phone : 207-793-9957

Document Summary Cover Page

The MTRs are printed in the following order:

#	Heat#	Item Number	Description
1	MO7583	HRF144	FLAT HR 1/4 X 4
2	JE8474	HRF124	FLAT HR 1/2 X 4

- CALL US FOR ALL YOUR METAL NEEDS -

MTRs produced using MetalTrace (TM) - Visit www.TraceApps.com or call toll-free - 1-866-429-7007.

RAPPORT D'ESSAIS/TEST REPORT
MÉTALLURGIE ET CONTRÔLE DE LA QUALITÉ/METALLURGICAL AND QUALITY CONTROL



norambar inc.

C.P. 249
CONTRECOEUR, QUÉBEC
CANADA

DATE
05 08 03
M07583

S1123A (REV. 08-04)

JUL 100

AN/YR MO. JR/DY

No DE COULÉE HEAT NO.	ANALYSE DE COULÉE/HEAT ANALYSIS										GROSSEUR DU GRAIN GRAIN SIZE		
	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V		Ch / Nb	Sn
M07583	0.20	1.16	.008	.028	.21	.35	.091	.083	.014	.000	.000	.013	.0108
No DE COULÉE HEAT NO.	TREMPEABILITÉ JOMINY/JOMINY HARDENABILITY (HRC)												
No DE COULÉE HEAT NO.	TEMP.												
No DE COULÉE HEAT NO.	RÉSULTATS DE L'ESSAI DE TRACTION						DURETE						
	ESPECIEN	RESISTANCE À LA TRACTION TENSILE TENSILE TENSILE	ALLONGEMENT	ELONGATION			HARDENABILITY						
AREA	YIELD	TOTAL	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT						
1.00	57.50	84.00	28										
1.00	56.50	81.10	26										
<p>M07583</p> <p>LE CLIENT / CUSTOMER: norambar inc. MG 2317 25</p> <p>DESCRIPTION ET REMPLISSAGE: ACIER LEROUX INC. 1331 GRAHAM BELL BOUCHERVILLE QUE J4B 6A1</p> <p>ATTENTION: GENEVIEVE LAFOREST</p>													
<p>DESCRIPTION ET REMPLISSAGE: NORAMBAR PART NO 30-0098-013-058</p> <p>SIZE: 4.000X1/4.000"</p> <p>44W/50W</p> <p>CSA G40.21</p> <p>HRF144</p>													
<p>APPREUVÉ PAR: <input checked="" type="checkbox"/> IMPERIAL</p> <p>APPREUVÉ PAR: <input type="checkbox"/> METRIAL</p> <p>APPROVED BY: Nathalie Fortin</p>													



LES ÉCHANTILLONS ONT ÉTÉ PRÉPARÉS EN SUITE DE LA RECEPTION D'UN ORDRE DE TRAVAIL. L'ÉCHANTILLONNAGE A ÉTÉ EFFECTUÉ EN SUITE DE LA RECEPTION D'UN ORDRE DE TRAVAIL. LES ÉCHANTILLONS ONT ÉTÉ PRÉPARÉS EN SUITE DE LA RECEPTION D'UN ORDRE DE TRAVAIL. LES ÉCHANTILLONS ONT ÉTÉ PRÉPARÉS EN SUITE DE LA RECEPTION D'UN ORDRE DE TRAVAIL.



ROANOKE ELECTRIC STEEL CORPORATION

P.O. BOX 13948

ROANOKE, VIRGINIA 24038-3948

Test and Inspection Report

NO. 99984-4

ROANOKE

MILL METALS - NH

HRF124

62 MAPLE STREET
MANCHESTER, NH 3103-0000

Date 10/19/05

HEAT NUMBER	SIZE	1-YIELD KSI	Pt. KSI	ULTIMATE KSI	ELONG 8 IN.	BEND TEST	GRADE			
JE8474	FLATS 1/2 X 4	46.5		65.9	30.6		A36			
PURCHASE ORDER NUMBER	NUMBER PIECES	2-YIELD KSI	Pt. KSI	ULTIMATE KSI	ELONG 8 IN.	BEND TEST	GRADE			
67680	78 PIECES 20'	43.2		65.0	33.4		A36			
HEAT NUMBER	SIZE	1-YIELD MPA	Pt. MPA	ULTIMATE MPA	ELONG 203mm	BEND TEST	GRADE			
JE8474	FLATS 12.7 X 101.6	320.6		454.4	30.6		A36			
PURCHASE ORDER NUMBER	NUMBER PIECES	2-YIELD MPA	Pt. MPA	ULTIMATE MPA	ELONG 203mm	BEND TEST	GRADE			
37680	78 PIECES 20'	297.9		448.2	33.4		A36			
C	MN	S	P	SI	CR	NI	MO	CU	V	NB
.12	.68	.020	.006	.19	.06	.09	.02	.32	.002	.002

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 A36-04 ASME SA36 Q0S741D A709-00A 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

11/03/05
P.O.#2457



Tuesday, 25-Apr-2006

From:

Jessica Berg
Mill Metals Corporation
62 Maple Street
Manchester, NH
Phone : (603) 626-7351

To:

LMC LIGHT IRON INC
P.O. Box 521
Limerick, ME
04048
Phone : 207-793-9957

Document Summary Cover Page

The MTRs are printed in the following order:

#	Heat#	Item Number	Description
1	B33016	A55516	ANGLE HR 5 X 5 X 5/16

- CALL US FOR ALL YOUR METAL NEEDS -

MTRs produced using MetalTrace (TM) - Visit www.TraceApps.com or call toll-free - 1-866-429-7007.



WHITBY STEEL MILL
HOPKINS STREET SOUTH
WHITBY ON L7N 5T1 CAN
(905) 668-8811

Chemical and Physical Test Report
MADE IN CANADA

W-039047

SHIP TO LEROUX STEEL 1331 GRAHAM BELL BOUCHERVILLE, PQ J4B 6A1	INVOICE TO LEROUX STEEL INC 1331 GRAHAM BELL BOUCHERVILLE, PQ J4B 6A1	SHIP DATE 09/15/05	CUST. ACCOUNT NO 60005840
---	--	-----------------------	------------------------------

SHAPE + SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST P.O. NUMBER
A5 X 5 X 5/16	44W	C.S.A. G40.21-88 44W/50W	5077183-01	MB4006383
HEAT I.D.	C Mn P S Si Cu Ni Cr Mo V Nb B N Sn Al Ti Zr Ca C Eqv	.19 .68 .010 .030 .17 .25 .13 .12 .040 .000 .021 .000 .0095 .009 .047 .00000 .000 .00000 .357		

Mechanical Test: Yield 58014 PSI, 398.99 MPA Tensile: 80565 PSI, 555.48 MPA %EI: 22.5/8in, 22.5/200MM
Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST
Mechanical Test: Yield 58172 PSI, 401.08 MPA Tensile: 80984 PSI, 557.68 MPA %EI: 22.5/8in, 22.5/200MM
Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST

SHAPE + SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST P.O. NUMBER
A5 X 5 X 5/16	44W	CSA-G40.21-88(44W)ASTM A39M-01a ASTM709-01b ASME-SA36-00a	5077183-02	MB4006383
HEAT I.D.	C Mn P S Si Cu Ni Cr Mo V Nb B N Sn Al Ti Zr Ca C Eqv	.17 .80 .008 .021 .20 .26 .09 .06 .029 .000 .000 .0084 .010 .000 .00000 .000 .00000 .341		

Mechanical Test: Yield 49025 PSI, 338.02 MPA Tensile: 70632 PSI, 486.99 MPA %EI: 25.0/8in, 25.0/200MM
Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST
Mechanical Test: Yield 50375 PSI, 347.32 MPA Tensile: 71830 PSI, 495.25 MPA %EI: 25.0/8in, 25.0/200MM
Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST

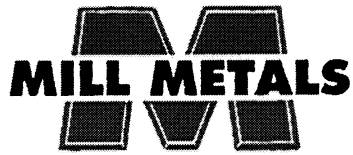
ASS516



This material, including the billets, was produced and manufactured in Canada.
A.J. Turner
Quality Assurance Manager
MIL Group

THE ABOVE FIGURES ARE CERTIFIED EXTRACTS FROM THE ORIGINAL
AS CONTAINED IN THE PERMANENT RECORDS OF COMPANY.

B. R. R. R.
Mgr. Metallurg. Svcs.
WHITBY STEEL MILL



Tuesday, 25-Apr-2006

From:

Jessica Berg
Mill Metals Corporation
62 Maple Street
Manchester, NH
Phone : (603) 626-7351

To:

LMC LIGHT IRON INC
P.O. Box 521
Limerick, ME
04048
Phone : 207-793-9957

Document Summary Cover Page

The MTRs are printed in the following order:

#	Heat#	Item Number	Description
1	B34463	A55516	ANGLE HR 5 X 5 X 5/16

- CALL US FOR ALL YOUR METAL NEEDS -

MTRs produced using MetalTrace (TM) - Visit www.TraceApps.com or call toll-free - 1-866-429-7007.

MILL METALS CORPORATION
 62 MAPLE STREET
 MANCHESTER, NH 03103
 (603) 626-7351

INVOICE	NUMBER #20185665	PAGE 1	DATE 10/31/2005
SALESPERSON: DONNA MAILHOT		SHIP DATE: 10/31/2005	
SHIP VIA:		DRIVER:	CUST ID: 007868
CUST P.O.#: 2457/MISSING PCS.		COMMENTS:	OUR S.O.#: 1321765

SOLD TO:
 LMC LIGHT IRON INC
 P.O. BOX 521
 LIMERICK, ME 04048

SHIP TO:
 E. RANGE RD

LINE	QTY ORDERED	SHIPPED TO DATE	QTY THIS SHIPMENT	QTY ON BACKORDER	ITEM ID	WIDTH	LENGTH	UNIT QTY	UNIT PRICE	AMOUNT
1	2.00 PCS	0.00	2.00	0.00	A55516 ANGLE HR 5 X 5 X 5/16		20'	2.000	105.7500/EAC	211.50

PHONE #: 207-793-9957

FAX #: 207-793-3919

TAX ID: 1028968/T	SHIP WT: 412.000 LBS	SUBTOTAL	211.50
TERMS: NET 30			0.00
PAYMENT DUE BY 11/30/2005.		TOTAL	211.50

ALL RETURNS SUBJECT TO 25% RESTOCK FEE. CUT MATERIAL NONRETURNABLE. MATERIAL REMAINS PROPERTY OF VENDOR UNTIL PAYMENT IN FULL RECEIVED. MA VT & ME ACCTS CHARGED TAX UNLESS CERT ON FILE. F/C OF 18% PER ANNUM FOR PAST DUE ACCOUNTS

GERDAU AMERISTEEL

WHITBY STEEL MILL
HOPKINS STREET SOUTH
WHITBY ON L1N 5T1 CAN
(905) 668-8811

Chemical and Physical Test Report

MADE IN CANADA

W-041282

SHIP TO MILL METALS CORPORATION 603-626-7351 82 MAPLE ST. MANCHESTER, NH 03103	INVOICE TO MILL STEEL CORP. ATTN-ACCTS PAYABLE 62 MAPLE STREET MANCHESTER, NH 03103	SHIP DATE 10/31/05	CUST. ACCOUNT NO 60076023
---	--	------------------------------	-------------------------------------

SHAPE + SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST P.O. NUMBER
A5 X 5 X 5/16	A36	C.S.A. G40.21-98 44W/50W; ASTM: A36 - 97a ASTM A709- 97b ASME: SA36 (A)	5086008-08	37616
HEAT ID. B34463	C	Mn .82 P .016 S .022 Si .22 Cu .33 Ni .09 Cr .11 Mo .022 V <.008 Nb <.008 B .0000 .0112 Sn .011 .000 .00000 .000 .00000 .000 .00000 .374	C Eqv	

Mechanical Test: Yield 52175 PSI, 359.73 MPA Tensile: 75529 PSI, 520.75 MPA %EI: 22.5/8in, 22.5/200MM
Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST

SHAPE + SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST P.O. NUMBER
A6 X 4 X 3/8	A36	C.S.A. G40.21-98 44W/50W; ASTM: A36 - 97a ASTM A709- 97b ASME: SA36 (A)	5086008-02	37616
HEAT ID. B34572	C	Mn .72 P .012 S .025 Si .18 Cu .26 Ni .10 Cr .08 Mo .029 V <.008 Nb .013 .0000 .0089 .010 .000 .00000 .000 .00000 .000 .00000 .336	C Eqv	

Mechanical Test: Yield 55546 PSI, 382.98 MPA Tensile: 76680 PSI, 528.69 MPA %EI: 22.5/8in, 22.5/200MM
Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST
Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST

A55516

This material, including the billets, was produced and manufactured in Canada.

A.J. Turner
A.J. Turner
Quality Assurance Manager
Mill Group

THE ABOVE FIGURES ARE CERTIFIED EXTRACTS FROM THE ORIGINAL CHEMICAL AND PHYSICAL TEST RECORDS AS CONTAINED IN THE PERMANENT RECORDS OF COMPANY.

B.R. Spiller

Mgr. Metallurg. Svcs.
WHITBY STEEL MILL



Tuesday, 25-Apr-2006

From:

Jessica Berg
Mill Metals Corporation
62 Maple Street
Manchester, NH
Phone : (603) 626-7351

To:

LMC LIGHT IRON INC
P.O. Box 521
Limerick, ME
04048
Phone : 207-793-9957

Document Summary Cover Page

The MTRs are printed in the following order:

#	Heat#	Item Number	Description
1	MO7640	HRF144	FLAT HR 1/4 X 4

- CALL US FOR ALL YOUR METAL NEEDS -

MTRs produced using MetalTrace (TM) - Visit www.TraceApps.com or call toll-free - 1-866-429-7007.



norambar inc.

C.P. 249

CONTRECOEUR, QUÉBEC

05 08 03

AN/YR MO. JR/DY

M07640

RAPPORT D'ESSAIS/TEST REPORT

MÉTALLURGIE ET CONTRÔLE DE LA QUALITÉ/METALLURGICAL AND QUALITY CONTROL

S1123A (REV. 08-04)

JOL 100

ANALYSE DE COULÉE/HEAT ANALYSIS

NO DE COULÉE HEAT NO.	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Cb / Nb	Sn	N	GROSSEUR DU GRAIN GRAIN SIZE
M07640	0.20	1.14	0.013	0.029	0.22	0.30	0.11	0.098	0.012	0.000	0.000	0.011	0.0113	
NO DE COULÉE HEAT NO.														TEMP.

CONCÈTE
HARDENABILITY

NO DE COULÉE HEAT NO.	RÉSISTANCE DE TRACTION TENSILE TEST RESULTS		ALONGEMENT % ELONG		CONCÈTE HARDENABILITY
	SECTION	RESISTANCE À LA TRACTION TENSILE	ALONGEMENT % ELONG	SECTION	
M07640	1.00	86.50	28		LE ROUX 094006034
	1.00	86.00	26		

NO DE COMMANDE DE
norambar inc.
ORDER NO.

CLIENT/CUSTOMER
ACIER LEROUX INC.
1331 GRAHAM BELL
BOUCHERVILLE QUE
J4B 6A1

DESCRIPTION ET NOMBRE DESCRIPTION & QUANTIFICATION
NORAMBAR PART NO 30-0098-013-058
SIZE: 4.000X1/4.."
44W/50W
CSA G40.21

ATT: GENEVIEVE LAFOREST

APPROUVÉ PAR
Nathalie Fortin

REMARQUES
UNION 4.000X1/4.."
à des applications prévues sur le site de la production
sécurité, et qu'il est conforme aux normes de la
désormais, ou les deux à la fois. Sous réserve des
méthodes standard de tenue des fissures de la
appliqués les résultats de ces essais sont considérés
comme satisfaisants.

P.O. #2457
10/18/05



Tuesday, 25-Apr-2006

From:

Jessica Berg
Mill Metals Corporation
62 Maple Street
Manchester, NH
Phone : (603) 626-7351

To:

LMC LIGHT IRON INC
P.O. Box 521
Limerick, ME
04048
Phone : 207-793-9957

Document Summary Cover Page

The MTRs are printed in the following order:

#	Heat#	Item Number	Description
1	B33016	A55516	ANGLE HR 5 X 5 X 5/16

- CALL US FOR ALL YOUR METAL NEEDS -

MTRs produced using MetalTrace (TM) - Visit www.TraceApps.com or call toll-free - 1-866-429-7007.

MILL METALS CORPORATION
 62 MAPLE STREET
 MANCHESTER, NH 03103
 (603)626-7351

INVOICE	NUMBER #20185110	PAGE 1	DATE 10/25/2005
SALESPERSON: DONNA MAILHOT		SHIP DATE: 10/25/2005	
SHIP VIA:		DRIVER:	CUST ID: 007868
CUST P.O.#: 2457/STEVE		COMMENTS:	OUR S.O.#: 1320693

SOLD TO:
 LMC LIGHT IRON INC
 P.O. BOX 521
 LIMERICK, ME 04048

SHIP TO:
 E. RANGE RD

LINE	QTY ORDERED	SHIPPED TO DATE	QTY THIS SHIPMENT	QTY ON BACKORDER	ITEM ID	WIDTH	LENGTH	UNIT QTY	UNIT PRICE	AMOUNT
1	3.00 PCS	0.00	3.00	0.00	A55516 ANGLE HR 5 X 5 X 5/16		20'	3.000	99.2500/EAC	297.75
2	1.00 PCS	0.00	1.00	0.00	A55516 ANGLE HR 5 X 5 X 5/16 STOCK DROP		19' 5"	1.000	96.7500/EAC	96.75

PHONE #: 207-793-9957	FAX #: 207-793-3919		
TAX ID: 1028968/T	SHIP WT: 817.992 LBS	SUBTOTAL	394.50
TERMS: NET 30			0.00
PAYMENT DUE BY 11/24/2005.		TOTAL	394.50

ALL RETURNS SUBJECT TO 25% RESTOCK FEE. CUT MATERIAL NONRETURNABLE. MATERIAL REMAINS PROPERTY OF VENDOR UNTIL PAYMENT IN FULL RECEIVED. MA VT & ME ACCTS CHARGED TAX UNLESS CERT ON FILE. F/C OF 18% PER ANNUM FOR PAST DUE ACCOUNTS



WHITBY STEEL MILL
HOPKINS STREET SOUTH
WHITBY ON L7N 5T1 CAN
(905) 668-8811

Chemical and Physical Test Report
MADE IN CANADA

W-039047

SHIP TO LEROUX STEEL 1331 GRAHAM BELL BOUCHERVILLE, PQ J4B 6A1	INVOICE TO LEROUX STEEL INC 1331 GRAHAM BELL BOUCHERVILLE, PQ J4B 6A1	SHIP DATE 09/15/05	CUST. ACCOUNT NO 60005940
---	--	-----------------------	------------------------------

SHAPE + SIZE A5 X 5 X 5/16	GRADE 44W	SPECIFICATION C.S.A. G40.21-88 44W/50W	SALES ORDER 5077183-01	CUST P.O. NUMBER M94006393														
HEAT I.D. B32987	C .19	Mn .68	P .010	Si .17	Cu .25	Ni .13	Cr .12	Mo .040	V .000	Nb .021	B .0000	N .0065	Sn .009	Al .047	Ti .00000	Zr .000	Ca .00000	C Eqv .357

Mechanical Test: Yield 59014 PSI, 398.99 MPA Tensile: 80565 PSI, 555.48 MPA %EI: 22.5/8in, 22.5/200MM
Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST
Mechanical Test: Yield 59172 PSI, 401.06 MPA Tensile: 80984 PSI, 557.68 MPA %EI: 22.5/8in, 22.5/200MM
Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST

SHAPE + SIZE A5 X 5 X 5/16	GRADE 44W	SPECIFICATION CSA-G40.21-88(44W)/ASTM A368M-01a ASTM709-01b ASME-SA36-00a	SALES ORDER 5077183-02	CUST P.O. NUMBER M94006393														
HEAT I.D. B33016	C .17	Mn .80	P .008	Si .20	Cu .26	Ni .08	Cr .06	Mo .029	V .000	Nb .000	B .0000	N .0084	Sn .010	Al .000	Ti .00000	Zr .000	Ca .00000	C Eqv .341

Mechanical Test: Yield 49025 PSI, 338.02 MPA Tensile: 70632 PSI, 486.99 MPA %EI: 25.0/8in, 25.0/200MM
Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST
Mechanical Test: Yield 50375 PSI, 347.32 MPA Tensile: 71830 PSI, 495.25 MPA %EI: 25.0/8in, 25.0/200MM
Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST

ASS516

This material, including the billets, was produced and manufactured in Canada.
A.J. Turner
Quality Assurance Manager
MIL Group

THE ABOVE FIGURES ARE CERTIFIED EXTRACTS FROM THE ORIGINAL AS CONTAINED IN THE PERMANENT RECORDS OF COMPANY.

B. R. R. R.

Mgr. Metallurg. Svcs.
WHITBY STEEL MILL





Tuesday, 25-Apr-2006

From:

Jessica Berg
Mill Metals Corporation
62 Maple Street
Manchester, NH
Phone : (603) 626-7351

To:

LMC LIGHT IRON INC
P.O. Box 521
Limerick, ME
04048
Phone : 207-793-9957

Document Summary Cover Page

The MTRs are printed in the following order:

#	Heat#	Item Number	Description
1	B31842	HRF344	FLAT HR 3/4 X 4

- CALL US FOR ALL YOUR METAL NEEDS -

MTRs produced using MetalTrace (TM) - Visit www.TraceApps.com or call toll-free - 1-866-429-7007.



WHITBY STEEL MILL
 HOPKINS STREET SOUTH
 WHITBY ON L1N 5T1 CAN
 (905) 868-8811

Chemical and Physical Test Report
 MADE IN CANADA

W-030262

SHIP TO LEROUX STEEL 1331 GRAHAM BELL 450-641-4380 BOUCHERVILLE, PQ J4B 6A1		INVOICE TO LEROUX STEEL INC 1331 GRAHAM BELL BOUCHERVILLE, PQ J4B 6A1		SHIP DATE 07/13/05	CURT. ACCOUNT NO 80005840																
SHAPE & SIZE F34 X 4	GRADE 44W	SPECIFICATION C.S.A. G40.21-98 44W/50W; ASTM A36 - 97a ASTM A709-97b ASME SA36 (A																			
HEAT I.D. B31842	C .18	Mn .85	P .010	S .036	Si .19	Cu .31	Ni .12	Cr .08	Mo .038	V .028	Mb .000	B .000	N	Sn .013	Al .013	Ti .000	Zr .000	Ca .00000	Ce .00000	Fe .358	
Mechanical Test: Yield 55815 PSI, 384.83 MPA		Tensile: 75858 PSI, 521.63 MPA %E: 26.27/in, 26.27/200MM																			
Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST		Tensile: 78549 PSI, 520.87 MPA %E: 27.58/in, 27.52/200MM																			
Mechanical Test: Yield 56293 PSI, 388.13 MPA		Tensile: 78549 PSI, 520.87 MPA %E: 27.58/in, 27.52/200MM																			
Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST		Tensile: 78549 PSI, 520.87 MPA %E: 27.58/in, 27.52/200MM																			
SALES ORDER 5082837-01		CUST. P.O. NUMBER M84006019																			

HRF344



094006482

This material, including the billets, was produced and manufactured in Canada.
 A.J. Turner
 Quality Assurance Manager
 Mill Group

THE ABOVE FIGURES ARE CERTIFIED EXTRACTS FROM THE ORIGINAL CHEMICAL AND PHYSICAL TEST RECORDS AS CONTAINED IN THE PERMANENT RECORDS OF COMPANY.

A.R. Esposito

Mgr. Metallurg. Svcs.
 WHITBY STEEL MILL

P.O. #2457
 10/04/05



Tuesday, 25-Apr-2006

From:

Jessica Berg
Mill Metals Corporation
62 Maple Street
Manchester, NH
Phone : (603) 626-7351

To:

LMC LIGHT IRON INC
P.O. Box 521
Limerick, ME
04048
Phone : 207-793-9957

Document Summary Cover Page

The MTRs are printed in the following order:

#	Heat#	Item Number	Description
1	3207400	A55516	ANGLE HR 5 X 5 X 5/16
2	J54705	A64516	ANGLE HR 6 X 4 X 5/16

- CALL US FOR ALL YOUR METAL NEEDS -

MTRs produced using MetalTrace (TM) - Visit www.TraceApps.com or call toll-free - 1-866-429-7007.

MILL METALS CORPORATION
 62 MAPLE STREET
 MANCHESTER, NH 03103
 (603)626-7351

INVOICE	NUMBER #20184294	PAGE 1	DATE 10/17/2005
SALESPERSON: DONNA MAILHOT		SHIP DATE: 10/17/2005	
SHIP VIA:		DRIVER:	CUST ID: 007868
CUST P.O.#: 2457		COMMENTS:	OUR S.O.#: 1318754

SOLD TO:
 LMC LIGHT IRON INC
 P.O. BOX 521
 LIMERICK, ME 04048

SHIP TO:
 E. RANGE RD

LINE	QTY ORDERED	SHIPPED TO DATE	QTY THIS SHIPMENT	QTY ON BACKORDER	ITEM ID	WIDTH	LENGTH	UNIT QTY	UNIT PRICE	AMOUNT
1	4.00 PCS	0.00	4.00	0.00	A55516 ANGLE HR 5 X 5 X 5/16		20'	4.000	99.2500/EAC	397.00
2	4.00 PCS	0.00	4.00	0.00	A64516 ANGLE HR 6 X 4 X 5/16		20'	4.000	98.0500/EAC	392.20

PHONE #: 207-793-9957

FAX #: 207-793-3919

TAX ID: 1028968/T	SHIP WT: 1648.000 LBS	SUBTOTAL	789.20
TERMS: NET 30			0.00
PAYMENT DUE BY 11/16/2005.		TOTAL	789.20

ALL RETURNS SUBJECT TO 25% RESTOCK FEE. CUT MATERIAL NONRETURNABLE. MATERIAL REMAINS PROPERTY OF VENDOR UNTIL PAYMENT IN FULL RECEIVED. MA VT & ME ACCTS CHARGED TAX UNLESS CERT ON FILE. F/C OF 18% PER ANNUM FOR PAST DUE ACCOUNTS



BELGO
Grupo Arcelor

QUALITY CERTIFICATE

Ref. Nr.: 003553/2003

Pag.: 01

Customer: LOMLARD STEEL

Product: EQUAL ANGLES 5 x 5/16" 40 FT CSA 50K

Purchase Order: F0550403 D4427

Size (mm): 5 X 5 X 5/16 POL

Order Number: 772042

Grade: CSA 50K GR 4021

Heat Nr.	Weight (t)	YIELD POINT	TENSILE STRENGTH	ELONGATION	C	Ht.	Si	P	S	Mn	Cu
Coils		MPa	MPa								
320720	23	47,311	426	527	22	0.140	0.370	0.020	0.045	0.026	0.220
320740	18	37,026	403	498	20	0.130	0.720	0.020	0.048	0.023	0.190
TOTAL	41	84,337									
C: C & Ni & Sn & Mo S: S P: P Ht.: Ht. Si: Si Mn: Mn Cu: Cu											

320720C 0.090 0.070 0.050 0.019
 320740C 0.110 0.070 0.010 0.016

Remarks: We hereby certify that the material herein listed was produced, inspected, tested and approved in accordance with the standard or the specification required

A55516

Date: 04/JUN/2003

Approved by: *[Signature]*

MANUFATURA DE BARRAS

Companhia Siderúrgica Belgo Mineira

SMI Steel - Alabama and South Carolina



SMI Steel - Alabama
 P.O. Box 321188
 Birmingham, AL
 35232-1188
 www.smi-al.com

SMI Steel - South Carolina
 Box 2005
 Cayce, SC 29171-2005
 www.smi-sc.com

CERTIFIED MILL TEST REPORT

For Additional copies call (800) 621-0262

We hereby certify that the test results presented here are accurate and conform to the reported grade

Christina S. Calhoun
 Quality Assurance Manager

HEAT NO: J54705	S LEROUX STEEL 1331 GRAHAM BELL BOUCHERVILLE, PQ J4B6A1 CANADA	S LEROUX STEEL SIDING B021 BOUCHERVILLE, PQ J4B6A1 CANADA	SHIP#: 101579/342
SECTION: L 6X4X5/16 x40"0" L 152x102x7.9x12.192	O	H	BOL#: 236833
GRADE: CAN/CSA G40.21-04 50W CAN/CSA G40.21-04M 350W	L	I	INV#: 8300336034
WEIGHT/PCS: 9,888 / 24	D	P	CUST POW: M94005400
	T A64516	T	CUST PN#:
	O	O	

CHEMICAL ANALYSIS		PROPERTIES						
	%	MECHANICAL	TEST 1		TEST 2		TEST 3	
			IMPERIAL	METRIC	IMPERIAL	METRIC	IMPERIAL	METRIC
C	0.18	Yield Strength	59.4KSI	409.6MPA	59.2KSI	408.1MPA		
MN	0.65	Tensile Strength	79.8KSI	550.2MPA	78.8KSI	543.1MPA		
P	0.008	Elongation	27%	27%	27%	27%		
S	0.022	Gauge Length	8INS	203MM	8INS	203MM		
SI	0.19	Reduction of Area						
CU	0.31	Bend Test						
CR	0.17	Diameter						
NI	0.13	Charpy Impact						
MO	0.041	Test Temp						
CB	0.013	Sample Size						
V	0.002	Orientation						
SN	0.009	Hardness						
B	0.0003							
TI	0.001							
C-E	0.36							
AL	0.000							
N	0.008							

JOMINY RESULTS - Rockwell C hardness at 1/16th inch increments												GRAIN SIZE		INCLUSION RATING					
1	2	3	4	5	6	7	8	9	10	11	12	METHOD		METHOD					
												TYPE		A	B	C	D		
13	14	15	16	18	20	22	24	26	28	30	32	RESULT		SIZE					
												T	H	T	H	T	H	T	H

100% MELTED AND MANUFACTURED IN THE USA AND FREE OF MERCURY CONTAMINATION IN THE PROCESS

REMARKS





Tuesday, 25-Apr-2006

From:

Jessica Berg
Mill Metals Corporation
62 Maple Street
Manchester, NH
Phone : (603) 626-7351

To:

LMC LIGHT IRON INC
P.O. Box 521
Limerick, ME
04048
Phone : 207-793-9957

Document Summary Cover Page

The MTRs are printed in the following order:

#	Heat#	Item Number	Description
1	B31574	A7438	ANGLE HR 7 X 4 X 3/8
2	B31834	HRF144	FLAT HR 1/4 X 4

- CALL US FOR ALL YOUR METAL NEEDS -

MTRs produced using MetalTrace (TM) - Visit www.TraceApps.com or call toll-free - 1-866-429-7007.

W-031421



WHITBY STEEL MILL
HOPKINS STREET SOUTH
WHITBY ON L1N 5T1 CAN
(905) 668-8811

Chemical and Physical Test Report
MADE IN CANADA

SHIP TO
MILL METALS CORPORATION
603-626-7351
62 MAPLE ST.
MANCHESTER, NH 03103

INVOICE TO
MILL STEEL CORP.
ATTN: ACCTS PAYABLE
62 MAPLE STREET
MANCHESTER, NH 03103

SHIP DATE
03/21/05
CUST. ACCOUNT NO
60076023

SHAPE & SIZE	GRADE	SPECIFICATION	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Nb	B	N	Sn	Al	Ti	Zr	Ca	C Eqv	
A2 X 2 X 3/16	A36	C.S.A. G40.21-98 44W/50W; ASTM: A36 - 97a, ASTM A709-97b ASME SA36 (A)	.15	.73	.010	.033	.21	.33	.11	.07	.038	<.008	<.008	.0000	.012	.000	.00000	.000	.00000	.000	.00000	.321
HEAT ID: B30958																						

SALES ORDER
5026067-03
CUST. P.O. NUMBER
34577

Mechanical Test: Yield 52119 PSI, 359.35 MPA Tensile: 73608 PSI, 507.51 MPA %E: 26.2/8in, 26.2/200MM
Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST
Mechanical Test: Yield 52463 PSI, 361.72 MPA Tensile: 74010 PSI, 510.28 MPA %E: 26.2/8in, 26.2/200MM
Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST

SHAPE & SIZE	GRADE	SPECIFICATION	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Nb	B	N	Sn	Al	Ti	Zr	Ca	C Eqv	
A7 X 4 X 3/8	A36	CSA G40.21-98(44W); ASTM A36M-01a ASTM 709-01b ASME SA36-00a	.16	.77	.012	.035	.16	.47	.13	.11	.041	<.008	<.008	.0004	.0141	.013	.000	.00000	.000	.00000	.36	
HEAT ID: B31574																						

SALES ORDER
5026085-01
CUST. P.O. NUMBER
34582

Mechanical Test: Yield 49278 PSI, 339.76 MPA Tensile: 70697 PSI, 487.44 MPA %E: 23.8/8in, 23.8/200MM
Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST
Mechanical Test: Yield 50833 PSI, 350.48 MPA Tensile: 72286 PSI, 498.39 MPA %E: 23.8/8in, 23.8/200MM
Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST

A7438

This material, including the billets, was produced and manufactured in Canada.

A.J. Turner
A.J. Turner
Quality Assurance Manager
Mill Group

THE ABOVE FIGURES ARE CERTIFIED EXTRACTS FROM THE ORIGINAL CHEMICAL AND PHYSICAL TEST RECORDS AS CONTAINED IN THE PERMANENT RECORDS OF COMPANY.

B.R. Spalding

Mgr. Metallurg. Svcs.
WHITBY STEEL MILL



WHITBY STEEL MILL
HOPKINS STREET SOUTH
WHITBY ON L1N 5T1 CAN
(905) 669-8811

Chemical and Physical Test Report
MADE IN CANADA

W-036437

SHIP TO MILL METALS CORPORATION 603-628-7351 62 MAPLE ST. MANCHESTER, NH 03103		INVOICE TO MILL STEEL CORP. ATTN-ACCTS PAYABLE 62 MAPLE STREET MANCHESTER, NH 03103		SHIP DATE 07/18/05	CUST. ACCOUNT NO 60076023
--	--	---	--	-----------------------	------------------------------

SHAPE & SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST. P.O. NUMBER
F1/4 X 8	A36	C.S.A. G40.21-98 44W/50W; ASTM: A36 - 97a ASTM A709-97b ASME: SA36 (A)	5081167-12	36110
HEAT I.D.				
B32752	C Mn P S Si Cu Ni Cr Mo V Nb B N Sn Al Ti Zr Ca C Eqv	.19 .72 .007 .028 .17 .20 .09 .05 .025 <.008 .011 .0000 .0114 .009 .000 .00000 .000 .00000 .000 .00000 .344		

Mechanical Test: Yield 58134 PSI, 387.03 MPA Tensile: 77758 PSI, 538.12 MPA %EI: 23.1/8in, 23.1/200MM
Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST

Mechanical Test: Yield 56729 PSI, 391.13 MPA Tensile: 76920 PSI, 530.34 MPA %EI: 23.8/8in, 23.8/200MM
Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST

SHAPE & SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST. P.O. NUMBER
E1/4 X 8	A36	C.S.A. G40.21-98 44W/50W; ASTM: A36 - 97a ASTM A709-97b ASME: SA36 (A)	5046679-10	35419
HEAT I.D.				
B31834	C Mn P S Si Cu Ni Cr Mo V Nb B N Sn Al Ti Zr Ca C Eqv	.17 .70 .011 .036 .18 .34 .11 .07 .030 <.008 .0008 .0133 .012 .022 .00000 .000 .00000 .000 .00000 .34		

Mechanical Test: Yield 55607 PSI, 383.4 MPA Tensile: 76613 PSI, 528.23 MPA %EI: 30.0/8in, 30.0/200MM
Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST

Mechanical Test: Yield 55930 PSI, 385.62 MPA Tensile: 77224 PSI, 532.44 MPA %EI: 28.8/8in, 28.8/200MM
Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST

HRF144

This material, including the billets, was produced and manufactured in Canada.
A.J. Turner
Quality Assurance Manager
Mill Group

A.J. Turner

Mgr. Metallurg. Svcs.
WHITBY STEEL MILL

THE ABOVE FIGURES ARE CERTIFIED EXTRACTS FROM THE ORIGINAL CHEMICAL AND PHYSICAL TEST RECORDS AS CONTAINED IN THE PERMANENT RECORDS OF COMPANY.



Tuesday, 25-Apr-2006

From:

Jessica Berg
Mill Metals Corporation
62 Maple Street
Manchester, NH
Phone : (603) 626-7351

To:

LMC LIGHT IRON INC
P.O. Box 521
Limerick, ME
04048
Phone : 207-793-9957

Document Summary Cover Page

The MTRs are printed in the following order:

#	Heat#	Item Number	Description
1	B33048	A64516	ANGLE HR 6 X 4 X 5/16

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GERDAU AMERISTEEL

WHITBY STEEL MILL
HOPKINS STREET SOUTH
WHITBY ON L1N 5T1 CAN
(905) 668-8811

Chemical and Physical Test Report

MADE IN CANADA

W-036624

SHIP TO MILL METALS CORPORATION 609-626-7351 62 MAPLE ST. MANCHESTER, NH 03103	INVOICE TO MILL STEEL CORP. ATTN-ACCTS PAYABLE 62 MAPLE STREET MANCHESTER, NH 03103	SHIP DATE 07/21/05	CUST. ACCOUNT NO 60076023
---	--	------------------------------	-------------------------------------

SHAPE & SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST P.O. NUMBER
A2 X 2 X 1/4	A36	C.S.A. G40.21-98 41W/50W; ASTM: A36 - 97a ASTM A709- 97b ASME: SA36 (A)	5081167-11	36110
HEAT I.D. B32209	C Mn P S Si Cu Ni Cr Mo V Nb B N Sn Al Ti Zr Ca C Eqv	.13 .82 .009 .032 .24 .39 .16 .09 .057 <.008 <.008 .0125 .014 .000 .00000 .000 .00000 .000 .00000 .336		

Mechanical Test: Yield 51893 PSI, 357.79 MPA Tensile: 72740 PSI, 501.52 MPA %El: 30.0/200MM

Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST

SHAPE & SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST P.O. NUMBER
A6 X 4 X 5/16	A36	C.S.A. G40.21-98 41W/50W; ASTM: A36 - 97a ASTM A709- 97b ASME: SA36 (A)	5083189-03	36188
HEAT I.D. B33048	C Mn P S Si Cu Ni Cr Mo V Nb B N Sn Al Ti Zr Ca C Eqv	.18 .77 .009 .037 .19 .31 .11 .08 .030 <.008 <.008 .0113 .012 .000 .00000 .000 .00000 .000 .00000 .36		

Mechanical Test: Yield 51810 PSI, 357.22 MPA Tensile: 74829 PSI, 515.93 MPA %El: 26.2/200MM

Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST

Mechanical Test: Yield 52770 PSI, 363.84 MPA Tensile: 74575 PSI, 514.18 MPA %El: 23.8/6in, 23.8/200MM

Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST

A64516

This material, including the billets, was produced and manufactured in Canada.

A.J. Turner
Quality Assurance Manager
Mill Group

THE ABOVE FIGURES ARE CERTIFIED EXTRACTS FROM THE ORIGINAL CHEMICAL AND PHYSICAL TEST RECORDS AS CONTAINED IN THE PERMANENT RECORDS OF COMPANY.

[Signature]

Mgr. Metallurg. Svcs.
WHITBY STEEL MILL



Tuesday, 25-Apr-2006

From:

Jessica Berg
Mill Metals Corporation
62 Maple Street
Manchester, NH
Phone : (603) 626-7351

To:

LMC LIGHT IRON INC
P.O. Box 521
Limerick, ME
04048
Phone : 207-793-9957

Document Summary Cover Page

The MTRs are printed in the following order:

#	Heat#	Item Number	Description
1	N542538	HRF144	FLAT HR 1/4 X 4
2	N542492	HRF384	FLAT HR 3/8 X 4
3	N542704	HRF124	FLAT HR 1/2 X 4
4	C26712	HRF584	FLAT HR 5/8 X 4

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CAMBRIDGE STEEL MILL
160 ORION PLACE
CAMBRIDGE ON N1T 1R9 CAN
(519) 740-2488

Chemical and Physical Test Report
MADE IN CANADA

N-032785

SHIP TO
MILL METALS CORPORATION
603-626-7351
62 MAPLE ST.
MANCHESTER, NH 03103

INVOICE TO
MILL STEEL CORP.
ATTN-ACCTS PAYABLE
62 MAPLE STREET
MANCHESTER, NH 03103

SHIP DATE
08/15/05
CUST. ACCOUNT NO
60076023

SHAPE & SIZE	GRADE	SPECIFICATION	SALES ORDER										CUST.P.O. NUMBER				
F1/4 X 3	A36	ASTM A36/A36M-04; CSA-G40.21-300W-98(44W)	5072971-03										36629				
HEAT I.D. N540731	C	Mn P S Si Cu Cr Ni Mo V Nb B Sn Al Zr C Eqv															
			.17	.67	.015	.041	.20	.34	.17	.046	.004	.004	.0000	.012	.002	.003	.354
Mechanical Test:	Yield	50068 PSI, 345.21 MPA	Tensile: 72716 PSI, 501.36 MPA %El: 27.0/8in, 27.0/200MM Red R 33.3 : 1														
Mechanical Test:	Yield	51001 PSI, 351.64 MPA	Tensile: 72431 PSI, 499.39 MPA %El: 27.0/8in, 27.0/200MM Red R 33.3 : 1														
SHAPE & SIZE	GRADE	SPECIFICATION	SALES ORDER										CUST.P.O. NUMBER				
F1/4 X 4	A36	ASTM A36/A36M-04; CSA-G40.21-300W-98(44W)	5072971-04										36629A				
HEAT I.D. N542538	C	Mn P S Si Cu Cr Ni Mo V Nb B Sn Al Zr C Eqv															
			.16	.63	.014	.042	.17	.31	.16	.086	.003	.002	.0001	.011	.001	.001	.349
Mechanical Test:	Yield	48966 PSI, 337.61 MPA	Tensile: 72818 PSI, 502.06 MPA %El: 29.0/8in, 29.0/200MM Red R 25 : 1														
Mechanical Test:	Yield	48917 PSI, 337.27 MPA	Tensile: 72854 PSI, 502.31 MPA %El: 25.5/8in, 25.5/200MM Red R 25 : 1														
SHAPE & SIZE	GRADE	SPECIFICATION	SALES ORDER										CUST.P.O. NUMBER				
F3/4 X 6	A36	ASTM A36/A36M-04; CSA-G40.21-300W-98(44W)	5072971-05										36629A				
HEAT I.D. N542769	C	Mn P S Si Cu Cr Ni Mo V Nb B Sn Al Zr C Eqv															
			.19	.78	.011	.033	.21	.35	.13	.077	.004	.002	.0002	.014	.001	.001	.398
Mechanical Test:	Yield	50048 PSI, 345.07 MPA	Tensile: 72554 PSI, 500.24 MPA %El: 24.0/8in, 24.0/200MM Red R 16.7 : 1														
Mechanical Test:	Yield	49479 PSI, 341.15 MPA	Tensile: 73414 PSI, 506.17 MPA %El: 24.0/8in, 24.0/200MM Red R 16.7 : 1														

This material, including the billets, was produced and manufactured in Canada.

A.J. Turner
A.J. Turner
Quality Assurance Manager
Mill Group

THE ABOVE FIGURES ARE CERTIFIED EXTRACTS FROM THE ORIGINAL CHEMICAL AND PHYSICAL TEST RECORDS AS CONTAINED IN THE PERMANENT RECORDS OF COMPANY.

Eric Hand
Mgr. Metallurg. Svcs.
CAMBRIDGE STEEL MILL

GERDAU AMERISTEEL

CAMBRIDGE STEEL MILL
160 ORION PLACE
CAMBRIDGE ON N1T 1R9 CAN
(519) 740-2488

Chemical and Physical Test Report

MADE IN CANADA

N-032785

SHIP TO

MILL METALS CORPORATION
603-626-7351
62 MAPLE ST.
MANCHESTER, NH 03103

INVOICE TO
MILL STEEL CORP.
ATTN-ACCTS PAYABLE
62 MAPLE STREET
MANCHESTER, NH 03103

SHIP DATE
08/15/05
CUST. ACCOUNT NO
60076023

SALES ORDER
5072971-06
CUST. P.O. NUMBER
36629

SHAPE & SIZE	GRADE	SPECIFICATION	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Nb	B	Sn	Al	Zr	C Eqv
F3/8x4 HEAT I.D. N542492	A36	ASTM A36/A36M-04; CSA-G40.21-300W-98(44W)	.22	.70	.014	.045	.21	.39	.08	.08	.036	.003	.002	.0002	.011	.001	.001	.395

Mechanical Test: Yield 51282 PSI, 353.58 MPA Tensile: 78282 PSI, 539.74 MPA %El: 22.5/8in, 22.5/200MM Red R 16.7 : 1
Mechanical Test: Yield 52418 PSI, 361.41 MPA Tensile: 79644 PSI, 549.13 MPA %El: 23.0/8in, 23.0/200MM Red R 16.7 : 1

4RF384

This material, including the billets, was produced and manufactured in Canada.

A.J. Turner
Quality Assurance Manager
Mill Group

THE ABOVE FIGURES ARE CERTIFIED EXTRACTS FROM THE ORIGINAL CHEMICAL AND PHYSICAL TEST RECORDS AS CONTAINED IN THE PERMANENT RECORDS OF COMPANY.

Eric Hand
Mgr. Metallurg. Svcs.
CAMBRIDGE STEEL MILL



CAMBRIDGE STEEL MILL
160 ORION PLACE
CAMBRIDGE ON N1T 1R9 CAN
(519) 740-2488

Chemical and Physical Test Report
MADE IN CANADA

N-032785

SHIP TO
MILL METALS CORPORATION
603-626-7351
62 MAPLE ST.
MANCHESTER, NH 03103

INVOICE TO
MILL STEEL CORP.
ATTN-ACCTS PAYABLE
62 MAPLE STREET
MANCHESTER, NH 03103

SHIP DATE
08/15/05
CUST. ACCOUNT NO
60076023

SHAPE & SIZE	GRADE	SPECIFICATION	SALES ORDER										CUST P.O. NUMBER				
C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Nb	B	Sn	Al	Zr	C Eqv	5073882-02	36692
A2 X 2 X 1/8			ASTM A36/A36M-04; CSA-G40.21-300W-98(44W)										5072971-01	36629A			
HEAT ID. N543043													HRF124				
Mechanical Test:			Yield 53682 PSI, 370.12 MPA Tensile: 74721 PSI, 515.18 MPA %El: 29.0/8in, 29.0/200MM Red R 51.7 : 1														
Mechanical Test:			Yield 53236 PSI, 367.05 MPA Tensile: 74432 PSI, 513.19 MPA %El: 27.5/8in, 27.5/200MM Red R 51.7 : 1										5072971-01	36629A			
F1/2 X 4			ASTM A36/A36M-04; CSA-G40.21-300W-98(44W)										5072971-01	36629A			
HEAT ID. N542704													HRF124				
Mechanical Test:			Yield 50614 PSI, 348.97 MPA Tensile: 77542 PSI, 534.63 MPA %El: 25.0/8in, 25.0/200MM Red R 12.5 : 1														
Mechanical Test:			Yield 50200 PSI, 346.12 MPA Tensile: 77790 PSI, 536.34 MPA %El: 24.5/8in, 24.5/200MM Red R 12.5 : 1										5072971-01	36629A			
F1/4 X 1 1/4			ASTM A36/A36M-04; CSA-G40.21-300W-98(44W)										5072971-01	36629A			
HEAT ID. N542132													HRF124				
Mechanical Test:			Yield 53928 PSI, 371.82 MPA Tensile: 73477 PSI, 508.61 MPA %El: 25.0/8in, 25.0/200MM Red R 79.9 : 1														
Mechanical Test:			Yield 54785 PSI, 377.73 MPA Tensile: 74148 PSI, 511.23 MPA %El: 24.0/8in, 24.0/200MM Red R 79.9 : 1										5072971-01	36629A			

This material, including the billets, was produced and manufactured in Canada.

A.J. Turner
Quality Assurance Manager
Mill Group

[Signature]

Mgr. Metallurg. Svcs.
CAMBRIDGE STEEL MILL

THE ABOVE FIGURES ARE CERTIFIED EXTRACTS FROM THE ORIGINAL CHEMICAL AND PHYSICAL TEST RECORDS AS CONTAINED IN THE PERMANENT RECORDS OF COMPANY.



ISPAT SIDBEC INC.

CERTIFICAT D'ESSAIS / TEST CERTIFICATE

REP BY: COMMANDE SALES ORDER 2945	BON DE COMMANDE DU CLIENT CUSTOMER'S ORDER NO. M 1002336	DATE COMMANDEE DATE ENTERED 1999.11.09	NO CERTIFICAT, CERTIFICATE No 16372	DATE EXPEDITION DATE SHIPPED 2000/02/23
---	--	--	---	---

VENDU À - SOLD TO METAUX RUSSEL INC. Div. De/Of Russel Metals 5205 Fairway St. Lachine QC CA H8T 1C1 20075001	EXPÉDIÉ À - SHIPPED TO METAUX RUSSEL INC. Div. De/Of Russel Metals 5205 Fairway St. Lachine H8T 1C1 20075001
---	--

ARTI. ITEM	DESCRIPTION	NO CAMPAGNE SCHEDULE NO.	POIDS EXPÉDIÉ WEIGHT SHIPPED	COULÉE HEAT
H00036	PLATS - BQM 4.000 IN X .625 IN X 240.0000 G40.21 44W 50W	L0386 No MATÉRIEL: MATERIAL No No PIÈCE: 10015547 PART No	9.480 LB	C26712

HRC584

ANALYSE CHIMIQUE - CHEMICAL ANALYSES

COULÉE HEAT	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Nb	Al _T	Al _S	N ₂
C26712	.20	1.08	.010	.013	.24	.13	.04	.08	.012	.000	.014	.001	.000	.0062
COULÉE HEAT	Sn	Ti	B	Ca	Pb	As	Co	Sb	Te	Bi	Se	D.I.	C.E.	
C26712	.006	.002	.0001		.000	.003	.003	.003						

ESSAI JOHNSON - JOHNSON TEST (HRC)

COULÉE HEAT	J1	J2	J3	J4	J5	J6	J7	J8	J10	J12	J14	J16	J20	J24	J28	J32	J0
C26712																	

PROPRIÉTÉS MÉCANIQUES - MECHANICAL PROPERTIES

COULÉE HEAT	L.E. Yield Strength psi (MPA)	L.U. Ulti. Tens. Strength psi (MPA)	% ALL ELONG.	Striction % Reduction Area	Dureté Hardness BHN (Rc) (Rb)	Grosneur de Grain Grain size	Ratio Reduction Ratio
C26712	56391	81719	25-8"				

RÉSULTATS D'ESSAIS SPÉCIAUX - SPECIAL TEST RESULTS

COULÉE HEAT	AUTRES ESSAIS - OTHER TEST	RÉSULTATS - RESULTS

Approuvé par : _____
Approved by : _____

METAUX RUSSEL INC. CUST. M0307 Ser: 1001013 Item: 3 Heat: C26712 Prep by: A



Tuesday, 25-Apr-2006

From:

Jessica Berg
Mill Metals Corporation
62 Maple Street
Manchester, NH
Phone : (603) 626-7351

To:

LMC LIGHT IRON INC
P.O. Box 521
Limerick, ME
04048
Phone : 207-793-9957

Document Summary Cover Page

The MTRs are printed in the following order:

#	Heat#	Item Number	Description
1	B31665	A55516	ANGLE HR 5 X 5 X 5/16

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GERDAU AMERISTEEL

WHITBY STEEL MILL
HOPKINS STREET SOUTH
WHITBY ON L1N 5T1 CAN
(905) 888-8811

Chemical and Physical Test Report
MADE IN CANADA

W-036790

SHIP TO MILL METALS CORPORATION 603-626-7351 62 MAPLE ST. MANCHESTER, NH 03103	INVOICE TO MILL STEEL CORP. ATTN-ACCTS PAYABLE 62 MAPLE STREET MANCHESTER, NH 03103	SHIP DATE 07/26/05	GUST. ACCOUNT NO 60076023
--	---	-----------------------	------------------------------

SHAPE & SIZE	GRADE	SPECIFICATION	SALES ORDER	CUSTOMER P.O. NUMBER
A5 X 5 X 5/16	A36	C.S.A. G40.21-98 44W/50W; ASTM: A36 - 97a ASTM A709- 97b ASME: SA36 (A)	5067355-01	36367
HEAT I.D. B33230	C Mn P S Si Ni Cr Mo V Nb B N Sn Al Ti Zr Ca C Eqv	.17 1.02 .008 .021 .21 .32 .08 .04 .016 <.008 .0105 .012 .000 .00000 .000 .00000 .000 .00000 .000 .00000 .378		

Mechanical Test: Yield 53850 PSI, 371.28 MPA Tensile: 76187 PSI, 525.15 MPA %EI: 28.2/8in, 26.2/200MM
Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST
Mechanical Test: Yield 55258 PSI, 380.99 MPA Tensile: 75922 PSI, 523.46 MPA %EI: 25.0/8in, 25.0/200MM
Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST

SHAPE & SIZE	GRADE	SPECIFICATION	SALES ORDER	CUSTOMER P.O. NUMBER
A5 X 5 X 5/16	A36	C.S.A. G40.21-98 44W/50W; ASTM: A36 - 97a ASTM A709- 97b ASME: SA36 (A)	5068562-02	36325
HEAT I.D. B31065	C Mn P S Si Ni Cr Mo V Nb B N Sn Al Ti Zr Ca C Eqv	.15 .82 .009 .032 .20 .32 .11 .08 .033 <.008 .0117 .012 .000 .00000 .000 .00000 .000 .00000 .000 .00000 .342		

Mechanical Test: Yield 51521 PSI, 355.22 MPA Tensile: 71651 PSI, 494.02 MPA %EI: 26.2/8in, 26.2/200MM
Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST
Mechanical Test: Yield 52408 PSI, 361.34 MPA Tensile: 72965 PSI, 503.08 MPA %EI: 27.5/8in, 27.5/200MM
Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST

A55516

This material, including the billets, was produced and manufactured in Canada.
A.J. Turner
Quality Assurance Manager
MM Group



Mgr. Metallurg. Svcs.
WHITBY STEEL MILL

THE ABOVE FIGURES ARE CERTIFIED EXTRACTS FROM THE ORIGINAL CHEMICAL AND PHYSICAL TEST RECORDS AS CONTAINED IN THE PERMANENT RECORDS OF COMPANY.



Tuesday, 25-Apr-2006

From:

Jessica Berg
Mill Metals Corporation
62 Maple Street
Manchester, NH
Phone : (603) 626-7351

To:

LMC LIGHT IRON INC
P.O. Box 521
Limerick, ME
04048
Phone : 207-793-9957

Document Summary Cover Page

The MTRs are printed in the following order:

#	Heat#	Item Number	Description
1	K87395	A64516	ANGLE HR 6 X 4 X 5/16

- CALL US FOR ALL YOUR METAL NEEDS -

MTRs produced using MetalTrace (TM) - Visit www.TraceApps.com or call toll-free - 1-866-429-7007.

MILL METALS CORPORATION
 62 MAPLE STREET
 MANCHESTER, NH 03103
 (603)626-7351

INVOICE	NUMBER #20177672	PAGE 1	DATE 08/09/2005
SALESPERSON: DONNA MAILHOT		SHIP DATE: 08/09/2005	
SHIP VIA:		DRIVER:	CUST ID: 007868
CUST P.O.#: 2457		COMMENTS:	OUR S.O.#: 1304472

SOLD TO:
 LMC LIGHT IRON INC
 P.O. BOX 521
 LIMERICK, ME 04048

SHIP TO:
 E. RANGE RD

LINE	QTY ORDERED	SHIPPED TO DATE	QTY THIS SHIPMENT	QTY ON BACKORDER	ITEM ID	WIDTH	LENGTH	UNIT QTY	UNIT PRICE	AMOUNT
1	8.00 PCS	0.00	8.00	0.00	A64516 ANGLE HR 6 X 4 X 5/16		20'	8.000	86.4500/EAC	691.60

PHONE #: 207-793-9957

FAX #: 207-793-3919

TAX ID: 1028968/T	SHIP WT: 1648.000 LBS	SUBTOTAL	691.60
TERMS: NET 30			0.00
PAYMENT DUE BY 09/08/2005.		TOTAL	691.60

ALL RETURNS SUBJECT TO 25% RESTOCK FEE. CUT MATERIAL NONRETURNABLE. MATERIAL REMAINS PROPERTY OF VENDOR UNTIL PAYMENT IN FULL RECEIVED. MA VT & ME ACCTS CHARGED TAX UNLESS CERT ON FILE. F/C OF 18% PER ANNUM FOR PAST DUE ACCOUNTS

Y-007922

Chemical and Physical Test Report
MADE IN THE UNITED STATES

GERDAU AMERISTEEL
CALVERT CITY STEEL MILL
1035 SHAR-CAL ROAD
CALVERT CITY KY 42049 USA
(270) 395-3100

SHIP TO MILL METALS CORPORATION 603-626-7351 62 MAPLE ST. MANCHESTER, NH 03103	INVOICE TO MILL STEEL CORP. ATTN-ACCTS PAYABLE 62 MAPLE STREET MANCHESTER, NH 03103	SHIP DATE 07/20/05	CUST. ACCOUNT NO 60076023
---	--	------------------------------	-------------------------------------

SHAPE & SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST P.O. NUMBER
A6 X 4 X 5/16	A36	ASTM A36-04, ASTM A529 GR50-04, ASTM A709 GR36	5066405-01	36320
HEAT I.D. K87395	C Mn P S Si Cu Ni Cr Mo V Nb B N Sn Al Ti C Eqv	.17 .83 .013 .023 .27 .24 .08 .15 .020 .015 <.008 .0000 .0079 .010 .001 .00000 .368		

Mechanical Test: Yield 55460 PSI, 382.38 MPA Tensile: 76520 PSI, 527.59 MPA %El: 24.8/8in, 24.6/203.2mm Std Dev:0
Customer Requirements CASTING: STRAND CAST
Mechanical Test: Yield 55220 PSI, 380.73 MPA Tensile: 76930 PSI, 530.41 MPA %El: 23.9/8in, 23.9/203.2mm Std Dev:0
Customer Requirements CASTING: STRAND CAST

Ab4516

SHAPE & SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST P.O. NUMBER
C12 X 10.9/8MC	A36	ASTM A36-04, A709 GR36	5054882-01	35827
HEAT I.D. K87785	C Mn P S Si Cu Ni Cr Mo V Nb B N Sn Al Ti C Eqv	.13 .75 .016 .025 .25 .29 .09 .17 .010 .001 <.008 .0000 .0000 .011 .001 .00000 .321		

Mechanical Test: Yield 57160 PSI, 394.1 MPA Tensile: 75390 PSI, 519.8 MPA %El: 23.8/8in, 23.8/203.2mm Std Dev:0
Customer Requirements CASTING: STRAND CAST
Mechanical Test: Yield 56160 PSI, 387.21 MPA Tensile: 74650 PSI, 514.69 MPA %El: 22.1/8in, 22.1/203.2mm Std Dev:0
Customer Requirements CASTING: STRAND CAST

This material, including the billets, was produced and manufactured in the United States of America.

A.J. Turner
A.J. Turner
Quality Assurance Manager
MHI Group

THE ABOVE FIGURES ARE CERTIFIED EXTRACTS FROM THE ORIGINAL CHEMICAL AND PHYSICAL TEST RECORDS AS CONTAINED IN THE PERMANENT RECORDS OF COMPANY.

Allen L. Pritchard
Allen L. Pritchard
Mgr. Metallurg. Svcs.
CALVERT CITY STEEL MILL



Tuesday, 25-Apr-2006

From:

Jessica Berg
Mill Metals Corporation
62 Maple Street
Manchester, NH
Phone : (603) 626-7351

To:

LMC LIGHT IRON INC
P.O. Box 521
Limerick, ME
04048
Phone : 207-793-9957

Document Summary Cover Page

The MTRs are printed in the following order:

#	Heat#	Item Number	Description
1	JE6734	HRF124	FLAT HR 1/2 X 4
2	JE1769	HRF584	FLAT HR 5/8 X 4
3	M04668	HRF344	FLAT HR 3/4 X 4

- CALL US FOR ALL YOUR METAL NEEDS -

MTRs produced using MetalTrace (TM) - Visit www.TraceApps.com or call toll-free - 1-866-429-7007.



ROANOKE ELECTRIC STEEL CORPORATION

P.O. BOX 13948

ROANOKE, VIRGINIA 24038-3948

Test and Inspection Report

NO. 93455-5

ROANOKE

MILL METALS - NH

62 MAPLE STREET
MANCHESTER, NH 3103-0000

HRF124

Date 6/30/05

HEAT NUMBER	SIZE	1-YIELD KSI	Pt. KSI	ULTIMATE KSI	ELONG 8 IN.	BEND TEST	GRADE			
JE6734	FLATS 1/2 X 4	42.1		66.7	31.8		A36			
PURCHASE ORDER NUMBER	NUMBER PIECES	2-YIELD KSI	Pt. KSI	ULTIMATE KSI	ELONG 8 IN.	BEND TEST	GRADE			
36064	39 PIECES 20'	41.4		66.7	33.0		A36			
HEAT NUMBER	SIZE	1-YIELD MPA	Pt. MPA	ULTIMATE MPA	ELONG 203mm	BEND TEST	GRADE			
JE6734	FLATS 12.7 X 101.6	290.3		459.9	31.8		A36			
PURCHASE ORDER NUMBER	NUMBER PIECES	2-YIELD MPA	Pt. MPA	ULTIMATE MPA	ELONG 203mm	BEND TEST	GRADE			
36064	39 PIECES 20'	285.4		459.9	33.0		A36			
C	MN	S	P	SI	CR	NI	MO	CU	V	NB
.13	.74	.019	.007	.21	.07	.10	.02	.32	.003	.001

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 A36-04 ASME SA36 QOS741D A709-00A 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

08/03/05
P.O.#2457



ROANOKE ELECTRIC STEEL CORPORATION

P.O. BOX 13948

ROANOKE, VIRGINIA 24038-3948

Test and Inspection Report

NO. 76840-5

ROANOKE

MILL METALS - NH

62 MAPLE STREET
MANCHESTER, NH 3103-0000

HRFS84

Date 9/21/04

HEAT NUMBER	SIZE	1-YIELD KSI	Pt. ULTIMATE KSI	ELONG 8 IN.	BEND TEST	GRADE				
JE1769	FLATS 5/8 X 4	43.8	65.7	32.5		A36				
PURCHASE ORDER NUMBER	NUMBER PIECES	2-YIELD KSI	Pt. ULTIMATE KSI	ELONG 8 IN.	BEND TEST	GRADE				
32188	60 PIECES 20'	42.8	65.6	33.8		A36				
HEAT NUMBER	SIZE	1-YIELD MPA	Pt. ULTIMATE MPA	ELONG 203mm	BEND TEST	GRADE				
JE1769	FLATS 15.9 X 101.6	302.0	453.0	32.5		A36				
PURCHASE ORDER NUMBER	NUMBER PIECES	2-YIELD MPA	Pt. ULTIMATE MPA	ELONG 203mm	BEND TEST	GRADE				
32188	60 PIECES 20'	295.1	452.3	33.8		A36				
C	MN	S	P	SI	CR	NI	MO	CU	V	NB
.11	.76	.030	.013	.21	.11	.09	.02	.39	.004	.003

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 A36-03A ASME SA36 QOS741D A709-00A 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

50/03/80
P.O.#2457

#10

HRF344



norambar

RAPPORT D'ESSAIS/TEST REPORT
 MÉTALLURGIE ET CONTRÔLE DE LA QUALITÉ/METALLURGICAL AND QUALITY CONTROL

S.1123A (REV. 10-2004)

C.P. 249
 CONTRECOEUR, QUÉBEC
 CANADA
 J0L 1C0

Date
 2005 01 11
 ANVR NO. JRDY

M04668

ANALYSE DE COULÉE/HEAT ANALYSIS															
No DE COULÉE HEAT NO.		C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Cb	Sn	N	GROSSEUR DU GRAIN GRAIN SIZE
M04668		0.19	1.30	.010	.036	.09	.35	.18	.10	.027	.000	.000	.014	.0105	
TREMPEABILITÉ JOMINY/JOMINY HARDENABILITY (HRC)															
No DE COULÉE HEAT NO.															TEMP.
M04668															
RÉSULTATS DE L'ESSAIS DE TRACTION TENSILE TEST RESULTS															
SECTION	LIMITÉ D'ÉLASTICITÉ YIELD	RÉSISTANCE À LA TRACTION TENSILE STRENGTH	ALLONGEMENT		FLEXION		DURETÉ HARDNESS (HB)								
			AREA	% ELONG	BEND	Dl									
3,00	53,00	78,5	27	27											
3,00	53,33	78,5	Bin.												
No DE COMMANDE DU CLIENT CUSTOMER ORDER NO		CUST PART NO.:										Nous certifions par le présente que le produit expédié a été soumis à des essais à partir d'échantillons prélevés sur le lot ou la quantité décrite, et qu'il est conforme aux normes ou au dessin, ou les deux à la fois. Sous réserve des méthodes standard de tenue des dossiers de la société les résultats de ces essais sont inscrits dans nos dossiers. We hereby certify that the material shipped on this order has been tested on the basis of samples taken from the lot or quantity described, found to be in accordance with the specification and/or drawing, that, subject to the company's standard practices of record keeping, the results are contained in its record. AUTORISÉ PAR AUTHORIZED BY Nathalie Fortin			
No DE COMMANDE DE Norambar Inc.		NORAMBAR PART NO.:													
ORDER NO.		30 0098 013 107													
CLIENT/CUSTOMER		DESCRIPTION ET NORME/DESCRIPTION & SPECIFICATION													
ACIER LEROUX INC. 1331 GRAHAM BELL BOUCHERVILLE QUE J4B 6A1		SIZE: 4.000X3/4.. 44W/50W CSA G40.21													
ATT: GENEVIEVE LAFOREST												IMPÉRIALE <input checked="" type="checkbox"/> MÉTRIQUE <input type="checkbox"/> IMPERIAL <input type="checkbox"/> METRIC <input type="checkbox"/>			



094000669



Tuesday, 25-Apr-2006

From:

Jessica Berg
Mill Metals Corporation
62 Maple Street
Manchester, NH
Phone : (603) 626-7351

To:

LMC LIGHT IRON INC
P.O. Box 521
Limerick, ME
04048
Phone : 207-793-9957

Document Summary Cover Page

The MTRs are printed in the following order:

#	Heat#	Item Number	Description
1	JE6640	HRF384	FLAT HR 3/8 X 4
2	JE6512	HRF124	FLAT HR 1/2 X 4
3	M06273	HRF584	FLAT HR 5/8 X 4
4	B31841	HRF344	FLAT HR 3/4 X 4
5	B30560	A44516	ANGLE HR 4 X 4 X 5/16

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MTRs produced using MetalTrace (TM) - Visit www.TraceApps.com or call toll-free - 1-866-429-7007.



ROANOKE ELECTRIC STEEL CORPORATION

P.O. BOX 13948

ROANOKE, VIRGINIA 24038-3948

Test and Inspection Report

NO. 94703-5

ROANOKE

MILL METALS - NH

62 MAPLE STREET
MANCHESTER, NH 3103-0000

HRF384

Date 7/22/05

HEAT NUMBER	SIZE	1-YIELD KSI	Pt. KSI	ULTIMATE KSI	ELONG 8 IN. TEST	BEND TEST	GRADE			
JE6640	FLATS 3/8 X 4	43.2		65.0	36.3		A36			
PURCHASE ORDER NUMBER	NUMBER PIECES	2-YIELD KSI	Pt. KSI	ULTIMATE KSI	ELONG 8 IN. TEST	BEND TEST	GRADE			
36328	51 PIECES 20'	41.9		64.6	34.5		A36			
HEAT NUMBER	SIZE	1-YIELD MPA	Pt. MPA	ULTIMATE MPA	ELONG 203mm TEST	BEND TEST	GRADE			
JE6640	FLATS 9.5 X 101.6	297.9		448.2	36.3		A36			
PURCHASE ORDER NUMBER	NUMBER PIECES	2-YIELD MPA	Pt. MPA	ULTIMATE MPA	ELONG 203mm TEST	BEND TEST	GRADE			
36328	51 PIECES 20'	288.9		445.4	34.5		A36			
C	MN	S	P	SI	CR	NI	MO	CU	V	NB
.12	.69	.023	.005	.21	.05	.09	.02	.26	.002	.001

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 A36-04 ASME SA36 QOS741D A709-00A 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

50/29/05
P.O.#2457



ROANOKE ELECTRIC STEEL CORPORATION

P.O. BOX 13948

ROANOKE, VIRGINIA 24038-3948

Test and Inspection Report

NO. 93455-3

ROANOKE

MILL METALS - NH

62 MAPLE STREET
MANCHESTER, NH

3103-0000

4RF124

Date 6/30/05

HEAT NUMBER	SIZE	1-YIELD KSI	Pt. KSI	ULTIMATE KSI	ELONG 8 IN. TEST	BEND TEST	GRADE			
JE6512	FLATS 1/2 X 4	43.5		68.8	34.8		A36			
PURCHASE ORDER NUMBER	NUMBER PIECES	2-YIELD KSI	PT. KSI	ULTIMATE KSI	ELONG 8 IN. TEST	BEND TEST	GRADE			
36064	39 PIECES 20'	43.8		68.8	32.5		A36			
HEAT NUMBER	SIZE	1-YIELD MPA	Pt. MPA	ULTIMATE MPA	ELONG 203mm TEST	BEND TEST	GRADE			
JE6512	FLATS 12.7 X 101.6	299.9		474.4	34.8		A36			
PURCHASE ORDER NUMBER	NUMBER PIECES	2-YIELD MPA	PT. MPA	ULTIMATE MPA	ELONG 203mm TEST	BEND TEST	GRADE			
36064	39 PIECES 20'	302.0		474.4	32.5		A36			
C	MN	S	P	SI	CR	NI	MO	CU	V	NB
.15	.83	.024	.009	.19	.08	.10	.03	.31	.003	.005

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 A36-04 ASME SA36 QOS741D A709-00A 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

7/29/05
P.O.#2457



norambar inc.

C.P. 249

CONTRECOEUR, QUÉBEC

DATE

05 08 04

M06273

CANADA



AN/YR MO. JR/DY

JOL 100

RAPPORT D'ESSAIS/TEST REPORT

MÉTALLURGIE ET CONTRÔLE DE LA QUALITÉ/METALLURGICAL AND QUALITY CONTROL

S1123A (REV. 08-04)

ANALYSE DE COULÉE/HEAT ANALYSIS											GROSSEUR DU GRAIN GRAIN SIZE		
No DE COULÉE HEAT NO.	C	Mn	P	S	SI	Cu	Ni	Cr	Mo	V	Cb / Nb	Sn	N
M06273	0.21	1.36	.011	.041	.11	.41	.090	.063	.019	.000	.000	.013	.0090
IMPERIABILITÉ JOK'NY/JCKINY HARDENABILITY (HRC)													
TEMP.													
RÉSULTATS DE L'ESSAI DE TENSION TENSILE TEST RESULTS													
No DE REVÊL HEAT NO.	SECTION		ÉLÉMENT COMPOSITION		ALIGNEMENT		FLEXION		ÉCART DIFFERENCE		LIGÈRE FAK-MESH, JHD		
	AREA	YIELD	TENSILE	ELONGATION	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT			
M06273	2.50 2.50	55.60 55.60	83.20 83.20	21 25	21 25								
  <p>094006984</p>													
<p>CLIENT/CUSTOMER: norambar inc. MG 2368 18</p> <p>ACIER LEROUX INC. 1331 GRAHAM BELL BOUCHERVILLE QUE J4B 6A1</p> <p>ATT: GENEVIEVE LAFOREST</p>													
<p>DESCRIPTION DE NORMES/DESIGNATION & SPECIFICATION</p> <p>SIZE: 4.000X5/8.."</p> <p>44W/50W CSA G40.21</p> <p>HRFS84</p>													
<p>IMPERIAL <input checked="" type="checkbox"/> METRIC <input type="checkbox"/></p> <p>AUTHORIZED BY: Nathalie Fortin</p>													

W-032134

Chemical and Physical Test Report
MADE IN CANADA



WHITBY STEEL MILL
HOPKINS STREET SOUTH
WHITBY ON L1N 5T1 CAN
(905) 668-8811

SHIP TO MILL METALS CORPORATION 603-626-7351 62 MAPLE ST. MANCHESTER, NH 03103	INVOICE TO MILL STEEL CORP. ATTN-ACCTS PAYABLE 62 MAPLE STREET MANCHESTER, NH 03103	SHIP DATE 04/08/05 CUST. ACCOUNT NO 60076023
--	---	---

SHAPE & SIZE	GRADE	SPECIFICATION	SALES ORDER	CUSTOMER NUMBER
F3/4 X 4	A36	C.S.A. G40.21-98 44W/50W; ASTM A36 - 97a ASTM A709 - 97b ASME SA36 (A	5030556-03	34737
HEAT I.D. B31841	C .16	S .026	Si .18	Cu .34
	P .011	Mn .18	Cr .13	Ni .00000
		Mo .045	V .027	Co .00000
		Nb <.008	B .0004	Ti .00000
		Sn .013	Al .000	Zr .000
		N .0117		C .00000
		As <.0004		Eqv .375

HRF 344

Mechanical Test: Yield 60134 PSI, 414.61 MPA Tensile: 75834 PSI, 522.86 MPA %E: 24.0/6in, 24.0/200MM
Customer Requirements SOURCE: WHITBY BILLETS CASTING- STRAND CAST

This material, including the billets, was produced and manufactured in Canada.
A.J. Turner
Quality Assurance Manager
MIL Group

THE ABOVE FIGURES ARE CERTIFIED EXTRACTS FROM THE ORIGINAL CHEMICAL AND PHYSICAL TEST RECORDS AS CONTAINED IN THE PERMANENT RECORDS OF COMPANY.

[Signature]
Mgr. Metallurg. Svcs.
WHITBY STEEL MILL

W-034560

Chemical and Physical Test Report

MADE IN CANADA



WHITBY STEEL MILL
HOKINS STREET SOUTH
WHITBY ON L1N 5T1 CAN
(905) 688-8811

SHIP TO MILL METALS CORPORATION 603-626-7351 62 MAPLE ST. MANCHESTER, NH 03103	INVOICE TO MILL STEEL CORP. ATTN:ACCTS PAYABLE 62 MAPLE STREET MANCHESTER, NH 03103	SHIP DATE 08/02/05	CUST. ACCOUNT NO 60076023
---	--	------------------------------	-------------------------------------

SHAPE & SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST. PO. NUMBER
A2 1/2 X 2 1/2 X 3/16	A36	C.S.A. G40.21-98 44W/50W; ASTM: A36 - 97a ASTM A709- 97b ASME SA36 (A)	5050423-03	35604
WEAR-LD	C Mn P S Si Cu Ni Cr Mo V Nb N Sn Al Ti Zr Ca C Eq	.16 .81 .009 .015 .15 .38 .10 .11 .029 <.008 .0011 .0152 .013 .000 .00000 .000 .00000 .000 .00000 .000 .00000 .36		

Mechanical Test: Yield 56020 PSI, 386.24 MPA Tensile: 77671 PSI, 535.52 MPA %E: 28.8/8in, 28.8/200MM

Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST

Mechanical Test: Yield 56177 PSI, 387.33 MPA Tensile: 77547 PSI, 534.87 MPA %E: 27.5/8in, 27.5/200MM

Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST

SHAPE & SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST. PO. NUMBER
A4 X 4 X 5/16	A36	C.S.A. G40.21-98 44W/50W; ASTM: A36 - 97a ASTM A709- 97b ASME SA36 (A)	5050487-01	35608
HEAD-LD	C Mn P S Si Cu Ni Cr Mo V Nb N Sn Al Ti Zr Ca C Eq	.16 .91 .011 .023 .20 .37 .10 .17 .030 <.008 .000 .0118 .011 .000 .00000 .000 .00000 .000 .00000 .381		

Mechanical Test: Yield 53902 PSI, 371.64 MPA Tensile: 76198 PSI, 525.37 MPA %E: 23.8/8in, 23.8/200MM

Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST

Mechanical Test: Yield 54687 PSI, 377.05 MPA Tensile: 75688 PSI, 521.85 MPA %E: 22.5/8in, 22.5/200MM

Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST

A44516

This material, including the billets, was produced and manufactured in Canada.

A.J. Turner
Quality Assurance Manager
MIL Group

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.
WHITBY STEEL MILL



Tuesday, 25-Apr-2006

From:

Jessica Berg
Mill Metals Corporation
62 Maple Street
Manchester, NH
Phone : (603) 626-7351

To:

LMC LIGHT IRON INC
P.O. Box 521
Limerick, ME
04048
Phone : 207-793-9957

Document Summary Cover Page

The MTRs are printed in the following order:

#	Heat#	Item Number	Description
1	28531	A5312516	ANGLE HR 5 X 3-1/2 X 5/16

- CALL US FOR ALL YOUR METAL NEEDS -

MTRs produced using MetalTrace (TM) - Visit www.TraceApps.com or call toll-free - 1-866-429-7007.

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
2025 GREENTREE RD.- 2ND FLOOR
PITTSBURGH, PA 15220

METALS USA-PLATES & SHAPES-NE
10 TOWER ROAD
SEEKONK, MA 02771

TESTED IN **ASTM A6**
ACCORDANCE
WITH

INVOICE NO. **BSPT05300579** DATE **12/02/04** PO: **SKO874**
~~PRODUCT UNEQUAL ANGLES~~ Cust **M-1134 -0012** Prod Id: **4503500501**
 HEAT NO. **28531** 30 PCS GRADE **A36 -01**
 LENGTH **40'0"** SIZE **U 5 X 3-1/2 X 5/16 X 8.70**

AS312216

CHEMICAL ANALYSIS	TEST 1		TEST 2		TEST 3	
	IMPERIAL	METRIC	IMPERIAL	METRIC	IMPERIAL	METRIC
C						
Mn	.12					
P	.014					
S	.017					
Si	.15					
Cu	.25					
Ni	.14					
Cr	.19					
Mo	.057					
Cb	.000					
V	.000					
B						
Al						
Sn						
N						
Ti						
CI						
CE						

MECHANICAL PROPERTIES	TEST 1		TEST 2		TEST 3	
	IMPERIAL	METRIC	IMPERIAL	METRIC	IMPERIAL	METRIC
YIELD STRENGTH	48,565 PSI	335 MPa	48,354 PSI	333 MPa		
TENSILE STRENGTH	69,515 PSI	479 MPa	69,732 PSI	481 MPa		
ELONGATION	39.0 %	39.0 %	38.0 %	38.0 %		
GAUGE LENGTH	8 in	203 mm	8 in	203 mm		
BEND TEST DIAMETER	d	d	d	d		
BEND TEST RESULTS	sq in	sq mm	sq in	sq mm		
SPECIMEN AREA	%	%	%	%		
REDUCTION OF AREA	ft-lbs	J	ft-lbs	J		
IMPACT STRENGTH						
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	

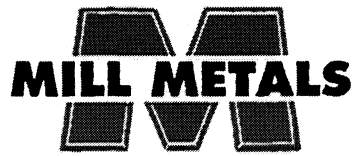
Customer Grade & Specs: **ASTMA36/ASMESA36 A709-36**
 This material was produced in accordance with Revision 0 dated 5/13/99 of the Bayou Steel Quality Manual and 10 CFR Part 21.
 METALS USA - SEEKONK - TEST REPC
 Customer: **Metals**
 Date: **12-21-04**
 Your P.O. #: **33433**
 Our Charge #: **27583**

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 *Timothy R. White*
 TIMOTHY R. WHITE, QUALITY ASSURANCE MANAGER

DIRECT ANY QUESTIONS OR NECESSARY CLARIFICATIONS CONCERNING
 THIS REPORT TO THE SALES DEPARTMENT.



Tuesday, 25-Apr-2006

From:

Jessica Berg
Mill Metals Corporation
62 Maple Street
Manchester, NH
Phone : (603) 626-7351

To:

LMC LIGHT IRON INC
P.O. Box 521
Limerick, ME
04048
Phone : 207-793-9957

Document Summary Cover Page

The MTRs are printed in the following order:

#	Heat#	Item Number	Description
1	JE6503	HRF144	FLAT HR 1/4 X 4
2	B31915	HRF384	FLAT HR 3/8 X 4
3	JE6734	HRF124	FLAT HR 1/2 X 4
4	M06273	HRF584	FLAT HR 5/8 X 4
5	JE6686	HRF344	FLAT HR 3/4 X 4

- CALL US FOR ALL YOUR METAL NEEDS -

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ROANOKE ELECTRIC STEEL CORPORATION

P.O. BOX 13948

ROANOKE, VIRGINIA 24038-3948

Test and Inspection Report

NO. 93554-3

ROANOKE

MILL METALS - NH

HRF144

62 MAPLE STREET
MANCHESTER, NH 3103-0000

Date 7/05/05

HEAT NUMBER	SIZE	1-YIELD KSI	Pt. KSI	ULTIMATE KSI	ELONG 8 IN. TEST	BEND TEST	GRADE			
JE6503	FLATS 1/4 X 4	47.6		69.5	30.0		A36			
PURCHASE ORDER NUMBER	NUMBER PIECES	2-YIELD KSI	PT. KSI	ULTIMATE KSI	ELONG 8 IN. TEST	BEND TEST	GRADE			
36107	150 PIECES 20'	48.5		70.0	28.8		A36			
HEAT NUMBER	SIZE	1-YIELD MPA	Pt. MPA	ULTIMATE MPA	ELONG 203mm TEST	BEND TEST	GRADE			
JE6503	FLATS 6.4 X 101.6	328.2		479.2	30.0		A36			
PURCHASE ORDER NUMBER	NUMBER PIECES	2-YIELD MPA	PT. MPA	ULTIMATE MPA	ELONG 203mm TEST	BEND TEST	GRADE			
36107	150 PIECES 20'	334.4		482.6	28.8		A36			
C	MN	S	P	SI	CR	NI	MO	CU	V	NB
.13	.72	.029	.012	.19	.11	.14	.03	.44	.003	.004

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 A36-04 ASME SA36 Q0S741D A709-00A 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.

Th
th

7/13/05
P.O.#2457

GERDAU AMERISTEEL
 WHITBY STEEL MILL
 HOPKINS STREET SOUTH
 WHITBY ON L1N5T1 CAN
 (905) 668-8811

Chemical and Physical Test Report
 MADE IN CANADA

W-035927

SHIP TO MILL METALS CORPORATION 603-626-7351 62 MAPLE ST. MANCHESTER, NH 03103		INVOICE TO MILL STEEL CORP. ATTN: ACCTS PAYABLE 62 MAPLE STREET MANCHESTER, NH 03103		SHIP DATE 07/06/05		CUST. ACCOUNT NO 60076023													
SHAPE & SIZE F3R X 4	GRADE A36	SPECIFICATION C.S.A. G40.21-98 44W/50W; ASTM: A36 - 97a ASTM A709- 97b ASME SA36 (A)																	
HEAT I.D. B31915	C .15	S .034	Si .17	Cu .34	Ni .13	Cr .09	Mo .040	V <.008	Nb <.008	B <.000	N .0106	Sn .011	Al .000	Ti .000	Zr .000	Ca .00000	C Eqv .357	SALES ORDER 5057492-04	CUST. P.O. NUMBER 35947
Mechanical Test: Yield 52012 PSI, 358.61 MPA		Tensile: 76203 PSI, 525.4 MPA %E: 28.8/8in, 28.8/200MM																	
Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST		%E: 28.8/8in, 28.8/200MM																	
Mechanical Test: Yield 52074 PSI, 359.04 MPA		Tensile: 75788 PSI, 522.54 MPA %E: 28.8/8in, 28.8/200MM																	
Customer Requirements SOURCE: WHITBY BILLETS CASTING: STRAND CAST																			

HRF384

This material, including the billets, was produced and manufactured in Canada.

A.J. Turner
 A.J. Turner
 Quality Assurance Manager
 Mill Group

THE ABOVE FIGURES ARE CERTIFIED EXTRACTS FROM THE ORIGINAL CHEMICAL AND PHYSICAL TEST RECORDS AS CONTAINED IN THE PERMANENT RECORDS OF COMPANY.

S. R. Esposito
 Mgr. Metallurg. Svcs.
 WHITBY STEEL MILL



ROANOKE ELECTRIC STEEL CORPORATION

P.O. BOX 13948

ROANOKE, VIRGINIA 24038-3948

Test and Inspection Report

NO. 93455-5
ROANOKE

MILL METALS - NH

62 MAPLE STREET
MANCHESTER, NH 3103-0000

HRF124

Date 6/30/05

HEAT NUMBER	SIZE	1-YIELD KSI	Pt. KSI	ULTIMATE KSI	ELONG 8 IN.	BEND TEST	GRADE			
JE6734	FLATS 1/2 X 4	42.1		66.7	31.8		A36			
PURCHASE ORDER NUMBER	NUMBER PIECES	2-YIELD KSI	Pt. KSI	ULTIMATE KSI	ELONG 8 IN.	BEND TEST	GRADE			
36064	39 PIECES 20'	41.4		66.7	33.0		A36			
HEAT NUMBER	SIZE	1-YIELD MPA	Pt. MPA	ULTIMATE MPA	ELONG 203mm	BEND TEST	GRADE			
JE6734	FLATS 12.7 X 101.6	290.3		459.9	31.8		A36			
PURCHASE ORDER NUMBER	NUMBER PIECES	2-YIELD MPA	Pt. MPA	ULTIMATE MPA	ELONG 203mm	BEND TEST	GRADE			
36064	39 PIECES 20'	285.4		459.9	33.0		A36			
C	MN	S	P	SI	CR	NI	MO	CU	V	NB
.13	.74	.019	.007	.21	.07	.10	.02	.32	.003	.001

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 A36-04 ASME SA36 QOS741D A709-00A 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 report is the property of Roanoke Electric Steel Corporation and is loaned to you for your information only. It is not to be distributed outside your organization. If you have any questions, please contact your account manager.

7/13/05
P.O.#2457



norambar inc.

C.P. 249

CONTRECOEUR, QUÉBEC

DATE

05 08 04

M06273

CANADA

AN/YR MO. JR/DY

RAPPORT D'ESSAIS/TEST REPORT

MÉTALLURGIE ET CONTRÔLE DE LA QUALITÉ/METALLURGICAL AND QUALITY CONTROL

S1123A (REV. 08-04)

ANALYSE DE COULÉE/HEAT ANALYSIS																																				
NO DE COULÉE HEAT NO.	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Cb / Nb	Sn	N	CROSSEUR DU GRAIN GRAIN SIZE																						
M06273	0.21	1.36	.011	.041	.11	.41	.090	.063	.019	.000	.000	.013	.0090																							
TEMPERABILITÉ JCMXNY/JCMXNY HARDENABILITY (HRC)																																				
NO DE COULÉE HEAT NO.	TEMP.																																			
<p>RÉSULTATS DE L'ESSAI DE TRACTION TENSILE TEST RESULTS</p> <table border="1"> <thead> <tr> <th rowspan="2">ÉPESSEUR THICKNESS</th> <th rowspan="2">DIA. DE LA TIGNE ROD DIAMETER</th> <th colspan="2">ÉLONGATION ELONGATION</th> <th colspan="2">FLÈCHE BEND</th> </tr> <tr> <th>AVANT BEFORE</th> <th>APRÈS AFTER</th> <th>AVANT BEFORE</th> <th>APRÈS AFTER</th> </tr> </thead> <tbody> <tr> <td>2.50</td> <td>55.60</td> <td>83.20</td> <td>21</td> <td></td> <td></td> </tr> <tr> <td>2.50</td> <td>55.60</td> <td>83.20</td> <td>25</td> <td></td> <td></td> </tr> </tbody> </table>															ÉPESSEUR THICKNESS	DIA. DE LA TIGNE ROD DIAMETER	ÉLONGATION ELONGATION		FLÈCHE BEND		AVANT BEFORE	APRÈS AFTER	AVANT BEFORE	APRÈS AFTER	2.50	55.60	83.20	21			2.50	55.60	83.20	25		
ÉPESSEUR THICKNESS	DIA. DE LA TIGNE ROD DIAMETER	ÉLONGATION ELONGATION		FLÈCHE BEND																																
		AVANT BEFORE	APRÈS AFTER	AVANT BEFORE	APRÈS AFTER																															
2.50	55.60	83.20	21																																	
2.50	55.60	83.20	25																																	
<p>REMARQUES / REMARKS: 30 0098 013 100</p>																																				
<p>DESCRIPTION DE L'ÉPREUVE / SPECIFICATION: 4.000X5/8.."</p>																																				
<p>CLIENT/CUSTOMER: ACIER LEROUX INC. 1331 GRAHAM BELL BOUCHERVILLE QUE J4B 6A1</p>																																				
<p>ATTENTION: GENEVIEVE LAFOREST</p>																																				
<p>UNITS: <input checked="" type="checkbox"/> IMPERIAL <input type="checkbox"/> METRIC</p>																																				
<p>AUTHORIZED BY: Nathalie Fortin</p>																																				



NOTES: ...



ROANOKE ELECTRIC STEEL CORPORATION

P.O. BOX 13948

ROANOKE, VIRGINIA 24038-3948

Test and Inspection Report

NO. 93554-4

ROANOKE

MILL METALS - NH

62 MAPLE STREET
MANCHESTER, NH

3103-0000

HRF344

Date 7/05/05

HEAT NUMBER	SIZE	1-YIELD KSI	Pt. KSI	ULTIMATE KSI	ELONG 8 IN. TEST	BEND TEST	GRADE			
JE6686	FLATS 3/4 X 4	41.8		63.2	31.9		A36			
PURCHASE ORDER NUMBER	NUMBER PIECES	2-YIELD KSI	Pt. KSI	ULTIMATE KSI	ELONG 8 IN. TEST	BEND TEST	GRADE			
36107	24 PIECES 20'	41.1		62.7	32.5		A36			
HEAT NUMBER	SIZE	1-YIELD MPA	Pt. MPA	ULTIMATE MPA	ELONG 203mm TEST	BEND TEST	GRADE			
JE6686	FLATS 19.1 X 101.6	288.2		435.8	31.9		A36			
PURCHASE ORDER NUMBER	NUMBER PIECES	2-YIELD MPA	Pt. MPA	ULTIMATE MPA	ELONG 203mm TEST	BEND TEST	GRADE			
36107	24 PIECES 20'	283.4		432.3	32.5		A36			
C	MN	S	P	SI	CR	NI	MO	CU	V	NB
.12	.77	.020	.005	.32	.05	.08	.02	.31	.003	.001

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.

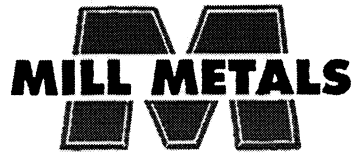
Approved ABS QA Mill. Certificate No. 00NN10108-X.

This material was melted and manufactured in the USA by basic Electric Furnace processes to meet specification: ASTM A36-04 ASME SA36 QOS741D A709-00A 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 report.

7/13/05
P.O.#2457



Tuesday, 25-Apr-2006

From:

Jessica Berg
Mill Metals Corporation
62 Maple Street
Manchester, NH
Phone : (603) 626-7351

To:

LMC LIGHT IRON INC
P.O. Box 521
Limerick, ME
04048
Phone : 207-793-9957

Document Summary Cover Page

The MTRs are printed in the following order:

#	Heat#	Item Number	Description
1	G5-0398	A55516	ANGLE HR 5 X 5 X 5/16
2	G5-1468	A64516	ANGLE HR 6 X 4 X 5/16

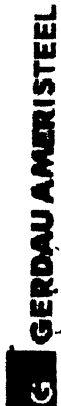
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G-050063

Chemical and Physical Test Report

MADE IN THE UNITED STATES



CARTERSVILLE STEEL MILL
384 OLD GRASSDALE RD NE
CARTERSVILLE GA 30121 USA
(770) 387-3300

SHIP TO MILL METALS CORPORATION 603-626-7351 62 MAPLE ST. MANCHESTER, NH 03103		INVOICE TO MILL STEEL CORP. ATTN-ACCTS PAYABLE 62 MAPLE STREET MANCHESTER, NH 03103		SHIP DATE 05/06/05	CUST. ACCOUNT NO 60076023
---	--	--	--	------------------------------	-------------------------------------

SHAPE & SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST. P.O. NUMBER
A5 X 5 X 5/16	A36	ASTM A36-01, ASTM A529 GR50-01, SA-36 01, ASTM A709 GR36-01B	5040371-01	35164
HEAT I.D. G5-0398	C	Mn .18, P .035, S .18, Si .09, Cu .34, Ni .10, Cr .09, Mo .025, V .001, Nb .003, N .0008, B .0100, Sn .012, Al .002, C Eqv .412		

Mechanical Test: Yield 54700 PSI, 377.14 MPA Tensile: 79100 PSI, 545.38 MPA %E: 23.6/8in, 23.6/200MM
 Mechanical Test: Yield 54200 PSI, 373.7 MPA Tensile: 78900 PSI, 544 MPA %E: 25.0/8in, 25.0/200MM

SHAPE & SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST. P.O. NUMBER
A6 X 4 X 5/16	A36	ASTM A36-01, SA-36 01, ASTM A709 GR36-01B	5040371-02	35164
HEAT I.D. G5-1468	C	Mn .17, P .04, S .011, Si .022, Cu .27, Ni .10, Cr .05, Mo .028, V .001, Nb .003, N .0003, B .0099, Sn .010, Al .002, C Eqv .351		

Mechanical Test: Yield 49900 PSI, 344.05 MPA Tensile: 71900 PSI, 495.73 MPA %E: 26.5/8in, 26.5/200MM
 Mechanical Test: Yield 49000 PSI, 337.84 MPA Tensile: 69500 PSI, 479.19 MPA %E: 28.0/8in, 28.0/200MM

SHAPE & SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST. P.O. NUMBER
C12 X 20.7#	A36	ASTM A36-01, ASTM A529 GR50-01, SA-36 01, ASTM A709 GR36-01B	5040371-04	35164
HEAT I.D. G5-0073	C	Mn .09, P 1.23, S .012, Si .022, Cu .37, Ni .10, Cr .07, Mo .025, V .035, Nb .004, N .0006, B .0108, Sn .012, Al .003, C Eqv .357		

Mechanical Test: Yield 55100 PSI, 379.9 MPA Tensile: 71700 PSI, 494.35 MPA %E: 24.5/8in, 24.5/200MM
 Mechanical Test: Yield 54600 PSI, 376.45 MPA Tensile: 70000 PSI, 482.63 MPA %E: 23.3/8in, 23.3/200MM

A55516

A64516

This material, including the billets, was produced and manufactured in the United States of America.

THE ABOVE FIGURES ARE CERTIFIED EXTRA CT'S FROM THE ORIGINAL CHEMICAL AND PHYSICAL TEST RECORDS AS CONTAINED IN THE PERMANENT RECORDS OF COMPANY.

A.J. Turner
A.J. Turner
Quality Assurance Manager
IMI Group

John May

Mgr. Metallurg. Svcs.
CARTERSVILLE STEEL MILL

The Lincoln Electric Company
22807 St. Clair Avenue
Cleveland, Ohio 44117-1189

CERTIFICATE OF CONFORMANCE
(APPLIES ONLY TO U.S. PRODUCTS)



Product: Murex® 7018 MR
Classification: E7018-H4-R, E7018
Specification: AWS A5.1-2004, ASME SFA-5.1
Test Completed: February 21, 2006

[1 Year]

Operating Settings

	AWS/ASME Requirements	RESULTS			
		5/32 inch AC (3/4)	5/32 inch DC+ (3/4)	3/16 inch AC (3/4)	3/16 inch DC+ (3/4)
Electrode Size		19 (3/4)	19 (3/4)	19 (3/4)	19 (3/4)
Plate Thickness, mm (in.)		175	180	240	210
Current, amps		147	147	16/8	147
Preheat Temp. °C (°F)	(225 min.)	120 (250)	120 (250)	120 (250)	120 (250)
Interpass Temp. °C (°F)	(225 - 350)	165 (325)	165 (325)	165 (325)	175 (350)
Mechanical properties of the weld deposits (in the as-welded condition)					
Tensile Strength, MPa (ksi)	(70 min.)	540 (78)	530 (76)	550 (80)	540 (78)
Yield Strength, MPa (ksi)	(58 min.)	440 (64)	430 (62)	450 (68)	490 (65)
Elongation, %	22 min.	30	34	30	31
Average Hardness Rockwell B	Not Required	84	83	86	84
Avg. Charpy V-notch Impact Properties Joules @ -20 °C (ft-lb) @ -20 °F	(20 min.)	181 (119)	285 (218)	143 (108)	157 (116)
Chemical analysis of the weld deposit (weight %)		148,181,176 (109,119,128)	178,354,354 (131,261,261)	130,146,153 (96,108,113)	138,164,170 (102,121,125)

	AWS/ASME Requirements	RESULTS			
		5/32 inch AC (3/4)	5/32 inch DC+ (3/4)	3/16 inch AC (3/4)	3/16 inch DC+ (3/4)
C	0.15 max.	0.05	0.04	0.05	0.05
Mn	1.60 max.	1.09	1.11	1.12	1.19
Si	0.75 max.	0.44	0.41	0.42	0.44
S	0.035 max.	0.007	0.007	0.011	0.010
P	0.035 max.	0.010	0.010	0.012	0.013
Cr	0.20 max.	0.05	0.05	0.04	0.04
Ni	0.30 max.	0.03	0.03	0.02	0.02
Mo	0.30 max.	0.01	0.01	0.01	0.01
V	0.08 max.	0.00	0.00	0.00	0.00
Mn+Ni+Cr+Mo+V	1.75 max.	1.18	1.20	1.19	1.26
Coating Moisture % - as received	0.3 max.	0.0	0.0	0.0	0.0
- exposed	0.4 max.	Not Required	Not Required	Not Required	Not Required

The electrode diameters required for this classification are 5/32", 3/16", and 1/4". The 3/32", 1/8" and 7/32" sizes will also meet these requirements. The 3/32" moisture check as-received is 0.1. The 3/32" is classified as E7018-H4, per AWS 5.1-2004. The 1/8" moisture check as-received is 0.1. The 1/8" moisture check 9 hour exposed is 0.2.

Radiographic Test: Grade 1: Met requirements. Fillet Weld Test (positions as required): Met requirements. Test assembly constructed of ASTM A56. The reported Impact Property values exceed 211 ft-lb which is the upper value of the verified range for the test equipment used, and these results should therefore be interpreted as approximate, per ASTM E23-86.

Results below the detection limits of the instrument or lower than the precision required by specification are reported as zero. Strength values in SI units are reported to the nearest 10 MPa converted from actual data. Preheat and interpass temperature values in SI units are reported to the nearest 5 degrees.

APR

CERTIFICATE OF CONFORMANCE
(APPLIES ONLY TO U.S. PRODUCTS)

The Lincoln Electric Company
22801 St. Clair Avenue
Cleveland, Ohio 44117-1198

Product: Murex® 7018 MR
Classification: E7018-H4-R, E7018
Specification: AWS A5.1-2004, ASME SFA-6.1
Test Completed: February 21, 2006



[1 Year]

Operating Settings

	AWS/ASME Requirements	RESULTS	
		1/4 inch AC	1/4 inch DC+
Electrode Size			1/4 inch DC+
Polarity			25 (1)
Plate Thickness, mm (in.)		25 (1)	325
Current, amps		340	18/8
Passes/Layers		18/8	120 (250)
Preheat Temp. °C (°F)	(225 min.)	120 (250)	165 (325)
Interpass Temp. °C (°F)	(225 - 350)	165 (325)	
Mechanical properties of the weld deposits (in the as-welded condition)			
Tensile Strength, MPa (ksi)	(70 min.)	530 (77)	530 (77)
Yield Strength, MPa (ksi)	(58 min.)	430 (62)	440 (64)
Elongation, %	22 min.	30	30
Average Hardness Rockwell B	Not Required	84	84
Avg. Charpy V-notch Impact Properties Joules @ -29 °C (0-lbf @ -20 °F)	(20 min.)	139 (102)	164 (121)
		126,130,160 (93,96,118)	156,165,172 (115,122,127)

Chemical analysis of the weld deposit

(weight %)	Requirements	Results
C	0.15 max.	0.06
Mn	1.60 max.	1.19
Si	0.75 max.	0.52
S	0.036 max.	0.007
P	0.035 max.	0.012
Cr	0.20 max.	0.03
Ni	0.30 max.	0.02
Mo	0.30 max.	0.01
V	0.08 max.	0.00
Mn+Ni+Cr+Mo+V	1.75 max.	1.25
Coating Moisture % - as received	0.3 max.	0.1
- exposed	0.4 max.	0.2

Size (in.)	Requirement	Results (grit/B)	Alta Humid (hr)
3/32"	DC+	4.0 max.	1.4
1/4"	DC+	4.0 max.	3.8

Diffusible Hydrogen, mL/100g at STP (AWS A4.3-93)

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 data shown, the results of which are shown. 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 according to the Quality System Program of the Lincoln Electric Company, Cleveland, Ohio, U.S.A., which meets the requirements of ISO9001, NCA3800, ANISPAWS A5.01, JIS Z9902, and other specification and Military requirements, as applicable. The Quality System Program has been approved by ASME, ABS, and VdTUV.

David A. Fink
David A. Fink, Manager, Compliance Engineering,
Consumable R&D Department
Date: 22 Feb 2006

The Lincoln Electric Company
22801 St. Clair Avenue
Cleveland, Ohio 44117-1189

CERTIFICATE OF CONFORMANCE
(APPLIES ONLY TO U.S. PRODUCTS)



Product: Milurex® 7018 MR
Classification: E7018-H4-R, E7018
Specification: AWS A5.1-2004, ASME SFA-5.1
Test Completed: February 21, 2006

[1 Year]

Operating Settings

	AWS/ASME Requirements	RESULTS			
		5/32 inch AC	5/32 inch DC+	3/16 inch AC	3/16 inch DC+
Electrode Size		19 (3/4)	19 (3/4)	19 (3/4)	19 (3/4)
Polarity		175	180	240	210
Plate Thickness, mm (in.)		14/7	14/7	16/8	14/7
Current, amps		120 (250)	120 (250)	120 (250)	120 (250)
Passes/Layers		165 (325)	165 (325)	165 (325)	175 (350)
Preheat Temp. °C (°F)	(225 min.)				
Interpass Temp. °C (°F)	(225 - 350)				

Mechanical properties of the weld deposits (in the as-welded condition)

Tensile Strength, MPa (ksi)	540 (78)	530 (76)	550 (80)	540 (78)
Yield Strength, MPa (ksi)	440 (64)	430 (62)	460 (66)	490 (65)
Elongation, %	30	34	30	31
Average Hardness Rockwell B	84	83	86	84
Avg. Charpy V-notch Impact Properties Joules @ -29 °C (ft-lbf @ -30 °F)	161 (118)	285 (218)	143 (106)	157 (116)
Chemical analysis of the weld deposit (weight %)	148,161,175 (109,119,129)	178,354,354 (131,261,261)	130,146,153 (96,108,113)	138,164,170 (102,121,125)

	RESULTS			
	0.05	0.04	0.05	0.05
C	0.05	0.04	0.05	0.05
Mn	1.09	1.11	1.12	1.19
Si	0.44	0.41	0.42	0.44
S	0.035 max.	0.007	0.011	0.010
P	0.035 max.	0.010	0.012	0.013
Cr	0.20 max.	0.05	0.04	0.04
Ni	0.30 max.	0.03	0.02	0.02
Mo	0.30 max.	0.01	0.01	0.01
V	0.06 max.	0.00	0.00	0.00
Mn+Ni+Cr+Mo+V	1.75 max.	1.18	1.19	1.26
Coating Moisture % - as received	0.3 max.	0.0	Not Required	Not Required
	0.4 max.	Not Required	Not Required	Not Required

The electrode diameters required to be tested for this classification are 5/32", 3/16", and 1/4". The 3/32", 1/8" and 7/32" sizes will also meet these requirements. The 3/32" moisture check as-received is 0.1. The 3/32" is classified as E7018-H4, per AWS 5.1-2004. The 1/8" moisture check as-received is 0.1. The 1/8" moisture check 9 hour exposed is 0.2.

Radio-graphic Test: Grade 1; Met requirements. Fillet Weld Test (positions as required): Met requirements.
Test assembly constructed of ASTM A36.
This reported impact property values exceed 211 ft-lbs which is the upper value of the verified range for the test equipment used, and these results should therefore be interpreted as approximate, per ASTM E23-06.
Results below the detection limits of the instrument or lower than the precision required by specification are reported as zero.
Strength values in SI units are reported to the nearest 10 MPa converted from actual data. Preheat and interpass temperature values in SI units are reported to the nearest 5 degrees.

CERTIFICATE OF CONFORMANCE
(APPLIES ONLY TO U.S. PRODUCTS)

The Lincoln Electric Company
22801 St. Clair Avenue
Cleveland, Ohio 44117-1199

Product: Murex® 7018 MR
Classification: E7018-H4-R, E7018
Specification: AWS A5.1-2004, ASME SFA-5.1
Test Completed: February 21, 2006



[1 Year]

Operating Settings

Electrode Size Polarity Plate Thickness, mm (in.) Current, amps Pulses/Layers Preheat Temp. °C (°F) Interpass Temp. °C (°F)	AWS/ASME Requirements	RESULTS	
		1/4 Inch AC 25 (1) 340 18/9 120 (250) 165 (325)	1/4 Inch DC+ 25 (1) 325 18/9 120 (250) 165 (325)
(225 min.) (225 - 350)			

Mechanical Properties of the weld deposits (in the as-welded condition)

Tensile Strength, MPa (ksi) Yield Strength, MPa (ksi) Elongation, % Average Hardness Rockwell B	(70 min.) (58 min.) 22 min. Not Required	530 (76) 430 (62) 30 84	530 (77) 440 (64) 30 84
Avg. Charpy V-notch Impact Properties Joules @ -20 °C (ft.-lb @ -20 °F)	(20 min.)	139 (102) 128, 130, 160 (93, 96, 118)	164 (121) 156, 165, 172 (115, 122, 127)

Chemical analysis of the weld deposit

C Mn Si S P Cr Ni Mo V Mn+Ni+Cr+Mo+V	0.15 max. 1.80 max. 0.75 max. 0.035 max. 0.035 max. 0.20 max. 0.30 max. 0.30 max. 0.08 max. 1.75 max.	0.06 1.19 0.52 0.007 0.012 0.03 0.02 0.01 0.00 1.25	0.05 1.17 0.50 0.007 0.012 0.03 0.02 0.01 0.00 1.23

Size (in.)	Requirement	Results	Abs. Humidity
3/32"	4.0 max.	1.4	38
1/4"	4.0 max.	3.9	29

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 conducted on the data shown, the results of which are shown. 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 according to the Quality System Program of the Lincoln Electric Company, Cleveland, Ohio, U.S.A., which meets the requirements of ISO9001, NCA3800, AWS/AWS A5.01, JIS Z9902, and other specification and Military requirements, as applicable. The Quality System Program has been approved by ASME, ABS, and VOTUV.

Philip J. Woodring
Philip J. Woodring, Certification Supervisor
Date
David A. Fink
David A. Fink, Manager, Compliance Engineering,
Consumable R&D Department
Date
22 Feb 2006

The Lincoln Electric Company
22801 St. Clair Avenue
Cleveland, Ohio 44117-1188

CERTIFICATE OF CONFORMANCE
(APPLIES ONLY TO U.S. PRODUCTS)



Product: Murex® 7018 M/R
Classification: E7018-H4-R, E7018
Specification: AWS A5.1-2004, ASME SFA-5.1
Test Completed: February 21, 2006

[1 Year]

Operating Settings

	AWS/AISME Requirements		RESULTS			
	5/32 inch AC (3/4)	5/32 inch DC+ (3/4)	5/32 inch AC (3/4)	5/32 inch DC+ (3/4)	3/16 inch AC (3/4)	3/16 inch DC+ (3/4)
Electrode Size	19 (3/4)	19 (3/4)	19 (3/4)	19 (3/4)	19 (3/4)	19 (3/4)
Polarity	175	147	160	147	240	210
Plate Thickness, mm (in.)	120 (250)	120 (250)	120 (250)	120 (250)	120 (250)	120 (250)
Current, amps	165 (325)	165 (325)	165 (325)	165 (325)	165 (325)	165 (325)
Preheat Temp. °C (°F)						
Interpass Temp. °C (°F)						

Mechanical properties of the weld deposits (in the as-welded condition)

	5/32 inch AC (3/4)	5/32 inch DC+ (3/4)	5/32 inch AC (3/4)	5/32 inch DC+ (3/4)	3/16 inch AC (3/4)	3/16 inch DC+ (3/4)
Tensile Strength, MPa (ksi)	540 (78)	530 (76)	550 (80)	550 (80)	550 (80)	540 (79)
Yield Strength, MPa (ksi)	440 (64)	430 (62)	450 (66)	450 (66)	450 (66)	450 (66)
Elongation, %	30	34	30	30	30	31
Average Hardness Rockwell B	84	83	85	85	85	84
Avg. Charpy V-notch Impact Properties Joules @ -20 °C (ft-lb) @ -20 °F	161 (119)	285 (218)	143 (106)	143 (106)	143 (106)	157 (116)
Chemical analysis of the weld deposit (weight %)	149,161,175 (109,118,129)	178,354,354 (131,261,261)	130,146,153 (96,108,113)	130,146,153 (96,108,113)	130,146,153 (96,108,113)	138,164,170 (102,121,125)

Coating Moisture % - as received

	5/32 inch AC (3/4)	5/32 inch DC+ (3/4)	5/32 inch AC (3/4)	5/32 inch DC+ (3/4)	3/16 inch AC (3/4)	3/16 inch DC+ (3/4)
Coating Moisture % - as received	0.05	0.04	0.05	0.04	0.05	0.05
Coating Moisture % - exposed	1.09	1.11	1.12	1.11	1.12	1.19
	0.44	0.41	0.42	0.41	0.42	0.44
	0.007	0.007	0.011	0.007	0.011	0.010
	0.035 max.	0.010	0.012	0.010	0.012	0.013
	0.20 max.	0.05	0.04	0.05	0.04	0.04
	0.30 max.	0.03	0.02	0.03	0.02	0.02
	0.30 max.	0.01	0.01	0.01	0.01	0.01
	0.08 max.	0.00	0.00	0.00	0.00	0.00
	1.75 max.	1.18	1.18	1.20	1.18	1.26
	0.3 max.	0.0	0.0	0.0	0.0	0.0
	0.4 max.	Not Required	Not Required	Not Required	Not Required	Not Required

The electrode diameters required to be tested for this classification are 5/32", 3/16", and 1/4". The 3/32", 1/8" and 7/64" sizes will also meet these requirements. The 3/32" moisture check as-received is 0.1. The 3/32" is classified as E7018-H4, per AWS 5.1-2004. The 1/8" moisture check as-received is 0.1. The 1/8" moisture check 8 hour exposed is 0.2.

Radiographic Test: Grade 1: Met requirements.
Test assembly constructed of ASTM A36.
The reported Impact Property values exceed 211 ft-lb which is the upper value of the verified range for the test equipment used, and these results should therefore be interpreted as approximate, per ASTM E23-06.

Results below the detection limits of the instrument or lower than the precision required by specification are reported as zero. Strength values in SI units are reported to the nearest 10 MPa converted from actual data. Preheat and interpass temperature values in SI units are reported to the nearest 5 degrees.

AGN

The Lincoln Electric Company
22801 SL Clair Avenue
Cleveland, Ohio 44117-1199

CERTIFICATE OF CONFORMANCE
(APPLIES ONLY TO U.S. PRODUCTS)



Product: Murex® 7018 MR
Classification: E7018-H4-R, E7018
Specification: AWS A5.1-2004, ASME SFA-6.1
Test Completed: February 21, 2006

(1 Year)

Operating Settings

	AWS/ASME Requirements	RESULTS
Electrode Size	1/4 inch	1/4 inch
Polarity	DC+	DC+
Plate Thickness, mm (in.)	25 (1)	25 (1)
Current, amps	340	325
Passes/Layers	18/9	18/9
Preheat Temp, °C (°F)	120 (250)	120 (250)
Interpass Temp, °C (°F)	165 (325)	165 (325)
Mechanical properties of the weld deposits (in the as-welded condition)		
Tensile Strength, MPa (ksi)	530 (76)	530 (77)
Yield Strength, MPa (ksi)	430 (62)	440 (64)
Elongation, %	30	30
Average Hardness Rockwell B	84	84
Avg. Charpy V-notch Impact Properties	139 (102)	164 (121)
Joules @ -29 °C (0-lbf @ -20 °F)	126, 130, 160 (93, 96, 118)	156, 189, 172 (115, 122, 127)

Chemical analysis of the weld deposit

(weight %)	Requirements	Results
C	0.15 max.	0.05
Mn	1.60 max.	1.17
Si	0.75 max.	0.50
S	0.035 max.	0.007
P	0.035 max.	0.012
Cr	0.20 max.	0.03
Ni	0.30 max.	0.02
Mo	0.30 max.	0.01
V	0.08 max.	0.00
Mn+Ni+Cr+Mo+V	1.75 max.	1.23
Coating Moisture % - as received	0.3 max.	0.1
- exposed	0.4 max.	0.2

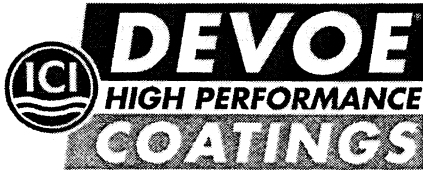
Diffusible Hydrogen, mL/100g at STP (AWS A4.3-03)

Size (in.)	Requirement	Results (mL/100g)	Abs. Humidity
3/32	DC+	4.0 max.	1.4
1/4"	DC+	4.0 max.	3.8

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 data shown, the results of which are shown. 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 according to the Quality System Program of the Lincoln Electric Company, Cleveland, Ohio, U.S.A., which meets the requirements of ISO9001, NCA3800, ANSI/AWS A5.01, JIS Z9002, and other specification and military requirements, as applicable. The Quality System Program has been approved by ASME, ABS, and VOTUV.

Philip Woodring
Philip Woodring, Certification Supervisor
Date: February 22, 2006

David A. Fink
David A. Fink, Manager, Compliance Engineering,
Coramabla R&D Department
Date: 22 Feb 2006



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PRE-PRIME™ 167

Penetrating Sealer

Cat. # 167K0000

SPECIFIED EXISTING STEEL

PRODUCT DESCRIPTION

Generic: Chelated Polymeric Oxirane

General Description: A high performance, two-component chemically-cured 100% solids epoxy penetrating sealer.

Typical Uses: Recommended for rusty steel when environmental economic or safety concerns restrict abrasive blast cleaning. The extraordinary penetrating properties of PRE-PRIME 167 provide a means of reinforcing rusty steel substrates, insuring adhesion of subsequent coatings. Equally effective at penetrating, reinforcing, and sealing concrete and masonry surfaces in all industrial environments.

Improves the effectiveness and efficiency of the maintenance painting process by penetrating and sealing crevices, joints, back-to-back angles of existing structures, and edges of old coatings, improving the service life of the maintenance system. Also serves to seal aged "White-Rusted" zinc surfaces for recoating.

SPECIFICATION DATA

Color: Amber Clear

Finish: Medium Sheen

Reduction Solvent: Do not thin.

Clean-up Solvent: T-10, T-5 thinner, or Xylene

Weight/Gallon: 8.5 lbs./gal. (1.02 kg/L)

VOC (EPA 24): 1.7 lbs./gal. (204 g/L)

Solids By Volume: 100%

Theoretical Coverage at 1.0 Mil Dry: 1604 sq. ft./gal. (39.3 m²/L)

Recommended Film Thickness: 1.5 mils (37.5 microns) dry – 1.5 mils (37.5 microns) wet

Systems: Please consult the appropriate system guide, the particular job specification or your ICI Devoe Coatings' Industrial Coatings Specialist for proper systems using this product. Systems must be selected considering the particular environment involved.

Service Temperature Limits: 250°F (121°C) dry

Minimum Dry Time (ASTM D 1640): At 77°F (25°C) and 50% R.H. to recoat – overnight. Ventilation, film thickness, humidity, thinning, and other factors can influence the rate of dry.

Substrate Temperature	50°F (10°C)	60°F (16°C)	80°F (27°C)
Minimum Recoat	When film sets up and becomes tacky. Usually within 24 hours.		
Maximum Recoat	From point film sets up and becomes tacky.		
Self Epoxy	3 Days	3 Days	3 Days
	3 Days	3 Days	3 Days

Warning: The above table provides general guidelines only. Always consult your ICI Devoe Coatings Specialist for appropriate recoat windows since the maximum aged recoat time of this product may be significantly shortened or lengthened by a variety of conditions, including, but not limited to humidity, surface temperature, and the use of additives or thinners. The use of accelerators or force curing may shorten the aged recoat of individual coatings. The above recoat windows may not apply if recoating with a product other than those listed above. If the maximum aged recoat window is exceeded, please consult your ICI Industrial Coatings Specialist for appropriate recommendations to enhance adhesion. Failure to observe these precautions may result in intercoat delamination.

Shelf Life: Over 12 months at 77°F (25°C) – unopened

Mix Ratio: 3 (base): 1 (converter) – see mixing instructions.

Induction: None – see mixing instructions.

Pot Life: 4 hours @ 77°F (25°C) and 50% R.H.

FEATURES

- Advantages:**
- Low VOC
 - Reinforces rusty steel, masonry, and aged "White-Rusted" zinc surfaces
 - Penetrates surface rust, crevices, back-to-back angles
 - Penetrates pores and tiny cracks in concrete and masonry surfaces
 - Cures to a tough, water resistant coating
 - 100% volume solids
 - Very low viscosity
 - Long pot life
 - Low film thickness required
 - No shrinkage
 - Applies easily by brush, roll, or spray
 - Formulated without lead, chromate, or mercury components
- Limitations of Use:** Not recommended for use without a topcoat.

PERFORMANCE DATA

More than 10 years usage in industrial applications
PRE-PRIME 167 enhances the performance of Devoe Coatings High Performance Coatings and systems over sound rust and masonry substrates.

FINISHES
SPECIAL COATINGS (9800)

ICI DEVOE COATINGS
A member of the ICI Paints World Group



A member of the ICI Paints World Group

FINISHES
SPECIAL COATINGS (9800)

DANGER! COMBUSTIBLE. HARMFUL OR FATAL IF SWALLOWED. Read Label and Material Safety Data Sheet Prior to Use. See other cautions on last page. DSF2-0790

GENERAL SURFACE PREPARATION

All surfaces must be sound, dry, clean, free of oil, dirt, grease, chemicals and foreign matter.

Surfaces: Rusty Steel and Weathered Rusty Galvanized Metal – PRE-PRIME 167 Sealer is designed for less than ideal surface preparation. However, performance will be improved as surface preparation improves. All oil/grease contaminants, loose rust, loose scale and loose paint must be removed. Best performance will be obtained by treating all surfaces with Devco Coatings DEVPREP® 88 Cleaner, fol-

lowed by a high pressure water wash before applying PRE-PRIME 167 Sealer. **Concrete and Masonry** – Remove oil, grease, mildew, form release agents, loose laitance, and foreign matter.

Previously Painted Surfaces: Remove loose and peeling paint, loose rust and other surface contaminants. Clean with DEVPREP 88 Cleaner. **Apply a test patch to confirm compatibility of PRE-PRIME 167 with existing coating systems.**

DIRECTIONS FOR USE

Tinting: Do not tint.

Thinning: Do not thin.

Mixing: PRE-PRIME 167 Sealer is a two component product supplied in 4 gallon and 1 gallon kits which contain the proper ratio of ingredients. The entire contents of each container must be mixed together. Add the converter portion to the base portion slowly with continued agitation. After the converter add is complete, continue to mix slowly until homogeneous. **Do not thin this material.** Mixed material is usable for 4 hours; if it thickens, do not add thinner, but discard and mix fresh material.

Application: Brush, roll or conventional spray. For airless spray apply with a .009 tip and low pressure (just enough to atomize the product). Air spray is preferred for appearance and build. To minimize overspray, use low air pressure and pot pressure – 5 to 10 psi. For roller work use a clean synthetic roller with 1/4" – 1/2" nap. New rollers should be thoroughly wet with T-10 Thinner and spun vigorously to remove loose fibers. (PRE-PRIME 167 Sealer is low in viscosity.) Usually one coat is

sufficient, but for porous surfaces two coats may be required. It should be applied in one thin, wet coat sufficient to completely cover and penetrate to the steel surface. Do not apply heavy coats.

Spreading Rate: Apply at 1069 sq. ft. per gallon (26m²/L) depending on surface texture and porosity. Make allowances for any losses due to overspray or surface irregularities.

Topcoats: Accepts a wide variety of Devco Coatings High Performance Coatings. Commonly used with DEVRAN® 224HS, DEVTHANE™, BAR-RUST™ 233H and BAR-RUST 235 Coatings.

Dry Time: At 77°F (25°C) & 50% R.H., dries to recoat overnight. Low temperature will retard dry. Minimum recommended substrate temperature is 50°F (10°C). After overnight cure, PRE-PRIME 167 may be overcoated if still tacky (not wet). Should be overcoated within 72 hours from point of being tack free.

Clean-up: Use T-10 Thinner.

PRECAUTIONS

DANGER! COMBUSTIBLE LIQUID AND VAPOR. CORROSIVE. CAUSES EYE AND SKIN BURNS. HARMFUL OR FATAL IF SWALLOWED. ASPIRATION HAZARD - CAN ENTER LUNGS AND CAUSE DAMAGE. HARMFUL IF INHALED. MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS, INCLUDING DIZZINESS, HEADACHE OR NAUSEA. CAUSES RESPIRATORY TRACT IRRITATION. MAY CAUSE ALLERGIC SKIN AND RESPIRATORY REACTION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN. OVEREXPOSURE MAY CAUSE BLOOD, LIVER, KIDNEY DAMAGE. USE ONLY WITH ADEQUATE VENTILATION. KEEP OUT OF THE REACH OF CHILDREN. NOTICE: Products in this series may contain solvents. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. For emergency information call (800) 545-2643. For additional safety information, refer to the Material Safety Data Sheet for this product. Keep away from heat, sparks and flame. **Do not smoke.** Vapors may ignite. Extinguish all flames, burners, stoves, heaters and pilot lights and disconnect all electrical motors and appliances before use and until all vapors are gone. If sanding is done, wear a dust mask to avoid breathing of sanding dust. Do not breathe vapors or spray mist. If you experience eye watering, headaches, or dizziness, leave the area. If properly used, a respirator may offer additional protection. Obtain professional advice before using. Close container after each use. **FIRST AID:** In case of skin contact, wash off **quickly** with plenty of soap and water, remove contaminated clothing. For eye contact flush **immediately** with large amounts of water, for at least 15 minutes. **Obtain emergency medical treatment.** If swallowed, **obtain medical treatment immediately.** If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs, **get medical help.** **Note: These warnings encompass the product series. Prior to use, read and follow product specific MSDS and label information.**

DS86-0297

SHIPPING

Freight Classification: Paint
Flash point: 135°F (43°C)
Packaging: 1 gallon kit (3.785L) 4 gallon kit (15.14L)
 0.75 gallon base 3.0 gallon base
 0.25 gallon converter 1.0 gallon converter

Shipping Weight: 4 - 1 gallon kits - 36 lbs. (16.2 kg)
 4 gallon kit - 38 lbs. (17.2 kg)

167K0000 (3/00)
 Ad Stock #68631D



Cleveland,
 Ohio, U.S.A.
 800-654-2616
 www.devcoatings.com

ICI Devco Coatings is a member of the ICI Paints World Group

LIMITATION OF LIABILITY: To the best of our knowledge, the technical data contained herein are true and accurate at the date of issuance but are subject to change without prior notice. We guarantee our product to conform to the specifications contained herein. WE MAKE NO OTHER WARRANTY OR GUARANTEE OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE. Liability, if any, is limited to replacement of the product or refund of the purchase price. LABOR OR COST OF LABOR AND OTHER CONSEQUENTIAL DAMAGES ARE HEREBY EXCLUDED.



DEVOE HIGH PERFORMANCE COATINGS

ICI Devoe Coatings is a member of the ICI Paints World Group

BAR-RUST™ 235

Multi-Purpose Epoxy Coating

Cat. # 235KXXXX

SPECIFIED:

EXISTING STEEL

PRODUCT DESCRIPTION

Generic: Advanced Technology Epoxy
General Description: A high performance, multi-purpose, surface tolerant, two-component chemically-cured epoxy semi-gloss coating.

Typical Uses: For use on properly prepared steel or masonry surfaces including immersion (non-potable water) service. Also for concrete floors, interior primed drywall, plaster, and wood surfaces. Ideal for structural steel, piping, storage tanks, machinery, and equipment in petroleum refineries, pulp and paper mills, chemical and fertilizer plants, and sewage treatment plants. Can also be used in the hard service areas of food processing plants, dairies, schools, restaurants, and general industrial buildings & structures.

Special Qualifications: Performance alternate for Federal Specifications TT-C-550 and TT-C-545, Mil-P-24441-Type I & II, Mil-C-22750D-Type I, and Mil-P-23377E-Type I, Mil-P-23236B-Type I & IV, Class 2, and Mil-P-24647B. Meets AWWA D102.

Suitable for use on structural surfaces or surfaces where there is a possibility of incidental food contact in commercial food preparation establishments, food processing plants and federally inspected meat and poultry plants. USDA no longer requires or furnishes product certification letters.

FEATURES

Advantages:

- Exceptional corrosion protection
- Suitable for salt & fresh water immersion
- Low temperature cure to 0°F (-18°C)
- Surface tolerant – abrasive blasting not required in most applications
- Excellent adhesion to tight rust
- Good adhesion to damp surfaces
- Self-priming for steel & masonry substrates
- Abrasion & chemical resistance is excellent
- High solids – high film build
- Low VOC

Limitations of Use: Exterior exposure will cause a color change, early dulling, and loss of gloss, but this does not affect protective properties. Epoxy coatings may yellow during application and cure if exposed to the combustion by-products of improperly vented fossil fuel burning heaters. Commonly finished with ICI Devoe Coatings DEVTHANE™ Urethane Enamel for maximum exterior color & gloss retention. Do not use for fuel or solvent immersion.

SPECIFICATION DATA

Color: Off White (tintable to light pastel colors only), ready-mixed colors

Finish: Semi-Gloss

Reduction Solvent: T-10 Thinner. For application over aged alkyds use T-5 Thinner or Xylene.

Clean-up Solvent: T-10 Thinner

Weight/Gallon: 11.0 lbs./gal. (1.3 kg/L) – varies with color

VOC (EPA 24): 2.40 lbs./gal. (292 g/L) – varies with color

Solids By Volume (ASTM D 2697 – 7 days): 68%

Theoretical Coverage at 1.0 Mil (25 microns) Dry: 1091 sq. ft./gal. (28.0 m²/L)

Recommended Film Thickness: 4.0-8.0 mils (100-200 microns) dry – 5.9-11.7 mils (147-293 microns) wet. (Make allowances for loss due to overspray & irregular surfaces.)

Systems: Please consult the appropriate system guide, the particular job specification or your ICI Devoe Coatings' Industrial Coatings Specialist for proper systems using this product. Systems must be selected considering the particular environment involved.

Service Temperature Limits: 250°F (121°C) dry

Minimum Dry Time (ASTM D 1640): At 5 mils (125 microns) DFT

Substrate Temperature	20°F (-7°C)	40°F (4°C)	60°F (16°C)	80°F (27°C)
Minimum Recoat Dry Hard	28 Hours 46 Hours	11 Hours 18 Hours	6 Hours 9 Hours	3 Hours 5 Hours
Maximum Recoat				
Self	30 Days	30 Days	30 Days	30 Days
Devthane Urethane	7 Days	6 Days	5 Days	5 Days
229H	7 Days	6 Days	5 Days	5 Days

Warning: The above table provides general guidelines only. Always consult your ICI Devoe Coatings Specialist for appropriate recoat windows since the maximum aged recoat time of this product may be significantly shortened or lengthened by a variety of conditions, including, but not limited to humidity, surface temperature, and the use of additives or thinners. The use of accelerators or force curing may shorten the aged recoat of individual coatings. The above recoat windows may not apply if recoating with a product other than those listed above. If the maximum aged recoat window is exceeded, please consult your ICI Industrial Coatings Specialist for appropriate recommendations to enhance adhesion. Failure to observe these precautions may result in intercoat delamination.

Shelf Life: Over 24 months at 77°F (25°C) – unopened

Hardness (ASTM D 3363, 7 day cure @ 77°F (25°C): 3H

Mix Ratio By Volume: 4(base):1(converter) – see mixing instructions.

Induction: 15 minutes @ 77°F (25°C) – see mixing instructions.

Pot Life: 4.5 hours @ 77°F (25°C) & 50% R.H.

PERFORMANCE DATA

Adhesion: (ASTM D 4541) – Excellent

Salt Spray Resistance: (ASTM B 117) – Excellent

Direct Impact Resistance: (ASTM D 2794) – Very Good

Abrasion Resistance: (ASTM D 4060) – Excellent

Humidity Resistance: (ASTM D 2247) – Excellent

Water Immersion: (ASTM D 1308) – Excellent

Chemical Resistance: (ASTM D 1308 – 24 hr. contact) Excellent. Resists splash and spillage of alkalis, salts, moisture, oils, greases, foodstuffs and detergents, 50% Sodium Hydroxide, 28% Ammonia, 5% Trisodium Phosphate, 25% Citric Acid, 25% Lactic Acid, 10% Sulfuric Acid, Crude Oil, 10% Hydrochloric Acid, 20% Tannic Acid, 5% Sodium Chloride, 10% Ammonium Hydroxide, sewage.

DANGER! COMBUSTIBLE. HARMFUL OR FATAL IF SWALLOWED. Read Label and Material Safety Data Sheet Prior to Use. See other cautions on last page. DSF2-0790



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FINISHES SPECIAL COATINGS (9800)

FINISHES SPECIAL COATINGS (9800)

ICI DEVOE COATINGS A member of the ICI Paints World Group



GENERAL SURFACE PREPARATION

Surfaces must be dry, clean, free of oil, grease, form release agents, curing compounds, laitance, other foreign matter and be structurally sound. Remove all loose paint, mortar spatter, mill scale, and rust. All direct to metal coatings provide maximum performance over blasted surfaces. There are situations and cost limitations which preclude blasting. BAR-RUST 235 was designed to provide excellent protection over less than ideal surface preparation. The minimum standard for non-immersion service is SSPC-SP2 (SSI-St2); for immersion service the minimum standard is SSPC-SP3 (SSI-St3). **These minimum surface preparation standards apply to steel that has been previously abrasive blasted, coated and deteriorated.** Where very rusty surfaces still remain after cleaning use PRE-PRIME 167™ Sealer before application of BAR-RUST 235 Coating.

New Surfaces: Steel – New steel surfaces should be initially blasted to near-white metal surface cleanliness in accordance with SSPC-SP10 or SSI-Sa2 1/2 for immersion service or commercial blast cleanliness in accordance with SSPC-SP6 or SSI-Sa2 for non-immersion service. Blast profile on steel should be 1 1/2 to 2 1/2 mills (38-63 microns) in depth and be of a sharp, jagged nature as opposed to a "peen" pattern (from shot blasting). **Concrete Block** – Remove loose aggregate and repair

voids. Fill with this product, Tru-Glaze® 4010 or DEVTRAN® 265BHF. **Concrete Floors, Poured Concrete** – Cure at least 30 days. Acid etch or abrasive blast slick, glazed concrete or concrete with laitance. Prime with PRE-PRIME 167 or this coating thinned with T-10 Thinner in a 4 to 1 ratio. **Drywall** – Prime with a premium acrylic latex vapor barrier primer sealer. **Interior Wood** – Prime with this product thinned 10% with T-10 Thinner. **Exterior Wood** – Not recommended over this surface. **Galvanized Steel** – Remove dirt and oils by solvent cleaning or with DEVPREP® 88 Cleaner followed by a thorough water rinsing. Prime with DEVTRAN 205 Epoxy Primer for non-immersion. For immersion or severe moisture condition, abrasive blasting is recommended before priming with DEVTRAN 201 Epoxy Primer.

Previously Painted Surfaces: Old coatings should be tested for lifting. If lifting occurs, remove the lifted coating. Otherwise scuff sand glossy areas and aged epoxy coatings. Clean aged epoxy or urethane coatings with DEVPREP 88 Cleaner. Remove cracked and peeling paint. Prime bare areas with primer specified under **New Surfaces.** If thinning is required, thin with T-5 Thinner or Xylene only when used over aged alkyd coatings.

DIRECTIONS FOR USE

Tinting: White can be tinted with CHROMA-CHEM 844 colorants. (Do not use water based colorants). Add colorants to only the base portion. Mix thoroughly before adding the Converter portion.

Thinning: Thinning is not normally required or desired. However, at extreme environmental conditions, small amounts (10% or less by volume) of the solvents on the reverse page can be added depending on local VOC and air quality regulations. When using BAR-RUST 235 over aged alkyds, use Devco Coatings T-5 Thinner. Any solvent addition should be made after the two components are thoroughly mixed.

Mixing: BAR-RUST 235 Coating is a two component product supplied in 5 gallon and 1 gallon kits which contain the proper ratio of ingredients. The entire contents of each container must be mixed together. Power mix the base portion first to obtain a smooth, homogeneous condition. After mixing the base portion, add the converter slowly with continued agitation. After the converter add is complete, continue to mix slowly. Allow the mixed material to stand 15 minutes at 60-80°F (16-27°C) before use. Always restir before use. Mixed material is usable for 4.5 hours; if it thickens, do not add thinner, but discard and mix fresh material. Higher temperatures will reduce working life of the coating; lower temperatures will increase it. Surfaces coated with this product may become slippery when wet. For additional slip resistance in areas of pedestrian traffic, add one pound per gallon of coarse pumice or other texturing material.

Application: Spray is preferred for appearance and film build control. For air spray application, use a "Mastic" gun, a fluid tip of .070" or larger and an air cap with good break-up. The fluid pressure should be kept low, with just enough air pressure to get good break-up of the coating. Excessive air pressure can cause overspray problems. Where airless equipment is used, an airless

spray pump capable of 3,000 psi (207 bars) and .021" to .025" tip size will provide a good spray pattern. Ideally, fluid hoses should not be less than 3/8" ID and not longer than 50 feet to obtain optimum results. Longer hose length may require an increase in pump capacity, pressure, and/or thinning. Viscosity control best achieved using in-line heaters. BAR-RUST 235 Coating may also be applied by brush or roller. Care should be taken that proper and uniform thicknesses are obtained. For roller work use a clean synthetic roller with 1/4"-1/2" nap. New rollers should be thoroughly wet with the specified thinner and spun vigorously to remove loose fibers. Brushing and rolling may require multiple coats to achieve correct film thickness and/or hiding.

Spreading Rate: Apply at 130-250 sq. ft. per gallon (3-6m²/L) depending on surface texture and porosity. Make allowance for any losses due to overspray or surface irregularities.

Ventilation: It is very important for the safety of the applicator and the proper performance of the BAR-RUST 235 Coating that good ventilation with dry, fresh air be provided in enclosed areas to remove all solvent vapors. Since all solvent vapors are heavier than air, ventilation ducts should reach to the lowest portions of the enclosed areas as well as into any structural pockets. Ventilation should be provided throughout the cure period.

Topcoats: Can be used as a finish for interior areas. Accepts a variety of topcoats. In interior or exterior areas, DEVTHANE™ Urethane Enamels could be used as a finish to enhance performance and/or appearance.

Dry Time: At 70°F (21°C) & 50% R.H., dries to recoat with epoxy or urethane in 5 hours and hard in 7 hours.

Clean-up: Use T-10 Thinner.

PRECAUTIONS

DANGER! COMBUSTIBLE LIQUID AND VAPOR. CAUSES EYE AND SKIN BURNS. HARMFUL OR FATAL IF SWALLOWED. ASPIRATION HAZARD - CAN ENTER LUNGS AND CAUSE DAMAGE. HARMFUL IF INHALED. MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS, INCLUDING DIZZINESS, HEADACHE OR NAUSEA. CAUSES RESPIRATORY TRACT IRRITATION. MAY CAUSE ALLERGIC SKIN AND RESPIRATORY REACTION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN. OVEREXPOSURE MAY CAUSE BLOOD, LIVER, KIDNEY DAMAGE. CONTAINS CRYSTALLINE SILICA WHICH CAN CAUSE LUNG CANCER AND OTHER LUNG DAMAGE IF INHALED. CONTAINS MICA WHICH MAY CAUSE PNEUMOCONIOSIS. USE ONLY WITH ADEQUATE VENTILATION. KEEP OUT OF THE REACH OF CHILDREN.

NOTICE: Products in this series may contain solvents. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. For emergency information call (800) 545-2643. For additional safety information, refer to the Material Safety Data Sheet for this product. Keep away from heat, sparks and flame. **Do not smoke.** Vapors may ignite. Extinguish all flames, burners, stoves, heaters and pilot lights and disconnect all electrical motors and appliances before use and until all vapors are gone. If sanding is done, wear a dust mask to avoid breathing of sanding dust. Do not breathe vapors or spray mist. If you experience eye watering, headaches, or dizziness, leave the area. If properly used, a respirator may offer additional protection. Obtain professional advice before using. Close container after each use.

FIRST AID: In case of skin contact, wash off quickly with plenty of soap and water, remove contaminated clothing. For eye contact flush immediately with large amounts of water, for at least 15 minutes. Obtain emergency medical treatment. If swallowed, obtain medical treatment immediately. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs, get medical help. **Note: These warnings encompass the product series. Prior to use, read and follow product specific MSDS and label information.**

DS238-9999

SHIPPING

Freight Classification:	Paint		
Flash point:	100°F (38°C)		
Packaging:	1 gallon kit (3.785L)	5 gallon kit (18.925L)	
	0.80 gallon base	4.00 gallon base	
	0.20 gallon converter	1.00 gallon converter	

Shipping Weight:	4 - 1 gallon kits - 45 lbs. (20.4 kg)
	5 gallon kit - 56 lbs. (25.4 kg)

235KXXXX (11/99)
Ad Stock #68637C



Cleveland,
Ohio, U.S.A.
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www.devcoatings.com

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DEVVRAN® 201

Universal Epoxy Primer

Cat. # 201KXXXX

PRODUCT DESCRIPTION

Generic: Polyamide Epoxy

General Description: A high performance, chemically cured, rust inhibitive epoxy primer for interior or exterior steel, galvanized metal or aluminum surfaces. An excellent holding primer with superior aged recoatability. Also may be used on concrete and masonry. The color permits easy coverage with finish coats.

Typical Uses: Provides excellent adhesion and corrosion resistance for metal substrates such as steel structural members, machinery, equipment, piping and tanks in all industrial environments. May be used for both interior and exterior applications in chemical, fertilizer & power plants, petroleum refineries, pulp and paper mills, water and sewage treatment plants and mining operations. Also an excellent prime coat in the hard service areas public and private institutional, educational, and commercial buildings. Suitable for water immersion when topcoated with an appropriate finish coat.

Special Qualifications: Performance alternate for MIL-DTL-24441, Formula 150.

SPECIFICATION DATA

Color: Light Gray (201K0245)

Finish: Flat

Reduction Solvent: T-10 Thinner – see thinning

Clean-up Solvent: T-10 Thinner

Weight/Gallon: 11.8 lbs./gal. (1.41 kg/L)

VOC (EPA 24): 3.2 lbs./gal. (379 g/L)

Solids By Volume (ASTM D 2697-7 days): 57%

Theoretical Coverage at 1.0 Mil (25 microns) Dry: 915 sq. ft./gal. (22.4 m²/L)

Recommended Film Thickness: 2.0-3.0 mils (50-75 microns) dry – 4.0 - 6.0 mils (100-150 microns) wet. (Make allowances for loss due to overspray & irregular surfaces.)

Systems: Please consult the appropriate system guide, the particular job specification or your ICI Paints' Representative for proper systems using this product. Systems must be selected considering the particular environment involved.

Service Temperature Limits: 250°F (121°C) dry. Film may discolor above 140°F (60°C)

Minimum Dry Time (ASTM D 1640): At 3 mils (75 microns) DFT

Substrate Temperature	30°F (-1°C)	50°F (10°C)	70°F (21°C)	80°F (27°C)
Minimum Recoat	8 Hours	3 Hours	1 Hour	1 Hour
Dry Hard	>60 Hours	10 Hours	6 Hours	5 Hours
Maximum Recoat				
Self	1 Year	1 Year	1 Year	1 Year
Epoxy	1 Year	1 Year	1 Year	1 Year
359, 369	14 Days	14 Days	14 Days	14 Days
389	14 Days	14 Days	14 Days	14 Days
378/379	5 Days	5 Days	5 Days	5 Days

Warning: The above table provides general guidelines only. Always consult your ICI Paints' Representative for appropriate recoat windows since the maximum aged recoat time of this product may be significantly shortened or lengthened by a variety of conditions, including, but not limited to humidity, surface temperature, and the use of additives or thinners. The use of accelerators or force curing may shorten the aged recoat of individual coatings. The above recoat windows may not apply if recoating with a product other than those listed above. If the maximum aged recoat window is exceeded, please consult your ICI Paints' Representative for appropriate recommendations to enhance adhesion. Failure to observe these precautions may result in intercoat delamination.

Shelf Life: Over 24 months at 70°F (21°C) – unopened

Hardness (ASTM D 3363, 7 day cure @ 77°F (25°C): F

Mix Ratio By Volume: 9 (base): 1 (converter) – see mixing instructions.

Induction: see mixing instructions—mix thoroughly for 15 minutes.

Pot Life: 12 hours @ 77°F (25°C) & 50% R.H.

FEATURES

Advantages:

- Excellent adhesion
- Excellent holding primer
- Excellent corrosion resistance
- Excellent aged recoatability
- Easy applied by brush, roller, or spray
- Convenient, light gray color – easy to overcoat
- Formulated without lead, chromate, or mercury containing materials
- Ideal tie-coat over inorganic zincs
- Versatile – for use on most substrates under many different types of topcoats
- Suitable for water immersion when topcoated with an appropriate finish coat

PERFORMANCE DATA

Adhesion: (ASTM D 4541) – Excellent

Abrasion Resistance: (ASTM D 4060) – Good

Impact Resistance: (ASTM D 2794) – Excellent

Humidity Resistance: (ASTM D 4585) – Excellent

DANGER! FLAMMABLE. HARMFUL OR FATAL IF SWALLOWED. Read label and Material Safety Data Sheet Prior to Use. See other cautions on last page. DSF3-0696



FINISHES
HIGH PERFORMANCE COATINGS (09960)

FINISHES
HIGH PERFORMANCE COATINGS (09960)



09960

GENERAL SURFACE PREPARATION

Surfaces must be sound, dry, clean, free of oil, grease, dirt, mildew, form release agents, curing compounds, loose and flaking paint and other foreign substances.

New Surfaces: Steel – Best results are obtained over a surface abrasive-blasted to a Near White Blast (SSPC-SP10, ISO-Sa2 1/2). Performance over hand or power-tool cleaned surfaces is dependent on the degree of cleaning. **Concrete and Masonry** – Cure at least 30 days before painting. pH must be 10.0 or lower. Roughen slick poured or precast concrete by acid etching or sandsweeping. Follow acid manufacturer's application and safety instructions. Rinse thoroughly and allow to dry. Remove loose aggregate. Prime with this product. **Galvanized Steel** – Allow to weather a minimum of six (6) months prior to coating. Solvent clean per SSPC-SP-1 or clean with DEVPREP® 88 Cleaner followed by a thorough water rinsing, then prime with this product. When weathering is not possible or the surface has been treated with chromates or silicates, first clean by the method intended to be used on the job and apply a test patch of the coating system specified. Allow product(s) to dry and cure at least one

week before testing adhesion per ASTM D 3359. If adhesion is poor, brush blast then prime with this product. **Aluminum** – Remove oils and dirt by solvent cleaning or with DEVPREP 88 Cleaner followed by a thorough water rinsing. Then prime with this product.

Previously Painted Surfaces: If the old paint is more than 25% failed by rusting, peeling, or flaking, it must be removed and treated as a new surface. If less than 25% has failed, clean the failed areas and spot-prime with this product. Old coatings should be tested for lifting. If they lift, remove them. Scuff sand glossy areas and aged epoxy coatings.

WARNING! If you scrape, sand, or remove old paint, you may release lead dust. LEAD IS TOXIC. EXPOSURE TO LEAD DUST CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear a NIOSH-approved respirator to control lead exposure. Clean up carefully with a HEPA vacuum and a wet mop. Before you start, find out how to protect yourself and your family by contacting the National Lead Information Hotline at 1-800-424-LEAD or log on to www.epa.gov/lead.

DIRECTIONS FOR USE

Tinting: Do not tint.

Thinning: Thin only if necessary with T-10 Thinner up to one half pint per gallon.

Mixing: This product is supplied in two parts. Mix base component thoroughly. To 9 parts of base add 1 part of Converter by volume. (Both components are provided in partially filled cans which, when mixed, provide a full one gallon or five gallon mix at the proper ratio.) Stir thoroughly and scrape sides of can to ensure thorough blending. Power mix at low speed continuously for 15 minutes. Mixed material is usable for twelve hours: if it thickens, do not add thinner, but discard and mix fresh material. Thin only if necessary with T-10 Thinner up to one half pint per gallon. Pot life at 60-80°F (16-27°C) is twelve hours.

Application: Brush (natural bristle), roll (short nap) or spray. No thinning required. For airless spray, use a 0.019-0.025" tip. Adjust pressure as needed. Spray is preferred for appearance and build. Use clean short nap

synthetic roller. New rollers should be thoroughly wet with T-10 Thinner and spun vigorously to remove loose fibers. Brushing and rolling may require multiple coats to achieve correct film thickness and/or hiding.

Spreading Rate: Apply at 265-400 sq.ft. per gallon (6.5-9.8 m²/L) or 4.0-6.0 mils (100-150 microns) wet. Make allowances for overspray loss and irregular surfaces.

Topcoats: DEVTRAN 201 can be overcoated with epoxy, urethane, alkyd, or latex coatings. The light gray color permits good coverage with the first finish coat applied.

Dry Time: Minimum application temperature is 32°F (0°C). At 77°F (25°C) & 50% R.H., dries to touch in 45 minutes; to recoat with epoxy or urethane, to recoat with conventional alkyd or acrylic latex coatings in approximately 1 hour. Achieves full cure in 7 days at 77°F (25°C). Low temperature, high humidity or poor ventilation will increase these times.

Clean-up: Clean immediately with T-10 Thinner.

PRECAUTIONS

DANGER! FLAMMABLE LIQUID AND VAPOR. CAUSES EYE AND SKIN BURNS. HARMFUL OR FATAL IF SWALLOWED. ASPIRATION HAZARD-CAN ENTER LUNGS AND CAUSE DAMAGE. HARMFUL IF INHALED. MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS, INCLUDING DIZZINESS, HEADACHE OR NAUSEA. CAUSES RESPIRATORY TRACT IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN. OVEREXPOSURE MAY CAUSE BLOOD, LIVER, KIDNEY DAMAGE. CONTAINS CRYSTALLINE SILICA WHICH CAN CAUSE LUNG CANCER AND OTHER LUNG DAMAGE IF INHALED. CONTAINS MICA WHICH MAY CAUSE PNEUMOCONIOSIS. POTENTIAL CANCER HAZARD. CONTAINS FORMALDEHYDE WHICH HAS BEEN SHOWN TO CAUSE UPPER RESPIRATORY TRACT CANCER AND ALLERGIC RESPIRATORY REACTION. USE ONLY WITH ADEQUATE VENTILATION. KEEP OUT OF THE REACH OF CHILDREN. NOTICE: Products in this series contain solvents. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. For emergency information call (800) 545-2643. Note: These warnings encompass the product series. Prior to use, read and follow product-specific MSDS and label information. Keep away from heat, sparks and flame. Do not smoke. Vapors may ignite. Extinguish all flames, burners, stoves, heaters and pilot lights and disconnect all electrical motors and appliances before use and until all vapors are gone. Prevent build-up of vapors by opening all windows and doors to achieve cross-ventilation. If sanding is done, wear a dust mask to avoid breathing of sanding dust. Do not breathe vapors or spray mist. Ensure fresh air entry during application and drying. If you experience eye watering, headaches, or dizziness, leave the area. If properly used, a respirator may offer additional protection. Obtain professional advice before using. Close container after each use. **FIRST AID: In case of skin contact, wash thoroughly with soap and water. If any product remains, gently rub petroleum jelly, vegetable or mineral/baby oil onto skin, then wash again with soap and water. Repeated applications may be needed. Remove contaminated clothing. For eye contact, flush immediately with large amounts of water, for at least 15 minutes. **Obtain emergency medical treatment.** If swallowed, **obtain medical treatment immediately.** If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs, **get medical help. KEEP FROM FREEZING.****

05207-1100

SHIPPING

Flash point:	80°F (27°C)	
Packaging:	1 gallon kit (3.785L)	5 gallon kit (18.925L)
	0.90 gallon base	4.50 gallon base
	0.10 gallon converter	0.50 gallon converter

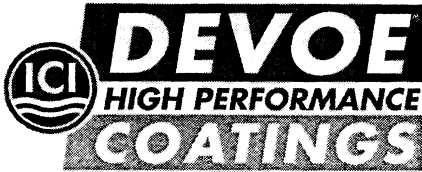
Shipping Weight: 4 - 1 gallon kits - 52.5 lbs. (23.8 kg)
5 gallon kit - 61 lbs. (27.7 kg)

201KXXXX (9/03)
Ad Stock #68632E



ICI Paints
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Ohio, U.S.A.
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DEVTHANE™ 389

Aliphatic Urethane Gloss Enamel

Cat. # 389KXXXX

PRODUCT DESCRIPTION

Generic: Aliphatic Acrylic Urethane

General Description: A high performance, two-component chemically-cured aliphatic urethane gloss enamel for use in areas where maximum gloss & color retention are required.

Typical Uses: For use on properly prepared and primed steel, concrete or steel floors, masonry, drywall, plaster, metal, concrete block, galvanized, aluminum, poured concrete, and glazed brick. Ideal for use on exterior or interior structural steel, piping, metal buildings, control cabinetry, conveyors, pumps, storage tanks, motors, machinery, and transportation vehicles. Can also be used in the hard service areas of food processing plants, dairies, schools, restaurants, hospitals, correctional facilities, factories, stadiums, arenas, and amusement parks.

SPECIFICATION DATA

Color: White, tint base, safety colors

Finish: Gloss (90 units @ 60°)

Reduction Solvent: T-9 for spray, T-17 for brush or roller

Clean-up Solvent: T-9 Thinner

Weight/Gallon: 10.8 lbs./gal. (1.3 kg/L) – varies with color

VOC (EPA 24): 3.23 lbs./gal. (388 g/L) – varies with color

Solids By Volume (ASTM 2697-7 days): 56%

Theoretical Coverage at 1.0 Mil (25 microns) Dry: 898 sq. ft./gal. (22.1 m²/L)

Recommended Film Thickness: 2.0-3.0 mils (50-75 microns) dry – 3.6-5.4 mils (90-135 microns) wet

Systems: Please consult the appropriate system guide, the particular job specification or your ICI Devoe Coatings' Industrial Coatings Specialist for proper systems using this product. Systems must be selected considering the particular environment involved.

Service Temperature Limits: 250°F (121°C) dry

Minimum Dry Time (ASTM D 1640): 2 mils (50 microns) DFT

Substrate Temperature	40°F (4°C)	60°F (16°C)	80°F (27°C)
Minimum Recoat	10 Hours	6 Hours	3 Hours
Dry Hard	>32 Hours	24 Hours	16 Hours
Maximum Recoat			
Self	2 Weeks	2 Weeks	2 Weeks

Warning: The above table provides general guidelines only. Always consult your ICI Devoe Coatings Specialist for appropriate recoat windows since the maximum aged recoat time of this product may be significantly shortened or lengthened by a variety of conditions, including, but not limited to humidity, surface temperature, and the use of additives or thinners. The use of accelerators or force curing may shorten the aged recoat of individual coatings. The above recoat windows may not apply if recoating with a product other than those listed above. If the maximum aged recoat window is exceeded, please consult your ICI Industrial Coatings Specialist for appropriate recommendations to enhance adhesion. Failure to observe these precautions may result in intercoat delamination.

Shelf Life: Over 12 months at 77°F (25°C) – unopened.

Hardness (ASTM D 3363, 7 day cure @ 77°F (25°C): 2H

Mix Ratio By Volume: 9 (base): 1 (converter) – see mixing instructions.

Induction: None – see mixing instructions.

Pot Life: 8 hours @ 77°F (25°C) & 50% R.H.

FEATURES

Advantages:

- Exceptional gloss and color retention
- Low VOC
- Easily applied by brush, roller or spray
- Excellent resistance to marring, chipping, and scratching
- Performance alternate for Devthane 369 and 4708

Limitations of Use: Color may change as temperature approaches 250°F (121°C) limit, but the film will remain intact.

PERFORMANCE DATA

Abrasion Resistance: (ASTM D 4060) – Very Good

Humidity Resistance: (ASTM D 2247) – Excellent

Elongation: (ASTM D 522 Method B) – Excellent

Impact Resistance: (ASTM D 2794) – Very Good

Chemical Resistance: (ASTM D 1308 – 24 hr. contact) Excellent. Resists splash and spillage of alkalis, salts, moisture, oils, greases, foodstuffs and detergents.

Stain Resistance: (ASTM D 1308 – 1 week contact) Excellent, Resists stains such as crayon, lipstick, coffee, soil medium, shoe polish, grape juice, ink pen, marker, and spray paint.

DANGER! FLAMMABLE. HARMFUL OR FATAL IF SWALLOWED. Read Label and Material Safety Data Sheet Prior to Use. See other cautions on last page. DSF3-0696



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FINISHES SPECIAL COATINGS (9800)

FINISHES SPECIAL COATINGS (9800)

ICI DEVOE COATINGS A member of the ICI Paints World Group



GENERAL SURFACE PREPARATION

All surfaces must be sound, clean, dry, and free of oil, grease, mildew, form release agents, curing compounds, laitance, and foreign matter. To insure the best appearance, the primer or undercoat should be smooth and free of any surface defects such as runs, dry spray or heavy orange peel.

New Surfaces: Steel – Clean and prime with DEVTRAN® 224HS, DEVTRAN 220, BAR-RUST™ 231, BAR-RUST 235 or BAR-RUST 233H Epoxy.

Concrete Block – Fill with TRU-GLAZE® 4010, DEVTRAN 224HS, BAR-RUST 235, BAR-RUST 233H Epoxy. **Fiberglass** – Solvent wipe, scuff sand and solvent wipe again. Prime with DEVTRAN 201. **Concrete Floors, Poured Concrete** – Cure at least 30 days. Acid etch or abrasive blast slick, glazed concrete or concrete with laitance. Prime with DEVTRAN 224HS, DEVTRAN

220, BAR-RUST 231, BAR-RUST 235 or BAR-RUST 233H Epoxy thinned 25% with recommended thinner or use PRE-PRIME™ 167 Penetrating Sealer. **Drywall** – Prime with a premium acrylic latex vapor barrier primer-sealer. **Galvanized Steel and Aluminum** – Remove dirt and oils by solvent cleaning or with DEVPREP® 88 Cleaner followed by a thorough water rinsing. Prime with DEVTRAN 205 or 201 Epoxy Primer.

Previously Painted Surfaces: Old coatings should be tested for lifting. If lifting occurs, remove them. Otherwise scuff sand glossy areas and aged epoxy coatings. Clean aged epoxy or urethane coatings with Devco DEVPREP 88 Cleaner. Remove cracked and peeling paint. Prime bare areas with a primer specified under **New Surfaces**.

DIRECTIONS FOR USE

Tinting: Tint the appropriate base with CHROMA-CHEM 844 colorants. (Do not use water based or other colorants.) Add colorants to only the base portion. Mix thoroughly before adding the converter portion.

Thinning: Thinning is not normally required. However, depending on local VOC and air quality regulations, small amounts (5% or less) of the solvents on the reverse page may be added. Small amounts (5% or less) of Devco Coatings T-17 Thinner will improve roller or brush applications. If local VOC and/or air quality regulations are not an issue, and depending on the individual set-up of the spray equipment, additional thinning may be allowed to obtain the desired individual finish. Contact your local ICI Devco Coatings Representative for additional information.

Mixing: DEVTHANE 389 Enamel is a two-component product supplied in 5 gallon or 1 gallon kits which contain the proper ratio of ingredients. The entire contents of each container must be mixed together. It is important that all mixing equipment is free of moisture and that moisture does not contaminate the coating. Mix the base portion to obtain a smooth, homogeneous condition. After mixing the base portion, add the converter slowly with continued agitation. The pot life of the mixed material is 8 hours at 77° (25°C). Higher temperatures will reduce working life of the coating; lower temperatures will increase it.

Application: Apply by airless spray, air spray, roller or brush. For airless spray, any air, electric, or gas operated airless sprayer capable of 3,000 psi (207 bars) and able to support a .015" to .019" tip sizes can be used. Multiple guns and long fluid lines require pumps with adequate capacity. For air spray application, use a DeVilbiss MBC-510 Gun, "E" or "D" Tip and 704 air cap or equivalent. Adjust fluid and air pressure to get a good spray

pattern.

Note: Be sure all spray equipment and fluid lines are clean, and free of water or non-compatible solvents. For brush application, use good quality, dry, clean brushes. For roller application, use short nap mohair, new rollers. Do not apply over wet surfaces or under very humid conditions where condensation or fog could settle on the coating during the cure process. Brushing and rolling may require multiple coats to achieve correct film thickness and/or hiding.

Spreading Rate: For maximum protection in corrosive areas, apply at 300 sq. ft. per gallon (7 m²/L) or 3.0 mils (75 microns) dry-5.4 mils (135 microns) wet. In mild to moderate exposures, apply at 450 sq. ft. per gallon (11 m²/L) or 2.0 mils (50 microns) dry-3.6 mils (90 microns) wet. Make allowance for any losses due to overspray or surface irregularities.

Dry Time: At 80°F (27°C) & 50% R.H., dries to recoat in 3 hours and dries hard in 16-24 hours.

Clean-up: Use T-9 Thinner.

Cure Acceleration: Not recommended.

Ultraviolet Light Absorber Additive (UVA): Devthane Ultraviolet Light Absorber Additive 080A0000 may be added to this urethane to improve its color and gloss retention for critical applications. 080A0000 is prepackaged (5 fluid ounces in a one-half pint container) for field addition to five gallons of urethane. Use 1oz. of the additive for 1 gallon of urethane.

PRECAUTIONS

DANGER! FLAMMABLE LIQUID AND VAPOR. HARMFUL OR FATAL IF SWALLOWED. ASPIRATION HAZARD - CAN ENTER LUNGS AND CAUSE DAMAGE. HARMFUL IF INHALED. MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS, INCLUDING DIZZINESS, HEADACHE OR NAUSEA. CAUSES EYE, SKIN AND RESPIRATORY TRACT IRRITATION. MAY CAUSE ALLERGIC SKIN AND RESPIRATORY REACTION. OVEREXPOSURE MAY CAUSE BLOOD, LIVER, KIDNEY DAMAGE. USE ONLY WITH ADEQUATE VENTILATION. KEEP OUT OF THE REACH OF CHILDREN. NOTICE: Products in this series contain solvents. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. For emergency information call (800) 545-2643. Keep away from heat, sparks and flame. **Do not smoke.** Vapors may ignite. Extinguish all flames, burners, stoves, heaters and pilot lights and disconnect all electrical motors and appliances before use and until all vapors are gone. If sanding is done, wear a dust mask to avoid breathing of sanding dust. Do not breathe vapors or spray mist. If you experience eye watering, headaches, or dizziness, leave the area. If properly used, a respirator may offer additional protection. Obtain professional advice before using. Close container after each use. **FIRST AID:** In case of skin contact, wash off **quickly** with plenty of soap and water, remove contaminated clothing. For eye contact flush **immediately** with large amounts of water, for at least 15 minutes. **Obtain emergency medical treatment.** If swallowed, **obtain medical treatment immediately.** If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs, **get medical help.** **Note: These warnings encompass the product series. Prior to use, read and follow product-specific MSDS and label information.**

DS174-0798

SHIPPING

Freight Classification: Paint, 3, PG III, UN1263 (Flammable Liquid)
Flash point: 77°F (25°C)
Packaging: 1 gallon kit (3.785L) 5 gallon kit (18.925L)
 0.90 gallon base 4.5 gallon base
 0.10 gallon converter 0.5 gallon converter

Shipping Weight: 4 - 1 gallon kits - 49.2 lbs. (22.4 kg)
 5 gallon kit - 62.5 lbs. (28.4 kg)

389KXXXX (11/99)
 Ad Stock #68738C



Cleveland,
 Ohio, U.S.A.
 800-654-2616
 www.devcocoatings.com

ICI Devco Coatings is a member of the ICI Paints World Group

LIMITATION OF LIABILITY: To the best of our knowledge, the technical data contained herein are true and accurate at the date of issuance but are subject to change without prior notice. We guarantee our product to conform to the specifications contained herein. WE MAKE NO OTHER WARRANTY OR GUARANTEE OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE. Liability, if any, is limited to replacement of the product or refund of the purchase price. LABOR OR COST OF LABOR AND OTHER CONSEQUENTIAL DAMAGES ARE HEREBY EXCLUDED.

Mike Cyr

From: Mike Cyr [mike@beckerstructural.com]
nt: Thursday, February 09, 2006 2:16 PM
o: Dick Curtis (rcurtis@cwsarch.com)
Cc: Paul Becker (paul@beckerstructural.com)
Subject: Devoe389 Paint Substitute



devoe 379
letter.pdf (89 KB)



devoe 379 spec.pdf
(1 MB)

Dick,

I've attached the paint spec. for the proposed substitute of ICI Devoe 389 which is being applied to the balcony railings. I've also attached a letter from the local ICI representative which states that the proposed substitute is suitable as an alternate product. We've accepted the devoe 379 as a substitute for the 389 product.

Michael P. Cyr, P.E.

BECKER STRUCTURAL ENGINEERS, INC.
75 York Street
Portland, ME 04101
(p) 207-879-1838
(f) 207-879-1822



973 Congress Street
Portland, Maine 04102
Tel: (207) 772-6236
Fax: (207) 772-1417

©Dulux Paint Centers

Becker Structural Engineers
75 York Street
Portland, Maine 04101

2/9/06

Dear Mike Cyr,

Re: Devthane 379

This letter is to inform you that our Devthane 379 Urethane is approved as an alternate for the Devthane 389 Urethane. For future projects you are specifying you will need to refer to the changes in the State of Maine to comply with new OTC requirements. I would be happy to help you with understanding these changes which impact what products are available for sale in this state. Should you have any questions, please feel free to contact me.

Regards,

Steve Dunn CSI
I/M P/M Sales

cc: Mike Crockett



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DEVTHANE™ 379UVA

Aliphatic Urethane Gloss Enamel

(White, Ready-Mixed & Custom Colors)

Cat. # 379KXXXX

PRODUCT DESCRIPTION

Generic: Aliphatic Acrylic Urethane

General Description: A high performance, two-component chemically-cured aliphatic urethane gloss enamel for use in areas where maximum gloss & color retention are required.

Typical Uses: For use on properly prepared and primed steel, concrete or steel floors, masonry, drywall, plaster, metal, concrete block, galvanized, aluminum, poured concrete, and glazed brick. Ideal for use on exterior or interior structural steel, piping, metal buildings, control cabinetry, conveyors, pumps, storage tanks, motors, machinery, and transportation vehicles. Can also be used in the hard service areas of food processing plants, dairies, schools, restaurants, hospitals, correctional facilities, factories, stadiums, arenas, and amusement parks.

Special Qualifications: Suitable for use on structural surfaces or surfaces where there is a possibility of incidental food contact in commercial food preparation establishments, food processing plants and federally inspected meat and poultry plants. USDA no longer requires or furnishes product certification letters.

FEATURES

Advantages:

- Exceptional gloss and color retention
- Excellent abrasion and chemical resistance
- Higher solids and higher film build than typical urethane finishes
- VOC Compliant Urethane
- Easily applied by brush, roller or spray
- Wide color selection, including safety colors
- Excellent resistance to marring, chipping, and scratching
- Performance alternate for Devthane 369 and 4708
- Contains ultraviolet light absorber

Graffiti Resistance:

Excellent resistance to most graffiti materials such as spray paint, magic markers and lipstick. Contact your ICI Devoe Coatings representative for more information on Devclean™ 99 Graffiti Cleaner.

Limitations of Use: Color may change as temperature approaches 250°F (121°C) limit, but the film will remain intact.

PERFORMANCE DATA

- Adhesion:** (ASTM D 4541) – Excellent
- Salt Spray Resistance:** (ASTM B 117) – Excellent
- Abrasion Resistance:** (ASTM D 4060) – Excellent
- Humidity Resistance:** (ASTM D 2247) – Excellent
- Exterior Exposure:** 45° South Florida – Excellent

SPECIFICATION DATA

Color: White (tintable), ready-mixed & custom colors

Finish: Gloss (90 units @ 60°)

Reduction Solvent: T-9 for spray, T-17 for brush or roller

Clean-up Solvent: T-9 Thinner

Weight/Gallon: 11.0 lbs./gal. (1.32 kg/L) – varies with color

VOC (EPA 24): 2.60 lbs./gal. (311 g/L) – varies with color

Solids By Volume (ASTM 2697-7 days): 63%

Theoretical Coverage at 1.0 Mil (25 microns) Dry: 1011 sq. ft./gal. (24.9 m²/L)

Recommended Film Thickness: 2.0-3.0 mils (50-75 microns) dry – 3.2-4.8 mils (80-120 microns) wet

Systems: Please consult the appropriate system guide, the particular job specification or your ICI Devoe Coatings' Industrial Coatings Specialist for proper systems using this product. Systems must be selected considering the particular environment involved.

Service Temperature Limits: 250°F (121°C) dry

Minimum Dry Time (ASTM D 1640): 2 mils (50 microns) DFT

Substrate Temperature	40°F (4°C)	60°F (16°C)	80°F (27°C)
Minimum Recoat Dry Hard	10 Hours	6 Hours	3 Hours
Maximum Recoat Self	>32 Hours	24 Hours	16 Hours
	2 Weeks	2 Weeks	2 Weeks

Warning: The above table provides guidelines only. Always consult your ICI Devoe Coatings Specialist for appropriate recoat windows since the maximum aged recoat time of this product may be significantly shortened or lengthened by a variety of conditions, including, but not limited to humidity, surface temperature, and the use of additives or thinners. The use of accelerators or force curing may shorten the aged recoat of individual coatings. The above recoat windows may not apply if recoating with a product other than those listed above. If the maximum aged recoat window is exceeded, please consult your ICI Industrial Coatings Specialist for appropriate recommendations to enhance adhesion. Failure to observe these precautions may result in intercoat delamination.

Shelf Life: Over 12 months at 77°F (25°C) – unopened.

Hardness (ASTM D 3363, 7 day cure @ 77°F (25°C): 4H

Mix Ratio By Volume: 4 (base): 1 (converter) – see mixing instructions.

Induction: None – see mixing instructions.

Pot Life: 4 hours @ 77°F (25°C)

Chemical Resistance: (ASTM D 1308 – 24 hour contact) resists splash and spillage of alkalis, salts, moisture, oils, greases, foodstuffs and detergents.

Stain Resistance: (ASTM D 1308 – 1 week contact) Excellent. Resists stains such as crayon, lipstick, coffee, soil medium, shoe polish, grape juice, ink pen, marker, and spray paint.

DANGER! FLAMMABLE. HARMFUL OR FATAL IF SWALLOWED. Read Label and Material Safety Data Sheet Prior to Use. See other cautions on last page. DSF3-0895



ICI DEVOE COATINGS
A member of the ICI Paints World Group

FINISHES
SPECIAL COATINGS (9900)

09800

SPECIAL COATINGS (9900)

A member of the ICI Paints World Group



GENERAL SURFACE PREPARATION

All surfaces must be sound, clean, dry, and free of oil, grease, mildew, form release agents, laitance, and foreign matter. To insure the best appearance, the primer or undercoat should be smooth and free of any face defects such as runs, dry spray or heavy orange peel.

New Surfaces: Steel - Clean and prime with DEVVRAN® 205, DEVVRAN® 220, DEVVRAN® 224HS, BAR-RUST 231™, BAR-RUST 233H™, BAR-RUST 235™, or TRU-GLAZW-WB® 4030 Epoxy. **Concrete Block** - Fill with DEVVRAN 205, DEVVRAN 220, DEVVRAN 224HS, BAR-RUST 231, BAR-RUST 235, BAR-RUST 233H, TRU-GLAZE-WB 4030 Epoxy, or BLOXFIL® 4000. **Fiberglass** - Solvent wipe, scuff sand and solvent wipe again. Prime with DEVVRAN 224HS. **Concrete Floors, Poured Concrete** - Cure at least 30 days. pH must be 10.0 or lower before painting. Acid etch or abrasive blast slick, glazed concrete or concrete with laitance. Prime with

DEVVRAN® 205, DEVVRAN® 220, DEVVRAN® 224HS, BAR-RUST 231™, BAR-RUST 233H™ Epoxy, BAR-RUST 235™, or TRU-GLAZE-WB® 4030 thinned 25% with recommended thinner or use PRE-PRIME 167™ or 168LTC™ Penetrating Sealer. **Drywall** - Prime with a premium acrylic latex vapor barrier primer-sealer. **Galvanized Steel and Aluminum** - Remove dirt and oils by solvent cleaning or with Devco Coatings DEVPREP® 88 Cleaner followed by a thorough water rinsing. Prime with DEVVRAN 205 or 201 Epoxy Primer.

Previously Painted Surfaces: Remove loose and peeling paint. Scuff sand glossy areas. Old coatings should be tested for lifting and bleeding. If they lift or bleed, remove them. Prime bare areas with a primer specified under **New Surfaces**.

DIRECTIONS FOR USE

Tinting: Tint the appropriate base with CHROMA-CHEM 844 colorants. (Do not use water based or other colorants.) Add colorants to only the base portion. Mix thoroughly before adding the converter portion.

Thinning: Thinning is not normally required or desired, and excessive thinning can adversely affect application and appearance properties. However, at lower temperatures, small amounts (5% or less) of the solvents on the reverse page may be added depending on local VOC and air quality regulations. Small amounts (5% or less) of Devco Coatings T-17 Thinner will improve roller or brush applications. For end uses such as transportation vehicles where the smoothest, orange peel-free appearance is desired, additional thinning may be needed.

Mixing: DEVTHANE 379UVA Enamel is a two component product supplied in 5 gallon or 1 gallon kits which contain the proper ratio of ingredients. The entire contents of each container must be mixed together. It is important that all mixing equipment is free of moisture and that moisture does not contaminate the coating. Mix the base portion to obtain a smooth, homogeneous condition. After mixing the base portion, add the converter slowly with continued agitation. Mix thoroughly. The pot life of the mixed material is 4 hours at 77° (25°C). Higher temperatures will reduce working time of the coating; lower temperatures will increase it.

Application: Apply by airless spray, air spray, roller or brush. For airless spray, any air, electric, or gas operated airless sprayer capable of 3,000 psi (207 bars) and able to support a .011" to .017" tip sizes can be used. Multiple guns and long fluid lines require pumps with adequate capacity. For air spray application, use a Graco #800 gun; a .070" or larger fluid tip. Adjust fluid and air pressure to get a good spray pattern.

Note: Be sure all spray equipment and fluid lines are clean, and free of water or solvents. For brush application, use good quality, dry, clean brushes. For roller application use new, short nap mohair rollers. Do not apply over wet surfaces or under very humid conditions where condensation or fog could settle on the coating during the cure process. Brushing and rolling may require multiple coats to achieve correct film thickness and/or hiding.

Spreading Rate: For maximum protection in corrosive areas, apply at 335 sq. ft. per gallon (8.2 m²/L) or 3.0 mils (75 microns) dry-4.8 mils (120 microns) wet. In mild to moderate exposures, apply at 500 sq. ft. per gallon (12.25 m²/L) or 2.0 mils (50 microns) dry-3.2 mils (80 microns) wet. Make allowance for any losses due to overspray or surface irregularities.

Dry Time: At 80°F (27°C) & 50% R.H., dries to recoat in 3 hours and dries hard in 16-24 hours.

Clean-up: Use T-9 Thinner.

Cure Acceleration: Devthane Cure Accelerator 070A0000 may be used to accelerate cure of this urethane at or below 40°F (5°C). 070A0000 is prepackaged (5 fluid ounces in a one-half pint container) for field addition. The addition of one to two ounces per gallon of urethane (one to two containers per five gallons of urethane) will decrease the dry hard time approximately one-third to one-half respectively. The pot life will be reduced one-half to three-fourths.

Ultraviolet Light Absorbers (UVA): Contains Devthane Ultraviolet Light Absorber.

PRECAUTIONS

DANGER! FLAMMABLE LIQUID AND VAPOR. HARMFUL OR FATAL IF SWALLOWED. ASPIRATION HAZARD - CAN ENTER LUNGS AND CAUSE DAMAGE. HARMFUL IF INHALED. MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS, INCLUDING DIZZINESS, HEADACHE OR NAUSEA. CAUSES EYE, SKIN AND RESPIRATORY TRACT IRRITATION. MAY CAUSE ALLERGIC SKIN AND RESPIRATORY REACTION. OVEREXPOSURE MAY CAUSE BLOOD, LIVER, KIDNEY DAMAGE. USE ONLY WITH ADEQUATE VENTILATION. KEEP OUT OF THE REACH OF CHILDREN. NOTICE: Products in this series contain solvents. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. For emergency information call (800) 545-2643. Keep away from heat, sparks and flame. Do not smoke. Vapors may ignite. Extinguish all flames, burners, stoves, heaters and pilot lights and disconnect all electrical motors and appliances before use and until all vapors are gone. If sanding is done, wear a dust mask to avoid breathing of sanding dust. Do not breathe vapors or spray mist. If you experience eye watering, headaches, or dizziness, leave the area. If properly used, a respirator may offer additional protection. Obtain professional advice before using. Close container after each use. **FIRST AID:** In case of skin contact, wash off quickly with plenty of soap and water, remove contaminated clothing. For eye contact flush immediately with large amounts of water, for at least 15 minutes. Obtain emergency medical treatment. If swallowed, obtain medical treatment immediately. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs, get medical help. **Note: These warnings encompass the product series. Prior to use, read and follow product-specific MSDS and label information.**

00174-0700

SHIPPING

Freight Classification: Paint, 3, PG III, UN1263 (Flammable Liquid)
Flash point: 80°F (27°C)
Packaging: 1 gallon kit (3.785L) 5 gallon kit (18.925L)
0.80 gallon base 4.00 gallon base
0.20 gallon converter 1.00 gallon converter

Shipping Weight: 1 gallon kit - 12 lbs. (5.4 kg)
5 gallon kit - 59 lbs. (26.8 kg)

379KXXXX (11/95)
Ad Stock #68659E



Cleveland,
Ohio, U.S.A.
800-654-2616
www.devcocoatings.com

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LIMITATION OF LIABILITY: To the best of our knowledge, the technical data contained herein are true and accurate at the date of issuance but are subject to change without prior notice. We guarantee our product to conform to the specifications contained herein. WE MAKE NO OTHER WARRANTY OR GUARANTEE OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE. Liability, if any, is limited to replacement of the product or refund of the purchase price. LABOR OR COST OF LABOR AND OTHER CONSEQUENTIAL DAMAGES ARE HEREBY EXCLUDED.



DEVOE
COATINGS

DEVTHANE™ 379
Aliphatic Urethane Gloss Enamel

Effective Date 1/30/96

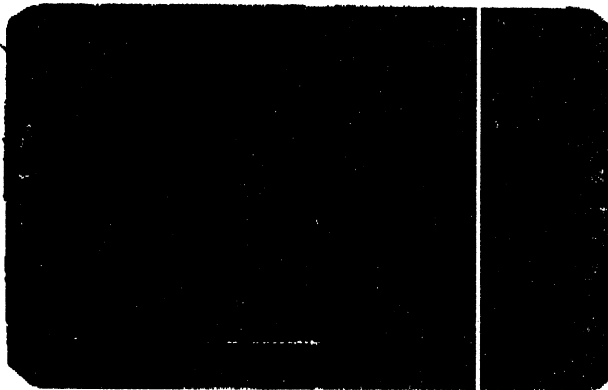
<u>Property</u>	<u>Method</u>	<u>Result</u>
Abrasion Resistance	ASTM D 4060, CS-17, 1000 gram load, 1000 cycles	69 mg loss
Adhesion	ASTM D 4541	800 psi
Exterior Exposure	Exposed in Florida facing 45° South for 3 years.	No blistering, cracking or loss of adhesion. Less than 15% loss of gloss.
Humidity Resistance	ASTM D 2247, 1000 hours	No blistering, cracking, softening, or loss of adhesion.
Pencil Hardness	ASTM D 3363	4H
Salt Fog Resistance	ASTM B 117, 1000 hours	No effect on film integrity or adhesion. Less than 1/8 inch undercutting at scribe. Less than 5% rusting at edges.
Stain Resistance	ASTM D 1308, 1 week contact at 77°F. Crayon, lipstick, coffee, soil medium, shoe polish, grape juice, ink, marker, spray paint.	Stains were removed with detergent and water or Xylene or MEK, or Graffiti Cleaner.

(4/97)
Ad Stock #88720

05120.02 Welder Certifications

Timothy A Dube

#	Test Date	Sup Code	Process	Gas	Filler	Metal	Base Metal	Position	Thickness	Expires
1	03/04/97	G D1	SMAW	N/A	F4		P	A	U	04/01/06





Keith D Kretzner

Card # 030072W SSN # 007-00-1022



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Dwayne A Blake

Card # 0205001W

SSN # 006-72-1596

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OWNER'S LICENSE

NAME: Dwayne A Blake
 ADDRESS: 4206128
 CITY: [REDACTED]
 STATE: [REDACTED]
 ZIP: [REDACTED]

ISSUED: 07/17/80
 EXPIRES: 07/17/85

CLASS: C
 CATEGORY: [REDACTED]


POSITION: [REDACTED]

EXPIRES: 04/12/86

Dwayne A Blake

Dwayne A Blake
 License No. 0205001W
 SSN 006-72-1596
 Position: [REDACTED]
 Expiration: 04/12/86

DONOVAN ENGINEERING & CONSTRUCTION CO., INC.
 31 ROUTE 13 SOUTH - WOODRIDGE, NJ
 WELDER'S CERTIFICATION RECORD
 Name Marc Keltos
 Symbol MK2
 This is to certify that the above named person was tested under the requirements of ASME Code, Section IX and passed satisfactorily.
 Procedure Spec. No. 1-72-1
 Welding Symbols
 P-1-B1
 250-500
 F6/F4

LTD

 Licensee's Signature [Signature]
 LTD
 02/28/2006
 ID#
 EXPIRATION DATE

1-800-443-9389
 2000
 American Welding Society
 500 N. DuSable Ave.
 Miami, FL 33130

Jeremy E Holt
 Cert # 0510002W
 SSN # 013-66-1772



AMERICAN WELDING SOCIETY

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

MOBILE EQUIPMENT OPERATOR CERTIFICATION

THIS CARD CERTIFIES THAT...

OPERATOR NAME: **Jeremy Holt** OPERATOR SIGNATURE: *[Signature]*

has successfully fulfilled all the requirements of the AWS Mobile Equipment Operator Certification Program and is authorized to operate mobile equipment in the following work area for application:

CERTIFICATION ID: **4 4 07 507**

INSTRUCTOR NAME: **Barton 218** INSTRUCTOR SIGNATURE: *[Signature]*

EMPLOYER NAME: **Welding A** EMPLOYER SIGNATURE: *[Signature]*

Jeremy E Holt

Test Date	Sup	Code	Process	Gas	Filler	Metal	Base Metal	Position	Thickness	Expires
08/29/05	G	D1.5	FCAW	75/25	E7IT-1		SA-36	ALL	LIMITED	02/28/06
08/29/05	G	D1.1	SMAW	N/A	E7018		SA36	ALL	LIMITED	02/28/06



John L Gayton Jr

Cert # 9903093W

ISSN # 006-72-9148



AMERICAN WELDING SOCIETY

VALID ONLY IF ACCOMPANIED BY PHOTO ID

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

John L Gayton Jr

#	Test Date	Sup	Code	Process	Gas	Filler	Metal	Base Metal	Position	Thickness	Expires
1	03/10/93	G	D1.5	FCAW	N/A	E71T-1		A36	ALL	L	11/20/05
2	05/20/05	G	B2.1	SMAW	N/A	E6010/E7C18		A106B	ALL	LIMITED	11/20/05

05120.03 BSE Observation Reports

B E C K E R

structural engineers, inc.

Field Report

No. 1362-01

Project: Park Danforth Brick Replacement
Project #: WO 1362
Date/Time: June 23, 2005
Observers Paul B. Becker, P.E. (BSE), Bill Hart (ACC), Steve Hamilton(LMC Light Iron)

1. Visited the site to review existing conditions found during demolition. The existing conditions impact the repairs as currently designed. The design modifications were discussed with those present. Observations are noted below.
2. The existing relieving angles at the seventh floor varied in size with L5x5 and L6x4 LLV. This resulted on brick overhangs of 1.25" to 2.5". Angles were mismatched, improperly welded to embed plates and not in full contact with embed plates.
3. Slab edge embed plates were found to be 6"x6"x 5/16" located approximately 4'-0" on center. The anchorage of the embed was not determined.
4. The slab edge was not straight which contributed to the inconsistent brick bearing conditions. Generally, the relieving angle follows the slab edge. It was assumed that the face of gypsum sheathing is plumb. Bill Hart will verify this assumption by shooting wall with a laser. Based on the steel stud track locations and overhang of the slab edge, it seems the slab edge varies "back" from plumb by up to minus 1.25". The "forward" position of the slab edge was perhaps plus 0.25".
5. It was determined with slab in the "neutral" position, that is with slab edge and face of stud in alignment, that a 5" outstanding angle leg would provide a 1" brick overhang. A 1" overhang is the maximum permitted. Shims shall be added or angle leg sizes shall be adjusted to ensure maximum overhang is 1".
6. It was determined that the angle location could be adjusted by welding full thickness steel shims to the existing embed plates in order to drive the steel angle forward. New steel shims would be 4" wide x6" tall and welded to the existing embed plates. Shims would be provided in varying thicknesses to accommodate slab edge drift as follows.
 - For slab edge "back" drift up to 1/4", provide 1/4" shims.
 - For slab edge "back" drift up at 3/8", provide 3/8" shims.
 - For slab edge "back" drift up at 1/2", provide 1/2" shims.
 - For slab edge "back" drift up to 3/4", provide 3/4" shims. Preheat shim for proper welding. Take care not to overheat embed plate.
 - For slab edge "back" drift up over 3/4" to 1" provide L6x4x5/16 with LLH.
 - For slab edge "back" drift up over 1" to 1.5" provide L6x4x5/16 with LLH with appropriate shim to maintain maximum brick overhang of 1".
7. Replacement angles shall be L5x5x5/16 or L6x4x5/16".

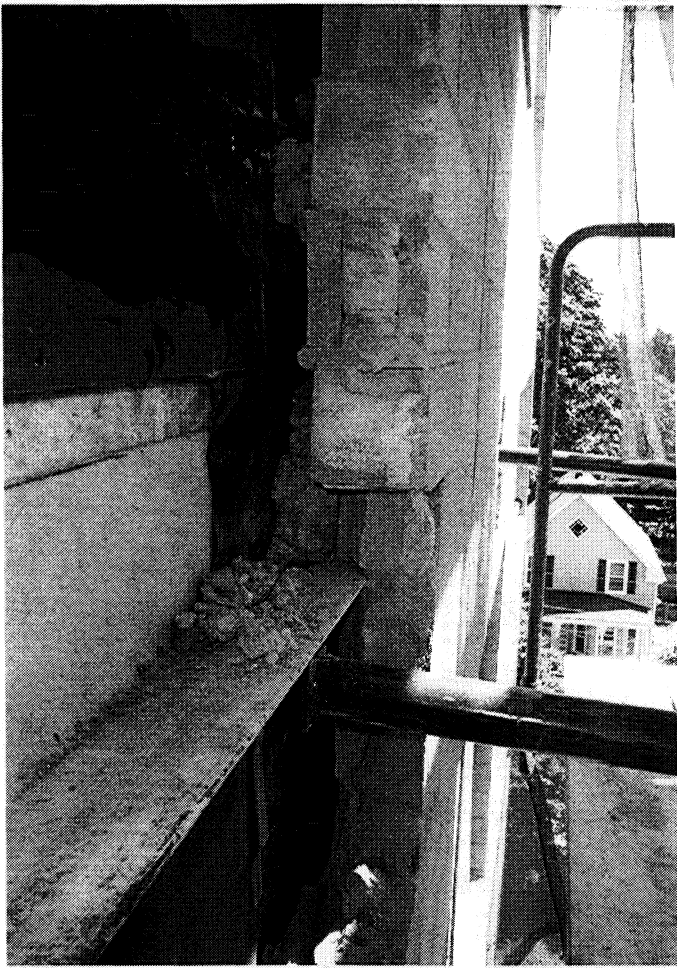
B E C K E R

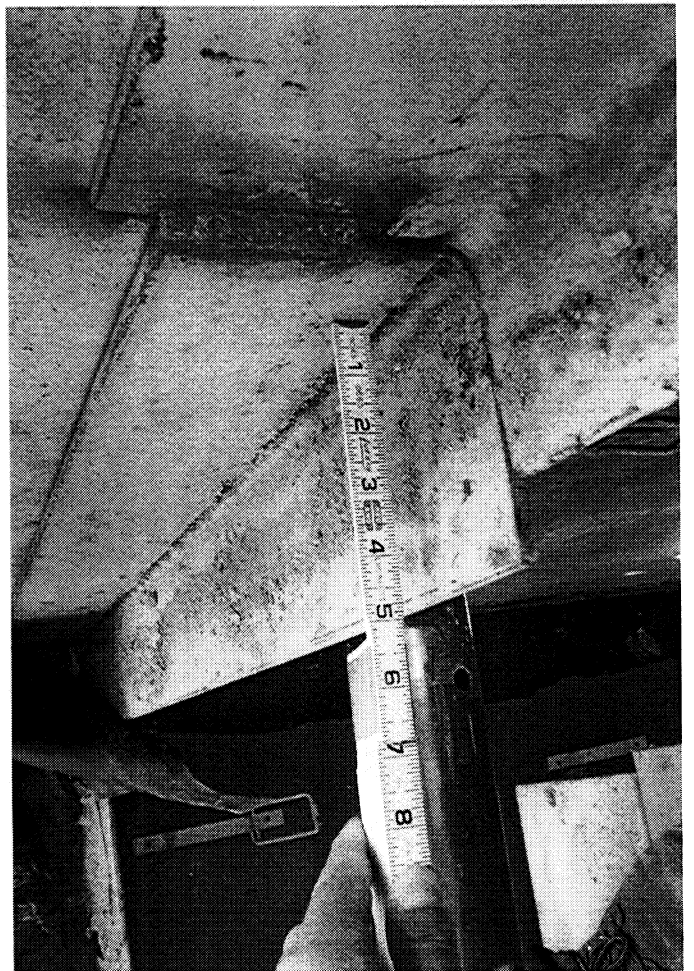
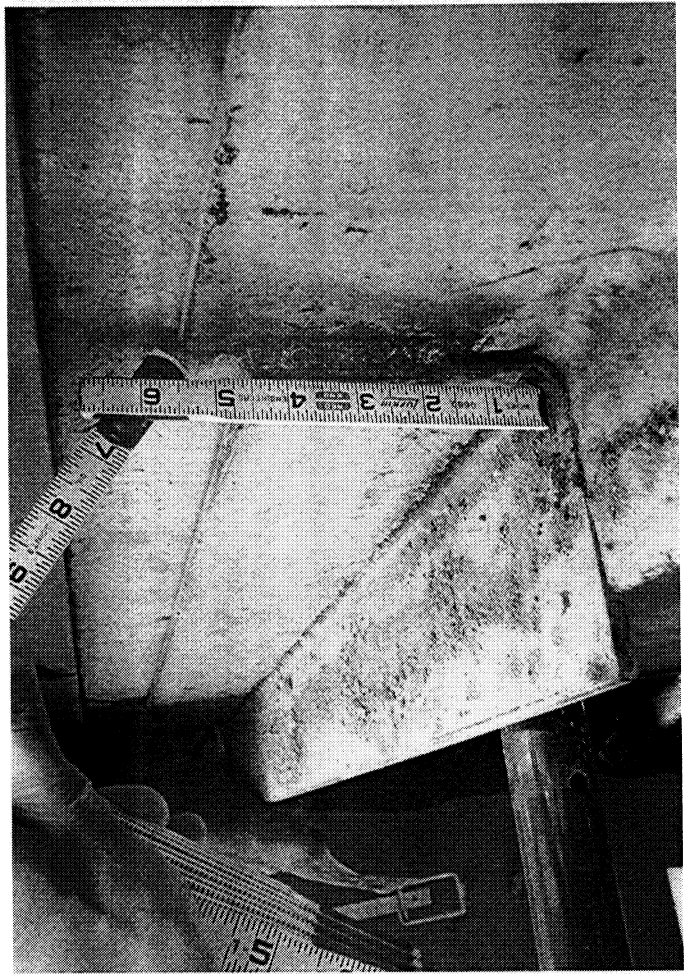
structural engineers, inc.

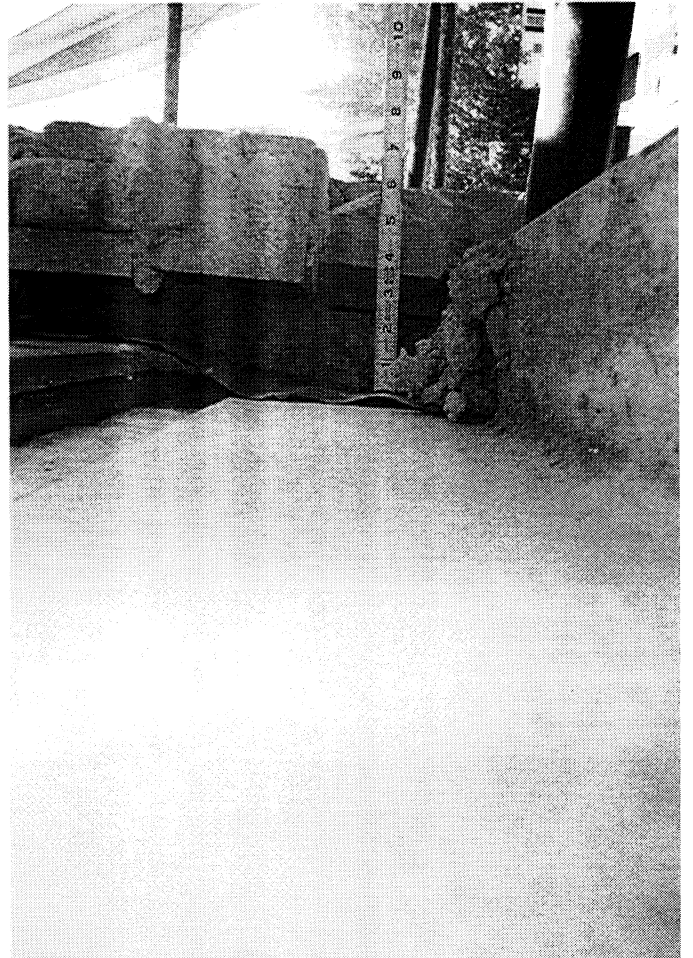
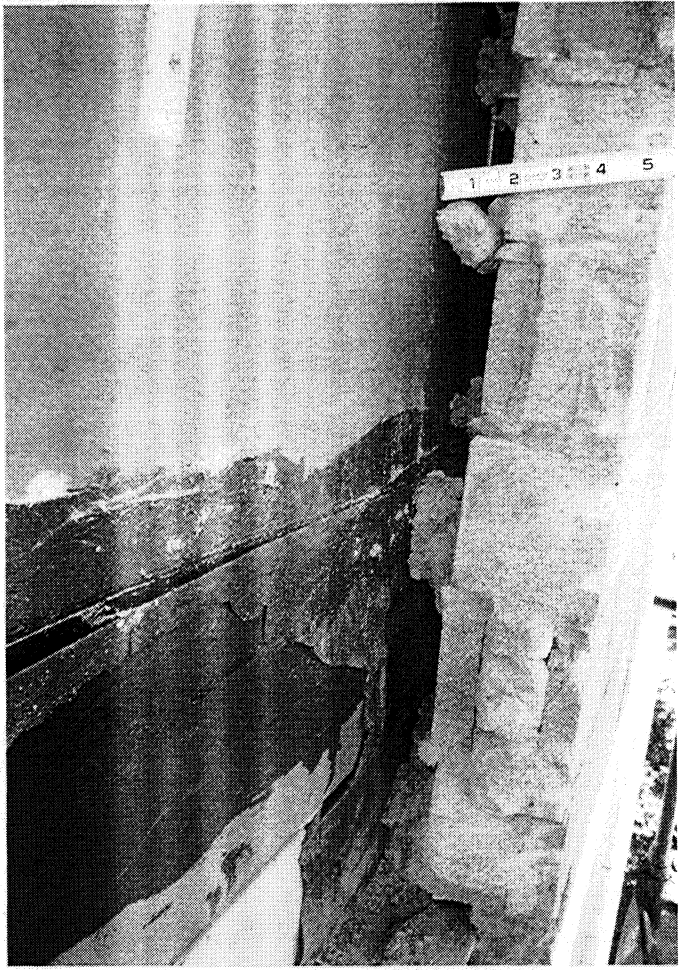
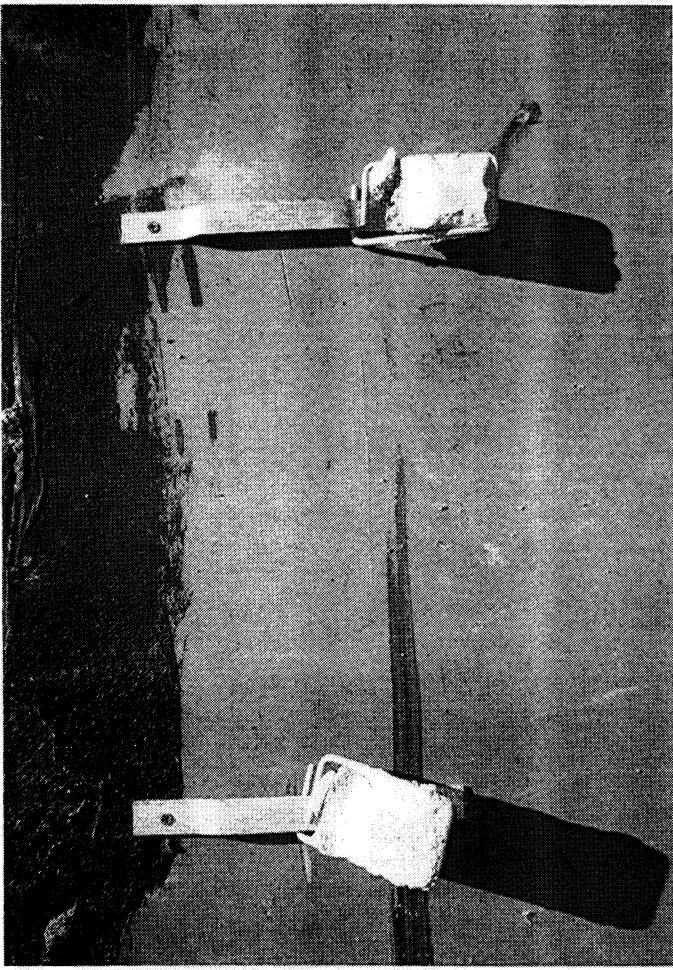
8. The masonry parapet was poorly constructed. Steel embed plates at the roof slab edge contain nelson deformed bar of #2 or #3 rebar at approximately 32" on center. The masonry is poorly grouted with little or no bond to secure the assembly. Minimal chipping exposed large voids around the rebar. Also, wood roof blocking is not properly anchored to the masonry assembly. Anchor bolts were located within the brick cavity. It is recommended that the parapet assembly be disassembled and re-built.

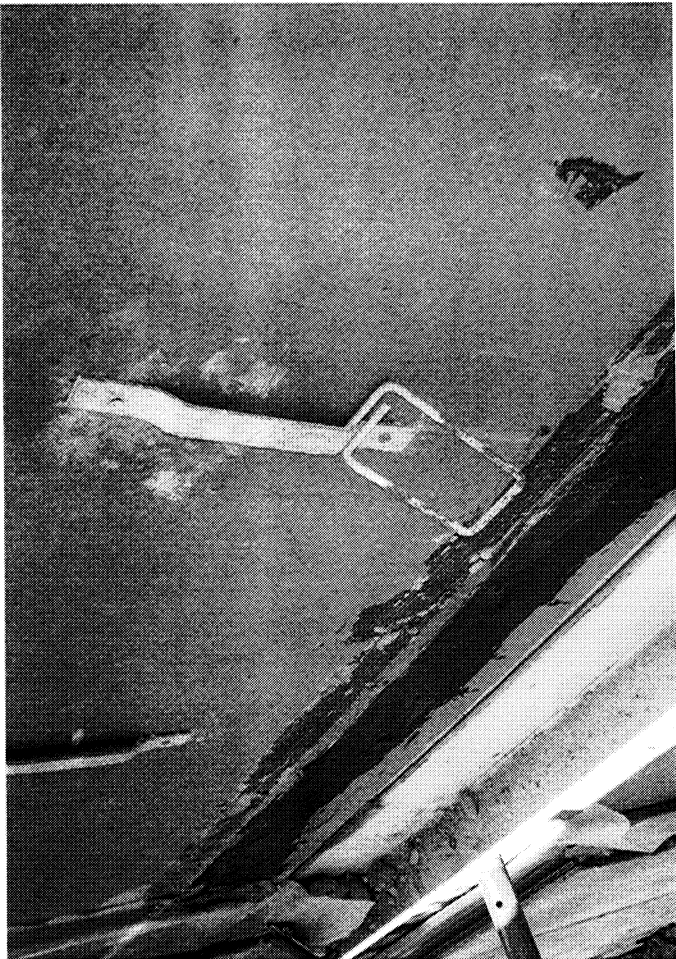
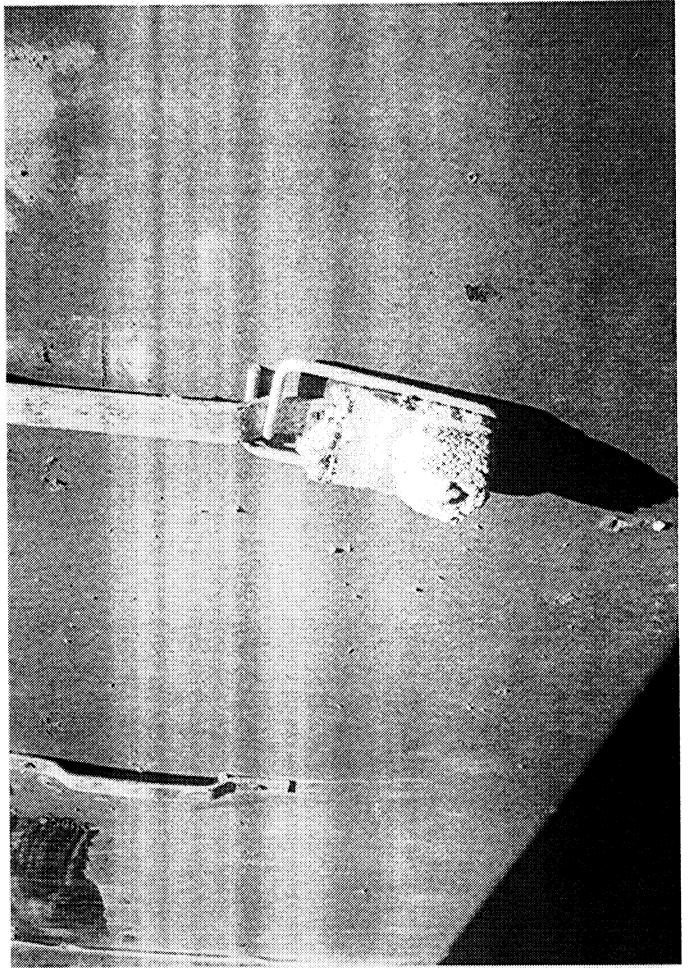
Please refer to the attached photos and sketches.

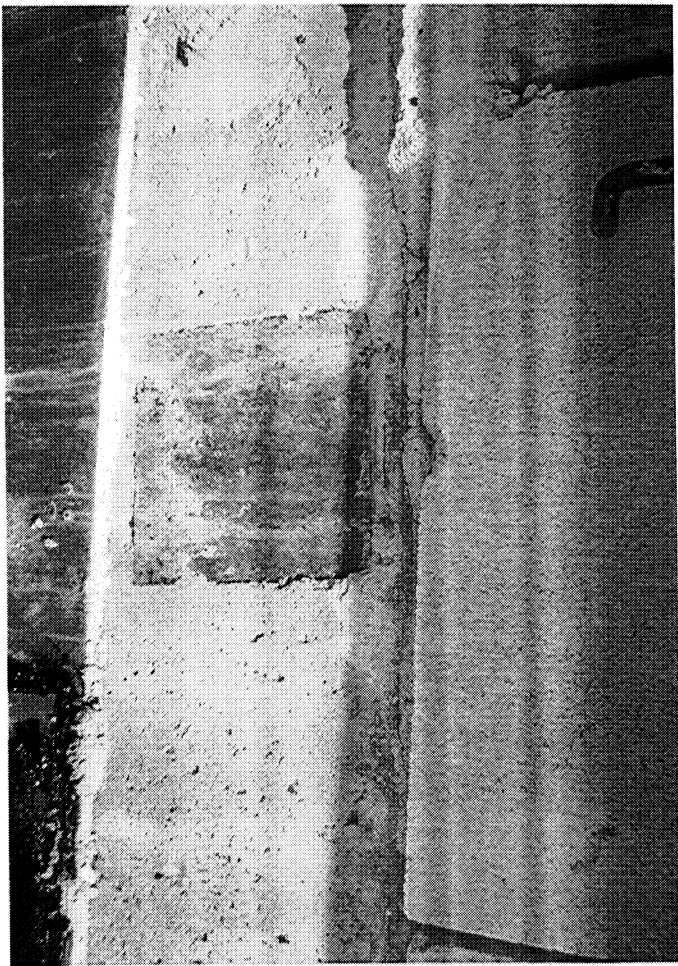
CC: File, Dick Curtis @CWS

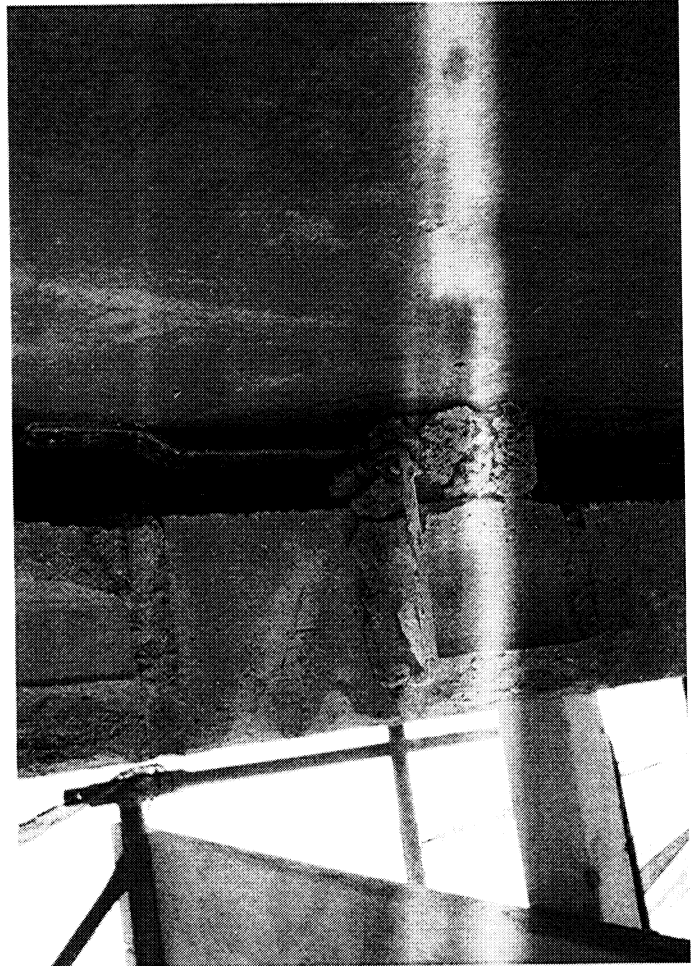
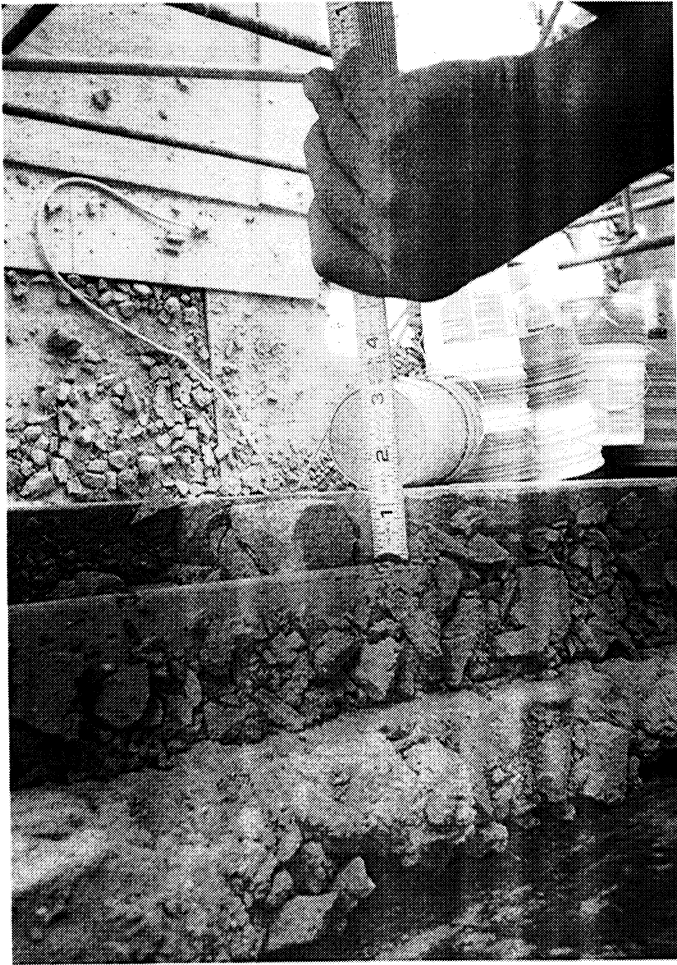










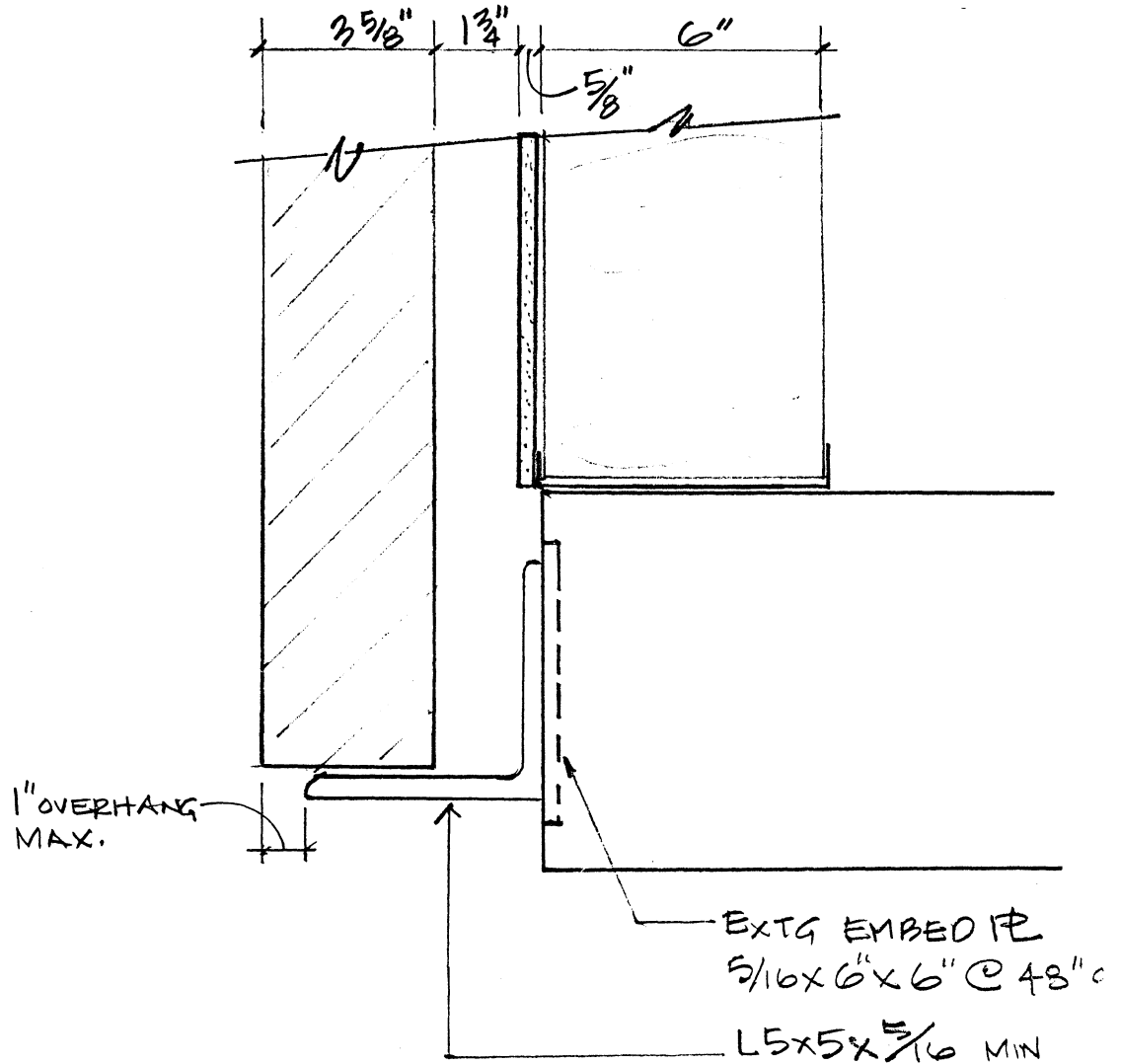


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W.O. 697 Sheet 1 Of 3
Calculated By: MMZ Date 7/7/05
Checked By: _____ Date _____



SLAB RELIEVING ANGLE DETAIL

THIS IS BASE CONDITION WHICH ASSUMES
SLAB ALIGNMENT IS "NEUTRAL".
SLAB EDGE IS AT DESIGN POSITION.

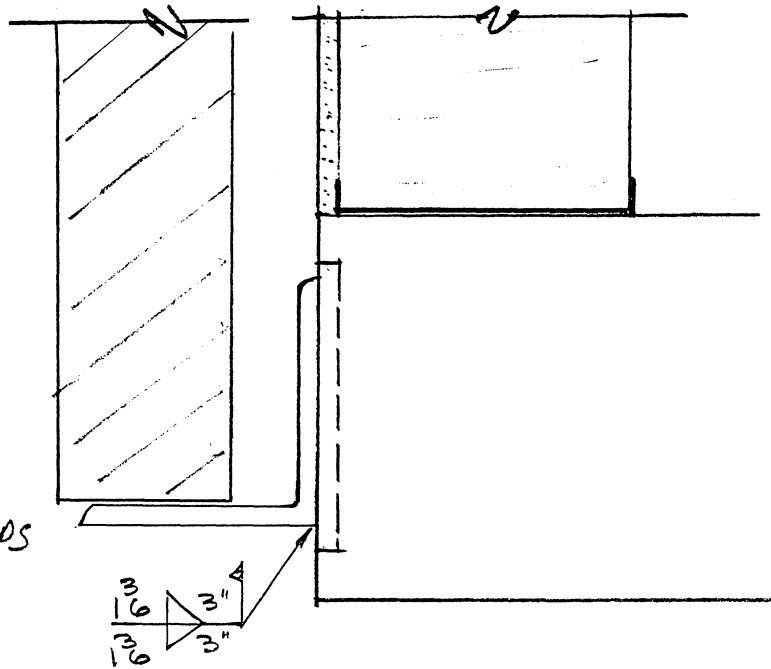
FOR SLAB EDGE "FORWARD" OR "BACK"
FROM BASE CONDITION, REFER TO DETAILS
ON NEXT SHEET.

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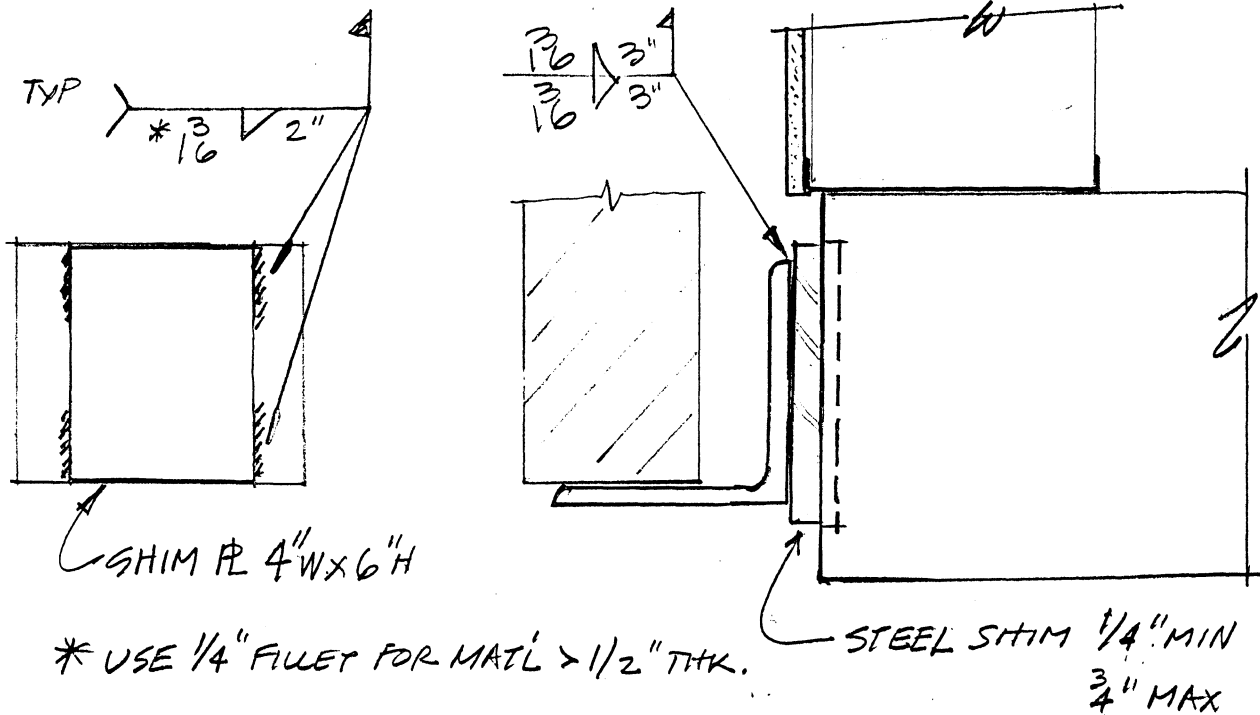
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Project: Park Danforth
W.O. 697 Sheet 2 Of 3
Calculated By: PRB Date 7-7-05
Checked By: _____ Date _____

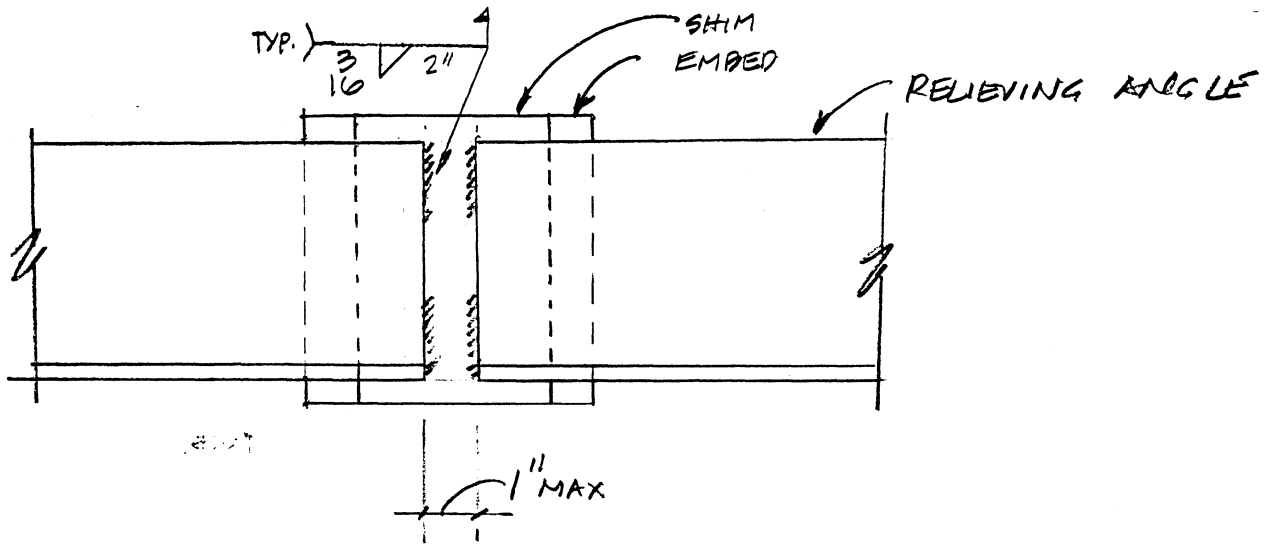


USE 5x5x5/16 ANGLE
WITH LEG MOVING TOWARDS
FACE OF BRICK.

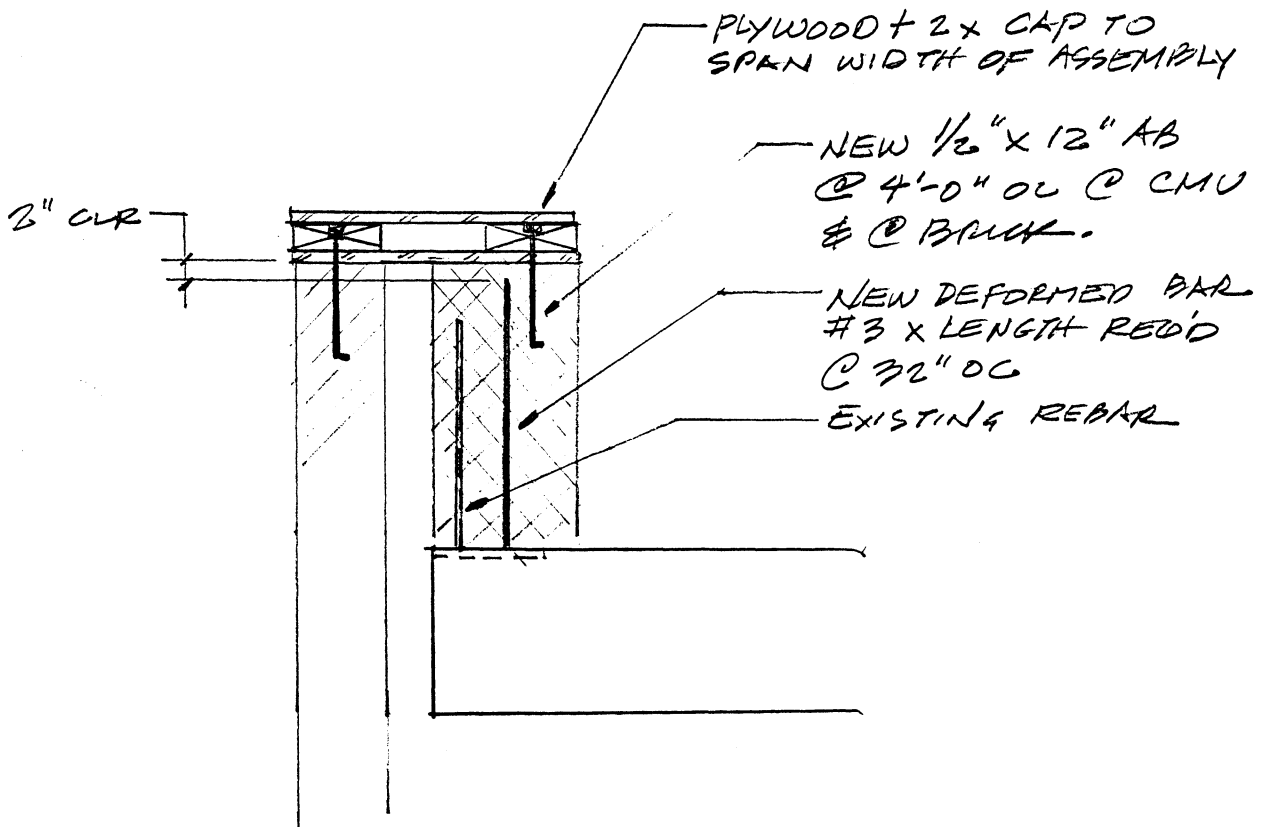
VARIATION #1 - SLAB "FORWARD" (1" MAX)



VARIATION #2 - SLAB "BACK"



RELIEVING ANGLE SPLICE DETAIL (AT EMBED ONLY)



PARAPET RECONSTRUCTION DETAIL

Field Report

No. 1362-02

Project: Park Danforth Brick Replacement
Project #: WO 1362
Date/Time: July 06, 2005
Observers Ethan Rhile, P.E. (BSE), Bill Hart (ACC),

1. Visited the site to review existing conditions over former balcony at the seventh floor. Observed lintel construction over balcony and balcony bearing at brick sidewalls. Brick sidewalls are double wythe and severely cracked in some locations. Concerns were raised as to whether brick sidewalls could be safely removed or if they were in fact load bearing.

2. Reviewed and discussed this condition with Paul Becker and it was determined that the slabs are post-tensioned to support the self weight during the initial lifting and are designed to cantilever without support of the brick sidewalls. This is the typical process for lift slab construction. Due to the uncertainties associated with existing construction, removal of brick should proceed with caution, working from the top floor down and from the outside face of balcony inward. Monitor slab edges for movement up or down and notify engineer of observations.

Please refer to the attached photos and sketches.

CC: File, Dick Curtis @CWS

Field Report

No. 1362-03

Project: Park Danforth Brick Replacement
Project #: WO 1362
Date/Time: July 20, 2005
Observers Paul B. Becker, P.E. (BSE), Dick Curtis (CWS), George Lavigne(CWS),
Bill Hart (ACC),

1. Visited the site to review existing lintel conditions to the south side of the existing entry canopy. Brick was removed and existing relieving angles were found to be inadequately supported by the existing embeds.
2. Angle lengths were not coordinated with embed spacing. Existing installation results in angles cantilevering from embeds without continuous support. This condition was most severe at the south west corner where an angle was fastened to one embed and cantilevered in two directions. These angles shall be removed and reworked. A revised detail will be provided.
3. Welds of relieving angles to embed plates on the south side of the entry were found to be of poor workmanship. Steel shims of 3/8 flat bars or #4 rebar were used to fill gap between embed and angle. Shims at the top surface only were used. This has caused many angles to roll forward under the weight of brick until in contact with bricks below relieving angle. One weld was cracked along entire length. This raised suspicions on the quality of welding for the entire existing project.
4. Relieving angle was missing on the south side (Poland Street side) of the balcony slab. A new relieving angle shall be added at this location.
4. Balcony new wall stud framing at EIFS was already in place but quality of existing welds was questioned based on observed construction to the south. It was determined that existing welds at balcony would be inspected prior to proceeding.
5. Cold formed metal framing wall studs could not be fastened to bottom tracks as per contract documents due to proximity with existing relieving angles. Bill asked if cold formed angle could be used. I took no exception to this and will provide detail.
6. Relieving angles at balcony were painted prior to fastening cold formed metal track. Bill indicated that a Sherwin Williams product was used in lieu of the Devoe product specified. It is our strong recommendation that the originally specified paint product be provided. No further field painting or shop painting shall take place until the substitute paint product is reviewed by the A/E.
7. Upper level relieving angles were found to be located lower than the existing embed plate. A revised shim detail is needed and will be provided by BSE.

Field Report Amendment 7-21-05

Spoke to Bill Hart regarding testing results for welds at balcony. Inspector found a majority of welds unacceptable due to undercut. Combined with improper technique

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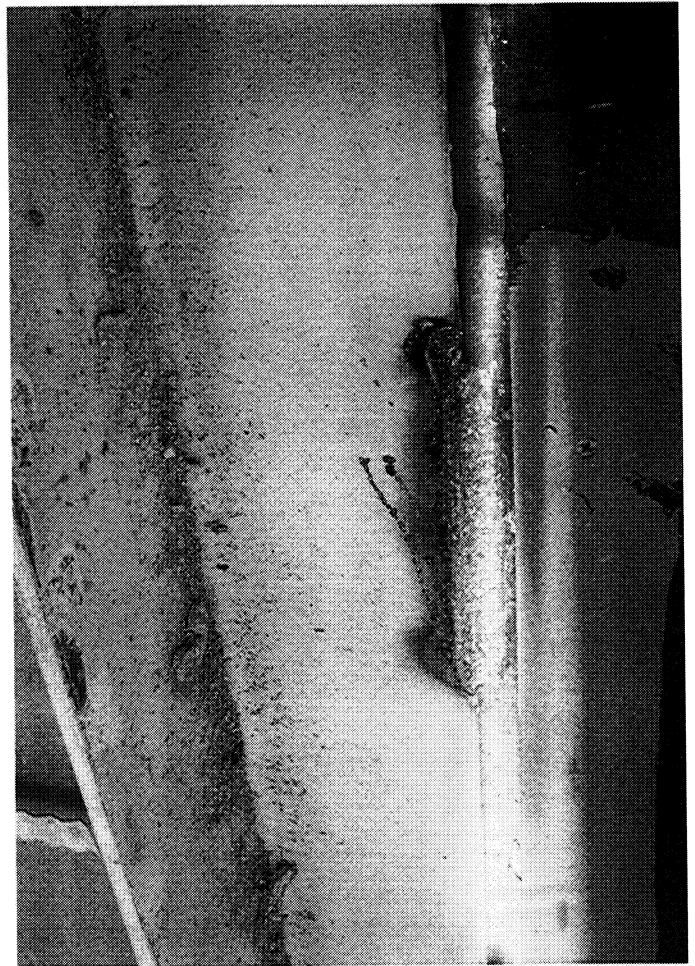
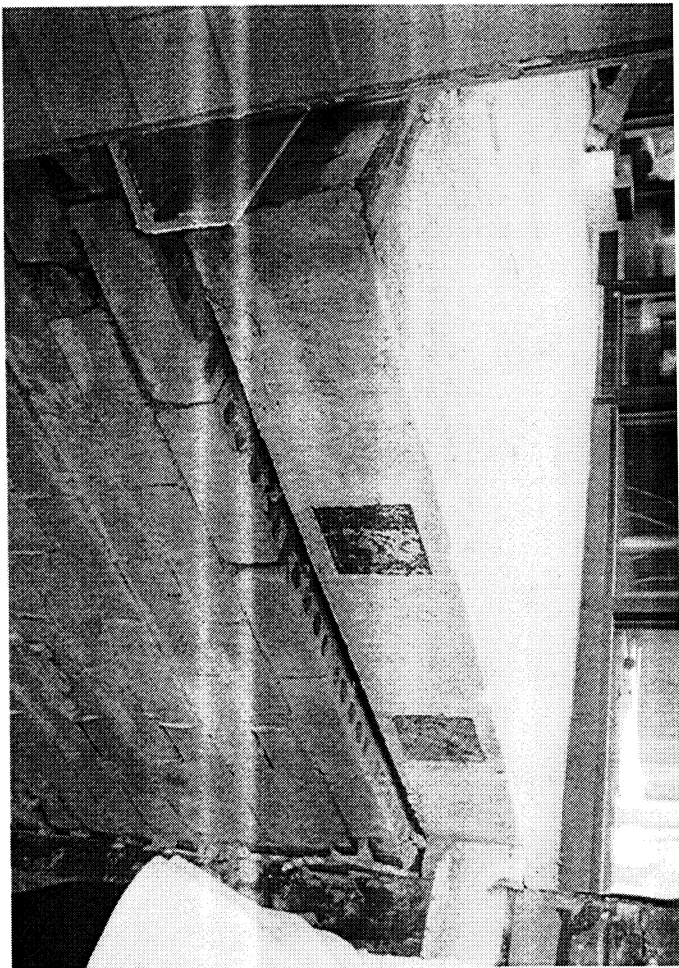
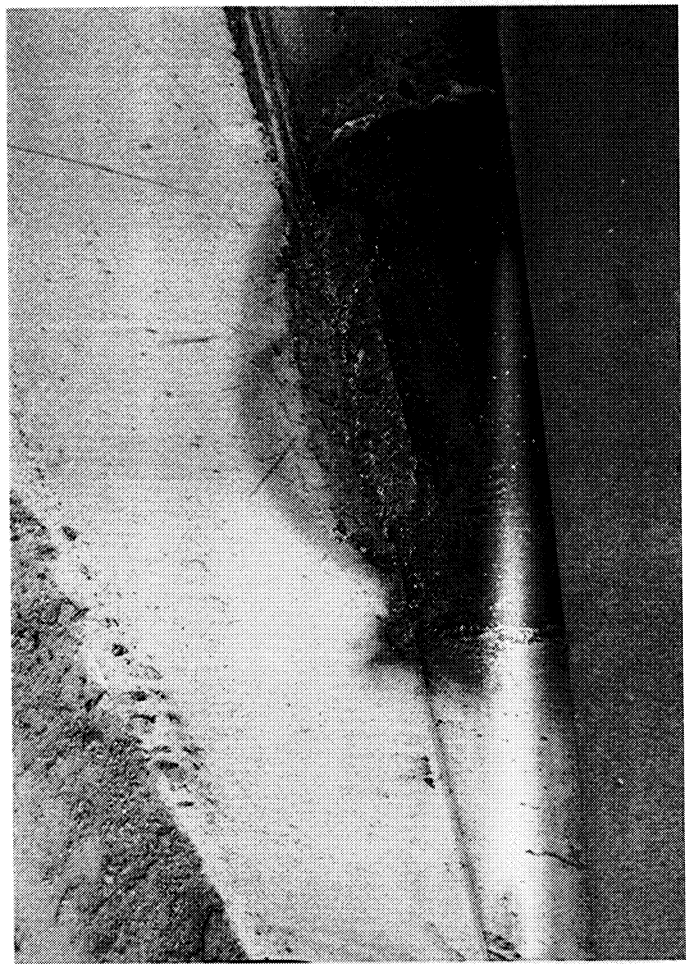
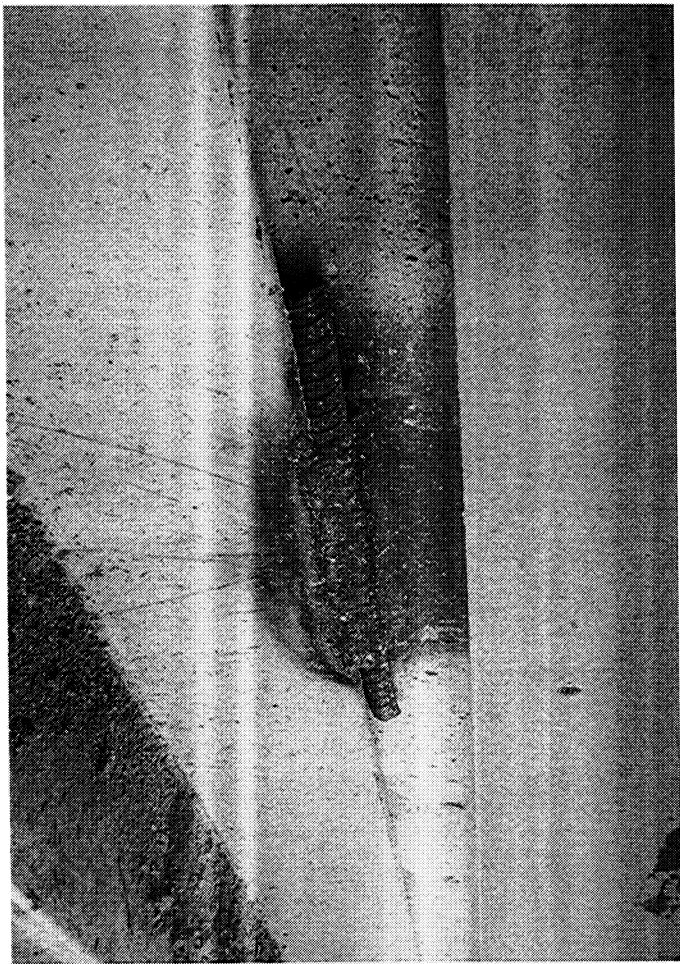
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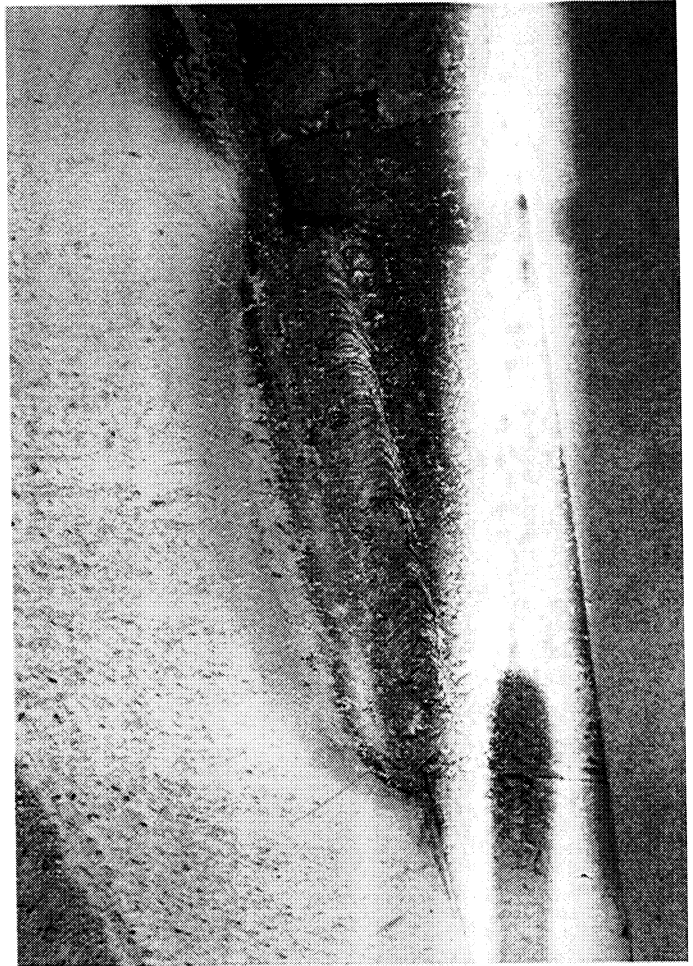
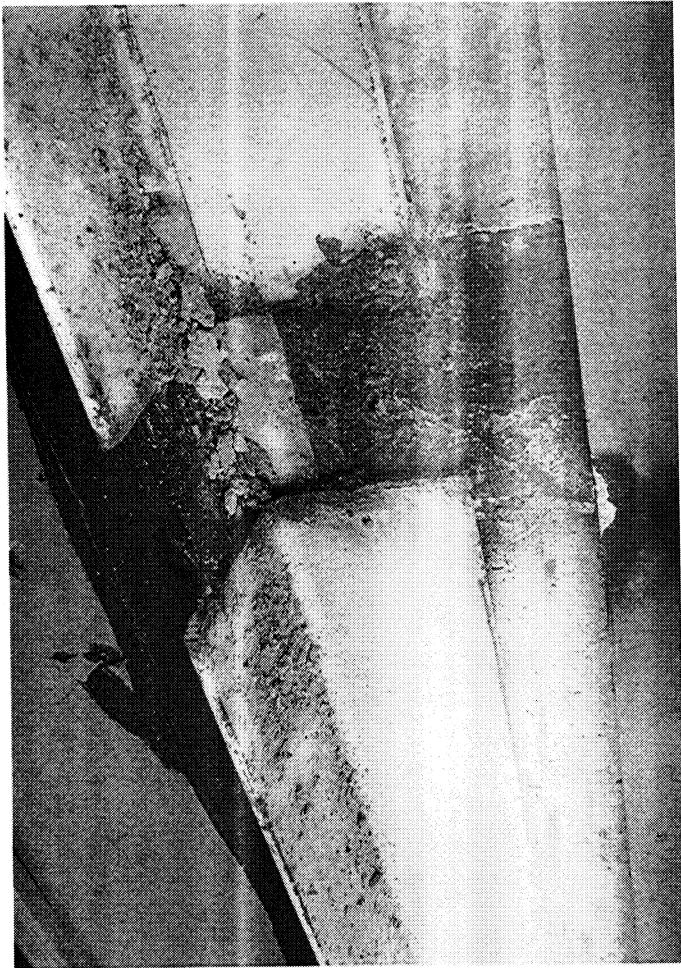
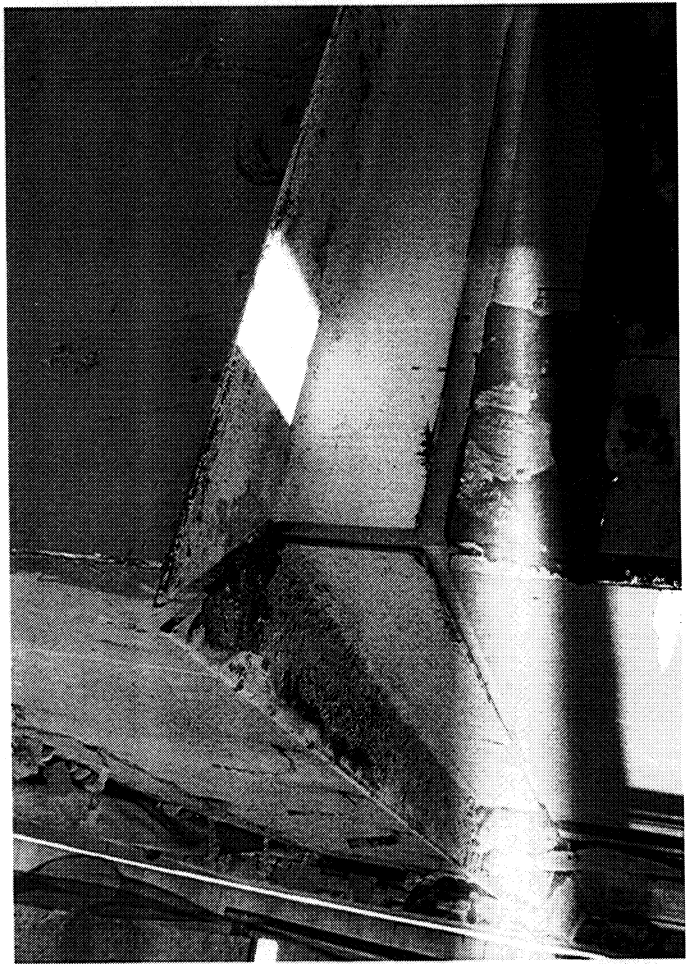
associated with welded rebar shims, rolled angles and poor workmanship, it is our recommendation that all relieving angle welds be re-done. Many locations already required that weld be removed and angles re-worked to ensure alignment with face of brick. In those locations where angles are in the proper location and position, welds shall be removed and re-welded to ensure proper procedure and weld quality are achieved.

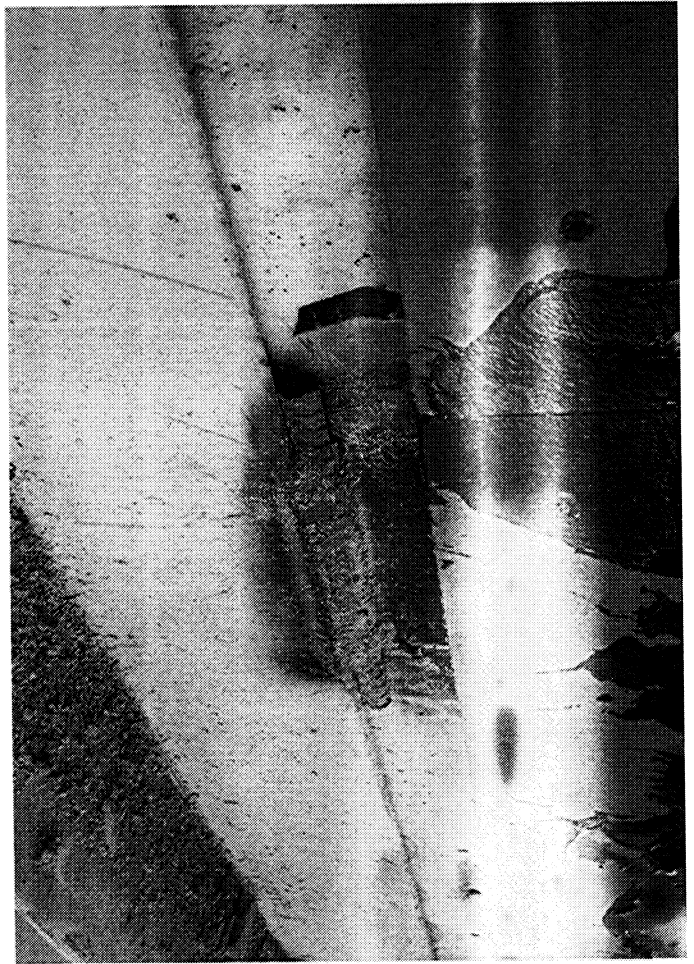
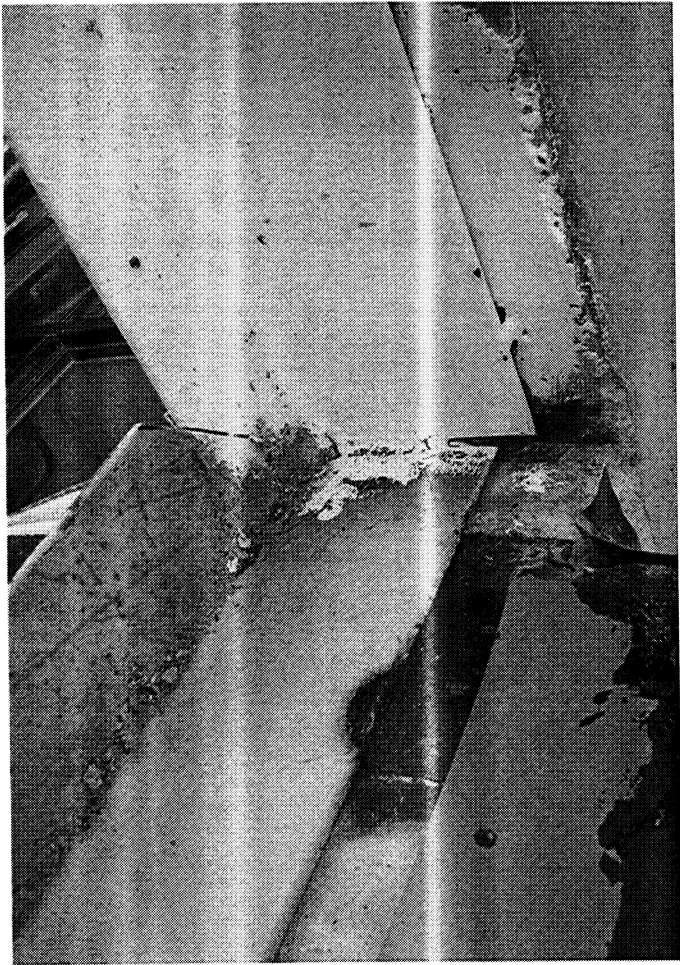
At balcony over entry where cold-formed framing is already in place, welds may be ground down in place and re-worked to ensure proper weld quality and strength is achieved. Re-work shall strive to salvage cold-formed framing which is already installed.

Please refer to the attached photos and sketches for supplemental info.

CC: File, Dick Curtis @CWS, Paul Laliberte@ACC





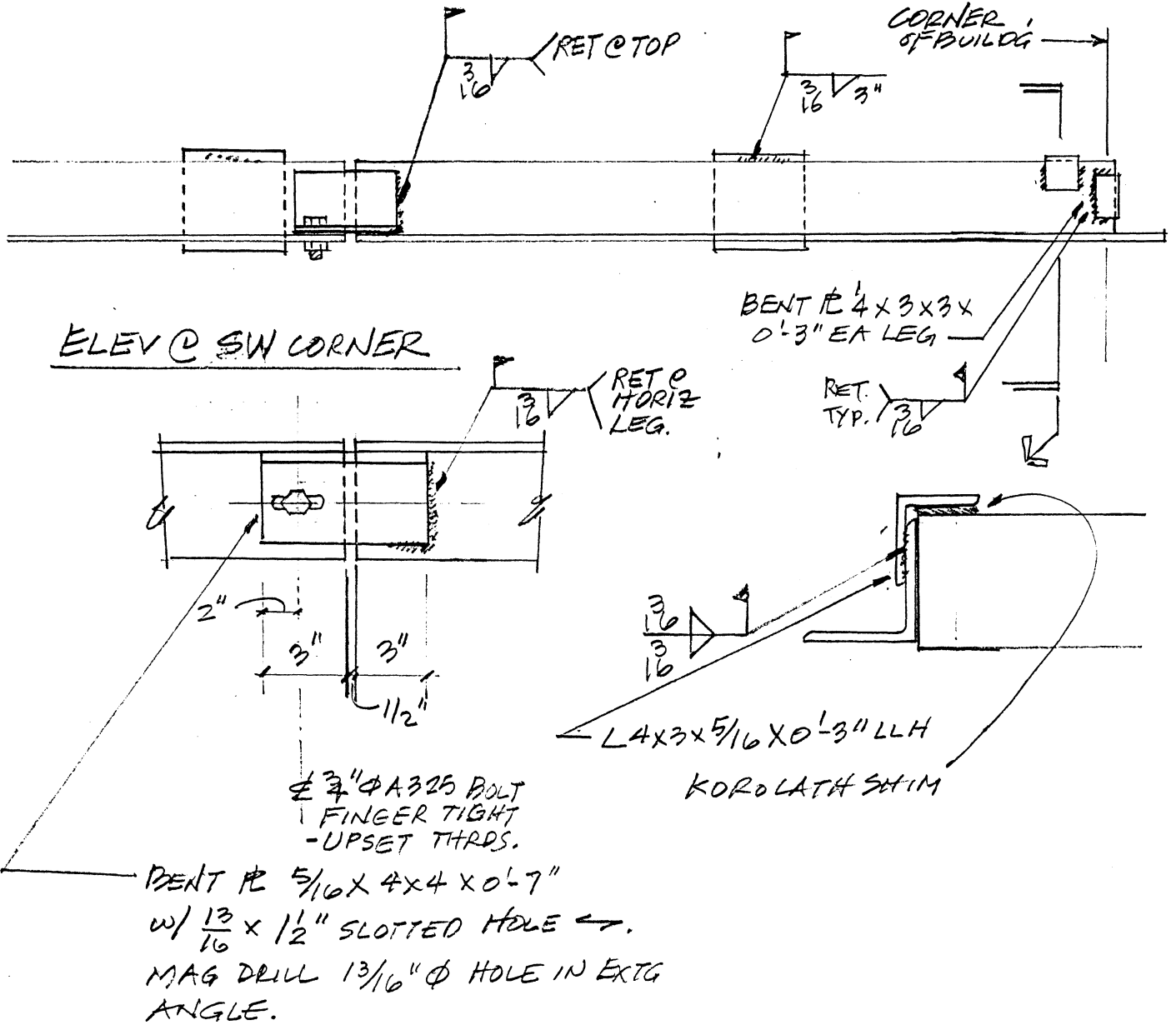


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Project PARK DANFORTH
W.O. 697 Sheet 1 Of 3
Calculated By: PBM Date 7/25/05
Checked By: _____ Date _____



DETAILS @ POLAND ST CORNER
TO RIGHT OF ENTRANCE

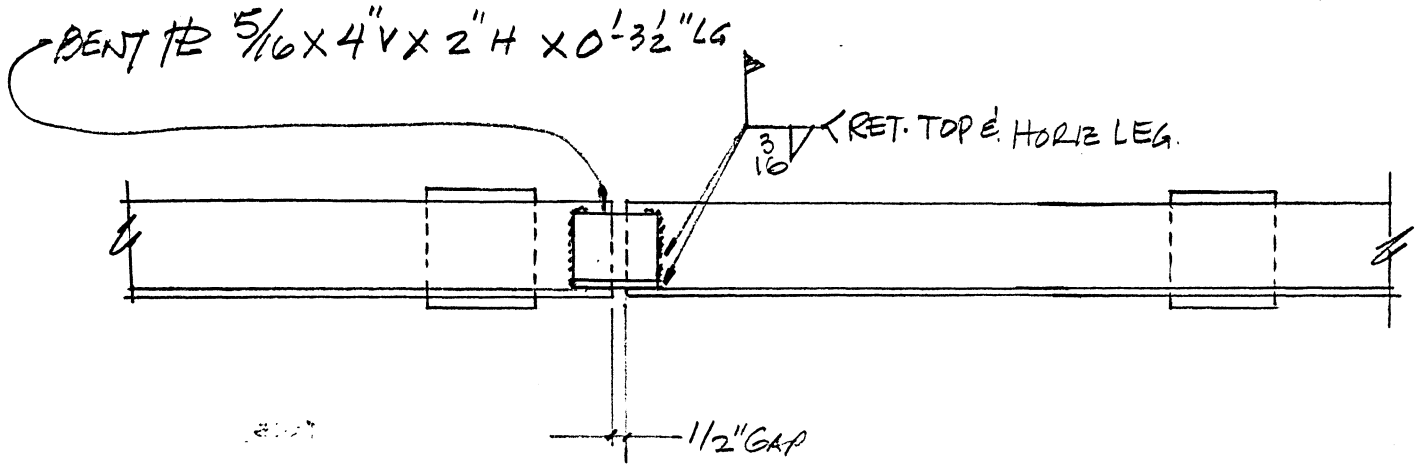
FIELD REPORT #

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Project: PARK DANFORTH
W.O. 697 Sheet 2 Of 3
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TYPICAL SPLICE IN FIELD OF WALL

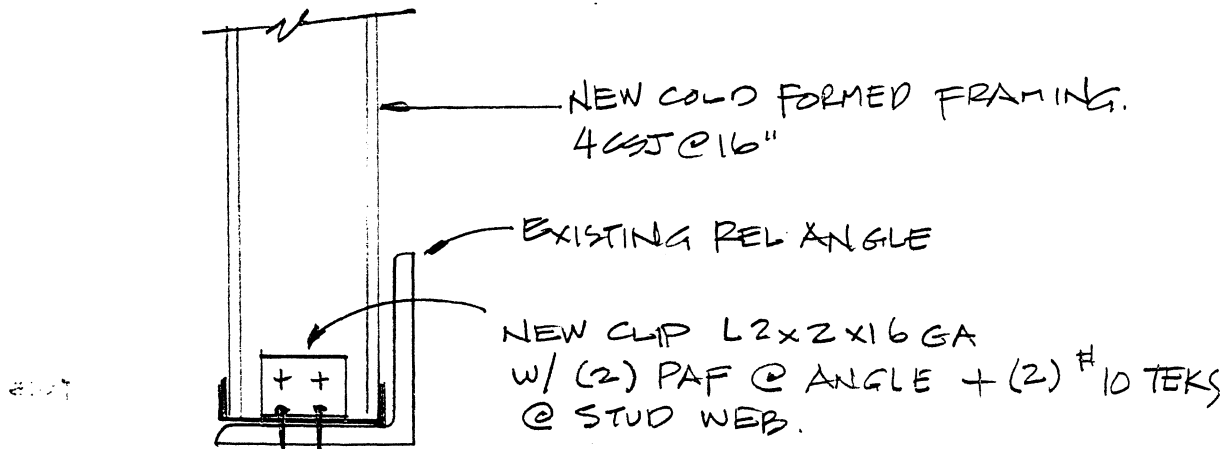
FIELD REPORT 3

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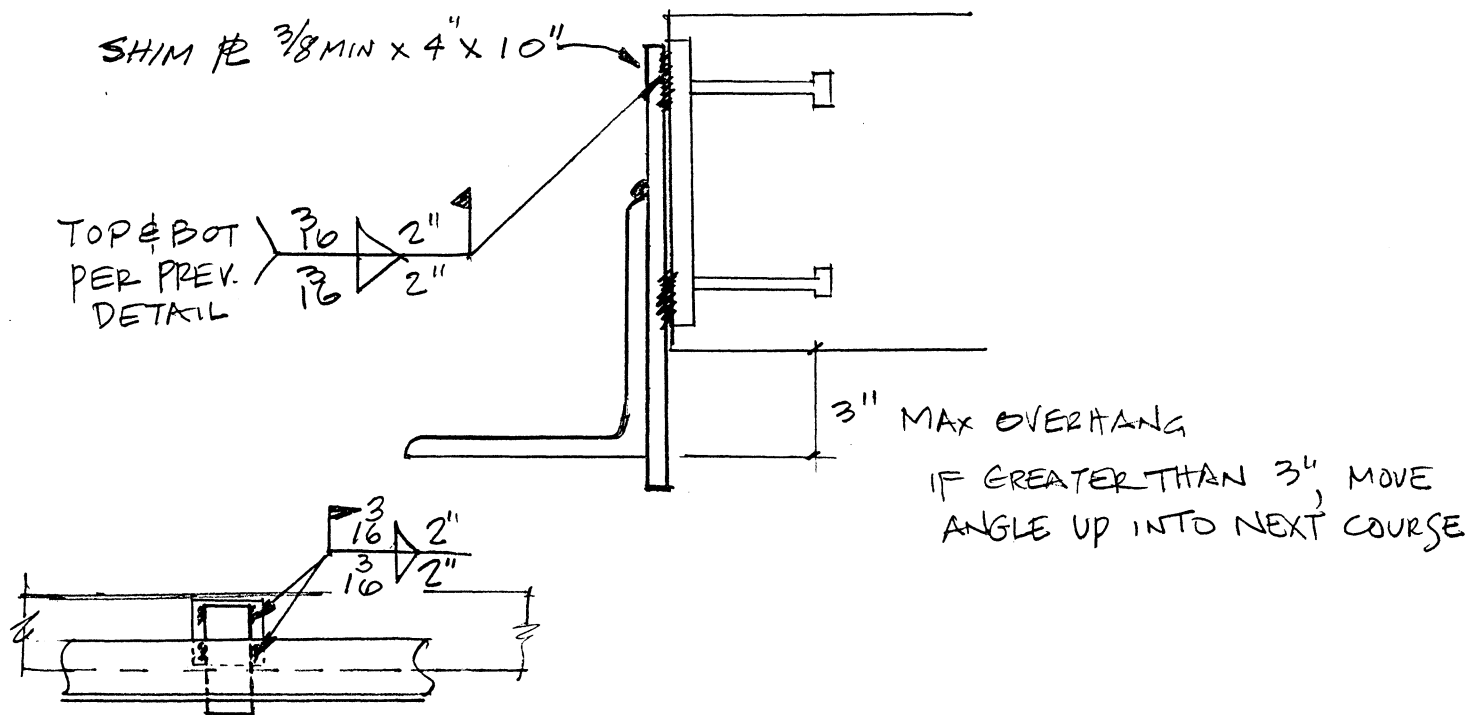
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Project PARK DANFORTH
W.O. 697 Sheet 3 Of 3
Calculated By: PMB Date 7/25/05
Checked By: _____ Date _____



SECTION @ WEST ELEV BALCONY (REF 3/57)



FIELD REPORT 3

Phone Conversation Record

TO: Bill Hart – Allied Cook Construction [797-0265]

CC: Dirk Curtis – CWS Architects

FROM: Ethan Rhile

RE: Park Danforth

DATE: 8/9/05

Bill:

Per our conversation, the following items were discussed:

1. Relieving angle tolerance: BSE spoke with Dick Curtis of CWS Architects. It was agreed that 1/4" to 5/16" vertical tolerance would be appropriate for the outstand leg of the steel relieving angles that are to be reused on this project. The legs of the angles should be perpendicular to one another. We request that steel angles out of tolerance be reported to Becker Structural Engineers prior to enacting any corrective action.
2. Existing top track condition, exterior cold formed metal framing: In the conditions discussed, the existing studs are to be set free from the top tracks and deflection clips are to be installed per the project documents. We take no exception to grinding off the interior-side screws from the building exterior in order to not damage the interior finishes.
3. Per our conversation, we understand that a condition has been exposed at the third floor where there is no gap between the top of the steel studs and the track. In this condition the studs should be set free from the top tracks and the deflection clips should be installed. Trimming back the steel studs in this condition is not necessary.

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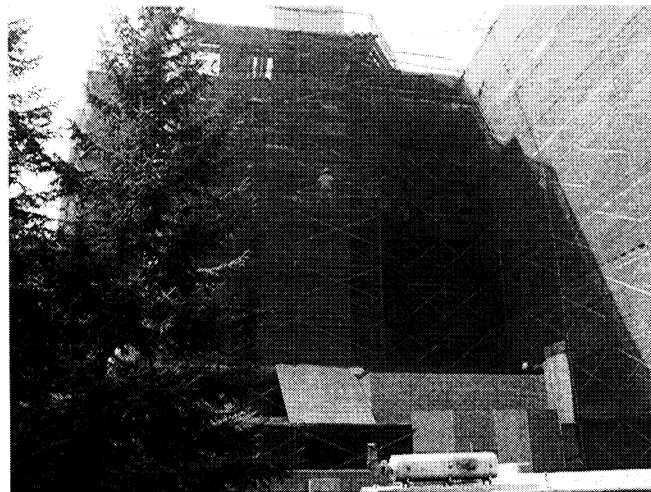
structural engineers, inc.

Field Report

No. 1362-04

Project: Park Danforth Brick Replacement
Project #: WO 1362
Date/Time: August 10, 2005 10:00 to 11:10
Observers: Michael Cyr

1. Met with Bill Hart from Allied/Cook. He informed me of the current progress of construction.
2. Welders were working on the front of the building (Stevens Ave.) focusing their attention on the portion of building over the main entrance. They were removing relieving angles on level 5 and preparing the embed plates in order to weld the new shim plates. The inspector from Elite was expected to review welds securing the new shim plates to the embed plates later in the day.
3. As relieving angle work progresses upward, workers are continually repositioning or "jumping" the scaffolding bracket supports. The scaffolding brackets are connected directly to the relieving angles by tack welds or bolts.
4. Placing new exterior sheathing on the front elevation of the building over the main entrance. At the time of my site visit, ground floor to level 4 near the main entrance had already been completed.
5. Removing brick façade from back side of building (Forest Ave.). Workers had already removed brick façade from the top three levels perpendicular to Forest Avenue excluding the stair tower.



Removing brick façade from level 4 (Rear of Building)

CC: File

Memorandum 3

TO: George Lavigne, Dick Curtis @ CWS
FROM: Paul B. Becker, P.E.
DATE/TIME: Aug 11, 2005
SUBJECT: WO697 Park Danforth Brick Replacement

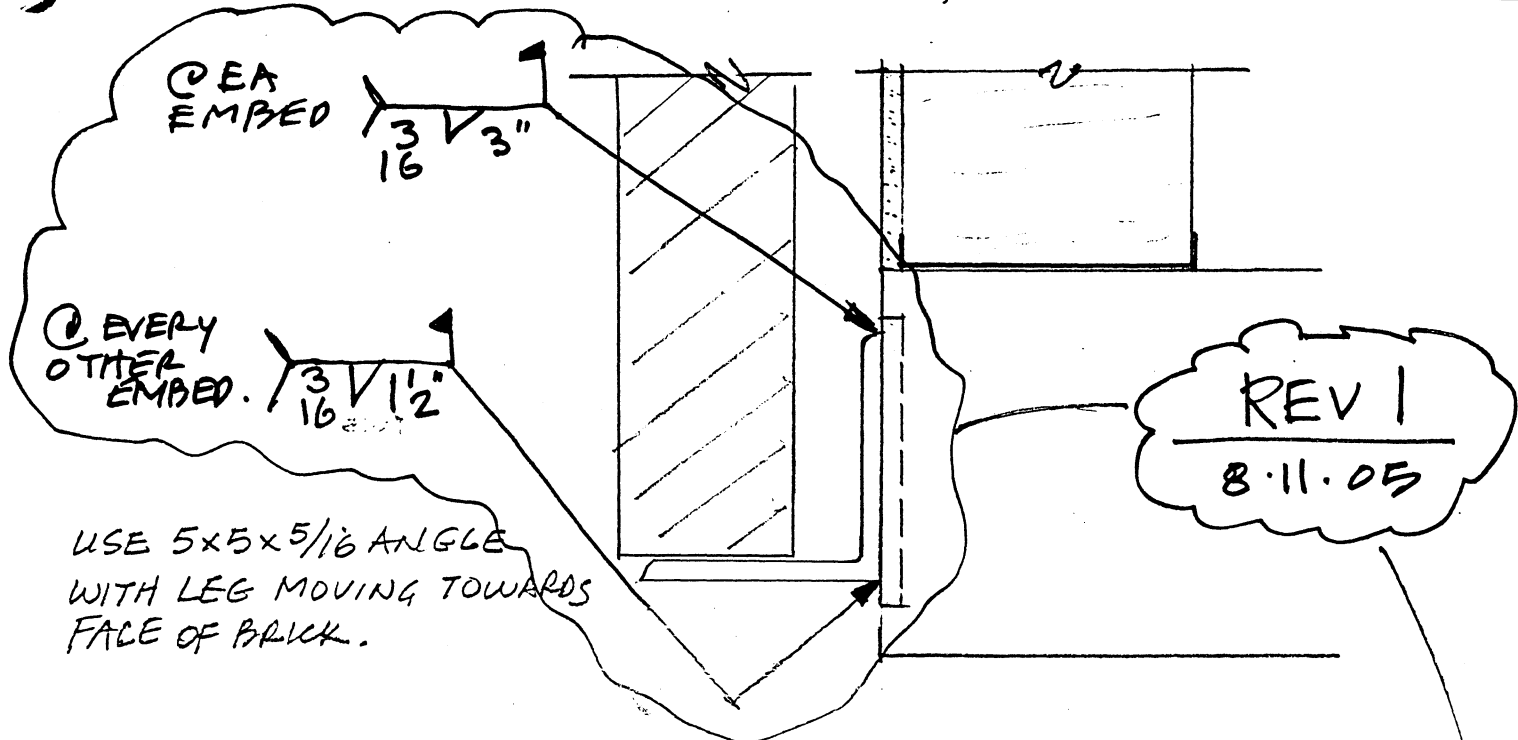
1. I spoke with Bill Hart today regarding welding of relieving angles. We discussed ways to reduce the amount of welding and speed construction. Bill asked if bottom welds could be deleted. After review of loads and load conditions, it is our opinion that welds at top cannot be altered as they are the primary load path. Welds at the bottom of the relieving angles can be reduced to welds at every other relieving angle per the attached revised sketch.
2. Bill and I discussed the connection of angles at a transition between L5x5 and L6x4. Bill pointed out the need for a shim to maintain alignment. I concur. We recommend providing welded shims per the attached sketch which is a revision to an earlier sketch.

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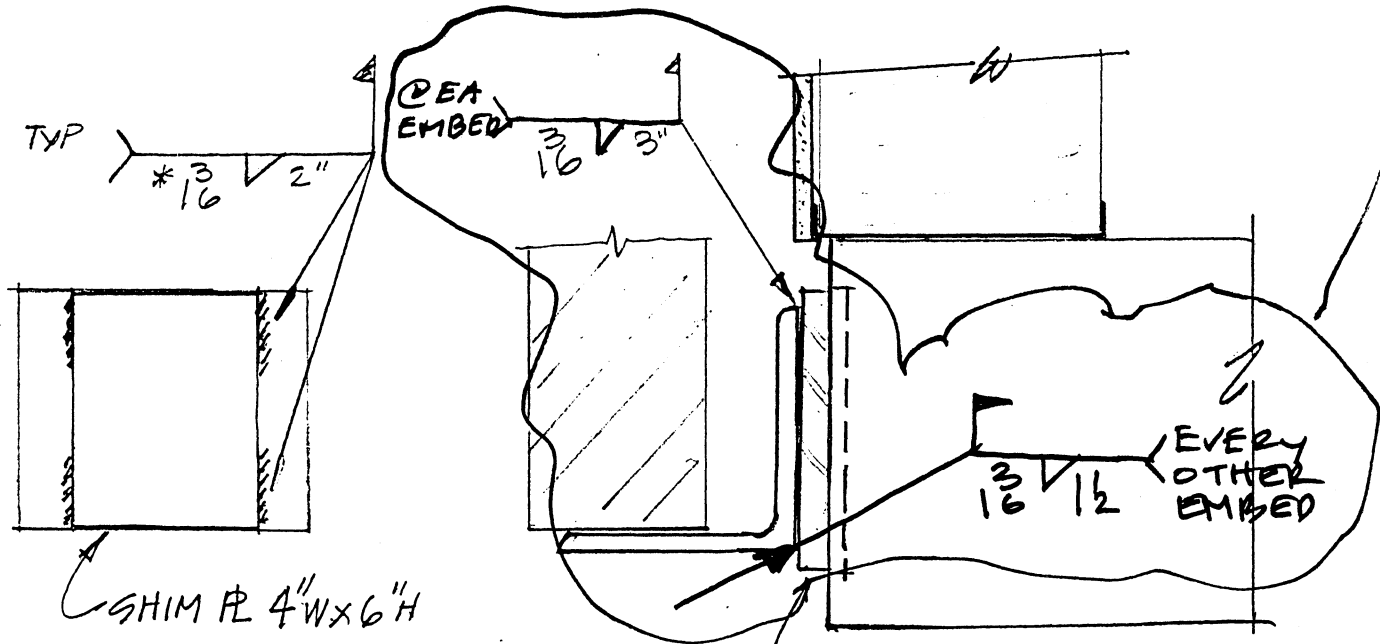
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Project: PAVE DANFORTH
W.O. 697 Sheet 2 Of 3
Calculated By: PRB Date 7-7-05
Checked By: _____ Date _____



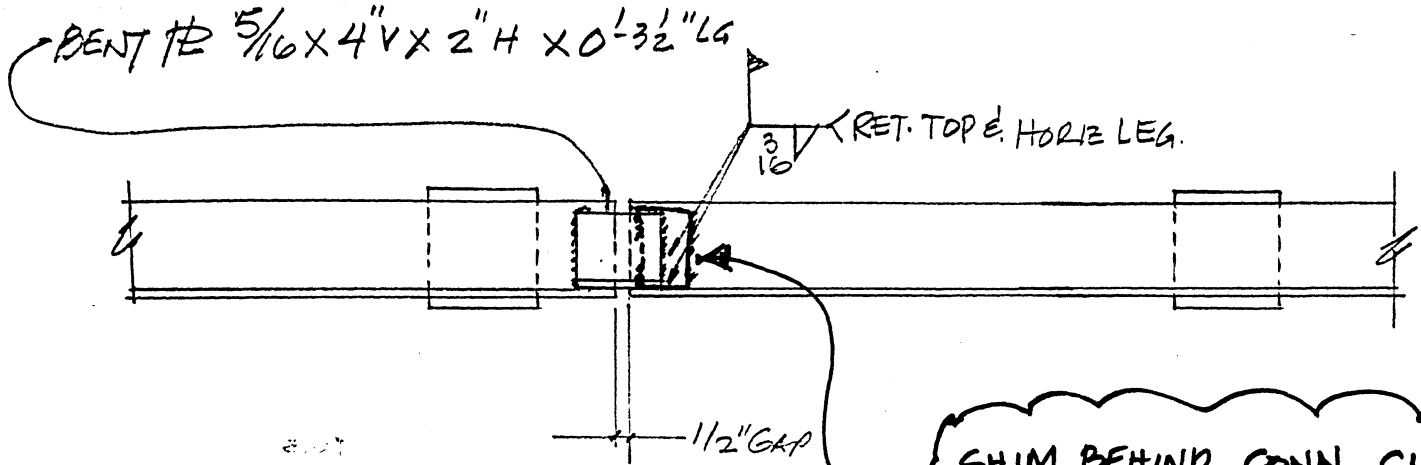
VARIATION #1 - SLAB "FORWARD" (1" MAX)



* USE 1/4" FILET FOR MAT'L > 1/2" THK.

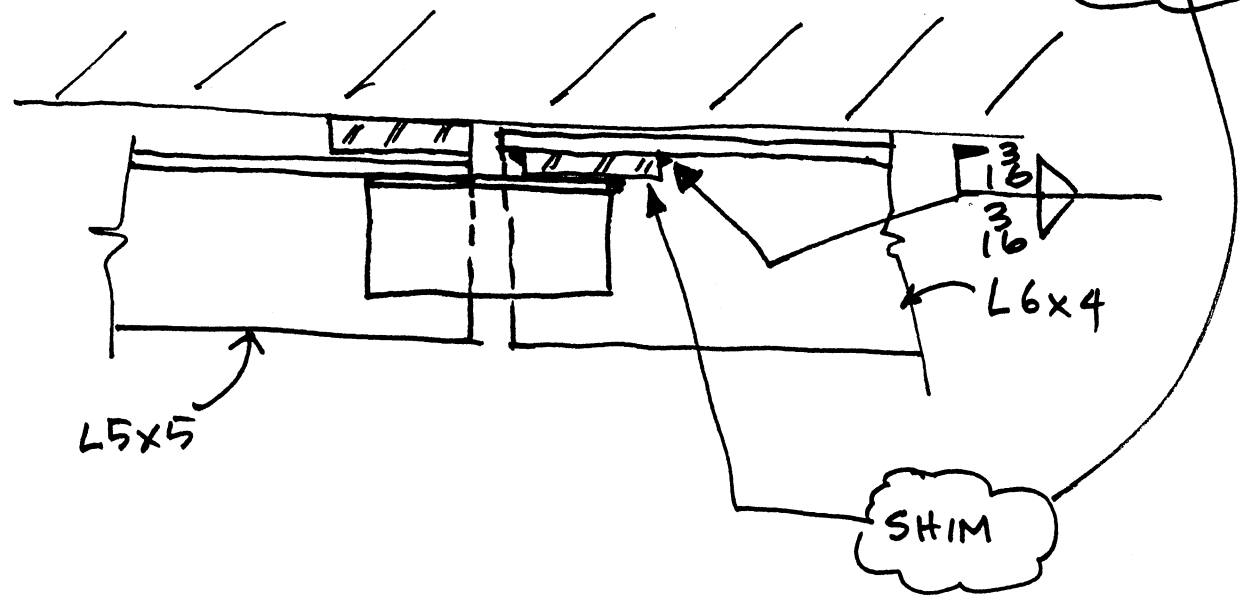
VARIATION #2 - SLAB "BACK"

REV 1
8.11.05



TYPICAL SPLICE IN FIELD OF WALL
WITH 5x5 MEETING 6x4

REV 1
8/11/05



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structural engineers, inc.

Field Report

No. 1362-05

Project: Park Danforth Brick Replacement
Project #: WO 1362
Date/Time: August 12, 2005 9:12 to 10:15
Observers Michael Cyr

1. Bill Hart informed me of the current progress of construction.
2. Removing façade from back side of building continues. Construction crews are currently removing brick façade from level 4 on the back face of the building perpendicular to Forest Ave. Removal of façade from that portion of the building is complete from the roof to level 4 (excluding stair tower façade).
3. Welders were preparing the embed plates for level 7 on the front side of the building.
Welders

CC: File

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structural engineers, inc.

Field Report

No. 1362-06

Project: Park Danforth Brick Replacement
Project #: WO 1362
Date/Time: August 15, 2005 13:20 to 13:50
Observers Michael Cyr

1. Welders were not on site due to incimate weather in the morning.
2. Removing façade from back side of building continues. Construction crews are currently removing brick façade from level 3 on the back face of the building perpendicular to Forest Avenue.
3. Photographed deficiencies of existing relieving angles.



CC: File

Memorandum

TO: Richard Curtis, R.A. - CWS
FROM: Michael Cyr
DATE/TIME: 8/25/05
SUBJECT: Brick Relieving Angle Support at Stair Tower

The Brick Façade Relieving Angle Support Detail submitted on 8/25/05 supersedes the earlier sketch submitted for the same application. An embedded anchor was added to the detail in order to prevent the clip from sliding off the slab. We limited the embedment to 1 3/4" in order to prevent damaging existing post-tension tendons in the slab.

The sketch was initially issued to address areas along the edge of slab where embed plates are missing. This sketch is also applicable at the interior corner of the stair tower where the relieving angles cantilever up to 3'-0" (worst case) from the nearest embed plate connection.

I've enclosed a copy of the sketch in reference.

Cc: Bill Hart, File

Encl.

Memorandum

TO: Richard Curtis, R.A. - CWS
FROM: Michael Cyr
DATE/TIME: 8/29/05
SUBJECT: Park/Danforth Brick Relieving Angles

I've attached a revised sketch for the Brick Façade Relieving Angle Support Detail submitted on 8/25/05. We've changed the type of adhesive anchor required for the same application. We limited the embedment to 1 ¾" in order to prevent damaging existing post-tension tendons in the slab. Do not exceed the 1 ¾" embedment depth. Drill the hole in ¼" increments or smaller to see if obstructions are visible in the bottom of the hole. Make every effort to avoid drilling into existing post-tensioned tendons.

This sketch is also applicable at the interior corner of the stair tower where the relieving angles cantilever up to 3'-0" (worst case) from the nearest embed plate connection. This connection is not required at locations where the edge of angle is less than or equal to 12 inches from the embed plate.

At locations where the relieving angle is too short, weld an extension to the existing relieving angle. This extension should match the dimensions of the existing relieving angle. Connect the extension to the existing relieving angle with a full penetration weld.

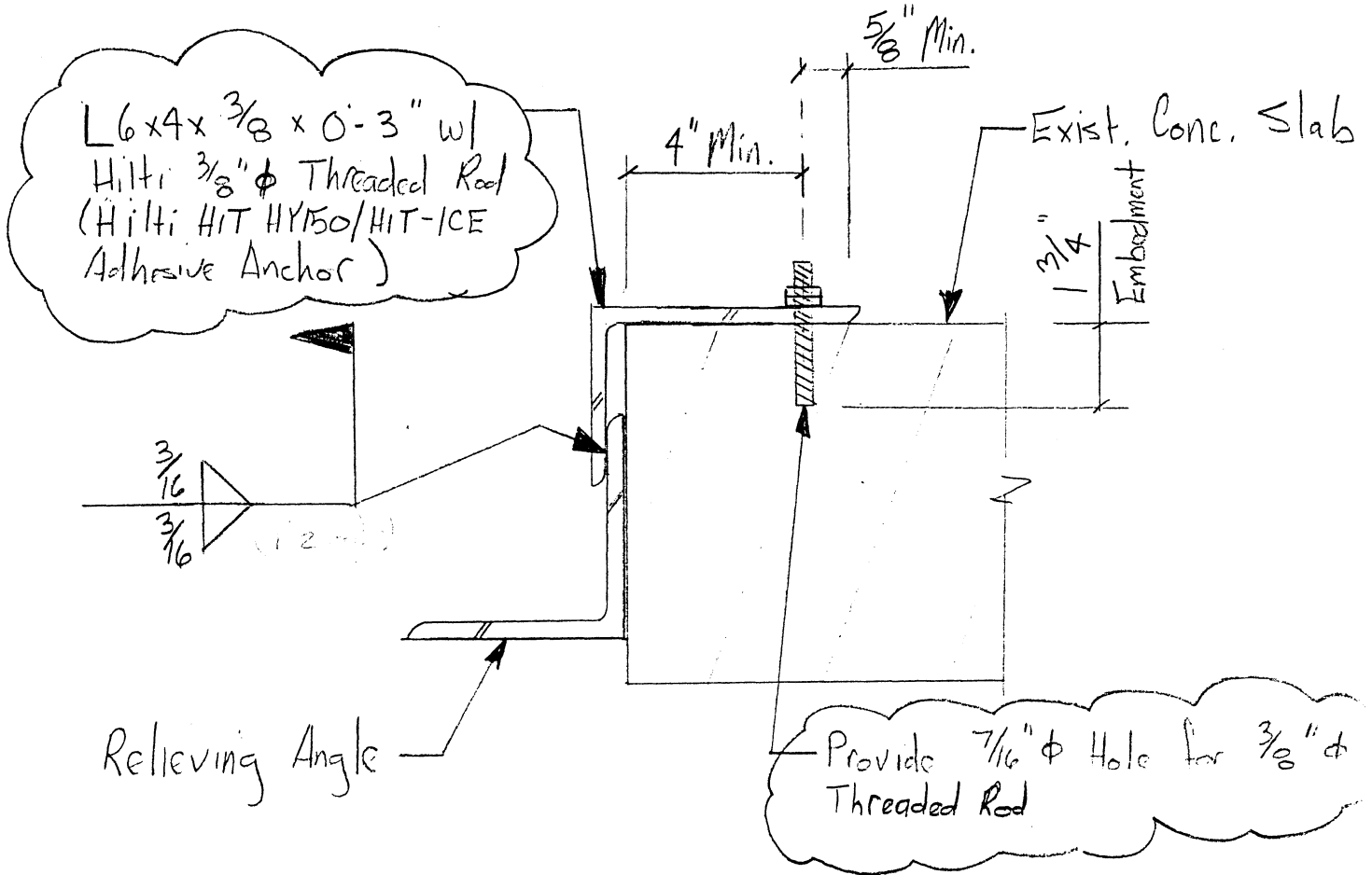
On the back of the building, areas along the building edge of slab exist where the exterior sheathing extends up to 2" beyond the edge of slab. In order to ensure adequate bearing of the masonry on the relieving angle, we recommend using an L7x4x3/8 (LLH).

I've enclosed a copy of the sketch in reference.

Cc: Bill Hart, File

Encl.

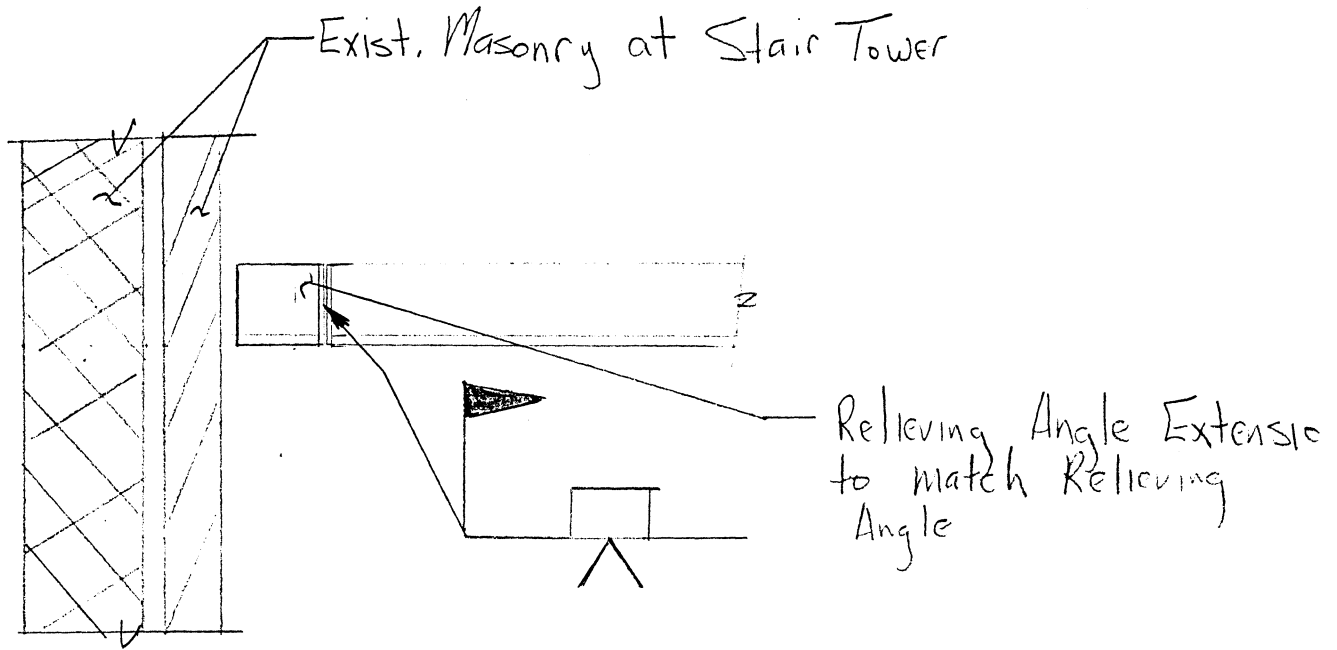
Note: Install New Clip away from Post-tensioned tendons located in the existing conc. slab



Brick Facade Relieving Angle

Support Detail

3" = 1'-0"



Relieving Angle Detail @
Corner of Stair Tower
1" = 1'-0"

Memorandum

TO: Dick Curtis--CWS
FROM: Michael Cyr—Becker Structural Engineers, Inc.
DATE/TIME: 09/09/05 0900 to 1000
SUBJECT: Meeting with ICI Paints Representative—Steve Dunn

Representatives from Allied Construction, the paint subcontractor, and members from our office met with the ICI Paints Representative, Steve Dunn, to resolve the issue of rust exposed at the surface of the relieving angles after receiving the paint listed in the job specifications.

We have concluded that the ICI Pre Prime 167 Penetrating Sealer and ICI Bar Rust 235 Multipurpose Epoxy Coating will be used on the new steel (Cleaned by SP-6) instead of the ICI Devflex DTM Flat Primer 4020-1000 and ICI Devflex Acrylic Finish 4206 as previously specified.

The ICI Pre Prime 167 Penetrating Sealer requires a working temperature of 50 degrees Fahrenheit in order to properly cure. If temperatures drop below 50 degrees Fahrenheit, the ICI Paint representative recommended using the Pre-Prime 168LTC Penetrating Sealer which requires a temperature of 25 degrees Fahrenheit in order to properly cure.

Cc: Bill Hart—Allied Construction, Job File

B E C K E R
structural engineers, inc.

Memorandum

TO: Dick Curtis--CWS
FROM: Michael Cyr—Becker Structural Engineers, Inc.
DATE/TIME: 9/14/05
SUBJECT: Use of existing L6x3-1/2x5/16 relieving angles for brick facade

The use of existing L6x3-1/2x5/16 angles as brick relieving angles for level 5 on the rear elevation of the building is acceptable. Do not use these angles for the similar application in any other location of the building prior to consulting with the engineer.

Cc: Bill Hart—Allied Construction, Job File

Field Report

No. 1362-07

Project: The Park Danforth
Project #: WO 1362
Date/Time: 9/27/05 1400 to 1515
Observers Michael Cyr

I conducted a "walk-through" visual inspection of the reworked relieving angles on the East elevation of the building. Mostly all of the welds complied with our structural details; however, in some areas (approximately 3 locations), the connection of the relieving angle to the shim plate was improvised slightly (See photo 1). Despite not complying with our structural details, the connections appear to be structurally acceptable.

While conducting my observations, I could rub most of the visible stains off the exterior coat of paint. I did, however, observe signs of corrosion in a select few locations (See Photo 2). The general contractor will have to ensure that no signs of corrosion are visible after the construction debris is removed from the relieving angles. Apply another coat of paint to areas that show signs of corrosion.

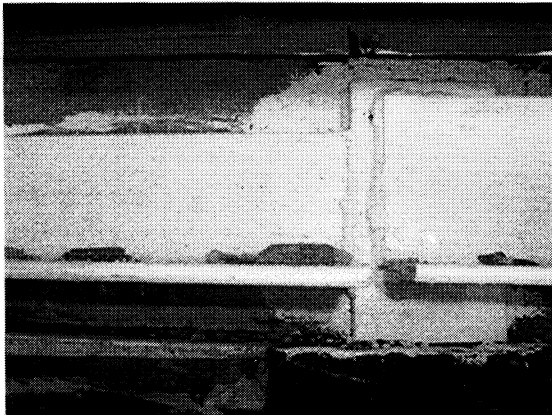


Photo 1: Relieving angle welded to edge of shim plate.

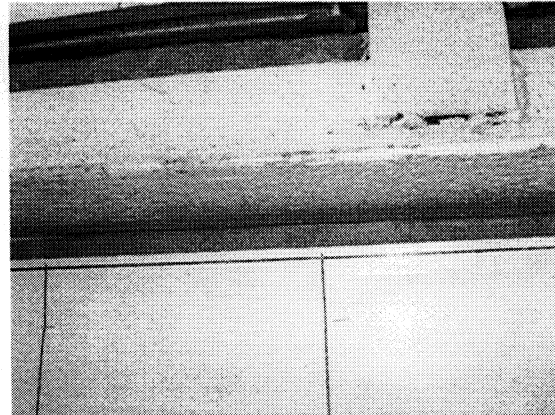


Photo 2: Signs of corrosion on the exterior of the relieving angle.

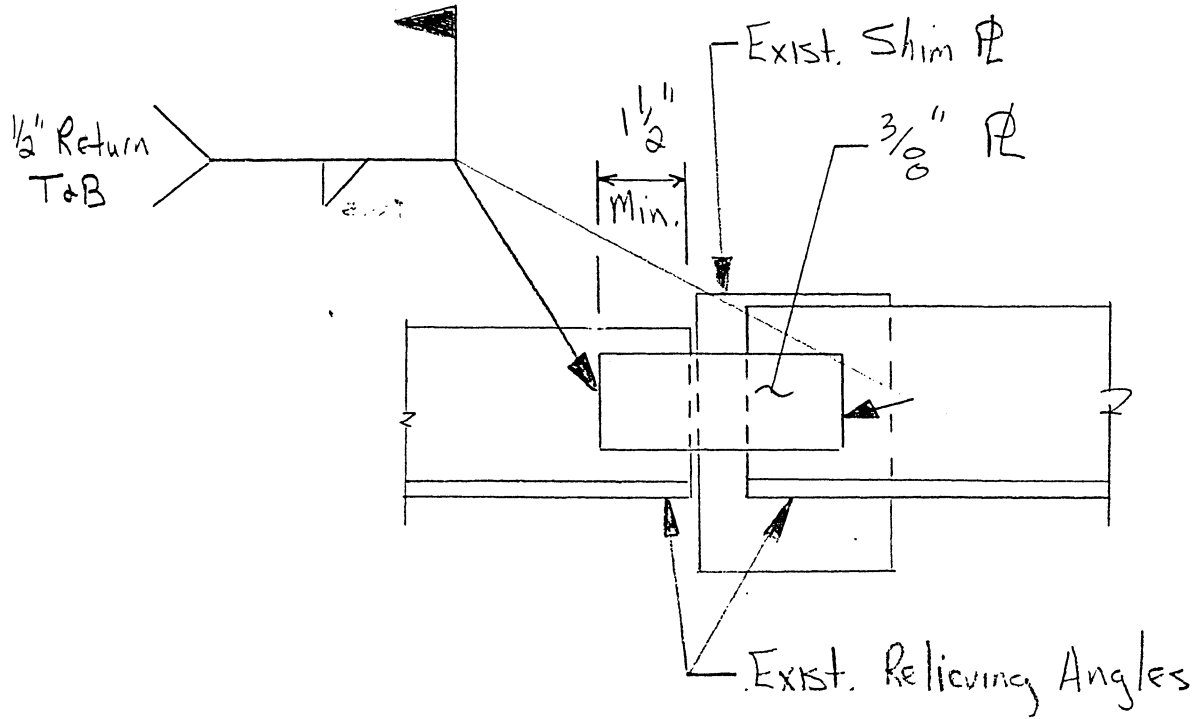
CC: File

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Project The Park Danforth
W.O. _____ Sheet 1 Of 1
Calculated By: MC Date 10/3/05
Checked By: _____ Date _____



Conn. Detail - East Elev.
3" = 1'-0"

Memorandum 11

TO: Dick Curtis @ CWS
FROM: Michael Cyr
DATE/TIME: 9/28/05
SUBJECT: WO697 Park Danforth Window Framing

1. A lintel is required to span an 11'-8" opening in the masonry and support 2 feet of clay brick façade. In order to utilize existing angle shapes already on site, the GC proposed using an L5x5x5/16. This angle size is acceptable for this application. 8" of bearing is required at each end. Ensure the angle receives an appropriate surface finish as specified in the job painting specification.
2. Please consult with us before using this angle size for other locations if the opening size and height of brick being supported by the lintel are different.

Cc: Bill Hart, File

Michael Cyr

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structural engineers, inc.

Field Report

Project: The Park Danforth
Project #: WO 1362
Date/Time: 10/04/05 0930 to 1100
Observers Michael Cyr

I met with Bill Hart and steel subcontractors, Steve Hamilton and Tim Dube. We conducted a "walk-through" inspection of the south elevation of the building to discuss issues with out-of-aligned slab edges on all decks from every floor level and the impact it has on reattaching existing relieving angles. We also discussed the required surface preparation required for the Devoe pre-prime 167 paint sealer to work effectively.

In order to reuse the existing angles and maintain proper alignment of the new brick façade, the angles will need to be adjusted \pm from the edge of the building's deck edge. Tim Dube has suggested using shim plates of varying thickness ranging from $\frac{1}{4}$ " to $\frac{3}{4}$ " to compensate for the \pm out-of-alignment. By doing so, this may compromise the $\frac{1}{2}$ " clearance required from the edge of angle to the exterior face of brick façade for the expansion joint.

As for preparing the existing relieving angles for the Devoe pre-prime 167 paint sealer, I suggested to Bill Hart that he should contact the local representative from Devoe paint products to visually inspect the existing angles and offer his professional opinion for required surface preparation.

CC: Bill Hart, File

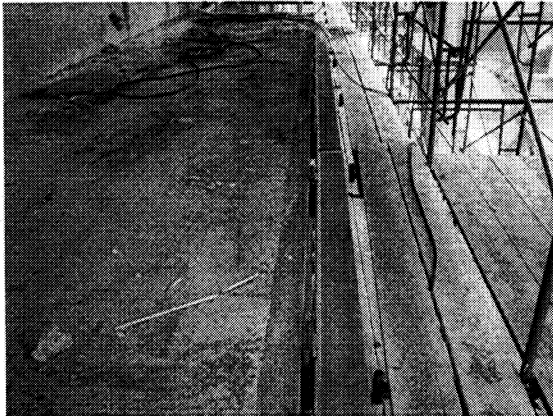
BECKER

structural engineers, inc.

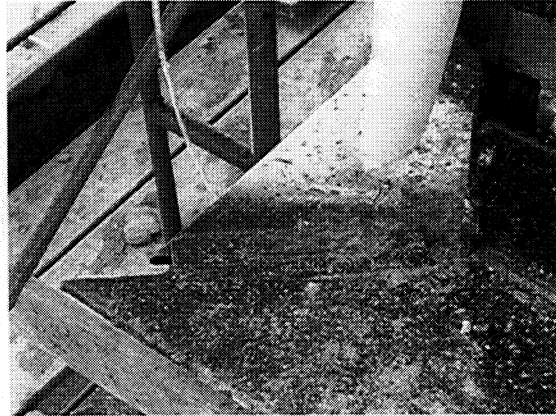
Field Report

Project: The Park Danforth
Project #: WO 1362
Date/Time: 10/17/05 0830 to 0930
Observers Michael Cyr

I observed the progress of the work pertaining to the reattachment of the relieving angles on the South elevation of the building. On the southwestern most balconies, the relieving angles have typically been attached to the existing embed plates using multiple shim plates which extend $7/8$ " to 1" beyond the edge of slab. I also observed welded connections at the outside and inside corners with large gaps. We need to address the adequacy of these connections.



**Photo 1: Multiple Shim Plates
>7/8" on South Elev. Balconies**



**Photo 2: Welded connection at
corner w/ large gaps**

CC: File

Memorandum 11/01/05

TO: Bill Hart—Allied Cook
FROM: Mike Cyr
DATE/TIME: 11/1/05
SUBJECT: Park Danforth--Loose Lintel over window opening near rear entrance

Because of the “bump-out” at the window framing, you proposed trimming $\frac{1}{4}$ ” from the bottom leg of the L5”x3 $\frac{1}{2}$ ”x $\frac{3}{8}$ ” loose lintel in order to prevent the lintel from protruding from the brick façade. The lintel spans 5’-8” and supports approximately 3’-0” of masonry. You also mentioned shifting the lintel to avoid an existing obstruction resulting in a bearing length of 7” as opposed to the 8” required bearing length specified in our structural drawings.

This is acceptable as long a minimum of 2 $\frac{3}{8}$ ” of masonry bears on the lintel. Please notify me if any of the details mentioned above change.

Memorandum

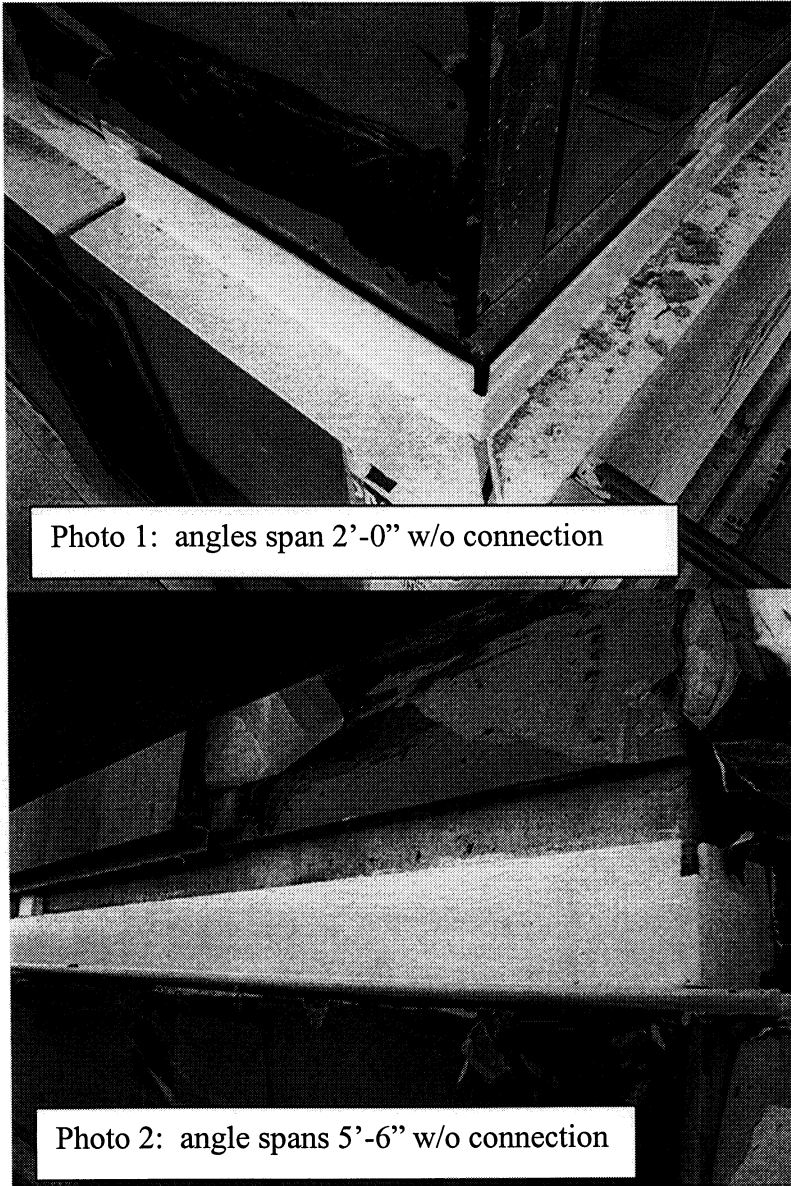
TO: Bill Hart—Allied Construction
FROM: Mike Cyr
DATE/TIME: 11/11/05
SUBJECT: North Elevation relieving angles

I identified some deficiencies which need to be addressed before the placement of masonry on the north elevation relieving angles.

1. On multiple levels, in several exterior corners of the building, the relieving angles cantilever up to 2'-0" without an embedded plate connection to the existing slab (Photo 1). On the northwest corner of the building, the relieving angle cantilevers 5'-6" without an embedded plate connection (Photo 2). We had previously agreed to allow a cantilever span up to 11 inches beyond an embedded plate connection. As a result, clip angles will have to be added in all of these locations.
2. On level 4, an embedded plate is missing from the exterior edge of the slab. As a result, the angle spans approximately 8'-0" (Photo 3). This condition will require the addition of a clip angle equally spaced between the two embedded plates.

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BECKER

structural engineers, inc.

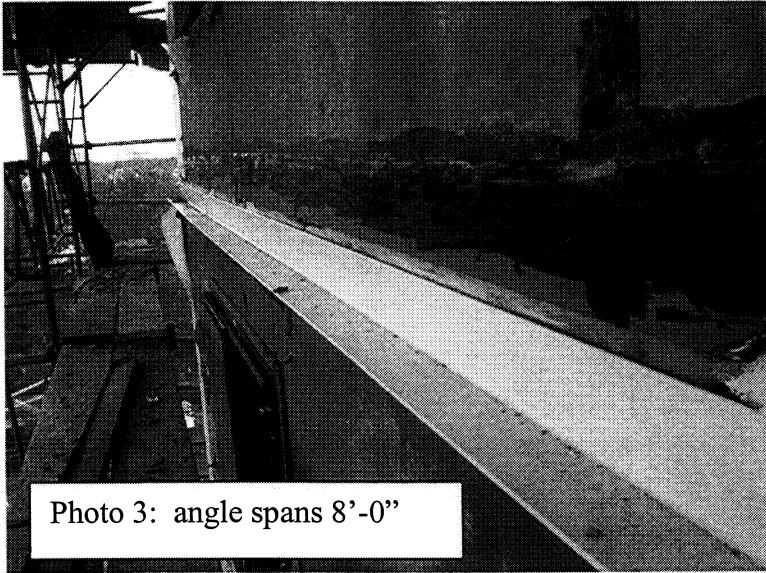


Photo 3: angle spans 8'-0"

Field Report

Project: The Park Danforth
Project #: WO 1362
Date/Time: 1/04/06 1130 to 1200
Observers Michael Cyr

I observed the progress of the work pertaining to the installation of the balcony railings. The photos attached show the connection hardware for the top railings. Similar to "Top Rail Attachment Detail" on drawing S6.

At the time of my site visit, the railing posts were secured with tack welds. Once the railings are erected, the welders intend to follow through with continuous fillet welds as specified in our details.

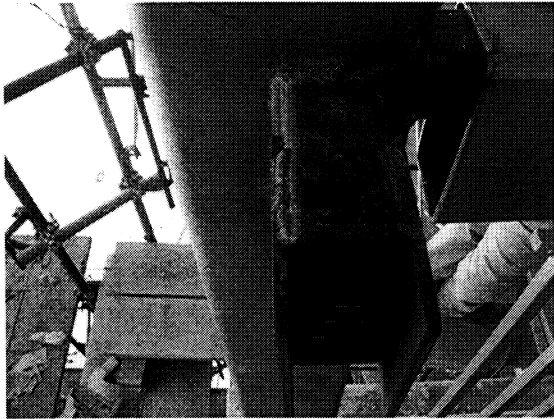


Photo 1: 3/16" flat plates welded to 2"x2" stub



Photo 2: Stiffener plate tack welded to flat plates

CC: File

B E C K E R

structural engineers, inc.

Field Report

Project: The Park Danforth
Project #: WO 1362
Date/Time: 1/30/06 9:30 to 1:30
Observers: Michael Cyr

I observed Ryan Russell from Quality Assurance Labs Inc. scan the balcony slabs at the partition wall location (typical). Ryan also scanned the balcony slabs at apartment 15 on levels 6 and 7 for a partition wall (Ref: SKA 1/26/06).

The tendons were identified at the areas mentioned, and future penetrations for partition wall reinforcement should not be located near the markings. Please consult with me for an explanation of the marks prior to drilling into the concrete slab.

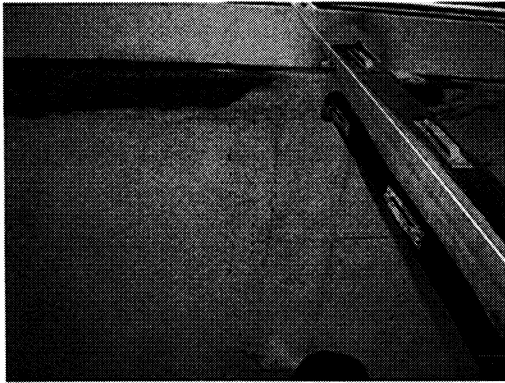


Photo 1: markings on underside of slab indicate not many conflicts w/ tendons (typ.)

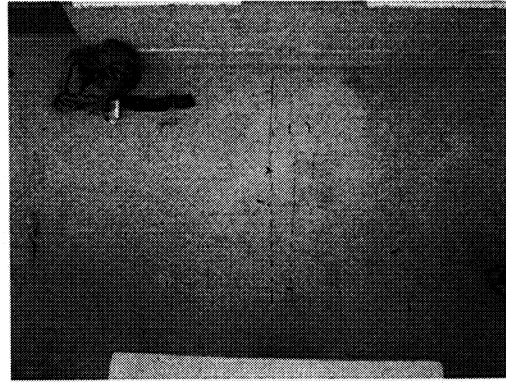


Photo 2: Markings identify many tendons located in the area of the partition wall at apt. 15

CC: File

05120.04 Elite Inspection Reports



Elite Inspection Services Inc.

Visual Inspection Report

220 Industrial Way Unit #1
 Portland, ME 04103
 Phone: (207) 797-2496
 Fax: (207) 797-2284

DATE: 8-4-05

CUSTOMER: BECKER ENG JOB No. _____ CUSTOMER PO No. _____ E.S.I. WORK ORDER 400-05-VT

JOB LOCATION: Portland DRAWING No. _____ ACCEPTANCE CRITERIA: AWS D1.1

WELD PROCEDURE SPECIFICATION: AWS PROCESS: SMW STRUCTURE: PARK DANFORTH

IDENTIFICATION AND/OR PART No.	FITUP						FINAL VISUAL							REMARKS			
	ACCEPT	REJECT	FITUP	ALIGNMENT	CLEANLINESS	PREHEAT	ACCEPT	REJECT	SIZE	LENGTH	PROFILE	POROSITY	UNDERCUT		OVERLAP	SLAG	WELDER ID.
																	<p>VISUAL INSPECTION PERFORMED ON FINISHED PLATES ON 1ST LEVEL FROM ELEVATOR TO ENTRANCE ON WEST SIDE OF BLDG. ALL WELDS WERE FOUND TO BE ACCEPTABLE.</p>
																	<p>VISUAL INSPECTION PERFORMED ON BRICKSHELF ANGLE ON 2ND LEVEL FROM ELEVATOR TO ENTRANCE. BOTTOM OF ANGLE NEEDS TO BE WELDED AT SPACER PLATES.</p>
																	<p>VISUAL INSPECTION PERFORMED ON FINISHED PLATES ON 3RD LEVEL FROM ELEVATOR TO ENTRANCE ON WEST SIDE OF BLDG. ALL WELDS WERE FOUND TO BE ACCEPTABLE.</p>

TECHNICIAN: [Signature] # 90100091 LEVEL _____



Elite Inspection Services Inc.

Visual Inspection Report

220 Industrial Way Unit #1
 Portland, ME 04103
 Phone: (207) 797-2496
 Fax: (207) 797-2284

DATE: 8-8-05

CUSTOMER: BECKER ENG JOB No. _____ CUSTOMER PO No. _____ E.S.I. WORK ORDER 400-05-VT

JOB LOCATION: PORTLAND DRAWING No. _____ ACCEPTANCE CRITERIA: AWS DI.1

WELD PROCEDURE SPECIFICATION: AWS PROCESS: SHAW STRUCTURE: PARK DAM FOOTING

IDENTIFICATION AND/OR PART No.	FITUP						FINAL VISUAL								REMARKS		
	ACCEPT	REJECT	FITUP	ALIGNMENT	CLEANLINESS	PREHEAT	ACCEPT	REJECT	SIZE	LENGTH	PROFILE	POROSITY	UNDERCUT	OVERLAP		SLAG	WELDER ID.
																	Visual inspection performed on brackets Angle welds on 1st, 2nd and 3rd levels from elevator to entrance. All welding was found to be acceptable.
																	Visual inspection performed on spacer plate welds on 4th and 5th level from elevator to entrance. All welding was found to be acceptable.
																	Acceptable welds were IAW AWS DI.1 and applicable DWGS

TECHNICIAN [Signature] CWI # 90100091 LEVEL _____



Elite Inspection Services Inc.

Visual Inspection Report

220 Industrial Way Unit #1
 Portland, ME 04103
 Phone: (207) 797-2496
 Fax: (207) 797-2284

DATE: 8-11-05

CUSTOMER: BECKER ENG JOB No. _____ CUSTOMER PO No. _____ E.S.I. WORK ORDER 400-05-VT

JOB LOCATION: PORTLAND DRAWING No. _____ ACCEPTANCE CRITERIA: AWS D1.1

WELD PROCEDURE SPECIFICATION: AWS PROCESS: SHAW STRUCTURE: PARK DANFORTH

IDENTIFICATION AND/OR PART No.	FITUP						FINAL VISUAL							REMARKS			
	ACCEPT	REJECT	FITUP	ALIGNMENT	CLEANLINESS	PREHEAT	ACCEPT	REJECT	SIZE	LENGTH	PROFILE	POROSITY	UNDERCUT		OVERLAP	SLAG	WELDER ID.
																	<p>Visual Inspection performed on boxshelf angle welds on 4th and 5th level. 1 angle on 4th level needs welding to top & bot of Shim plates and 4 angles on 5th level need welding to Shim plate. Remainder of welding was acceptable.</p> <p>Visual Inspection performed on Shim plate welds on 6th level. All welds were acceptable.</p> <p>The above locations were from the elevator to the entrance.</p> <p>Acceptable welds were TAW AWS D1.1 and applicable DGGS</p>

TECHNICIAN [Signature] CWI # 90100091 LEVEL _____

WE ACCEPT NO RESPONSIBILITY OF ANY KIND DUE TO OUR INTERPRETATION OF THE MATERIAL



Elite Inspection Services Inc.

Visual Inspection Report

220 Industrial Way Unit #1
 Portland, ME 04103
 Phone: (207) 797-2496
 Fax: (207) 797-2284


DATE: 8-22-05

CUSTOMER: Becker Eng. JOB No. _____ CUSTOMER PO No. _____ E.S.I. WORK ORDER 400-05-VT

JOB LOCATION: Portland DRAWING No. _____ ACCEPTANCE CRITERIA: AWS D1, 1

WELD PROCEDURE SPECIFICATION: AWS PROCESS: SMW STRUCTURE: APP DANFORTH

IDENTIFICATION AND/OR PART No.	FITUP						FINAL VISUAL								REMARKS		
	ACCEPT	REJECT	FITUP	ALIGNMENT	CLEANLINESS	PREHEAT	ACCEPT	REJECT	SIZE	LENGTH	PROFILE	POROSITY	UNDERCUT	OVERLAP		SLAG	WELDER ID.
																	INSPECTED ANGLE PLATE AND SHIM PLATE WELDS ON 6th LEVEL FROM ENTRANCE TO RIGHT HAND CORNER OF BLDG. ALL WELDING WAS FOUND TO BE ACCEPTABLE.
																	INSPECTED SHIM PLATE AND ANGLE PLATE WELDS ON 1st LEVEL THRU 5th LEVEL FROM ENTER ELEVATOR TO LEFT HAND CORNER OF BLDG. ALL WELDS WERE FOUND TO BE ACCEPTABLE.
																	WELDING WAS FOUND TO BE FAW AWS D1.1 AND APPLICABLE DWGS

TECHNICIAN:  CWI # 9010209 LEVEL _____

WE ACCEPT NO RESPONSIBILITY OF ANY KIND DUE TO OUR INTERPRETATION OF THE MATERIAL



Eute Inspection Services Inc.

Visual Inspection Report

220 Industrial Way Unit #1
 Portland, ME 04103
 Phone: (207) 797-2496
 Fax: (207) 797-2284

DATE: 8-17-05

CUSTOMER: BECKER ENG JOB No. _____ CUSTOMER PO No. _____ E.S.I. WORK ORDER 400-05-VT

JOB LOCATION: Portland DRAWING No. _____ ACCEPTANCE CRITERIA: _____

WELD PROCEDURE SPECIFICATION: AWS PROCESS: SHAW STRUCTURE: PARK DANFORTH

IDENTIFICATION AND/OR PART No.	FITUP						FINAL VISUAL								REMARKS		
	ACCEPT	REJECT	FITUP	ALIGNMENT	CLEANLINESS	PREHEAT	ACCEPT	REJECT	SIZE	LENGTH	PROFILE	POROSITY	UNDERCUT	OVERLAP		SLAG	WELDER ID.
																	Reinspected Angles not welded on previous inspection. All areas were welded and acceptable.
																	Inspected angle welds on 6th level from elevator to entrance. All welding was acceptable.
																	Inspected shim plate welds at 1st, 2nd and 3rd levels from entrance to right hand corner of bldg. All welds were acceptable.
																	Acceptable welds were FAW AWS D1.1 and applicable DWGS

TECHNICIAN [Signature] CWI # 9010091 LEVEL _____

WE ACCEPT NO RESPONSIBILITY OF ANY KIND DUE TO OUR INTERPRETATION OF THE MATERIAL



Elite Inspection Services Inc.

Visual Inspection Report

220 Industrial Way Unit #1
Portland, ME 04103
Phone: (207) 797-2496
Fax: (207) 797-2284

DATE: 8-18-05

CUSTOMER: Becker Eng JOB No. _____ CUSTOMER PO No. _____ E.S.I. WORK ORDER 400-05-VT

JOB LOCATION: Portland DRAWING No. _____ ACCEPTANCE CRITERIA: AWS DL 1

WELD PROCEDURE SPECIFICATION: AWS PROCESS: SMAW STRUCTURE: PARK DARTMOUTH

IDENTIFICATION AND/OR PART No.	FITUP						FINAL VISUAL							REMARKS			
	ACCEPT	REJECT	FITUP	ALIGNMENT	CLEANLINESS	PREHEAT	ACCEPT	REJECT	SIZE	LENGTH	PROFILE	POROSITY	UNDERCUT		OVERLAP	SLAG	WELDER ID.
																	Inspected Shim Plate welds on 4th + 5th Level. All welds were acceptable from entrance to right hand corner of BLDG.
																	Inspected Angle welds on 1st level thru the 5th level from entrance to right hand corner of BLDG. All welds were found to be acceptable.
																	Welding was FAW AWS DL 1 and applicable DWGS.

TECHNICIAN: *[Signature]* # 2010091 LEVEL _____

WE ACCEPT NO RESPONSIBILITY OF ANY KIND DUE TO OUR INTERPRETATION OF THE MATERIAL



Elite Inspection Services Inc.

Visual Inspection Report

220 Industrial Way Unit #1
 Portland, ME 04103
 Phone: (207) 797-2496
 Fax: (207) 797-2284


DATE: 8-25-05

CUSTOMER: BECKER ENG. JOB No. _____ CUSTOMER PO No. _____ E.S.I. WORK ORDER 400-05-VT

JOB LOCATION: Portland DRAWING No. _____ ACCEPTANCE CRITERIA: _____

WELD PROCEDURE SPECIFICATION: AWS PROCESS: SHAW STRUCTURE: PARK DANFORTH

IDENTIFICATION AND/OR PART NO.	FITUP						FINAL VISUAL							REMARKS			
	ACCEPT	REJECT	FITUP	ALIGNMENT	CLEANLINESS	PREHEAT	ACCEPT	REJECT	SIZE	LENGTH	PROFILE	POROSITY	UNDERCUT		OVERLAP	SLAG	WELDER ID.
																	<p>INSPECTED SHIM PLATE WELDS ON 1st 2nd 3rd AND 4th LEVELS ON NORTH SIDE OF BLDG. BOTH SIDES OF NORTH STAIRCASE. ALL WELDS WERE FOUND TO BE ACCEPTABLE.</p>
																	<p>WELDING WAS TAW AWS D1.1 AND APPLICABLE DWGS.</p>

TECHNICIAN  # 9010091 LEVEL _____

WE ACCEPT NO RESPONSIBILITY OF ANY KIND DUE TO OUR INTERPRETATION OF THE MATERIAL



Elite Inspection Services Inc.

Visual Inspection Report

220 Industrial Way Unit #1
 Portland, ME 04103
 Phone: (207) 797-2496
 Fax: (207) 797-2284

DATE: 9-2-05

CUSTOMER: BECKER Eng JOB No. _____ CUSTOMER PO No. _____ E.S.I. WORK ORDER 400-05-VT

JOB LOCATION: Portland DRAWING No. _____ ACCEPTANCE CRITERIA: AWS D1.1

WELD PROCEDURE SPECIFICATION: AWS PROCESS: SMAW STRUCTURE: PARK DANFORTH

IDENTIFICATION AND/OR PART No.	FITUP						FINAL VISUAL								REMARKS		
	ACCEPT	REJECT	FITUP	ALIGNMENT	CLEANLINESS	PREHEAT	ACCEPT	REJECT	SIZE	LENGTH	PROFILE	POROSITY	UNDERCUT	OVERLAP		SLAG	WELDER ID.
																	<p style="font-size: 1.2em;">Inspected Shim Plate WELDS on LEVELS 1, 2 and 3 ON EAST SIDE OF BLDE PHASE II SCAFFOLDING. ALL WELDING WAS FOUND TO FLOW AWS D1.1 AND APPLICABLE DWGS.</p>

TECHNICIAN [Signature] EWI # 90100091 LEVEL _____

WE ACCEPT NO RESPONSIBILITY OF ANY KIND DUE TO OUR INTERPRETATION OF THE MATERIAL



Elite Inspection Services Inc.

Visual Inspection Report

220 Industrial Way Unit #1
Portland, ME 04103
Phone: (207) 797-2496
Fax: (207) 797-2284

DATE: 9-9-05

CUSTOMER: BECKER ENG JOB No. _____ CUSTOMER PO No. _____ E.S.I. WORK ORDER 400-05-VT

JOB LOCATION: Portland DRAWING No. _____ ACCEPTANCE CRITERIA: AWS D1.1

WELD PROCEDURE SPECIFICATION: AWS PROCESS: SHAW STRUCTURE: PARK DONFORTH

IDENTIFICATION AND/OR PART No.	FITUP						FINAL VISUAL								REMARKS		
	ACCEPT	REJECT	FITUP	ALIGNMENT	CLEANLINESS	PREHEAT	ACCEPT	REJECT	SIZE	LENGTH	PROFILE	POROSITY	UNDERCUT	OVERLAP		SLAG	WELDER ID.
																	INSPECTED SHIM PLATE PAD WELDS ON 6th LEVEL AND ANGLE WELDS ON 1st, 2nd, 3rd, 4th, 5th + 6th LEVELS ON NORTH SIDE OF BLDG. BOTH SIDES OF NORTH STAIRCASE. ALL WELDS WERE FOUND TO BE ACCEPTABLE.
																	INSPECTED ANGLE WELDS ON LEVELS 1, 2 AND 3 ON EAST SIDE OF BLDG PHASE II SCAFFOLDING. WELDS WERE FOUND TO BE ACCEPTABLE.
																	INSPECTED SHIM PLATE PAD WELDS ON 4th AND 5th LEVELS ON EAST SIDE OF BLDG UP TO THE 6' JOG. ON BLDG. ALL WELDS WERE FOUND TO BE ACCEPTABLE.
																	ACCEPTABLE WELDS WERE FOUND AWS D1.1 AND APPLICABLE DWG.

TECHNICIAN: [Signature] CWI # 9010091

LEVEL _____



Elite Inspection Services Inc.

Visual Inspection Report

220 Industrial Way Unit #1
 Portland, ME 04103
 Phone: (207) 797-2496
 Fax: (207) 797-2284

DATE: 9-13-05

CUSTOMER: Becker Eng JOB No. _____ CUSTOMER PO No. _____ E.S.I. WORK ORDER 400-05-VT

JOB LOCATION: Portland DRAWING No. _____ ACCEPTANCE CRITERIA: _____

WELD PROCEDURE SPECIFICATION: AWS PROCESS: SHAW STRUCTURE: PARK DANFORTH

IDENTIFICATION AND/OR PART No.	FITUP						FINAL VISUAL							REMARKS			
	ACCEPT	REJECT	FITUP	ALIGNMENT	CLEANLINESS	PREHEAT	ACCEPT	REJECT	SIZE	LENGTH	PROFILE	POROSITY	UNDERCUT		OVERLAP	SLAG	WELDER ID.
																	<p><i>Inspected Angle welds on levels 4 and 5 on EAST SIDE OF BLDG THRU # SCAFFOLDING UP TO 6' JOG ON BLDG. ALL WELDS WERE FOUND TO BE ACCEPTABLE.</i></p>
																	<p><i>Inspected SHAW Plate welds on 6th LEVEL UP TO 6' JOG ON BLDG AND 4th, 5th AND 6th LEVEL FROM JOG TO END OF BLDG. ALL WELDS WERE FOUND TO BE ACCEPTABLE</i></p>
																	<p><i>WELDING WAS FAW AWS D1.1 AND APPLICABLE DWGS</i></p>

TECHNICIAN: AWS # 90108091 LEVEL _____

WE ACCEPT NO RESPONSIBILITY OF ANY KIND DUE TO OUR INTERPRETATION OF THE MATERIAL



Elite Inspection Services Inc.

Visual Inspection Report

220 Industrial Way Unit #1
 Portland, ME 04103
 Phone: (207) 797-2496
 Fax: (207) 797-2284

DATE: 9-16-05

CUSTOMER: Beelee Eng JOB No. _____ CUSTOMER PO No. _____ E.S.I. WORK ORDER 400-05-V7

JOB LOCATION: Portland DRAWING No. _____ ACCEPTANCE CRITERIA: AWS D1.1

WELD PROCEDURE SPECIFICATION: AWS PROCESS: SMAW STRUCTURE: PARK DORFORTH

IDENTIFICATION AND/OR PART No.	FITUP						FINAL VISUAL							REMARKS			
	ACCEPT	REJECT	FITUP	ALIGNMENT	CLEANLINESS	PREHEAT	ACCEPT	REJECT	SIZE	LENGTH	PROFILE	POROSITY	UNDERCUT		OVERLAP	SLAG	WELDER ID.
																	<p>Inspected Angle Welds on 6th Level on East Side of BLDG Phase II up to JOG and Angle WELDS on 4th 5th and 6th LEVEL FROM JOG to END OF BLDG. ANGLES ARE KRISNEY AT END OF BLDG DUE to THE FACT THAT They will be Tied in when North Side OF BLDG IS Completed. Reminders of Welds are Found to Be ACCEPTABLE.</p> <p>Welding WAS FAW AWS D1.1 AND APPLICABLE DW99.</p>

TECHNICIAN [Signature] ID# 90100091 LEVEL _____



Elite Inspection Services Inc.

Visual Inspection Report

220 Industrial Way Unit #1
Portland, ME 04103
Phone: (207) 797-2496
Fax: (207) 797-2284

DATE: 10-5-05

CUSTOMER: Becker Eng JOB No. _____ CUSTOMER PO No. _____ E.S.I. WORK ORDER 400-05-V7

JOB LOCATION: Portland DRAWING No. _____ ACCEPTANCE CRITERIA: AWS D1.1

WELD PROCEDURE SPECIFICATION: AWS PROCESS: SMAW STRUCTURE: Park Dam Forth

IDENTIFICATION AND/OR PART NO.	FITUP						FINAL VISUAL							REMARKS			
	ACCEPT	REJECT	FITUP	ALIGNMENT	CLEANLINESS	PREHEAT	ACCEPT	REJECT	SIZE	LENGTH	PROFILE	POROSITY	UNDERCUT		OVERLAP	SLAG	WELDER ID.
																	<p><i>Inspected SHM Plate weld on South Side of BRIDGE FROM WEST END TO END OF 1st RAISING PROTRUDING PETITION on 3rd 4th and 5th LEVELS. ALL WELDS WERE FOUND TO BE ACCEPTABLE.</i></p> <p><i>ENGINEERING APPROVAL NEEDED FOR 1st Pass 6011 ROD. WELD PROFILE MEETS AWS D1.1 CRITERIA</i></p>

TECHNICIAN *[Signature]* CV# 91109/ LEVEL _____

WE ACCEPT NO RESPONSIBILITY OF ANY KIND DUE TO OUR INTERPRETATION OF THE MATERIAL



Elite Inspection Services Inc.

Visual Inspection Report

220 Industrial Way Unit #1
 Portland, ME 04103
 Phone: (207) 797-2496
 Fax: (207) 797-2284

DATE: 10-11-05

CUSTOMER: BECKER ENG JOB No. _____ CUSTOMER PO No. _____ E.S.I. WORK ORDER 400-05-VT
 JOB LOCATION: PORTLAND DRAWING No. _____ ACCEPTANCE CRITERIA: ANSI D1.1
 WELD PROCEDURE SPECIFICATION: ANSI PROCESS: SHAW STRUCTURE: PARK Danforth

IDENTIFICATION AND/OR PART No.	FITUP						FINAL VISUAL								REMARKS		
	ACCEPT	REJECT	FITUP	ALIGNMENT	CLEANLINESS	PREHEAT	ACCEPT	REJECT	SIZE	LENGTH	PROFILE	POROSITY	UNDERCUT	OVERLAP		SLAG	WELDER ID.
																	<p>Inspected Shim Plate Welds on the South Side of BLDG in the Following Areas:</p> <ul style="list-style-type: none"> 1st Floor From West end of BLDG to end of 2nd Partition. 3rd Floor - 2nd Partition. 5th Floor - 2nd Partition <p>All welding was found to be FAW ANS D1.1 AND APPLICABLE DWGS</p>

TECHNICIAN: [Signature] # 901009 LEVEL _____
 WE ACCEPT NO RESPONSIBILITY OF ANY KIND DUE TO OUR INTERPRETATION OF THE MATERIAL



Elite Inspection Services Inc.

Visual Inspection Report

220 Industrial Way Unit #1
 Portland, ME 04103
 Phone: (207) 797-2496
 Fax: (207) 797-2284

DATE: 10-18-05

CUSTOMER: Becker Eng JOB No. _____ CUSTOMER PO No. _____ E.S.I. WORK ORDER 400-05-VT

JOB LOCATION: Portland DRAWING No. _____ ACCEPTANCE CRITERIA: AWS DI, 1

WELD PROCEDURE SPECIFICATION: AWS PROCESS: SHAW STRUCTURE: Park Danforth

IDENTIFICATION AND/OR PART No.	FITUP					FINAL VISUAL							REMARKS			
	ACCEPT	REJECT	FITUP	ALIGNMENT	CLEANLINESS	PREHEAT	ACCEPT	REJECT	SIZE	LENGTH	PROFILE	POROSITY		UNDERCUT	OVERLAP	SLAG
<u>Inspected Shoring Plates and Angle welds in the following locations on South Side of BLDG</u>																
<u>Angle Welds</u>																
<u>1st Floor to end of 1st Partition - Acceptable</u>																
<u>2nd Floor to end of 1st Partition - Acceptable</u>																
<u>3rd Floor to end of 1st Partition - Acceptable</u>																
<u>Angle welds need to be Deslagged on 2nd Partition</u>																
<u>4th Floor to end of 1st Partition - 9 welds are unacceptable as marked due to profile and undercut.</u>																
<u>5th Floor - 1st and 2nd Partition - Acceptable</u>																
<u>6th Floor to end of 1st Partition - Acceptable</u>																
<u>PLATE WELDS</u>																
<u>4th Floor to end of 1st Partition - Acceptable</u>																
<u>6th Floor to end of 1st Partition - Acceptable</u>																
<u>4th Floor West Side of 2nd Partition - Acceptable</u>																
<u>5th Floor West Side of 2nd Partition - welds need to be deslagged and reworked as marked</u>																

Note: All welds need to have slag removed before inspecting

TECHNICIAN [Signature] # 90100091 LEVEL _____



Elite Inspection Services Inc.

Visual Inspection Report

220 Industrial Way Unit #1
 Portland, ME 04103
 Phone: (207) 797-2496
 Fax: (207) 797-2284

DATE: 10-26-05

CUSTOMER: BECKER Eng JOB No. _____ CUSTOMER PO No. _____ E.S.I. WORK ORDER 40-05-VT
 JOB LOCATION: Portland DRAWING No. _____ ACCEPTANCE CRITERIA: AWIS D1, 1
 WELD PROCEDURE SPECIFICATION: AWIS PROCESS: SMW STRUCTURE: BARK DAMFORTH

IDENTIFICATION AND/OR PART No.	FITUP						FINAL VISUAL							REMARKS			
	ACCEPT	REJECT	FITUP	ALIGNMENT	CLEANLINESS	PREHEAT	ACCEPT	REJECT	SIZE	LENGTH	PROFILE	POROSITY	UNDERCUT		OVERLAP	SLAG	WELDER ID.
																	Inspected Angle WELDS at the following locations
																	1st Floor - 2nd Partition - ACCEPTABLE
																	2nd Floor - 2nd Partition - ACCEPTABLE
																	3rd Floor - 2nd Partition - ACCEPTABLE
																	4th Floor - REPAIRS AND 2nd Partition - ACCEPTABLE
																	6th Floor - 2nd Partition - ACCEPTABLE

TECHNICIAN Robert Cui # 9010091 LEVEL _____

WE ACCEPT NO RESPONSIBILITY OF ANY KIND DUE TO OUR INTERPRETATION OF THE MATERIAL



Elite Inspection Services Inc.

Visual Inspection Report

220 Industrial Way Unit #1
 Portland, ME 04103
 Phone: (207) 797-2496
 Fax: (207) 797-2284

DATE: 10-31-05

CUSTOMER: BECKER Eng JOB No. _____ CUSTOMER PO No. _____ E.S.I. WORK ORDER 400-05-VT

JOB LOCATION: Portland DRAWING No. _____ ACCEPTANCE CRITERIA: AWS D1.1

WELD PROCEDURE SPECIFICATION: AWS PROCESS: SMW STRUCTURE: Park Danforth

IDENTIFICATION AND/OR PART No.	FITUP						FINAL VISUAL							REMARKS		
	ACCEPT	REJECT	FITUP	ALIGNMENT	CLEANLINESS	PREHEAT	ACCEPT	REJECT	SIZE	LENGTH	PROFILE	POROSITY	UNDERCUT		OVERLAP	SLAG
Inspected Shiny, Photo and Angle welds in the following locations on South Side of BLDG.																
<u>Photo Welds</u>																
7th Floor West Side of 2nd Partition - Acceptable																
7th Floor 1st and 2nd Partition - Acceptable																
5th Floor West Side of 2nd Partition - Acceptable																
6th Floor West Side of 2nd Partition - Acceptable																
<u>Angle Welds</u>																
7th Floor 1st and 2nd Partition and West Side of 2nd Partition - Bottom welds acceptable - top inaccessible																
4th Floor West Side of 2nd Partition - Acceptable																
5th Floor West Side of 2nd Partition - Acceptable																
6th Floor West Side of 2nd Partition - Acceptable																
Welding to AWS D1.1 and applicable DWGS.																

TECHNICIAN [Signature] CWI #9010091 LEVEL _____



Elite Inspection Services Inc.

Visual Inspection Report

220 Industrial Way Unit #1
Portland, ME 04103
Phone: (207) 797-2496
Fax: (207) 797-2284

DATE: 11-3-05

CUSTOMER: BECKER ENG JOB No. _____ CUSTOMER PO No. _____ E.S.I. WORK ORDER 400-05-VT

JOB LOCATION: Portland DRAWING No. _____ ACCEPTANCE CRITERIA: AWS D1.1

WELD PROCEDURE SPECIFICATION: AWS PROCESS: SMW STRUCTURE: PARK DANFORTH

IDENTIFICATION AND/OR PART No.	FITUP						FINAL VISUAL								REMARKS		
	ACCEPT	REJECT	FITUP	ALIGNMENT	CLEANLINESS	PREHEAT	ACCEPT	REJECT	SIZE	LENGTH	PROFILE	POROSITY	UNDERCUT	OVERLAP		SLAG	WELDER ID.
																	INSPECTED WELDS ON SHIM PLATES AND ANGLES ON 1st 2nd 3rd 4th 5th AND 6th LEVELS ON NORTH SIDE OF BLDG. ALL WELDS WERE FOUND TO BE ACCEPTABLE PER AWS D1.1 AND APPLICABLE DWGS.

TECHNICIAN [Signature] CWI # 9010091 LEVEL _____



Elite Inspection Services Inc.

Visual Inspection Report

220 Industrial Way Unit #1
 Portland, ME 04103
 Phone: (207) 797-2496
 Fax: (207) 797-2284

DATE: 1-27-06

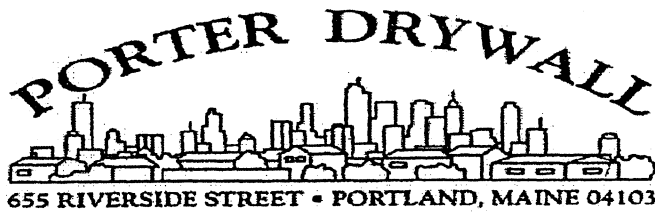
CUSTOMER: Becker Eng. JOB No. _____ CUSTOMER PO No. _____ E.S.I. WORK ORDER 400-05-VT
 JOB LOCATION: Portland DRAWING No. _____ ACCEPTANCE CRITERIA: AWS D1.1
 WELD PROCEDURE SPECIFICATION: AWS PROCESS: SHAW STRUCTURE: Park Damforth

IDENTIFICATION AND/OR PART No.	FITUP					FINAL VISUAL								REMARKS			
	ACCEPT	REJECT	FITUP	ALIGNMENT	CLEANLINESS	PREHEAT	ACCEPT	REJECT	SIZE	LENGTH	PROFILE	POROSITY	UNDERCUT		OVERLAP	SLAG	WELDER ID.
																	<p><i>Inspection performed on all balcony rail welds on all levels on south and east side of Bldg. All welds were found to be acceptable.</i></p>

TECHNICIAN CWI # 9010091 LEVEL _____

WE ACCEPT NO RESPONSIBILITY OF ANY KIND DUE TO OUR INTERPRETATION OF THE MATERIAL

05400.01 Material Specification Submittals



Date: 06-29-2005

Transmittal

To: Paul LaLiberte
Allied/Cook Corp.
P.O. Box 1396
Portland ME 04104

RECEIVED

JUN 29 2005

Project: 5078
Park Danforth
Portland ME 04074

ALLIED CONSTRUCTION

Prepared By: Jonathan Clark

Section	Description	Quantity	Submitted For
05400	Exterior Light Gage Framing	6	Approval
07210	Building Insulation	6	Approval
07241	EIFS	6	Approval
07242	Drainage EIFS	6	Approval
09260	Drywall Partitions	6	Approval

Notes

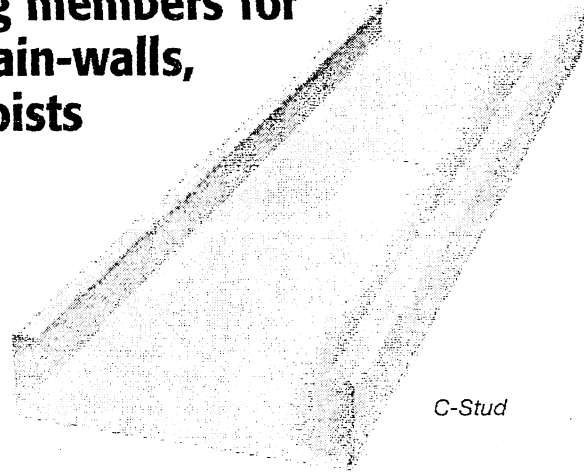
Please provide EIFS Color and Texture Selection

Please sign and date this form as proof that you are in receipt of the above listed items.
Return form to Porter Drywall, Inc.

Signed: _____ Date: _____

Light-gauge C-shaped framing members for axial load-bearing walls, curtain-walls, tall interior partitions, floor joists and roof truss assemblies.

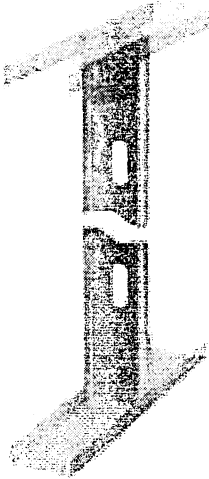
- Size (Web): 2-1/2", 3-1/2", 3-5/8", 4", 5-1/2", 6", 8", 10", 12", 14".
- Flange Sizes: 1-1/4", 1-3/8", 1-5/8", 2", 2-1/2", 3".
- Gauges: 20 (33 mils), 18 (43 mils), 16 (54 mils), 14 (68 mils) and 12 (97 mils).
- 33 and 50 KSI yield strengths. 33 KSI is standard. 50 KSI must be specified at time of order.
- G-60 Galvanized coating or equivalent.
- Custom sizes, lengths and coatings available.



C-Stud

Dietrich™ C Studs are light-weight, cold-formed galvanized steel members used in axial load-bearing walls, curtain-walls, floor joists and roof truss framing. C-Studs are available in a wide array of sizes, flanges, gauges and yield strengths to obtain optimal performance at minimal costs.

One of the key differences between the various C-Stud/Joist framing members is the flange and return dimensions. The flange is typically the bearing surface for cladding materials and a key contributor to the load-bearing capacity of the member. Flange sizes include 1-1/4", 1-3/8", 1-5/8", 2", 2-1/2" and 3".

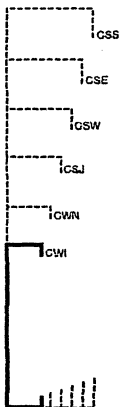


Dietrich™ CSJ™ studs/joist have a 1-5/8" flange and a 1/2" return and are considered the industry standard. CSJ members are the most widely used and specified framing members. They provide the vertical strength necessary for demanding load-bearing structural applications and sufficient strength for many joist applications.

Dietrich™ CSW™ wide studs/joist have a 2" wide flange and a 5/8" return that provides a larger bearing surface for attaching sub-flooring or sheathing materials. This framing member is also used in axial load-bearing wall assemblies.

Dietrich™ CSE™ extra-wide studs/joist have a 2-1/2" wide flange and a 5/8" return and are used in floor joist assemblies and heavy loading conditions.

Dietrich™ CSS™ super-wide studs/joist have a 3" flange and a 1" return and are used in very heavy loading and long spanning conditions.



Dietrich™ CWI™ light-duty curtain-wall studs have a 1-1/4" flange and 1/4" return and are used to support the exterior skin in ultra-light applications. CWI studs are available only in the Pacific Northwest.

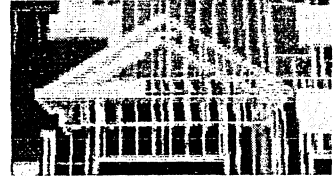
Dietrich™ CWN™ curtain-wall studs have a 1-3/8" flange and 1/2" return and are used to support the exterior skin or cladding material (metal, stone, tile, glass, etc.) and the wind loads to which they are subjected.

Porter Drywall, Inc.
650 Riverside Street
Portland, Maine 04103



Exterior Light-Gauge Steel Framing Systems for Curtain-Wall/Axial Load-Bearing

NOTE: This catalog does not provide load data (load capacities, limiting heights, physical and structural properties and span data) necessary for building design. Consult the Dietrich™ Technical Design Guide. Additional assistance is available at www.dietrichmetalframing.com or by calling Dietrich Design Group at 1-800-873-2443.



C-Studs (C-Series™)

C-Studs

DMF Product Code*	SSMA Reference	Thickness	Depth		Flange		Return	
		Gauge (mils)	Inches	(mm)	Inches	(mm)	Inches	(mm)
CWI (3)	250S125-x	20 (33), 18 (43), 16 (54), 14 (68)	2-1/2	63.5	1-1/4	31.8	1/4	6.4
	362S125-x		3-5/8	92.1	1-1/4	31.8	1/4	6.4
	600S125-x		6	152.4	1-1/4	31.8	1/4	6.4
	800S125-x		8	203.2	1-1/4	31.8	1/4	6.4
CWN (3)	250S137-x	20 (33), 18 (43), 16 (54), 14 (68)	2-1/2	63.5	1-3/8	34.9	3/8	9.5
	362S137-x		3-5/8	92.1	1-3/8	34.9	3/8	9.5
	400S137-x		4	101.6	1-3/8	34.9	3/8	9.5
	600S137-x		6	152.4	1-3/8	34.9	3/8	9.5
CSJ (3, 5)	250S162-x	20 (33), 18 (43), 16 (54), 14 (68), 12 (97)	2-1/2	63.5	1-5/8	41.3	1/2	12.7
	350S162-x		3-1/2	88.9	1-5/8	41.3	1/2	12.7
	362S162-x		3-5/8	92.1	1-5/8	41.3	1/2	12.7
	400S162-x		4	101.6	1-5/8	41.3	1/2	12.7
	550S162-x		5-1/2	149.7	1-5/8	41.3	1/2	12.7
	600S162-x		6	152.4	1-5/8	41.3	1/2	12.7
	800S162-x		8	203.2	1-5/8	41.3	1/2	12.7
	1000S162-x		10	254.0	1-5/8	41.3	1/2	12.7
	1200S162-x		12	304.8	1-5/8	41.3	1/2	12.7
	1400S162-x		14	355.6	1-5/8	41.3	1/2	12.7
CSW (3, 5)	362S200-x	20 (33), 18 (43), 16 (54), 14 (68), 12 (97)	3-5/8	92.1	2	50.8	5/8	15.9
	400S200-x		4	101.6	2	50.8	5/8	15.9
	600S200-x		6	152.4	2	50.8	5/8	15.9
	800S200-x		8	203.2	2	50.8	5/8	15.9
	1000S200-x		10	254.0	2	50.8	5/8	15.9
	1200S200-x		12	304.8	2	50.8	5/8	15.9
CSE (3, 5)	1400S200-x	20 (33), 18 (43), 16 (54), 14 (68), 12 (97)	14	355.6	2	50.8	5/8	15.9
	362S250-x		3-5/8	92.1	2-1/2	63.5	5/8	15.9
	400S250-x		4	101.6	2-1/2	63.5	5/8	15.9
	600S250-x		6	152.4	2-1/2	63.5	5/8	15.9
	800S250-x		8	203.2	2-1/2	63.5	5/8	15.9
	1000S250-x		10	254.0	2-1/2	63.5	5/8	15.9
CSS (3, 5)	1200S250-x	18 (43), 16 (54), 14 (68), 12 (97)	12	304.8	2-1/2	63.5	5/8	15.9
	1400S250-x		14	355.6	2-1/2	63.5	5/8	15.9
	600S300-x		6	152.4	3	76.2	1	25.4
	800S300-x		8	203.2	3	76.2	1	25.4
	1000S300-x		10	254.0	3	76.2	1	25.4
1200S300-x	12	304.8	3	76.2	1	25.4		
1400S300-x	14	355.6	3	76.2	1	25.4		

*3 or 5 indicates ksi. 33 ksi is standard. 50 ksi must be specified at time of order.

*CWI (3) available in limited geographical areas

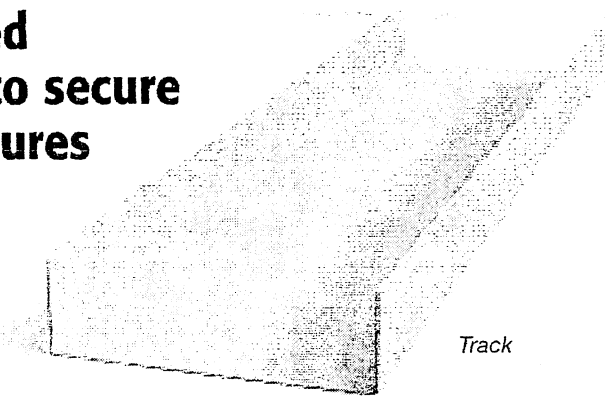
X= mil thickness identifier

For more information or to contact a sales representative, see page 3.



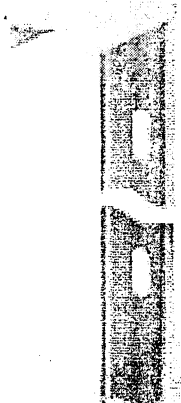
U-shaped channel runners used as the top and bottom tracks to secure wall studs or end support closures for floor joist framing.

- Sizes (Web): 2-1/2", 3-1/2", 3-5/8", 4", 5-1/2", 6", 8", 10", 12", 14".
- Leg heights: 1", 1-1/4", 1-1/2", 2" and 3" legs.
- Gauges: 20 (33 mils), 18 (43 mils), 16 (54 mils), 14 (68 mils) and 12 (97 mils).
- 33 KSI yield strength. 50 KSI available on request.
- G-60 Galvanized coating or equivalent.
- Standard 10' lengths.
- Custom sizes, lengths and coatings available.



Track (TS-Series™)

Dietrich™ structural track is a U-shaped framing component used as top and bottom runners to secure wall studs. Dietrich™ structural track is produced to ASTM C955 standards. Structural track is also used as end support closures for joists at exterior or foundation walls, head and sill plates of wall openings and solid blocking. Track is normally ordered in corresponding size and gauge to the wall studs. Longer leg track is used for deflection conditions or to accommodate uneven or inconsistent floor or ceiling conditions. Slip track for track-over-track assemblies is also available.

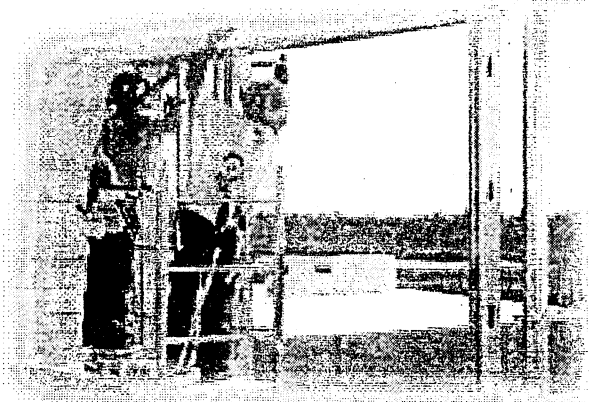


Track

DMF Product Code	SSMA Reference	Thickness Gauge (mils)	Leg Height	
			Inches	(mm)
TSA	x-T100-y	20 (33), 18 (43), 16 (54), 14 (68), 12 (97)	1	25.4
→ TSB	x-T125-y	20 (33), 18 (43), 16 (54), 14 (68), 12 (97)	1-1/4	31.8
TSF	x-T150-y	20 (33), 18 (43), 16 (54), 14 (68), 12 (97)	1-1/2	38.1
→ TSC	x-T200-y	20 (33), 18 (43), 16 (54), 14 (68), 12 (97)	2	50.8
TSE	x-T300-y	20 (33), 18 (43), 16 (54), 14 (68), 12 (97)	3	76.2
OTSF	z-T150-y	20 (33), 18 (43), 16 (54), 14 (68), 12 (97)	1-1/2	38.1
OTSC	z-T200-y	20 (33), 18 (43), 16 (54), 14 (68), 12 (97)	2	50.8
OTSE	z-T300-y	20 (33), 18 (43), 16 (54), 14 (68), 12 (97)	3	76.2

x = Part depth. Tracks are available to match all stud and joist depths.
y = mil thickness of steel.

z = Part depth. Overtracks are available in all standard stud depths. The track width is sized to fit over a standard TS series track.

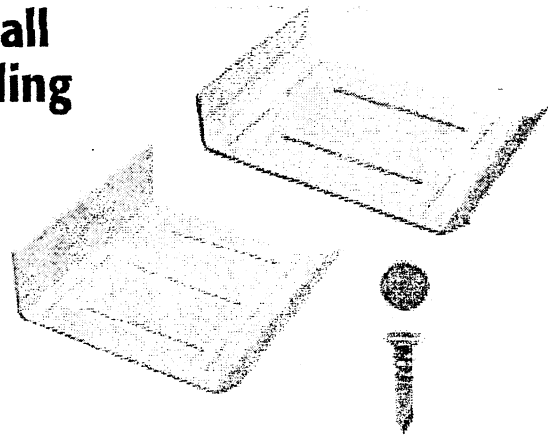


For more information or to contact a sales representative, see page 3.

Fast Top™ Clip (FTC3/FTC5)

Head-of-wall, exterior curtain-wall deflection clips for vertical building movement.

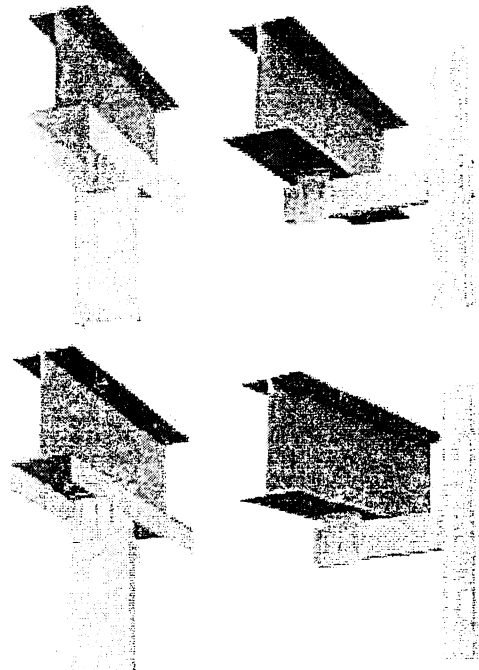
- An excellent alternative to deflection track, slip-track and track-over-track.
- Fast Clip™ slip technology.
- Available in 3" and 5" widths.
- Attaches within the wall cavity.
- Proprietary screws provide frictionless slip connections.
- Embossed fastening patterns to ensure accurate placement of fasteners.
- 14-gauge, G-90, 50 KSI steel.



FAST TOP™ CLIP
HEAD-OF-WALL SLIDE CLIP

The Dietrich Fast Top™ clip is used in head-of-wall deflection conditions for in-fill curtain wall assemblies to provide for vertical wall movement. These clips are used in place of or in combination with deflection track and track-over-track assemblies. They also make a positive attachment and do not require bridging or bracing for the deflection system. The Fast Top™ deflection clip attaches to the underside of structural members, concrete decks or floor assemblies. Studs must be cut less than full height to enable vertical movement up to 2-1/2" (1-1/4" up and down). Fast Top™ deflection clips quickly install with welds, screws or powder actuated fasteners. Proprietary screws ensure frictionless deflection. These clips are also embossed with fastening patterns to ensure accurate placement of fasteners.

Patent Pending.



Fast Top™ Clip (FTC3 and FTC5)

DMF Product Code	Thickness				Size		Weight/Piece		Packaging*
	Gauge	Mils	Design Thickness		Inches	(mm)	lbs.	(kg)	Pcs./Box
			Inches	(mm)					
FTC3	14	68	0.0713	1.81	4 x 1-1/2 x 3-1/4	101 x 38.1 x 82.6	0.410	0.186	25
FTC5	14	68	0.0713	1.81	4 x 1-1/2 x 4-3/4	101 x 38.1 x 120	0.610	0.277	30

*Includes 110 proprietary shoulder screws per box.

Product Specification



DIETRICH
METAL FRAMING
A Worthington Industries Company

Project Information:

Project Name: Park Danforth
Project Number:
Address: 777 Stephens Ave
City: Portland
State: Maine

Contractor Information:

Company Name: Porter Drywall, Inc.
Contact Name: Jon Clark
Address: 655 Riverside Street
City: Portland **State:** ME **Zip:** 04103
Phone: 207.878.2024 **Fax:** 207.878.2085

U-Channel

Product Code: CHN1
Width: 3/4"
Flange: 1/2"
Yield Strength: 33
Gauge: 16
Design Thickness: 0.056

SSMA Code: 75U50-54

Weight/Foot: 0.285

Product Complies With:

A.I.S.I. Specification for the design
of Cold-Formed Steel Structural Members
ASTM C-645
ASTM C-754
ASTM C-955

Gross Section Properties

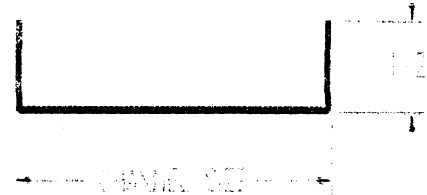
Area: 0.087 in.²
Moment of inertia about x-x axis (Ix): 0.007 in.⁴
Radius of gyration about x-x axis (Rx): 0.289 in.
Moment of inertia about y-y axis (Iy): 0.002 in.⁴
Radius of gyration about y-y axis (Ry): 0.156 in.

Effective Section Properties

Fully Braced Allowable Moment (Mall): 382 in./lbs.
Moment of Inertia about x-x axis (IxEff): 0.007 in.⁴
Effective Section Modulus about x-x Axis (SxEff): 0.019 in.³

Torsional Section Properties

Distance between shear center and centroid (Xo): -0.35415 in.
St. Venant torsional constant (Jx1000): 0.09319
Warping torsional constant (Cw): 0.00019
Polar radius of gyration about principal axis (Ro): 0.48272 in.
Beta Equals 1-(Xo/Ro)²: 0.46176



U-CHANNEL

Dietrich Metal Framing, Inc.
Corporate Headquarters 500 Grant Street/Suite 2226
Pittsburgh, PA 15219
Phone: (412)281.2805

Dietrich Design Group
1414 Field Street Building C
Hammond, IN 46320
Phone: (219)853.9474
Toll Free: 1.800.USE.BIGD

Product Specification



DIETRICH
METAL FRAMING
A Worthington Industries Company

Project Information:

Project Name: Park Danforth
Project Number:
Address: 777 Stephens Ave
City: Portland
State: Maine

Contractor Information:

Company Name: Porter Drywall, Inc.
Contact Name: Jon Clark
Address: 655 Riverside Street
City: Portland **State:** ME **Zip:** 04103
Phone: 207.878.2024 **Fax:** 207.878.2085

Corner Angle

Product Code: CAE

Leg: 2" x 2"

Yield Strength: 33

Gauge: 20

Design Thickness: 0.034"

SSMA Code: N/A

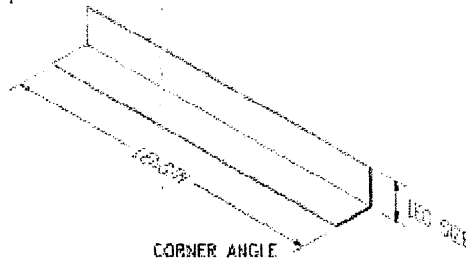
Weight/Foot: 0.45

Product Complies With:

ASTM C-645

ICBC 4782*

See report for specific information



Dietrich Metal Framing, Inc.

Corporate Headquarters 500 Grant Street/Suite 2226
Pittsburgh, PA 15219
Phone: (412)281.2805

Dietrich Design Group

1414 Field Street Building C
Hammond, IN 46320
Phone: (219)853.9474
Toll Free: 1.800.USE.BIGD

Product Specification



DIETRICH
METAL FRAMING
A Worthington Industries Company

Project Information:

Project Name: Park Danforth
Project Number:
Address: 777 Stephens Ave
City: Portland
State: Maine

Contractor Information:

Company Name: Porter Drywall, Inc.
Contact Name: Jen Clark
Address: 655 Riverside Street
City: Portland **State:** ME **Zip:** 04103
Phone: 207.878.2024 **Fax:** 207.878.2085

Corner Angle

Product Code: CAM

Leg: 2" x 2"

Yield Strength: 33

Gauge: 18

Design Thickness: 0.045"

SSMA Code: N/A

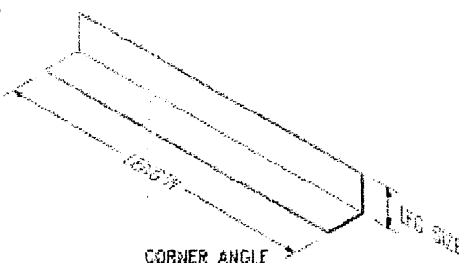
Weight/Foot: 0.68

Product Complies With:

ASTM C-645

ICBO 4782*

See report for specific information



Dietrich Metal Framing, Inc.

Corporate Headquarters 500 Grant Street/Suite 2226
Pittsburgh, PA 15219
Phone: (412)281.2805

Dietrich Design Group

1414 Field Street Building C
Hammond, IN 46320
Phone: (219)853.9474
Toll Free: 1.800.USE.BIGD

Product Specification



DIETRICH
METAL FRAMING
A Worthington Industries Company

Project Information:

Project Name: Park Danforth
Project Number:
Address: 777 Stephens Ave
City: Portland
State: Maine

Contractor Information:

Company Name: Porter Drywall, Inc.
Contact Name: Jon Clark
Address: 655 Riverside Street
City: Portland **State:** ME **Zip:** 04103
Phone: 207.878.2024 **Fax:** 207.878.2085

Corner Angle

Product Code: CAM

Leg: 2" x 2"

Yield Strength: 33

Gauge: 16

Design Thickness: 0.056"

SSMA Code: N/A

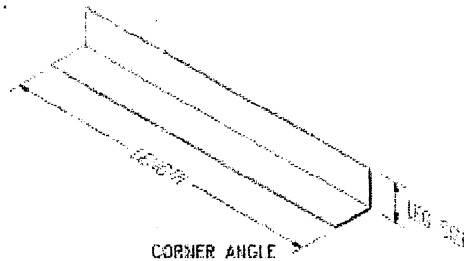
Weight/Foot: 0.86

Product Complies With:

ASTM C-645

ICBO 4782*

See report for specific information



Dietrich Metal Framing, Inc.
Corporate Headquarters 500 Grant Street/Suite 2226
Pittsburgh, PA 15219
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Toll Free: 1.800.USE.BIGD

Product Specification



DIETRICH
METAL FRAMING
A Worthington Industries Company

Project Information:

Project Name: Park Danforth
Project Number:
Address: 777 Stephens Ave
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State: Maine

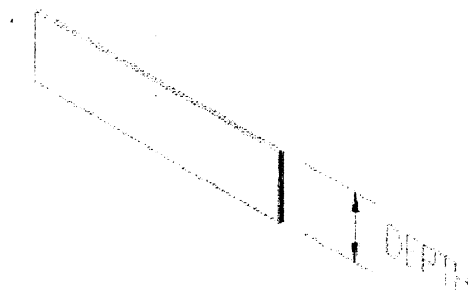
Contractor Information:

Company Name: Porter Drywall, Inc.
Contact Name: Jon Clark
Address: 655 Riverside Street
City: Portland **State:** ME **Zip:** 04103
Phone: 207.878.2024 **Fax:** 207.878.2085

Back Plate

Product Code: BPE
Width: 2"
Yield Strength: 33
Gauge: 20
Design Thickness: 0.034

SSMA Code: N/A
Weight/Foot: 0.14
Product Complies With:
ASTM C-654



BACKING PLATE

Dietrich Metal Framing, Inc.
Corporate Headquarters 500 Grant Street/Suite 2226
Pittsburgh, PA 15219
Phone: (412)281.2805

Dietrich Design Group
1414 Field Street Building C
Hammond, IN 46320
Phone: (219)853.9474
Toll Free: 1.800.USE.BIGD

Fasteners



POSI-GRIP®, POSI-SET®, POSI-FIT®

• POSI-GRIP®, POSI-SET®, POSI-FIT® are registered trade names of Star Sales & Distributing Corp. •

Posi-Grip® Screws:



These screws are internationally recognized as a premier quality fastener and are manufactured under strict guidelines in an ISO 9002 approved factory. Our sharp point screws meet and exceed ASTM C-1002-93 Standards and our self-drilling screws meet and exceed ASTM C-954-86 Standards.

Markets:

Professional Drywall, General Construction, HVAC & Electrical

Application:

For efficiently and cost effectively attaching a wide variety of steel, steel stud, metal & wood decking, standard lumber, cement board & Exterior Insulation Finish Systems (EIFS).

Product:

Posi-Grip® Screws: 250 different combinations of size and finish, including: all purpose, hi-thread, deck screws, acoustical lags, trim screws, ceramic coated, stainless steel, concrete screws, and many varieties of specialty self-drilling screws.

Solution:

Posi-Grip® products provide the end user with: faster work speed, improved cost efficiency and high-level performance and quality.

Posi-Set® Screws:



These standard grade drywall, concrete & tek screws provide our customers with a consistent quality product at a competitive price that they need to complete in today's marketplace.

Posi-Fit® Nails:



These superior quality common nails & collated nails provide our customers with a wide variety of framing, roofing, finishing & stapling options that fit most brand name pneumatic tools.

DEWALT
 REMSON
 POWER
 TOOLS
 THE
 BEST
 POSI-GRIP
 POSI-SET
 POSI-FIT

SELF-DRILL ZINC PLATED SCREWS

Hex Washer Head Self-Drill

Attaches back up plates, fixtures, door frames, and lathers channel to structural studs, and metal decks up to 12 gauge.
 • Zinc finish.



SELF-DRILL SCREW SPECIFICATIONS

Screw Diameter	Min. Tension	Min. Torsional	Avg. Shear	Avg. Pullout
6	1150	25	840	670
8	1575	42	1055	705
10	2100	61	1496	786
12	2800	92	2015	842
14	3250	100		
	3850	150	2585	910
	4275	168		

Specifications apply to most STAR and POSI-GRIP screws. Tested in .16 gauge metal.

Size	Part No.	Qty./Box	Approx. Wt./Box	Point No.	Max. Drill Cap.
6 x 1/2	HD6012	15 M	42 lbs	2	.104
6 x 3/4	HD6034	10 M	35 lbs	2	.104
8 x 1/2	HD8012	10 M	33 lbs	2	.104
8 x 5/8	HD8058	10 M	37 lbs	2	.104
8 x 3/4	HD8034	10 M	43 lbs	2	.104
8 x 1	HD8100	7.5 M	38 lbs	2	.104
8 x 1-1/4	HD8114	5 M	32 lbs	2	.104
8 x 1-1/2	HD8112	5 M	39 lbs	2	.104
8 x 2	HD8200	3 M	27 lbs	2	.104
10 x 1/2	HD10012	10 M	49 lbs	2	.110
10 x 5/8	HD10058	7.5 M	44 lbs	3	.179
10 x 3/4	HD10034	7 M	45 lbs	3	.179
10 x 1	HD10100	5 M	37 lbs	3	.179
10 x 1-1/4	HD10114	3.5 M	31 lbs	3	.179
10 x 1-1/2	HD10112	3 M	33 lbs	3	.179
10 x 2	HD10200	2 M	23 lbs	3	.179
10 x 3	HD10300	1.5 M	25 lbs	3	.179
12 x 3/4	HD12034	5 M	42 lbs	3	.220
12 x 1	HD12100	3.5 M	35 lbs	3	.220
12 x 1-1/4	HD12114	3.5 M	41 lbs	3	.220
12 x 1-1/2	HD12112	2.5 M	33 lbs	3	.220
12 x 2	HD12200	2 M	33 lbs	3	.220
12 x 2-1/2	HD12212	1 M	21 lbs	3	.220
12 x 3	HD12300	1 M	22 lbs	3	.220
14 x 3/4	HD14034	3.5 M	43 lbs	3	.250
14 x 1	HD14100	2.5 M	30 lbs	3	.250
14 x 1-1/4	HD14114	2 M	35 lbs	3	.250
14 x 1-1/2	HD14112	2 M	39 lbs	3	.250
14 x 2	HD14200	1.5 M	36 lbs	3	.250
14 x 2-1/2	HD14212	1 M	28 lbs	3	.250
14 x 3	HD14300	1 M	32 lbs	3	.250
14 x 4	HD14400	9 C	33 lbs	3	.250
14 x 5	HD14500	5 C	28 lbs	3	.250

Pan Head Self-Drill

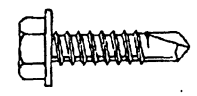


Attaching steel strapping (bridging) or furring channel to steel joist.
 • Zinc finish. Phillips recess.

Size	Part No.	Qty./Box	Approx. Wt./Box	Point No.	Max. Drill Cap.
6 x 3/8	PD6038	15 M	27 lbs	2	.104
6 x 1/2	PD6012	15 M	31 lbs	2	.104
6 x 5/8	PD6058	10 M	24 lbs	2	.104
6 x 3/4	PB6034	10 M	29 lbs	2	.104
6 x 1	PD6100	10 M	35 lbs	2	.104
8 x 1/2	PD8012	10 M	32 lbs	2	.104
8 x 5/8	PD8058	10 M	35 lbs	2	.104
8 x 3/4	PD8034	10 M	38 lbs	2	.104
8 x 1	PD8100	7.5 M	37 lbs	2	.104
8 x 1-1/4	PD8114	5 M	29 lbs	2	.104
8 x 1-1/2	PD8112	5 M	34 lbs	2	.104
8 x 2	PD8200	3 M	31 lbs	2	.104
10 x 1/2	PD10012	10 M	45 lbs	2	.110
10 x 5/8	PD10058FH	8 M	41 lbs	3	.179
10 x 3/4	PD10034	7.5 M	45 lbs	3	.179
10 x 1	PD10100	5 M	38 lbs	3	.179
10 x 1-1/4	PD10114	3.5 M	32 lbs	3	.179
10 x 1-1/2	PD10112	3 M	28 lbs	3	.179

410 STAINLESS STEEL SELF-DRILL

Hex Washer Head Self-Drill



For exterior metal to metal applications that require a high degree of corrosion resistance.

- 410 Stainless Steel
- Available with preassembled stainless Neoprene bonded sealing washer.

Available upon request.

Visit our website:
www.starsales.com

FASTENERS

STANLEY POSI-GRIP POWERDRIVE



ARCHITECTS

434 Cumberland Avenue
Portland, ME 04101-2325

Phone: 207-774-4441
Fax: 207-774-4016

FACSIMILE TRANSMITTAL SHEET

TO: Paul Becker	FROM: Richard P. Curtis
COMPANY: Becker Structural Engineers	DATE: 8/22/2005
FAX NUMBER: 207-879-1822	TOTAL NO. OF PAGES INCLUDING COVER: 2
PHONE NUMBER: 207-879-1838	PROJECT NAME: Park Danforth
RE: Fasteners	PROJECT NUMBER: 99420

URGENT FOR REVIEW PLEASE COMMENT PLEASE REPLY PLEASE RECYCLE

NOTES/COMMENTS:

Paul,

Attached is an information sheet on the fasteners that Allied/Cook is proposing to use for installation of the wood blocking at the windows rather than the PrimeGuard Plus, which apparently is difficult to obtain. Please review the information and let us and Allied know what you think.

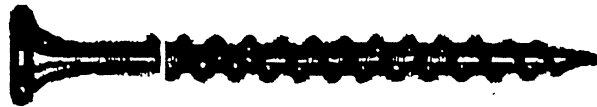
Copy to:

The PrimeGuard-10° Exterior Screw

Available in Phillips Drive OR Square Drive



- **Phillips Recess** - The most common Phillips head screwdriver or bit can be used to install the screw.
- **Square Recess** - Superior square drive bits can be used when a more positive drive is desired, minimizes "spinouts" and "camming".



- **C1018 Steel** - Higher carbon steel for improved strength.
- **Bevel Head** - Countersinks easily into most woods.
- **Coarse Threaded Shaft** - The aggressive thread design insures greater holding strength in wood.
- **Coating** - the special proprietary baked on gray polymer coating over multiple layers of baked on dacrostat provide good exterior protection against the weather and deter rusting. PrimeGuard-10 has a 10-year guarantee against rust and corrosion in normal exterior above grade applications. PrimeGuard-10 has been tested satisfactory for use in treated lumber, including ACQ. PrimeGuard-10 coating has a salt spray rating of 1000 hours per ASTM B117 and 18 cycles per DIN 50018.
- **Sharp Point** - Provides quick penetration into most woods. Pre-drilling may be necessary in some woods or when screwing close to edges of material.

• **Sizes Available:**

6 x 1-1/4"	1 lb.	5 lb.	8,000 count
6 x 1-5/8"	1 lb.	5 lb.	5,000 count
7 x 2"	1 lb.	5 lb.	3,500 count
8 x 2-1/2"	1 lb.	5 lb.	2,500 count
8 x 3"	1 lb.	5 lb.	2,000 count
10 x 3-1/2"	1 lb.	5 lb.	1,000 count
10 x 4"	1 lb.	5 lb.	1,000 count

05400.02 BSE Observation Reports

B E C K E R

structural engineers, inc.

Memorandum

TO: Richard Curtis, R.A. @ CWS
FROM: Paul B. Becker, P.E.
DATE/TIME: July 11, 2005
SUBJECT: WO697 Park Danforth Brick Replacement

Question: Bill Hart of ACC asked how the framing around two Type D windows at the first floor are to be reinforced.

Answer: The cold formed framing at the Type D Windows shall be reinforced per Elevation C/S4.

B E C K E R

structural engineers, inc.

Memorandum

TO: Dick Curtis--CWS
FROM: Michael Cyr—Becker Structural Engineers, Inc.
DATE/TIME: 9/14/05
SUBJECT: Window replacement near the low roof at the rear entrance

Bill Hart has asked if windows in line with the low roof near the rear entrance can be replaced and window framing reinforced without tampering with the roofing membrane. The intent is to avoid damaging the roof membrane and prevent roof leaks requiring remedial repair work prior to the scheduled replacement of the roofing material once the scaffolding has been removed from the roof.

It is permissible to replace the windows as suggested as long as the work complies with detail B on drawing S4. Please notify the engineer of any conflicts prior to commencing the work.

Cc: Bill Hart—Allied Construction, Job File

Memorandum 10

TO: Dick Curtis @ CWS
FROM: Michael Cyr
DATE/TIME: 9/27/05
SUBJECT: WO697 Park Danforth Window Framing

1. Because the carpenters were unable to attach the clip angles to the interior studs due to limited clearance, they improvised the framing by applying 20 GA flat plate to the existing jamb studs, securing the two jamb studs with #10-16 HWH TEKS at 12" spacing, and applying the clip angle to the outer stud as opposed to the inner stud. This is acceptable; however, we prefer that the carpenters make every effort to frame the windows using the original details specified on our drawings. Specifically, we would like to see the clip angles secured to the interior wall stud (stud closest to the window).
2. Framing already installed using the improvised method is acceptable. We consider this improvised method as an approved alternative only after every attempt to secure the clip to the interior wall stud has failed or proved to be more time consuming.

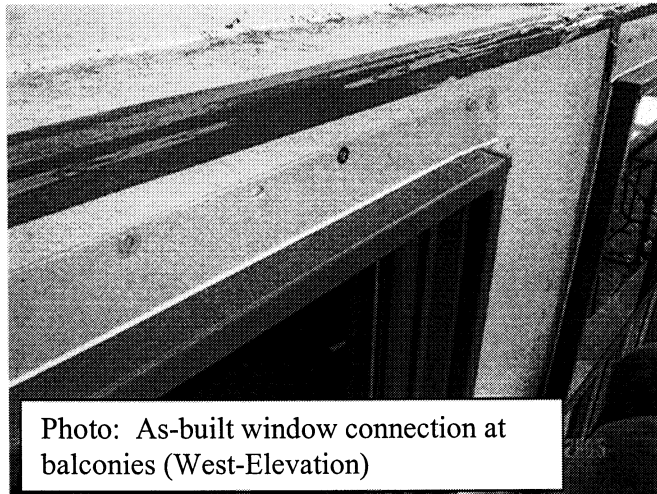
Cc: Bill Hart, File

Michael Cyr

Memorandum 12

TO: Dick Curtis @ CWS
FROM: Michael Cyr
DATE/TIME: 10/05/05
SUBJECT: WO697 Park Danforth Window Framing

1. The framing for the windows located at the balconies on the west side of the building have been altered to accommodate larger windows. In order to maintain a gap for deflection between the window framing and the building structure, we submitted a revised window framing detail (9/16/05).
2. The as-built framing of the windows varies slightly from our detail. The screws securing the exterior window flange to the framing penetrate the track and interior header which prevents the structure from deflecting freely in the vertical direction (See photo and attached sketch).
3. We realize that the current connection is per the window manufacturer's specifications, but our opinion is that the existing condition warrants review and approval from the window manufacturer.
4. We cannot take responsibility for damage to windows as a result of this connection which does not permit vertical movement between the structure and window framing. Please advise us on your discussion with the window manufacturer. If an alternate window connection is required, that connection shall come from the window manufacturer.



Cc: Bill Hart, File
Encl:

Field Report

Project: The Park Danforth
Project #: WO 1362
Date/Time: 3/28/06 11:00 to 11:45
Observers Michael Cyr

I met with Bill Hart today, and he informed me that damage to the interior wall has been observed in a unit on the 5th floor due to the scaffolding banging against the exterior wall. Damage to the interior wall is only visible on the 5th floor. Bill Hart has suggested inspecting the extent of the damage to the interior framing prior to repairing the damaged gypsum board. He intends to repair the damaged wall next week.

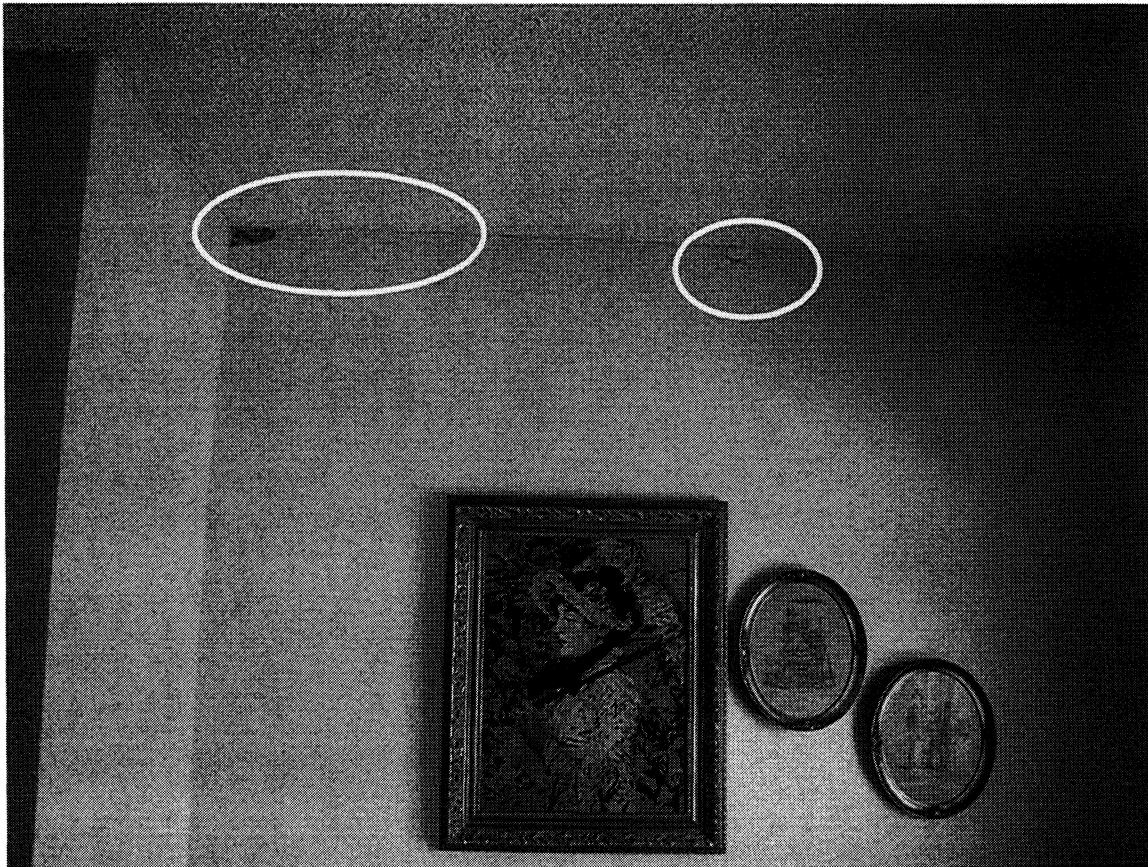


Photo 1: damaged interior wall (5th floor) as a result of the scaffolding banging against the exterior of the building

CC: 1362 Job File

Field Report

Project: The Park Danforth
Project #: WO 1362
Date/Time: 4/05/06 12:30 to 1:00 P.M.
Observers: Michael Cyr

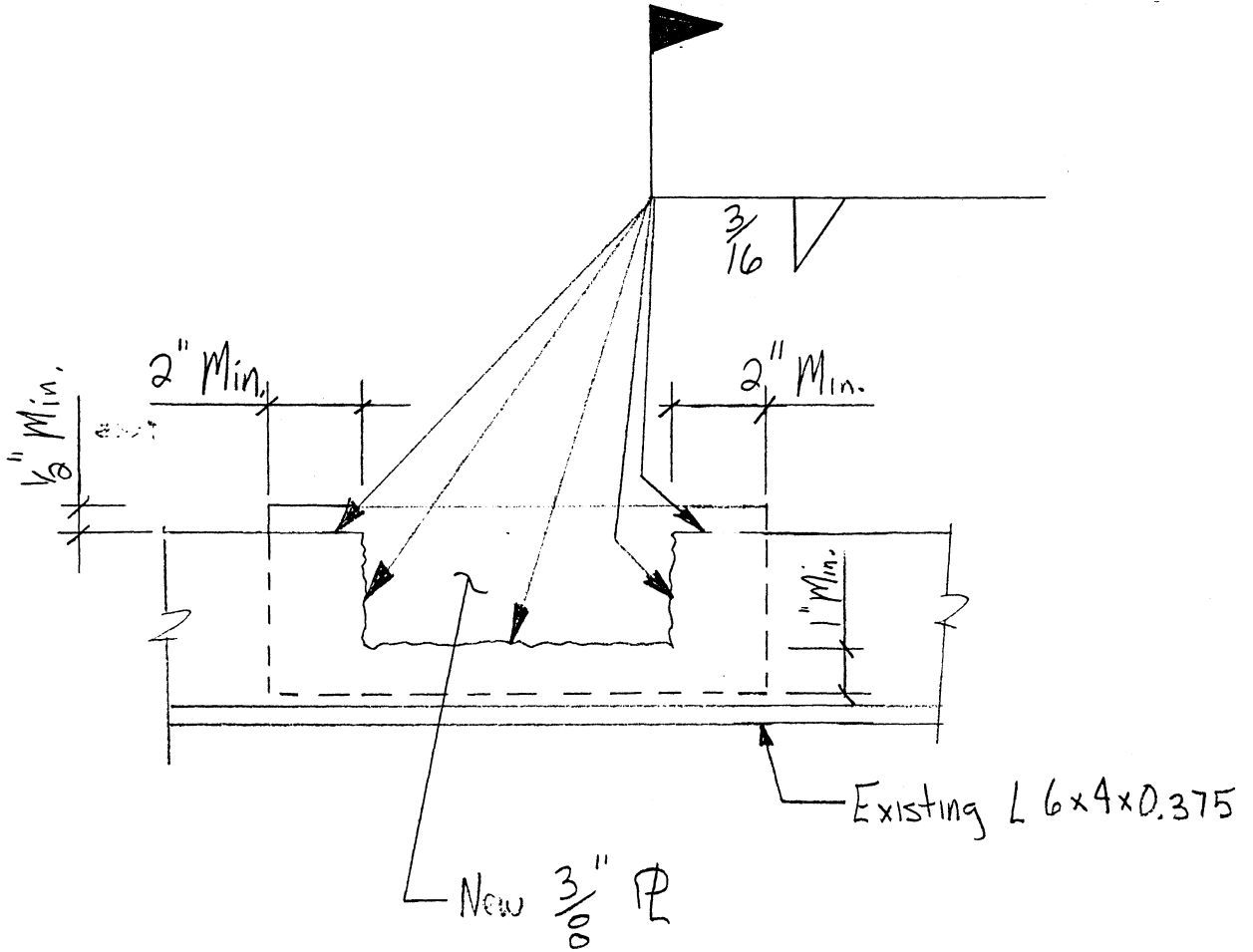
The general contractor exposed the wall framing which had revealed signs of damage resultant to the scaffolding hitting against the exterior wall. The metal studs, clips and screws appeared to be satisfactory.



Photo 1: no visual damage to wall framing components at the 5th floor unit

CC: 1362 Job File

Appendix A: Misc. Structural Sketches



Relieving Angle Repair Detail

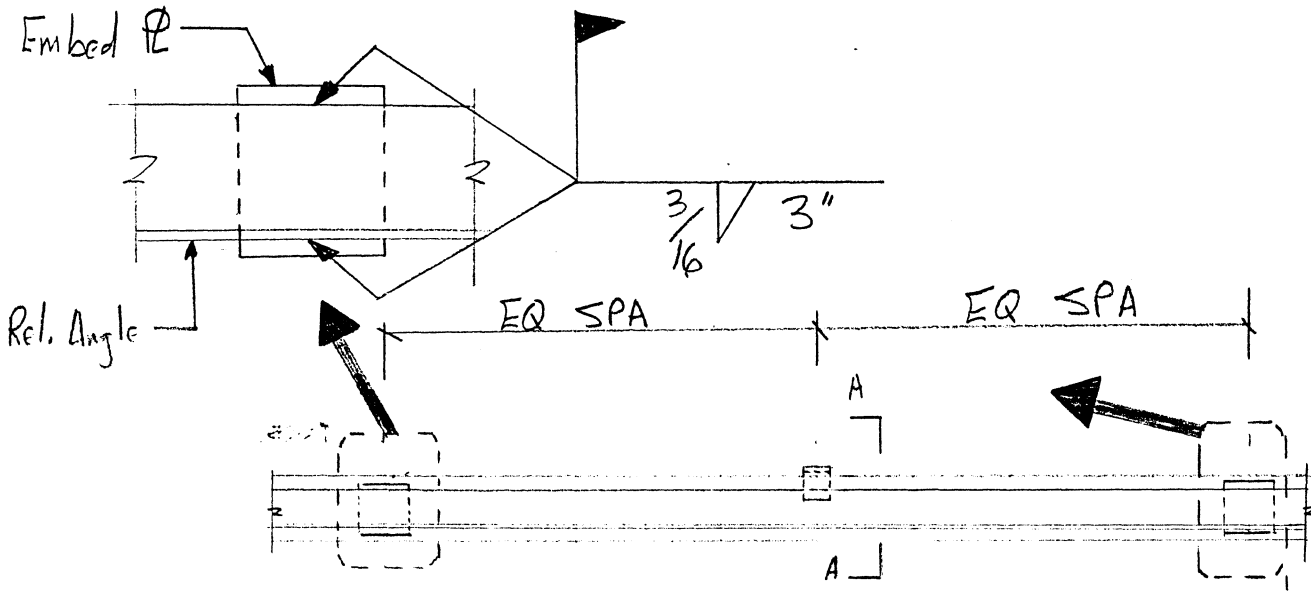
3" = 1'-0"

BECKER

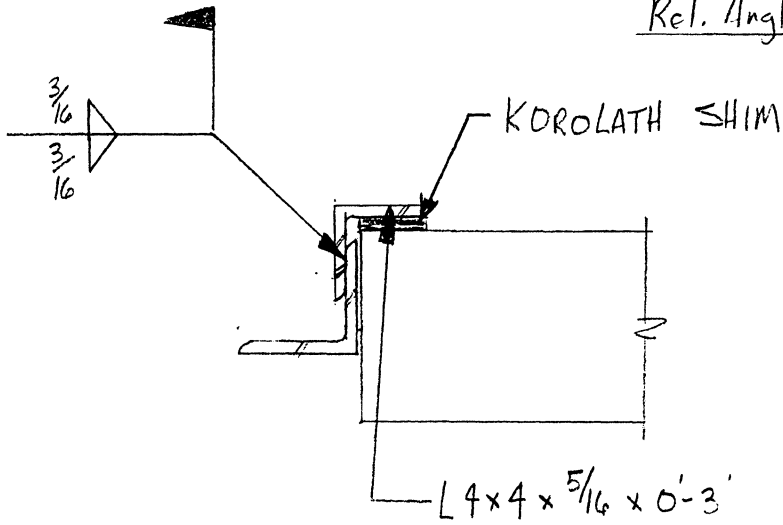
structural engineers, inc.

75 York Street, Portland, ME 04101-4550
Tel. 207-879-1838 ■ Fax 207-879-1822

Project Park Danforth
W.O. 1362 Sheet 1 Of 1
Calculated By: MC Date 8/18/05
Checked By: _____ Date _____



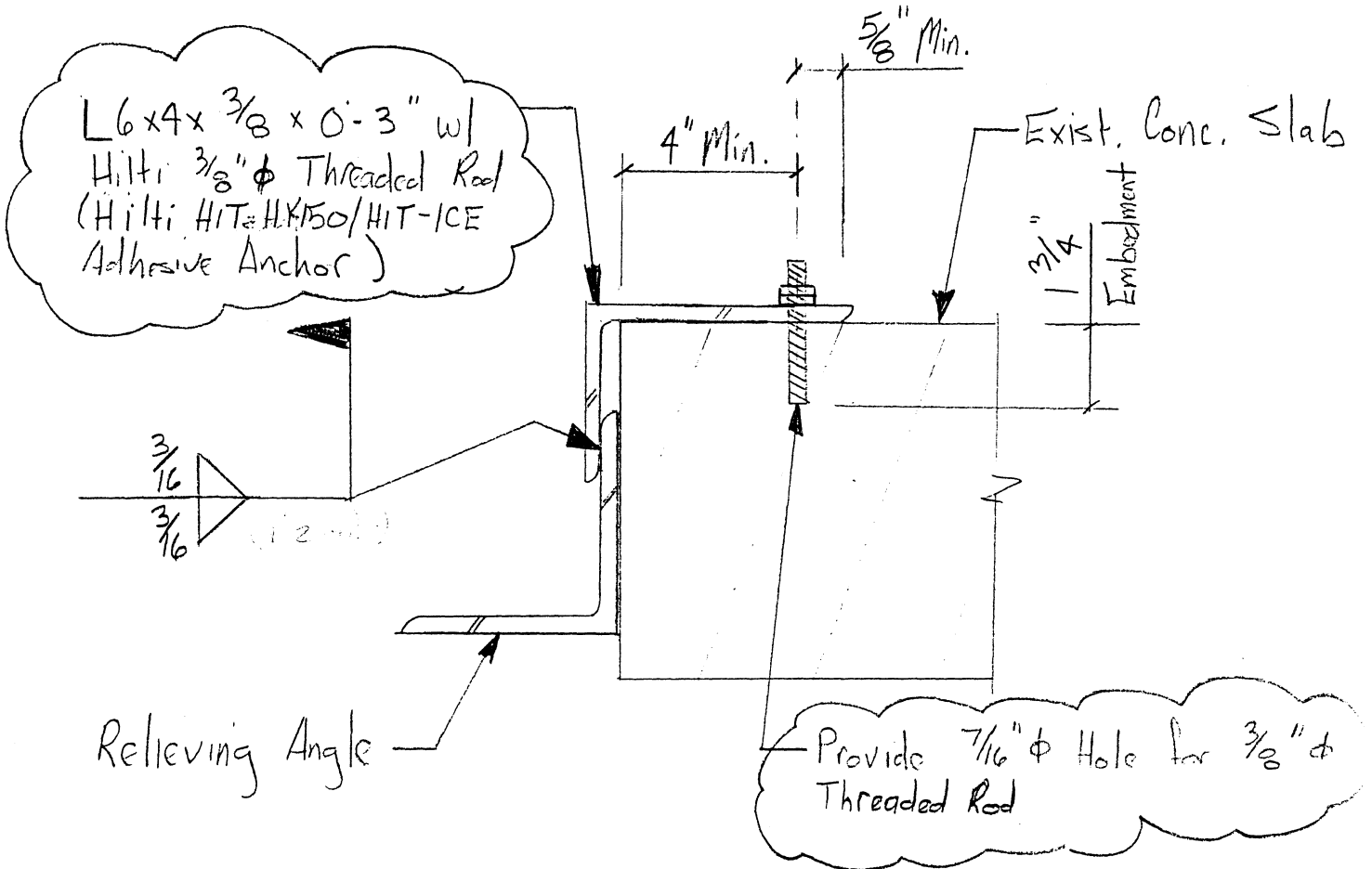
Rel. Angle Elev.



A-A
1/2" = 1'-0"

Relieving Angle Support Detail

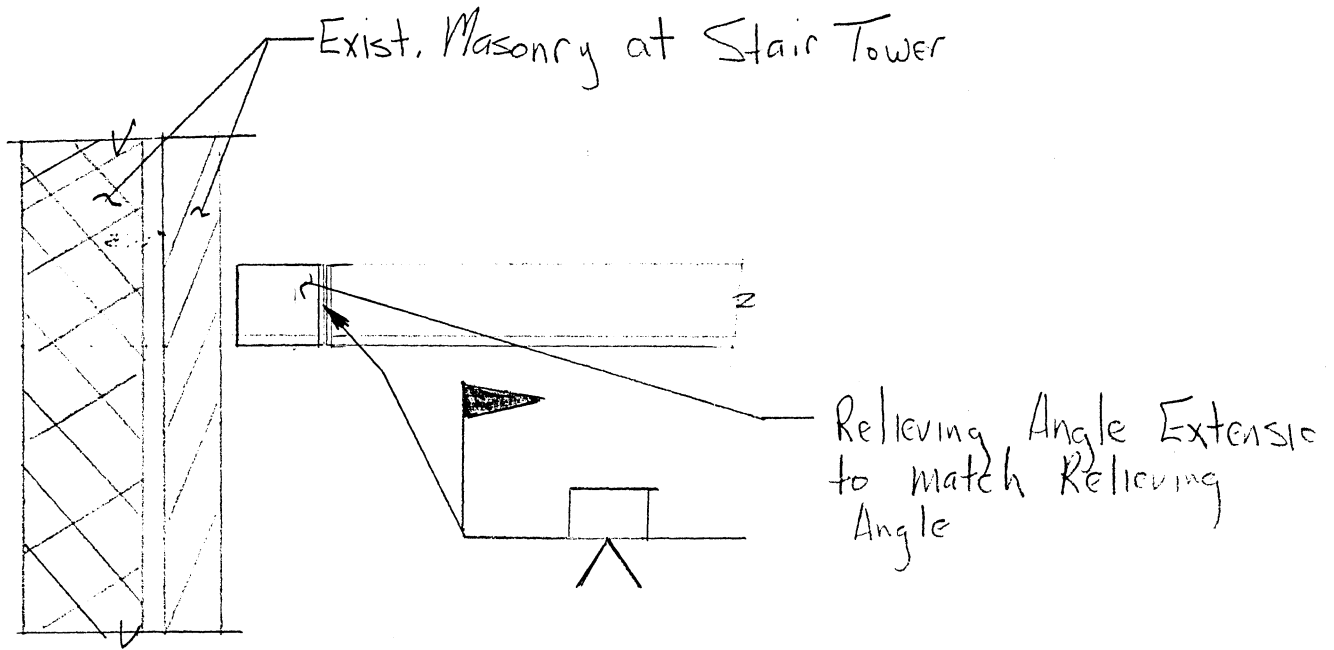
Note: Install New Clip away from Post-tensioned tendons located in the existing conc. slab



Brick Facade Relieving Angle

Support Detail

3" = 1'-0"



Relieving Angle Detail @
Corner of Stair Tower
1" = 1'-0"

CAP PL 1/4x ~~3/8~~ W/
~~3/8~~ - 3/8" Ø THRD ROD
 x 0'-2" LONG. GROUT
 PRECAST IN PLACE

1

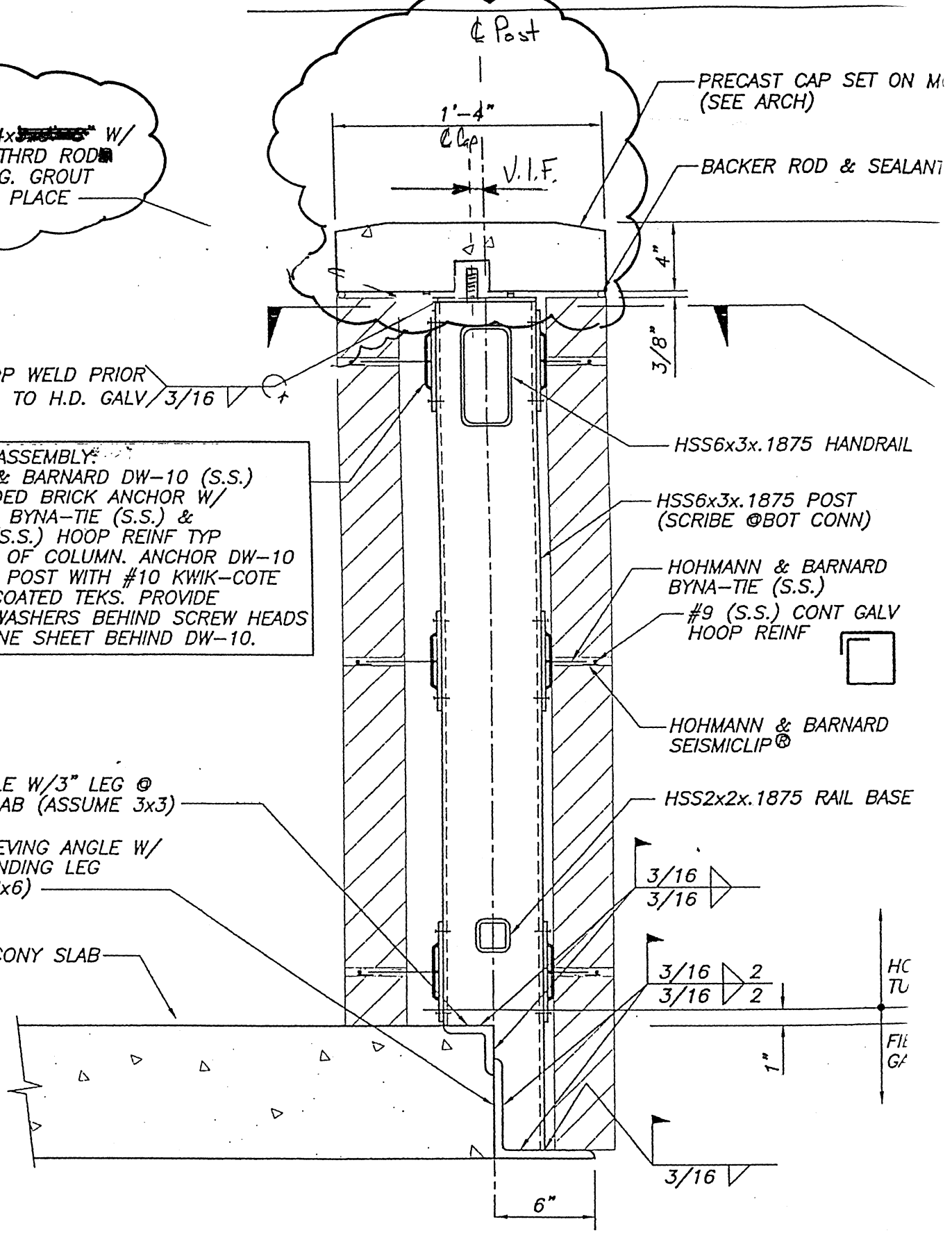
SHOP WELD PRIOR
 TO H.D. GALV 3/16

BRICK TIE ASSEMBLY:
 HOHMANN & BARNARD DW-10 (S.S.)
 SHOP WELDED BRICK ANCHOR W/
 SEISMICLIP, BYNA-TIE (S.S.) &
 CONT #9 (S.S.) HOOP REINF TYP
 (4)-FACES OF COLUMN. ANCHOR DW-10
 DW-10 TO POST WITH #10 KWIK-COTE
 POLYMER COATED TEKS. PROVIDE
 NEOPRENE WASHERS BEHIND SCREW HEADS
 & NEOPRENE SHEET BEHIND DW-10.

EXIST ANGLE W/ 3" LEG @
 TOP OF SLAB (ASSUME 3x3)

EXIST RELIEVING ANGLE W/
 6" OUTSTANDING LEG
 (ASSUME 6x6)

EXIST BALCONY SLAB



SECTION
 1/2" = 1'-0"

1
 \$2,S3

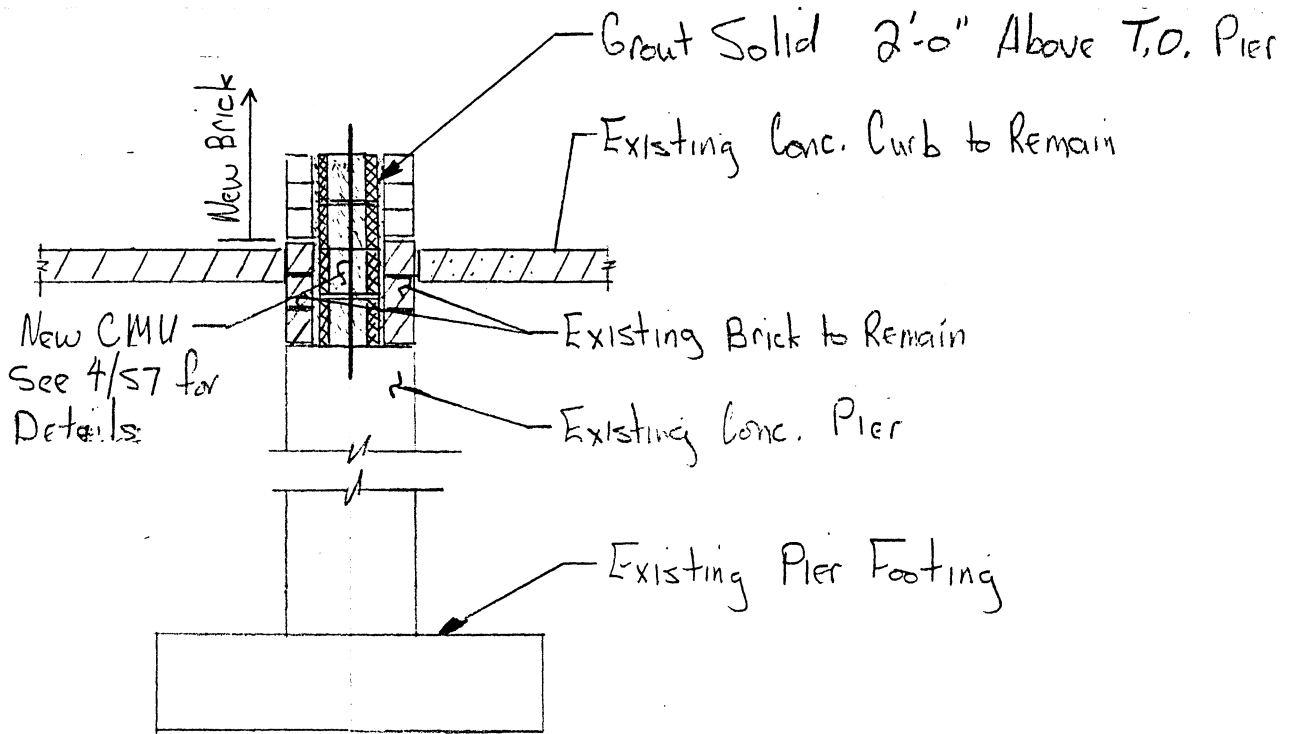
Ref: S6

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W.O. 1362 Sheet 1 Of 1
Calculated By: MC Date 9/1/05
Checked By: _____ Date _____



Pier Detail at Entrance

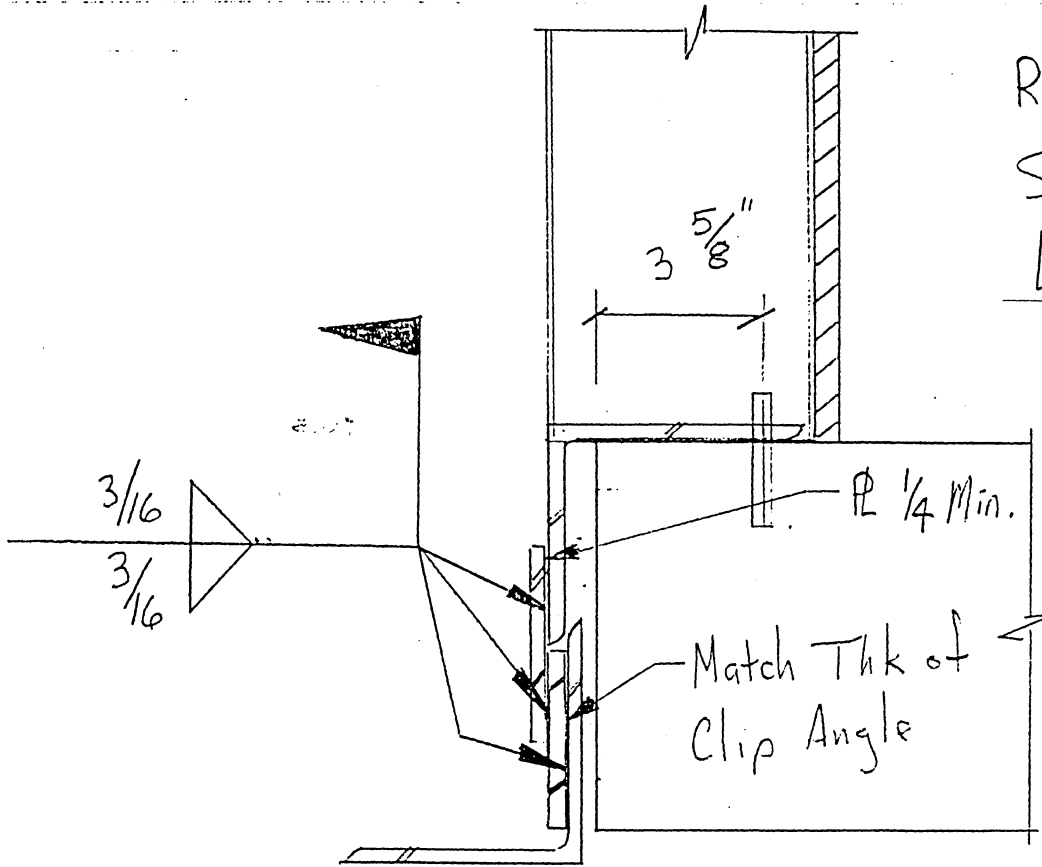
$\frac{1}{2}'' = 1'-0''$

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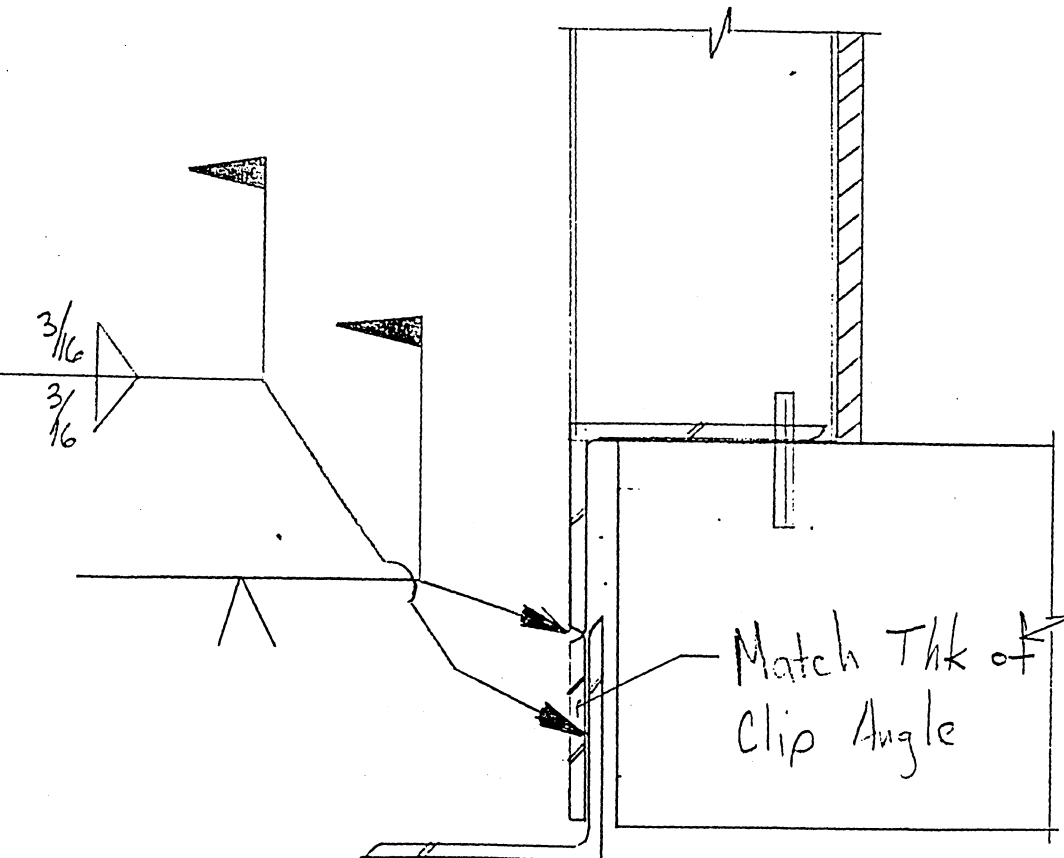
Project Park/Danforth
W.O. 1362 Sheet 1 Of 1
Calculated By: MC Date 9/1/05
Checked By: _____ Date _____



Relieving Angle at
Stair Tower Corner
Level 2

3" = 1'-0"

Either Option
is Acceptable

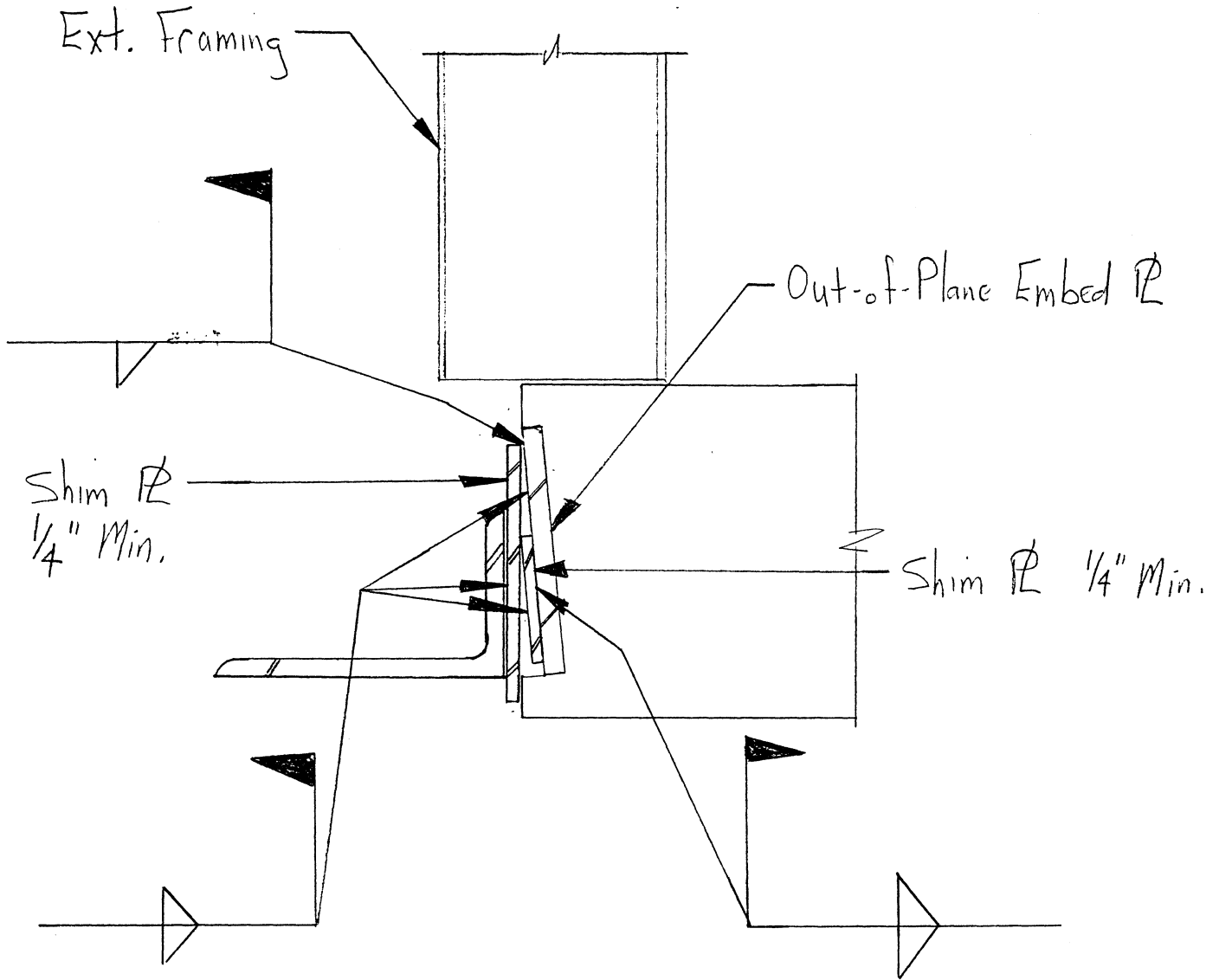


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Out-of-Plane Embedment Detail

3" - 1'-0"

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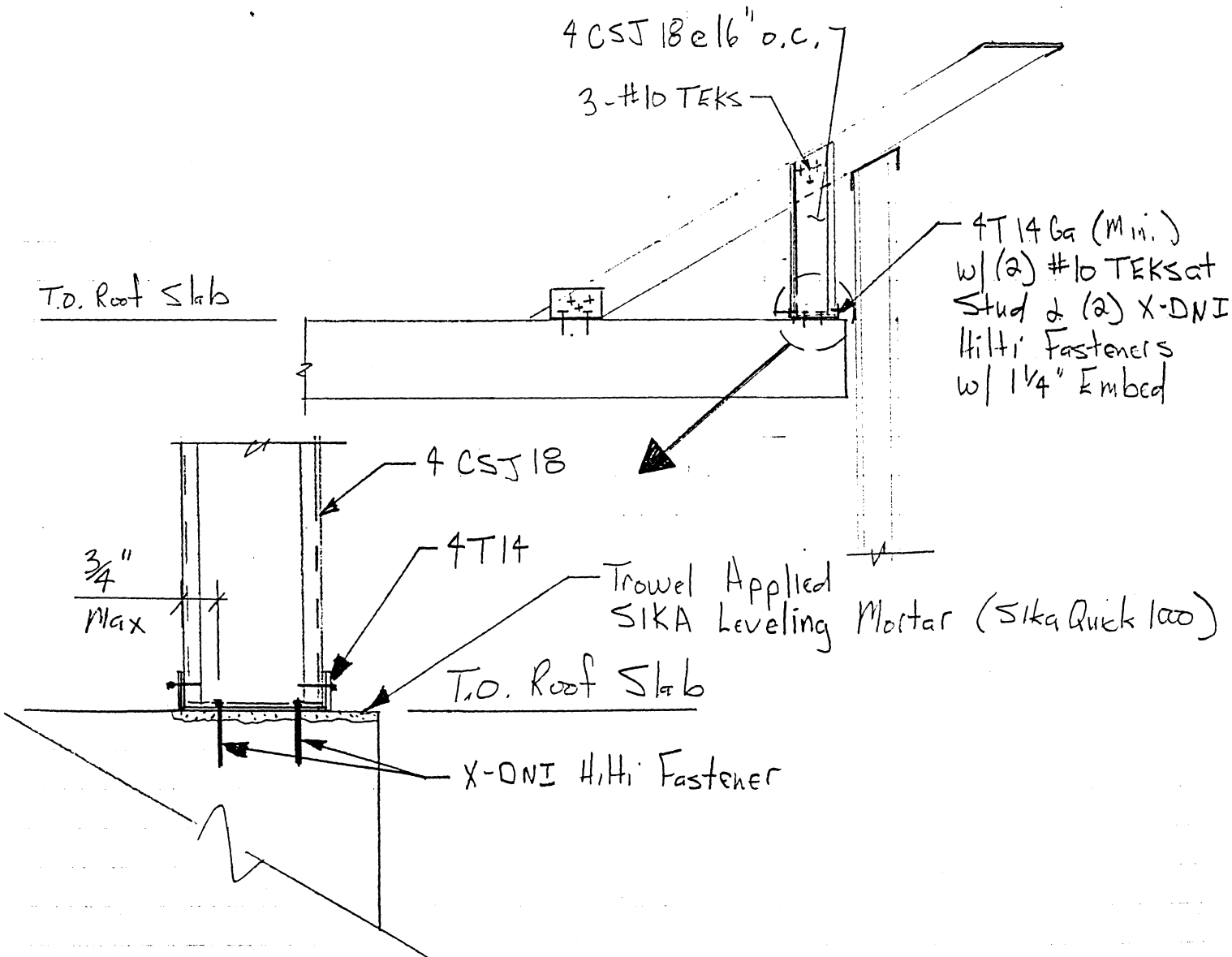
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Project Park/Danforth
W.O. _____ Sheet 1 of 1
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Roof Canopy Detail

Ref: 3/57 for Add'l Info

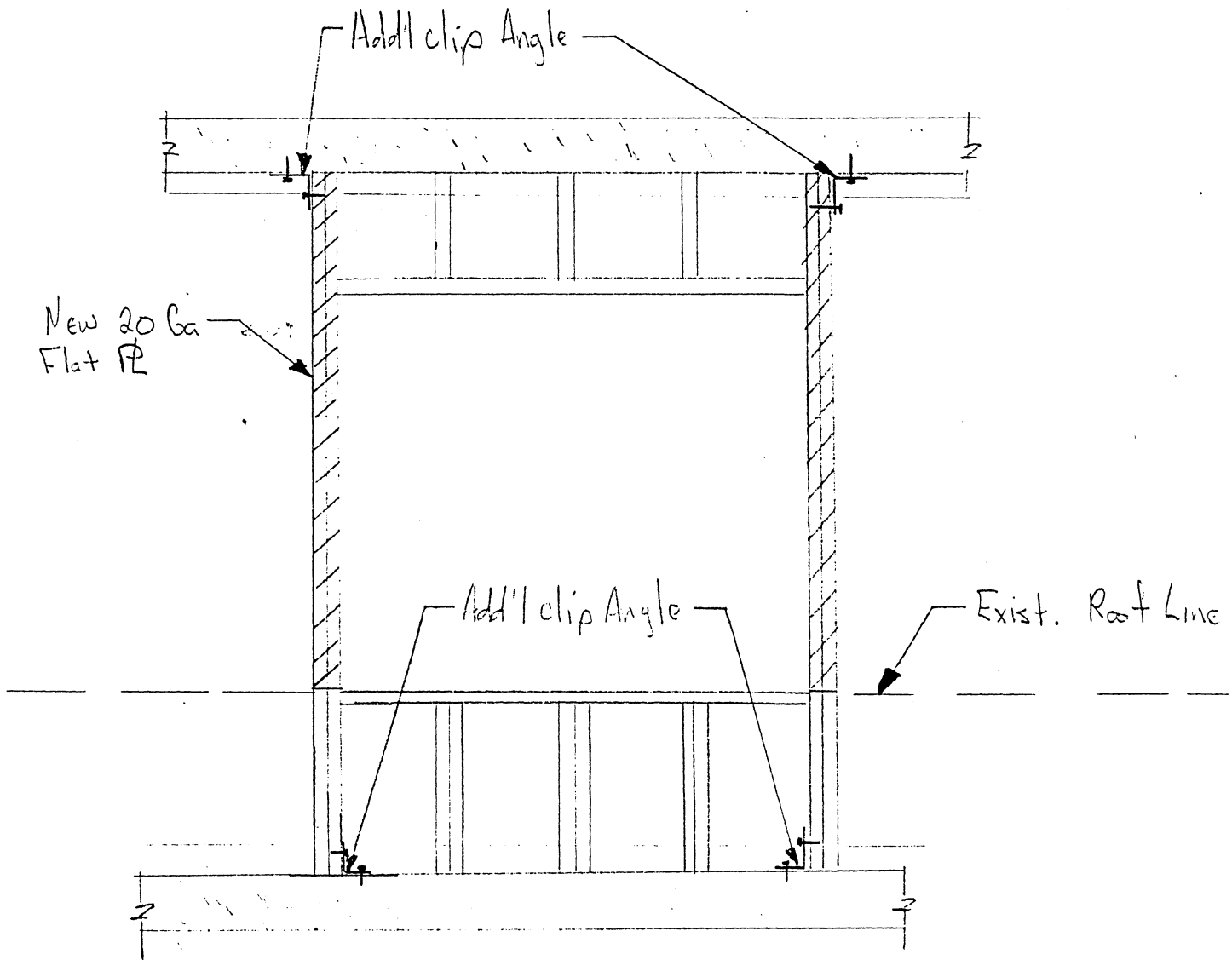


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Checked By: _____ Date _____



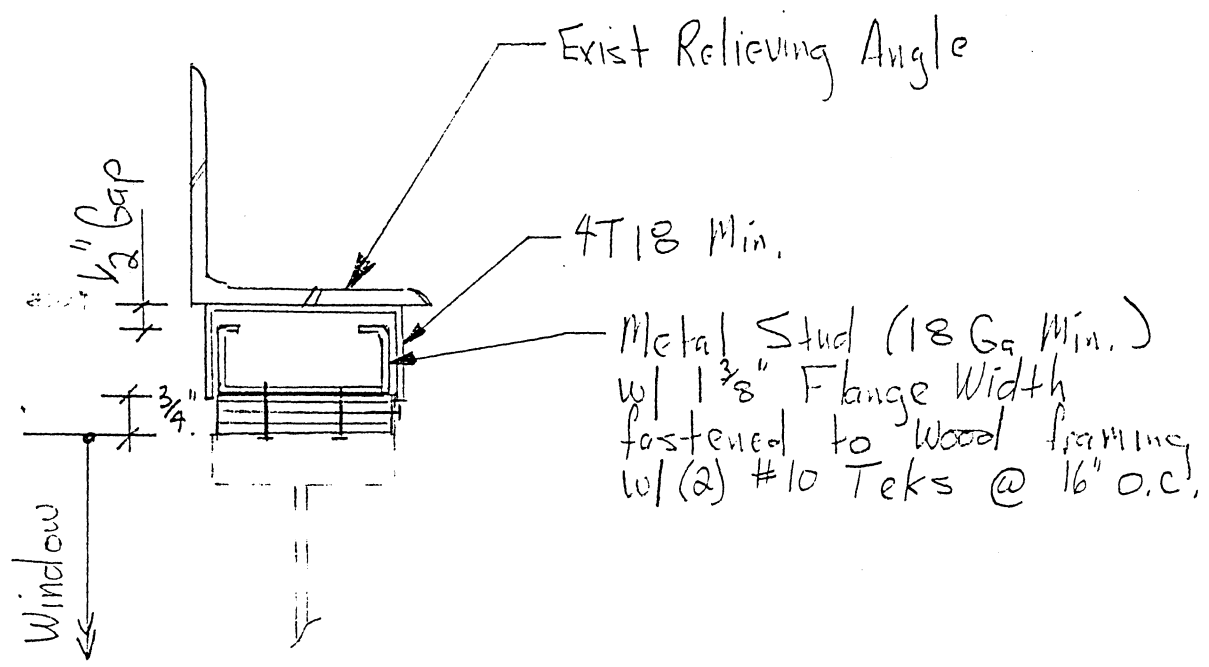
As-Built Window Framing
at Low Roof Level
N.T.S.

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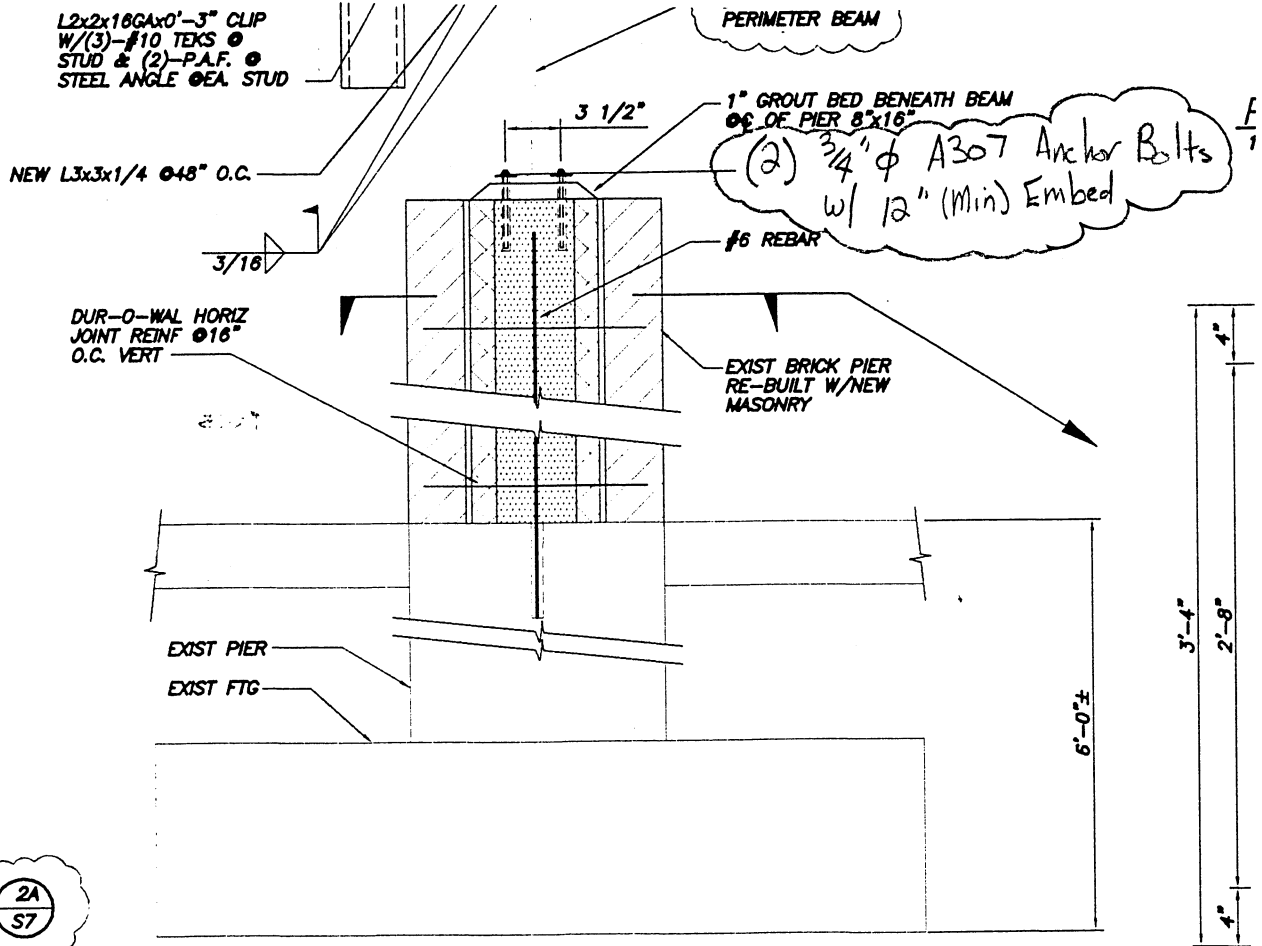
structural engineers, inc.

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Project Park/Danforth
W.O. _____ Sheet 1 Of 1
Calculated By: MC Date 9/16/05
Checked By: _____ Date _____



Balcony Window Framing
3" = 1'-0"



SECTION AT PIER 4
 $1\frac{1}{2}'' = 1'-0''$ S3

2A
S7

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 Portland, ME 04101-4701
 info@beckerstructural.com

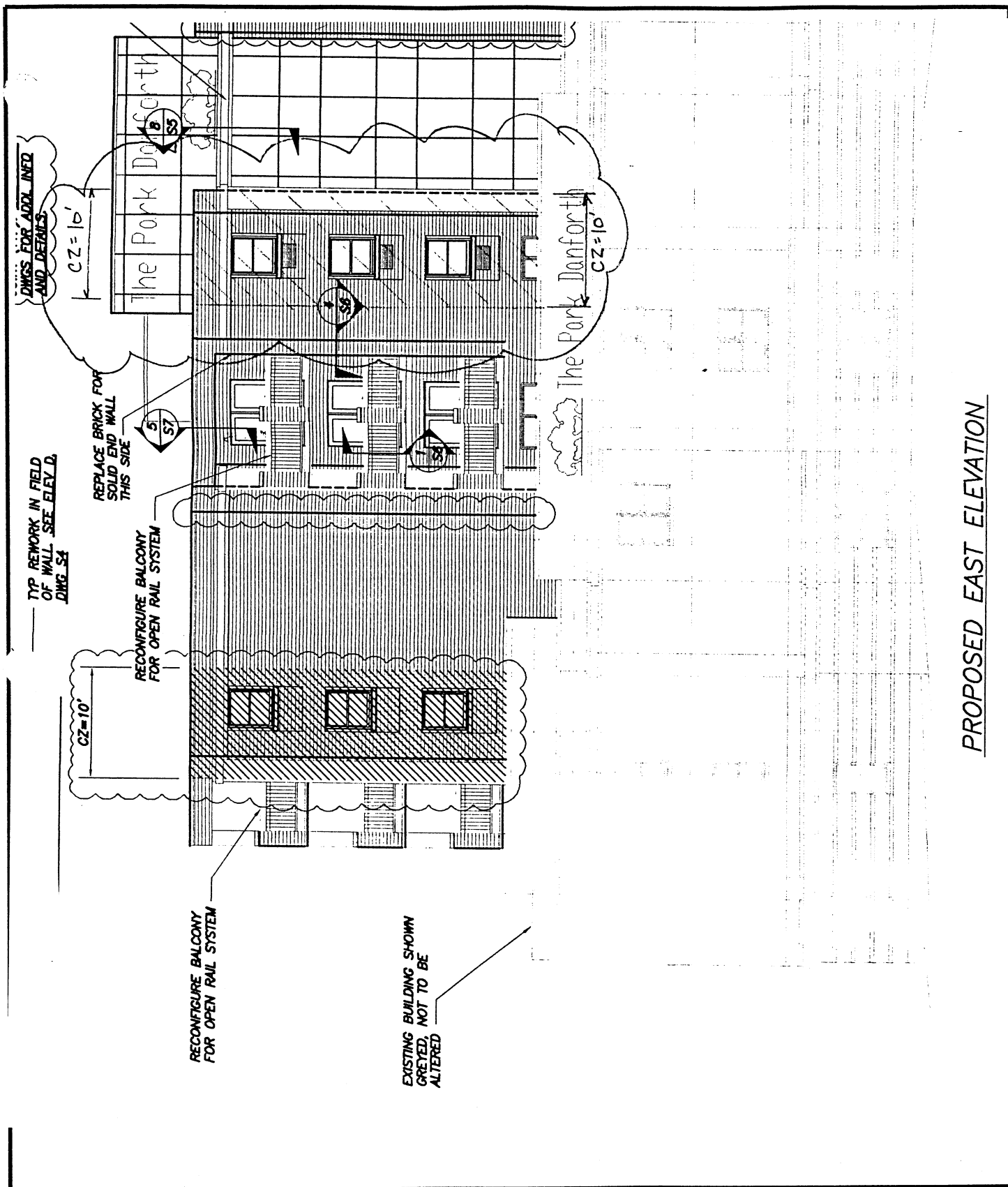
Tel 207-879-1838
 Fax 207-879-1822
 www.beckerstructural.com

Designed	MC
Drawn	MC
Checked	PBB
Scale	NOTED
Date	9/27/05

The Park Danforth
 777 Stevens Ave.
 4/57 Revised

Becker Job Number
 697

SKS



PROPOSED EAST ELEVATION

BECKER
structural engineers, inc.

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Portland, ME 04101-4701
info@beckerstructural.com

Tel 207-879-1838
Fax 207-879-1822
www.beckerstructural.com

Designed	MC
Drawn	MC
Checked	PBB
Scale	NOTED
Date	9/27/05

The Park Danforth
777 Stevens Ave.
Revised "CZ"

Becker Job Number
697

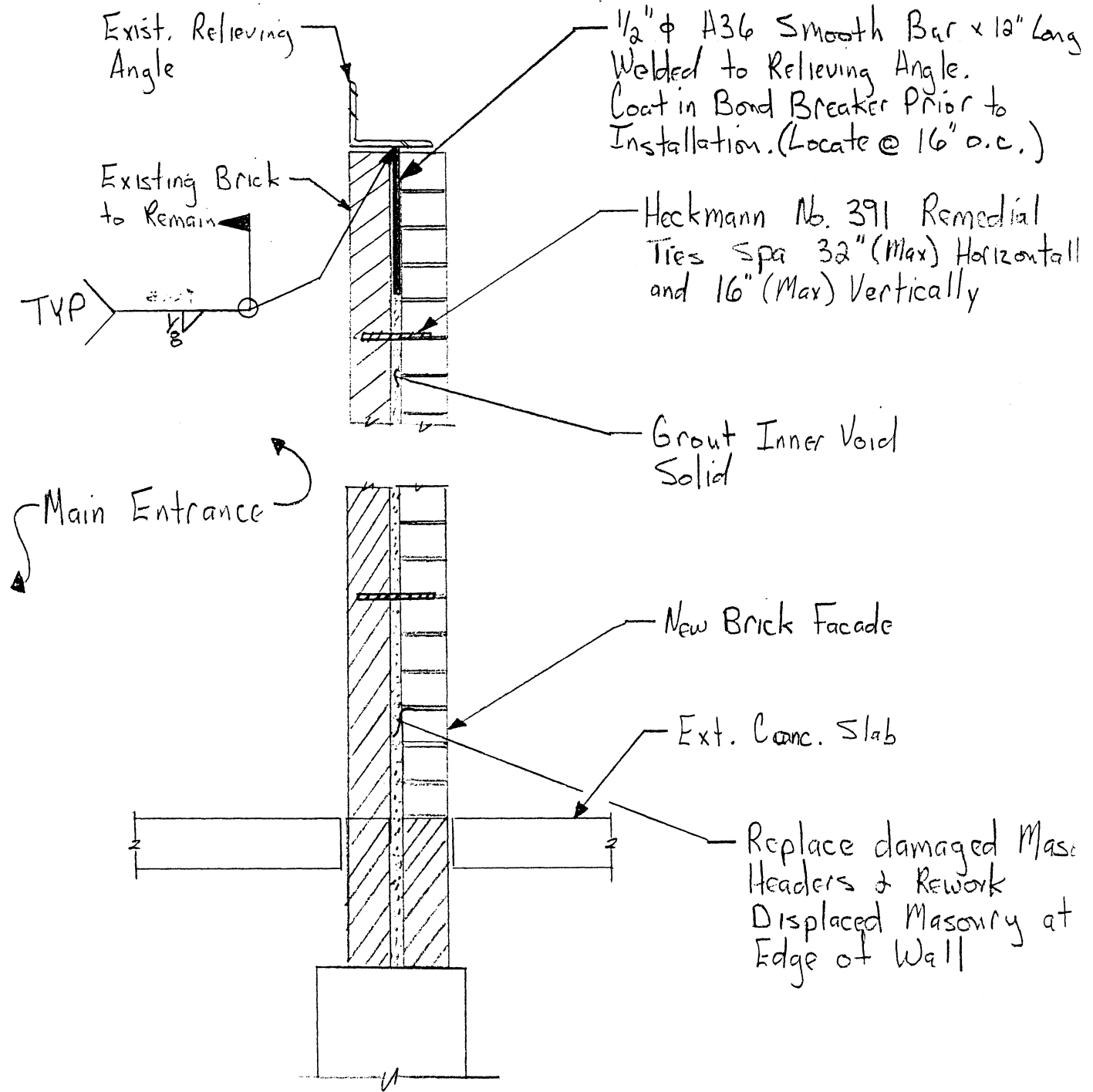
SKS

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W.O. 1362 Sheet 1 of 1
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Brick Veneer @ Main Entrance

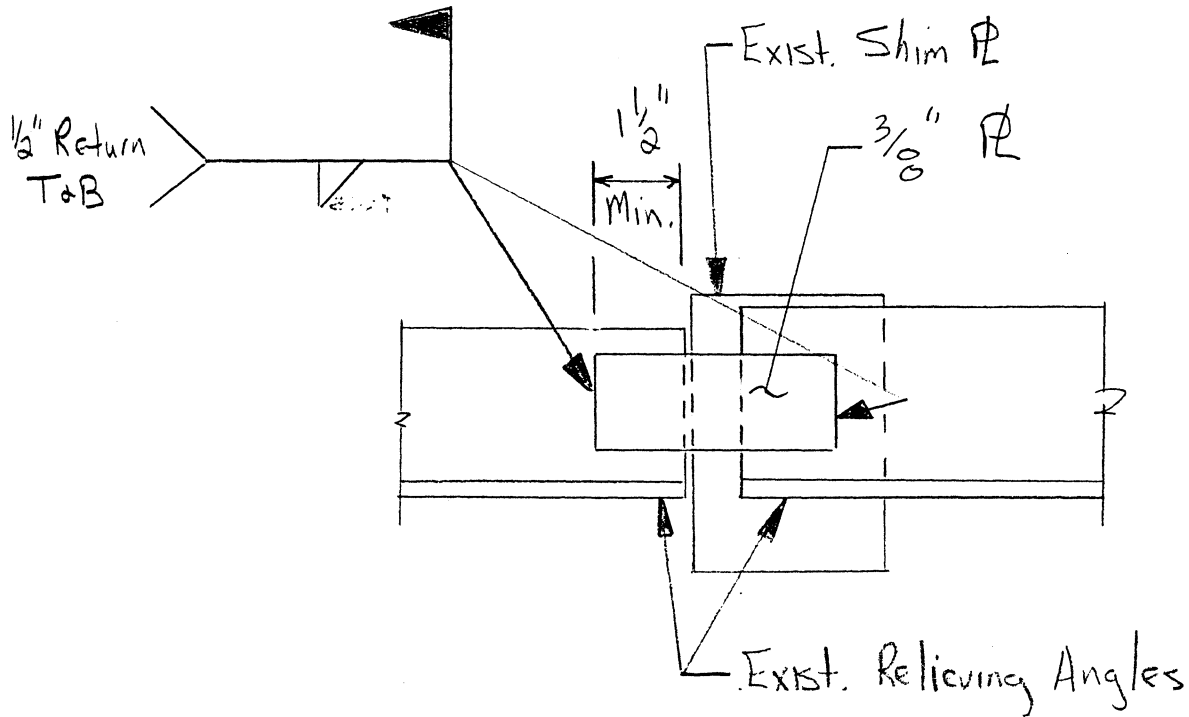
N.T.S.

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Project The Park Danforth
W.O. _____ Sheet 1 Of 1
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Conn. Detail - East Elev.

$3" = 1'-0"$

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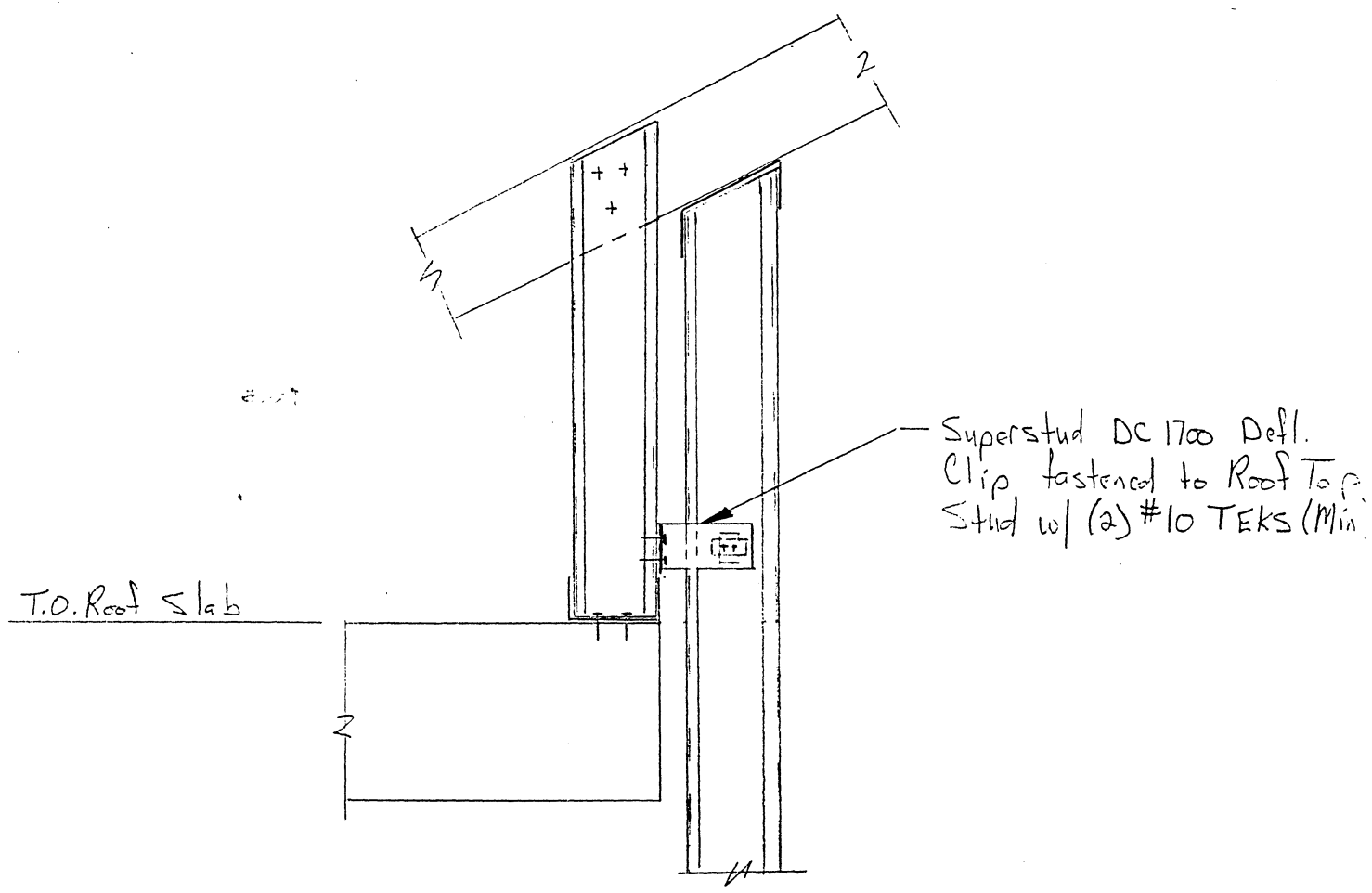
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Project Park Danforth

W.O. 1362 Sheet 1 Of 1

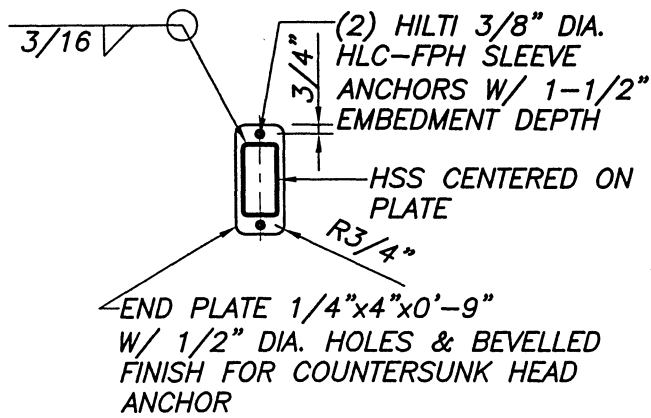
Calculated By: Mc Date 10/5/05

Checked By: _____ Date _____



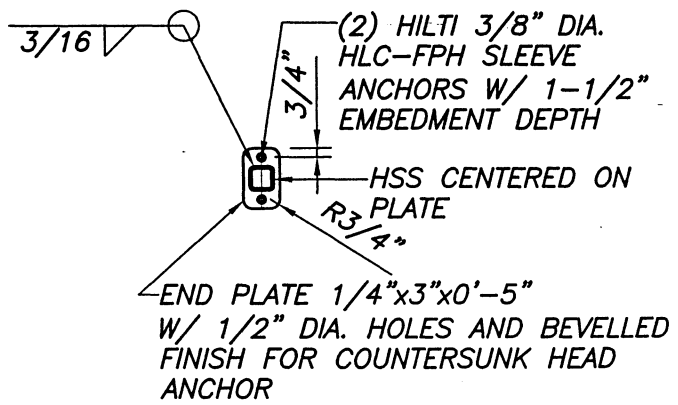
Ref: Roof Canopy Detail (9/12/05) & 3/57
for Add'l Information

Detail 3/57 (Revised)
 $1\frac{1}{2}'' = 1'-0''$



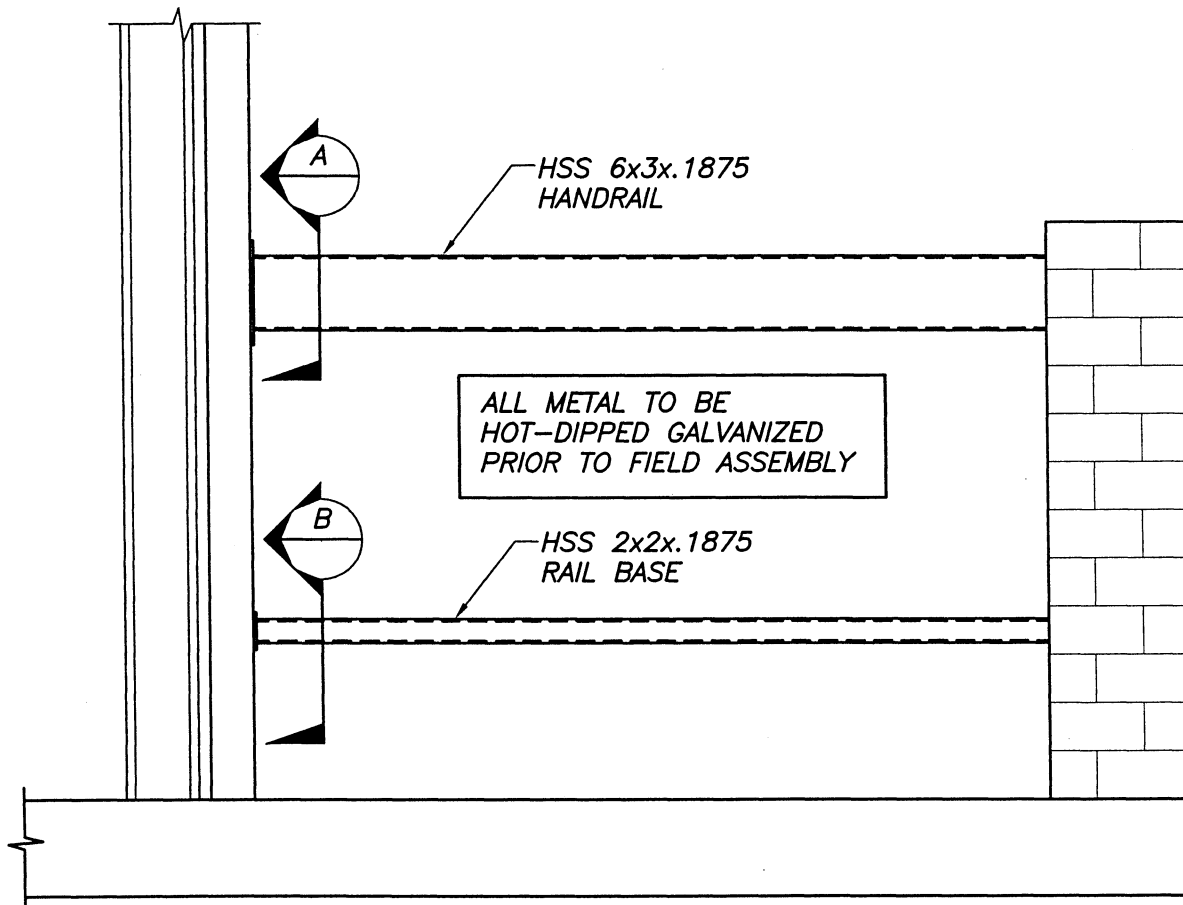
DETAIL

3/4"=1'-0"



DETAIL

3/4"=1'-0"



SOUTH ELEV. BALCONY RAILING DETAIL

3/4"=1'-0"

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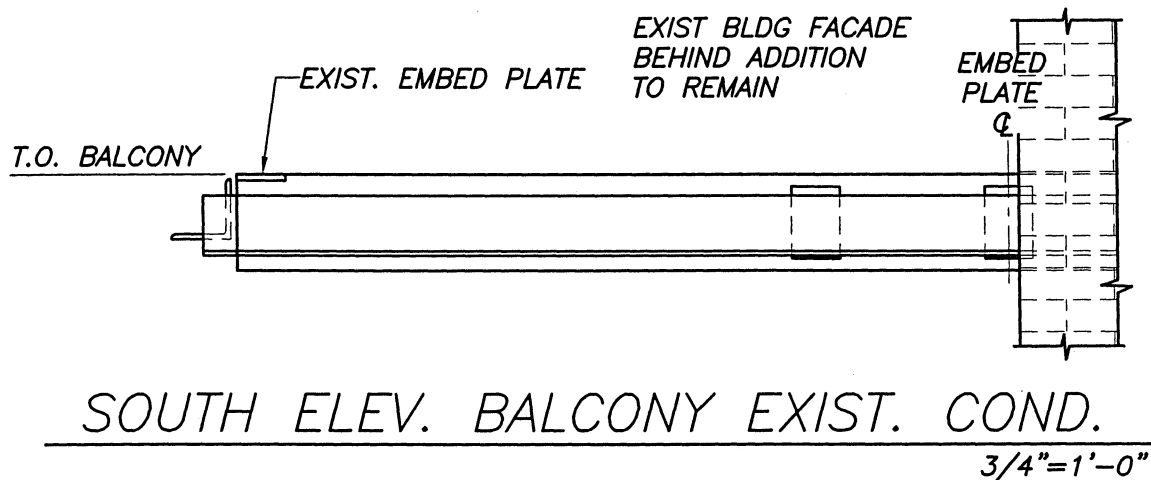
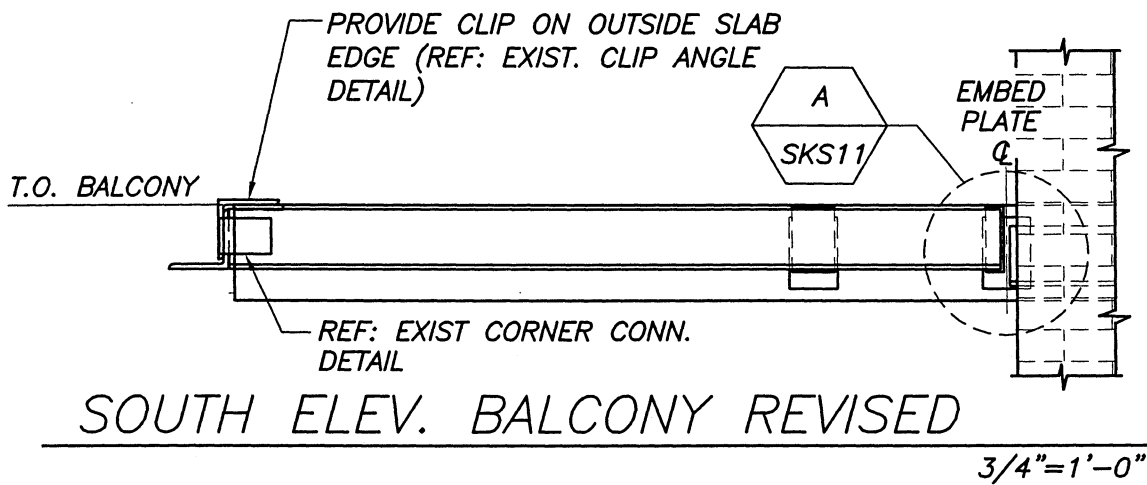
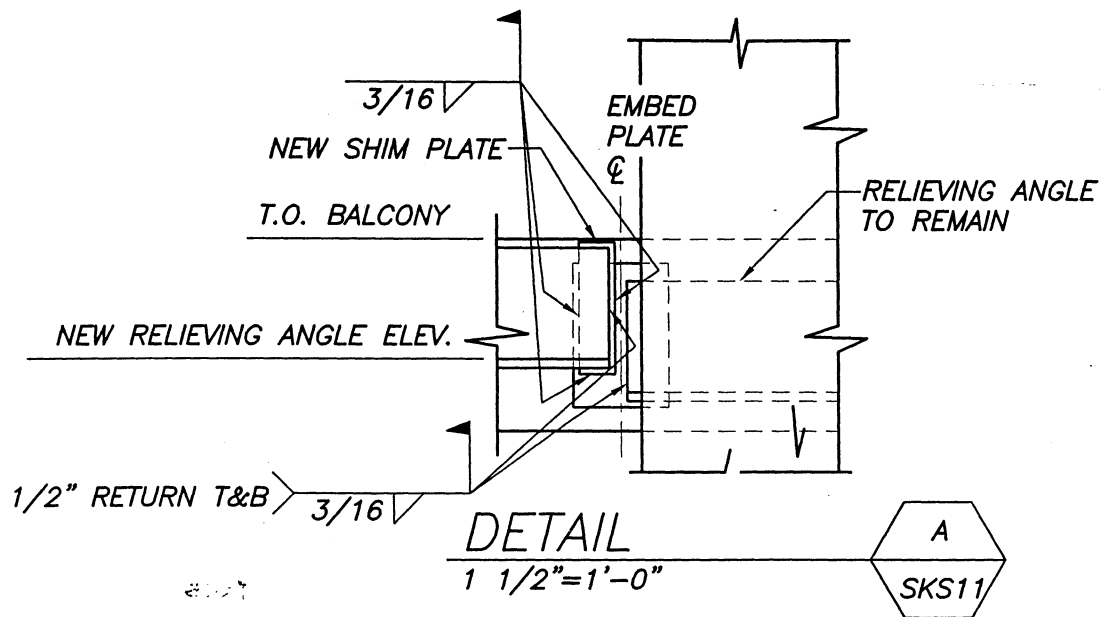
Tel 207-879-1838
Fax 207-879-1822
www.beckerstructural.com

Designed	MC
Drawn	MC
Checked	PBB
Scale	AS NOTED
Date	10/26/05

The Park Danforth
777 Stevens Ave.

Becker Job Number
931

SKS10



BECKER
structural engineers, inc.

75 York Street
Portland, ME 04101-4701
info@beckerstructural.com

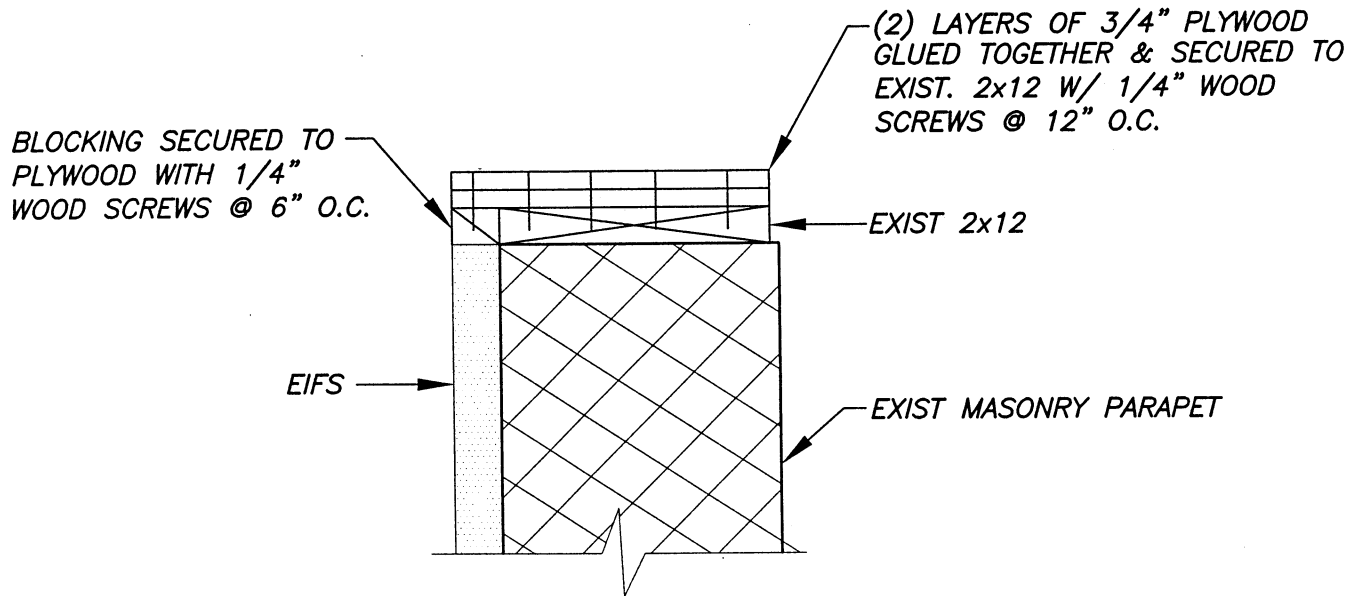
Tel 207-879-1838
Fax 207-879-1822
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Designed MC
Drawn MC
Checked PBB
Scale AS NOTED
Date 10/31/05

The Park Danforth
777 Stevens Ave.

Becker Job Number
931

SKS11



PARAPET AT STAIR DETAIL

1 1/2"=1'-0"

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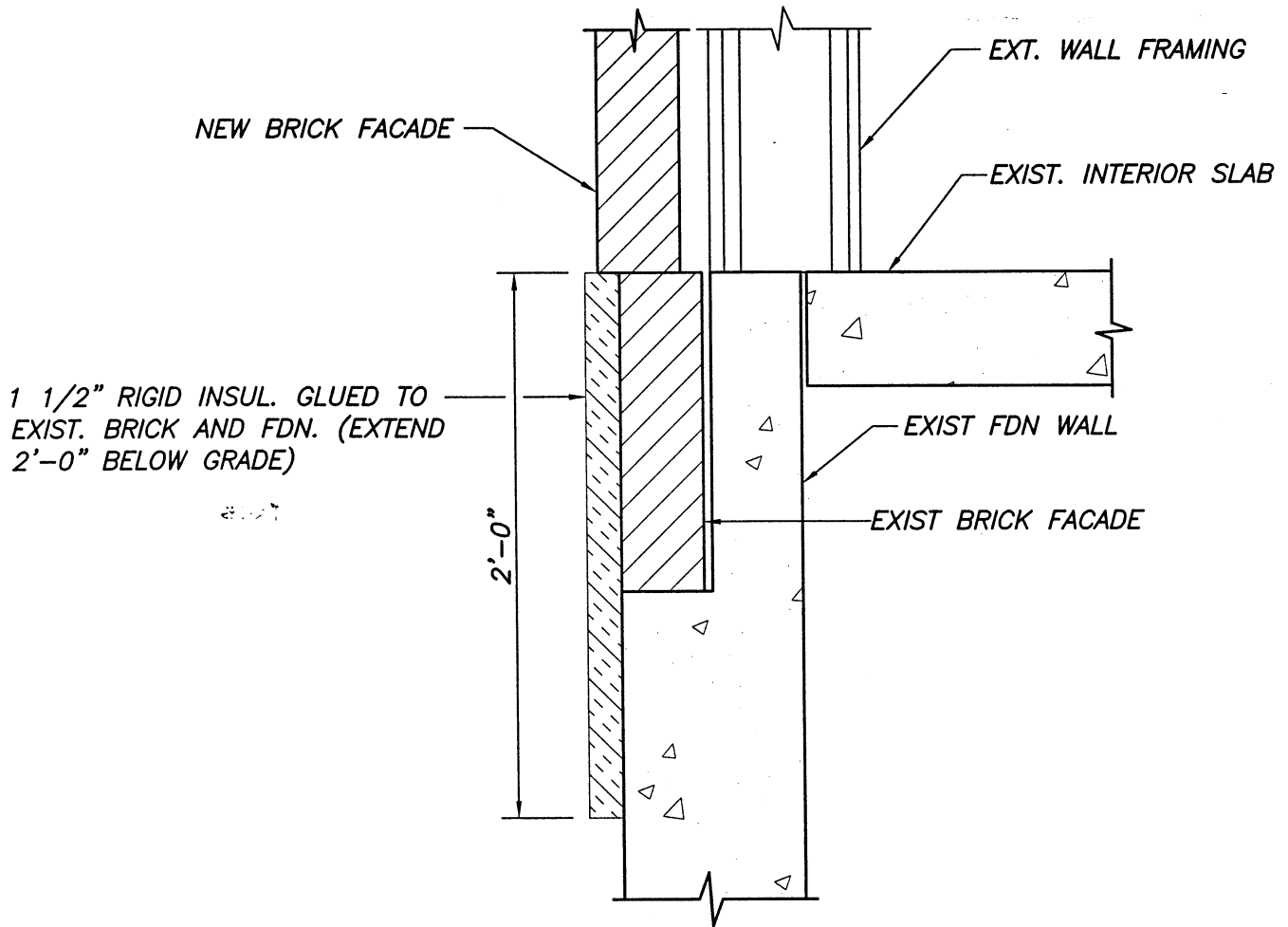
Tel 207-879-1838
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Designed	MC
Drawn	MC
Checked	PBB
Scale	AS NOTED
Date	11/11/05

The Park Danforth
777 Stevens Ave.

Becker Job Number
931

SKS12



FDN. DETAIL AT REAR OF BLDG.

1 1/2" = 1'-0"

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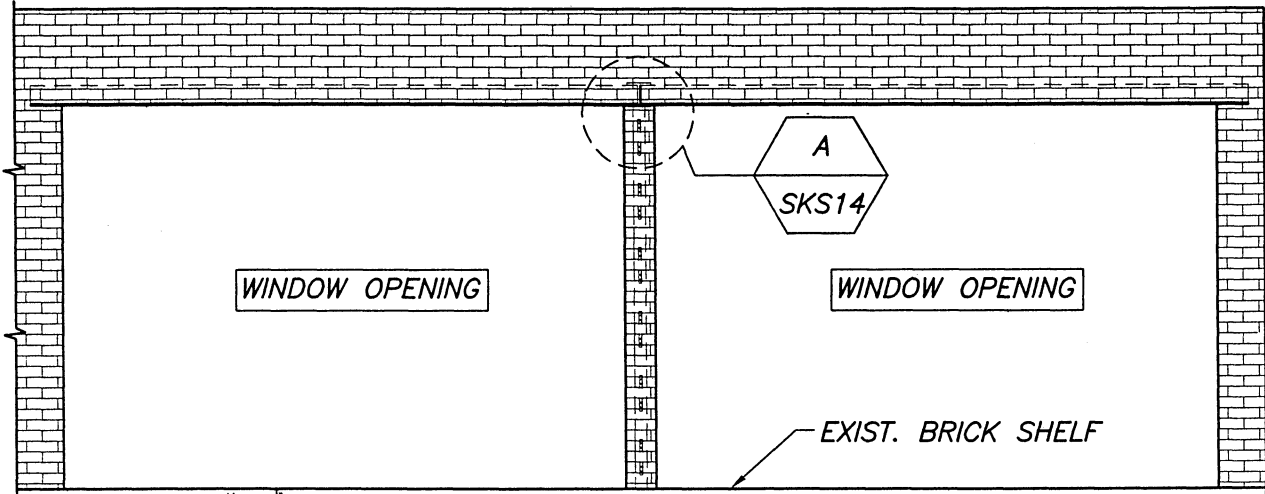
Tel 207-879-1838
Fax 207-879-1822
www.beckerstructural.com

Designed	MC
Drawn	MC
Checked	PBB
Scale	AS NOTED
Date	11/11/05

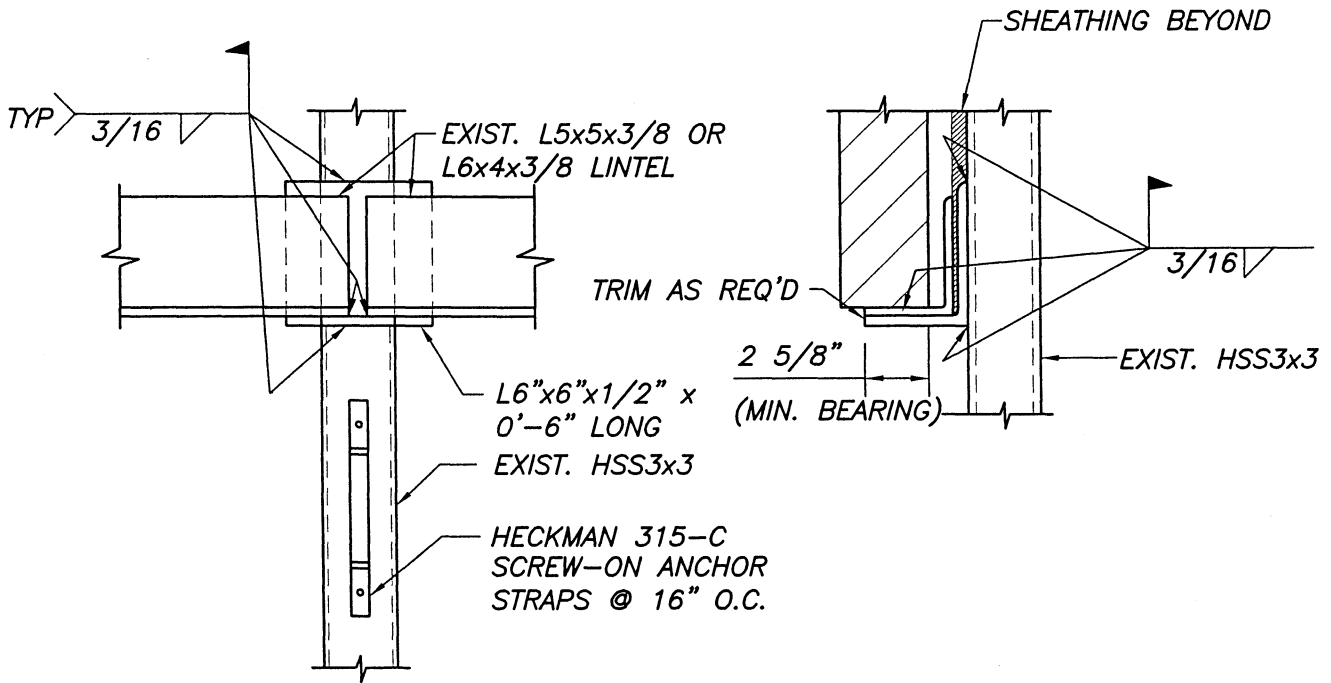
The Park Danforth
777 Stevens Ave.

Becker Job Number
931

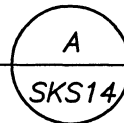
SKS13



SOUTH ELEV. LINTEL DETAIL
 1/4"=1'-0"



SECTION
 1 1/2"=1'-0"



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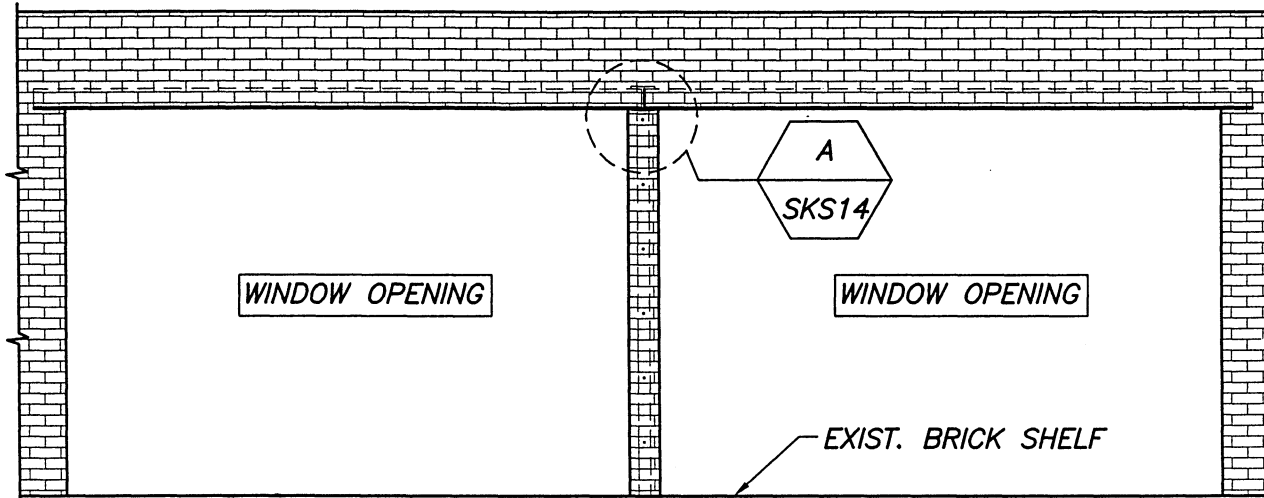
Tel 207-879-1838
 Fax 207-879-1822
 www.beckerstructural.com

Designed	MC
Drawn	MC
Checked	PBB
Scale	AS NOTED
Date	11/18/05

The Park Danforth
 777 Stevens Ave.

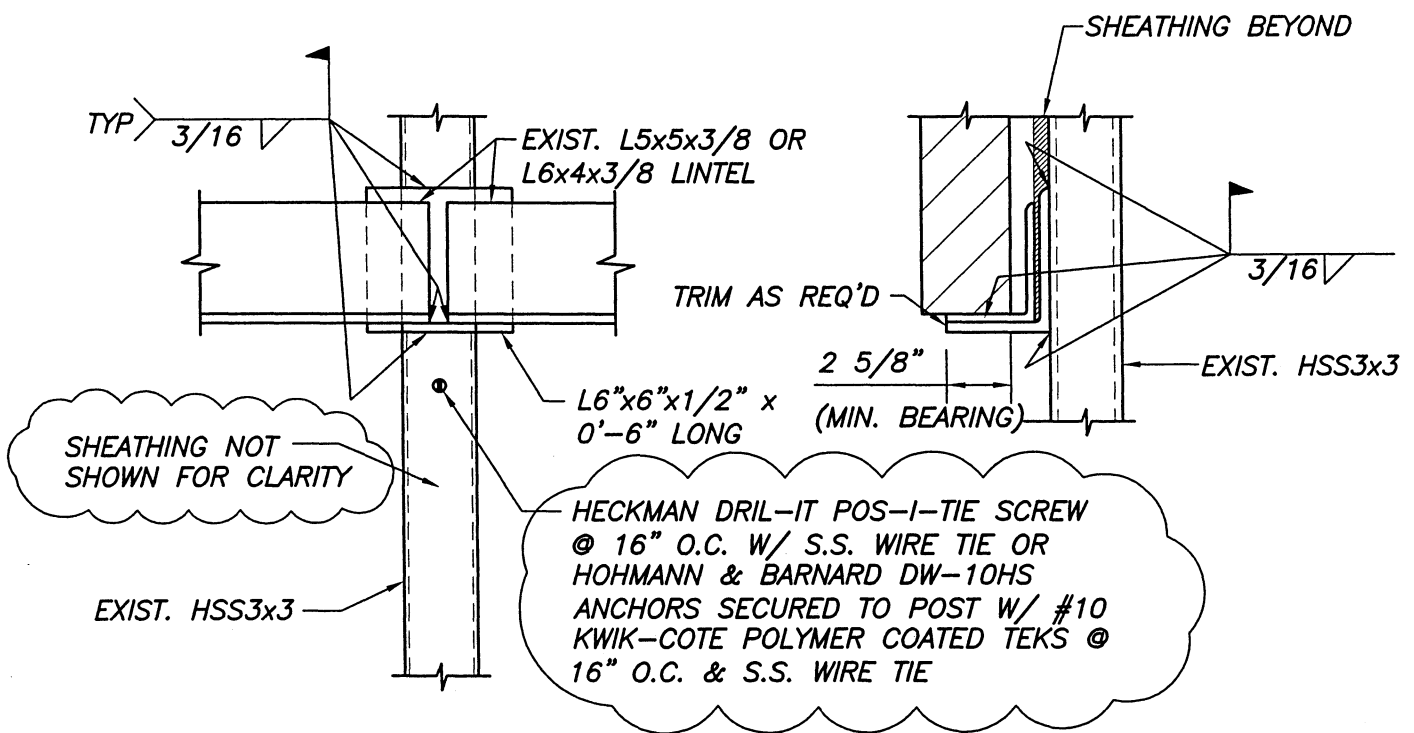
Becker Job Number
 697

SKS14



SOUTH ELEV. LINTEL DETAIL

1/4"=1'-0"



SECTION

1 1/2"=1'-0"



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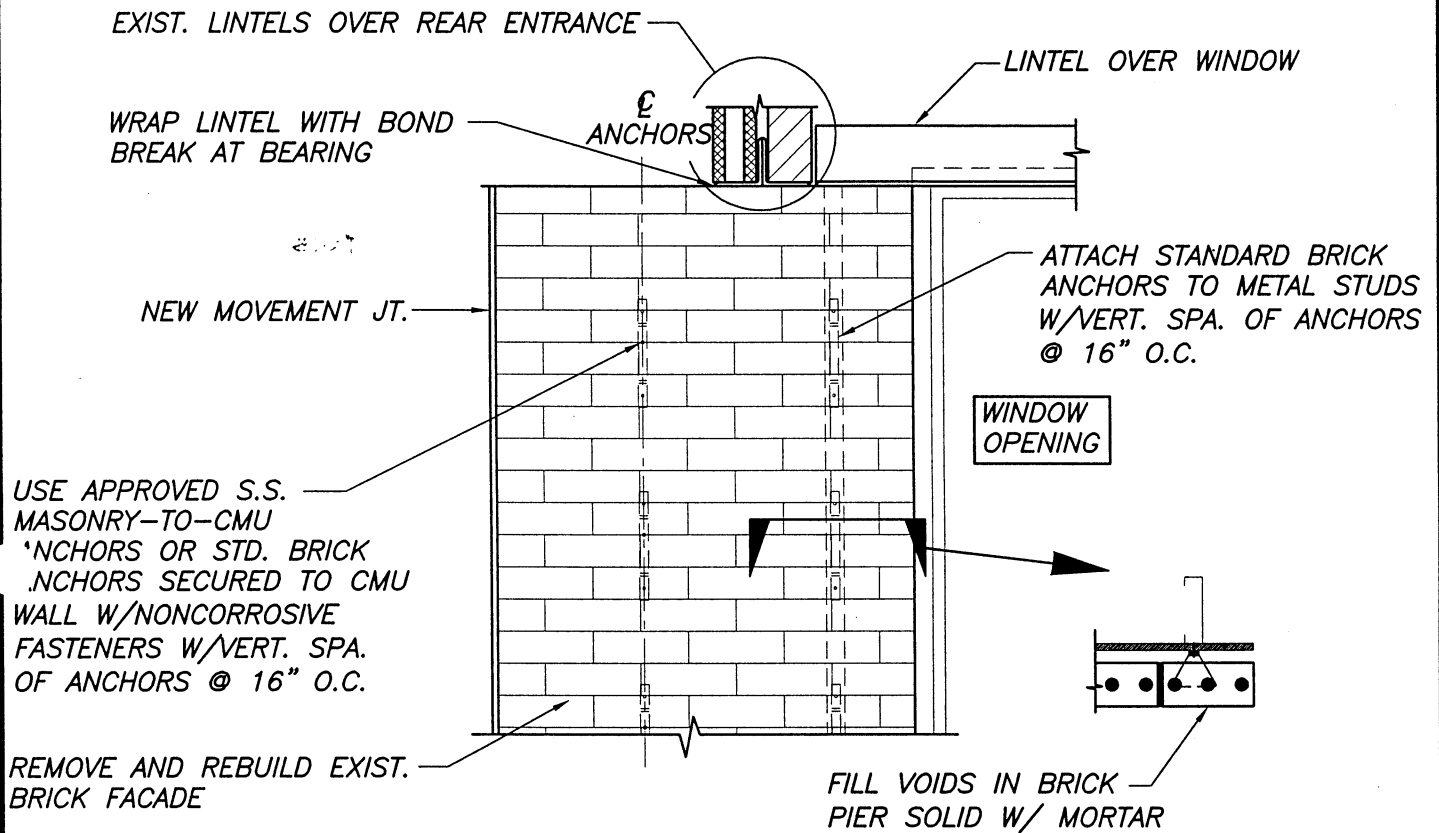
Tel 207-879-1838
Fax 207-879-1822
www.beckerstructural.com

Designed	MC
Drawn	MC
Checked	PBB
Scale	AS NOTED
Date	11/18/05

The Park Danforth
777 Stevens Ave.

Becker Job Number
697

SKS14A



BRICK PIER DETAIL AT REAR ENTRANCE

3/4"=1'-0"

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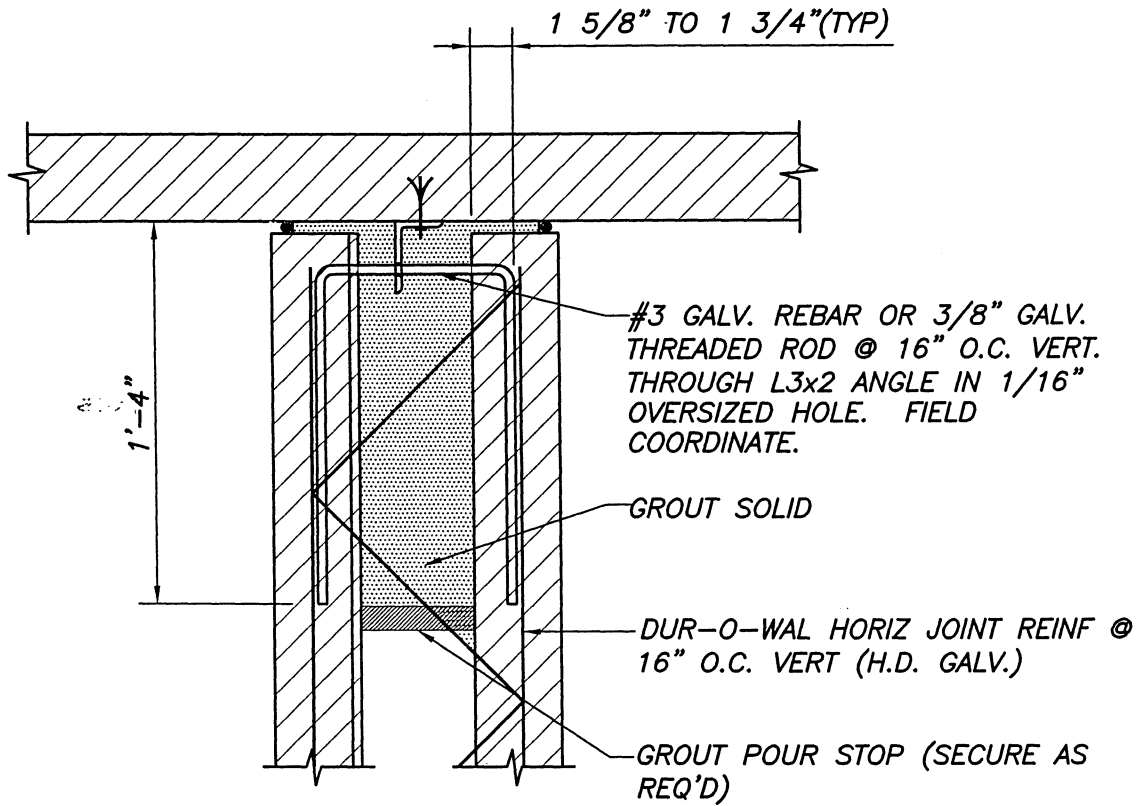
Tel 207-879-1838
Fax 207-879-1822
www.beckerstructural.com

Designed	MC
Drawn	MC
Checked	PBB
Scale	AS NOTED
Date	11/18/05

The Park Danforth
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Becker Job Number
697

SKS15



SECTION 4/S6 (REVISED)

1 1/2" = 1'-0"

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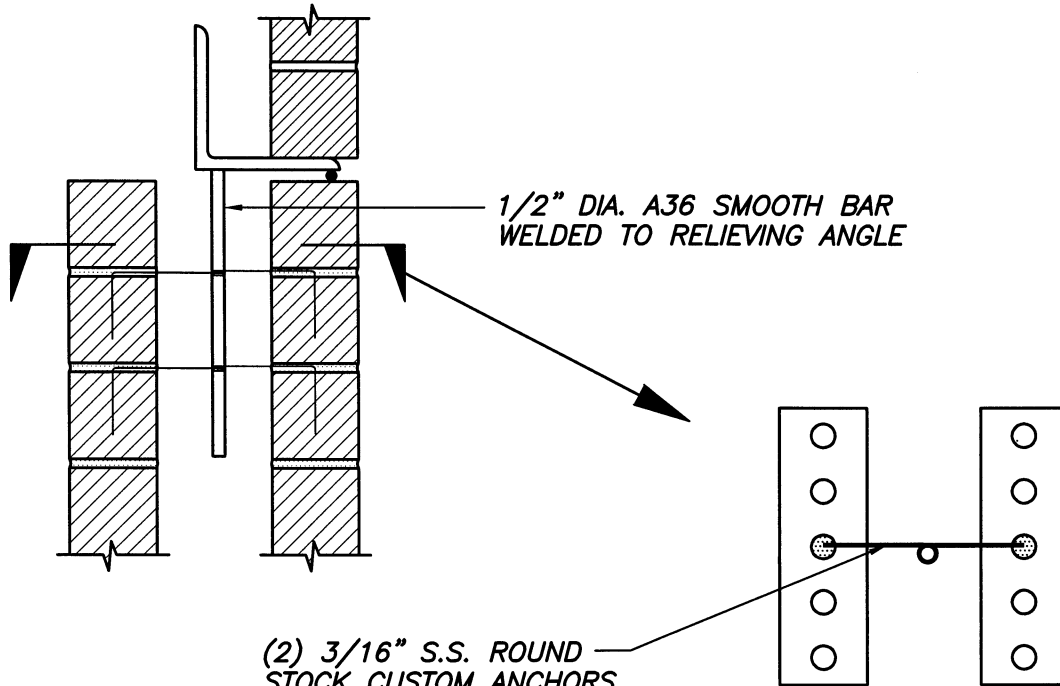
Tel 207-879-1838
Fax 207-879-1822
www.beckerstructural.com

Designed	MC
Drawn	MC
Checked	PBB
Scale	AS NOTED
Date	12/19/05

The Park Danforth
777 Stevens Ave.

Becker Job Number
697

SKS16



1/2" DIA. A36 SMOOTH BAR
WELDED TO RELIEVING ANGLE

(2) 3/16" S.S. ROUND
STOCK CUSTOM ANCHORS
SECURED TO EA. 1/2" DIA.
A36 SMOOTH BAR AND
INSERTED INTO MASONRY
CORE FILLED W/MORTAR
(SIMILAR TO VERTICAL REBAR
POSITIONER

SECTION 5/S6 (ALTERNATE)

1 1/2" = 1'-0"

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structural engineers, inc.

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Portland, ME 04101-4701
info@beckerstructural.com

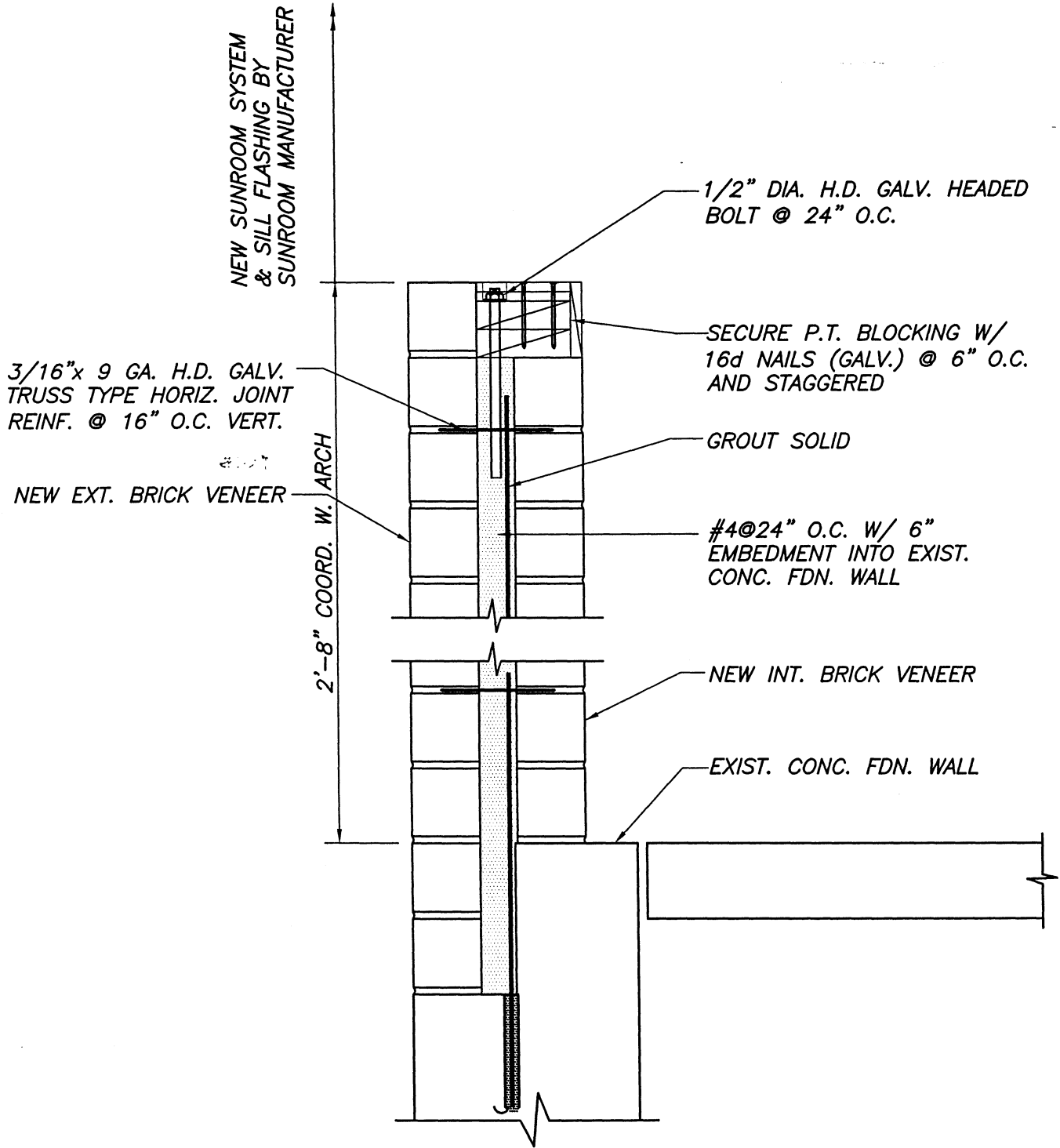
Tel 207-879-1838
Fax 207-879-1822
www.beckerstructural.com

Designed	MC
Drawn	MC
Checked	PBB
Scale	AS NOTED
Date	12/19/05

The Park Danforth
777 Stevens Ave.

Becker Job Number
697

SKS17



SUNROOM WALL DETAIL

1 1/2" = 1'-0"

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info@beckerstructural.com

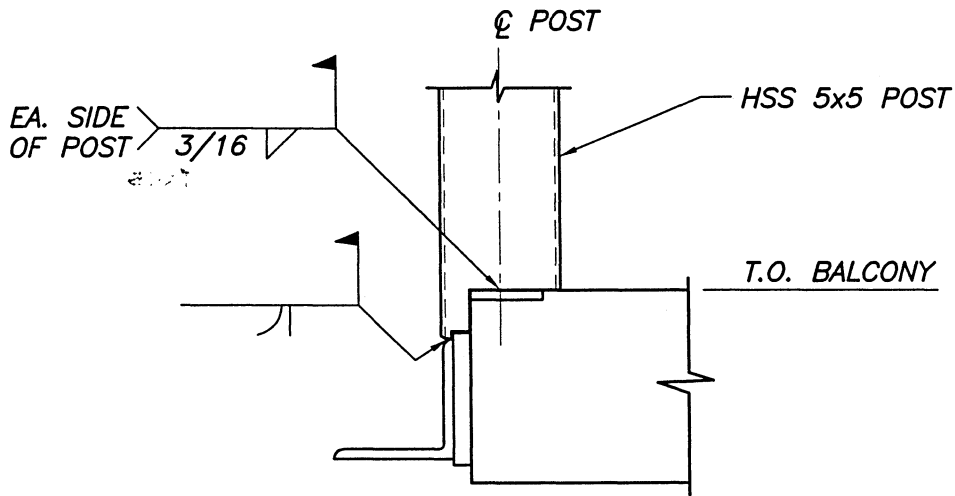
Tel 207-879-1838
Fax 207-879-1822
www.beckerstructural.com

Designed	MC
Drawn	MC
Checked	PBB
Scale	AS NOTED
Date	12/19/05

The Park Danforth
777 Stevens Ave.

Becker Job Number
697

SKS18



BALCONY RAILING MIDDLE POST DETAIL

1 1/2"=1'-0"

BECKER
structural engineers, inc.

75 York Street
Portland, ME 04101-4701
info@beckerstructural.com

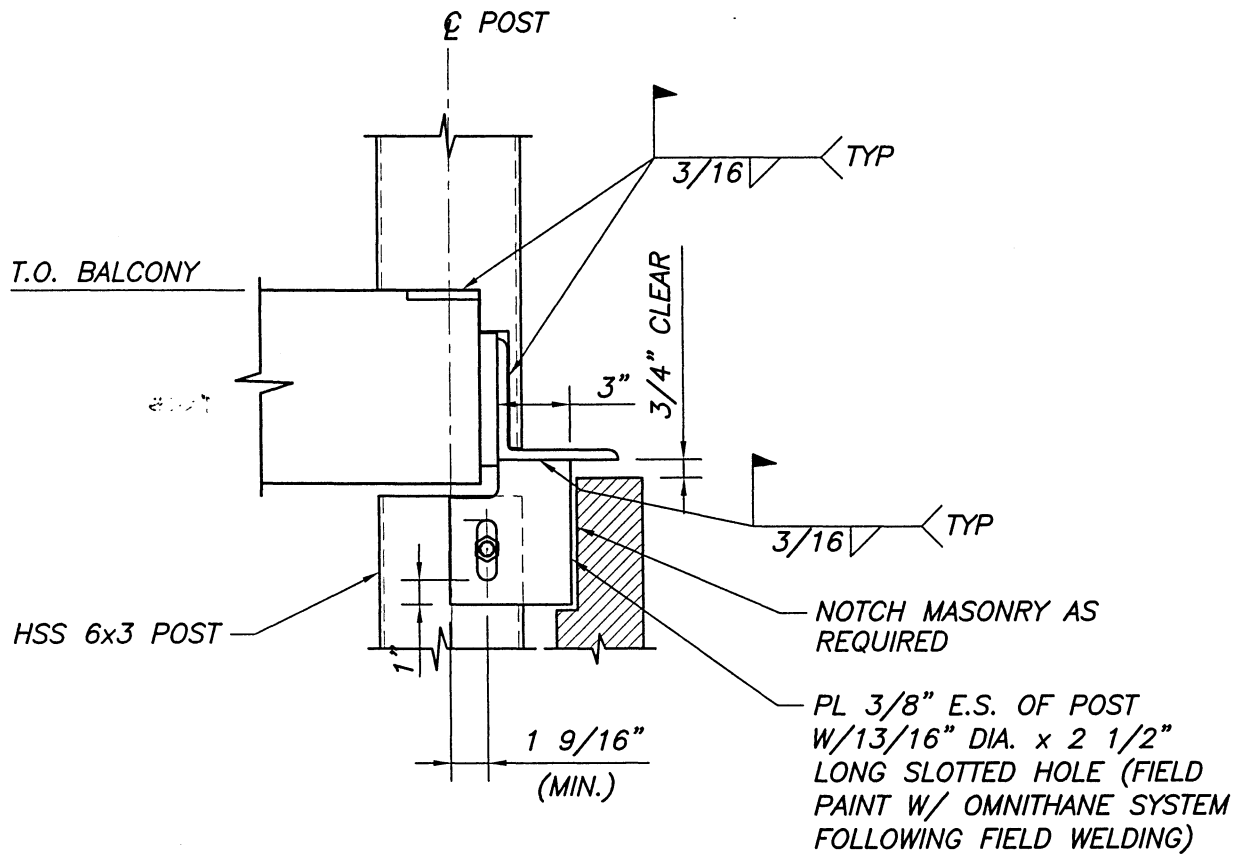
Tel 207-879-1838
Fax 207-879-1822
www.beckerstructural.com

Designed	MC
Drawn	MC
Checked	PBB
Scale	AS NOTED
Date	12/28/05

The Park Danforth
777 Stevens Ave.

Becker Job Number
697

SKS19



BALCONY POST CONNECTION DETAIL

1 1/2" = 1'-0"

BECKER
structural engineers, inc.

75 York Street
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info@beckerstructural.com

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Fax 207-879-1822
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Designed	MC
Drawn	MC
Checked	PBB
Scale	AS NOTED
Date	12/29/05

The Park Danforth
777 Stevens Ave.

Becker Job Number
697

SKS20

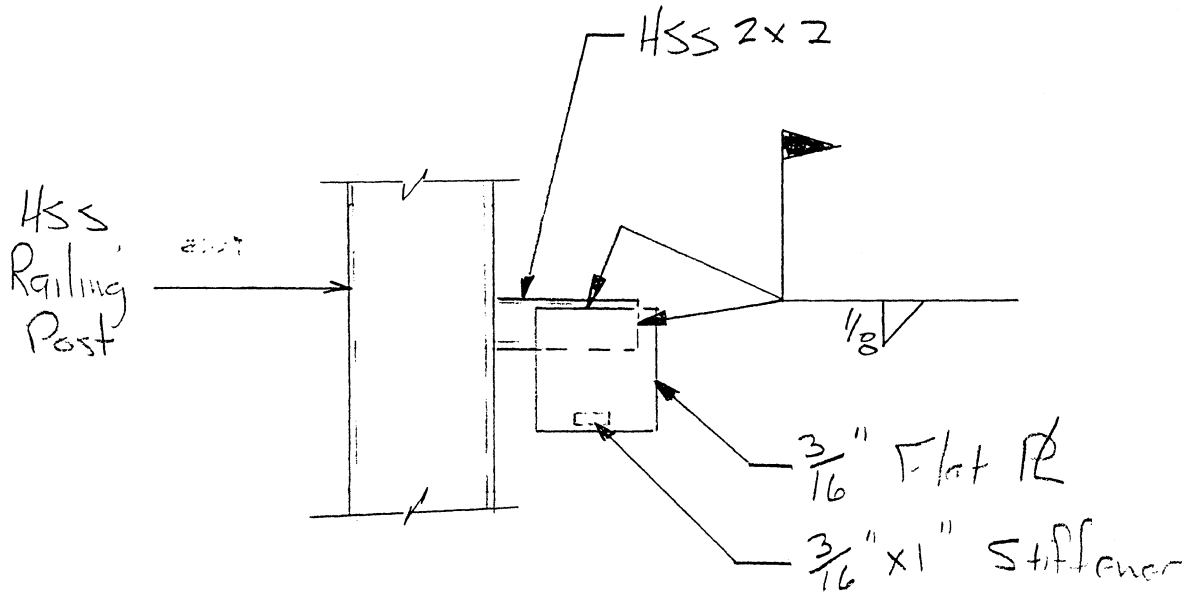
BECKER

structural engineers, inc.

75 York Street, Portland, ME 04101-4550
Tel. 207-879-1838 ■ Fax 207-879-1822

Project Park Daulerth
W.O. _____ Sheet 1 Of 1
Calculated By: MC Date 1/5/06
Checked By: _____ Date _____

[1/4/06 Site Vks.



Balcony Railing "As-Built"

LMC LIGHT IRON, INC.

E. RANGE RD - P.O. BOX 521
LIMERICK, MAINE 04048

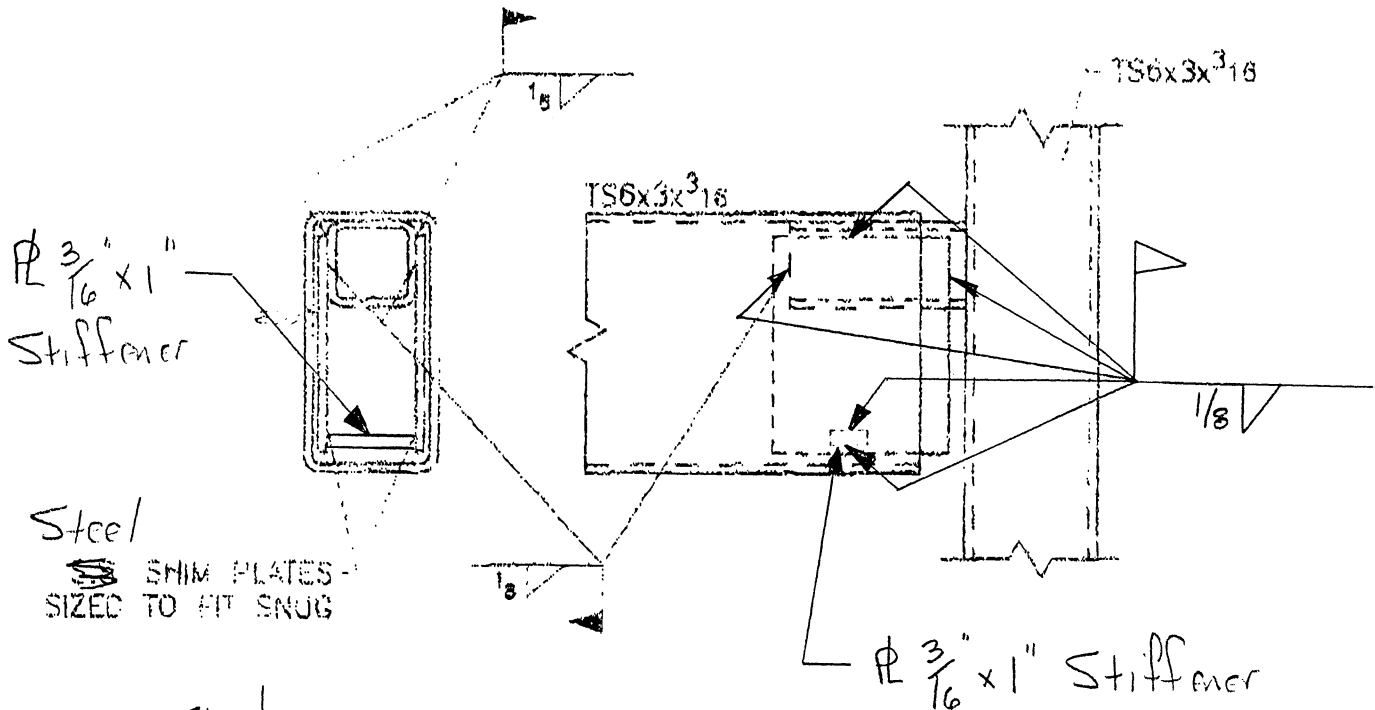
TEL: (207) 793-9357

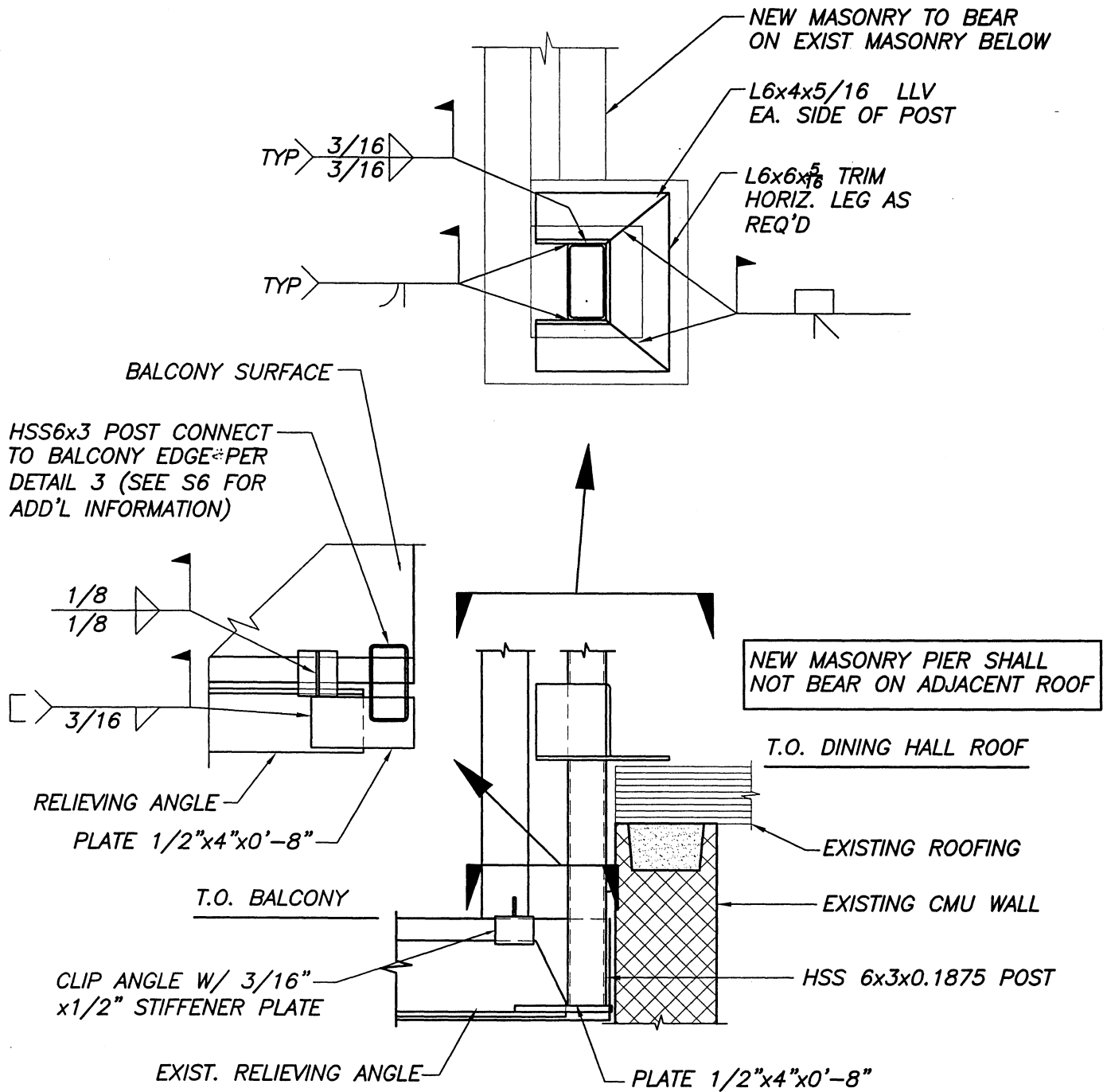
FAX: (207) 793-9319

JOB: GUARDRAIL SHIMS-THE PARK DANFORTH-PORTLAND

SHT. NO. SK--3

JOB NO. 2457





PIER DETAIL AT DINING HALL ROOF
1"=1'-0"

BECKER
structural engineers, inc.

75 York Street
Portland, ME 04101-4701
info@beckerstructural.com

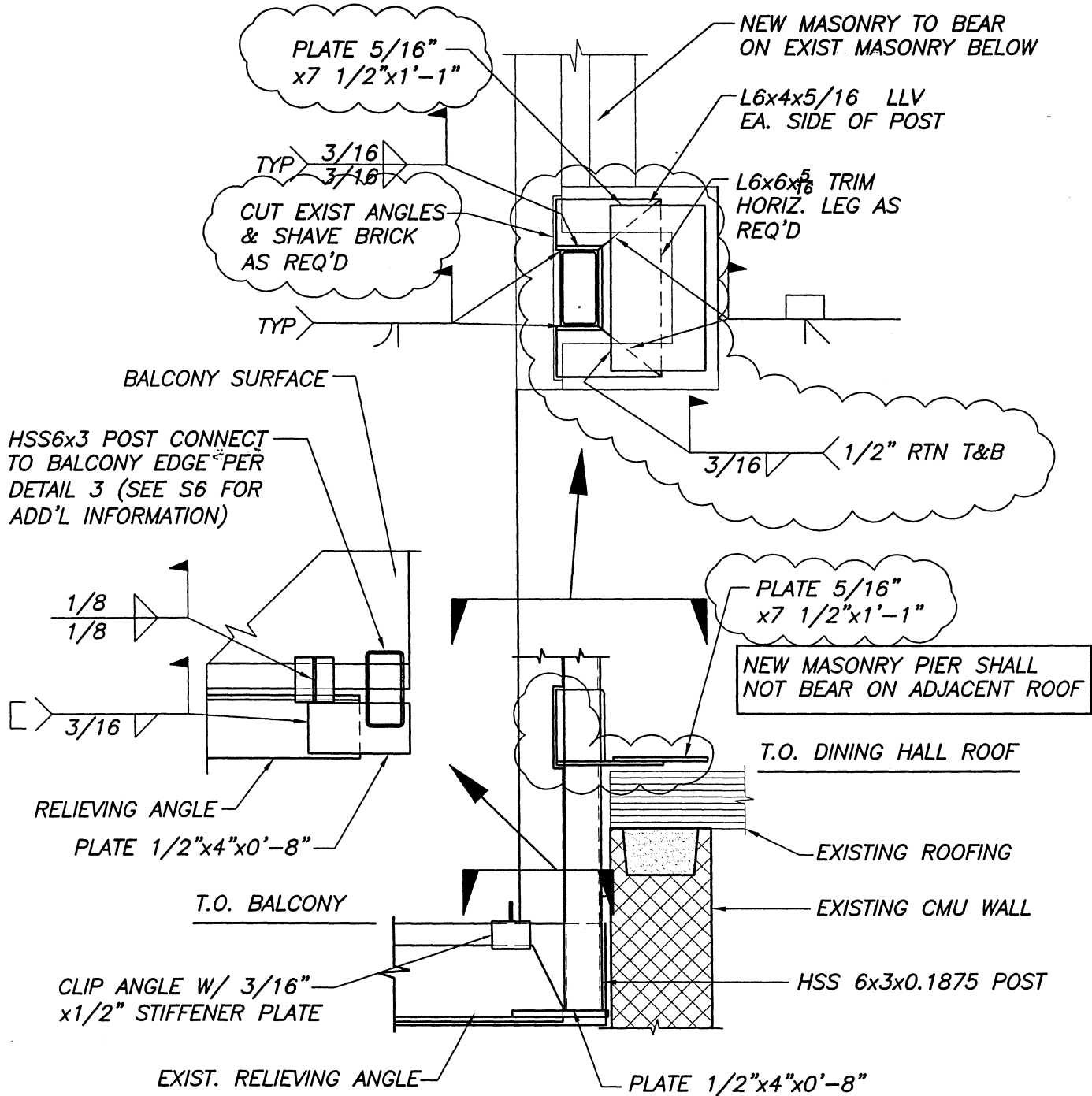
Tel 207-879-1838
Fax 207-879-1822
www.beckerstructural.com

Designed	MC
Drawn	MC
Checked	PBB
Scale	AS NOTED
Date	1/19/06

The Park Danforth
777 Stevens Ave.

Becker Job Number
697

SKS21



REVISED 1/24/06

PIER DETAIL AT DINING HALL ROOF
1"=1'-0"

BECKER
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75 York Street
Portland, ME 04101-4701
info@beckerstructural.com

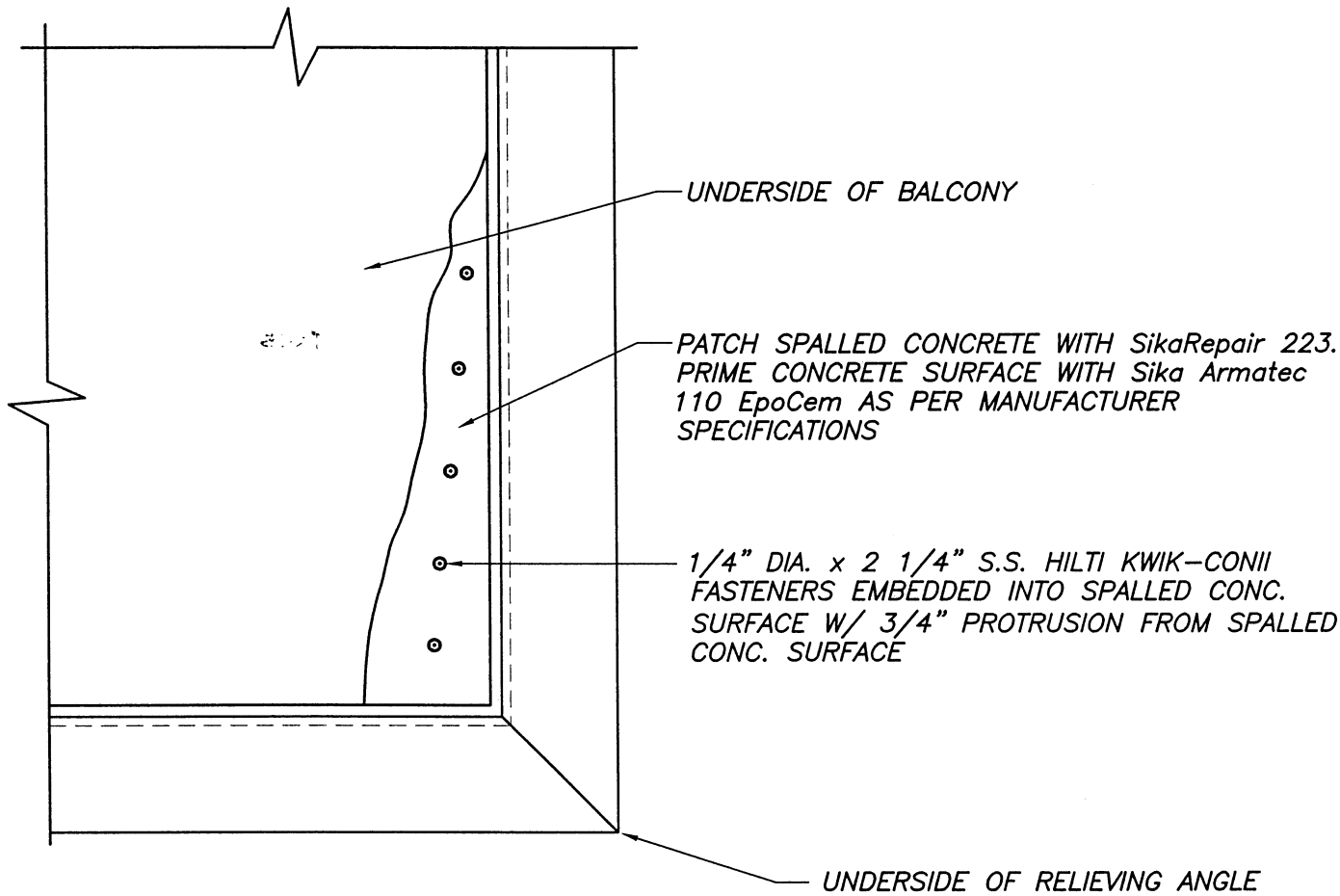
Tel 207-879-1838
Fax 207-879-1822
www.beckerstructural.com

Designed MC
Drawn MC
Checked PBB
Scale AS NOTED
Date 1/19/06

The Park Danforth
777 Stevens Ave.

Becker Job Number
697

SKS21
Revised



UNDERSIDE BALCONY PATCH DETAIL
 1 1/2" = 1'-0"

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 structural engineers, inc.

75 York Street
 Portland, ME 04101-4701
 info@beckerstructural.com

Tel 207-879-1838
 Fax 207-879-1822
 www.beckerstructural.com

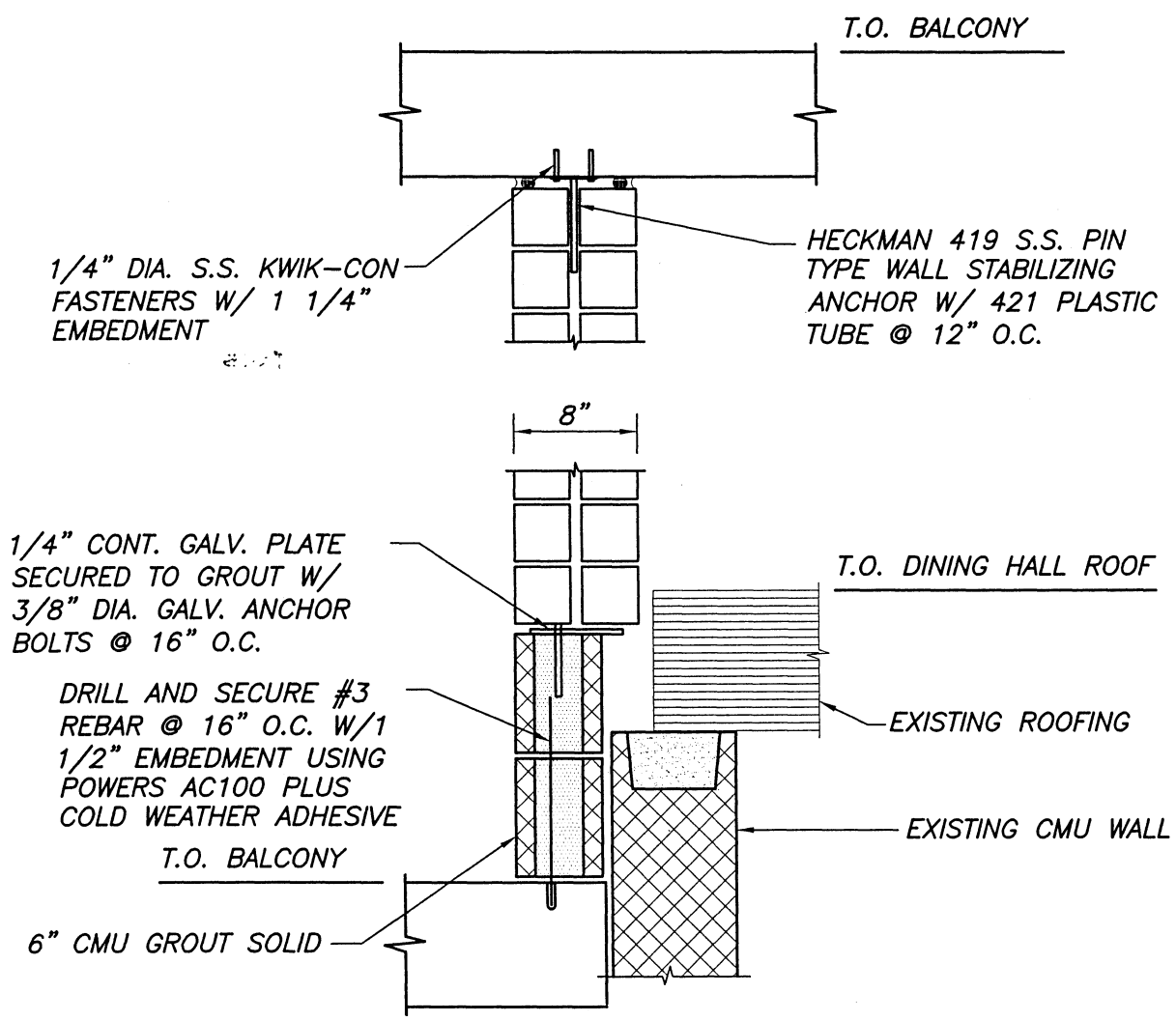
Designed	MC
Drawn	MC
Checked	PBB
Scale	AS NOTED
Date	1/19/06

The Park Danforth
 777 Stevens Ave.

Becker Job Number
 697

SKS22

LOCATE POST-TENSIONED TENDONS PRIOR TO DRILLING INTO CONC. SLABS



PARTITION WALL DETAIL AT DINING HALL ROOF
 1"=1'-0"

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 structural engineers, inc.

75 York Street
 Portland, ME 04101-4701
 info@beckerstructural.com

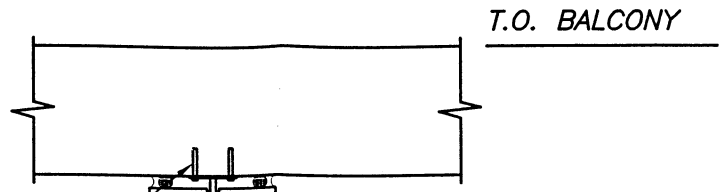
Tel 207-879-1838
 Fax 207-879-1822
 www.beckerstructural.com

Designed	MC
Drawn	MC
Checked	PBB
Scale	AS NOTED
Date	1/25/06

The Park Danforth
 777 Stevens Ave.

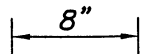
Becker Job Number	697
	SKS23

LOCATE POST-TENSIONED TENDONS PRIOR TO DRILLING INTO CONC. SLABS



1/4" DIA. S.S. KWIK-CON FASTENERS W/ 1 1/4" EMBEDMENT

HECKMAN 419 S.S. PIN TYPE WALL STABILIZING ANCHOR W/ 421 PLASTIC TUBE @ 12" O.C.



1/4" CONT. GALV. PLATE SECURED TO GROUT W/ 3/8" DIA. GALV. ANCHOR BOLTS @ 16" O.C.

T.O. DINING HALL ROOF

DRILL AND SECURE #3 REBAR @ 16" O.C. W/ 1 1/2" EMBEDMENT USING POWERS AC100 PLUS COLD WEATHER ADHESIVE

EXISTING ROOFING

EXISTING CMU WALL

T.O. BALCONY

6" CMU GROUT SOLID

PARTITION WALL DETAIL AT DINING HALL ROOF

1"=1'-0"

ALTERNATE TO GALV.: PAINT STEEL PLATE W/ ICI PRE PRIME 168 PENETRATING SEALER & FINISH W/ ICI DEVFLEX 4208

BECKER
structural engineers, inc.

75 York Street
Portland, ME 04101-4701
info@beckerstructural.com

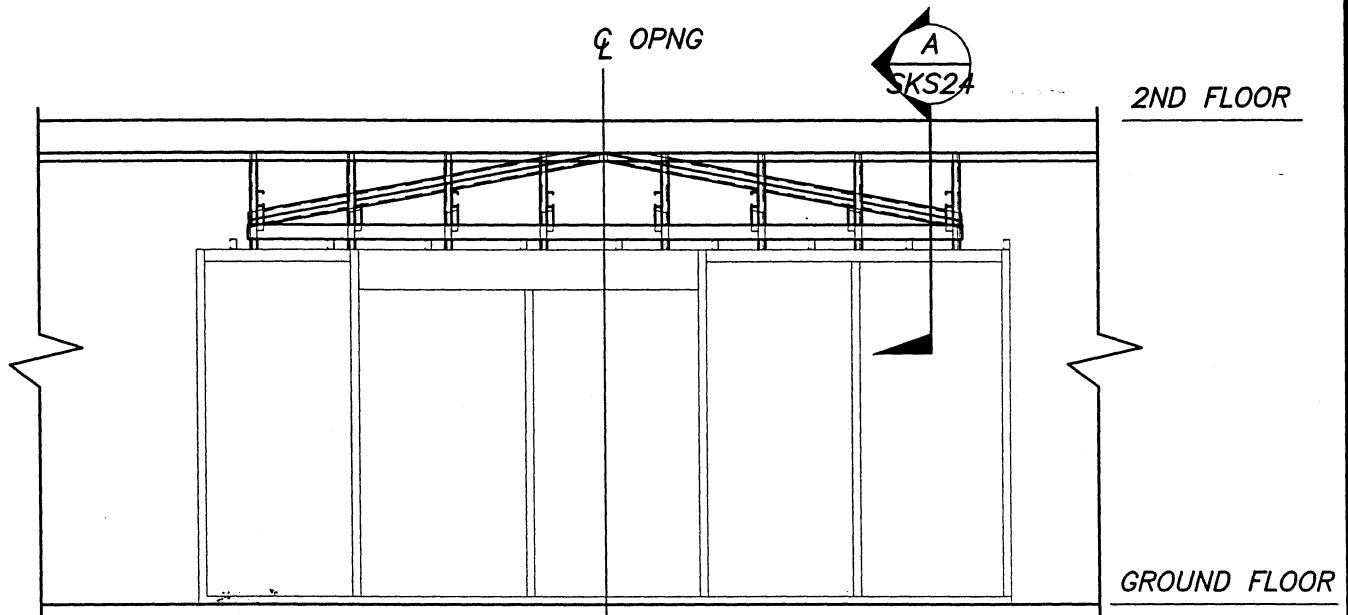
Tel 207-879-1838
Fax 207-879-1822
www.beckerstructural.com

Designed	MC
Drawn	MC
Checked	PBB
Scale	AS NOTED
Date	1/25/06

The Park Danforth
777 Stevens Ave.

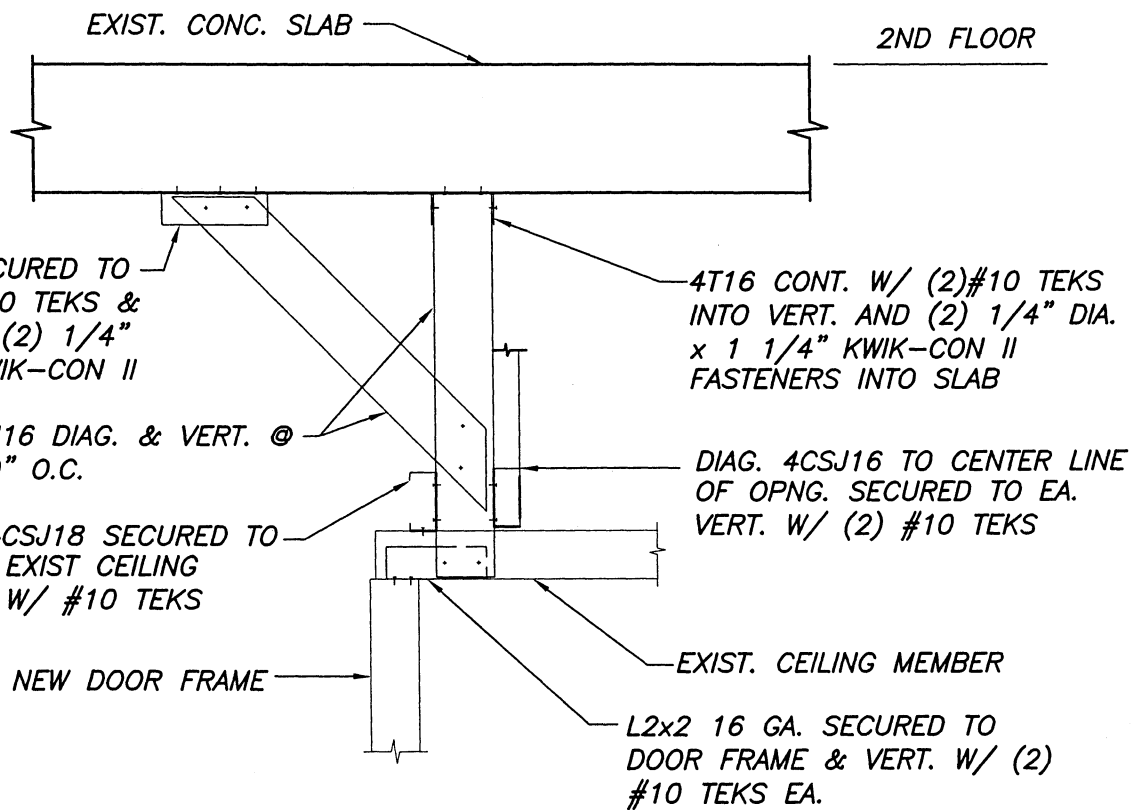
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697

SKS23
Revised



MAIN ENTRANCE DOOR FRAME ELEVATION

1/4"=1'-0"



DETAIL A

1"=1'-0"

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Fax 207-879-1822
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Designed	MC
Drawn	MC
Checked	PBB
Scale	AS NOTED
Date	2/7/06

The Park Danforth
777 Stevens Ave.

Becker Job Number
697

SKS24