

CITY OF NIAGARA FALLS, NEW YORK  
DEPARTMENT of ENGINEERING  
**Hyde Park Ice Pavilion  
Locker Room Addition  
Phase II**

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**ADDENDUM 1  
Dated: March 22, 2011**

The original contract bid documents, dated March 7, 2011 are hereby amended in accordance with the following. This addendum shall become part of the Contract Documents.

**Regarding Project Manual:**

**1. Cover**

**Revise:** "Final Review" to read "Issued for Bid"

**2. Specification Section 2 – Bidding Documents - Section 2g – Proposal – page 2 of 3,**

**ALLOWANCES:**

A. **Delete:** entire paragraph in Article A and **Replace** with the word "None".

**3. Specification Section 01 1500 - Temporary Facilities and Services:**

A. Refer to Article 3.02. **Add** the following new paragraph C:

"C. The owner reserves the right to revoke the use of existing facilities if abused."

**4. Specification Section 01 1500 - Temporary Facilities and Services:**

A. Refer to Article 3.05. **Add** the following new paragraph C:

"C. Temporary Heater Type: Electric"

**5. Specification Section 01 1900 – Project Closeout:**

A. Refer to Article 1.04.B. **Add** the following new item 8:

"8. Operation and Maintenance Manuals."

**6. ADD: Specification Section 08 4523 – Fiberglass Sandwich Panel Assemblies - (attached)**

**7. Specification Section 09 6566 – Resilient Athletic Flooring – PART 2 – PRODUCTS:**

A. Refer to Article 2.01.A. **Replace** with the following:

"A. Rubber Flooring - (RF-1, RF-2) Basis-of-Design: Subject to compliance with requirements, "Ram Flex" by MONDO America Inc."

- B. Refer to Article 2.02.A. **Replace** with the following:
    - "A. Rubber Flooring – (RF-3) Basis-of-Design: Subject to compliance with requirements, "Everlast – Dodge" by ECORE International"
  - C. Refer to Article 2.02.F. **Replace** with the following:
    - "F. Color and Pattern: Refer to Architectural Drawings, 20% Flec"
  - D. Refer to Article 2.02.G. **Add** the following:
    - "3. Seam Tape and hold down weights for use during install"
8. **Specification Section 13 1250 – Grandstands and Bleachers – PART 2 – PRODUCTS:**
- A. Refer to Article 2.01.A.2. **Revise** the following:  
**Delete:** "Steel Stadiums Inc." and **Replace** with "All Star Bleachers Inc."
9. **ADD: Specification Section 22 0593 – Adjusting & Balancing – (attached)**
10. **Specification Section 4e – General Specifications – Page 1 of 3:**
- A. Refer to Article (A) City Staff and Administration. **Revise** the following dollar amount:  
**Revise "\$ 150.00 per day" to read "\$ 650.00 per day"**
11. **Specification Section 4e – General Specifications – Page 3 of 3:**
- A. Refer to Article Time for Completion. **Revise** the following date:  
**Revise:** "October 1, 2010" to read "September 30, 2011"

**Regarding the Drawings:**

**Site / Civil:**

- 1. **Drawing C-UP-01, Utility Plan – Notes:**
  - Add Note 3 to read:**  
**"General Prime Contractor shall provide temporary shoring and bracing as required to work around light pole. Refer to 2 / C-UP-01."**
- 2. **Drawing C-UP-01, Enlarged Plan 2 / C-UP-01;**
  - Delete** from light pole note "RELOCATE LIGHT POLE AND FOUNDATION."

**Structural:**

- 3. **Drawing S-101 – Wall Footing Table, WF1;**
  - Revise:** Size " 2'-0" x 12' " to read: " 2'-0" x 12" "

## **Architectural:**

### **4. Drawing A-101 – Floor Plans, Main Entry Storefront Plan 3/A-101 (Alternate #2):**

A. **Clarification:** Storefront Construction Note #4 applies to each set of double doors.

B. **Add:** Storefront Construction Note 6.

“6. Provide 6” diameter roof Truss Identification Sign decal in compliance with 19 NYCRR Part 1264 at (2) locations on the exterior and (2) locations on the interior entry door glass.” – (refer to Truss ID attachment)

### **5. Drawing A-102 – Roof Plan & Details, Roof Plan – Area ‘D’ 1/A-102:**

A. **Revise:** Detail reference “10 / A-401” to read “5 / A-401”.

### **6. Drawing A-103 – Roof Plan (Alternate #3), Detail 5/A-103:**

A. **Clarification:** Lines through notes are not strike throughs

### **7. Drawing A-410 – Section Details, General Note 4/A-410:**

A. **Revise:** the word “shawn” to read “shown”.

### **8. Drawing A-701 – Reflected Ceiling Plan & Details, 1/A701:**

A. **Clarification:** Rooms or areas with a ceiling height designation shall receive moisture resistant gwb ceiling assembly as per detail 2 / A-701.

## **Mechanical:**

### **9. Drawing M-102 – Roof Plan Areas ‘B’ and ‘D’ HVAC:**

A. **Add:** the following notes to the drawing:

#### **General Construction Notes:**

1. Coordinate Location of HRU-2 with Structural and Architectural Drawings.
2. Provide and set curbs and steel deck cut-outs for rooftop units. Coordinate installation of curbs with Roofing Contractor.
3. Coordinate plumbing and electrical connection requirements with the Plumbing and Electrical Prime Contractors.”

### **10. Drawing M-501 - HVAC Schedules and Control Diagrams:**

A. Refer to Packaged Rooftop Heat Recovery Unit Schedule - DX / Gas, HRU-2

**Revise:** S.P. In W.G. to read Exhaust Fan S.P. In W.G., and retain the scheduled characteristics of: External = 1.25", Total = 2.5

**Add:** column "Supply Fan S.P. In W.G." with the following characteristics External = 0.75".

## **Plumbing:**

### **11. Drawing P-101 – Foundation Plan Area ‘D’ Plumbing:**

- A. **Delete:** sanitary sewer house trap and associated vent piping in its entirety.
- B. **Change:** 3” Vent shown from room 110 through room 117 up to roof vent to a 4” size.

### **12. Drawing P-102 – Floor Plan Areas ‘B’ and ‘D’ Plumbing:**

- A. **Add:** the following notes to the drawing:

#### **“General Construction Notes:**

1. Provide valves at the point of connection to existing plumbing lines as required.
2. All plumbing piping shall be installed tight to the underside of existing steel on the south side of the existing rigid steel columns.
3. Coordinate with Mechanical drawings and Mechanical Prime Contractor for all equipment and connection requirements.”

## **Electrical:**

### **13. Drawing E-201 – Floor Plan Areas ‘B’ and ‘D’ Power and Systems:**

- A. **Add:** the following notes E, F, G to the “General Notes”:

- “E. Make complete 120V connection to all Mechanical equipment and DDC Control panels as required. Refer to Mechanical drawings for mechanical equipment and DDC Control panel information and schedules. Coordinate mechanical equipment and DDC Control panel locations with the Mechanical Prime Contractor.”
- “F. Refer to typical details on Drawing E-601 for additional information and requirements.”
- “G. Coordinate plumbing and mechanical connection requirements with the Plumbing and Mechanical Prime Contractors.”

- B. **Add:** the following note 5 to the Drawing Notes:

- “5. Provide security type manual on/off switch with slot key and connection to all exterior wall receptacles scheduled at panelboard (LP-4), circuit (10). Locate manual on / off switch adjacent to panel LP-4 in north corridor wall east of opening to Rink 1.

**End of Addendum No. 1**

**DIVISION 8 – OPENINGS**  
**SECTION 08 4523 – FIBERGLASS SANDWICH PANEL ASSEMBLIES**

**PART 1 - GENERAL**

**1.01 SUMMARY**

- A. Section includes the insulated translucent sandwich panel system and accessories as shown and specified. Work includes providing and installing:
  - 1. Flat factory prefabricated structural insulated translucent sandwich panels
  - 2. Aluminum installation system
  - 3. Aluminum sill flashing
  
- B. Related Sections:
  - 1. Structural Steel: Section 05 1200 & 05 5500
  - 2. Rough Carpentry: Section 06 1053
  - 3. Masonry: Section 04 2000
  - 4. Flashing and Sheet Metal: Section 07 6200
  - 5. Sealants: Section 07 9200
  - 6. Glazing: Section 08 8000

**1.02 SUBMITTALS**

- A. Submit manufacturer's product data. Include construction details, material descriptions, profiles and finishes of components.
  
- B. Submit shop drawings. Include elevations and details.
  
- C. Submit manufacturer's color charts showing the full range of colors available for factory-finished aluminum.
  - 1. Submit samples for each exposed finish required, in same thickness and material indicated for the work and in size indicated below. If finishes involve normal color variations, include sample sets consisting of two or more units showing the full range of variations expected.
    - a. Sandwich panels: 14" x 28" units
    - b. Factory finished aluminum: 5" long sections
  
- D. Submit Installer Certificate, signed by installer, certifying compliance with project qualification requirements.
  
- E. Submit product reports from a qualified independent testing agency indicating each type and class of panel system complies with the project performance requirements, based on comprehensive testing of current products. Previously completed reports will be acceptable if for current manufacturer and indicative of products used on this project.
  - 1. Reports required are:
    - a. International Code Council Evaluation Report (ICC-ES)
    - b. Flame Spread and Smoke Developed (UL 723) – Submit UL Card
    - c. Burn Extent (ASTM D 635)
    - d. Color Difference (ASTM D 2244)
    - e. Impact Strength (UL 972)
    - d. Bond Tensile Strength (ASTM C 297 after aging by ASTM D 1037)
    - f. Bond Shear Strength (ASTM D 1002)
    - g. Beam Bending Strength (ASTM E 72)
    - h. Insulation U-Factor (NFRC 100)
    - i. NFRC System U-Factor Certification (NFRC 700)
    - j. Solar Heat Gain Coefficient (NFRC or Calculations)
    - k. Condensation Resistance Factor (AAMA 1503)

**DIVISION 8 – OPENINGS**  
**SECTION 08 4523 – FIBERGLASS SANDWICH PANEL ASSEMBLIES**

- l. Air Leakage (ASTM E 283)
- m. Structural Performance (ASTM E 330)
- n. Water Penetration (ASTM E 331)
- o. 1200°F Fire Resistance (SWRI)
- p. LEED Credits
- q. Daylight Autonomy

**1.03 QUALITY ASSURANCE**

- A. Manufacturer's Qualifications
  - 1. Material and products shall be manufactured by a company continuously and regularly employed in the manufacture of specified materials for a period of at least ten consecutive years and which can show evidence of those materials being satisfactorily used on at least six projects of similar size, scope and location. At least three of the projects shall have been in successful use for ten years or longer.
  - 2. Panel system must be listed by the International Code Council – Evaluation Service, which requires quality control inspections and fire, structural and water infiltration testing of sandwich panel systems by an approved agency.
  - 3. Quality control inspections shall be conducted at least once each year and shall include manufacturing facilities, sandwich panel components and production sandwich panels for conformance with AC04 "Sandwich Panels" or AC177 "Translucent Fiberglass Reinforced Plastic (FRP) Faced Panel Wall, Roof and Skylight Systems" as regulated by the ICC-ES.
- B. Installer's Qualifications: Installation shall be by an experienced installer, which has been in the business of installing specified panel systems for at least two consecutive years and can show evidence of satisfactory completion of projects of similar size, scope and type.

**1.04 PERFORMANCE REQUIREMENTS**

- A. The manufacturer shall be responsible for the configuration and fabrication of the complete panel system.
  - 1. When requested, include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
  - 2. Standard panel system shall have less than 0.01cfm/ft<sup>2</sup> air leakage by ASTM E 283 at 6.24 PSF (50 mph) and no water penetration by ASTM E 331 at 15 PSF; and structural testing by ASTM E 330.
  - 3. Structural Loads; Provide system capable of handling the following loads:
    - a. Refer to structural drawings.

**1.05 DELIVERY STORAGE AND HANDLING**

- A. Deliver panel system, components and materials in manufacturer's standard protective packaging.
- B. Store panels on the long edge; several inches above the ground, blocked and under cover in accordance with manufacturer's storage and handling instructions.

**1.06 WARRANTY**

- A. Submit manufacturer's and installer's written warranty agreeing to repair or replace panel system work, which fails in materials or workmanship within one year of the date of delivery. Failure of materials or workmanship shall include leakage, excessive deflection, deterioration of finish on metal in excess of normal weathering and defects in accessories, insulated translucent sandwich panels and other components of the work.

**DIVISION 8 – OPENINGS**  
**SECTION 08 4523 – FIBERGLASS SANDWICH PANEL ASSEMBLIES**

- B. Extended Warranty: 20 year.

**PART 2 - PRODUCTS**

**2.01 MANUFACTURER**

- A. The basis for this specification is for products manufactured by Kalwall Corporation. Other manufacturers may bid this project provided they comply with all of the performance requirements of this specification and submit evidence thereof. Listing other manufacturers' names in this specification does not constitute approval of their products or relieve them of compliance with all the performance requirements contained herein.
- B. Kalwall Corporation, Tel: (800) 258-9777 – Fax: (603) 627-7905 – Email: [info@kalwall.com](mailto:info@kalwall.com)

**2.02 PANEL COMPONENTS**

- A. Face Sheets.
1. Translucent faces: Manufactured from glass fiber reinforced thermoset resins, formulated specifically for architectural use.
    - a. Thermoplastic (e.g. polycarbonate, acrylic) faces are not acceptable.
    - b. Face sheets shall not deform, deflect or drip when subjected to fire or flame.
  2. Interior face sheets:
    - a. Flame spread: Underwriters Laboratories (UL) listed, which requires periodic unannounced retesting, with flame spread rating no greater than 25 and smoke developed no greater than 250 when tested in accordance with UL 723.
    - b. Burn extent by ASTM D 635 shall be no greater than 1".
  3. Exterior face sheets:
    - a. Color stability: Full thickness of the exterior face sheet shall not change color more than 3 CIE Units DELTA E by ASTM D 2244 after 5 years outdoor South Florida weathering at 5° facing south, determined by the average of at least three white samples with and without a protective film or coating to ensure long-term color stability. Color stability shall be unaffected by abrasion or scratching.
    - b. Strength: Exterior face sheet shall be uniform in strength, impenetrable by hand held pencil and repel an impact minimum of 230 ft. lbs. without fracture or tear when impacted by a 3-1/4" diameter, 5 lb. free-falling ball per UL 972.
  4. Appearance:
    - a. High Impact Exterior face sheets: Smooth, 0.052" thick and white in color.
    - b. High Impact Interior face sheets: Smooth, 0.052" thick and white in color.
    - c. Face sheets shall not vary more than  $\pm 10\%$  in thickness and be uniform in color.
- B. Grid Core
1. Thermally Broken Composite I-beam grid core shall be of 6063-T6 or 6005-T5 alloy and temper with provisions for mechanical interlocking of muntin-mullion and perimeter. Width of I-beam shall be no less than 7/16".
  2. I-beam Thermal break: Minimum 1", thermoset fiberglass composite.
- C. Laminate Adhesive
1. Heat and pressure resin type adhesive engineered for structural sandwich panel use, with minimum 25-years field use. Adhesive shall pass testing requirements specified by the International Code Council "Acceptance Criteria for Sandwich Panel Adhesives."
  2. Minimum tensile strength of 750 PSI when the panel assembly is tested by ASTM C 297 after two exposures to six cycles each of the aging conditions prescribed by ASTM D 1037.

**DIVISION 8 – OPENINGS**  
**SECTION 08 4523 – FIBERGLASS SANDWICH PANEL ASSEMBLIES**

3. Minimum shear strength of the panel adhesive by ASTM D 1002 after exposure to four separate conditions:
  - a. 50% Relative Humidity at 68° F: 540 PSI
  - b. 182° F: 100 PSI
  - c. Accelerated Aging by ASTM D 1037 at room temperature: 800 PSI
  - d. Accelerated Aging by ASTM D 1037 at 182° F: 250 PSI

**2.03 PANEL CONSTRUCTION**

- A. Provide sandwich panels of flat fiberglass reinforced translucent face sheets laminated to a grid core of mechanically interlocking I-beams. The adhesive bonding line shall be straight, cover the entire width of the I-beam and have a neat, sharp edge. Panel to be laid on edge.
  1. Thickness: 2-3/4"
  2. Light transmission: 20%
  3. Solar heat gain coefficient, 0.38 (SHGC).
  4. Panel U -factor by NFRC certified laboratory: 2-3/4" thermally broken grid, 0.53"U".
  5. Complete insulated panel system shall have NFRC certified U- factor of 0.53"U".
  6. Grid pattern: Nominal size 12" x 24"; shoji grid pattern.
- B. Standard panels shall deflect no more than 1.9" at 30 PSF in 10' 0" span without a supporting frame by ASTM E 72.
- C. Standard panels shall withstand 1200°F fire for minimum one hour without collapse or exterior flaming.
- D. Thermally broken panels: Minimum Condensation Resistance Factor of 80 by AAMA 1503 measured on the bond line.

**2.04 BATTENS AND PERIMETER CLOSURE SYSTEM**

- A. Closure system: Thermally broken extruded aluminum 6063-T6 and 6063-T5 alloy and temper clamp-tite screw type closure system.
- B. False Intermediate Vertical battens:
  1. 2" wide, "black" anodized aluminum batten with concealed fasteners.
    - a. Space battens at 24" O.C. at each opening
- C. Sealing tape: Manufacturer's standard, pre-applied to closure system at the factory under controlled conditions.
- D. Fasteners: 300 series stainless steel screws for aluminum closures, excluding final fasteners to the building.
- E. Finish:
  1. Anodized, Color: "Black".

**PART 3 - EXECUTION**

**3.01 EXAMINATION**

- A. Installer shall examine substrates, supporting structure and installation conditions.
- B. Do not proceed with panel installation until unsatisfactory conditions have been corrected.

**DIVISION 8 – OPENINGS**  
**SECTION 08 4523 – FIBERGLASS SANDWICH PANEL ASSEMBLIES**

**3.02 PREPARATION**

- A. Metal Protection:
1. Where aluminum will contact dissimilar metals, protect against galvanic action by painting contact surfaces with primer or by applying sealant or tape recommended by manufacturer for this purpose.
  2. Where aluminum will contact concrete, masonry or pressure treated wood, protect against corrosion by painting contact surfaces with bituminous paint or method recommended by manufacturer.

**3.03 INSTALLATION**

- A. Install the panel system in accordance with the manufacturer's installation recommendations and approved shop drawings.
1. Anchor component parts securely in place by permanent mechanical attachment system.
  2. Accommodate thermal and mechanical movements.
  3. Set perimeter framing in a full bed of sealant compound, or with joint fillers or gaskets to provide weather-tight construction.
- B. Install joint sealants at perimeter joints and within the panel system in accordance with manufacturer's installation instructions.

**3.04 CLEANING**

- A. Clean the panel system inside and outside, immediately after installation.
- B. Refer to manufacturer's written recommendations.

**END OF SECTION 08 4523**

**PART 1 - GENERAL**

**1.01 RELATED DOCUMENTS**

- A. The Contractor shall be held to have read all sections of the project specifications, including General Information, Bidding Documents, Technical Specifications, General Information, Contract Execution Documents, Certification Documents, Appendices and all Contract Drawings before submitting a bid for the proposed work, and in the execution of the work, they will be bound by all of the conditions and requirements therein.

**1.02 WORK INCLUDED**

- A. Provide labor, materials, equipment and services to perform operations required for complete adjusting and balancing Work as required in Contract Documents.

**1.03 SUBMITTALS**

- A. Provide information in report form listing items required by specifications. Report shall be typed and three copies submitted for review. Results shall be guaranteed. Contractor shall be subject to recall to site to verify report information before acceptance of the report by the Owner's Representative.
- B. Report format shall consist of the following:
  - 1. Title sheet with job name, contractor, engineer, date, balance contractor's name, address, telephone number and contact person's name and the balancing technician's name.

**1.04 QUALIFICATIONS**

- A. Follow procedures and methods published by one or more of the following:
  - 1. Individual manufacturer requirements and recommendations.
- B. Maintain qualified person at project for system operation, trouble shooting and perform mechanical adjustments in conjunction with balancing procedure.
- C. Balancing contractor shall be current member of AABC or NEBB.

**1.05 GENERAL REQUIREMENTS**

- A. Before concealment of systems visit the job site to verify and advise on type and location of balancing devices and test points. Make changes as required to balancing facilities.
- B. Place systems in satisfactory operating condition.
  - 1. Adjusting and balancing shall be accomplished as soon as the systems are complete and before Owner takes possession.
  - 2. Prior to balancing adjust balancing devices for full flow; fill, vent and clean hydronic systems, replace temporary strainers.
  - 3. Initial adjustment and balancing to quantities as called for or as directed by the engineer, to satisfy job conditions.

**PART 2 - PRODUCTS**

**2.01 GENERAL REQUIREMENTS**

- A. Provide tools, ladders, recording meters, gauges, thermometers, velometers, anemometers, inclined gauge manometers, magnehelic gauges, amprobes, voltmeters, psychrometers and tachometers required. Instruments used shall be accurately calibrated as per AABC or NEBB requirements.

**PART 3 - EXECUTION**

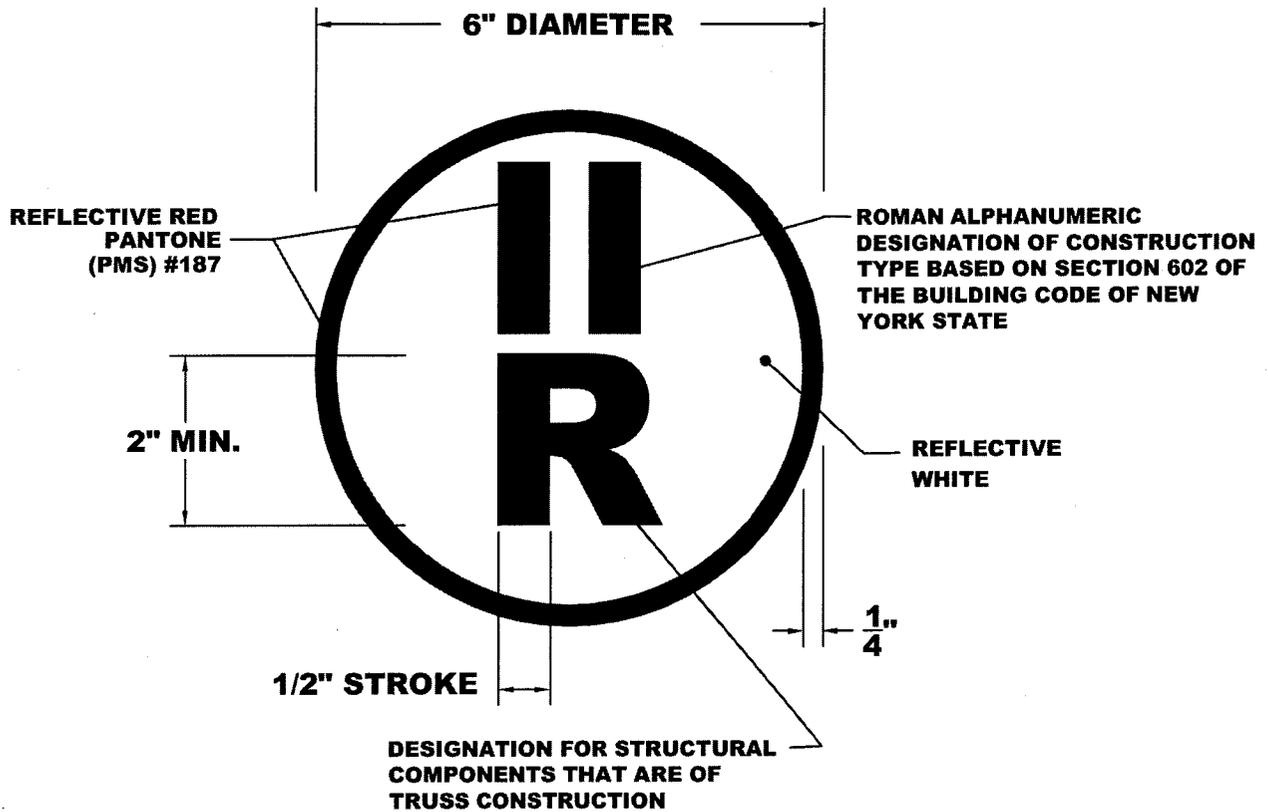
**3.01 PREPARATION**

- A. Examine Bid Documents and notify Owner's Representative of any questions regarding balancing, within thirty days after receipt of bid and prior to starting work.

**3.02 WATER SIDE**

- A. Test, adjust and record the following:
  - 1. Existing Hot Water Recirculating Pumps:
    - a. Check rotation
    - b. GPM
    - c. Running suction pressure
    - d. Running discharge pressure
    - e. Running load amps
    - f. RPM - motor
    - g. Complete nameplate motor and pump
  - 2. Recirculation Balancing Valves:
    - a. Balance every valve to 0.5 GPM.

**END OF SECTION 22 0593**

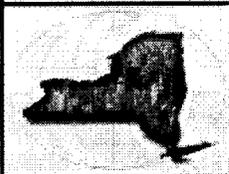


**"R" ROOF FRAMING**

**TRUSS IDENTIFICATION SIGN  
COMPLIANCE WITH 19 NYCRR PART 1264**

NOT TO SCALE

**CODES DIVISION**



**DEPARTMENT OF STATE**

**EXAMPLE TRUSS IDENTIFICATION SIGN DATE:03/08/2005**

**NEW YORK STATE DEPARTMENT OF STATE  
DIVISION OF CODE ENFORCEMENT  
AND ADMINISTRATION**