MICHIGAN STATE
UNIVERSITY

INFRASTRUCTURE PLANNING AND FACILITIES
PLANNING, DESIGN AND CONSTRUCTION

January 13, 2026

TITLE OF PROJECT: Human Ecology – Replace Roofs and Complete Masonry Restoration

PROJECT ISSUE DATE: December 10, 2025

PROJECT NUMBER: CP24039

ADDENDUM NO: 01

GENERAL

This Addendum is issued prior to receipt of Proposals to amend the Contract Documents identified as Human Ecology – Replace Roofs and Complete Masonry Restoration, Bid Set (BD-0001).
Except as otherwise specifically mentioned, the general character of the work required by this Addendum shall be the same as originally specified, and all incidentals required in connection with the work hereinafter described shall be included even though not specifically mentioned. When an item is mentioned with additional specifications given, reference shall be made to the original specifications.

Documents(s) accompanying this Addendum include:

ITEM NO.	DESCRIPTION
1	Pre-Bid Walkthrough Sign-in Sheet, dated January 6, 2026
2	Building Envelope Study by RTA, dated August 6, 2021
3	Original Building Record Drawings, dated 1922
4	Specification Section 012100 – Allowances
5	Specification Section 012200 – Unit Prices
6	Specification Section 012300 – Alternates
7	Revised Bid Due Date: Tuesday, February 3, 2026 @ 3p.m.

CP24039 - Human Ecology Replace Roofs & Complete Masonry Restoration
Prebid Walkthrough Sign-in (01/06/2026)

Name	Company	Title	Phone	Email
Carter Vandlen	Laux Construction	Estimator	(517) 694-0117	Estimating@lauxconstruction.com
Vincenzo Vitale	Ram Construction	Project engineer	734-676-3310	vvitale@ramservices.com
Rick Achley	Bornor Rest.	Estimater	(517) 749-0625	Rickk@Bornor.com
David Mead	Bornor Rest	Estimator	517 4821925	dmead@bornor.com
Tom Ward	D.C. Byers	Estimator	734-770-3691	tward@addressdetroit.com
Dave McAllum	Bornor Restoration	Estimator	517 2021433	davem@bornor.com
Joe Westerbeke	Eng.	Engineer	630.441.4238	westerbeke@angelat.com
Sam Sucura	Royal Roofing	Estimater	586 246-5600	ssucura@Royal-Roofing.com
Rob Beard	Davenport	Estimator	517 927 1354	rbeard@davenportmasonry.com
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Max Glover	CEI Michigan LLC	Estimator	248-613-6031	mglover@ceigroupllc.com
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— n.?	mihm ↗	Estimator	269-751-5522	info@mihmenterprises.com

Bill Bremer	MIHM Enterprises	Estimator	231-590-6906	Dbrem820@gmail.com
Michael Cygan	Colasanti	VP Estimat	248-520-4613	mcygan@colasantigroup.com
Dan Walcutt	Nielsen Const.		517-896-0735	dwalcutt@nielsenconstructioninc.com
Stephen Gerwolls	National Restoration Inc.	Estimator	(248) 885-2085	[redacted]Jacob@nationalrestoration.net

ROOFING TECHNOLOGY ASSOCIATES, LTD.

38031 SCHOOLCRAFT
LIVONIA, MICHIGAN 48150-1065
(734) 591-4444 ● FAX (734) 591-1660 ● E-MAIL: rta@rtaltd.com
Web site www.rtaltd.com

August 6, 2021
Project No. 21-054

Planning Design Construction
Infrastructure Planning and Facilities
Michigan State University
East Lansing, MI 48824

RE: BUILDING ENVELOPE STUDY
Human Ecology Building
552 W Circle Dr.
East Lansing, MI 48823

In accordance with our agreement, a building envelope study was performed on the above-referenced building by representatives of Roofing Technology Associates, Ltd. (RTA) on July 19th, 2021. The purpose of the study was to analyze and evaluate the existing conditions in order to develop conclusions, recommendations and budget estimates for corrective action.

Photographs that were taken during the study and are attached to this report to add clarity to our findings. They are grouped as follows: Asbestos Tile Roofs, Low-slope Roofs, and Masonry. A Roof Area ID Plan, which was provided by you, is also attached to the end of this report.

GENERAL CONDITIONS

The project building was constructed around 1922. The roofs on Areas 1 and 5 are reported to have been installed around 1924. The roofs on Areas 2, 4, 7, and 11 are reported to have been installed around 1966. Area 3 was installed in 1980. Areas 6, 8, 9 and 10 were replaced in 2018 (See *Figure 1: Roof Plan* below).

Areas 1, 5 and 11 are steep sloped roofs covered with asbestos tiles. Areas 2, 4 and 7 are covered with coal-tar pitch built-up roof systems. Areas 6, 8, 9 and 10 are covered with modified bitumen roof systems.

EXISTING CONDITIONS – Asbestos Tile Roofing (Areas 1, 5 and 11)

The roofs of Areas 1, 5 and 11 are covered with asbestos tile and copper roofing. The asbestos tile roofing is present on the main slopes of the building and on the walls of the dormers. The asbestos tile roofs drain into copper gutters and downspouts. The copper roofs are located on top of the dormers. The copper roofs drain over their eave edges onto the asbestos tile roofs.

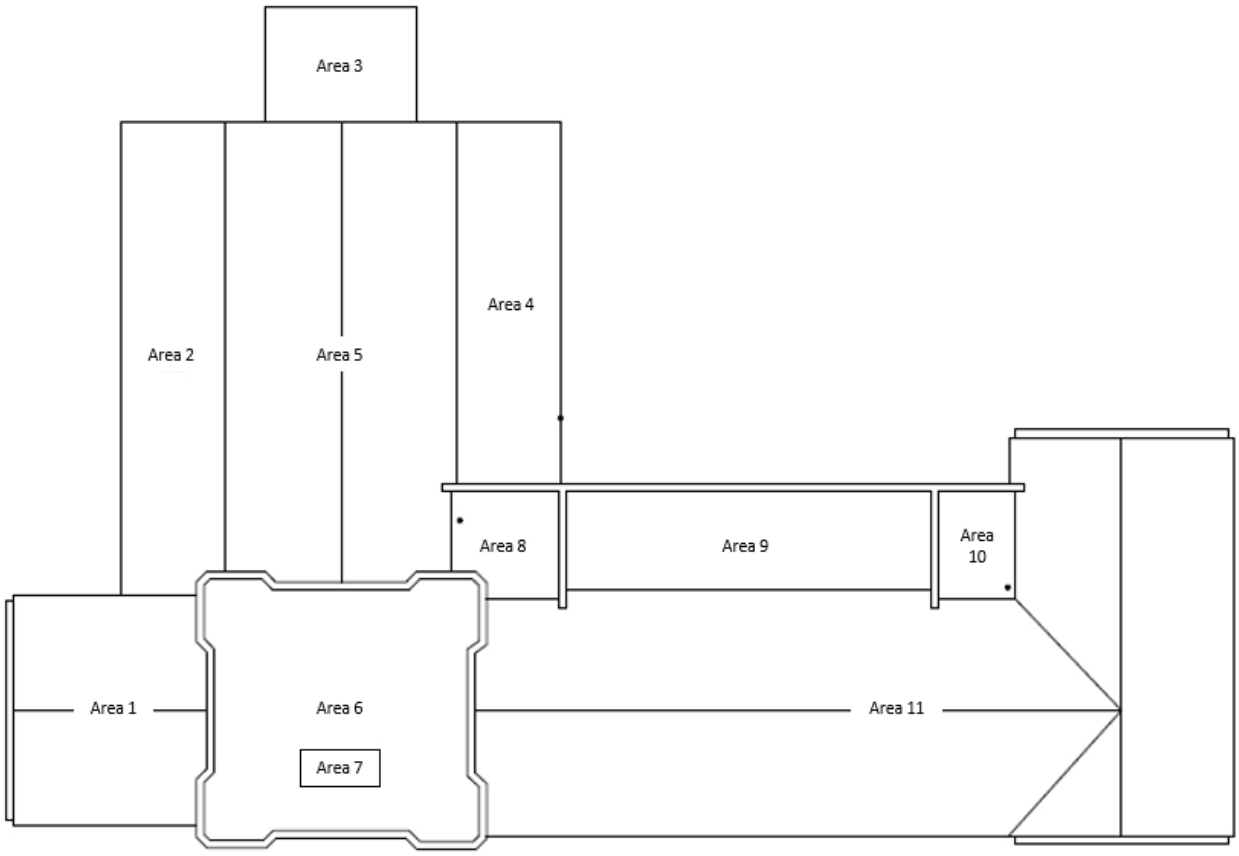


Figure 1: Roof Plan

The asbestos tile roofs cannot be walked upon safely or without causing further damage and were thus observed from a man-lift, which was provided and operated by MSU staff. The existing asbestos tiles on the roofs are in poor condition overall. The copper roofs on the towers and turrets appeared weathered with stains and pitting. The following deficient conditions were observed during the survey of the roofs:

Area 1:

1. Moss is growing between the asbestos tiles (Photo Report: Asbestos Tile Roofs, Photos 1, 2, 4 and 5).

2. The asbestos tiles are stained and weathered with age (Photos 1, 2, 4, 5, and 9-12).

3. The slope on the roof of the dormer on the north facing is not steep enough for asbestos tile shingles to properly shed water (Photo 6). The wood trim around the louvers is weathered and beginning to warp/split (Photo 3).

4. There are numerous broken asbestos tiles on the south facing, as they have become brittle with age (Photos 7, 11, and 12).

5. The copper step flashing is bent away from the wall (Photos 7 and 12).

Area 5:

1. Moss is growing between the asbestos tiles (Photo 20).

2. The asbestos tiles are stained and weathered with age (Photos 14 - 19, and 21).

3. There are numerous broken asbestos tiles on the both the east and west facings, as they have become brittle with age (Photos 14 - 19, and 21).

4. The copper gutter is functional but has begun to pull away from the wall in the corner (Photo 23).

Area 11:

1. The asbestos tiles are stained and weathered with age (Photos 27, 30, 31, and 34).

2. There are numerous broken asbestos tiles on the all facings, as they have become brittle with age (Photos 27, 30, 31, 34, 35, and 36).

3. Moss is growing between the asbestos tiles on the north facing (Photos 40 and 41).

4. There are a few loose/missing asbestos tiles (Photos 39 and 42).

5. The copper roofs and framing on the dormers are stained and pitting (Photos 28, 29, 33, and 34).

EXISTING CONDITIONS – Low-slope Roofs (Areas 2, 3, 4, and 6 through 10)

The roofs of Areas 2, 3, 4 and 7 are covered with coal-tar pitch built-up roofing. These roofs are well past their service life in age. Areas 6, 8, 9 and 10 are covered with modified bitumen roofing. These roofs are relatively new and should remain serviceable for another 20 years or more. The following deficient conditions were observed during the survey of the roofs:

Area 2:

1. The roof surface is covered with widespread vegetation. Due to its low slope and proximity to an overhanging tree, debris and moss have accumulated on the membrane (Photo Report: Low-slope Roofs, Photos 2, 3 and 4).

2. The drain strainer is broken (Photo 6).

3. The surface of the roof and the base flashings are showing signs of age, surface wear (Photo 5).

Area 3:

1. Moss has accumulated on the membrane against the south wall (Photo 7).

2. The surface of the roof and the base flashings are showing signs of age, surface wear (Photos 7 and 8).

3. The base flashings have deteriorated (Photo 9).

Area 4:

1. The surface of the roof and the base flashings are showing signs of age, surface wear (Photos 12 - 16).

2. Debris/vegetation accumulating on the roof (Photos 12 - 15).

Area 7:

1. The surface of the roof and the base flashings are deteriorated (Photos 21-24).

EXISTING CONDITIONS – Masonry

We consulted with Bornor Restoration for the masonry portion of the building envelope study, in order to leverage their expertise in the repair and preservation of masonry buildings. The following deficient conditions were observed during the survey of the subject building's exterior masonry components:

Caulking:

1. Defective caulking around the perimeter windows (Photo Report: Masonry, Photos 1 and 2).

2. Missing caulking (Photo 3)

3. Head joints in need of caulking (Photos 4 through 7).

Tuckpointing:

1. Defective mortar joints: mortar is loose, eroded or powdered, broken, hollow, unsound or soft (Photos 8 – 14).

Stone Patching

1. Broken or spalled pieces of stone (Photos 15 – 16).

ANALYSIS AND CONCLUSIONS

Based upon the findings of our observations, it is our opinion that the asbestos tile roofs (Areas 1, 5 and 11) have surpassed their serviceable life and are in need of replacement. Efforts to sustain the asbestos tiles would not be cost effective and would not measurably extend the life of the roof. Although the copper gutters and downspouts are functional, they are showing signs of age. It is recommended they be replaced along with the copper caps on the dormers, in order to provide a long-lasting roof compatible with the historic aesthetic of the original building and its surroundings. The dormer on Area 1 should receive a new copper roof rather than shingle tiles due to its low slope.

The low slope roofs which are covered with coal-tar pitch built-up roofing (Areas 2, 3, 4 and 7) have also surpassed their serviceable life and are in need of replacement.

The low slope roofs which are covered with modified bitumen roofing (areas 6, 8, 9 and 10) are in good condition and require no remedial action.

The exterior masonry requires caulking, tuckpointing and stone patching.

RECOMMENDATIONS

The asbestos contained within the roof tiles on Areas 1, 5 and 11 may be regulated at the state and/or federal levels regarding removal and disposal. Since the asbestos is contained in a cementitious binder versus an asphalt binder, the training required by removal and monitoring personnel is higher than most roofing companies have achieved. Most likely an asbestos abatement company will need to remove, handle and dispose of the asbestos shingles and advise MSU on proper procedures and regulations.

We recommend that the asbestos tiles, once removed, should be replaced with either slate or flat terra cotta clay roof tiles. The replacement cost budget, including the copper dormers, gutters and downspouts, is approximately $45 to $50 per square foot. For the steep roofs, currently covered with asbestos tiles, the total cost of the roof replacement (not including the cost of the asbestos abatement company) should be budgeted between $450,000 to $500,000

The low-slope coal-tar pitch built-up roofs should be replaced with a 3-ply modified bitumen roof consistent with MSU roofing standards. We estimate these roofs will cost approximately $25 to $30 per square foot. The total cost of the low slope roofs should be budgeted between $75,000 to $90,000.

With regards to the masonry repairs, the following remedial actions are recommended.

1. Caulking around perimeter of windows, louvers, doors, and at all previously caulked head joints and coping joints, belt courses and water tables.

    a. Cut out all existing materials around the perimeter of windows, louvers and doors. Clean substrate to be recaulked by scraping, wire brushing, or grinding with an abrasive blade if needed. After substrate has been cleaned, install closed-cell backer-rod as needed, and recaulk window, louvers and door perimeters 100% using Dow Corning® 791-756 sealants, installed as per the manufacturer's specifications.

2. Tuckpointing - Repoint all defective mortar joints on the exterior masonry.

    a. Defective joints are those in which the mortar is loose, eroded or powdered, broken, hollow, unsound or soft. Joints with fine hairline and fine shrinkage cracks that are otherwise sound, full and solid will not be considered as defective. Defective joints shall be cut to a depth of ¾" or more using a machine grinder, pneumatic tools or hammer and chisel, and in such a manner so as to not damage the surface of the masonry. After mortar joints have been properly cut out, they shall be cleaned and washed out with water under sufficient pressure to remove all foreign matter, leaving the surfaces damp for new mortar. The prepared joints shall be firmly and neatly filled flush with non-shrinking mortar and tooled to match the existing joints. Color of new mortar shall match the existing mortar as near as possible. Precautions shall be taken against dropping or smearing pointing materials, leaving no pointing materials beyond the lines of the joints. After mortar has properly cured, face bricks shall be cleaned using water and Sure Klean 600 detergent or equal, brushing and scraping as necessary to remove all mortar from face bricks. Walls shall be thoroughly washed with clean water to remove all acid.

3. Stone Patching

    a. Remove broken or spalled pieces of stone. Saw cut around perimeter of area to be patched to the depth of ½" and patch back using Mimic Stone Patch or Jahn Patching Materials.

A recommended budget cost for the masonry remediation outlined above is $275,000.

Thank you for the opportunity to serve you on this project. Please contact my office with any questions you may have regarding our findings.

Sincerely,

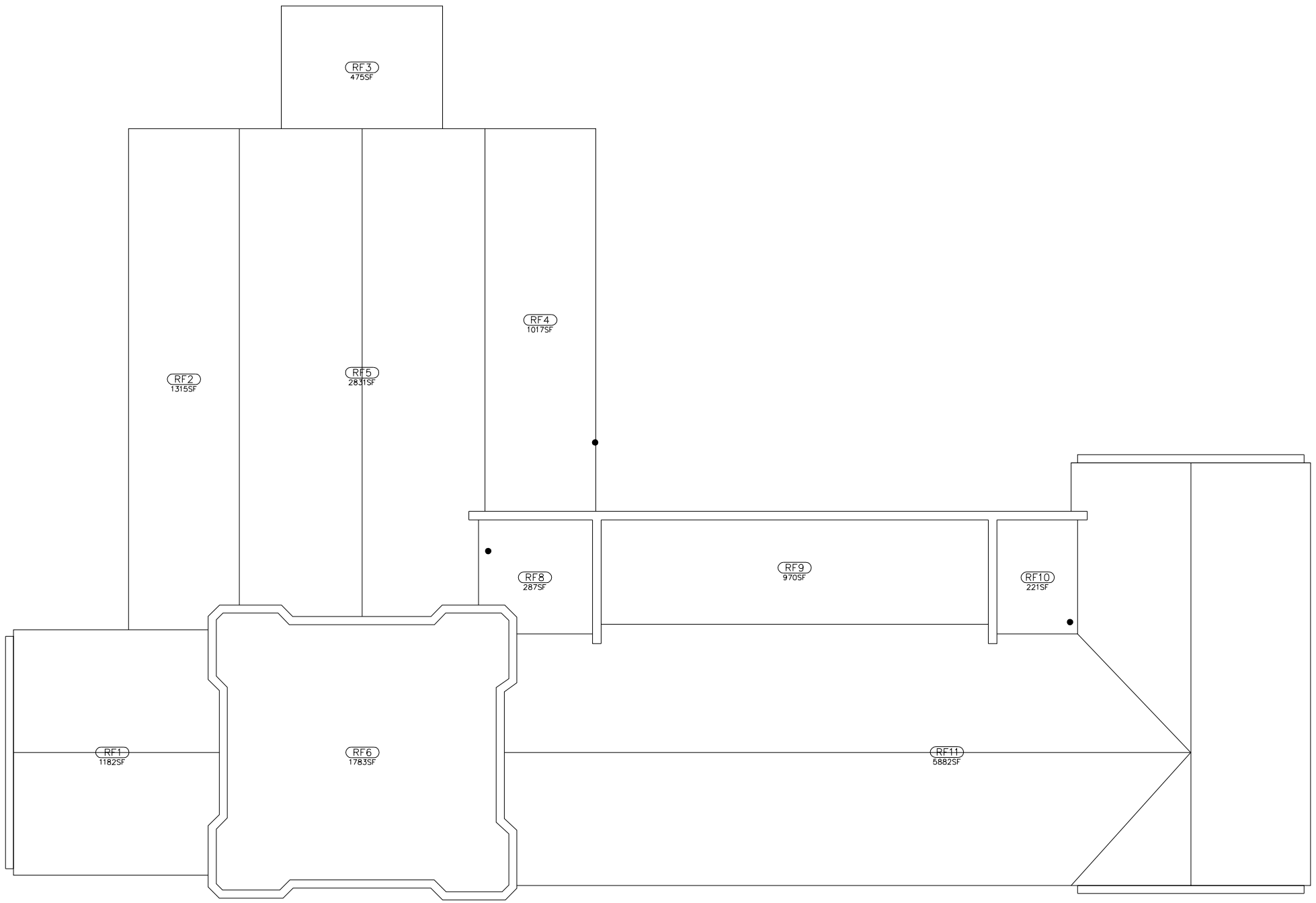
ROOFING TECHNOLOGY ASSOCIATES, LTD.

James J. Watson, RRC
Project Manager

Attachments

APPENDIX

Last Update Date: 3/31/2015 Filename: O_0005_R_BASE.dwg



ROOF PLAN

MICHIGAN STATE UNIVERSITY
Infrastructure Planning and Facilities

HUMAN ECOLOGY

ROOF PLAN

N

APPROVED BY
DATE 04-16-97
SCALE 1" = 20'

LAST REVISED ON 05-22-06
LAST REVISED BY JJC

BUILDING NO. 5

SHEET 8 OF 8

O_0005_R_BASE.DWG

Photo Report

ASBESTOS TILE ROOFS

MSU HUMAN ECOLOGY BUILDING

BUILDING ENVELOPE STUDY

August 6, 2021

Photo 1: Area 1 - stained/weathered/moss growth between asbestos tiles

Photo 2: Area 1 - stained/weathered/moss growth between asbestos tiles

Photo 3: Area 1 - weathered lumber around louvers - missing asbestos tiles

Photo 4: Area 1 - stained/weathered/moss growth between asbestos tiles

Photo 5: Area 1 - stained/weathered/moss growth between asbestos tiles

Photo 6: Area 1 - slope of dormer roof is inadequate to provide required drainage of a tile

Photo 7: Area 1 - broken asbestos tiles - bent step flashing

Photo 8: Area 1 - stained/weathered/broken asbestos tiles

Photo 9: Area 1 - stained/weathered asbestos tiles

Photo 10: Area 1 - stained/weathered asbestos tiles

Photo 11: Area 1 - stained/weathered/broken asbestos tiles

Photo 12: Area 1 - stained/weathered/broken asbestos tiles - bent step flashing

Photo 13: Area 5 - east facing

Photo 14: Area 5 - stained/weathered/broken asbestos tiles

Photo 15: Area 5 - stained/weathered/broken asbestos tiles

Photo 16: Area 5 - stained/weathered/broken asbestos tiles

Photo 17: Area 5 - west facing - stained/weathered/broken asbestos tiles

Photo 18: Area 5 -stained/weathered/broken asbestos tiles

Photo 19: Area 5 - stained/weathered/broken asbestos tiles

Photo 20: Area 5 - stained/weathered/moss growing between asbestos tiles

Photo 21: Area 5 - stained/weathered/broken asbestos tiles

Photo 22: Area 5 - gutter and downspout

Photo 23: Area 5 - gutter corner/transition

Photo 24: Area 5 - gutter and downspouts

Photo 25: Area 11 - South facing overview

Photo 26: Area 11 - South facing overview

Photo 27: Area 11 - stained/weathered/broken asbestos tiles

Photo 28: Area 11 - stained/pitting copper on dormer cap roofs

Photo 29: Area 11 - stained/pitting copper on dormer cap roofs

Photo 30: Area 11 - stained/weathered/broken asbestos tiles

Photo 31: Area 11 - stained/weathered/broken asbestos tiles

Photo 32: Area 11 - west facing - overview

Photo 33: Area 11 - stained/pitted copper trim at dormer windows

Photo 34: Area 11 - stained/weathered/broken asbestos tiles - stained/pitted copper

Photo 35: Area 11 - loose/broken asbestos tiles

Photo 36: Area 11 - stained/weathered/broken asbestos tiles - bent step flashing

Photo 37: Area 11 - east and north facing overview

Photo 38: Area 11 - east facing overview

Photo 39: Area 11 - loose/missing asbestos tiles

Photo 40: Area 11 - north facing - moss growing between asbestos tiles

Photo 41: Area 11 - moss growing between asbestos tiles

Photo 42: Area 11 - north facing - loose tiles on dormer wall

Photo Report

LOW-SLOPE ROOFS

MSU HUMAN ECOLOGY BUILDING

BUILDING ENVELOPE STUDY

August 6, 2021

Photo 1: Area 2 - overview

Photo 2: Area 2 - widespread vegetation

Photo 3: Area 2 - debris/vegetation accumulation in corner

Photo 4: Area 2 - vegetation/surface wear

Photo 5: Area 2 -base flashing surface wear

Photo 6: Area 2 -broken drain strainer

Photo 7: Area 3 - moss/surface wear

Photo 8: Area 3 - deteriorated base flashing

Photo 9: Area 3 - deteriorated base flashing

Photo 10: Area 4 - overview

Photo 11: Area 4 -overview

Photo 12 Area 4 -debris/vegetation - base flashing surface wear

Photo 13: Area 4 - debris/vegetation - base flashing surface wear

Photo 14: Area 4 - debris/vegetation - base flashing surface wear

Photo 15: Area 4 - debris/vegetation - base flashing surface wear

Photo 16: Area 4 - surface wear

Photo 17: Area 6 - overview

Photo 18: Area 6 - overview

Photo 19: Area 6 - overview

Photo 20: Area 7 - overview

Photo 21: Area 7 - deteriorated surface and base flashing

Photo 22: Area 7 - deteriorated surface and base flashing

Photo 23: Area 7 - deteriorated surface and base flashing

Photo 24: Area 7 - deteriorated surface and base flashing

Photo 25: Area 8 - overview

Photo 26: Area 8 - membrane in good condition

Photo 27: Area 9 -overview

Photo 28: Area 9 - overview

Photo 30: Area 10 - overview

Photo Report

MASONRY

MSU HUMAN ECOLOGY BUILDING

BUILDING ENVELOPE STUDY

August 6, 2021

Photo 1: Typical defective caulking around the perimeter of windows

Photo 2: Typical defective caulking around the perimeter of windows

Photo 3: Missing caulking around louver

Photo 4: Typical head joint to be caulked

Photo 5: Typical head joint

Photo 6: Typical deteriorated mortar joint

Photo 7: Typical head joint

Photo 8: Typical tuckpointing

Photo 9: Typical eroded mortar joints

Photo 10: Typical head joint

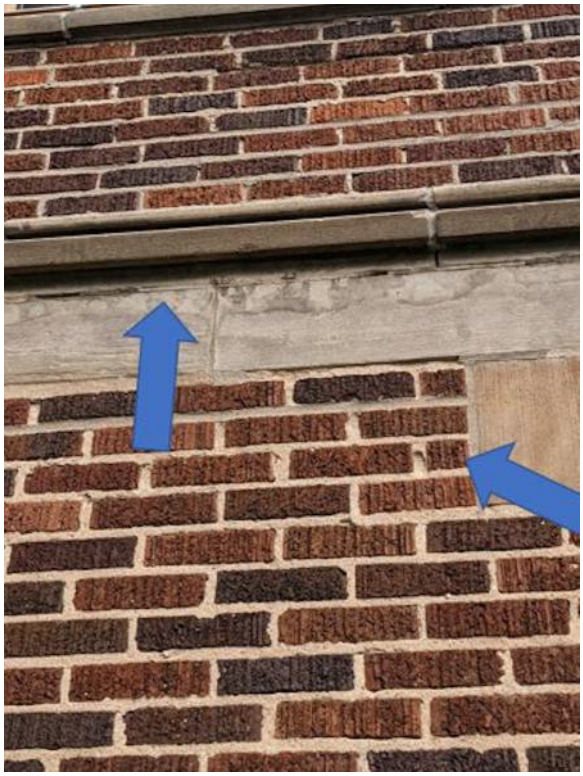


Photo 11: Typical eroded mortar joints

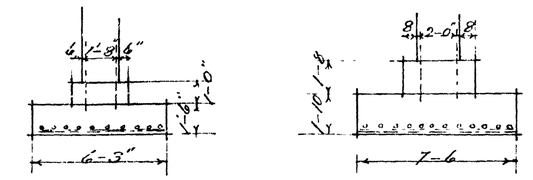
Photo 12: Typical eroded mortar joints

Photo 13: Typical eroded mortar joints

Photo 14: Typical eroded mortar joints

Photo 15: Typical stone patching

Photo 16: Typical stone patching



FOOTINGS FOR COLS. 10, 11, 12, 13, 14, 15, 16, 17

FOOTINGS FOR COLS. 1 2 3 4 5 6 7 8 9.

For reinforcement see Sheet # 10

Note: Wall footings projecting 9" ave 1-6 deep
" " 4" " 1-0" "
Principal reinforced concrete beams are indicated by broken line and letter but all openings in concrete walls are to be reinforced.

Broken line shows wall to reduce opening to width required for connection of duct from fan to plenum.

-FAN ROOM-

Jump

Vacuum Cleaner

Reinforced concrete slab over Plenum chamber above

4" tile drain

Air Chamber

Janitor

Toilet

Opening for tunnel connection

FOUNDATION PLAN

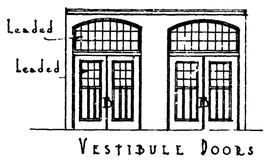
SCALE 1/8" = 1'-0"

HOME ECONOMICS BUILDING

MICHIGAN AGRICULTURAL COLLEGE EAST LANSING

Edwin A. Bond, Architect, Lansing, Michigan

DOOR SCHEDULE						
TYPE	SIZE			DOOR GL.	TR. GLASS	REMARKS
A	3'-2"	7'-0"	2¼"	See Elevations.		
B	3'-2"	7'-0"	2¼"	See Elevations.		
C	3'-4"	7'-0"	1¾"	28"X40"	36"X24"	
D	3'-0"	7'-0"	1¾"			
E	3'-0"	7'-0"	1¾"	24"X40"		
F	2'-8"	7'-0"	1¾"	20"X40"		
O	2'-8"	7'-0"	1¾"	20"X12"		Double swing
P	3'-6"	7'-0"	1¾"	30"X12"		Double swing
Q	3'-0"	7'-0"	1¾"	24"X40"		Double swing
R	3'-0"	7'-0"	1¾"			Double swing
H	2'-8"	7'-0"	1¾"			



VESTIBULE DOORS

Note: All square head windows of Ground, First, Second, and Third Stories to have 11 ea 3'x5'-5/16"
Attic Windows and Top Story of Tower Windows to have 2 ea 3'x3'-5/16"
Openings of Exhaust Air Pent Houses to have 1 ea 3'x1'-5/16

GROUND FLOOR

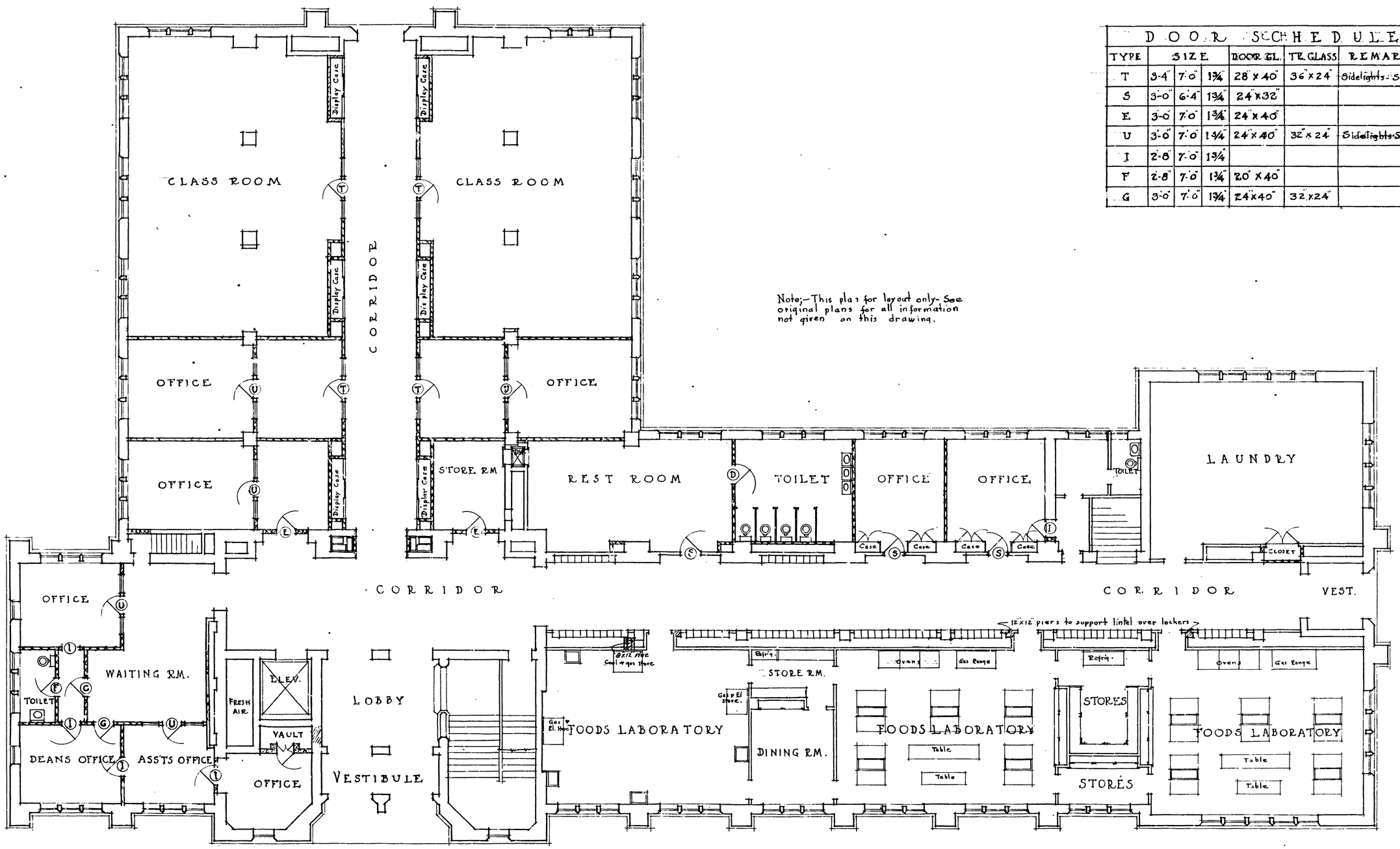
1/8" = 1'-0"

Iowa Agricultural College

2

DOOR SCHEDULE						
TYPE	SIZE			DOOR GL.	TR. GLASS	REMARKS
T	3-4"	7-0"	1¾"	28"x40"	36"x24"	Sidelights-See Detail
S	3-0"	6-4"	1¾"	24"x32"		
E	3-0"	7-0"	1¾"	24"x40"		
U	3-0"	7-0"	1¾"	24"x40"	32"x24"	Sidelights-See detail
I	2-8"	7-0"	1¾"			
F	2-8"	7-0"	1¾"	20"x40"		
G	3-0"	7-0"	1¾"	24"x40"	32"x24"	

Note;-This plan for layout only-See original plans for all information not given on this drawing.



REVISED

GROUND FLOOR PLAN

SCALE 1/8" = 1:0"

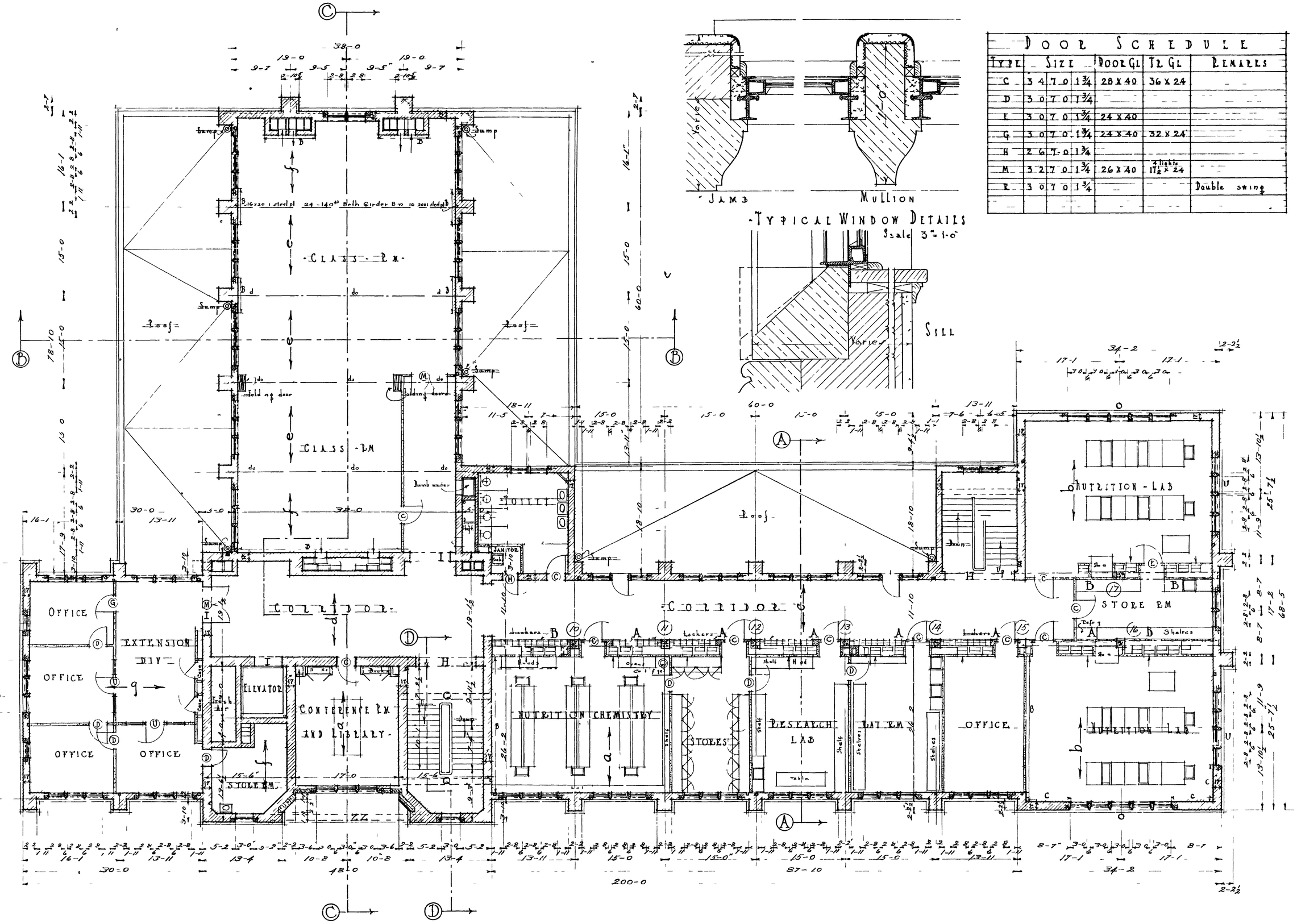
HOME ECONOMICS BUILDING

MICHIGAN AGRICULTURAL COLLEGE, EAST LANSING

EDWYN A. BOWD, ARCHITECT. LANSING, MICHIGAN

2A

2-3-33



REVISED

FIRST FLOOR

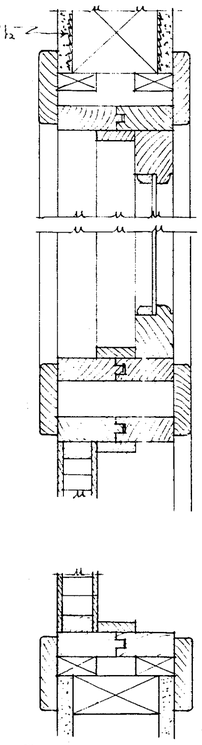
Scale 1/8"=1'-0"

HOME ECONOMICS BUILDING

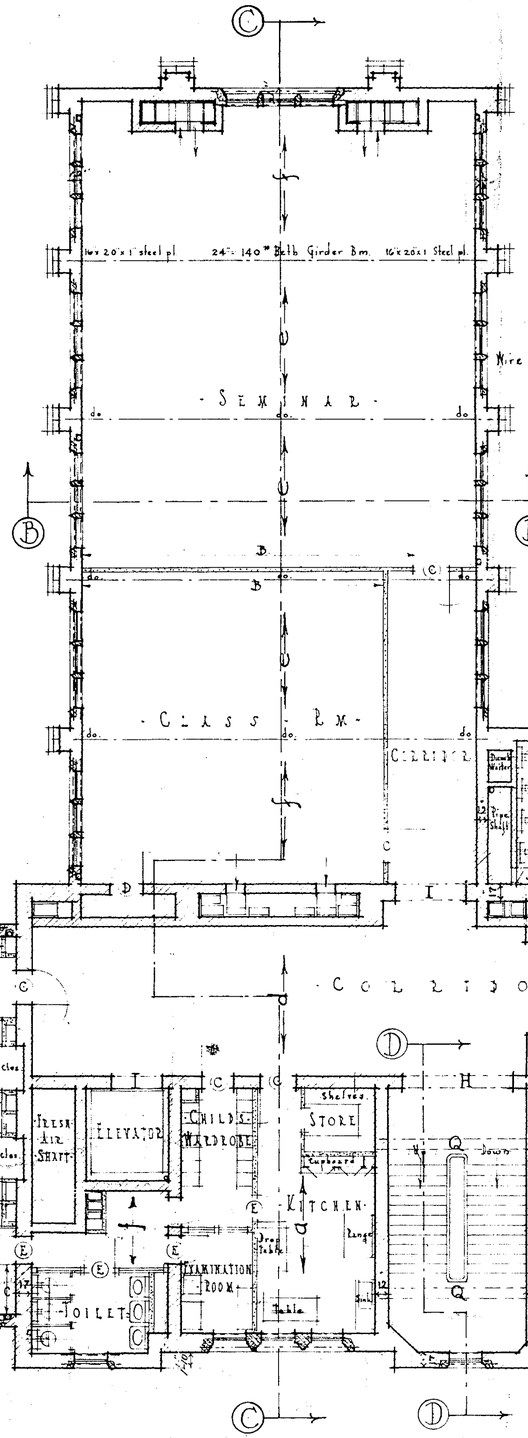
MICHIGAN AGRICULTURAL COLLEGE

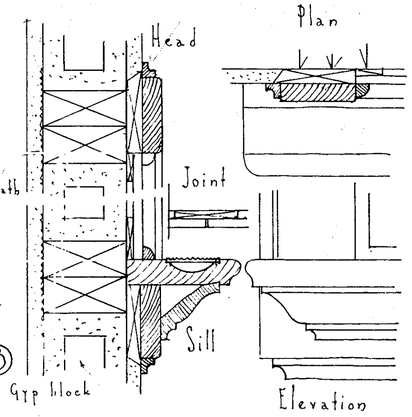
EAST LANSING, MICHIGAN

3



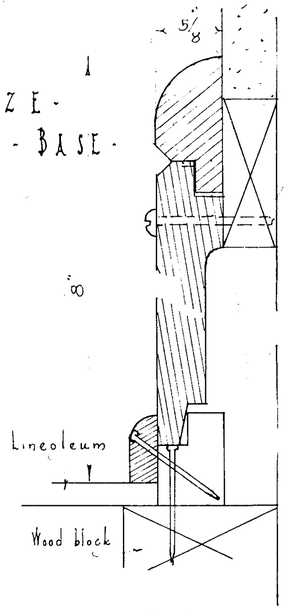
TYPICAL INSIDE DOOR FRAMES
Scale 3" = 1'-0"

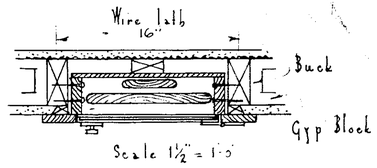




BLACK BOARDS 3" = 1'-0"

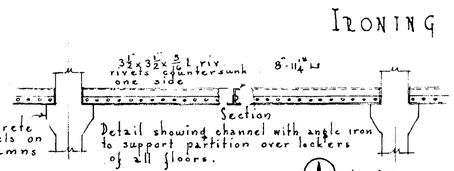
FULL SIZE DETAIL OF BASE





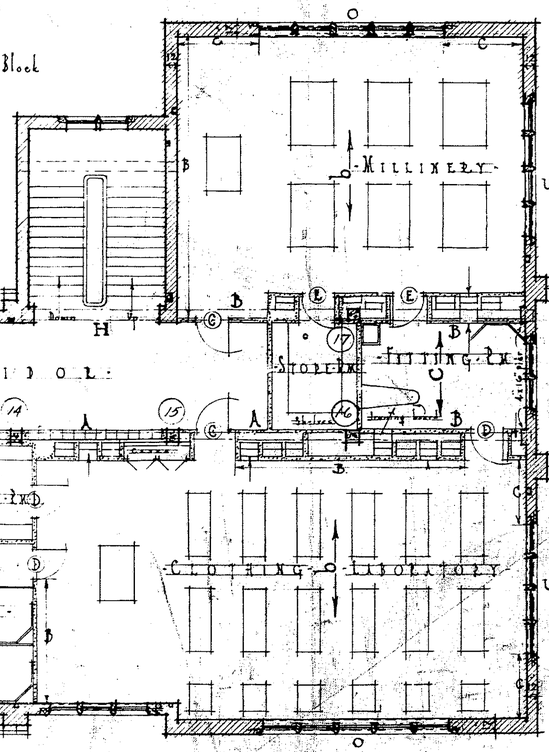
Scale 1½" = 1'-0"

IRONING BOARD



DOOR SCHEDULE

Type	Size			Door Gl.	Transome	Remarks
C	3'-4"	7'-0"	1¾"	28 x 40	36 x 24	
D	3'-0"	7'-0"	1¾"			
E	3'-0"	7'-0"	1¾"	24 x 40		
H	2'-6"	7'-0"	1¾"			

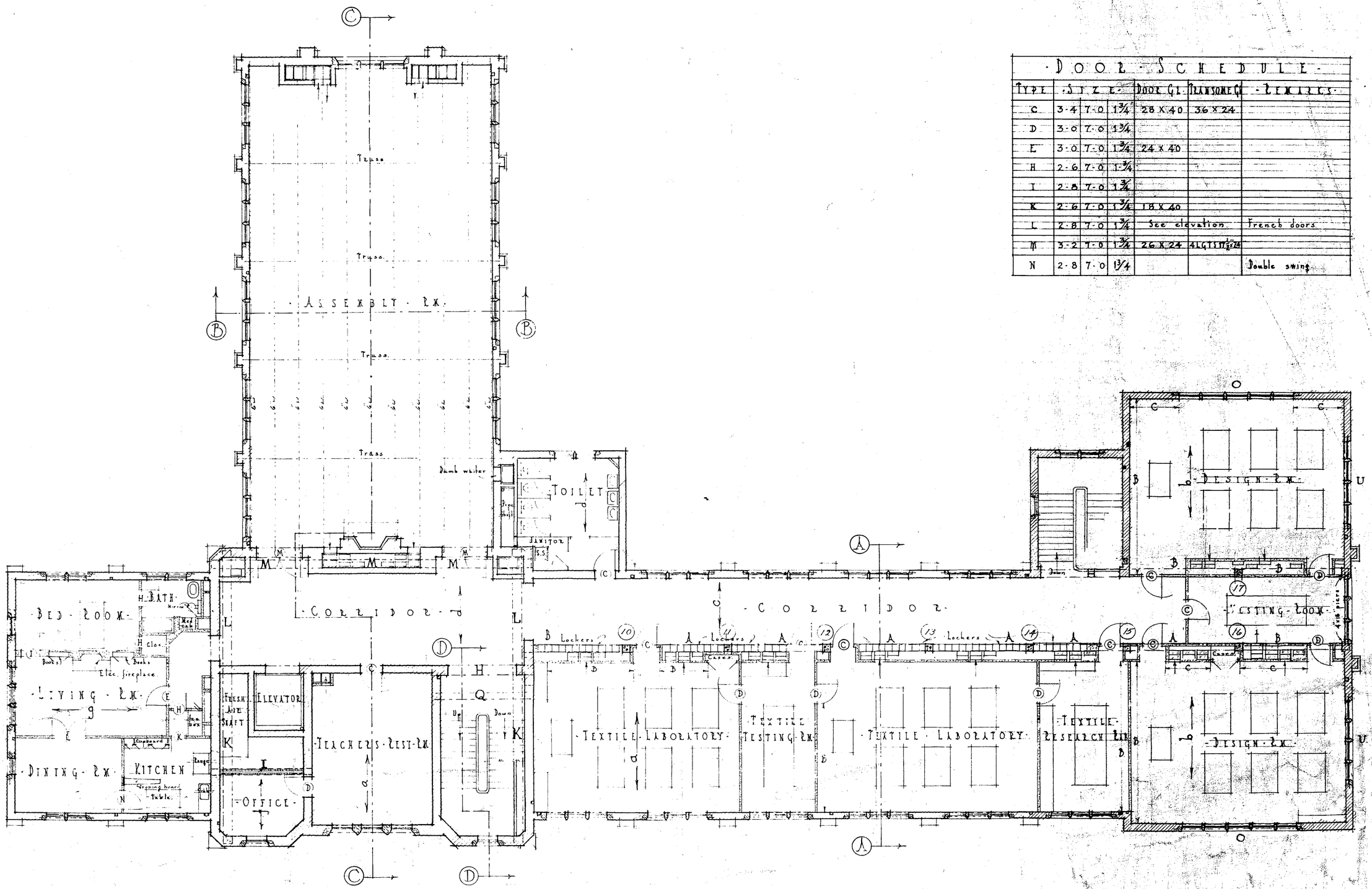


SECOND FLOOR PLAN
SCALE 1/8" = 1'-0"

HOME ECONOMICS BUILDING
MICHIGAN AGRICULTURAL COLLEGE EAST LANSING, MICHIGAN
EDWYN A. BOND, ARCHITECT, LANSING, MICHIGAN

DOOR SCHEDULE

TYPE	SIZE			DOOR GL.	TRANSOM GL.	REMARKS
C	3-4	7-0	1¾	28 X 40	36 X 24	
D	3-0	7-0	1¾			
E	3-0	7-0	1¾	24 X 40		
H	2-6	7-0	1¾			
I	2-8	7-0	1¾			
K	2-6	7-0	1¾	18 X 40		
L	2-8	7-0	1¾	See elevation		French doors
M	3-2	7-0	1¾	26 X 24	ALGEBRA 24	
N	2-8	7-0	1¾			Double swing



THIRD FLOOR PLAN

SCALE 1/8" = 1'-0"

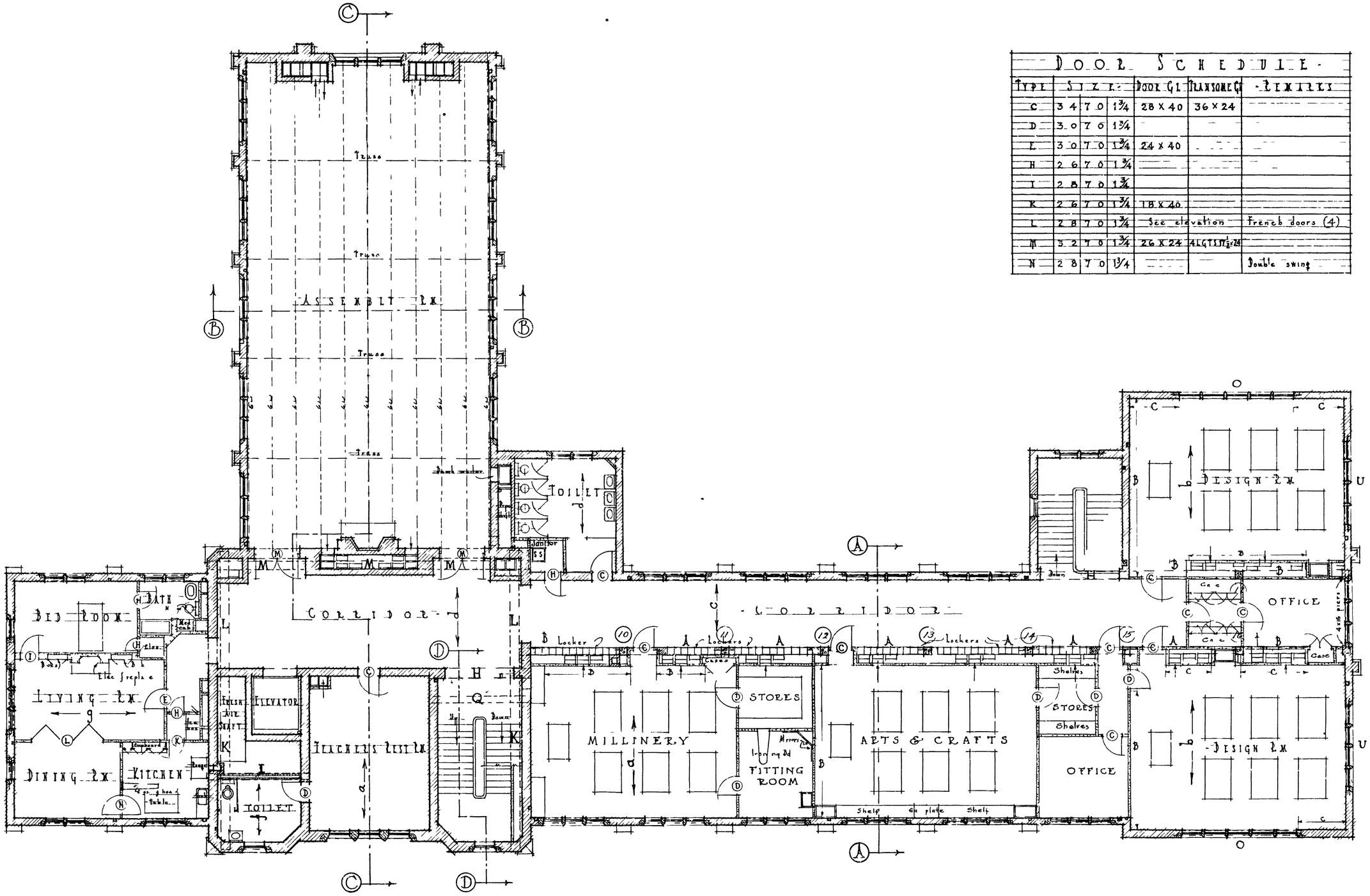
HOME ECONOMICS BUILDING

MICHIGAN AGRICULTURAL COLLEGE EAST LANSING

EDWYN A. BOWD, ARCHITECT, LANSING, MICHIGAN

DOOR SCHEDULE

Type	Size			Door Gl.	Transome Gl.	Remarks
C	3 4	7 0	1¾	28 x 40	36 x 24	
D	3 0	7 0	1¾			
E	3 0	7 0	1¾	24 x 40		
H	2 6	7 0	1¾			
I	2 8	7 0	1¾			
K	2 6	7 0	1¾	18 x 40		
L	2 8	7 0	1¾	See elevation		French doors (4)
M	3 2	7 0	1¾	26 x 24	ALGTSM½24	
N	2 8	7 0	1¾			Double swing



REVISED FLOOR PLAN

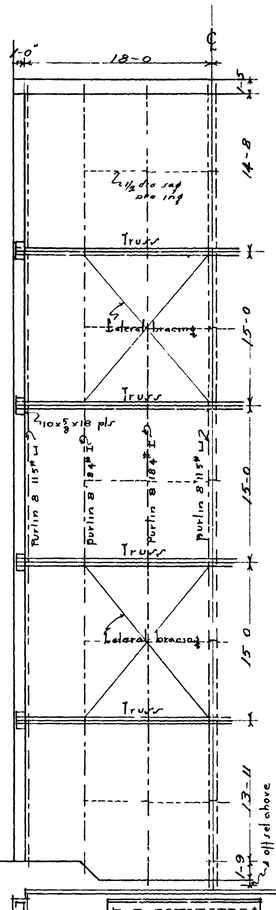
Scale 1/8" = 1'-0"

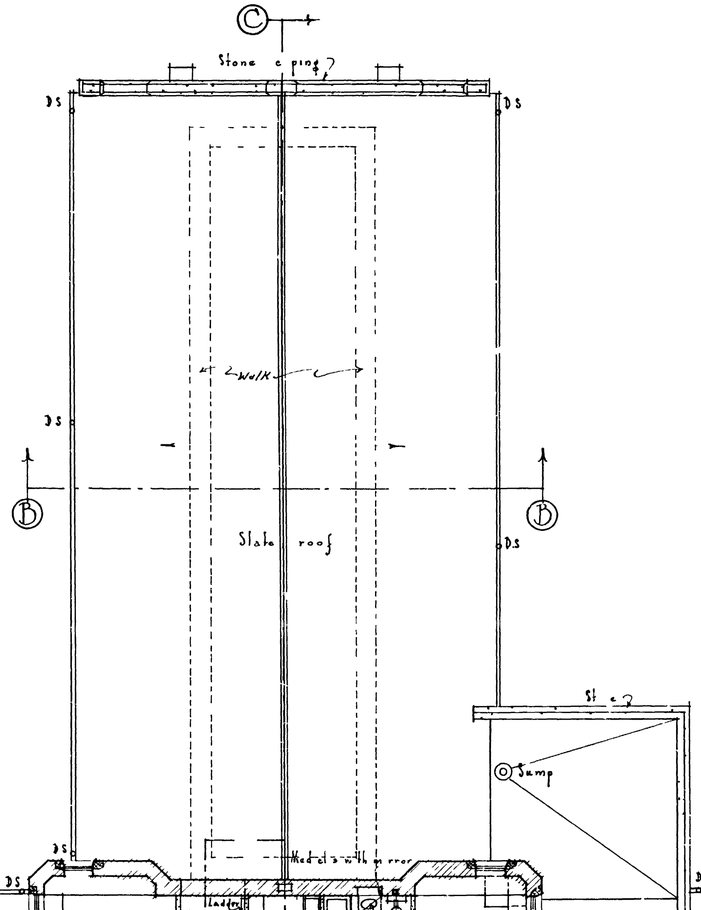
HOME ECONOMICS BUILDING

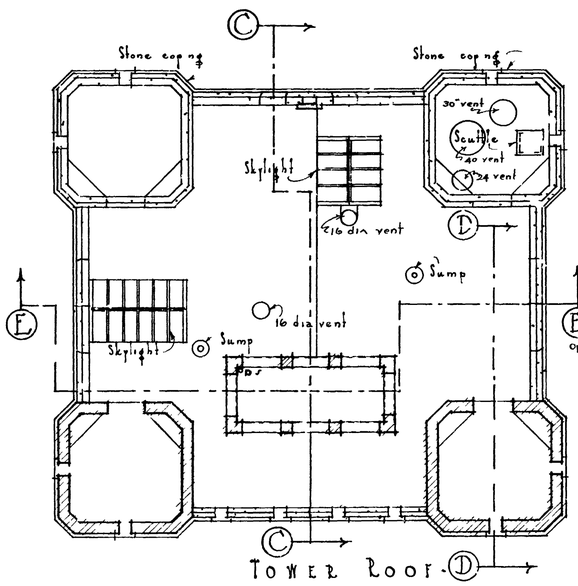
AGRICULTURAL COLLEGE BUILDING

BOISE, IDAHO

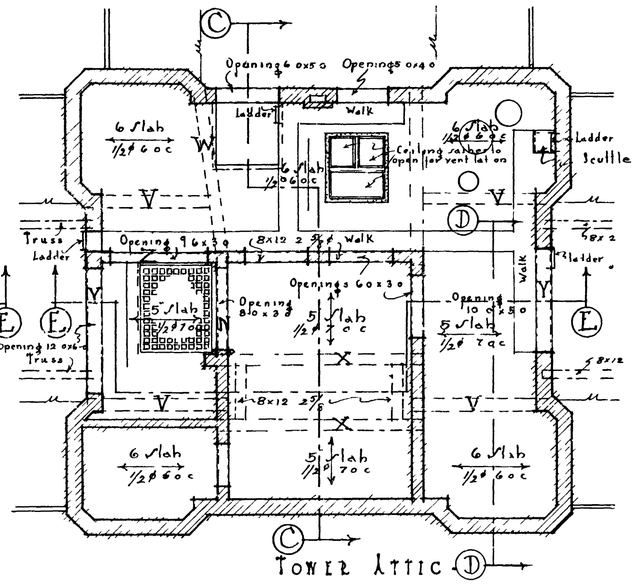
5



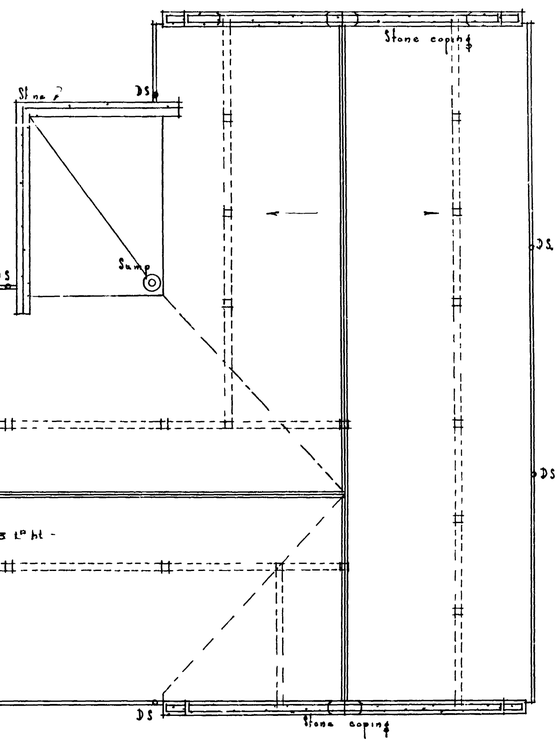


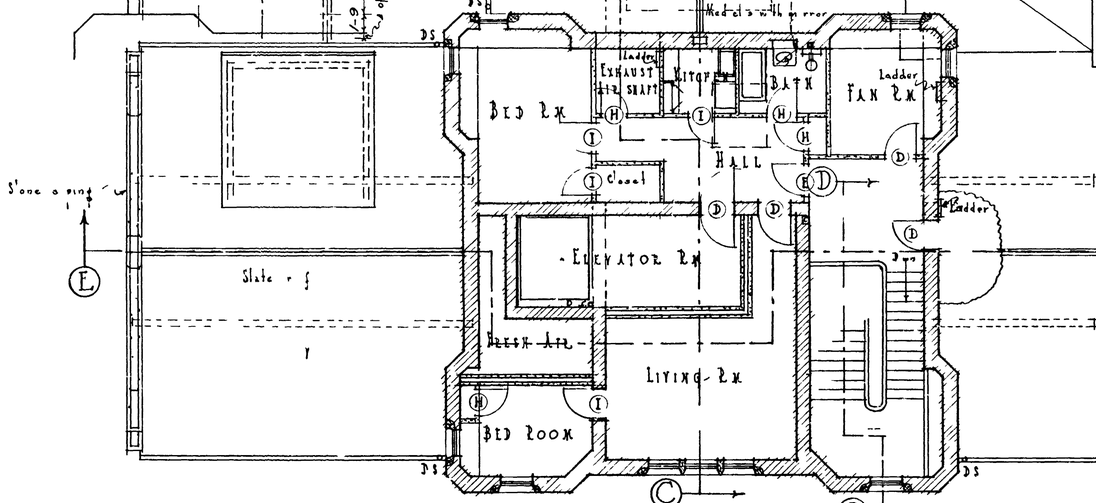


TOWER ROOF

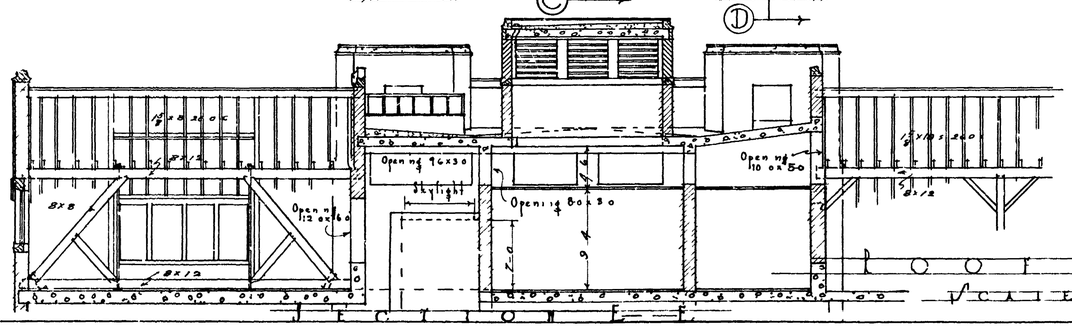


TOWER ATTIC





Where wood posts rest on slab provide 2" x 12" flat bm with 4 "dr 3 L" bl -

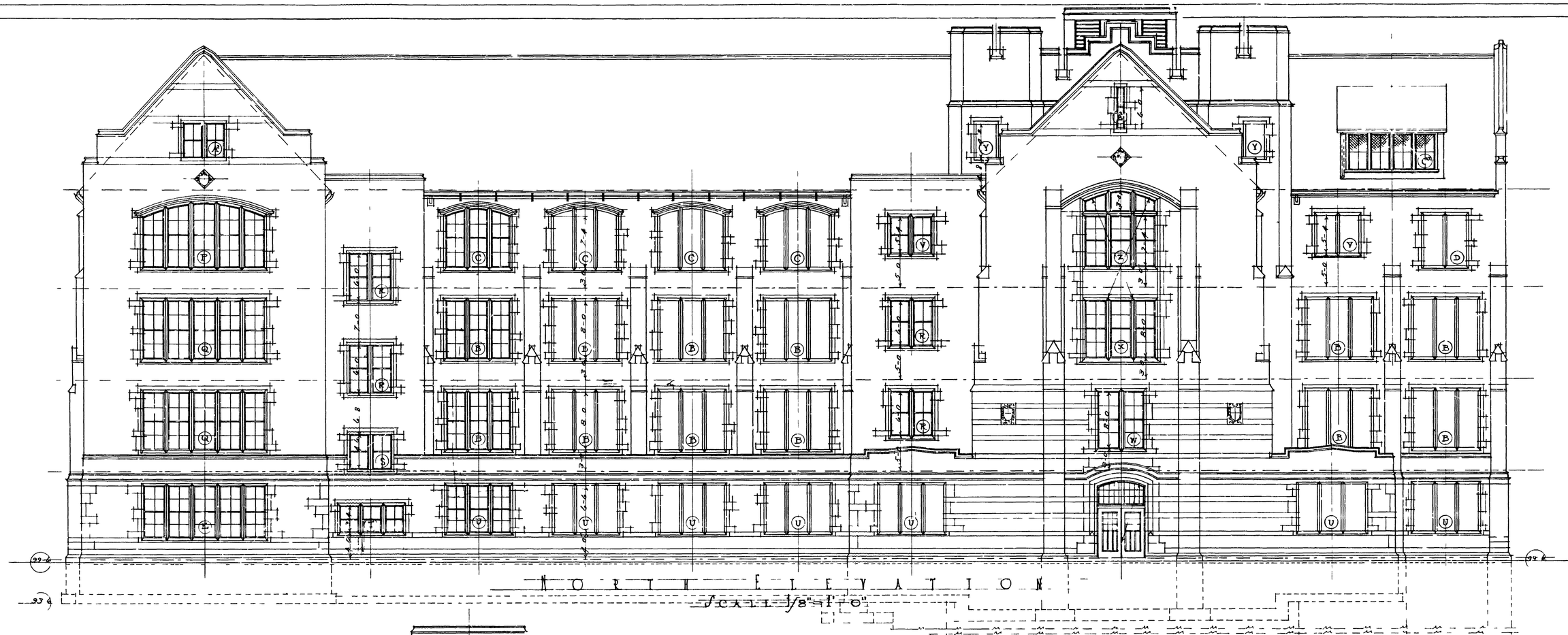


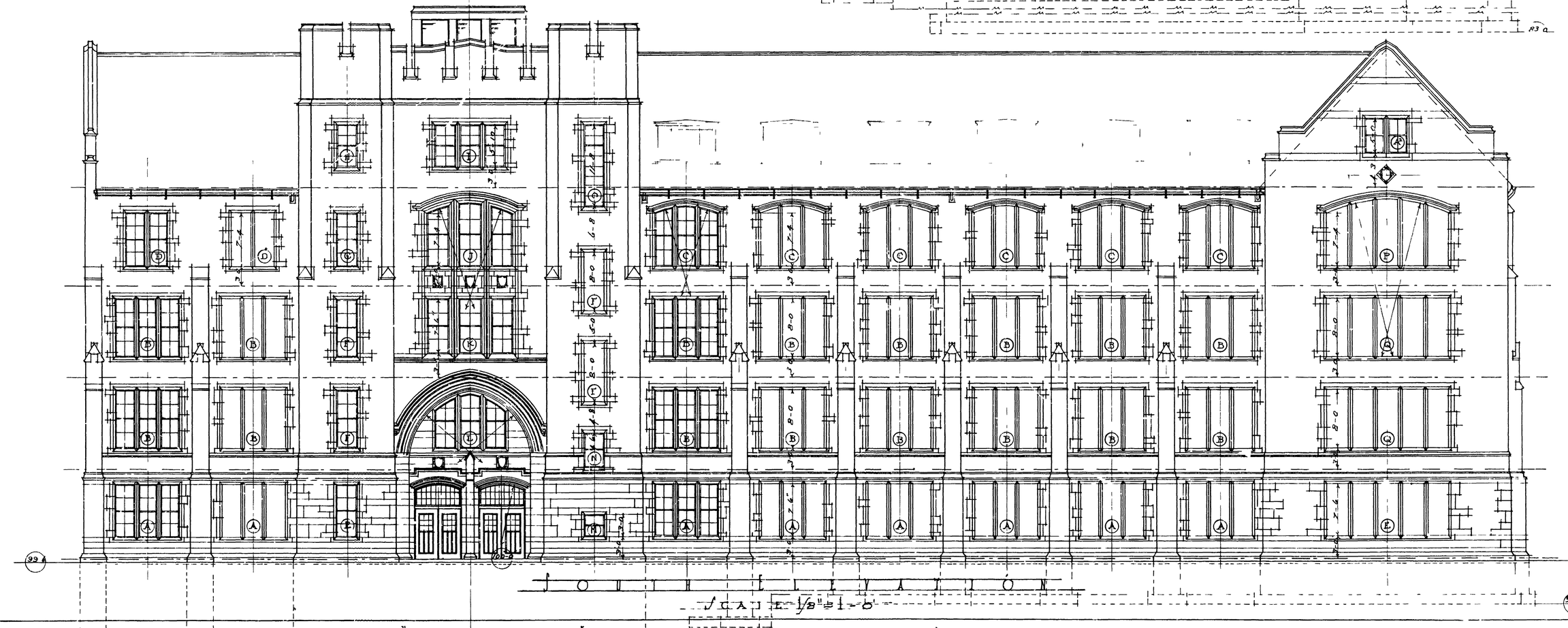
SECTION E-E

1/8" = 1'-0"

HOME ECONOMICS BUILDING
AGRICULTURAL COLLEGE
FOOD, ARCHITECTURE, ART

6





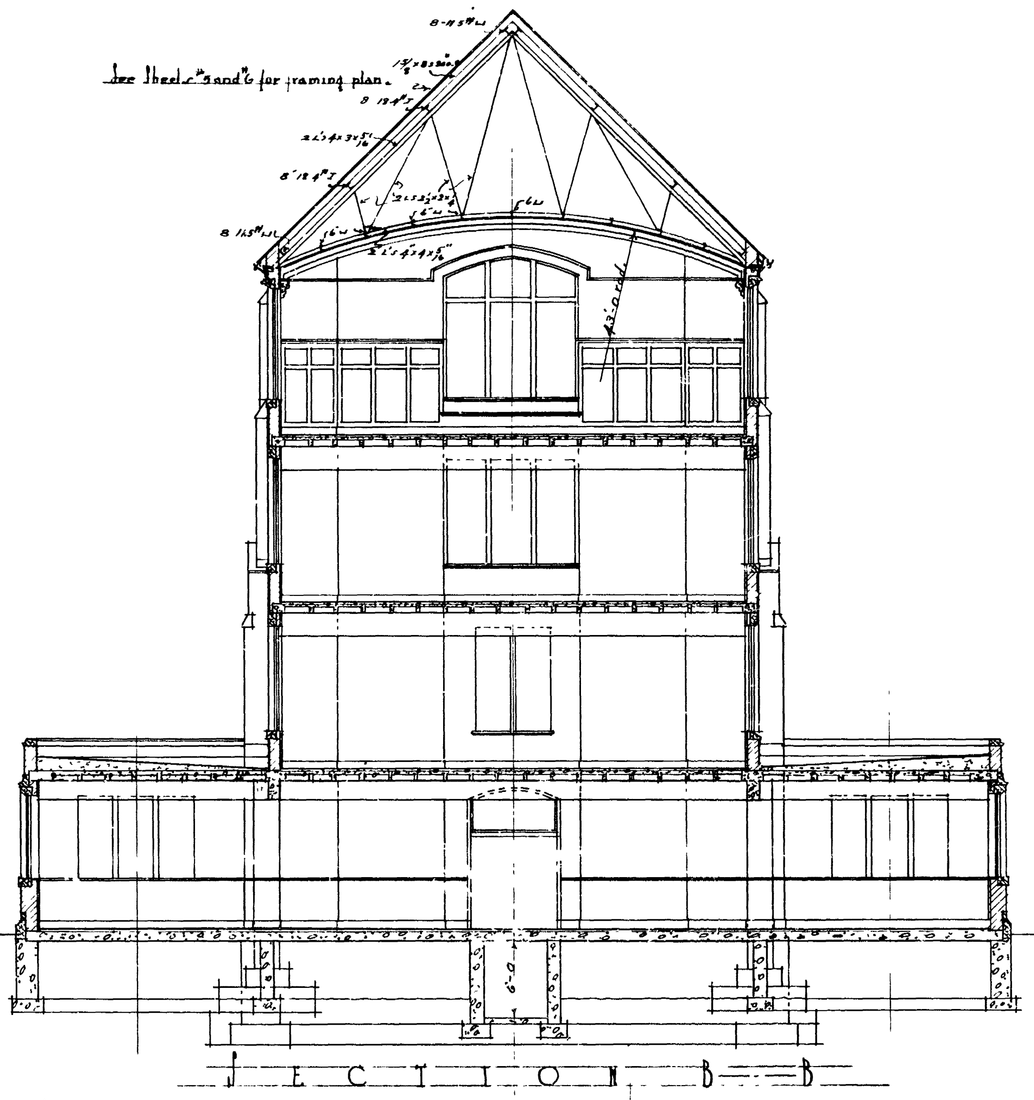
HOME ECONOMICS BUILDING

MICHIGAN AGRICULTURAL COLLEGE EAST LANSING

EDWIN A. BOUD, ARCHITECT, LANSING, MICHIGAN

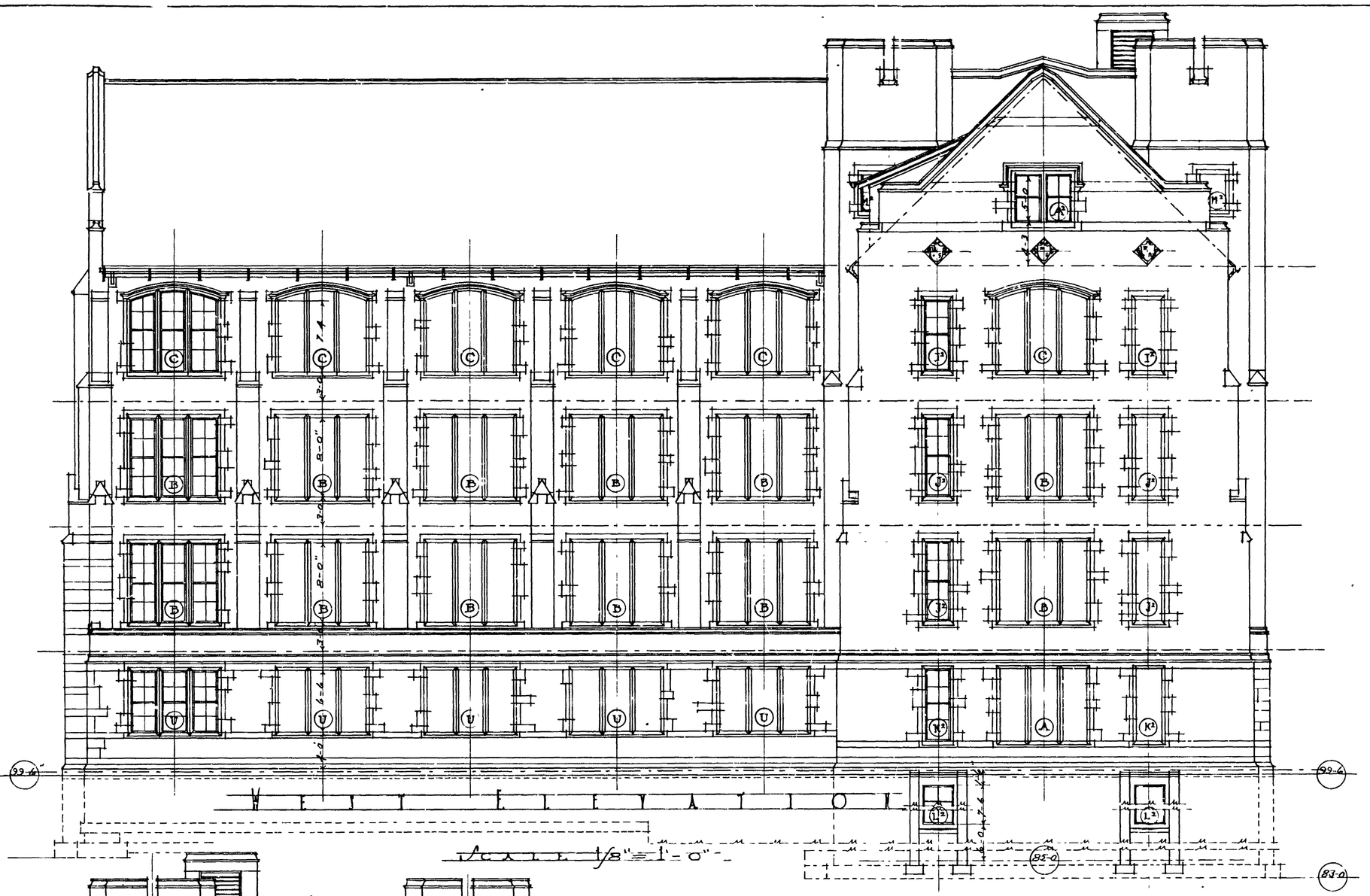
7

See sheets 5 and 6 for framing plan.



SECTION B—B

SECTION A—A



EAST ELEVATION

1/8" = 1'-0"

HOME ECONOMICS BUILDING

MICHIGAN AGRICULTURAL COLLEGE, EAST LANSING

EDWYN A. BOYD, ARCHITECT, LANSING, MICHIGAN

8

Attic floor

Copper

Cast iron sleeve

14'-0"

Third floor

5 x 3½ x 5/16 L

13'-0"

Second floor

5 x 3½ x 5/16 L

13'-0"

First floor

5 x 3½ x 5/16 L

12'-6"

Wire lath and plaster

10-0 x 5-0 opening

14'-0"

13'-0"

13'-0"

13'-0"

12'-6"

8'-0"

8'-0"

8'-0"

Cut out here

SECTION D—D

Second floor

MULLION
See also Sheet No 3

All mullions to be doweled to caps

First floor

Tag bracing

Lateral bracing

SECTION C—C

14'-0"

13'-0"

13'-0"

13'-0"

12'-6"

15'-0"

100'-0"

85'-0"

83'-0"

3/4" SCALE WALL SECTION AND ELEVATION

3/4" SCALE DETAIL OF MAIN ENTRANCE

3/4" SCALE DETAILS OF GABLE COPINGS

HOME ECONOMICS BUILDING

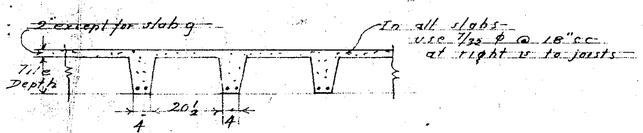
MICHIGAN AGRICULTURAL COLLEGE EAST LANSING

EDWIN A. BOUD, ARCHITECT, LANSING, MICHIGAN

9

116-3-22

Deck Slab Detail



Slab Schedule

Mark	Slab Thickness	Reinforcement Straight	Reinforcement Bent	Stirrups	Remarks
a	10" + 2"	1-1" ϕ	1-⅞" ϕ	¼ ϕ @ 12" at ends	Use cantilever tyle at corridor end
b	12" + 2"	1-1" ϕ	1-⅞" ϕ	¼ ϕ @ 12" at ends	Use cantilever tyle at Corridor end
c	4" + 2"	1-¾" ϕ	1-1½" ϕ	None	Use cantilever tyle
d	8" + 2"	1-⅞" ϕ	1-1½" ϕ	None	Use cantilever tyle
e	6" + 2"	1-¾" ϕ	1-½ ϕ	None	Cantilever tyle
g	12" + 3"	1-1⅛" ϕ	1-1" ϕ	¼ @ 12" at ends	Use cantilever tyle both ends Make joints 5"
f	6" + 2"	1-¾" ϕ	1-⅜" ϕ	None	Cantilever tyle

Beam Schedule

Beam	Size	Tee	Straight	Bent	Stirrups	Remarks
P	25x24	None	3-1" ϕ	2-1" ϕ	None	Hook bent bars
Q	10x16	None	2-⅞" ϕ	2-¾" ϕ	⅜ ϕ @ 12"	
R	10x14	None	2-¾" ϕ	2-⅝" ϕ	None	
S	10x14	None	1-⅝" ϕ	1-⅝" ϕ	None	
T	21x18	None	2-¾" ϕ	2-¾" ϕ	None	
U	8x18	⌐	2-⅝" ϕ	2-⅝" ϕ	None	
V	12x14	None	2-¾" ϕ	2-⅝" ϕ	None	
W	14x18	None	2-1" ϕ	2-1" ϕ	⅜ ϕ @ 9"	Space Stirrups Throughout
X	12x20	None	2-1" ϕ	2-1" ϕ	⅜ ϕ @ 12"	
Z	10x14	None	2-1½" ϕ	2-1½" ϕ	None	
Y	12x18	⌐	2-¾" ϕ	2-⅝" ϕ	None	
ZZ	12x24	None	2-1" ϕ	2-1" ϕ	½ ϕ 12" o.c.	
A	12x24	24"	2-1" ϕ	2-¾" ϕ	None	Tee of beam to be on Corridor side of bm.
B	12x24	28"	2-1" ϕ	2-¾" ϕ	None	
C	24x30	56"	5-1⅛" ϕ	4-1⅛" ϕ	½ ϕ @ 12" at ends 18" c. centre	All bent bars to extend to centre of adjacent span
D	24x30	None	4-1" ϕ	2-⅞" ϕ	None	
K	16x40	⌐	4-1⅛" ϕ	4-1" ϕ	½ ϕ @ 12" o.c.	4-1" ϕ x 20'-0" in top
L	16x36	⌐	4-1" ϕ	4-⅞" ϕ	⅜ ϕ @ 12" o.c.	
M	16x24	⌐	3-¾" ϕ	2-⅝" ϕ	⅜ ϕ @ 12" o.c.	
O	8x36	⌐	2-⅞" ϕ	2-¾" ϕ	None	
G	12x24	24"	2-1⅛" ϕ	2-1" ϕ	None	
H	12x20	None	2-1" ϕ	2-⅝" ϕ	None	
I	12x16	None	2-¾" ϕ	2-⅝" ϕ	None	

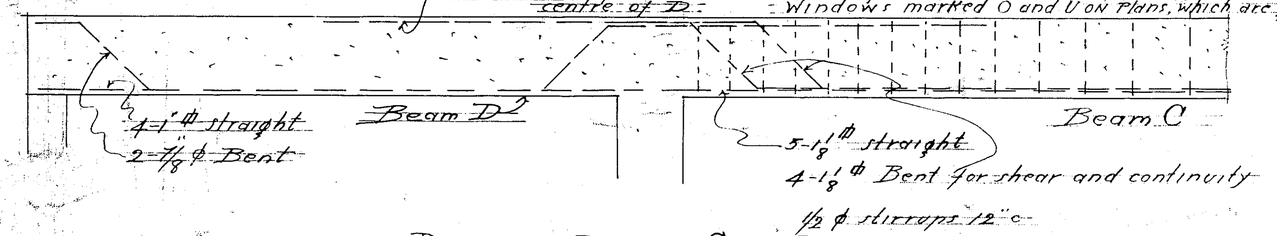
Column Schedule

Supporting	1-2-3-4-5-6-7-8-9	10-11-12-13-14-15-16-17	
Roof			
4 TH		12x12 4-⅝ ϕ	
3 RD		14x14 4-¾ ϕ	
2 ND		18x18 6-¾ ϕ	
1 ST	24x24 8-1" ϕ	20x20 8-⅞ ϕ	
Footings	7'-6" x 7'-6" x 1'-10" Cap 3'-4" x 3'-4" x 1'-4" 12-⅝ ϕ each way	6'-3" x 6'-3" x 1'-6" Cap 2'-8" x 2'-8" x 1'-0" 10-⅝ ϕ each way	

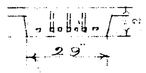
All columns to have stays ¼ ϕ @ 12" c
Bars to be lapped 18"
Dowels same size as column bars and 3'-0" lg

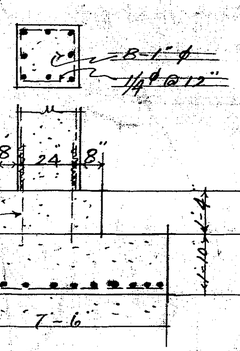
Extend bars from ℄ to centre of D.

Lintels for Windows 8x12 with 2-⅝ ϕ str. and 2-½ ϕ bent, except Windows marked O and U on Plans, which are given in Bm. Schedule.

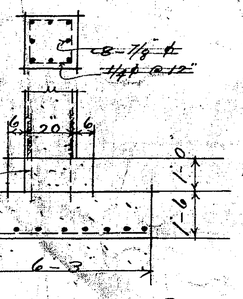


Note: Where wood posts rest on slab (see sheet #6) use 23x12 flat beam with 4-1" ϕ str. and 3-1" ϕ ht.

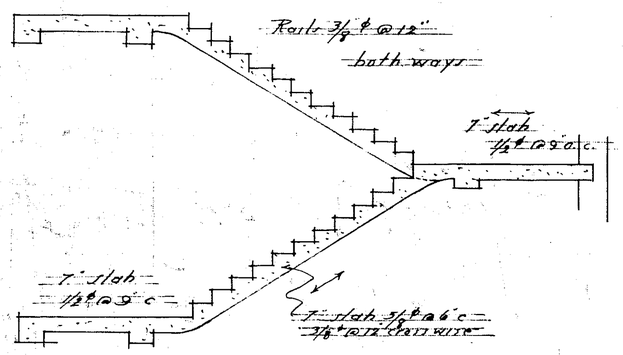




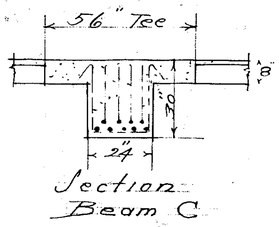
Footings for Columns 1·2·3·4·5·6·7·8·9

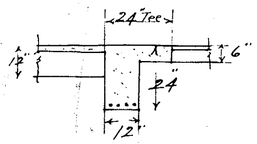


Footings for Columns 10·11·12·13·14·15·16·17



Typical Stair Details

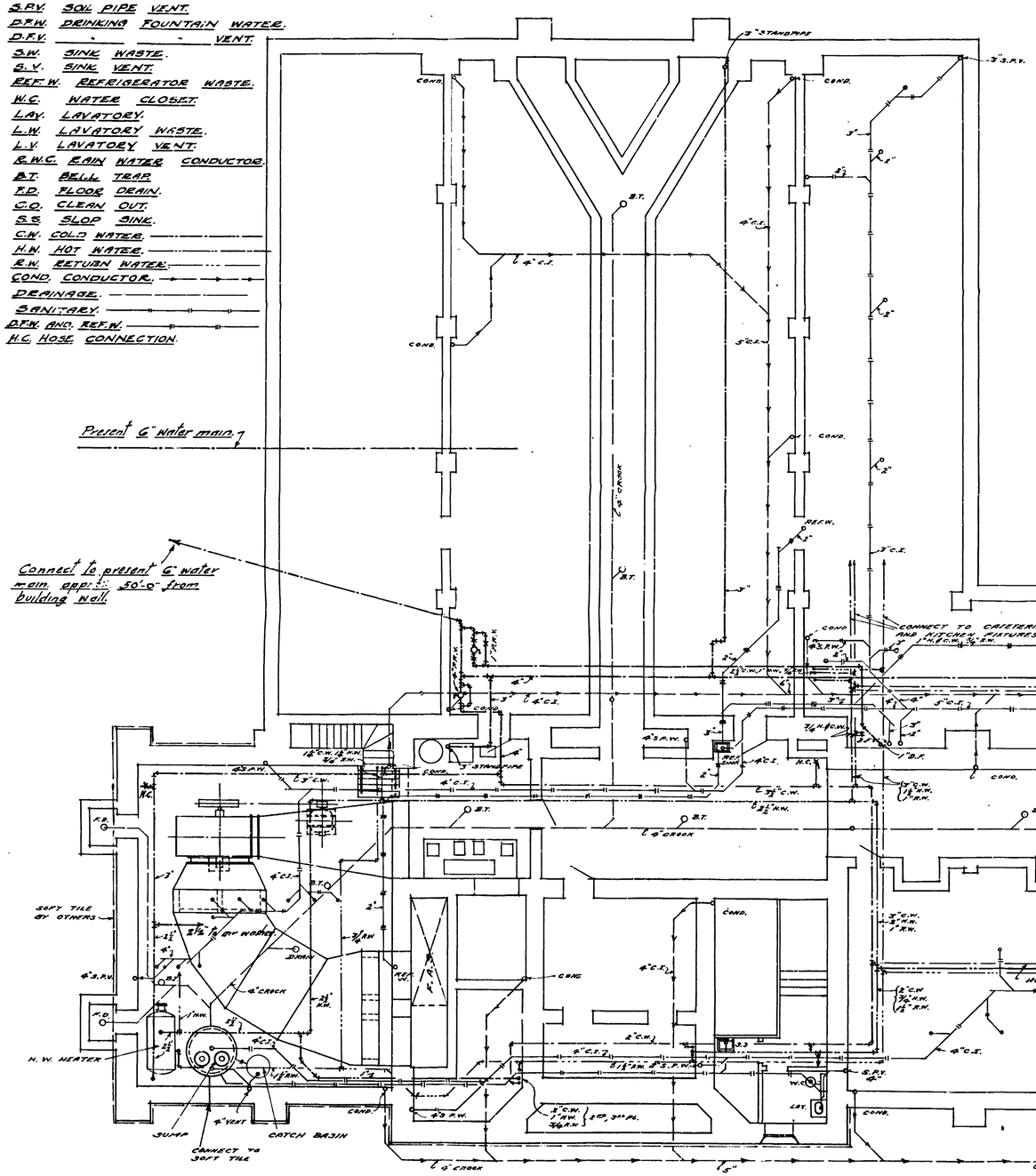


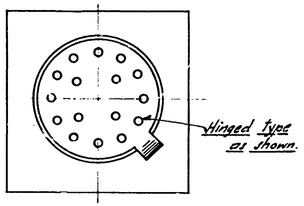


Reinforcing — Schedule

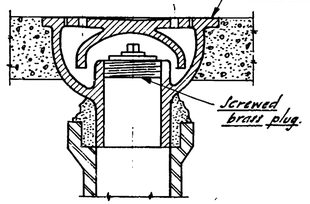
KEY TO DRAINAGE.

S.P. SOIL PIPE.
S.P.V. SOIL PIPE VENT.
D.F.W. DRINKING FOUNTAIN WASTE.
D.F.V. " " VENT.
S.W. SINK WASTE.
S.V. SINK VENT.
REF.W. REFRIGERATOR WASTE.
W.C. WATER CLOSET.
LAV. LAVATORY.
L.W. LAVATORY WASTE.
L.V. LAVATORY VENT.
R.W.C. RAIN WATER CONDUCTOR.
B.T. BELL TRAP.
F.D. FLOOR DRAIN.
C.O. CLEAN OUT.
S.S. SLOP SINK.
C.W. COLD WATER.
H.W. HOT WATER.
R.W. RETURN WATER.
COND. CONDUCTOR.
DRAINAGE.
SANITARY.
D.F.W. AND REF.W.
H.C. HOSE CONNECTION.



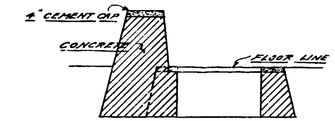


PLAN.

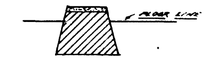


SECTION

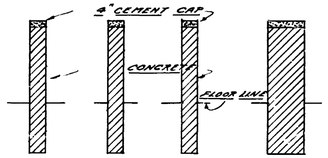
DETAIL OF SPECIAL BELL TRAP TO BE USED IN AIR CHAMBER.



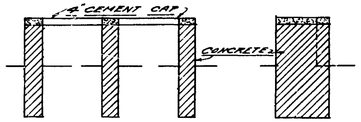
SECTION THRU FAN FOUNDATION
SCALE 1/2"=1'0"



SECTION THRU PUMP & MOTOR FOUNDATION
SCALE 1/2"=1'0"



SECTION THRU TEMPERING COIL FOUNDATIONS
SCALE 1/2"=1'0"



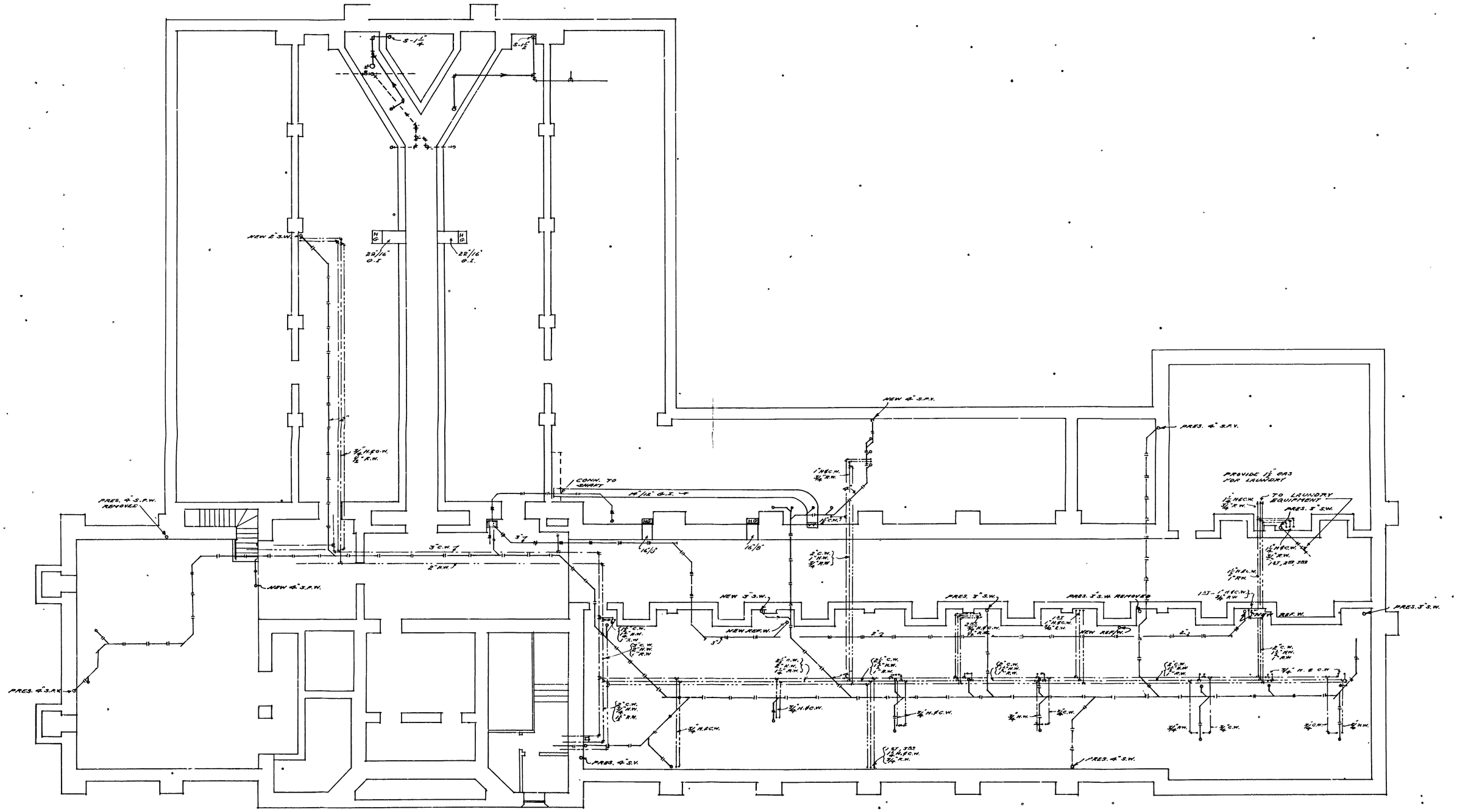
SECTION THRU RE-TEMPERING COIL FOUNDATIONS
SCALE 1/2"=1'0"

DRAINAGE PLAN.

SCALE 1/8"=1'0"

12-17-21

EDWYN A. BOWD. ARCHITECT. LANSING. MICHIGAN.	SERVICE EQUIPMENT. HOME ECONOMICS BUILDING. MICHIGAN AGRICULTURAL COLLEGE. APPROVED BY. [illegible] M.E.	1A DATE. 6-23-22

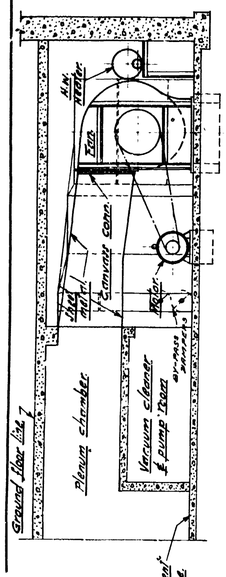


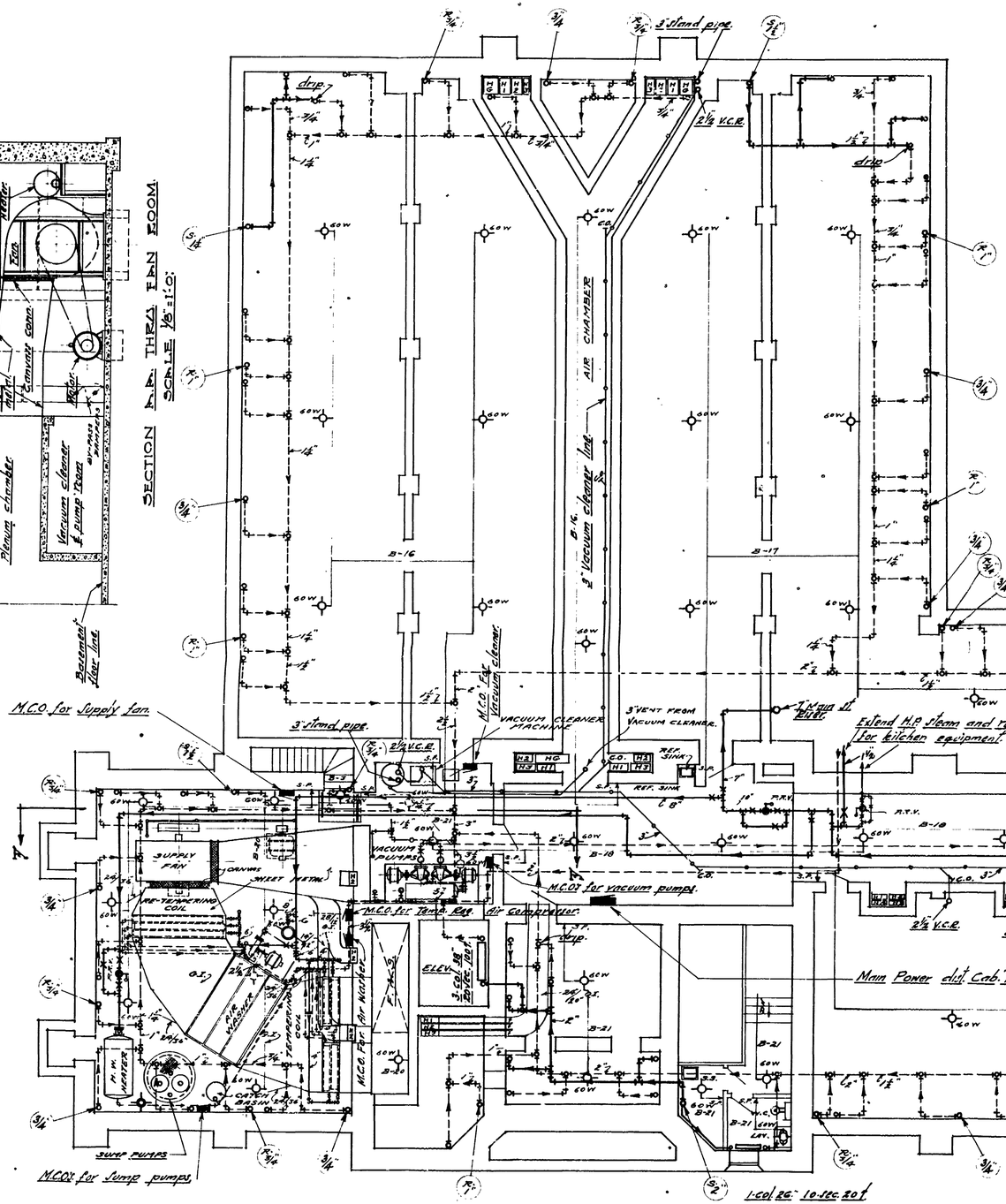
REVISED DRAINAGE PLAN
SCALE 1/8" = 1'-0"

B-17-7a

EDWYN A. BOWD ARCHITECT LANSING MICHIGAN	SERVICE EQUIPMENT HOME ECONOMICS BUILDING MICHIGAN AGRICULTURAL COLLEGE APPROVED BY	1 DATE

SECTION A.P. THRU FAN ROOM.
SCALE ½"=1'-0"





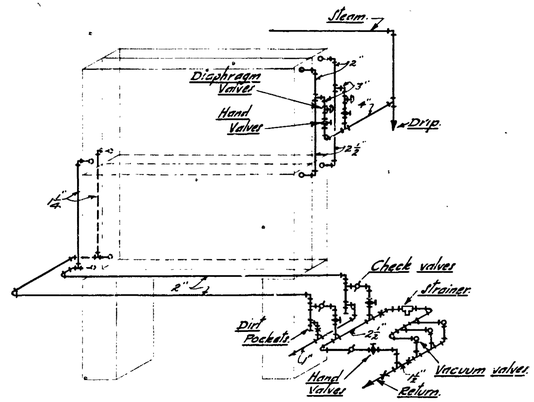


DIAGRAM OF TEMPERING COIL CONNECTIONS
Opposite bank to be similar see plan.

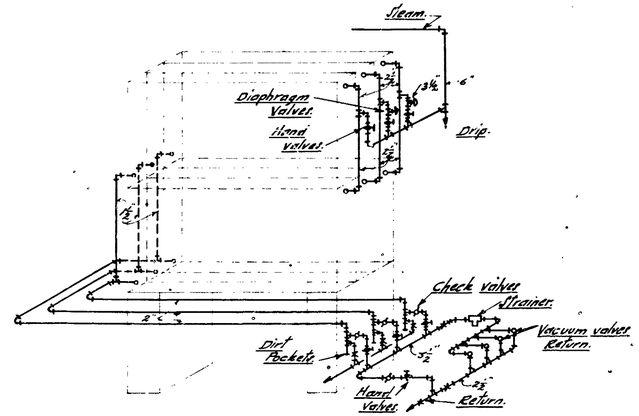


DIAGRAM OF RE-TEMPERING COIL CONNECTIONS

—NOTES.—

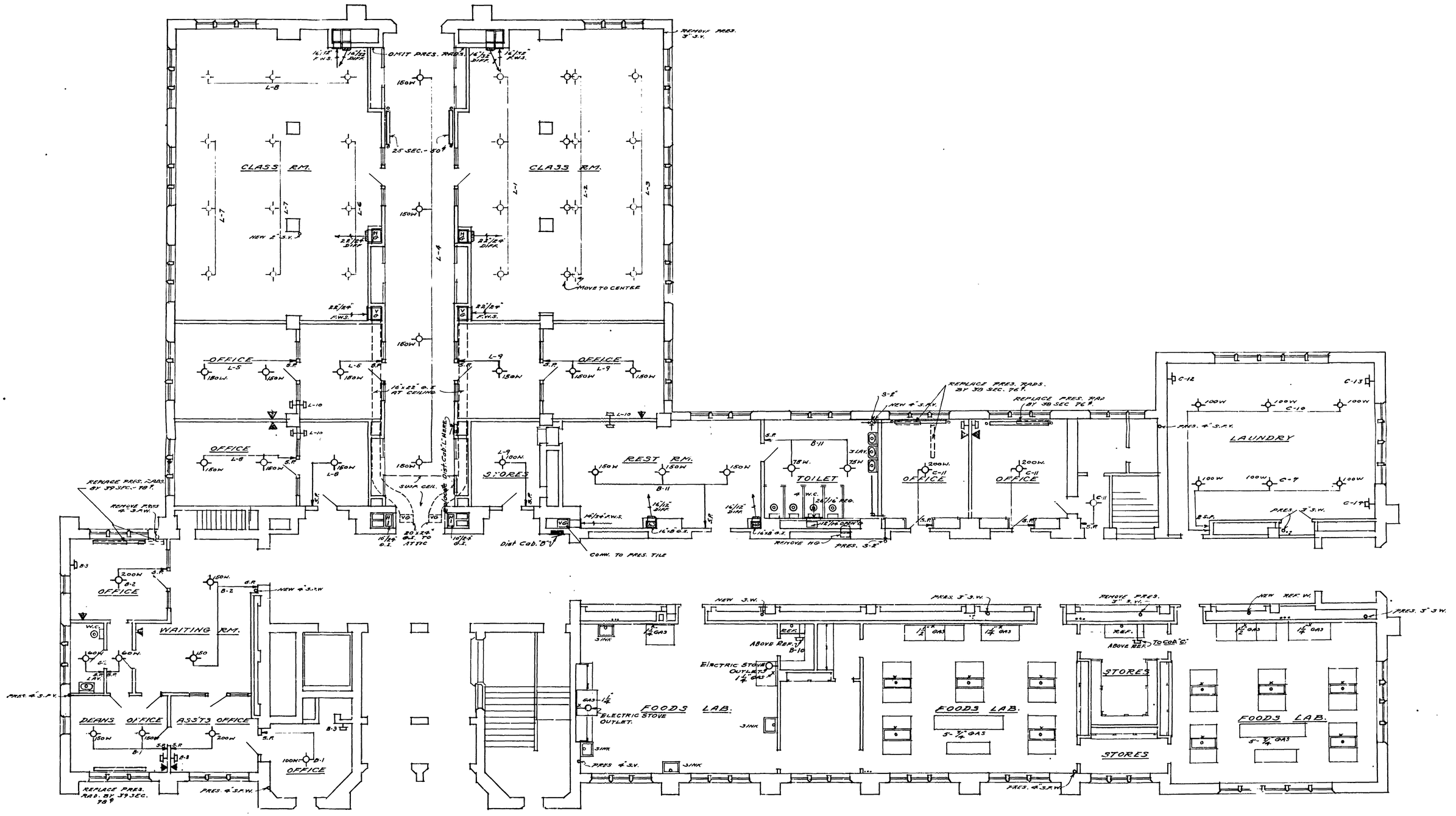
All piping to be kept at least one foot from electric outlets.
Valves are indicated thus ——⋈——
All lines to be kept as close to ceiling as possible except crock lines under floor.

HEATING. VENTILATING. PLUMBING. AND ELECTRIC WIRING. SYSTEMS.

BASEMENT PLAN.
SCALE ⅛"=1'-0"

B-17-7

EDWYN A. BOWD. ARCHITECT. LANSING. MICHIGAN.	SERVICE EQUIPMENT HOME ECONOMICS BUILDING MICHIGAN AGRICULTURAL COLLEGE. APPROVED BY. Y.C. Powell M.E.	1 DATE. 6-28-22



REVISED GROUND FLOOR PLAN
SCALE 1/8" = 1'-0"

B-17-7

EDWYN A. BOWD. ARCHITECT LANSING MICHIGAN	SERVICE EQUIPMENT HOME ECONOMICS BUILDING MICHIGAN AGRICULTURAL COLLEGE APPROVED BY	2 DATE

— ELECTRIC WIRING SYMBOLS —

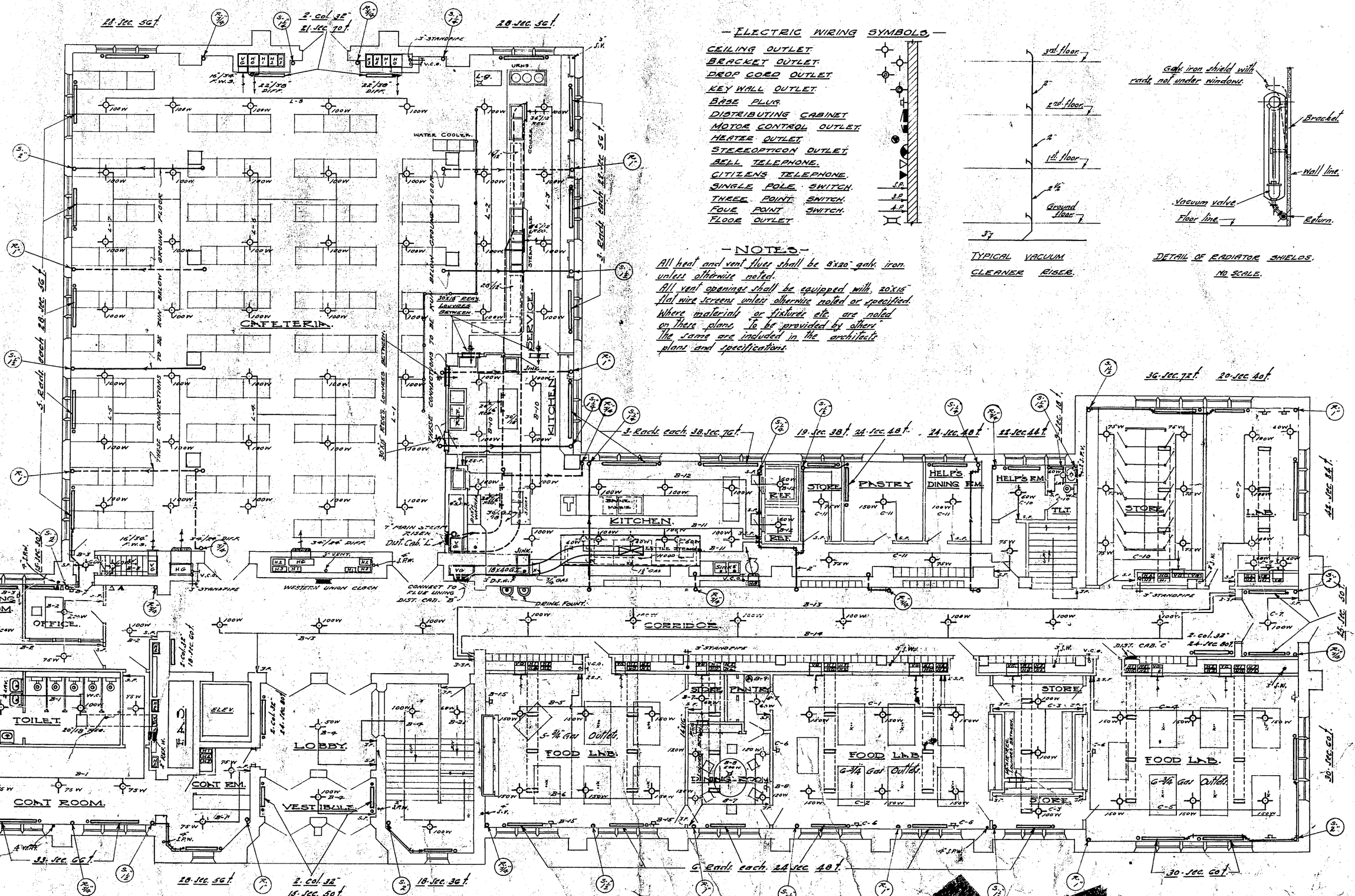
CEILING OUTLET.
BRACKET OUTLET.
DROP CORD OUTLET
KEY WALL OUTLET.
BASE PLUG.
DISTRIBUTING CABINET
MOTOR CONTROL OUTLET.
HEATER OUTLET.
STEREOPTICON OUTLET.
BELL TELEPHONE.
CITIZENS TELEPHONE.
SINGLE POLE SWITCH.
THREE POINT SWITCH.
FOUR POINT SWITCH.
FLOOR OUTLET

— NOTES —

All heat and vent flues shall be 8"x20" galv. iron unless otherwise noted.
All vent openings shall be equipped with 20"x15" flat wire screens unless otherwise noted or specified.
Where materials or fixtures etc. are noted on these plans "To be provided by others" The same are included in the architects plans and specifications.

TYPICAL VACUUM CLEANER RISER.

DETAIL OF RADIATOR SHIELDS.
NO SCALE.



Note.
All radiators on this floor to be 1 col 26" unless otherwise noted.

GROUND FLOOR PLAN

SCALE ⅛" = 1'-0"

EDWYN [illegible]
ARC[illegible]
LANSING [illegible]N.

SERVICE EQUIPMENT.
HOME ECONOMICS BUILDING.
MICHIGAN AGRICULTURAL COLLEGE.
APPROVED BY Wm Powell M.E.

2

DATE 6-23-12

CLASS RM.

CLASS RM.

NEW 2"S.V.

REMOVE PRES. 4"S.P.W.

REPLACE PRES. RADS. BY 26-3-32"

OFFICE

EXTENSION DIVISION

OFFICE

OFFICE

OFFICE

PRES. 4"S.A.V.

PRES. 4"S.P.W.

NEW 2"A.V.

WIRE AS SHOWN ON ORIGINAL PLANS

WIRE AS SHOWN ON ORIGINAL PLANS.

DUPLEX RECEPTACLES

NEW DIST. CAB. "DD"

Dist. Cab. "D"

NEW 4"S.A.V.

OMIT PRES. RAD.

REPLACE PRES. RADS. BY 2-ECOL. 26"-W 3-10½" EACH

OMIT PRES. RAD.

NEW 8"x 20" G.I. FLUE TO HOOD

OUTLETS FOR ELECTRIC OVENS

NEW 3"S.W.

NUTRITION CHEMISTRY

STORES

RESEARCH

RAT ROOM

OFFICE

NEW SINK

PRES. 3"S.V.

PRES. 4"S.W.

REMOVE PRES. 3"S.V.

PRES. 4"S.P.V.

NUTRITION LAB.

WIRE AS SHOWN ON ORIGINAL PLANS

PRES. 3"S.W.

NEW SINK

STORE RM.

NEW REF. W.

NUTRITION LAB.

WIRE AS SHOWN ON ORIGINAL PLANS.

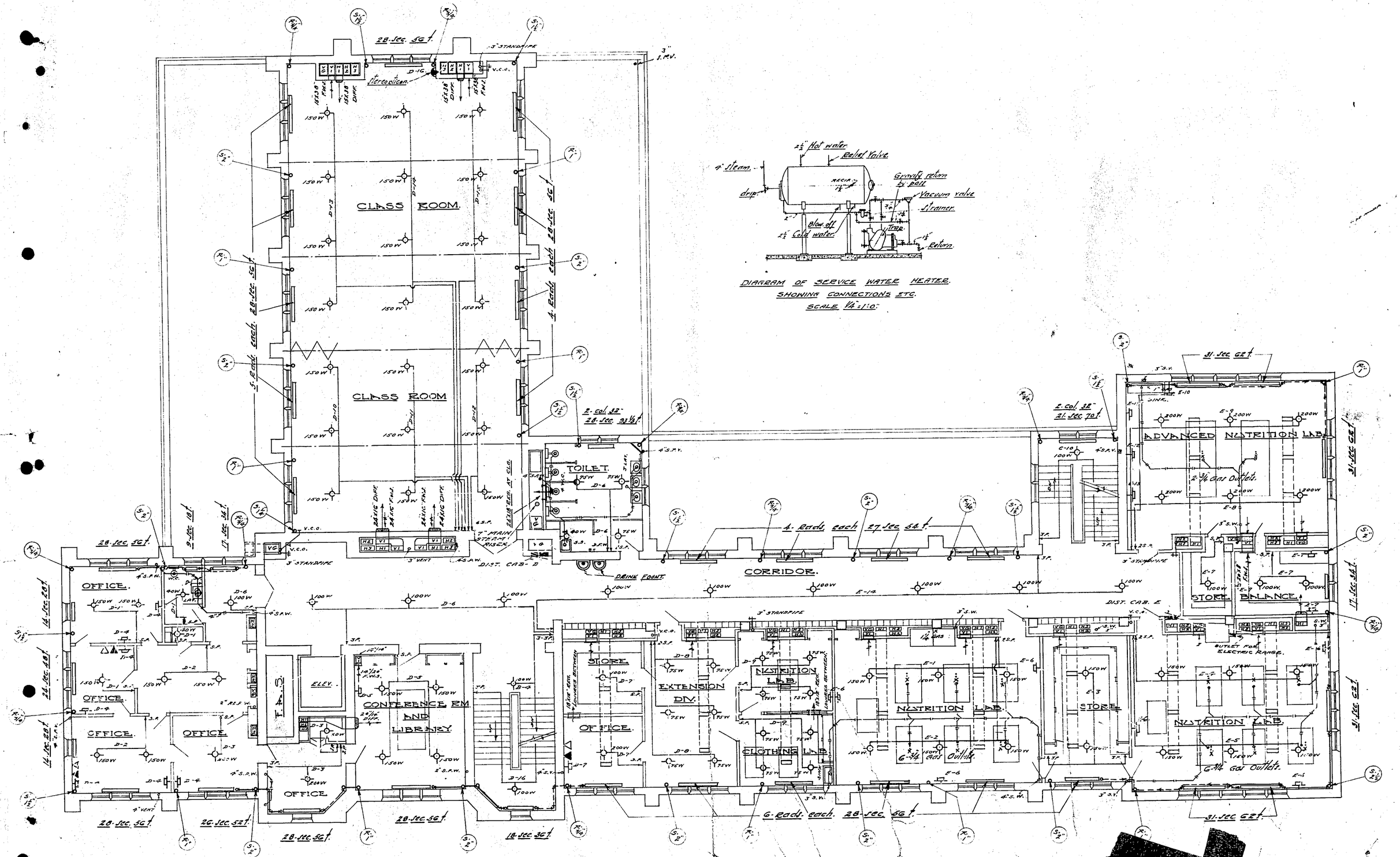
REVISED FIRST FLOOR PLAN

SCALE ⅛" = 1'-0"

B-17-7d

EDWYN A. BOWD. ARCHITECT LANSING MICHIGAN	SERVICE EQUIPMENT HOME ECONOMICS BUILDING MICHIGAN AGRICULTURAL COLLEGE APPROVED BY	3 DATE

DIAGRAM OF SERVICE WATER HEATER.
SHOWING CONNECTIONS ETC.
SCALE 1½"=1'-0"



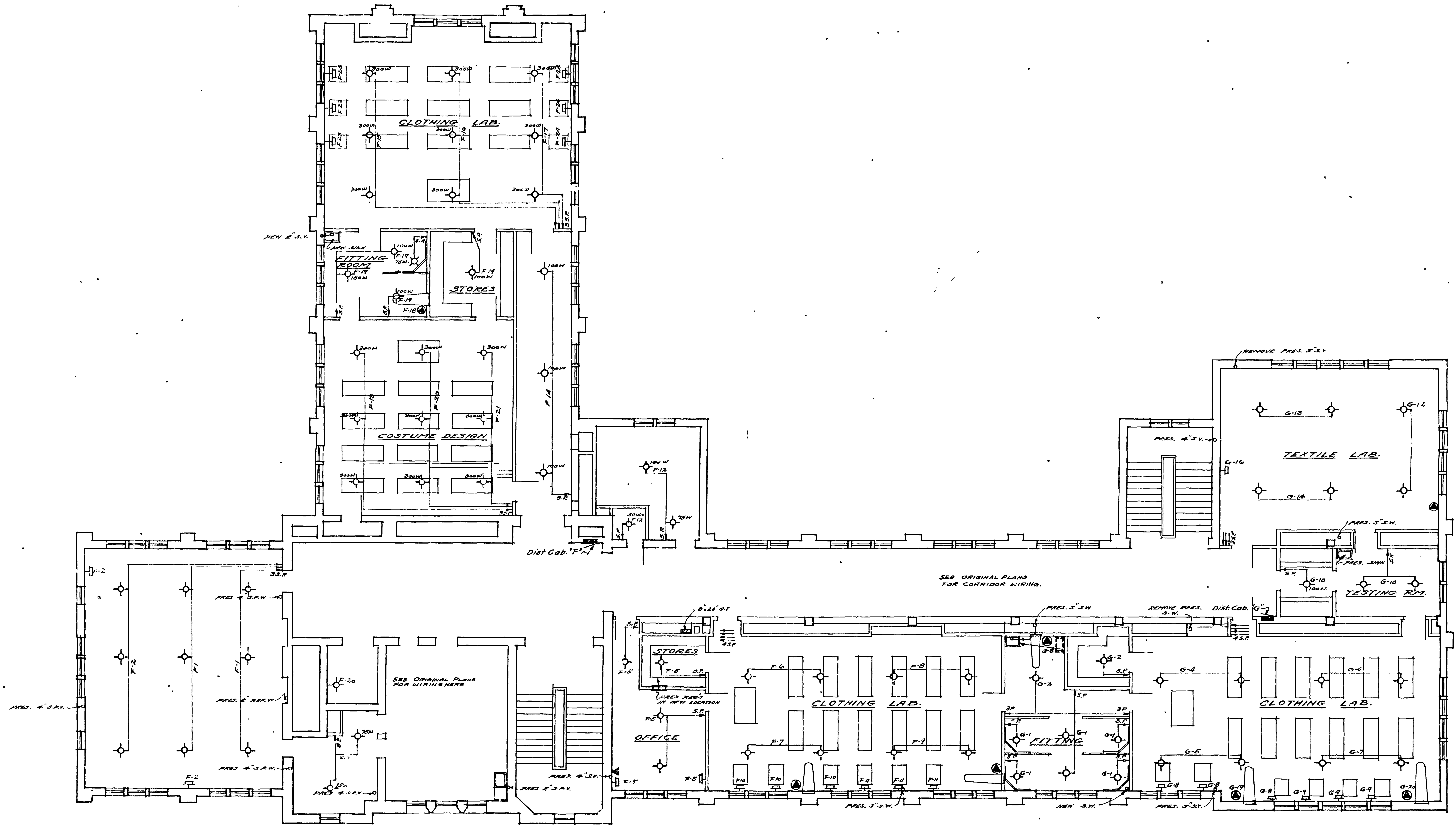
FIRST FLOOR PLAN.
SCALE 1/8"=1'-0"

Note.
All radiators on this floor to be 1-col. 26" unless otherwise noted.

EDWYN A. BO
ARCHI
LANSIN

MENT
OMI BUILDING
GRICULTURAL COLLEGE.
D BY Bar Bissell ME.

3
DATE
6-23-22



REVISED SECOND FLOOR PLAN
SCALE $\frac{1}{8}$"=1'-0"

R-17-7

EDWYN A. BOWD. ARCHITECT LANSING MICHIGAN	SERVICE EQUIPMENT HOME ECONOMICS BUILDING MICHIGAN AGRICULTURAL COLLEGE APPROVED BY	④ DATE

SEMINAR ROOM.

CLASS ROOM.

TOILET.

CORRIDOR.

CHILD CARE.

F.S. ELEV. WIND SHAFT

STORE.

KITCHEN.

EXAMINING.

CHILD'S TOILET.

OFFICE

CLOTHING.

FITTING.

MILLINERY.

STORE.

FITTING.

CLOTHING.

28 Jec. 56 f.

5" STANDPIPE

F.18 STEREOPTICON

V.C.O.

4 Rads. each 28 Jec. 56 f.

2 Rads. each 28 Jec. 56 f.

2 Col 32" 28 Jec. 93½ f.

3" S.V.

3" MAIN STEAM RISER

DIST. CAB. "A"

DRINK. FOUNT.

4 Rads. each 17 Jec. 34 f.

32 Jec. 64 f.

3" VENT

4" VENT

32 Jec. 64 f.

15 Jec. 30 f.

10 Jec. 20 f.

20 Jec. 40 f.

18 Jec. 36 f.

6 Rads. each 28 Jec. 56 f.

31 Jec. 62 f.

14 Jec. 68 f.

2 Col 32" 21 Jec. 70 f.

3" S.V.

3" STANDPIPE

DIST. CAB. "G"

31 Jec. 62 f.

17 Jec. 34 f.

31 Jec. 62 f.

Attic floor

3rd floor

Diffuser (see detail)

2nd floor

1st floor

Ground floor

G.I.

F.W. Screen

MAKE AIR TIGHT JOINT

Damper.

14'0"

13'0"

13'0"

12'6"

TYPICAL SECTION THRU CLASS ROOM FLUES.

SCALE 1/8"=1'0"

Note. All radiators on this floor to be 1 col 26" unless otherwise noted.

SECOND FLOOR PLAN.

SCALE 1/8"=1'0"

EDWYN A. BOWD.
ARCHITECT
LANSING. MICHIGAN.

SERVICE EQUIPMENT.
HOME ECONOMICS BUILDING.
MICHIGAN AGRICULTURAL COLLEGE
APPROVED [illegible] Prof. Bissell ME.

4

DATE: 6-23-22

NEW 3"S.V. EXTEND THRU ROOF.

WIRE AS SHOWN ON ORIGINAL PLANS

11-8 100W

50W

6-36W

S.P.

S.P.

CORRIDOR WIRED AS SHOWN ON ORIGINAL PLANS.

PRES. 4"S.A.V.

WIRE AS SHOWN ON ORIGINAL PLANS

PRES. 4"S.A.V.

PRES. R.S.C. W.

WIRE AS SHOWN ON ORIGINAL PLANS.

PRES. 4"S.A.V.

NEW W.C.

H-2 S.P.

75W.

NEW LAV.

PRES. 4"S.P.V.

CONNECT TO TOILET EXHAUST FAN IN ATTIC

8"x8"

S.P.

PRES. 3"S.V.

H-4

STORES

75W

H-6

S.P.

MILLINERY

18"x12" REG'S. LOUVRES BET.

H-7

H-6

75W

H-5

S.P.

H-6

100W.

FITTING RM.

PRES. 4"S.V.

PRES. 3"S.V.

J-1

J-2

ART'S & CRAFTS

NEW SINKS

3/4" H.S.C.W.

3/4" GAS

NEW SINK

PRES. 3"S.W.

NEW 3.V.

REMOVE PRES. 3"S.V.

PRES. 3"S.V.

STORES

J-3

75W

S.P.

18"x12" REG'S LOUVRES BET.

S.P.

J-3

150W.

OFFICE

J-4

CONN. TO VENT LINE IN ATTIC

REMOVE PRES. 3"S.V.

DESIGN RM.

PRES. 3"S.V.

PRES. 3"S.V.

PRES. SINK MOVED

PRES. 3"S.V.

J-11

S.P.

J-11

S.P.

J-11

75W

150W.

OFFICE

PRES. SINK IN NEW LOCATION

NEW 3.V.-E"

MOVE PRES. SINK

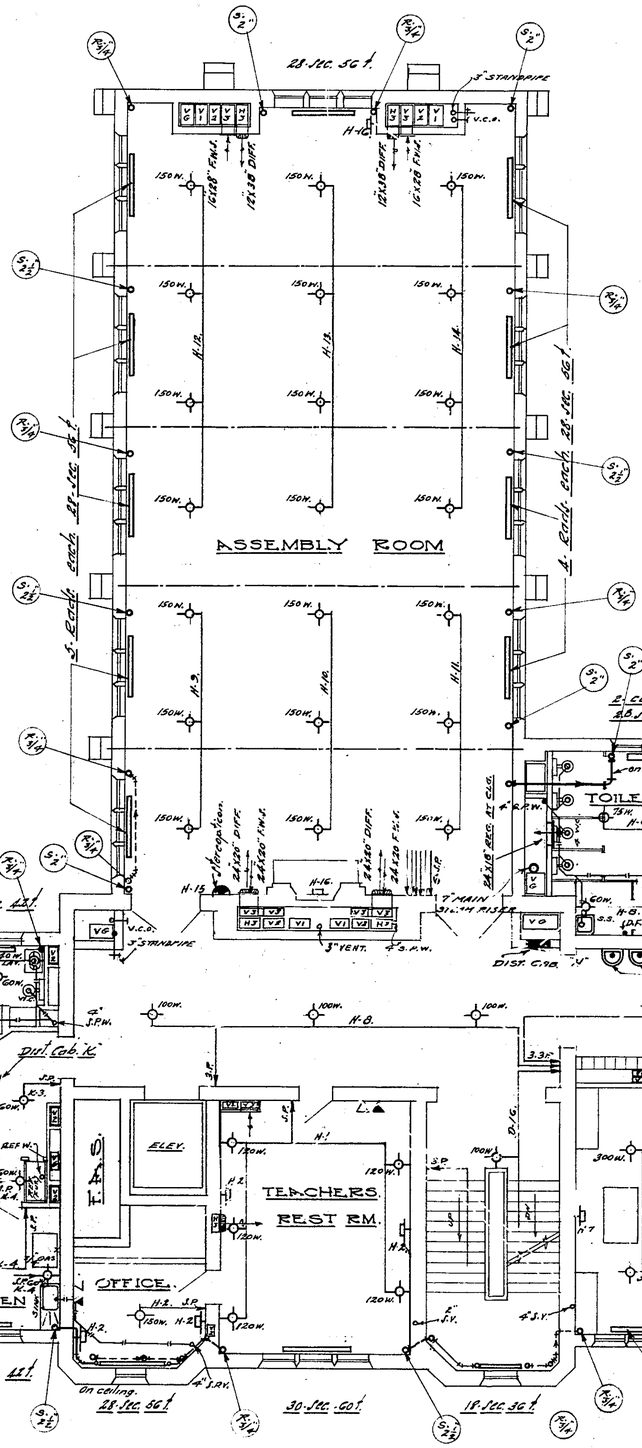
DESIGN RM.

REVISED THIRD FLOOR PLAN

SCALE 1/8" = 1'-0"

B-17-7[illegible]

EDWYN A. BOWD ARCHITECT LANSING MICHIGAN	SERVICE EQUIPMENT HOME ECONOMICS BUILDING MICHIGAN AGRICULTURAL COLLEGE APPROVED BY	5 DATE


ASSEMBLY ROOM
4. Radr. each 28. Sec. 56 f.
4. Radr. each 27. Sec. 54 f.
2. col. 32" 28. Sec. 93 1/2 f.
on ceiling
TOILET.
4" S.R.V.
4" S.P.W.
3" STANDPIPE
V.C.O.
H-15
H-16
3" MAIN
3" VENT.
DIST. C. 9B
DRINK. FOUNT.
CORRIDOR.
26. Sec. 52 f.
21. Sec. 42 f.
BED ROOM.
LIVING ROOM
DINING ROOM
KITCHEN
Dist. Cab. K
4" S.C.V.
4" VENT.
F.A.S.
ELEV.
OFFICE.
TEACHERS REST RM.
4" S.V.
4" S.R.V.
On ceiling.
28. Sec. 56 f.
30. Sec. 60 f.
18. Sec. 36 f.
6. Radr. each 28. Sec. 56 f.
31. Sec. 62 f.
17. Sec. 36 f.
15. Sec. 32 f.
11. Sec. 26 f.
TEXTILE LAB.
TEXTILE TESTING
TEXTILE RESEARCH
DESIGN RM.
TESTING ROOM
Sink.
3" S.V.
3" S.W.
3" S.P.W.
3" S.R.P.W.
3" S.R.V.
3" S.R.W.
3" S.S.V.
3" S.S.W.
3" S.S.P.W.
3" S.S.R.V.
3" S.S.R.W.
3" S.S.R.P.W.
3" S.S.S.V.
3" S.S.S.W.
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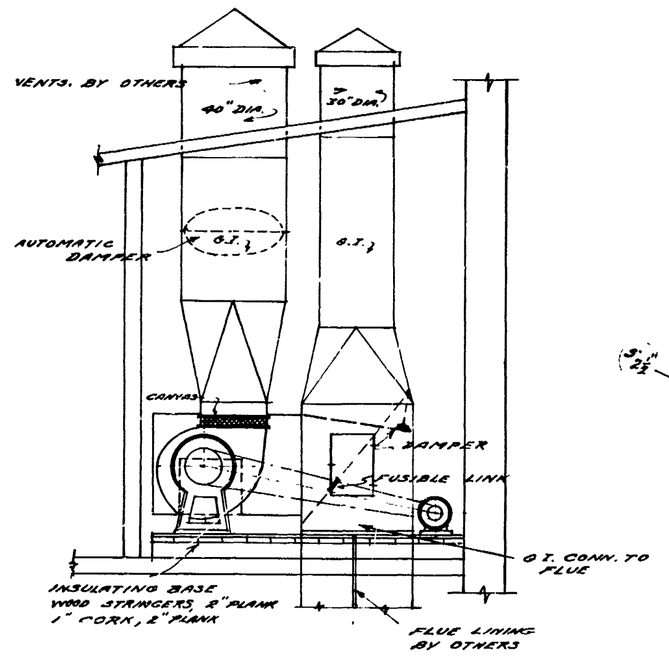
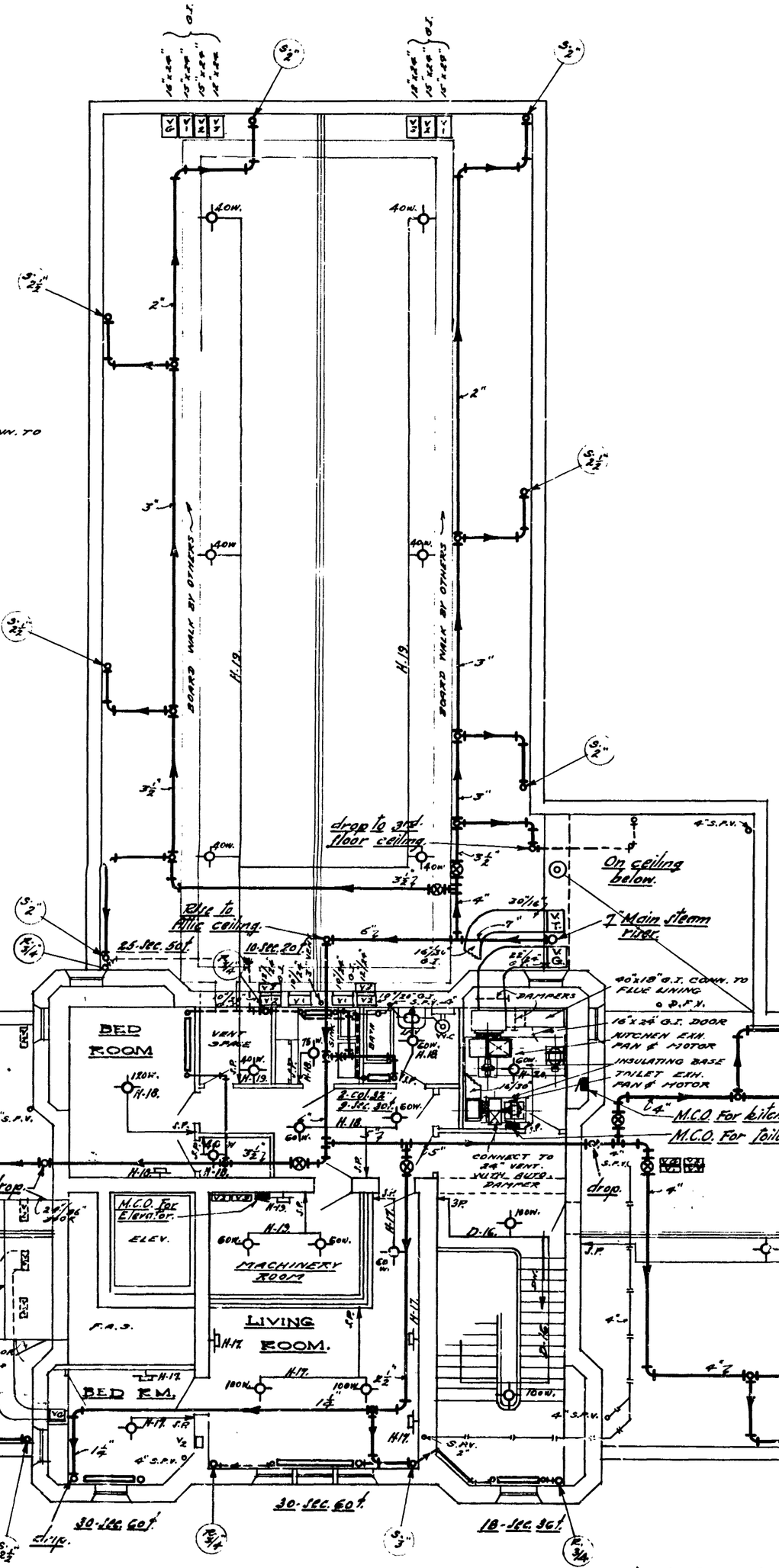
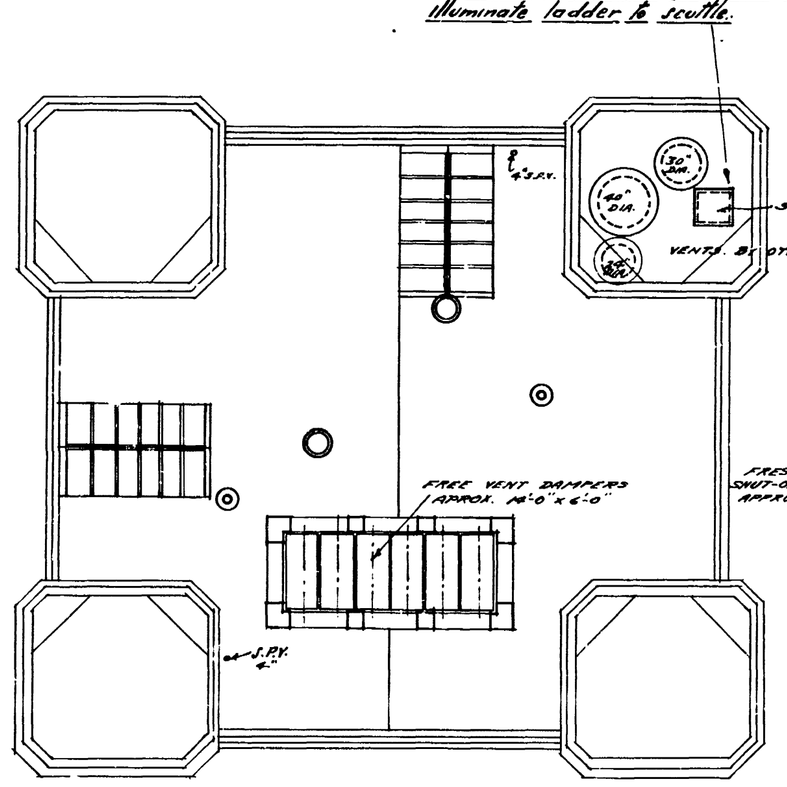


SECTION SHOWING KITCHEN EXHAUST FAN & BY-PASS

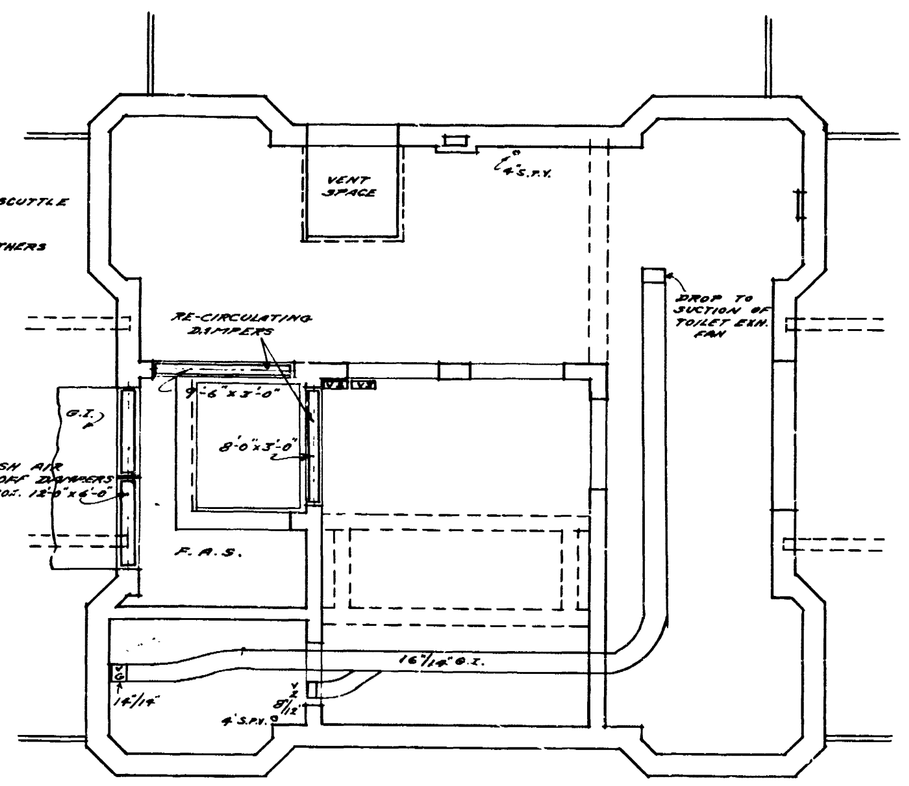
SCALE ¼" = 1'-0"



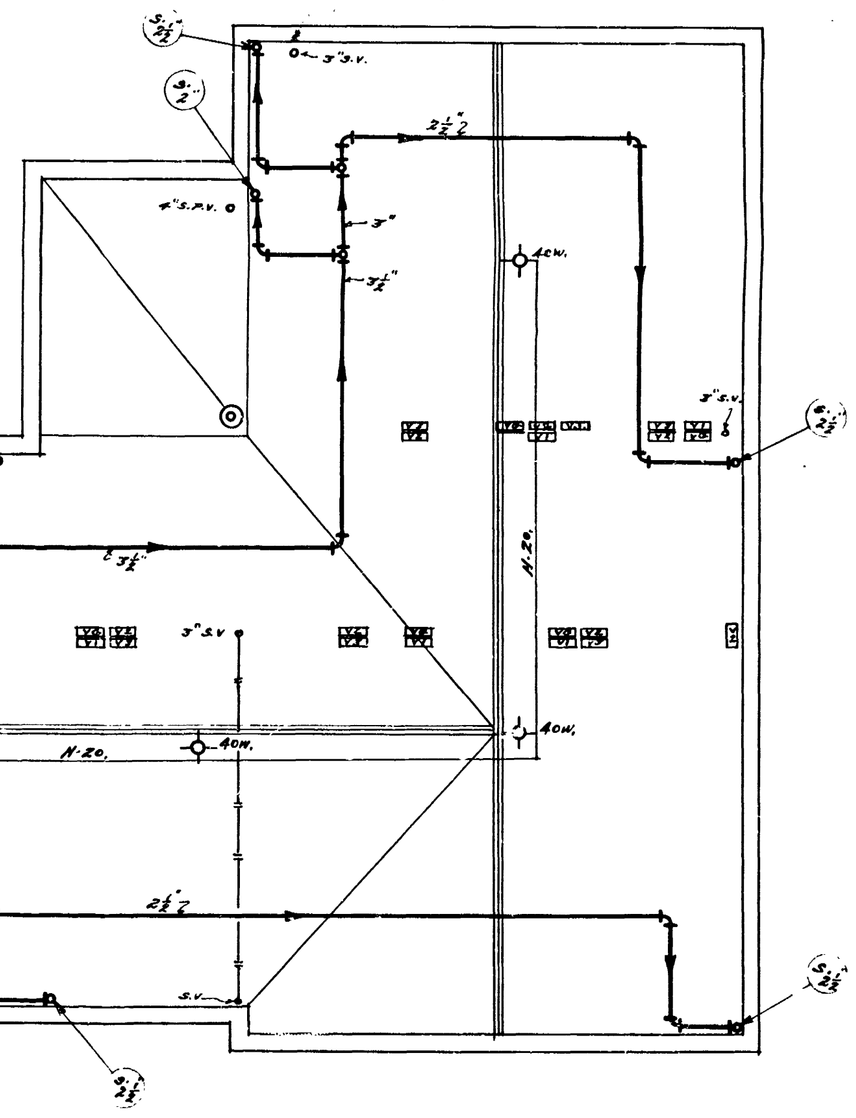
Note- Place 40-w outlet on circuit N.19 to illuminate ladder to scuttle.



TOWER ROOF



TOWER ATTIC.



ATTIC AND ROOF PLAN.

SCALE ⅛"-1'-0"

15-17-7K

EDWYN A. BOWD. ARCHITECT. LANSING. MICHIGAN.	SERVICE EQUIPMENT. HOME ECONOMICS BUILDING. MICHIGAN AGRICULTURAL COLLEGE. APPROVED BY: C.W. Bowd M.E.	6 DATE. 6-23-22

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements governing allowances.

B. Types of allowances include the following:

1. Unit-cost allowances.

C. Related Requirements:

1. Section 012200 "Unit Prices" for procedures for using unit prices, including adjustment of quantity allowances when applicable.

1.2 DEFINITIONS

A. Allowance: A quantity of work or dollar amount included in the Contract, established in lieu of additional requirements, used to defer selection of actual materials and equipment to a later date when direction will be provided to Contractor. If necessary, additional requirements will be issued by Change Order.

1.3 SELECTION AND PURCHASE

A. At the earliest practical date after award of the Contract, advise Owner of the date when final selection, or purchase and delivery, of each product or system described by an allowance must be completed by the Owner to avoid delaying the Work.

B. Obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.

1.4 ACTION SUBMITTALS

A. Submit proposals for purchase of products or systems included in allowances in the form specified for Change Orders.

1.5 INFORMATIONAL SUBMITTALS

A. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.

B. Submit time sheets and other documentation to show labor time and cost for installation of allowance items that include installation as part of the allowance.

C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.6 UNIT-COST ALLOWANCES

A. Allowance shall include cost to Contractor of specific products and materials ordered or selected by Owner under allowance and shall include freight, and delivery to Project site.

B. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials ordered or selected by Owner under allowance shall be included as part of the Contract Sum and not part of the allowance.

C. Unused Materials: Return unused materials purchased under an allowance to manufacturer or supplier for credit to Owner, after installation has been completed and accepted.

1. Deliver unused material to Owner's storage space as directed.

1.7 ADJUSTMENT OF ALLOWANCES

A. Allowance Adjustment: To adjust allowance amounts, prepare a Change Order proposal based on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place where applicable. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, required maintenance materials, and similar margins.

1. Include installation costs in purchase amount only where indicated as part of the allowance.
2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other markups.
3. Submit substantiation of a change in scope of Work, if any, claimed in Change Orders related to unit-cost allowances.
4. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count.

B. Submit claims for increased costs due to a change in the scope or nature of the allowance described in the Contract Documents, whether for the purchase order amount or Contractor's handling, labor, installation, overhead, and profit.

1. Do not include Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of Work has changed from what could have been foreseen from information in the Contract Documents.
2. No change to Contractor's indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

A. Allowance No. 1: Quantity Allowance: Include 300 linear feet of brick masonry mortar joint repointing in base bid.

1. Coordinate quantity allowance adjustment with unit-price requirements in Section 012200 "Unit Prices."

B. Allowance No. 2: Quantity Allowance: Include 200 square feet of brick masonry patching and repairs on base bid.

1. Coordinate quantity allowance adjustment with unit-price requirements in Section 012200 "Unit Prices."

END OF SECTION 012100

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for unit prices.

B. Related Requirements:

1. Section 012100 "Allowances" for procedures for using unit prices to adjust quantity allowances.

1.2 DEFINITIONS

A. Unit price is an amount incorporated into the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

1.3 PROCEDURES

A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, overhead, and profit.

B. Measurement and Payment: See individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.

C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.

D. List of Unit Prices: A schedule of unit prices is included in Part 3. Specification Sections referenced in the Part 3 "Schedule of Unit Prices" Article contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES

A. Unit Price No. 1: Repointing of Brick Masonry Mortar Joints.

1. Description: Repointing of brick mortar joints, as required, in accordance with Section 040323 – “HISTORIC BRICK UNIT MASONRY REPOINTING.”
2. Unit of Measurement: Linear foot of crack to be repaired.
3. Quantity Allowance: Coordinate unit price with allowance adjustment requirements in Section 012100 "Allowances."

B. Unit Price No. 2: Brick Masonry Repair.

1. Description: Repair brick masonry in accordance with Section 040322 - HISTORIC BRICK UNIT MASONRY REPAIR.
2. Unit of Measurement: Square feet of area of brick wall, first wythe from exterior only.

END OF SECTION 012200

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for alternates.

1.2 DEFINITIONS

A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if the Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.

1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternates into the Work. No other adjustments are made to the Contract Sum.

1.3 PROCEDURES

A. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.

1. Include, as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation, whether or not indicated as part of alternate.

B. Execute accepted alternates under the same conditions as other Work of the Contract.

C. Schedule: A Part 3 "Schedule of Alternates" Article is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)
PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. Alternate No. 1, Provide pre-patinated all copper materials and products to match existing patina on copper on existing roof ridge cap.

1. Base Bid: As indicated in Specifications and on Drawings.

B. Alternate No. 2, Provide masonry repairs and unit replacement between finish grade and roof eave line indicated on Drawings. Please refer to sheet A200 (Exterior Elevations) for the roof/ eave line designation.

1. Base Bid: Provide masonry repairs and unit replacement from roof eave line indicated on Drawings to top of masonry at all masonry surfaces of the Building exterior. Clean all masonry surfaces of Building exterior.

C. Alternate No. 3, Revise the following downspout and underground stormwater design as follows:

1. Eliminate new external copper gutters connecting into new underground drainage system as indicated on architectural and civil engineering drawings.
2. Eliminate new underground stormwater drainage system as indicated on civil engineering drawings.
3. Existing underground drainage infrastructure shall remain as is.
4. Connect new gutters to existing internal roof conductors with copper elbows and fitting specified. Align connections from new downspouts to existing roof conductor hole locations in walls.
5. New exterior downspouts draining onto low-slope roof areas shall remain in the project scope.
6. The exterior downspout at the west side of the north stair shall be replaced and connected into the existing underground system as it is indicated.

END OF SECTION 012300