

Preservation ~~Blunders~~ Issues

John Bennett, PE, SE

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Bennett Preservation Engineering PC

Structural Engineering for Historic Buildings

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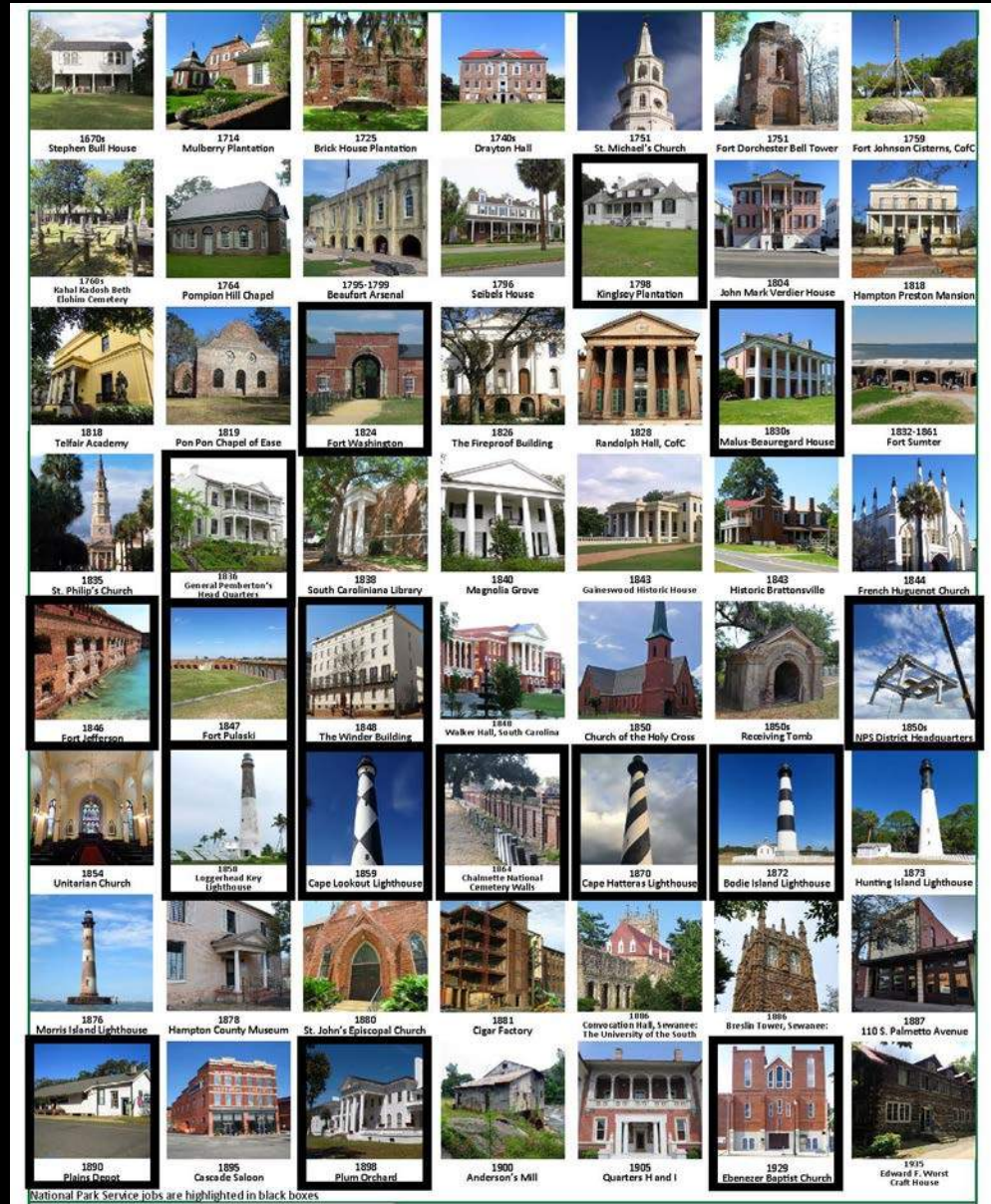


Nicole LaRoche
Preservationist

What We Do

We are a structural engineering firm that focuses exclusively on historic structures.

It is our job to evaluate and analyze historic buildings and develop sensitive structural design solutions.



Preservation Blunders Issues

- Introduction
- Masonry
 - Clay Brick Infill
- Timber
 - Notches
 - Fasteners
 - Unprotected Pocket
- Steel
 - Unprotected Pocket
- Masonry
 - Steel
 - Lintels
 - Coatings
- Metal Coatings
- Rising Damp
- Grouting
- Portland Cements

Clay Brick Infill









Deep or Round Timber Notches

























Wood Fastener Placement



Galvanized Fasteners in Pressure Treated Wood









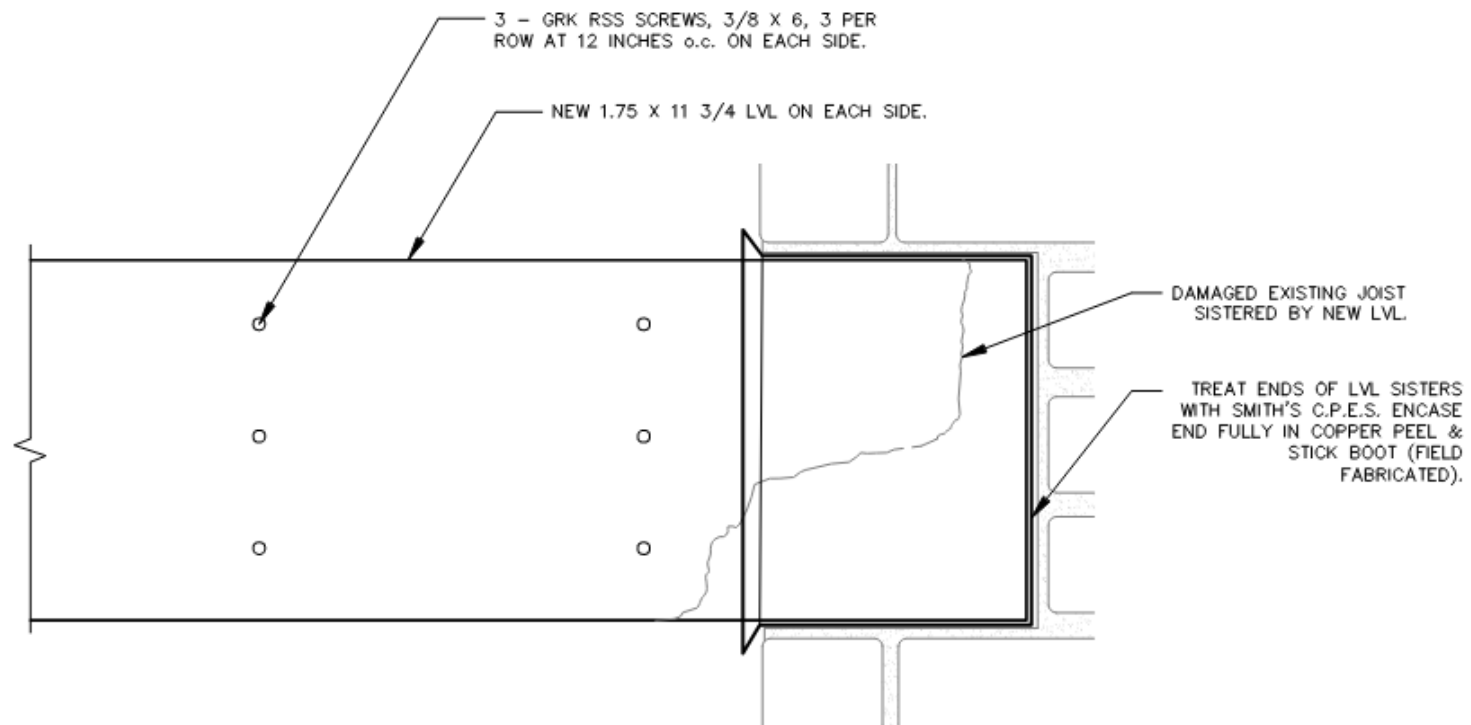


Unprotected Wood in Masonry



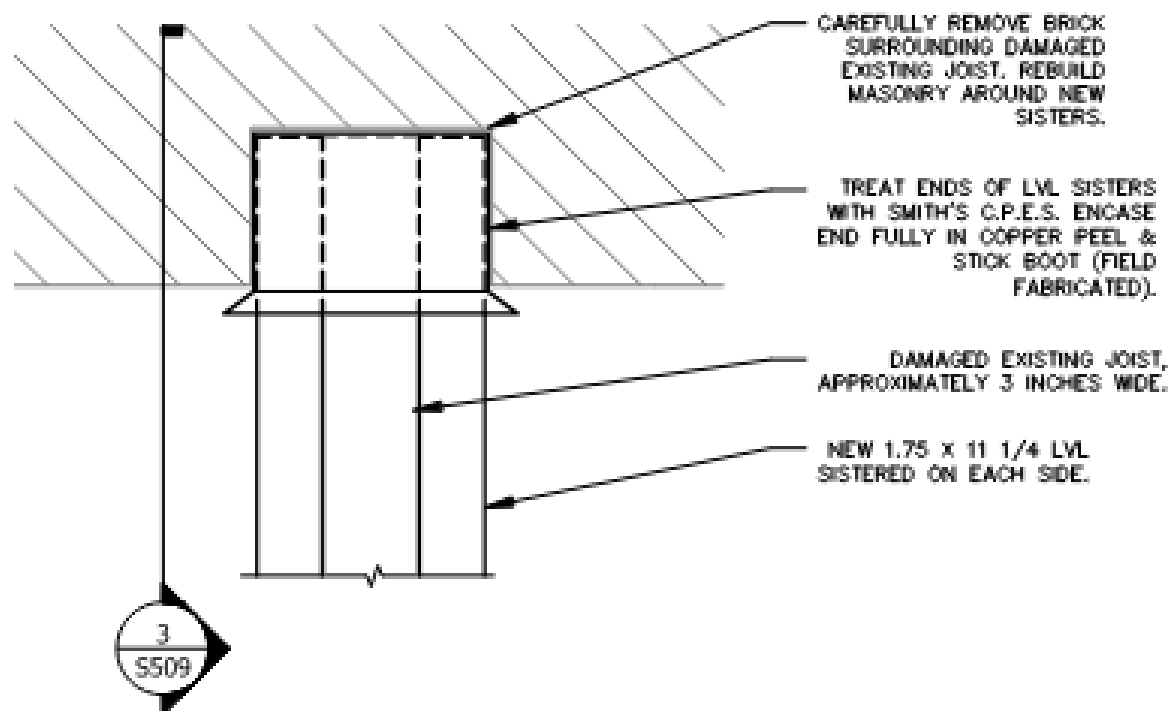






3 JOIST POCKET AT SISTERS - ELEVATION

Scale: 3" = 1'-0"



2 JOIST POCKET AT SISTERS - PLAN

Scale: 3" = 1'-0"

Unprotected Steel in Masonry













Steel in Masonry





Lintel



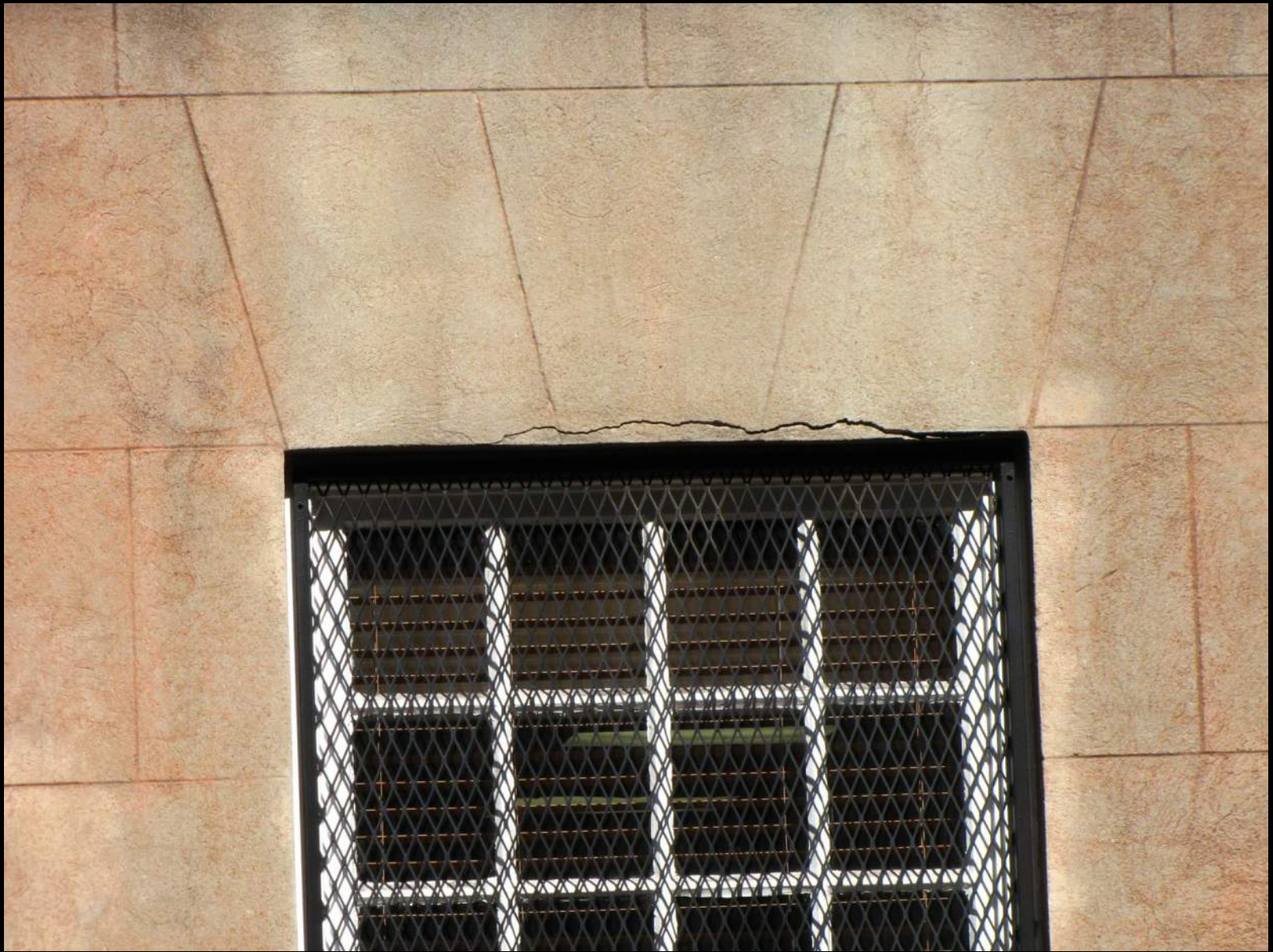








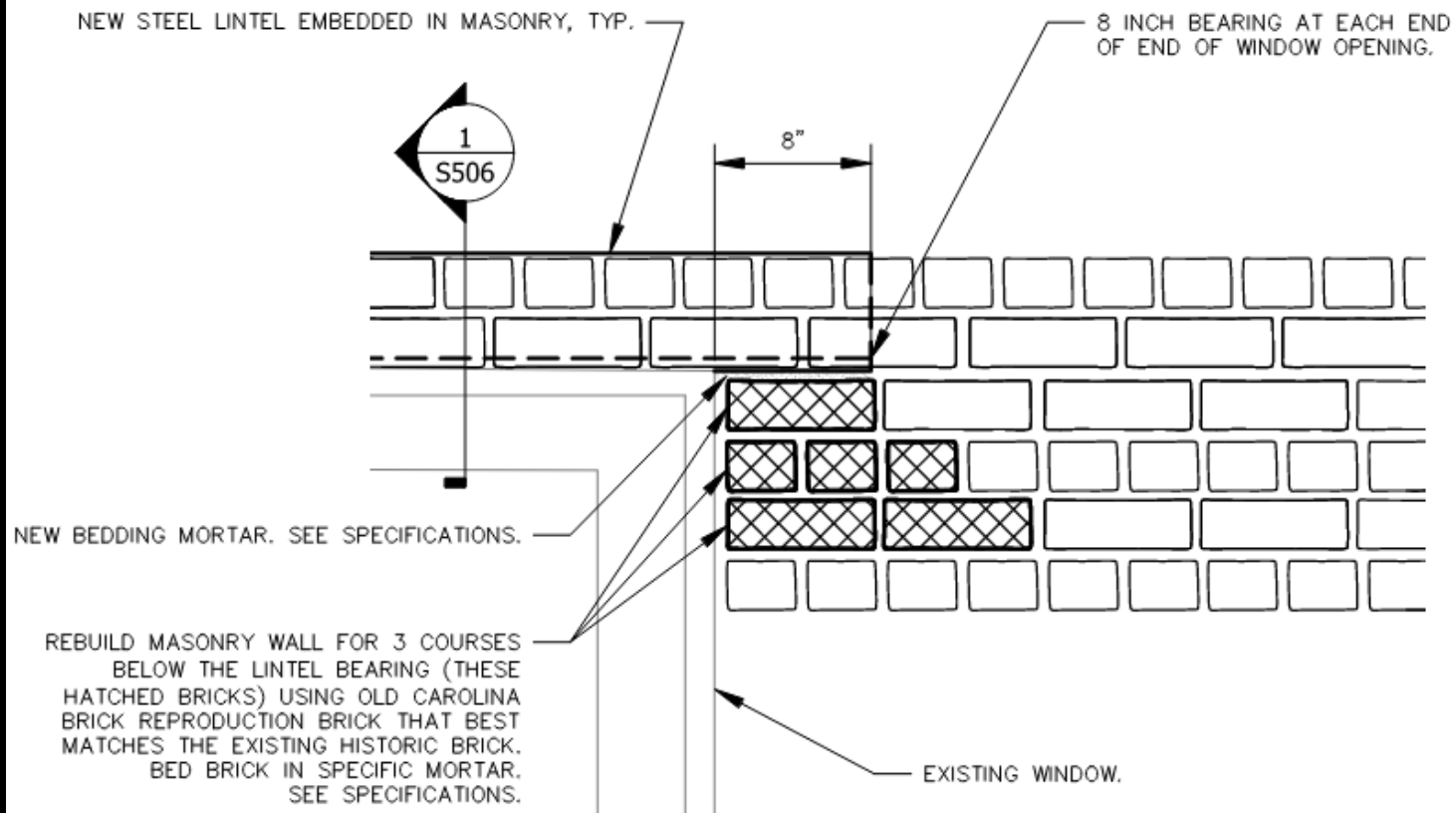












4 TYPICAL MASONRY REBUILD AT LINTEL

Scale: 1-1/2" = 1'-0"

Metal Coatings

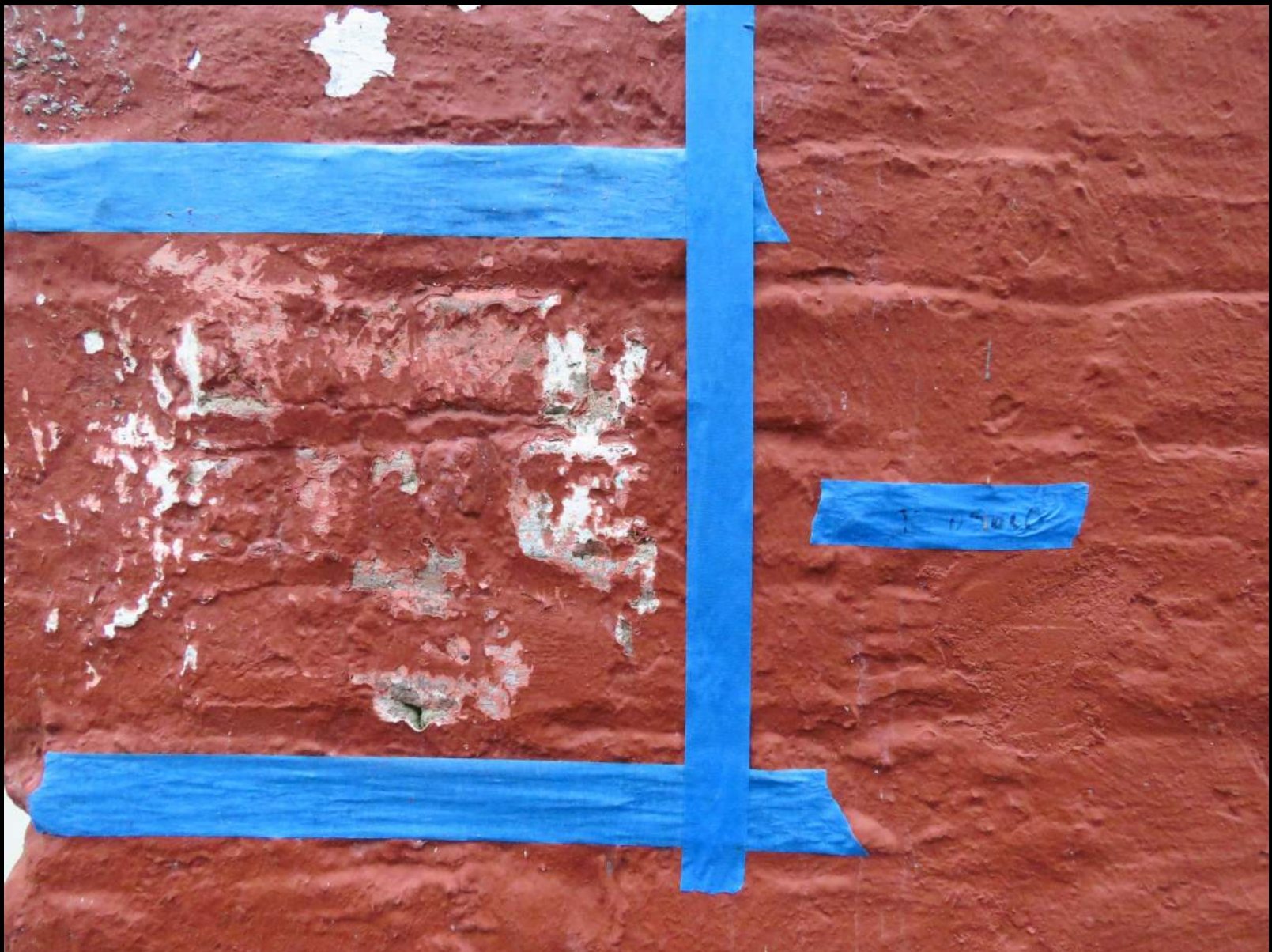






Non-Breathable Coatings





















Rising Damp

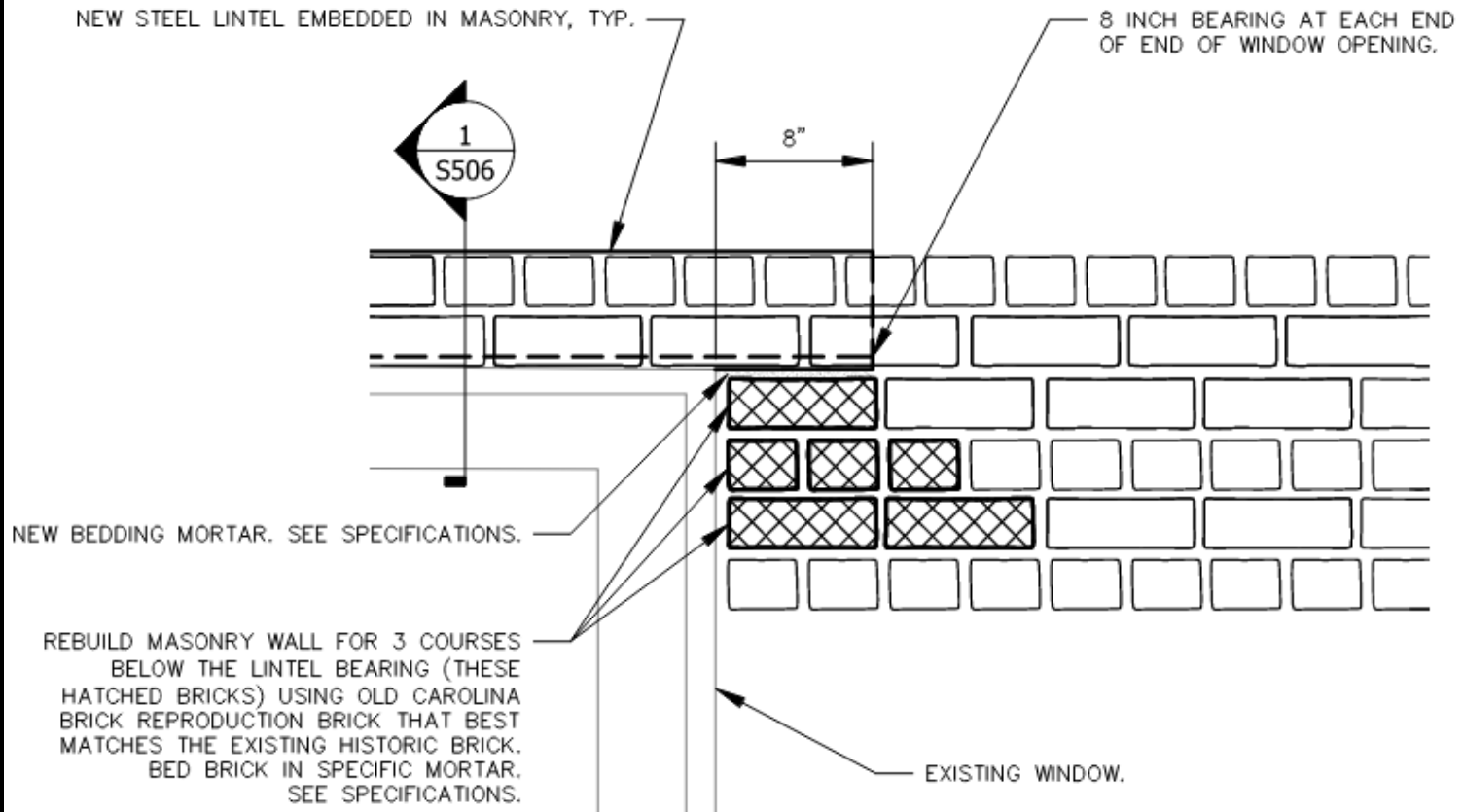






Inadequate Grout Bed

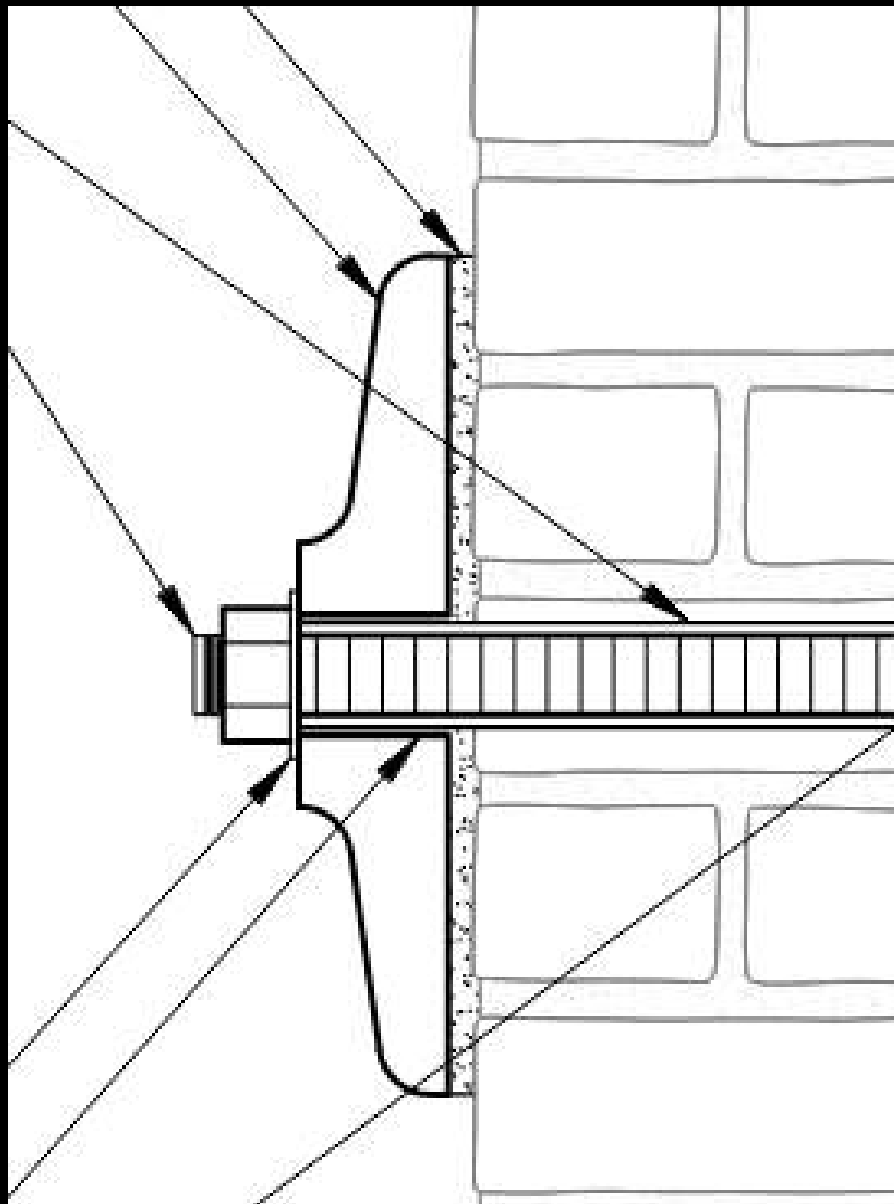




4

TYPICAL MASONRY REBUILD AT LINTEL

Scale: 1-1/2" = 1'-0"

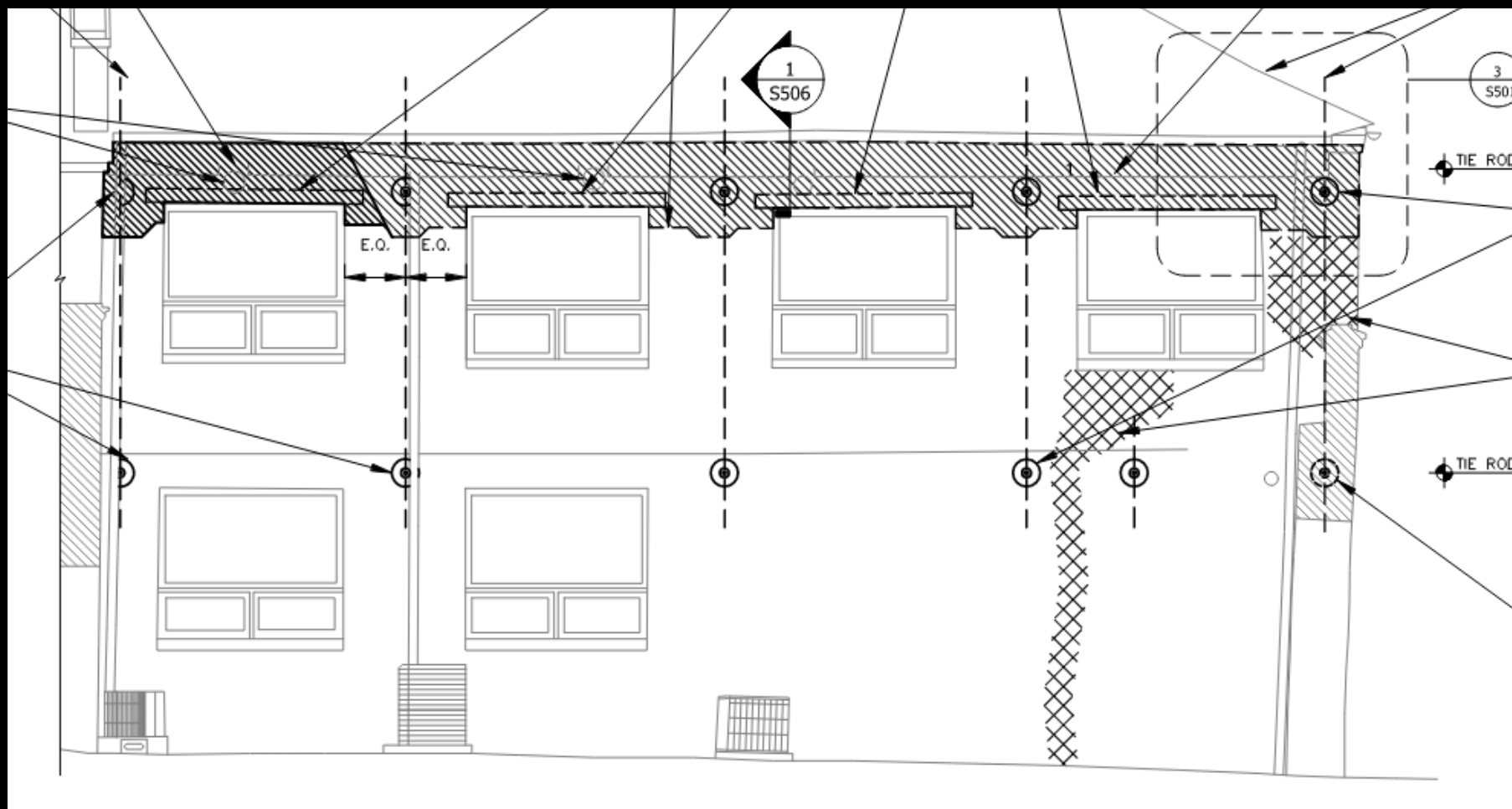


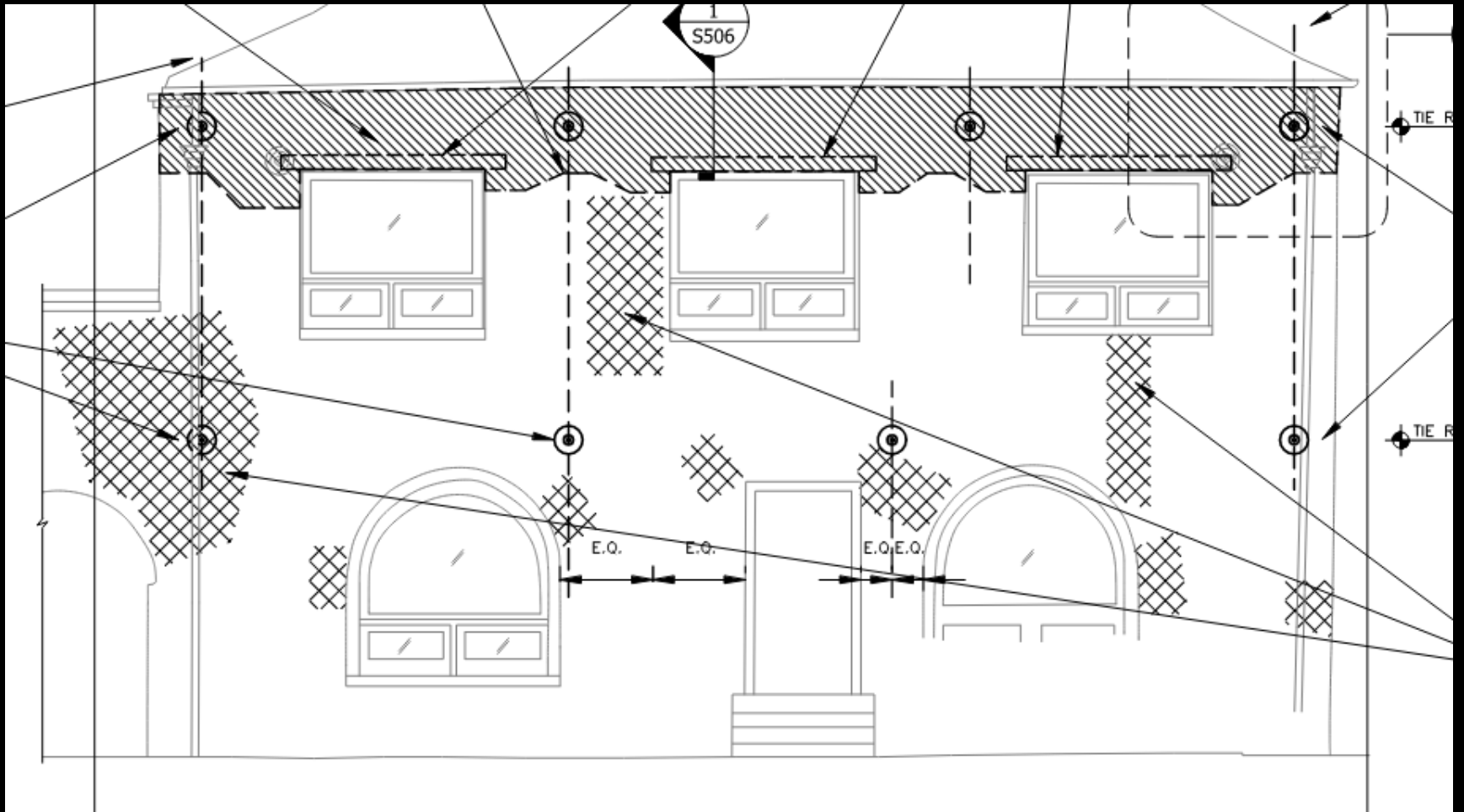
Pattress Plate Location











Portland Cement Mortars & Stuccos











Final Thoughts

Additional Resources

- **Preservation Briefs – National Park Service**
- **Secretary of Interior Standards**
- **APTi – Practice Points**
- **Timber Framers Guild – Technical Bulletins**

Questions?