“The Do’s and Don’ts of Foundation Beam Installation”

Presented By WAFRP Members:

John Voight, B-Dry Systems of Milwaukee
Robert Zidar, CRC Concrete Raising Corporation
Jim Jendusa, Jendusa Design & Engineering

• Who are WAFRP Members?
  • Foundation Repair Professionals
  • Associated Services Professionals

• What do WAFRP Members do?
  • Code of Ethics
  • Industry Standards & Certification
  • WI Evaluation # 200813-O
**WAFRP Standards**

- Adopted by the SE WI Municipal Building Inspectors
  - Adopted Original in 2003, Revised in 2008
- Site-specific Engineering (as required)
- On the web: [www.wafrp.com](http://www.wafrp.com)

---

**The WAFRP NEEDS You!**

- Adopt the WAFRP Standards Into Local Building Codes
- Inspect Basement Repair Work For Compliance
- Cannot “Police” Non-WAFRP Members
“The Do’s & Don’ts…”

What We Are Seeing Today

- Offsets
- Spacing
- Connections
- Measurements
- Blocking
The “Don’ts”

• Spacing of Braces
• This Top Connection (shown) Does Not Comply
• Grout (mortar) Not Complete

What We Are Seeing Today
What We Are Seeing Today

- No Offset Bracket
- Does Not Meet Blocking Standards
- Grout (mortar) Issues on Beams in Background

What We Are Seeing Today

- Nothing in First Joist Pocket
- Lack of Blocking – 2 More Spaces of Blocking Required
- Flat Steel Ends with Improper Connection
What We Are Seeing Today

• Lack of Blocking
• Flat Steel Ends with Improper Connection

What We Are Seeing Today

• Screw Adjustment – Needs Site-specific Engineering
• Joist Depth
• Blocking – Not Full Height (Connection Not to Blocking)
What We Are Seeing Today

- Adjustment Blocking
  (Same Location as Previous Slide)

What We Are Seeing Today

- Bolt Sizing
  or
- Blocking Requirements
What We Are Seeing Today

• Bolt Spacing (Too Close)

What We Are Seeing Today

• Floor Truss Connection Detail Not Followed
• Lack of Proper Blocking
**What We Are Seeing Today**

- Adjustment Bolt Connection – Requires Site-specific Engineering
- Require On-site Specific Engineering, or Leave Permit Open for One (1) Year?

---

**What We Are Seeing Today**

- Earth Anchors (Tie-backs) are Susceptible to Failure – Require Site-specific Engineering
- Require On-site Specific Engineering, or Leave Permit Open for One (1) Year?
The “Do’s”

Bowed Walls

- **Areas of Consideration:**
  - Foundation Construction (Block, Brick, Stone, Poured Concrete, etc.).
  - Cracking and Shifting Patterns.
  - Adequate Reinforcement Plan.
  - Esthetics and Warranty.
Stabilizing Walls

• Reinforcement Beams:
  - Steel Reinforcement Beams (shown).
  - Meets Wisconsin Association of Foundation Repair Professionals (WAFRP) Standards.

It’s In The Details...
WAFRP Standards

- On the web: www.wafrp.com
- Click on “Online Engineering” Tab
  - User Name: wafrpeng
  - Password: bldginsp01

Bolt Table:
**WAFRP Standards – Details**

- Detail 1 – Page 27:
  - Typical 2-bolt

- Detail 3 – Page 28:
  - Typical 2-bolt (side)
WAFRP Standards – Details

• Detail 19 – Page 36:
  - Typical 2-bolt (saddle)

WAFRP Standards – Details

• Detail 20 – Page 36:
  - Typical 2-bolt (saddle)
WAFRP Standards – Details

• Detail 1 – Page 31:
  – Typical 4-bolt

• Detail 3 – Page 32:
  – Typical 4-bolt
**WAFRP Standards – Details**

• **Detail 34 – Page 39:**
  - Offset detail

• **Detail 31 – Page 38:**
  - Detail with tube notches and reinforcement table
WAFRP Standards – Details

• Detail 36 – Page 39:
  – Minimum 2-inch base

Site-specific Engineering

• Regardless of Design:
  – Code Required Design to 90 PCF (pounds per cubic foot) of Lateral Soil Pressure
Questions?

“The Do’s and Don’ts of Foundation Beam Installation”

One last thought:

- These Do Not Meet WAFRP Inside Draintile Standards

- Minimum of 2-inches of Concrete Required

- Question: How Does Water Pass Around Steel Braces Anchored to the Footing?
“The Do’s and Don’ts of Foundation Beam Installation”

Special Thank You To:

– Southeastern Wisconsin Municipal Building Inspectors
– Wisconsin Association of Foundation Repair Professionals (WAFRP)

Pictures Courtesy of:

• John Voight, B-dry Basement Systems of Milwaukee
• James Jendusa, Jendusa Design & Engineering
• Robert Zidar, CRC Concrete Raising Corporation
• Grip-tite Wall Anchors
• Badger Basement Systems
• WAFRP – Member pictures released for brochure and website utilization