

Findings and Conclusions

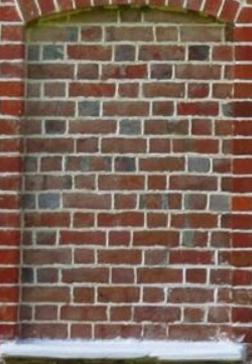
Brick Masonry

- Settlement
- Wall deformation
- Deterioration

































































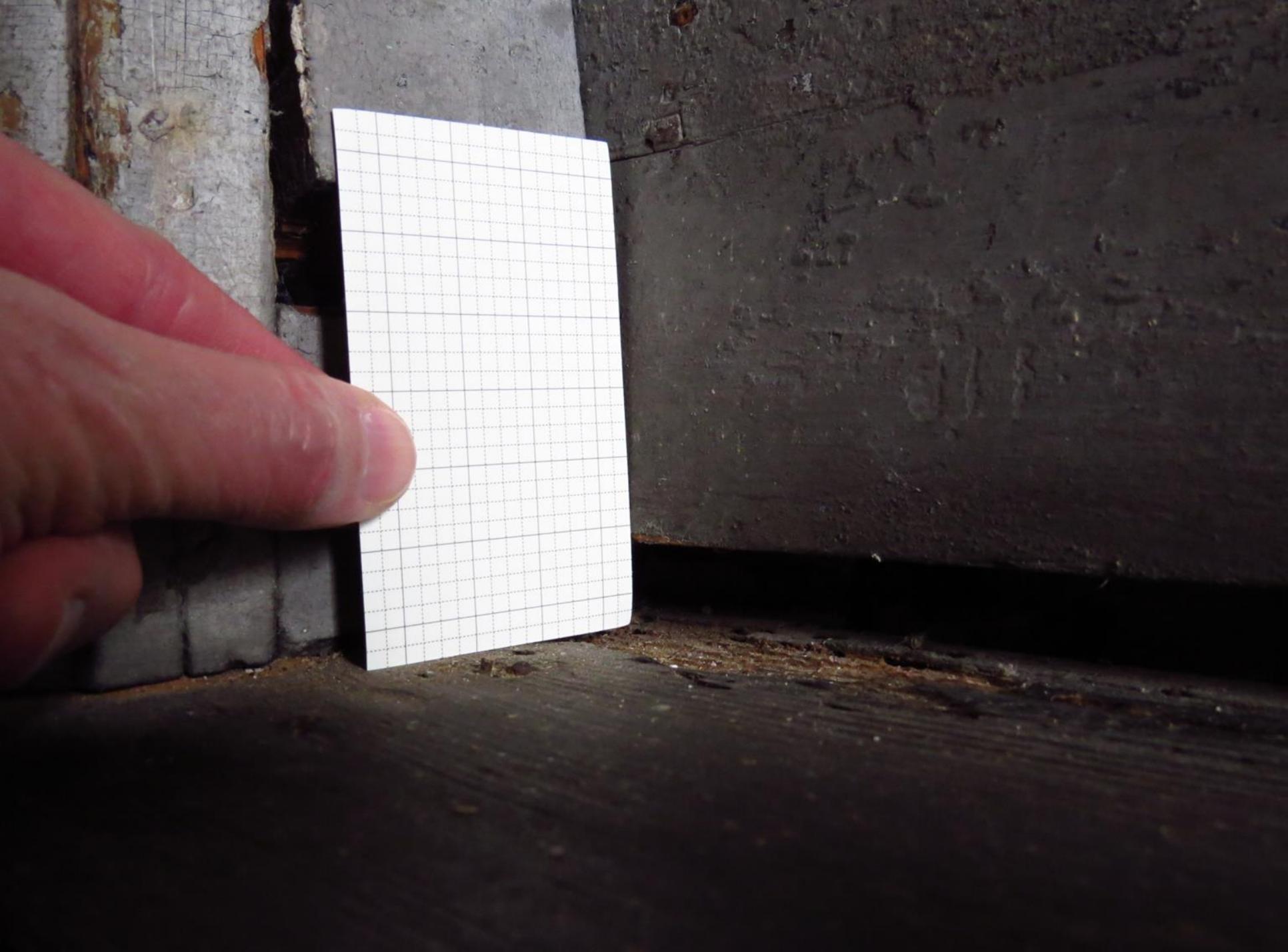


















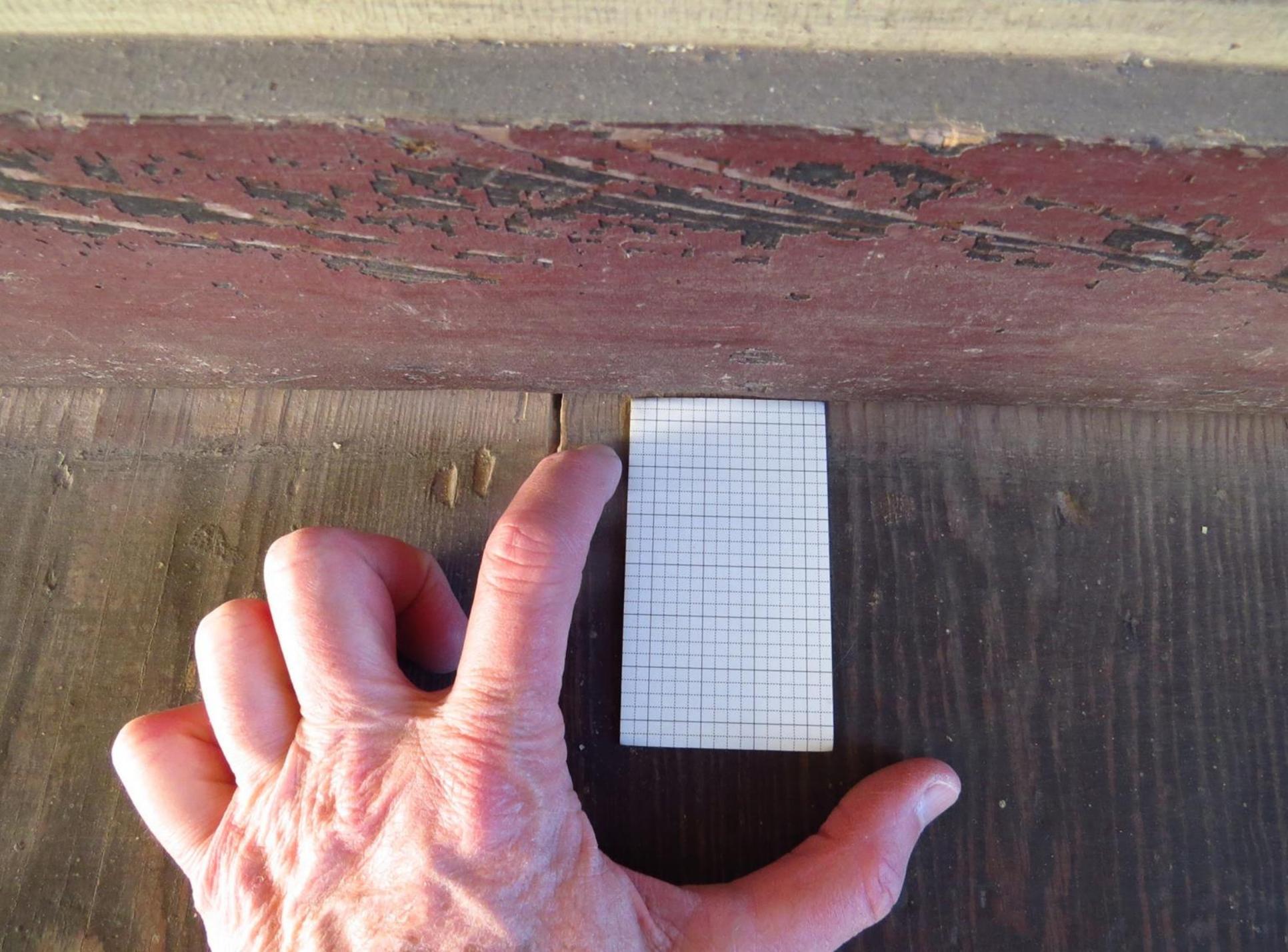






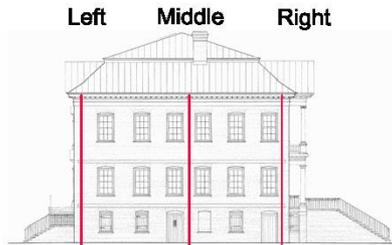




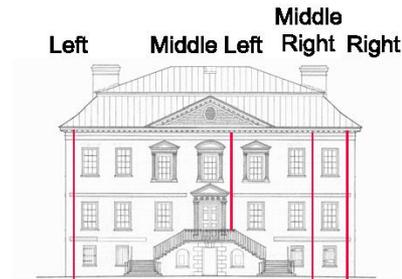




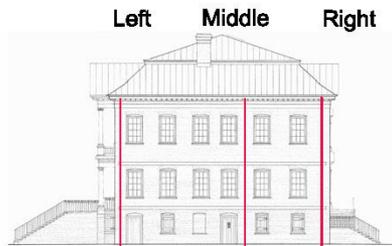
Key for Section Cut Graphs



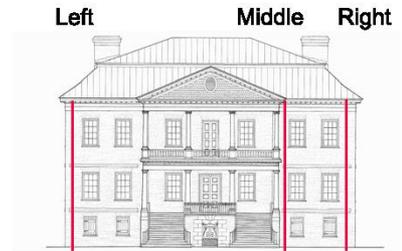
North Elevation



East Elevation

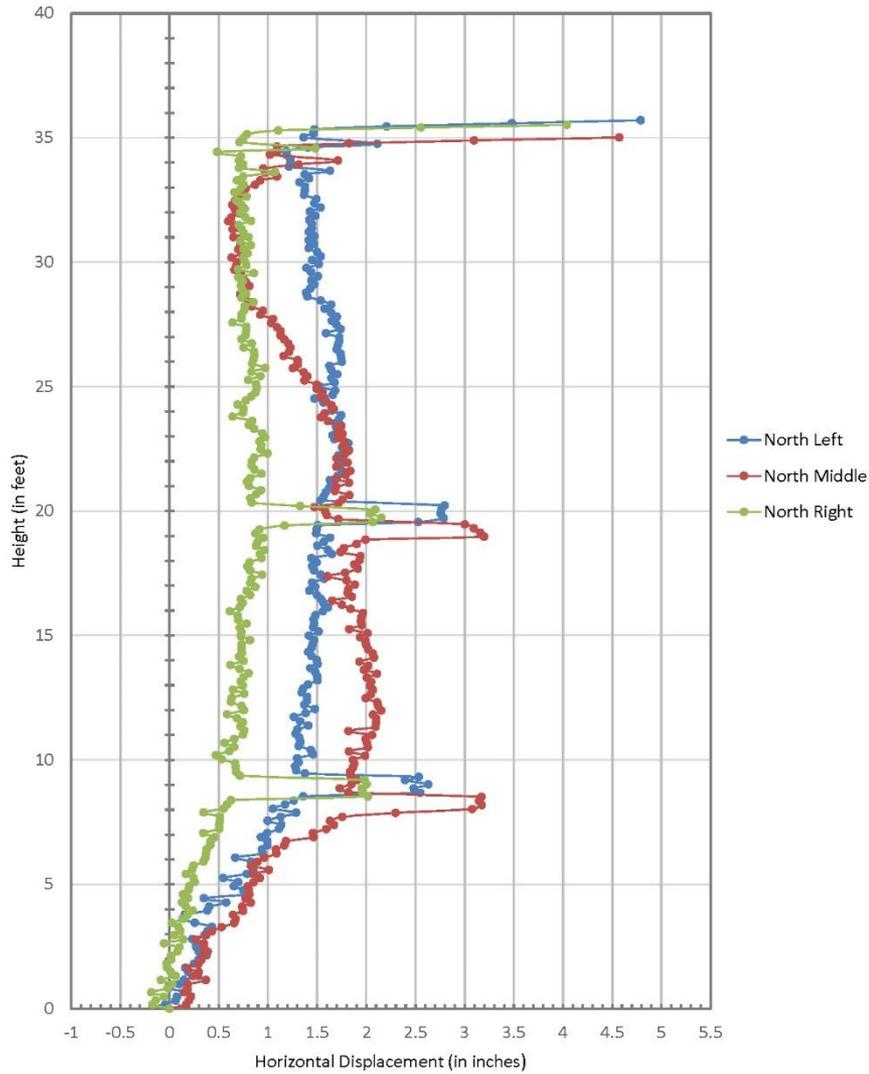


South Elevation

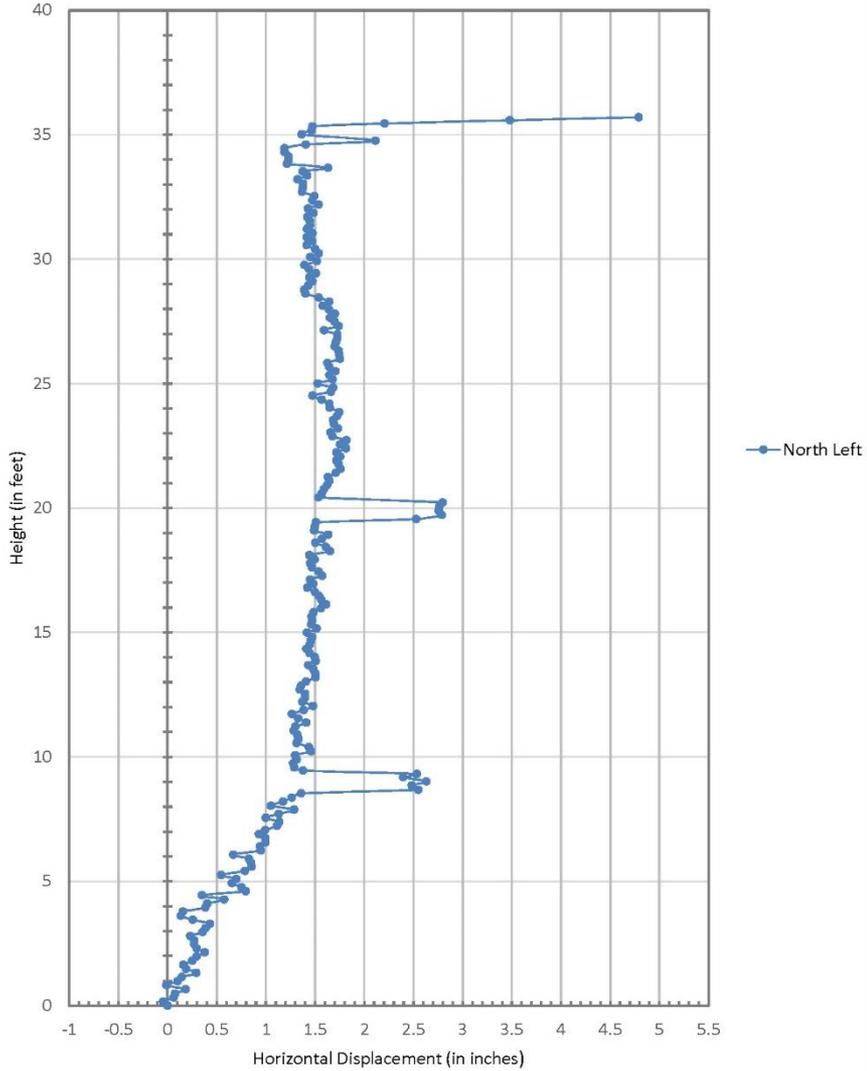


West Elevation

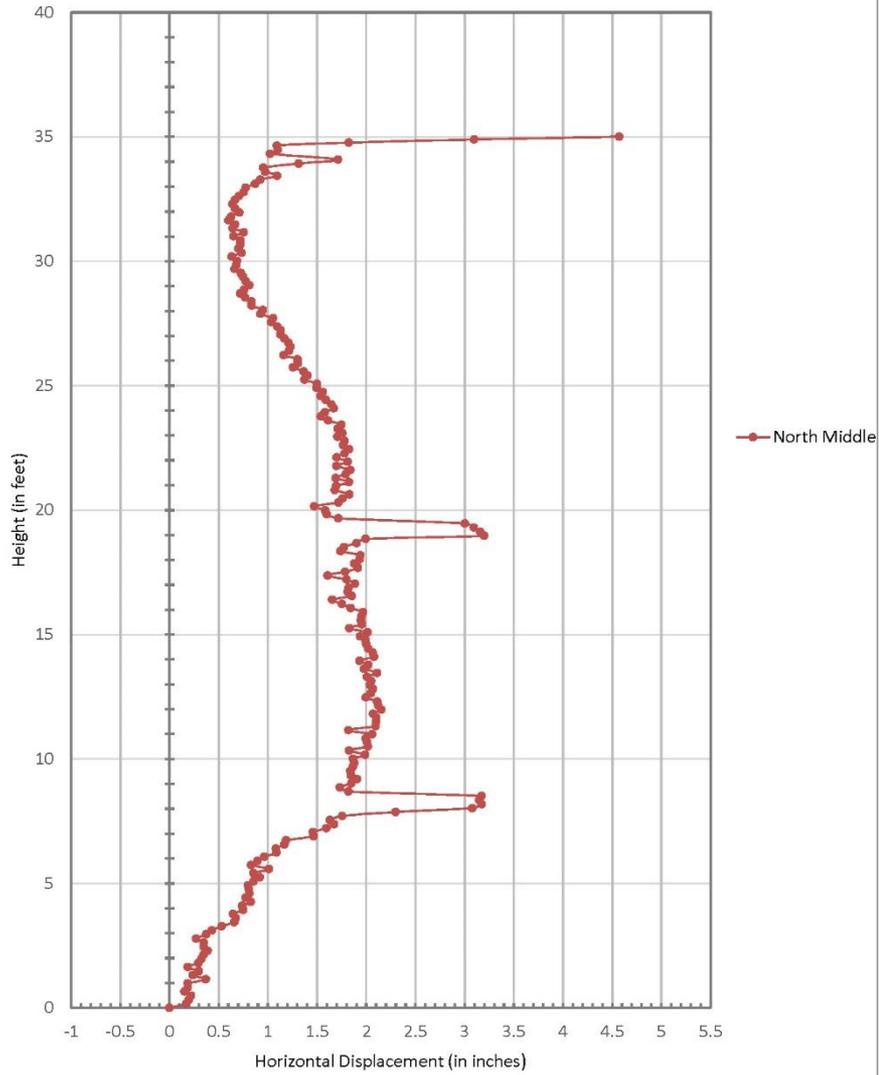
Vertical Sections of Exterior Face of North Masonry Wall



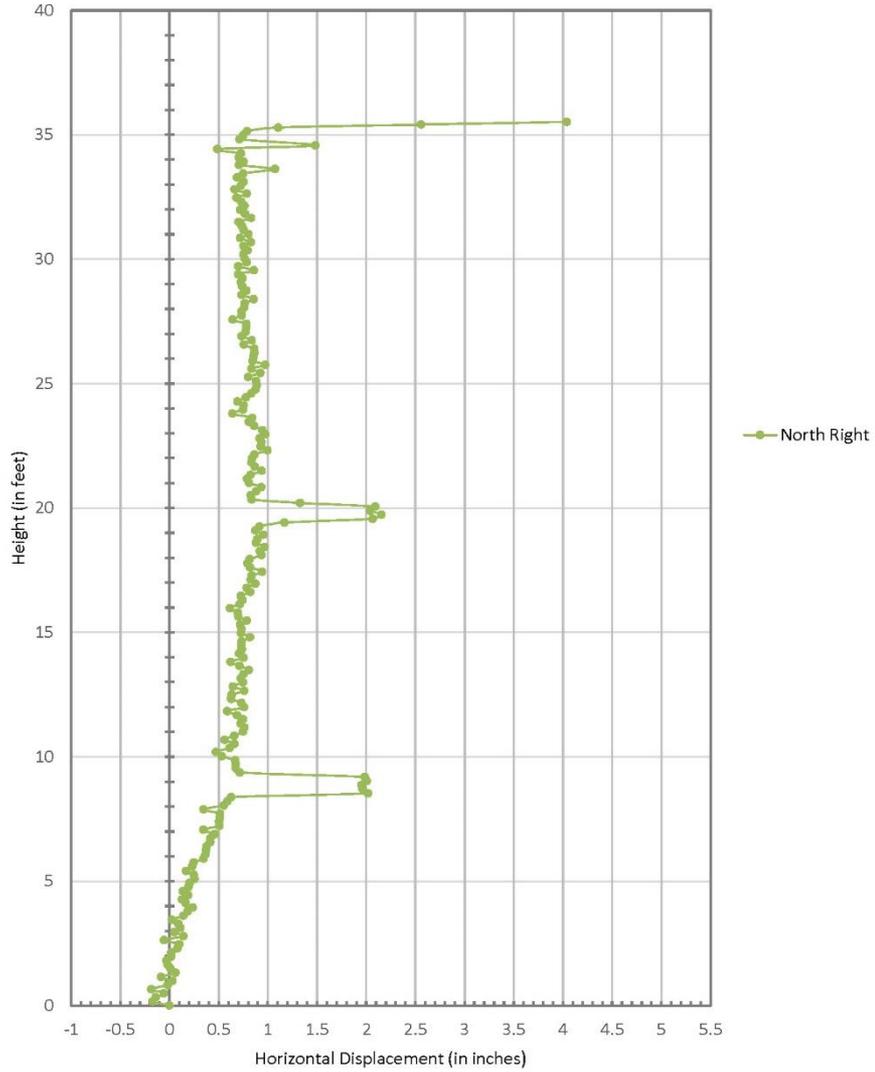
North Left - Vertical Section



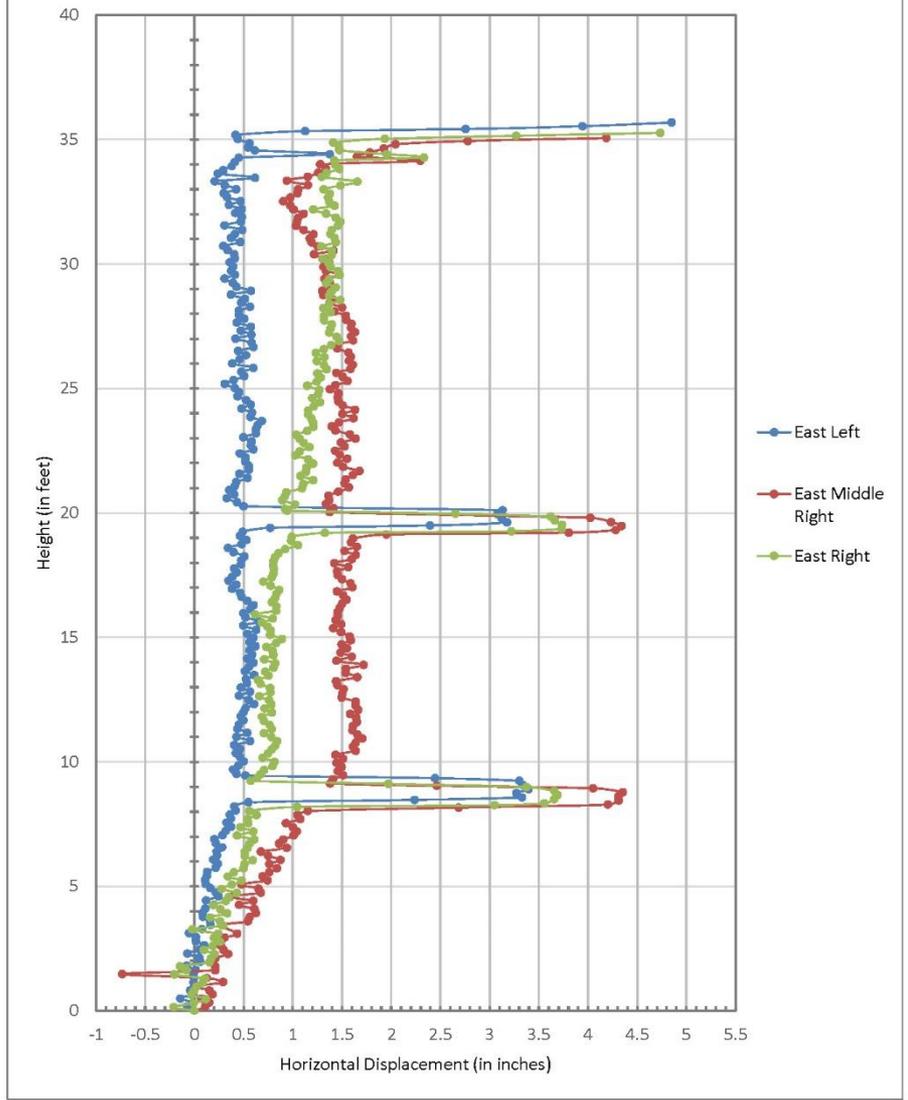
North Middle - Vertical Section



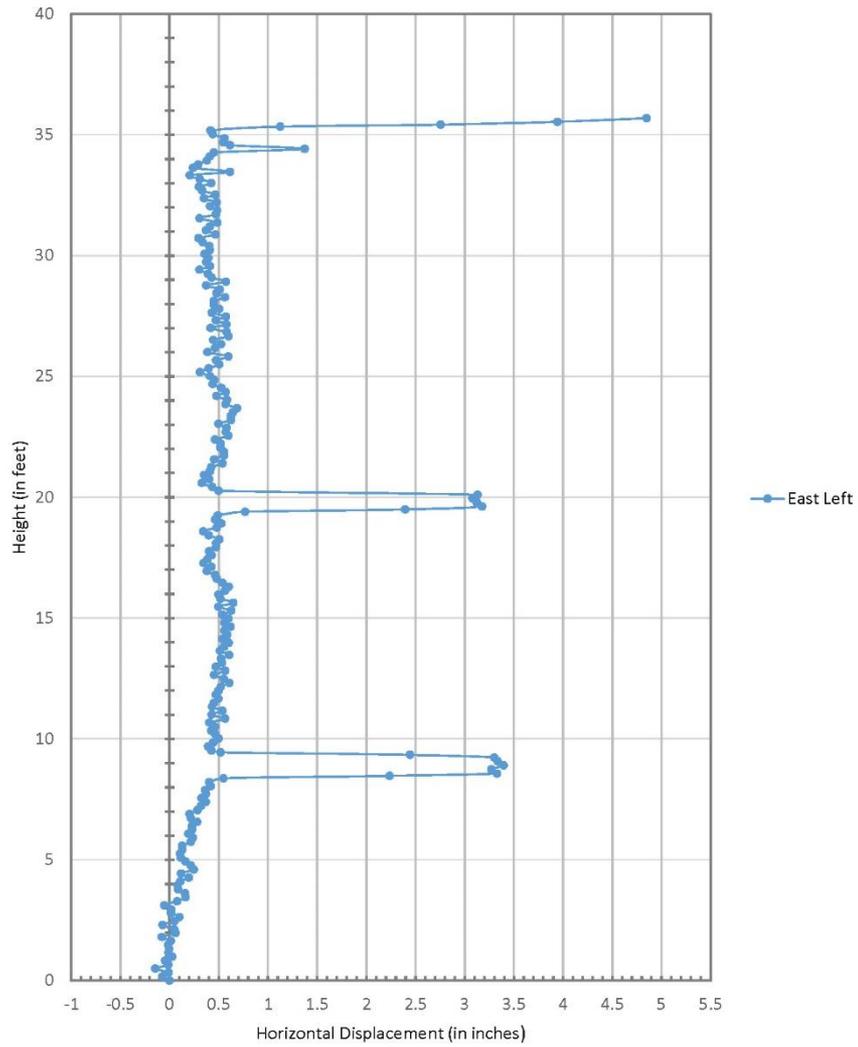
North Right - Vertical Section



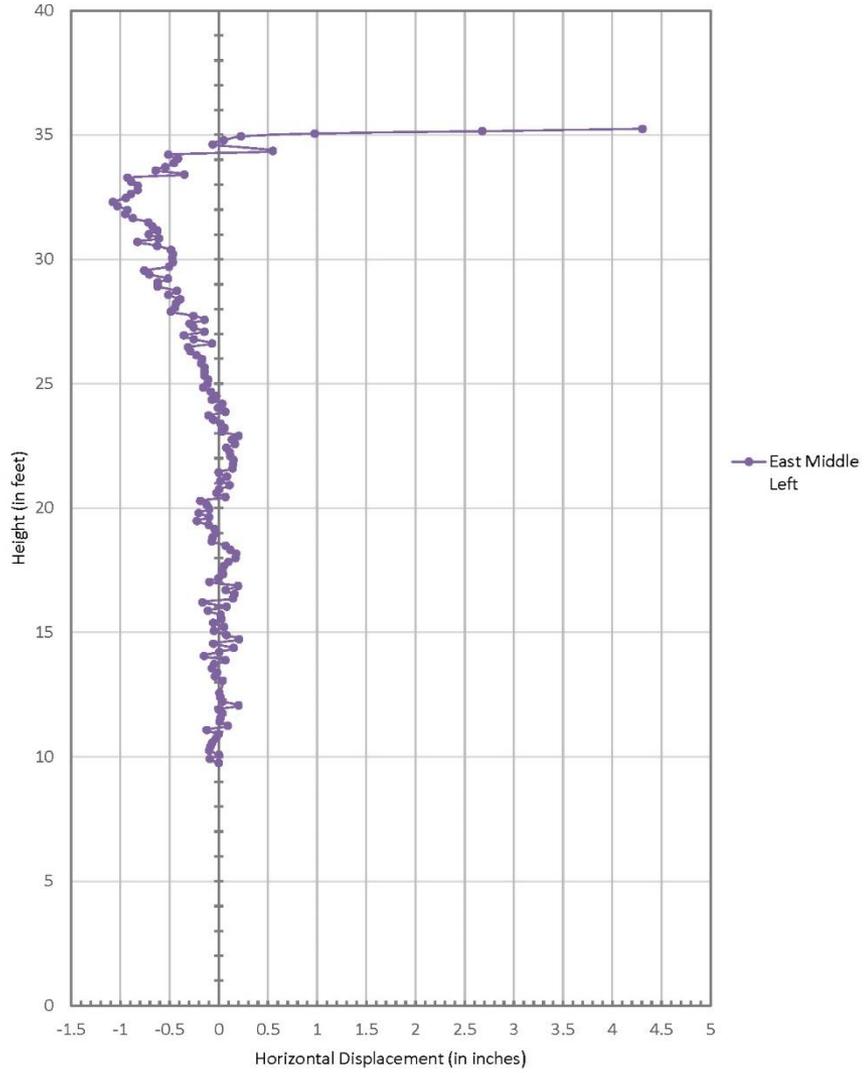
Vertical Sections of Exterior Face of East Masonry Wall



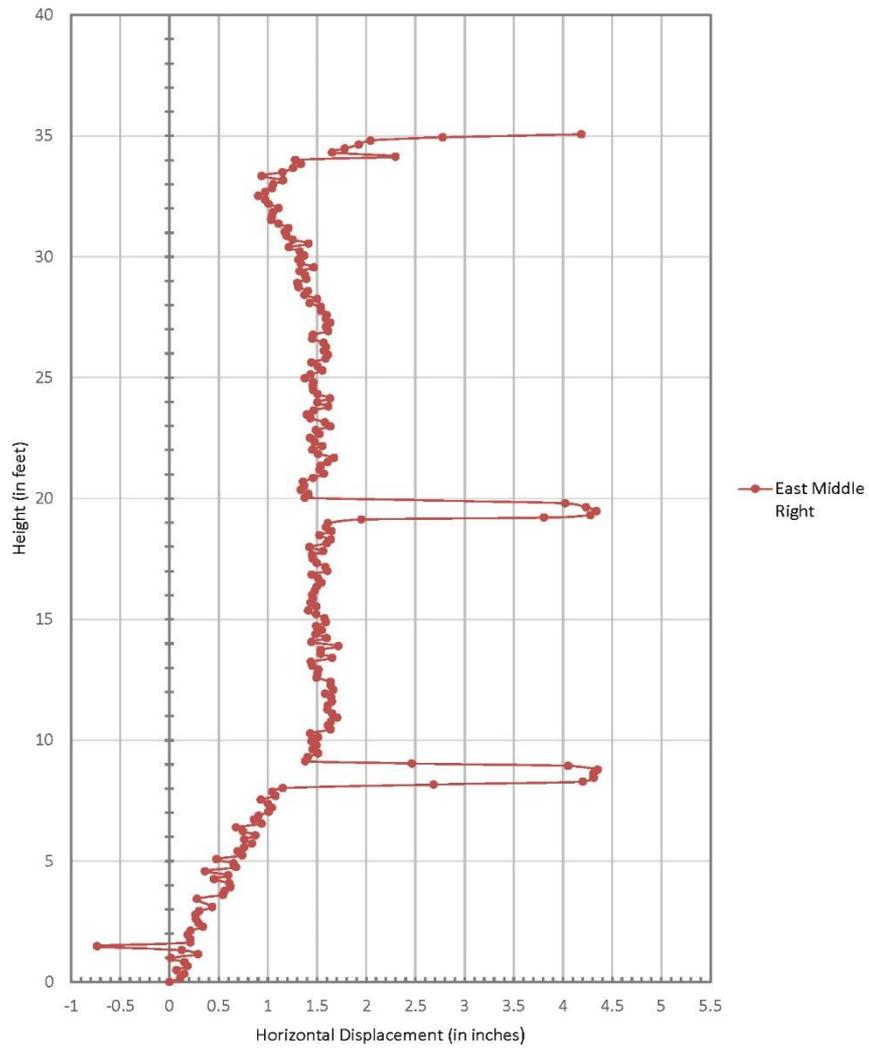
East Left - Vertical Section



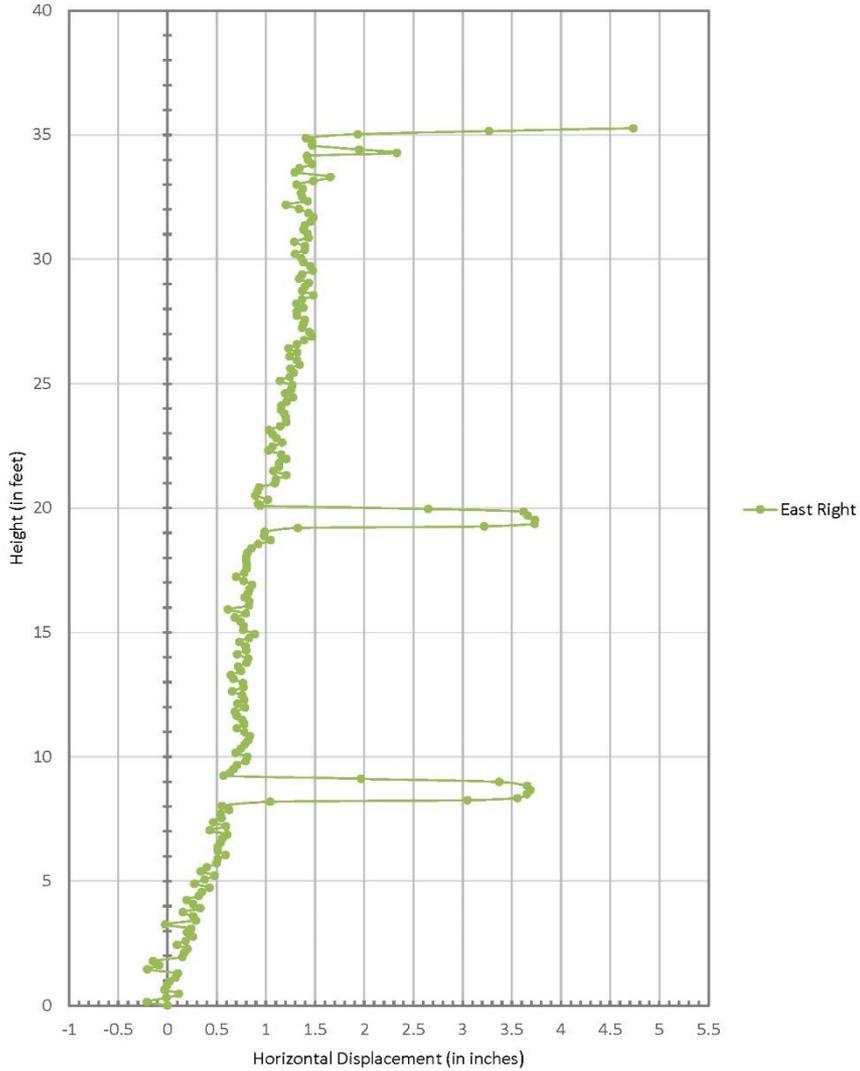
East Middle Left - Vertical Section



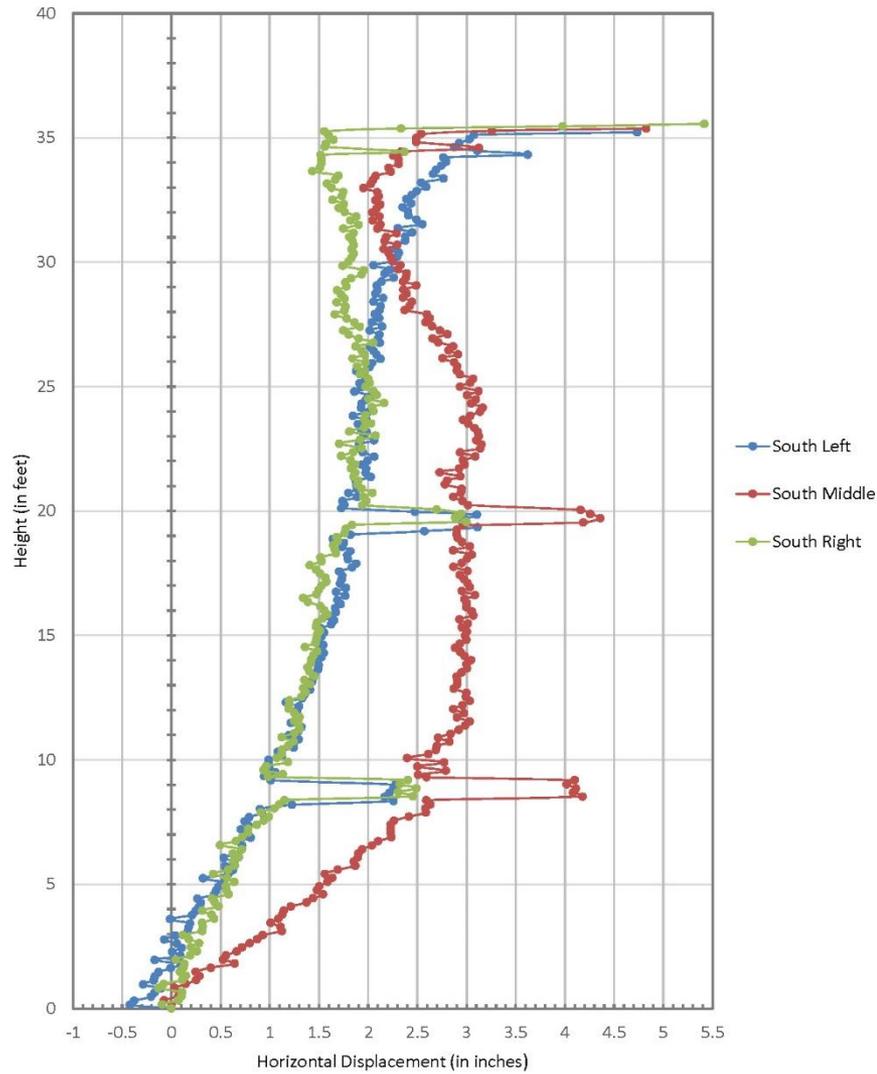
East Middle Right - Vertical Section



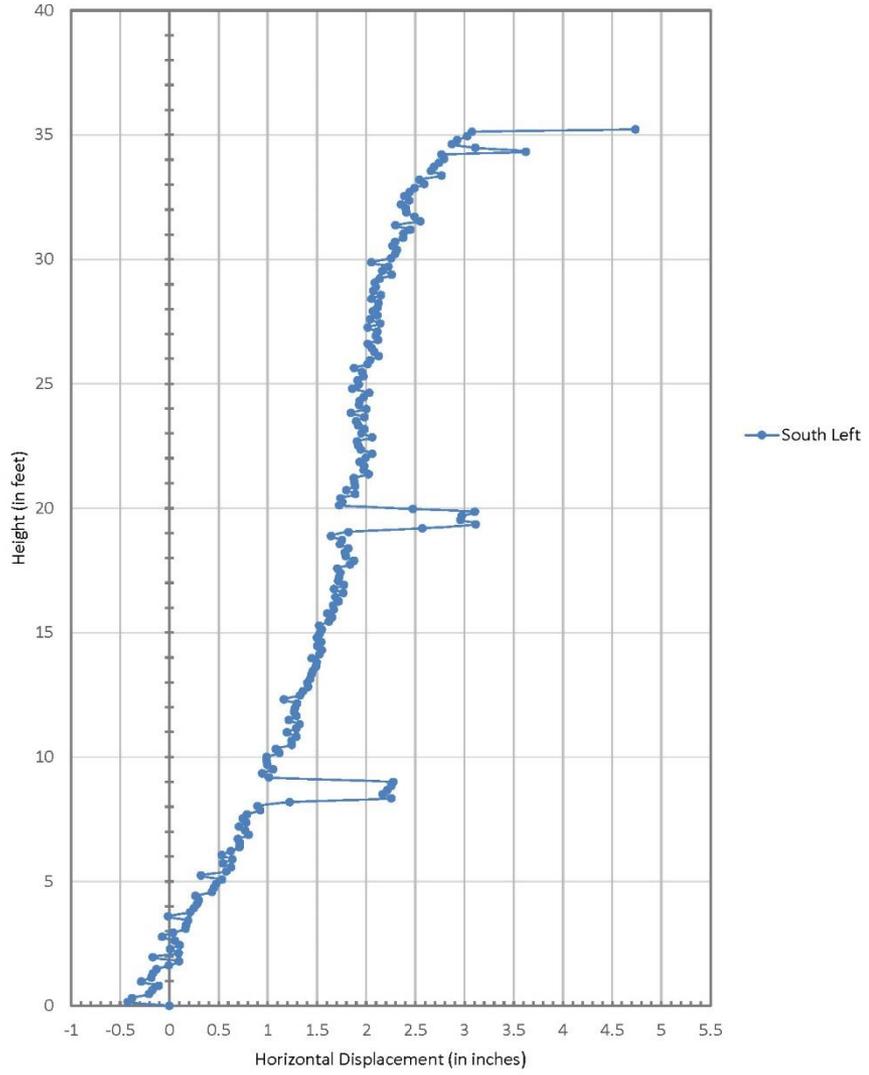
East Right - Vertical Section



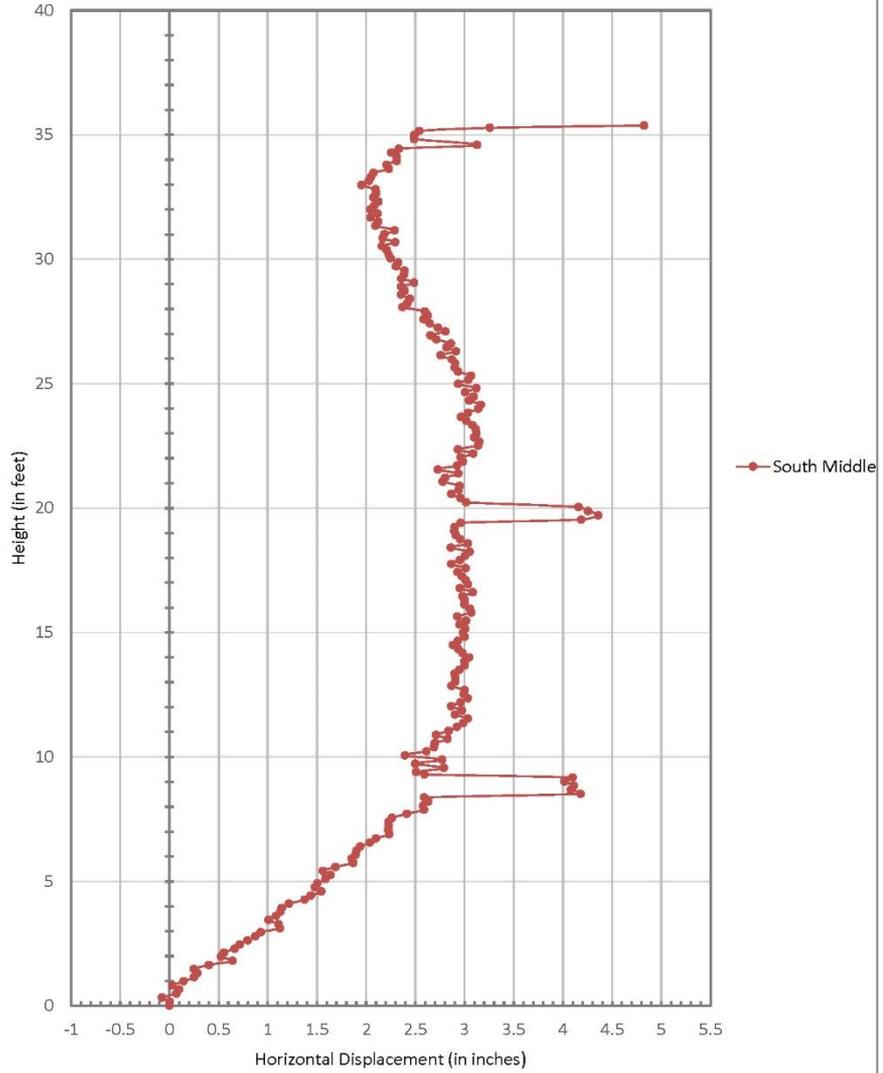
Vertical Sections of Exterior Face of South Masonry Wall



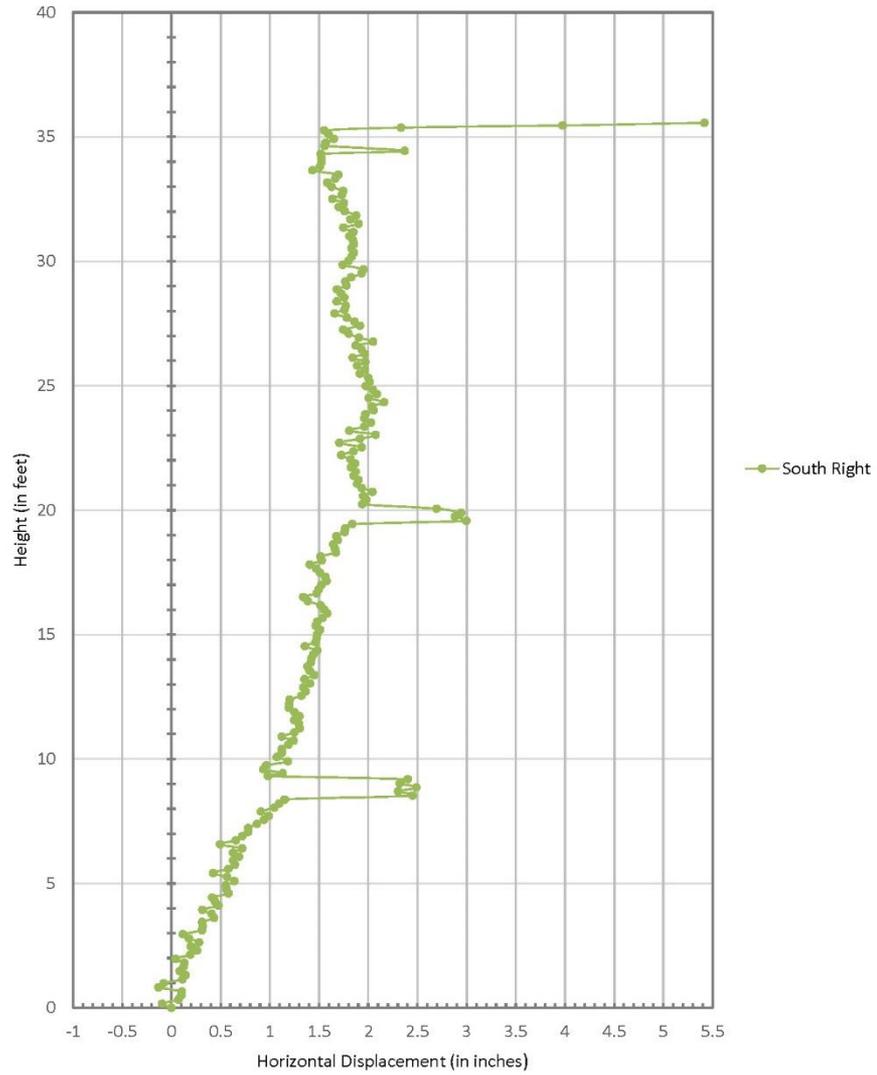
South Left - Vertical Section



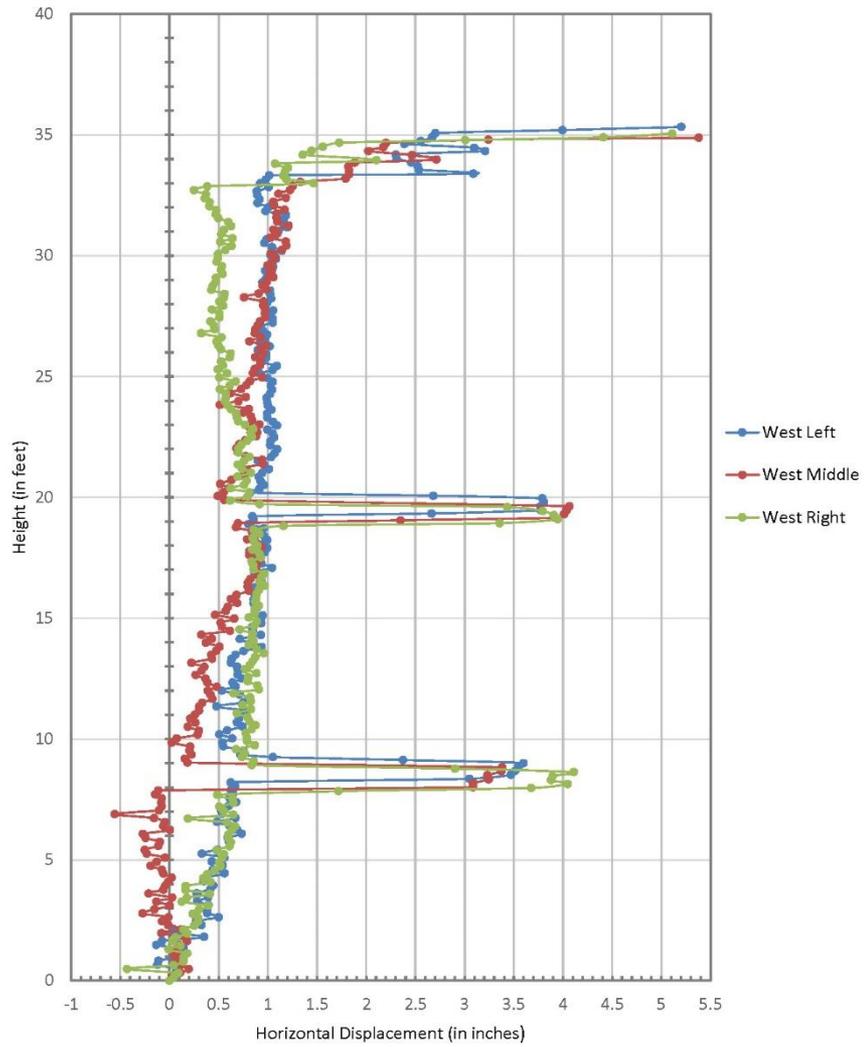
South Middle - Vertical Section



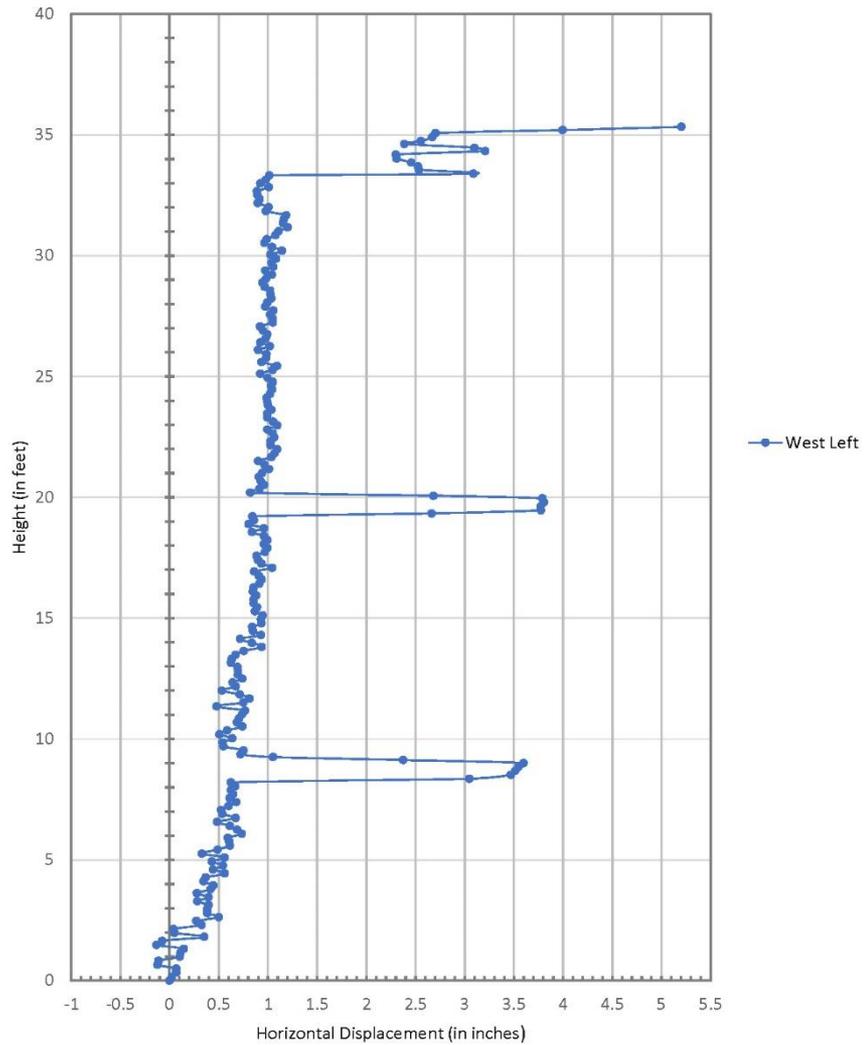
South Right - Vertical Section



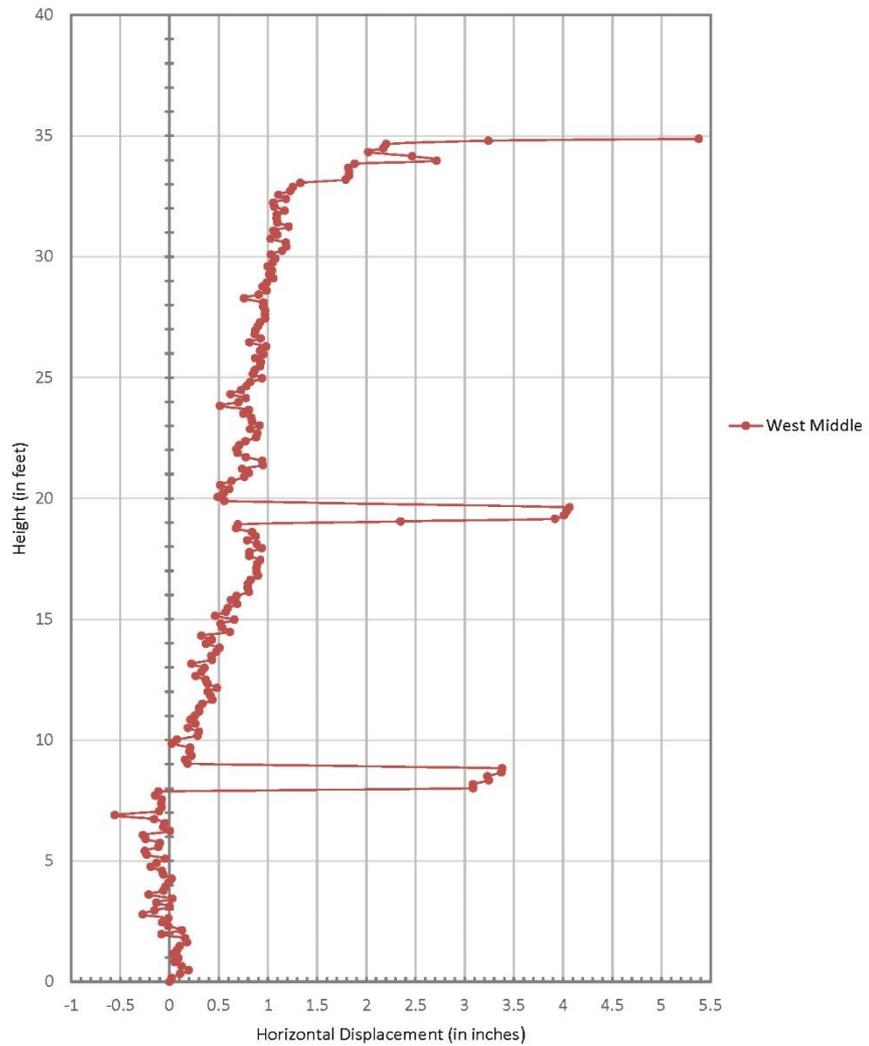
Vertical Sections of Exterior Face of West Masonry Wall



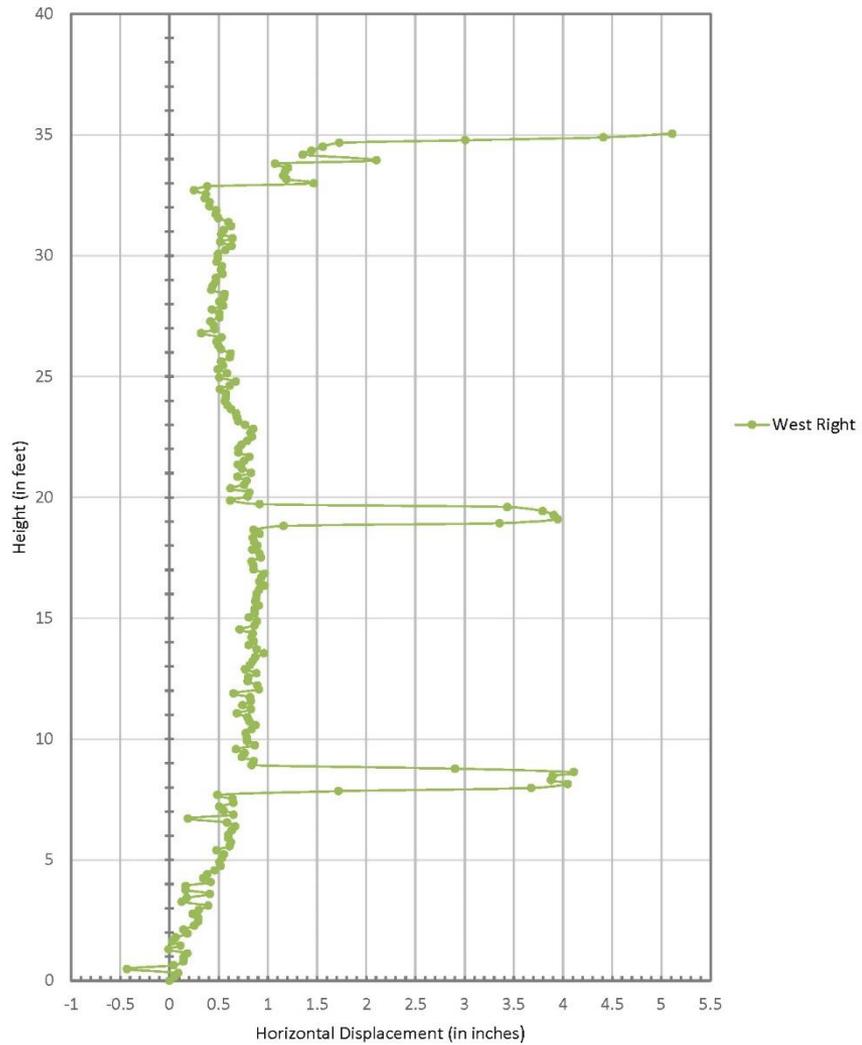
West Left - Vertical Section



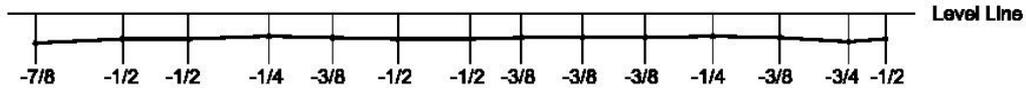
West Middle - Vertical Section



West Right - Vertical Section







1

North Elevation

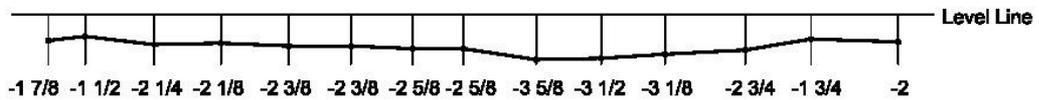
Scale: $3/32" = 1'$



1

East Elevation

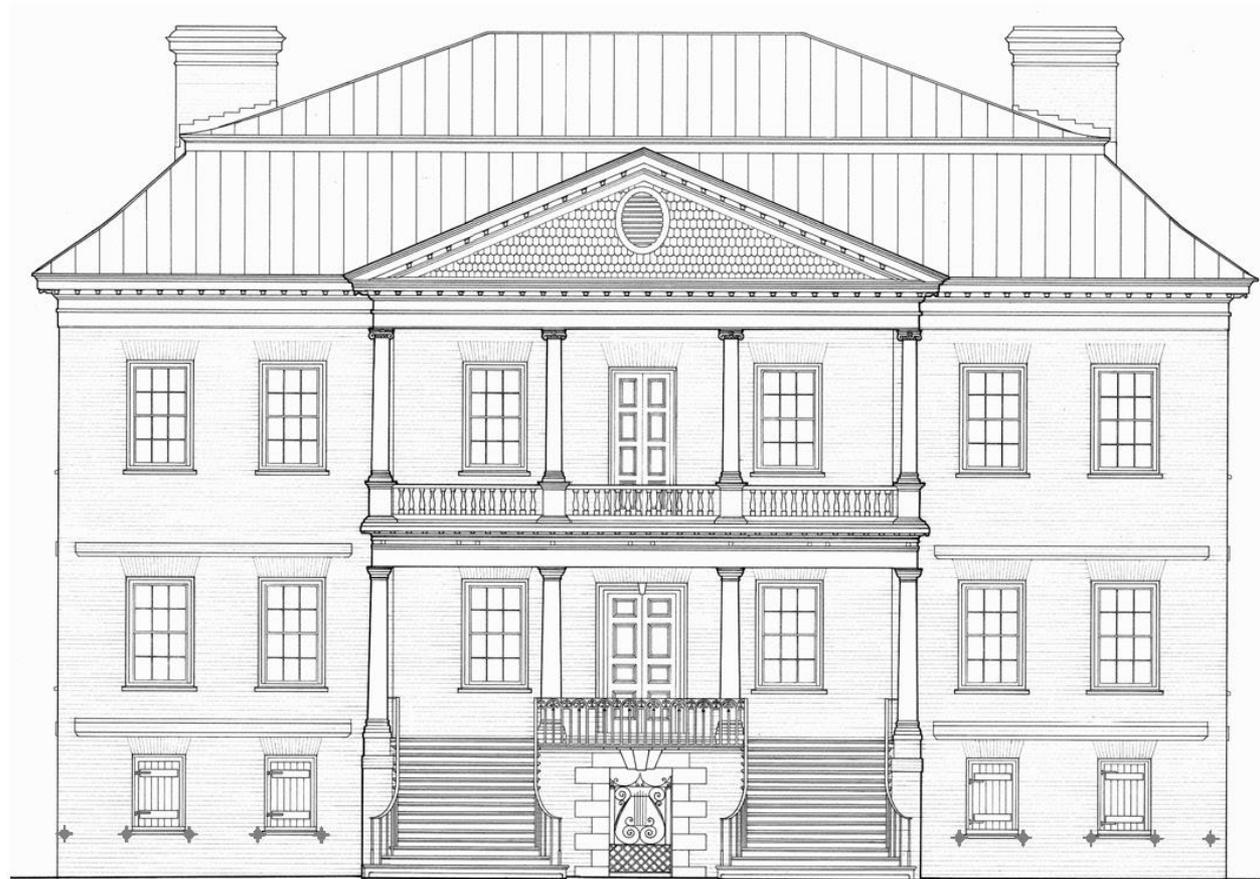
Scale: $\frac{3}{32}'' = 1'$



1

South Elevation

Scale: 3/32" = 1'



Level Line

1

West Elevation

Scale: 3/32" = 1'



























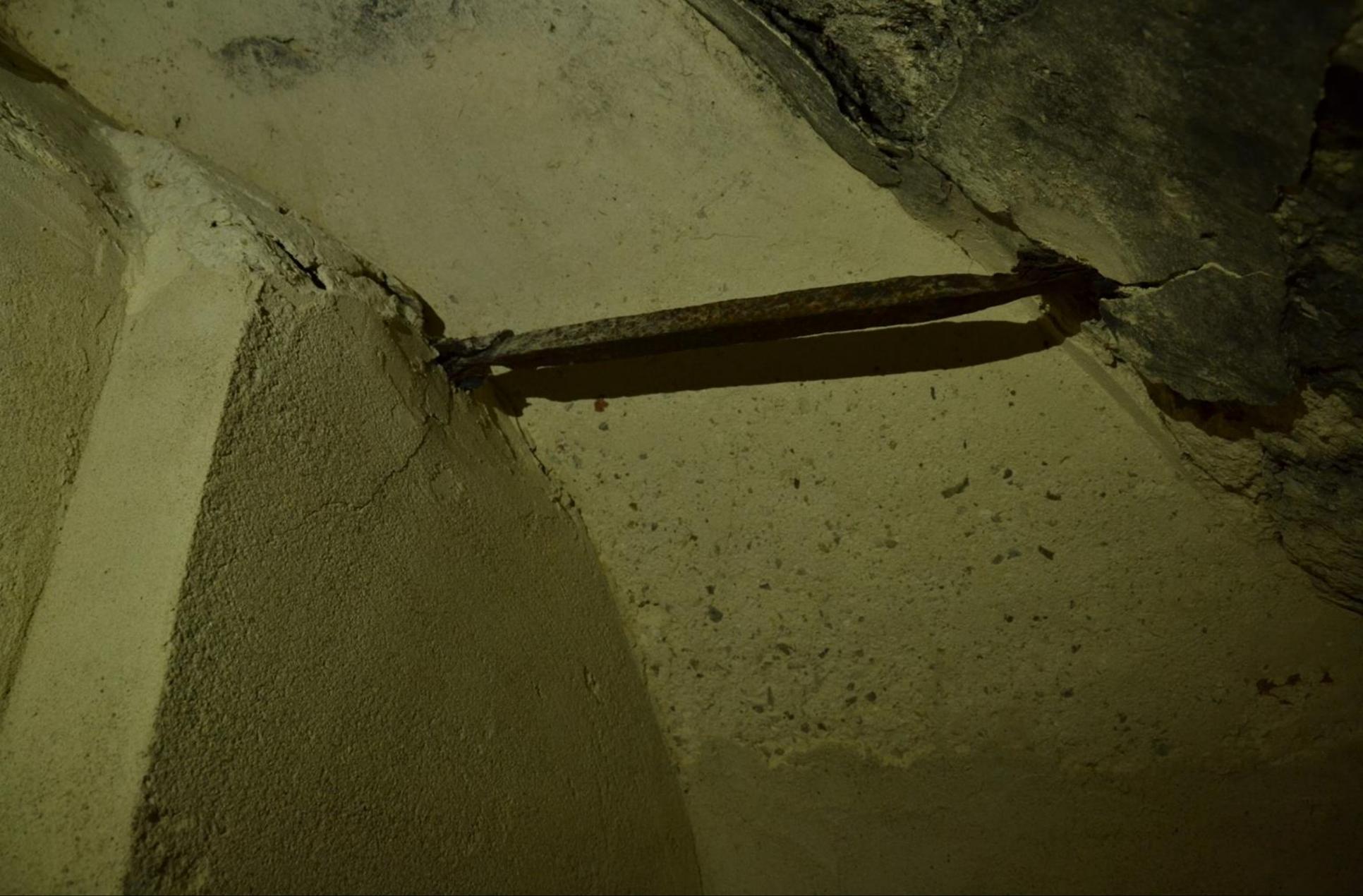


DUMPLIN

Small text describing the dumpling, including a list of ingredients and a small illustration of dumplings.











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SUPPORT!

















Recommendations

We recommend:

- Limit visitorship in the Great Hall to one tour group at a time.
- Temporarily shoring the two main girders supporting the Great Hall.
- Installing permanent posts in the basement at mid-spans of the girders for permanent repair.

Recommendations

We recommend:

- Replacing the girders in the Back Hall.
- Strengthen or replace joists that are severely damaged or that have been inadequately sistered.
- The plaster be physically tied to the framing above.

Recommendations

We recommend:

- Extending the area where the plywood now exists on the second floor.
- Studying the flat plaster ceiling failures in three of the first floor rooms.
- Tying the roof and attic floor framing north-south.

Recommendations

We recommend:

- Strengthening the first floor joists supporting the east walls of the first floor Great Hall and the second floor wall above.
- Careful disassembly of the architectural millwork of all wooden stairs, sistering of the stringers, and replacement of the plates and lag screws at the ends.

Recommendations

We recommend:

- Tying together the north and south walls with tie rods and pattress plates.
- Monitoring both the displacement of the masonry walls relative to the floor diaphragms and crack width movement in the masonry walls.

Recommendations

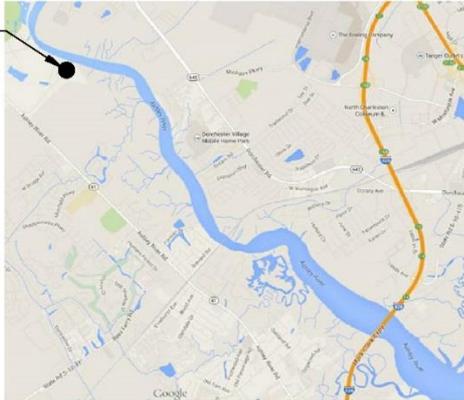
We recommend:

- Continuing to maintain the exterior masonry walls to prevent water intrusion.
- Filling the exterior cracks with mortar.
- Conducting a comprehensive mortar analysis of historic mortars.
- Removing and replacing the embedded iron bars and lintels in the fireplaces.

Recommendations

We recommend:

- Disassembling and removing the exterior handrails from the stairs in which they are embedded to redesign the connections.

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H	<h3>Drawing List</h3> <table border="1"> <thead> <tr> <th>Sheet Title</th> <th>Sheet #</th> <th>Drawing Source</th> </tr> </thead> <tbody> <tr><td>Location Plan</td><td>S001</td><td>Bennett Preservation Engineering</td></tr> <tr><td>General Notes</td><td>S002</td><td>Bennett Preservation Engineering</td></tr> <tr><td>Existing Basement/Foundation Plan</td><td>ES101</td><td>HABS Drawings</td></tr> <tr><td>Existing Basement Reflected Ceiling Plan</td><td>ES102</td><td>HABS Drawings</td></tr> <tr><td>Existing First Floor Framing Plan</td><td>ES103</td><td>Drayton Hall Archives</td></tr> <tr><td>Existing First Floor Plan</td><td>ES104</td><td>Drayton Hall</td></tr> <tr><td>Existing First Floor Reflected Ceiling Plan</td><td>ES105</td><td>HABS Drawings</td></tr> <tr><td>Existing Second Floor Framing Plan</td><td>ES106</td><td>Drayton Hall Archives</td></tr> <tr><td>Existing Second Floor Plan</td><td>ES107</td><td>Drayton Hall</td></tr> <tr><td>Existing Second Floor Reflected Ceiling 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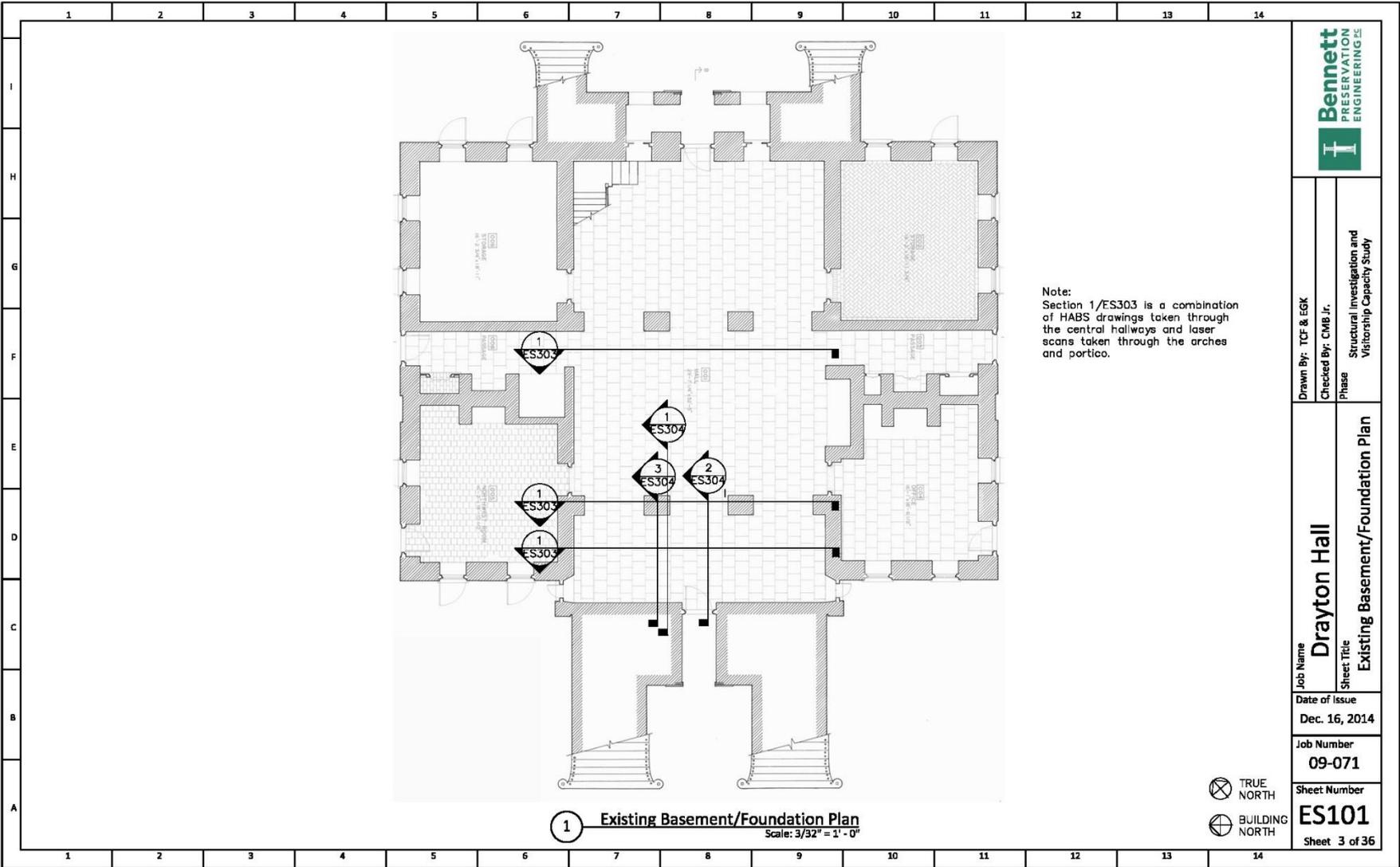


Drawn by: TCF & ESK
Checked by: CMB Jr.
Phase: Structural Investigation and Visitorship Capacity Study

Job Name: Drayton Hall
Sheet Title: General Notes

Date of Issue: Dec. 16, 2014
Job Number: 09-071
Sheet Number: S002
Sheet 2 of 36

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<p>General Notes</p> <p>SCOPE OF WORK The structural work of this project includes, but is not limited to:</p> <ol style="list-style-type: none"> 1. Installing posts on concrete footings in the basement underneath the Great Hall. 2. Strengthening of the basement stairs. 3. Strengthening of the back hall stairs and handrails. 4. Bracing and shoring for first floor framing repairs. 5. Repairing and strengthening of the first floor framing. 6. Removing and replacing the first floor girders under the back stair hall. 7. Tying the masonry walls together with stainless steel rods and patress plates. 8. Masonry work associated with framing repairs and installation of rods and patress plates. 9. Installing of plaster washers in the Great Hall ceiling. <p>GENERAL Work on this historic building requires extraordinary care. During all phases of structural work, preserve and protect all of the elements of the building not specifically called out for removal. The building elements include, but are not limited to, existing millwork, structural wood, masonry, glass, and decorative finishes.</p> <p>Note that all slopes and elevations are approximate. Contractor shall verify all dimensions, slopes, and elevations prior to any fabrication.</p> <p>Thoroughly clean all elements of the construction zone upon completion of the construction project. Clean and return to original condition all areas used for lay down, storage, and construction operations.</p> <p>It is the responsibility of the Contractor to determine whether or not any hazardous materials are present in the areas in which work is conducted. All paint is to be treated with the assumption that it contains lead unless testing shows otherwise. All work shall comply with OSHA standards. The Contractor shall properly dispose of all hazardous materials which become exposed during any aspect of construction, complying with all applicable regulations and laws.</p> <p>The Contractor is required to have a full set of construction documents on site and available at all times (both drawings and specifications).</p> <p>REQUIRED SUBMITTALS Submittals are required, but not limited to the following:</p> <ul style="list-style-type: none"> • Construction sequencing. • Bracing and shoring design. (Designed and sealed by a professional PE licensed in SC.) • Shoring and shoring sequence. • Steel and cast iron shop drawings. • Cast in place submittals. • Masonry materials. • Wood materials. • See specifications for additional submittal requirements. <p>CONSTRUCTION SEQUENCE Contractor shall submit construction specifications to Engineer--on--Record for review.</p> <p>CONCRETE All concrete construction shall be in accordance with the requirements of ACI 301 and ACI 117. Water reducing admixtures are permitted with approval but not required. Appropriate hot and cold weather concrete procedures must be followed, if applicable.</p> <p>Concrete for foundation walls, footings, and slabs shall have a minimum 28 day compressive strength of 4,000 psi and shall be normal weight.</p> <p>See specification Section 033000 "Cast-in-place Concrete" for additional requirements, field quality control requirements, and special inspection requirements.</p> <p>MASONRY See specification section 041000 "Mortars for Structural Repairs" and Section 045200 "Removing and Replacing Brick Masonry" for all structural work on existing masonry.</p> <p>STEEL All new structural steel, unless otherwise noted, shall comply with the requirements of ASTM specification A36 or A572, Grade 50, and shall be hot-dip galvanized after fabrication, complying with ASTM A123/A123M and touched up after installation. All work must comply with the requirements of the AISC Manual of Steel Construction, 14th edition, and with AWS D1.1.</p> <p>All steel embedded or in contact with brick masonry, or in contact with treated wood shall be stainless steel type 304, 304L, 316, or 316L, unless otherwise indicated.</p> <p>All new cast iron patress plates shall comply with the requirements of ASTM A48 and shall be coated on all sides.</p> <p>At any location where hot dip galvanized steel is in contact with stainless steel, cast iron, or any other dissimilar metal, metals must be electrically isolated with a Teflon pad or similar.</p> <p>Bolts for steel to steel connections shall comply with requirements of ASTM A325 and shall be hot dip galvanized.</p> <p>Bolts and Nuts: Regular hexagon--head bolts, ASTM A307, Grade A, with hex nuts, ASTM A563, and where indicated, flat washers and shall be hot dip galvanized. See specification Section 055000 "Metal Fabrications for Structural Repairs" for additional requirements, including surface preparation, standards for hot dip galvanizing, and required touch-up after installation. See also specification Section 099600 "Metal Coatings for Structural Metals" for coating system required on all cast iron.</p> <p>Welding shall comply with AWS CODE D1.1 and shall be performed by certified welders. No welding may be done on site.</p> <p>Confirm all rod and plate locations with Engineer--of--Record before doing any masonry drilling, removal, or damage.</p> <p>METAL COATINGS Coatings are required for all cast iron patress plates in contact with masonry. All items must be coated on all sides. See specification Section 099600 "Metal Coatings for Structural Metals" for requirements.</p> <p>WOOD All wood shall meet the requirements of SPIB No. 1 Southern Pine or better, unless otherwise indicated.</p> <p>All wood in contact with masonry or within 40 inches of the ground shall be pressure treated, kiln dried after treatment, with a maximum moisture content of 19 percent. See "Rough Carpentry" specification for retention and moisture content. All wood fastenings shall be per IBC Table 2304.9.1 "Fastening Schedule" unless otherwise noted.</p> <p>Code International Existing Building Code 2012/ IBC 2012</p> <p>Code Analysis 2012 International Building Code Roof live load..... No change Floor live load..... First Floor: Increase in load capacity to 55 to 65 PSF Second Floor: No change Wind..... No change Seismic..... No change Assumed maximum allowable soil bearing pressure..... 1500 PSF</p> <p>CODE All repair work on the National Historic Landmark masonry walls falls within the requirements of IBC 2012 Chapter 34 on Existing Buildings. There is no increase in loading and no decrease in structural capacity.</p> <p>SPECIAL INSPECTIONS See Special Inspection requirements in the project manual.</p>													
1	2	3	4	5	6	7	8	9	10	11	12	13	14



Note:
 Section 1/ES303 is a combination
 of HABS drawings taken through
 the central hallways and laser
 scans taken through the arches
 and portico.

1 Existing Basement/Foundation Plan
 Scale: 3/32" = 1' - 0"

-  TRUE NORTH
-  BUILDING NORTH



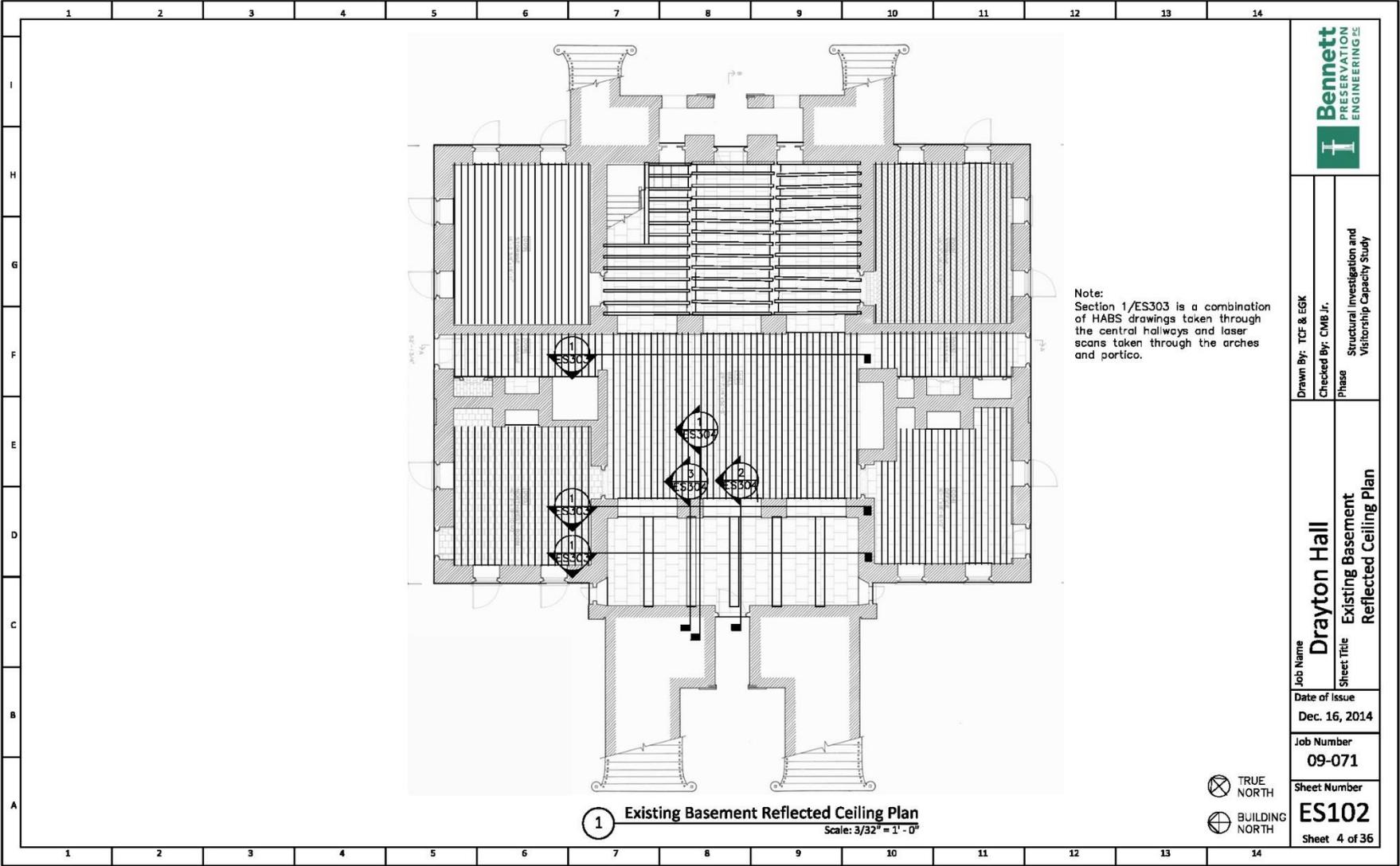
Drawn By: TCF & EGK
 Checked By: CMB Jr.
 Phase: Structural Investigation and Visitorship Capacity Study

Job Name: **Drayton Hall**
 Sheet Title: **Existing Basement/Foundation Plan**

Date of Issue: **Dec. 16, 2014**

Job Number: **09-071**

Sheet Number: **ES101**
 Sheet 3 of 36



Note:
 Section 1/ES303 is a combination
 of HABS drawings taken through
 the central hallways and laser
 scans taken through the arches
 and portico.

1 Existing Basement Reflected Ceiling Plan
 Scale: 3/32" = 1' - 0"

-  TRUE NORTH
-  BUILDING NORTH



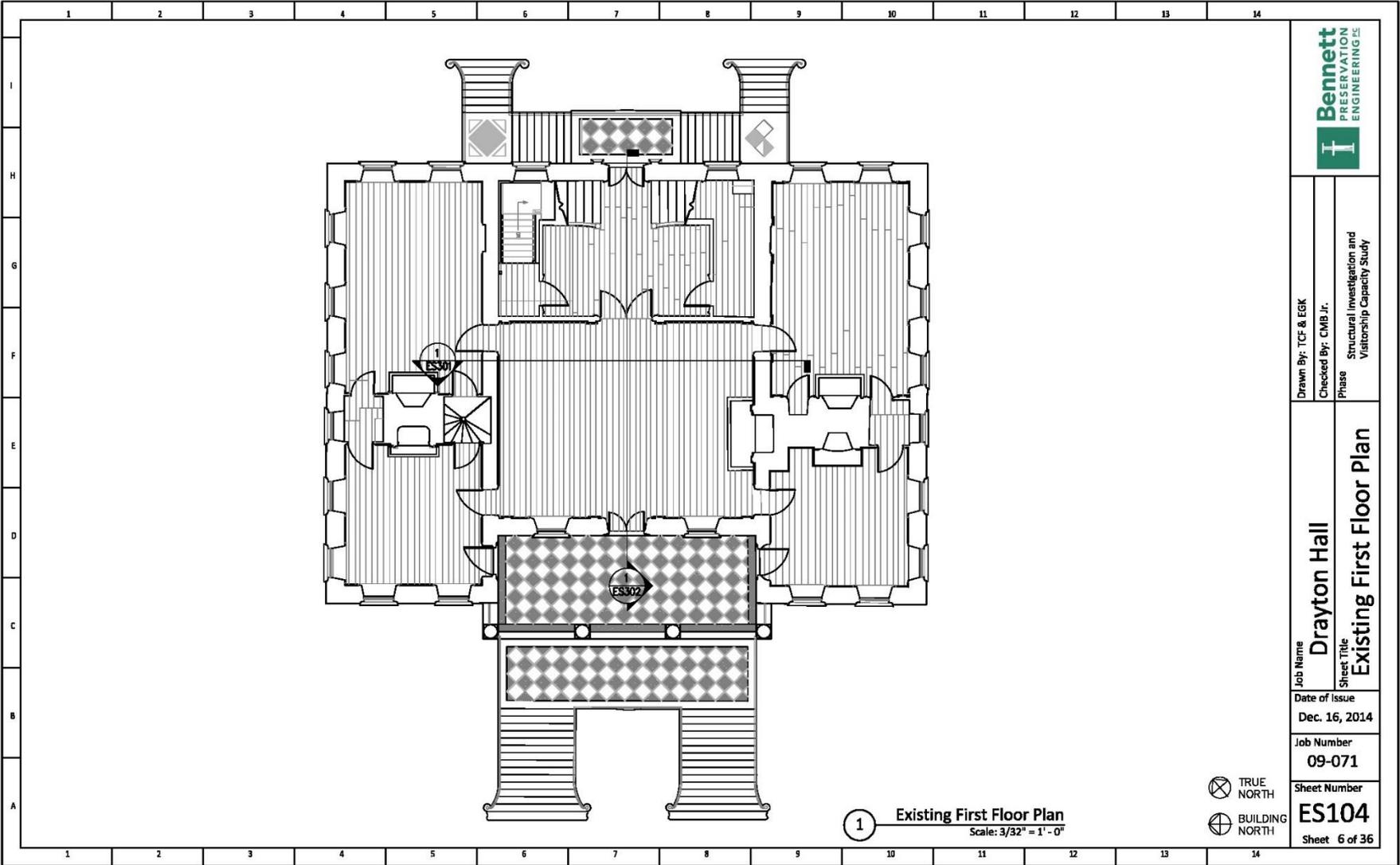
Drawn By: TCF & EGK
 Checked By: CMB Jr.
 Phase: Structural Investigation and Visitorship Capacity Study

Job Name: **Drayton Hall**
 Sheet Title: **Existing Basement Reflected Ceiling Plan**

Date of Issue: **Dec. 16, 2014**

Job Number: **09-071**

Sheet Number: **ES102**
 Sheet 4 of 36



1 Existing First Floor Plan
Scale: 3/32" = 1' - 0"

⊗ TRUE NORTH
⊗ BUILDING NORTH



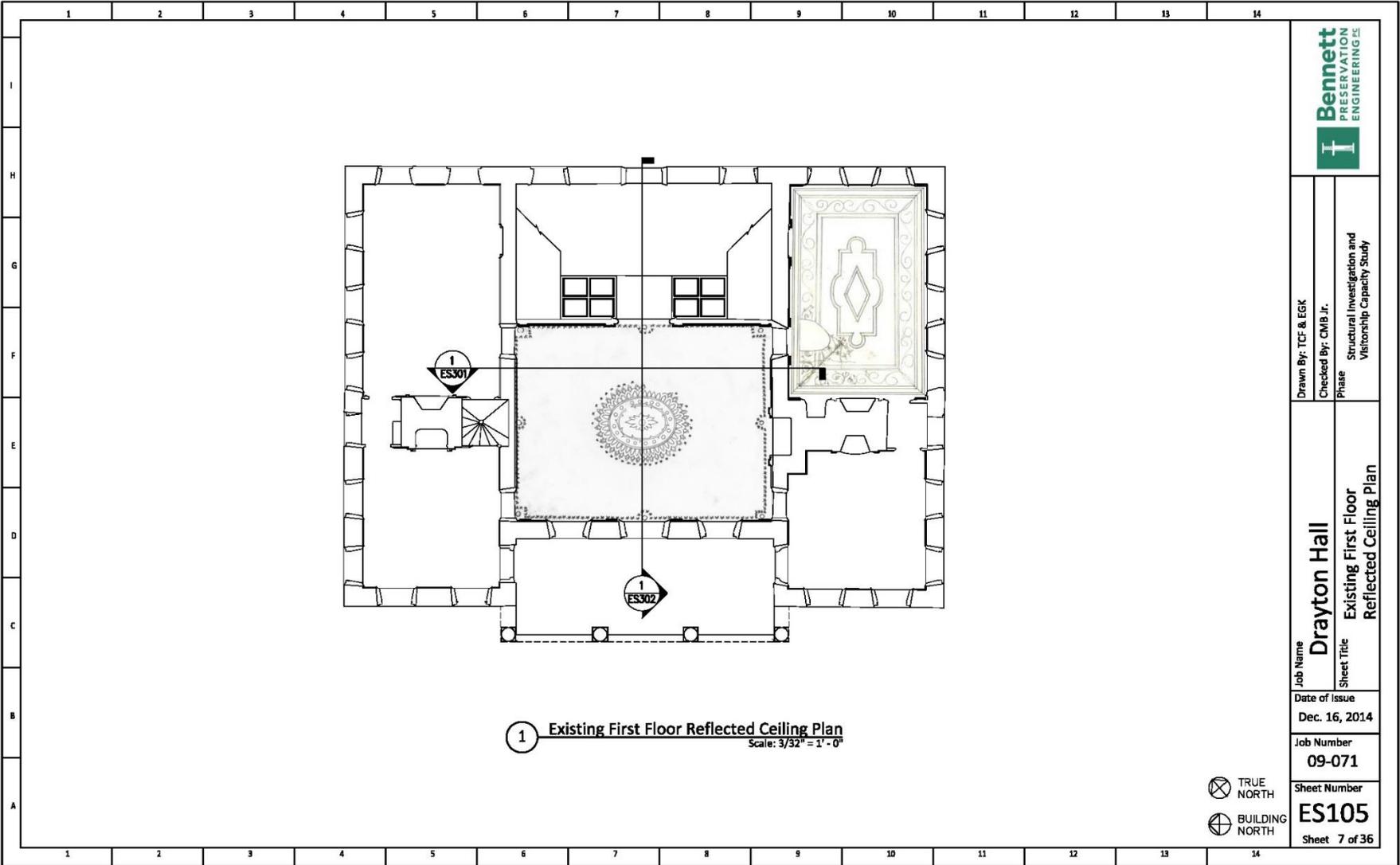
Drawn By: TCF & EGK
Checked By: CMB Jr.
Phase: Structural Investigation and Visitorship Capacity Study

Job Name: Drayton Hall
Sheet Title: Existing First Floor Plan

Date of Issue: Dec. 16, 2014

Job Number: 09-071

Sheet Number: ES104
Sheet 6 of 36

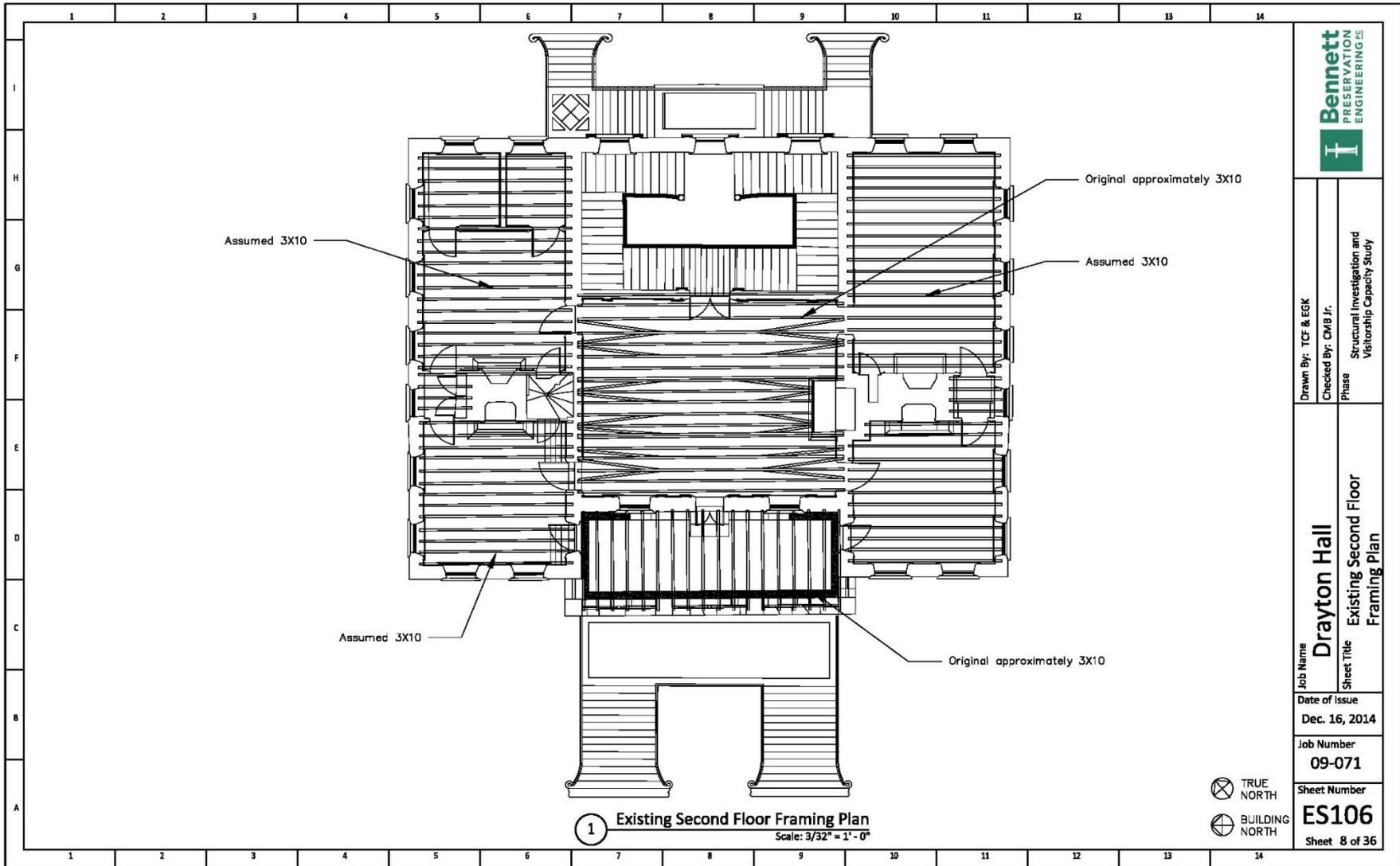


1 Existing First Floor Reflected Ceiling Plan
 Scale: 3/32" = 1' - 0"

⊗ TRUE NORTH
 ⊗ BUILDING NORTH



Job Name	Drayton Hall
Sheet Title	Existing First Floor Reflected Ceiling Plan
Date of Issue	Dec. 16, 2014
Job Number	09-071
Sheet Number	ES105
Sheet	7 of 36
Drawn By:	TCF & EGK
Checked By:	CMB Jr.
Phase	Structural Investigation and Visitorship Capacity Study



Drawn By: TCF & EGK

Checked By: CMB Jr.

Phase
Structural Investigation and
Visitorship Capacity Study

Job Name

Drayton Hall

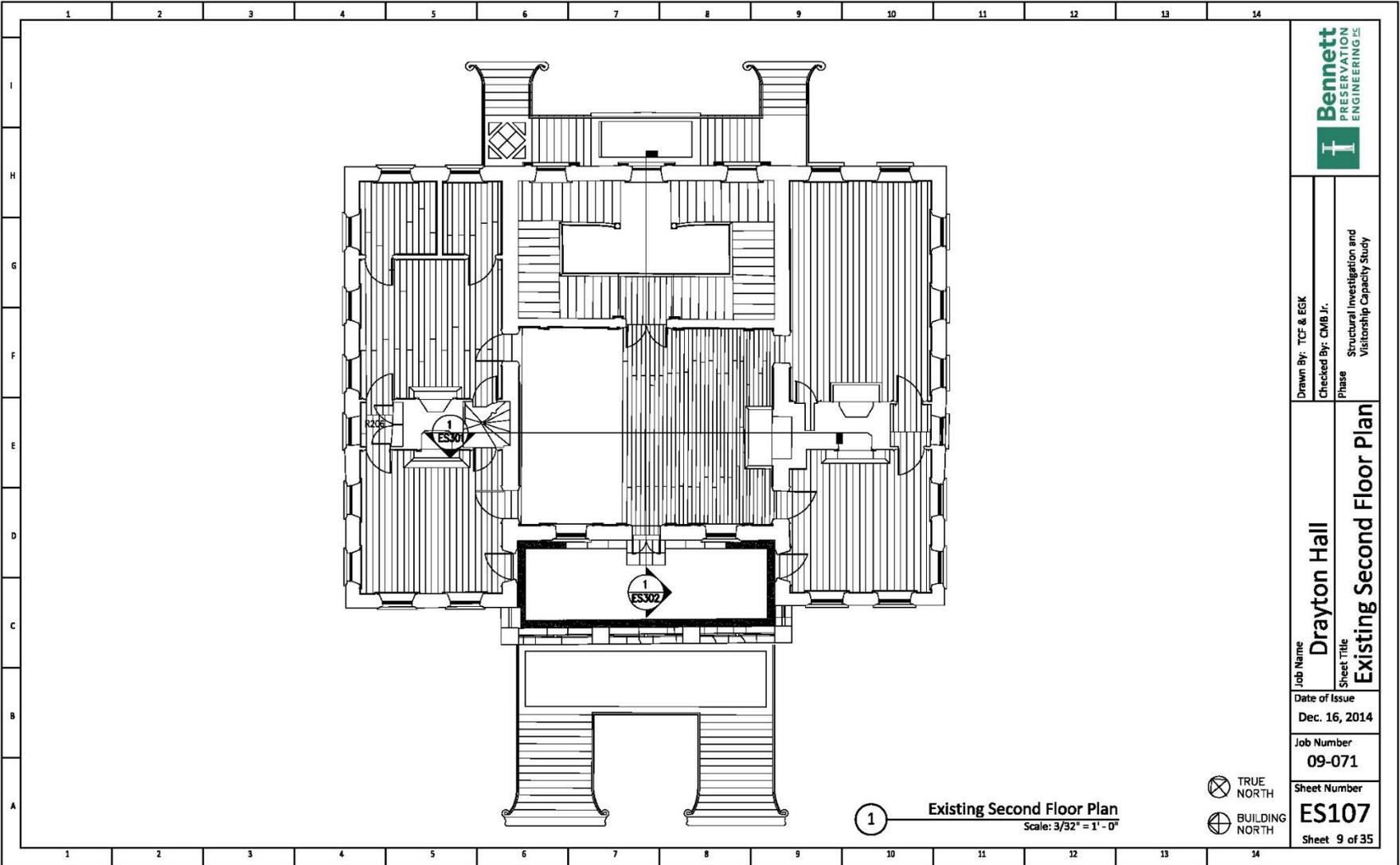
Sheet Title

Existing Second Floor
Framing Plan

Date of Issue
Dec. 16, 2014

Job Number
09-071

Sheet Number
ES106
Sheet 8 of 36



Drawn By: TCF & EGK
 Checked By: CMB Jr.
 Phase: Structural Investigation and Visitorship Capacity Study

Job Name: **Drayton Hall**
 Sheet Title: **Existing Second Floor Plan**

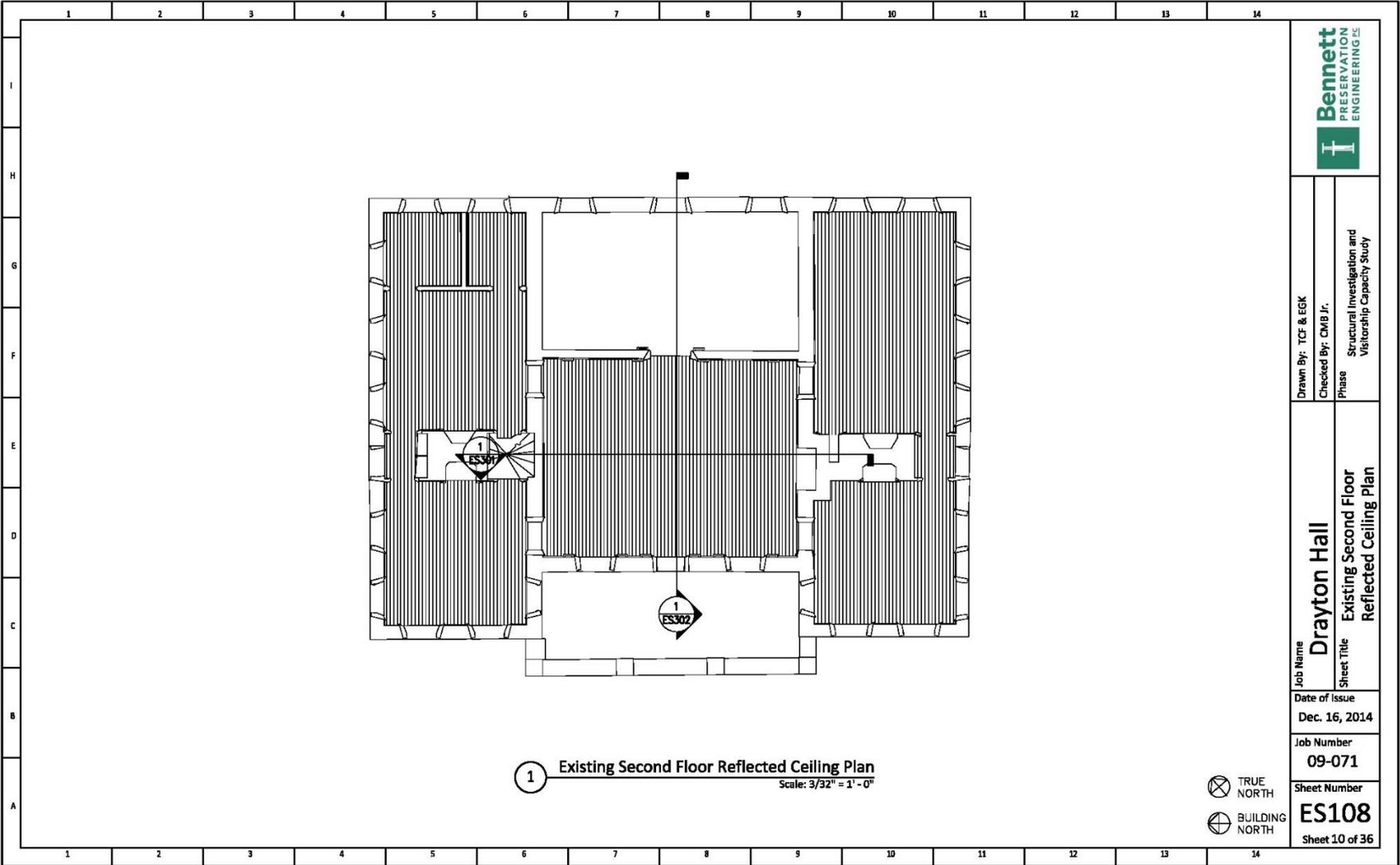
Date of Issue: Dec. 16, 2014

Job Number: 09-071

Sheet Number: **ES107**
 Sheet 9 of 35

1 Existing Second Floor Plan
 Scale: 3/32" = 1' - 0"

- TRUE NORTH
- BUILDING NORTH



1 Existing Second Floor Reflected Ceiling Plan
 Scale: 3/32" = 1' - 0"

⊗ TRUE NORTH
 ⊗ BUILDING NORTH



Drawn By: TCF & EGK

Checked By: CMB Jr.

Phase
 Structural Investigation and
 Visitorship Capacity Study

Job Name

Drayton Hall

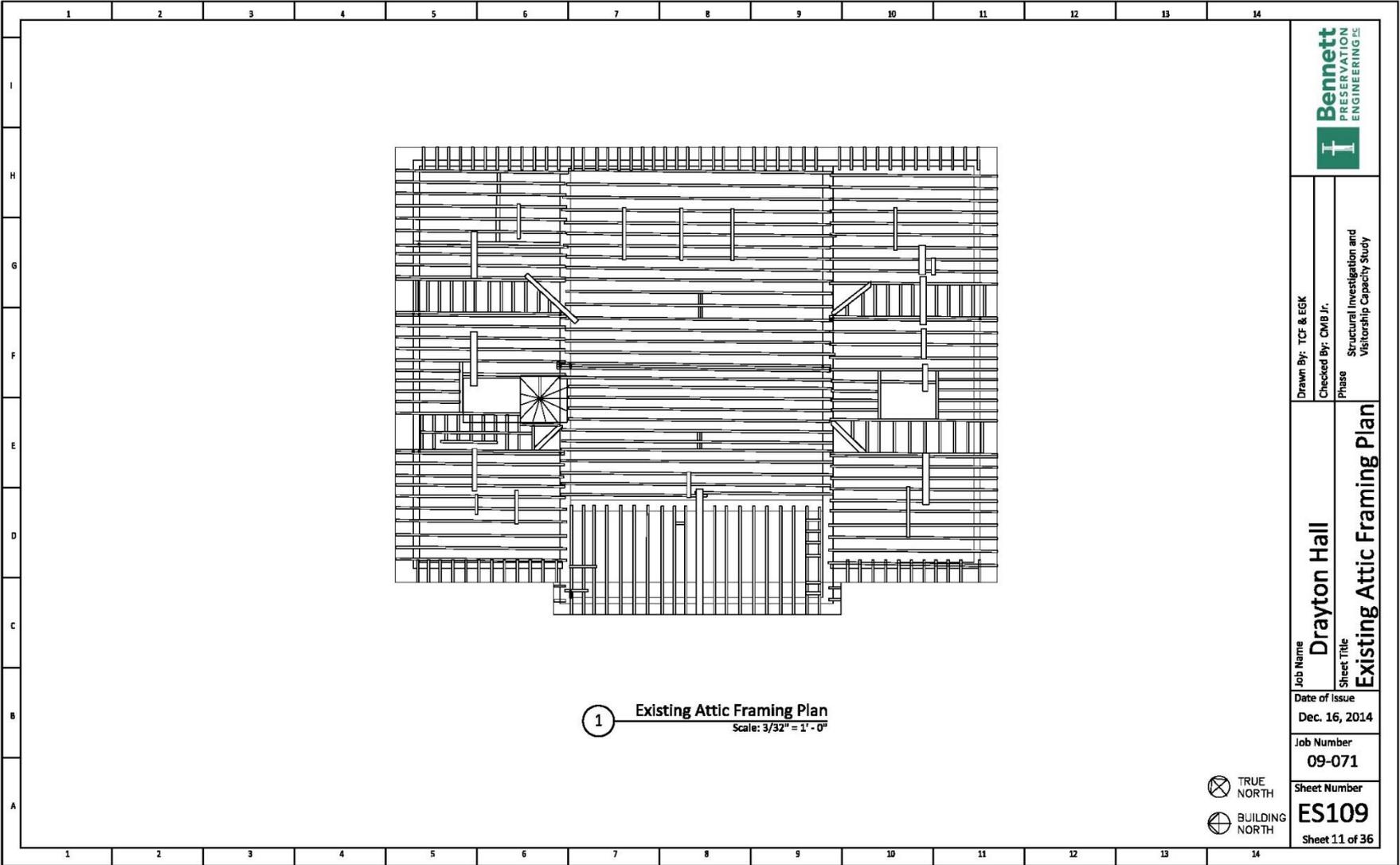
Sheet Title

Existing Second Floor
 Reflected Ceiling Plan

Date of Issue
 Dec. 16, 2014

Job Number
 09-071

Sheet Number
ES108
 Sheet 10 of 36



1 Existing Attic Framing Plan
 Scale: 3/32" = 1' - 0"

⊗ TRUE NORTH
 ⊗ BUILDING NORTH



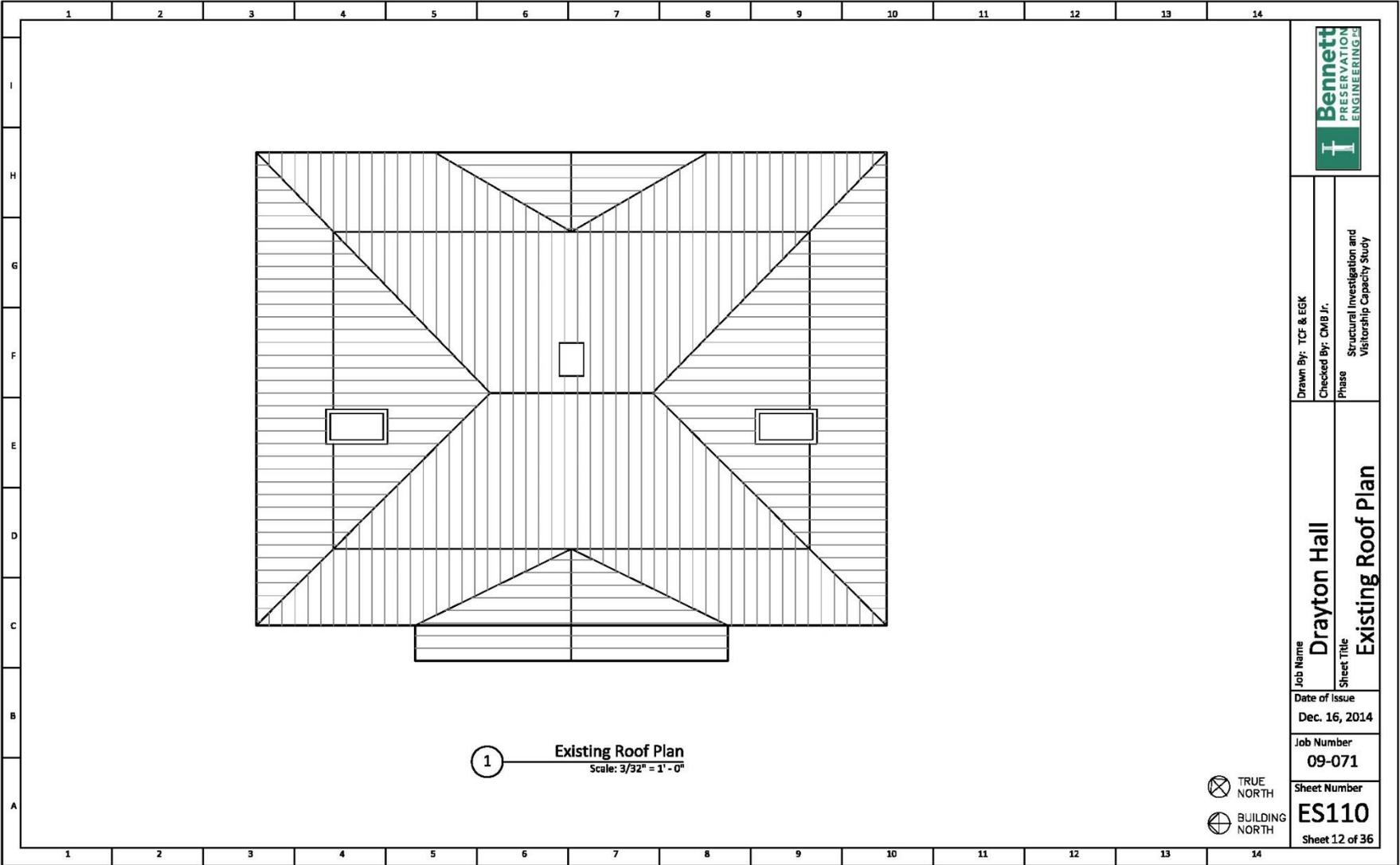
Drawn By: TCF & EGK
 Checked By: CMB Jr.
 Phase: Structural Investigation and Visitorship Capacity Study

Job Name: Drayton Hall
 Sheet Title: Existing Attic Framing Plan

Date of Issue: Dec. 16, 2014

Job Number: 09-071

Sheet Number: ES109
 Sheet 11 of 36



Drawn By: TCF & EGK

Checked By: CMB Jr.

Phase
Structural Investigation and
Visitorship Capacity Study

Job Name

Drayton Hall

Sheet Title

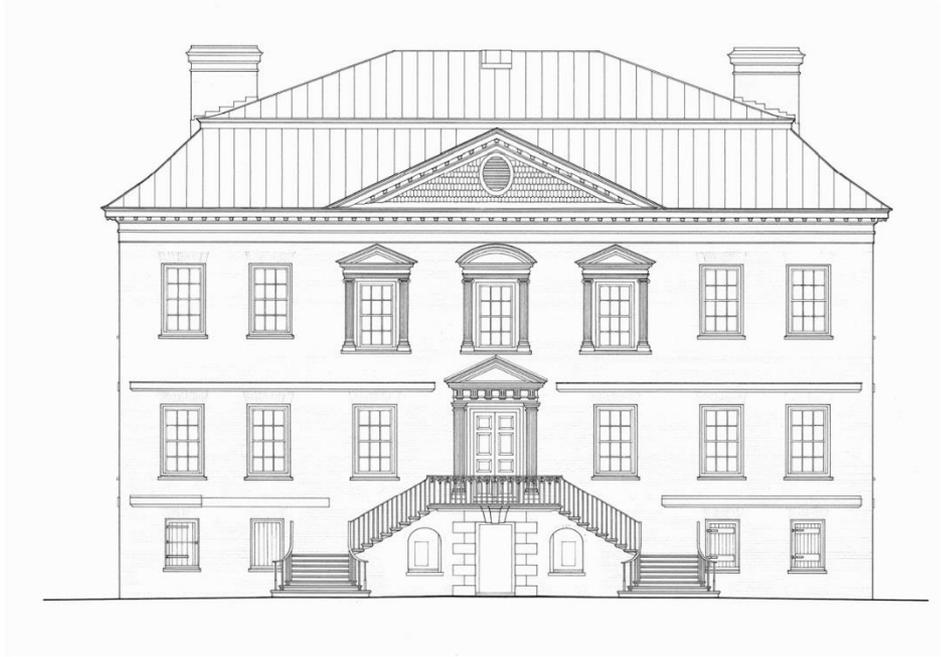
Existing Roof Plan

Date of Issue
Dec. 16, 2014

Job Number
09-071

Sheet Number
ES110
Sheet 12 of 36





1 Existing East Elevation
 Scale: 3/32" = 1' - 0"

TRUE NORTH
 BUILDING NORTH



Drawn By: TCF & EGK

Checked By: CMB Jr.

Phase
 Structural Investigation and
 Visitorship Capacity Study

Job Name

Drayton Hall

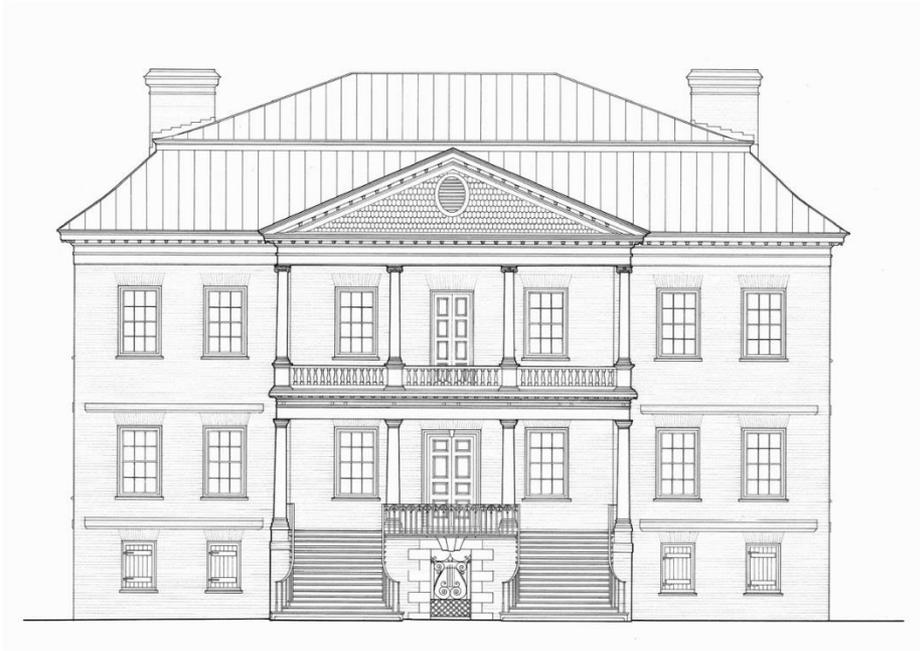
Sheet Title

Existing East Elevation

Date of Issue
 Dec. 16, 2014

Job Number
 09-071

Sheet Number
 ES201
 Sheet 13 of 36



1 Existing West Elevation
Scale: 3/32" = 1' - 0"

⊗ TRUE NORTH
⊗ BUILDING NORTH



Drawn By: TCF & EGK
Checked By: CMB Jr.
Phase: Structural Investigation and
Visitorship Capacity Study

Job Name: Drayton Hall
Sheet Title: Existing West Elevation

Date of Issue: Dec. 16, 2014

Job Number: 09-071

Sheet Number: ES202
Sheet 14 of 36



1 Existing North Elevation
 Scale: 3/32" = 1' - 0"

⊗ TRUE NORTH
 ⊗ BUILDING NORTH



Drawn By: TCF & EGK
 Checked By: CMB Jr.
 Phase: Structural Investigation and
 Visitorship Capacity Study

Job Name: Drayton Hall
 Sheet Title: Existing North Elevation

Date of Issue: Dec. 16, 2014

Job Number: 09-071

Sheet Number: ES203
 Sheet 15 of 36



1 Existing South Elevation
 Scale: 3/32" = 1' - 0"

⊗ TRUE NORTH
 ⊗ BUILDING NORTH



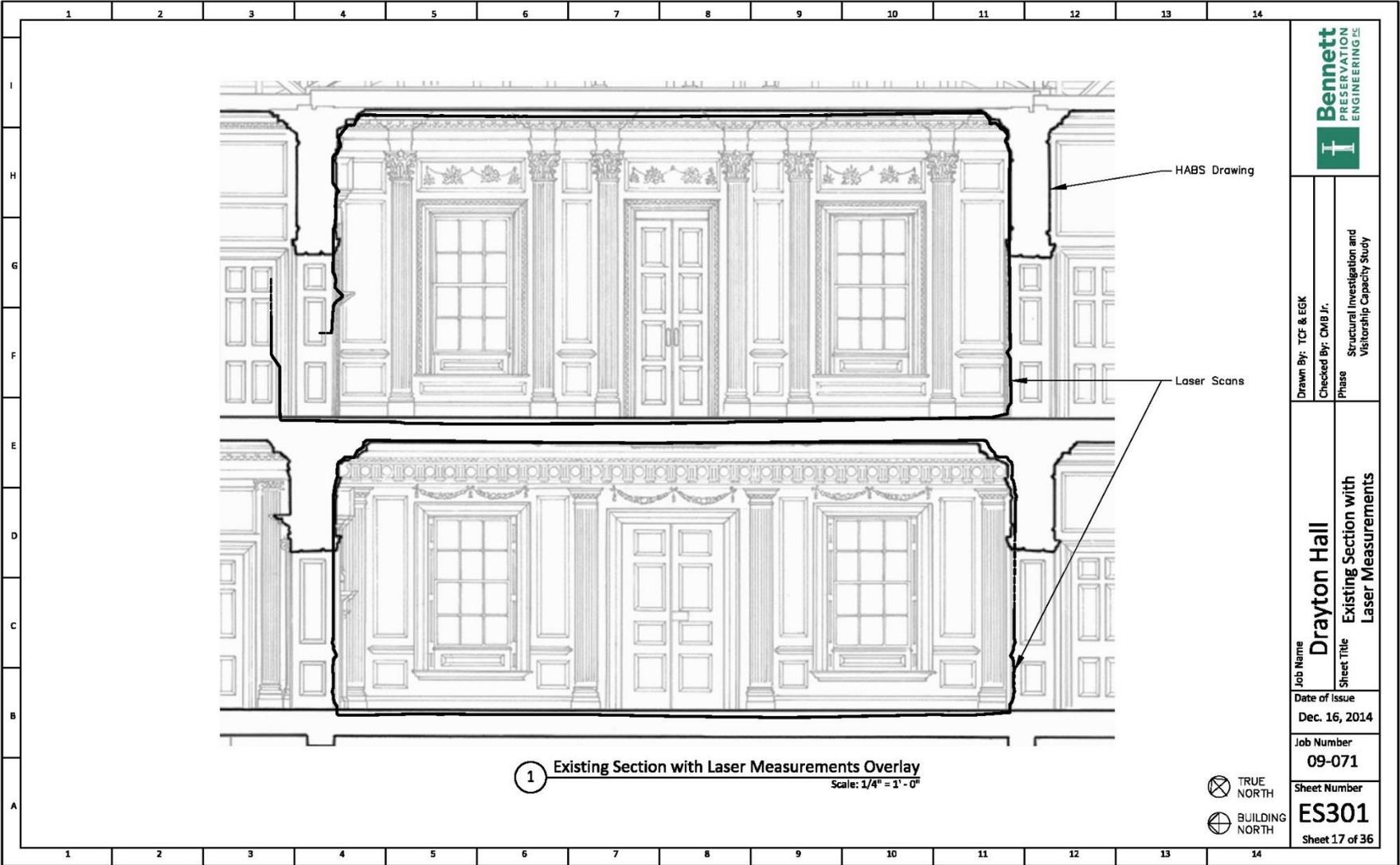
Drawn By: TCF & EGK
 Checked By: CMB Jr.
 Phase: Structural Investigation and Visitorship Capacity Study

Job Name: Drayton Hall
 Sheet Title: Existing South Elevation

Date of Issue: Dec. 16, 2014

Job Number: 09-071

Sheet Number: ES204
 Sheet 16 of 36



HABS Drawing

Laser Scans

1 Existing Section with Laser Measurements Overlay
Scale: 1/4" = 1' - 0"

⊗ TRUE NORTH
⊗ BUILDING NORTH



Drawn By: TCF & EGK

Checked By: CMB Jr.

Phase
Structural Investigation and
Visitorship Capacity Study

Job Name

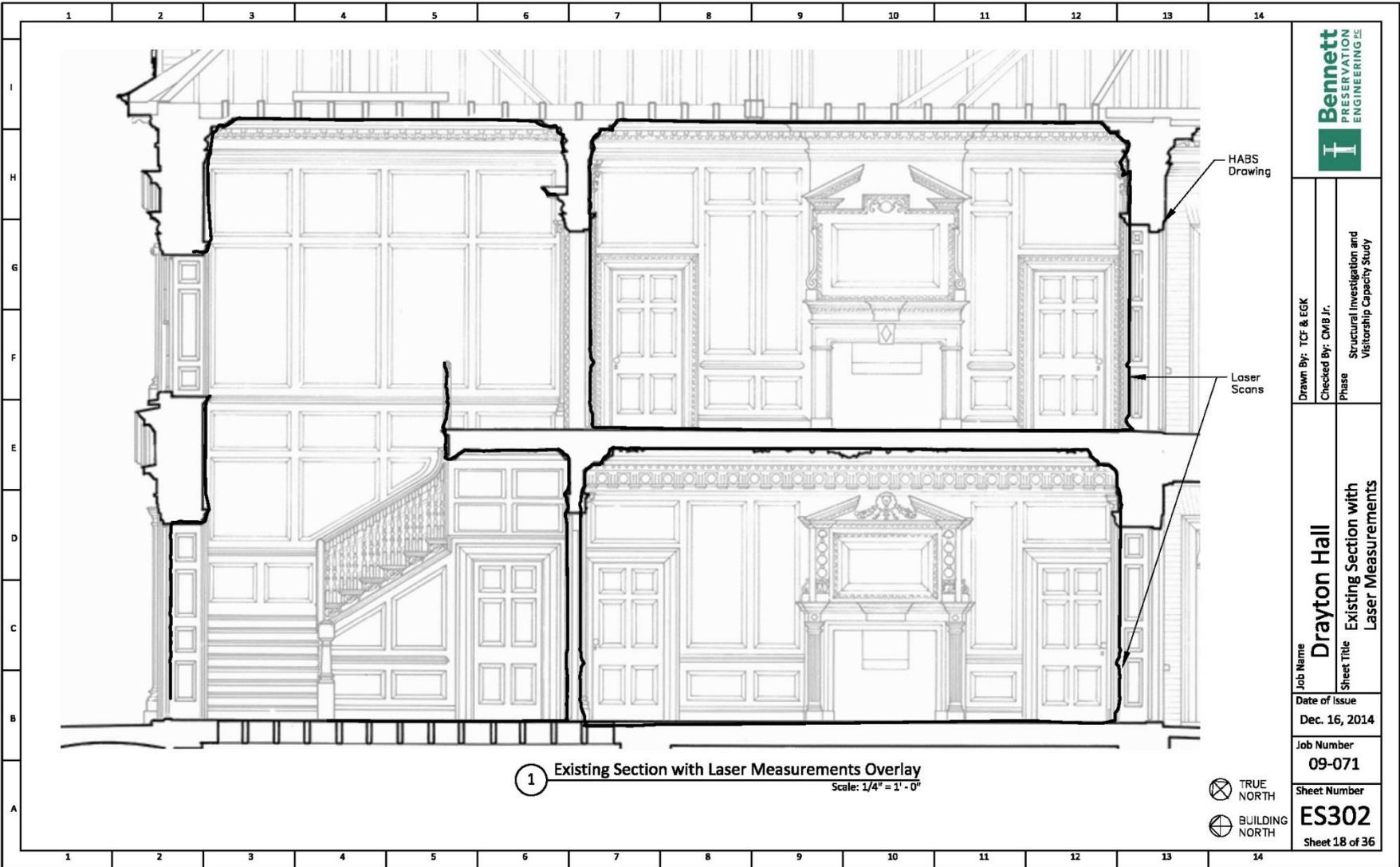
Drayton Hall

Sheet Title
Existing Section with
Laser Measurements

Date of Issue
Dec. 16, 2014

Job Number
09-071

Sheet Number
ES301
Sheet 17 of 36



Drawn By: TCF & EGK
Checked By: CMB Jr.
Phase: Structural Investigation and Visitorship Capacity Study

Job Name: **Drayton Hall**
Sheet Title: Existing Section with Laser Measurements

Date of Issue: Dec. 16, 2014

Job Number: 09-071

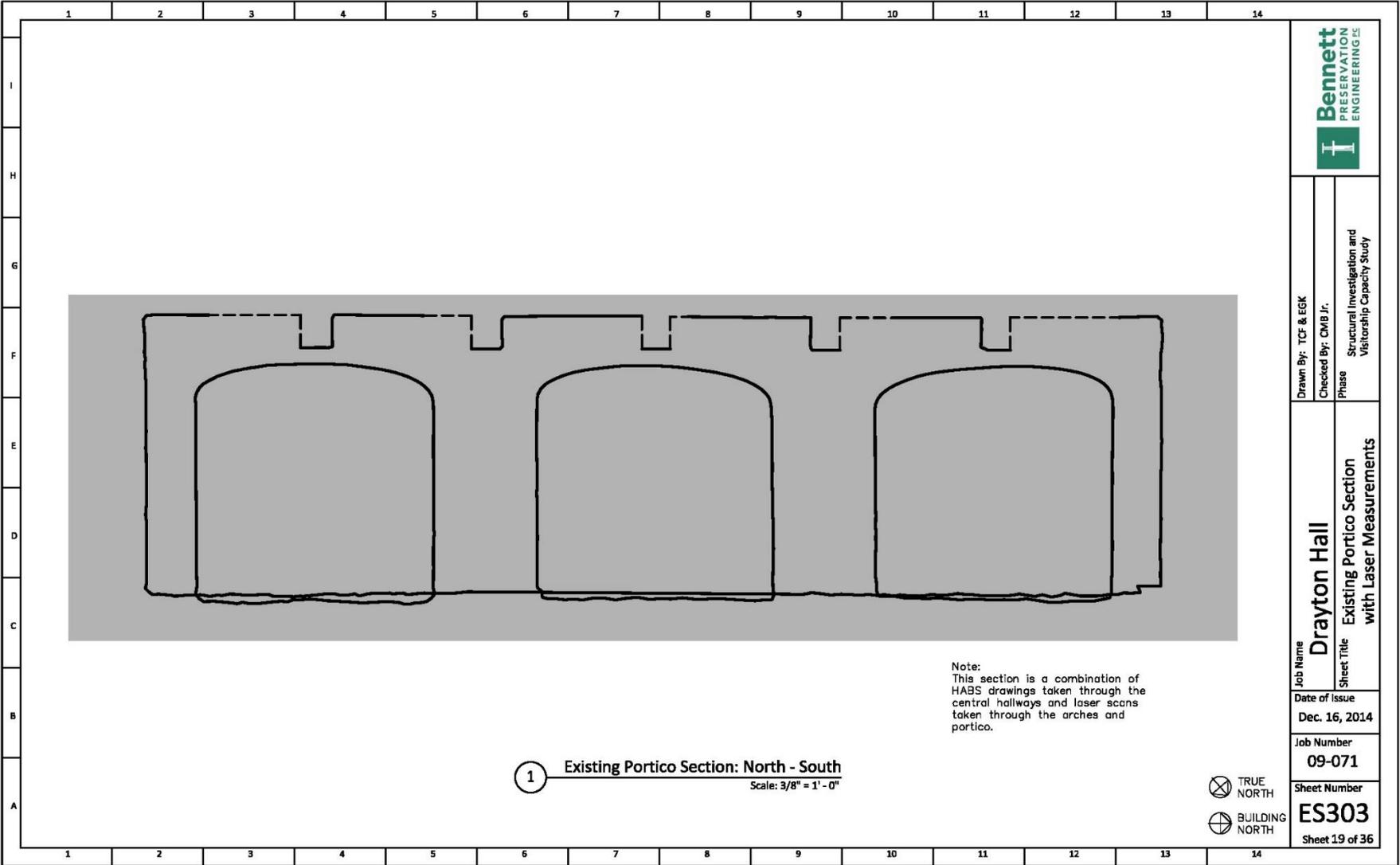
Sheet Number: **ES302**
Sheet 18 of 36

HABS Drawing

Laser Scans

1 Existing Section with Laser Measurements Overlay
Scale: 1/4" = 1' - 0"

⊗ TRUE NORTH
⊗ BUILDING NORTH



1

Existing Portico Section: North - South

Scale: 3/8" = 1' - 0"

Note:
This section is a combination of HABS drawings taken through the central hallways and laser scans taken through the arches and portico.



Drawn By: TCF & EGK

Checked By: CMB Jr.

Phase
Structural Investigation and
Visitorship Capacity Study

Job Name

Drayton Hall

Sheet Title

**Existing Portico Section
with Laser Measurements**

Date of Issue

Dec. 16, 2014

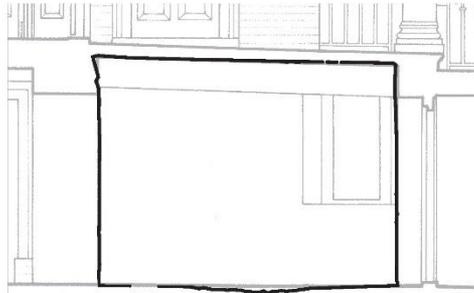
Job Number

09-071

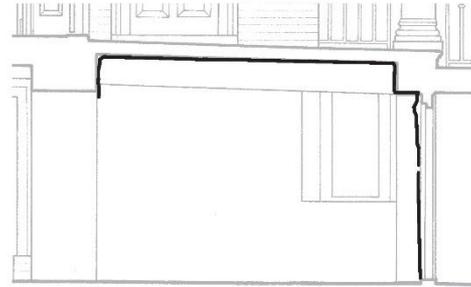
Sheet Number

ES303

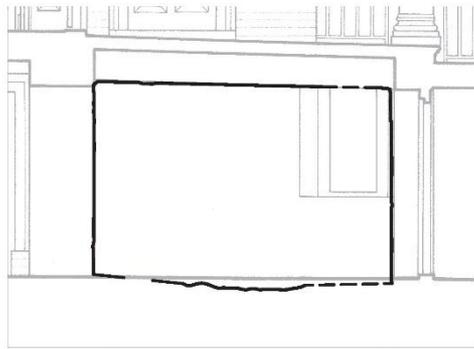
Sheet 19 of 36



1 Existing Portico Section: East - West
Scale: 1/4" = 1' - 0"



2 Existing Portico Section: East - West
Scale: 1/4" = 1' - 0"



3 Existing Portico Section: East - West
Scale: 1/4" = 1' - 0"

Drawn By: TCF & EGK

Checked By: CMB Jr.

Phase:
Structural Investigation and
Visitorship Capacity Study

Job Name

Drayton Hall

Sheet Title

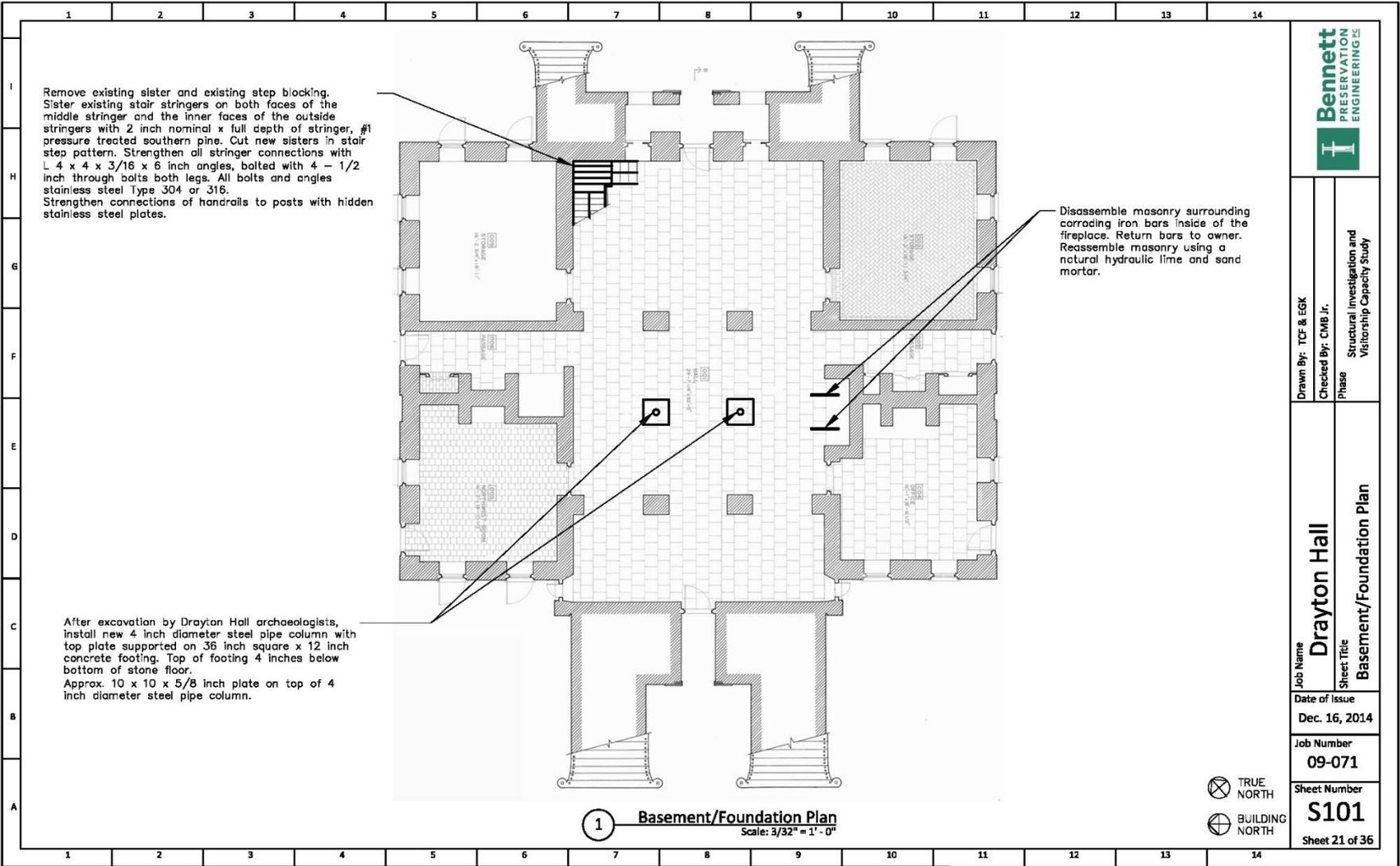
Existing Portico Section
with Laser Measurements

Date of Issue
Dec. 16, 2014

Job Number
09-071

Sheet Number
ES304

Sheet 20 of 36



Remove existing sister and existing step blocking. Sister existing stair stringers on both faces of the middle stringer and the inner faces of the outside stringers with 2 inch nominal x full depth of stringer, #1 pressure treated southern pine. Cut new sisters in stair step pattern. Strengthen all stringer connections with L 4 x 4 x 3/16 x 6 inch angles, bolted with 4 - 1/2 inch through bolts both legs. All bolts and angles stainless steel Type 304 or 316. Strengthen connections of handrails to posts with hidden stainless steel plates.

Disassemble masonry surrounding corroding iron bars inside of the fireplace. Return bars to owner. Reassemble masonry using a natural hydraulic lime and sand mortar.

After excavation by Drayton Hall archaeologists, install new 4 inch diameter steel pipe column with top plate supported on 36 inch square x 12 inch concrete footing. Top of footing 4 inches below bottom of stone floor. Approx. 10 x 10 x 5/8 inch plate on top of 4 inch diameter steel pipe column.

1 Basement/Foundation Plan
Scale: 3/32" = 1' - 0"

- TRUE NORTH
- BUILDING NORTH



Drawn By: TCF & EGK
Checked By: CMB Jr.
Phase: Structural Investigation and Visitorship Capacity Study

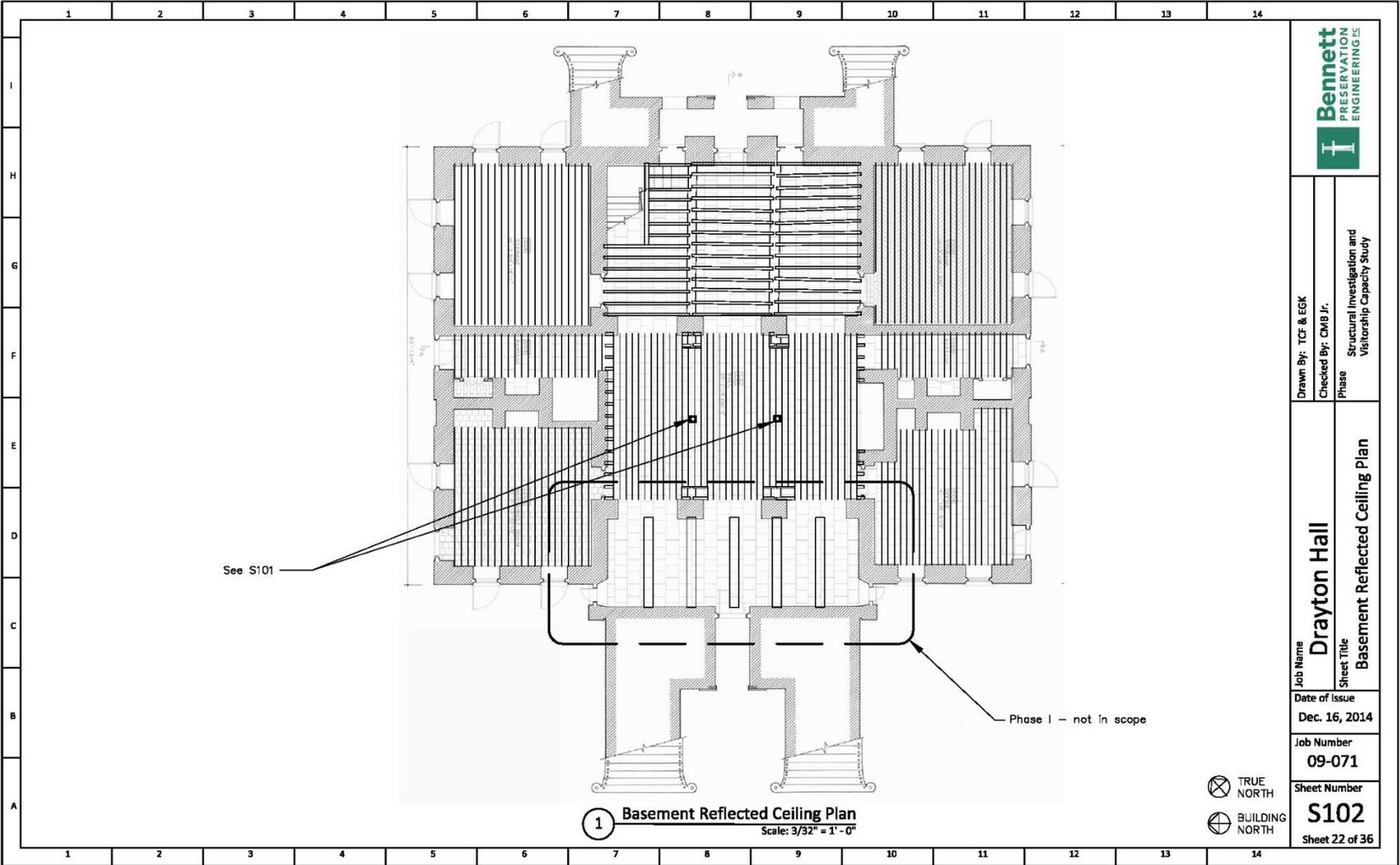
Job Name: Drayton Hall
Sheet Title: Basement/Foundation Plan

Date of Issue: Dec. 16, 2014

Job Number: 09-071

Sheet Number: S101

Sheet 21 of 36



Drawn By: TCF & EGK
Checked By: CMB Jr.
Phase
Structural Investigation and
Visitorship Capacity Study

Job Name
Drayton Hall
Sheet Title
Basement Reflected Ceiling Plan

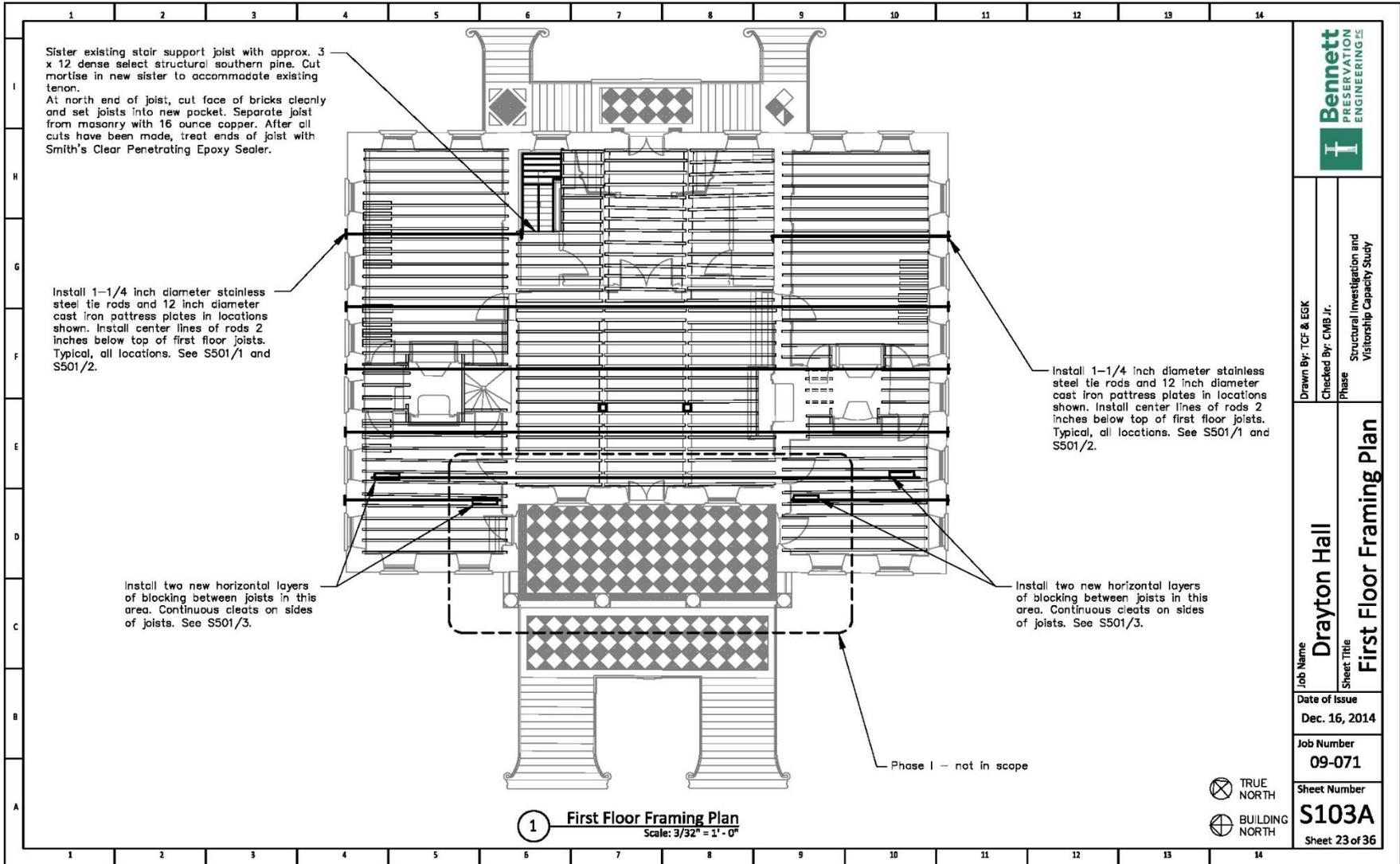
Date of Issue
Dec. 16, 2014

Job Number
09-071

Sheet Number
S102
Sheet 22 of 36

1 **Basement Reflected Ceiling Plan**
Scale: 3/32" = 1' - 0"

⊗ TRUE NORTH
⊗ BUILDING NORTH



Sister existing stair support joist with approx. 3 x 12 dense select structural southern pine. Cut mortise in new sister to accommodate existing tenon. At north end of joist, cut face of bricks cleanly and set joists into new pocket. Separate joist from masonry with 16 ounce copper. After all cuts have been made, treat ends of joist with Smith's Clear Penetrating Epoxy Sealer.

Install 1-1/4 inch diameter stainless steel tie rods and 12 inch diameter cast iron pattress plates in locations shown. Install center lines of rods 2 inches below top of first floor joists. Typical, all locations. See S501/1 and S501/2.

Install two new horizontal layers of blocking between joists in this area. Continuous cleats on sides of joists. See S501/3.

Install 1-1/4 inch diameter stainless steel tie rods and 12 inch diameter cast iron pattress plates in locations shown. Install center lines of rods 2 inches below top of first floor joists. Typical, all locations. See S501/1 and S501/2.

Phase I - not in scope

1 First Floor Framing Plan
Scale: 3/32" = 1' - 0"

TRUE NORTH
BUILDING NORTH



Drawn By: TCF & EGK
Checked By: CMB Jr.
Phase

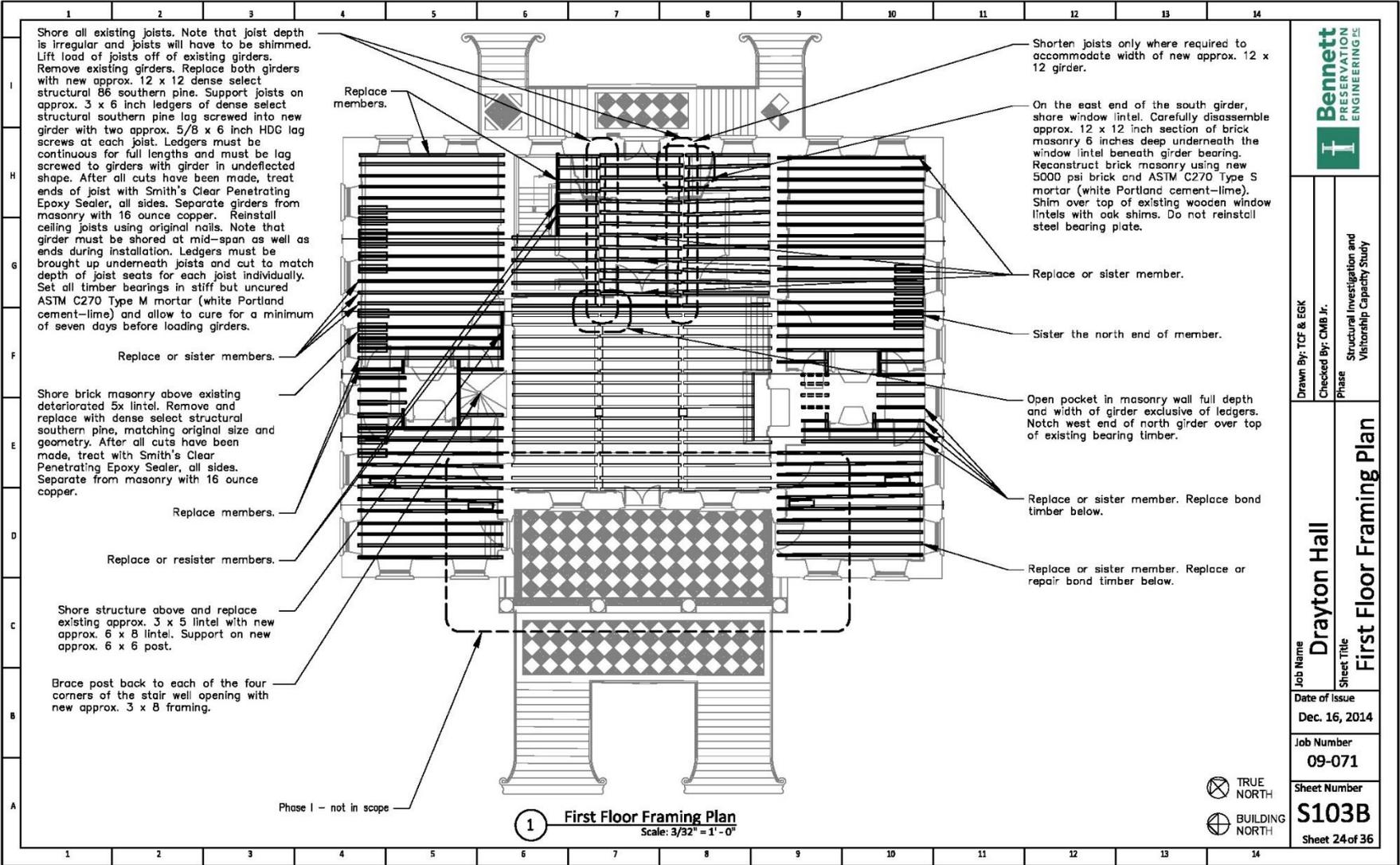
Structural Investigation and
Visitorship Capacity Study

Job Name
Drayton Hall
Sheet Title
First Floor Framing Plan

Date of Issue
Dec. 16, 2014

Job Number
09-071

Sheet Number
S103A
Sheet 23 of 36



1 First Floor Framing Plan
Scale: 3/32" = 1' - 0"

TRUE NORTH
BUILDING NORTH

Drawn By: TCF & EGK

Checked By: CMB Jr.

Structural Investigation and
Visitorship Capacity Study

Job Name
Drayton Hall

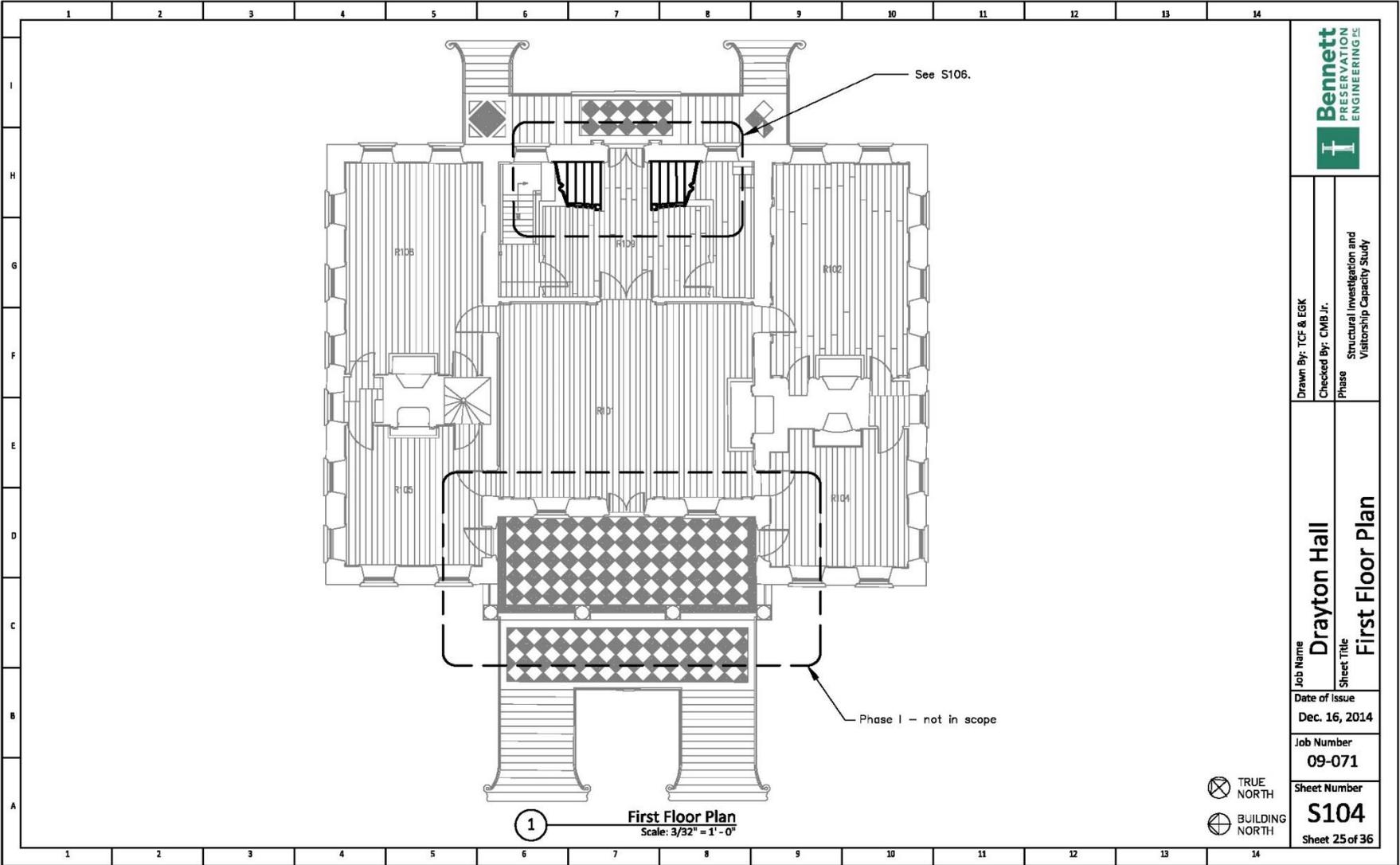
Sheet Title
First Floor Framing Plan

Date of Issue
Dec. 16, 2014

Job Number
09-071

Sheet Number
S103B

Sheet 24 of 36



1

First Floor Plan
Scale: 3/32" = 1' - 0"

See S106.

Phase I - not in scope

-  TRUE NORTH
-  BUILDING NORTH



Drawn By: TCF & EGK

Checked By: CMB Jr.

Phase
Structural Investigation and
Visitorship Capacity Study

Job Name
Drayton Hall

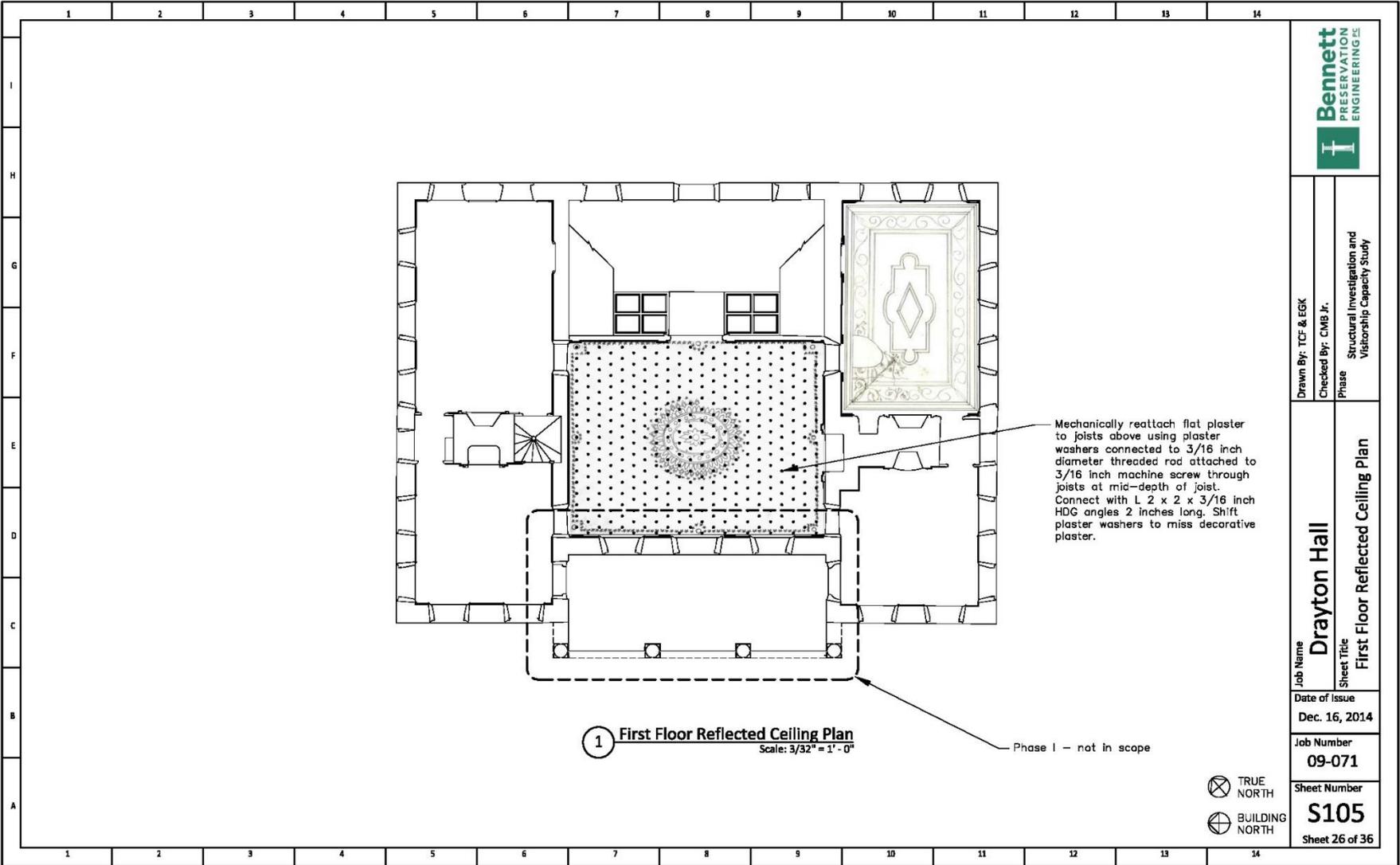
Sheet Title
First Floor Plan

Date of Issue
Dec. 16, 2014

Job Number
09-071

Sheet Number
S104

Sheet 25 of 36



Drawn By: TCF & EGK

Checked By: CMB Jr.

Phase
Structural Investigation and
Visitorship Capacity Study

Job Name

Drayton Hall

Sheet Title

First Floor Reflected Ceiling Plan

Date of Issue

Dec. 16, 2014

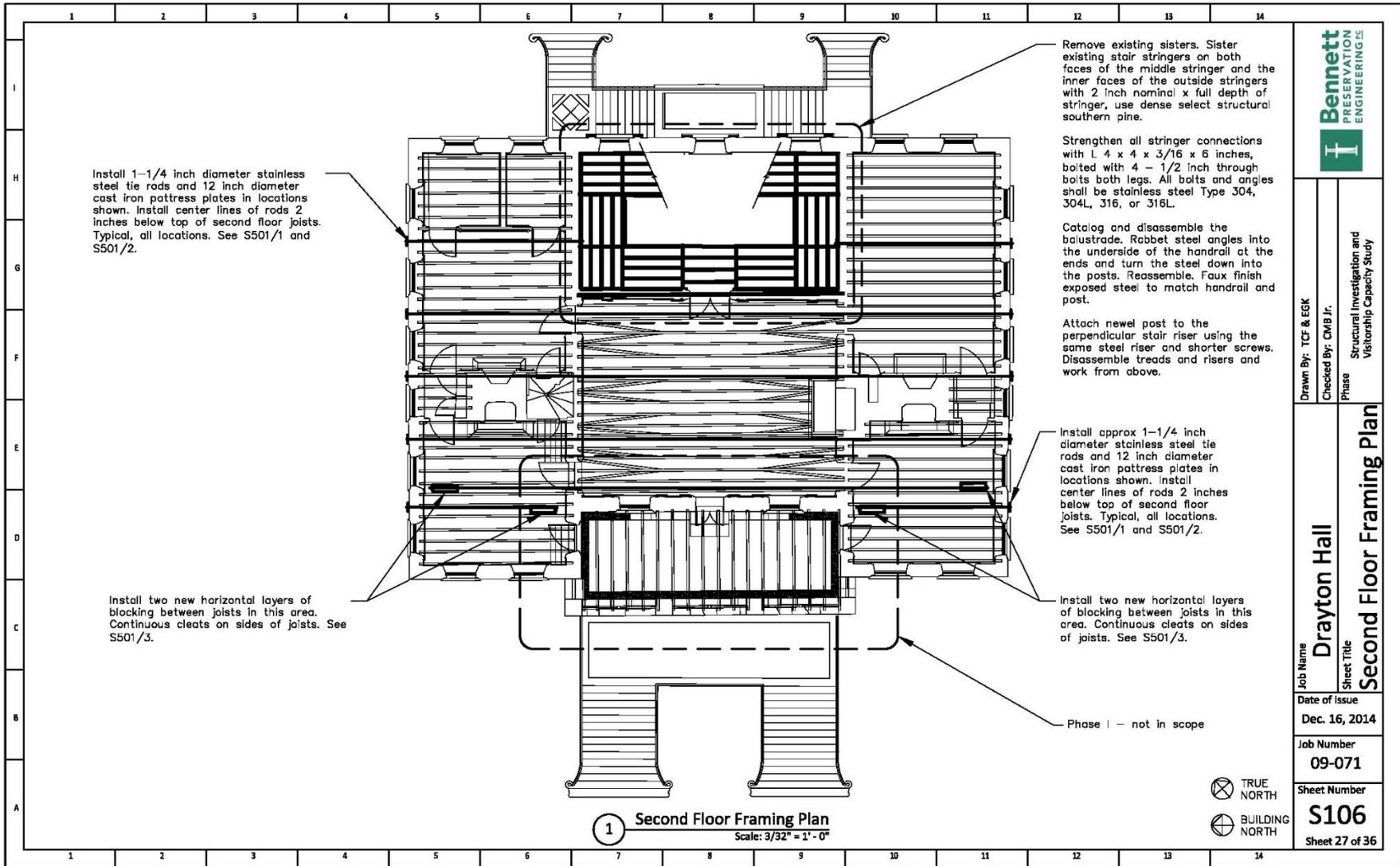
Job Number

09-071

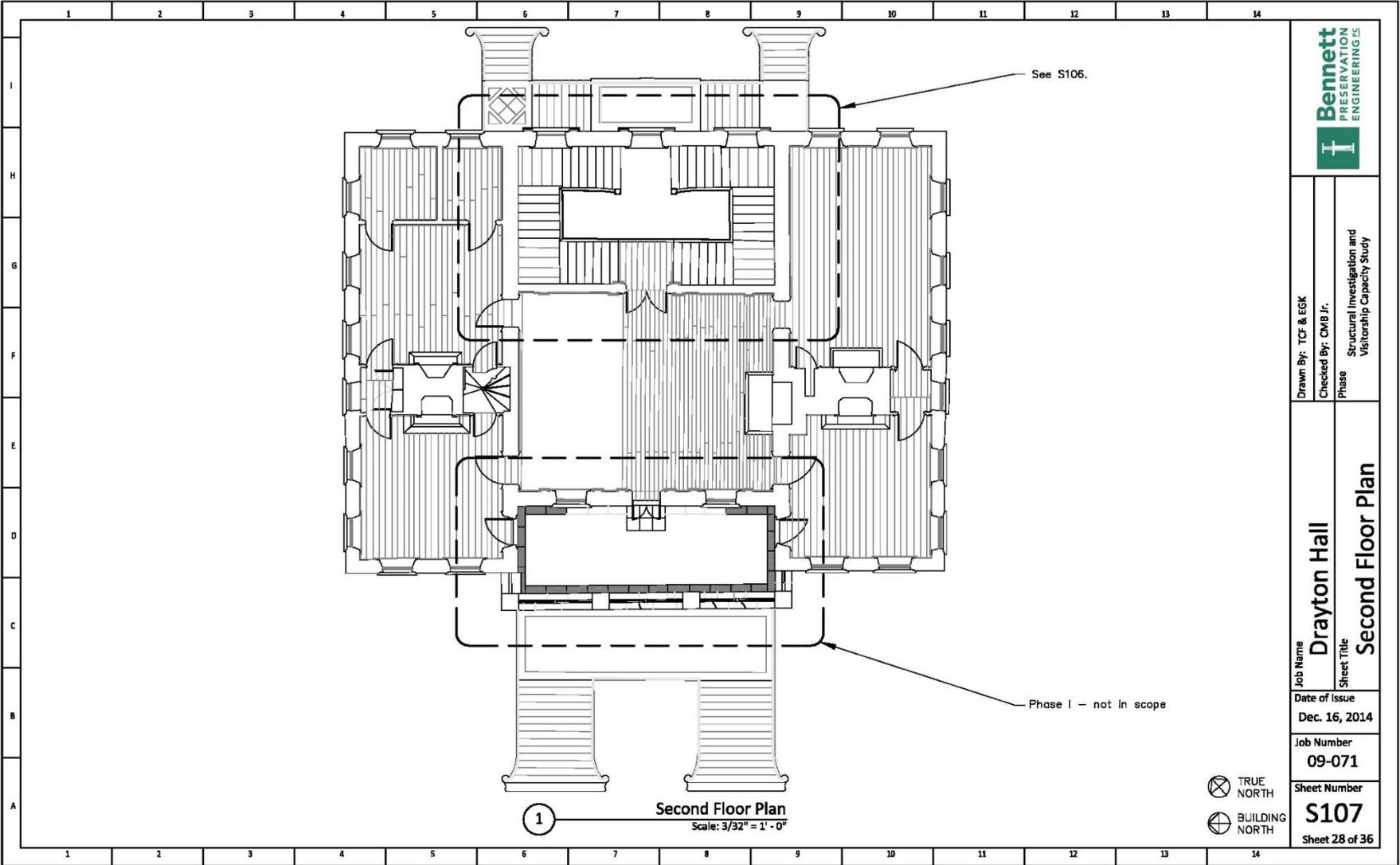
Sheet Number

S105

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1 Second Floor Framing Plan
Scale: 3/32" = 1' - 0"



Second Floor Plan
 Scale: 3/32" = 1' - 0"

-  TRUE NORTH
-  BUILDING NORTH



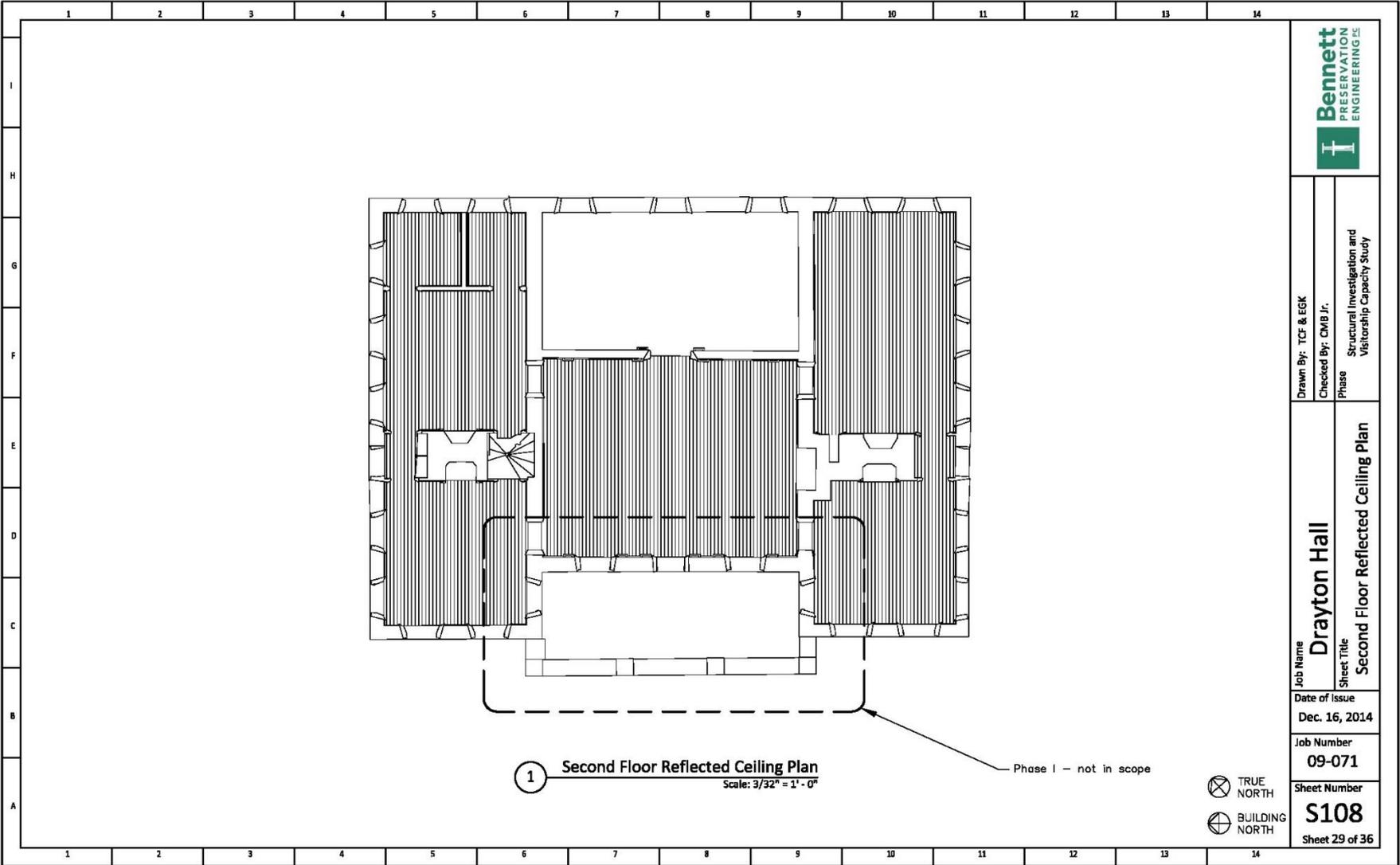
Drawn By: TCF & ECK
 Checked By: CMB Jr.
 Phase: Structural Investigation and Visitorship Capacity Study

Job Name: **Drayton Hall**
 Sheet Title: **Second Floor Plan**

Date of Issue: **Dec. 16, 2014**

Job Number: **09-071**

Sheet Number: **S107**
 Sheet 28 of 36



1 Second Floor Reflected Ceiling Plan
 Scale: 3/32" = 1' - 0"

Phase I - not in scope

TRUE NORTH
 BUILDING NORTH



Drawn By: TCF & EGK
 Checked By: CMB Jr.
 Phase: Structural Investigation and Visitorship Capacity Study

Job Name: Drayton Hall
 Sheet Title: Second Floor Reflected Ceiling Plan

Date of Issue: Dec. 16, 2014

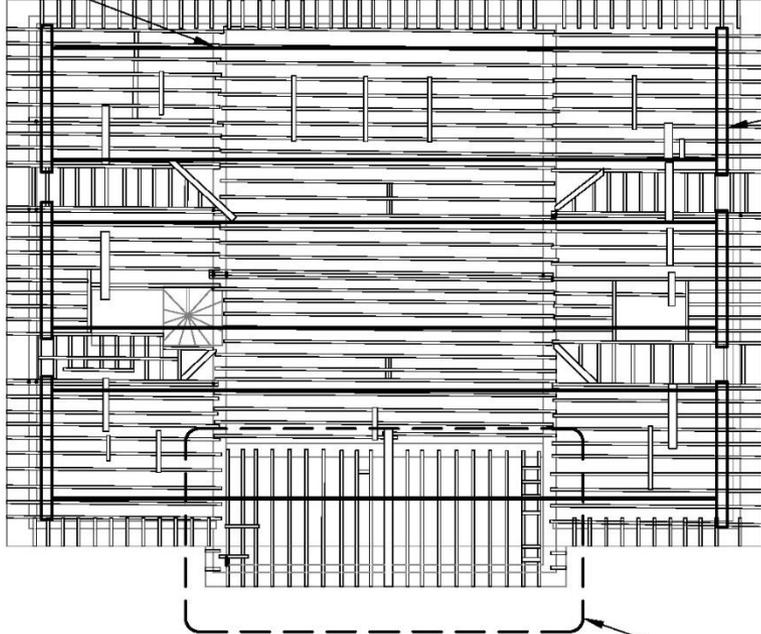
Job Number: 09-071

Sheet Number: S108
 Sheet 29 of 36

1 2 3 4 5 6 7 8 9 10 11 12 13 14

I
H
G
F
E
D
C
B
A

Hot dip galvanized steel straps
(Approx. 1/4 x 6 inches. Final size,
to be determined), typical.



1.75 x 16 LVL typical,
screwed to attic floor
framing.

① Attic Framing Plan
Scale: 3/32" = 1' - 0"

Phase I - not in scope

⊗ TRUE NORTH
⊗ BUILDING NORTH



Drawn By: TCF & EKK

Checked By: OMB Jr.

Phase
Structural Investigation and
Visitorship Capacity Study

Job Name
Drayton Hall

Sheet Title
Attic Framing Plan

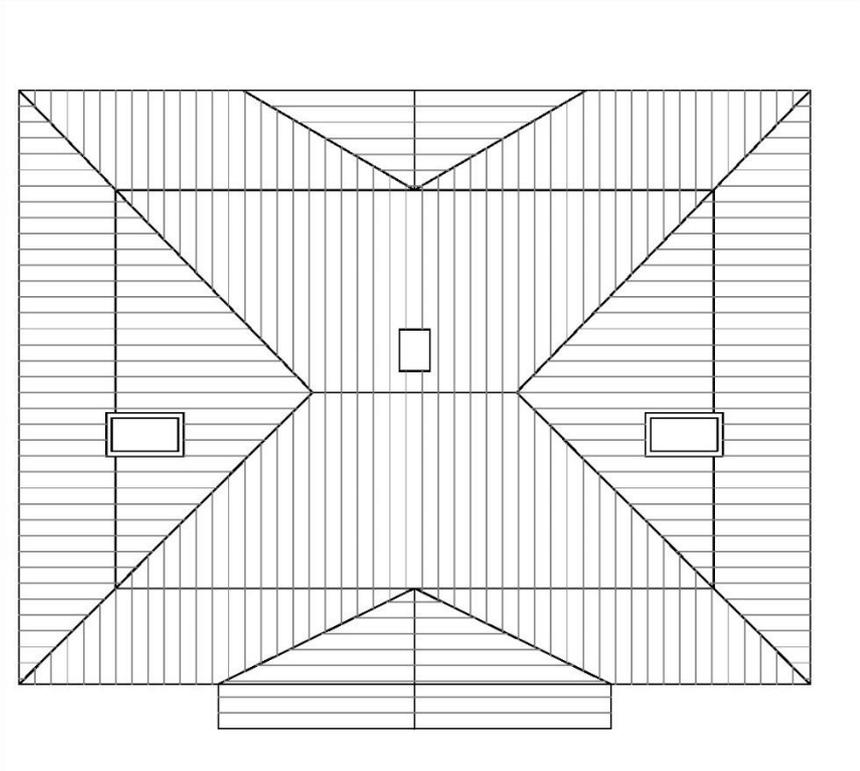
Date of Issue
Dec. 16, 2014

Job Number
09-071

Sheet Number
S109

Sheet 30 of 36

1 2 3 4 5 6 7 8 9 10 11 12 13 14



1 Roof Plan
Scale: 3/32" = 1' - 0"

Roof:
In keeping with the consideration of dealing with hurricane force winds, we should call to the owners attention that standing seam and flat lock metal seam roofs have not traditionally behaved well in hurricane strength winds. If the owner is considering significant efforts to reduce risk from hurricane force winds then the consideration of the attachment of the metal roof system would be appropriate.

Roof Framing:
We have considered the possibility of tying the roof down to the second floor floor joists or to the second floor masonry wall to provide a significant level of risk management reduction to the building. We have not included that in the schematic design drawings but if Drayton Hall considers this important we could provide the schematic design drawings for that. Such work would likely involve threading thin cables behind the paneling in the attic and strengthening a fair number of roof members and connections.

⊗ TRUE NORTH
⊗ BUILDING NORTH



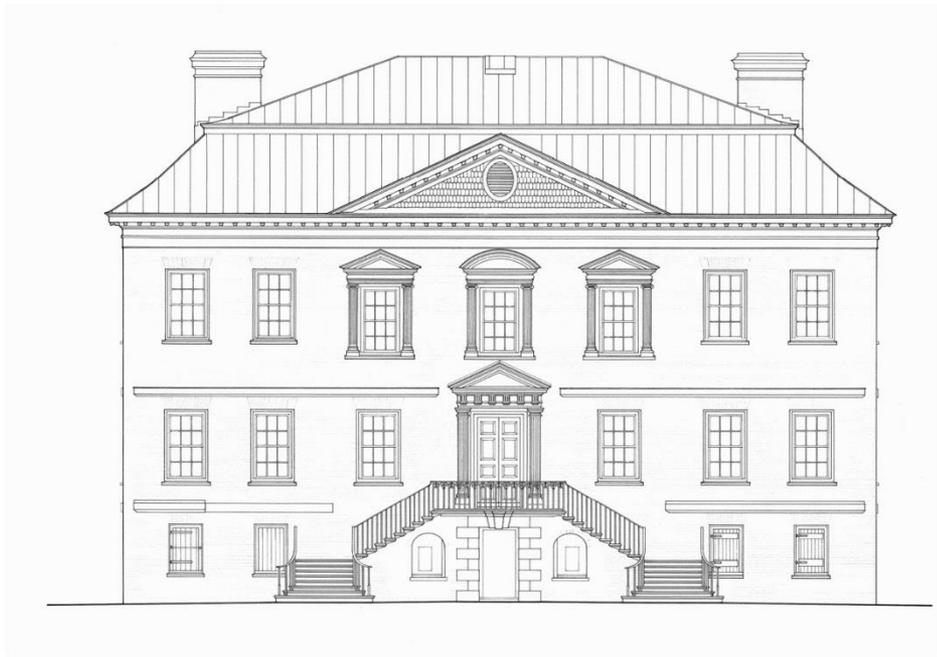
Drawn By: TCF & EGK
Checked By: CMB Jr.
Phase: Structural Investigation and Visitorship Capacity Study

Job Name: Drayton Hall
Sheet Title: Roof Plan

Date of Issue: Dec. 16, 2014

Job Number: 09-071

Sheet Number: S110
Sheet 31 of 36



1

East Elevation
Scale: 3/32" = 1' - 0"

⊗ TRUE NORTH
⊗ BUILDING NORTH



Drawn By: TCF & EGK

Checked By: CMB Jr.

Phase
Structural Investigation and
Visitorship Capacity Study

Job Name

Drayton Hall

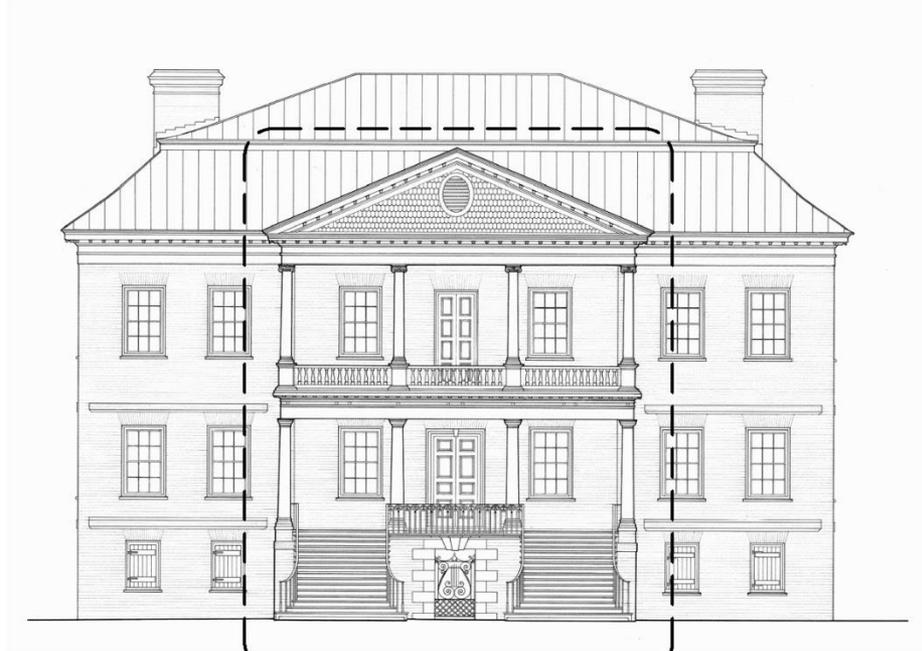
Sheet Title

East Elevation

Date of Issue
Dec. 16, 2014

Job Number
09-071

Sheet Number
S201
Sheet 32 of 36



1

West Elevation
Scale: 3/32" = 1' - 0"

Portico - not in scope of this phase.

⊗ TRUE NORTH
⊗ BUILDING NORTH



Drawn By: TCF & EGK

Checked By: CMB Jr.

Phase
Structural Investigation and
Visitorship Capacity Study

Job Name

Drayton Hall

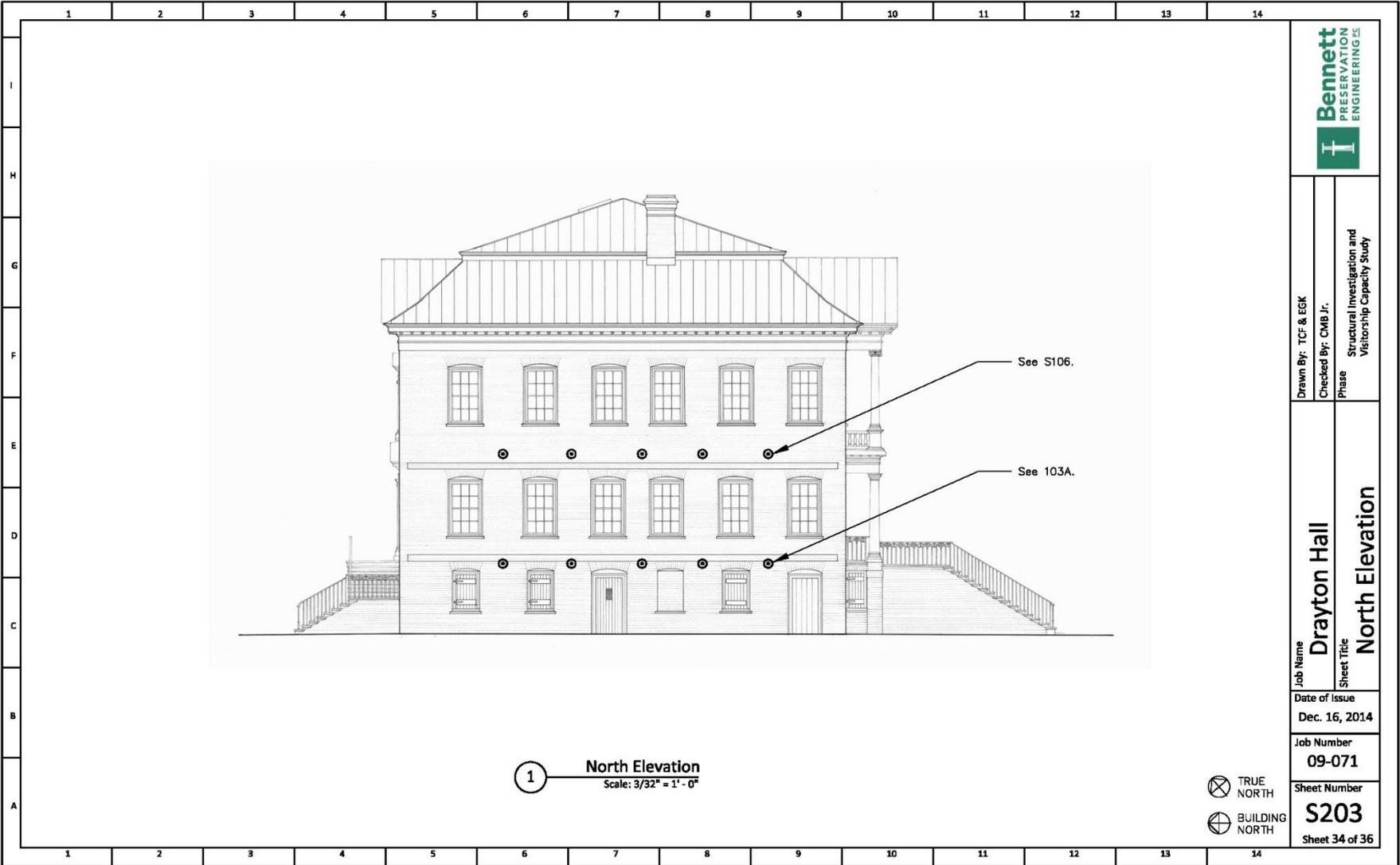
Sheet Title

West Elevation

Date of Issue
Dec. 16, 2014

Job Number
09-071

Sheet Number
S202
Sheet 33 of 36



1 North Elevation
Scale: 3/32" = 1'-0"

⊗ TRUE NORTH
⊗ BUILDING NORTH



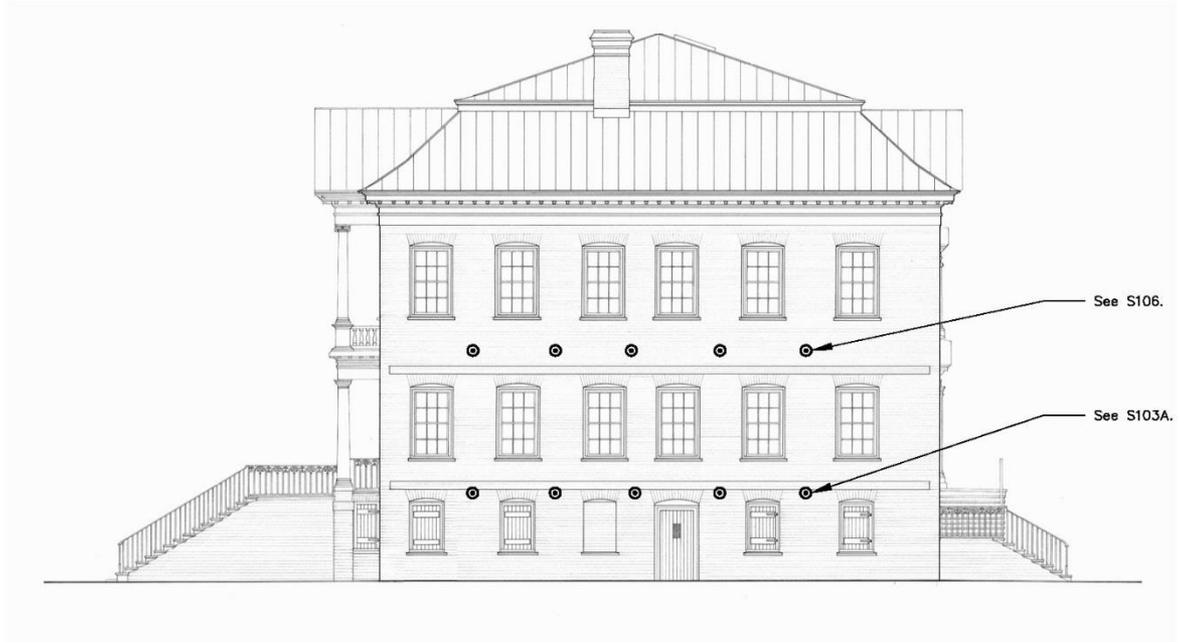
Drawn By: TCF & EGK
Checked By: CMB Jr.
Phase: Structural Investigation and Visitorship Capacity Study

Job Name: Drayton Hall
Sheet Title: North Elevation

Date of Issue: Dec. 16, 2014

Job Number: 09-071

Sheet Number: S203
Sheet 34 of 36



1 South Elevation
Scale: 3/32" = 1' - 0"

-  TRUE NORTH
-  BUILDING NORTH



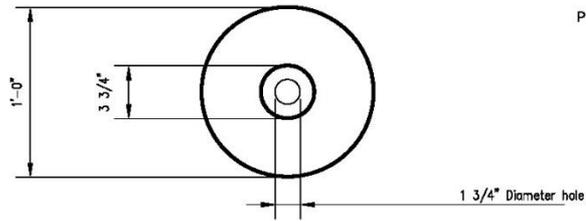
Drawn By: TCF & EGK
Checked By: CMB Jr.
Phase: Structural Investigation and Visitorship Capacity Study

Job Name: Drayton Hall
Sheet Title: South Elevation

Date of Issue: Dec. 16, 2014

Job Number: 09-071

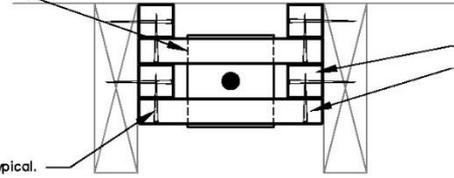
Sheet Number: S204
Sheet 35 of 36



1 Patress Plate Elevation Detail
Scale: 1-1/2" = 1' - 0"

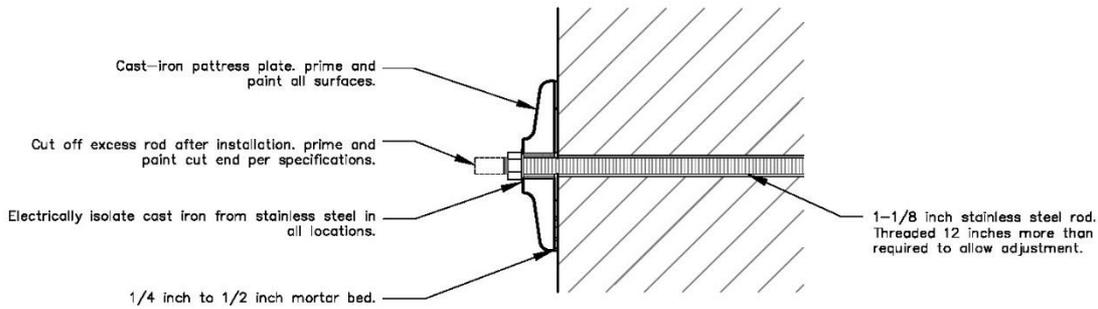
PL 6 x 6 x 1/2 at end of rod.

1/4 x 4 screws, typical.



3 x 3 nominal
1.75 x 14 x 4'-0"
LVL blocking cut to
fit between joists.

3 Blocking Detail
Scale: 1-1/2" = 1' - 0"



2 Patress Plate Section Detail
Scale: 1-1/2" = 1' - 0"

Cast-iron patress plate. prime and
paint all surfaces.

Cut off excess rod after installation. prime and
paint cut end per specifications.

Electrically isolate cast iron from stainless steel in
all locations.

1/4 inch to 1/2 inch mortar bed.

1-1/8 inch stainless steel rod.
Threaded 12 inches more than
required to allow adjustment.

Drayton Hall's Philosophy

- **Mission:** Research, preserve and interpret Drayton Hall in order to educate the public and to inspire people to embrace historic preservation.

Thank you.

Questions?

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