

FIRE PROTECTION NOTES:

- A. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING WORK AND NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES BETWEEN THE "AS-BUILT" CONDITIONS AND THESE DRAWINGS.
- B. COORDINATE ALL FIRE PROTECTION INSTALLATION WITH GENERAL, PLUMBING, VENTILATION AND ELECTRICAL CONTRACTORS. INSTALL ALL FIRE PROTECTION PIPING AS HIGH AS POSSIBLE. PROVIDE ALL NECESSARY OFFSETS (DROPS AND RISES) TO KEEP FIRE PROTECTION PIPING TIGHT TO THE STRUCTURE OR DUCTWORK ABOVE. OFFSET FIRE PROTECTION PIPING TO AVOID BEAMS.
- C. ALL FIRE PROTECTION WORK SHALL ADHERE TO CURRENT NFPA 13 STANDARDS.
- D. ENTIRE BUILDING SHALL BE SPRINKLED. VERIFY WHERE MULTIPLE FLOORS EXIST.
- E. FIRE PROTECTION PIPING AND SPRINKLER HEADS ARE SHOWN FOR REFERENCE ONLY.
- F. SPRINKLER HEADS IN LAY-IN-TILE CEILINGS SHALL BE LOCATED IN THE CENTER OF TILE.
- G. REFER TO AND COORDINATE WITH THE ARCHITECTURAL PLANS FOR CEILING TYPES, HEIGHTS, SOFFIT AREAS, AND ELEVATIONS FOR INSTALLATION OF NEW FIRE PROTECTION PIPING, SPRINKLER HEADS, EQUIPMENT, ETC.
- H. THIS CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND RE-INSTALLING OF EXISTING CEILING TILE NOT REMOVED BY THE GENERAL CONTRACTOR FOR THE INSTALLATION OF NEW FIRE PROTECTION PIPING, SPRINKLER HEADS, EQUIPMENT, ETC. VERIFY WITH ARCHITECTURAL PLANS FOR CEILING WORK BY THE GENERAL CONTRACTOR. ANY CEILING TILE OR GRID DAMAGED DURING CONSTRUCTION SHALL BE REPLACED WITH NEW BY THIS CONTRACTOR.
- I. THIS CONTRACTOR SHALL OPEN ALL EXISTING WALLS AND/OR CEILINGS FOR INSTALLATION OF NEW FIRE PROTECTION PIPING, SPRINKLER HEADS, EQUIPMENT, ETC. AS REQUIRED. PATCH WALLS AND/OR CEILINGS TO MATCH EXISTING.
- J. MAINTAIN 3'-0" CLEAR SPACE IN FRONT OF ALL ELECTRICAL, CONTROL, AND ACCESS PANELS FOR ACCESSIBILITY.

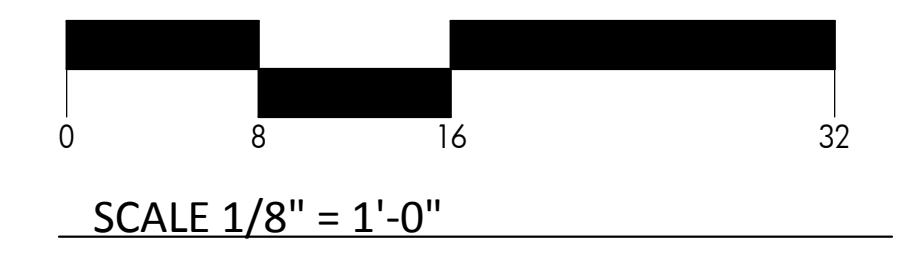
- 1. COORDINATE MAIN ROUTING WITH STRUCTURAL BEAMS. PROVIDE DRAINS AT ALL LOW POINTS.
- 2. MAINTAIN DRIVE LANE CLEAR OF PIPE MAINS. MAINTAIN 8'-2" CLEAR TO ALL PIPING FOR CAN ACCESSIBLE PARKING SPACES AND 1'-0" FOR ALL OTHER SPACES.
- 3. FIRE PROTECTION RISER. PROVIDE BOLLARD PROTECTION.
- 4. STANDPIPE LOCATION.
- 5. THIS AREA SHALL BE SPRINKLED AS ORDINARY HAZARD GROUP 1.

SPRINKLER HEAD LEGEND

- 1. PROVIDE CHROME PLATED RECESSED TYPE SPRINKLER HEADS IN ROOMS WITH LAY-IN-TILE OR GYPSUM CEILINGS.
- 2. PROVIDE WHITE CONCEALED PENDENT TYPE SPRINKLER HEADS IN ROOMS WITH LAY-IN-TILE OR GYPSUM CEILINGS.
- 3. PROVIDE BRASS UPRIGHT PENDENT TYPE SPRINKLER HEADS IN MECHANICAL ROOMS.
- 4. PROVIDE BRASS PENDENT TYPE SPRINKLER HEADS IN ROOMS WITHOUT CEILINGS.
- 5. PROVIDE SIDEWALL PENDENT TYPE SPRINKLER HEADS IN ELECTRICAL ROOMS, DATA CLOSETS, ELEVATOR EQUIPMENT ROOMS, AND SIMILAR TYPE ROOMS WHERE YOU CAN'T RUN PIPING ABOVE ROOM.
- 6. PROVIDE BRASS UPRIGHT SIDEWALL PENDENT TYPE SPRINKLER HEADS IN ELEVATOR SHAFTS.
- 7. SPRINKLER HEADS IN HIGH HUMIDITY AREAS SHALL BE POLY COATED FOR CORROSION.
- 8. SPRINKLER HEADS IN GYMNASIUMS, HOCKEY RINKS, FITNESS, AND RECREATION CENTERS SHALL BE FURNISHED WITH A HEAVY DUTY, TWO PIECE HEAD CASE TO PROTECT HEAD FROM DAMAGE.
- 9. SPRINKLER HEADS LOCATED 7'-6" OR LESS ABOVE THE FINISHED FLOOR SHALL BE FURNISHED WITH A HEAVY DUTY, TWO PIECE HEAD CASE TO PROTECT HEAD FROM DAMAGE.
- 10. HEADS LOCATED IN KITCHEN FREEZERS AND COOLERS SHALL BE FREEZE-PROOF TYPE.
- 11. SPRINKLER HEADS IN ELECTRICAL AND MECHANICAL ROOMS SHALL BE INTERMEDIATE TEMPERATURE RATED. SPRINKLER HEADS IN INDOOR GENERATOR ROOMS SHALL BE HIGH TEMPERATURE RATED.

GENERAL NOTES

- 1. ENTIRE BUILDING SHALL BE SPRINKLED AS LIGHT HAZARD UNLESS OTHERWISE NOTED.



1 GARAGE FLOOR PLAN - WEST - FIRE PROTECTION
 SCALE: 1/8" = 1'-0"
 NORTH



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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Reg. No. 48950 Special Reg. No. _____ Printed Name: Joe Wassing
 Date: 12/24/2017

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

JLG ARCHITECTS
BOTTINEAU RIDGE II APARTMENTS
 MAPLE GROVE, MN

DATE
12/4/17

PHASE
CONSTRUCTION

DOCUMENTS

PROJECT
ONE# 2016446

SHEET
F100A
 GARAGE FLOOR
 PLAN - WEST - FIRE
 PROTECTION

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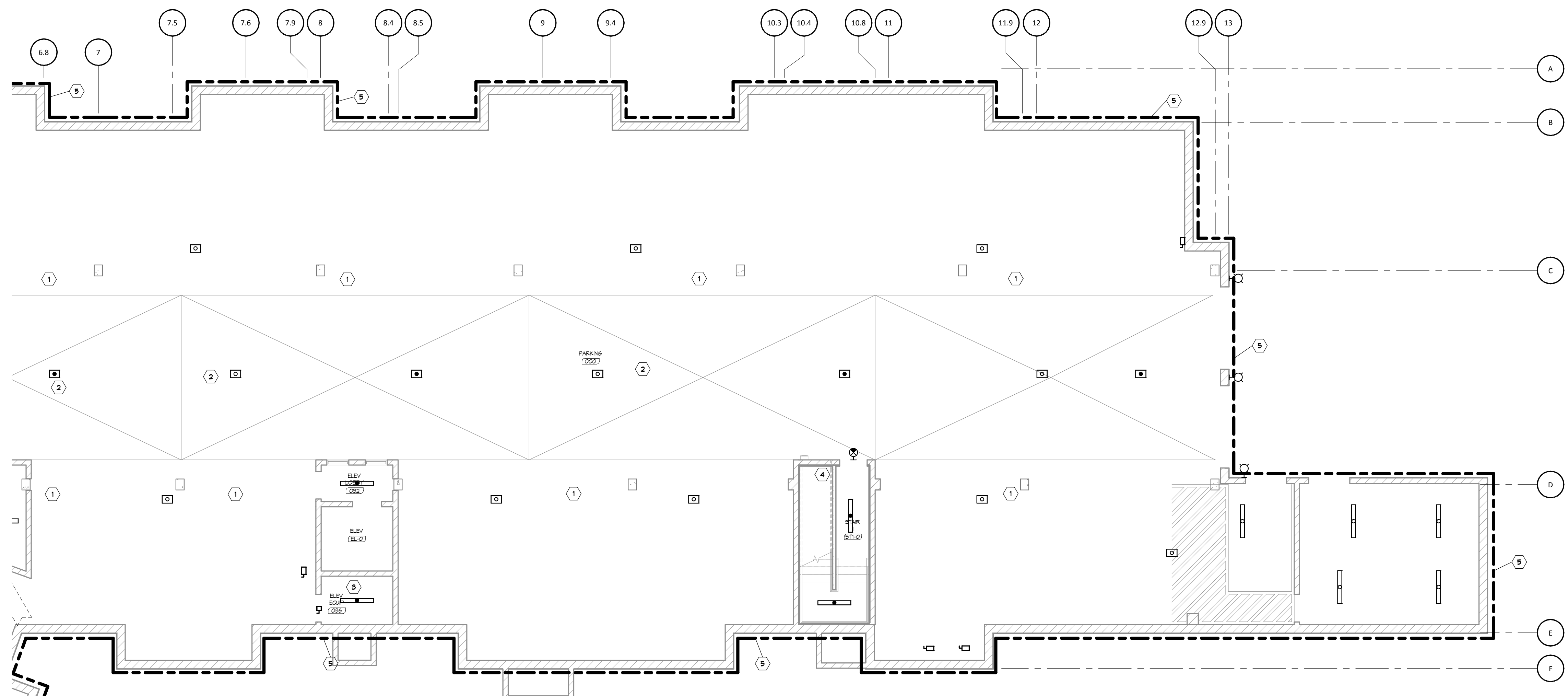
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SPRINKLER HEAD LEGEND

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7. SPRINKLER HEADS IN HIGH HUMIDITY AREAS SHALL BE POLY COATED FOR CORROSION.
8. SPRINKLER HEADS IN GYMNASIUMS, HOCKEY RINKS, FITNESS, AND RECREATION CENTERS SHALL BE FURNISHED WITH A HEAVY DUTY, TWO PIECE HEAD CASE TO PROTECT HEAD FROM DAMAGE.
9. SPRINKLER HEADS LOCATED 7'-6" OR LESS ABOVE THE FINISHED FLOOR SHALL BE FURNISHED WITH A HEAVY DUTY, TWO PIECE HEAD CASE TO PROTECT HEAD FROM DAMAGE.
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2. MAINTAIN DRIVE LANE CLEAR OF PIPE MANS. MAINTAIN 8'-2" CLEAR TO ALL PIPING FOR CAN ACCESSIBLE PARKING SPACES AND 7'-0" FOR ALL OTHER SPACES.
3. PROVIDE SIDEWALL COVERAGE FOR ELEVATOR EQUIPMENT ROOM.
4. STANDPIPE LOCATION.
5. THIS AREA SHALL BE SPRINKLED AS ORDINARY HAZARD GROUP 1.



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 Reg. No. 48950 Special. No. _____ Printed Name: Jon Wassling
 Date: 12/04/2017

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JLG ARCHITECTS
BOTTINEAU RIDGE II APARTMENTS
 MAPLE GROVE, MN

DATE
12/4/17

PHASE
CONSTRUCTION DOCUMENTS

PROJECT
ONE# 2016446

SHEET
F100B
 GARAGE FLOOR
 PLAN - EAST - FIRE
 PROTECTION

1
F100B
GARAGE FLOOR PLAN - EAST - FIRE PROTECTION
 SCALE: 1/8" = 1'-0"

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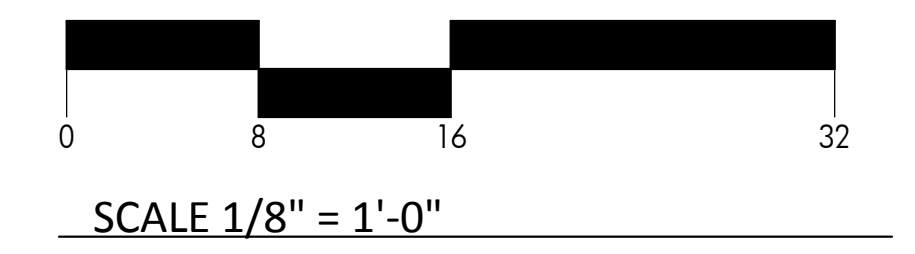
- 1) STANDPIPE LOCATION.
- 2) PROVIDE CONNECTION TO TRASH CHUTE.

SPRINKLER HEAD LEGEND

- 1. PROVIDE CHROME PLATED RECESSED TYPE SPRINKLER HEADS IN ROOMS WITH LAY-IN-TILE OR GYPSUM CEILINGS.
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FIRST FLOOR PLAN - WEST - FIRE PROTECTION
 SCALE: 1/8" = 1'-0"



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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Reg. No. 48950 Signature: [Signature] Printed Name: Jon Wassing
 Date: 12/04/2017

REVISION SCHEDULE		
NO.	DESCRIPTION	DATE

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BOTTINEAU RIDGE II APARTMENTS
 MAPLE GROVE, MN

DATE
12/4/17

PHASE
CONSTRUCTION

DOCUMENTS

PROJECT
ONE# 2016446

SHEET
F101A
 FIRST FLOOR PLAN -
 WEST - FIRE
 PROTECTION

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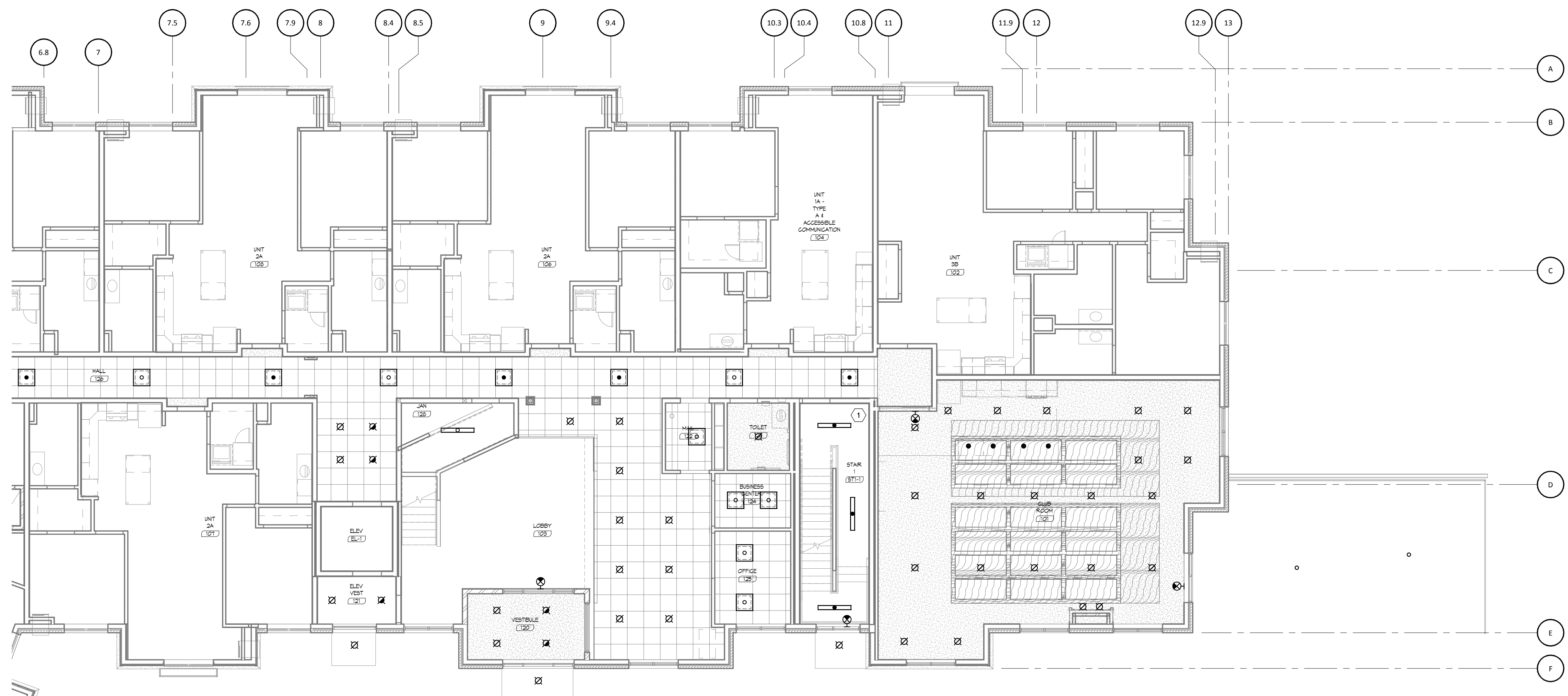
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SPRINKLER HEAD LEGEND

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① STANDPIPE LOCATION.



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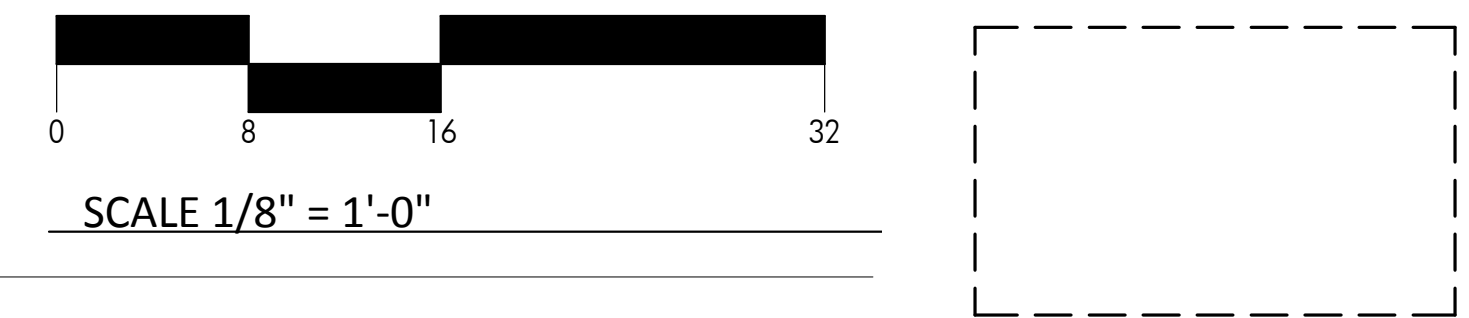
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SHEET
F101B
 FIRST FLOOR PLAN -
 EAST - FIRE
 PROTECTION



1 FIRST FLOOR PLAN - EAST - FIRE PROTECTION
 SCALE: 1/8" = 1'-0"

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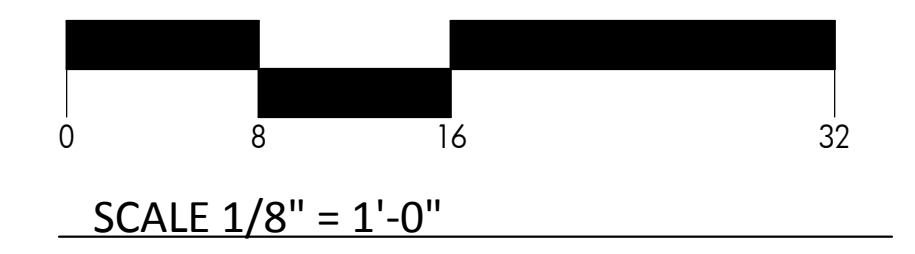
① STANDPIPE LOCATION.

SPRINKLER HEAD LEGEND

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1 F102A SECOND FLOOR PLAN - WEST - FIRE PROTECTION
SCALE: 1/8" = 1'-0"

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Reg. No. 48950 Special Reg. No. _____ Printed Name: Jon Wassing
Date: 12/24/2017

REVISION SCHEDULE		
NO.	DESCRIPTION	DATE

JLG ARCHITECTS
BOTTINEAU RIDGE II APARTMENTS
 MAPLE GROVE, MN

DATE
12/4/17

PHASE
CONSTRUCTION

DOCUMENTS

PROJECT
ONE# 2016446

SHEET
F102A

SECOND FLOOR
PLAN - WEST - FIRE
PROTECTION

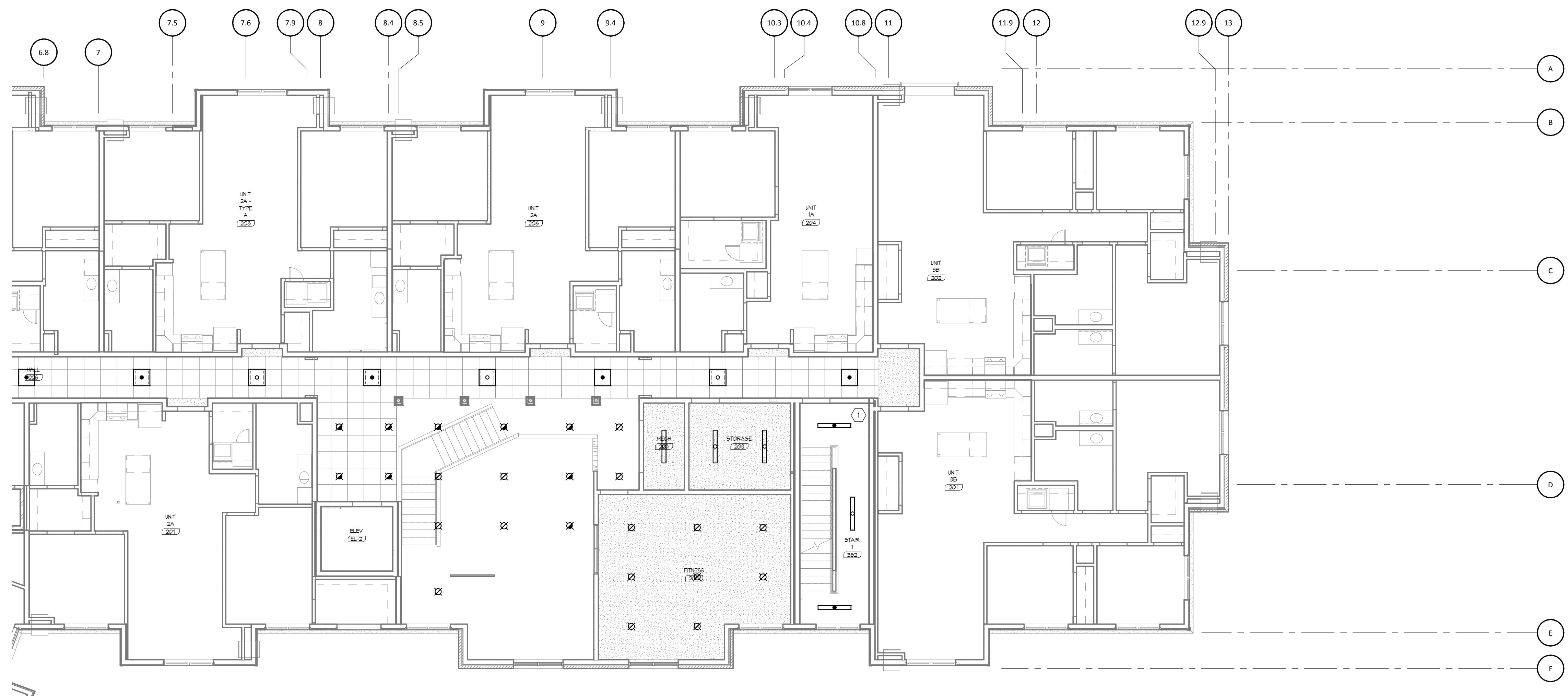
6 5 4 3 2 1

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SPRINKLER HEAD LEGEND

1. PROVIDE CHROME PLATED RECESSED TYPE SPRINKLER HEADS IN ROOMS WITH LAY-IN-TILE OR GYPSUM CEILINGS.
2. PROVIDE WHITE CONCEALED PENDENT TYPE SPRINKLER HEADS IN ROOMS WITH LAY-IN-TILE OR GYPSUM CEILINGS.
3. PROVIDE BRASS UPRIGHT PENDENT TYPE SPRINKLER HEADS IN MECHANICAL ROOMS.
4. PROVIDE BRASS PENDENT TYPE SPRINKLER HEADS IN ROOMS WITHOUT CEILINGS.
5. PROVIDE SIDEWALL PENDENT TYPE SPRINKLER HEADS IN ELECTRICAL ROOMS, DATA CLOSETS, ELEVATOR EQUIPMENT ROOMS, AND SIMILAR TYPE ROOMS WHERE YOU CANT RUN PIPING ABOVE ROOM.
6. PROVIDE BRASS UPRIGHT SIDEWALL PENDENT TYPE SPRINKLER HEADS IN ELEVATOR SHAFTS.
7. SPRINKLER HEADS IN HIGH HUMIDITY AREAS SHALL BE POLY COATED FOR CORROSION.
8. SPRINKLER HEADS IN GYMNASIUMS, HOCKEY RINKS, FITNESS, AND RECREATION CENTERS SHALL BE FURNISHED WITH A HEAVY DUTY, TWO PIECE HEAD CASE TO PROTECT HEAD FROM DAMAGE.
9. SPRINKLER HEADS LOCATED 7'-6" OR LESS ABOVE THE FINISHED FLOOR SHALL BE FURNISHED WITH A HEAVY DUTY, TWO PIECE HEAD CASE TO PROTECT HEAD FROM DAMAGE.
10. HEADS LOCATED IN KITCHEN FREEZERS AND COOLERS SHALL BE FREEZE-PROOF TYPE.
11. SPRINKLER HEADS IN ELECTRICAL AND MECHANICAL ROOMS SHALL BE INTERMEDIATE TEMPERATURE RATED. SPRINKLER HEADS IN INDOOR GENERATOR ROOMS SHALL BE HIGH TEMPERATURE RATED.

GENERAL NOTES

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FIRE PROTECTION NOTES:

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1 STANDPIPE LOCATION.



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BOTTINEAU RIDGE II APARTMENTS
 MAPLE GROVE, MN

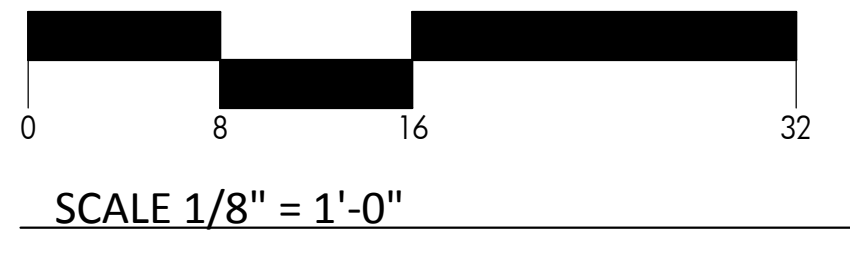
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PHASE
CONSTRUCTION

DOCUMENTS

PROJECT
ONE# 2016446

SHEET
F102B
 SECOND FLOOR
 PLAN - EAST - FIRE
 PROTECTION



1 SECOND FLOOR PLAN - EAST - FIRE PROTECTION
 SCALE: 1/8" = 1'-0"

12/04/2017 9:34:00 AM

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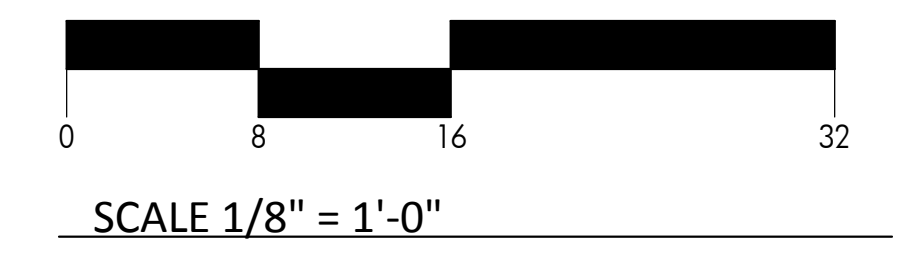
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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Reg. No. 48950 Specialties: Mechanical Printed Name: Jon Wessling
 Date: 12/04/2017 Title: Engineer

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

JLG ARCHITECTS
BOTTINEAU RIDGE II APARTMENTS
 MAPLE GROVE, MN



1 THIRD FLOOR PLAN - WEST - FIRE PROTECTION
 SCALE: 1/8" = 1'-0"

DATE
12/4/17

PHASE
CONSTRUCTION

DOCUMENTS

PROJECT
ONE# 2016446

SHEET
F103A

THIRD FLOOR PLAN - WEST - FIRE PROTECTION

12/04/2017 9:34:04 AM

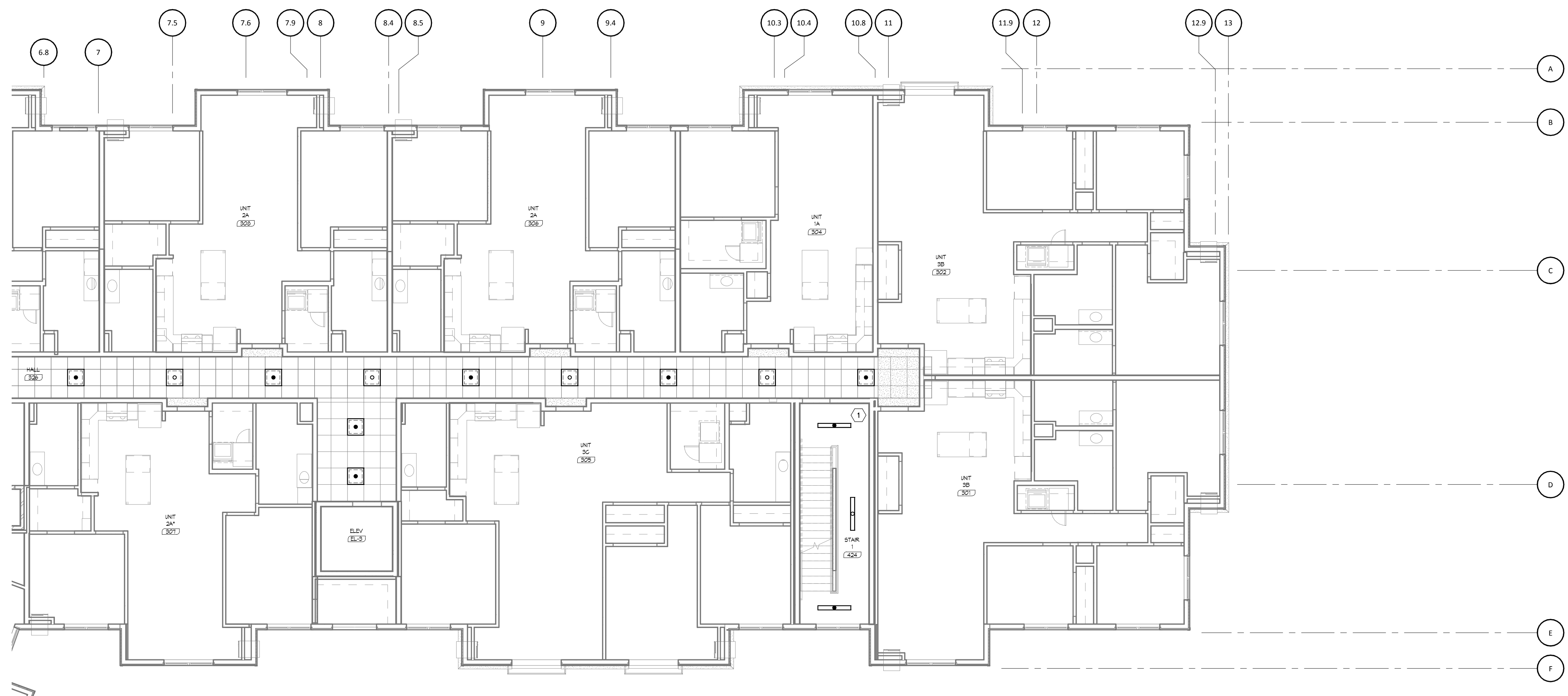
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 Reg. No. 48950 Signature: [Signature]
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BOTTINEAU RIDGE II APARTMENTS
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DATE
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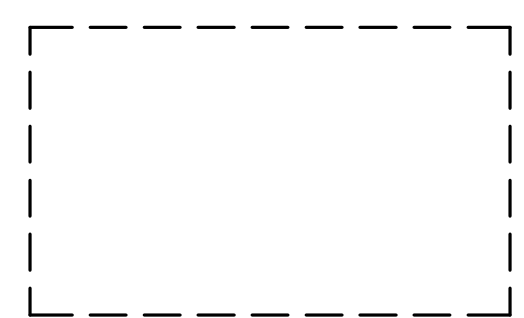
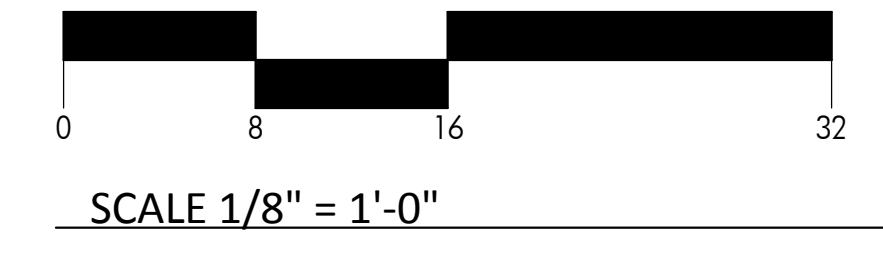
PHASE
CONSTRUCTION

DOCUMENTS

PROJECT
ONE# 2016446

SHEET
F103B

THIRD FLOOR PLAN -
 EAST - FIRE
 PROTECTION



1 THIRD FLOOR PLAN - EAST - FIRE PROTECTION
 SCALE: 1/8" = 1'-0"

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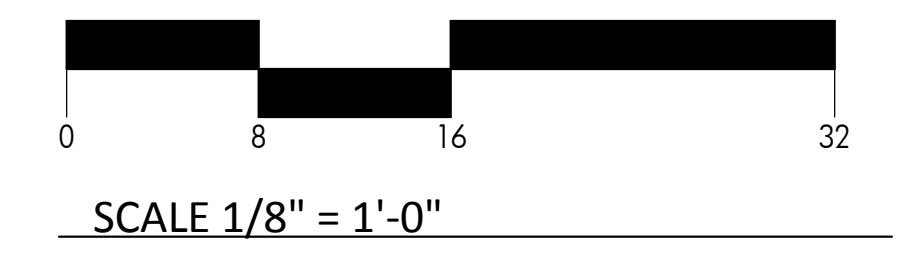


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JLG ARCHITECTS
BOTTINEAU RIDGE II APARTMENTS
 MAPLE GROVE, MN



1 F104A
FOURTH FLOOR PLAN - WEST - FIRE PROTECTION
 SCALE: 1/8" = 1'-0"

12/04/2017 9:34:13 AM

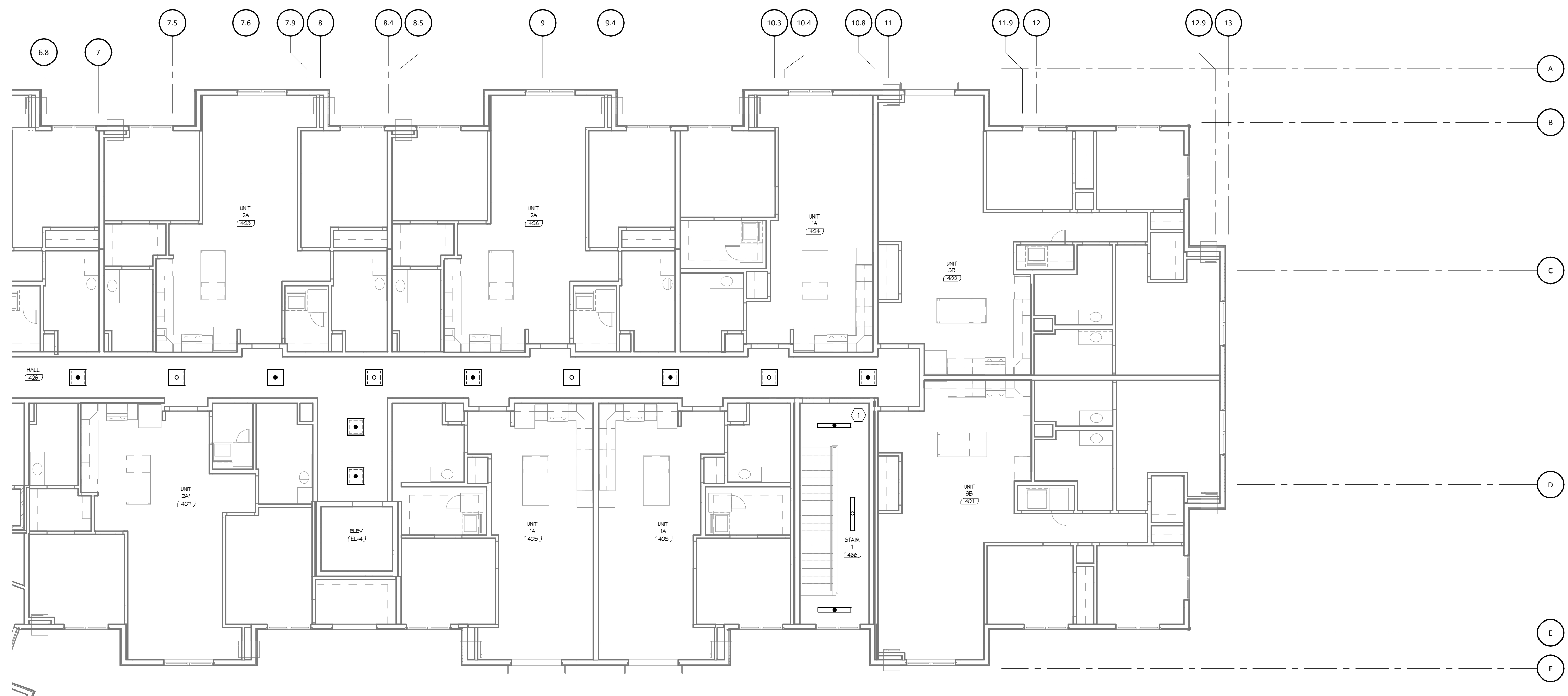
6 5 4 3 2 1

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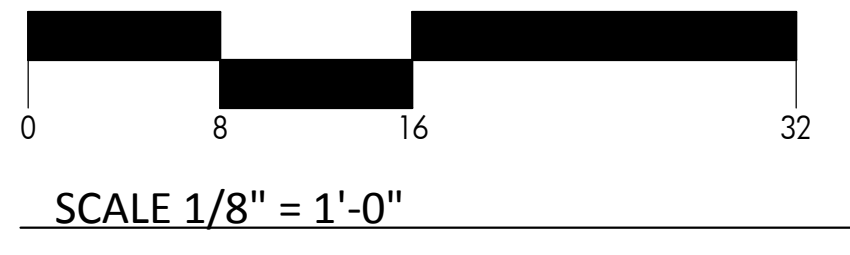
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12/24/2017 9:34:17 AM
 NORTH
1 FOURTH FLOOR PLAN - EAST - FIRE PROTECTION
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 Reg. No. 48950 Special. Printed Name: Jon Wassing
 Date: 12/24/2017

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

JLG ARCHITECTS
BOTTINEAU RIDGE II APARTMENTS
 MAPLE GROVE, MN

DATE
12/4/17

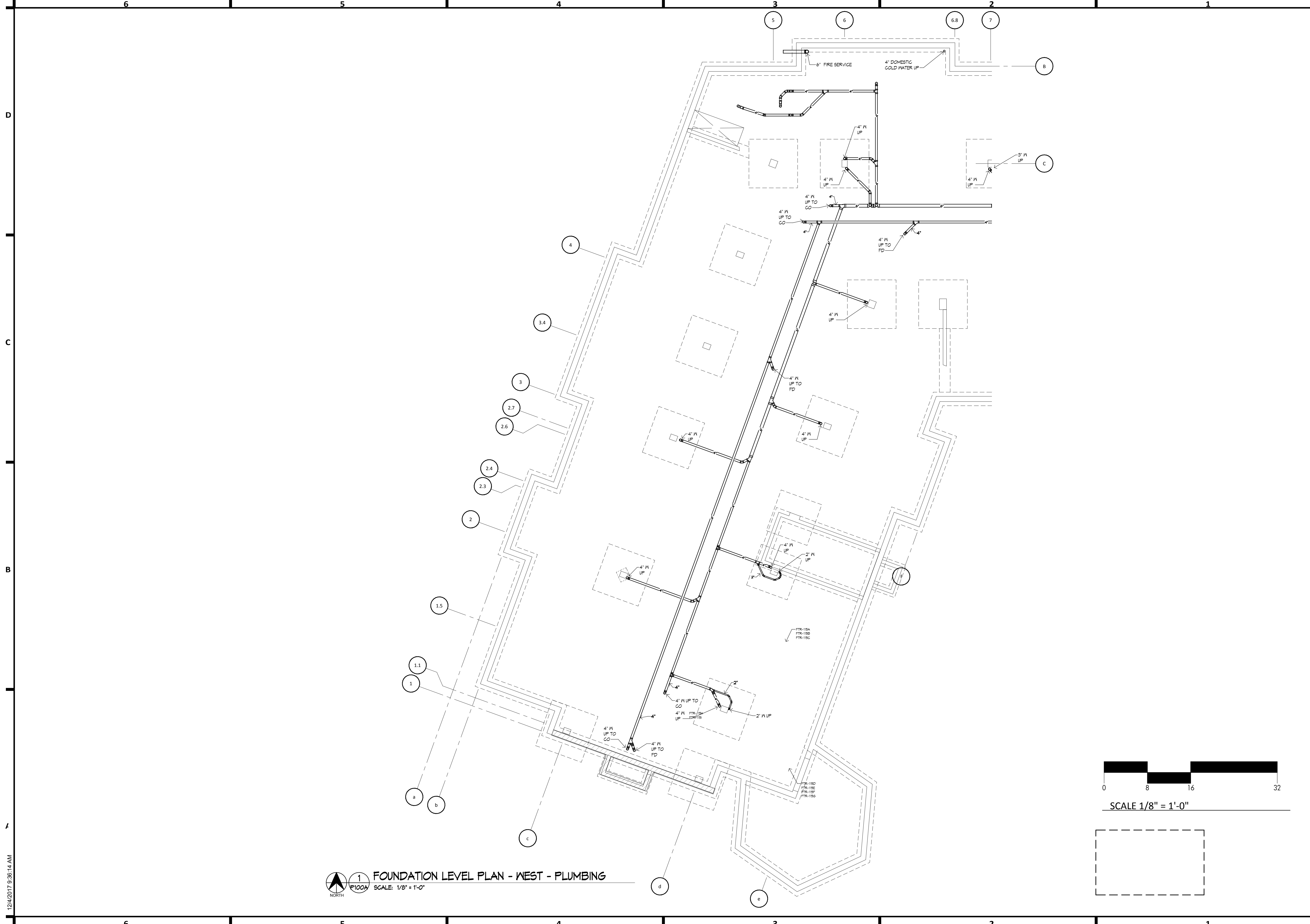
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CONSTRUCTION

DOCUMENTS

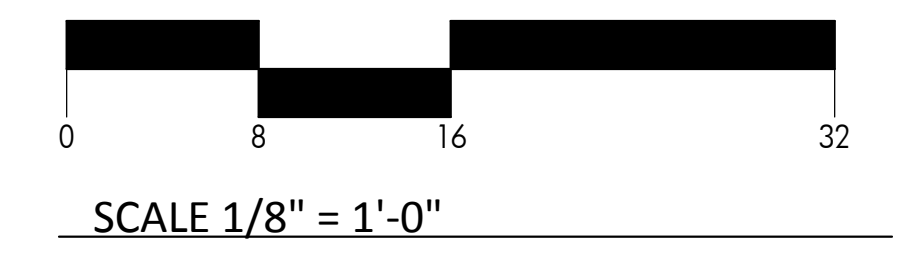
PROJECT
ONE# 2016446

SHEET
F104B
 FOURTH FLOOR
 PLAN - EAST - FIRE
 PROTECTION

6 5 4 3 2 1

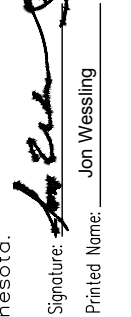



1 FOUNDATION LEVEL PLAN - WEST - PLUMBING
 SCALE: 1/8" = 1'-0"



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 Reg. No. 43950 Signature:  Printed Name: Jon Wessling
 Date: 12/4/2017 Title: _____

REVISION SCHEDULE		
NO.	DESCRIPTION	DATE

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BOTTINEAU RIDGE II APARTMENTS
 MAPLE GROVE, MN

DATE
12/4/17
 PHASE
CONSTRUCTION
 DOCUMENTS
 PROJECT
ONE# 2016446
 SHEET
P100A
 FOUNDATION PLAN
 - WEST - PLUMBING

12/4/2017 9:36:14 AM



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 Date: 12/4/2017

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NO.	DESCRIPTION	DATE

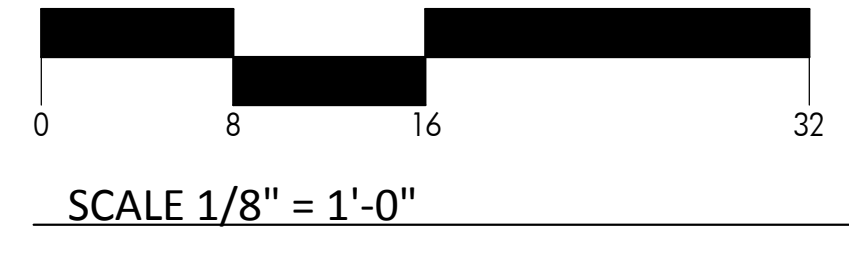
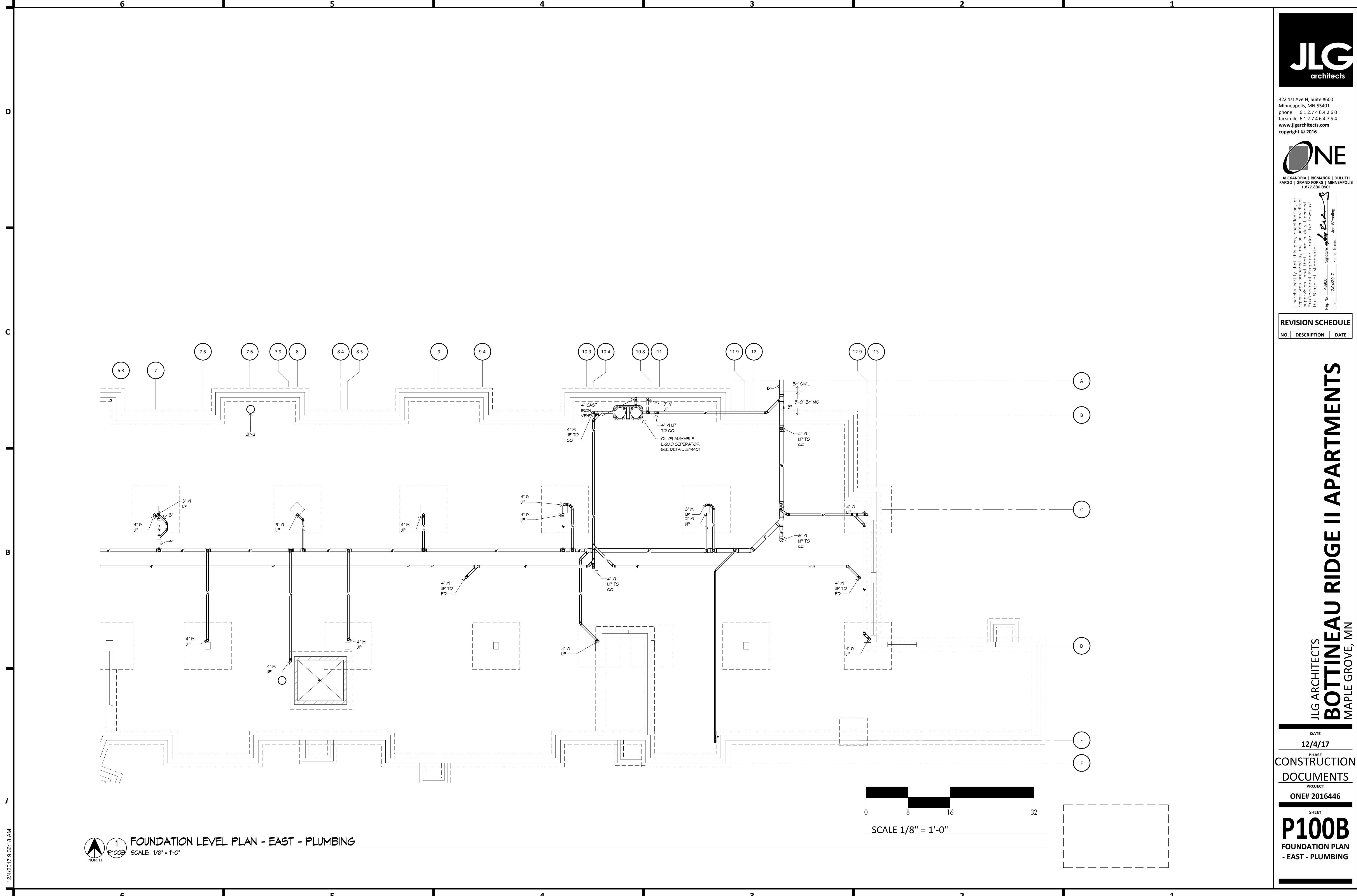
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BOTTINEAU RIDGE II APARTMENTS
 MAPLE GROVE, MN

DATE
12/4/17

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CONSTRUCTION DOCUMENTS

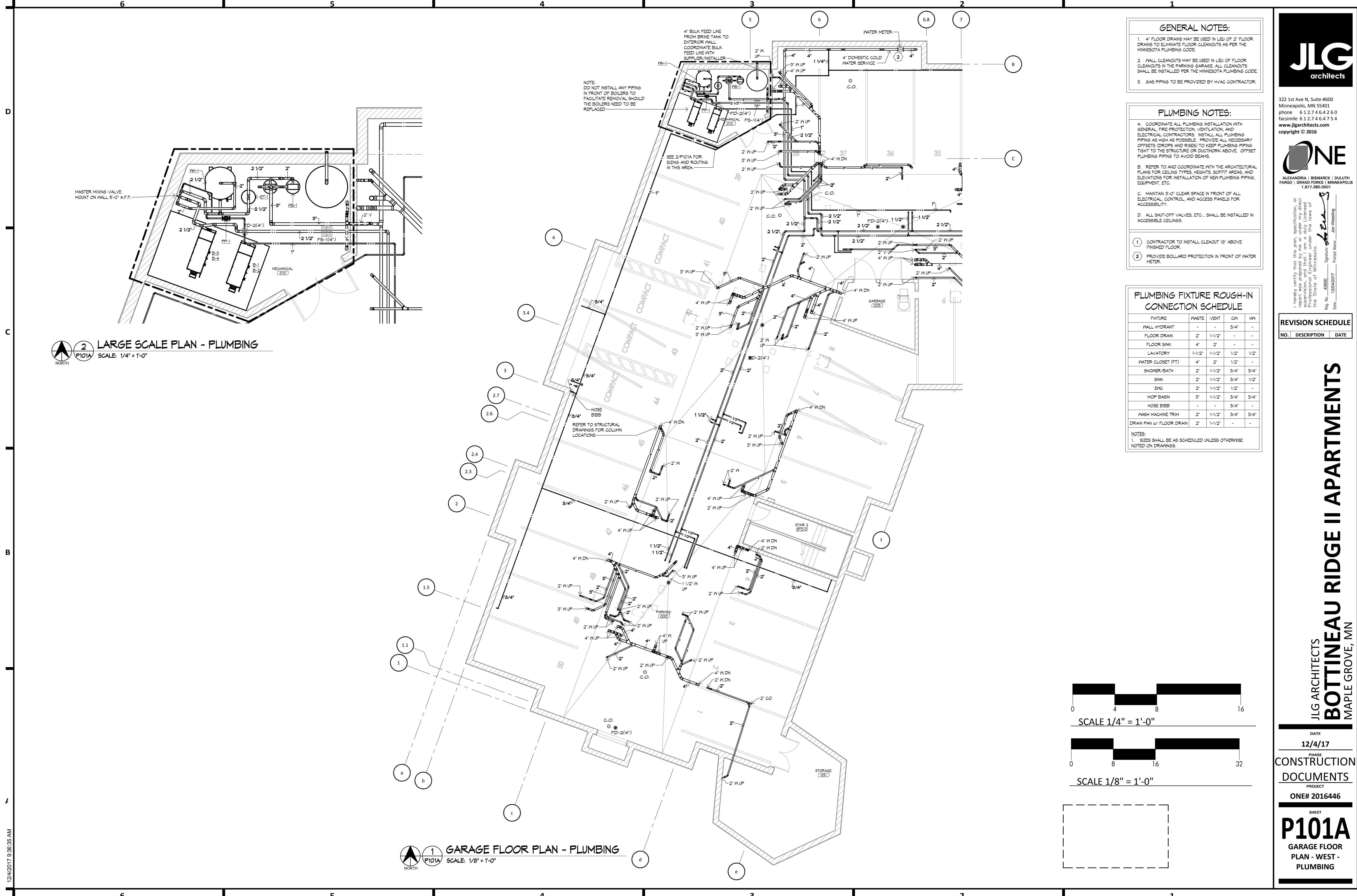
PROJECT
ONE# 2016446

SHEET
P100B
 FOUNDATION PLAN
 - EAST - PLUMBING



1 FOUNDATION LEVEL PLAN - EAST - PLUMBING
 SCALE: 1/8" = 1'-0"

12/4/2017 9:36:18 AM



GENERAL NOTES:

- 4" FLOOR DRAINS MAY BE USED IN LIEU OF 2" FLOOR DRAINS TO ELIMINATE FLOOR CLEANOUTS AS PER THE MINNESOTA PLUMBING CODE.
- WALL CLEANOUTS MAY BE USED IN LIEU OF FLOOR CLEANOUTS IN THE PARKING GARAGE. ALL CLEANOUTS SHALL BE INSTALLED PER THE MINNESOTA PLUMBING CODE.
- GAS PIPING TO BE PROVIDED BY HVAC CONTRACTOR.

PLUMBING NOTES:

- COORDINATE ALL PLUMBING INSTALLATION WITH GENERAL, FIRE PROTECTION, VENTILATION, AND ELECTRICAL CONTRACTORS. INSTALL ALL PLUMBING PIPING AS HIGH AS POSSIBLE. PROVIDE ALL NECESSARY OFFSETS (DROPS AND RISES) TO KEEP PLUMBING PIPING TIGHT TO THE STRUCTURE OR DUCTWORK ABOVE. OFFSET PLUMBING PIPING TO AVOID BEAMS.
- REFER TO AND COORDINATE WITH THE ARCHITECTURAL PLANS FOR CEILING TYPES, HEIGHTS, SOFFIT AREAS, AND ELEVATIONS FOR INSTALLATION OF NEW PLUMBING PIPING, EQUIPMENT, ETC.
- MAINTAIN 3'-0" CLEAR SPACE IN FRONT OF ALL ELECTRICAL, CONTROL, AND ACCESS PANELS FOR ACCESSIBILITY.
- ALL SHUT-OFF VALVES, ETC., SHALL BE INSTALLED IN ACCESSIBLE CEILINGS.

- 1 CONTRACTOR TO INSTALL CLEANOUT 18" ABOVE FINISHED FLOOR.
- 2 PROVIDE BOLLARD PROTECTION IN FRONT OF WATER METER.

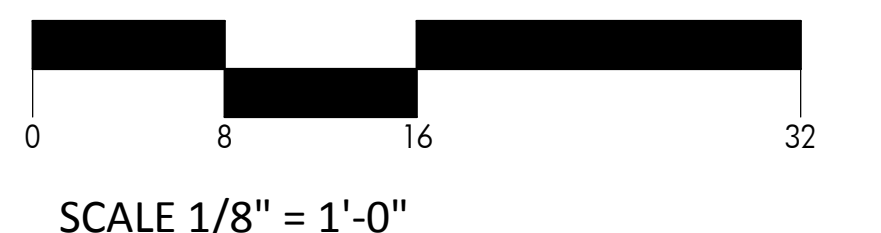
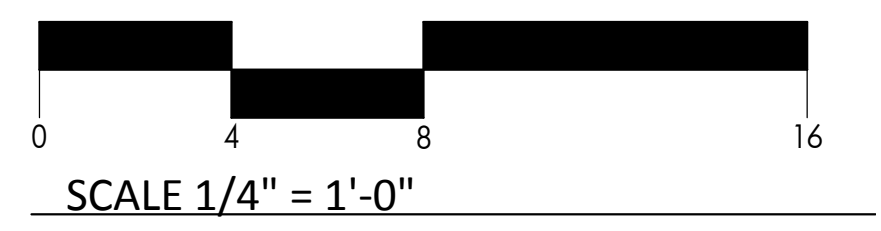
PLUMBING FIXTURE ROUGH-IN CONNECTION SCHEDULE

FIXTURE	WASTE	VENT	CN	HW
WALL HYDRANT	-	-	3/4"	-
FLOOR DRAIN	2"	1-1/2"	-	-
FLOOR SINK	4"	2"	-	-
LAVATORY	1-1/2"	1-1/2"	1/2"	1/2"
WATER CLOSET (FT)	4"	2"	1/2"	-
SHOWER/BATH	2"	1-1/2"	3/4"	3/4"
SINK	2"	1-1/2"	3/4"	1/2"
ENCL	2"	1-1/2"	1/2"	-
MOP BASK	3"	1-1/2"	3/4"	3/4"
HOSE BIBB	-	-	3/4"	-
WASH MACHINE TRIM	2"	1-1/2"	3/4"	3/4"
DRAIN PAN W/ FLOOR DRAIN	2"	1-1/2"	-	-

NOTES:
1. SIZES SHALL BE AS SCHEDULED UNLESS OTHERWISE NOTED ON DRAWINGS.

2 LARGE SCALE PLAN - PLUMBING
SCALE: 1/4" = 1'-0"

1 GARAGE FLOOR PLAN - PLUMBING
SCALE: 1/8" = 1'-0"



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Reg. No. 48950 Special Reg. No. Printed Name: Jay Wassing
Date: 12/04/2017 Title:

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

JLG ARCHITECTS
BOTTINEAU RIDGE II APARTMENTS
 MAPLE GROVE, MN

DATE
12/4/17

PHASE
CONSTRUCTION

DOCUMENTS

PROJECT
ONE# 2016446

SHEET
P101A
GARAGE FLOOR
PLAN - WEST -
PLUMBING

12/04/2017 9:36:35 AM

PLUMBING FIXTURE ROUGH-IN CONNECTION SCHEDULE

FIXTURE	WASTE	VENT	GN	HN
WALL HYDRANT	-	-	3/4"	-
FLOOR DRAIN	2"	1-1/2"	-	-
FLOOR SINK	4"	2"	-	-
LAVATORY	1-1/2"	1-1/2"	1/2"	1/2"
WATER CLOSET (FT)	4"	2"	1/2"	-
SHOWER/BATH	2"	1-1/2"	3/4"	3/4"
SINK	2"	1-1/2"	3/4"	1/2"
ENCL	2"	1-1/2"	1/2"	-
MOP BASIN	3"	1-1/2"	3/4"	3/4"
HOSE BIBB	-	-	3/4"	-
WASH MACHINE TRIM	2"	1-1/2"	3/4"	3/4"
DRAIN PAN W/ FLOOR DRAIN	2"	1-1/2"	-	-

NOTES:
1. SIZES SHALL BE AS SCHEDULED UNLESS OTHERWISE NOTED ON DRAWINGS.

GENERAL NOTES:

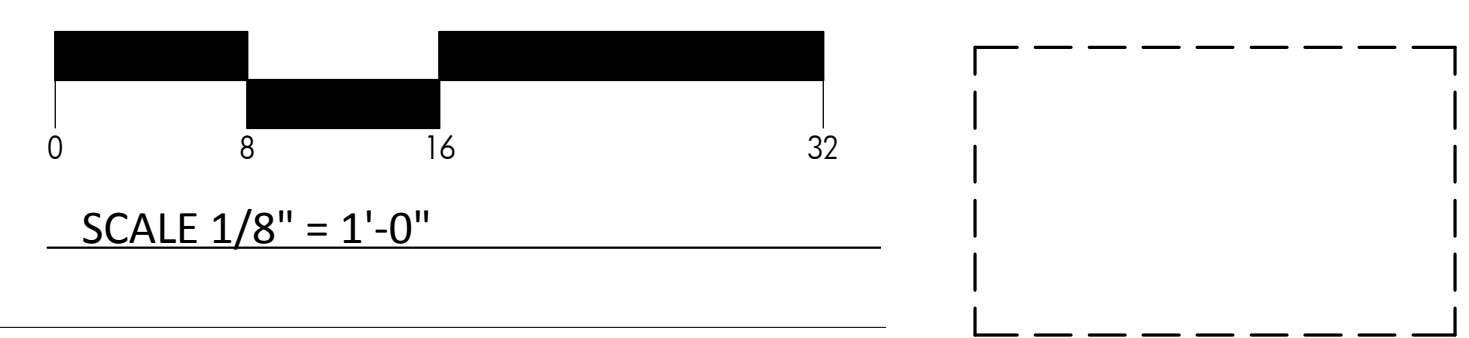
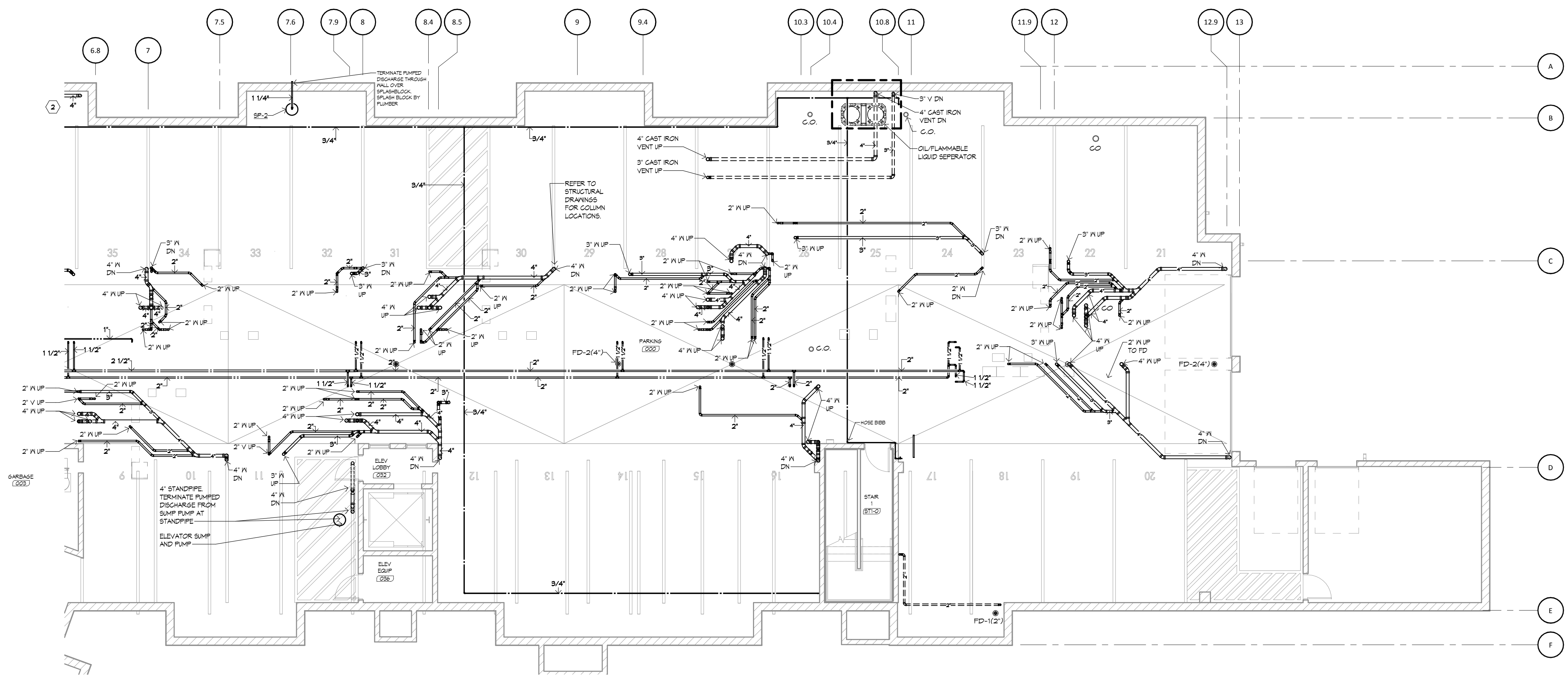
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- GAS PIPING TO BE PROVIDED BY HVAC CONTRACTOR.

PLUMBING NOTES:

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- REFER TO AND COORDINATE WITH THE ARCHITECTURAL PLANS FOR CEILING TYPES, HEIGHTS, SOFFIT AREAS, AND ELEVATIONS FOR INSTALLATION OF NEW PLUMBING PIPING, EQUIPMENT, ETC.
- MAINTAIN 3'-0" CLEAR SPACE IN FRONT OF ALL ELECTRICAL, CONTROL, AND ACCESS PANELS FOR ACCESSIBILITY.
- ALL SHUT-OFF VALVES, ETC., SHALL BE INSTALLED IN ACCESSIBLE CEILINGS OR PROVIDE ACCESS PANEL (TYP.)

1 CONTRACTOR TO INSTALL CLEANOUT 18" ABOVE FINISHED FLOOR.

12/24/2017 9:36:41 AM



1 GARAGE FLOOR PLAN - PLUMBING
SCALE: 1/8" = 1'-0"



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Reg. No. 48950 Specialties: Mechanical
Date: 12/24/2017 Printed Name: Jon Wassing

NO.	DESCRIPTION	DATE

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MAPLE GROVE, MN

DATE
12/4/17

PHASE
CONSTRUCTION

DOCUMENTS

PROJECT
ONE# 2016446

SHEET
P101B

GARAGE FLOOR PLAN - EAST - PLUMBING



PLUMBING FIXTURE ROUGH-IN CONNECTION SCHEDULE

FIXTURE	WASTE	VENT	GV	HW
FLOOR DRAIN	-	-	3/4"	-
FLOOR SINK	4"	2"	-	-
LAVATORY	1-1/2"	1-1/2"	1/2"	1/2"
WATER CLOSET (FT)	4"	2"	1/2"	-
SHOWER/BATH	2"	1-1/2"	3/4"	3/4"
SINK	2"	1-1/2"	3/4"	1/2"
ENC	2"	1-1/2"	1/2"	-
MOP BASIN	3"	1-1/2"	3/4"	3/4"
HOSE BIBB	-	-	3/4"	-
WASH MACHINE TRIM	2"	1-1/2"	3/4"	3/4"
DRAIN PAN W/ FLOOR DRAIN	2"	1-1/2"	-	-

NOTES:
1. SIZES SHALL BE AS SCHEDULED UNLESS OTHERWISE NOTED ON DRAWINGS.

PLUMBING NOTES:

- A. COORDINATE ALL PLUMBING INSTALLATION WITH GENERAL FIRE PROTECTION, VENTILATION AND ELECTRICAL CONTRACTORS. INSTALL ALL PLUMBING PIPING AS HIGH AS POSSIBLE. PROVIDE ALL NECESSARY OFFSETS (DROPS AND RISES) TO KEEP PLUMBING PIPING TIGHT TO THE STRUCTURE OR DUCTWORK ABOVE. OFFSET PLUMBING PIPING TO AVOID BEAMS.
- B. REFER TO AND COORDINATE WITH THE ARCHITECTURAL PLANS FOR CEILING TYPES, HEIGHTS, SOFFIT AREAS, AND ELEVATIONS FOR INSTALLATION OF NEW PLUMBING PIPING, EQUIPMENT, ETC.
- C. MAINTAIN 3'-0" CLEAR SPACE IN FRONT OF ALL ELECTRICAL, CONTROL, AND ACCESS PANELS FOR ACCESSIBILITY.
- D. ALL SHUT-OFF VALVES, ETC., SHALL BE INSTALLED IN ACCESSIBLE CEILINGS.

- 1. PROVIDE AND INSTALL WASHING MACHINE TRIM BOX FOR CLOTHES WASHER.
- 2. PROVIDE AND INSTALL DRAIN PAN WITH INTEGRAL FLOOR DRAIN BELOW WASHING MACHINE. CONTRACTOR SHALL COORDINATE DRAIN PLACEMENT WITH STRUCTURE.



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Reg. No. 48950 Special Reg. No. _____
Date: 12/04/2017 Printed Name: Jon Wessling

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

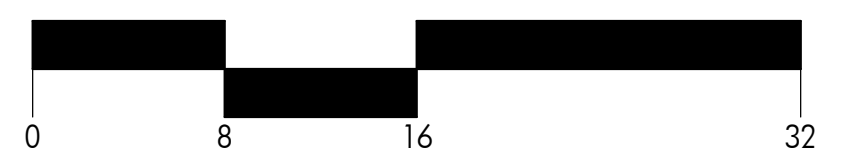
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MAPLE GROVE, MN

DATE
12/4/17

PHASE
CONSTRUCTION
DOCUMENTS

PROJECT
ONE# 2016446

SHEET
P102A
FIRST FLOOR PLAN -
WEST - PLUMBING



SCALE 1/8" = 1'-0"



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

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D

C

B

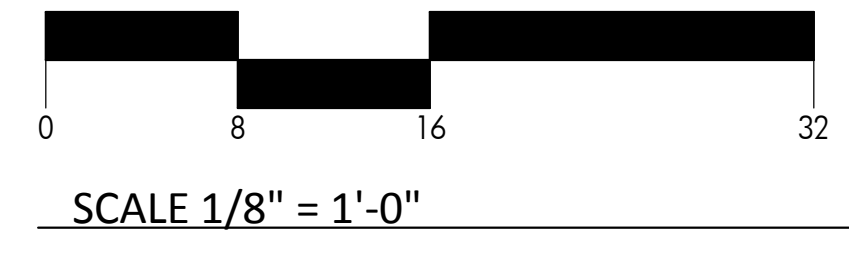
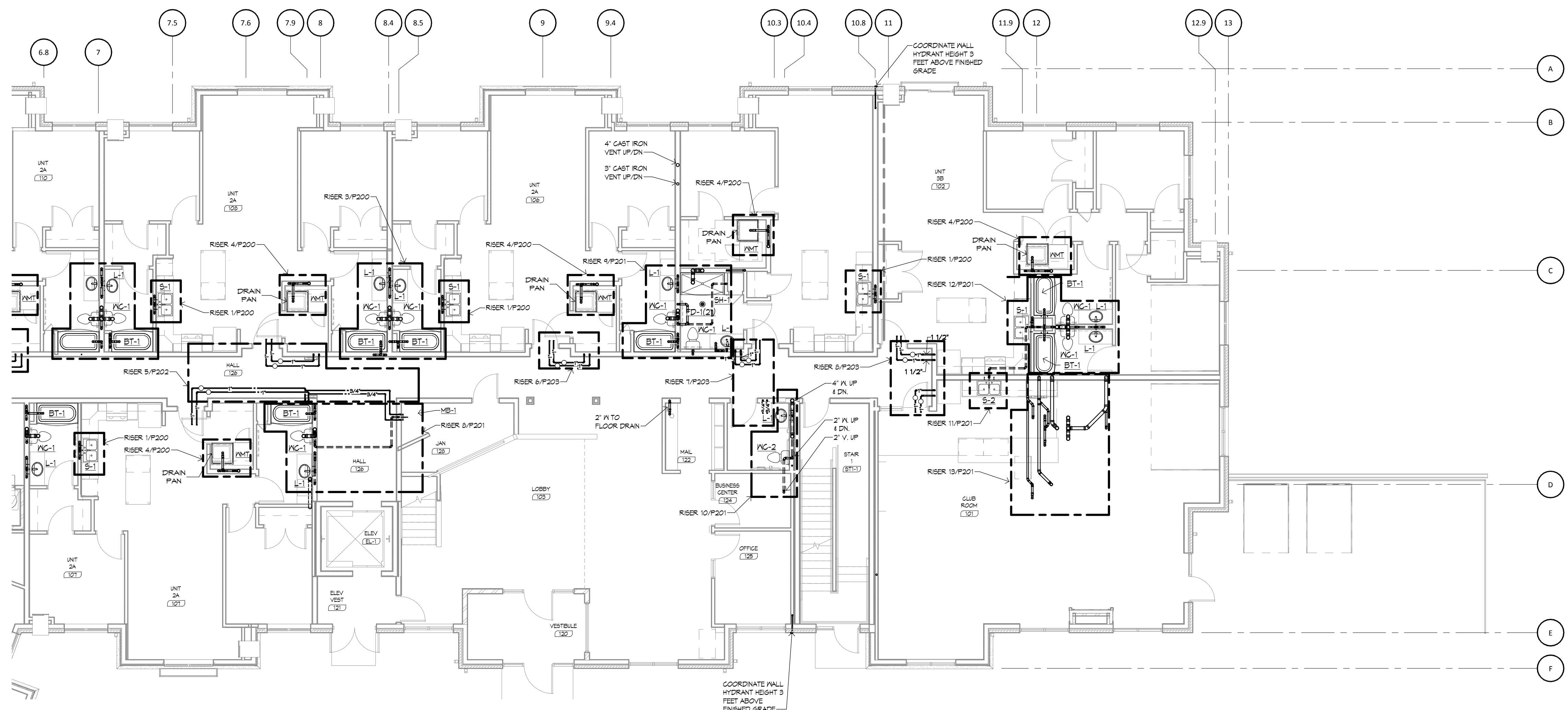
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PLUMBING FIXTURE ROUGH-IN CONNECTION SCHEDULE

FIXTURE	WASTE	VENT	GN	HN
WALL HYDRANT	-	-	3/4"	-
FLOOR DRAIN	2"	1-1/2"	-	-
FLOOR SINK	4"	2"	-	-
LAVATORY	1-1/2"	1-1/2"	1/2"	1/2"
WATER CLOSET (FT)	4"	2"	1/2"	-
SHOWER/BATH	2"	1-1/2"	3/4"	3/4"
SINK	2"	1-1/2"	3/4"	1/2"
ENC	2"	1-1/2"	1/2"	-
MOP BASIN	3"	1-1/2"	3/4"	3/4"
HOSE BIBB	-	-	3/4"	-
WASH MACHINE TRIM	2"	1-1/2"	3/4"	3/4"
DRAIN PAN W/ FLOOR DRAIN	2"	1-1/2"	-	-

NOTES:
1. SIZES SHALL BE AS SCHEDULED UNLESS OTHERWISE NOTED ON DRAWINGS.

- ### PLUMBING NOTES:
- A. COORDINATE ALL PLUMBING INSTALLATION WITH GENERAL, FIRE PROTECTION, VENTILATION AND ELECTRICAL CONTRACTORS. INSTALL ALL PLUMBING PIPING AS HIGH AS POSSIBLE. PROVIDE ALL NECESSARY OFFSETS (DROPS AND RISERS) TO KEEP PLUMBING TIGHT TO THE STRUCTURE OR DUCTWORK ABOVE. OFFSET PLUMBING PIPING TO AVOID BEAMS.
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 - C. MAINTAIN 3'-0" CLEAR SPACE IN FRONT OF ALL ELECTRICAL, CONTROL, AND ACCESS PANELS FOR ACCESSIBILITY.
 - D. ALL SHUT-OFF VALVES, ETC., SHALL BE INSTALLED IN ACCESSIBLE CEILINGS.
1. PROVIDE AND INSTALL WASHING MACHINE TRIM BOX FOR CLOTHES WASHER.
 2. PROVIDE AND INSTALL DRAIN PAN WITH INTEGRAL FLOOR DRAIN BELOW WASHING MACHINE. CONTRACTOR SHALL COORDINATE DRAIN PLACEMENT WITH STRUCTURE.



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



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NO.	DESCRIPTION	DATE

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BOTTINEAU RIDGE II APARTMENTS
 MAPLE GROVE, MN

DATE
12/4/17

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CONSTRUCTION

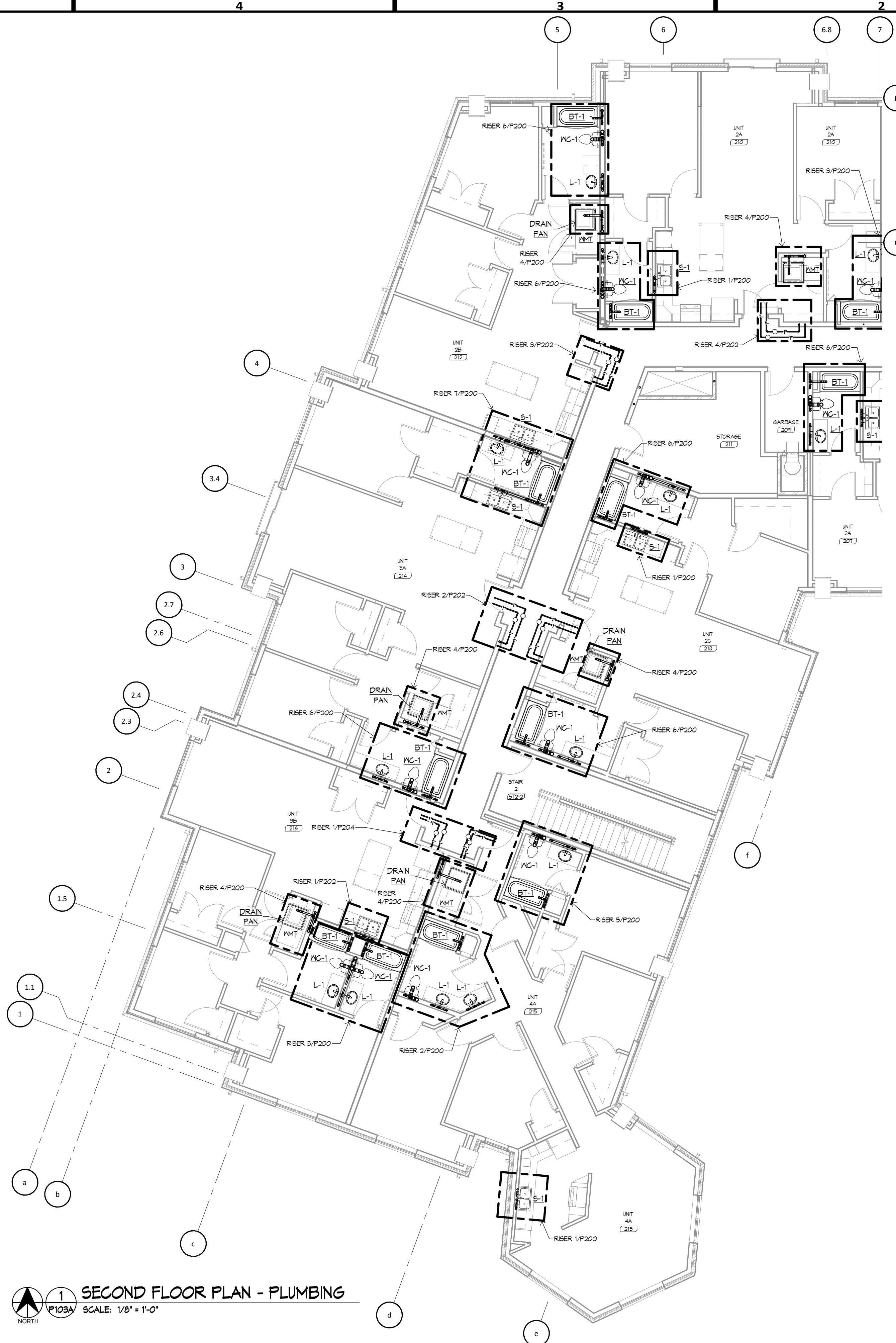
DOCUMENTS

PROJECT
ONE# 2016446

SHEET
P102B
FIRST FLOOR PLAN - EAST - PLUMBING

12/04/2017 9:37:01 AM

6 5 4 3 2 1



PLUMBING FIXTURE ROUGH-IN CONNECTION SCHEDULE

FIXTURE	WASTE	VENT	GM	HM
WALL HYDRANT	-	-	3/4"	-
FLOOR DRAIN	2"	1-1/2"	-	-
FLOOR SINK	4"	2"	-	-
LAVATORY	1-1/2"	1-1/2"	1/2"	1/2"
WATER CLOSET (FT)	4"	2"	1/2"	-
SHOWER/BATH	2"	1-1/2"	3/4"	3/4"
SINK	2"	1-1/2"	3/4"	1/2"
ENC	2"	1-1/2"	1/2"	-
MOP BASIN	3"	1-1/2"	3/4"	3/4"
HOSE BIBB	-	-	3/4"	-
WASH MACHINE TRIM	2"	1-1/2"	3/4"	3/4"
DRAIN PAN W/ FLOOR DRAIN	2"	1-1/2"	-	-

NOTES:
 1. SIZES SHALL BE AS SCHEDULED UNLESS OTHERWISE SHOWN ON DRAWINGS.

PLUMBING NOTES:

- A. COORDINATE ALL PLUMBING INSTALLATION WITH GENERAL FIRE PROTECTION, VENTILATION, AND ELECTRICAL CONTRACTORS. INSTALL ALL PLUMBING PIPING AS HIGH AS POSSIBLE. PROVIDE ALL NECESSARY OFFSETS (DROPS AND RISERS) TO KEEP PLUMBING PIPING TIGHT TO THE STRUCTURE OR DUCTWORK ABOVE. OFFSET PLUMBING PIPING TO AVOID BEAMS.
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- C. MAINTAIN 3'-0" CLEAR SPACE IN FRONT OF ALL ELECTRICAL, CONTROL, AND ACCESS PANELS FOR ACCESSIBILITY.
- D. ALL SHUT-OFF VALVES, ETC., SHALL BE INSTALLED IN ACCESSIBLE CEILING.

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- 2. PROVIDE AND INSTALL DRAIN PAN WITH INTEGRAL FLOOR DRAIN BELOW WASHING MACHINE. CONTRACTOR SHALL COORDINATE DRAIN PLACEMENT WITH STRUCTURE.



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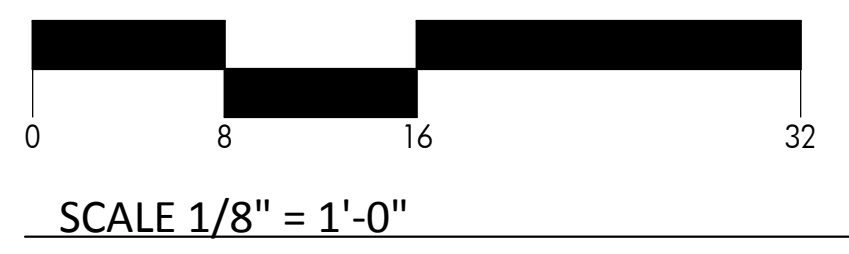
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 MAPLE GROVE, MN

DATE
12/4/17

PHASE
CONSTRUCTION

PROJECT
ONE# 2016446

SHEET
P103A
 SECOND FLOOR
 PLAN - WEST -
 PLUMBING



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

12/04/2017 9:37:11 AM

6 5 4 3 2 1

D

C

B

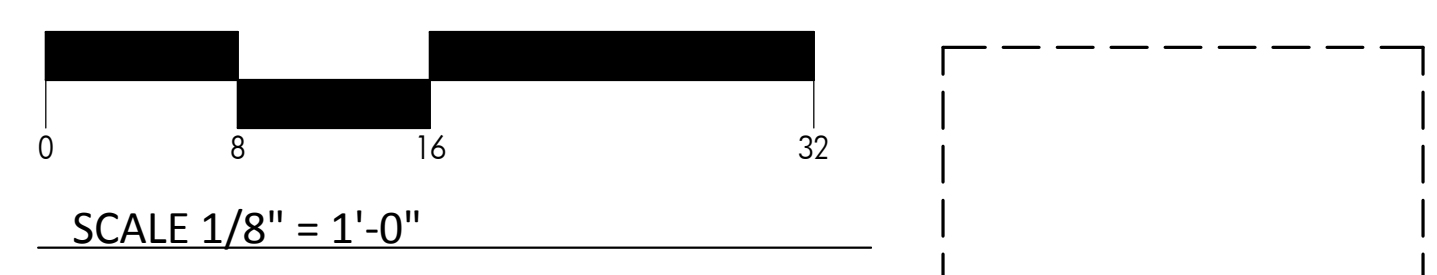
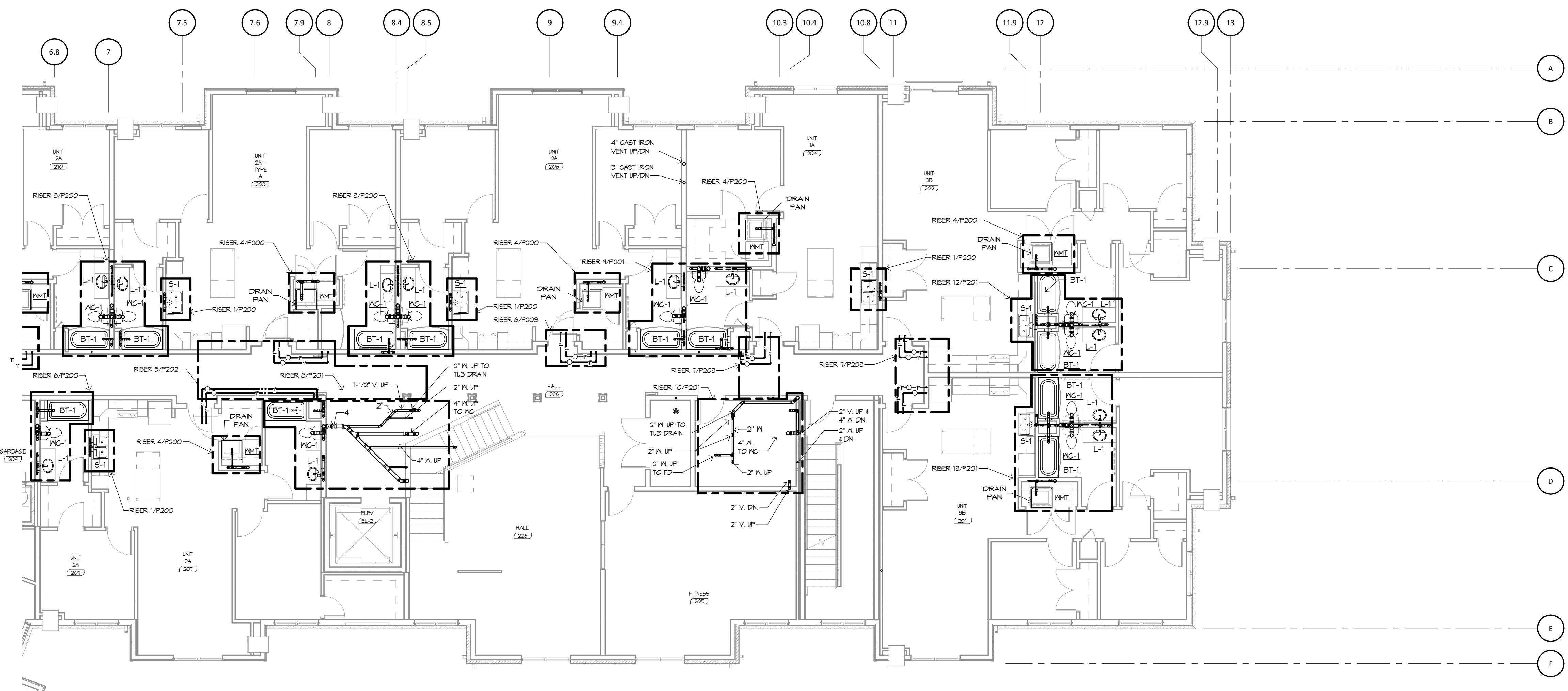
A

PLUMBING FIXTURE ROUGH-IN CONNECTION SCHEDULE

FIXTURE	WASTE	VENT	GN	HN
WALL HYDRANT	-	-	3/4"	-
FLOOR DRAIN	2"	1-1/2"	-	-
FLOOR SINK	4"	2"	-	-
LAVATORY	1-1/2"	1-1/2"	1/2"	1/2"
WATER CLOSET (FT)	4"	2"	1/2"	-
SHOWER/BATH	2"	1-1/2"	3/4"	3/4"
SINK	2"	1-1/2"	3/4"	1/2"
ENC	2"	1-1/2"	1/2"	-
MOP BASIN	5"	1-1/2"	3/4"	3/4"
HOSE BIBB	-	-	3/4"	-
WASH MACHINE TRIM	2"	1-1/2"	3/4"	3/4"
DRAIN PAN W/ FLOOR DRAIN	2"	1-1/2"	-	-

NOTES:
1. SIZES SHALL BE AS SCHEDULED UNLESS OTHERWISE NOTED ON DRAWINGS.

- ### PLUMBING NOTES:
- A. COORDINATE ALL PLUMBING INSTALLATION WITH GENERAL, FIRE PROTECTION, VENTILATION AND ELECTRICAL CONTRACTORS. INSTALL ALL PLUMBING PIPING AS HIGH AS POSSIBLE. PROVIDE ALL NECESSARY OFFSETS (DROPS AND RISES) TO KEEP PLUMBING PIPING TIGHT TO THE STRUCTURE OR DUCTWORK ABOVE. OFFSET PLUMBING PIPING TO AVOID BEAMS.
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- C. MAINTAIN 3'-0" CLEAR SPACE IN FRONT OF ALL ELECTRICAL, CONTROL, AND ACCESS PANELS FOR ACCESSIBILITY.
- D. ALL SHUT-OFF VALVES, ETC., SHALL BE INSTALLED IN ACCESSIBLE CEILINGS.
1. PROVIDE AND INSTALL WASHING MACHINE TRIM BOX FOR CLOTHES WASHER.
 2. PROVIDE AND INSTALL DRAIN PAN WITH INTEGRAL FLOOR DRAIN BELOW WASHING MACHINE. CONTRACTOR SHALL COORDINATE DRAIN PLACEMENT WITH STRUCTURE.



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



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Reg. No. 48950 Special Reg. No. _____
Date: 12/04/2017 Printed Name: Jon Wessling

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

JLG ARCHITECTS
BOTTINEAU RIDGE II APARTMENTS
MAPLE GROVE, MN

DATE
12/4/17
PHASE
CONSTRUCTION
DOCUMENTS
PROJECT
ONE# 2016446

SHEET
P103B
SECOND FLOOR
PLAN - EAST -
PLUMBING

12/04/2017 9:37:20 AM

6 5 4 3 2 1



PLUMBING FIXTURE ROUGH-IN CONNECTION SCHEDULE

FIXTURE	WASTE	VENT	GV	HV
WALL HYDRANT	-	-	3/4"	-
FLOOR DRAIN	2"	1-1/2"	-	-
FLOOR SINK	4"	2"	-	-
LAVATORY	1-1/2"	1-1/2"	1/2"	1/2"
WATER CLOSET (FT)	4"	2"	1/2"	-
SHOWER/BATH	2"	1-1/2"	3/4"	3/4"
SINK	2"	1-1/2"	3/4"	1/2"
ENC	2"	1-1/2"	1/2"	-
MOP BASIN	3"	1-1/2"	3/4"	3/4"
HOSE BIBB	-	-	3/4"	-
WASH MACHINE TRIM	2"	1-1/2"	3/4"	3/4"
DRAIN PAN w/ FLOOR DRAIN	2"	1-1/2"	-	-

NOTES:
1. SIZES SHALL BE AS SCHEDULED UNLESS OTHERWISE NOTED ON DRAWINGS.

PLUMBING NOTES:

- A. COORDINATE ALL PLUMBING INSTALLATION WITH GENERAL FIRE PROTECTION, VENTILATION, AND ELECTRICAL CONTRACTORS. INSTALL ALL PLUMBING PIPING AS HIGH AS POSSIBLE. PROVIDE ALL NECESSARY OFFSETS (DROPS AND RISERS) TO KEEP PLUMBING PIPING TIGHT TO THE STRUCTURE OR DUCTWORK ABOVE. OFFSET PLUMBING PIPING TO AVOID BEAMS.
- B. REFER TO AND COORDINATE WITH THE ARCHITECTURAL PLANS FOR CEILING TYPES, HEIGHTS, SOFFIT AREAS, AND ELEVATIONS FOR INSTALLATION OF NEW PLUMBING PIPING, EQUIPMENT, ETC.
- C. MAINTAIN 3'-0" CLEAR SPACE IN FRONT OF ALL ELECTRICAL, CONTROL, AND ACCESS PANELS FOR ACCESSIBILITY.
- D. ALL SHUT-OFF VALVES, ETC... SHALL BE INSTALLED IN ACCESSIBLE CEILING.

- 1 PROVIDE AND INSTALL WASHING MACHINE TRIM BOX FOR CLOTHES WASHER.
- 2 PROVIDE AND INSTALL DRAIN PAN WITH INTEGRAL FLOOR DRAIN BELOW WASHING MACHINE. CONTRACTOR SHALL COORDINATE DRAIN PLACEMENT WITH STRUCTURE.



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Reg. No. 48950 Signature: *John Wessling* Printed Name: John Wessling
Date: 12/04/2017 Title: Engineer

NO.	DESCRIPTION	DATE

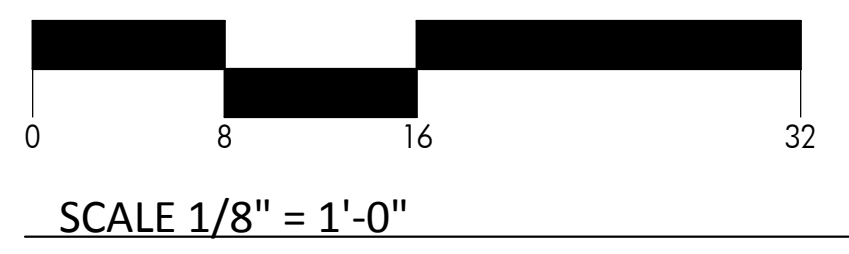
JLG ARCHITECTS
BOTTINEAU RIDGE II APARTMENTS
MAPLE GROVE, MN

DATE
12/4/17

PHASE
CONSTRUCTION
DOCUMENTS

PROJECT
ONE# 2016446

SHEET
P104A
THIRD FLOOR PLAN -
WEST - PLUMBING



1 THIRD FLOOR PLAN - PLUMBING
SCALE: 1/8" = 1'-0"
NORTH

12/04/2017 9:37:32 AM

PLUMBING FIXTURE ROUGH-IN CONNECTION SCHEDULE

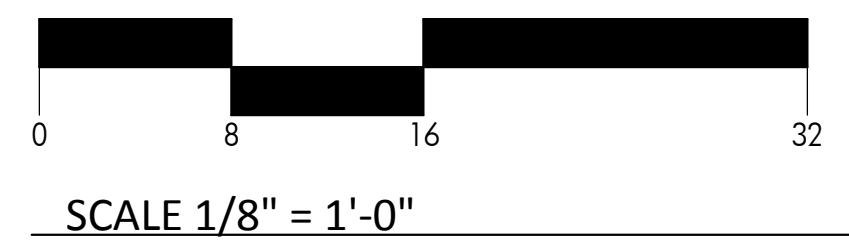
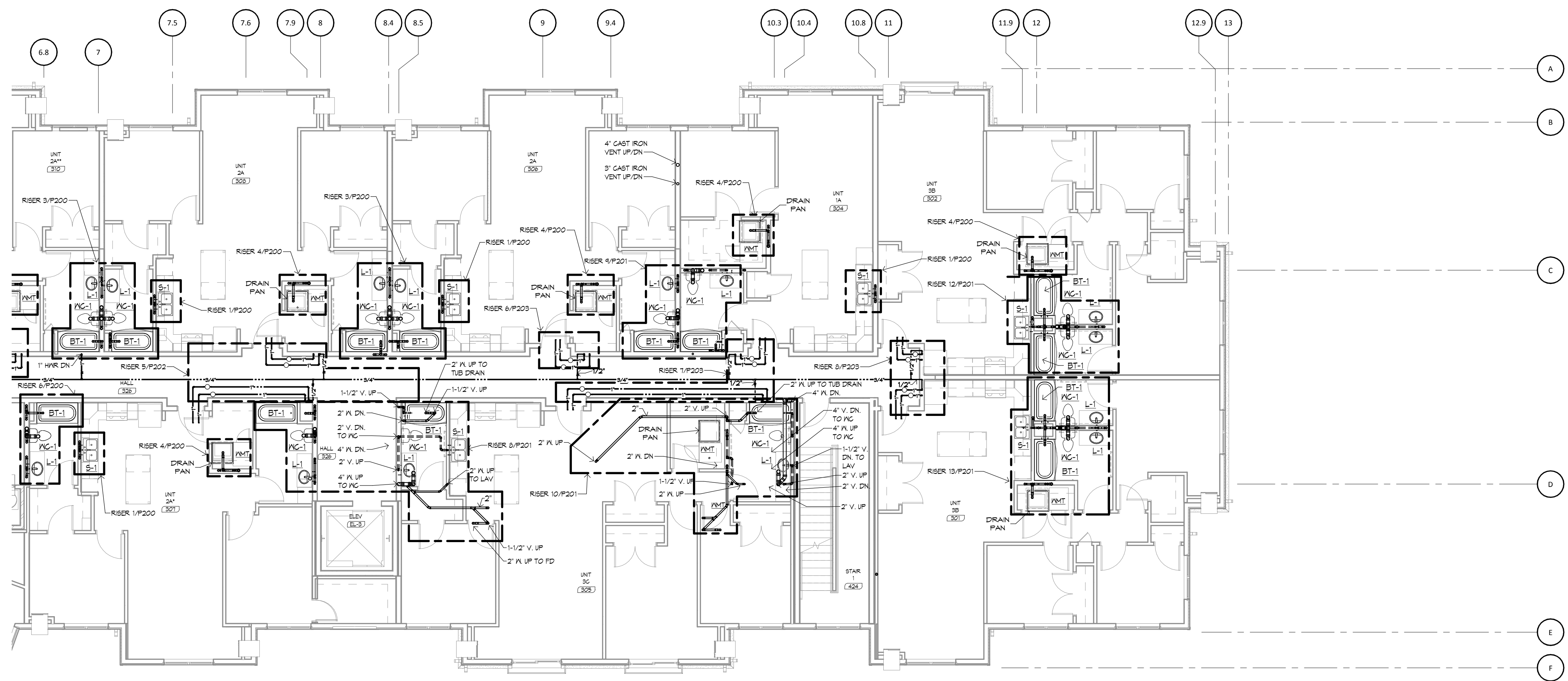
FIXTURE	WASTE	VENT	GN	HN
WALL HYDRANT	-	-	3/4"	-
FLOOR DRAIN	2"	1-1/2"	-	-
FLOOR SINK	4"	2"	-	-
LAVATORY	1-1/2"	1-1/2"	1/2"	1/2"
WATER CLOSET (FT)	4"	2"	1/2"	-
SHOWER/BATH	2"	1-1/2"	3/4"	3/4"
SINK	2"	1-1/2"	3/4"	1/2"
ENCL	2"	1-1/2"	1/2"	-
MOP BASIN	3"	1-1/2"	3/4"	3/4"
HOSE BIBB	-	-	3/4"	-
WASH MACHINE TRIM	2"	1-1/2"	3/4"	3/4"
DRAIN PAN W/ FLOOR DRAIN	2"	1-1/2"	-	-

NOTES:
1. SIZES SHALL BE AS SCHEDULED UNLESS OTHERWISE NOTED ON DRAWINGS.

PLUMBING NOTES:

- A. COORDINATE ALL PLUMBING INSTALLATION WITH GENERAL, FIRE PROTECTION, VENTILATION AND ELECTRICAL CONTRACTORS. INSTALL ALL PLUMBING PIPING AS HIGH AS POSSIBLE. PROVIDE ALL NECESSARY OFFSETS (DROPS AND RISES) TO KEEP PLUMBING PIPING TIGHT TO THE STRUCTURE OR DUCTWORK ABOVE. OFFSET PLUMBING PIPING TO AVOID BEAMS.
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- 2 PROVIDE AND INSTALL DRAIN PAN WITH INTEGRAL FLOOR DRAIN BELOW WASHING MACHINE. CONTRACTOR SHALL COORDINATE DRAIN PLACEMENT WITH STRUCTURE.



1 THIRD FLOOR PLAN - PLUMBING
SCALE: 1/8" = 1'-0"



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Date: 12/04/2017 Printed Name: Jon Wassing

REVISION SCHEDULE

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 MAPLE GROVE, MN

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12/4/17

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ONE# 2016446

SHEET
P104B

THIRD FLOOR PLAN - EAST - PLUMBING

12/04/2017 9:37:44 AM



PLUMBING FIXTURE ROUGH-IN CONNECTION SCHEDULE

FIXTURE	WASTE	VENT	GV	HW
WALL HYDRANT	-	-	3/4"	-
FLOOR DRAIN	2"	1-1/2"	-	-
LAVATORY	4"	2"	-	-
LAVATORY	1-1/2"	1-1/2"	1/2"	1/2"
WATER CLOSET (WT)	4"	2"	1/2"	-
SHOWER/BATH	2"	1-1/2"	3/4"	3/4"
SINK	2"	1-1/2"	3/4"	1/2"
ENC	2"	1-1/2"	1/2"	-
MOP BASIN	3"	1-1/2"	3/4"	3/4"
HOSE BIBB	-	-	3/4"	-
WASH MACHINE TRIM	2"	1-1/2"	3/4"	3/4"
DRAIN PAN w/ FLOOR DRAIN	2"	1-1/2"	-	-

NOTES:
 1. SIZES SHALL BE AS SCHEDULED UNLESS OTHERWISE NOTED ON DRAWINGS.

- PLUMBING NOTES:**
- COORDINATE ALL PLUMBING INSTALLATION WITH GENERAL, FIRE PROTECTION, VENTILATION, AND ELECTRICAL CONTRACTORS. INSTALL ALL PLUMBING PIPING AS HIGH AS POSSIBLE. PROVIDE ALL NECESSARY OFFSETS (DROPS AND RISES) TO KEEP PLUMBING PIPING TIGHT TO THE STRUCTURE OR DUCTWORK ABOVE. OFFSET PLUMBING PIPING TO AVOID BEAMS.
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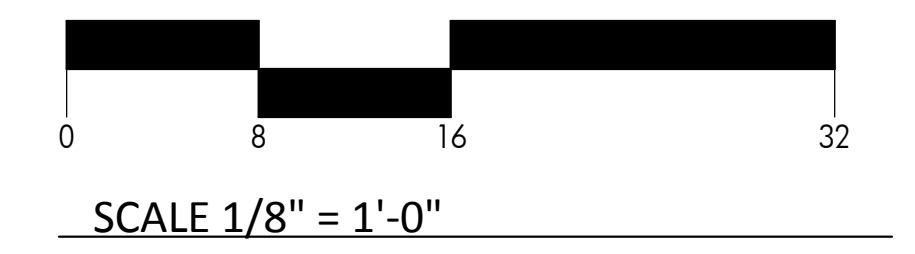
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 Date: 12/04/2017

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BOTTINEAU RIDGE II APARTMENTS
 MAPLE GROVE, MN



1 FOURTH FLOOR PLAN - PLUMBING
 SCALE: 1/8" = 1'-0"

DATE
12/4/17

PHASE
CONSTRUCTION

DOCUMENTS

PROJECT
ONE# 2016446

SHEET
P105A
 FOURTH FLOOR
 PLAN - WEST -
 PLUMBING

12/04/2017 9:37:55 AM

PLUMBING FIXTURE ROUGH-IN CONNECTION SCHEDULE

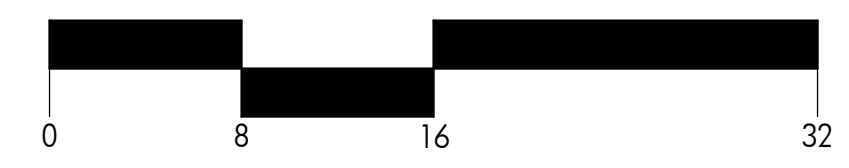
FIXTURE	WASTE	VENT	GN	HN
WALL HYDRANT	-	-	3/4"	-
FLOOR DRAIN	2"	1-1/2"	-	-
FLOOR SINK	4"	2"	-	-
LAVATORY	1-1/2"	1-1/2"	1/2"	1/2"
WATER CLOSET (FT)	4"	2"	1/2"	-
SHOWER/BATH	2"	1-1/2"	3/4"	3/4"
SINK	2"	1-1/2"	3/4"	1/2"
ENC	2"	1-1/2"	1/2"	-
MOP BASIN	3"	1-1/2"	3/4"	3/4"
HOSE BIBB	-	-	3/4"	-
WASH MACHINE TRIM	2"	1-1/2"	3/4"	3/4"
DRAIN PAN W/ FLOOR DRAIN	2"	1-1/2"	-	-

NOTES:
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- 2 PROVIDE AND INSTALL DRAIN PAN WITH INTEGRAL FLOOR DRAIN BELOW WASHING MACHINE. CONTRACTOR SHALL COORDINATE DRAIN PLACEMENT WITH STRUCTURE.



1 P105B
FOURTH FLOOR PLAN - PLUMBING
SCALE: 1/8" = 1'-0"



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Reg. No. 48950 Special. Printed Name: Jon Wessling
Date: 12/04/2017

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

JLG ARCHITECTS
BOTTINEAU RIDGE II APARTMENTS
MAPLE GROVE, MN

DATE
12/4/17

PHASE
CONSTRUCTION DOCUMENTS

PROJECT
ONE# 2016446

SHEET
P105B
FOURTH FLOOR
PLAN - EAST -
PLUMBING

12/04/2017 9:38:07 AM

PLUMBING FIXTURE ROUGH-IN CONNECTION SCHEDULE

FIXTURE	WASTE	VENT	GA	HW
WALL HYDRANT	-	-	3/4"	-
FLOOR SINK	2"	1-1/2"	-	-
LAVATORY	1-1/2"	1-1/2"	1/2"	1/2"
WATER CLOSET (FT)	4"	2"	1/2"	-
SHOWER/BATH	2"	1-1/2"	3/4"	3/4"
SINK	2"	1-1/2"	3/4"	1/2"
ENCL	2"	1-1/2"	1/2"	-
MOP BASIN	5"	1-1/2"	3/4"	3/4"
HOSE BIBB	-	-	3/4"	-
WASH MACHINE TRIM	2"	1-1/2"	3/4"	3/4"
DRAIN PAN w/ FLOOR DRAIN	2"	1-1/2"	-	-

NOTES:
1. SIZES SHALL BE AS SCHEDULED UNLESS OTHERWISE NOTED ON DRAWINGS.



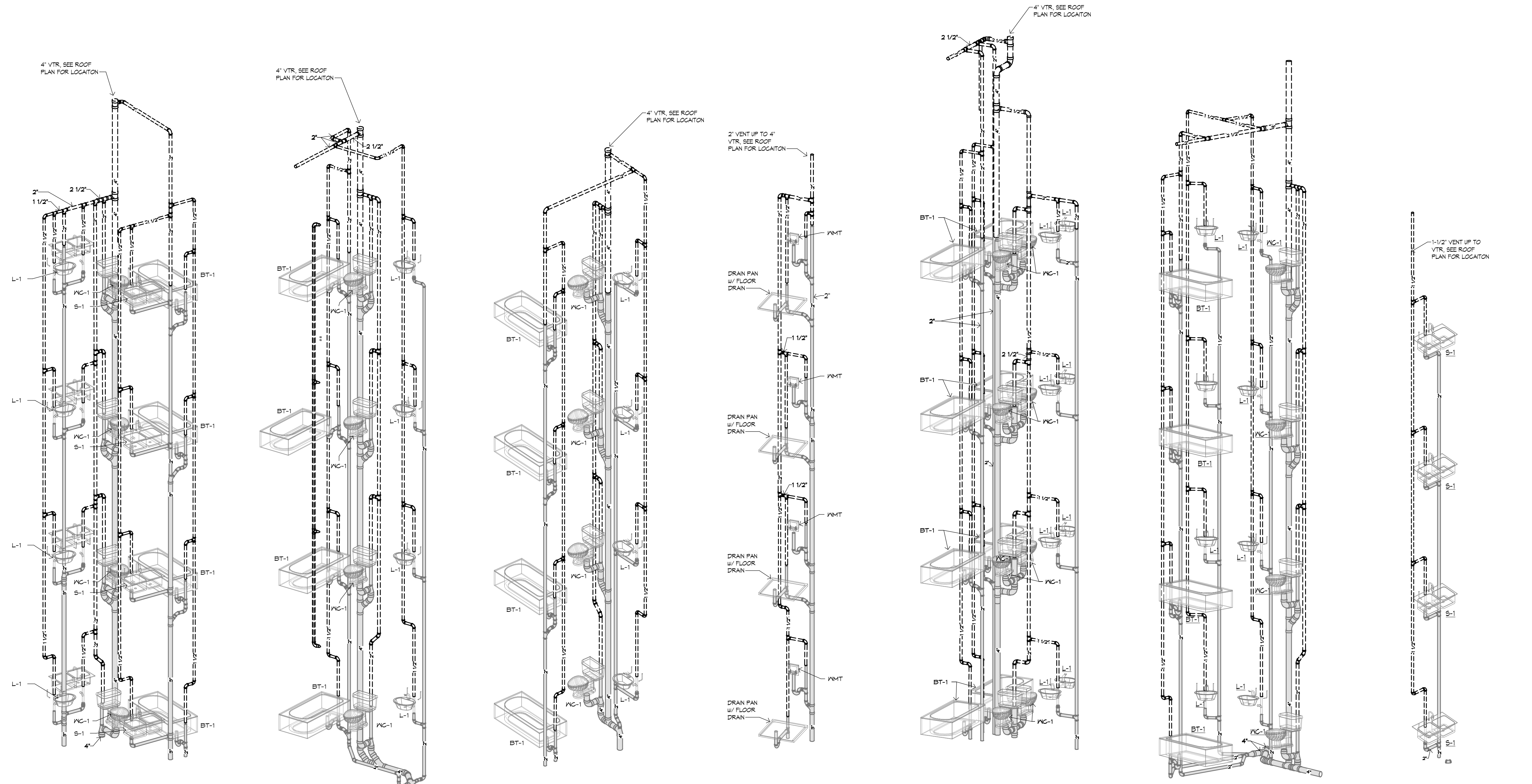
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Reg. No. 48950 Specialties: Mechanical
Date: 12/24/2017 Printed Name: Jon Wessling

NO.	DESCRIPTION	DATE



7 RISER 7/P200
SCALE: NTS

6 RISER 6/P200
SCALE: NTS

5 RISER 5/P200
SCALE: NTS

4 RISER 4/P200
SCALE: NTS

3 RISER 3/P200
SCALE: NTS

2 RISER 2/P200
SCALE: NTS

1 RISER 1/P200
SCALE: NTS



12/24/2017 9:38:38 AM

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BOTTINEAU RIDGE II APARTMENTS
MAPLE GROVE, MN

DATE
12/4/17

PHASE
CONSTRUCTION

DOCUMENTS

PROJECT

ONE# 2016446

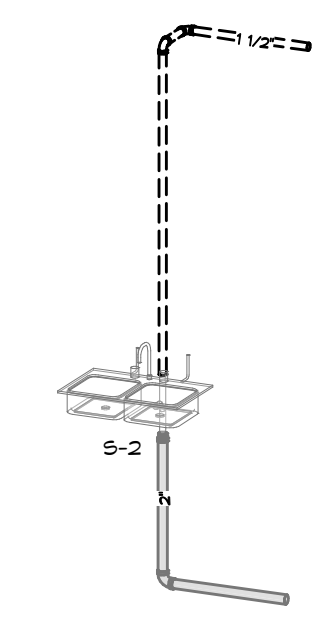
SHEET

P200
WASTE & VENT
RISER DIAGRAMS

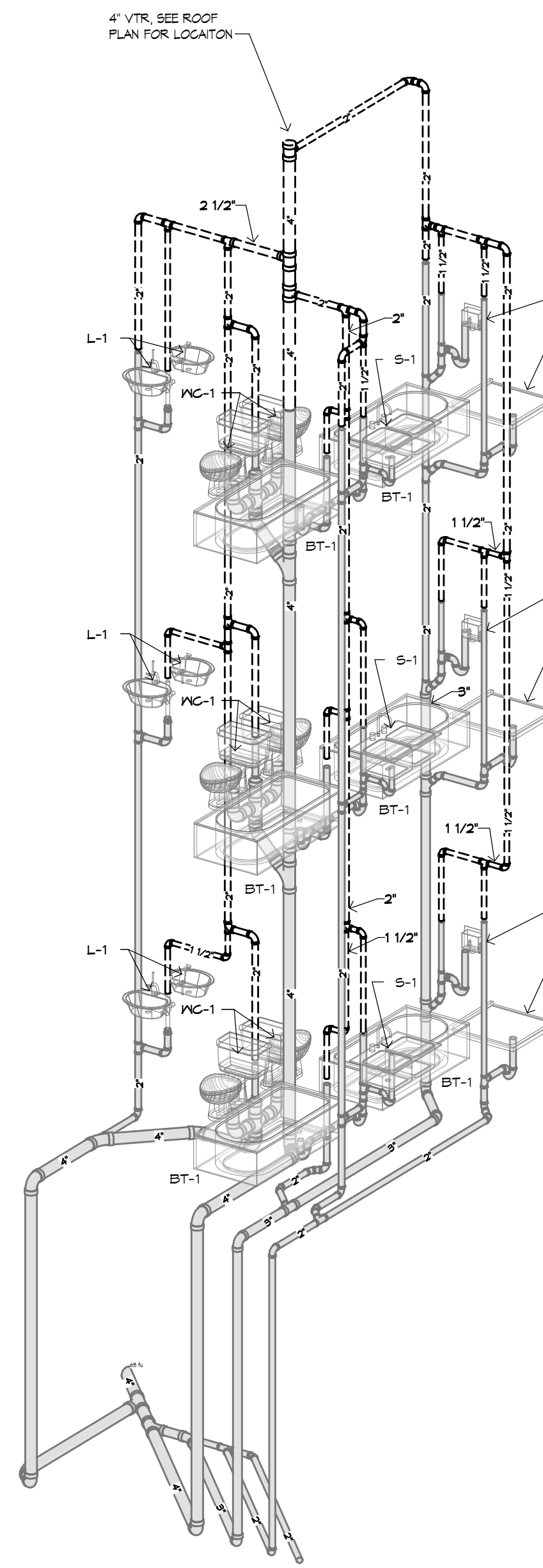
PLUMBING FIXTURE ROUGH-IN CONNECTION SCHEDULE

FIXTURE	WASTE	VENT	GA	HY
WALL HYDRANT	-	-	3/4"	-
FLOOR DRAIN	2"	1-1/2"	-	-
FLOOR SINK	4"	2"	-	-
LAVATORY	1-1/2"	1-1/2"	1/2"	1/2"
WATER CLOSET (FT)	4"	2"	1/2"	-
SHOWER BATH	2"	1-1/2"	3/4"	3/4"
SINK	2"	1-1/2"	3/4"	1/2"
ENC	2"	1-1/2"	1/2"	-
MOP BASK	3"	1-1/2"	3/4"	3/4"
HOSE BIBB	-	-	3/4"	-
WASH MACHINE TRIM	2"	1-1/2"	3/4"	3/4"
DRAN PAN W/ FLOOR DRAIN	2"	1-1/2"	-	-

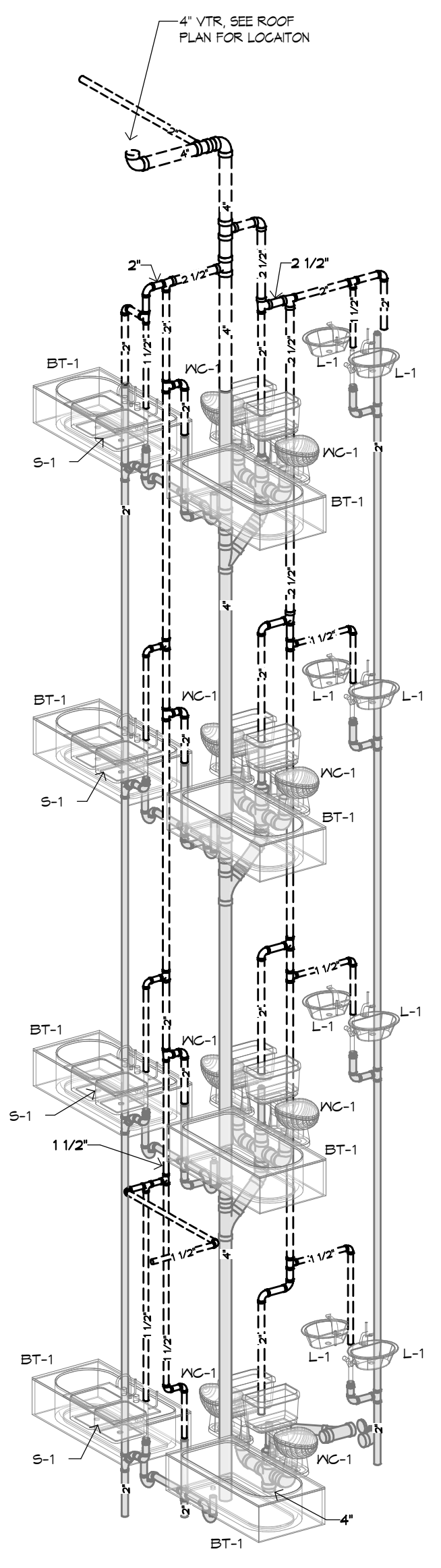
NOTES:
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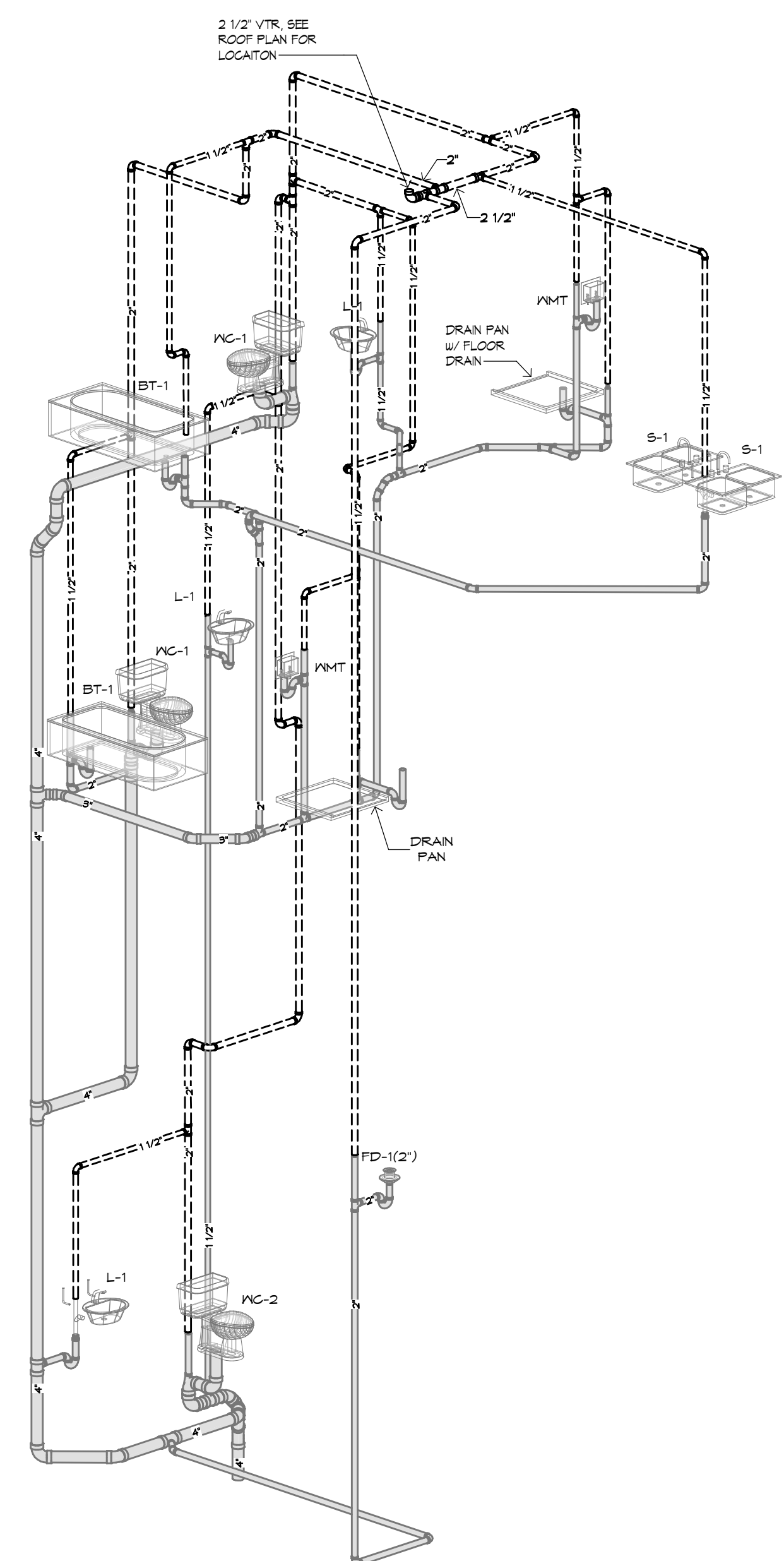
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SCALE: NTS



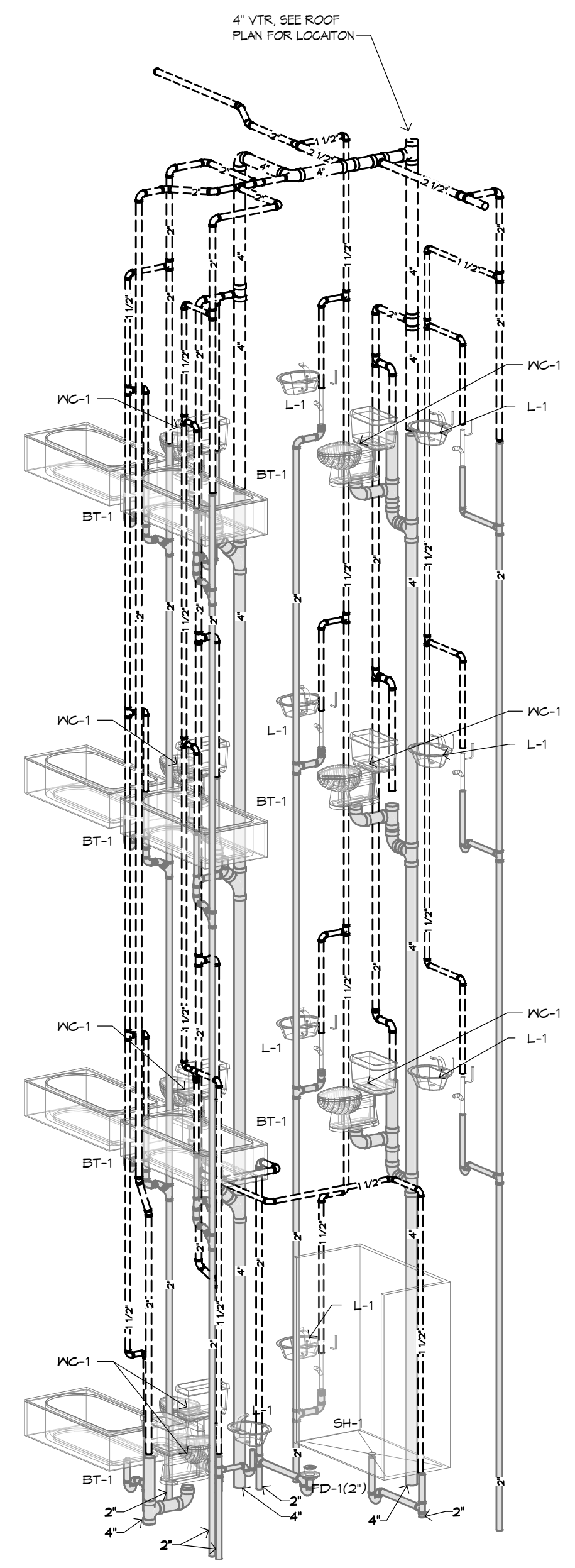
6 RISER 13/P201
SCALE: NTS



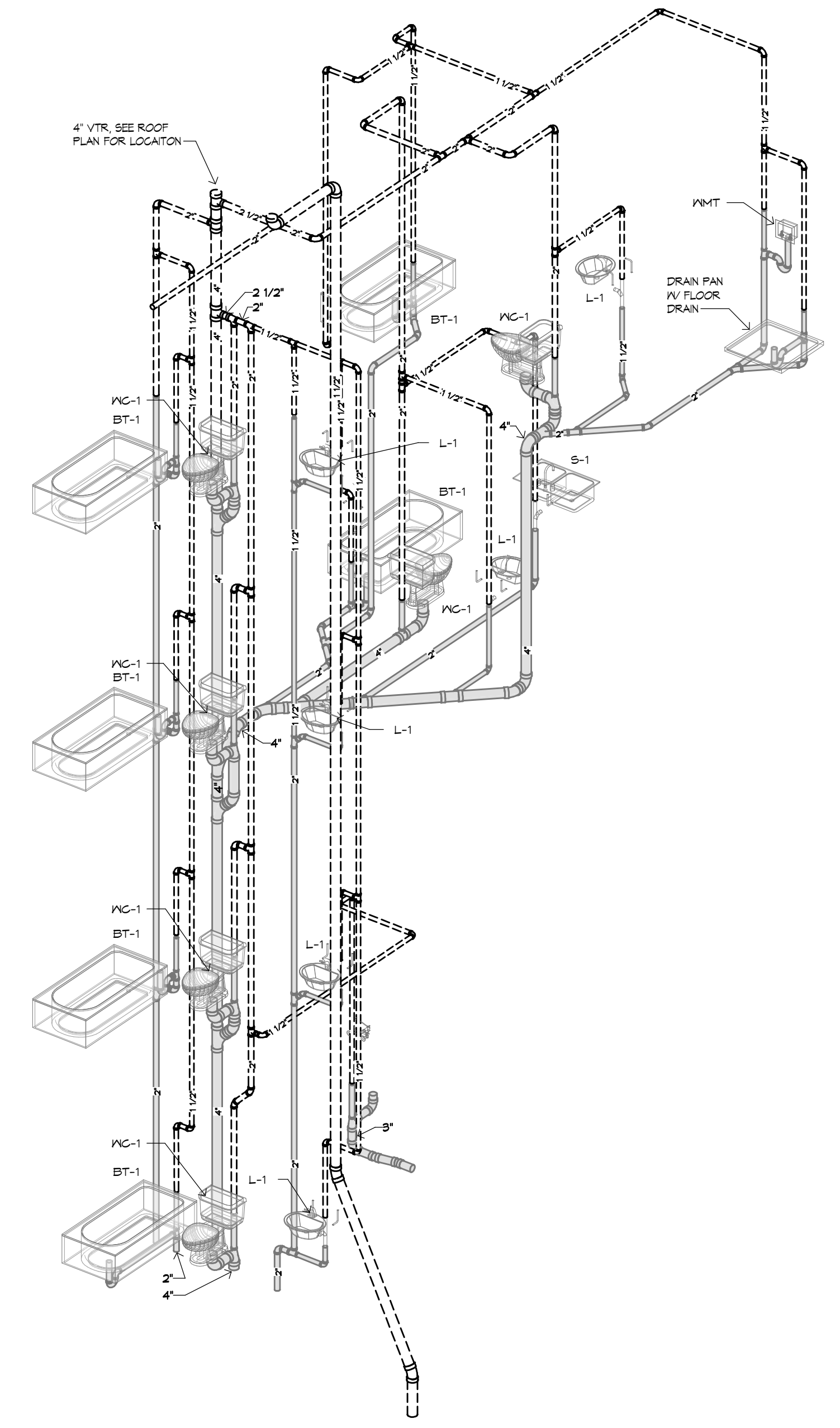
5 RISER 12/P201
SCALE: NTS



3 RISER 10/P201
SCALE: NTS



2 RISER 9/P201
SCALE: NTS



1 RISER 8/P201
SCALE: NTS



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Reg. No. 48950 Signature: *John Wessing*
Date: 12/04/2017 Printed Name: John Wessing

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

JLG ARCHITECTS
BOTTINEAU RIDGE II APARTMENTS
MAPLE GROVE, MN

DATE
12/4/17

PHASE
CONSTRUCTION

DOCUMENTS
PROJECT
ONE# 2016446

SHEET
P201
WASTE & VENT
RISER DIAGRAMS

12/04/2017 9:39:14 AM

PLUMBING FIXTURE ROUGH-IN CONNECTION SCHEDULE

FIXTURE	WASTE	VENT	GA	HA
WALL HYDRANT	-	-	3/4"	-
FLOOR DRAIN	2"	1-1/2"	-	-
FLOOR SINK	4"	2"	-	-
LAVATORY	1-1/2"	1-1/2"	1/2"	1/2"
WATER CLOSET (FT)	4"	2"	1/2"	-
SHOWER/BATH	2"	1-1/2"	3/4"	3/4"
SINK	2"	1-1/2"	3/4"	1/2"
ENCL	2"	1-1/2"	1/2"	-
MOP BASH	3"	1-1/2"	3/4"	3/4"
HOSE BIBB	-	-	3/4"	-
WASH MACHINE TRM	2"	1-1/2"	3/4"	3/4"
DRAIN PAN w/ FLOOR DRAIN	2"	1-1/2"	-	-

NOTES:
1. SIZES SHALL BE AS SCHEDULED UNLESS OTHERWISE NOTED ON DRAWINGS.



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Date: 12/24/2017
Printed Name: Jon Wessling

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

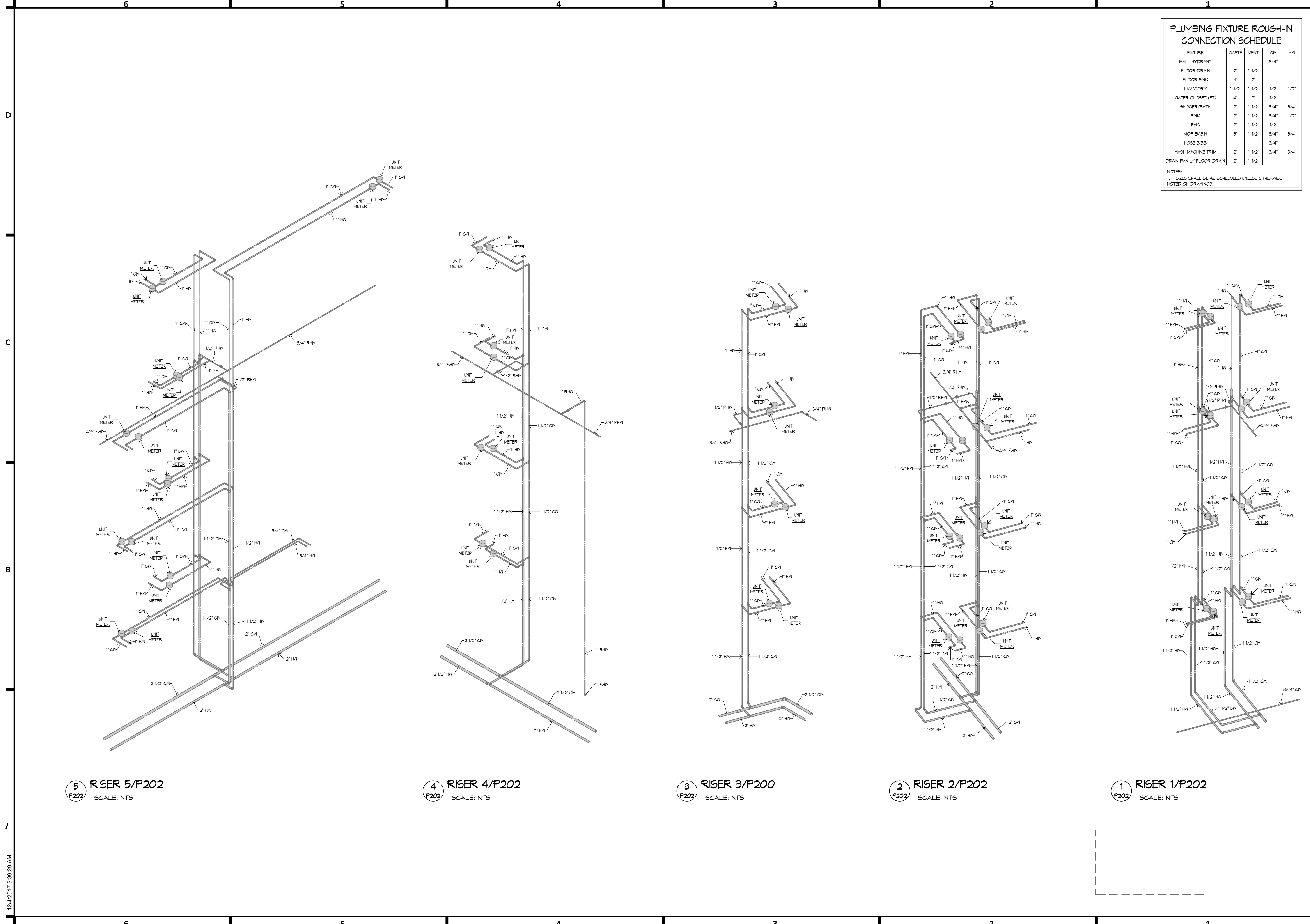
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MAPLE GROVE, MN

DATE
12/4/17

PHASE
CONSTRUCTION
DOCUMENTS

PROJECT
ONE# 2016446

SHEET
P202
DOMESTIC WATER
RISER DIAGRAMS



5 RISER 5/P202
SCALE: NTS

4 RISER 4/P202
SCALE: NTS

3 RISER 3/P200
SCALE: NTS

2 RISER 2/P202
SCALE: NTS

1 RISER 1/P202
SCALE: NTS



12/24/2017 9:39:29 AM

6

5

4

3

2

1

D

C

B

A

PLUMBING FIXTURE ROUGH-IN CONNECTION SCHEDULE

FIXTURE	WASTE	VENT	CA	HN
WALL HYDRANT	-	-	3/4"	-
FLOOR DRAIN	2"	1-1/2"	-	-
FLOOR SINK	4"	2"	-	-
LAVATORY	1-1/2"	1-1/2"	1/2"	1/2"
WATER CLOSET (FT)	4"	2"	1/2"	-
SHOWER/BATH	2"	1-1/2"	3/4"	3/4"
SINK	2"	1-1/2"	3/4"	1/2"
ENCL	2"	1-1/2"	1/2"	-
MOP BASK	3"	1-1/2"	3/4"	3/4"
HOSE BIBB	-	-	3/4"	-
WASH MACHINE TRIM	2"	1-1/2"	3/4"	3/4"
DRAIN PAN w/ FLOOR DRAIN	2"	1-1/2"	-	-

NOTES:
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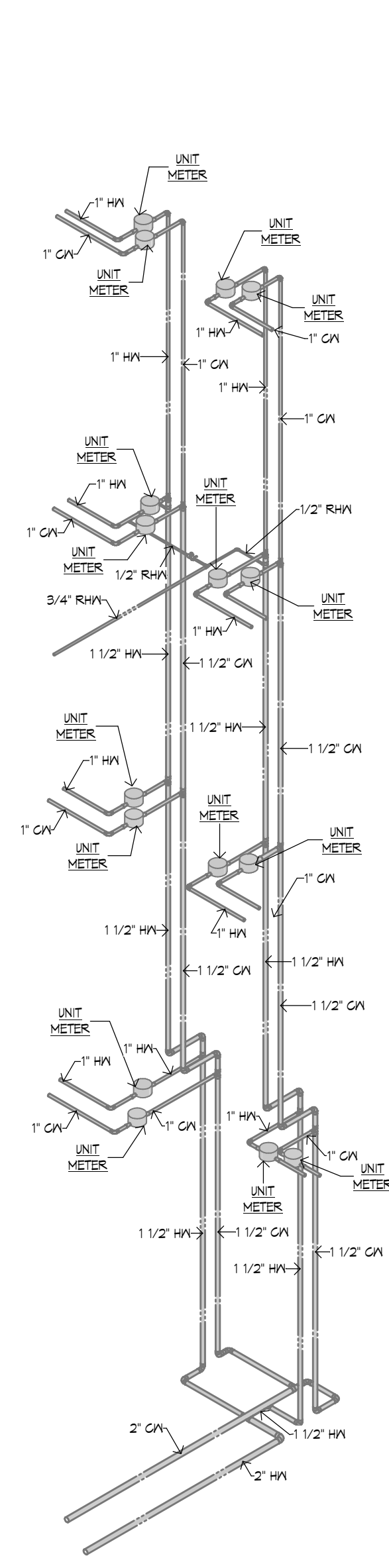
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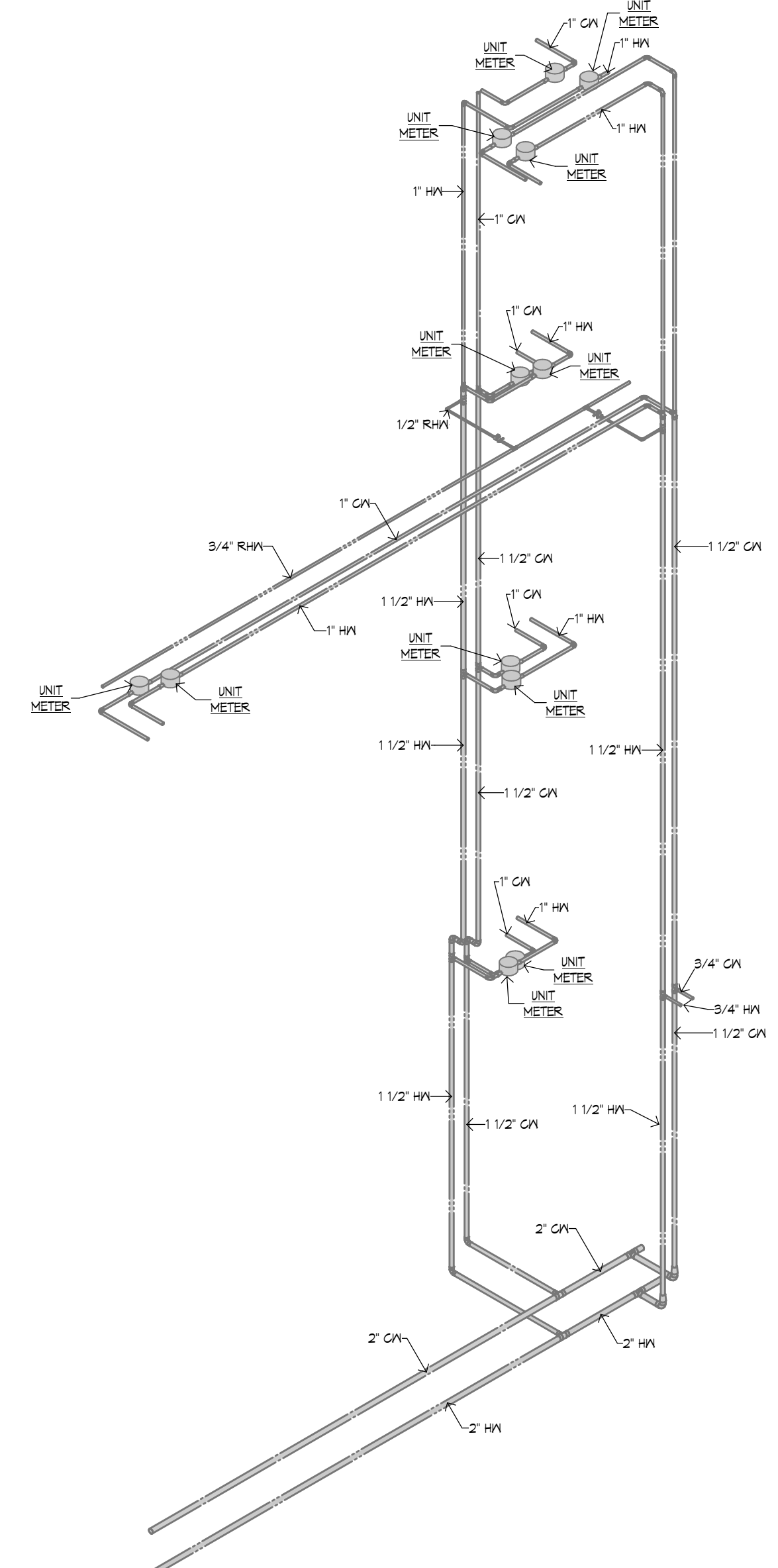
Reg. No. 48950 Signature: *Jon Wessling*
Date: 12/04/2017 Printed Name: Jon Wessling

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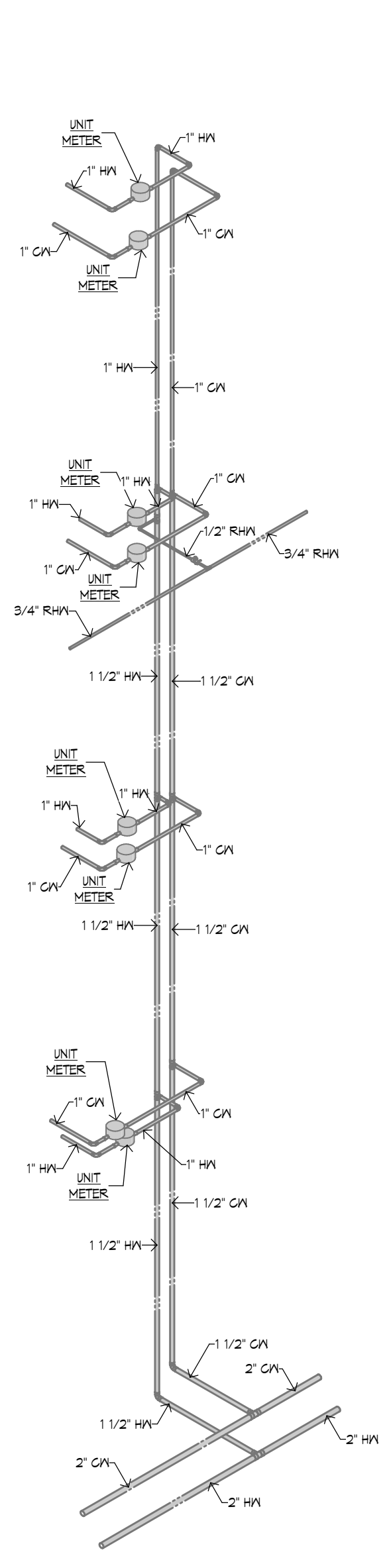
NO.	DESCRIPTION	DATE



8 RISER 8/P203
SCALE: NTS



7 RISER 7/P203
SCALE: NTS



6 RISER 6/P203
SCALE: NTS



JLG ARCHITECTS
BOTTINEAU RIDGE II APARTMENTS
MAPLE GROVE, MN

DATE
12/4/17

PHASE
CONSTRUCTION

DOCUMENTS

PROJECT
ONE# 2016446

SHEET
P203
DOMESTIC WATER
RISER DIAGRAMS

12/04/2017 9:39:38 AM

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REVISION SCHEDULE		
NO.	DESCRIPTION	DATE

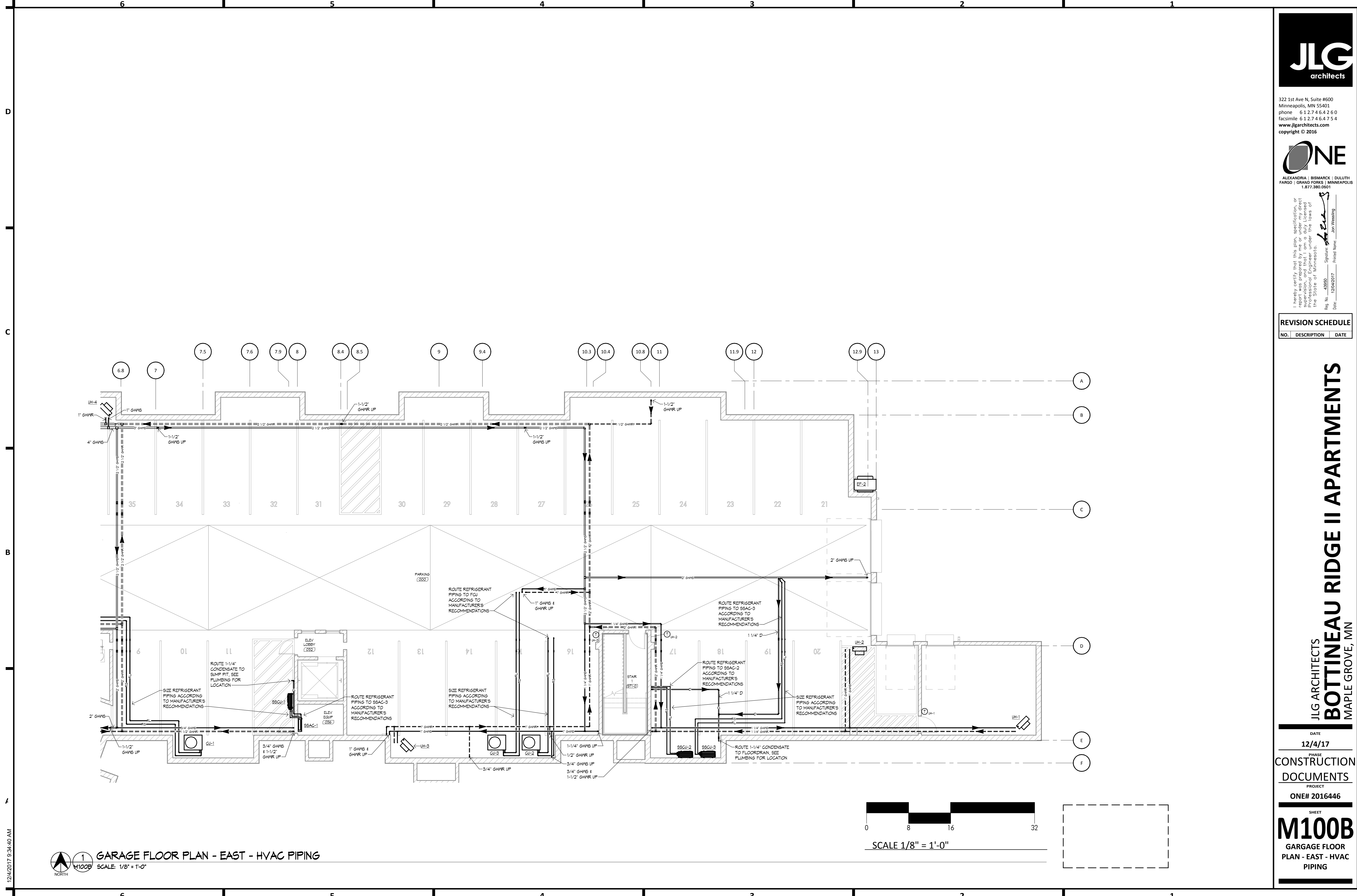
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MAPLE GROVE, MN

DATE
12/4/17

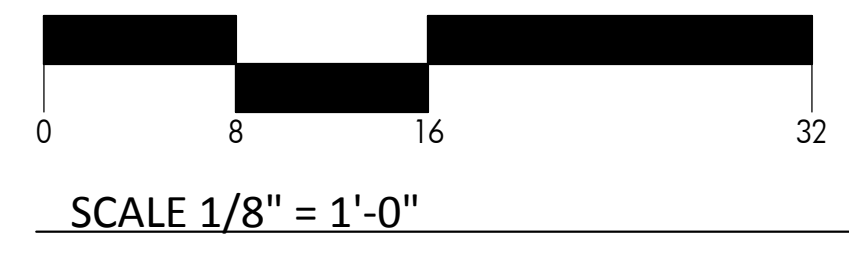
PHASE
CONSTRUCTION DOCUMENTS

PROJECT
ONE# 2016446

SHEET
M100B
GARGAGE FLOOR
PLAN - EAST - HVAC
PIPING



1 M100B
GARAGE FLOOR PLAN - EAST - HVAC PIPING
SCALE: 1/8" = 1'-0"



12/4/2017 9:34:40 AM



- HVAC PIPING NOTES:**
- A THERMOSTATS LOCATED IN UNITS SHALL CONTROL ALL FIN RADIATION IN ASSOCIATED UNIT, UNLESS OTHERWISE NOTED.
 - 1 HEATING PIPING BETWEEN THESE TWO FIN RADIATION UNITS SHALL BE ROUTED IN CEILING SPACE BELOW. PROTECT CEILING ASSEMBLY PENETRATIONS AS REQUIRED.
 - 2 ROUTE REFRIGERANT PIPING UP TO FCU AS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE S-TRAPS AS REQUIRED.



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 Reg. No. 48950 Signature: *Jon Wessing* Printed Name: Jon Wessing
 Date: 12/04/2017 Title: PE

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BOTTINEAU RIDGE II APARTMENTS
 MAPLE GROVE, MN

DATE
12/4/17

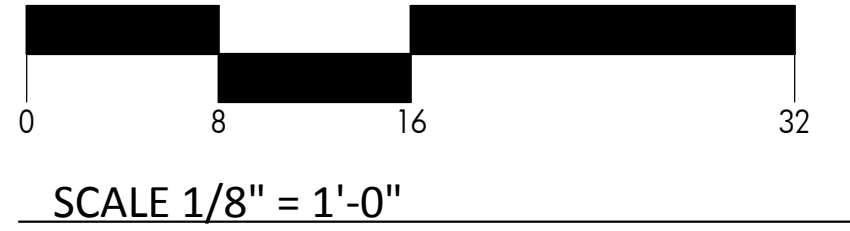
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CONSTRUCTION

DOCUMENTS

PROJECT

ONE# 2016446

SHEET
M101A
 FIRST FLOOR PLAN - WEST - HVAC PIPING



FIRST FLOOR PLAN - WEST - HVAC PIPING
 SCALE: 1/8" = 1'-0"

12/04/2017 9:34:44 AM

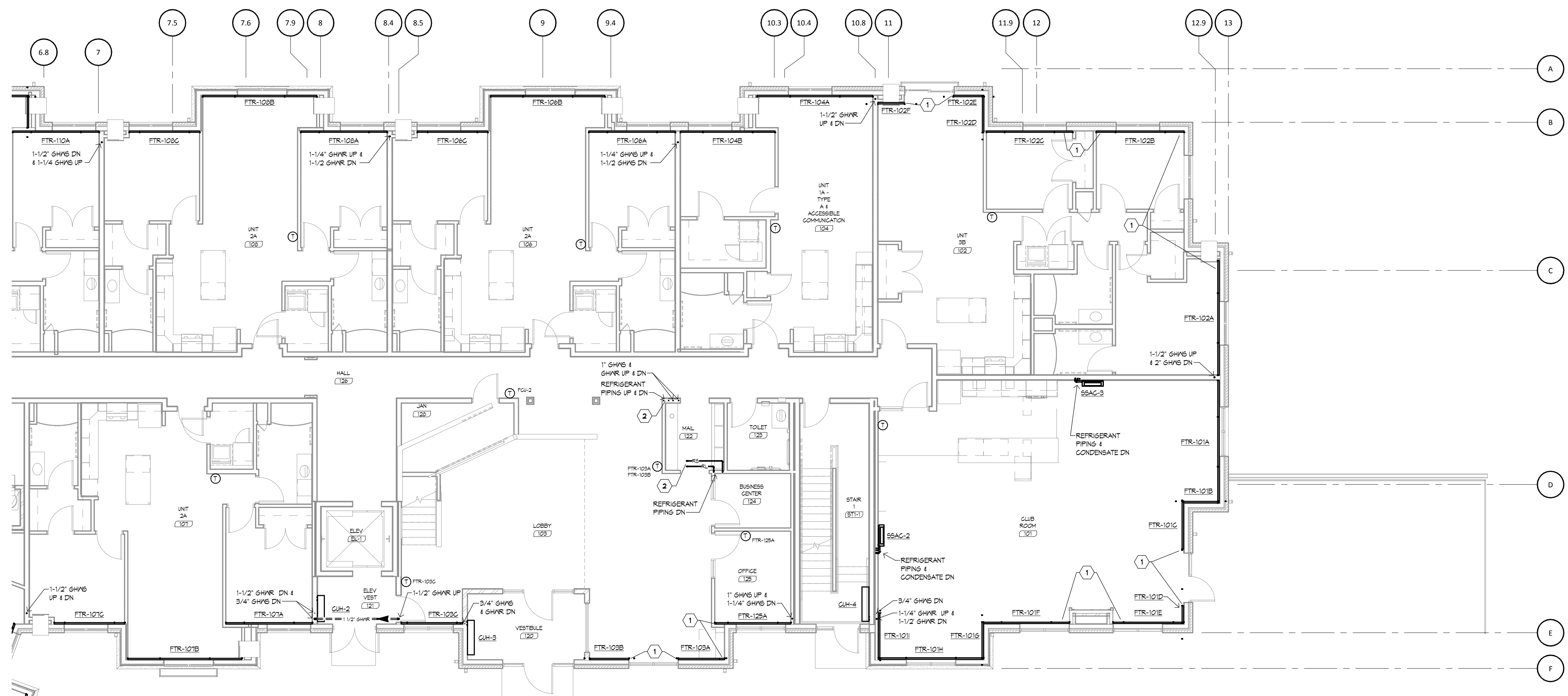
6 5 4 3 2 1

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C

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A



- HVAC PIPING NOTES:**
- A. THERMOSTATS LOCATED IN UNITS SHALL CONTROL ALL FIN RADIATION IN ASSOCIATED UNIT. UNLESS OTHERWISE NOTED.
 - ① HEATING PIPING BETWEEN THESE TWO FIN RADIATION UNITS SHALL BE ROUTED IN CEILING SPACE BELOW. PROTECT CEILING ASSEMBLY PENETRATIONS AS REQUIRED.
 - ② ROUTE REFRIGERANT PIPING UP TO FCU AS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE S-TRAPS AS REQUIRED.



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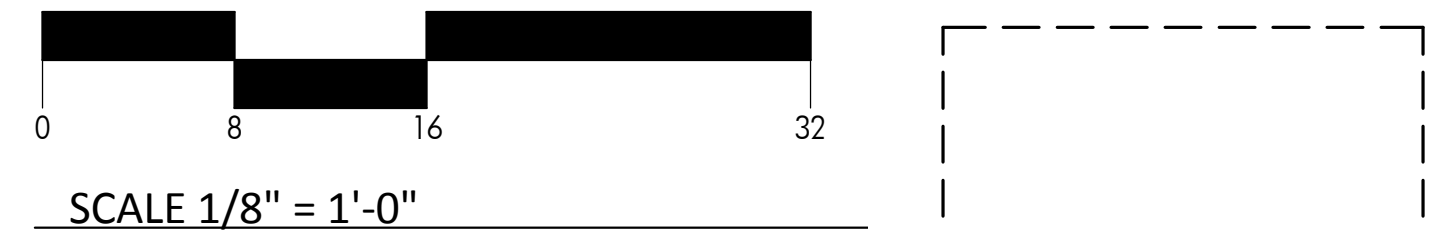
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 Date: 12/24/2017

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BOTTINEAU RIDGE II APARTMENTS
 MAPLE GROVE, MN

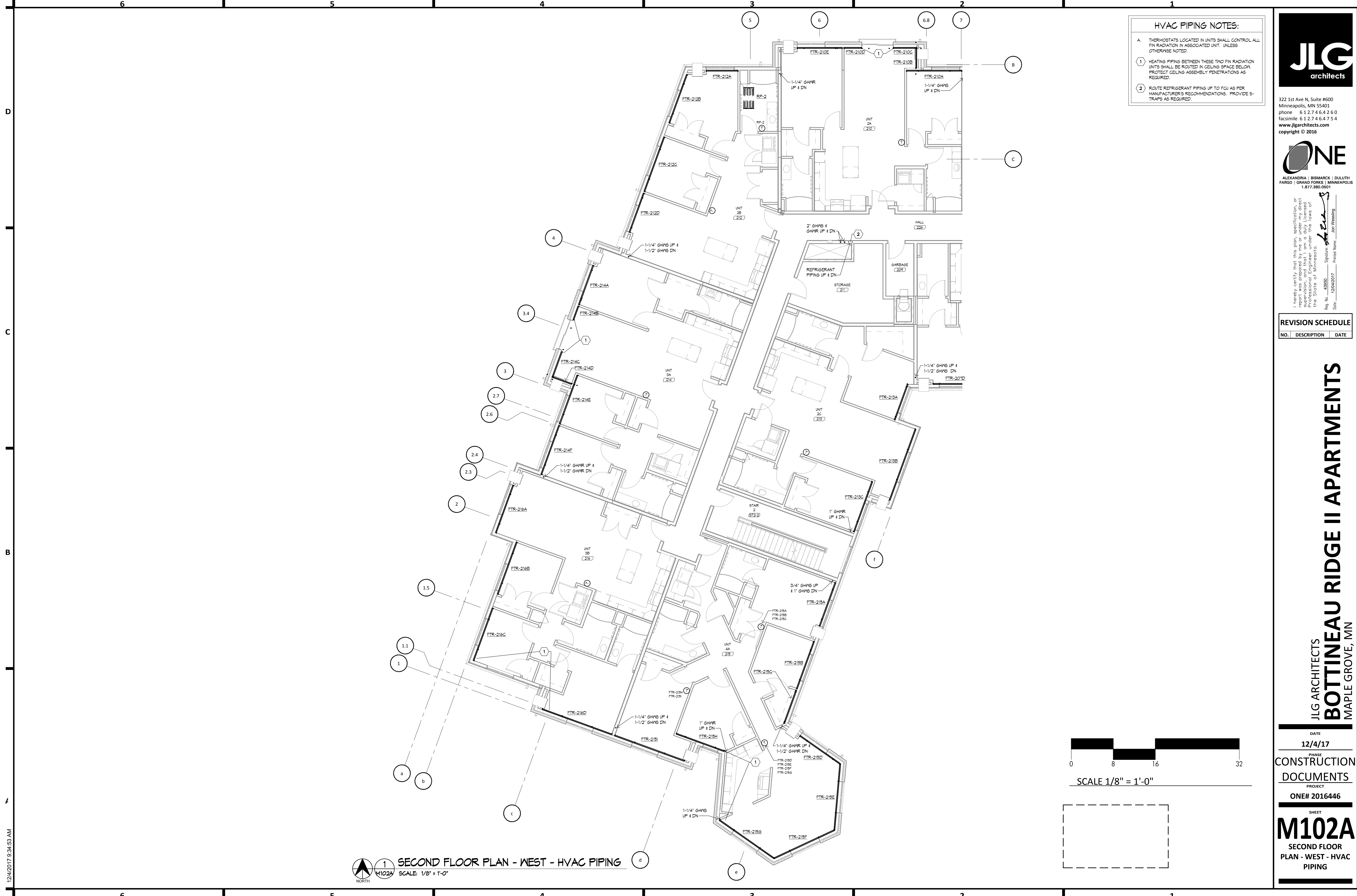
DATE
12/4/17
 PHASE
CONSTRUCTION
 DOCUMENTS
 PROJECT
ONE# 2016446
 SHEET
M101B
 FIRST FLOOR PLAN -
 EAST - HVAC PIPING



1 FIRST FLOOR PLAN - EAST - HVAC PIPING
 SCALE: 1/8" = 1'-0"

12/24/2017 9:24:49 AM

6 5 4 3 2 1



- HVAC PIPING NOTES:**
- A. THERMOSTATS LOCATED IN UNITS SHALL CONTROL ALL FIN RADIATION IN ASSOCIATED UNIT. UNLESS OTHERWISE NOTED.
 - ① HEATING PIPING BETWEEN THESE TWO FIN RADIATION UNITS SHALL BE ROUTED IN CEILING SPACE BELOW. PROTECT CEILING ASSEMBLY PENETRATIONS AS REQUIRED.
 - ② ROUTE REFRIGERANT PIPING UP TO FCU AS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE S-TRAPS AS REQUIRED.



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 Reg. No. 48950 Signature: *John Wessing* Printed Name: John Wessing
 Date: 12/04/2017 Title: Engineer

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NO.	DESCRIPTION	DATE

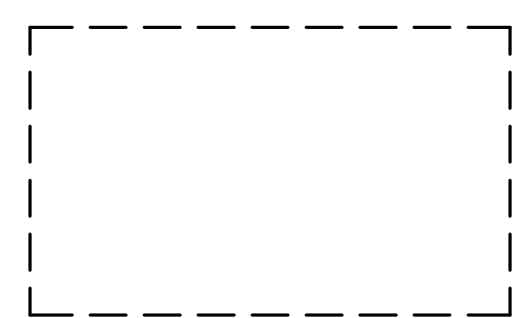
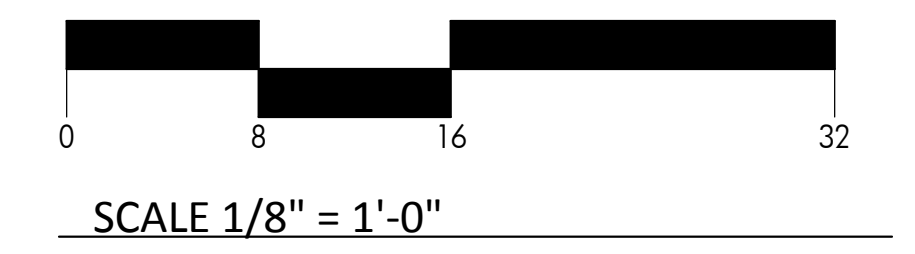
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BOTTINEAU RIDGE II APARTMENTS
 MAPLE GROVE, MN

DATE
12/4/17

PHASE
CONSTRUCTION DOCUMENTS

PROJECT
ONE# 2016446

SHEET
M102A
 SECOND FLOOR
 PLAN - WEST - HVAC
 PIPING



1 SECOND FLOOR PLAN - WEST - HVAC PIPING
 SCALE: 1/8" = 1'-0"

12/04/2017 9:34:53 AM

6 5 4 3 2 1

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HVAC PIPING NOTES:
 A THERMOSTATS LOCATED IN UNITS SHALL CONTROL ALL FIN RADIATION IN ASSOCIATED UNIT. UNLESS OTHERWISE NOTED.
 ① HEATING PIPING BETWEEN THESE TWO FIN RADION UNITS SHALL BE ROUTED IN CEILING SPACE BELOW. PROTECT CEILING ASSEMBLY PENETRATIONS AS REQUIRED.



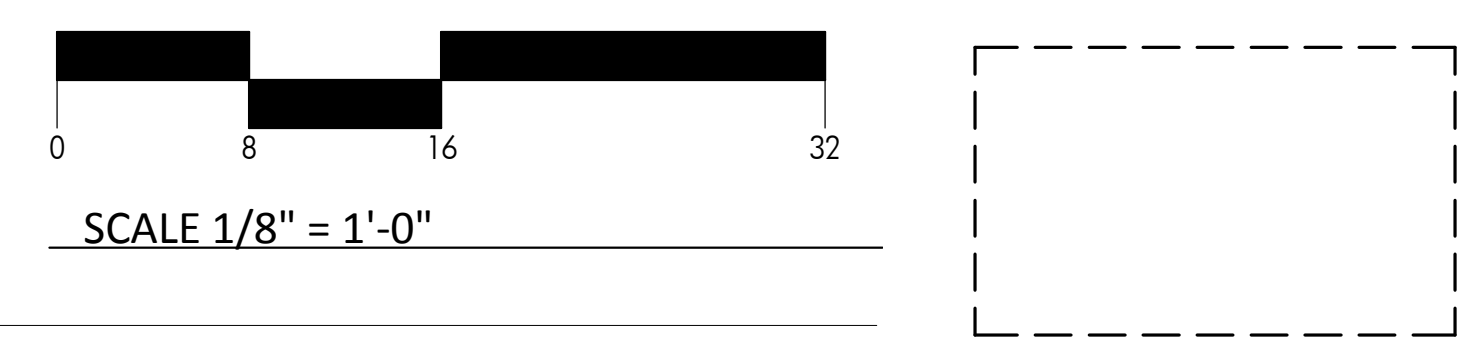
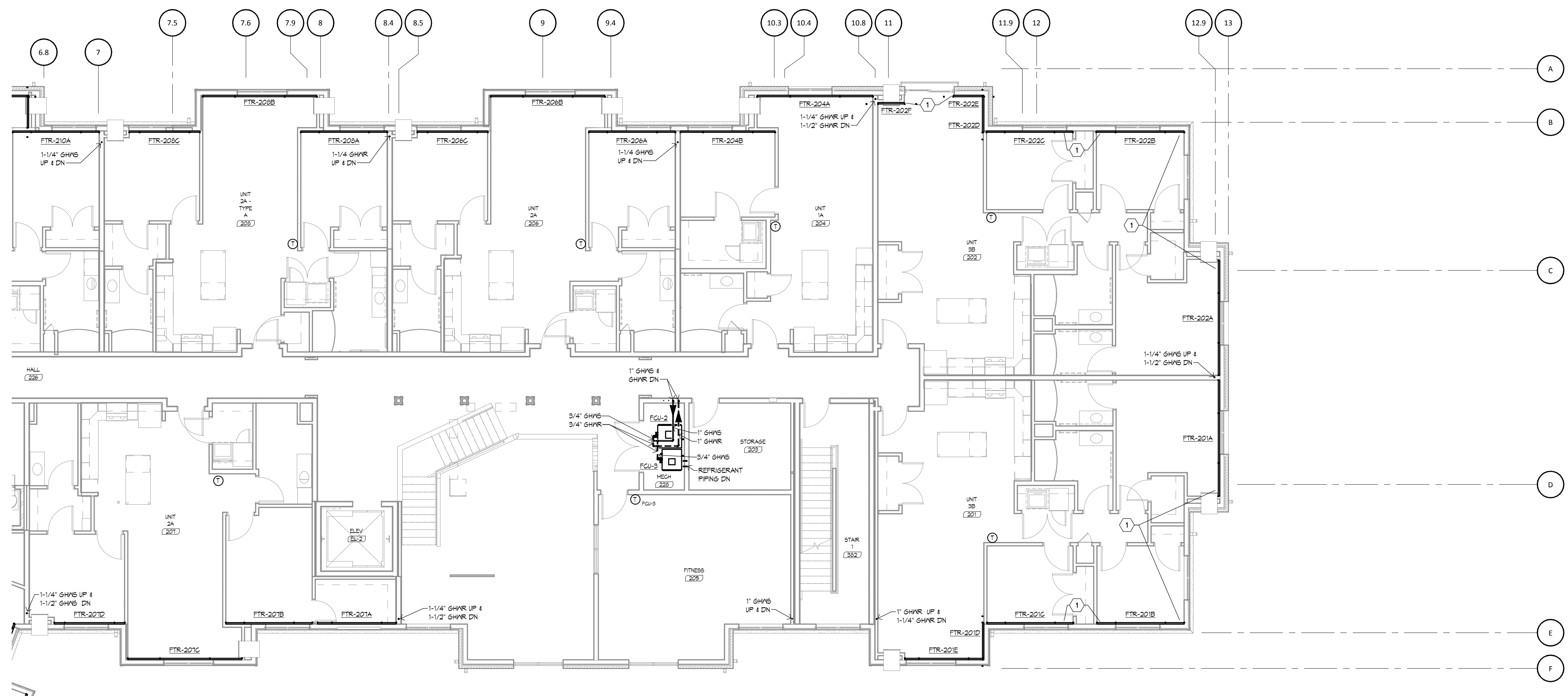
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NO.	DESCRIPTION	DATE



12/4/2017 9:34:57 AM

1 SECOND FLOOR PLAN - EAST - HVAC PIPING
 SCALE: 1/8" = 1'-0"

6 5 4 3 2 1

JLG ARCHITECTS
BOTTINEAU RIDGE II APARTMENTS
 MAPLE GROVE, MN

DATE
12/4/17
 PHASE
CONSTRUCTION
 DOCUMENTS
 PROJECT
ONE# 2016446
 SHEET
M102B
 SECOND FLOOR
 PLAN - EAST - HVAC
 PIPING



- HVAC PIPING NOTES:**
- A. THERMOSTATS LOCATED IN UNITS SHALL CONTROL ALL FIN RADIATION IN ASSOCIATED UNIT. UNLESS OTHERWISE NOTED.
 - ① HEATING PIPING BETWEEN THESE TWO FIN RADIATION UNITS SHALL BE ROUTED IN CEILING SPACE BELOW. PROTECT CEILING ASSEMBLY PENETRATIONS AS REQUIRED.
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BOTTINEAU RIDGE II APARTMENTS
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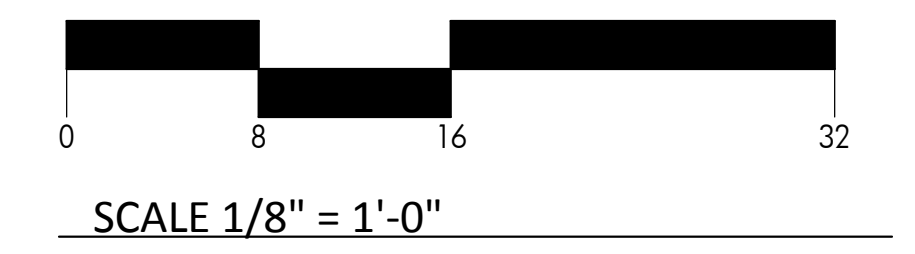
DATE
12/4/17

PHASE
CONSTRUCTION

DOCUMENTS

PROJECT
ONE# 2016446

SHEET
M103A
 THIRD FLOOR PLAN - WEST - HVAC PIPING



1 THIRD FLOOR PLAN - WEST - HVAC PIPING
 SCALE: 1/8" = 1'-0"

12/04/2017 9:35:02 AM

6 5 4 3 2 1

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 ① HEATING PIPING BETWEEN THESE TWO FIN RADION UNITS SHALL BE ROUTED IN CEILING SPACE BELOW. PROTECT CEILING ASSEMBLY PENETRATIONS AS REQUIRED.



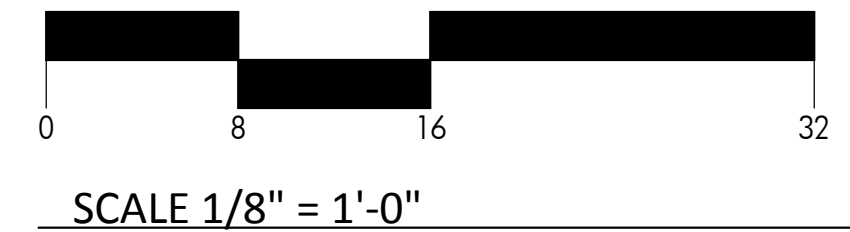
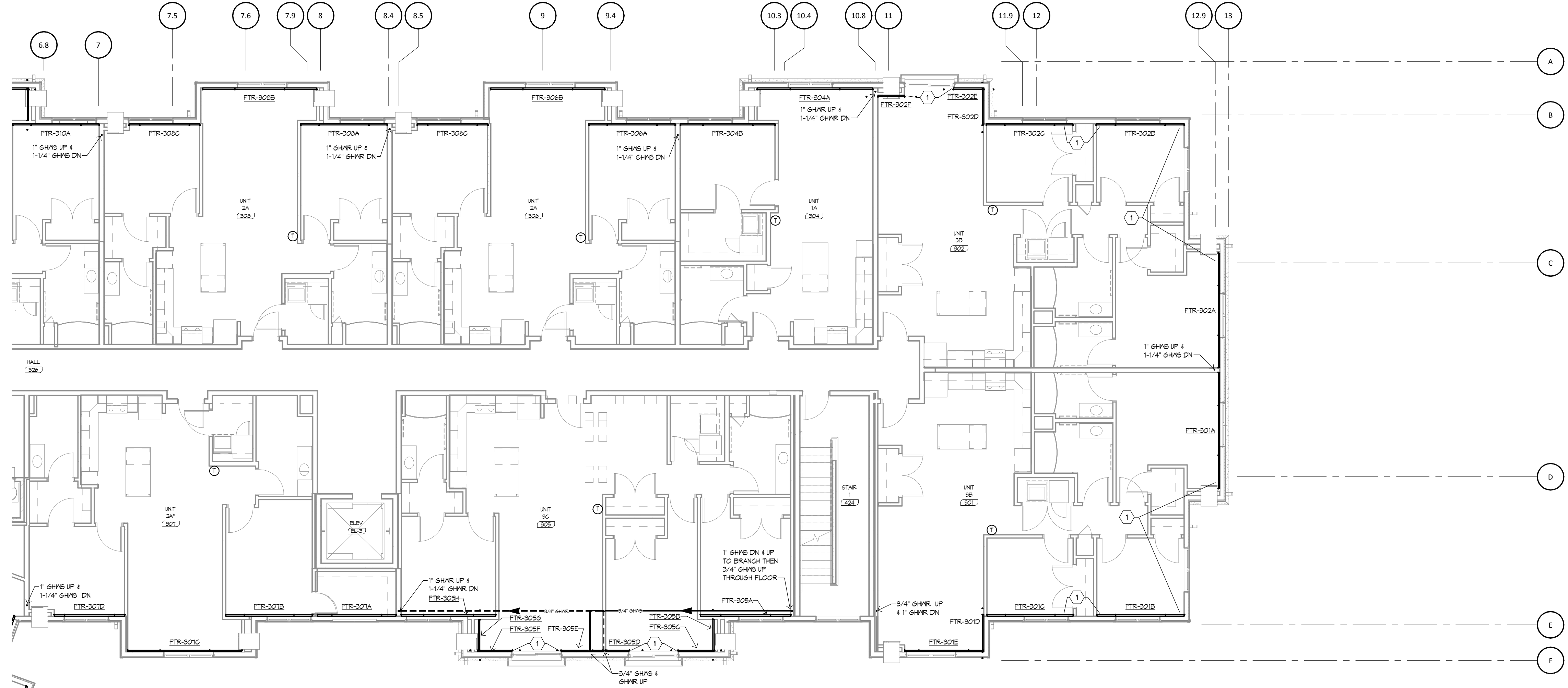
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1 THIRD FLOOR PLAN - EAST - HVAC PIPING
 SCALE: 1/8" = 1'-0"

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6 5 4 3 2 1

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BOTTINEAU RIDGE II APARTMENTS
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PROJECT
ONE# 2016446

SHEET
M103B
 THIRD FLOOR PLAN - EAST - HVAC PIPING



HVAC PIPING NOTES:

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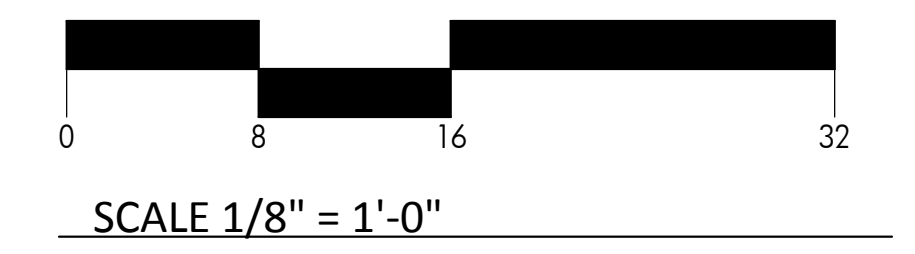
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1 FOURTH FLOOR PLAN - WEST - HVAC PIPING
 SCALE: 1/8" = 1'-0"

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12/4/17

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PROJECT
ONE# 2016446

SHEET
M104A

FOURTH FLOOR
 PLAN - WEST - HVAC
 PIPING

HVAC PIPING NOTES:

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NO.	DESCRIPTION	DATE

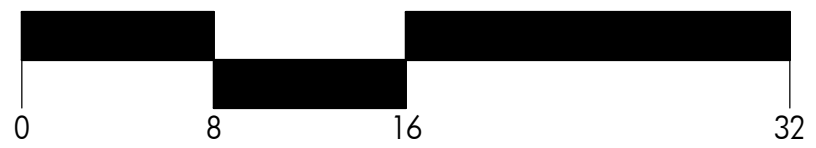
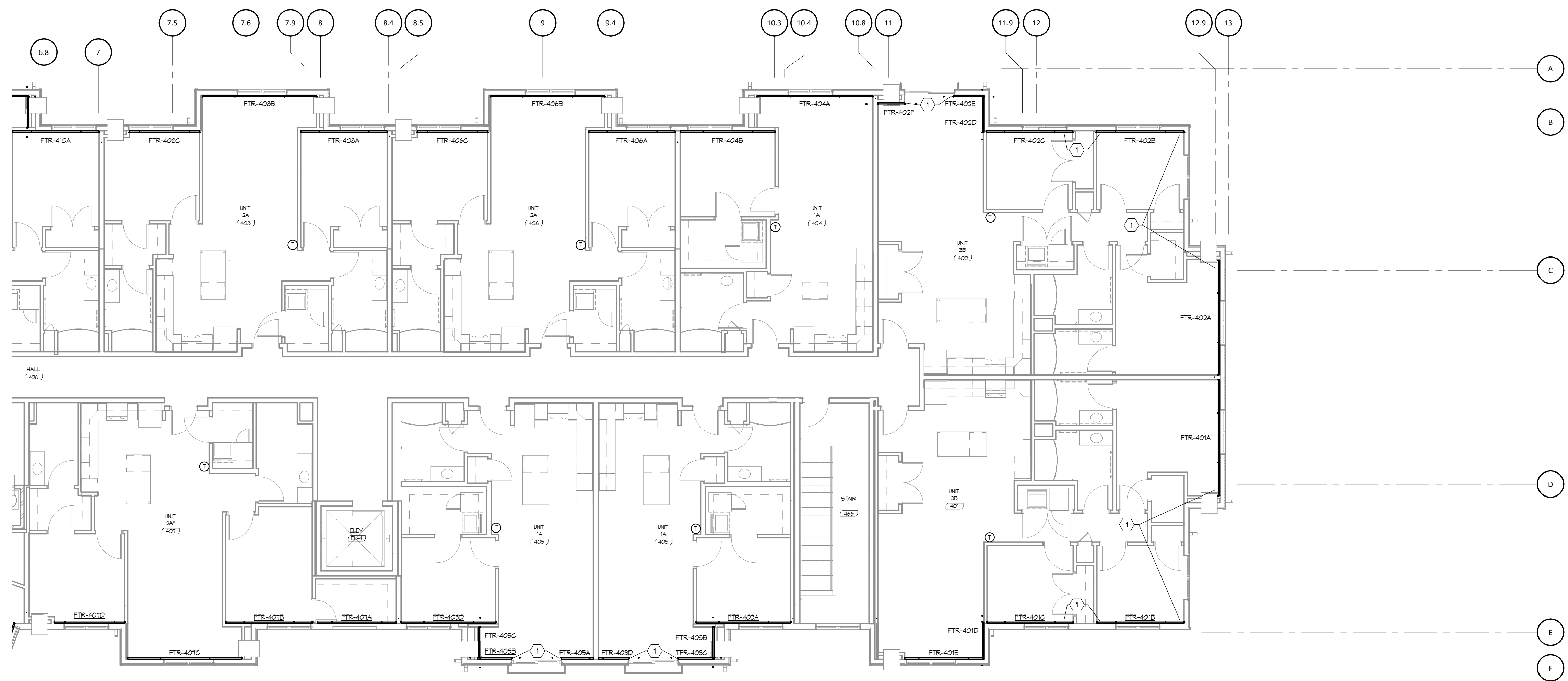
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ONE# 2016446

SHEET
M104B
 FOURTH FLOOR
 PLAN - EAST - HVAC
 PIPING

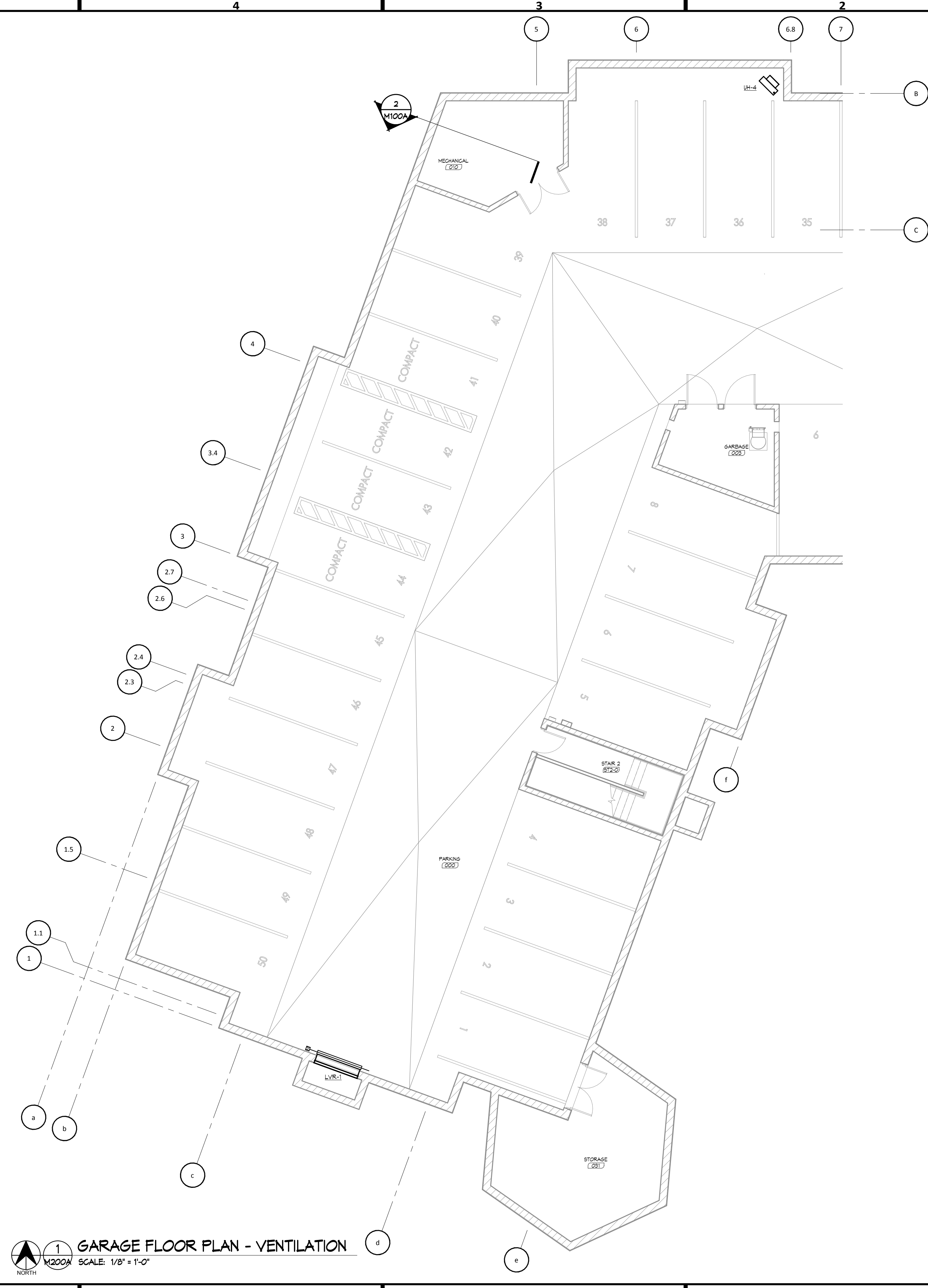


SCALE 1/8" = 1'-0"

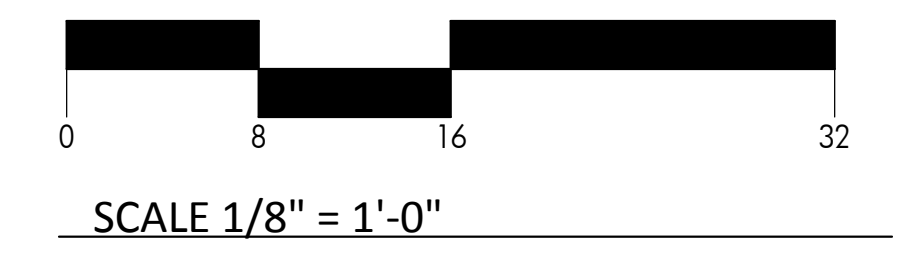


FOURTH FLOOR PLAN - EAST - HVAC PIPING
 SCALE: 1/8" = 1'-0"

12/4/2017 9:35:14 AM



1 GARAGE FLOOR PLAN - VENTILATION
 M200A SCALE: 1/8" = 1'-0"



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12/4/17

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PROJECT
ONE# 2016446

SHEET
M200A
 GARAGE FLOOR
 PLAN - WEST -
 VENTILATION

12/4/2017 9:35:17 AM



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 Reg. No. 48950 Signature: *Jon Wessing* Printed Name: Jon Wessing
 Date: 12/4/2017 Title: _____

REVISION SCHEDULE		
NO.	DESCRIPTION	DATE

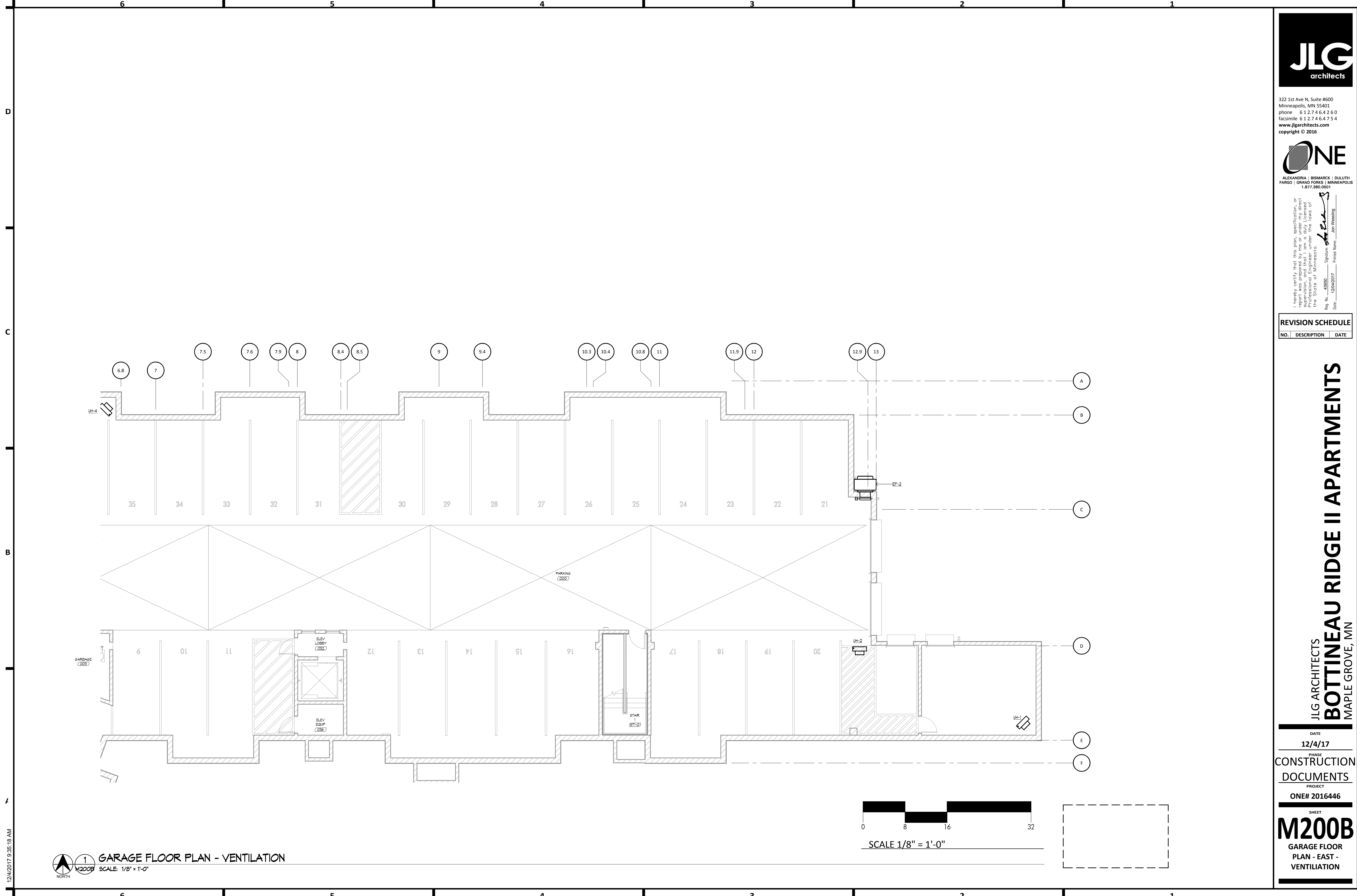
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BOTTINEAU RIDGE II APARTMENTS
 MAPLE GROVE, MN

DATE
12/4/17

PHASE
CONSTRUCTION DOCUMENTS

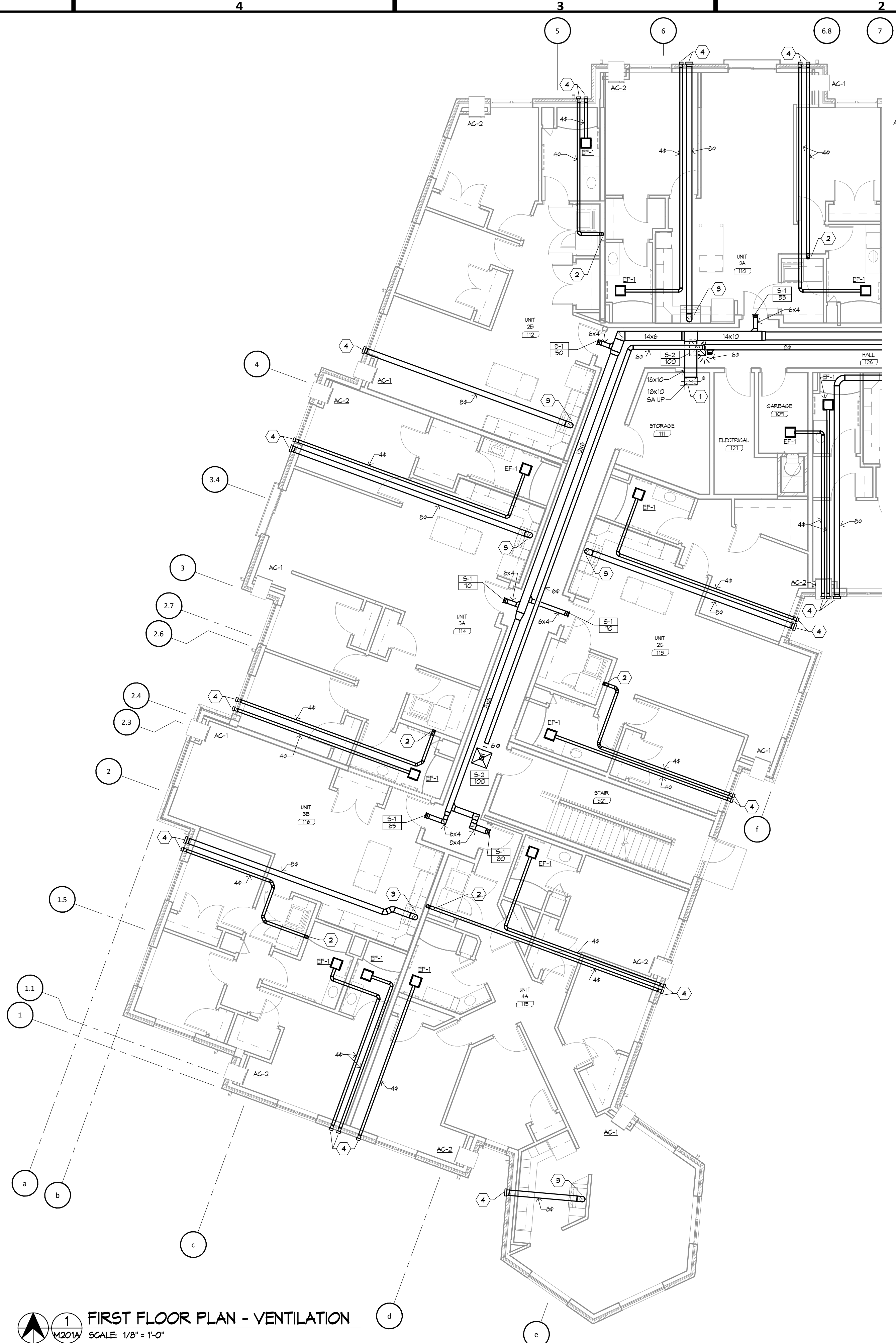
PROJECT
ONE# 2016446

SHEET
M200B
 GARAGE FLOOR
 PLAN - EAST -
 VENTILATION



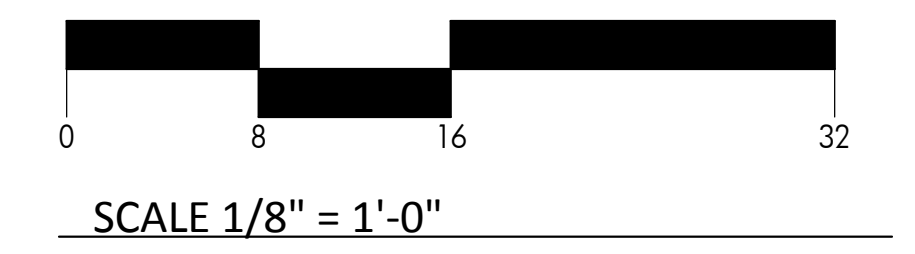
1 GARAGE FLOOR PLAN - VENTILATION
 SCALE: 1/8" = 1'-0"

12/4/2017 9:35:18 AM



- VENTILATION NOTES:**
- ① FIRE SMOKE DAMPER TO BE INSTALLED BETWEEN 1ST AND 2ND FLOOR.
 - ② 4" EA DUCT DOWN TO DRYER EXHAUST
 - ③ 6" EA DUCT DOWN TO RANGE HOOD. PROVIDE FIRE DAMPER AND ACCESS PANEL AT CEILING ASSEMBLY PENETRATION.
 - ④ PROVIDE AND INSTALL WALL CAP WITH BACKDRAFT DAMPER. PROVIDE BIRD SCREEN ON RANGE HOOD & EXHAUST FAN WALL CAP.

FIRST FLOOR PLAN - VENTILATION
 NORTH
 M201A SCALE: 1/8" = 1'-0"



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 Reg. No. 48950 Signature: [Signature] Printed Name: Jon Wessling
 Date: 12/04/2017 Title: [Title]

REVISION SCHEDULE

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 MAPLE GROVE, MN

DATE
12/4/17

PHASE
CONSTRUCTION

DOCUMENTS

PROJECT
ONE# 2016446

SHEET
M201A

FIRST FLOOR PLAN - WEST - VENTILATION

12/04/2017 9:35:23 AM

- VENTILATION NOTES:**
- 1 PROVIDE AND INSTALL WALL CAP WITH BACKDRAFT DAMPER. PROVIDE BIRD SCREEN ON RANGE HOOD EXHAUST FAN WALL CAP
 - 2 4" EA DUCT DOWN TO DRYER EXHAUST
 - 3 8" EA DUCT DOWN TO RANGE HOOD
 - 4 PROVIDE AND INSTALL 10" OA INTAKE HOOD WITH BIRD SCREEN
 - 5 FIRE SMOKE DAMPER TO BE INSTALLED BETWEEN 1ST AND 2ND FLOOR



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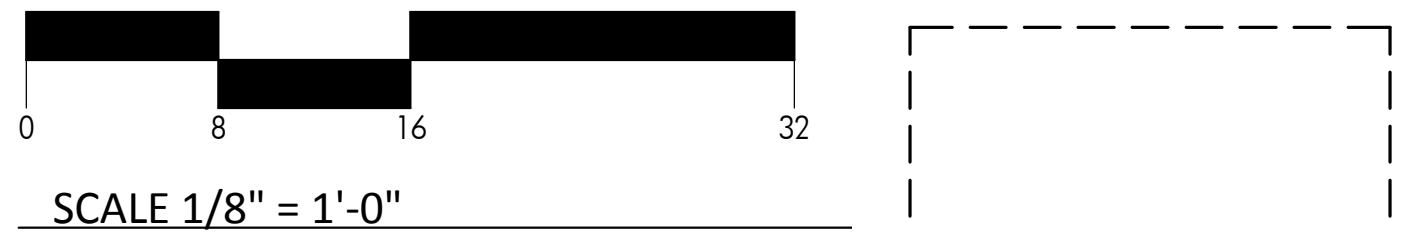
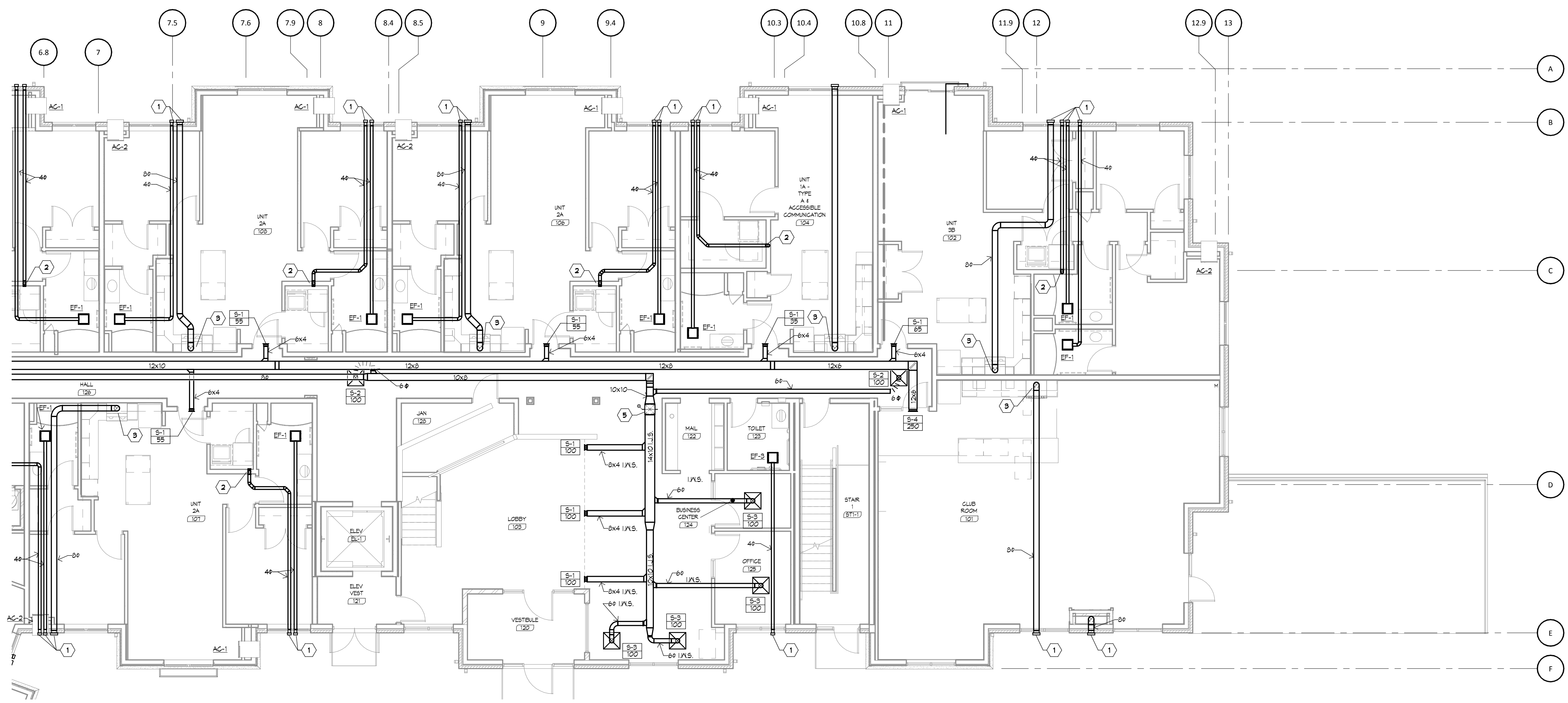
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BOTTINEAU RIDGE II APARTMENTS
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12/4/17

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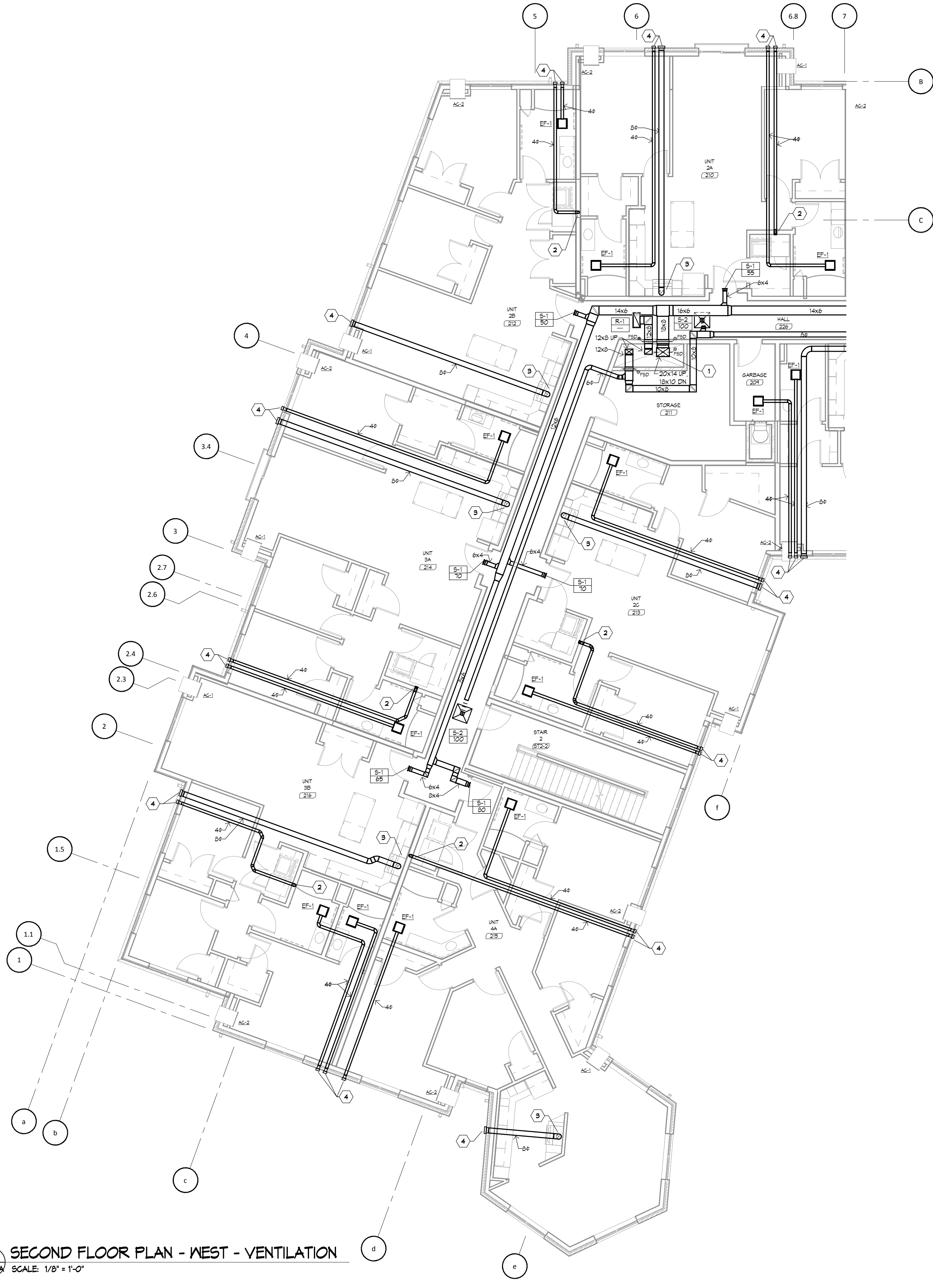
PROJECT
ONE# 2016446

SHEET
M201B
 FIRST FLOOR PLAN - EAST - VENTILATION



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

12/4/2017 9:35:27 AM



- VENTILATION NOTES:**
- 1 FIRE SMOKE DAMPER TO BE INSTALLED BETWEEN 1ST AND 2ND FLOOR
 - 2 4" EA DUCT DOWN TO DRYER EXHAUST
 - 3 8" EA DUCT DOWN TO RANGE HOOD. PROVIDE FIRE DAMPER AND ACCESS PANEL AT CEILING ASSEMBLY PENETRATION.
 - 4 PROVIDE AND INSTALL WALL CAP WITH BACKDRAFT DAMPER. PROVIDE BIRD SCREEN ON RANGE HOOD & EXHAUST FAN WALL CAP.



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 Reg. No. 48950 Signature: *[Signature]* Printed Name: Jon Wessing
 Date: 12/04/2017 Title: PE

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

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BOTTINEAU RIDGE II APARTMENTS
 MAPLE GROVE, MN

DATE
12/4/17

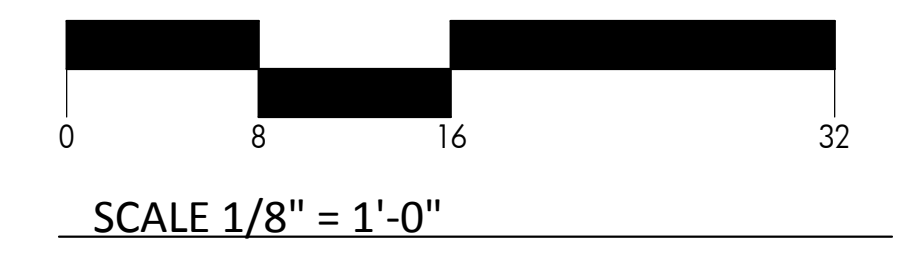
PHASE
CONSTRUCTION

DOCUMENTS

PROJECT
ONE# 2016446

SHEET
M202A

SECOND FLOOR
 PLAN - WEST -
 VENTILATION



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

12/04/2017 9:35:32 AM

- VENTILATION NOTES:**
- 1 PROVIDE AND INSTALL WALL CAP WITH BACKDRAFT DAMPER. PROVIDE BIRD SCREEN ON RANGE HOOD EXHAUST FAN WALL CAP.
 - 2 4" EA DUCT DOWN TO DRYER EXHAUST
 - 3 6" EA DUCT DOWN TO RANGE HOOD. PROVIDE FIRE DAMPER AND ACCESS PANEL AT CEILING ASSEMBLY PENETRATION.
 - 4 PROVIDE AND INSTALL 6" OA INTAKE HOOD WITH BIRD SCREEN.
 - 5 FIRE SMOKE DAMPER TO BE INSTALLED BETWEEN 1ST AND 2ND FLOOR.



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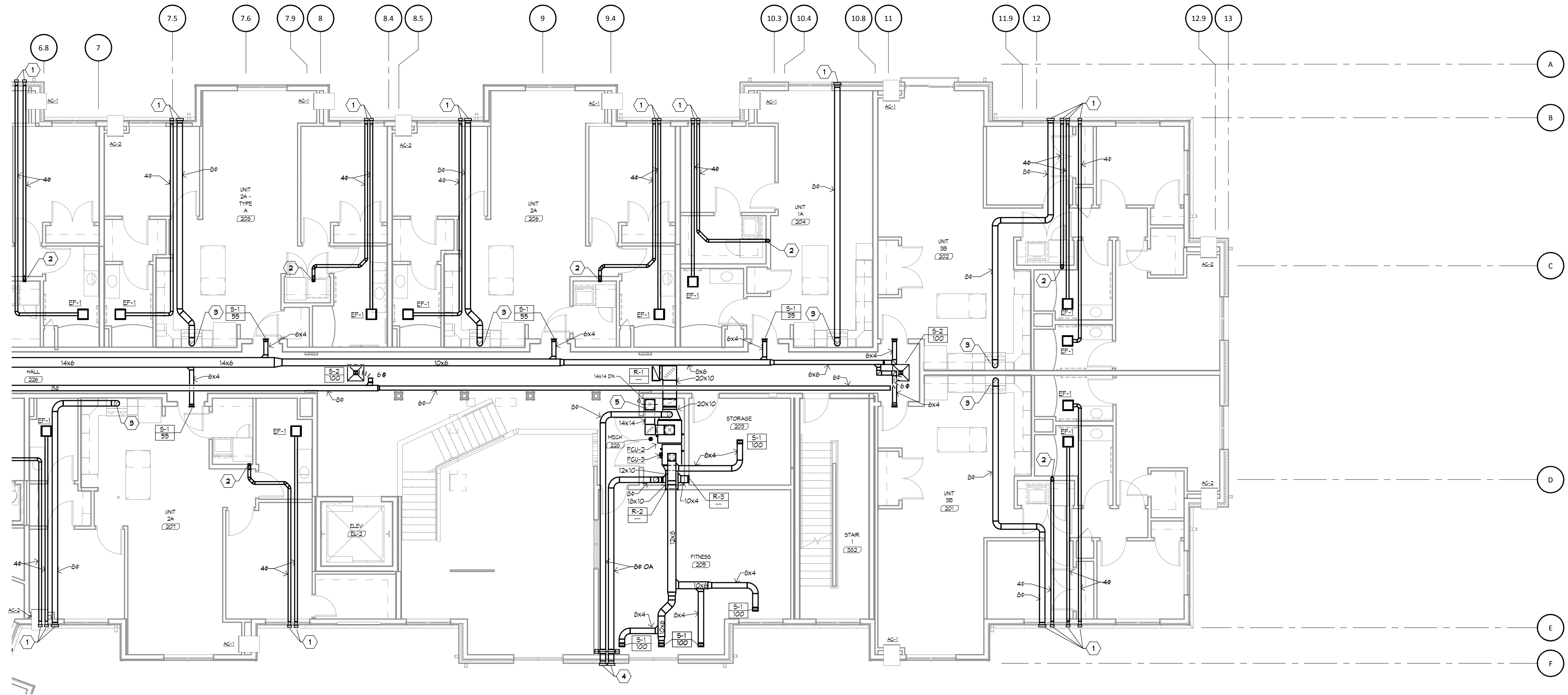
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 MAPLE GROVE, MN

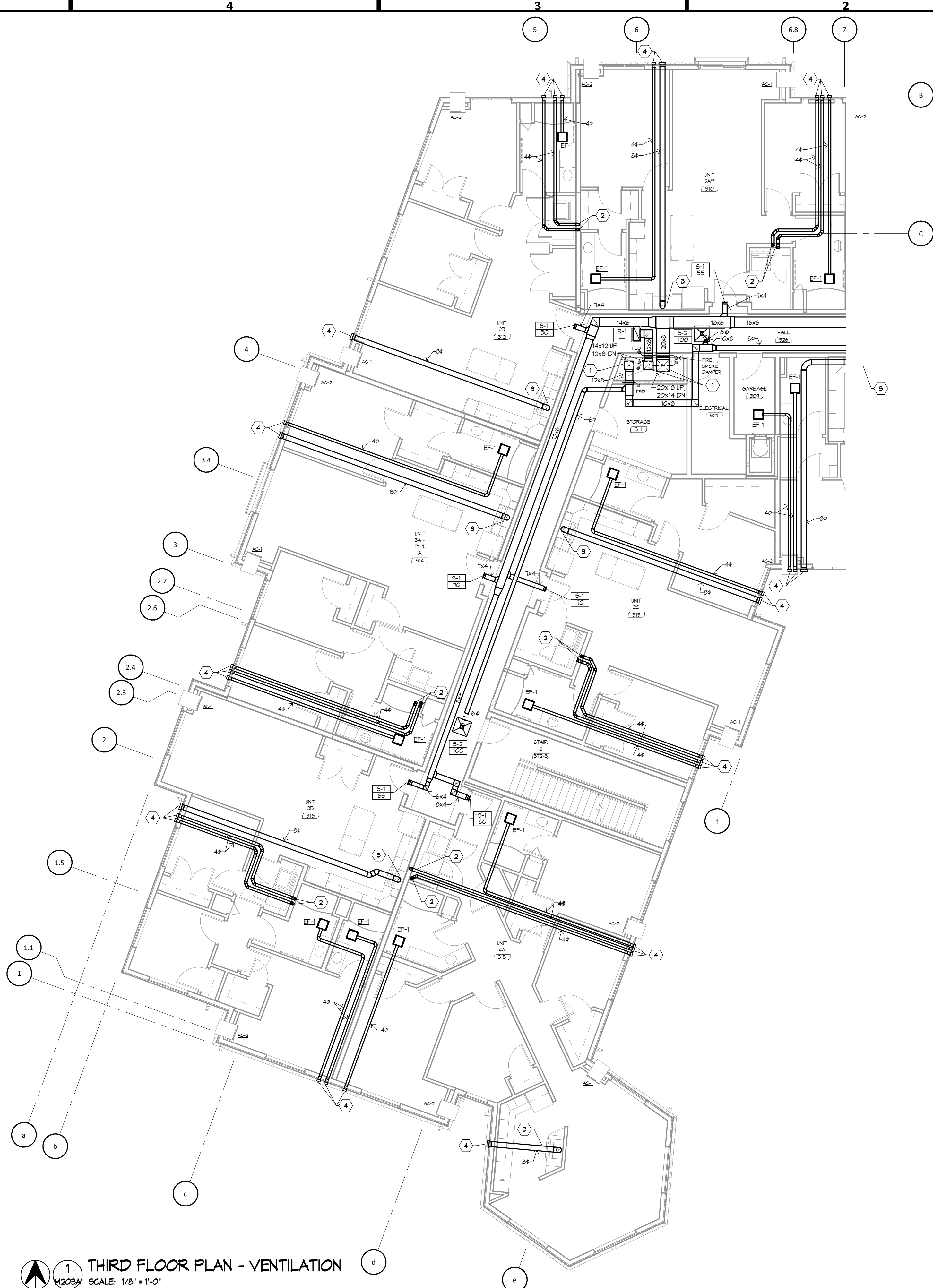
DATE
12/4/17
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CONSTRUCTION
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 PROJECT
ONE# 2016446

SHEET
M202B
 SECOND FLOOR
 PLAN - EAST -
 VENTILATION



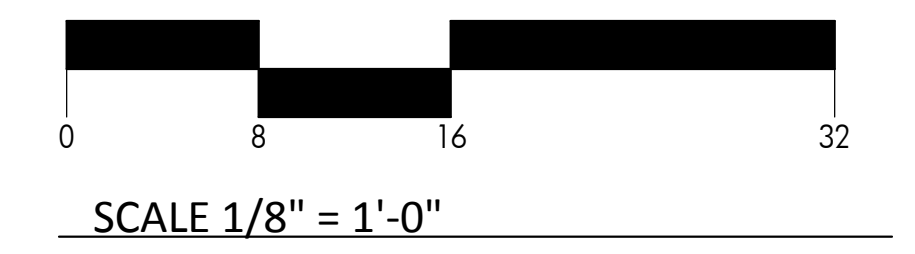
SECOND FLOOR PLAN - EAST - VENTILATION
 SCALE: 1/8" = 1'-0"

12/4/2017 9:35:37 AM



- VENTILATION NOTES:**
- 1 FIRE SMOKE DAMPER TO BE INSTALLED BETWEEN 4TH AND 3RD FLOOR.
 - 2 4" EA DUCT UP/DOWN TO DRYER EXHAUST
 - 3 6" EA DUCT DOWN TO RANGE HOOD. PROVIDE FIRE DAMPER AND ACCESS PANEL AT CEILING ASSEMBLY PENETRATION.
 - 4 PROVIDE AND INSTALL WALL CAP WITH BACKDRAFT DAMPER. PROVIDE BIRD SCREEN ON RANGE HOOD & EXHAUST FAN WALL CAP.

1 THIRD FLOOR PLAN - VENTILATION
 M203A SCALE: 1/8" = 1'-0"
 NORTH



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 Date: 12/04/2017

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PHASE
CONSTRUCTION

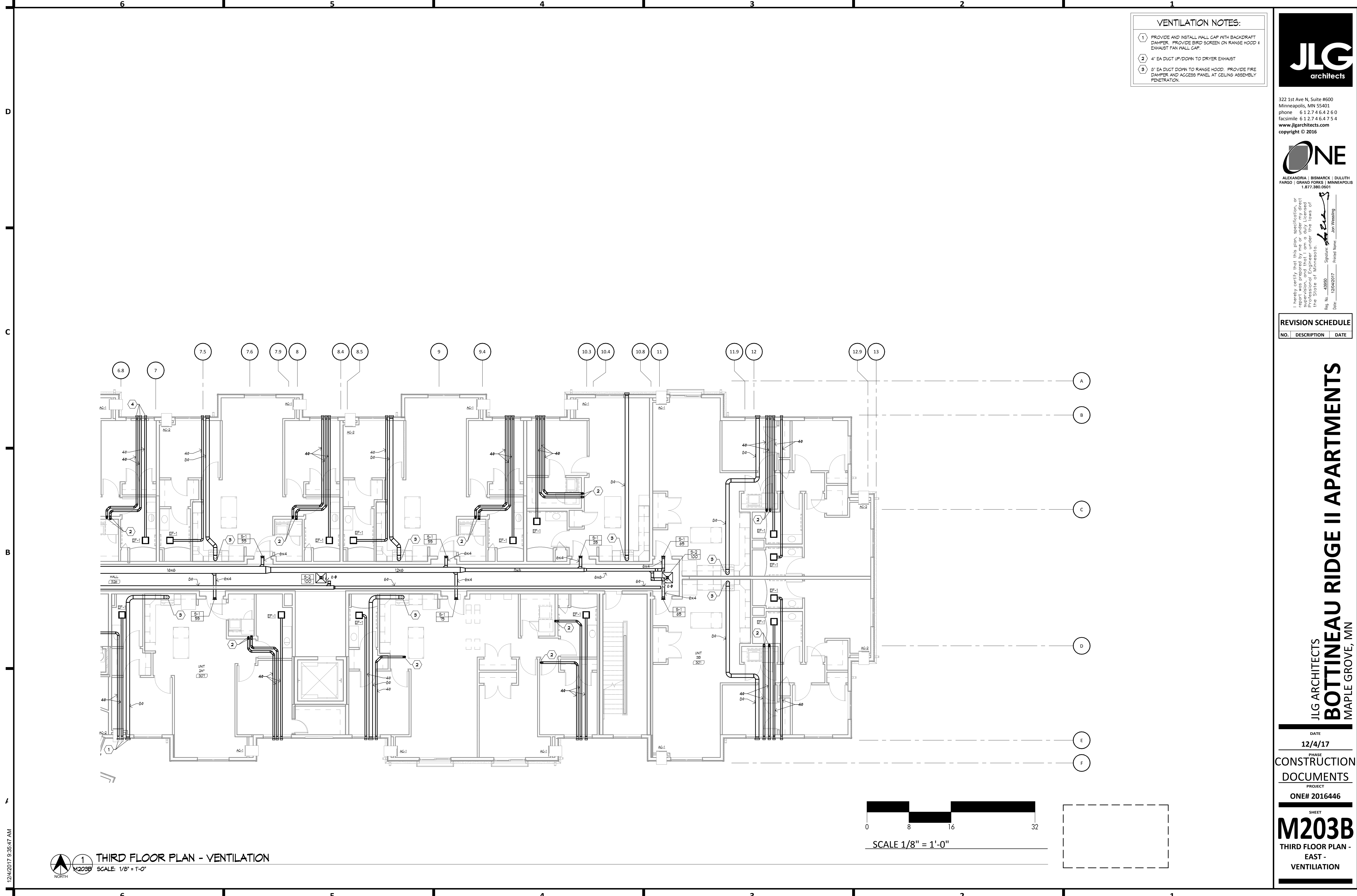
DOCUMENTS

PROJECT
ONE# 2016446

SHEET
M203A

THIRD FLOOR PLAN -
 WEST -
 VENTILATION

12/04/2017 9:35:42 AM



- VENTILATION NOTES:**
- 1 PROVIDE AND INSTALL WALL CAP WITH BACKDRAFT DAMPER. PROVIDE BIRD SCREEN ON RANGE HOOD & EXHAUST FAN WALL CAP.
 - 2 4" EA DUCT UP/DOWN TO DRYER EXHAUST
 - 3 8" EA DUCT DOWN TO RANGE HOOD. PROVIDE FIRE DAMPER AND ACCESS PANEL AT CEILING ASSEMBLY PENETRATION.



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 Reg. No. 49950 Specialties: Mechanical
 Date: 12/4/2017 Printed Name: Jon Wessing

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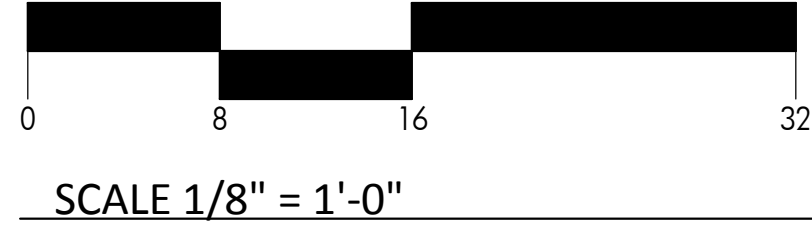
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BOTTINEAU RIDGE II APARTMENTS
 MAPLE GROVE, MN

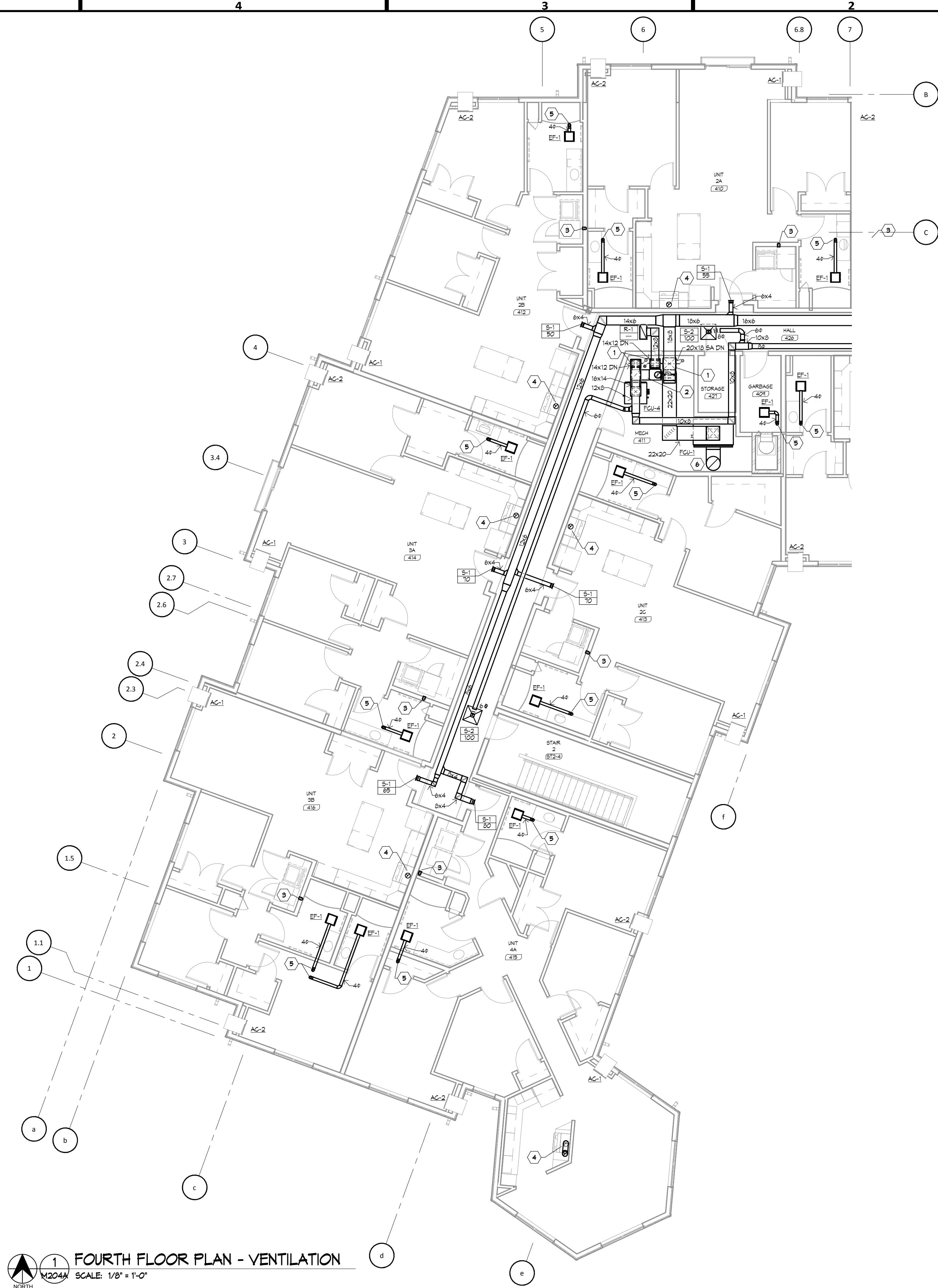
DATE
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ONE# 2016446

SHEET
M203B
 THIRD FLOOR PLAN -
 EAST -
 VENTILATION

12/4/2017 9:35:47 AM

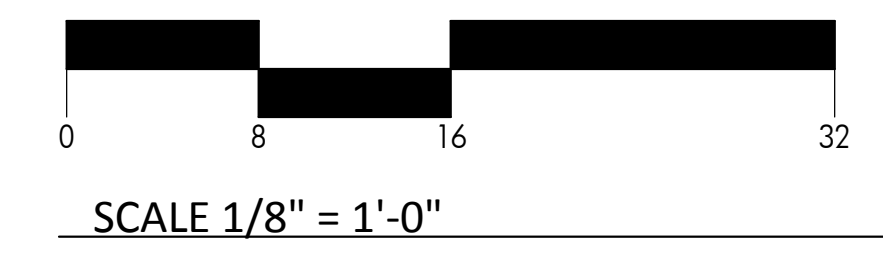
1 THIRD FLOOR PLAN - VENTILATION
 SCALE: 1/8" = 1'-0"





- VENTILATION NOTES:**
- 1 FIRE SMOKE DAMPER TO BE INSTALLED BETWEEN 4TH AND 3RD FLOOR.
 - 2 10" OA UP TO OUTSIDE AIR HOOD ON ROOF. SEE ROOF PLAN FOR HOOD LOCATION.
 - 3 4" DRYER DUCT ROUTED TO EXTERIOR IN CEILING SPACE BELOW.
 - 4 8" EA DUCT DOWN TO RANGE HOOD & UP TO HOOD ON ROOF. SEE ROOF PLAN FOR HOOD LOCATION. ROUTE DUCTWORK IN ATIC SPACE. PROVIDE FIRE DAMPER AND ACCESS PANEL AT CEILING ASSEMBLY PENETRATION.
 - 5 4" EA UP TO HOOD ON ROOF. SEE ROOF PLAN FOR HOOD LOCATION. ROUTE DUCTWORK IN ATIC SPACE.
 - 6 22" OA UP TO LOUVER LOCATED IN FALSE CHIMNEY. COORDINATE LOCATION WITH ARCHITECTURAL.

1
FOURTH FLOOR PLAN - VENTILATION
 SCALE: 1/8" = 1'-0"



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 Reg. No. 48950 Special Reg. No. _____ Printed Name: Jon Wessling
 Date: 12/04/2017

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PROJECT
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SHEET
M204A
 FOURTH FLOOR
 PLAN - WEST -
 VENTILATION

12/04/2017 9:35:51 AM



- VENTILATION NOTES:**
- 1 40" DRYER DUCT ROUTED TO EXTERIOR IN CEILING SPACE BELOW.
 - 2 8" EA DUCT DOWN TO RANGE HOOD 4" UP TO HOOD ON ROOF. SEE ROOF PLAN FOR HOOD LOCATION. ROUTE DUCTWORK IN ATTIC SPACE. PROVIDE FIRE DAMPER AND ACCESS PANEL AT CEILING ASSEMBLY PENETRATION.
 - 3 4" EA UP TO HOOD ON ROOF. SEE ROOF PLAN FOR HOOD LOCATION. ROUTE DUCTWORK IN ATTIC SPACE.



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 Reg. No. 48950 Specialties: Mechanical
 Date: 12/4/2017 Printed Name: Jon Wessing

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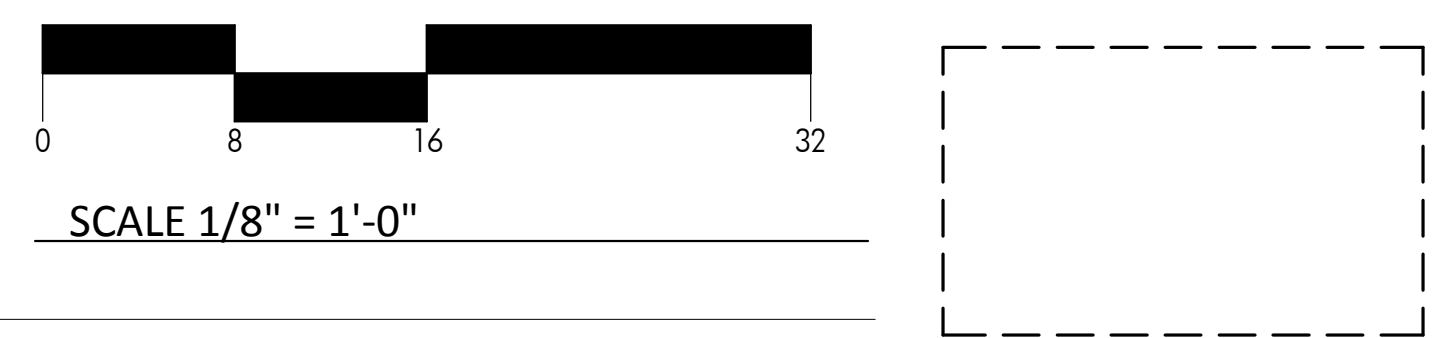
JLG ARCHITECTS
BOTTINEAU RIDGE II APARTMENTS
 MAPLE GROVE, MN

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CONSTRUCTION
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ONE# 2016446

SHEET
M204B
 FOURTH FLOOR
 PLAN - EAST -
 VENTILATION

12/4/2017 9:35:56 AM

1 FOURTH FLOOR PLAN - VENTILATION
 SCALE: 1/8" = 1'-0"



MECHANICAL ROOF NOTES:
 A. ALL ROOF PENETRATIONS SHALL BE ALIGNED AND GROUPED. VERIFY 10'-0" SEPARATION FROM ANY VENT/EXHAUST TO ANY INTAKE.



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 Reg. No. 48950 Specialties: Mechanical Printed Name: Jon Wessling
 Date: 12/24/2017 Title: Engineer

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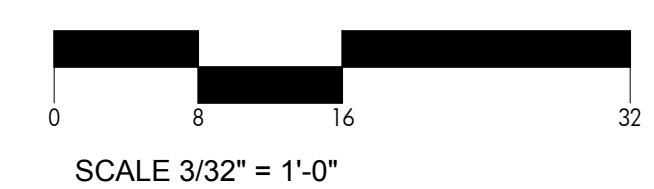
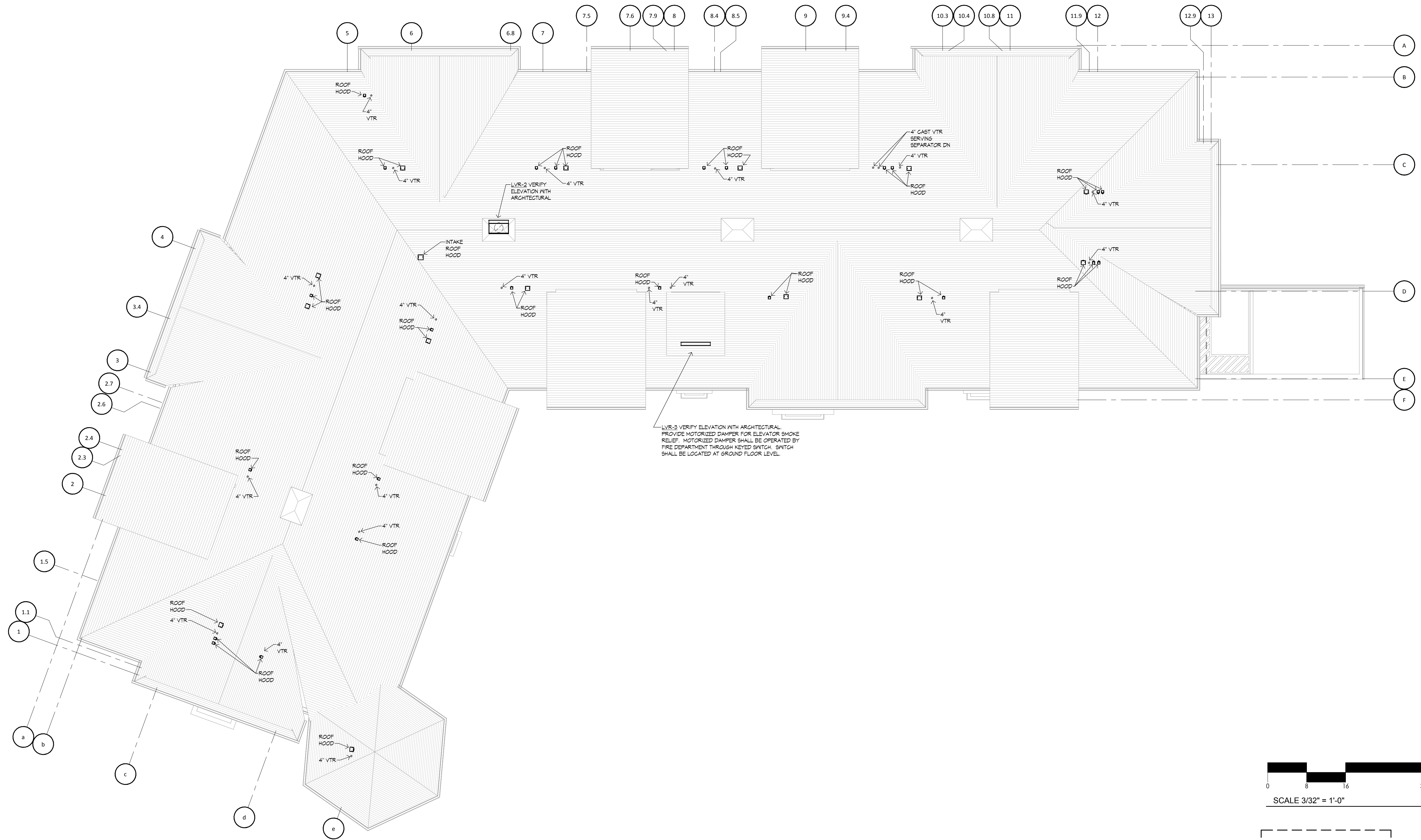
DATE
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PHASE
CONSTRUCTION

DOCUMENTS

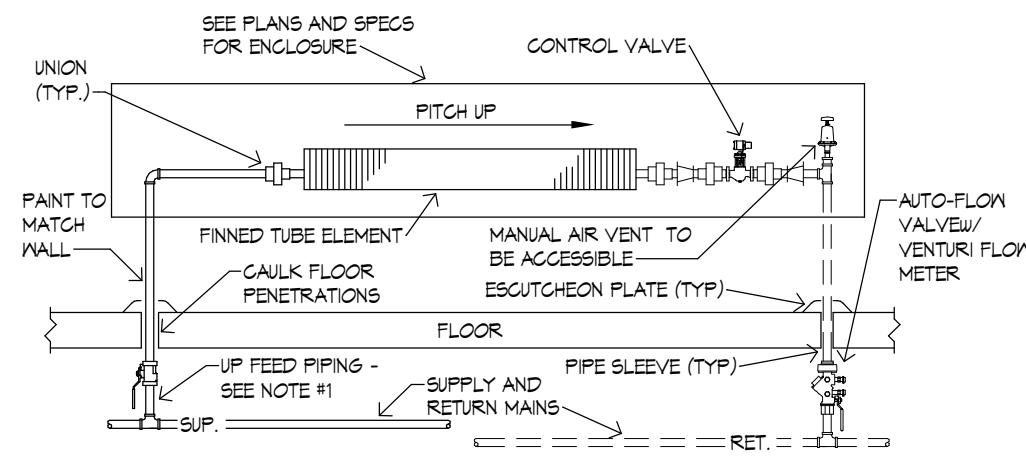
PROJECT
ONE# 2016446

SHEET
M205
 ROOF PLAN - MECHANICAL



1 ROOF PLAN - VENTILATION
 SCALE: 3/32" = 1'-0"

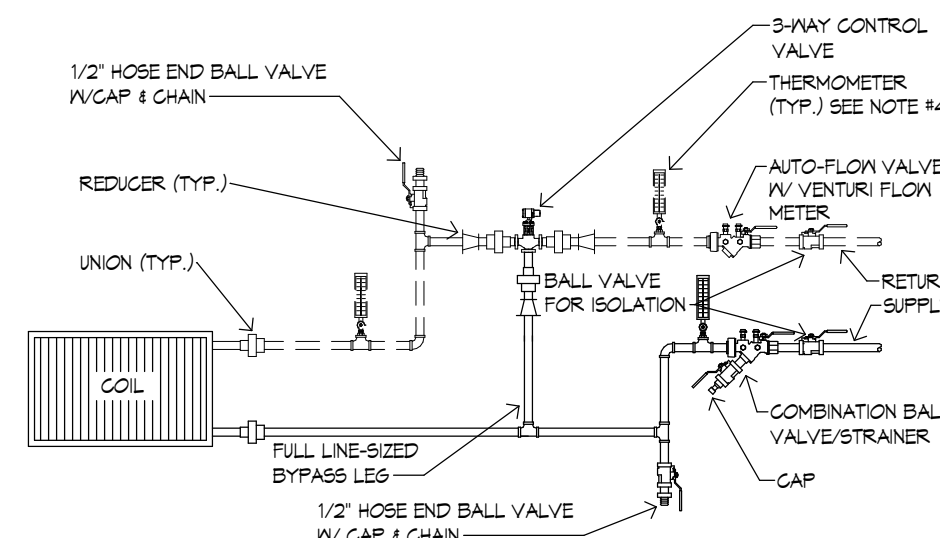
12/24/2017 9:36:01 AM



- NOTES:**
- WHEN PLANS INDICATE UP FEED PROVIDE MANUAL AIR VENT.
 - ELEMENTS PIPED IN SERIES REQUIRE ACCESSORIES AT EACH END OF SERIES ONLY. PROVIDE UNIONS FOR ALL PIECES IN SERIES.
 - WHEN PLANS INDICATE RETURN PIPING IS TO BE INSTALLED UNDER COVER, RUN RETURN PIPING BELOW FIN TUBE ELEMENT UNLESS PIPING IS EXPOSED BELOW COVER THEN INSTALL PIPING ABOVE FIN TUBE ELEMENT.
 - VERIFY MOUNTING HEIGHTS AND LOCATIONS PRIOR TO INSTALLATION. COORDINATE LOCATION W/ ELECTRICAL.
 - PROVIDE ACCESS PANEL IN FRONT OF VALVES FOR SERVICES.

11 FIN TURBE RADIATION 2-WAY VALVE AUTOFLOW DETAIL

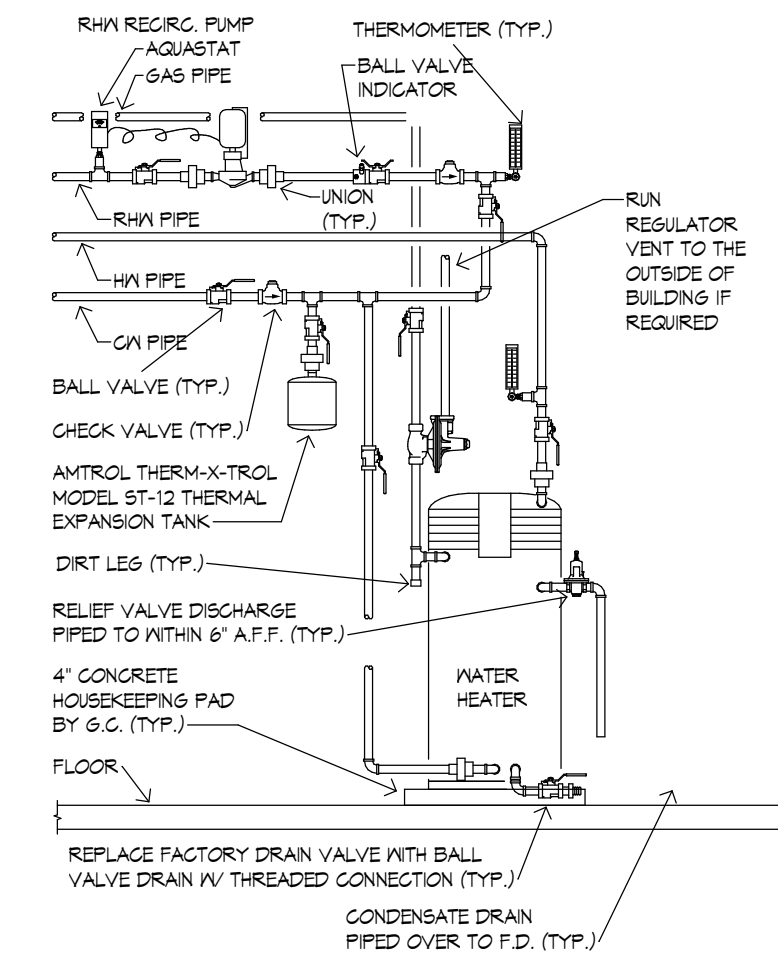
M400 SCALE: NTS



- NOTES:**
- PROVIDE BRASS UNIONS OR FLANGES OUT OF COIL PULL SPACE FOR PIPE SIZES 1 INCH AND LARGER TO PERMIT REMOVAL OF COIL.
 - PIPE AND FITTINGS SHALL NOT INTERFERE WITH ACCESS TO THE EQUIPMENT.
 - PROVIDE BUTTERFLY VALVES IN LIEU OF BALL VALVES ON PIPE SIZES 2-1/2" AND LARGER.
 - THERMOMETERS ARE ONLY PROVIDED ON AHUS.
 - VENT SHALL BE ON TOP CONNECTION SIDE OF COIL.
 - INSTALL AIR VENT ON CONNECTION PROVIDED AT AIR HANDLING COILS IN ADDITION TO VENTS SHOWN IN DETAIL.
 - LENGTH OF PIPE BETWEEN THE DEGREASERS AND CONTROL VALVE SHALL BE LESS THAN 5 PIPE DIAMETERS.

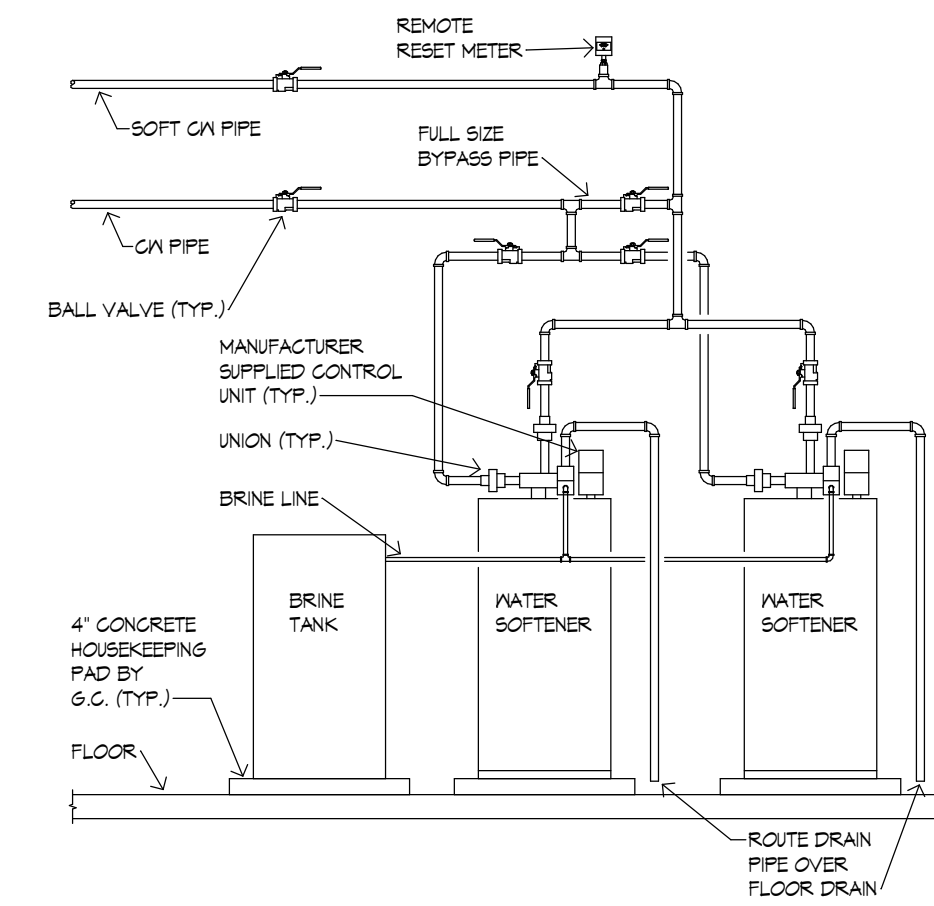
8 WATER COIL 3-WAY VALVE AUTOFLOW PIPING DETAIL

M400 SCALE: NTS



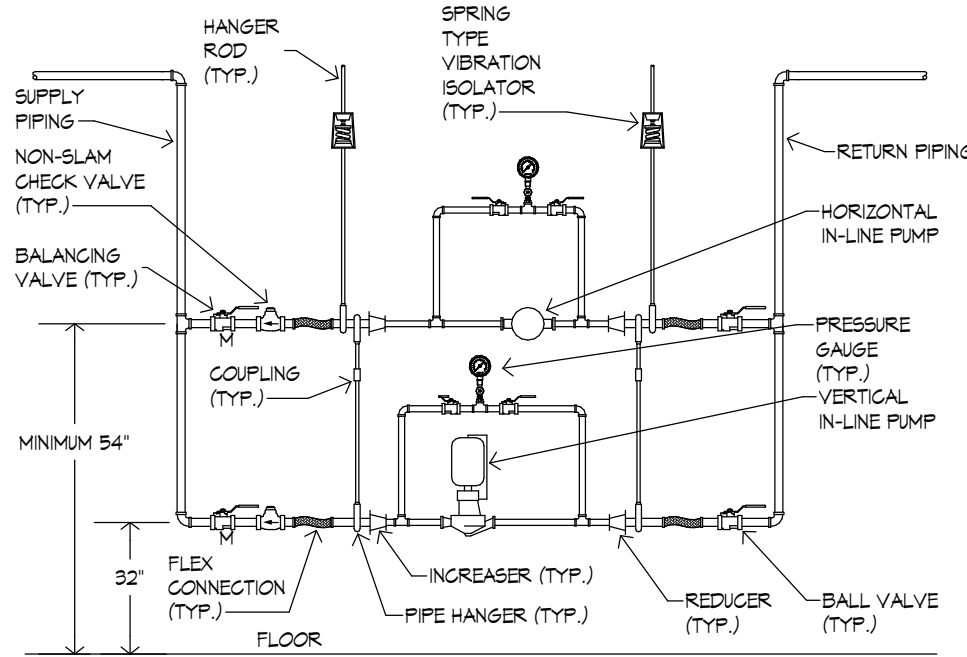
5 SEALED WATER HEATER & HEAT EXCHANGER PIPING DETAIL

M400 SCALE: NTS



2 DUAL WATER SOFTENER PIPING DETAIL

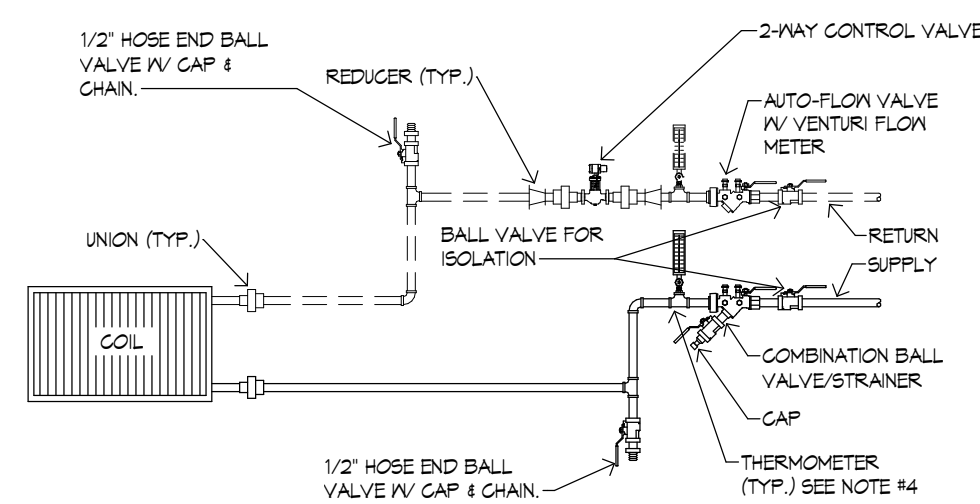
M400 SCALE: NTS



- NOTES:**
- PROVIDE BUTTERFLY VALVES IN LIEU OF BALL VALVES ON PIPE SIZES 2-1/2" AND LARGER.
 - VERIFY W/ MANUFACTURER'S INSTALLATION MANUAL WHETHER PUMPS ARE MOUNTED VERTICALLY OR HORIZONTALLY.
 - ENSURE PUMP INSTALLED ON TOP IS HIGH ENOUGH FOR ACCESS TO REMOVE PUMP BELOW.
 - SUPPORT PUMPS AS PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
 - AT CONTRACTOR'S OPTION, PUMPS MAY BE SUPPORTED FROM WALL WITH ISOLATION OR FROM FLOOR.

10 IN-LINE PUMPS DETAIL

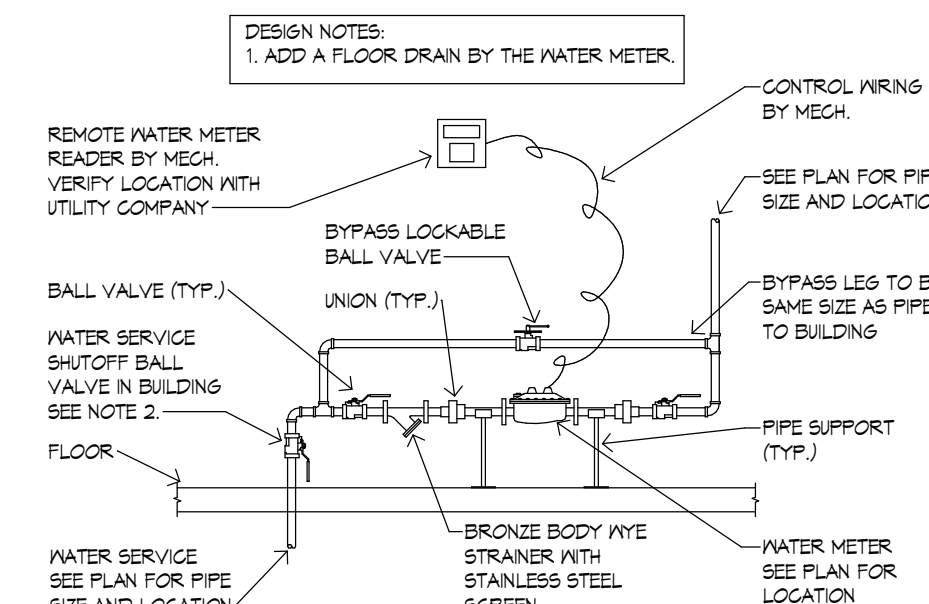
M400 SCALE: NTS



- NOTES:**
- PROVIDE BRASS UNIONS OR FLANGES OUT OF COIL PULL SPACE FOR PIPE SIZES 1 INCH AND LARGER TO PERMIT REMOVAL OF COIL.
 - PIPE AND FITTINGS SHALL NOT INTERFERE WITH ACCESS TO THE EQUIPMENT.
 - PROVIDE BUTTERFLY VALVES IN LIEU OF BALL VALVES ON PIPE SIZES 2-1/2" AND LARGER.
 - THERMOMETERS ARE ONLY PROVIDED ON AHUS.
 - VENT SHALL BE ON TOP CONNECTION SIDE OF COIL.
 - INSTALL AIR VENT ON CONNECTION PROVIDED AT AIR HANDLING COILS IN ADDITION TO VENTS SHOWN IN DETAIL.
 - LENGTH OF PIPE BETWEEN THE DEGREASERS AND CONTROL VALVE SHALL BE LESS THAN 5 PIPE DIAMETERS.

7 WATER COIL 2-WAY VALVE AUTOFLOW PIPING DETAIL

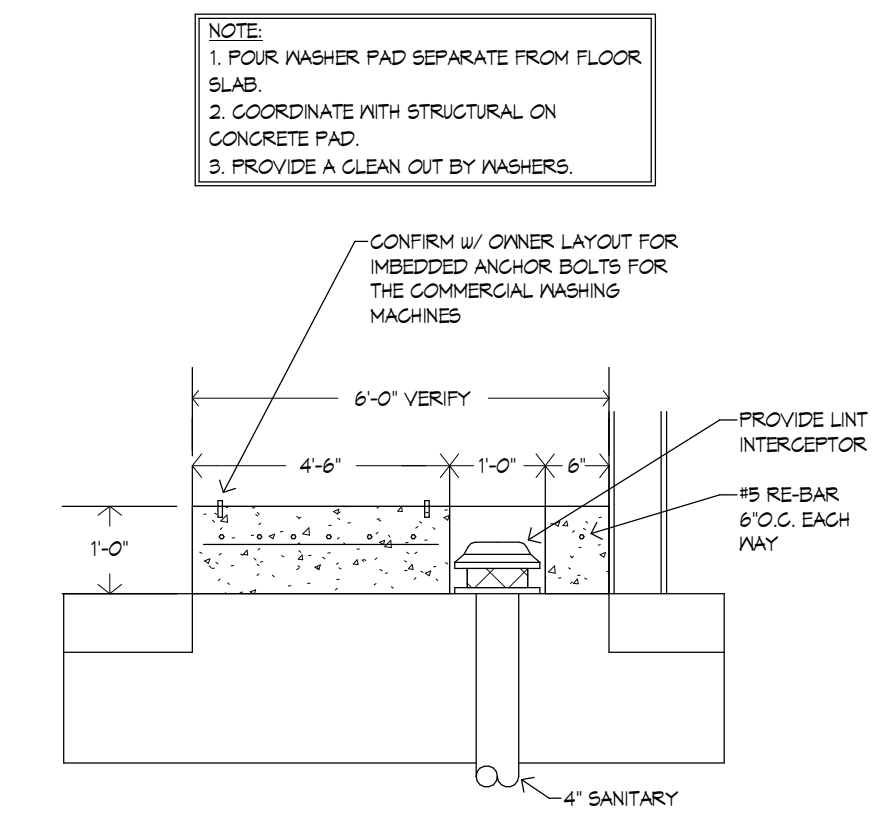
M400 SCALE: NTS



- NOTE:**
- SUBSTITUTE FLANGED VALVES WHEN PIPE SIZE IS 2-1/2" AND LARGER.
 - PLUMBING CONTRACTOR SHALL PROVIDE A MOTORIZED VALVE W/ INTERLOCKS TO NOTIFIER SWITCH IF SINGLE WATER SERVICE SERVES DOMESTIC WATER AND FIRE PROTECTION. COORDINATE WITH FIRE PROTECTION CONTRACTOR.

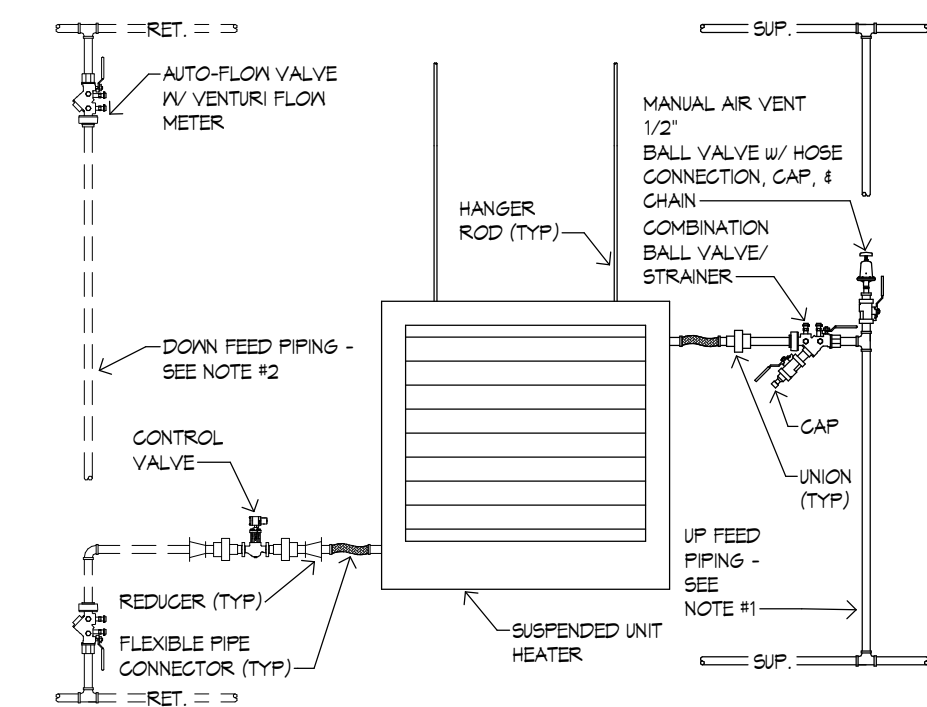
4 WATER METER DETAIL

M400 SCALE: NTS



1 WASHER PAD W/ TRENCH DRAIN

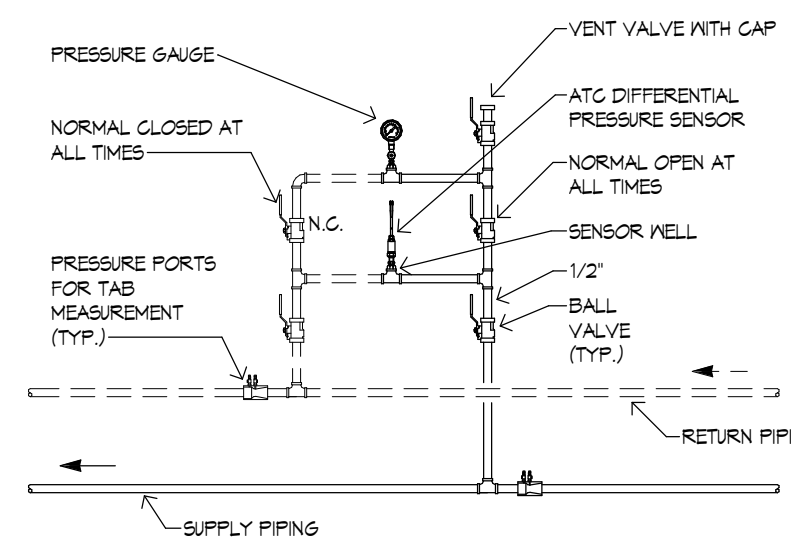
M400 SCALE: NTS



- NOTES:**
- WHEN PLANS INDICATE UP FEED RATHER THAN DOWN FEED PIPING, PROVIDE MANUAL AIR VENT. STRAINER MUST BE INSTALLED IN HORIZONTAL PIPING.
 - WHEN PLANS INDICATE DOWN FEED RATHER THAN UP FEED PIPING PROVIDE DRAIN WITH BALL VALVE, HOSE CONNECTION, AND CAP.
 - VERIFY MOUNTING HEIGHTS AND LOCATIONS PRIOR TO INSTALLATION.

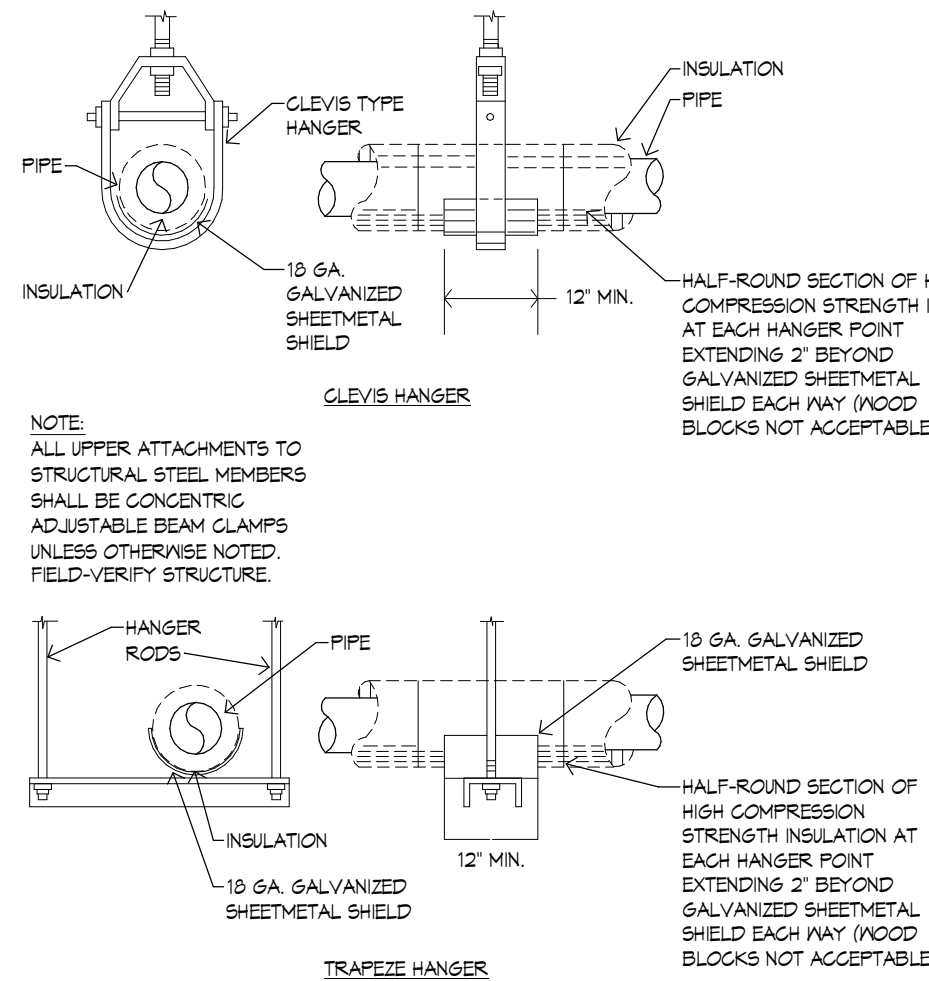
9 SUSPENDED UNIT HEATER 2-WAY VALVE AUTOFLOW DETAIL

M400 SCALE: NTS



6 DIFFERENTIAL PRESSURE SENSOR DETAIL

M400 SCALE: NTS



3 TYPICAL PIPE HANGER DETAIL

M400 SCALE: NTS



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Reg. No. 43950 Special Reg. No. Printed Name: Jay Wassing
 Date: 12/4/2017

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NO.	DESCRIPTION	DATE

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DATE
12/4/17

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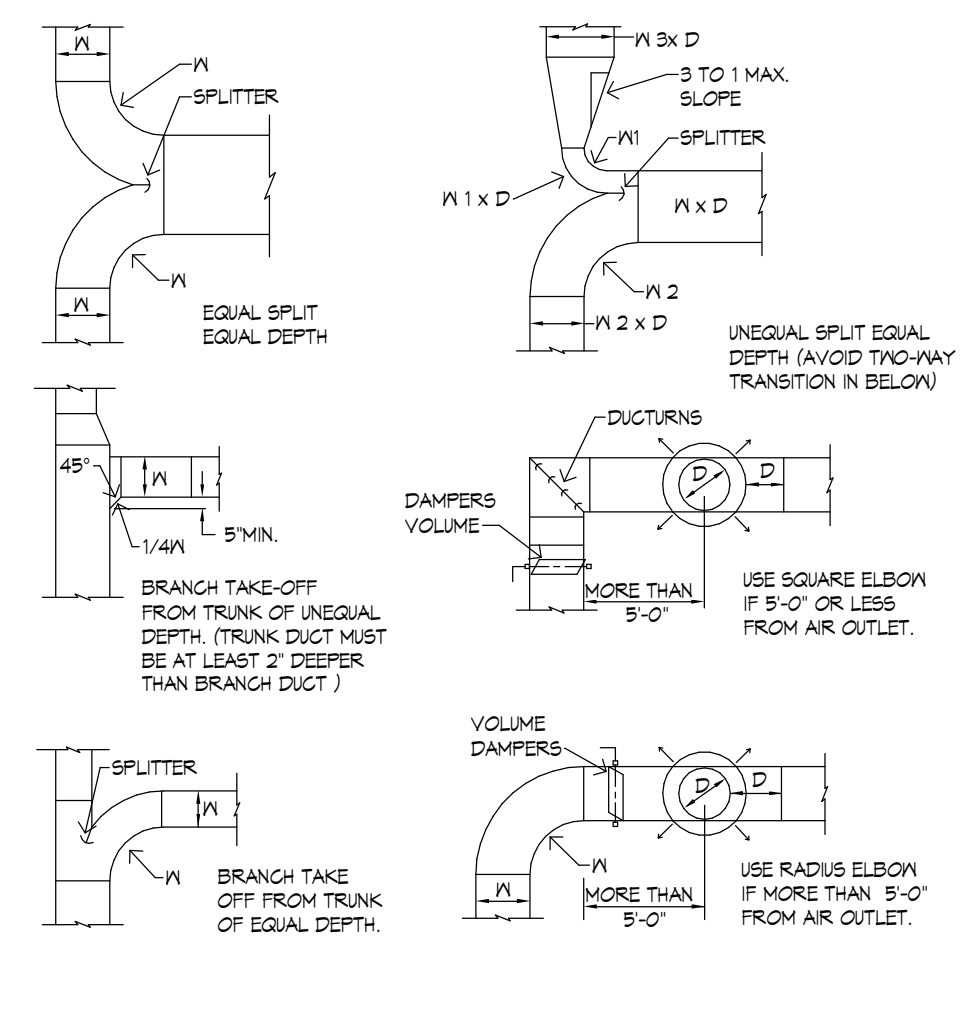
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ONE# 2016446

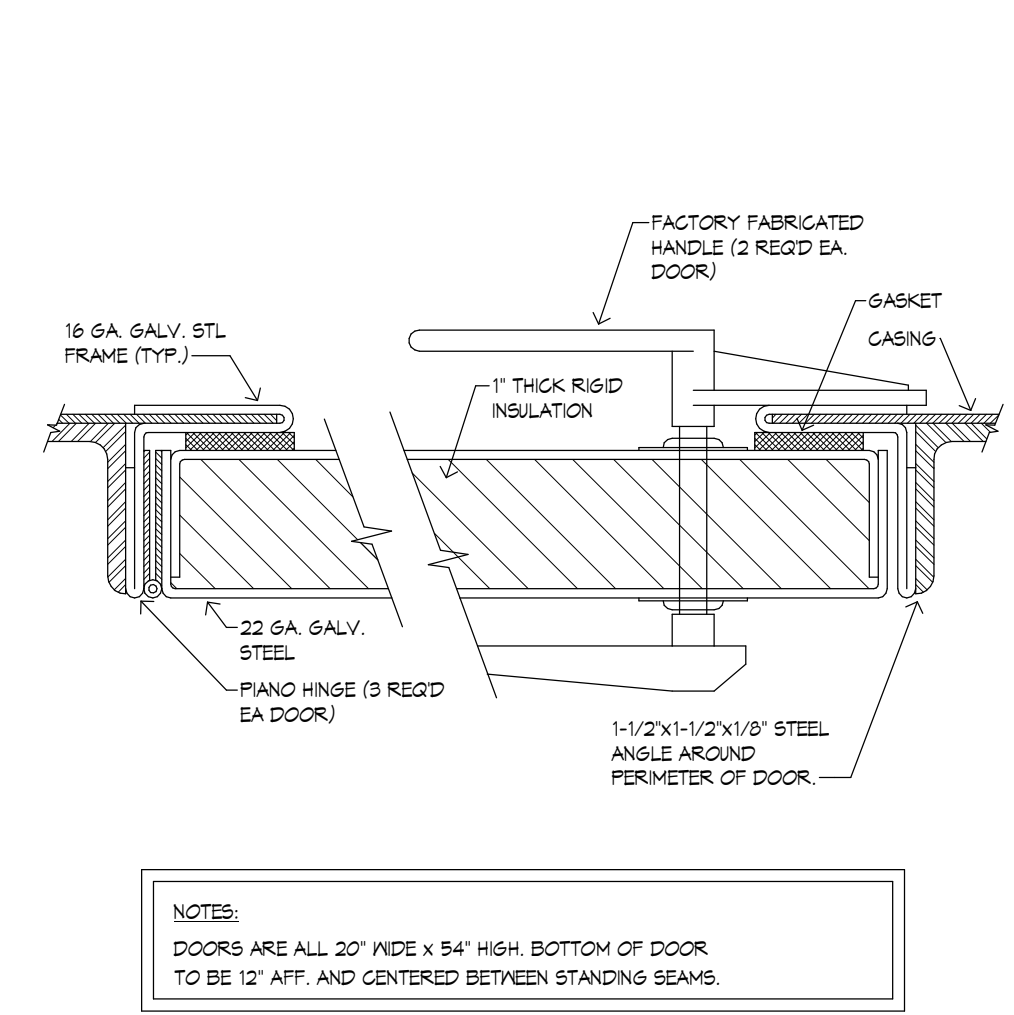
SHEET
M400
 MECHANICAL
 DETAILS

12/4/2017 9:36:06 AM

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NO.	DESCRIPTION	DATE

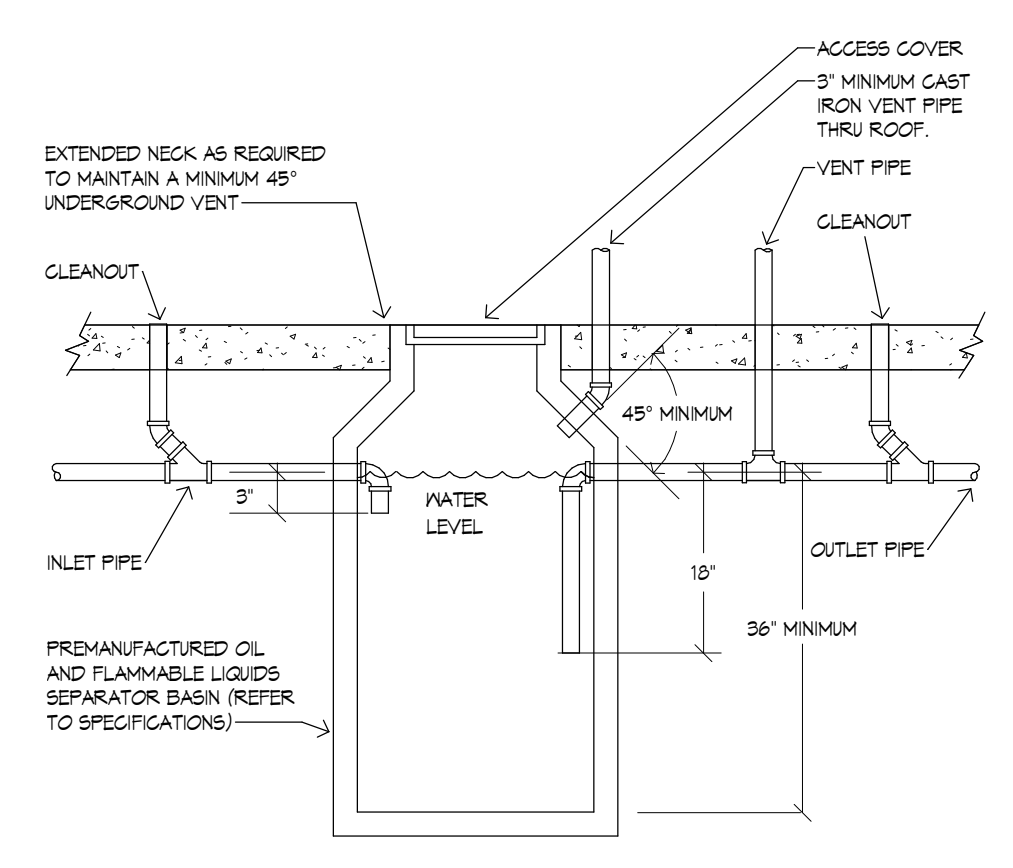


2 DUCT CONNECTION DETAILS
SCALE: NTS

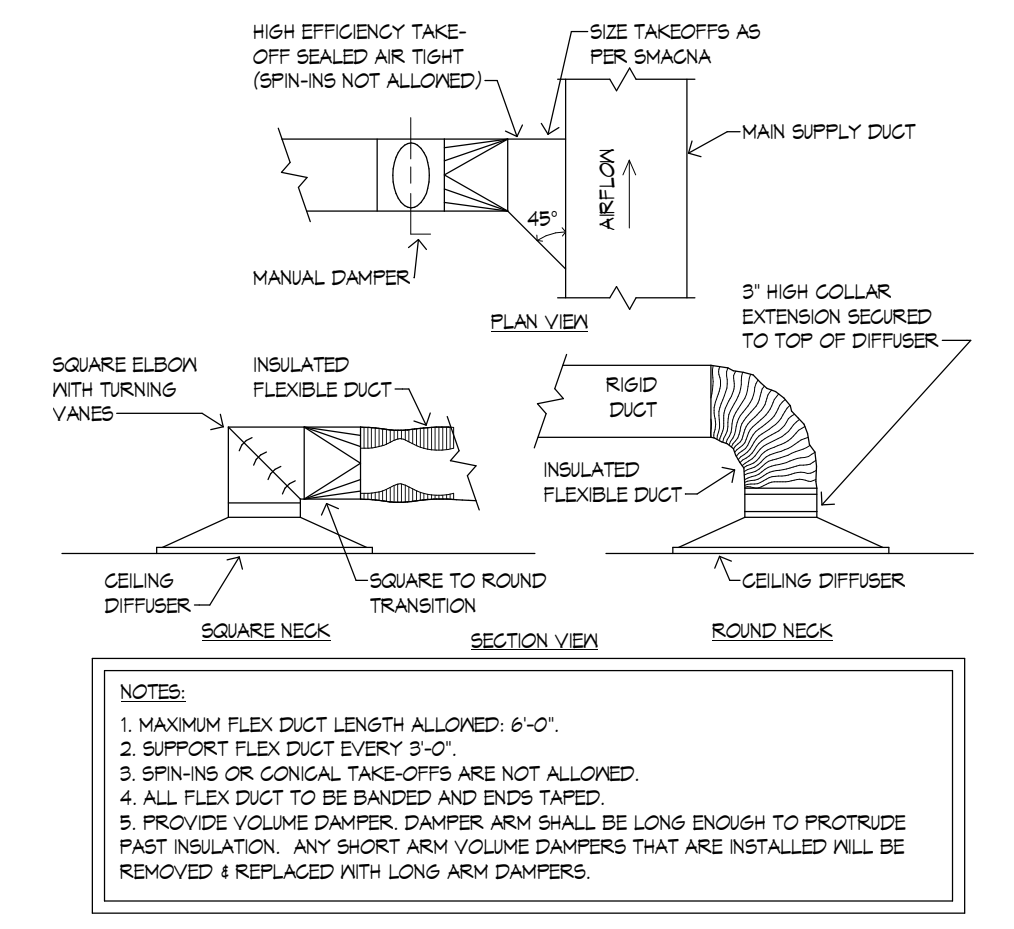


NOTES:
DOORS ARE ALL 20" WIDE x 54" HIGH. BOTTOM OF DOOR TO BE 12" AFF. AND CENTERED BETWEEN STANDING SEAMS.

5 ACCESS DOOR DETAIL
SCALE: NTS

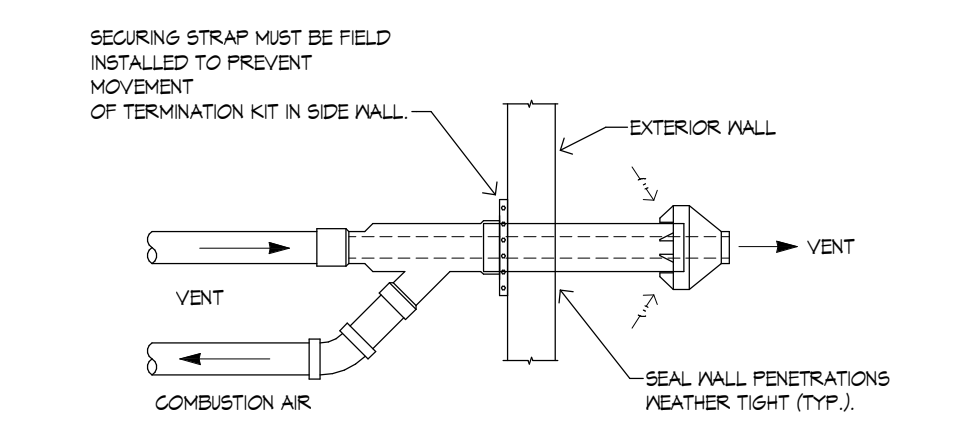


8 OIL INTERCEPTOR DETAIL
SCALE: NTS

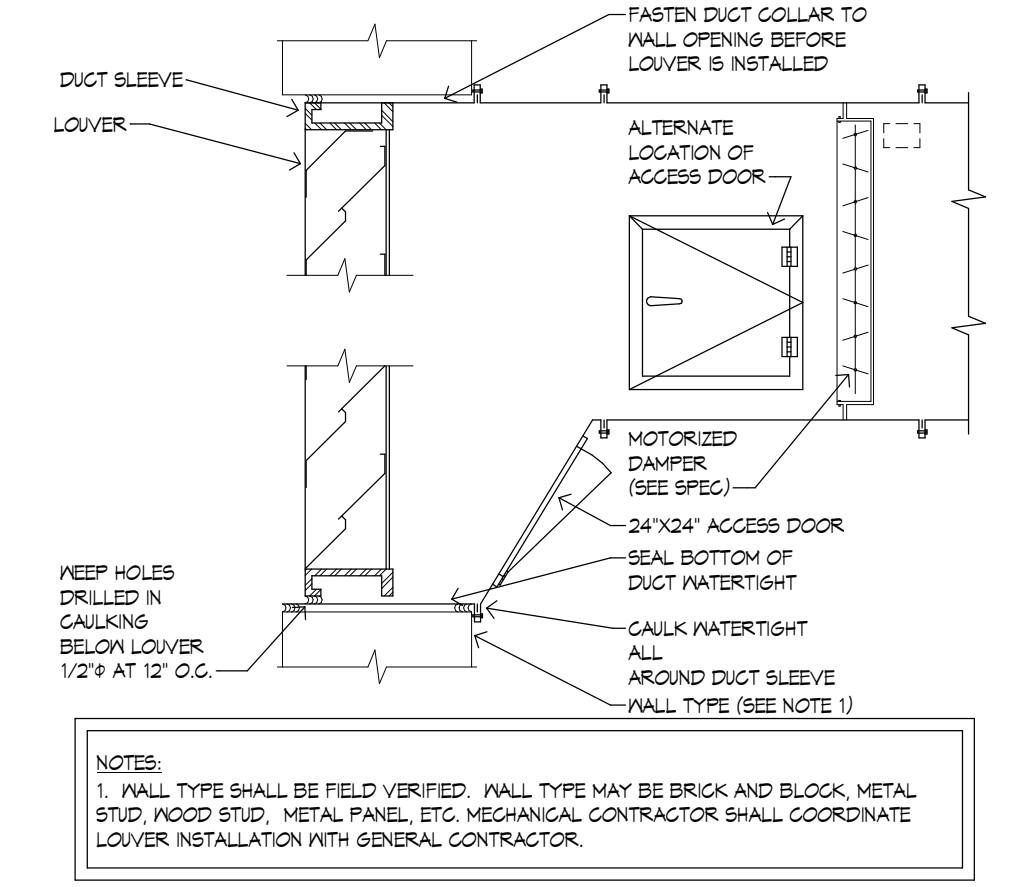


NOTES:
1. MAXIMUM FLEX DUCT LENGTH ALLOWED: 6'-0".
2. SUPPORT FLEX DUCT EVERY 5'-0".
3. SPIN-INS OR CONICAL TAKE-OFFS ARE NOT ALLOWED.
4. ALL FLEX DUCT TO BE BANDED AND ENDS TAPED.
5. PROVIDE VOLUME DAMPER. DAMPER ARM SHALL BE LONG ENOUGH TO PROTRUDE PAST INSULATION. ANY SHORT ARM VOLUME DAMPERS THAT ARE INSTALLED WILL BE REMOVED & REPLACED WITH LONG ARM DAMPERS.

4 SUPPLY DUCT TO DIFFUSER DETAIL
SCALE: NTS

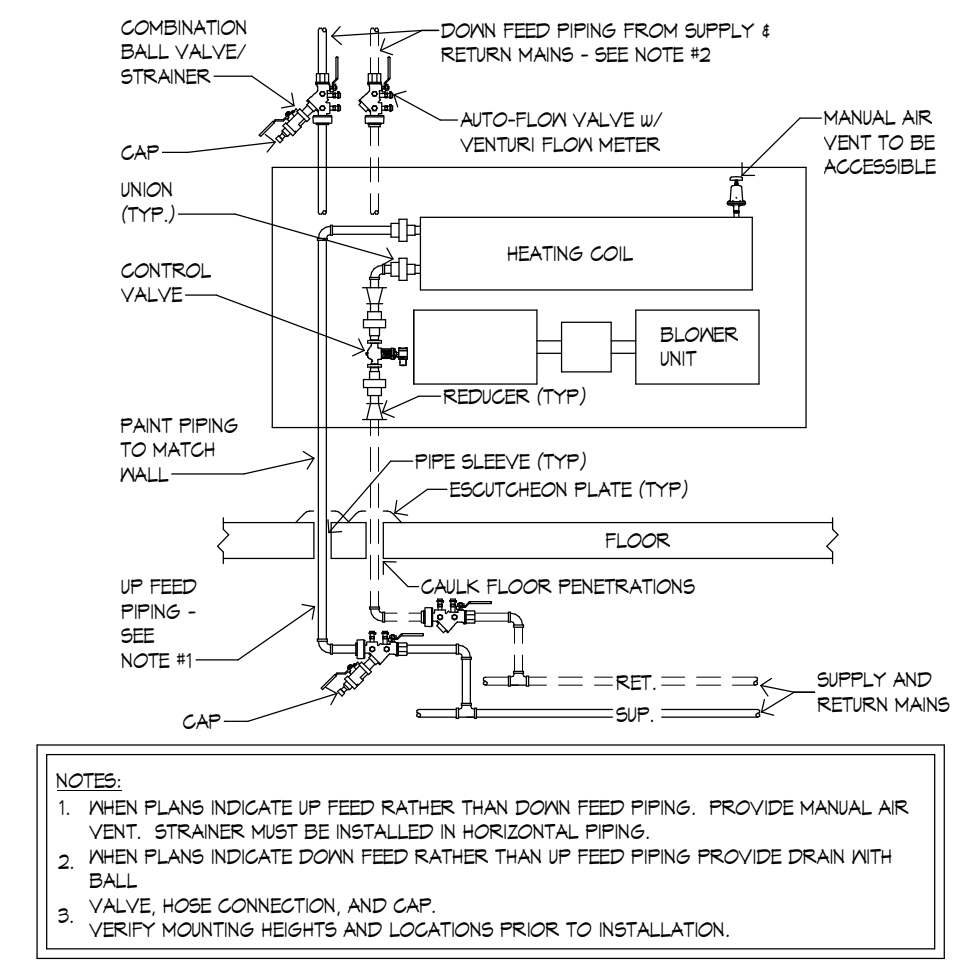


1 CONCENTRIC VENT TERMINATION DETAIL
SCALE: NTS



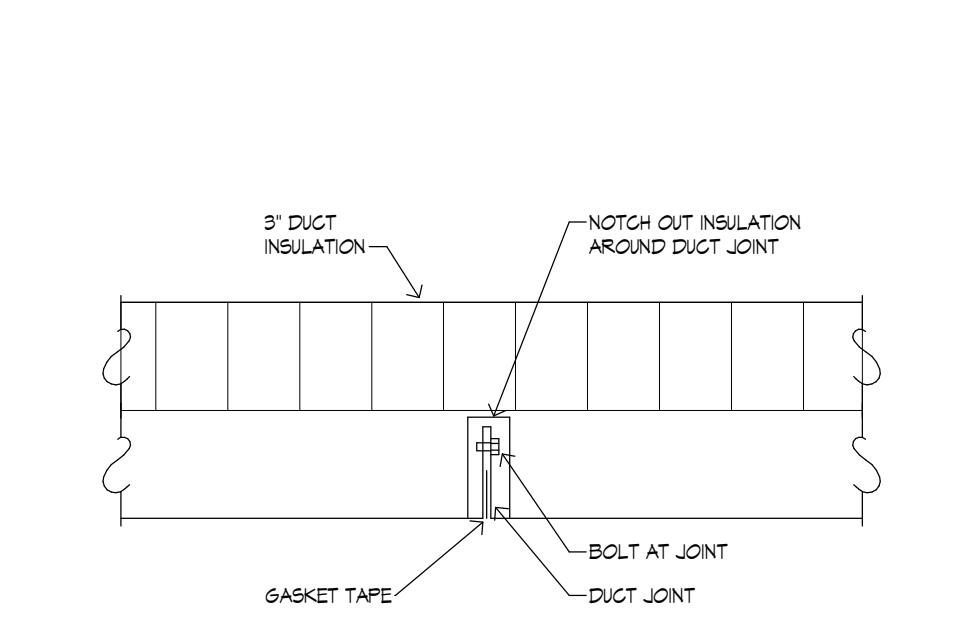
NOTES:
1. WALL TYPE SHALL BE FIELD VERIFIED. WALL TYPE MAY BE BRICK AND BLOCK, METAL STUD, WOOD STUD, METAL PANEL, ETC. MECHANICAL CONTRACTOR SHALL COORDINATE LOUVER INSTALLATION WITH GENERAL CONTRACTOR.

7 LOUVER INSTALLATION DETAIL
SCALE: NTS

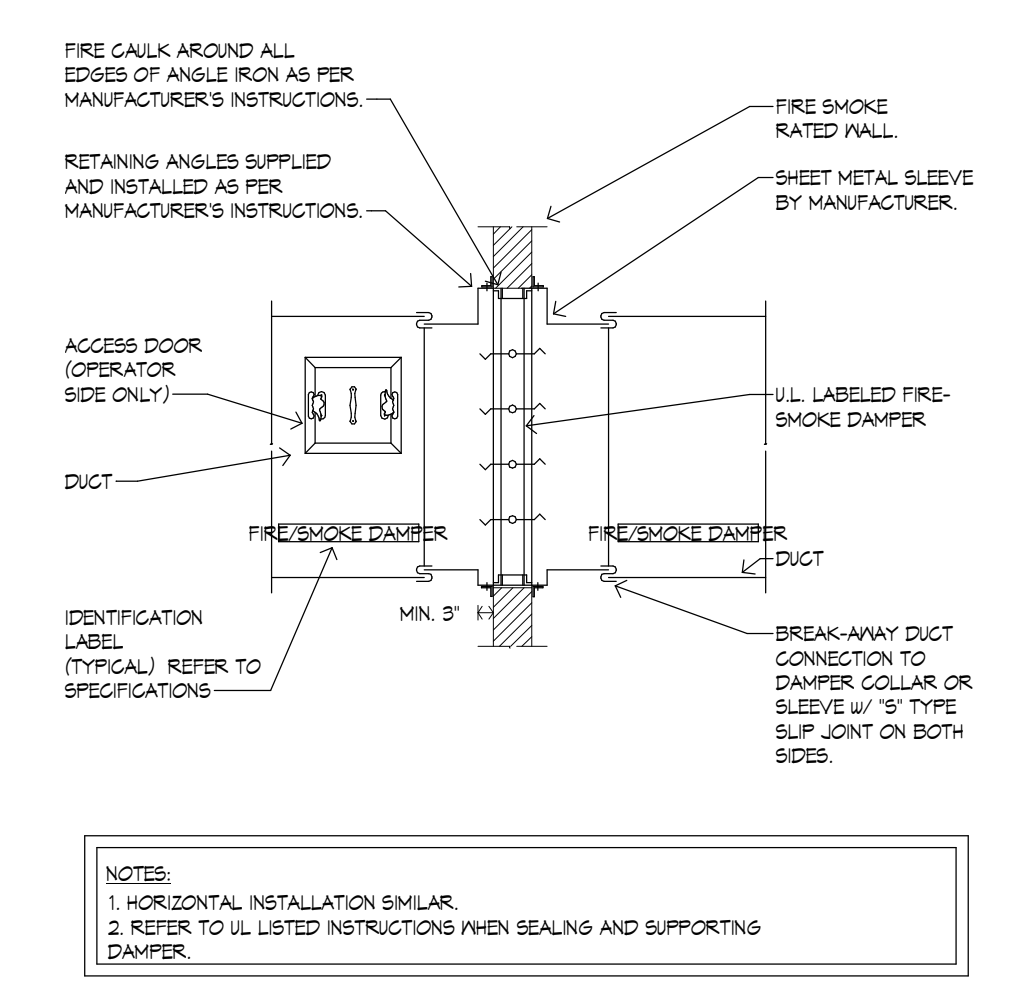


NOTES:
1. WHEN PLANS INDICATE UP FEED RATHER THAN DOWN FEED PIPING. PROVIDE MANUAL AIR VENT. STRAINER MUST BE INSTALLED IN HORIZONTAL PIPING.
2. WHEN PLANS INDICATE DOWN FEED RATHER THAN UP FEED PIPING PROVIDE DRAIN WITH BALL VALVE, HOSE CONNECTION, AND CAP. VERIFY MOUNTING HEIGHTS AND LOCATIONS PRIOR TO INSTALLATION.

10 CABINET UNIT HEATER 2-WAY VALVE AUTOFLOW DETAIL
SCALE: NTS

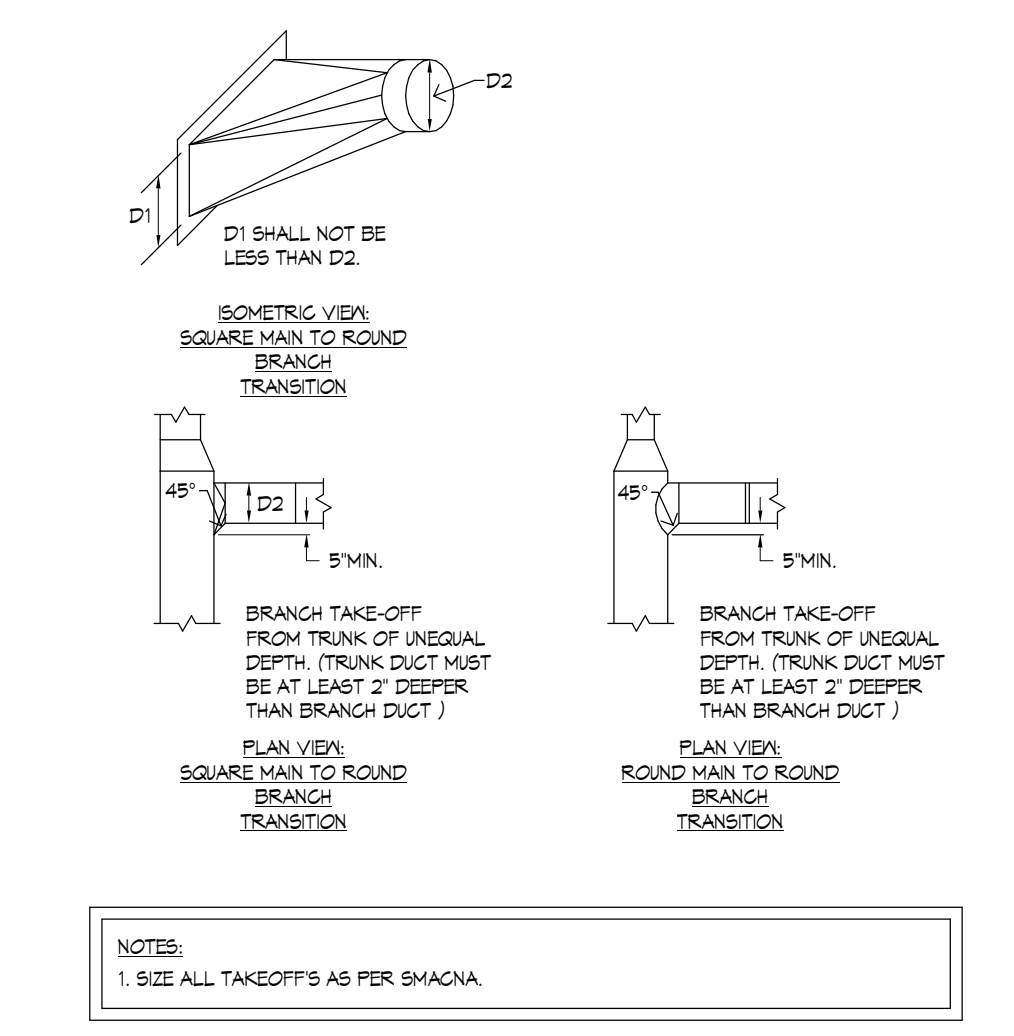


9 OUTSIDE AIR DUCT JOINT DETAIL
SCALE: NTS



NOTES:
1. HORIZONTAL INSTALLATION SIMILAR.
2. REFER TO U.L. LISTED INSTRUCTIONS WHEN SEALING AND SUPPORTING DAMPER.

6 COMBINATION FIRE/SMOKE DAMPER DETAIL
SCALE: NTS



NOTES:
1. SIZE ALL TAKE-OFFS AS PER SMACNA.

3 ROUND DUCT CONNECTION DETAILS
SCALE: NTS

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UNIT NO.	MANUFACTURER & SERIES NO.	MODEL NO.	SERVICE	TYPE	GPM	HEAD (FT)	MIN EFF	MOTOR HP	VOLT	PH	VFD	DISC BY	PUMP RPM	NOTES
PP-1	B&G	PL-50	DOM. HW	IL	7	14	---	1/6	120	1	N	EC	3300	1,2
BP-1	B&G e-90	1.25AAB	BOILER	IL	46	20	60%	1/2	120	1	N	EC	1800	3
BP-2	B&G e-90	1.25AAB	BOILER	IL	46	20	60%	1/2	120	1	N	EC	1800	3
BP-3	B&G e-90	1.25AAB	BOILER	IL	46	20	60%	1/2	120	1	N	EC	1800	3
BP-4	B&G e-90	1.25AAB	BOILER	IL	46	20	60%	1/2	120	1	N	EC	1800	3
P-1	B&G e-20	3X3X7C	BUILDING	IL	220	35	75%	3	208	3	Y	EC	1800	3,4
P-2	B&G e-20	3X3X7C	BUILDING	IL	220	35	75%	3	208	3	Y	EC	1800	3,4

IL IN LINE
 DISC DISCONNECT
 EC ELECTRICAL CONTRACTOR

NOTES:
 1. ALL BRONZE CONSTRUCTION.
 2. PROVIDE AQUASTAT FOR PUMP CONTROL.
 3. PUMPS SELECTED FOR 30% PROPYLENE GLYCOL.
 4. COORDINATE VFD MOUNTING WITH ELECTRICAL ENGINEER.

UNIT NO.	MANUFACTURER & MODEL NO.	UNIT SERVED	CAPACITY MBH	SEER	VOLTS	PH	DISC BY	MCA	MOCP	NOTES
SSCU-1	MITSUBISHI MUY-GL12NA	SSAC-1	12	20.5	208	1	EC	7	15	1,2,4,5
SSCU-2	MITSUBISHI MUY-D30NA-1	SSAC-2	30.7	16	208	1	EC	21	25	1,2,4,5
SSCU-3	MITSUBISHI MUY-D30NA-1	SSAC-3	30.7	16	208	1	EC	21	25	1,2,4,5
CU-1	DAIKIN DX135A04B3	FCU-2	46	13	208	3	EC	17.9	30	1,2,3,4,5
CU-2	DAIKIN DX135A04B3	FCU-2	46	13	208	3	EC	17.9	30	1,2,3,4,5
CU-3	DAIKIN DX135A0241	FCU-3	23	13	208	1	EC	17.6	30	1,2,3,4,5

MCA MINIMUM CIRCUIT AMPACITY
 MFS MAX FUSE SIZE
 DISC DISCONNECT
 MC MECHANICAL CONTRACTOR
 EC ELECTRICAL CONTRACTOR

NOTES:
 1. PROVIDE REFRIGERANT QUANTITIES PER MANUFACTURER'S RECOMMENDATIONS.
 2. SEE SPECIFICATIONS FOR REFR. LINE SET INSULATION.
 3. PROVIDE MATCHING EVAPORATOR COIL IN FAN COIL UNIT.
 4. SERVICE RECEIPT SHALL BE PROVIDED WITHIN 25'.
 5. PROVIDE REFRIGERANT PIPING P-TAPS AS REQUIRED BY THE MANUFACTURER.

EXPANSION TANKS					AIR SEPARATORS				RELIEF VALVES		NOTES	
NO.	TYPE	MODEL	SIZE	GAL	FILL PSI	NO.	MODEL	SIZE	GPM	PSI		MBH
AS-1						1	CRSN-4N	4"	220			1
ET-1	E	B-300	24" X 51"	80	25							1,2,3

C COALESING
 E EXPANSION
 V VERTICAL

NOTES:
 1. MODEL NUMBERS TAKEN FROM BELL & GOSSETT CATALOG.
 2. EXPANSION TANKS SHALL BE BLADDER TYPE.
 3. EXPANSION TANKS FOR HEATING SYSTEMS SHALL BE ASME STAMPED.

UNIT NO.	MANUFACTURER & MODEL NO.	SERVICE	TYPE	GPM	HEAD (FT.)	MOTOR HP	VOLT	PH	VFD	PUMP RPM	NOTES
SP-1	ZOELLER 145/4145	ELEV	SUB	50	24	3/4	115	1	N	3450	1,2

SP SUMP PUMP
 SUB SUBMERSIBLE

NOTES:
 1. PROVIDE 10" DEEP SUMP PIT WITH LOCKABLE COVER.
 2. SIMPLE PUMP CONTROLLER.

UNIT NO.	MANUFACTURER	MODEL	PANEL WIDTH (IN)	PANEL LENGTH (IN)	HEATING MATT/PANEL	CONTROL	V	PH	FINISH	NOTES
RP-1	BERKO	CP151	24	48	750	T-STAT	120	1	STD.	1,2
RP-2	BERKO	CP151	24	48	750	T-STAT	120	1	STD.	1,2
RP-3	BERKO	CP151	24	48	750	T-STAT	120	1	STD.	1,2
RP-4	BERKO	CP151	24	48	750	T-STAT	120	1	STD.	1,2

NOTES:
 1. PROVIDE SURFACE MOUNT FRAME.
 2. PROVIDE LINE VOLTAGE THERMOSTAT.

UNIT NO.	MANUFACTURER & MODEL NO.	WIDTH	HEIGHT	FRAME	DEPTH	CFM	FREE AREA	PD	NOTES
LVR-1	AMERICAN WARMING LE-31	12	96	DRAINABLE	6"	12,500	22.28	0.05	1,2
LVR-2	AMERICAN WARMING LE-31	48	48	DRAINABLE	6"	3,200	4.28	0.05	1,3
LVR-3	AMERICAN WARMING LE-31	12	12	DRAINABLE	6"				1,4

PD PRESSURE DROP, IN.W.C.

NOTES:
 1. SEE SPECIFICATION FOR FINISH REQUIREMENTS.
 2. PROVIDE MOTORIZED DAMPER ON LOUVER. INTERLOCK WITH GARAGE EXHAUST FAN.
 3. PROVIDE MOTORIZED DAMPER AT FAN COIL.
 4. PROVIDE MOTORIZED DAMPER ON LOUVER. INTERLOCK WITH KEYPED SWITCH ON GROUND FLOOR.

UNIT NO.	MANUFACTURER & MODEL NO.	TYPE	CFM	EAT	LAT	OUTPUT MBH	MOTOR HP	VOLT	PH	DISC BY	EXT	LMT	GPM	RECESS	NOTES
UH-1	DAIKIN UHH-33	W	630	40	60	18.0	1/15	120	1	MC	160	140	2.5	WH	1,2,3
UH-2	DAIKIN UHH-63	W	1120	40	60	39.2	1/10	120	1	MC	160	140	4.7	WH	1,2,3
UH-3	DAIKIN UHH-63	W	1120	40	60	39.2	1/10	120	1	MC	160	140	4.7	WH	1,2,3
UH-4	DAIKIN UHH-63	W	1120	40	60	39.2	1/10	120	1	MC	160	140	4.7	WH	1,2,3
UH-5	DAIKIN UHH-63	W	1120	40	60	39.2	1/10	120	1	MC	160	140	4.7	WH	1,2,3
UH-6	DAIKIN UHH-63	W	1120	40	60	39.2	1/10	120	1	MC	160	140	4.7	WH	1,2,3
UH-7	DAIKIN UHH-33	W	630	40	60	18.0	1/15	120	1	MC	160	140	2.5	WH	1,2,3
CUH-1	DAIKIN F-CHF 506	W	600	60	90	23.1	1/7	120	1	MC	160	140	1.6	W	1,2
CUH-2	DAIKIN F-CHF 506	W	600	60	90	23.1	1/7	120	1	MC	160	140	1.6	W	1,2
CUH-3	DAIKIN F-CHF 506	W	600	60	90	23.1	1/7	120	1	MC	160	140	1.6	W	1,2
CUH-4	DAIKIN F-CHF 506	W	600	60	90	23.1	1/7	120	1	MC	160	140	1.6	W	1,2

W WATER
 S STEAM
 H HORIZONTAL
 I INVERTED
 R RECESSED
 SR SEMI RECESSED
 WH WALL HUNG
 DISC DISCONNECT
 MC MECHANICAL CONTRACTOR
 EC ELECTRICAL CONTRACTOR

NOTES:
 1. UNITS SELECTED BASED ON 30% PROPYLENE GLYCOL.
 2. PROVIDE LOW VOLTAGE THERMOSTAT & CONTROL TRANSFORMER.
 3. PROVIDE WALL MOUNTING BRACKET & DISCONNECT.

UNIT NO.	MANUFACTURER & MODEL NO.	EXCHANGE GRAIN	PEAK FLOW GPM	CONTINUOUS FLOW GPM	RESIN CF	BRINE DIA	NOTES			
MS-1	WATER CONTROL CORP LF-360-TWIN-ECC	768,000	504,000	176	15	114.2	7	12	30"	ALL

PD PRESSURE DROP, PSI

NOTES:
 1. SOFTENER SYSTEM IS DUPLEX PROGRESSIVE WITH A SINGLE FLOW METER. SIZES SCHEDULED ARE PER TANK.

UNIT NO.	MANUFACTURER & MODEL NO.	TYPE	INPUT GPM	SOURCE ENT LMT	LOAD ENT LMT	REG. REC. GAL	STOR. GAL	ELECTRICAL AMPS	VOLTS	PH	DISC BY	NOTES		
WH-1	PVI 900L215A-TRBPDW	HX	15.0	160	82	40	140	696	215	6	120	1	EC	ALL

NG NATURAL GAS
 E ELECTRIC
 DISC DISCONNECT
 MC MECHANICAL CONTRACTOR
 EC ELECTRICAL CONTRACTOR
 HX HEAT EXCHANGER

NOTES:
 1. PROVIDE LOW WATER CUTOFF, HIGH TEMP LIMIT & RELAY PACKAGE.
 2. PROVIDE BOILER WATER VALVE PACKAGE.
 3. PROVIDE 25 YEAR TANK WARRANTY.
 4. PROVIDE (1) EXPANSION TANK - ANTRON ST-42V-C, 11.5 GAL TANK VOL, 11.4 GAL. ACCEPTANCE FOR THE ENTIRE SYSTEM.
 5. UNIT SHALL STORE WATER AT 140°F.

UNIT NO.	MANUFACTURER & MODEL NO.	LOCATION	TYPE	CFM	NET CAPACITY EAT	TOTAL MBH	SENS MBH	FILTER	VOLTS	PH	MCA	MFS	NOTES
SSAC-1	MITSUBISHI MSY-GL12NA	ELEV EQUIP 036	WH	237	90	67	12	-	W	208	1	15	1
SSAC-2	MITSUBISHI MSY-D30NA-1	CLUB ROOM 101	WH	887	76	64	30.7	-	W	208	1	1	25
SSAC-3	MITSUBISHI MSY-D30NA-1	CLUB ROOM 101	WH	887	76	64	30.7	-	W	208	1	1	25

MFS MAX FUSE SIZE
 MCA MIN. CIRCUIT AMPACITY
 E ELECTRIC
 DX DIRECT EXPANSION

NOTES:
 1. UNIT SHALL HAVE A SINGLE POINT POWER CONNECTION FOR CONNECTION BY OTHERS. WIRING BETWEEN EVAPORATOR AND CONDENSER SHALL BE BY THIS CONTRACTOR.

UNIT NO.	MANUFACTURER & MODEL NO.	LOCATION	TYPE	CFM	TSP (IN W.C.)	MOTOR HP	VOLT	PH	VFD	DISC BY	FAN RPM	DRIVE	CONT. SONES	BY	NOTES
EF-1	PANASONIC FV-05-11VKS2	VARIOUS	CEF	30/80	0.25	24.3W	120	1	NO	MC	956	D	0.8	MC	2,3,5,6
EF-2	GREENHECK CMB-300	010 - PARKING	SN	11800	0.1	3	208	3	NO	EC	1142	B	39	MC	1,4
EF-3	PANASONIC FV-05-11VKS2	104 - RESTROOM	CEF	30/80	0.25	24.3W	120	1	NO	MC	956	D	0.8	MC	2,3,6

C CENTRIFUGAL
 P PROPELLER
 W WALL MOUNTED
 L IN LINE
 B BELT DRIVE
 D DIRECT DRIVE
 EF EXHAUST FAN
 CEF CEILING EXHAUST FAN
 BDD BACKDRAFT DAMPER
 DISC DISCONNECT
 MC MECHANICAL CONTRACTOR
 EC ELECTRICAL CONTRACTOR
 TSM TWO SPEED MOTOR
 SS SPEED SWITCH ON UNIT
 SN SIDE WALL
 MD MOTORIZED DAMPER (ELECTRICAL) INSTALLED IN CURB

NOTES:
 1. PROVIDE SELF ACTING BACKDRAFT DAMPER, BIRDSREEN, AND UNIT MOUNTED DISCONNECT SWITCH.
 2. PROVIDE UNIT MOUNTED VARIABLE SPEED SWITCH.
 3. FAN MUST BE ENERGY STAR RATED.
 4. INTERLOCK FAN WITH OUTSIDE AIR MOTORIZED DAMPER AND GAS DETECTION SYSTEM. ALL CONTROL WIRING BY MC.
 5. PROVIDE RADIATION DAMPER FOR PROTECTION OF FIRE RATED ASSEMBLY.
 6. VARIABLE SPEED AND DELAYED TIMER CONTROLS TO BE BUILT IN. FAN HIGH/LOW SPEED AND DELAYED TIMER SHALL BE ACTIVATED BY SWITCH.

UNIT NO.	MODEL NO.	TYPE	NECK SIZE	PANEL SIZE	FRAME STYLE	NC	MOUNTING	AIR	MAX CFM	NOTES
S-1	520D	REG	7x4	8x5	F	<20	GYP	SA	120	1,2,3,4
S-2	5FD	PCD	6"	24x24	31	<20	LIT	SA	130	1,2,4
S-3	5FD	PCD	6"	24x24	31	<20	GYP	SA	130	1,2,4
S-4	520D	REG	12x6	13x7	F	<20	GYP	SA	280	1,2,3,4
R-1	80	ECG	24x12	24x12	TB	<20	LIT	RA	1100	1,2,4
R-2	530	GR	18x10	19x11	F	<20	GYP	RA	460	1,2,4
R-3	530	GR	10x4	11x5	F	<20	GYP	RA	110	1,2,4

PCD PERFORATED CEILING DIFFUSER
 REG REGISTER
 ECG EGGS CRATE GRILLE
 GR GRILLE
 GYP GYPSUM WALL OR CEILING
 LT LAY-IN TILE
 SA SUPPLY AIR
 RA RETURN AIR
 EA EXHAUST AIR

NOTES:
 1. ALL DIFFUSERS, GRILLES & REGISTERS TAKEN FROM THE PRICE AIR DISTRIBUTION EQUIPMENT CATALOG. SEE SPECIFICATIONS.
 2. 5-1 INDICATES UNIT NO. ON SCHEDULE
 200 INDICATES AIR QUANTITY IN CFM
 TYP(2) INDICATES QUANTITY OF SIMILAR UNITS IN THE SAME ROOM OR GENERAL AREA
 3. PROVIDE WITH OPPOSED BLADE DAMPER
 4. PROVIDE CEILING RADIATION DAMPER WHEN DIFFUSER PENETRATES A RATED CEILING ASSEMBLY.

UNIT NO.	COIL TYPE	UNIT SERVED	MAX GPM	MAX FV	MAX APD	EAT DB	WB	LAT DB	WB	SENS MBH	TOTAL MBH	ENT LMT	LMT	GPM	MPD	NOTES
HC-1	HW	FCU-5	3,200	500	0.10	-20	-20	83	83	---	354.4	160	125	22.5	3.40	1
HC-2	HW	FCU-2	1,200	500	0.14	60	---	100	---	---	52.2	160	130	3.3	1.00	1
DX-2	DX	FCU-2	1,200	500	0.27	78	65	53	52	32.3	---	---	---	---	---	2,3
HC-3	HW	FCU-3	500	500	0.06	60	---	96	---	---	20.0	160	130	1.4	0.20	1
DX-3	DX	FCU-3	500	500	0.12	79	66	51	50	15.3	29.0	---	---	---	---	2,3
HC-4	HW	FCU-4	1,200	500	0.14	60	---	100	---	---	52.2	160	130	3.3	1.00	1
DX-4	DX	FCU-4	1,200	500	0.27	78	65	53	52	32.3	44.6	---	---	---	---	2,3

DX DIRECT EXPANSION
 W WATER
 S STEAM
 MPD WATER PRESSURE DROP, FT.
 APD AIR PRESSURE DROP, IN
 FV FACE VELOCITY

NOTES:
 1. CAPACITY BASED ON 30% PROPYLENE GLYCOL/WATER SOLUTION
 2. ALL DX COOLING COILS SHALL BE INTERLACED STYLE.
 3. SATURATED SUCTION TEMPERATURE OF 45°F.

UNIT NO.	MANUFACTURER & MODEL NO.	HEATING MEDIUM	TYPE	FUEL	FIRING RATE MBH	GPH	NET MBH	ELECTRICAL HP	VOLTS	PH	BY	NOTES
B-1	THERMAL SOLUTIONS APXT25C	30% PG	COND	NG	125	---	689	---	120	1	EC	ALL
B-2	THERMAL SOLUTIONS APXT25C	30% PG	COND	NG	125	---	689	---	120	1	EC	ALL
B-3	THERMAL SOLUTIONS APXT25C	30% PG	COND	NG	125	---	689	---	120	1	EC	ALL
B-4	THERMAL SOLUTIONS APXT25C	30% PG	COND	NG	125	---	689	---	120	1	EC	ALL

W WATER
 NG NATURAL GAS
 DISC DISCONNECT
 MC MECHANICAL CONTRACTOR
 EC ELECTRICAL CONTRACTOR
 COND CONDENSING

NOTES:
 1. ALL CONTROL WIRING BETWEEN BURNER AND FUEL TRAIN BY MECHANICAL.
 2. DISCONNECT BY ELECTRICAL.
 3. PROVIDE HYDRONIC KIT INCLUDING BOILER CIRCULATOR PUMP, PUMP FLANGE KIT, PUMP FLANGE KIT, GDS-1 KIT, LOW WATER CUTOFF WITH MANUAL RESET & COND ENSATE NEUTRALIZATION KIT.
 4. PROVIDE WIRELESS OUTDOOR AIR TEMPERATURE KIT AND HEADER SENSOR.
 5. PROVIDE LOW PROFILE SIDEWALL COMBUSTION AIR/VENT KIT.
 6. PROVIDE FRAME & HARDWARE FOR STACKED MOUNTING.

UNIT NO.	MANUFACTURER & MODEL NO.	TYPE	CFM	ESP	MOTOR HP	VOLT	PH	
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FIN RADIATION SCHEDULE

UNIT NO.	MANUFACTURER & MODEL NO.	FLUID TYPE	COVER TYPE	COVER HEIGHT (IN)	COVER DEPTH (IN)	COVER LENGTH (FT)	ROWS	TUBE SIZE (IN)	FINS PER FT	FIN LENGTH (FT)	BTU PER FT	TOTAL MBH	FLOW GPM	NOTES
FTR-201A	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	13'-6"	1	3/4	40	10	683.52	6.8	3.0	1,2,3,4
FTR-201B	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	10'-6"	1	3/4	40	10	683.52	6.8	---	1,2,3,4
FTR-201C	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	10'-0"	1	3/4	40	9	683.52	6.2	---	1,2,3,4
FTR-201D	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	4'-0"	1	3/4	40	3.5	683.52	2.4	---	1,2,3,4
FTR-201E	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	9'-0"	1	3/4	40	8.0	683.52	5.5	---	1,2,3,4
FTR-202A	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	13'-6"	1	3/4	40	10.0	683.52	6.8	3.0	1,2,3,4
FTR-202B	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	10'-6"	1	3/4	40	10.0	683.52	6.8	---	1,2,3,4
FTR-202C	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	10'-0"	1	3/4	40	10.0	683.52	6.8	---	1,2,3,4
FTR-202D	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	4'-6"	1	3/4	40	4.0	683.52	2.7	---	1,2,3,4
FTR-202E	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	3'-6"	1	3/4	40	3.0	683.52	2.1	---	1,2,3,4
FTR-202F	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	3'-0"	1	3/4	40	2.0	683.52	1.4	---	1,2,3,4
FTR-204A	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	13'-6"	1	3/4	40	12.0	683.52	8.2	2.0	1,2,3,4
FTR-204B	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	11'-0"	1	3/4	40	8.0	683.52	5.5	---	1,2,3,4
FTR-206A	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	10'-0"	1	3/4	40	8.0	683.52	5.5	2.0	1,2,3,4
FTR-206B	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	13'-6"	1	3/4	40	12.0	683.52	8.2	---	1,2,3,4
FTR-206C	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	8'-0"	1	3/4	40	7.0	683.52	4.8	---	1,2,3,4
FTR-207A	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	9'-0"	1	3/4	40	8.0	683.52	5.5	3.0	1,2,3,4
FTR-207B	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	10'-0"	1	3/4	40	8.0	683.52	5.5	---	1,2,3,4
FTR-207C	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	13'-6"	1	3/4	40	12.0	683.52	8.2	---	1,2,3,4
FTR-207D	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	8'-0"	1	3/4	40	7.5	683.52	5.1	---	1,2,3,4
FTR-208A	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	10'-0"	1	3/4	40	8.0	683.52	5.5	2.0	1,2,3,4
FTR-208B	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	13'-6"	1	3/4	40	12.0	683.52	8.2	---	1,2,3,4
FTR-208C	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	8'-0"	1	3/4	40	7.0	683.52	4.8	---	1,2,3,4
FTR-210A	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	10'-0"	1	3/4	40	8.0	683.52	5.5	2.0	1,2,3,4
FTR-210B	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	3'-6"	1	3/4	40	3.0	683.52	2.1	---	1,2,3,4
FTR-210C	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	4'-0"	1	3/4	40	3.5	683.52	2.4	---	1,2,3,4
FTR-210D	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	3'-0"	1	3/4	40	2.5	683.52	1.7	---	1,2,3,4
FTR-210E	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	8'-0"	1	3/4	40	7.0	683.52	4.8	---	1,2,3,4
FTR-212A	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	5'-6"	1	3/4	40	4.5	683.52	3.1	2.0	1,2,3,4
FTR-212B	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	9'-0"	1	3/4	40	7.0	683.52	4.8	---	1,2,3,4
FTR-212C	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	10'-6"	1	3/4	40	8.0	683.52	5.5	---	1,2,3,4
FTR-212D	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	7'-6"	1	3/4	40	7.5	683.52	5.1	---	1,2,3,4
FTR-213A	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	7'-0"	1	3/4	40	6.0	683.52	4.1	2.0	1,2,3,4
FTR-213B	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	14'-0"	1	3/4	40	12.0	683.52	8.2	---	1,2,3,4
FTR-213C	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	10'-0"	1	3/4	40	8.0	683.52	5.5	---	1,2,3,4
FTR-214A	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	7'-6"	1	3/4	40	7.0	683.52	4.8	3.0	1,2,3,4
FTR-214B	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	2'-6"	1	3/4	40	2.0	683.52	1.4	---	1,2,3,4
FTR-214C	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	4'-6"	1	3/4	40	4.5	683.52	3.1	---	1,2,3,4
FTR-214D	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	3'-6"	1	3/4	40	4.5	683.52	3.1	---	1,2,3,4
FTR-214E	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	9'-6"	1	3/4	40	8.0	683.52	5.5	---	1,2,3,4
FTR-214F	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	9'-6"	1	3/4	40	8.0	683.52	5.5	---	1,2,3,4
FTR-215A	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	8'-6"	1	3/4	40	8.0	683.52	5.5	2.0	1,2,3,4
FTR-215B	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	9'-6"	1	3/4	40	9.0	683.52	6.2	---	1,2,3,4
FTR-215C	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	6'-6"	1	3/4	40	4.0	683.52	2.7	---	1,2,3,4
FTR-215D	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	9'-0"	1	3/4	40	8.0	683.52	5.5	4.0	1,2,3,4
FTR-215E	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	12'-0"	1	3/4	40	10.0	683.52	6.8	---	1,2,3,4
FTR-215F	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	12'-0"	1	3/4	40	10.0	683.52	6.8	---	1,2,3,4
FTR-215G	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	12'-0"	1	3/4	40	10.0	683.52	6.8	---	1,2,3,4
FTR-215H	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	9'-6"	1	3/4	40	6.0	683.52	4.1	2.0	1,2,3,4
FTR-215I	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	13'-6"	1	3/4	40	10.0	683.52	6.8	---	1,2,3,4
FTR-216A	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	9'-6"	1	3/4	40	9.0	683.52	6.2	3.0	1,2,3,4
FTR-216B	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	10'-0"	1	3/4	40	8.0	683.52	5.5	---	1,2,3,4
FTR-216C	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	10'-0"	1	3/4	40	8.0	683.52	5.5	---	1,2,3,4
FTR-216D	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	13'-6"	1	3/4	40	10.0	683.52	6.8	---	1,2,3,4

- NOTES:**
- CAPACITIES BASED ON 150°F AVG. WATER TEMP AND 65°F EAT
 - BOTTOM OF COVER 4" ABOVE FLOOR
 - PROVIDE TRIM PIECES TO ACCOUNT FOR EXTRA LENGTH FOR A COMPLETE WALL TO WALL INSTALLATION.
 - FLOW RATES LISTED ARE FOR ENTIRE CIRCUIT OF FTR.

AIR CONDITIONING UNIT SCHEDULE

UNIT NO.	MANUFACTURER & MODEL NO.	LOCATION	TYPE	GFM	NET CAPACITY			FILTER TYPE	ELECTRICAL				NOTES
					EAT	MBH	TOTAL		VOLTS	PH	MCA	MPS	
AC-1	FRIGIDAIRE FF7S1422R2	MAIN	DX	245	---	---	14	W	208	1	7.4	15	1,2,3
AC-2	FRIGIDAIRE FF7A0833S1	MASTER BED	DX	210	---	---	8	W	115	1	7	15	1,2,3

- NOTES:**
- PROVIDE THRU THE WALL SLEEVE KIT.
 - PROVIDE FULL FUNCTION REMOTE CONTROL.
 - PROVIDE ARCHITECTURAL STYLE EXTERIOR LOUVERED GRILLE.

FIN RADIATION SCHEDULE

UNIT NO.	MANUFACTURER & MODEL NO.	FLUID TYPE	COVER TYPE	COVER HEIGHT (IN)	COVER DEPTH (IN)	COVER LENGTH (FT)	ROWS	TUBE SIZE (IN)	FINS PER FT	FIN LENGTH (FT)	BTU PER FT	TOTAL MBH	FLOW GPM	NOTES
FTR-101A	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	14'-6"	1	3/4	40	14.0	683.52	9.6	4.5	1,2,3,4
FTR-101B	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	4'-0"	1	3/4	40	3.5	683.52	2.4	---	1,2,3,4
FTR-101C	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	5'-6"	1	3/4	40	5.0	683.52	3.4	---	1,2,3,4
FTR-101D	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	2'-0"	1	3/4	40	1.5	683.52	1.0	---	1,2,3,4
FTR-101E	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	8'-0"	1	3/4	40	7.5	683.52	5.1	---	1,2,3,4
FTR-101F	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	10'-0"	1	3/4	40	9.5	683.52	6.5	---	1,2,3,4
FTR-101G	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	4'-0"	1	3/4	40	3.5	683.52	2.4	---	1,2,3,4
FTR-101H	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	12'-6"	1	3/4	40	12.0	683.52	8.2	---	1,2,3,4
FTR-101I	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	5'-0"	1	3/4	40	4.5	683.52	3.1	---	1,2,3,4
FTR-102A	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	13'-6"	1	3/4	40	10.0	683.52	6.8	3.0	1,2,3,4
FTR-102B	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	10'-6"	1	3/4	40	10.0	683.52	6.8	---	1,2,3,4
FTR-102C	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	10'-0"	1	3/4	40	10.0	683.52	6.8	---	1,2,3,4
FTR-102D	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	4'-6"	1	3/4	40	4.0	683.52	2.7	---	1,2,3,4
FTR-102E	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	3'-6"	1	3/4	40	3.0	683.52	2.1	---	1,2,3,4
FTR-102F	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	3'-0"	1	3/4	40	2.0	683.52	1.4	---	1,2,3,4
FTR-103A	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	5'-0"	1	3/4	40	4.0	683.52	2.7	2.0	1,2,3,4
FTR-103B	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	4'-6"	1	3/4	40	4.0	683.52	2.7	---	1,2,3,4
FTR-103C	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	7'-0"	1	3/4	40	6.0	683.52	4.1	1.0	1,2,3,4
FTR-104A	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	13'-6"	1	3/4	40	12.0	683.52	8.2	2.0	1,2,3,4
FTR-104B	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	11'-0"	1	3/4	40	8.0	683.52	5.5	---	1,2,3,4
FTR-106A	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	10'-0"	1	3/4	40	8.0	683.52	5.5	2.0	1,2,3,4
FTR-106B	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	13'-6"	1	3/4	40	12.0	683.52	8.2	---	1,2,3,4
FTR-106C	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	8'-0"	1	3/4	40	7.0	683.52	4.8	---	1,2,3,4
FTR-107A	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	10'-0"	1	3/4	40	8.0	683.52	5.5	---	1,2,3,4
FTR-107B	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	13'-6"	1	3/4	40	12.0	683.52	8.2	---	1,2,3,4
FTR-107C	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	8'-0"	1	3/4	40	7.5	683.52	5.1	---	1,2,3,4
FTR-108A	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	10'-0"	1	3/4	40	8.0	683.52	5.5	2.0	1,2,3,4
FTR-108B	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	13'-6"	1	3/4	40	12.0	683.52	8.2	---	1,2,3,4
FTR-108C	VULCAN JV3-ARS	30% PG	ST	14"	4-3/8	8'-0"	1	3/4	40	7.0	683.52	4.8	---	1,2,3,4
FTR-110A	VULCAN JV3-ARS	30% PG												

D

C

B

A

FIN RADIATION SCHEDULE

Table with columns: UNIT NO., MANUFACTURER & MODEL NO., FLUID TYPE, COVER TYPE, COVER HEIGHT (N), COVER DEPTH (N), COVER LENGTH (FT), ROWS, TUBE SIZE (N), FINS PER FT, FIN LENGTH (FT), BTU PER FT, TOTAL MBH, FLOW GPM, NOTES. Rows include units FTR-401A through FTR-416D.

NOTES: CAPACITIES BASED ON 150°F AVG. 1. WATER AND 85°F TOP AND BOTTOM OF COVER 4" ABOVE FIN. 2. PROVIDE TRIM PIECES TO ACCOUNT FOR EXTRA LENGTH FOR COMPLETE WALL TO WALL INSTALLATION.

W WATER
ST TOP
TO FINISH
FO WALLETS
W-W WALL

FIN RADIATION SCHEDULE

Table with columns: UNIT NO., MANUFACTURER & MODEL NO., FLUID TYPE, COVER TYPE, COVER HEIGHT (N), COVER DEPTH (N), COVER LENGTH (FT), ROWS, TUBE SIZE (N), FINS PER FT, FIN LENGTH (FT), BTU PER FT, TOTAL MBH, FLOW GPM, NOTES. Rows include units FTR-301A through FTR-316D.

NOTES: CAPACITIES BASED ON 150°F AVG. 1. WATER AND 85°F TOP AND BOTTOM OF COVER 4" ABOVE FIN. 2. PROVIDE TRIM PIECES TO ACCOUNT FOR EXTRA LENGTH FOR COMPLETE WALL TO WALL INSTALLATION.

W WATER
ST TOP
TO FINISH
FO WALLETS
W-W WALL



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1.877.380.0501
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Reg. No. 43950 Special Reg. Printed Name: Jon Wassing
Date: 12/20/2017

REVISION SCHEDULE

Table with columns: NO., DESCRIPTION, DATE

JLG ARCHITECTS
BOTTINEAU RIDGE II APARTMENTS
MAPLE GROVE, MN

DATE
12/14/17

PHASE
CONSTRUCTION
DOCUMENTS

PROJECT
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