Building 45 (Former Building 13/Steam Plant) 45 Yonkie St. Scott Air Force Base St. Clair County IL HABS No. (S-2008-1)

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Illinois

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IL HABS No. (S-2008-1)

Building 45 (Former Building 13/Steam Plant) 45 Yonkie St. Scott Air Force Base St. Clair County Illinois

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A. CD of Digital Images of Drawings Archived at Scott Air Force Base

ILLINOIS HISTORIC AMERICAN BUILDINGS SURVEY

BUILDING 45 (Former Building 13/Central Heating Plant)

IL HABS Number S-2008-1

Location:

45 Yonkie St., Building 45, Scott AFB

Scott Air Force Base, Illinois

Present Owner:

United States Air Force

Present Use:

The building is vacant. Scott AFB plans to demolish the building, remove

the debris, and grade the site for future use.

Significance:

The significance of this property is its association with the growth and expansion of Scott Field (now Scott Air Force Base), in the late 1930s and early 1940s. Building 45 retains historical and architectural significance which contribute to the character of the Scott Field Historic District which

is listed on the National Register of Historic Places.

PART I. HISTORICAL INFORMATION

A. Physical History

- 1. Date(s) of construction: Completed June 16, 1940
- 2. Architect: Construction Division, Office of the Quartermaster General (Approved by Direction: Elmer J. Walters, Captain, QMC)
- 3. Original and subsequent owners: United States Air Force
- 4. Builder, contractor, suppliers: Unknown.
- Original plans and construction: Original construction plans, and modification plans are in the office of the engineer at Scott Air Force Base. Copies of original plans are included with this documentation. Digital images only of many of the plans of modifications to Building 45 are also submitted with this documentation.

6. Alterations and additions: (see attached reference plan drawings)

In approximately 1970, a one-story addition of brick-masonry construction and with a shed-profile roof was added to the southeast side of the building.

In 1971 and 1972, a project was undertaken to remove coal-burning equipment and modify boiler walls and fire boxes to be utilized as oil-burning equipment. The \$386,000 fuel conversion program was implemented in order to reduce air pollution. A 200,000 gallon aboveground oil storage tank and pump house were added near Building 45. These are no longer extant.

In April of 1992, aluminum frame and multiple-light windows with translucent glazing were installed to replace most of the original steel sash windows which had multiple fixed lights with center hopper operating sashes. The original windows were of varying sizes and numbers of lights. The original steel sash windows are extant at the upper half of the left bay of the southwest façade; and at the upper half of the right bay of the northwest façade.

All of the four boilers and stacks; coal bunkers and conveyors; piping, valves and other equipment have been removed from the building.

B. Historical Context:

Scott Air Force Base

Scott AFB is located in St. Clair County, Illinois, which is approximately 20 miles east of St. Louis, Missouri. The installation comprises approximately 2,848 acres and is located in predominately agricultural area. The installation is immediately south of Interstate Highway 64, near the cities of O'Fallon and Belleville.

Scott AFB is one of the oldest continuous service Air Force installations. Over the years, the installation has supported a variety of missions, beginning with the training of combat pilots during WWI. The aviation field was named after Corporal Frank Scott, the first enlisted person to be killed in an aviation crash. On September 2, 1917 the arrival of the 11th and 21st Aero Squadrons initiated Scott AFB's combat training mission. In 1918, Scott AFB's air ambulance was established; this early aeromedical evacuation was the beginning of a primary role for Scott AFB. Following WWI, the government decided that the field should be turned over to the lighter-than-air (LTA) branch of the Air Corps where balloon observers and airship pilots trained. This continued until 1937 when the LTA crafts were discontinued at the field and the War Department changed Scott AFB to a heavier-than-air field. In 1938 the field was designated as the new home of the General Headquarters of the Air Forces of the entire United States Army

making the field the nerve center of the entire Army Air Corps. In 1939, Scott AFB was designated as the Scott Field branch of the Army Air Corps. Today, Scott AFB is home to three headquarters: TRANSCOM, AMC, and the Defense Information Technology Contracting Organization. The 375th Airlift Wing is also host to more than 30 tenant units, including the Air Force Communications Agency; the Air Force Office of Special Investigations 3rd Field Investigations Region; and Air Force Reserve wing; and an Air National Guard unit.

The primary mission of Scott AFB is global mobility. The installation commands and controls all logistics of United States military in air, over land and across the sea. The installation is responsible for providing United States aeromedical evacuation capabilities, flying operational support airlift in the C-21, and air refueling missions in the KC-135. Scott AFB supplies forces to theater combatant commanders. (Toftemark, 2008).

Building 45

Building 45 was constructed during the base expansion of the late 1930s and early 1940s, as a steam heating facility for the base. It was completed June 16, 1940 at a cost of \$170,800. The building continued to serve as one of the primary heating plants for the base until 1997 when the plant was decommissioned. The building was originally referenced as Building No. 13, Central Heating Plant. (Property Data Card; Original Architectural Drawings).

PART II. ARCHITECTURAL INFORMATION

A. General Statement:

- 1. Architectural character: Building 45 is a three-story brick, rectangular plan, industrial building. A small, one-story ell, which was originally the transformer room, extends from the northeast side of the building. The building has a concrete foundation, and flat profile roofs. The first story has horizontal brick bands and a concrete belt course which divides the first and second floors. On the upper façade are brick piers capped with concrete which separates each bay. Building 45 is a good example of first-quarter twentieth century industrial architecture.
- 2. Condition of fabric: Fair to good. The building is intact, but deteriorating due to lack of maintenance following the discontinuation of its use.

B. Description of Exterior:

1. Overall dimensions:

The overall building length is approximately 65 feet 9 inches, north to south and approximately 143 feet 8 inches, east to west (see attached reference plan for building dimensions).

The existing Generator Room at the south side of the building is approximately 12 feet 8 inches, north to south and approximately 19 feet 2-1/2 inches east to west and is located approximately 31 feet 8 inches from the south-east building corner.

The existing Electrical Room at the east side of the building is approximately 10 feet 3 inches, east to west and approximately 14 feet 3 inches, north to south and is located approximately 6 feet 0 inches from the north-east corner of the building.

The existing Storage Room and all associated building materials at the east side of the building had been removed prior to the March 2008 on-site visit by the documentation team. A concrete floor slab approximately 13 feet by 16 feet remained at the location of the removed Storage Room.

Total Building Area: 9,104 square feet (footprint of building).

2. Foundations:

Foundations are poured concrete.

3. Walls:

Exterior non-load bearing walls consist of 3 ¾" brick veneer exterior wythe with 8" clay tile masonry units back-up course and 3 ¾" brick veneer interior wythe. Total exterior wall thickness is 12 ½".

See attached sketch for exterior and interior brick veneer coursing – typical.

Cut stone exterior detail bands occur at second floor line, top of exterior brick pilasters and at the typical stone coping cap.

4. Structural system, framing:

Exterior Walls Construction

The building is supported by a structural steel interior skeleton composed of steel wide flange columns, steel beams and girders (see attached reference plan). Partially engaged columns are typical at exterior wall locations.

Floor Construction.

The floor is a concrete slab-on-grade at the first floor level throughout, with poured concrete equipment slabs, poured concrete equipment curbs and poured concrete trenches and tunnels.

Roof Construction.

The roof is a flat profile with a bituminous roof membrane and gravel ballast over pre-cast concrete slab roof deck supported by structural steel skeleton.

Interior Wall Construction.

Typical interior walls are 8" thick, double wythe clay tile at the northwest corner room.

Glazed tile interior walls are 8" thick, with single wythe clay tile back-up at northwest corner room.

5. Porches, stoops, balconies, bulkheads:

Exterior entrances to the building are slightly recessed and accessed by adjacent concrete site pavement and open lawn areas near grade level.

Poured concrete slabs at exterior transformer pads, exterior concrete sidewalks and concrete service drives (south, east and west sides only).

6. Chimneys:

Presently there are no chimneys located on the building.

7. Openings:

a. Doorways and doors: Exterior doorways and doors are slightly recessed from the exterior building façade. The west entrance is comprised of a hollow metal door and frame. There is an existing

man door and pair of oversized, hinged, hollow metal doors and frame along the south side of the building.

- 1. Single pane glazing units are missing from existing exterior doors. Temporary plywood covering has been applied to the exterior side of doors over gazing opening typical.
- b. Most of the exterior windows are composed of large 2-1/2" thick, aluminum frames with translucent glazing materials. The lower portions of the windows remain operational. Windows are awning style operation opening to the exterior of the building.
- c. The original steel sash windows are extant at the upper half of the north bay of the west façade; and at the upper half of the west bay of the north façade.

8. Roof:

- a. Shape, covering: All roofs are flat, with a slight structural slope to the south.
- b. Storm water is collected along the south side of the building roof area at scuppers and transferred to copper conductor heads and copper downspouts.

C. Description of Interior:

1. Floor plans:

- a. Basement: There are a series of underground trenches and tunnels composed of poured concrete. Select locations have exposed brick masonry veneer.
- b. Main Floor: The main (ground) floor is an open floor plan with abandoned concrete equipment curbs and equipment pads at various locations. Metal stairs in the east and south corners connect to First Mezzanine above (see attached drawing MAIN FLOOR PLAN).
- c. First Mezzanine: The First Mezzanine level is comprised of a series of steel stairs and catwalks (Levels 1A, 1B and 1C see attached drawing FIRST MEZZANINE PLAN) covered with "L" shaped steel frames with 1-1/4" thick steel grating. Stair connections to Main Floor level are located in the east and south corners of the building.

- d. Second Mezzanine: The Second Mezzanine level is a series of steel stairs and catwalks (Levels 2A and 2B see attached drawing SECOND MEZZANINE PLAN) covered with "L" shaped steel frames with 1-1/4" thick steel grating. Stair connections to First Mezzanine and Third Mezzanine are located in the east and south corners of the building.
- e. Third Mezzanine: The Third Mezzanine level is a series of steel stairs and catwalks (Levels 3A, 3B and 3C see attached drawing THIRD MEZZANINE PLAN) covered with "L" shaped steel frames with 1-1/4" thick steel grating. Stair connections to the Second Mezzanine are located in the east and south corners. Stair connection to the Fourth Mezzanine is located in the north corner.
- f. Fourth Mezzanine: The Fourth Mezzanine level is a series of steel stairs and catwalks (Levels 4A, 4B, 4C, 4D and 4E see attached drawings THIRD MEZZANINE PLAN and CLERESTORY PLAN) covered with "L" shaped steel frames with 1-1/4" thick steel grating. Stair connection to Third Mezzanine is located in the east corner. A stair connection to the Fifth Mezzanine is located in the east corner.
- f. Fifth Mezzanine: The Fifth Mezzanine level is a series of steel stairs and catwalks (Level 5 see attached drawing CLERESTORY PLAN) covered with "L" shaped steel frames with 1-1/4" thick steel grating. Stair connections to the Fourth Mezzanine and Main Roof Area are located in the east corner.

2. Stairways:

Stairways to the upper mezzanine floor levels are open to the main floor area and composed of steel stringers with open risers, stair treads and stair landings are composed of "L" shaped steel frames with 1-1/4" thick steel grating (see attached sketch). Stairways are not enclosed at the tops and bottoms.

3. Flooring:

The flooring at the main (first) floor level is an exposed concrete slab on grade at the throughout with abandoned poured concrete equipment slabs, poured concrete equipment curbs and poured concrete trenches and tunnels.

1" x 1" ceramic tile is installed over poured concrete floor deck at the restroom located in the west corner of the main (first) floor.

At the second floor, the northwest corner room only has a poured concrete floor deck on steel structure. The floor deck connects to the First Mezzanine.

At the third floor, the west corner room (former office) only has a plywood floor deck over dimensional lumber, wood framing. The floor deck connects to the Third Mezzanine.

4. Wall and ceiling finish:

<u>Walls.</u> Walls are painted brick masonry, painted concrete masonry, and glazed tile.

Ceilings. Ceilings are exposed pre-cast concrete slabs.

5. Openings:

a. Doorways and doors:

Interior doors throughout the building have been removed. Hollow metal door frames remain at select locations.

b. Windows:

Windows are composed of large 2-1/2" thick, aluminum frames with translucent glazing panels. The lower portions of the windows remain operational. Windows are awning style operation opening to the exterior of the building.

c. The original steel sash, multiple-light windows are extant at the upper half of the north bay of the west façade; and at the upper half of the west bay of the north façade.

6. Decorative features and trim:

The interior of the building is void of any decorative features and trim.

7. Hardware:

All interior doors and associated hardware have been removed. Exterior door hardware is plain, steel and brass knobs and locks of varying profiles.

8. Mechanical equipment:

a. Heating, air conditioning, ventilation:

Heating, ventilating and associated devices have been removed.

b. Lighting:

Light fixtures, shades and associated devices have been removed.

c. Plumbing:

One (1) restroom was located in the west corner of the building at the 1st floor only. All plumbing fixtures have been removed. One (1) individual shower stall area is located in the west corner of the restroom.

d. Distinctive Features.

No distinctive features present.

D. Site:

1. General setting and orientation:

Building 45 is located in the eastern expansion area of Scott Air Force Base that was developed between 1937 and 1940. The site is bordered by Yonkie Street (formerly "C Street") on the southeast, Fifth Street on the north, and a parking lot between Building 45 and Building 18 (former gas station) on the southwest.

The building is oriented approximately 45 degrees off of the cardinal axes. The principal entry to the building is through the southwest façade. The longitudinal axis of the building is oriented southwest to northeast

2. Historic landscape design:

The historic landscape design was a very simple, unplanned, open lawn space along the northeast and northwest sides of the building with open lawn areas, crushed stone drives and poured concrete aprons along the southwest and southeast sides of the building. An abandoned, at-grade, vehicular scale is located at the southeast side of the building.

3. Outbuildings:

There are no extant outbuildings.

PART III. SOURCES OF INFORMATION

A. Original Architectural Drawings:

Original architectural drawings are on file in the office of the engineer (375 CES/CECD) at Scott Air Force Base, Illinois.

B. Early Views:

- 1. Early views of Building 45 are found at the Office of the Base Historian (375 AW/HO), Scott Air Force Base, Illinois:
 - a. Scott Air Force Base, Real Estate Records, 1917 1943. Bound volume with property data cards.
 - b. Aerial Views Construction Scott Field, ILL.
 - c. Photo "Soon a Memory" in <u>Command Post</u>, Friday, January 28, 1972.
 - d. Central Heating Plant Conversion #6 Oil Burners at Boiler No. 1, 50% Complete, 13 December 1971.
 - e. Central Heating Plant Conversion, Typical Oil Burner, 100% Complete as of 18 May 1972.
 - f. Central Heating Plant Conversion, Oil Burner Control Panels, 100% Complete as of 18 May 1972.
 - g. Central Heating Plant Conversion, 420000 Fuel Oil Tank, 100% Complete as of 18 May 1972.

C. Interviews:

1. Mel Oller, Operations Flight Chief, (mechanic at Central Heating Plant from 1974 to 1987), March 24, 2008, Scott Air Force Base, Illinois.

D. Bibliography:

- 1. Primary and unpublished sources:
 - a. Scott Air Force Base, Real Estate Records, 1917 1943. Bound volume with property data cards at the Office of the Base Historian, Scott Air Force Base.
 - b. Original construction plans, and modification plans in the office of the engineer (375 CES/CECD), at Scott Air Force Base, Illinois.

c. Toftemark, Elizabeth; Chief, Conservation; Scott Air Force Base. Personal communication, October 24, 2007.

2. Secondary and published sources:

- a. National Register of Historic Places Registration Form, Scott Field Historic District, September 13, 1993.
- b. SSGT. Randy Hamm. "Scott attacks pollution problem." <u>Command</u> Post, O'Fallon, Illinois, VOL. 4 NO. 18, Friday, July 30, 1971.

E. Likely Sources Not Yet Investigated:

Locally knowledgeable informants.

PART IV. METHODOLOGY OF RESEARCH

A. Research Strategy:

- 1. Preliminary investigation of the property through on-site visit.
- 2. On-site interviews with former employee.
- 3. Records search at the Office of the Base Historian, and at the Office of Engineering (375 CES/CECD), Scott Air Force Base.
- 4. Review of <u>Command Post</u> newspaper articles from 1971 and 1972.

B. Actual Research Process:

The research process followed the strategy above. However, no significant early newspaper articles or early published histories were found.

C. Archives and Repositories Used:

Scott Air Force Base - Office of the Base Historian, and the Office of Engineering (375 CES/CECD), Scott Air Force Base, Illinois.

E. Research Staff:

1. Primary Preparer:

R. Gail White White & Borgognoni Architects P.C. - Carbondale, Illinois

2. Photographers:

Michael L. McGuire, R. Gail White, and Nicholas C. Williams White & Borgognoni Architects, P.C. - Carbondale, Illinois

3. Delineator:

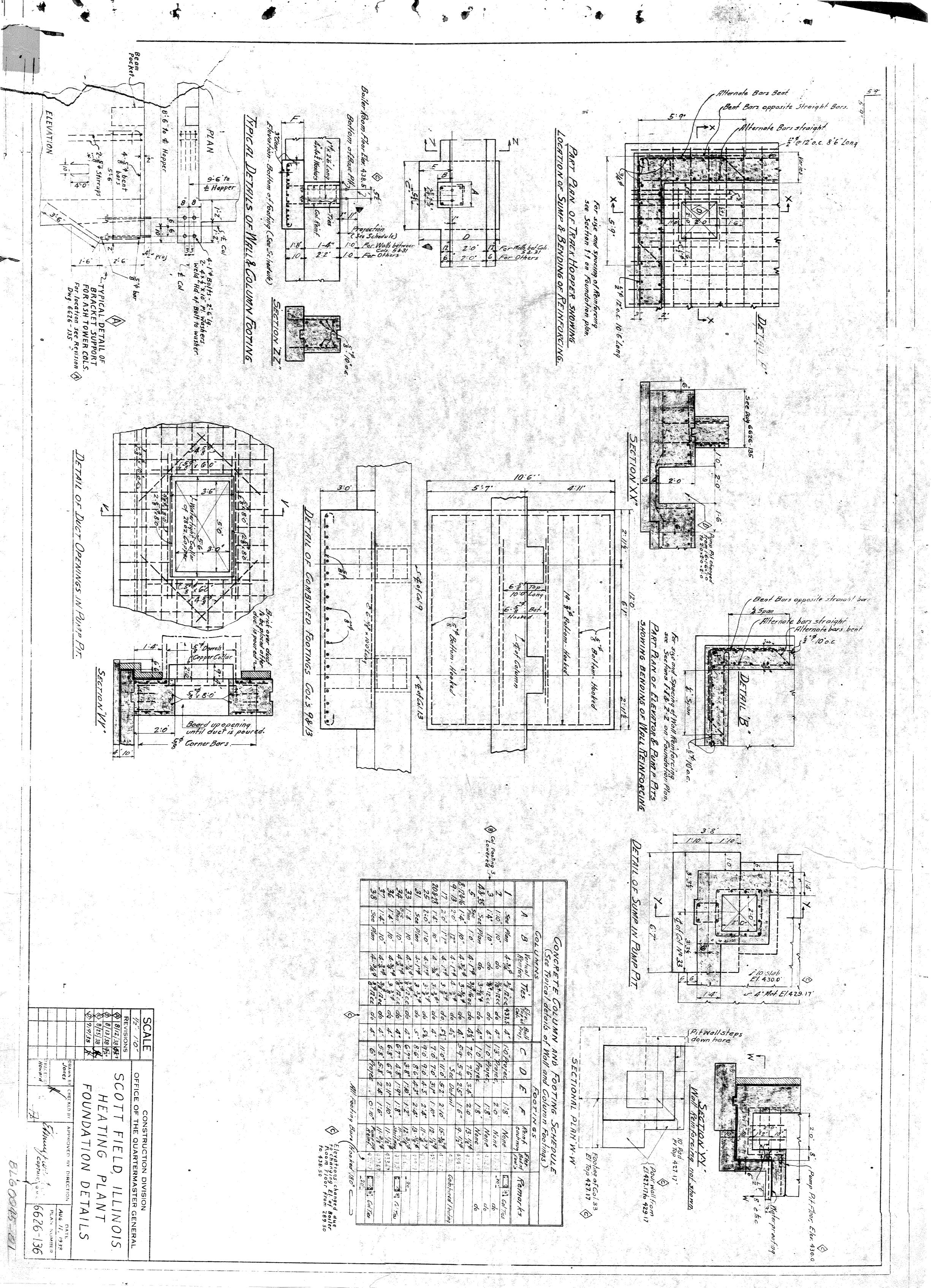
Michael L. McGuire White & Borgognoni Architects, P.C. - Carbondale, Illinois

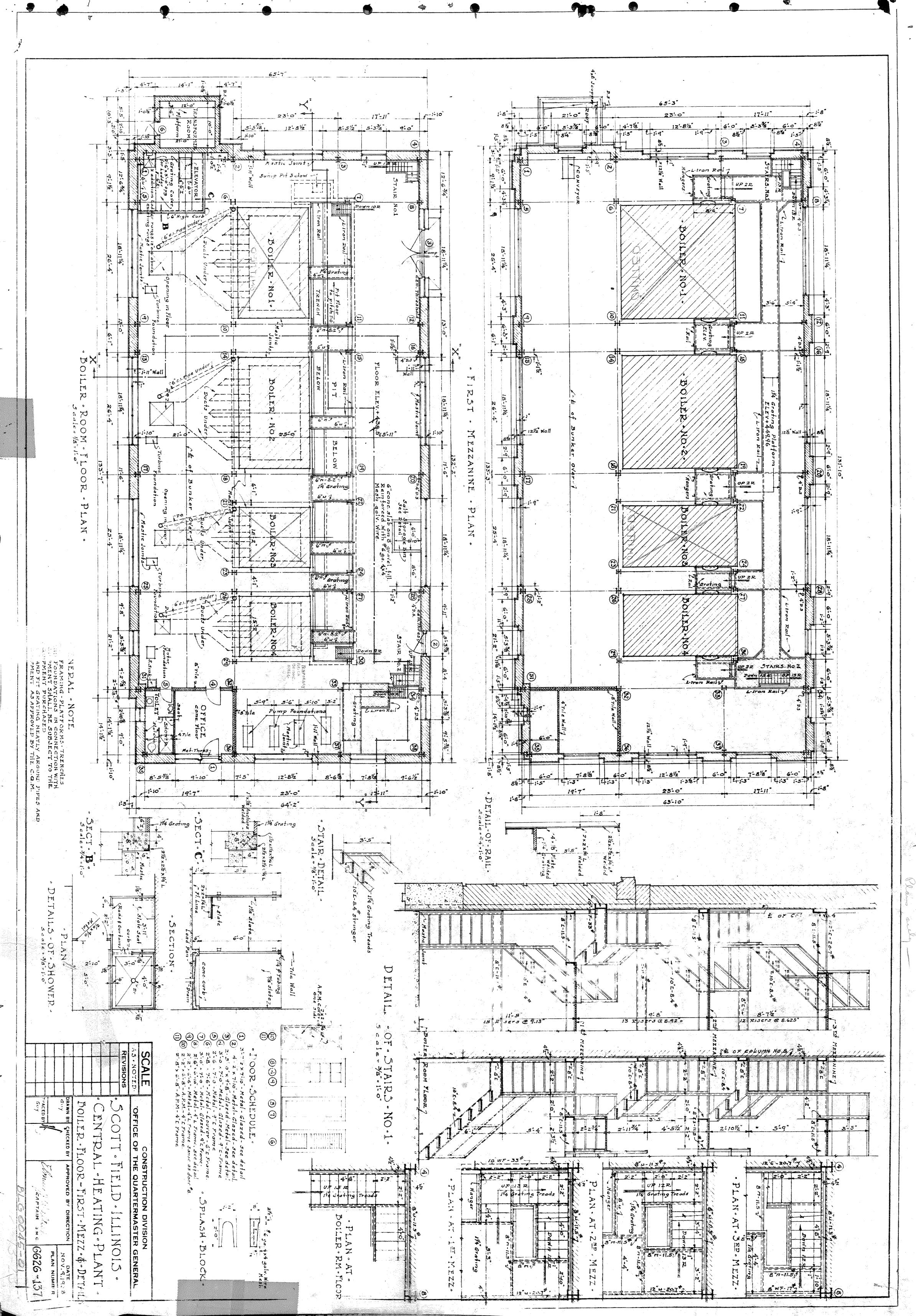
PART V. PROJECT INFORMATION

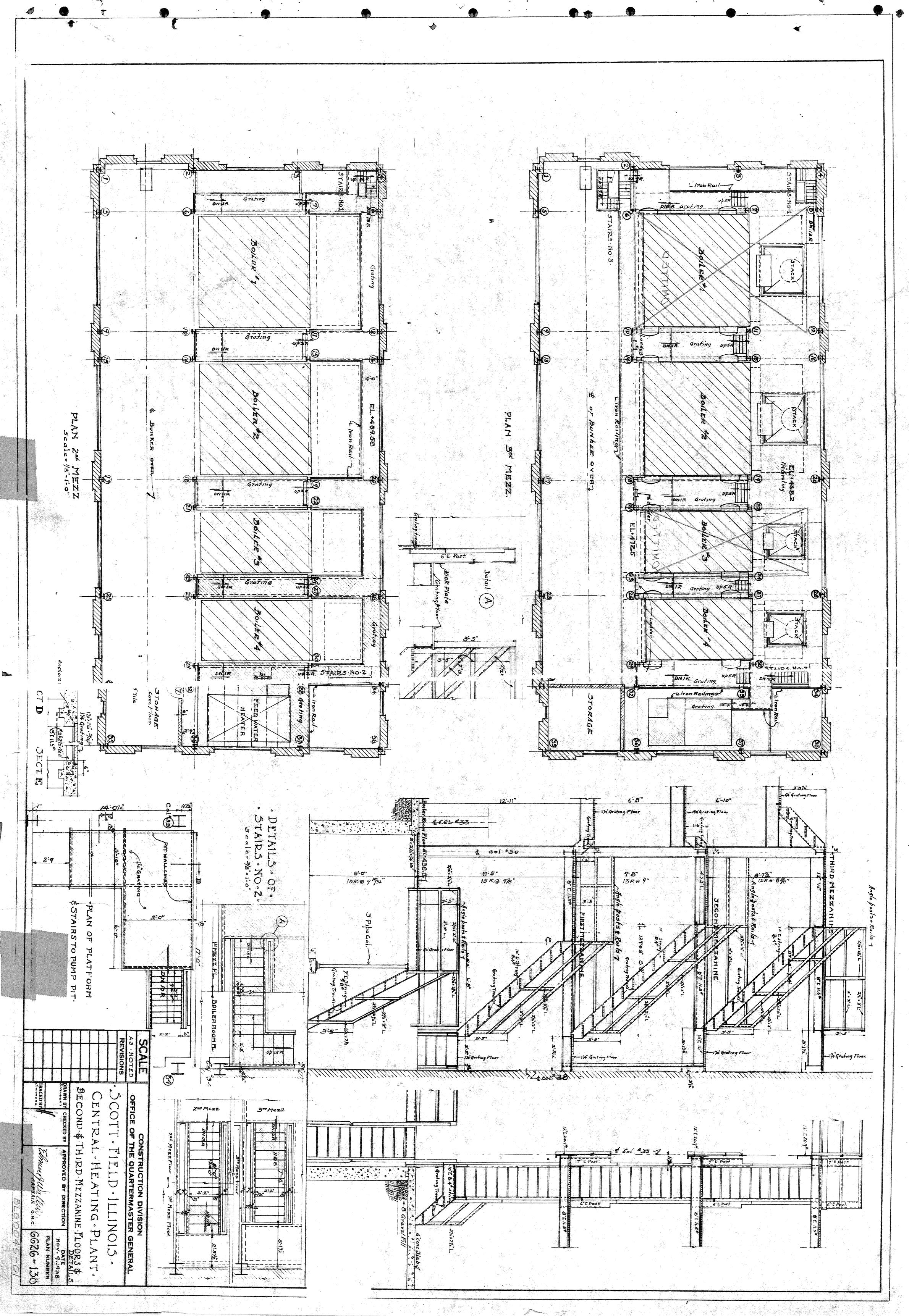
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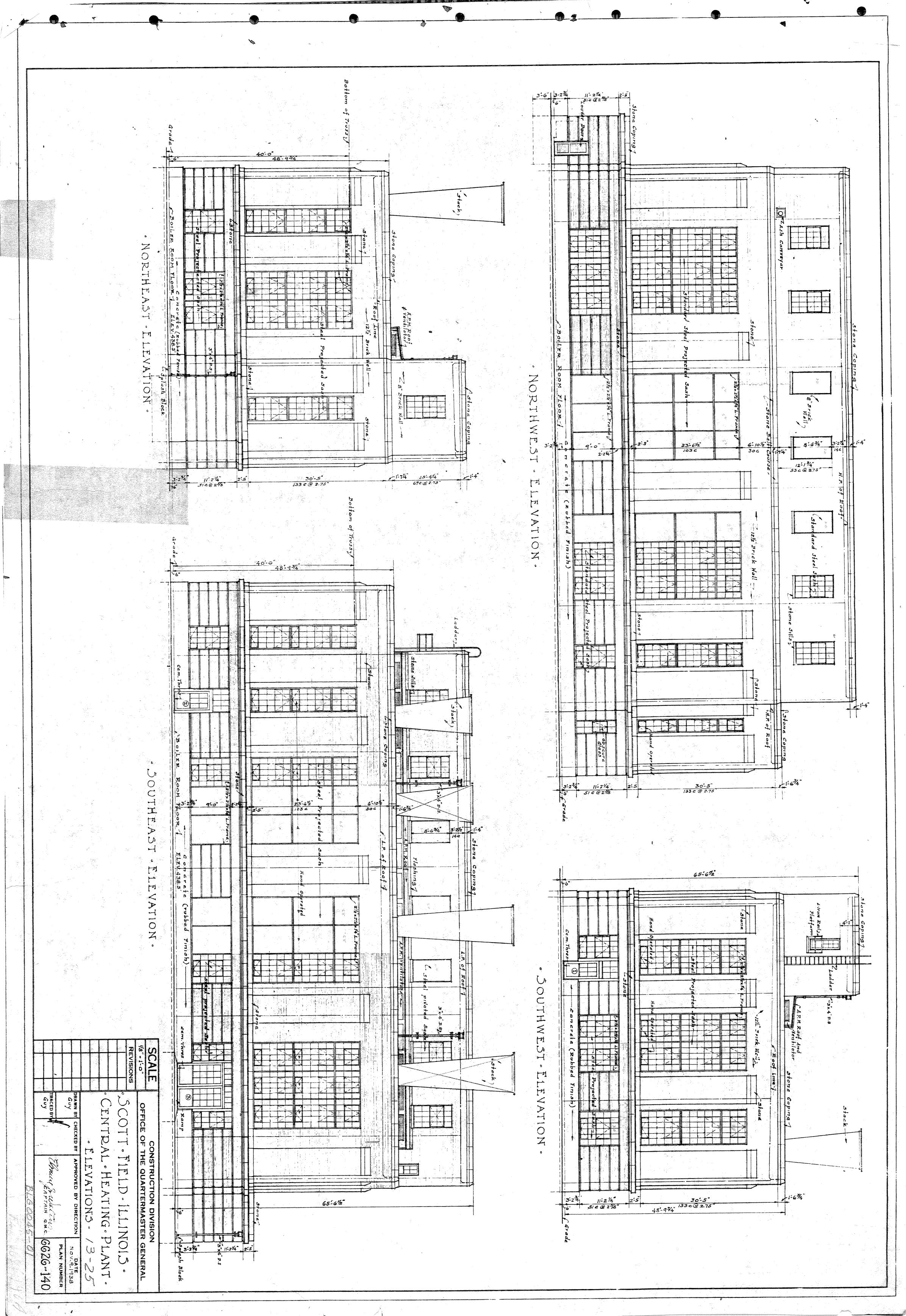
Illinois Historic American Building Survey
Building 45 (Former Building 13/Steam Plant)
IL HABS Number S-2008-1 Scott Air Force Base, Illinois

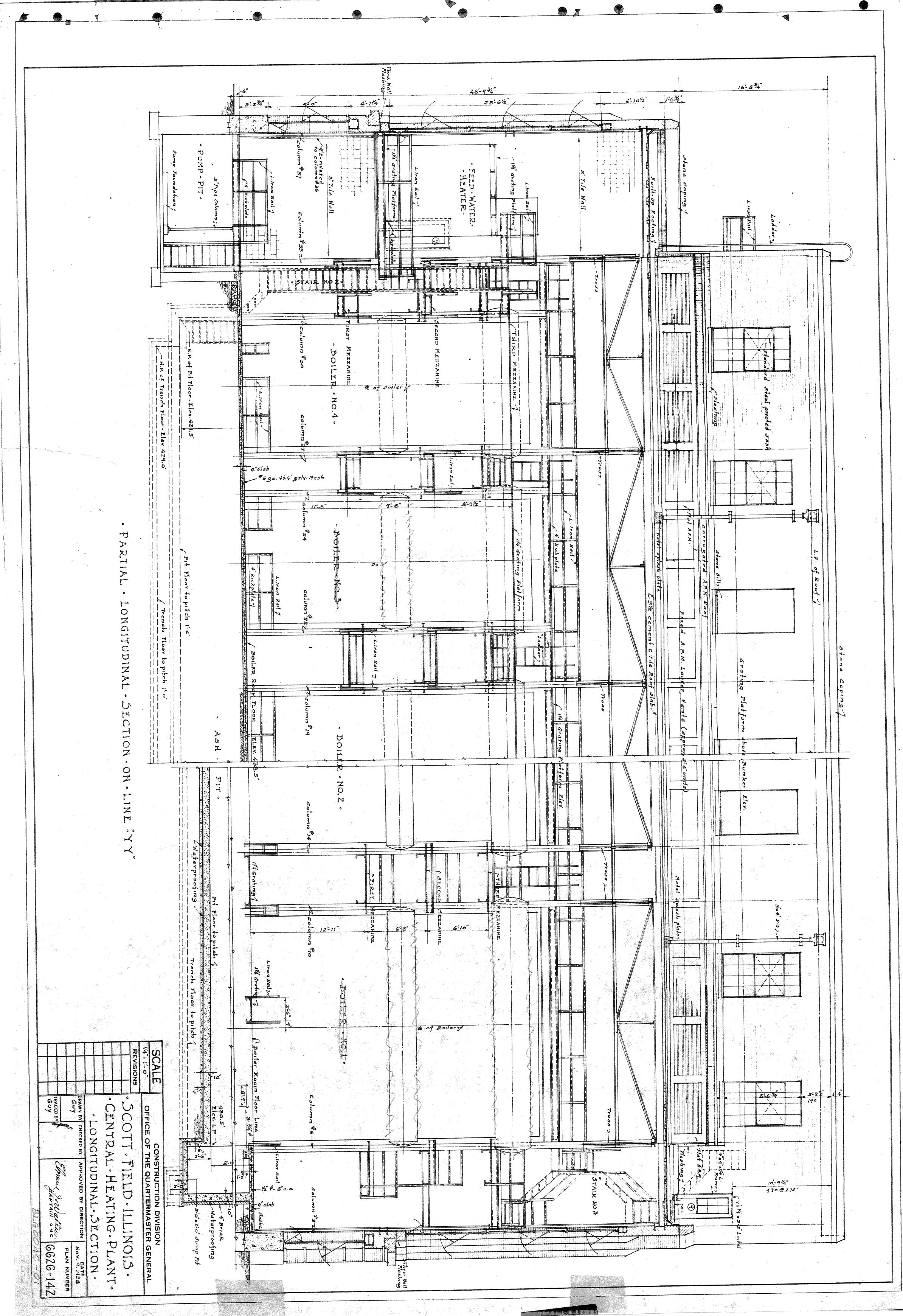
6626-136	Foundation Details
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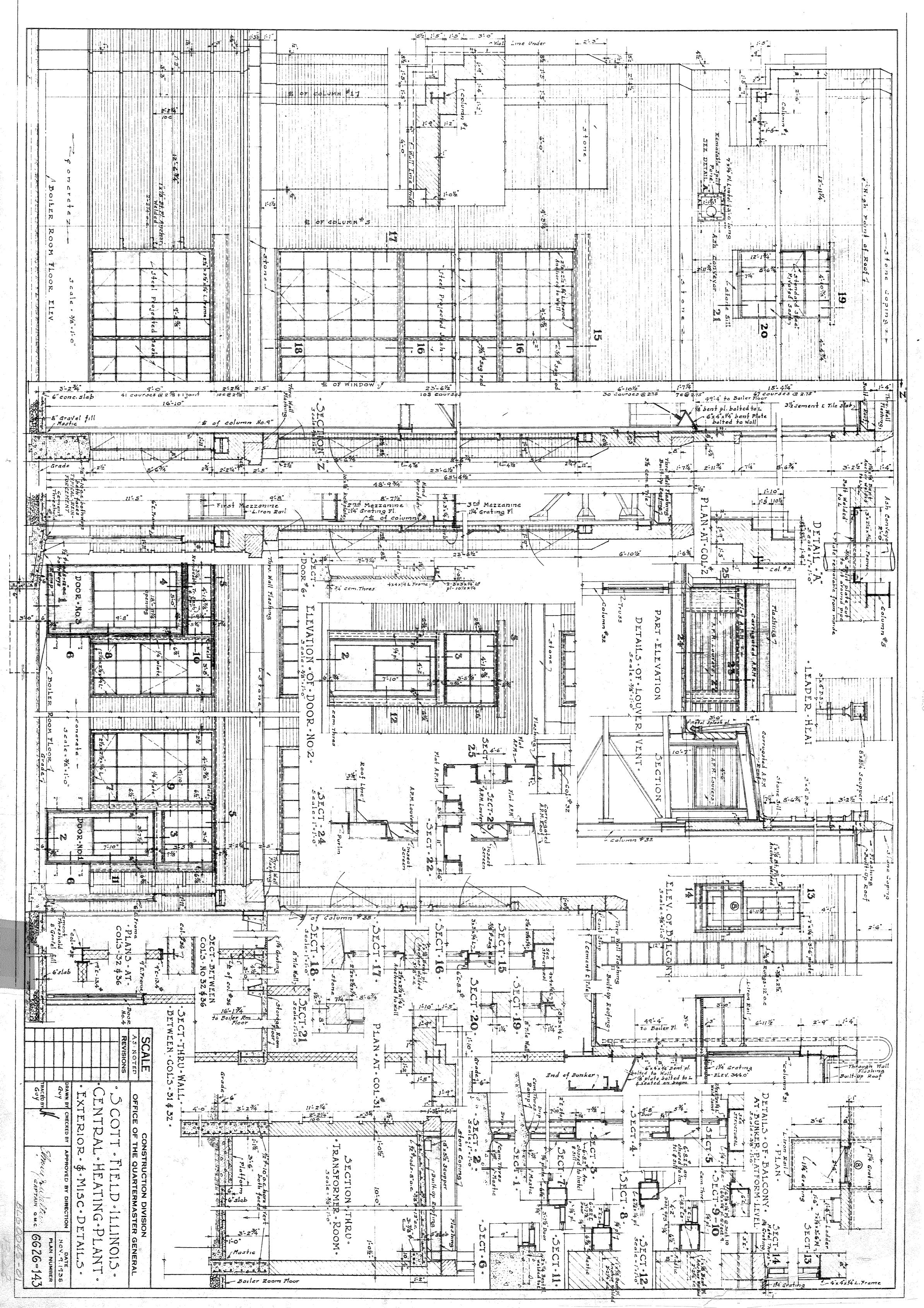


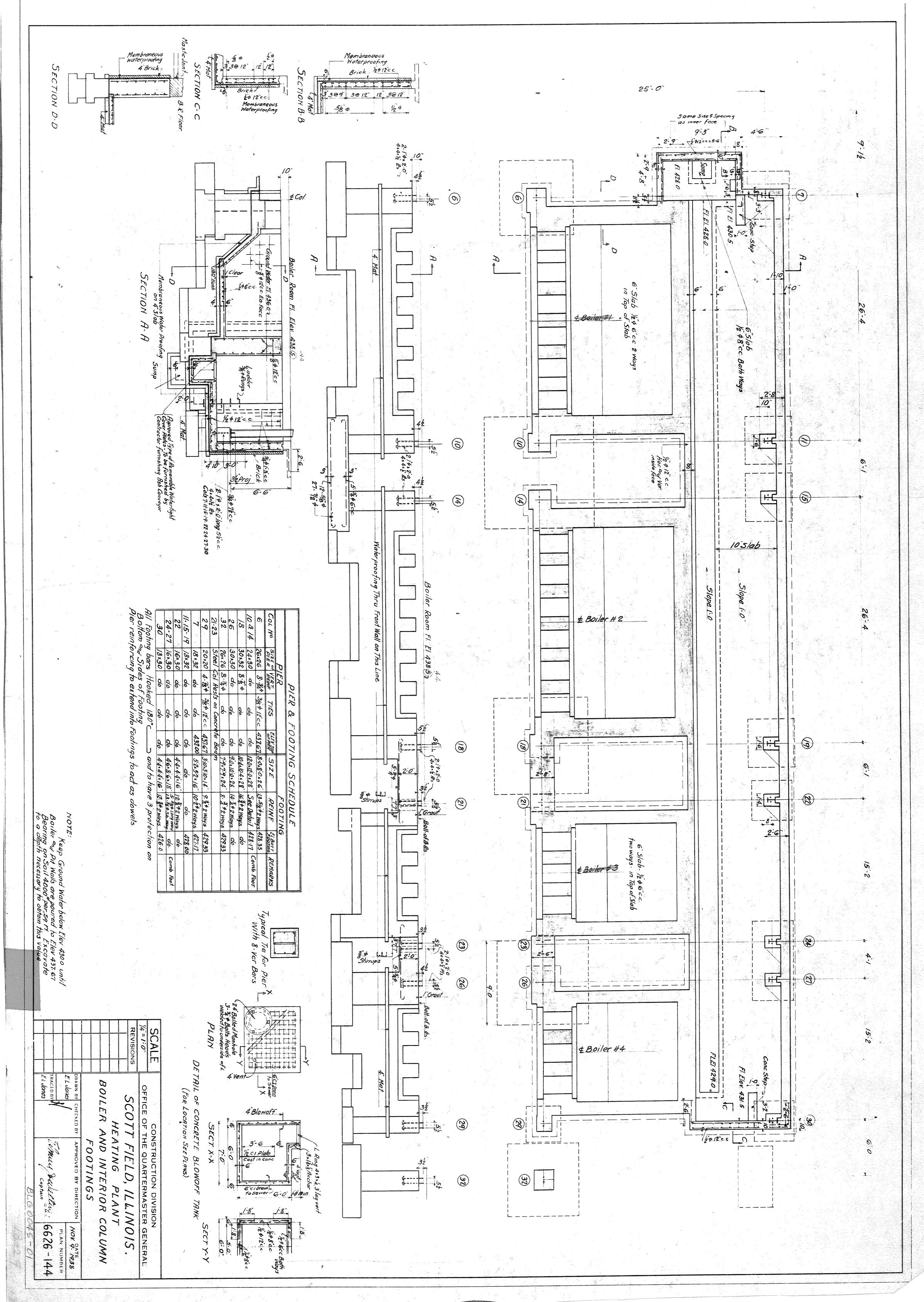


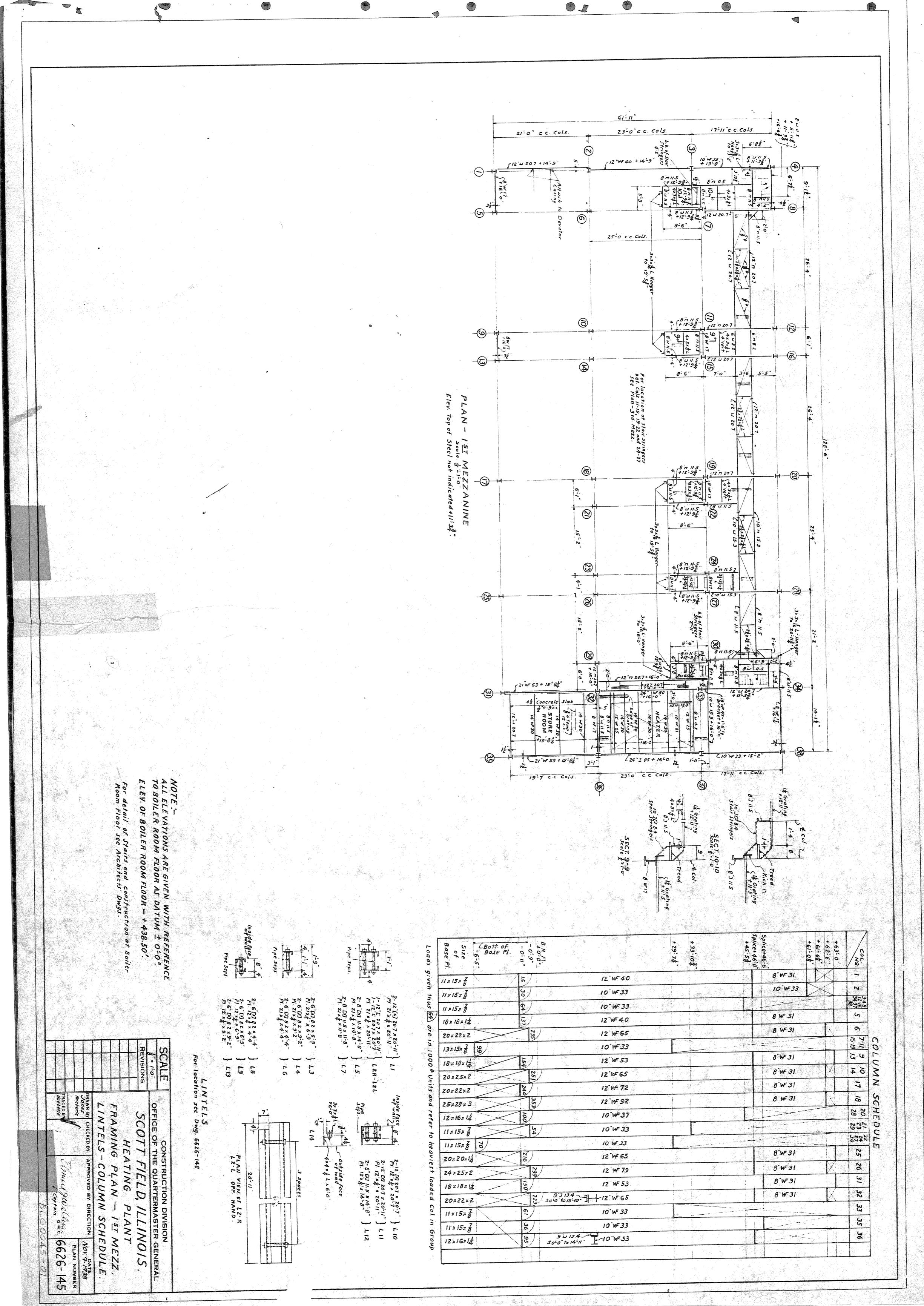


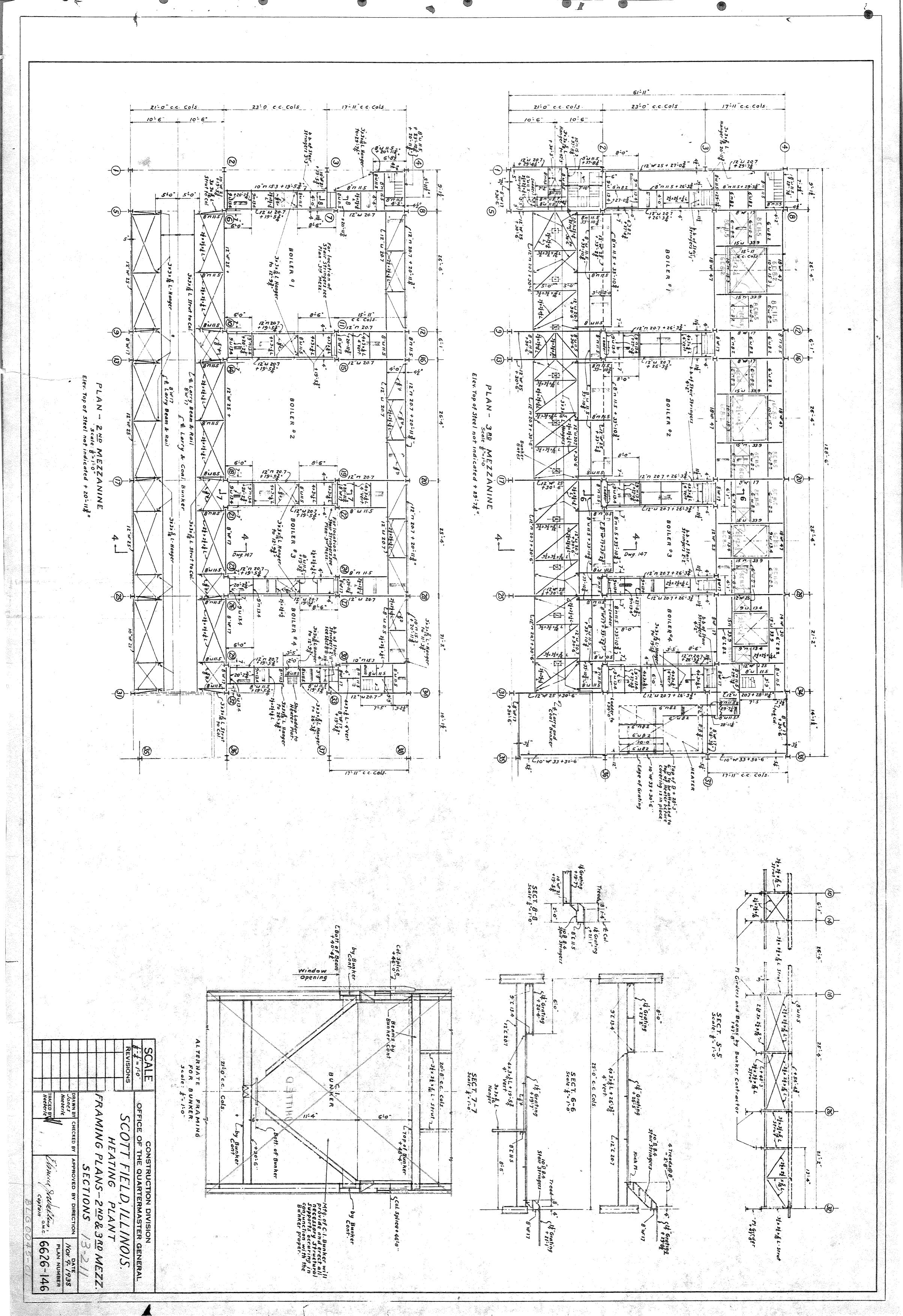


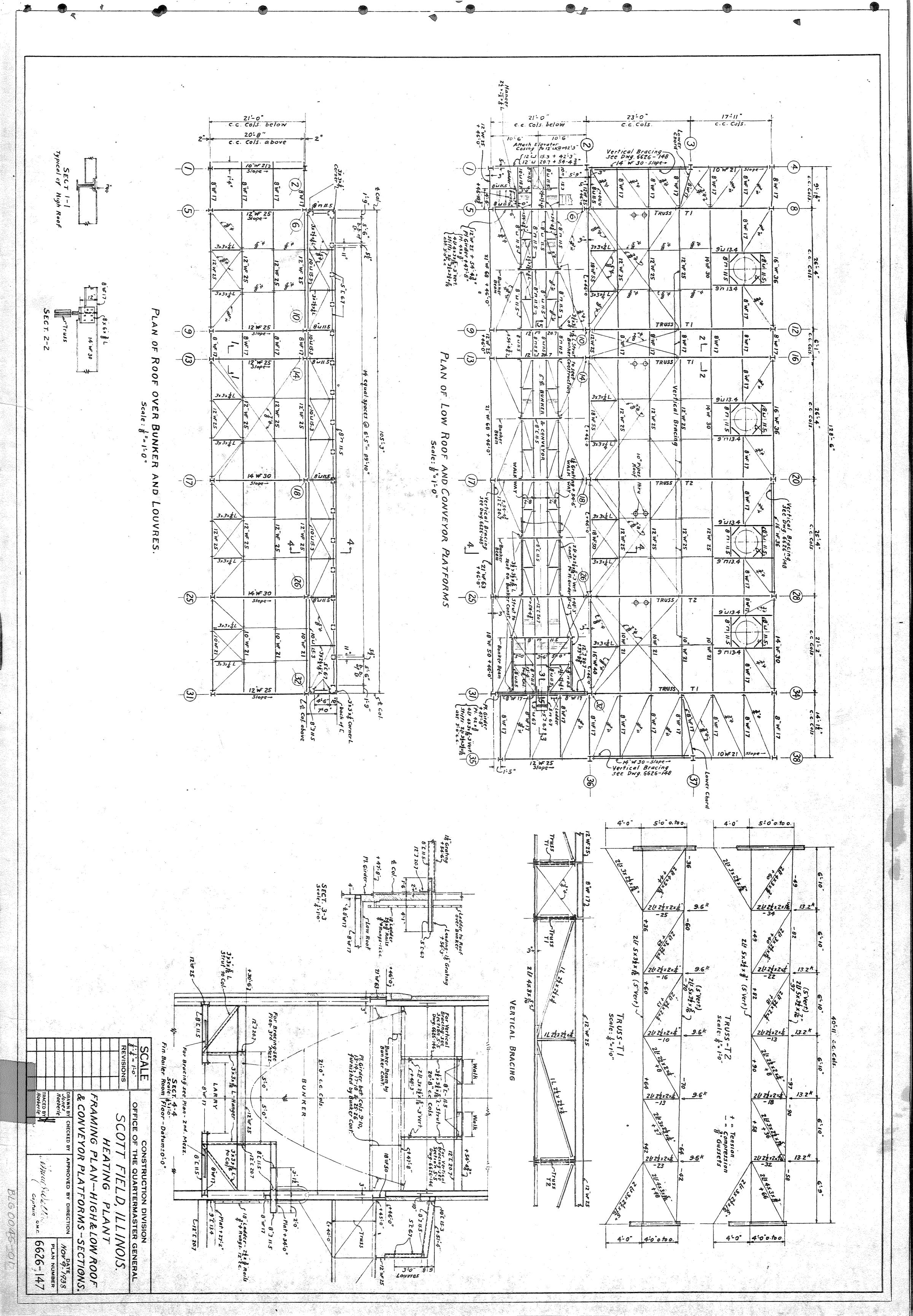


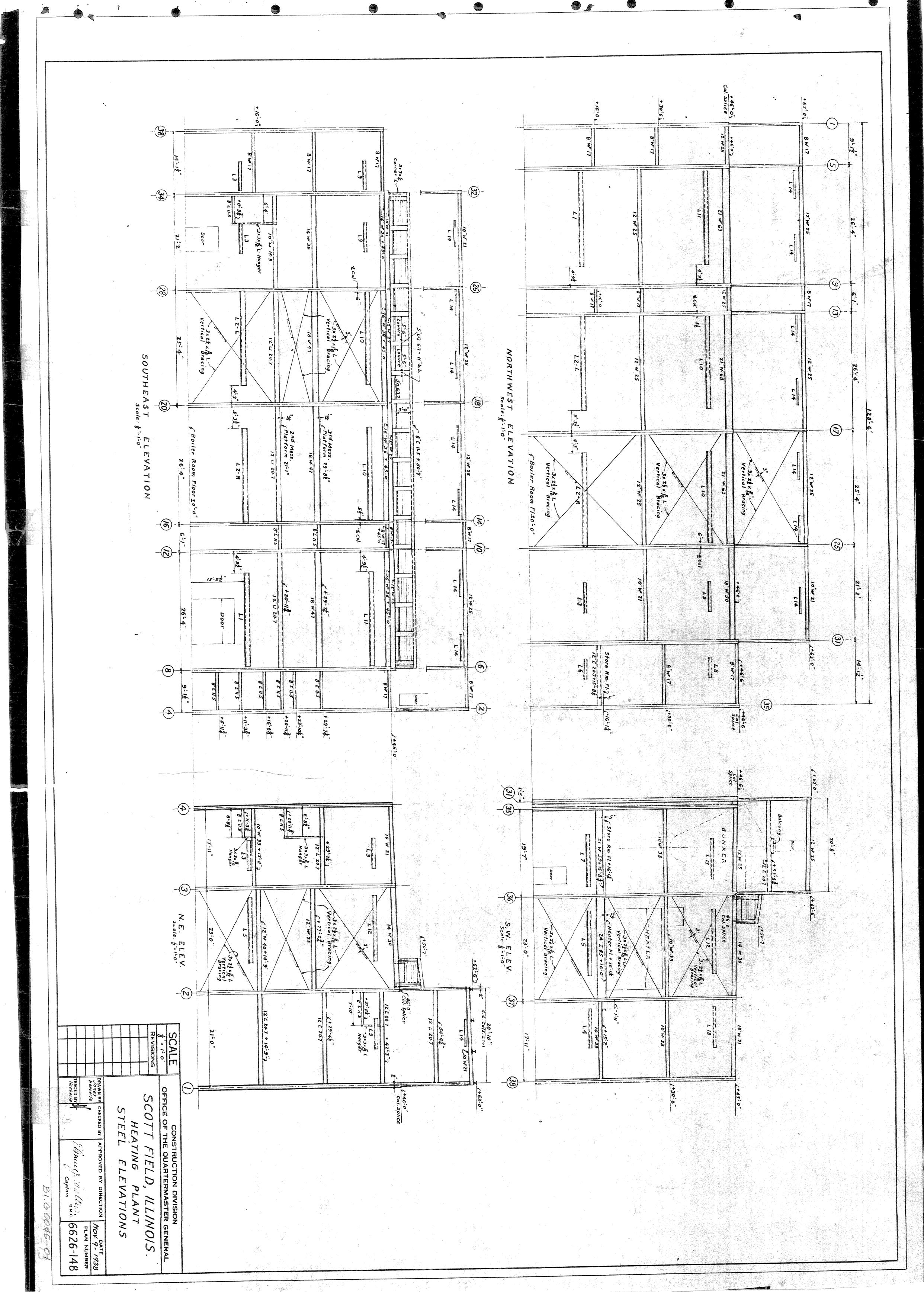


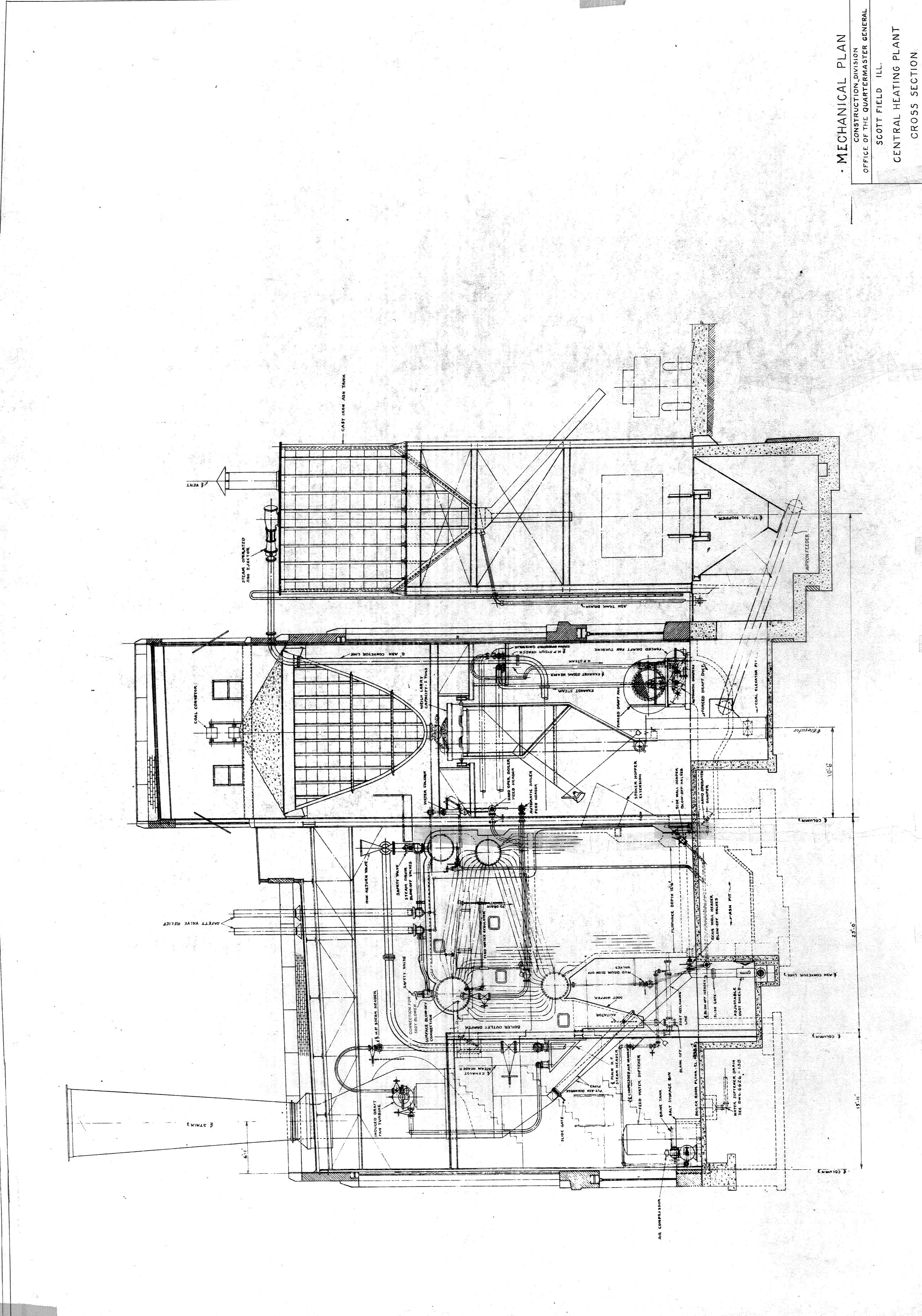




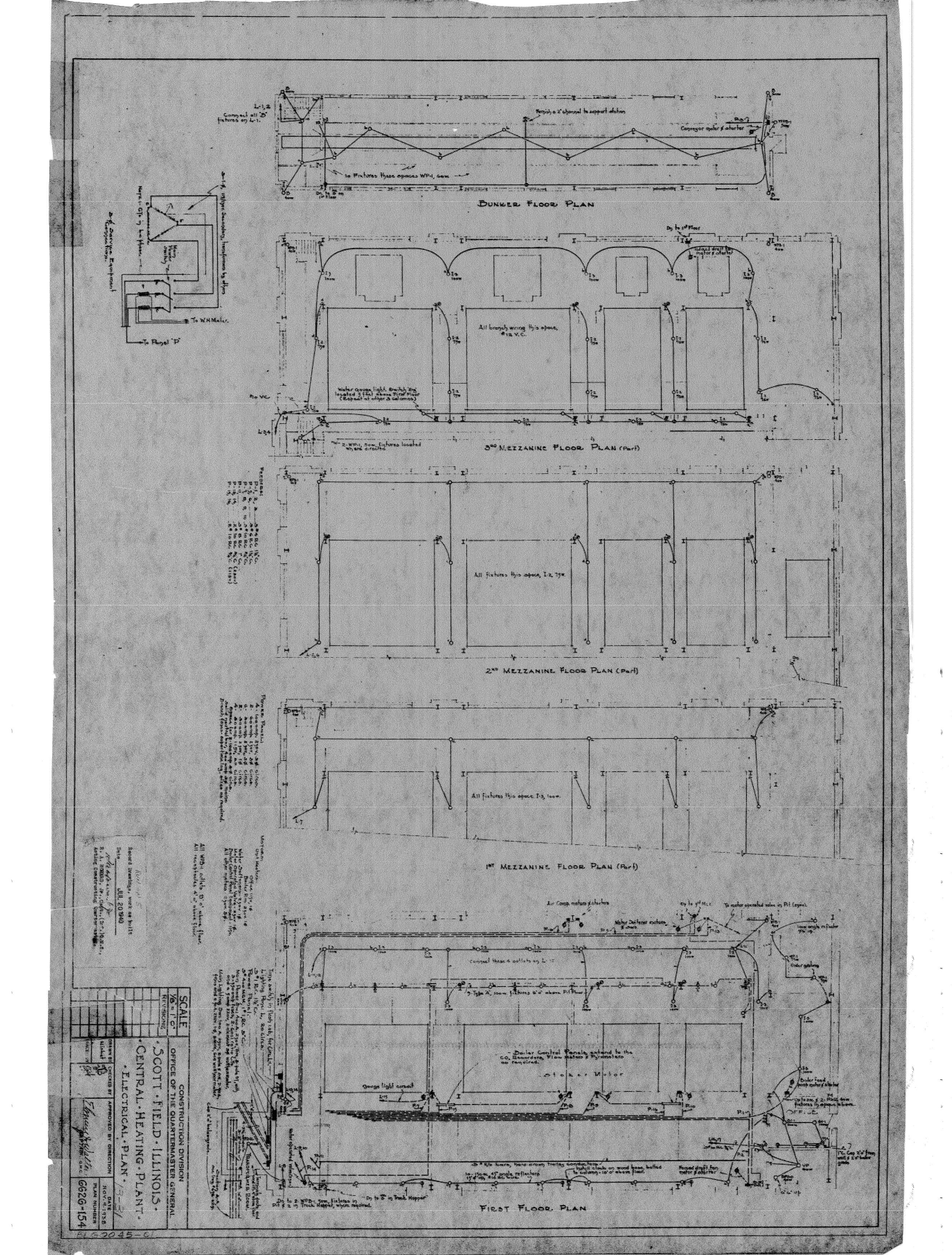


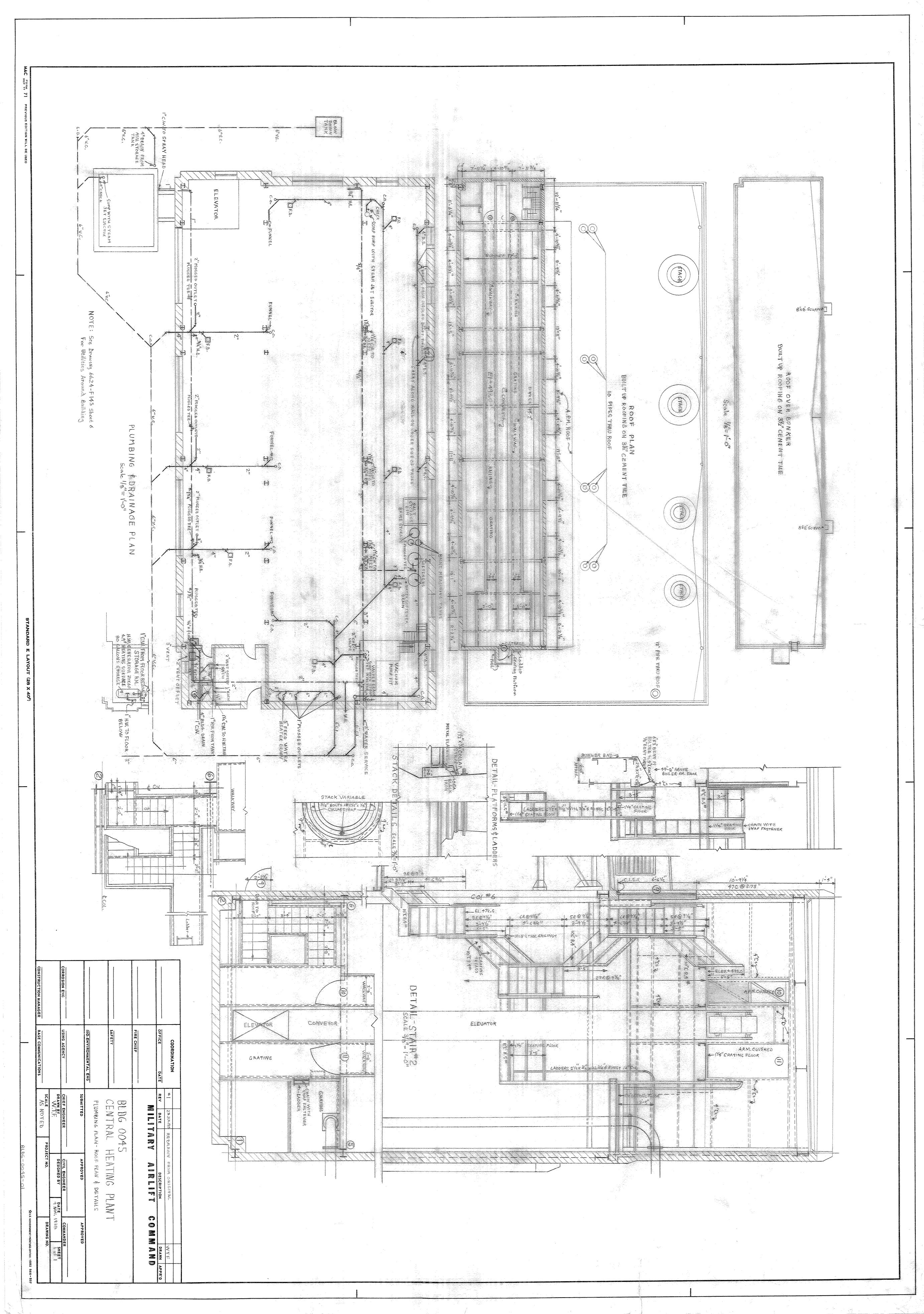






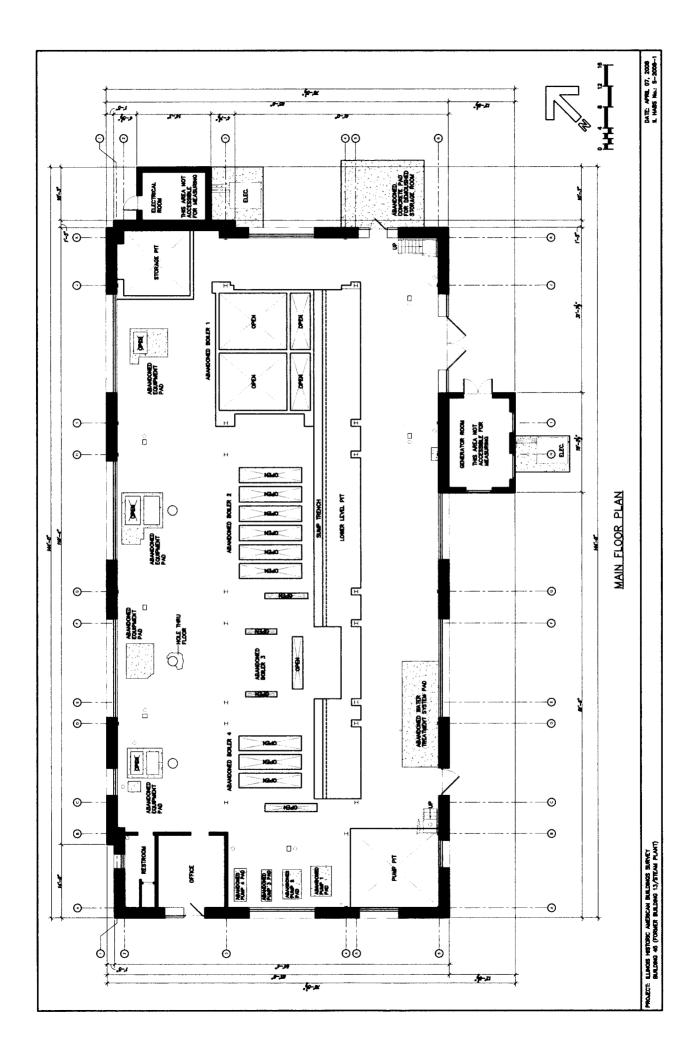
CENTRAL HEATING PLANT SECTION

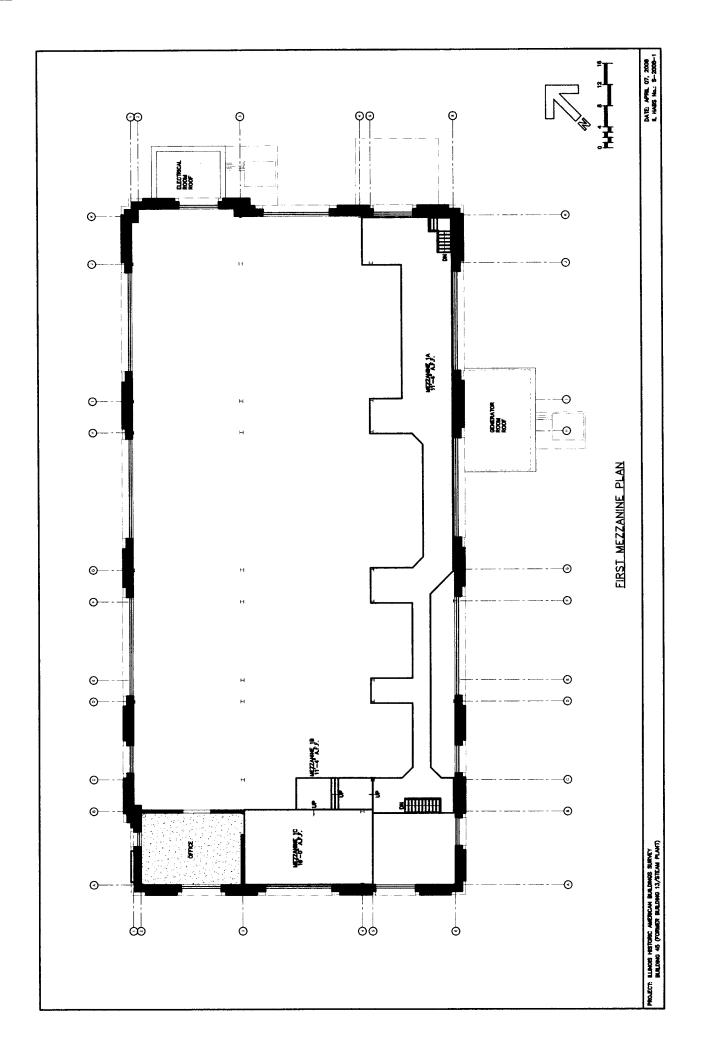


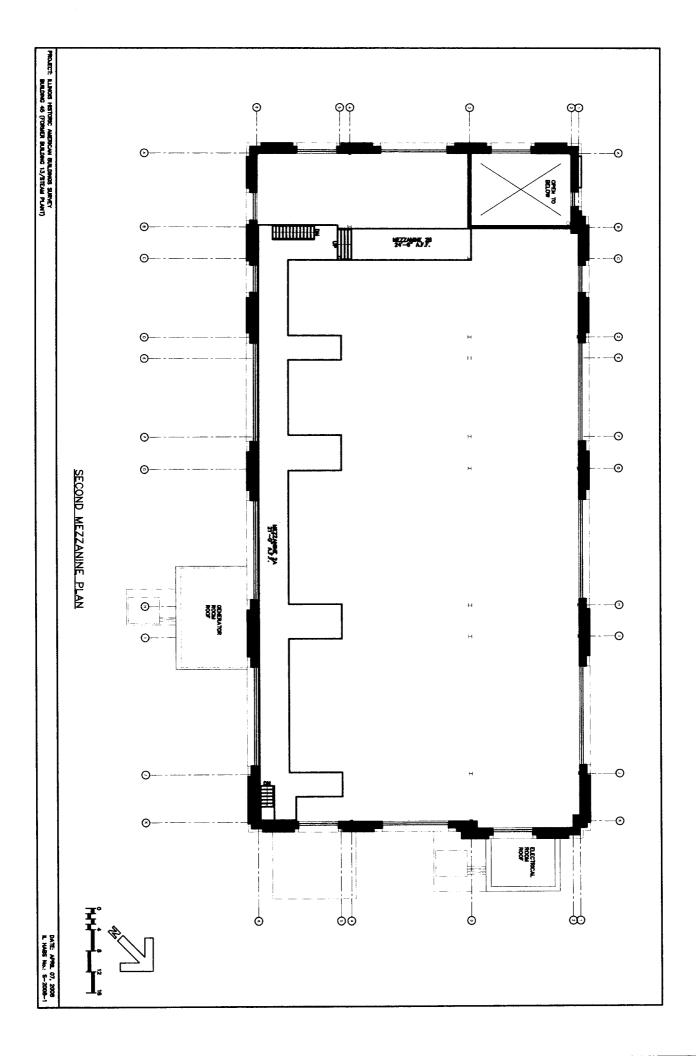


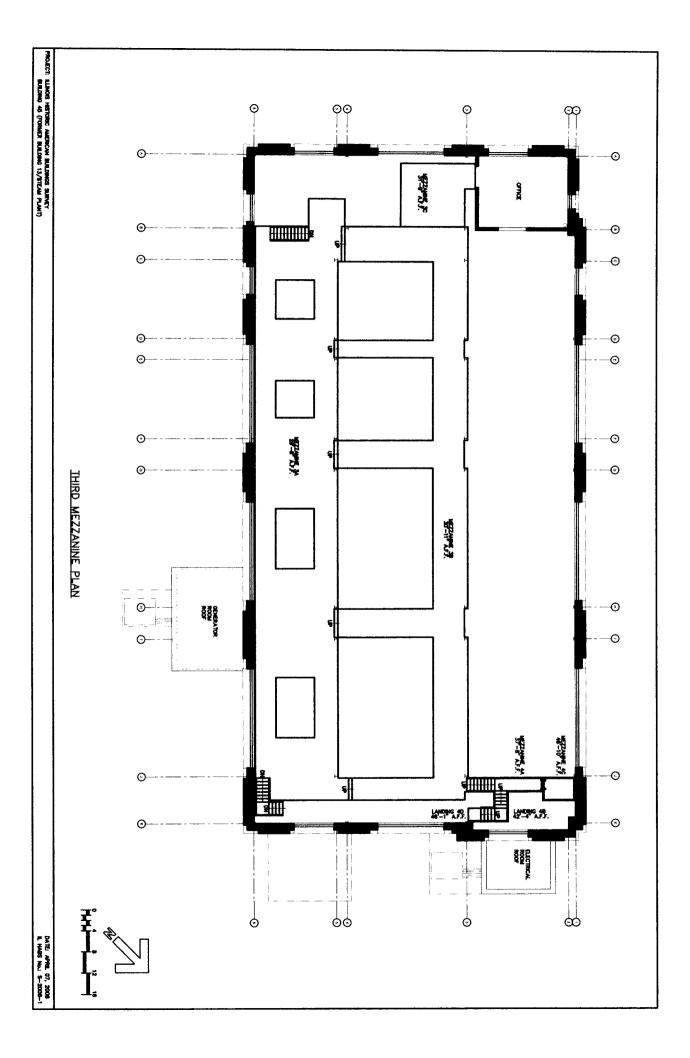
Index to Existing Conditions Sketches
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Building 45 (Former Building 13/Steam Plant)
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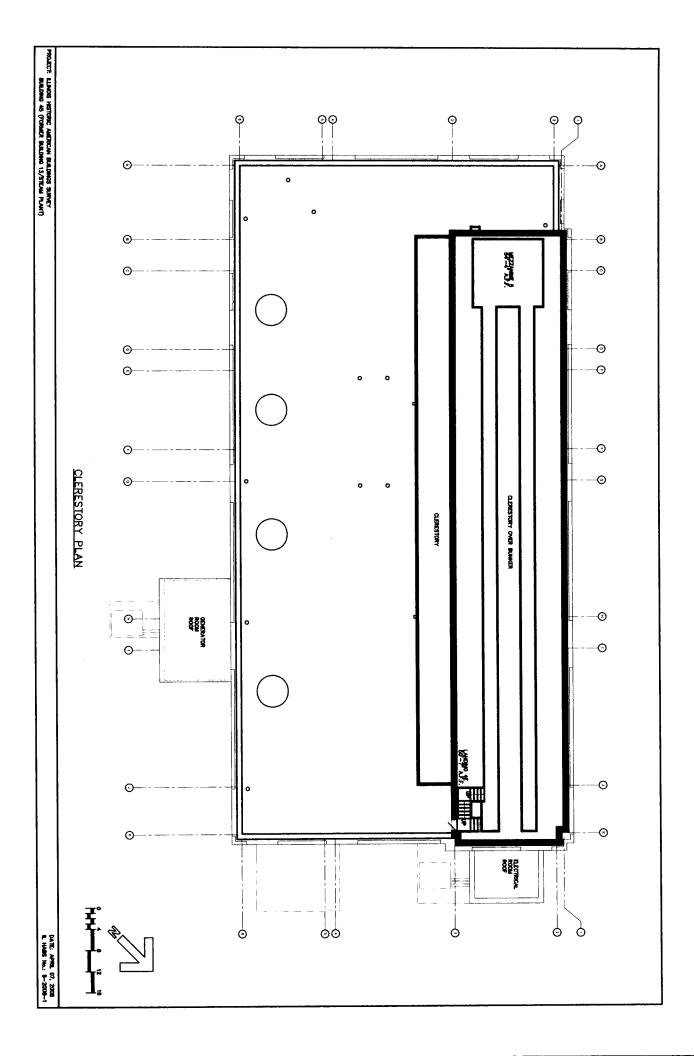
Main Floor Plan
 First Mezzanine Plan
Second Mezzanine Plan
Third Mezzanine Plan
Clerestory Plan
Roof Plan

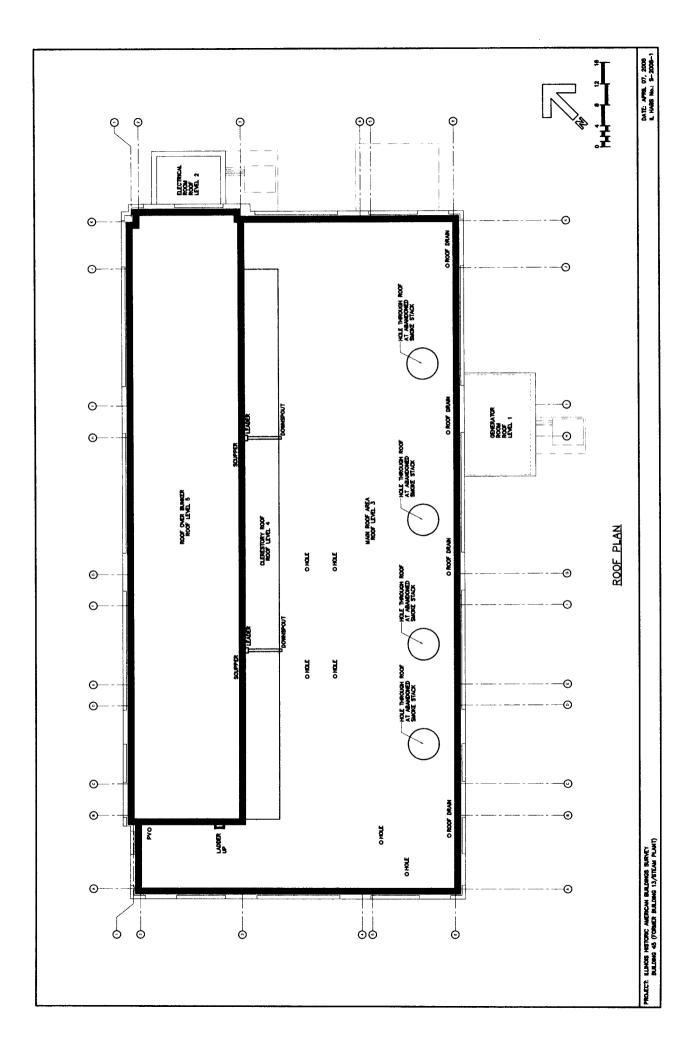






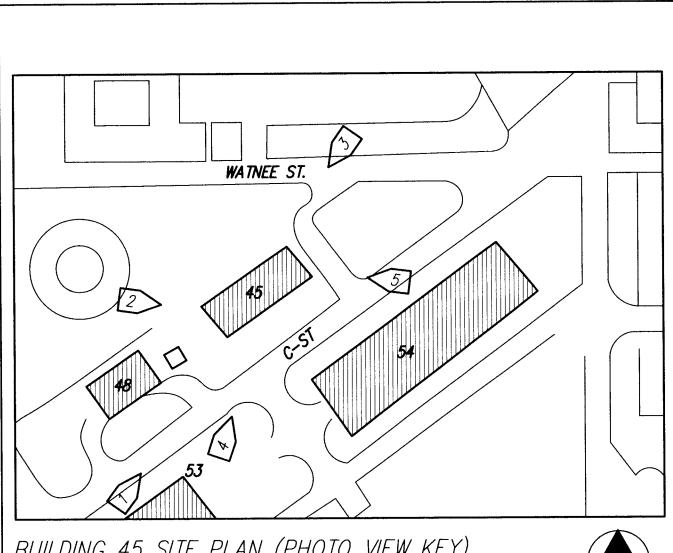






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Building 45 (Former Building 13/Steam Plant)
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IL HABS Number S-2008-1.1	Building 45 Setting — View from Southwest
IL HABS Number S-2008-1.2	Building 45 Exterior — View from Northwest
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IL HABS Number S-2008-1.12	Building 45 Interior — View Looking North and Down from Third Floor Mezzanine
IL HABS Number S-2008-1.13	Building 45 Interior — View Boiler #1 Ash Pit



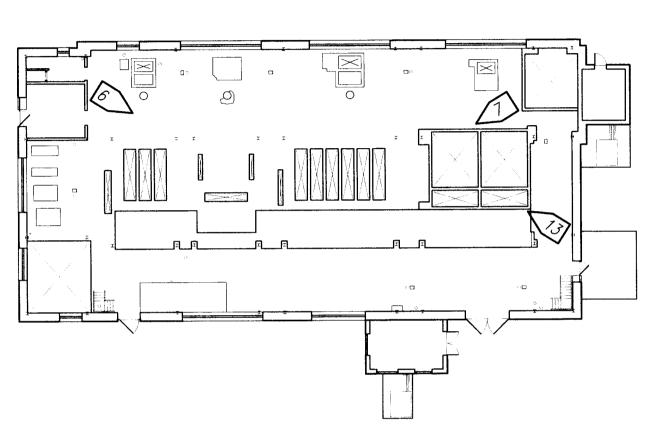
BUILDING 45 SITE PLAN (PHOTO VIEW KEY)

NOT TO SCALE



PROJECT:
ILLINOIS HISTORIC AMERICAN
BUILDING SURVEY
BUILDING 45 (FORMER BUILDING 13/STEAM PLANT)

DATE: MARCH 24, 2008 IL HABS No.: S-2008-1



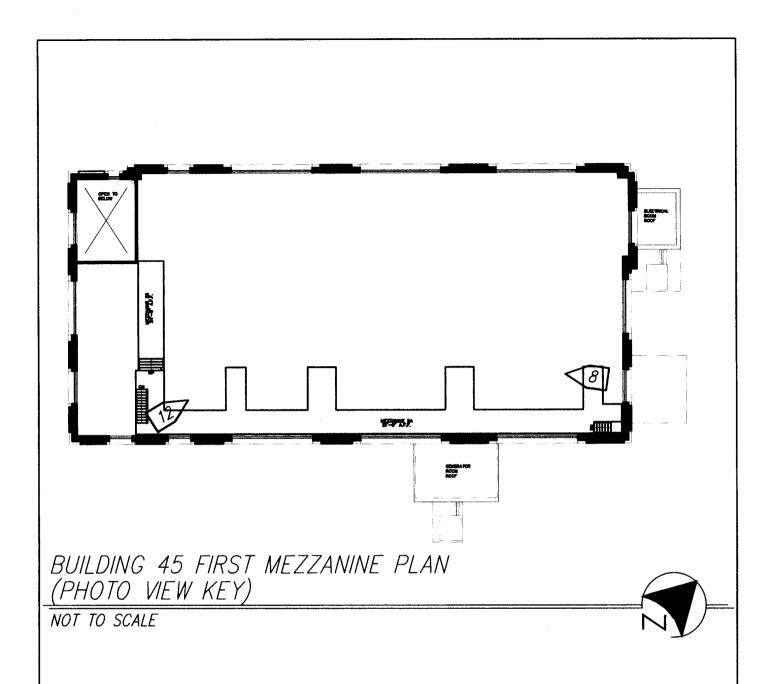
BUILDING 45 MAIN FLOOR PLAN (PHOTO VIEW KEY)

NOT TO SCALE



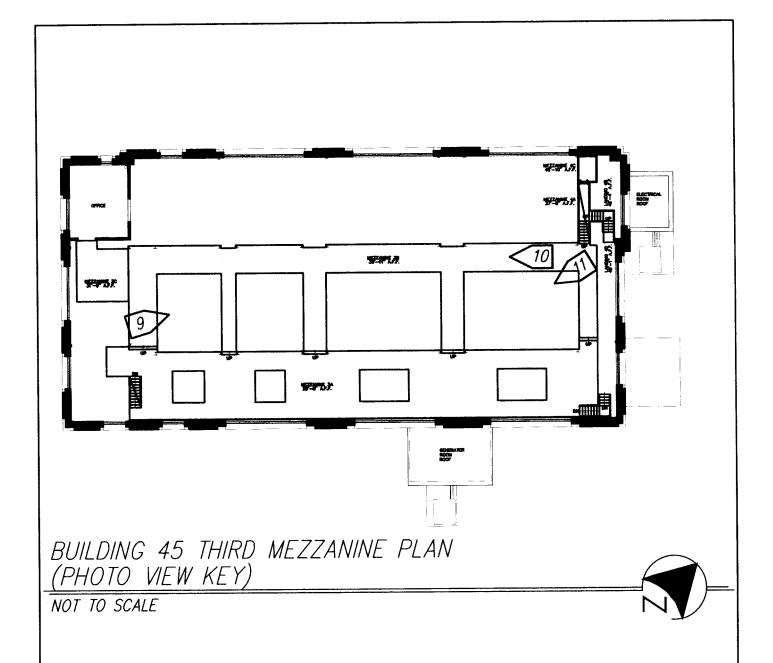
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PROJECT:
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PROJECT:

ILLINOIS HISTORIC AMERICAN BUILDING SURVEY

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