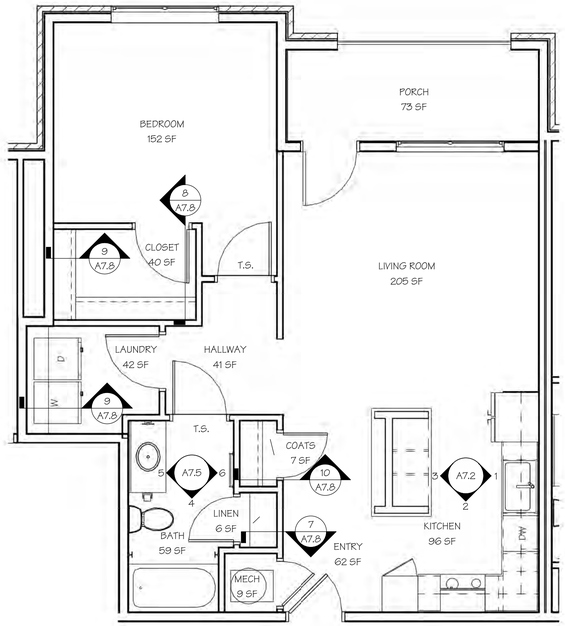
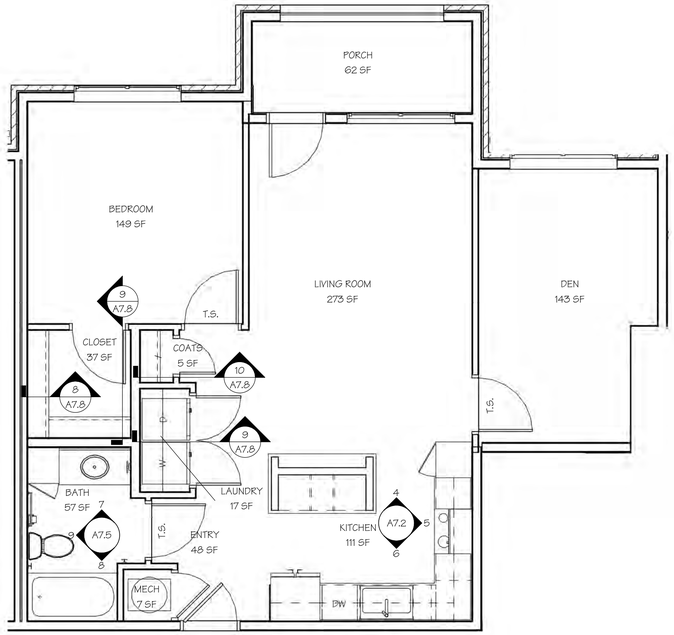


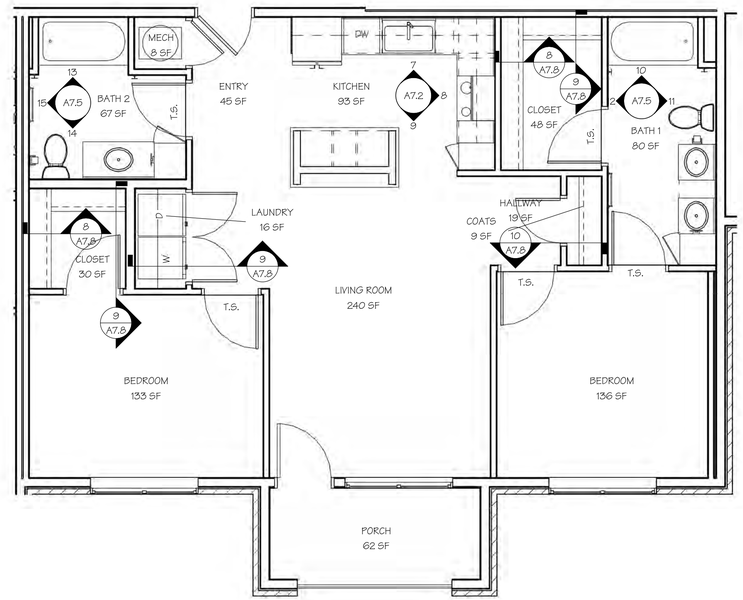
1 A6.1 UNIT 11D FINISH PLAN

SCALE: 1/4" = 1'-0"



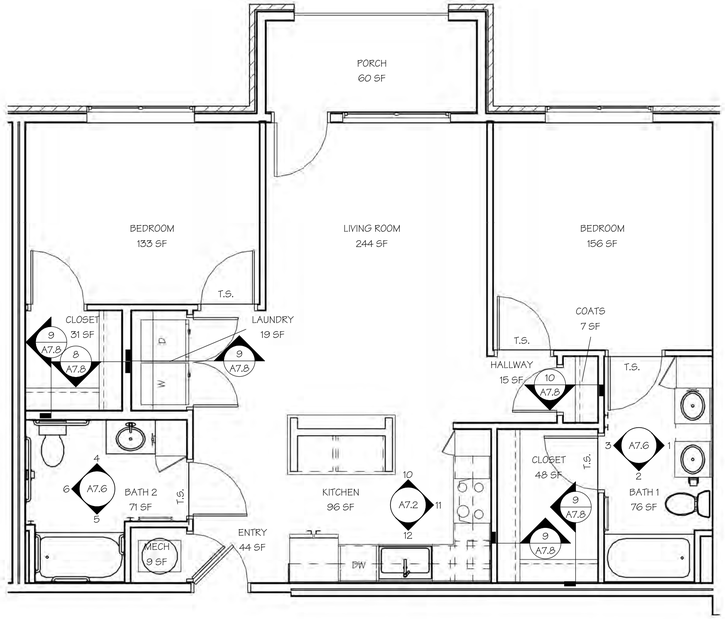
2 A6.1 UNIT 11E FINISH PLAN

SCALE: 1/4" = 1'-0"



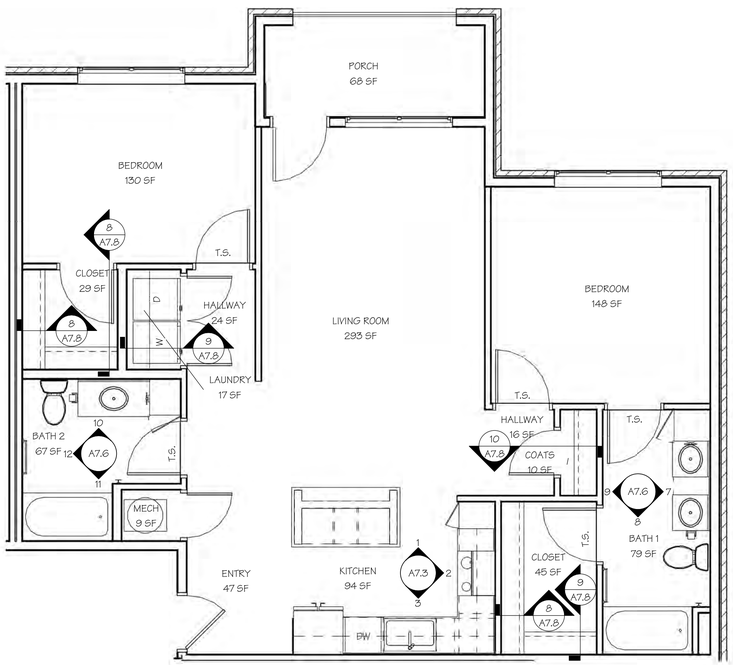
3 A6.1 UNIT 22A FINISH PLAN

SCALE: 1/4" = 1'-0"



4 A6.1 UNIT 22A ACC FINISH PLAN

SCALE: 1/4" = 1'-0"



5 A6.1 UNIT 22B FINISH PLAN

SCALE: 1/4" = 1'-0"

UNITS 11D, 11E, 22A, 22A ACC & 22B FINISH PLANS

PERMIT SET

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M. RANDALL PORTER
A-2012006244
ARCHITECT

04 FEB 2021

M. RANDALL PORTER
A-2012006244

ARIA APARTMENTS LEE'S SUMMIT

LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

Wallace ARCHITECTS L.L.C.
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SHEET NO. A6.1

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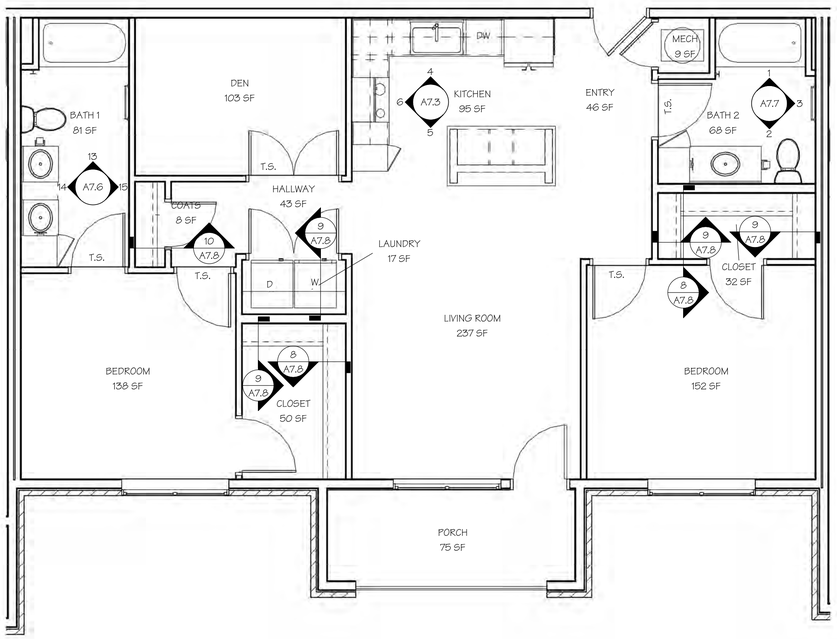
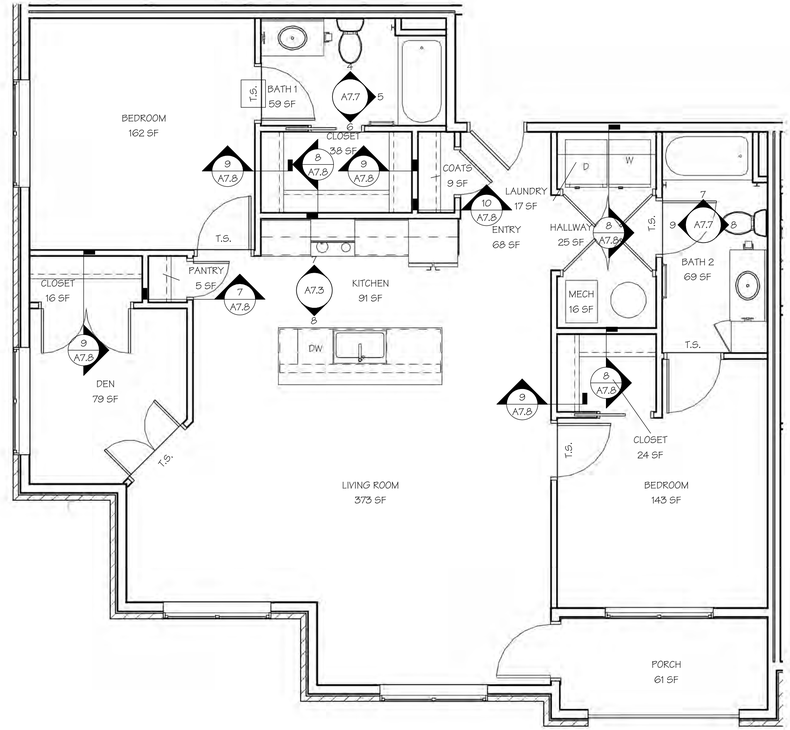
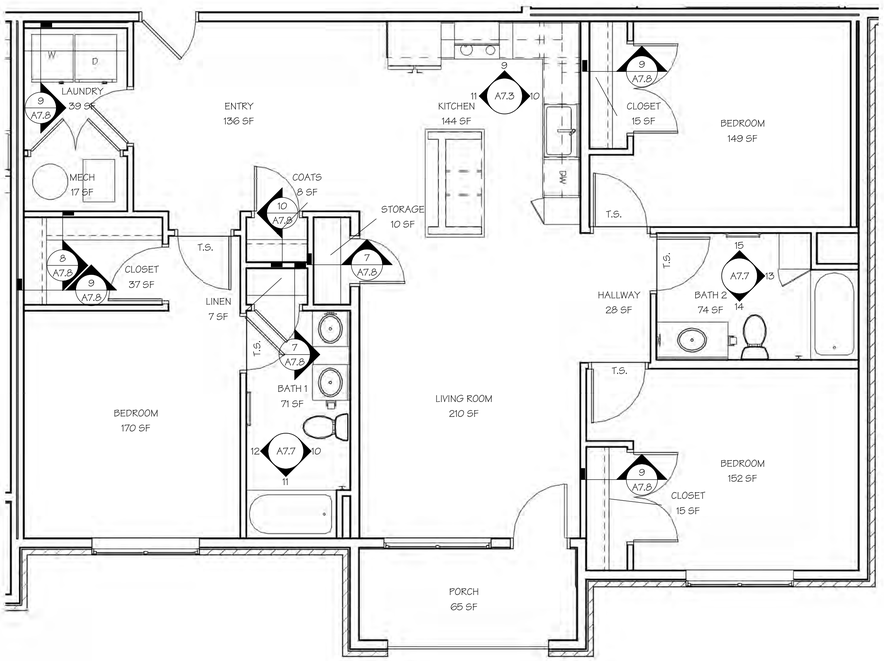
2/10/2021 1:41:22 PM



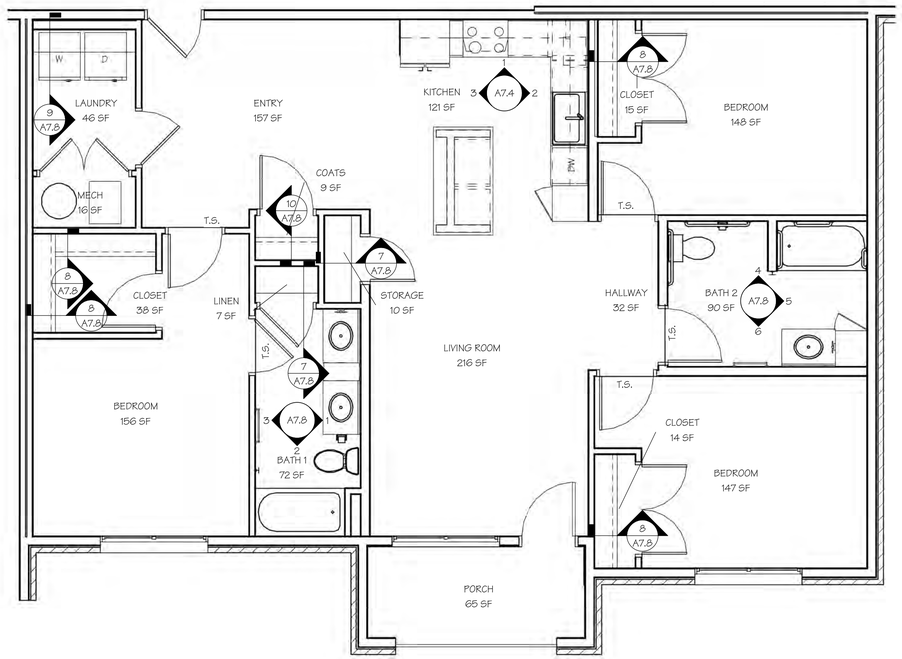
1 A6.2 UNIT 22C FINISH PLAN
SCALE: 1/4" = 1'-0"



2 A6.2 UNIT 22D FINISH PLAN
SCALE: 1/4" = 1'-0"



3 A6.2 UNIT 32A FINISH PLAN
SCALE: 1/4" = 1'-0"



4 A6.2 UNIT 32A ACC FINISH PLAN
SCALE: 1/4" = 1'-0"

UNITS 22C, 22D, 32A & 32A ACC FINISH PLANS

PERMIT SET

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M. RANDALL PORTER
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ARCHITECT
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SHEET NO. A6.2

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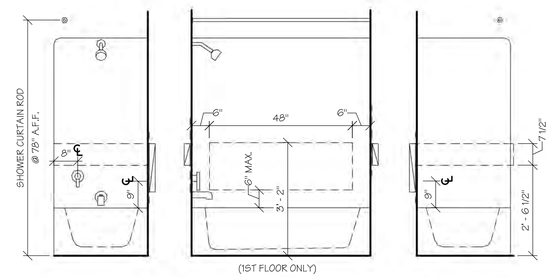
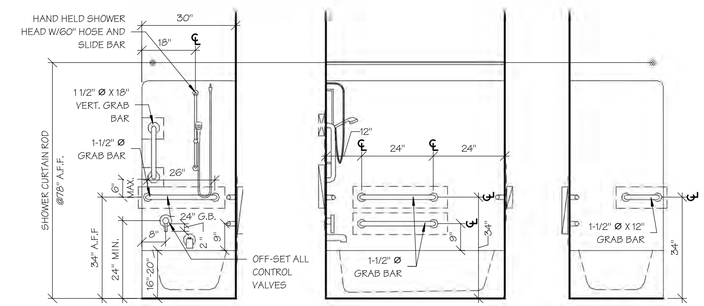
NOTE:
CONTRACTOR OPTION TO ORDER TUBS, SHOWERS WITH FACTOR INSTALLED GRAB BAR BLOCKING. IF SELECTED, BLOCKING MUST STILL COVER AT LEAST THE AREAS SHOWN.

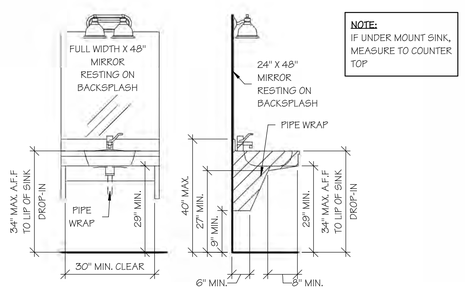
GRAB BAR BLOCKING NOTE:
MANUFACTURER INSTALLED INTEGRAL BACKING OR 2X8 BLOCKING FOR GRAB BARS



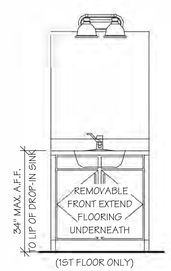
1 A7.0 FHA/ANSI B TUB/SHOWER NOTES & DETAILS
SCALE: 1/2" = 1'-0"



2 A7.0 TUB/SHOWER ANSI A NOTES & DETAILS
SCALE: 1/2" = 1'-0"

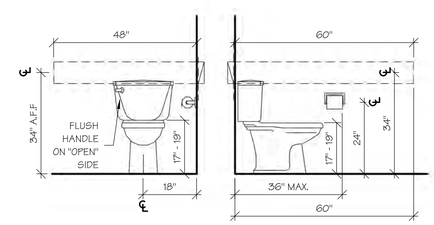


NOTE:
IF UNDER MOUNT SINK, MEASURE TO COUNTER TOP

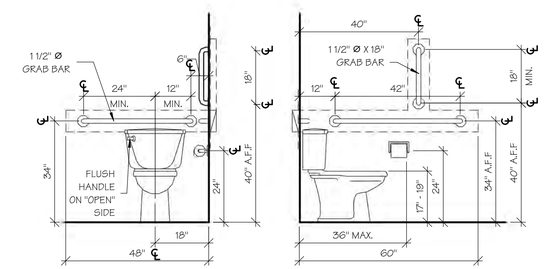


3 A7.0 WALL HUNG VANITY
SCALE: 1/2" = 1'-0"

4 A7.0 FHA/ ANSI VANITY
SCALE: 1/2" = 1'-0"

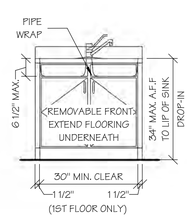


5 A7.0 FHA/ ANSI WATER CLOSET
SCALE: 1/2" = 1'-0"



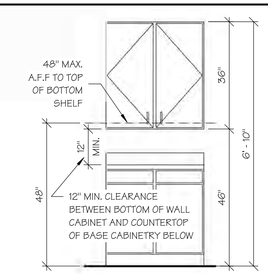
6 A7.0 ANSI A WATER CLOSET
SCALE: 1/2" = 1'-0"

NOTE:
IF UNDER MOUNT SINK-MEASURE TO COUNTER TOP

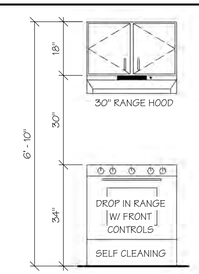


7 A7.0 REMOVABLE FRONT SINK
SCALE: 1/2" = 1'-0"

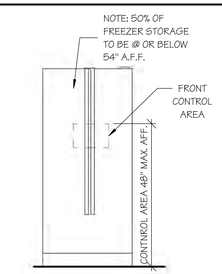
8 A7.0 REMOVABLE FRONT WORK STATION
SCALE: 1/2" = 1'-0"



9 A7.0 ANSI WALL CABINET
SCALE: 1/2" = 1'-0"



10 A7.0 ANSI A RANGE
SCALE: 1/2" = 1'-0"



11 A7.0 SIDE BY SIDE REFRIGERATOR
SCALE: 1/2" = 1'-0"

INTERIOR ELEVATIONS NOTES AND DETAILS

PERMIT SET

STATE OF MISSOURI
M. RANDALL PORTER
A-2012006244
ARCHITECT
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A-2012006244

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LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

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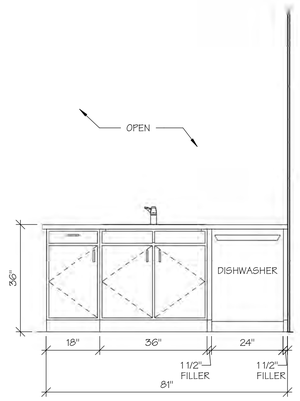
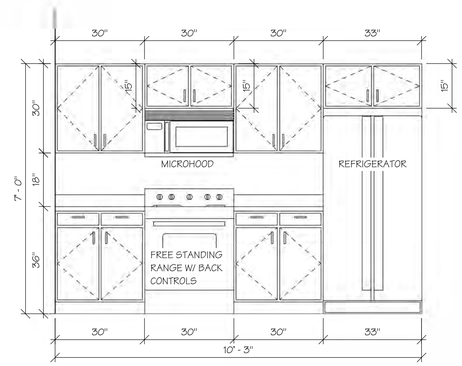
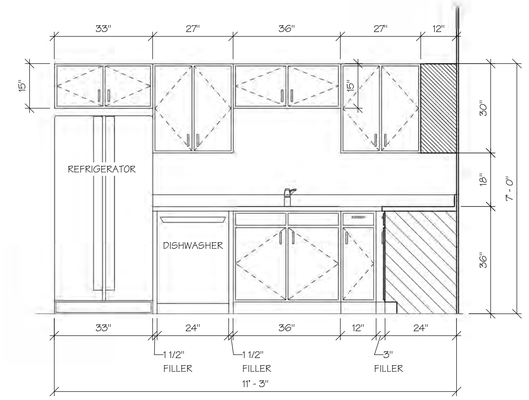
NOTE:
MAINTAIN 40" CLEAR MIN. BETWEEN ALL KITCHEN CABINETS/ COUNTER TOPS & APPLIANCES



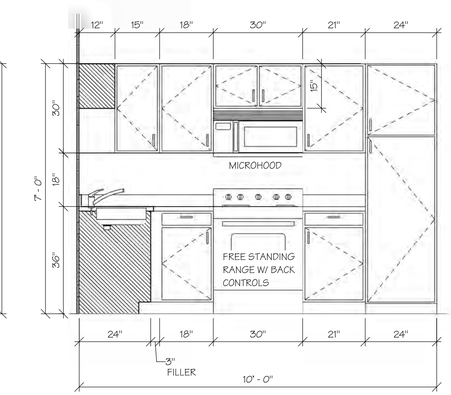
UNIT 11A TYP. KITCHEN ELEVATION 1
1 / A7.1 SCALE: 1/2" = 1'-0"



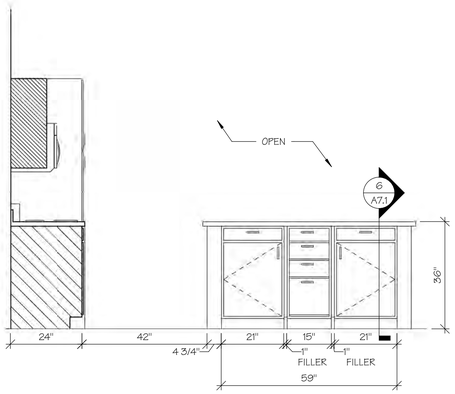
UNIT 11A TYP. KITCHEN ELEVATION 2
2 / A7.1 SCALE: 1/2" = 1'-0"



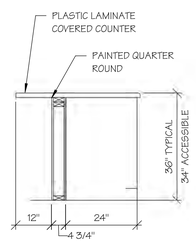
UNIT 11B TYP. KITCHEN ELEVATION 1
3 / A7.1 SCALE: 1/2" = 1'-0"



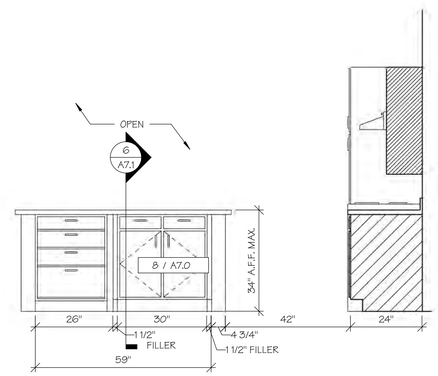
UNIT 11B TYP. KITCHEN ELEVATION 2
4 / A7.1 SCALE: 1/2" = 1'-0"



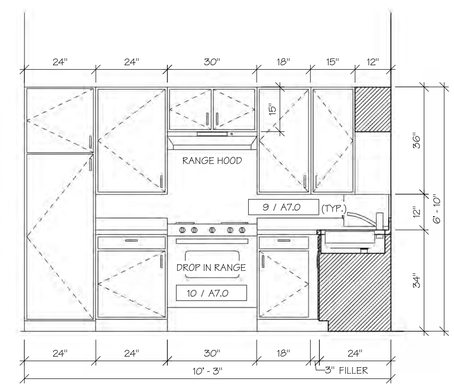
UNIT 11B TYP. KITCHEN ELEVATION 3
5 / A7.1 SCALE: 1/2" = 1'-0"



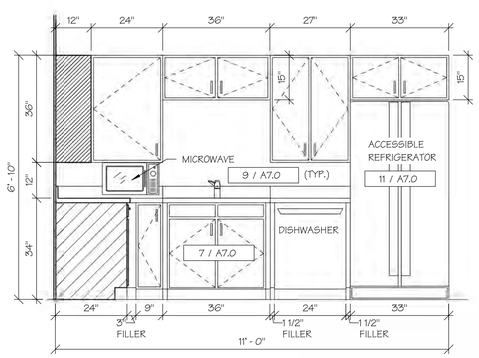
KITCHEN BAR SECTION
6 / A7.1 SCALE: 1/2" = 1'-0"



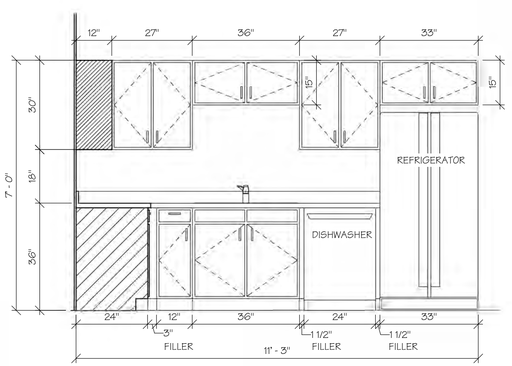
UNIT 11B ACC KITCHEN ELEVATION 1
7 / A7.1 SCALE: 1/2" = 1'-0"



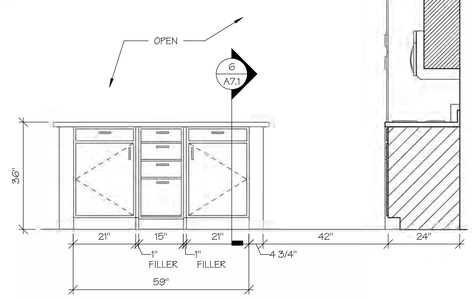
UNIT 11B ACC KITCHEN ELEVATION 2
8 / A7.1 SCALE: 1/2" = 1'-0"



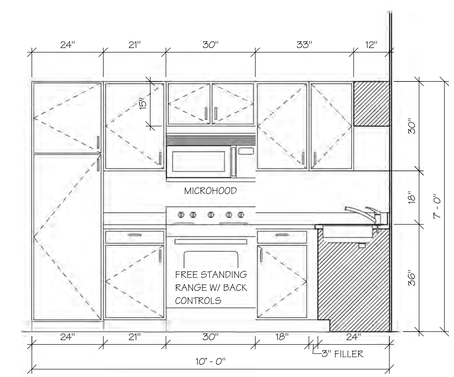
UNIT 11B ACC KITCHEN ELEVATION 3
9 / A7.1 SCALE: 1/2" = 1'-0"



UNIT 11C TYP. KITCHEN ELEVATION 1
10 / A7.1 SCALE: 1/2" = 1'-0"



UNIT 11C TYP. KITCHEN ELEVATION 2
11 / A7.1 SCALE: 1/2" = 1'-0"



UNIT 11C TYP. KITCHEN ELEVATION 3
12 / A7.1 SCALE: 1/2" = 1'-0"

INTERIOR ELEVATIONS

PERMIT SET

STATE OF MISSOURI
M. RANDALL PORTER
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ARCHITECT
04 FEB 2021
M. RANDALL PORTER
A-2012006244

ARIA APARTMENTS LEE'S SUMMIT
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

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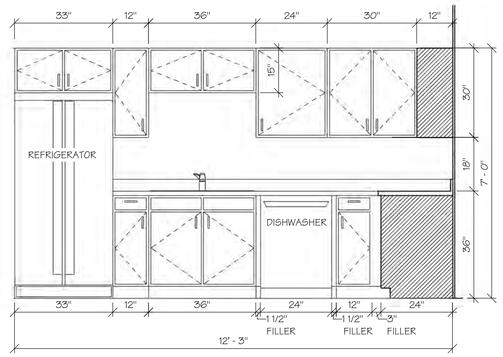
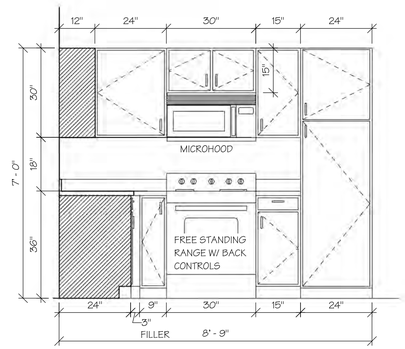
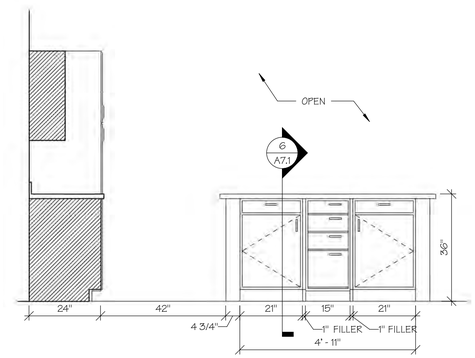


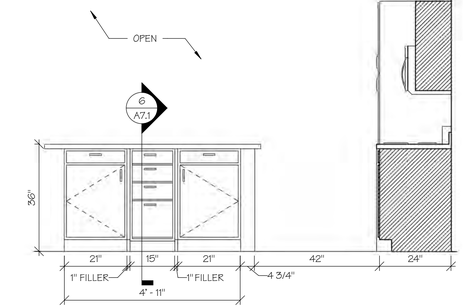
1 A7.2 UNIT 11D TYP. KITCHEN ELEVATION 1
SCALE: 1/2" = 1'-0"



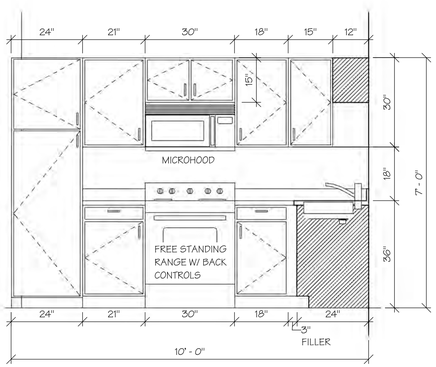
2 A7.2 UNIT 11D TYP. KITCHEN ELEVATION 2
SCALE: 1/2" = 1'-0"



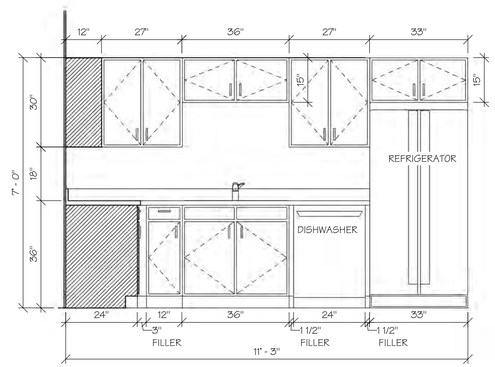
3 A7.2 UNIT 11D TYP. KITCHEN ELEVATION 3
SCALE: 1/2" = 1'-0"



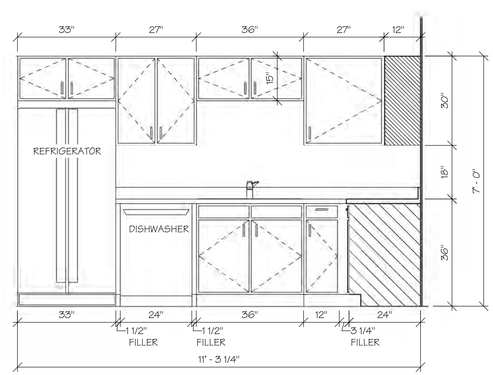
4 A7.2 UNIT 11E TYP. KITCHEN ELEVATION 1
SCALE: 1/2" = 1'-0"



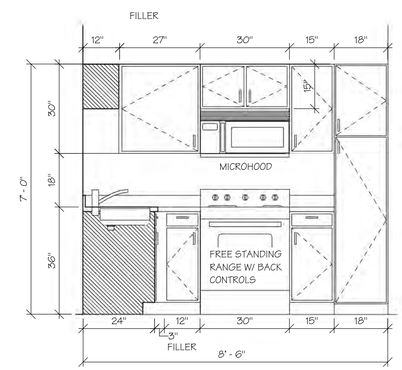
5 A7.2 UNIT 11E TYP. KITCHEN ELEVATION 2
SCALE: 1/2" = 1'-0"



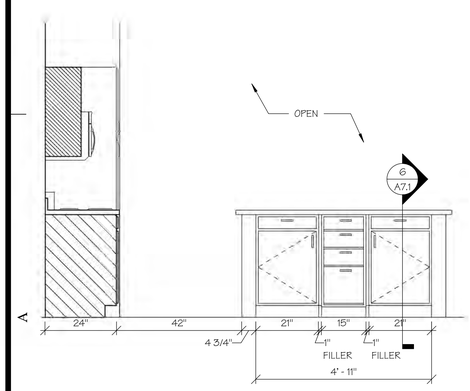
6 A7.2 UNIT 11E TYP. KITCHEN ELEVATION 3
SCALE: 1/2" = 1'-0"



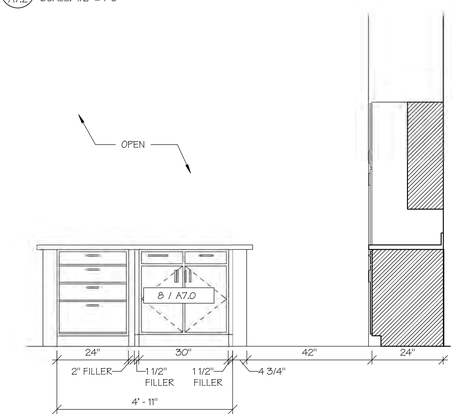
7 A7.2 UNIT 22A TYP. KITCHEN ELEVATION 1
SCALE: 1/2" = 1'-0"



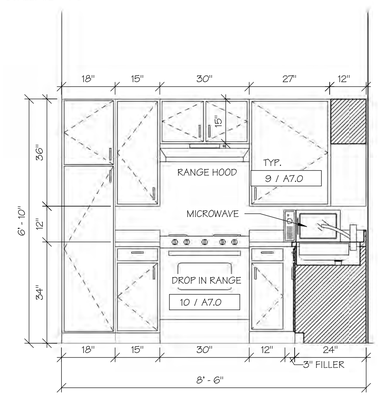
8 A7.2 UNIT 22A TYP. KITCHEN ELEVATION 2
SCALE: 1/2" = 1'-0"



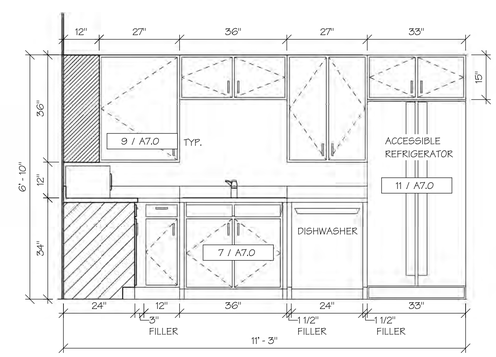
9 A7.2 UNIT 22A TYP. KITCHEN ELEVATION 3
SCALE: 1/2" = 1'-0"



10 A7.2 UNIT 22A ACCESS KITCHEN ELEVATION 1
SCALE: 1/2" = 1'-0"



11 A7.2 UNIT 22A ACCESS KITCHEN ELEVATION 2
SCALE: 1/2" = 1'-0"



12 A7.2 UNIT 22A ACCESS KITCHEN ELEVATION 3
SCALE: 1/2" = 1'-0"

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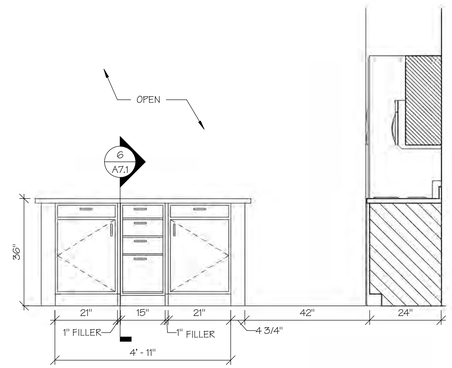
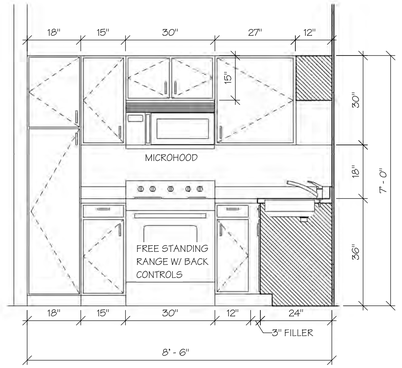


1 A7.3 UNIT 22B TYP. KITCHEN ELEVATION 1
SCALE: 1/2" = 1'-0"



2 A7.3 UNIT 22B TYP. KITCHEN ELEVATION 2
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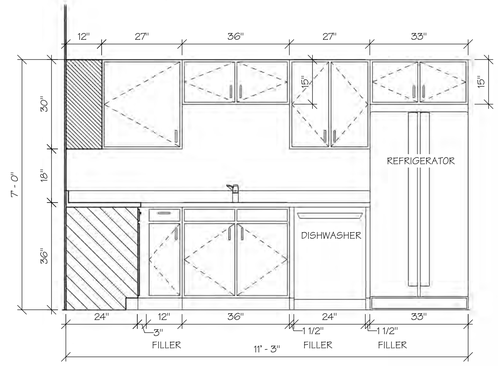
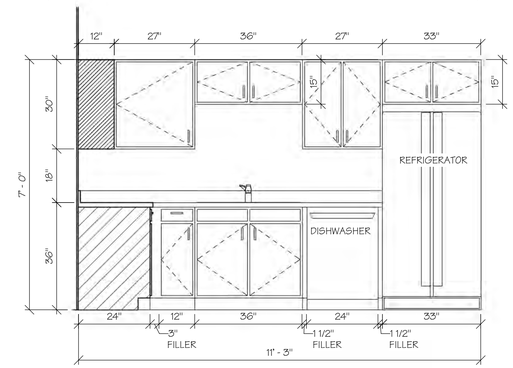


3 A7.3 UNIT 22B TYP. KITCHEN ELEVATION 3
SCALE: 1/2" = 1'-0"



4 A7.3 UNIT 22C TYP. KITCHEN ELEVATION 1
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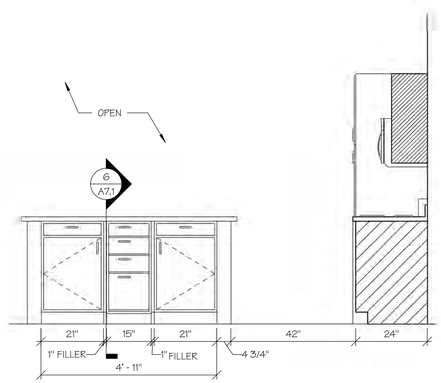
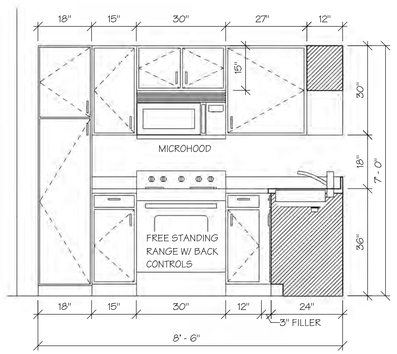
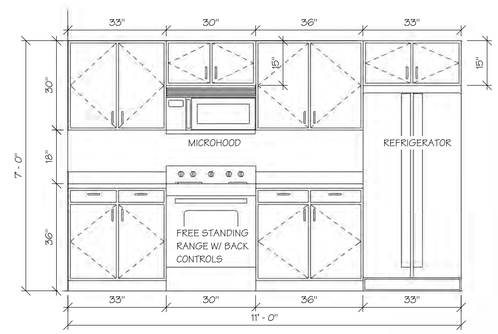


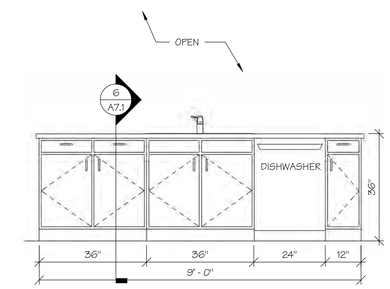
5 A7.3 UNIT 22C TYP. KITCHEN ELEVATION 2
SCALE: 1/2" = 1'-0"



6 A7.3 UNIT 22C TYP. KITCHEN ELEVATION 3
SCALE: 1/2" = 1'-0"



7 A7.3 UNIT 22D TYP. KITCHEN ELEVATION 1
SCALE: 1/2" = 1'-0"



8 A7.3 UNIT 22D TYP. KITCHEN ELEVATION 2
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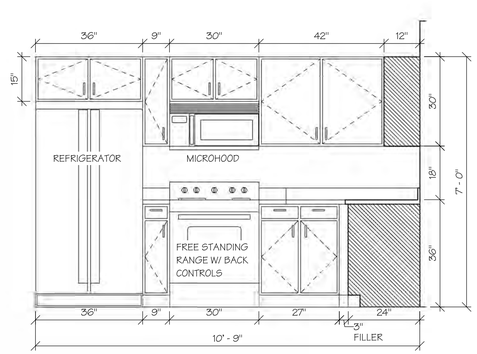
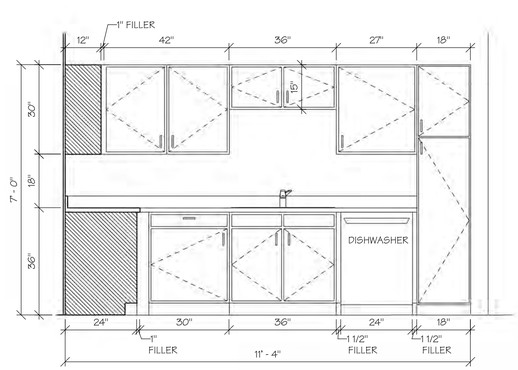
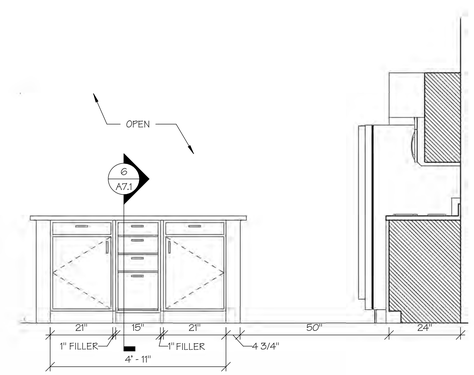


9 A7.3 UNIT 32A TYP. KITCHEN ELEVATION 1
SCALE: 1/2" = 1'-0"



10 A7.3 UNIT 32A TYP. KITCHEN ELEVATION 2
SCALE: 1/2" = 1'-0"



11 A7.3 UNIT 32A TYP. KITCHEN ELEVATION 3
SCALE: 1/2" = 1'-0"

INTERIOR ELEVATIONS

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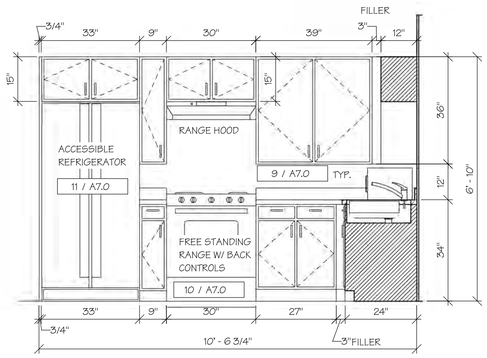
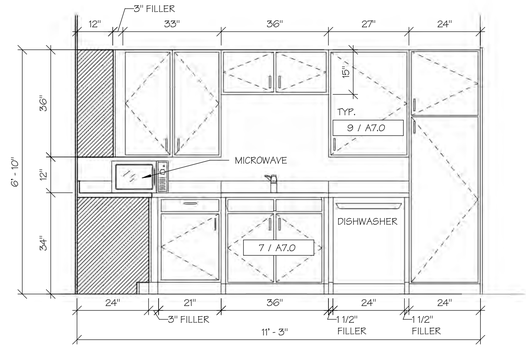


1 A7.4 UNIT 32A ACC. KITCHEN ELEVATION 1
SCALE: 1/2" = 1'-0"



2 A7.4 UNIT 32A ACC. KITCHEN ELEVATION 2
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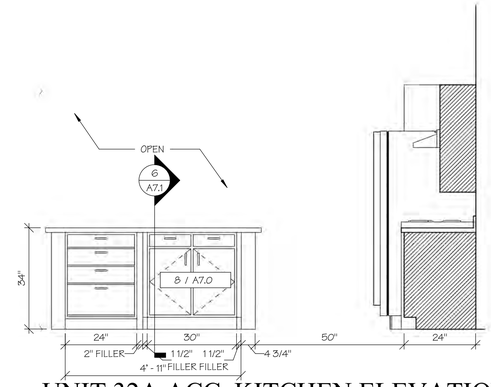
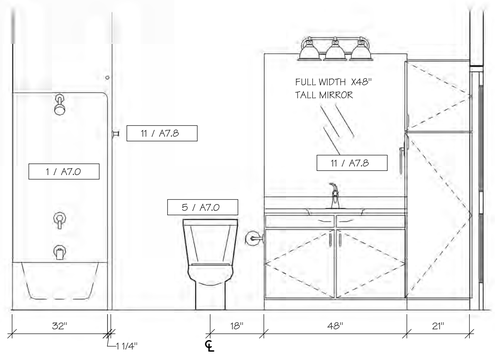
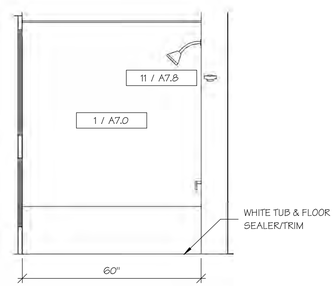


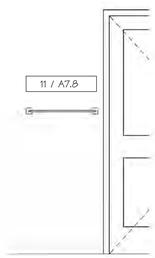
3 A7.4 UNIT 32A ACC. KITCHEN ELEVATION 3
SCALE: 1/2" = 1'-0"



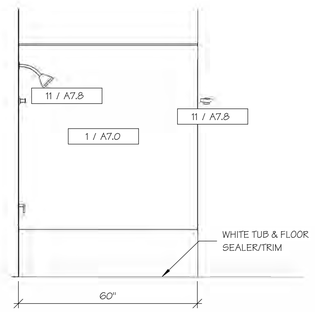
4 A7.4 UNIT 11A TYP. BATH ELEVATION 1
SCALE: 1/2" = 1'-0"



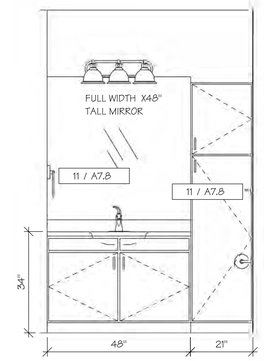
5 A7.4 UNIT 11A TYP. BATH ELEVATION 2
SCALE: 1/2" = 1'-0"



6 A7.4 UNIT 11A TYP. BATH ELEVATION 3
SCALE: 1/2" = 1'-0"



7 A7.4 UNIT 11B TYP. BATH ELEVATION 1
SCALE: 1/2" = 1'-0"



8 A7.4 UNIT 11B TYP. BATH ELEVATION 2
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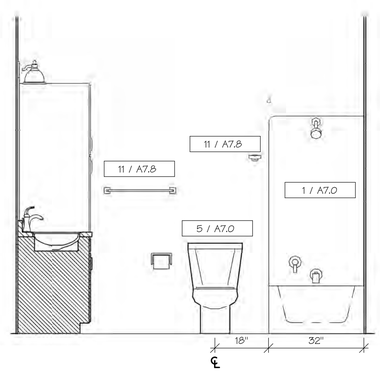

9 A7.4 UNIT 11B TYP. BATH ELEVATION 3
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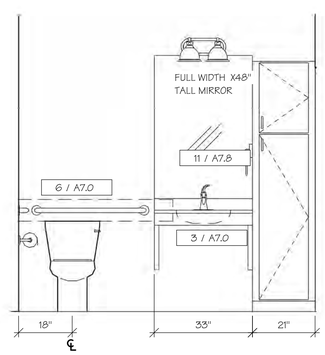
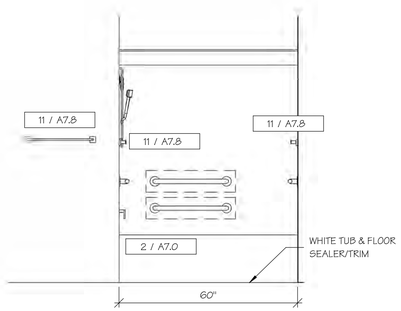


10 A7.4 UNIT 11B ACC. BATH ELEVATION 1
SCALE: 1/2" = 1'-0"



11 A7.4 UNIT 11B ACC. BATH ELEVATION 2
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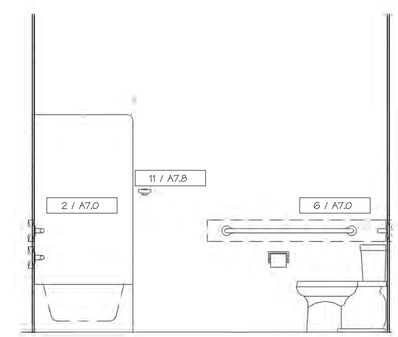

12 A7.4 UNIT 11B ACC. BATH ELEVATION 3
SCALE: 1/2" = 1'-0"

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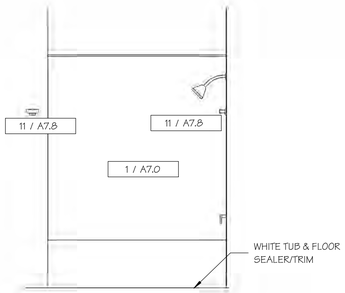
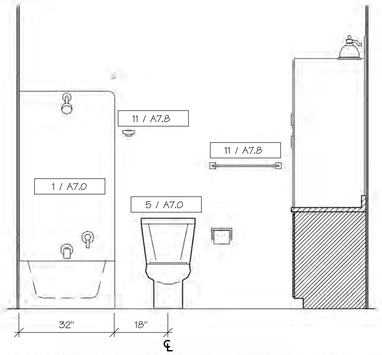


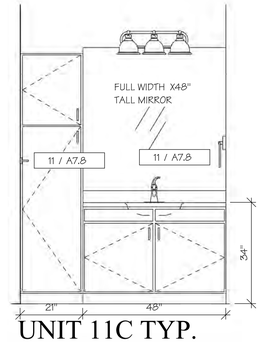
UNIT 11C TYP. BATH ELEVATION 1

1 A7.5 SCALE: 1/2" = 1'-0"



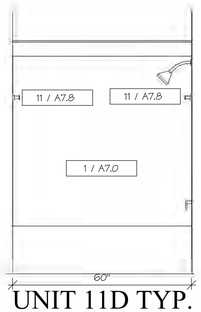
UNIT 11C TYP. BATH ELEVATION 2

2 A7.5 SCALE: 1/2" = 1'-0"



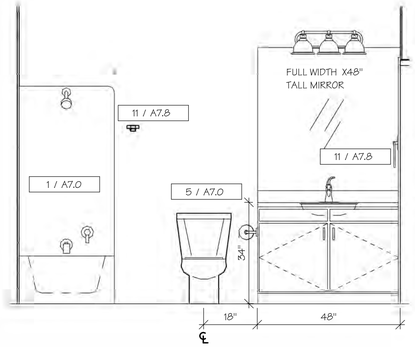
UNIT 11C TYP. BATH ELEVATION 3

3 A7.5 SCALE: 1/2" = 1'-0"



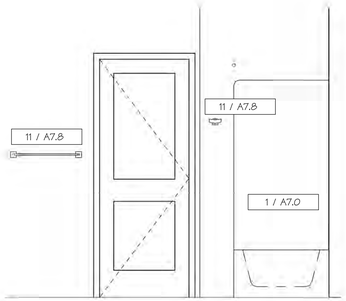
UNIT 11D TYP. BATH ELEVATION 1

4 A7.5 SCALE: 1/2" = 1'-0"



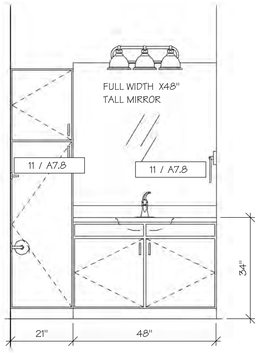
UNIT 11D TYP. BATH ELEVATION 2

5 A7.5 SCALE: 1/2" = 1'-0"



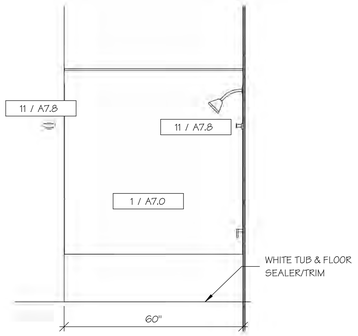
UNIT 11D TYP. BATH ELEVATION 3

6 A7.5 SCALE: 1/2" = 1'-0"



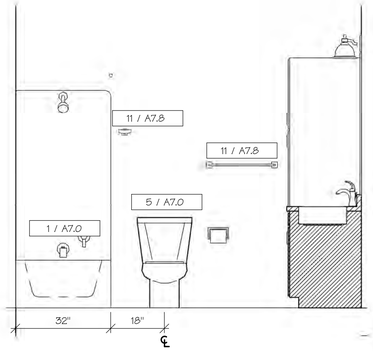
UNIT 11E TYP. BATH ELEVATION 1

7 A7.5 SCALE: 1/2" = 1'-0"



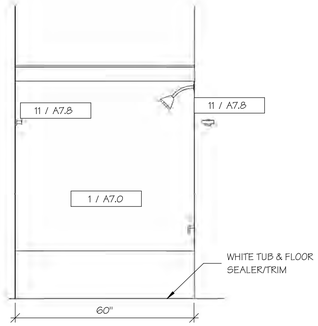
UNIT 11E TYP. BATH ELEVATION 2

8 A7.5 SCALE: 1/2" = 1'-0"



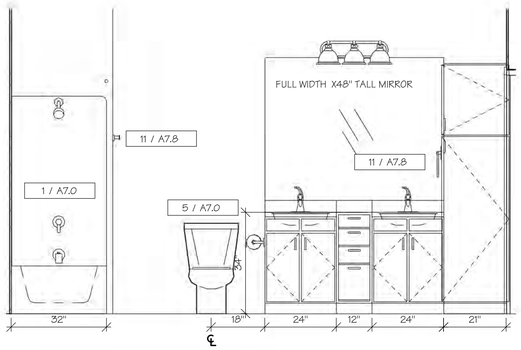
UNIT 11E TYP. BATH ELEVATION 3

9 A7.5 SCALE: 1/2" = 1'-0"



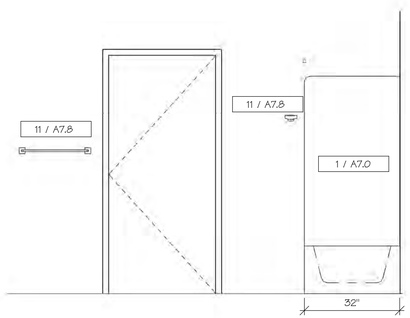
UNIT 22A TYP. BATH 1 ELEVATION 1

10 A7.5 SCALE: 1/2" = 1'-0"



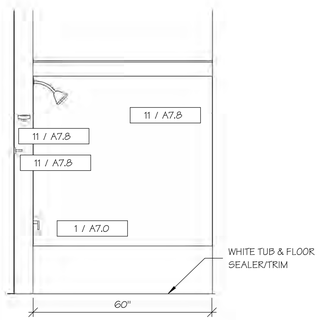
UNIT 22A TYP. BATH 1 ELEVATION 2

11 A7.5 SCALE: 1/2" = 1'-0"



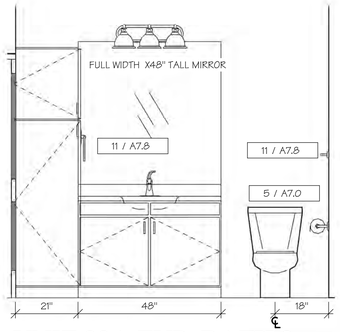
UNIT 22A BATH 1 ELEVATION 3

12 A7.5 SCALE: 1/2" = 1'-0"



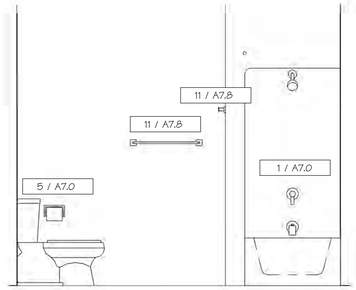
UNIT 22A TYP. BATH 2 ELEVATION 1

13 A7.5 SCALE: 1/2" = 1'-0"



UNIT 22A TYP. BATH 2 ELEVATION 2

14 A7.5 SCALE: 1/2" = 1'-0"



UNIT 22A TYP. BATH ELEVATION 3

15 A7.5 SCALE: 1/2" = 1'-0"

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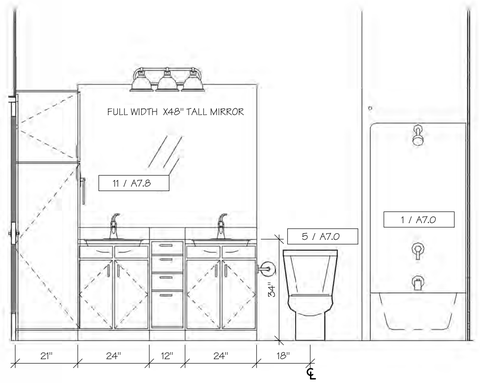
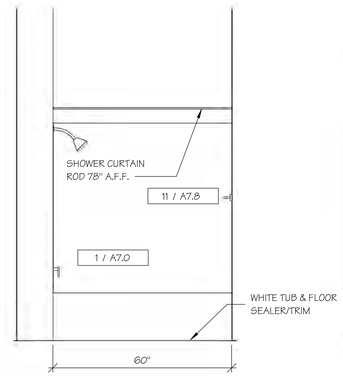
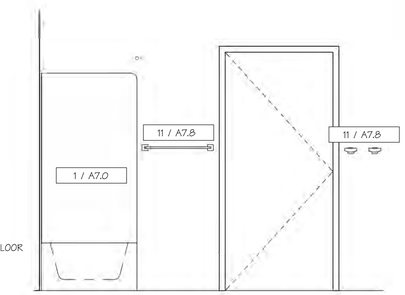


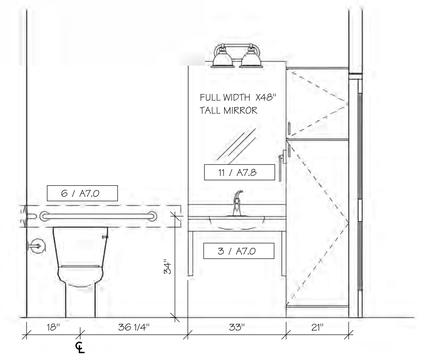
1 A7.6 UNIT 22A ACC. BATH 1 ELEVATION 1
SCALE: 1/2" = 1'-0"



2 A7.6 UNIT 22A ACC. BATH 1 ELEVATION 2
SCALE: 1/2" = 1'-0"



3 A7.6 UNIT 22A ACC. BATH 1 ELEVATION 3
SCALE: 1/2" = 1'-0"



4 A7.6 UNIT 22A ACC. BATH 2 ELEVATION 1
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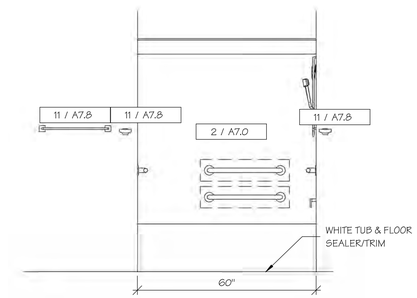

5 A7.6 UNIT 22A ACC. BATH 2 ELEVATION 2
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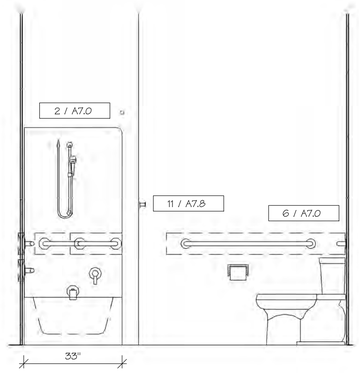
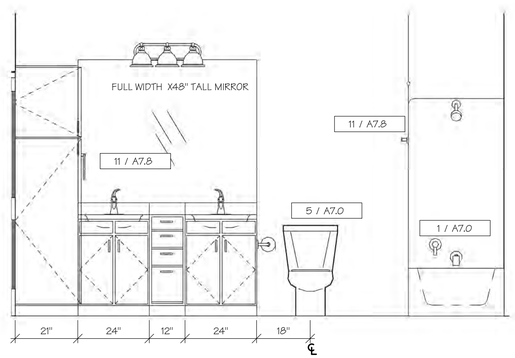
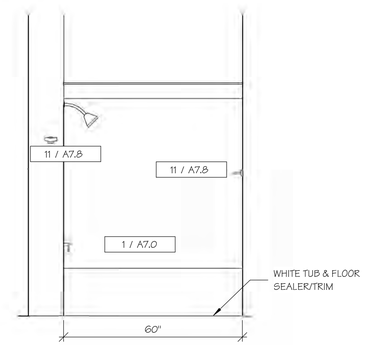


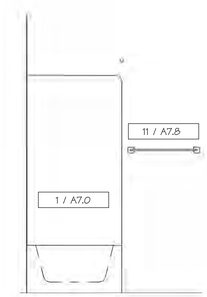
6 A7.6 UNIT 22A ACC. BATH 2 ELEVATION 3
SCALE: 1/2" = 1'-0"



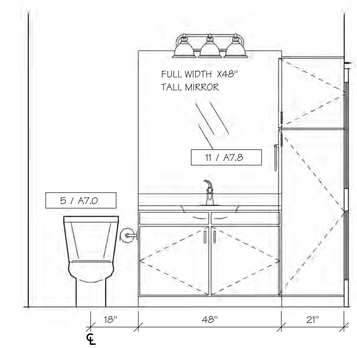
7 A7.6 UNIT 22B TYP. BATH 1 ELEVATION 1
SCALE: 1/2" = 1'-0"



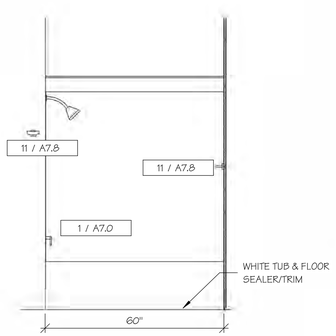
8 A7.6 UNIT 22B TYP. BATH 1 ELEVATION 2
SCALE: 1/2" = 1'-0"



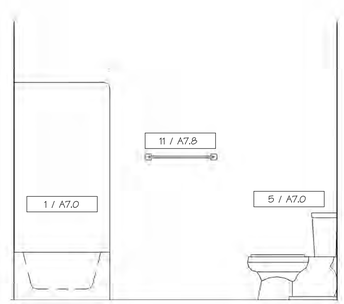
9 A7.6 UNIT 22B TYP. BATH 1 ELEVATION 3
SCALE: 1/2" = 1'-0"



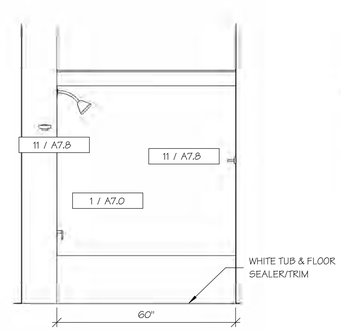
10 A7.6 UNIT 22B TYP. BATH 2 ELEVATION 1
SCALE: 1/2" = 1'-0"



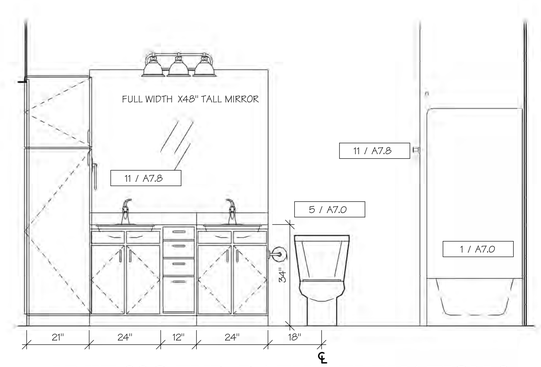
11 A7.6 UNIT 22B TYP. BATH 2 ELEVATION 2
SCALE: 1/2" = 1'-0"



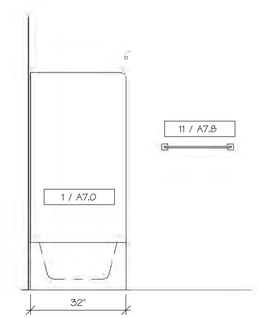
12 A7.6 UNIT 22B TYP. BATH 2 ELEVATION 3
SCALE: 1/2" = 1'-0"



13 A7.6 UNIT 22C TYP. BATH 1 ELEVATION 1
SCALE: 1/2" = 1'-0"



14 A7.6 UNIT 22C TYP. BATH 1 ELEVATION 2
SCALE: 1/2" = 1'-0"



15 A7.6 UNIT 22C TYP. BATH 1 ELEVATION 3
SCALE: 1/2" = 1'-0"

INTERIOR ELEVATIONS

PERMIT SET

STATE OF MISSOURI
M. RANDALL PORTER
A-2012006244
ARCHITECT
04 FEB 2021
M. RANDALL PORTER
A-2012006244

ARIA APARTMENTS LEE'S SUMMIT
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

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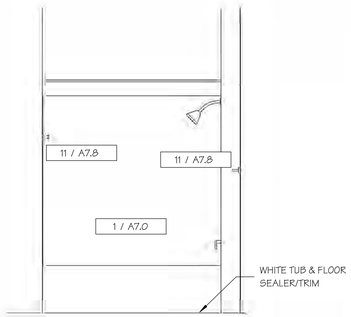
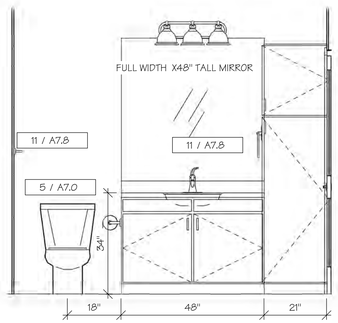


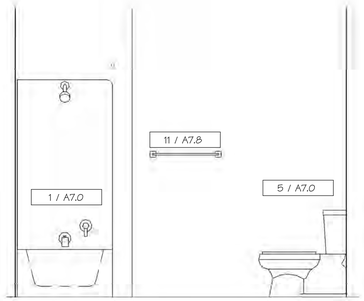
UNIT 22C TYP. BATH 2 ELEVATION 1

1 A7.7 SCALE: 1/2" = 1'-0"



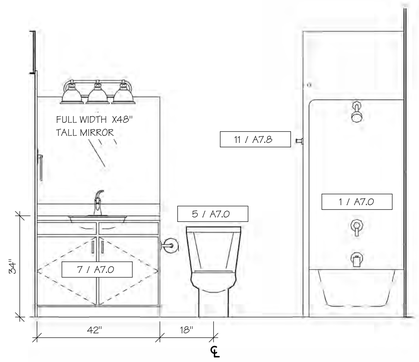
UNIT 22C TYP. BATH 2 ELEVATION 2

2 A7.7 SCALE: 1/2" = 1'-0"



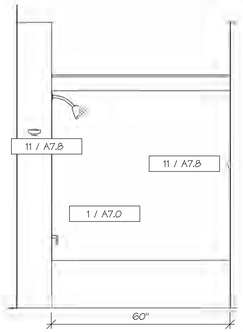
UNIT 22C TYP. BATH 2 ELEVATION 3

3 A7.7 SCALE: 1/2" = 1'-0"



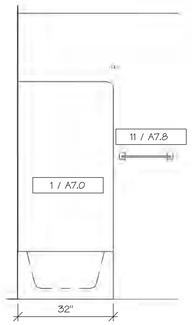
UNIT 22D TYP. BATH 1 ELEVATION 1

4 A7.7 SCALE: 1/2" = 1'-0"



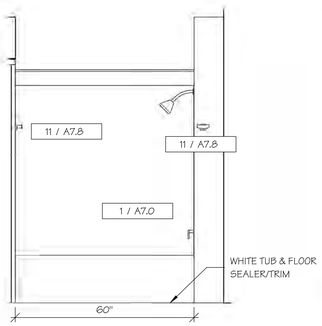
UNIT 22D TYP. BATH 1 ELEVATION 2

5 A7.7 SCALE: 1/2" = 1'-0"



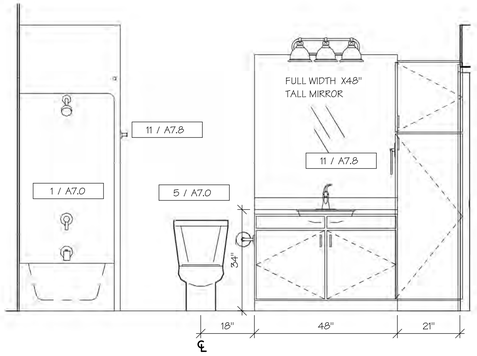
UNIT 22D TYP. BATH 1 ELEVATION 3

6 A7.7 SCALE: 1/2" = 1'-0"



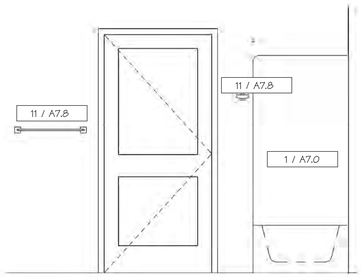
UNIT 22D TYP. BATH 2 ELEVATION 1

7 A7.7 SCALE: 1/2" = 1'-0"



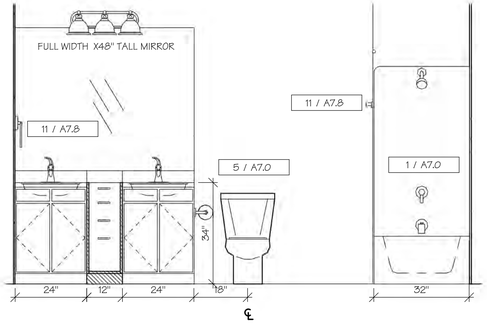
UNIT 22D TYP. BATH 2 ELEVATION 2

8 A7.7 SCALE: 1/2" = 1'-0"



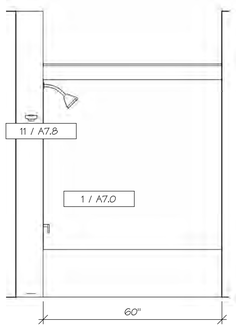
UNIT 22D BATH 2 ELEVATION 3

9 A7.7 SCALE: 1/2" = 1'-0"



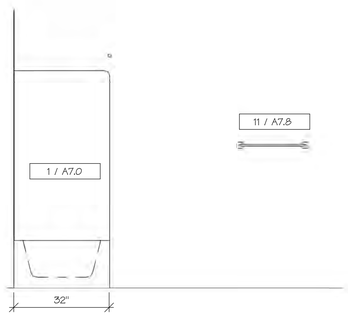
UNIT 32A TYP. BATH 1 ELEVATION 1

10 A7.7 SCALE: 1/2" = 1'-0"



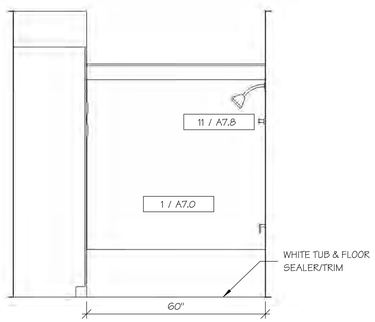
UNIT 32A TYP. BATH 1 ELEVATION 2

11 A7.7 SCALE: 1/2" = 1'-0"



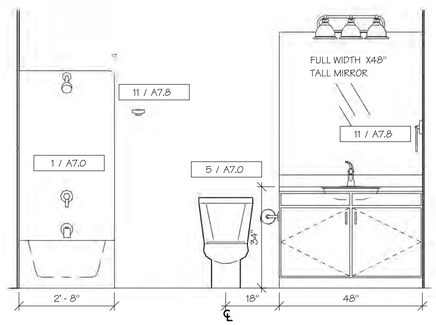
UNIT 32A TYP. BATH 1 ELEVATION 3

12 A7.7 SCALE: 1/2" = 1'-0"



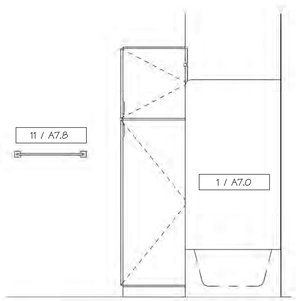
UNIT 32A TYP. BATH 2 ELEVATION 1

13 A7.7 SCALE: 1/2" = 1'-0"



UNIT 32A TYP. BATH 2 ELEVATION 2

14 A7.7 SCALE: 1/2" = 1'-0"



UNIT 32A TYP. BATH 2 ELEVATION 3

15 A7.7 SCALE: 1/2" = 1'-0"

STATE OF MISSOURI
M. RANDALL PORTER
2012006244
ARCHITECT

04 FEB 2021
M. RANDALL PORTER
A-2012006244

ARIA APARTMENTS LEE'S SUMMIT
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

Wallace ARCHITECTS L.L.C.
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P 573-256-7200

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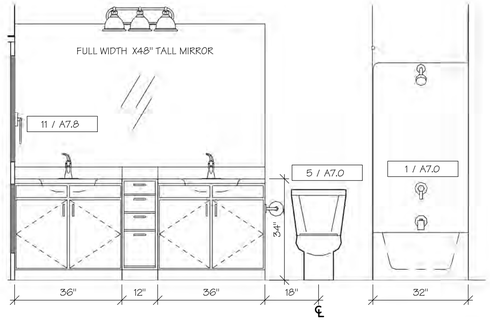
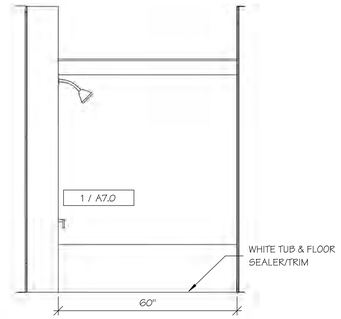
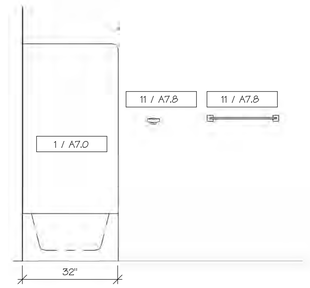


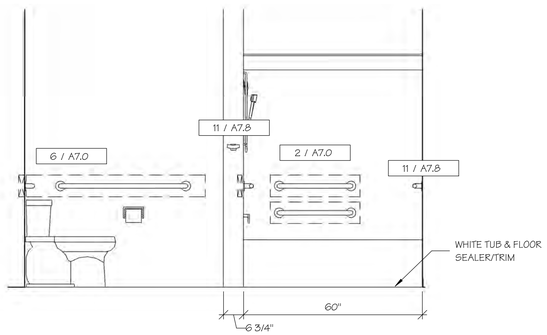
1 A7.8 UNIT 32A ACC. BATH 1 ELEVATION 1
SCALE: 1/2" = 1'-0"



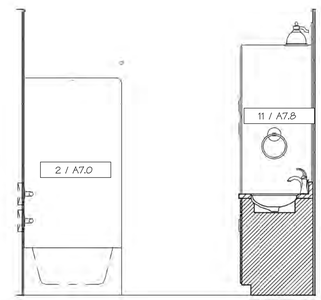
2 A7.8 UNIT 32A ACCESS BATH 1 ELEVATION 2
SCALE: 1/2" = 1'-0"



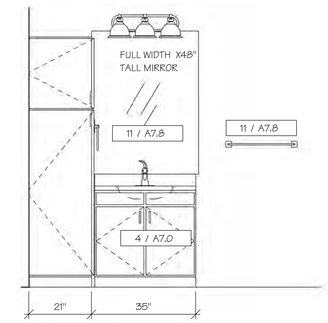
3 A7.8 UNIT 32A ACC. BATH 1 ELEVATION 3
SCALE: 1/2" = 1'-0"



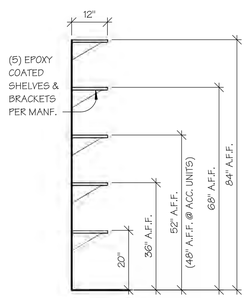
4 A7.8 UNIT 32A ACC. BATH 2 ELEVATION 1
SCALE: 1/2" = 1'-0"



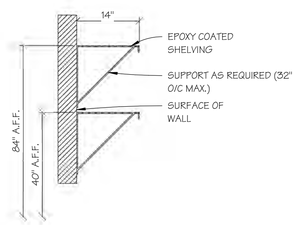
5 A7.8 UNIT 32A ACC. BATH 2 ELEVATION 2
SCALE: 1/2" = 1'-0"



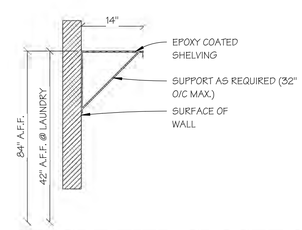
6 A7.8 UNIT 32A ACC. BATH 2 ELEVATION 3
SCALE: 1/2" = 1'-0"



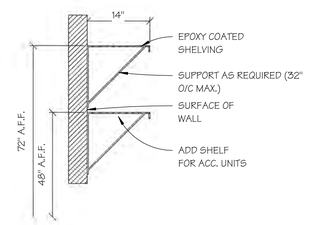
7 A7.8 PANTRY/LINEN CLOSET
SCALE: 1/2" = 1'-0"



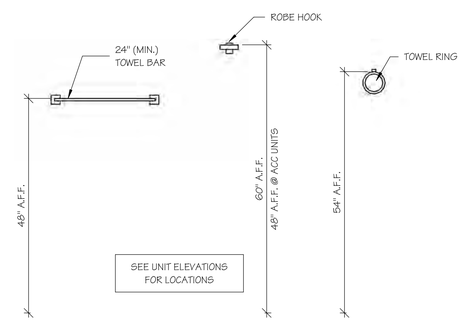
8 A7.8 TWO TIER CLOSET SHELF
SCALE: 3/4" = 1'-0"



9 A7.8 SINGLE TIER CLOSET SHELF
SCALE: 3/4" = 1'-0"



10 A7.8 COAT CLOSET
SCALE: 3/4" = 1'-0"



11 A7.8 BATH ACCESSORIES
SCALE: 3/4" = 1'-0"

INTERIOR ELEVATIONS

PERMIT SET

STATE OF MISSOURI
M. RANDALL PORTER
A-2012006244
ARCHITECT
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LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

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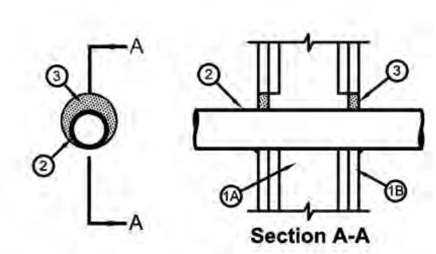
ARIA APARTMENTS LEE'S SUMMIT
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

FIRE STOPPING REFERENCE DETAILS

PERMIT SET

System No. W-L-2241
F Ratings - 1 and 2 Hr (See Item 1)
T Ratings - 0, 1/4, 1 and 1-3/4 Hr (See Item 2)
L Rating At Ambient - Less Than 1 CFM/sq ft
L Rating At 400 F - Less Than 1 CFM/sq ft



1. **Wall Assembly** - The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs** - Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced max 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC.
   B. **Gypsum Board*** - Thickness, type, number of layers and fasteners as specified in the individual Wall and Partition Design. Diam of opening to be 1 in. to 1-1/8 in. (25 to 29 mm) larger than outside diam of pipe.
   The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. **Through Penetrant** - One nonmetallic pipe, conduit or tube to be installed eccentrically or concentrically within the firestop system. Pipe, conduit or tube to be rigidly supported on both sides of the wall assembly. The following types and sizes of nonmetallic pipes, conduits and tubes may be used:
   A. **Polyvinyl Chloride (PVC) Pipe** - Nom 2 in. (51 mm) diam (or smaller) Schedule 40 solid or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. Annular space shall be min 0 in. (0 mm, point contact) to max 1 in. (25 mm).
   B. **Chlorinated Polyvinyl Chloride (CPVC) Pipe** - Nom 2 in. (51 mm) diam (or smaller) SDR 13.5 or Schedule 80 CPVC pipe for use in closed (process or supply) piping systems. Annular space shall be min 0 in. (0 mm, point contact) to max 1 in. (25 mm).
   C. **Rigid Nonmetallic Conduit+** - Nom 2 in. (51 mm) diam (or smaller) Schedule 40 PVC conduit installed in accordance with Article 347 of the National Electrical Code (NFPA 70). Annular space shall be min 0 in. (0 mm, point contact) to max 1 in. (25 mm).
   D. **Electrical Nonmetallic Tubing+** - Nom 2 in. (51 mm) diam (or smaller) PVC tubing installed in accordance with Article 331 of the National Electrical Code (NFPA 70). Annular space shall be min 0 in. (0 mm, point contact) to max 1 in. (25 mm).
   E. **Cross Linked Polyethylene (PEX) Tubing** - Nom 1 in. (25 mm) diam (or smaller) SDR9 PEX tubing for use in closed (process or supply) piping systems. Annular space shall be min 0 in. (0 mm, point contact) to max 1 in. (25 mm).

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STI — W-L-2241 PAGE 1 OF 2

   F. **Acrylonitrile Butadiene Styrene (ABS) pipe** - Nom 1-1/2 in. (38 mm) diam (or smaller) Schedule 40 solid-core or cellular core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. Annular space shall be min 1/4 in. (6 mm) to max 3/4 in. (19 mm).
   When Item 2A or 2B is used, the T Rating is 1/4 hr. When Item 2C, 2D, or 2E is used, the T Rating is 1 hr and 1-3/4 hr for 1 hr and 2 hr fire rated walls, respectively. When Item 2F is used, T Rating is 0 hr.
3. **Fill, Void or Cavity Material* - Sealant** - Min 5/8 in. (16 mm) thickness of fill material applied within annulus, flush with both surfaces of wall assembly. At point contact location, min 1/4 in. (6 mm) diam bead of fill material applied at nonmetallic pipe/gypsum board interface on both surfaces of wall.
   SPECIFIED TECHNOLOGIES INC - SpecSeal LCI Sealant or Type WF300 Firestop Caulk (for wood studs only)

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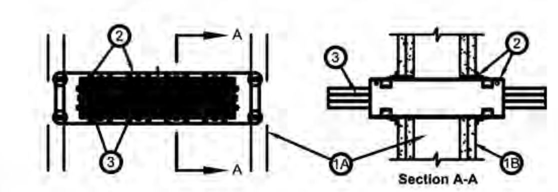
System No. W-L-2390
F Ratings - 1 and 2 Hr (See Item 1)
T Rating - 1 Hr



1. **Wall Assembly** - The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described within the individual U300 or U400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall incorporate the following construction features:
   A. **Studs** - Wall framing shall consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced max 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC.
   B. **Gypsum Board*** - Thickness, type, number of layers and fasteners as specified in the individual Wall and Partition Design. Opening in gypsum board to be max 1/4 in. (6 mm) larger then width and height dimensions of firestop device(s).
   The hourly F Rating of the firestop system is dependent upon the hourly rating of the wall in which it is installed.
2. **Firestop Device*** - One, two, three, four or seven firestop device modules ganged together. Each firestop device module consists of a 3 by 3 by 10-1/2 in. (76 by 76 by 267 mm) long galv steel tube with an intumescent material lining. Firestop device modules to be installed in accordance with the accompanying installation instructions. The space between the firestop device module(s) and the periphery of the opening shall be min 0 in. (0 mm, point contact) to max 1/8 in. (3.2 mm). Firestop device module(s) secured in place by means of steel wall plates installed with gasketing material supplied with product. Steel wall plates installed on both sides of wall and secured to each device by means of steel set screws provided with device. Each four- and seven-gang steel wall plate shall be fastened to the studs with steel screws sized to extend through the gypsum board layers and penetrate 1/2 in. (13 mm) into the framing member. Firestop device modules are to be installed with ends projecting an equal distance beyond each surface of the wall assembly.
   As an alternate, the four- and seven-gang steel wall plates may be installed directly against the studs for walls having 16 and 24 in. (406 and 610 mm) center-to-center stud spacing, respectively, prior to installation of the gypsum board layers. The steel wall plates shall be secured to the stud by means of steel screws. After installation of the steel wall plates and firestop device modules, the gypsum board shall be installed as specified in the individual U300 or U400 Design with a maximum 1/8 in. (3.2 mm) gap between the firestop device module and the cutout in the gypsum board. Gap between the firestop device module and the cutout in the gypsum board may be filled with gypsum joint compound or fill material (item 4).
   SPECIFIED TECHNOLOGIES INC - EZ PATH Series 33 Fire Rated Pathway

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2A. **Firestop Device* - Extension Module** - (Optional, Not Shown) - Module attached to ends of 3 by 3 by 10-1/2 in. (76 by 76 by 267 mm) long firestop device (Item 3) to increase its length to facilitate installation in thicker walls. Each module consists of a 3 by 3 by 6 in. (76 by 76 by 152 mm) long galv steel tube with an intumescent material lining. Extension module to be installed in accordance with the accompanying installation instructions. When module is used, firestop device (item 2) and extension module(s) secured in place by means of steel wall plates installed with gasketing material supplied with product. Steel wall plates installed on both sides of wall and secured to each device or extension module(s) by means of steel set screws provided with wall plates. Firestop device and extension module(s) assembly to be installed with ends projecting an equal distance beyond each surface of the wall assembly.
SPECIFIED TECHNOLOGIES INC - EZ PATH Extension

3. **Nonmetallic Tubing** - Within the loading area for each firestop device module, the nonmetallic tubing may represent a 0 to 100 percent visual fill. Nonmetallic tubing fill to be distributed at a uniform height across the width of the firestop device module. Nonmetallic tubing to be rigidly supported on both sides of the wall assembly. Nonmetallic tubing to consist of nom 1/2 in. (13 mm) diam (or smaller) polyethylene (PE) or polyolefin (PL or PN) or nom 1/4 in. (6 mm) diam (or smaller) fluorinated ethylene propylene (FEP) for used in closed (process or supply) piping systems.
4. **Fill, Void or Cavity Material* - Sealant or Putty** - (Not Shown) - As an alternate to gypsum joint compound, the gap between the firestop device module and the cutout in the gypsum board may be sealed with fill material on each side of the wall assembly when four- and seven-gang steel wall plates are installed directly against the wood or steel studs.
   SPECIFIED TECHNOLOGIES INC - SpecSeal Series SSS Sealant, SpecSeal LCI Sealant or SpecSeal Putty

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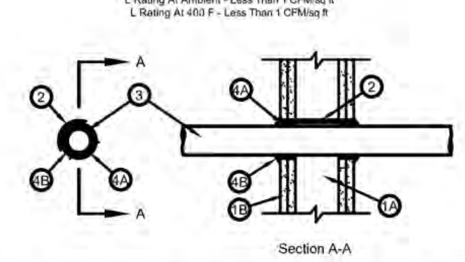
System No. W-L-2048
F Ratings - 1 and 2 Hr (See Item 1)
T Ratings - 1, 1-3/4 and 2 Hr (See Items 2 and 4A)
L Rating At Ambient - Less Than 1 CFM/sq ft
L Rating At 400 F - Less Than 1 CFM/sq ft



1. **Wall Assembly** - The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs** - Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC.
   B. **Gypsum Board*** - The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 5 in. (127 mm).
   The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. **Steel Sleeve (Optional)** - Nom 3 in. (76 mm) diam (or smaller) Schedule 40 (or thinner) steel pipe friction-fit into wall assembly, flush with both surfaces of wall. **When steel sleeve is used, T Rating is 1 hr.**
3. **Through Penetrants** - One nonmetallic pipe or conduit to be centered within the firestop system. The annular space shall be min 1/4 in. (6 mm) to max 1-1/4 in (32 mm). Pipe or conduit to be rigidly supported on both sides of the wall assembly. The following types and sizes of nonmetallic pipes or conduits may be used:
   A. **Polyvinyl Chloride (PVC) Pipe** - Nom 3 in. (76 mm) diam (or smaller) Schedule 40 cellular or solid core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   B. **Chlorinated Polyvinyl Chloride (CPVC) Pipe** - Nom 3 in. (76 mm) diam (or smaller) SDR 13.5 CPVC pipe for use in closed (process or supply) piping systems.
   C. **Rigid Nonmetallic Conduit+** - Nom 3 in. (76 mm) diam (or smaller) Schedule 40 PVC conduit installed in accordance with the National Electrical Code (NFPA No. 70).
   D. **Acrylonitrile Butadiene Styrene (ABS) Pipe** - Nom 3 in. (76 mm) diam (or smaller) Schedule 40 cellular or solid core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   E. **Flame Retardant Polypropylene (FRPP) Pipe** - Nom 2 in. (51 mm) diam (or smaller) Schedule 40 FRPP pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   F. **Polypropylene (PP) Pipe** - Nom 1 in. (25 mm) diam (or smaller) Schedule 80 PP pipe for use in closed (process or supply) piping systems.
   G. **Polyvinylidene Fluoride (PVDF) Pipe** - Nom 2 in. (51 mm) diam (or smaller) Schedule 40 PVDF pipe for use in closed (process or supply) piping systems.

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4. **Firestop System** - The firestop system shall consist of the following:
   A. **Fill, Void or Cavity Material* - Wrap Strip** - Nom 1/8 in. (3.2 mm) or 3/16 in. (4.8 mm) thick intumescent material faced on both sides with a plastic film, supplied in 2 in. (51 mm) wide strips or 1/8 or 1/4 in. (3.2 or 6 mm) thick intumescent material faced on both sides with a plastic film, supplied in 1-1/2 in. (38 mm) wide strips. Single layer of wrap strip wrapped around the through penetrant with the ends butted and held in place by means of foil tape. The wrap strip is slid along the through penetrant into annulus such that 1/4 in. (6 mm) of the wrap strip protrudes from the wall. One set of wrap strips to be installed on each side of wall. As an option when 1/8 in. (3.2 mm) thick wrap strip (BLU2) is used, the strips may be cut to a width of 1-1/2 in. (38 mm).
   The T Rating of the firestop system is dependent upon the hourly rating of the wall, the type of through penetrant and the type of wrap strip used as tabulated below:

Type Of Throught Penetrant	Hourly Rating of Wall Hr	Type of Wrap Strip	T Rating Hr
PVC, CPVC, PVDF RNC, PP or FRPP	1	SpecSeal BLU, SpecSeal BLU2 or SpecSeal RED, RED2	1
ABS	1	SpecSeal BLU, SpecSeal BLU2 or SpecSeal RED, RED2	1
PVC, CPVC, PVDF RNC, PP or FRPP	2	SpecSeal BLU, SpecSeal BLU2 or SpecSeal RED, RED2	2
ABS	2	SpecSeal BLU or SpecSeal BLU2	2
ABS	2	SpecSeal RED, RED2	1-3/4

   SPECIFIED TECHNOLOGIES INC - SpecSeal BLU Wrap Strip, SpecSeal BLU2 Wrap Strip or SpecSeal RED Wrap Strip, SpecSeal RED2 Wrap Strip
   B. **Fill, Void or Cavity Material* - Sealant** - When an annular space is present between the wrap strip and the edge of the opening, a min 5/8 in. (16 mm) depth of sealant shall be installed in the annular space flush with each surface of the wall. A min 1/4 in. (6 mm) diam bead of sealant shall be applied at the gypsum board/wrap strip interface on both surfaces of wall.
   SPECIFIED TECHNOLOGIES INC - SpecSeal 100, 101, 102, 105, 120 or 129 Sealant, SpecSeal LCI Sealant, Pensil 300 Sealant or SpecSeal Series SIL300 Sealant

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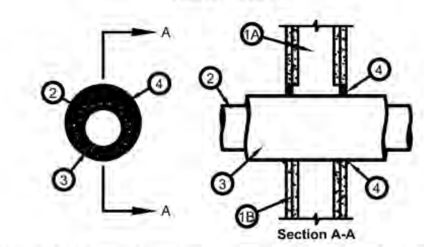
System No. W-L-5054
F Ratings - 1 & 2 Hr. (See Item 1)
T Ratings - 3/4 and 1 Hr.



1. **Wall Assembly** - The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs** - Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. O.C. with nom 2 by 4 in. lumber end plates and cross braces. Steel studs to be min 3-1/2 in. wide and spaced max 24 in. O.C.
   B. **Gypsum Board*** - 5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 7-5/8 in.
   The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. **Through Penetrant** - One metallic pipe or tubing to be installed either concentrically or eccentrically within the firestop system. Pipe or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes or tubing may be used:
   A. **Steel Pipe** - Nom 4 in. diam (or smaller) Schedule 10 (or heavier) steel pipe
   B. **Iron Pipe** - Nom 4 in. diam (or smaller) cast or ductile iron pipe
   C. **Copper Tubing** - Nom 4 in. diam (or smaller) Type L (or heavier) copper tubing.
   D. **Copper Pipe** - Nom 4 in. diam (or smaller) Regular (or heavier) copper pipe
3. **Tube Insulation - Plastics+** - Nom 3/4 in. or 1 in. thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing. The annular space between penetrating item and periphery of opening shall be min 0 in. (point contact) to max 1-1/2 in. **When 1 in. thick AB/PVC insulation is used, T Rating is 3/4 hr. When 3/4 in. thick AB/PVC insulation is used, T Rating is 1 hr.**
   See **Plastics+** (QMFZ2) category in the Recognized Component Directory of names for manufacturers. Any Recognized Component tube insulation material meeting the above specifications and having a UL 94 Flammability Classification of 94-5VA may be used.
4. **Fill, Void or Cavity Material* - Sealant** - Min 5/8 in. Thickness of fill material applied within annulus, flush with both surfaces of wall. Min 1/4 in. diam bead of sealant to be applied at the point contact location between the AB/PVC insulation and the gypsum board.
   SPECIFIED TECHNOLOGIES INC - SpecSeal Series SSS Sealant or SpecSeal LCI Sealant

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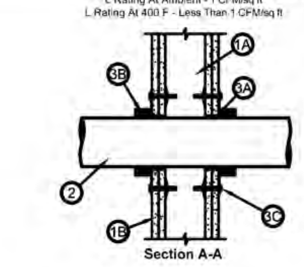
STI — W-L-5054 PAGE 1 OF 1

System No. W-L-2059
F Ratings - 1 and 2 Hr (See Items 2 and 3)
T Ratings - 3/4, 1, 1-1/2 and 2 Hr (See Items 2 and 3)
L Rating At Ambient - 1 CFM/sq ft
L Rating At 400 F - Less Than 1 CFM/sq ft



1. **Wall Assembly** - The 1 or 2 h fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300, U400 and V400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs** - Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC.
   B. **Gypsum Board*** - 5/8 in. (16 mm) thick, 4 ft (1219 mm) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300, U400 or V400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 5 in. (127 mm).
2. **Through-Penetrants** - One nonmetallic pipe or conduit to be centered within the firestop system. The annular space shall be max 1/4 in. (6 mm). Pipe or conduit to be rigidly supported on both sides of the wall assembly. The following types and sizes of nonmetallic pipes or conduits may be used:
   A. **Polyvinyl Chloride (PVC) Pipe** - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 or 80 solid or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. **When Schedule 80 PVC pipe is used, the F and T Ratings are 1 hr. When Scheduled 80 PVC pipe is used in closed (process or supply) piping systems, the F and T Ratings are equal to the assembly rating of the wall in which it is installed.**
   B. **Rigid Nonmetallic Conduit+** - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 or 80 PVC conduit installed in accordance with Article 347 of the National Electrical Code (NFPA 70). **When Schedule 80 PVC conduit is used, the F and T Ratings are 1 hr.**
   C. **Chlorinated Polyvinyl Chloride (CPVC) Pipe** - Nom 4 in. (102 mm) diam (or smaller) SDR 13.5 CPVC pipe for use in closed (process or supply) piping systems.
   D. **Acrylonitrile Butadiene Styrene (ABS) Pipe** - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 solid or foamed core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   E. **Fire Retardant Polypropylene (FRPP) Pipe** - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 FRPP pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   F. **Polyvinylidene Fluoride (PVDF) Pipe** - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 PVDF pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   G. **Fiberglass Reinforced Pipe (FRP) Pipe** - Nom 4 in. (102 mm) diam (or smaller) glass fiber reinforced thermosetting resin pipe for use in closed (process or control) or vented (drain, waste or vent) piping systems. When FRP pipe is used, T Rating is 3/4 hr.

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STI — W-L-2059 PAGE 1 OF 2

   H. **High Density Polyethylene (HDPE) Pipe** - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 HDPE pipe for use in closed (process or supply) piping systems.
3. **Firestop System** - The firestop system shall consist of the following:
   A. **Fill, Void or Cavity Material* - Sealant** - Fill material forced into annular space to max extent possible. Caulk shall be installed flush with both surfaces of wall assembly.
   SPECIFIED TECHNOLOGIES INC - SpecSeal 100, 101, 102, 105, 120 or 129 Sealant, SpecSeal LCI Sealant, Pensil 300 Sealant or SpecSeal Series SIL300 Sealant
   B. **Fill, Void or Cavity Material - Wrap Strip** - Nom 1/8 or 3/16 in. (3.2 or 4.8 mm) thick intumescent material faced on both sides with a plastic film, supplied in 2 in. (51 mm) wide strips or nom 1/4 in. (6 mm) thick intumescent material faced on both sides with a plastic film, supplied in 1-1/2 in. (38 mm) wide strips. The layers of wrap strips are individually wrapped around the through-penetrant with ends butted and held in place with masking tape. Butted ends in successive layers shall be aligned.
   Except as noted in Item 2, the F and T Rating of the firestop system is dependent upon the fire rating of wall, diam of through penetrant and the number of wrap strips as tabulated below:

Fire Rating of Wall Hr	Max Diam of Throught Penetrant in. (mm)	No. of Wrap Strip Layers	F Rating Hr	T Rating Hr
1	1-1/2 (38)	1	1	1
2	1-1/2 (38)	1	2	1-1/2
1	2 (51)	1	1	1
2	2 (51)	1	2	1-1/2
1	3 (76)	2	1	1
2	3 (76)	2	2	2
1	4 (102)	3	1	1
2	4 (102)	3	2	2

   SPECIFIED TECHNOLOGIES INC - SpecSeal BLU Wrap Strip, SpecSeal BLU2 Wrap Strip or SpecSeal RED Wrap Strip
   C. **Steel Collar** - Collar fabricated from coils of precut 0.016 in. (0.4 mm) thick (30 MSG) galv sheet steel available from wrap strip manufacturer. Collar shall be min 1-1/2 in. (38 mm) deep with 1 in. (25 mm) wide by 2 in. (51 mm) long anchor tabs for securement to the concrete floor or wall. Retainer tabs, 3/4 in. (19 mm) wide tapering down to 1/4 in. (6 mm) wide and located opposite the anchor tabs, are folded 90 degree toward pipe surface to maintain the annular space around the pipe and to retain the wrap strips. Steel collar wrapped around wrap strips and pipe with a 1 in. (25 mm) wide overlap along its perimeter joint and secured together by means of a min 1/2 in. (13 mm) wide by 0.028 in. (0.7 mm) thick stainless steel hose clamp installed at mid-depth of the steel collar. As an alternate to the steel hose clamp, the steel collar may be secured together by means of three No. 8 by 1/4 in. (6 mm) long steel sheet metal screws when more than one layer of wrap strip is used.
   Wrap strip/collar assembly is slid along the through-penetrant until abuts the surface of the wall. Collar secured to wall by 1/8 in. (3.2 mm) diam by 1-3/4 in. (44 mm) long steel molly bolts in conjunction with 1-1/4 in. (32 mm) diam steel fender washers. The number of molly bolts used is dependent upon the nom diam of the through penetrant. Two molly bolts, symmetrically located, are required for nom 1-1/2 in. (38 mm) and 2 in. (51 mm) diam through penetrants. Three molly bolts, symmetrically located, are required for nom 2-1/2 in. (64 mm) and 3 in. (76 mm) diam through penetrants. Four molly bolts, symmetrically located, are required for nom 3-1/2 in. (89 mm) and 4 in. (102 mm) diam through penetrants. Steel collars are installed on each side of wall.
   D. **Firestop Device*** - (Optional, Not Shown) - As an alternate to Item 3B and 3C, galv steel collar lined with an intumescent material sized to fit the specific diam of the through-penetrant. Device shall be installed around through-penetrant in accordance with accompanying installation instructions. Device incorporates anchor tabs for securement to each surface of wall assembly by means of 1/8 in. (3 mm) diam by 1-3/4 in. (45 mm) long steel molly bolts in conjunction with 1/4 in. (6 mm) diam by 1-1/2 in. (38 mm) diam steel fender washers.
   SPECIFIED TECHNOLOGIES INC - SpecSeal Firestop Collar, SpecSeal LCC Collar. When SpecSeal LCC Collar is used, the max annular space shall be 1/8 in. (3 mm) for max 2-1/2 in. (64 mm) diam pipe and shall be max 1/4 in. (6 mm) for pipe larger than 2-1/2 in. (64 mm) diam.

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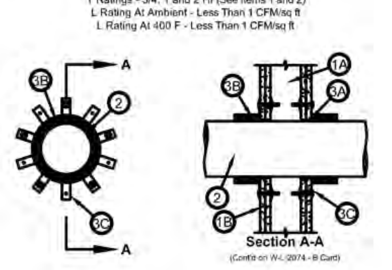
STI — W-L-2059 PAGE 2 OF 2

System No. W-L-2074
F Ratings - 1 and 2 Hr (See Item 1)
T Ratings - 3/4, 1 and 2 Hr (See Items 1 and 2)
L Rating At Ambient - Less Than 1 CFM/sq ft
L Rating At 400 F - Less Than 1 CFM/sq ft



1. **Wall Assembly** - The 1 or 2 h fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300, U400 or V400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs** - Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced 24 in. (610 mm) OC.
   B. **Gypsum Board*** - 5/8 in. (16 mm) thick, 4 ft (1.2 m) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300, U400 or V400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 7 in. (178 mm).

Except as noted in Item 2, the hourly F and T Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed.

2. **Through-Penetrants** - One nonmetallic pipe or conduit to be centered within the firestop system. A nom annular space of 1/8 to 1/4 in. (3 to 6 mm) is required within the firestop system. Pipe or conduit to be rigidly supported on both sides of wall assembly. The following types and sizes of nonmetallic pipes or conduit may be used:
   A. **Polyvinyl Chloride (PVC) Pipe** - Nom 6 in. (152 mm) diam (or smaller) Schedule 40 solid core or cellular PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   B. **Flame Retardant Polypropylene (FRPP) Pipe** - Nom 6 in. (152 mm) diam (or smaller) Schedule 40 FRPP pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   C. **Rigid Nonmetallic Conduit+** - Nom 6 in. (152 mm) diam (or smaller) Schedule 40 PVC conduit installed in accordance with the National Electrical Code (NFPA No. 70.)
   D. **Chlorinated Polyvinyl Chloride (CPVC)Pipe** - Nom 6 in. (152 mm) diam (or smaller) SDR 13.5 CPVC pipe for use in closed (process or supply) piping systems.
   E. **Fiberglass Reinforced Pipe (FRP)** - Nom 6 in. (152 mm) diam (or smaller) glass fiber reinforced thermosetting resin pipe for use in closed (process or control) or vented (drain, waste or vent) piping systems. **When FRP pipe is used, T Rating is 3/4 hr.**

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STI — W-L-2074 PAGE 1 OF 2

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3. **Firestop System** - The firestop system shall consist of the following:
   A. **Fill, Void or Cavity Material* - Sealant** - Min 1/4 in. (6 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall.
   SPECIFIED TECHNOLOGIES INC - SpecSeal 100, 101, 102, 105, 120 or 129 Sealant, SpecSeal LCI Sealant, Pensil 300 Sealant or SpecSeal Series SIL300 Sealant.
   B. **Fill, Void or Cavity Material* - Wrap Strip** - Nom 1/8 or 3/16 in. (3.2 or 4.8 mm) thick intumescent material faced on both sides with a plastic film, supplied in 2 in. (51 mm) wide strips or nom 1/4 in. (6 mm) thick intumescent material faced on both sides with a plastic film, supplied in 1-1/2 in. (38 mm) wide strips. Two stacks of wrap strips, each consisting of three wrap strip layers, are individually wrapped around the through-penetrant with the ends butted and held in place by means of masking tape. Butted ends in successive layers shall be aligned. Wrap strips are installed on each side of wall.
   SPECIFIED TECHNOLOGIES INC - SpecSeal BLU Wrap Strip, SpecSeal BLU2 Wrap Strip or SpecSeal RED Wrap Strip
   C. **Steel Collar** - Collar fabricated from coils of precut 0.022 in. (0.6 mm) thick (No. 26 MSG) galv sheet steel available from wrap strip manufacturer. Collar shall be min 3 in. (76 mm) deep with min six 1 in. (25 mm) wide by 2 in. (51 mm) long anchor tabs. Retainer tabs, 3/4 in. (19 mm) wide tapering down to 3/8 in. (10 mm) wide and located opposite the anchor tabs, are folded 90 degrees toward through-penetrant surface to maintain the annular space around the through-penetrant and to retain the wrap strips. Steel collar wrapped around wrap strips and through-penetrant with a 1 in. (25 mm) wide overlap along its perimeter joint and secured together by means of three No. 8 by 3/8 in. (10 mm) long steel screws. Wrap strip/steel collar assembly is slid along the through-penetrant until it abuts the surface of the wall. Steel collar tightened around wrap strips and through-penetrant using min 1/2 in. (13 mm) wide by 0.028 in. (0.7 mm) thick stainless steel hose clamp spaced 2 in. (51 mm) OC. Collar secured to wall by a min of six 1/8 in. (3.2 mm) diam by min 1-3/4 in. (45 mm) long molly bolts in conjunction with min 1/4 in. (6 mm) by 1-1/2 in. (38 mm) diam steel fender washers. Steel collar installed on each side of wall.
4. **Firestop Device*** - As an alternate to the wrap strip and the steel collar (Item Nos. 3B and 3C), a firestop device consisting of steel collar lined with an intumescent material sized to fit the specific diam of the nonmetallic through penetrant may be used. Device shall be installed in accordance with the installation instructions supplied with the product. The device shall be installed on the each side of the wall and secured to the wall with 1/8 in. (3.2 mm) diam by min 1-3/4 in. (45 mm) long steel molly bolts in conjunction with 1-1/4 in. (32 mm) diam steel fender washers.
   SPECIFIED TECHNOLOGIES INC - SpecSeal Firestop Collar, SpecSeal LCC Collar. When SpecSeal LCC Collar is used, the max annular space shall be 1/8 in. (3 mm) for max 2-1/2 in. (64 mm) diam pipe and shall be max 1/4 in. (6 mm) for pipe larger than 2-1/2 in. (64 mm) diam.

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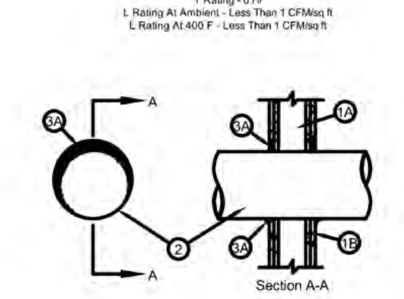
System No. W-L-7026
F Ratings - 1 and 2 Hr (See Item 1)
T Rating - 0 Hr
L Rating At Ambient - Less Than 1 CFM/sq ft
L Rating At 400 F - Less Than 1 CFM/sq ft



1. **Wall Assembly** - The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400 or V400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs** - Wall framing shall consist of min 3-1/2 in. (89 mm) wide steel channel studs spaced max 24 in. (610 mm) OC. When diam of opening exceeds width of stud cavity, additional lengths of steel stud installed to frame out opening around steel duct (Item 2).
   B. **Gypsum Board*** - 5/8 in. (16 mm) thick, 4 ft (1.22 m) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U400 or V400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 25-1/2 in. (648 mm).
   The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. **Steel Duct** - Max 24 in. (610 mm) diam No. 28 gauge (or heavier) galv steel vent duct or No. 26 gauge (or heavier) spiral wound galv steel duct. One steel duct to be installed either concentrically or eccentrically within the firestop system. An annular space of min 0 in. (0 mm, point contact) to max 1-1/2 in. (38 mm) is required within the firestop system. Steel duct to be rigidly supported on both sides of the wall assembly.
3. **Firestop System** - The firestop system shall consist of the following:
   A. **Packing Material** - (Optional, Not Shown) - Polyethylene backer rod, mineral wool batt insulation or fiberglass batt insulation friction fit into annular space for 2 hr rated wall assemblies only. Packing material to be recessed from both surfaces of wall to accommodate the required thickness of fill material (Item 3B).
   B. **Fill, Void or Cavity Material* - Sealant** - Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. Min 1/4 in. (6 mm) diam bead of fill material shall be applied at the point contact location between the steel duct and the gypsum board. For 2 hr Rated walls when LC150 or LE600 Sealant is used, fill material thickness installed to full depth of gypsum board layers on each side of wall assembly.
   SPECIFIED TECHNOLOGIES INC - SpecSeal Series SSS Sealant, SpecSeal LCI Sealant, SpecSeal LC150 Sealant, or SpecSeal LE600 Sealant

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4. **Firestop System** - The firestop system shall consist of the following:
   A. **Fill, Void or Cavity Material* - Wrap Strip** - Nom 1/8 in. (3.2 mm) or 3/16 in. (4.8 mm) thick intumescent material faced on both sides with a plastic film, supplied in 2 in. (51 mm) wide strips. A stack of two single layers of wrap strip to be wrapped around the through penetrant with butted seams and joints. Stacked wrap strips secured together with aluminum foil tape around entire circumference with min 1 in. (25 mm) tape overlap. Stacked wrap strips slid into annular space until bottom edge of wrap strip protrudes 1/2 in. (13 mm) below bottom surface of floor. When nom 3 in. (76 mm) diam or smaller penetrants are used, min height of wrap strip stack is 3 in. (76 mm). When nom 3-1/2 or 4 in. (89 or 102 mm) diam penetrants are used, min height of wrap strip stack is 4 in. (102 mm).
   SPECIFIED TECHNOLOGIES INC - SpecSeal BLU Wrap Strip or SpecSeal BLU2 Wrap Strip
   A1. **Fill, Void, or Cavity Material* - Wrap Strip** - As an alternate to Item 4A, nom 1/8 in. (3.2 mm) thick intumescent material faced on both sides with a plastic film sized to fit the OD of the pipe. See table for min width of intumescent wrap strip. The wrap strip is continuously wrapped around the outer circumference of the pipe once and slid into the annular space and held in place with one layer of aluminum foil tape. For nom 3 in. (76 mm) and 4 in. (102 mm) diam through penetrants, the wrap strips slid into annular space until bottom edge of wrap strip protrudes 1/2 in. (13 mm) below bottom surface of floor. For nom 2 in. (51 mm) diam through penetrants, the wrap strips are installed such that the bottom edge is recessed a nom 3/4 in. (19 mm) from the bottom surface of the concrete floor.

Nom Pipe Diam. In. (mm)	Wrap Strip	Wrap Strip Width, in (mm)
2 (51)	BLU 220	1-1/2 (38)
3 (78)	BLU 230	3 (76)
4 (102)	BLU 240	4 (102)

   SPECIFIED TECHNOLOGIES INC - SpecSeal BLU220, BLU230, or BLU240 Wrap Strip
   B. **Fill Void or Cavity Materials* - Sealant** - Min 1/2 in. (13 mm) thick bead of fill material applied at the wrap strip/steel sleeve or concrete floor interface on the top surface of the floor.
   SPECIFIED TECHNOLOGIES INC - SpecSeal LCI Sealant or SpecSeal Series SSS Sealant

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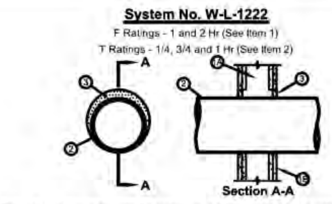
System No. W-L-1222
F Ratings - 1 and 2 Hr (See Item 1)
T Ratings - 1/4, 3/4 and 1 Hr (See Item 2)



1. **Wall Assembly** - The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs** - Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC.
   B. **Gypsum Board*** - Thickness, type, number of layers and fasteners as specified in the individual Wall and Partition Design. Max diam of opening is 10-5/8 in. (270 mm).
   The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. **Through Penetrant** - One metallic pipe, conduit or tube to be installed eccentrically or concentrically within the firestop system. Pipe, conduit or tubing may be installed at an angle not greater than 45 degrees from perpendicular. The annular space between the pipe, conduit or tube and the periphery of the opening shall be min 0 in. (0 mm, point contact) to max 2 in. (51 mm). Pipe, conduit or tube to be rigidly supported on both sides of the wall assembly. The following types and sizes of metallic pipes, conduits and tubes may be used:
   A. **Steel Pipe** - Nom 8 in. (203 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.
   B. **Iron Pipe** - Nom 8 in. (203 mm) diam (or smaller) cast or ductile iron pipe.
   C. **Conduit** - Nom 6 in. (152 mm) diam (or smaller) rigid steel conduit, nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing (EMT) or nom 4 in. (102 mm) diam (or smaller) flexible steel conduit.
   D. **Copper Pipe** - Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.
   E. **Copper Tube** - Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tube.

Type of Penetrant	Max Diam	T Rating
Steel or iron pipe, steel conduit or EMT	2 in. (51 mm)	1 hr
Steel or iron pipe, steel conduit or EMT	8 in. (203 mm)	3/4 hr
Copper pipe or tube	4 in. (102 mm)	1/4 hr

2A. **Through Penetrating Product* - Flexible Metal Piping** - As an alternate to Item 2, one nom 1-1/4 in. (32 mm) diam (or smaller) steel flexible metal pipe to be installed either concentrically or eccentrically within the firestop system. The annular space between the pipe and the periphery of the opening shall be min 0 in. (0 mm, point contact) to max 2 in. (51 mm). Pipe to be rigidly supported on both sides of the wall assembly.
OMEGA FLEX INC
TITEFLEX CORP
A BUNDY CO
WARD MFG INC
3. **Fill, Void or Cavity Material* - Sealant** - Min 5/8 in. (16 mm) thickness of fill material applied within annulus, flush with both surfaces of wall assembly. At point contact location, min 1/4 in. (6 mm) diam bead of fill material applied at metallic pipe/gypsum board interface on both surfaces of wall.
   SPECIFIED TECHNOLOGIES INC - SpecSeal LCI Sealant

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04 FEB 2021
M. RANDALL PORTER
A-2012006244

Wallace ARCHITECTS L.L.C.
Columbia, MO
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Rev	Date	Description
0	04 FEB 2021	PERMIT SET

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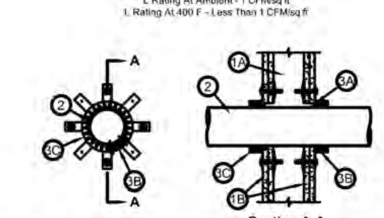
ARIA APARTMENTS LEE'S SUMMIT
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

FIRE STOPPING REFERENCE DETAILS

PERMIT SET

System No. W-L-2243

F Ratings - 1 and 2 Hr (See Item 1)
T Ratings - 1, 1-1/2 and 2 Hr (See Item 1 and 3B)
L Rating At Ambient - 1 CFM/sq ft
L Rating At 400 F - Less Than 1 CFM/sq ft



1. **Wall Assembly** - The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400 or V400 Series Wall and Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs** - Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC.
   B. **Gypsum Board*** - Thickness, type, number of layers and fasteners as specified in the individual Wall and Partition Design. Nom diam of opening is 1/4 to 1/2 in. (6 to 13 mm) larger than OD of through penetrant.
   The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed. The hourly T Rating is equal to the hourly fire rating of the wall in which it is installed except as noted under item 3B.
2. **Through Penetrant** - One nonmetallic pipe or conduit to be installed eccentrically or concentrically within the firestop system. The annular space shall range from min 0 in. (point contact) to max 1/2 in. (13 mm), dependent upon pipe diameter. Pipe or conduit to be rigidly supported on both sides of the wall assembly. The following types and sizes of nonmetallic pipes or conduits may be used:
   A. **Polyvinyl Chloride (PVC) Pipe** - Nom 6 in. (152 mm) diam (or smaller) solid or cellular core Schedule 40 PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   B. **Chlorinated Polyvinyl Chloride (CPVC) Pipe** - Nom 6 in. (152 mm) diam (or smaller) SDR 13.5 CPVC pipe for use in closed (process or supply) piping systems.
   C. **Rigid Nonmetallic Conduit+** - Nom 6 in. (152 mm) diam (or smaller) Schedule 40 PVC conduit installed in accordance with the National Electrical Code (NFPA 70).
   D. **Acrylonitrile Butadiene Styrene (ABS) Pipe** - Nom 6 in. (152 mm) diam (or smaller) solid or cellular core Schedule 40 ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   E. **Fire Retardant Polypropylene (FRPP) Pipe** - Nom 6 in. (152 mm) diam (or smaller) Schedule 40 FRPP pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
3. **Firestop System** - The firestop system shall consist of the following:
   A. **Fill, Void or Cavity Material* - Sealant** - Fill material installed to min 1/4 in. (6 mm) depth within annulus on both sides of wall. When nom diam of pipe is less than 4 in. (102 mm) the sealant is optional. **L Ratings apply only when sealant is used.**
   SPECIFIED TECHNOLOGIES INC - SpecSeal Series 100, 101, 102, 105, 120 or 129 Sealant, SpecSeal LCI Sealant, Pensil 300 Sealant or SpecSeal Series SIL300 Sealant

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STI — W-L-2243 PAGE 1 OF 3

B. **Fill, Void or Cavity Material* - Wrap Strip** - Nom 1/8 or 3/16 in. (3.2 or 4.8 mm) thick intumescent material faced on both sides with plastic film, supplied in 2 in. (51 mm) wide strips or 1/4 in. (6 mm) thick intumescent material faced on both sides with plastic film, supplied in 1-1/2 in. (38 mm) wide strips. Strips tightly wrapped around nonmetallic pipe with edges butted against both surfaces of the wall. The wrap strips may be installed with butted seams with butted seams in successive layers aligned or offset or continuously wrapped around through penetrant. Wrap strips are temporarily held in place with masking tape. The number of layers of wrap strip are dependent on the diam of the pipe as tabulated below:

Diam of Through Penetrant, in. (mm)	Wrap Strip Type	Layers of Wrap Strip
5 (152)	RED, RED 2, BLU or BLU 2	3 or 4*
4 (102)	RED, RED 2, BLU or BLU 2	3
4 (102)	RED, RED 2, BLU or BLU 2	2**
3 (76)	RED, RED 2, BLU or BLU 2	2
2 (51)	RED, RED 2, BLU or BLU 2	1

* For nom 6 in. (152 mm) pipe, two sets of three wrap strip layers are "stacked" to attain a 3 in. (76 mm) width for RED Wrap Strip or 4 in. (102 mm) width for BLU or BLU2 wrap strip. For nom 6 in. (152 mm) diam solid core PVC, CPVC, ABS and RNC pipes, one stack of four wrap strip layers of RED, RED2, BLU or BLU2 Wrap strip.

** When two layers of wrap strip are used in lieu of three for 4 in. (102 mm) diam pipe, the T Rating is 1-1/2 hr for 2 hr fire-rated wall assembly.

SPECIFIED TECHNOLOGIES INC - SpecSeal RED Wrap Strip, SpecSeal RED2 Wrap Strip, SpecSeal BLU Wrap Strip or SpecSeal BLU2 Wrap Strip

B1. **Fill, Void, or Cavity Material - Wrap Strip** - (Not Shown) - As an alternate to Item 3B for nom 2 in., 3 in. and 4 in. (51, 76 and 102 mm) diam pipes, precut intumescent wrap strip faced on both sides with a plastic film sized to fit the OD of the pipe. The size of the intumescent wrap strip for each pipe size is tabulated below:

Nom Pipe Diam, in. (mm)	Wrap Strip	Wrap Strip Size, thickness by width by lenght, in. (mm)
2 (51)	SSW125	1/8 by 1-1/2 by 8-1/8 (3 by 38 by 206)
3 (76)	SSW250	1/4 by 1-1/2 by 12-11/16 (6 by 38 by 322)
4 (102)	SSW375	3/8 by 1-1/2 by 16 (10 by 38 by 406)

SPECIFIED TECHNOLOGIES INC - SpecSeal SSW125, SSW250, or SSW375 Wrap Strip. When SpecSeal SSW125 Wrap Strip is used, the max annular space shall be 1/8 in. (3 mm). When SpecSeal SSW250 Wrap Strip is used, the max annular space shall be 1/4 in. (6 mm).

C. **Steel Collar** - Nom 1-1/2, 2, 3 or 4 in. (38, 51, 76 or 102 mm) deep collar, dependent upon wrap strip width, with 1 in. (25 mm) wide by 2 in. (51 mm) long anchor tabs for securement to gypsum board and min 3/4 in. (19 mm) wide retaining tabs tapering down to 1/4 in. (6 mm) wide and located opposite the anchor tabs. Steel collar, with anchor tabs bent outward 90 deg, wrapped tightly around wrap strip layers with min 1 in. (25 mm) overlap at seam. Retainer tabs to be bent 90 deg toward pipe to lock wrap strips in position. Anchor tabs to be pressed tightly against wall surfaces, and collar to be secured in place with one 1/2 in. (13 mm) wide by 0.028 in. (0.7 mm) thick stainless steel band clamp. Two band clamps are required for 3 in. (76 mm) high (or higher) collar on 6 in. (152 mm) pipe. As an alternate to the band clamps on 1-1/2 in. (38 mm) and 2 in. (51 mm) deep collars encasing two or more layers of wrap strip, secure collar together by means of three No. 8 by 1/4 in. (6 mm) long steel screws. Collar to be secured to wall surfaces with 1/8 in. (3.2 mm) diam by min 2-3/4 in. (70 mm) long steel molly bolts or toggle bolts in conjunction with min 1-1/4 in. (32 mm) diam steel fender washers. The number of hollow wall anchors is dependent upon the nom diam of the through penetrant. Min two hollow wall anchors, symmetrically located, are required for nom 1-1/2 in. (38 mm) and 2 in. (51 mm) diam through penetrants. Min three hollow wall anchors, symmetrically located, are required for nom 2-1/2 in. (64 mm) and 3 in. (76 mm) diam through penetrants. Min four hollow wall anchors, symmetrically located, are required for nom 3-1/2 in. (89 mm) and 4 in. (102 mm) diam through penetrants. Min six hollow wall anchors, symmetrically located, are required for nom 6 in. (152 mm) diam through penetrants.

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STI — W-L-2243 PAGE 2 OF 3

** When using one stack of four layers of wrap strip for nom 6 in. (152 mm) diam pipes, two layers of nom 1-1/2 or 2 in. (38 or 51 mm) deep collar (dependent upon wrap strip width) is to be wrapped around wrap strip and penetrant with min 1 in. (25 mm) overlap.

D. **Firestop Device*** - (Not Shown) - As an alternate to Items C and D, a firestop device consisting of a galv steel collar lined with an intumescent material sized to fit the specific diam of the through penetrant may be used. Device shall be installed around through-penetrant in accordance with the accompanying installation instructions. Device incorporates anchor tabs for securement to both surfaces of wall assembly by means of 1/8 in. (3.2 mm) diam by 2-3/4 in. (70 mm) long steel molly bolts or toggle bolts in conjunction with min 1-1/4 in. (32 mm) diam steel fender washers.

SPECIFIED TECHNOLOGIES INC - SpecSeal Firestop Collar, SpecSeal LCC Collar. When SpecSeal LCC Collar is used, the max annular space shall be 1/8 in. (3 mm) for max 2-1/2 in. (64 mm) diam pipe and shall be max 1/4 in. (6 mm) for pipe larger than 2-1/2 in. (64 mm) diam.

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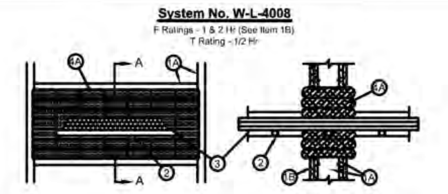
STI — W-L-2243 PAGE 3 OF 3

System No. W-L-4008

F Ratings - 1 & 2 Hr (See Item 1B)
T Rating - 1/2 Hr



1. **Wall Assembly** - The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs** - Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC with nom 2 by 4 in. lumber end plates and cross braces. Steel studs to be min 3-5/8 in. wide and spaced max 24 in. OC. Additional framing members to be installed in stud cavity containing the through-penetrating item to form a rectangular box around the penetrant.
   B. **Gypsum Board*** - 5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max area of opening is 273 sq in. with max dimensions of 22-3/4 in. Max width of opening in wood stud walls is limited to 14-1/2 in.
   The hourly F rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. **Cable Tray*** - Max 18 in. wide by max 5 in. deep open ladder cable tray with channel-shaped side rails formed from 0.060 thick (No. 16 MSG) galv steel with nom 1 in. diam rungs spaced 9 in. OC or max 18 in. wide by max 5 in. deep open ladder cable tray with channel-shaped side rails formed from 0.060 in. thick aluminum with nom 1 in. diam rungs spaced 9 in. OC. One cable tray to be centered in the opening. The annular space between the cable tray and each side of opening shall be a nom 2-5/16 in. The annular space between the cable tray and top and bottom of opening shall be a nom 3-1/2 in. Cable tray to be rigidly supported on both sides of wall assembly.
3. **Cables** - Aggregate cross-sectional area of cables in cable tray to be max 30 percent of the cross-sectional area of the cable tray based on a max 3-7/8 in. cable loading depth within the cable tray. Any combination of the following types and sizes of copper conductor cables may be used:
   A. Max 200 pair No. 24 AWG (or smaller) copper conductor cable with polyvinyl chloride (PVC) jacketing and insulation.
   B. Max 1/C -750 kcmil (or smaller) copper conductor cable with XLPE or PVC insulation and XLPE or PVC jacket.
   C. Max RG59/U (or smaller) coaxial cable with fluorinated ethylene insulation and jacketing.
   D. Max 3/C - No. 2 AWG (or smaller) copper conductor cable with PVC insulation and jacketing.
   E. Max 7/C - No. 12 AWG (or smaller) copper conductor cable with PVC-nylon insulation and PVC jacketing.
   F. Max 62.5/125 micron fiber optic cable with PVC insulation and jacketing.
   G. Max 4 pair No. 24 AWG (or smaller) copper conductor data cable with Hylar insulation and jacketing.
   H. Max 4/C No. 10 AWG (or smaller) copper or aluminum conductor aluminum or steel Metal-Clad® or Armored-Clad® cable.
4. **Firestop System** - The firestop system shall consist of the following:
   A. **Fill, Void or Cavity Material* - Pillows** - Max 9 in. long by 6 in. wide by 3 in. thick plastic covered intumescent pillows. Pillows to be installed lengthwise through the opening and positioned to extend equally in both directions from the approximate center line of the wall. Pillows tightly packed into opening to fill the annular space between cables and periphery of opening and between cable tray and periphery of opening.
   SPECIFIED TECHNOLOGIES INC - SpecSeal Firestop Pillows
   B. **Fill, Void or Cavity Material* - Putty** (Not Shown) - After installation of pillows (item 4A), putty applied to seal any voids between the cables, between the cables and the pillows and between the cable tray and the pillows on both sides of the wall assembly.
   SPECIFIED TECHNOLOGIES INC - SpecSeal Putty

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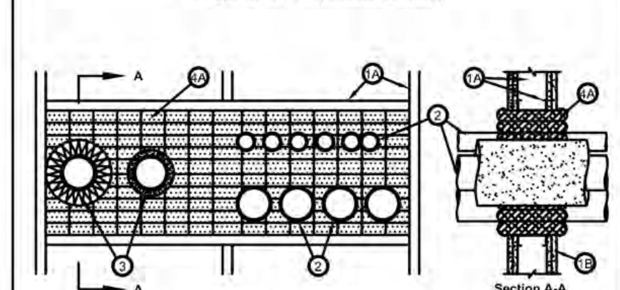
STI — W-L-4008 PAGE 1 OF 1

System No. W-L-8050

F Ratings - 1 and 2 Hr (See Item 1)
T Ratings - 1/4, 3/4, 1, 1-1/4 and 2 Hr (See Items 2 and 3)



1. **Wall Assembly** - The 1 or 2 hr fire-rated gypsum board/steel stud wall assembly shall be constructed of the materials and in the manner specified in the individual U400 Series Wall and Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs** - Steel studs to be min 3-1/2 in. wide and spaced 24 in. OC. Additional studs installed horizontally to form a rectangular box around the through-penetrants.
   B. **Gypsum Board*** - Thickness, type, number of layers, orientation and fasteners shall be as specified in the individual Wall and Partition Design. Max area of opening is 748 sq in. with a max dim of 46-3/4 in.
   The F Rating of the firestop system is equal to the rating of the wall assembly in which it is installed.
2. **Metallic Penetrants** - One or more metal pipes, conduits or tubing installed within the through opening. The space between pipes, conduits or tubing shall be min 0 in. to max 6 in. The space between pipes, conduits or tubing and periphery of opening shall be min 0 in. to max 8 in. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. **Steel Pipe** - Nom 8 in. diam (or smaller) Schedule 5 (or heavier) steel pipe.
   B. **Iron Pipe** - Nom 8 in. diam (or smaller) cast or ductile iron pipe.
   C. **Conduit** - Nom 6 in. diam (or smaller) rigid steel conduit, nom 4 in. diam (or smaller) electrical metallic tubing (EMT) or nom 1 in. diam (or smaller) flexible steel conduit.
   D. **Copper Pipe or Tube** - Nom 4 in. diam (or smaller) Regular (or heavier) copper pipe or Type L (or heavier) copper tube.
   The hourly T Rating is 1/4 hr when bare (uninsulated) metallic penetrant is used.
3. **Pipe Insulation** - (Optional) - Pipe insulation may be installed on one or more of the metallic pipes or tubes. When pipe insulation is used, min space between insulated metallic pipes and tubes and bare metallic pipes, conduits and tubing shall be min 2 in. The following types of pipe insulations may be used:

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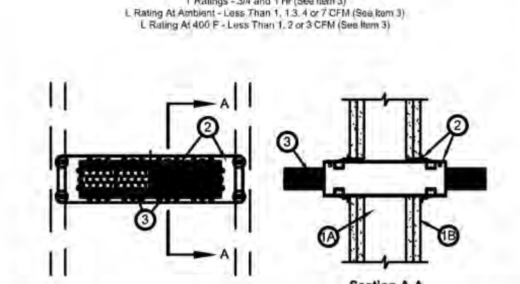
STI — W-L-8050 PAGE 1 OF 2

System No. W-L-3218

F Ratings - 1, 2, 3 and 4 Hr (See Items 1 and 3)
T Ratings - 3/4 and 1 Hr (See Item 3)
L Rating At Ambient - Less Than 1, 1.3, 4 or 7 CFM (See Item 3)
L Rating At 400 F - Less Than 1, 2 or 3 CFM (See Item 3)



1. **Wall Assembly** - The 1, 2, 3 or 4 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described within the individual U300, U400 or V400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall incorporate the following construction features:
   A. **Studs** - Wall framing shall consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced max 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC.
   B. **Gypsum Board*** - Thickness, type, number of layers and fasteners as specified in the individual Wall and Partition Design. Opening in gypsum board to be max 1/4 in. (6 mm) larger then width and height dimensions of firestop device(s).
   The hourly F Rating of the firestop system is dependent upon the hourly rating of the wall in which it is installed.
2. **Firestop Device*** - One, two, three, four or seven firestop device modules ganged together. Each firestop device module consists of a 3 by 3 by 10-1/2 in. (76 by 76 by 267 mm) long galv steel tube with an intumescent material lining. Firestop device modules to be installed in accordance with the accompanying installation instructions. The space between the firestop device module(s) and the periphery of the opening shall be min 0 in. (0 mm, point contact) to max 1/8 in. (3.2 mm). In round openings, the space between the firestop device and the periphery of the opening shall be min 0 in. (point contact) to max 1/2 in. (13 mm). Firestop device module(s) secured in place by means of steel wall plates installed with gasketing material supplied with product. Steel wall plates installed on both sides of wall and secured to each device by means of steel set screws provided with device. Each four- and seven-gang steel wall plate shall be fastened to the studs with steel screws sized to extend through the gypsum board layers and penetrate 1/2 in. (13 mm) into the framing member. Each firestop device module is to be installed with ends projecting an equal distance beyond each surface of the wall assembly.
   As an alternate, the four- and seven-gang steel wall plates may be installed directly against the studs for walls having 16 and 24 in. (406 and 610 mm) center-to-center stud spacing, respectively, prior to installation of the gypsum board layers. The steel wall plates shall be secured to the stud by means of steel screws. After installation of the steel wall plates and firestop device modules, the gypsum board shall be installed as specified in the individual U300 or U400 Design with a maximum 1/8 in. (3.2 mm) gap between the firestop device module and the cutout in the gypsum board. Gap between the firestop device module and the cutout in the gypsum board may be filled with gypsum joint compound or fill material (Item 4).
   SPECIFIED TECHNOLOGIES INC - EZ PATH Series 33 Fire Rated Pathway

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STI — W-L-3218 PAGE 1 OF 2

2A. **Firestop Device* - Extension Module** - (Optional, Not Shown) - Module attached to ends of 3 by 3 by 10-1/2 in. (76 by 76 by 267 mm) long firestop device (item 3) to increase its length to facilitate installation in thicker walls. Each module consists of a 3 by 3 by 6 in. (76 by 76 by 152 mm) long galv steel tube with an intumescent material lining. Extension module to be installed in accordance with the accompanying installation instructions. When module is used, firestop device (item 2) and extension module(s) secured in place by means of steel wall plates installed with gasketing material supplied with product. Steel wall plates installed on both sides of wall and secured to each device or extension module(s) by means of steel set screws provided with wall plates. Firestop device and extension module(s) assembly to be installed with ends projecting an equal distance beyond each surface of the wall assembly.
   SPECIFIED TECHNOLOGIES INC - EZ PATH Extension

3. **Cables** - Within the loading area for each firestop device module, the cables may represent a 0 to 100 percent visual fill. Cable fill to be distributed at a uniform height across the width of the firestop device module. Cables to be rigidly supported on both sides of the wall assembly. Any combination of the following types of cables may be used:
   A. Max 400 pair No. 24 AWG (or smaller) copper conductor telecommunication cable with polyvinyl chloride (PVC) jacketing and insulation.
   B. Max 350 kcmil single copper conductor power cable with XLPE jacket and insulation.
   C. Max 7/C No. 12 AWG copper conductor control cable with PVC or XLPE jacket and insulation.
   D. Max 3/C No. 10 AWG metal clad or armored cable with steel or aluminum jacket.
   E. Max 3/C No. 8 AWG NM cable (Romex) with PVC insulation and jacket.
   F. Max four pair No. 22 AWG (or smaller) copper conductor data cable with PVC or plenum rated jacketing and insulation.
   G. Max RG/U coaxial cable with fluorinated ethylene insulation and jacketing.
   H. Fiber optic cable with PVC or polyethylene (PE) jacket and insulation having a max diam of 5/8 in. (16 mm).
   I. **Optical Fiber Raceway+** - Max 1-1/2 in. (38 mm) diam (or smaller) optical fiber raceway ("innerduct") formed of either PVC or polyvinylidene fluoride (PVDF) with optical fiber cable fill. Raceways installed in accordance with the National Electrical Code (NFPA 70).
   When the hourly rating of the wall assembly is 1 hr, the T Rating is 3/4 hr. When the hourly fire rating of the wall assembly is greater than 1 hr, the T Rating is 3/4 hr when Item 3A, 3B, 3C, 3D or 3E is used. Otherwise the T Rating is 1 hr. When Item 3A, 3B, 3C, 3D or 3E is used, the maximum F Rating is 2 hr. When max 200 pair No. 24 AWG telecommunication cable is used or when Item 3F, 3G, 3H or 3I is used, the maximum F Rating is 4 hr.
   The L Rating for each empty firestop device module is less than 1 cfm at ambient and at 400F. When Item 3A is used, the L Rating for each firestop device module with 100 percent visual fill is 4 cfm at ambient and 3 cfm at 400F. When Item 3F is used, the L Rating for each firestop device module with 100 percent visual fill is 1.3 cfm at ambient and 1 cfm at 400F. When Item 3G or 3H is used, the L Rating for each firestop device module with 100 percent visual fill is 7 cfm at ambient and 2 cfm at 400F.
4. **Fill, Void or Cavity Material* - Sealant or Putty** - (Not Shown) - As an alternate to gypsum joint compound, the gap between the firestop device module and the cutout in the gypsum board may be sealed with fill material on each side of the wall assembly when four- and seven-gang steel wall plates are installed directly against the wood or steel studs.
   SPECIFIED TECHNOLOGIES INC - SpecSeal Series SSS Sealant, SpecSeal LCI Sealant, SpecSeal Putty

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M. RANDALL PORTER
A-2012006244
04 FEB 2021
M. RANDALL PORTER
A-2012006244

WALLACE ARCHITECTS L.L.C.
Columbia, MO
P 573-256-7200

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SHEET NO. FS1.1

JOB NO. 3984

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ARIA APARTMENTS LEE'S SUMMIT

CLUBHOUSE

LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

PROJECT INFORMATION

SITE DATA

SITE ZONING:	(SEE CIVIL)
SITE SIZE:	(SEE CIVIL)
SITE DENSITY:	(SEE CIVIL)
NO. OF PARKING SPACES:	(SEE CIVIL)

BUILDING DATA

UNIT LABEL	BED BATH MIX	IN COMPLIANCE WITH	GROSS SQ FT	QTY	SUBTOTAL	
CH-A	1-BR, 1-BA	ANSI B, FHA	708	3	2,124	SF
CH-B	1-BR, 1-BA	ANSI B, FHA	760	1	760	SF
CH-C	1-BR, 1-BA	ANSI B, FHA	736	1	736	SF
	UNIT TOTAL:			5		
	DWELLING UNIT AREA:				3,620	SF
	NON-DWELLING AREA:				9,345	SF
	TOTAL BUILDING				12,965	SF

CODES AND REGULATIONS

BLDG. & RELATED CODES:	2018 IBC, IPC, IMC & 2018 IECC W/ LOCAL AMENDMENTS
ELECT. CODE:	2017 NEC W/ LOCAL AMENDMENTS
FIRE CODE:	2018 IFC W/ LOCAL AMENDMENTS
ACCESSIBILITY:	ICC/ANSI A117.1- 2009; ADA 2010; FAIR HOUSING ACT
MISC.:	ALL APPLICABLE FEDERAL, STATE & LOCAL CODES, LAWS & ORDINANCES

BUILDING CODE DATA

USE GROUP:	A-2/R-2 NON-SEPARATED MIXED-USE (CLUBHOUSE)
CONSTRUCTION TYPE:	5B (CLUBHOUSE)
EXT. WALL CONSTRUCTION:	NON-RATED
OTHER WALL CONSTRUCTION:	DWELLING UNIT SEPARATION WALLS = 1-HR
TOTAL ALLOW. AREA:	24,000 SF
TOTAL ACTUAL AREA:	13,763 SF
ALLOW. HEIGHT & FLOORS:	40'-0" / 1 STORY
ACTUAL HEIGHT & FLOORS:	39'-9 1/4" / 1 STORY
HEIGHT/AREA ADJUSTMENTS:	NONE REQUIRED, NONE TAKEN
SPRINKLER SYSTEM:	NFPA 13, DESIGNED AND INSTALLED BY ACCREDITED FIRE PROTECTION SYSTEM ENGINEER & INSTALLER. PROTECTION SHALL INCLUDE ALL AREAS AS APPLICABLE BY LOCAL AND STATE CODES. DRY/WET SYSTEMS AS REQUIRED - NO WET PIPING TO BE INSTALLED IN ATTIC OR OTHER UNCONDITIONED SPACES.
OCCUPAND LOAD:	(3) 1-BR-CH-A UNITS = 708 SF/200 = 3.54 (12 PERSONS); 1-BR-CH-B UNIT = 760 SF/200 = 3.80 (4 PERSONS); 1-BR-CH-C UNIT = 736 SF/200 = 3.68 (4 PERSONS); RECEPTION- 1,119 SF/100 = 11.19 (12 PERSONS); LOBBY/COMMON AREA- 974 SF/100 = 9.74 (10 PERSONS); SUNKEN COMMON AREA -823 SF/100 = 8.23 (9 PERSONS); GROUP FITNESS- 703 SF/50 = 14.06 (15 PERSONS); OFFICE - 256 SF/100 = 2.56 (3 PERSONS); OFFICE - 112 SF/100 = 1.12 (2 PERSONS)

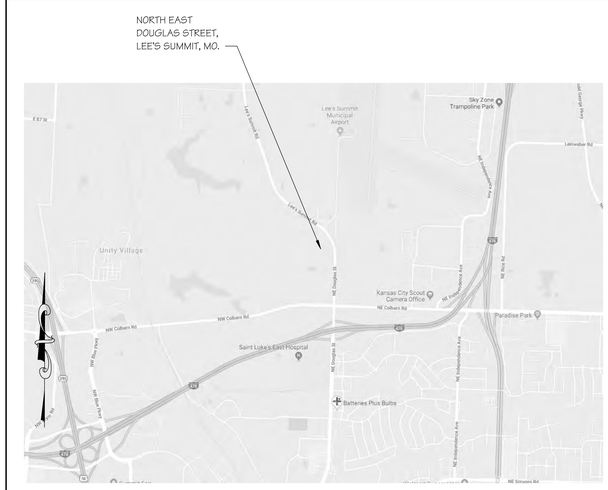
INDEX TO DRAWINGS

CLUBHOUSE INDEX

Sheet Number	Sheet Name	Sheet Issue Date	Current Revision Date	Current Revision Description
1 - COVER SHEET				
0.0CH	COVER SHEET	04 FEB 2021	04 FEB 2021	PERMIT SET
2 - STRUCTURAL				
S100CH	COVER/GENERAL STRUCTURAL DATA	04 FEB 2021	04 FEB 2021	PERMIT SET
S200CH	FOUNDATION PLAN	04 FEB 2021	04 FEB 2021	PERMIT SET
S210CH-S212CH	FOUNDATION DETAILS	04 FEB 2021	04 FEB 2021	PERMIT SET
S300CH	FRAMING PLAN	04 FEB 2021	04 FEB 2021	PERMIT SET
S310CH-S311CH	FRAMING DETAILS	04 FEB 2021	04 FEB 2021	PERMIT SET
4 - ARCHITECTURAL				
A1.0CH	BUILDING PLAN	04 FEB 2021	04 FEB 2021	PERMIT SET
A1.1CH	UNIT DIMENSION PLANS	04 FEB 2021	04 FEB 2021	PERMIT SET
A1.2CH	ENLARGED COMMON AREA PLANS	04 FEB 2021	04 FEB 2021	PERMIT SET
A1.3CH	ENLARGED COMMON AREA PLANS	04 FEB 2021	04 FEB 2021	PERMIT SET
A1.4CH	UNIT CLEAR FLOOR SPACE PLANS	04 FEB 2021	04 FEB 2021	PERMIT SET
A1.5CH	ENLARGED COMMON AREA CLEAR FLOOR SPACE PLANS	04 FEB 2021	04 FEB 2021	PERMIT SET
A1.6CH	ENLARGED COMMON AREA CLEAR FLOOR SPACE PLANS	04 FEB 2021	04 FEB 2021	PERMIT SET
A2.0CH	ROOF PLAN	04 FEB 2021	04 FEB 2021	PERMIT SET
A3.0CH	EXTERIOR ELEVATIONS	04 FEB 2021	04 FEB 2021	PERMIT SET
A4.0CH	WALL SECTIONS AND DETAILS	04 FEB 2021	04 FEB 2021	PERMIT SET
A4.1CH	FRAMING DETAILS	04 FEB 2021	04 FEB 2021	PERMIT SET
A5.0CH	FIRE RATED ASSEMBLIES	04 FEB 2021	04 FEB 2021	PERMIT SET
A5.1CH	FIRE RATED ASSEMBLIES	04 FEB 2021	04 FEB 2021	PERMIT SET
A5.2CH	FIRE RATED ASSEMBLIES	04 FEB 2021	04 FEB 2021	PERMIT SET
A6.0CH	UNIT FINISH PLAN	04 FEB 2021	04 FEB 2021	PERMIT SET
A7.0CH	INTERIOR ELEVATIONS NOTES AND DETAILS	04 FEB 2021	04 FEB 2021	PERMIT SET
A7.1CH	INTERIOR ELEVATIONS	04 FEB 2021	04 FEB 2021	PERMIT SET
A7.2CH	CORRIDOR ELEVATIONS	04 FEB 2021	04 FEB 2021	PERMIT SET
A8.0CH	REFLECTED CEILING PLANS	04 FEB 2021	04 FEB 2021	PERMIT SET
PD1.0	POOL AREA PLAN	04 FEB 2021	04 FEB 2021	PERMIT SET
PD1.1	POOL AREA SECTIONS & CURVED TRELLIS PLANS	04 FEB 2021	04 FEB 2021	PERMIT SET
PD1.2	POOL AREA TRELLIS PLANS	04 FEB 2021	04 FEB 2021	PERMIT SET

ARCHITECT'S JOB NO. 3984

PROJECT LOCATION MAP



SIGNATURE AREAS

NOTE: PROJECT CONSTRUCTION MUST BE IN COMPLIANCE WITH ALL APPLICABLE CODES, ORDINANCES, LAWS, AND REGULATIONS AS ENUMERATED ELSEWHERE IN THE PLANS AND SPECIFICATIONS.

ARCHITECT: WALLACE ARCHITECTS, LLC
302 CAMPUSVIEW DRIVE SUITE 208, COLUMBIA, MO 65201
BY: DATE:

OWNER: ARIA LS, LLC
4242 PHILIPS FARM ROAD, COLUMBIA, MO 65201
BY: DATE:

CONTRACTOR: CENTRAL STATES CONSTRUCTION
4215 PHILIPS FARM ROAD, COLUMBIA, MO 65201
BY: DATE:

DATE:

PM: RP
PC: RS

PLAN SET NO. _____

COVER SHEET

PERMIT SET

STATE OF MISSOURI
M. RANDALL PORTER
A-2012006244
ARCHITECT
04 FEB 2021
M. RANDALL PORTER
A-2012006244

ARIA APARTMENTS LEE'S SUMMIT
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

Wallace ARCHITECTS L.L.C.
Columbia, MO
P 573-256-7200

WALLACE ARCHITECTS, LLC
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Aria Lee's Summit Apartments - Clubhouse

Lee's Summit, Jackson County, Missouri

GENERAL NOTES

ELEVATION DATUM
SEE ARCHITECTURAL DRAWINGS OR SITE PLAN FOR FINISH FLOOR ELEVATIONS

DESIGN SPECIFICATIONS
2018 INTERNATIONAL BUILDING CODE

EARTHWORK
EARTHWORK OPERATIONS SHALL BE PERFORMED UNDER THE DIRECTION OF A PROFESSIONAL TESTING AGENCY TO ASSURE COMPLIANCE WITH THE RECOMMENDATIONS OF THE SOILS REPORT BY OLSSON INC., DATED AUGUST 22, 2018.

CONCRETE

CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF THE CURRENT ACI 301, SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS, ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, ACI 305 SPECIFICATIONS FOR HOT WATER CONCRETE, AND ACI 306 SPECIFICATIONS FOR COLD WEATHER CONCRETE, WITH THE FOLLOWING ADDITIONAL REQUIREMENTS:

1. CONCRETE SHALL DEVELOP THE FOLLOWING 28-DAY MINIMUM COMPRESSIVE STRENGTH:

FOUNDATIONS	–	3,000 PSI
CAST-IN-PLACE WALLS	–	3,500 PSI
FLOOR SLAB	–	4,000 PSI
EXTERIOR SLABS, WALLS AND CURBS	–	4,000 PSI

2. ALL FOOTINGS SHALL BEAR ON UNDISTURBED SOIL OR ENGINEERED FILL.
3. CHLORIDE- BASED ADMIXTURES ARE PROHIBITED IN ALL REINFORCED CONCRETE.
4. REINFORCING STEEL SHALL CONFORM TO ASTM A615, A616, OR A617, GRADE 60.
5. ALL CONTINUOUS REINFORCING STEEL THAT MEETS AT A CORNER SHALL BE TIED TOGETHER WITH A CORNER BAR THAT HAS SUFFICIENT LAP DISTANCE IN EACH DIRECTION
6. CONTINUOUS REINFORCING BARS LAP LENGTH SHALL BE A MINIMUM OF 48 BAR DIAMETERS UNLESS NOTED OTHERWISE
7. CONCRETE SLUMP SHALL BE A MAXIMUM OF 4" +/- 1" (ASTM C- 143) AS DELIVERED IN THE FIELD. CONTRACTOR MAY USE CHEMICAL ADMIXTURES TO ATTAIN A MAXIMUM SLUMP OF 8" FOR WORKABILITY. NO WATER MAY BE ADDED TO THE CONCRETE MIX ON SITE UNLESS WATER IS WITHHELD AT THE BATCHING FACILITY. IF WATER IS WITHHELD AT THE BATCHING FACILITY IT SHOULD BE REFLECTED ON THE LOAD TICKET. THE TOTAL AMOUNT OF WATER IN THE MIX SHALL NOT EXCEED WHAT IS NOTED ON THE APPROVED MIXED. THIS SHALL BE NOTED IN THE SPECIAL INSPECTOR'S RECORDS.
8. CONCRETE EXPOSED TO WEATHER, VEHICLES, AND/OR DEICING CHEMICALS SHALL BE AIR-ENTRAINED WITH 6% (+/-) 1.5% ENTRAINED AIR BY VOLUME AT POINT OF DISCHARGE. DO NOT ALLOW AIR CONTENT OF TROWELED FINISHED FLOORS TO EXCEED 3%.
9. SUBMIT CONCRETE MIX PROPORTIONS PRIOR TO START OF WORK. DO NOT BEGIN CONCRETE PRODUCTION UNTIL MIXES HAVE BEEN REVIEWED AND ARE ACCEPTABLE TO THE ENGINEER.
10. READY MIX CONCRETE SHALL COMPLY WITH REQUIREMENTS OF ASTM C94.
11. CONCRETE WORK EXECUTION
   A. CONSTRUCT FORMS TO CORRECT SIZE, SHAPE, ALIGNMENT, ELEVATION AND POSITION; AND TO SUPPORT VERTICAL AND LATERAL LOADS.
   B. POSITION, SUPPORT, AND SECURE REINFORCEMENT AGAINST DISPLACEMENT. MINIMUM CONCRETE COVER FOR REINFORCEMENT SHALL BE, UNLESS NOTED OTHERWISE ON THE DRAWINGS:
      CAST AGAINST AND EXPOSED TO EARTH........3 INCHES
      EXPOSED TO EARTH OR WEATHER..................2 INCHES
      NOT EXPOSED TO WEATHER OR
      IN CONTACT WITH EARTH.................................1 ½ INCHES
   C. PROVIDE CONTROL JOINTS IN SLABS-ON-GRADE AT NOT GREATER THAN 15 FEET ON CENTER IN EACH DIRECTION. SAW CUT CONTROL JOINTS MINIMUM ¼ OF SLAB DEPTH, AS SOON AFTER SLAB FINISHING WITHOUT DISLODGING AGGREGATE.
   D. STEEL TROWEL FINISH ALL INTERIOR CONCRETE SLABS, BROOM FINISH ALL EXTERIOR CONCRETE SLABS.
   E. CURE ALL CONCRETE IN COMPLIANCE WITH ACI 301, USING A LIQUID TYPE MEMBRANE, NON-RESIDUAL, CURING COMPOUND COMPLYING WITH ASTM C309. ASSURE COMPATIBILITY WITH FINISH FLOOR COVERING.

TIMBER

TIMBER WORK SHALL CONFORM TO ALL REQUIREMENTS OF THE CURRENT ANSI/AF&PA NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION, WITH THE FOLLOWING SUPPLEMENTAL REQUIREMENTS:

1. FOR COMMON MEMBER SIZES, THE SPECIES AND GRADES SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE:

A.	2X4	SPF No.1/No.2
B.	2X6	SPF No.1/No.2
C.	2X8	DF-L No.2
D.	2X10	DF-L S.S.
E.	2X12	DF-L S.S.

   EQUIVALENT (OR BETTER) GRADES & SPECIES MAY BE SUBMITTED FOR THE ENGINEER'S APPROVAL.
2. SIZES SHOWN FOR LUMBER ARE NOMINAL SIZES.
3. TIMBER EXPOSED TO WEATHER OR GROUND, OR IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE-IMPREGNATED BY AN APPROVED PROCESS AND PRESERVATIVE.
4. SPLICING OF JOISTS, STUDS, OR HEADERS IS PROHIBITED EXCEPT AS SHOWN.
5. BOLTS SHALL CONFORM TO ASTM A307. HOLES SHALL BE DRILLED PER SECTION 11.1.2 OF THE 2005 ANSI/AF&PA NDS FOR WOOD CONSTRUCTION.
6. LAG SCREWS AND WOOD SCREWS SHALL BE INSTALLED PER SECTIONS 11.1.3 AND 11.1.4, RESPECTIVELY, OF THE 2005 ANSI/AF&PA NDS FOR WOOD CONSTRUCTION.
7. COMMON NAILS SHALL BE USED, UNLESS NOTED OTHERWISE. IN ADDITION, NAILS SHALL BE GALVANIZED, IF EXPOSED TO WEATHER OR MOISTURE. TOE-NAILS SHALL BE DRIVEN PER SECTION 11.1.5.4 OF THE 2005 ANSI/AF&PA NDS FOR WOOD CONSTRUCTION.
8. FASTENING SHALL BE PER THE IBC MINIMUM FASTENING SCHEDULE, TABLE 2304.9.1, UNLESS NOTED OTHERWISE.
9. CONNECTIONS/CONNECTORS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.

POST-INSTALLED ANCHORS

1. ALL POST-INSTALLED ANCHORS SHALL MEET THE REQUIREMENTS OF THE CODE-CITED EDITION OF ACI 318, APPENDIX "D", AND SHALL BE ACCEPTABLE FOR BOTH CRACKED AND UNCRACKED CONCRETE.
2. EXPANSION ANCHORS HAVE BEEN DESIGNED AS HILTI KWIK BOLT TZ ANCHORS, UNLESS NOTED OTHERWISE.
3. ADHESIVE ANCHORS HAVE BEEN DESIGNED TO USE HILTI HIT HY 200 ADHESIVE IN CONCRETE OR SOLID MASONRY, UNLESS NOTED OTHERWISE.
4. EQUIVALENT ANCHORS MAY BE SUBMITTED FOR THE ENGINEER'S APPROVAL. SUBMITTALS ARE THE CONTRACTOR'S RESPONSIBILITY AND MUST INCLUDE EVALUATION REPORTS FROM THE INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS (ICBO).
5. EMBEDMENT DEPTH IS DEFINED AS THE DISTANCE FROM THE SURFACE OF THE LOAD-BEARING BASE MATERIAL TO THE DEEPEST PART OF THE ANCHOR AFTER THE ANCHOR HAS BEEN DRIVEN INTO THE HOLE BUT NOT YET EXPANDED.
6. ADHESIVE ANCHORS SHALL BE ACCEPTABLE FOR LONG-TERM LOADING. WHEN BASE MATERIAL TEMPERATURES ARE BELOW 40 DEG F, ONLY NON-EPOXY-BASED ADHESIVES SHALL BE USED.
7. POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE DRAWINGS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER PRIOR TO USING POST-INSTALLED ANCHORS FOR MISSING OR MISPLACED CAST-IN-PLANE ANCHORS. CARE SHALL BE TAKEN TO AVOID CONFLICTS WITH EXISTING REINFORCING BARS. HOLES SHALL BE DRILLED AND CLEANED PER ANCHOR MANUFACTURER'S SPECIFICATIONS.
8. STAINLESS STEEL ANCHORS ARE REQUIRED AT ALL PERMANENTLY EXPOSED WEATHER CONDITIONS.

STRUCTURAL STEEL

1. FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE AISC SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS, THE AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES AND CURRENT OSHA STANDARDS.
2. WIDE FLANGE SHAPES SHALL CONFORM TO ASTM A992. STRUCTURAL TUBES SHALL CONFORM TO ASTM A500 GRADE B. ALL OTHER STRUCTURAL STEEL SHALL CONFORM TO ASTM A36.
3. BOLTS, UNLESS OTHERWISE SHOWN, SHALL CONFORM TO ASTM A325-N, SIZE AS PER PLAN.
4. ANCHOR BOLTS, UNLESS OTHERWISE SHOWN, SHALL CONFORM TO ASTM F1554 GRADE 36.
5. SPLICING OF STRUCTURAL STEEL IS PROHIBITED EXCEPT AS DETAILED.
6. ALL STRUCTURAL AND MISCELLANEOUS STEEL ITEMS SHALL RECEIVE ONE COAT OF "IRONCLAD RETARDO RUST INHIBITIVE PAINT 163" (BENJAMIN MOORE) OR APPROVED EQUAL UNLESS OTHERWISE INDICATED IN THE SPECIFICATIONS. ALL STEEL SURFACES EMBEDDED IN CONCRETE SHALL NOT BE PAINTED. PREPARATION OF STEEL SURFACES SHALL MEET THE REQUIREMENTS OF THE STEEL STRUCTURES PAINTING COUNCIL (SSPC-SP1) AND THE REMOVAL OF GREASE AND OIL BY SOLVENT CLEANING (SSPC-SP1) AND THE REMOVAL OF MILL SCALE, RUST, WELD FLUX AND SLAG BY HAND TOOL CLEANING (SSPC-SP2). PRIMER SHALL BE APPLIED AT THE MANUFACTURER'S RECOMMENDED RATE BUT NOT LESS THAN ONE GALLON PER 400 SQ.FT. THEREBY DEPOSITING A DRY FILM THICKNESS OF NOT LESS THAN 1.5 MILS. ANY SCARRED AREAS SHALL BE TOUCHED UP WITH THE SAME PAINT AFTER ERECTION.
7. ALL WELDING SHALL BE DONE BY QUALIFIED WELDERS IN ACCORDANCE WITH THE CURRENT EDITION OF THE AWS STRUCTURAL WELDING CODE. WELDING ELECTRODES SHALL BE E70XX.

PREFABRICATED WOOD TRUSSES

1. FLOOR & ROOF TRUSSES SHALL BE DESIGNED IN ACCORDANCE WITH THE TRUSS PLATE INSTITUTE (TPI) DESIGN SPECIFICATION FOR METAL PLATE CONNECTED WOOD TRUSSES, AND THE ANSI/NF&PA NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION.
2. PROVIDE TEMPORARY AND PERMANENT BRACING ON ALL TRUSSES, AS REQUIRED TO PROVIDE MEMBER AND TRUSS STABILITY.
3. FLOOR & ROOF TRUSSES SHALL BE DESIGNED AND CONSTRUCTED FOR A MAXIMUM TOTAL LOAD DEFLECTION OF L/360 AND TO SAFELY SUPPORT THE FOLLOWING LOADS:
   A. DEAD, LIVE, SNOW, WIND, EARTHQUAKE: SEE PROJECT DESIGN DATA ON COVER SHEET.
   B. MECHANICAL PIPE LOAD: TRUSSES SHALL BE DESIGNED FOR A CONCENTRATED LOAD OF 250 LBS HUNG ANYWHERE ALONG THE BOTTOM CHORD.
   C. OVER-FRAMING LOAD: TRUSSES SHALL ALSO BE DESIGNED TO SUPPORT ADDITIONAL OVERBUILD FRAMING, SUCH AS THAT WHICH FORMS VALLEYS AND HIPS ON ROOFS.
   D. DRIFTED SNOW LOAD: TRUSSES SHALL BE DESIGNED TO SUPPORT DRIFTED SNOW LOADS IN ACCORDANCE WITH THE APPROPRIATE BUILDING CODE.
   E. IN-PLANE LATERAL LOADS: TRUSSES SHALL BE DESIGNED TO SUPPORT ANY LATERAL LOADS CARRIED AXIALLY IN THE PLANE OF THE TRUSS, AS SHOWN ON THE PLANS.
4. GABLED END TRUSSES SHALL HAVE VERTICAL MEMBERS SPACED AT 16" O.C. MAXIMUM.
5. SUBMITTALS SHALL INCLUDE THE FOLLOWING:
   A. SHOP DRAWINGS PREPARED UNDER THE SUPERVISION OF, AND SIGNED AND SEALED BY, A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS BUILT. THESE DRAWINGS SHALL INDICATE SPECIES, GRADE, AND SIZES OF LUMBER TO BE USED; PITCH, SPAN, CAMBER, CONFIGURATION, AND SPACING FOR EACH TYPE OF TRUSS REQUIRED; TYPE, SIZE, MATERIAL, FINISH, AND LOCATION OF METAL CONNECTOR PLATES; AND BEARING DETAILS. SHOW TRUSS LAYOUT AND ALL REQUIRED TEMPORARY AND PERMANENT BRACING AFFECTING THE STRUCTURAL CAPACITY OF THE TRUSSES.

PROVIDE COMPLETE ENGINEERING DESIGN CALCULATIONS THAT INCLUDE DESIGN VALUES, DESIGN ANALYSIS INDICATING LOADING, ASSUMED ALLOWABLE STRESSES, STRESS DIAGRAMS, AND CALCULATIONS, AND ANY OTHER INFORMATION NEEDED FOR REVIEW. THE CALCULATIONS SHALL HAVE BEEN SIGNED AND SEALED BY A QUALIFIED PROFESSIONAL ENGINEER WHO IS REGISTERED IN THE STATE WHERE THE PROJECT IS BUILT AND WHO IS RESPONSIBLE FOR PREPARATION OF THE CALCULATIONS.

SPECIAL INSPECTIONS

THE FOLLOWING ITEMS REQUIRE SPECIAL INSPECTION IN ACCORDANCE WITH CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE.

a. CONCRETE GROUT DESIGN MIX (PERIODIC)
b. PLACING OF CONCRETE AND REINFORCING STEEL (CONTINUOUS OF CONCRETE SAMPLING / PERIODIC OF REINFORCING)
c. BOLTS & ANCHORS EMBEDDED IN CONCRETE (PERIODIC)
d. STRUCTURAL STEEL FABRICATIONS (UNLESS AISC APPROVED) (PERIODIC)
e. STRUCTURAL STEEL BOLTING & WELDING (PERIODIC)
f. POST INSTALLED ANCHORS IN CONCRETE (CONTINUOUS)
g. IN-SITU SOILS, EXCAVATIONS, FILLING & COMPACTION (PERIODIC)
h. WOOD FRAMING:
   h.a. SHEAR WALLS; WALL SIZE, CONFIGURATION, BLOCKING, PANEL GRADE, PANEL THICKNESS, AND FASTENING. (PERIODIC)
   h.b. DIAPHRAGMS (FLOOR AND ROOF SHEATHING); SIZE, CONFIGURATION, BLOCKING, PANEL GRADE, PANEL THICKNESS, AND FASTENING. (PERIODIC)
   h.c. FRAMING MEMBERS AND DETAILS (PERIODIC)
   h.d. MATERIAL GRADE (PERIODIC)
   h.e. CONNECTIONS; HANGERS, HOLD DOWNS, BUILT-UP COLUMNS, BUILT-UP BEAMS (PERIODIC)
   h.f. PRE-ENGINEERED TRUSSES; FRAMING, CONNECTIONS, BRIDGING (PERIODIC)

THE CONTRACTOR SHALL REQUEST SPECIAL INSPECTION OF THE ITEMS LISTED ABOVE PRIOR TO THOSE ITEMS BECOMING INACCESSIBLE AND UNOBSERVABLE DUE TO PROGRESSION OF THE WORK.

DESIGN DATA

2018 INTERNATIONAL BUILDING CODE / ASCE 7-16

BUILDING OCCUPANCY CATEGORY	II
ROOF LOAD	
LIVE LOAD	20
TOP CHORD DEAD/COLLATERAL LOAD	10
BOTTOM CHORD DEAD/COLLATERAL LOAD	10
TOTAL TO TRUSS	40 lbs/sq.ft
ROOF SNOW LOAD* (*UNBALANCED & DRIFTING SNOW TO BE DETERMINED IN ADDITION TO UNIFORM LOAD, WHERE APPLICABLE)	
p_g =	20 lbs/sq.ft
C_e =	1.0
I_s =	1.0
C_t =	1.0
p_f =	20 lbs/sq.ft
p_s =	20 lbs/sq.ft
BASIC DESIGN WIND LOAD	
V =	115 M.P.H. (3-SECOND GUST)
I_w =	1.0
EXPOSURE	C
INTERNAL PRESSURE COEFFICIENT =	± 0.18
MAXIMUM COMPONENTS & CLADDING WIND	± 24.59 lbs/sq.ft

EARTHQUAKE DESIGN DATA
S_S = 0.100
S_1 = 0.068
S_{DS} = 0.086
S_{D1} = 0.068
SITE CLASS C
SEISMIC DESIGN CATEGORY B
BASIC SEISMIC-FORCE-RESISTING SYSTEM =
LIGHT-FRAMED WALLS SHEATHED WITH STRUCTURAL PANELS
R = 6.5
Ω_o = 3.0
C_d = 4.0
I_E = 1.0
EQUIVALENT LATERAL FORCE PROCEDURE
V = 0.013W

NET ALLOWABLE SOIL BEARING 2,500 lbs/sq.ft**

(**PER OLSSON, INC GEOTECHNICAL REPORT DATED AUGUST 22, 2019)

INDEX OF SHEETS

COVER / GENERAL STRUCTURAL DATA	S100CH
FOUNDATION PLAN	S200CH
FOUNDATION DETAILS	S210CH - S212CH
FRAMING PLAN	S300CH
FRAMING DETAILS	S310CH - S311CH

REVISIONS:

No.	Date
PHASE 1-PERMIT	02/04/2021

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

STATE OF MISSOURI
JARED W. VERSLUES
NUMBER PE-2017000387
PROFESSIONAL ENGINEER

STRUCTURAL ENGINEER:
CROCKETT ENGINEERING CONSULTANTS
1000 W. Nifong Blvd., Bldg. 1
Columbia, Missouri 65203
(573) 447-0292
www.crockettengineering.com
Crockett Engineering Consultants, LLC
Missouri Certificate of Authority
#2000151301

CLIENT:
CENTRAL STATES CONSTRUCTION
4215 PHILIPS FARM RD
COLUMBIA, MISSOURI

ARIA LEE'S SUMMIT APARTMENTS
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

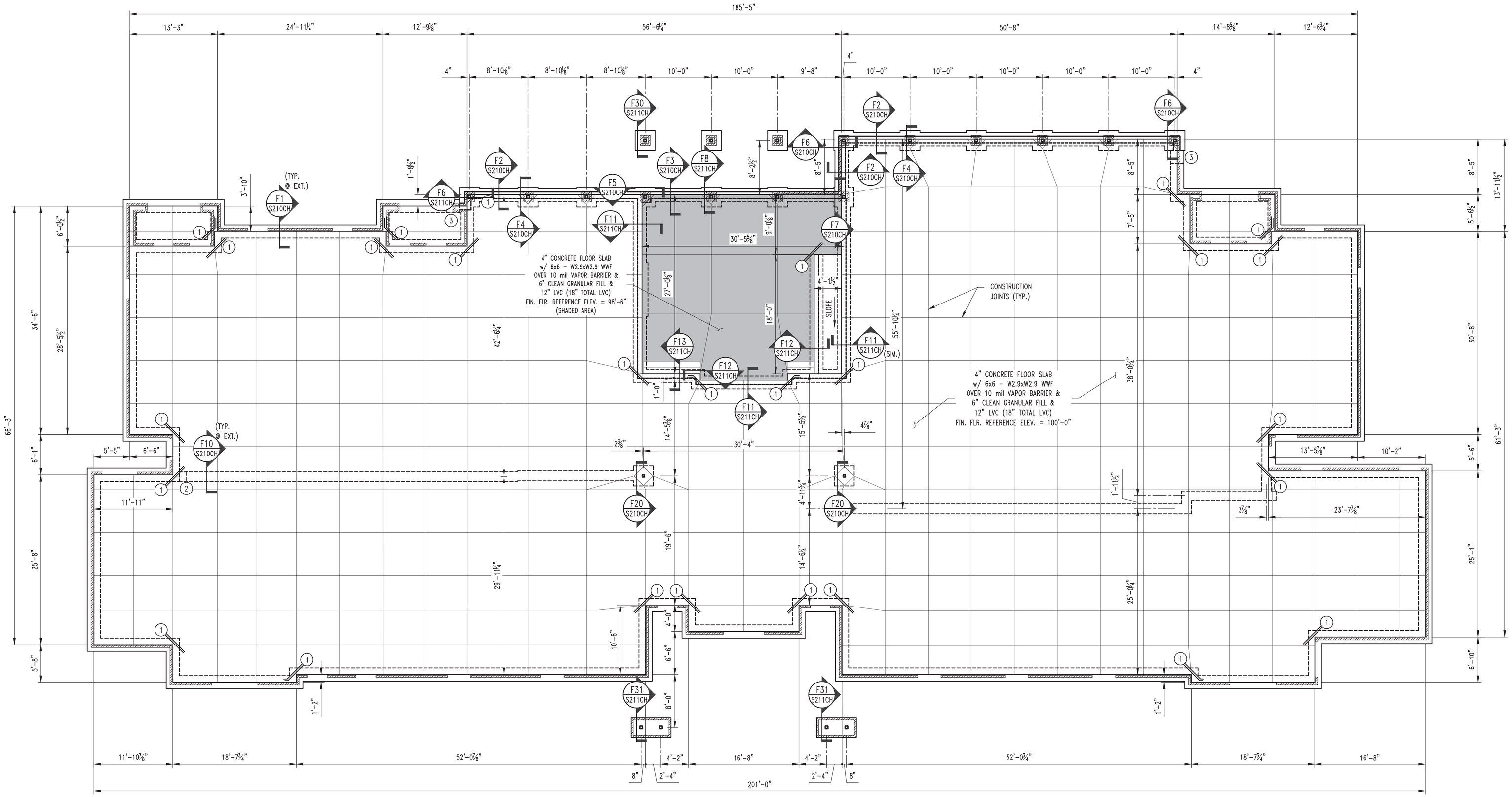
DRAWING INCLUDES:
GENERAL STRUCTURAL DATA

DESIGNED:	JWV
DRAWN:	SEH
PROJECT NO.:	190299
SHEET:	S100CH

NOTE:
ALL DIMENSIONS TO EDGE OF SLAB
& ℄ OF FOOTING, UNLESS NOTED OTHERWISE.

FOUNDATION NOTES

1. REENTRANT CORNER BARS, REFER TO TYPICAL CRACK CONTROL REINFORCING DETAIL S210.
2. FOOTING STEP-REFER TO DETAIL FS1/S210
3. FOOTING STEP-REFER TO DETAIL FS2/S210



1 S200CH — FOUNDATION PLAN (BLDG. #1)

SCALE: 1/8" = 1'-0"

PLAN NORTH

REVISIONS:

No.	Date
PHASE 1-PERMIT	02/04/2021

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

STATE OF MISSOURI
JARED W. VERSLUES
NUMBER PE-2017000387
PROFESSIONAL ENGINEER

STRUCTURAL ENGINEER:
CROCKETT
ENGINEERING CONSULTANTS
1000 W. Nifong, Bldg. 7, Suite 1
Columbia, Missouri 65203
(573) 447-0292
www.crockettengineering.com
Crockett Engineering Consultants, LLC
Missouri Certificate of Authority
#2006015501

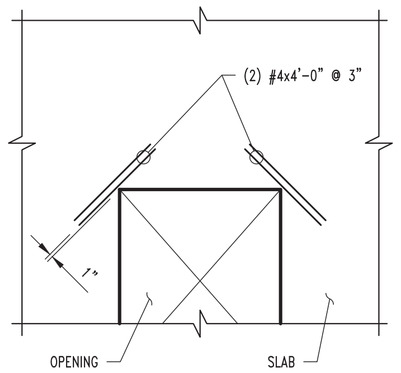
CLIENT:
CENTRAL STATES CONSTRUCTION
4215 PHILIPS FARM RD
COLUMBIA, MISSOURI

ARIA LEE'S SUMMIT APARTMENTS

LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

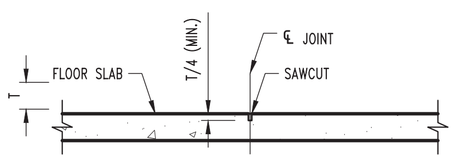
DRAWING INCLUDES:
FOUNDATION PLAN

DESIGNED:	JWV
DRAWN:	SEH
PROJECT NO.:	190299
SHEET:	S200CH

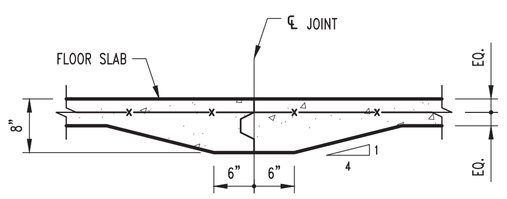


NOTE:
TYPICAL AT ALL REENTRANT CORNERS FOR SLAB-ON-GRADE & STRUCTURAL SLAB. REINFORCING TO BE CENTERED IN SLAB THICKNESS.

CRACK CONTROL REINFORCING



CONTRACTION JOINT



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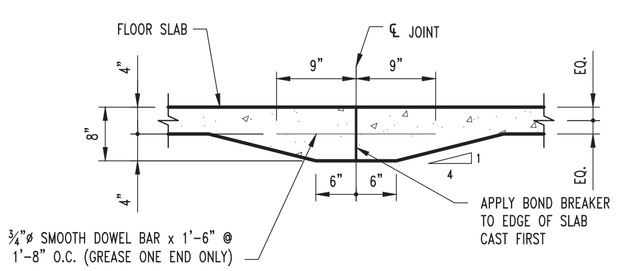

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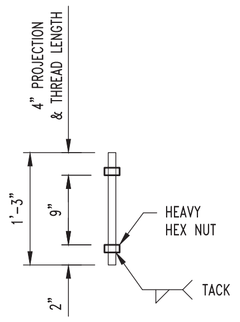
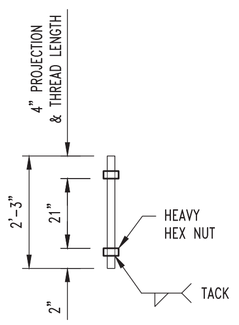


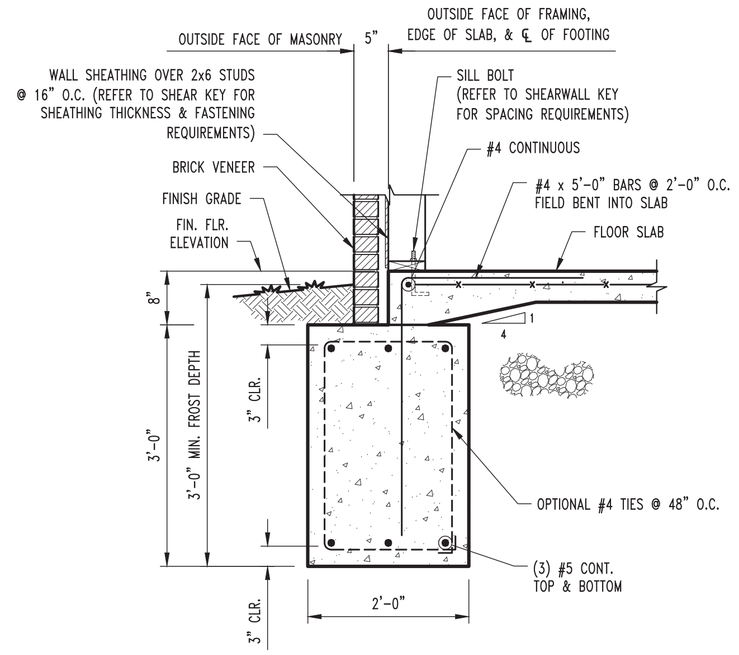
F1554 GRADE 36 ¾"ø ANCHOR

ANCHOR BOLT DETAIL (TYPE A)

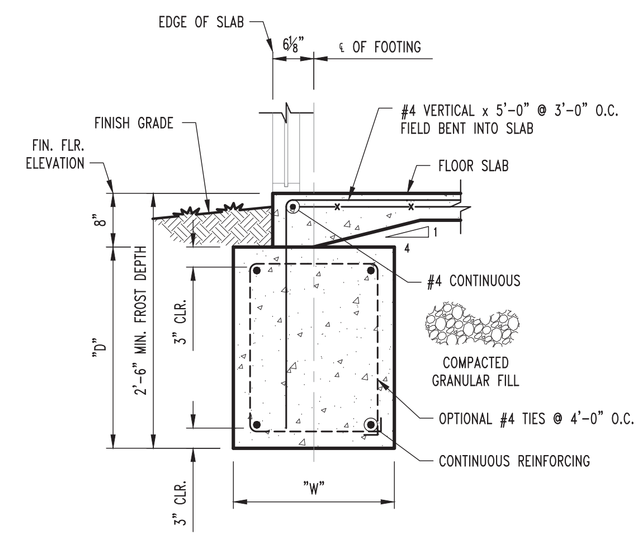


F1554 GRADE 36 ¾"ø ANCHOR

ANCHOR BOLT DETAIL (TYPE B)



F1 S200CH CONT. FOOTING SECTION
SCALE: ¾" = 1'-0"



F1A S200CH CONT. FOOTING SECTION @ STOREFRONT
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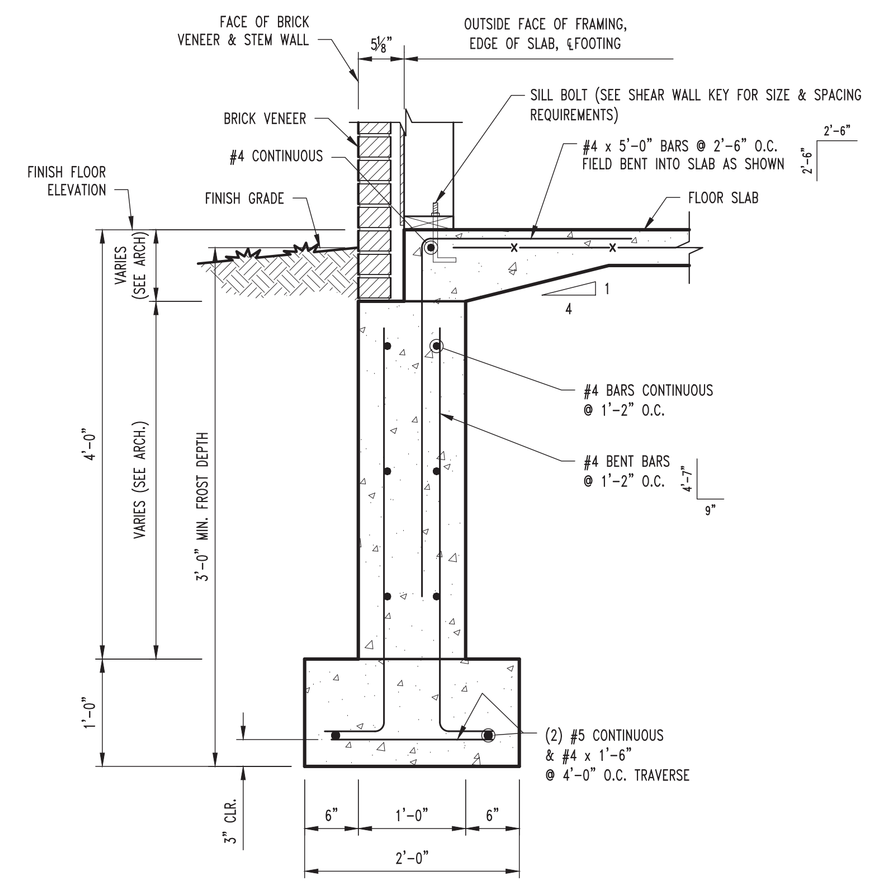

F2 S200CH CONTINUOUS FOOTING DETAIL
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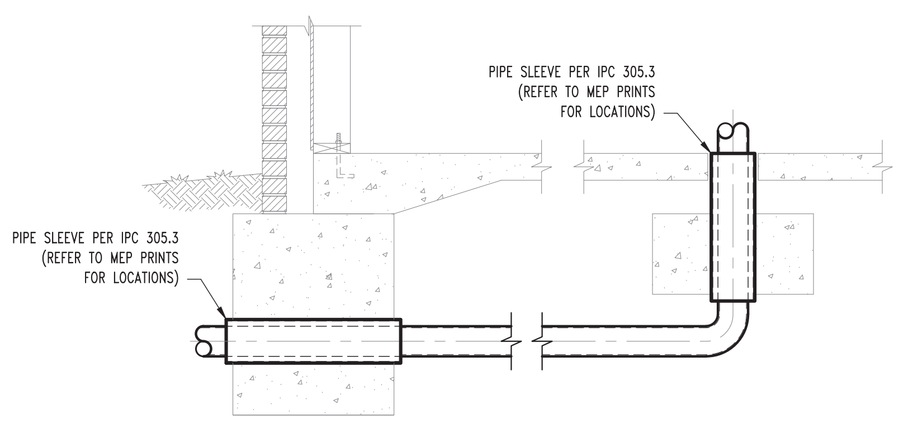
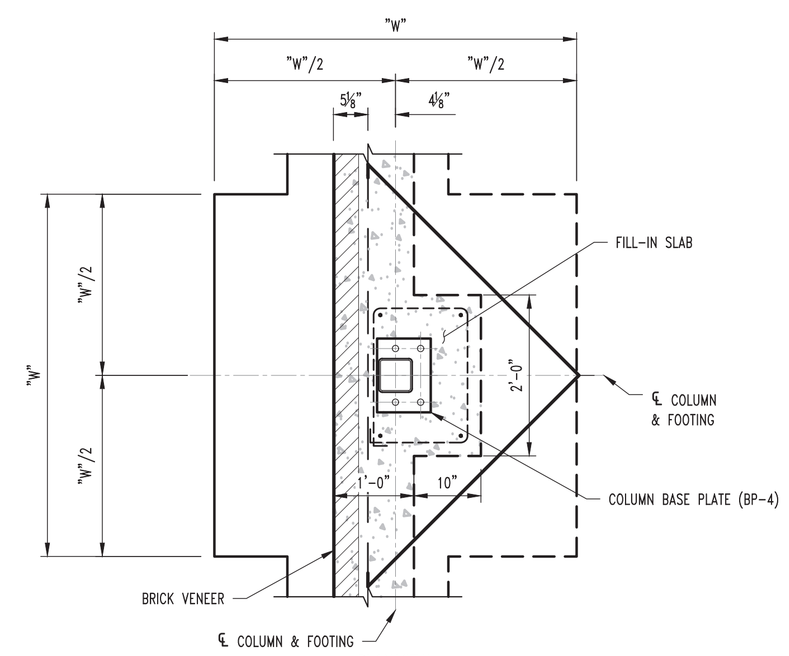
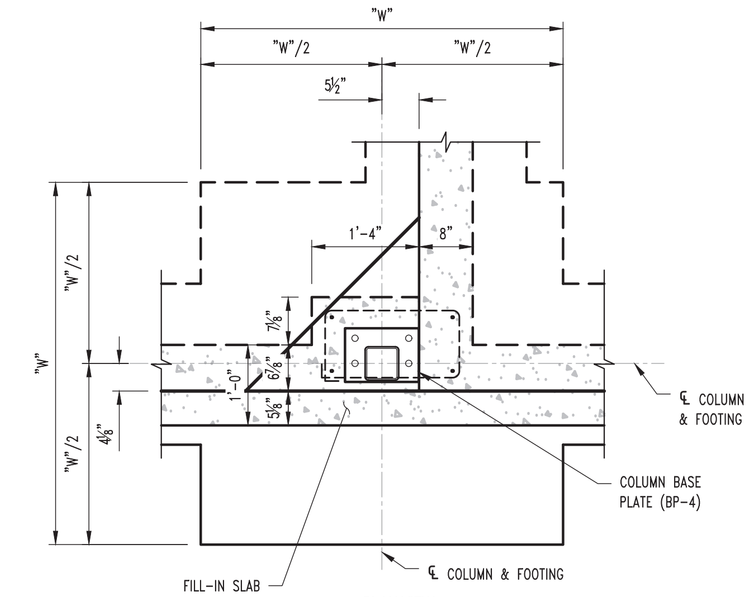


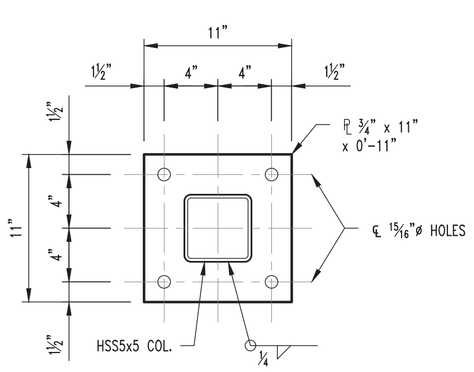
TYP. PLUMBING COORDINATION DETAILS



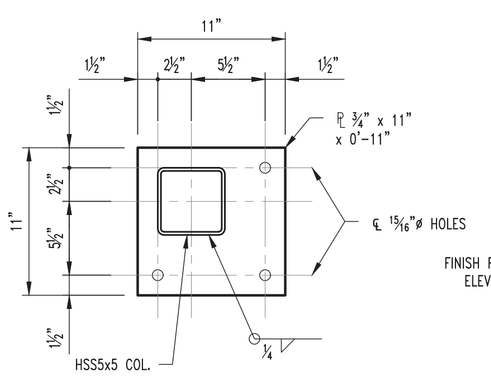
PLAN VIEW



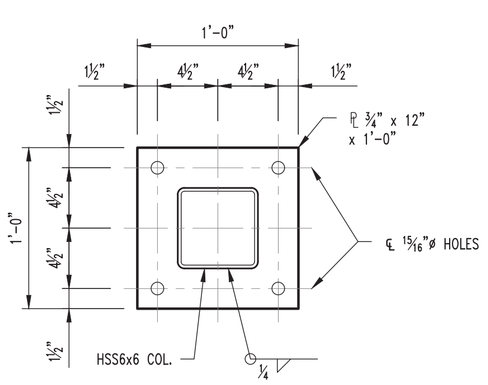
PLAN VIEW



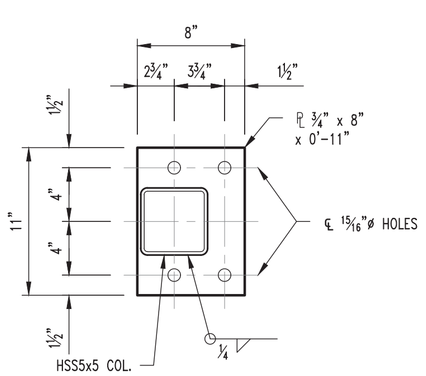
BASE PLATE "BP-1"



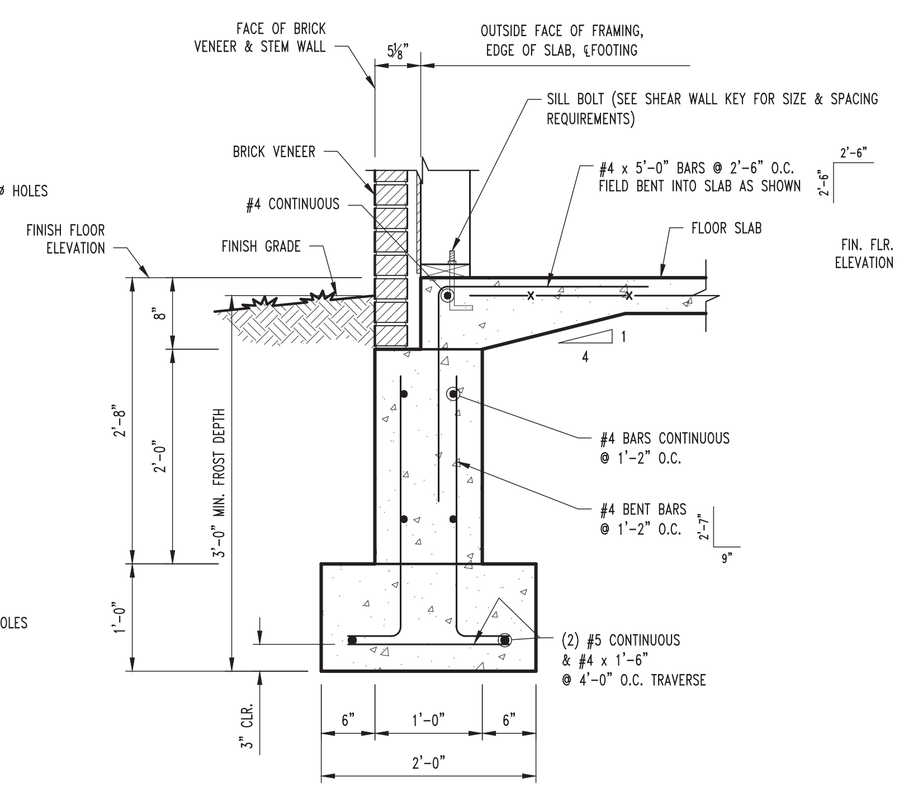
BASE PLATE "BP-3"



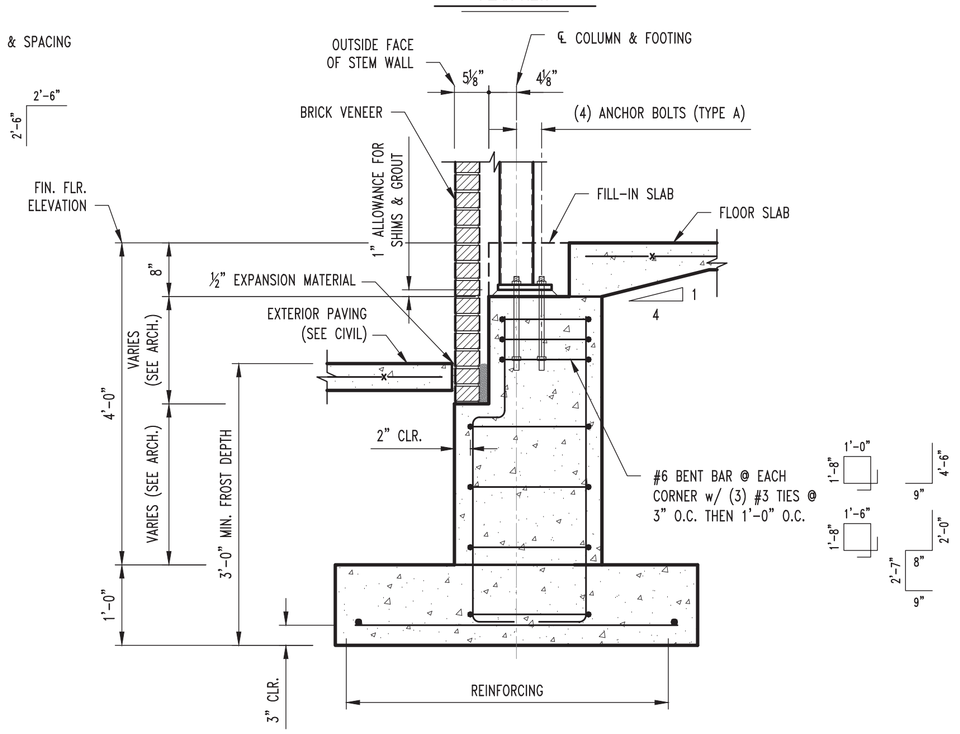
BASE PLATE "BP-2"



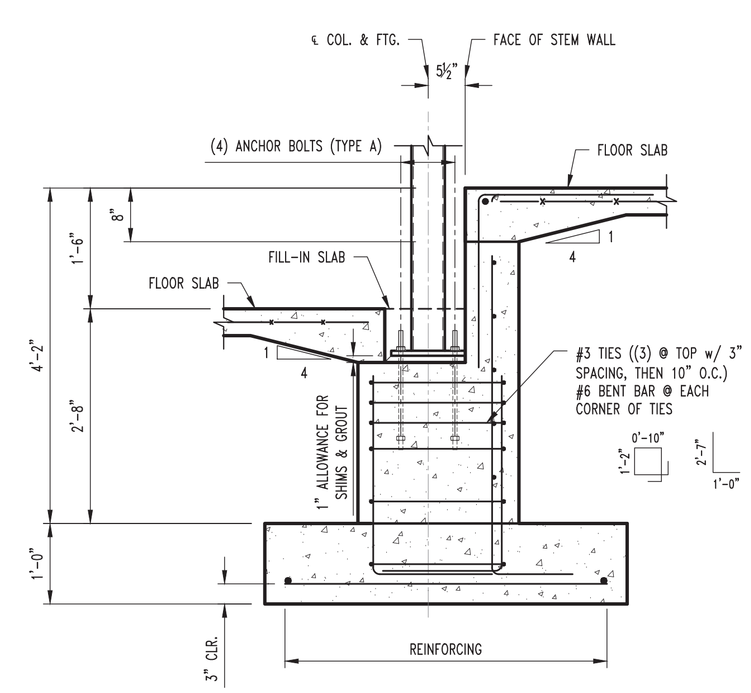
BASE PLATE "BP-4"



F3 S200CH CONTINUOUS FOOTING DETAIL
SCALE: ¾" = 1'-0"



F4 S200CH COLUMN FOOTING SECTION
SCALE: ¾" = 1'-0"



F5 S200CH COLUMN FOOTING SECTION
SCALE: ¾" = 1'-0"

REVISIONS:

No.	Date
PHASE 1-PERMIT	02/04/2021

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

STATE OF MISSOURI
JARED W. VERSLUES
NUMBER PE-2017000387
PROFESSIONAL ENGINEER

STRUCTURAL ENGINEER:
CROCKETT ENGINEERING CONSULTANTS
1000 W. Nifong, Bldg. 7, Suite 1
Columbia, Missouri 65203
(573) 447-0292
www.crockettengineering.com
Crockett Engineering Consultants, LLC
Missouri Certificate of Authority
#2006015501

CLIENT:
CENTRAL STATES CONSTRUCTION
4215 PHILIPS FARM RD
COLUMBIA, MISSOURI

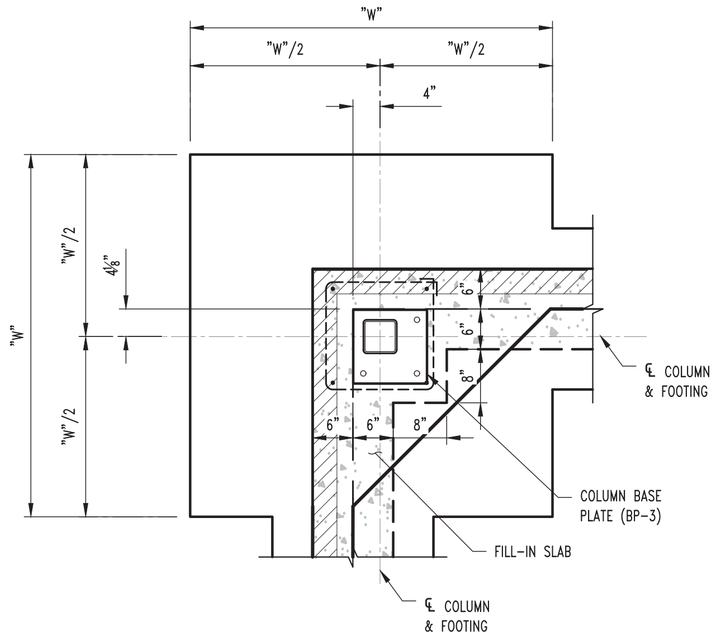
ARIA LEE'S SUMMIT APARTMENTS

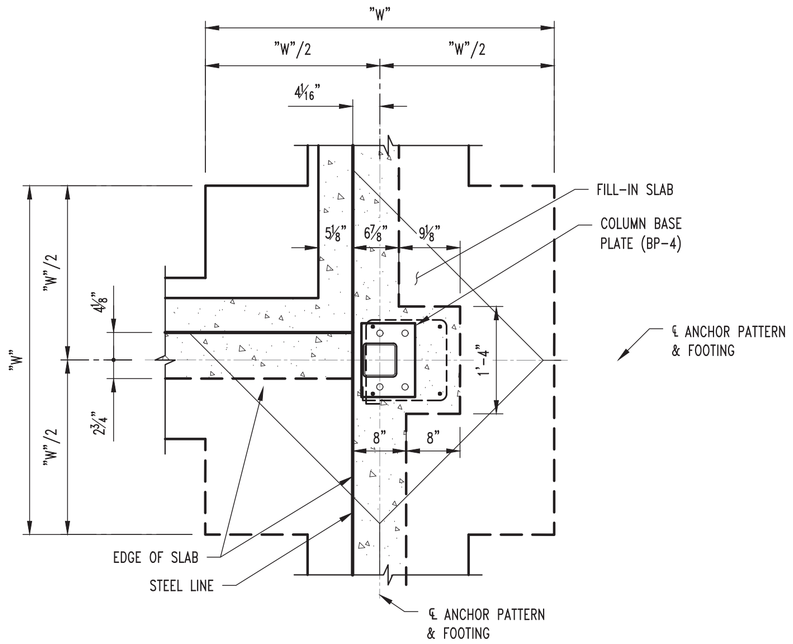
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

DRAWING INCLUDES:
FOUNDATION DETAILS

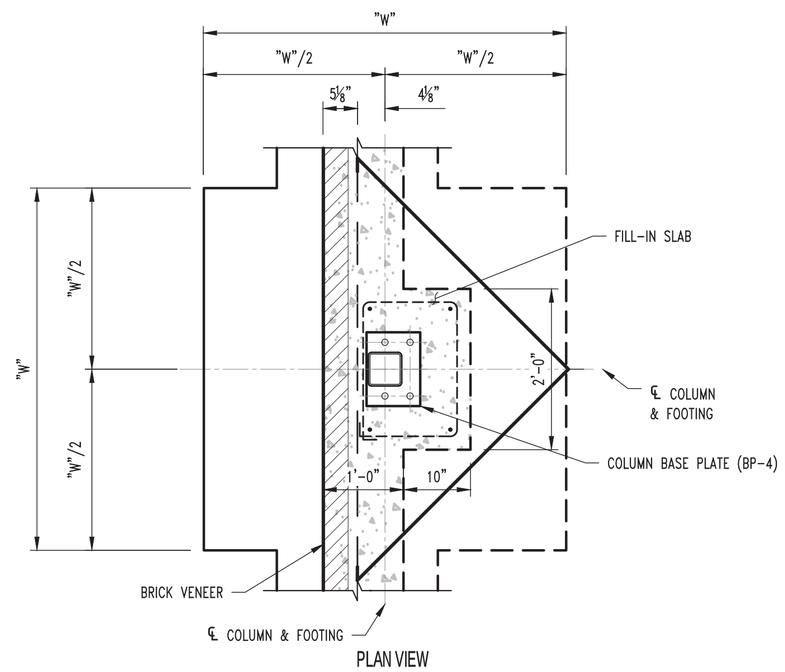
DESIGNED:	JWV
DRAWN:	SEH
PROJECT NO.:	190299

SHEET:
S210CH

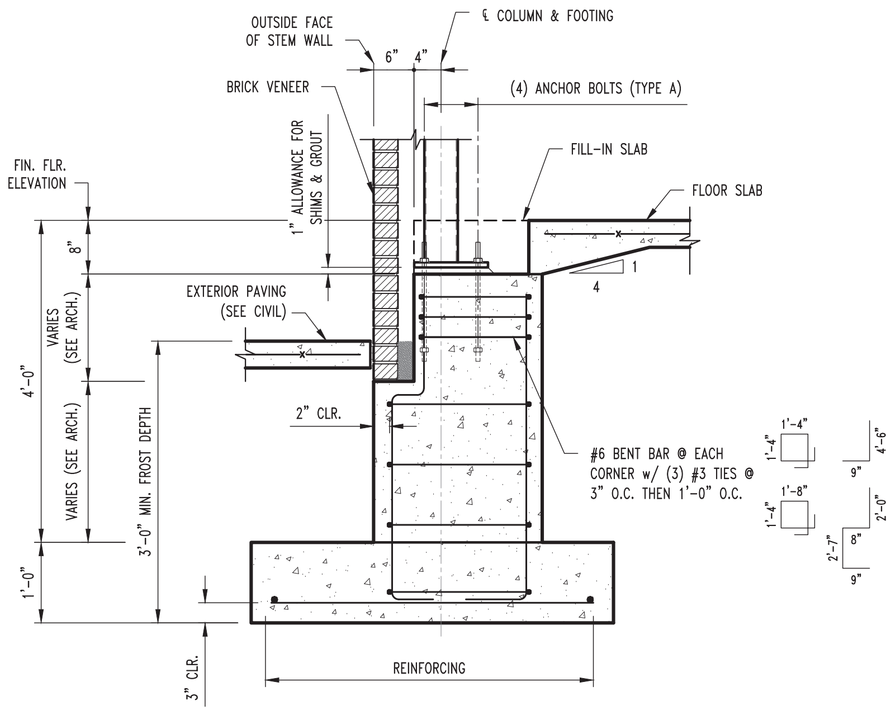




PLAN VIEW

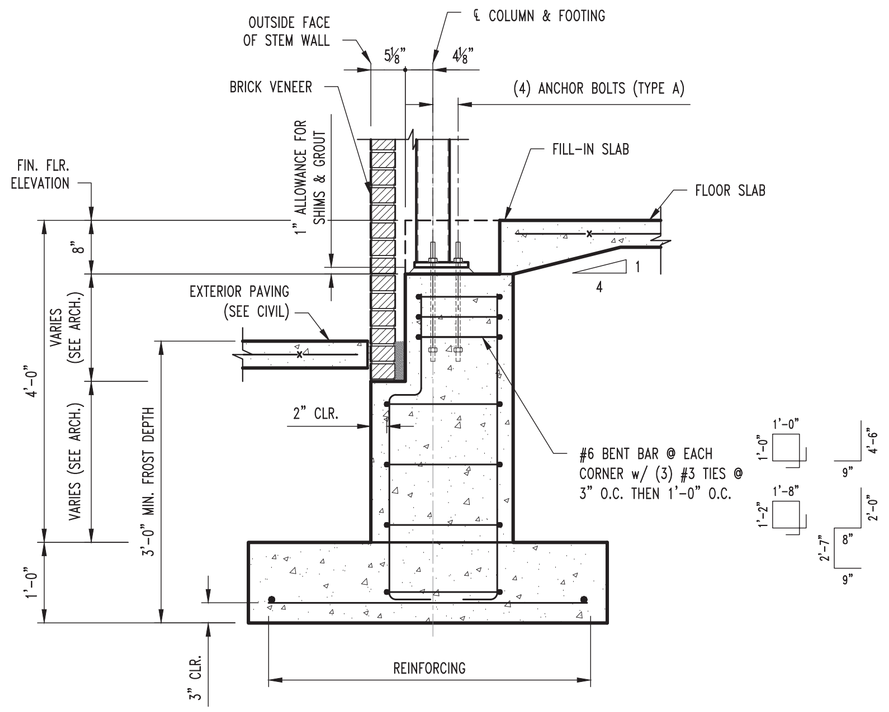


PLAN VIEW



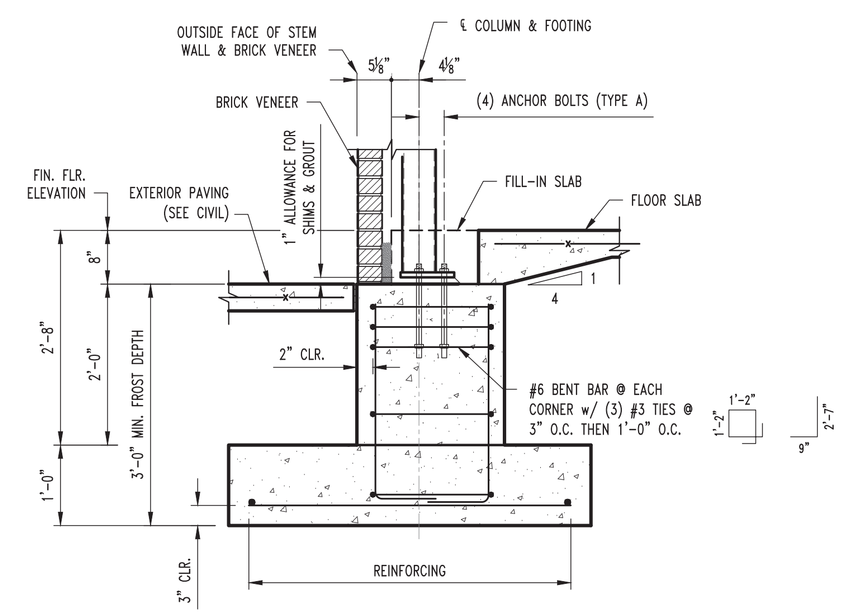
F6 S200CH — COLUMN FOOTING SECTION

SCALE: ¾" = 1'-0"



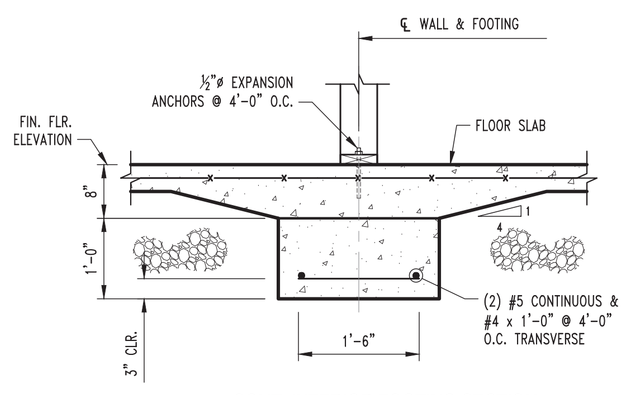
F7 S200CH — STEM WALL SECTION

SCALE: ¾" = 1'-0"



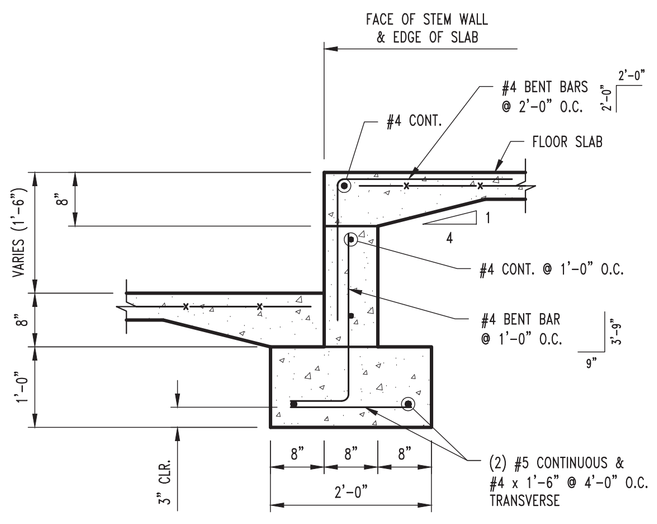
F8 S200CH — COLUMN FOOTING SECTION

SCALE: ¾" = 1'-0"



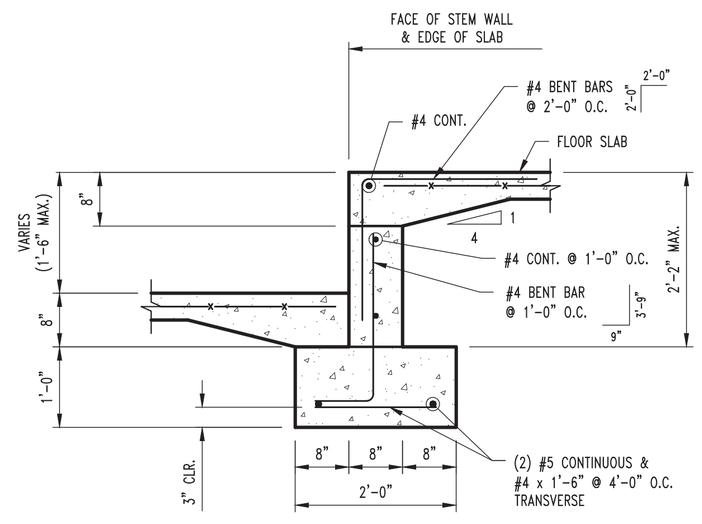
F10 S200CH — CONT. INTERIOR FOOTING SECTION

SCALE: ¾" = 1'-0"



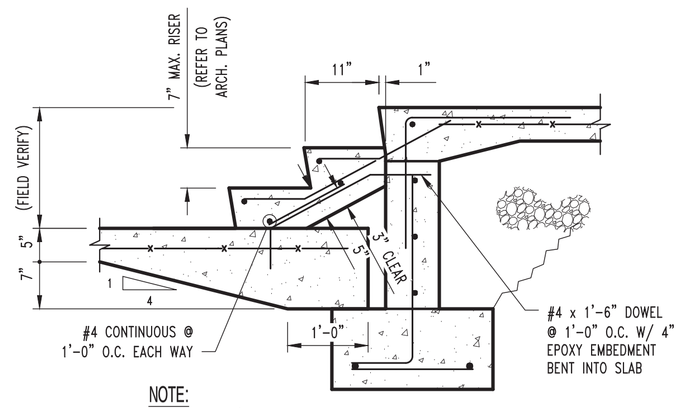
F11 S200 — CONTINUOUS FOOTING SECTION

SCALE: ¾" = 1'-0"



F12 S200CH — CONTINUOUS FOOTING SECTION @ RAMP & STAIR

SCALE: ¾" = 1'-0"



NOTE:
REFER TO F11/S210 FOR STEM WALL INFORMATION

F13 S200 — STAIR DETAIL

SCALE: ¾" = 1'-0"

REVISIONS:

No.	Date
PHASE 1-PERMIT	02/04/2021

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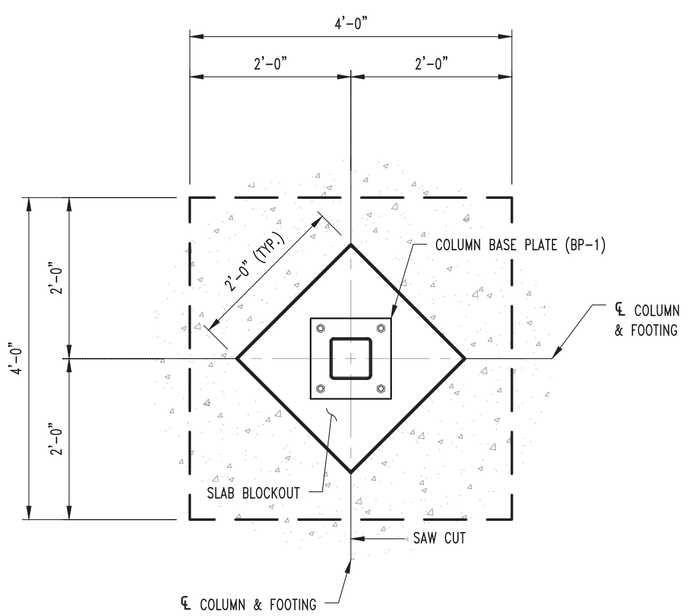
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

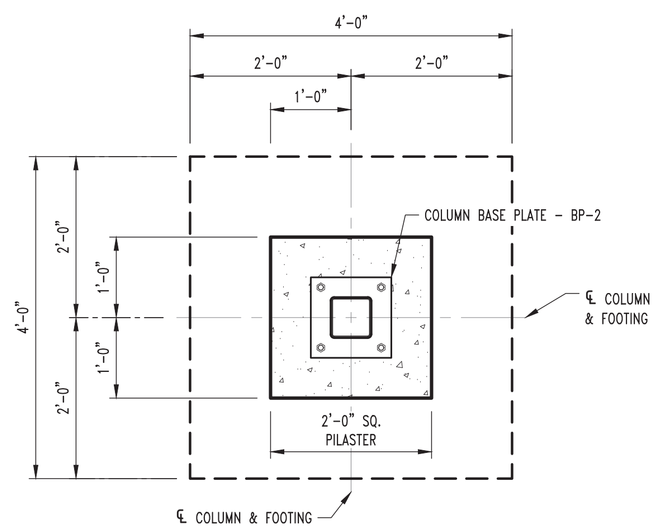
DRAWING INCLUDES:
FOUNDATION DETAILS

DESIGNED:	JWV
DRAWN:	SEH
PROJECT NO.:	190299

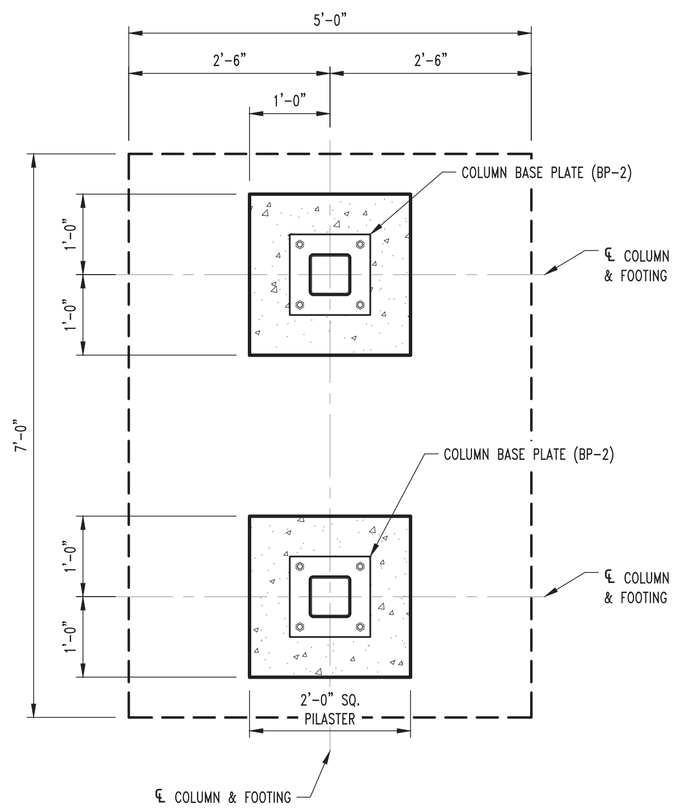
SHEET:
S211CH



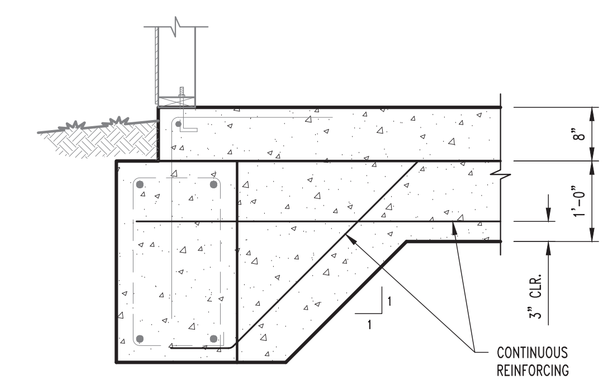
PLAN VIEW



PLAN VIEW

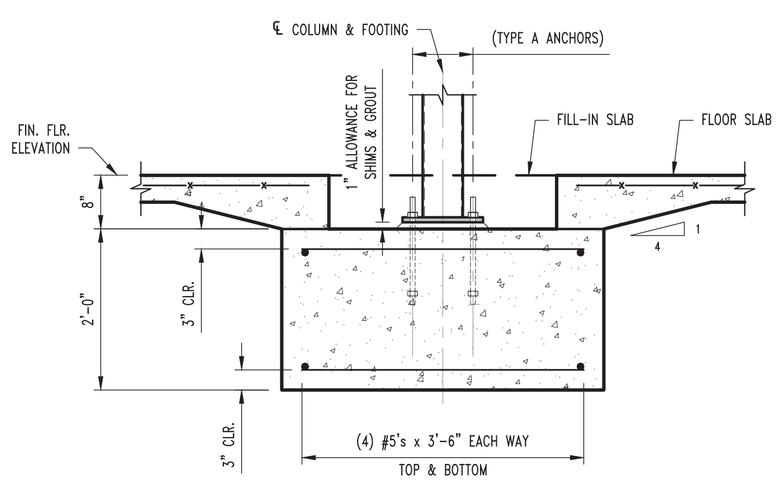


PLAN VIEW



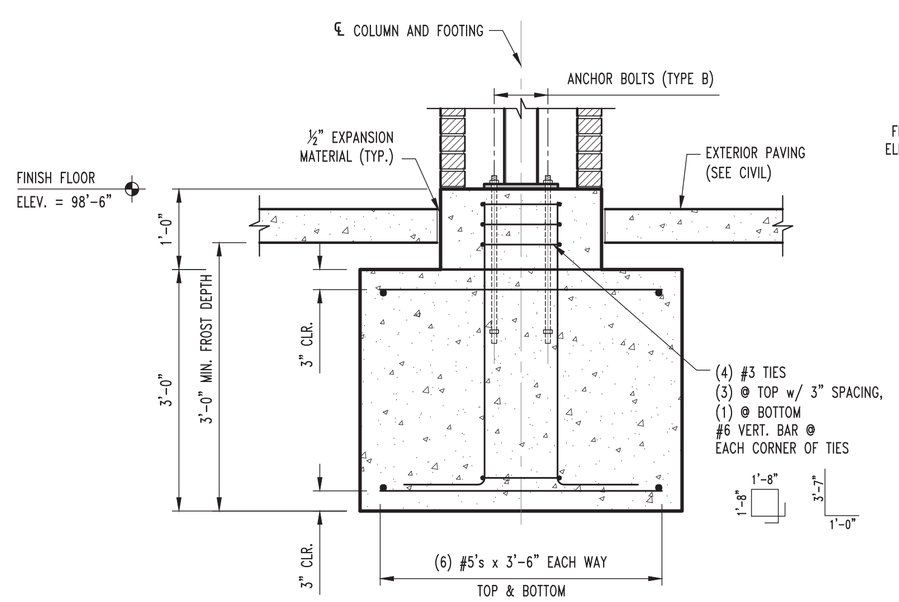
FS1 S200CH — FOOTING STEP SECTION

SCALE: ¾" = 1'-0"



F20 S200CH — COLUMN FOOTING SECTION

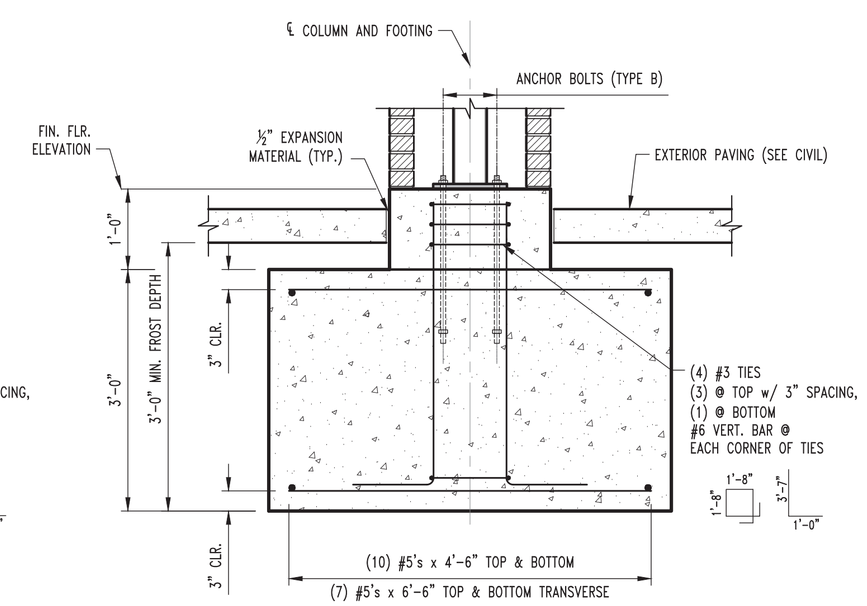
SCALE: ¾" = 1'-0"



PLAN VIEW

F30 S200CH — COLUMN FOOTING DETAIL

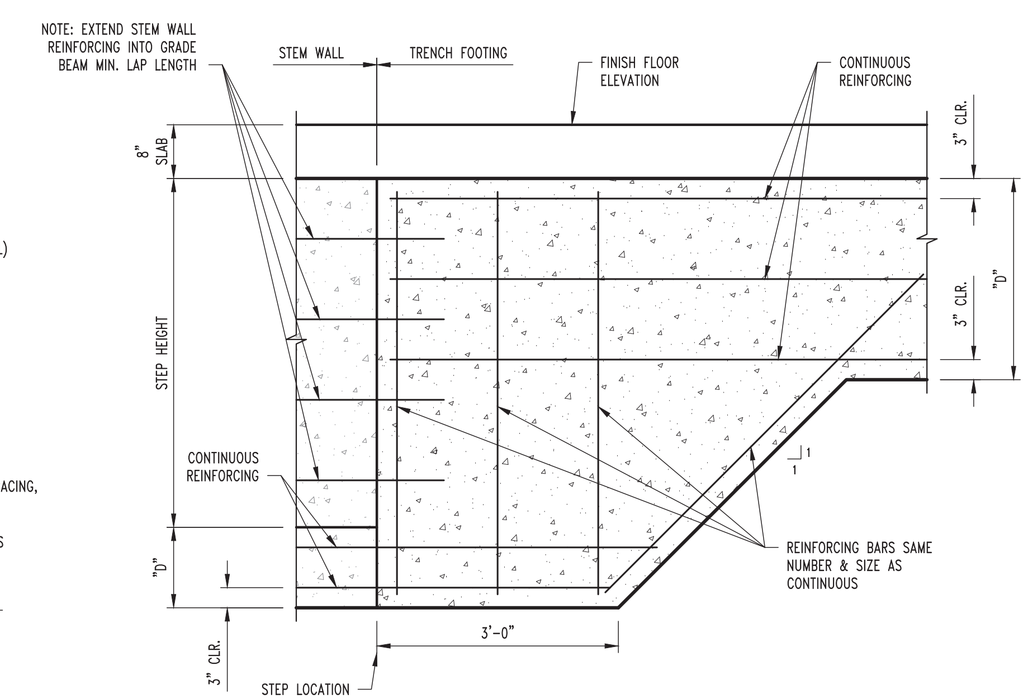
SCALE: ¾" = 1'-0"



PLAN VIEW

F31 S200CH — COLUMN FOOTING DETAIL

SCALE: ¾" = 1'-0"



FS2 S200 — FOOTING STEP DETAIL

SCALE: ¾" = 1'-0"

REVISIONS:

No.	Date
PHASE 1-PERMIT	02/04/2021

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STATE OF MISSOURI
JARED W. VERSLUES
NUMBER PE-2017000387
PROFESSIONAL ENGINEER

STRUCTURAL ENGINEER:
CROCKETT ENGINEERING CONSULTANTS
1000 W. Nifong Blvd. Bldg. 1
Columbia, Missouri 65203
(573) 447-0292
www.crockettengineering.com
Crockett Engineering Consultants, LLC
Missouri Certificate of Authority
#2006015501

CLIENT:
CENTRAL STATES CONSTRUCTION
4215 PHILIPS FARM RD
COLUMBIA, MISSOURI

ARIA LEE'S SUMMIT APARTMENTS

LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

DRAWING INCLUDES:

FOUNDATION DETAILS

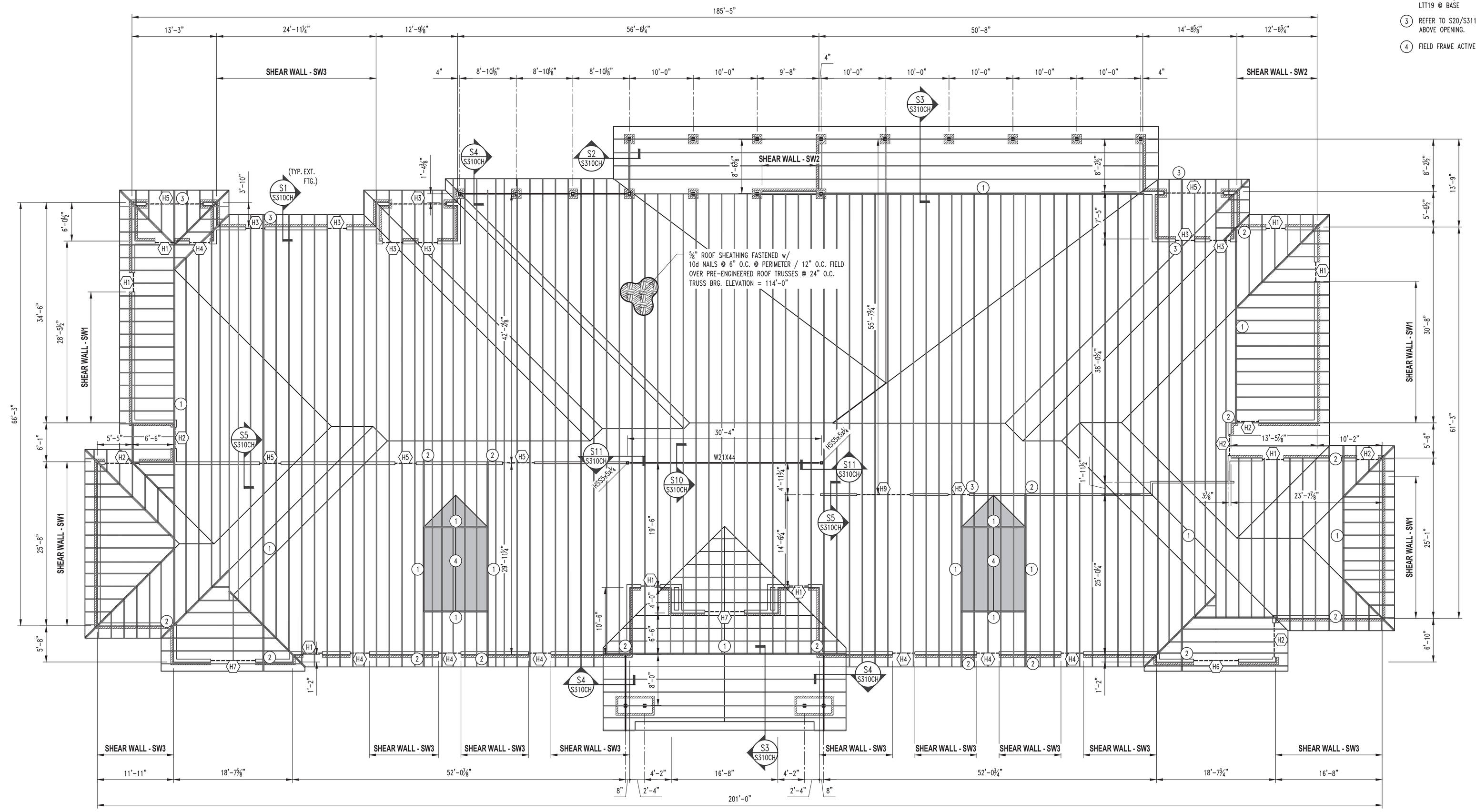
DESIGNED:	JWV
DRAWN:	SEH
PROJECT NO.:	190299

SHEET:
S212CH

NOTE:
ALL DIMENSIONS ARE FROM FACE OF FOUNDATION WALL OR FRAMING; EDGE OF SLAB OR TRUSS/RAFTER; OR CENTERLINE OF COLUMN, BEAM, OR JOIST UNLESS NOTED OTHERWISE.

FRAMING NOTES

1. GIRDER TRUSS
2. 3 PLY BUILT UP POST DIRECTLY BENEATH GIRDER ATTACHED w/ SIMPSON LGT3 @ TOP & SIMPSON LTT19 @ BASE
3. REFER TO S20/S311CH FOR GIRDER ATTACHMENT ABOVE OPENING.
4. FIELD FRAME ACTIVE DORMERS w/ 2x8 RAFTERS.



ROOF FRAMING PLAN (BLDG. #1)
1 S300CH
SCALE: 1/8" = 1'-0"
PLAN NORTH

SHEAR WALL KEY

SW-1
7/16" OSB SHEATHING FASTENED W/ 8D NAILS @ 2" O.C. @ PERIMETER & 12" O.C. @ FIELD & 5/8"X8" TITEN HD ANCHORS OR 5/8" Grade 36 "J-BOLTS" W/ 6" EMBEDMENT @ 2'-6" O.C. W/ SIMPSON HTT5 HOLDOWN FASTENED W/ (26) 0.162" X 2 ½" NAILS TO (2) 2X6 STUDS AND A 5/8" A307 THREADED ROD W/ 6" HILTI HY-200 EPOXY EMBEDMENT INTO THE FOOTING (14" TOTAL EMBEDMENT) AT EACH END OF THE SHEAR WALL

SW-2
7/16" OSB SHEATHING FASTENED W/ 8D NAILS @ 4" O.C. @ PERIMETER & 12" O.C. @ FIELD & 5/8"X8" TITEN HD ANCHORS OR 5/8" Grade 36 "J-BOLTS" W/ 6" EMBEDMENT @ 3'-0" O.C. W/ SIMPSON HTT4 HOLDOWN FASTENED W/ (18) 0.148" X 1 ½" TO (1) 2X6 STUDS AND A 5/8" A307 THREADED ROD W/ 6" HILTI HY-200 EPOXY EMBEDMENT INTO THE FOOTING (14" TOTAL EMBEDMENT) AT EACH END OF THE SHEAR WALL

SW-3
7/16" OSB SHEATHING FASTENED W/ 8D NAILS @ 4" O.C. @ PERIMETER & 12" O.C. @ FIELD & 5/8"X8" TITEN HD ANCHORS OR 5/8" Grade 36 "J-BOLTS" W/ 6" EMBEDMENT @ 3'-0" O.C.

NOTE:
IF WALL IS NOT LABELED AS A SHEAR WALL THE SHEATHING SHALL BE 7/16" OSB SHEATHING FASTENED W/ 8D NAILS @ 6" O.C. @ PERIMETER & 12" O.C. @ FIELD & 5/8"X8" TITEN HD ANCHORS OR 5/8" Grade 36 "J-BOLTS" W/ 6" EMBEDMENT @ 4'-0" O.C.

BRICK LINTEL SCHEDULE

SPAN	Lintel
L ≤ 4'-0"	L4x3-1/2x3/8 w/ 6" BEARING EACH SIDE
L ≤ 6'-6"	L5x3-1/2x3/8 w/ 6" BEARING EACH SIDE
BALCONY LINTEL	L6x4x3/8 w/ 8" BEARING EACH SIDE

HEADER SCHEDULE

MARK	HEADER	CRIPPLE	JAMB
"H1"	(2) 2x4 SPF No.1/ No.2	2x6 So. Pine Sel. Str.	(2) So. Pine Sel. Str.
"H2"	(2) 2x4 SPF No.1/ No.2	2x6 So. Pine Sel. Str.	(3) So. Pine Sel. Str.
"H3"	(2) 2x6 SPF No.1/ No.2	2x6 So. Pine Sel. Str.	(2) So. Pine Sel. Str.
"H4"	(2) 2x6 SPF No.1/No.2	2x6 So. Pine Sel. Str.	(3) So. Pine Sel. Str.
"H5"	(2) 2x8 DF-L No. 2	2x6 So. Pine Sel. Str.	(3) So. Pine Sel. Str.
"H6"	(2) 2x8 DF-L No. 2	2x6 So. Pine Sel. Str.	(4) So. Pine Sel. Str.
"H7"	(2) 2x10 DF-L Sel. Str.	2x6 So. Pine Sel. Str.	(4) So. Pine Sel. Str.
"H8"	(2) 2x10 DF-L Sel. Str.	(2) 2x6 So. Pine Sel. Str.	(2) So. Pine Sel. Str.
"H9"	MicroLam 3.5x9.25	(2) 2x6 So. Pine Sel. Str.	(2) So. Pine Sel. Str.

REVISIONS:

No.	Date
PHASE 1-PERMIT	02/04/2021

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STATE OF MISSOURI
JARED W. VERSLUES
NUMBER PE-2017000387
PROFESSIONAL ENGINEER

STRUCTURAL ENGINEER:
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4215 PHILIPS FARM RD
COLUMBIA, MISSOURI

ARIA LEE'S SUMMIT APARTMENTS

LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

DRAWING INCLUDES:
FRAMING DETAILS

DESIGNED:	JWV
DRAWN:	SEH
PROJECT NO.:	190299
SHEET:	S300CH

ARIA LEE'S SUMMIT APARTMENTS

LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

DRAWING INCLUDES:
FRAMING DETAILS

DESIGNED:	JWV
DRAWN:	SEH
PROJECT NO.:	190299
SHEET:	S310CH

CLIENT:
CENTRAL STATES CONSTRUCTION
4235 PHILIPS FARM RD
COLUMBIA, MISSOURI

STRUCTURAL ENGINEER:
CROCKETT ENGINEERING CONSULTANTS
1000 Walnut Street, Suite 1
Columbia, Missouri 65201
(573) 447-0292
www.crockettengineering.com
Crockett Engineering Consultants, LLC
Missouri Certificate of Authority
2006015100

STATE OF MISSOURI
JARED W. VEENSCLOES
NUMBER
PE-2017000387
PROFESSIONAL ENGINEER

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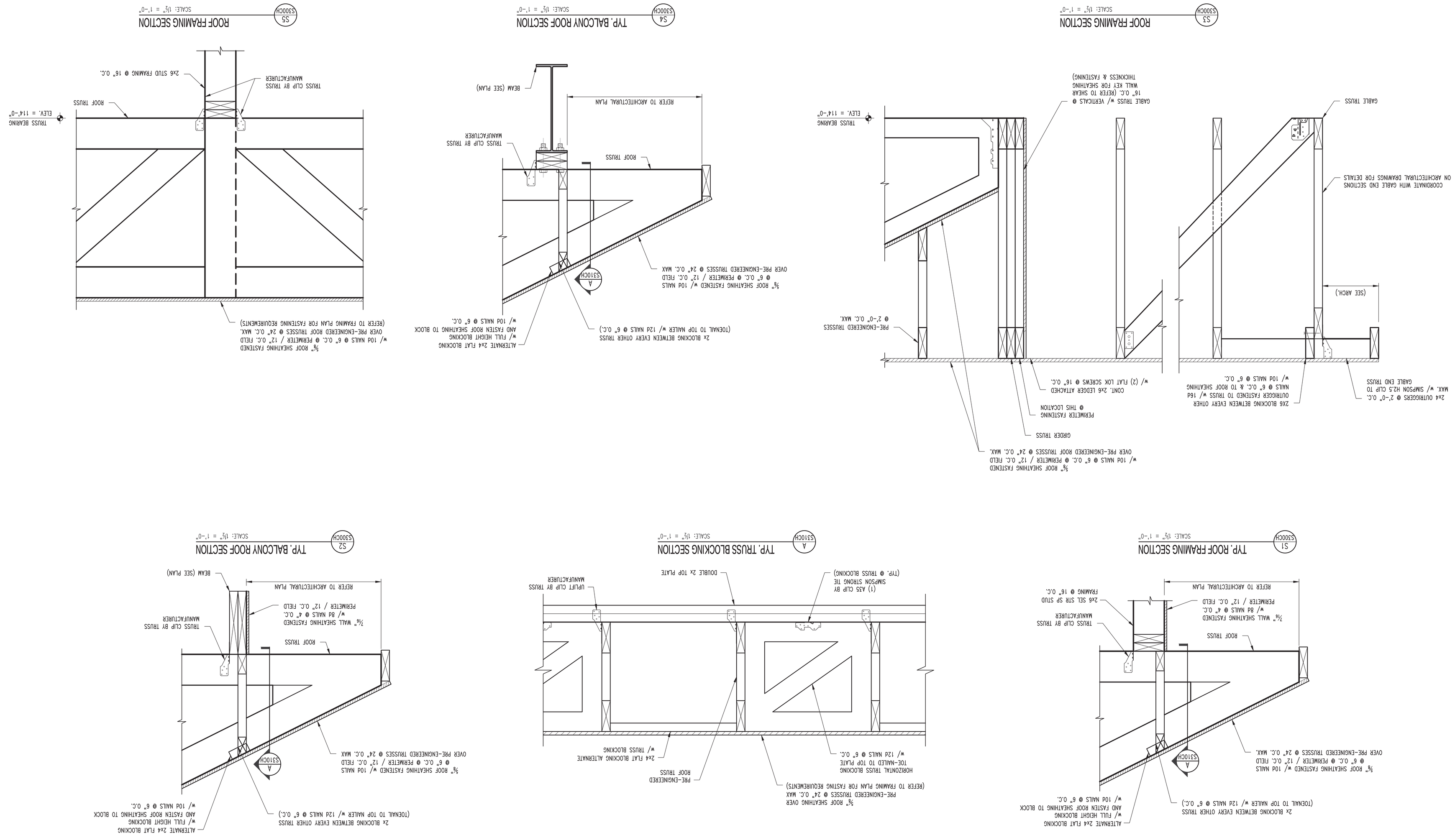
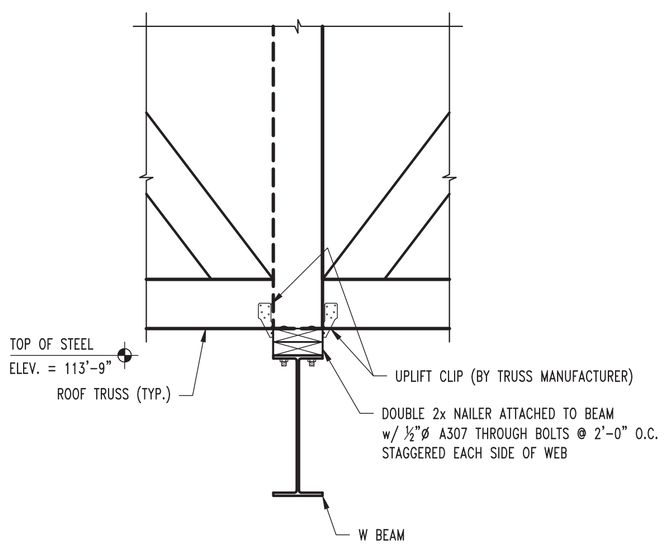
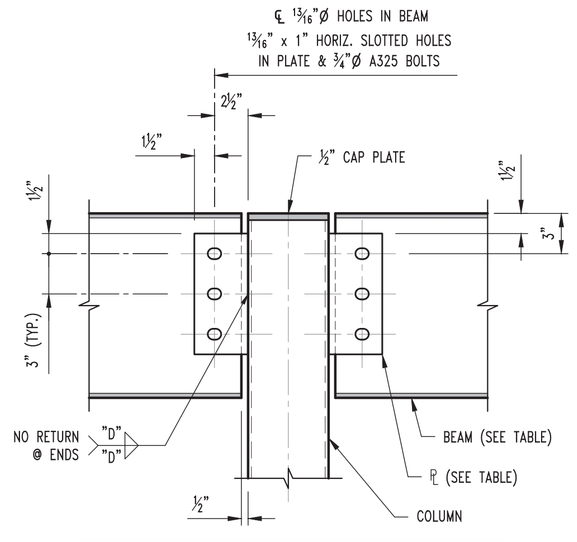


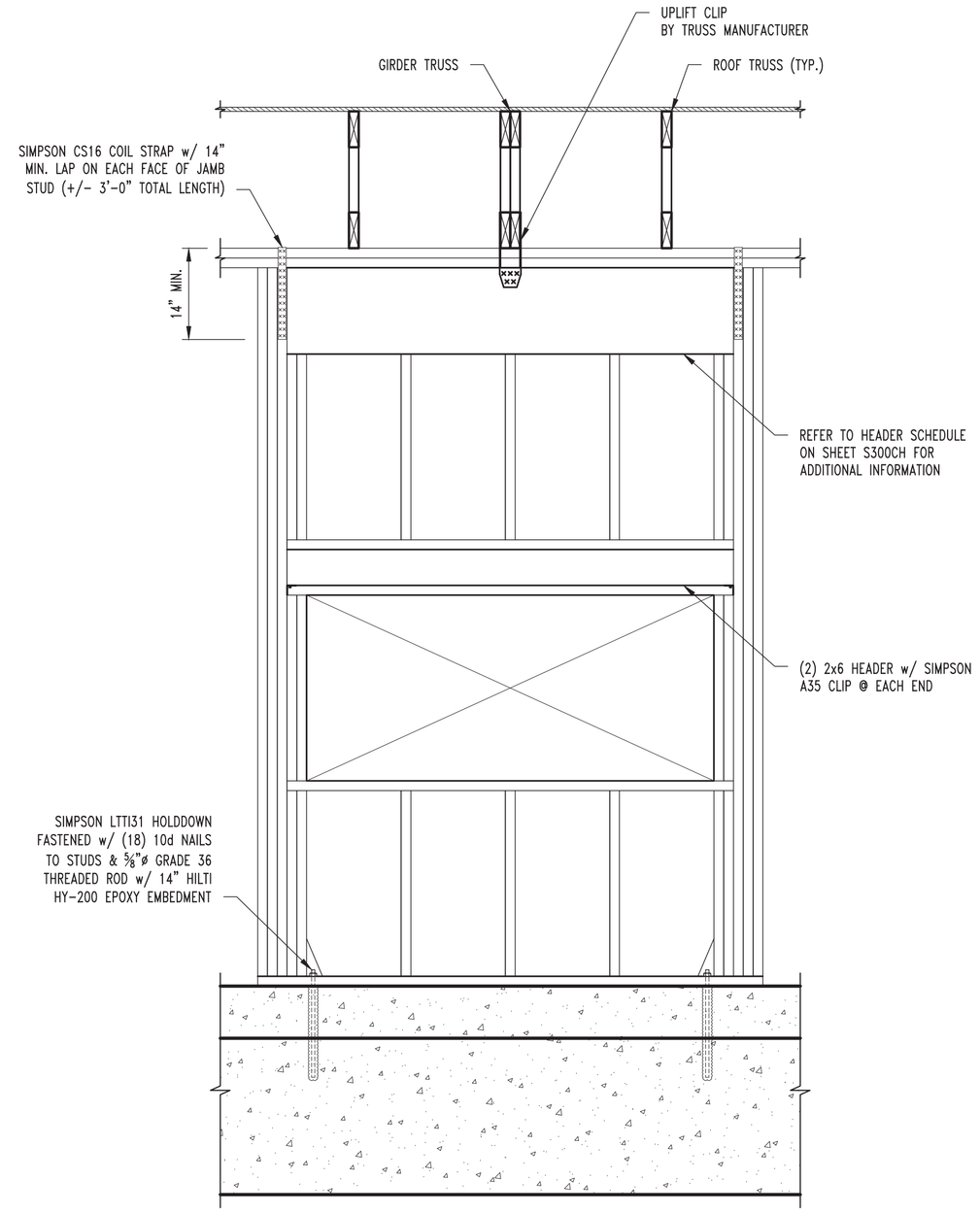


S10 S300CH ROOF FRAMING DETAIL
SCALE: 1" = 1'-0"



BEAM SIZE	No. OF BOLTS "N"	PLATE SIZE	WELD SIZE "D"
W14	3	5/16x4x0'-9"	¼"

S11 S300CH TYP. BEAM TO COLUMN SECTION
SCALE: 1½" = 1'-0"



S20 S300CH GIRDER TO HEADER DETAIL
SCALE: 1½" = 1'-0"

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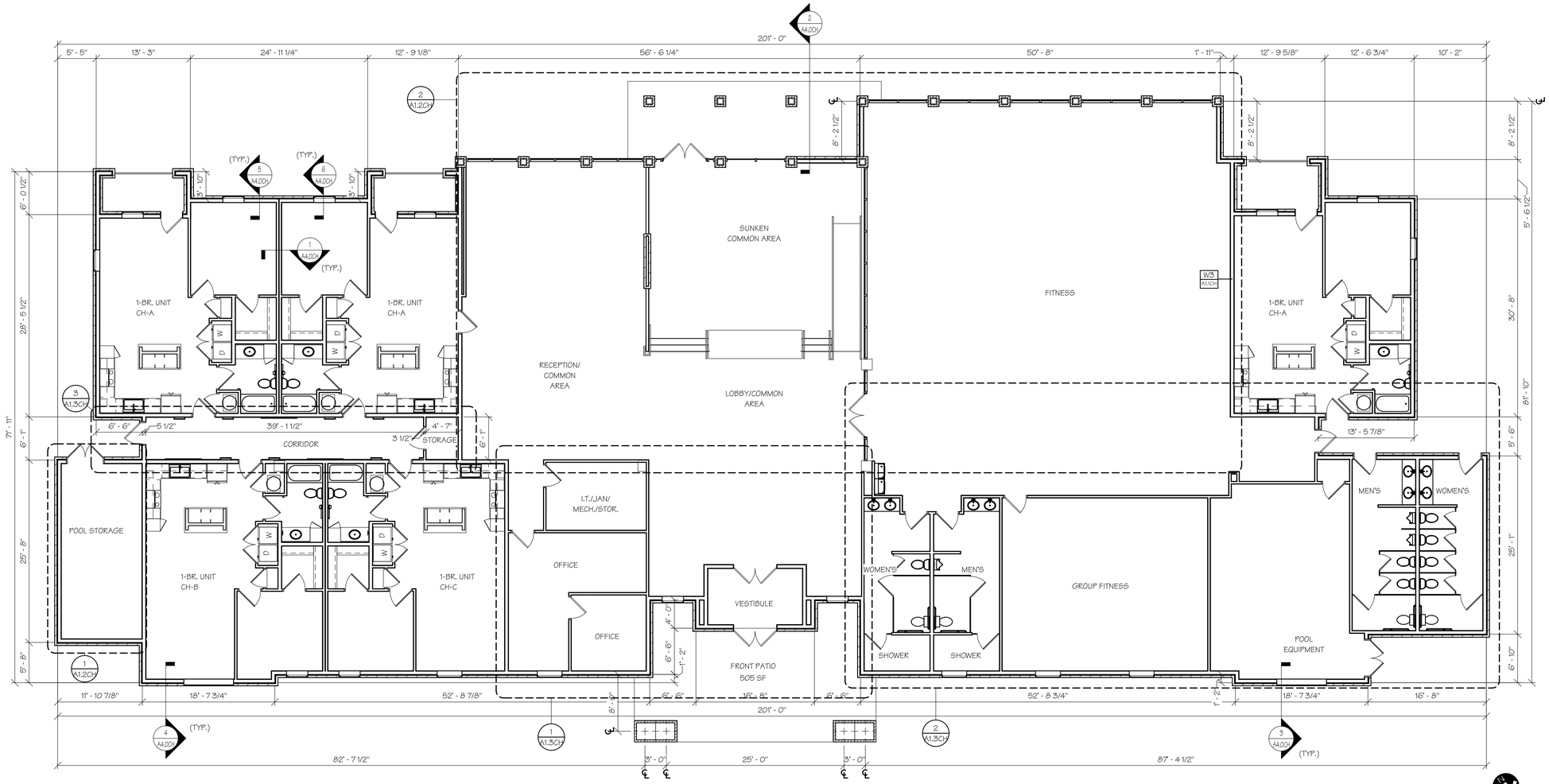
DESIGNED:	JWV
DRAWN:	SEH
PROJECT NO.:	190299
SHEET:	S311CH



1 A1.0CH SCALE: 1/8" = 1'-0"

CLUBHOUSE FLOOR PLAN

BUILDING PLAN

PERMIT SET

STATE OF MISSOURI
M. RANDALL PORTER
A-2012006244
ARCHITECT

04 FEB 2021

M. RANDALL PORTER
A-2012006244

ARIA APARTMENTS LEE'S SUMMIT
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

Wallace ARCHITECTS L.L.C.
Columbia, MO
P 573-256-7200

WALLACE ARCHITECTS, LLC
MISSOURI STATE CERTIFICATE OF AUTHORITY: 2003019614

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1ST ISSUE
04 FEB 2021

ISSUE/REVISIONS
1 04 FEB 2021 PERMIT SET

SHEET NO. A1.0CH

JOB NO. 3984

2/10/2021 2:08:57 PM

DOOR SCHEDULE

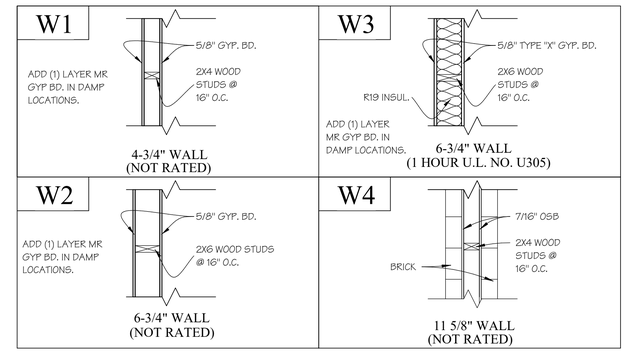
TYPE MARK	SIZE	ELEV.	PANEL MATL.	Glazing	DESCRIPTION
1	3'-0" x 6'-8" x 1 3/4"	A	WD SC	NONE	1 PANEL STYLE & RAIL DOOR (DARK WALNUT STAIN) W/PEEPHOLE, HOLLOW METAL FRAME, SMOKE GASKET, SPRING HINGES & ALUM. 1/4" LOW PROFILE THRESHOLD, 20 MIN RATED
2	3'-0" x 6'-8" x 1 3/4"	C	METAL INSUL.	TEMPERED INSULATED	STEEL FRAME & ALUM. 1/4" LOW PROFILE THRESHOLD THERMAL BREAK & COMPRESSION STRIPPING
3	3'-0" x 6'-8" x 1 3/8"	B	WD HC	NONE	MASONITE, PRE-HUNG W/SATIN NICKEL HINGES
4	2'-6" x 6'-8" x 1 3/8"	B	WD HC	NONE	MASONITE, PRE-HUNG W/SATIN NICKEL HINGES
5	PR. 2'-6" x 6'-8" x 1 3/8"	D	WD HC	NONE	MASONITE, PRE-HUNG W/SATIN NICKEL HINGES
6	3'-0" x 6'-8" x 1 3/8"	C	WD SC	TEMPERED	1 PANEL STYLE & RAIL DOOR (DARK WALNUT STAIN)
7	PR. 3'-0" x 6'-8" x 1 3/4"	E	ALUMINUM	TEMPERED INSULATED	STORE FRONT ALUM. THRESHOLD, THERMAL BREAK & COMPRESSION STRIPPING, PANIC EXIT HARDWARE & CLOSER
8	PR. 3'-0" x 6'-8" x 1 3/4"	F	ALUMINUM	TEMPERED INSULATED	STORE FRONT ALUM. THRESHOLD, THERMAL BREAK & COMPRESSION STRIPPING, PANIC EXIT HARDWARE & CLOSER
9	3'-0" x 6'-8" x 1 3/4"	A	METAL INSUL.	NONE	STEEL FRAME & ALUM. THRESHOLD, THERMAL BREAK & COMPRESSION STRIPPING, & CLOSER
10	PR. 2'-6" x 6'-8" x 1 3/4"	D	METAL INSUL.	NONE	STEEL FRAME & ALUM. THRESHOLD, THERMAL BREAK & COMPRESSION STRIPPING, & CLOSER
11	3'-0" x 5 5/8" x 1"	-	METAL	NONE	MANUFAC. TOILET PARTITION DOOR
12	2'-0" x 5 5/8" x 1"	-	METAL	NONE	MANUFAC. TOILET PARTITION DOOR
13	3'-0" x 6'-8" x 1 3/4"	C	METAL INSUL.	TEMPERED INSULATED	STEEL FRAME & ALUM. 1/4" LOW PROFILE THRESHOLD THERMAL BREAK & COMPRESSION STRIPPING, PANIC EXIT HARDWARE & CLOSER
14	PR. 3'-0" x 6'-8" x 1 3/4"	E	ALUMINUM	TEMPERED	STORE FRONT ALUM. THRESHOLD

WALL NOTES

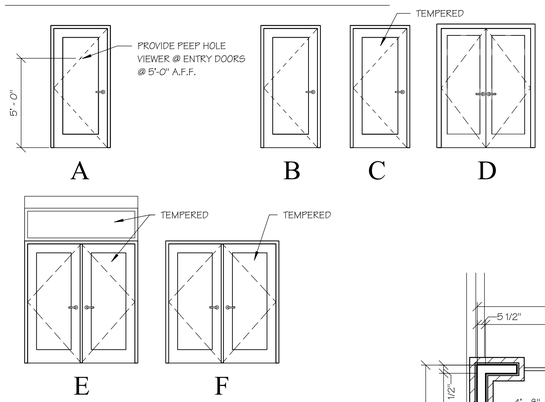
1) DIMENSIONS ARE STUD FACE TO STUD FACE UNLESS NOTED OTHERWISE.
2) PROVIDE SOLID BLOCKING BEHIND GRAB BARS, CURTAIN RODS, SHOWER RODS, SHOWER HEADS, TOWEL BARS, ALL CABINETS, AND ALL SOFFITS.
3) ALL EXTERIOR WALLS FRAMED W/ 2X6'S 16" O.C. AND COVERED W/ (1) LAYER 5/8" TYPE "X" GYP. BDL. AT INTERIOR.
4) ALL INTERIOR WALLS FRAMED WITH 2x4'S OR 2x6'S (ALL PLUMBING WALLS) 16" O.C. AND COVERED WITH (1) LAYER 5/8" GYP. BD.
5) ALL UNIT SEPARATION WALLS FRAMED WITH 2x4'S 16" O.C. AND COVERED WITH (1) LAYER 5/8" TYPE "X" GYP. BD. (EACH SIDE) PER WALL SECTION.

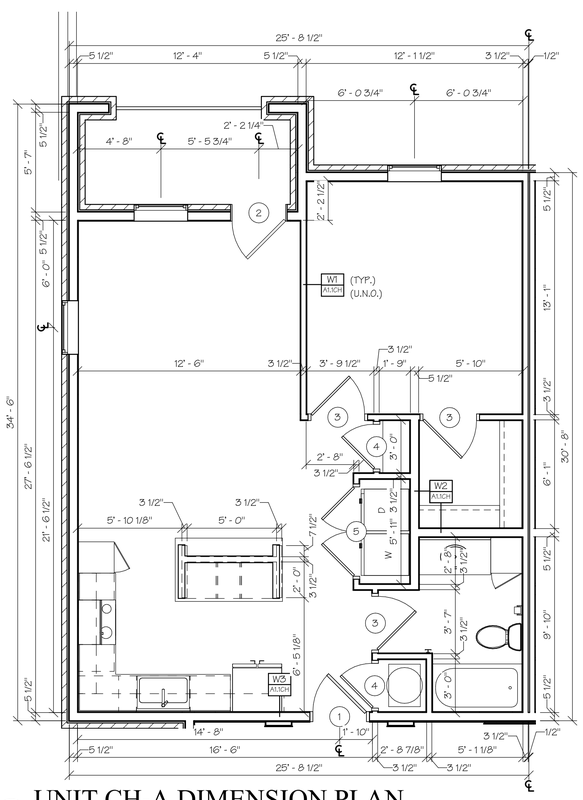
GENERAL UNIT NOTES

1) ALL WASHERS & DRYERS ARE TO BE FRONT LOADING.
2) MR GYP. BD. @ DAMP WALL LOCATIONS

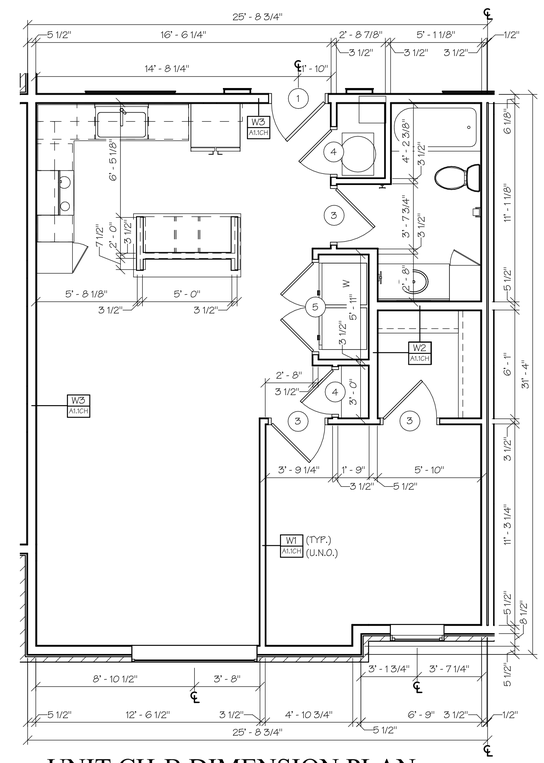


DOOR ELEVATIONS

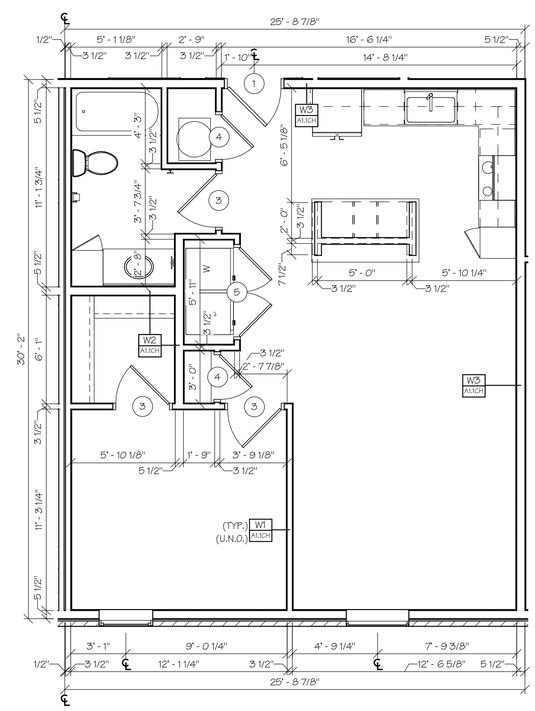




3 A1.1CH UNIT CH-A DIMENSION PLAN
SCALE: 1/4" = 1'-0"



1 A1.1CH UNIT CH-B DIMENSION PLAN
SCALE: 1/4" = 1'-0"



4 A1.1CH UNIT CH-C DIMENSION PLAN
SCALE: 1/4" = 1'-0"

UNIT DIMENSION PLANS

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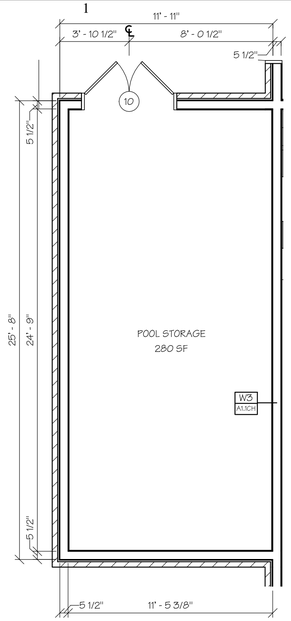
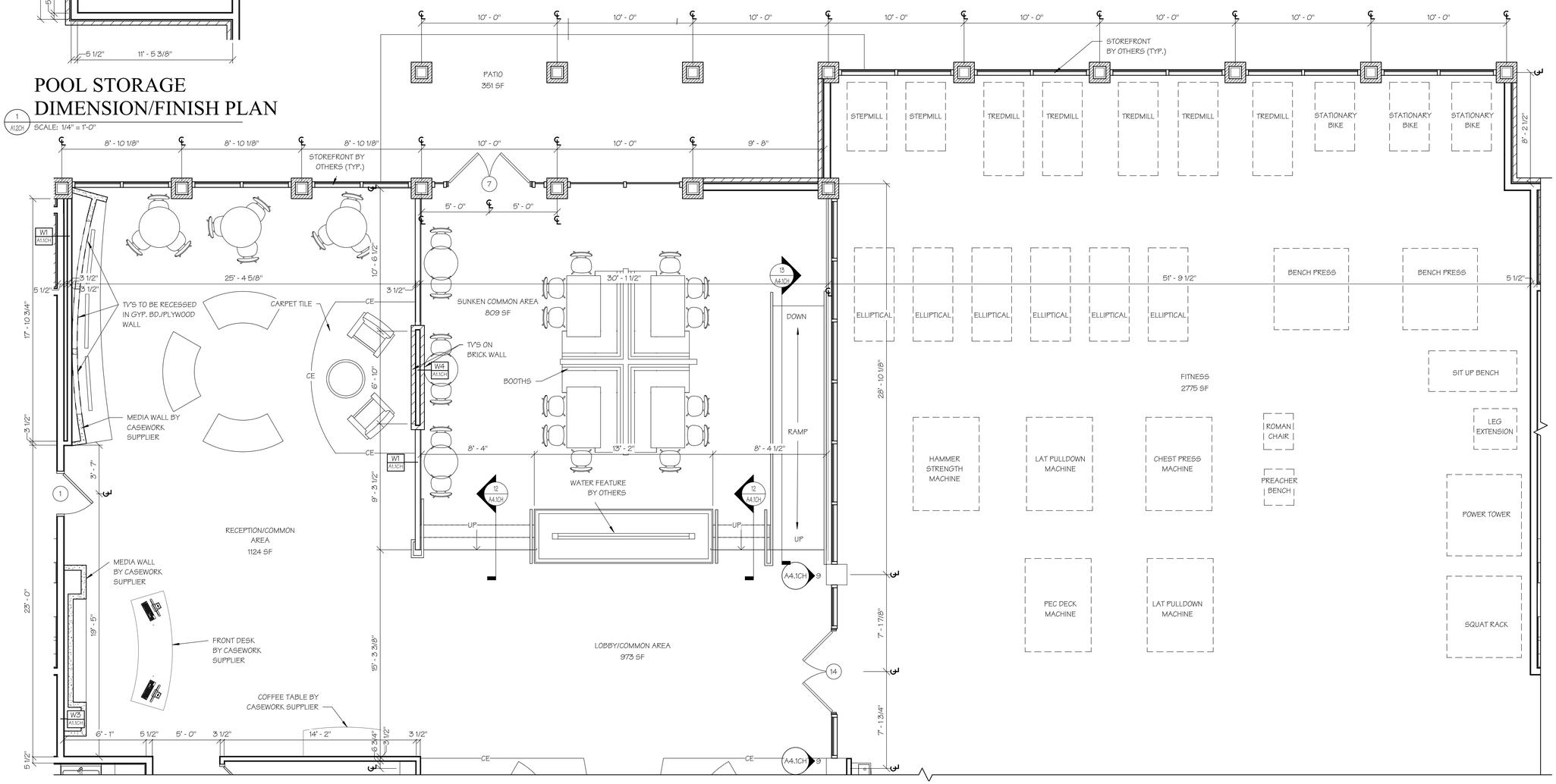


POOL STORAGE DIMENSION/FINISH PLAN

1 A1.2CH SCALE: 1/4" = 1'-0"

COMMON AREA FINISH SCHEDULE

Name	Floor Finish	Base Finish	Wall Finish	Ceiling Finish
CHEM. STOR.	SEALED CONCRETE	NONE OR NO ADDITIONAL FINISH	NONE	PAINTED GYP. BD. W/ORANGE PEEL FINISH
CORRIDOR	WALK OFF CARPET	4" COVE BASE	PAINTED GYP. BD.	SUSPENDED CEILING
FITNESS	RUBBERIZED FLOOR	4" COVE BASE	PAINTED GYP. BD.	PAINTED GYP. BD. W/ORANGE PEEL FINISH
GROUP FITNESS	RUBBERIZED FLOOR	4" COVE BASE	PAINTED GYP. BD.	PAINTED GYP. BD. W/ORANGE PEEL FINISH
I.T./JAN/MECH/STOR.	CERAMIC TILE	4" COVE BASE	PAINTED GYP. BD.	SUSPENDED CEILING
LOBBY/COMMON AREA	CERAMIC TILE	WOOD BASE	PAINTED GYP. BD. W/ CHAIR RAIL	PAINTED GYP. BD. W/ORANGE PEEL FINISH
LOCKER AREA	RUBBERIZED FLOOR	4" COVE BASE	PAINTED GYP. BD.	SUSPENDED CEILING
MEN'S RESTROOM	CERAMIC TILE	4" COVE BASE	PAINTED GYP. BD.	SUSPENDED CEILING
MEN'S RESTROOM/SHOWER	CERAMIC TILE	4" COVE BASE	PAINTED GYP. BD.	SUSPENDED CEILING
OFFICE	CERAMIC TILE	WOOD BASE	PAINTED GYP. BD. W/ CHAIR RAIL	SUSPENDED CEILING
POOL EQUIPMENT	SEALED CONCRETE	NONE OR NO ADDITIONAL FINISH	NONE	PAINTED GYP. BD. W/ORANGE PEEL FINISH
POOL STORAGE	SEALED CONCRETE	NONE OR NO ADDITIONAL FINISH	NONE	PAINTED GYP. BD. W/ORANGE PEEL FINISH
RAMP	RUBBERIZED FLOOR	NONE	PAINTED GYP. BD.	PAINTED GYP. BD. W/ORANGE PEEL FINISH
RECEPTION/COMMON AREA	CERAMIC TILE	WOOD BASE	PAINTED GYP. BD. W/ CHAIR RAIL	PAINTED GYP. BD. W/ORANGE PEEL FINISH
STAIRS	RUBBER STAIR TREAD & RISER	NONE	PAINTED GYP. BD.	PAINTED GYP. BD. W/ORANGE PEEL FINISH
STORAGE	SEALED CONCRETE	NONE OR NO ADDITIONAL FINISH	PAINTED GYP. BD.	SUSPENDED CEILING
SUNKEN COMMON AREA	CERAMIC TILE	WOOD BASE	PAINTED GYP. BD. W/ CHAIR RAIL	PAINTED GYP. BD. W/ORANGE PEEL FINISH
VESTIBULE	CERAMIC TILE	WOOD BASE	PAINTED GYP. BD. W/ CHAIR RAIL	PAINTED GYP. BD. W/ORANGE PEEL FINISH
WOMEN'S RESTROOM	CERAMIC TILE	4" COVE BASE	PAINTED GYP. BD.	SUSPENDED CEILING
WOMEN'S RESTROOM/SHOWER	CERAMIC TILE	4" COVE BASE	PAINTED GYP. BD.	SUSPENDED CEILING



ENLARGED COMMON AREA PLAN A

2 A1.2CH SCALE: 1/4" = 1'-0"

ENLARGED COMMON AREA PLANS

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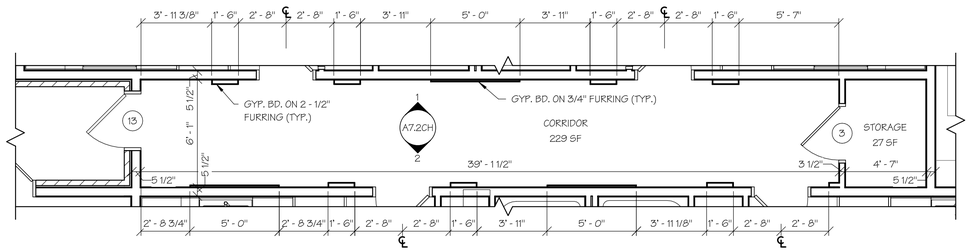
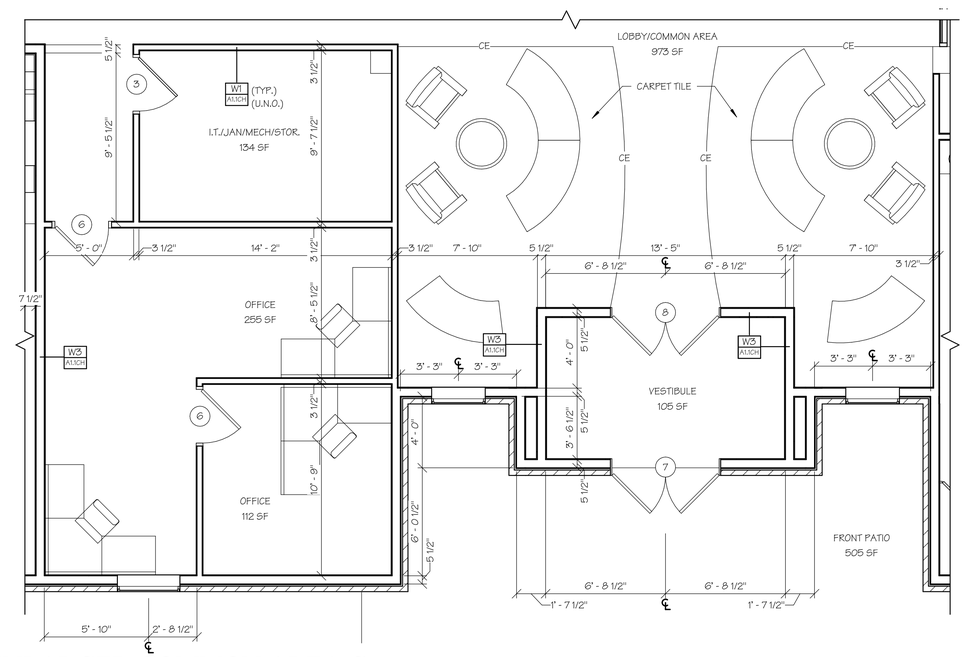


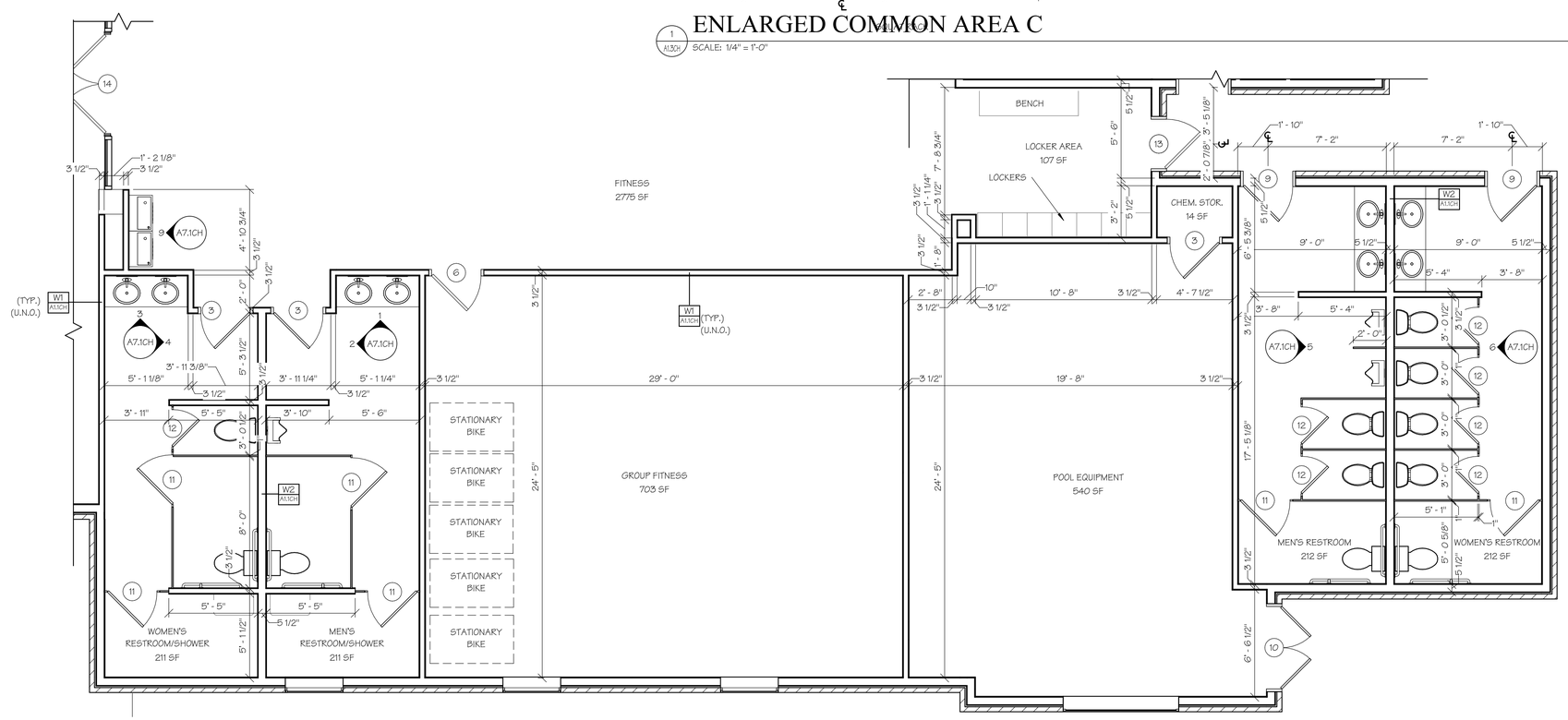
3 A1.3CH ENLARGED COMMON AREA PLAN B

SCALE: 1/4" = 1'-0"



1 A1.3CH ENLARGED COMMON AREA C

SCALE: 1/4" = 1'-0"



2 A1.3CH ENLARGED COMMON AREA D

SCALE: 1/4" = 1'-0"

ENLARGED COMMON AREA PLANS

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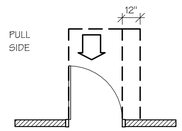
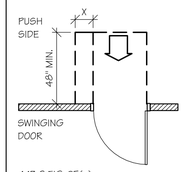
MANEUVERING CLEARANCES AT DOORS

PER ANSI

NOTE: WHERE ANY OBSTRUCTION WITHIN 18 INCHES OF THE LATCH SIDE OF A DOORWAY PROJECTS MORE THAN 8 INCHES BEYOND THE FACE OF THE DOOR, MEASURED PERPENDICULAR TO THE FACE OF THE DOOR, MANEUVERING CLEARANCES FOR A FORWARD APPROACH SHALL BE PROVIDED.

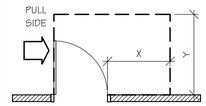


4.13.6 FIG. 25(a)
FRONT APPROACH - PULL SIDE



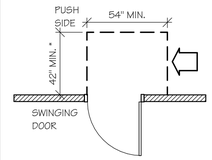
4.13.6 FIG. 25(a)
FRONT APPROACH - PUSH SIDE

NOTE: X = 12" MIN IF DOOR HAS BOTH A CLOSER AND LATCH



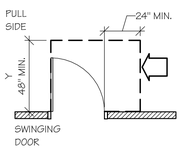
4.13.6 FIG. 25(b)
HINGE APPROACH - PULL SIDE
X = 36" MIN AND Y = 60" MIN

4.13.6 FIG. 25(b)
HINGE APPROACH - PULL SIDE
X = 42" MIN AND Y = 54" MIN



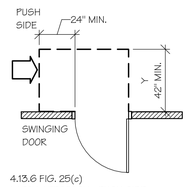
4.13.6 FIG. 25(b)
HINGE APPROACH - PUSH SIDE

* 48" MIN IF BOTH CLOSER AND LATCH PROVIDED.



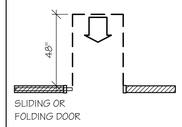
4.13.6 FIG. 25(c)
LATCH APPROACH - PULL SIDE

NOTE: Y = 54" MIN IF DOOR HAS A CLOSER

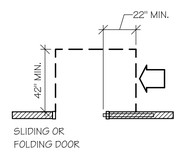


4.13.6 FIG. 25(c)
LATCH APPROACH - PUSH SIDE

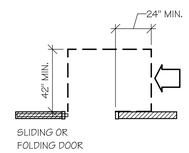
NOTE: Y = 48" MIN IF DOOR HAS A CLOSER



4.13.6 FIG 25(d)
FRONT APPROACH

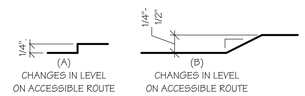


4.13.6 FIG 25(e)
POCKET OR HINGE ("SLIDE SIDE") APPROACH

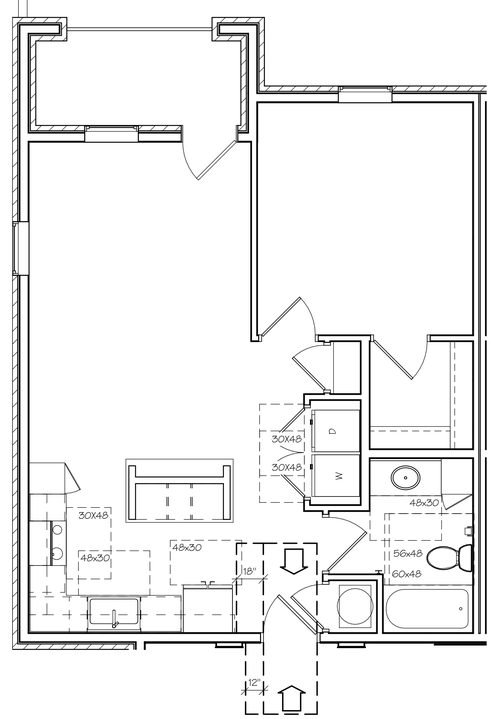


4.13.6 FIG 25(f)
STOP OR LATCH APPROACH

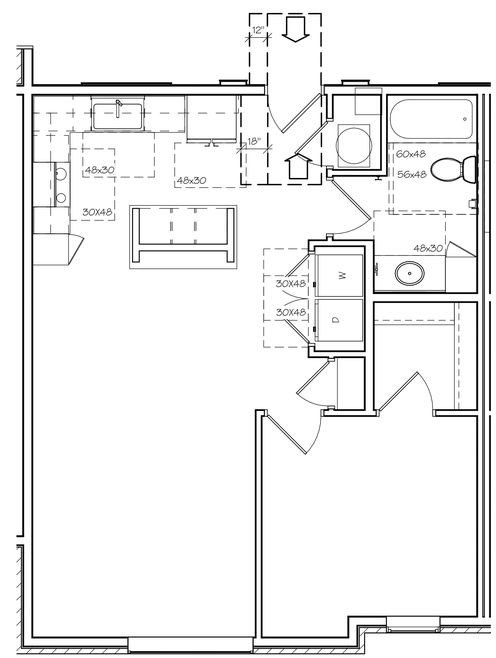
CHANGES IN LEVEL ON AN ACCESSIBLE ROUTE



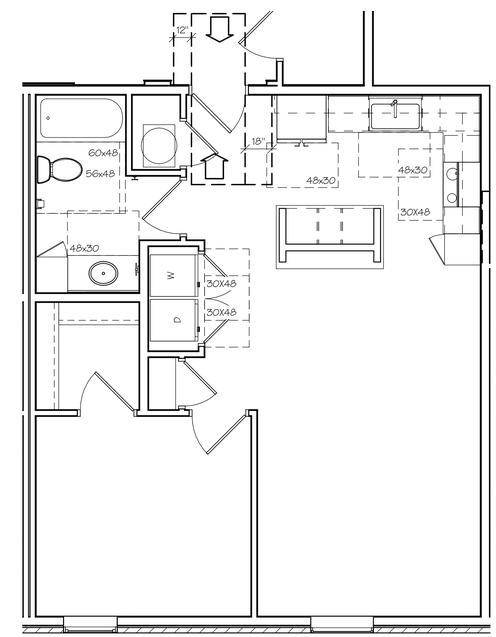
NOTE: STAIRS SHALL NOT BE PART OF AN ACCESSIBLE ROUTE.



4 A1.4CH UNIT CH-A ACCESSIBILITY PLAN
SCALE: 1/4" = 1'-0"



2 A1.4CH UNIT CH-B ACCESSIBILITY PLAN
SCALE: 1/4" = 1'-0"



3 A1.4CH UNIT CH-C ACCESSIBILITY PLAN
SCALE: 1/4" = 1'-0"

UNIT CLEAR FLOOR SPACE PLANS

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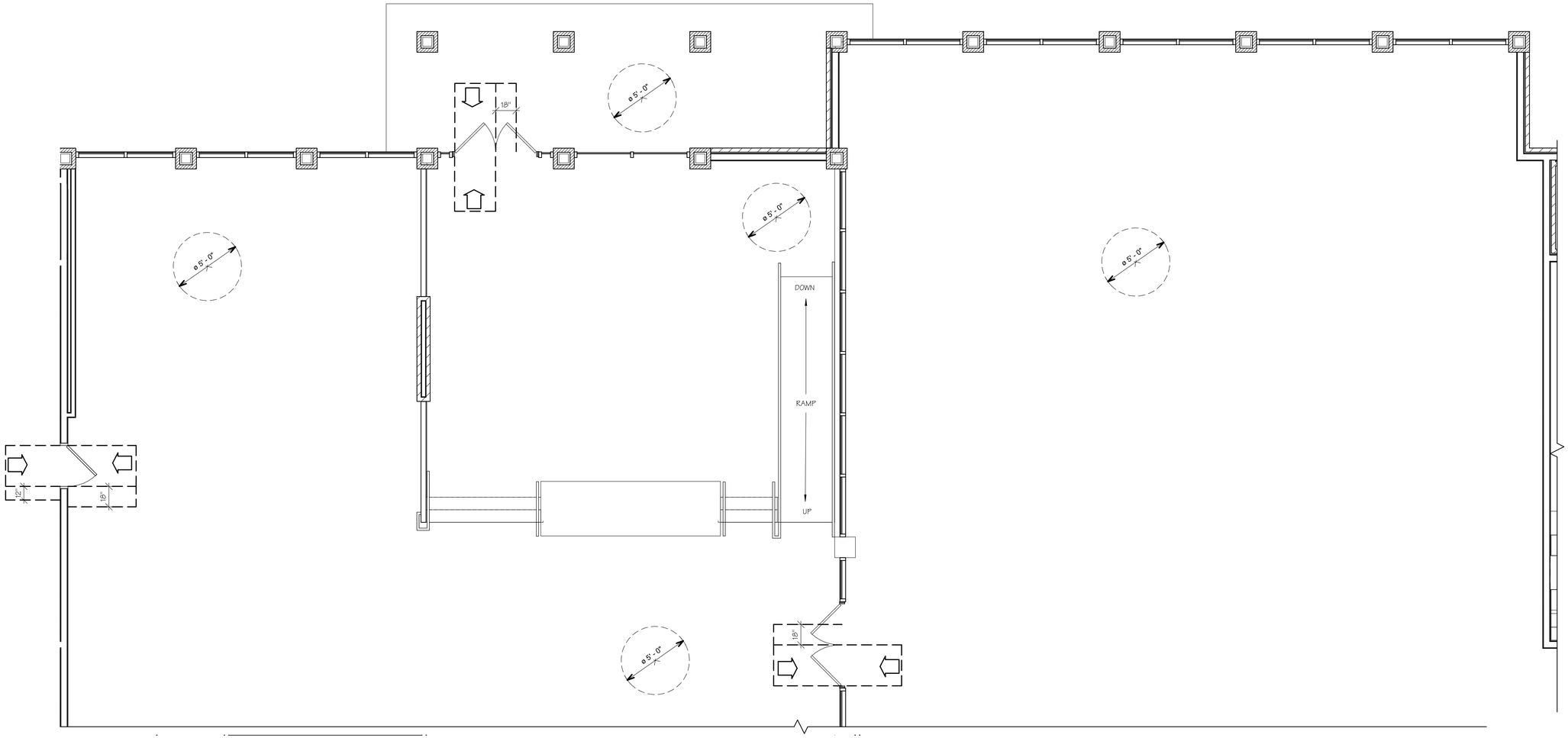
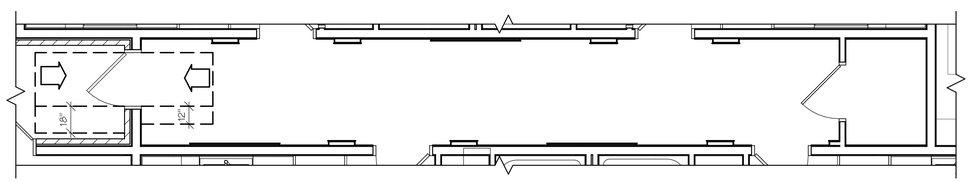


1 A1.5CH ENLARGED COMMON AREA ACCESSIBILITY PLAN A

SCALE: 1/4" = 1'-0"



2 A1.5CH ENLARGED COMMON AREA ACCESSIBILITY PLAN B

SCALE: 1/4" = 1'-0"

ENLARGED COMMON AREA CLEAR FLOOR SPACE PLANS

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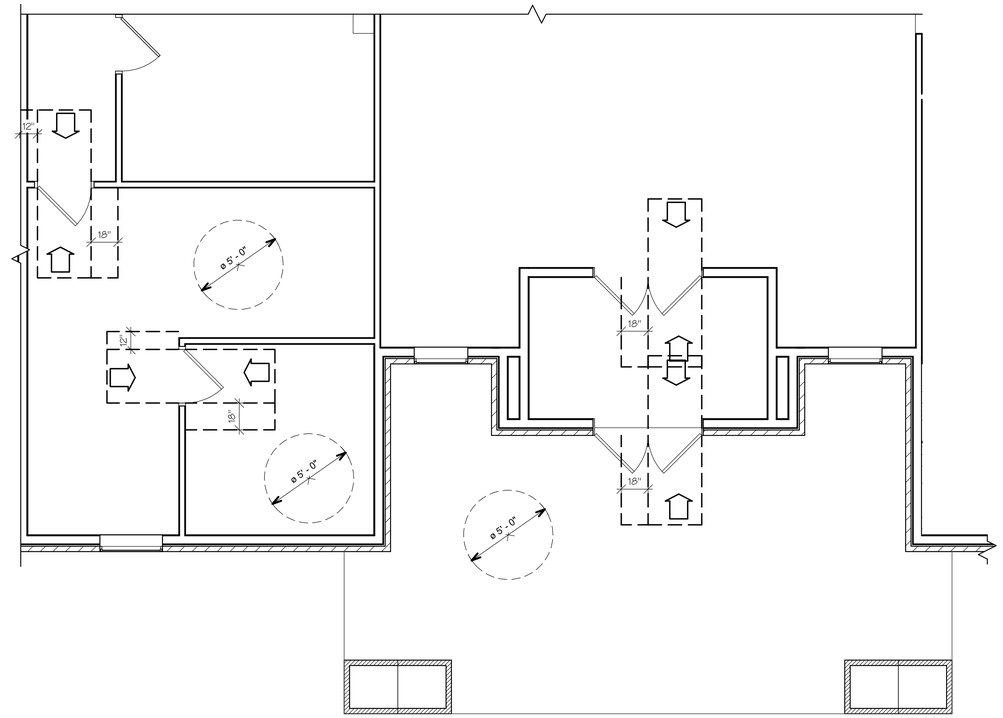
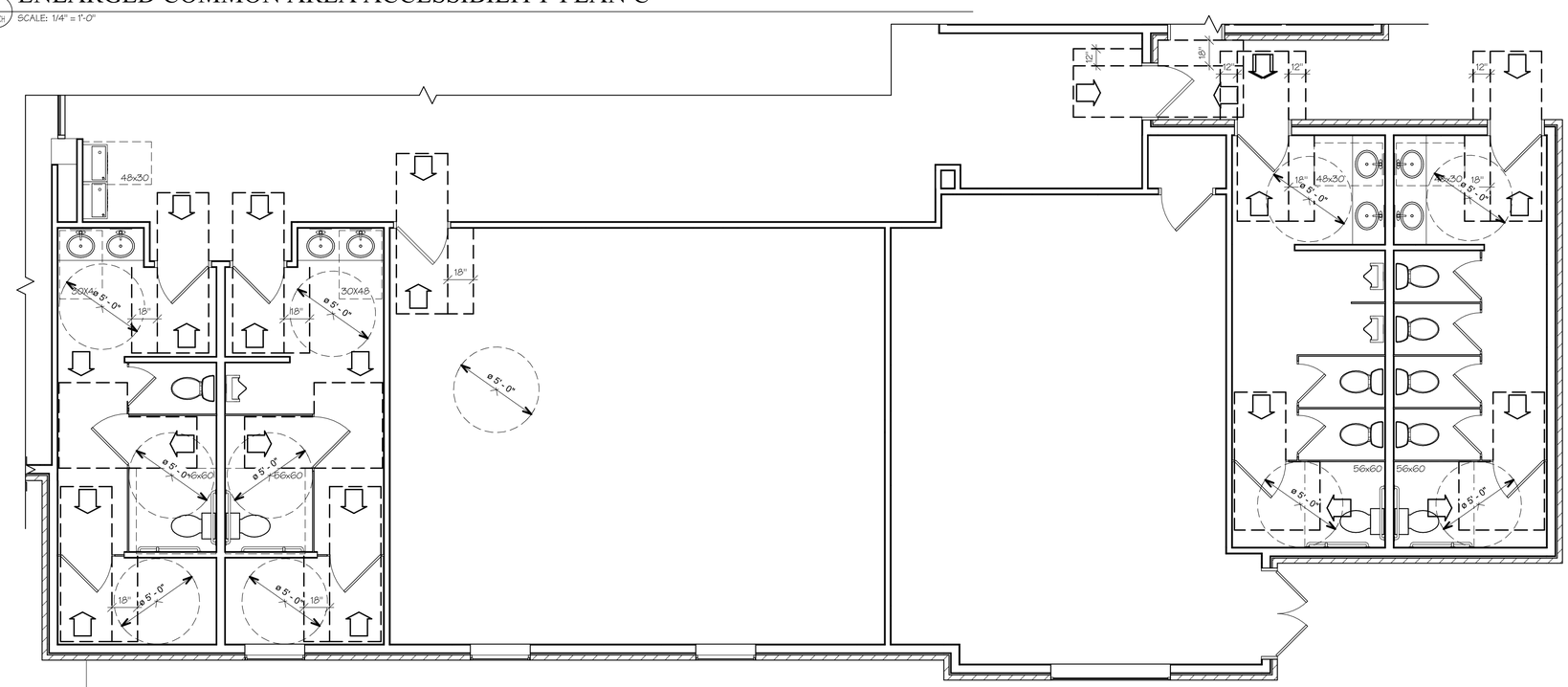


1 A1.6CH ENLARGED COMMON AREA ACCESSIBILITY PLAN C

SCALE: 1/4" = 1'-0"



2 A1.6CH ENLARGED COMMON AREA ACCESSIBILITY PLAN D

SCALE: 1/4" = 1'-0"

ENLARGED COMMON AREA CLEAR FLOOR SPACE PLANS

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ARIA APARTMENTS LEE'S SUMMIT
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

Wallace ARCHITECTS L.L.C.
Columbia, MO
P 573-256-7200

WALLACE ARCHITECTS, LLC
MISSOURI STATE CERTIFICATE OF AUTHORITY: 2003019614

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1	04 FEB 2021	PERMIT SET

SHEET NO.
A1.6CH

JOB NO.
3984

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LEGEND

DOWNSPOUT LOCATIONS

POD ROOF VENT

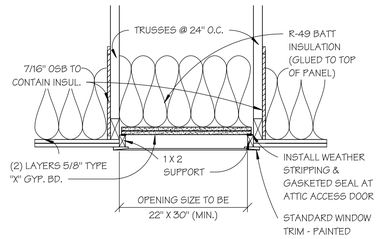
SPECIAL INSTRUCTION:
Structural drawings and specifications take precedence over any drawing, detail or note shown on this sheet. Contractors, subcontractors, and suppliers must reference structural drawings and/or specifications before constructing, or supplying any load-bearing, or load-resisting element shown on this sheet.

ATTIC COMPARTMENT VENTILATION

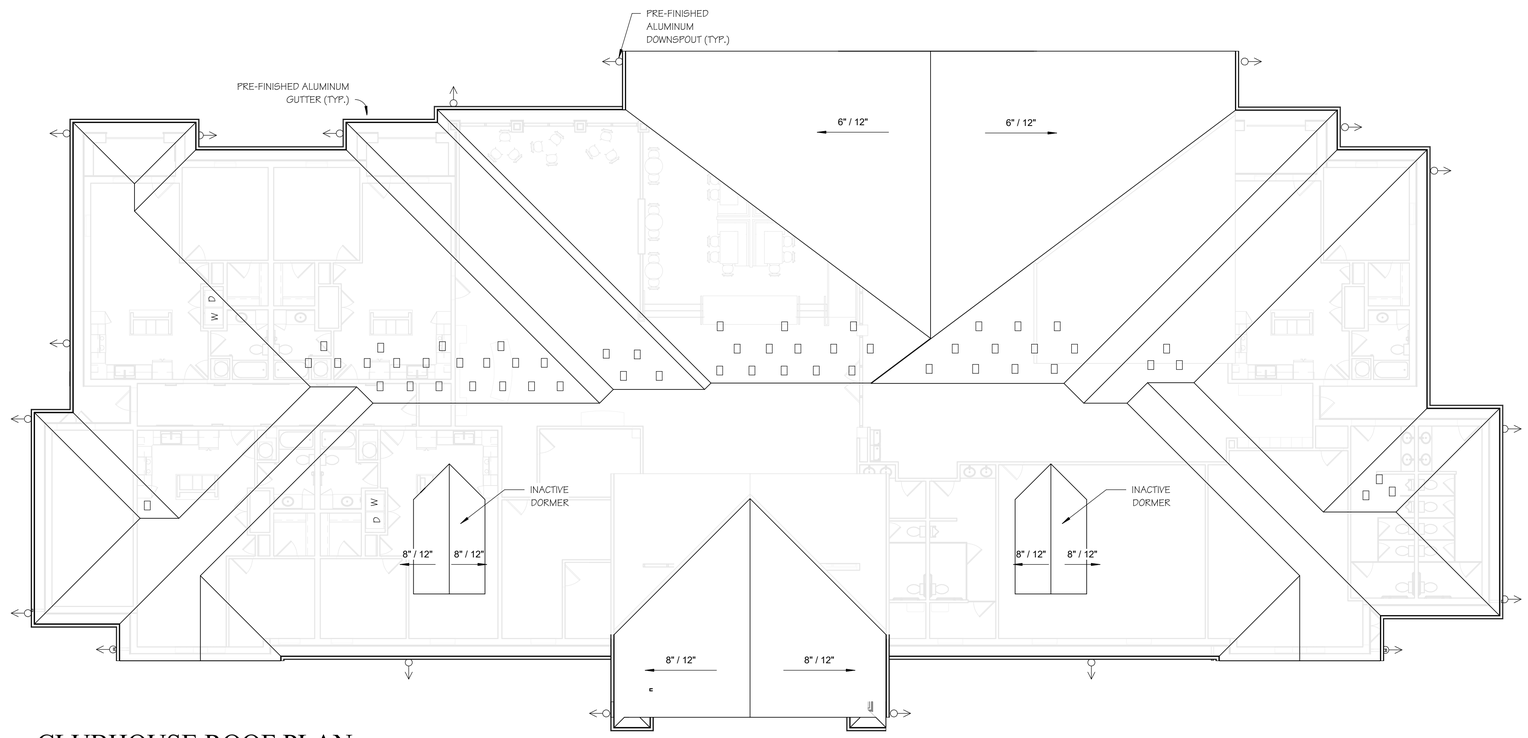
NAME	TYPE	AREA	TOTAL REQ'D VENT. (SQ. IN.)	SOFFIT VENT (SQ. IN.)	ROOF VENT (SQ. IN.)
ATTIC SPACE	ATTIC SPACE	15656 SF	15030	7515	7515

GENERAL ATTIC VENTILATION NOTES

1) TOTAL FREE AREA SHALL EQUAL 1/300 OF ATTIC AREAS W/50% OF VENT AREA AT ROOF AND 50% AT SOFFITS.
2) SPECIFID VENTILATION POD QUANTITY BASED ON 70 SQ. IN FREE AREA PER POD. ADJUST QUANTITY AS REQUIRED BASED ON FREE AREA OF SPECIFIC VENTILATION POD USED.



1 / A2.0CH ATTIC ACCESS DETAIL
SCALE: 1" = 1'-0"



2 / A2.0CH CLUBHOUSE ROOF PLAN
SCALE: 1" = 10'-0"

ROOF PLAN

PERMIT SET

STATE OF MISSOURI
M. RANDALL PORTER
A-2012006244
ARCHITECT

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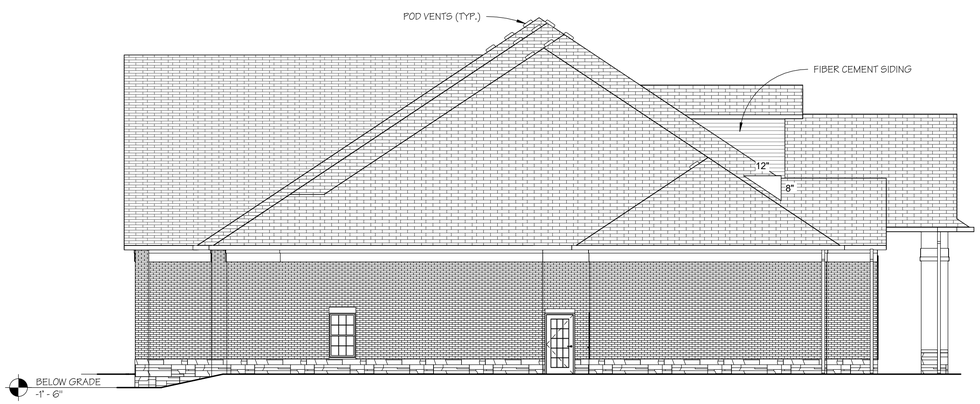
WINDOW SCHEDULE

TYPE MARK	SIZE	HARDWARE	GLAZING	COMMENTS
1	3'-0" x 5'-0"	STANDARD	INSUL. LOW "E" W/MUTINS	SINGLE-HUNG W/SCREENS
2	3'-0" x 7'-0"	STANDARD	INSUL. LOW "E" W/MUTINS	SINGLE-HUNG
3	3'-6" x 10'-3"	STANDARD	INSUL. LOW "E" W/MUTINS	SINGLE-HUNG
4	P.R. 3'-6" x 6'-0"	STANDARD	INSUL. LOW "E" W/MUTINS	CASEMENT
5	7'-0" x 11'-7"	STANDARD	INSUL. LOW "E" W/MUTINS	ARCH-TOP

CLUBHOUSE FRONT ELEVATION

1 / A3.0CH SCALE: 3/32" = 1'-0"



CLUBHOUSE LEFT ELEVATION

2 / A3.0CH SCALE: 1/8" = 1'-0"

CLUBHOUSE RIGHT ELEVATION

3 / A3.0CH SCALE: 1/8" = 1'-0"

CLUBHOUSE REAR ELEVATION

4 / A3.0CH SCALE: 3/32" = 1'-0"

STATE OF MISSOURI
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EXTERIOR ELEVATIONS

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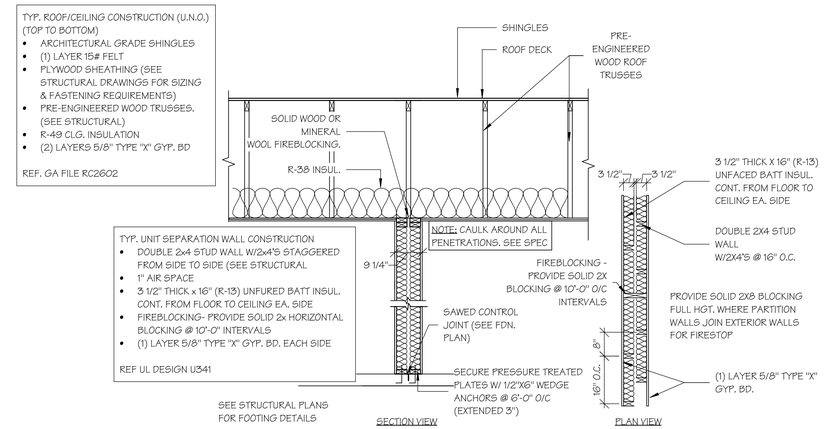
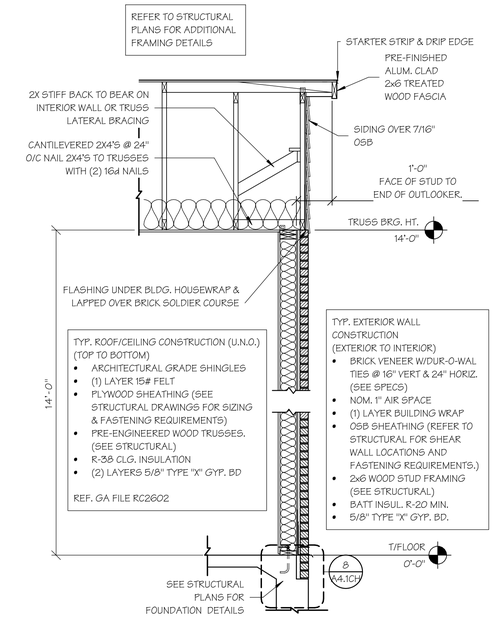


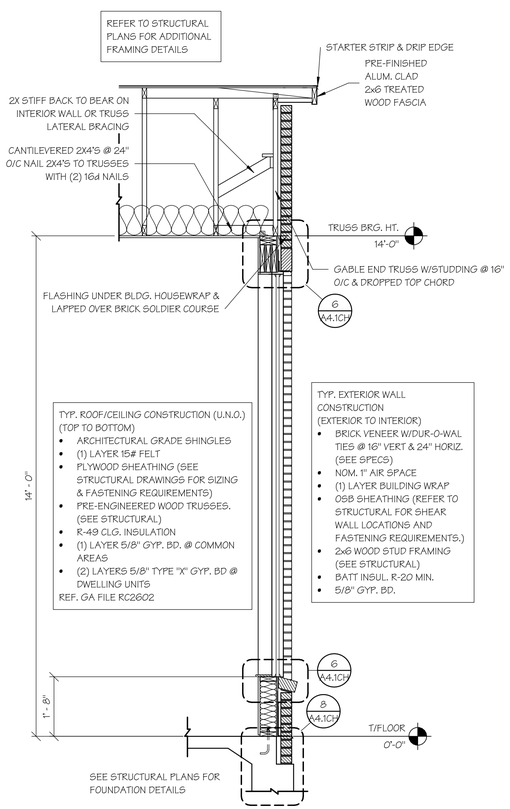
1 / M4.0CH 1 HOUR DWELLING UNIT SEPARATION WALL

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



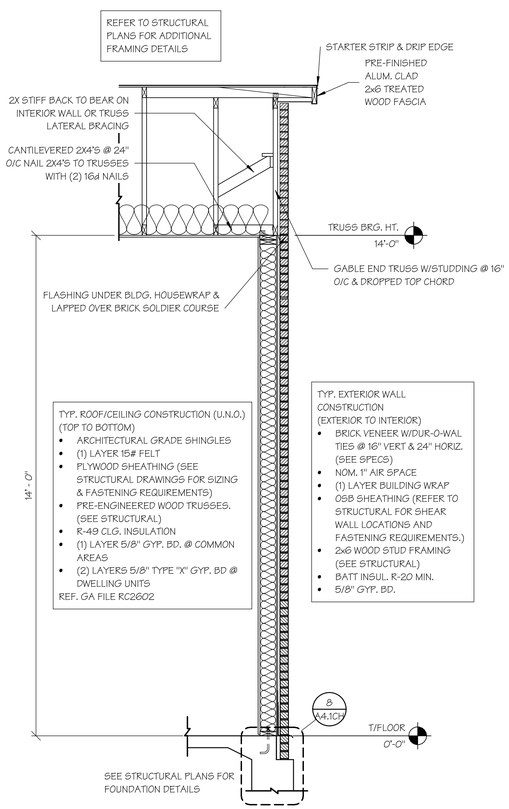
2 / M4.0CH WALL SECTION @ GABLE END SIDING OVER BRICK

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



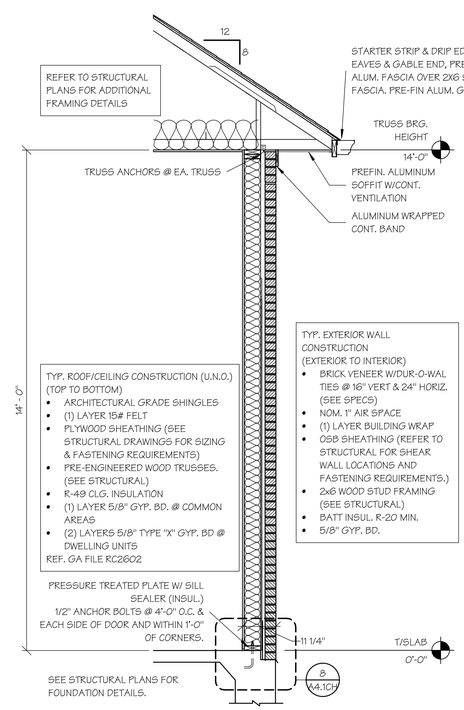
3 / M4.0CH WALL SECTION GABLE END @ WINDOW

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



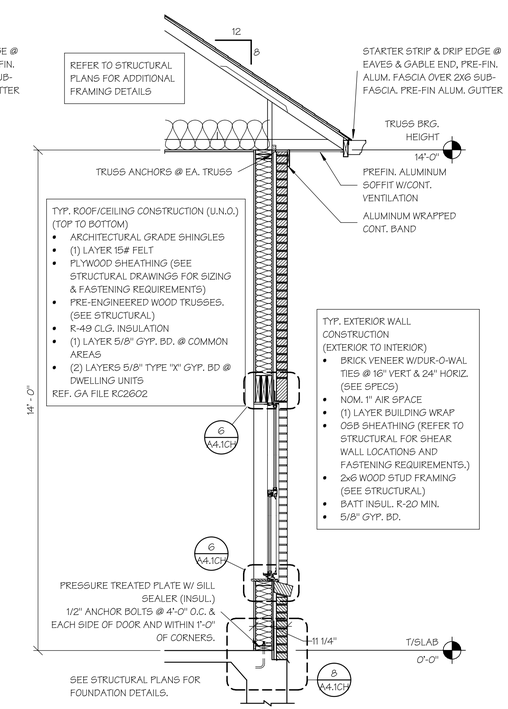
4 / M4.0CH WALL SECTION GABLE END

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



5 / M4.0CH TYP. WALL SECTION

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



6 / M4.0CH TYP. WALL SECTION @ WINDOW

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

WALL SECTIONS AND DETAILS

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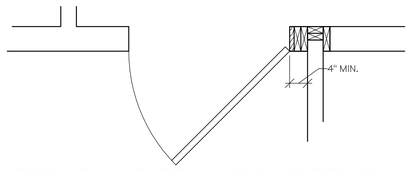
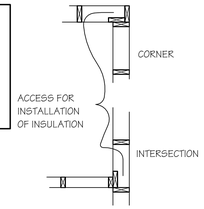
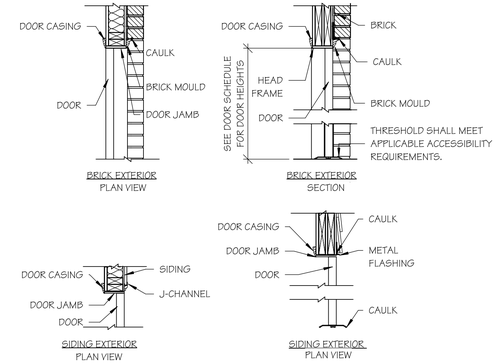


1 A4.1CH TYP. DOOR FRAMING DETAIL1
SCALE: 3/4" = 1'-0"

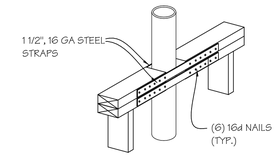
NOTES
1. GAPS IN EXTERIOR WALL SHEATHING SHALL BE SEALED.
2. STUD CAVITIES SHALL BE BLOCKED @ CHANGES IN CEILING HEIGHT.
3. ALL CHASES TO BE SEALED & INSULATED.
4. NO POLYETHYLENE SHALL BE USED ON EXTERIOR WALLS.



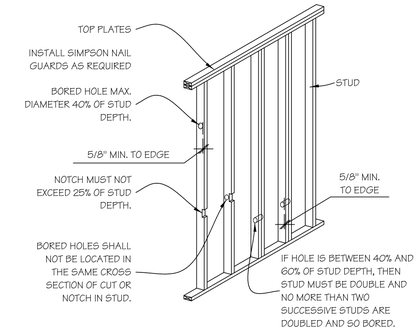
2 A4.1CH EXT. WALL / ADVANCED FRAMING DETAIL
SCALE: 1/2" = 1'-0"



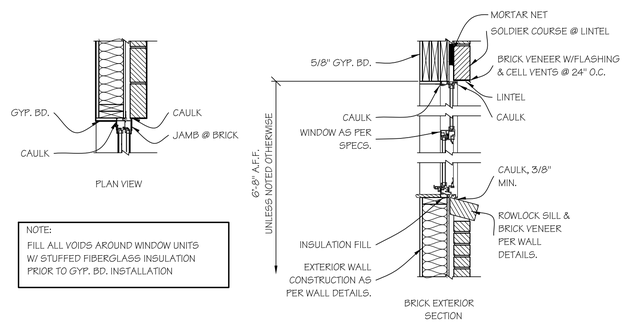
3 A4.1CH WALL SECTIONS AND DETAILS @ DOOR
SCALE: 3/4" = 1'-0"



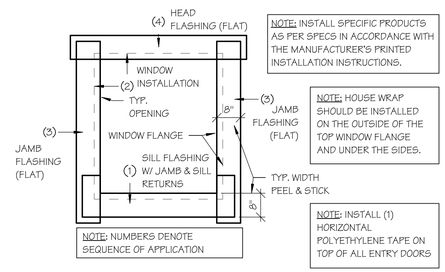
4 A4.1CH NON-BEARING WALL PLATE CUT DETAIL
SCALE: 1" = 1'-0"



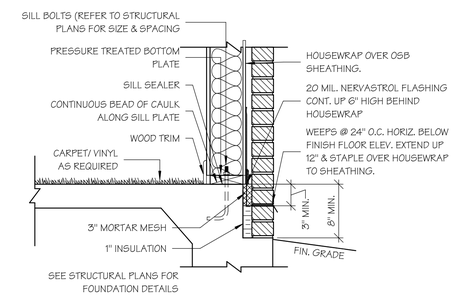
5 A4.1CH NOTCH AND BORING HOLE REQUIREMENTS
SCALE: 3/8" = 1'-0"



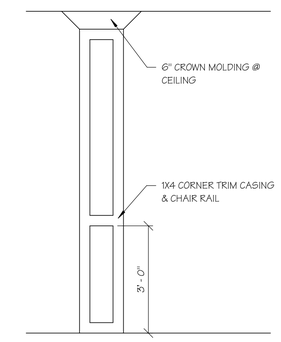
6 A4.1CH WALL SECTIONS AND DETAILS AT WINDOWS
SCALE: 3/4" = 1'-0"



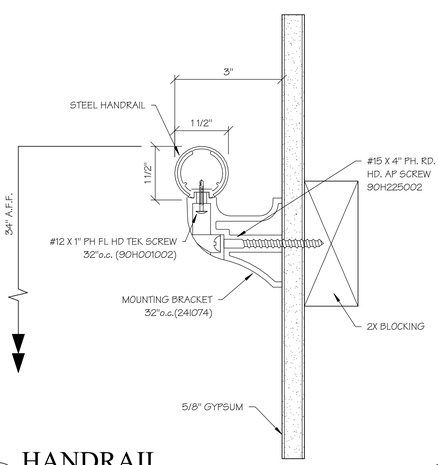
7 A4.1CH WINDOW FLASHING
SCALE: 1/2" = 1'-0"



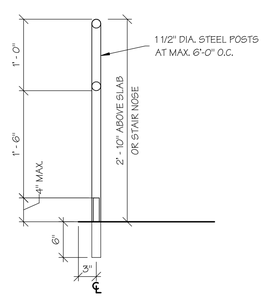
8 A4.1CH FOUNDATION FLASHING DETAIL
SCALE: 1" = 1'-0"



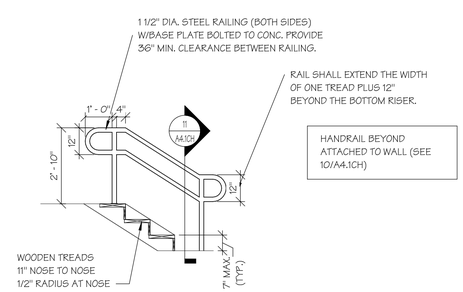
9 A4.1CH COMMON AREA COLUMN DETAIL
SCALE: 1/2" = 1'-0"



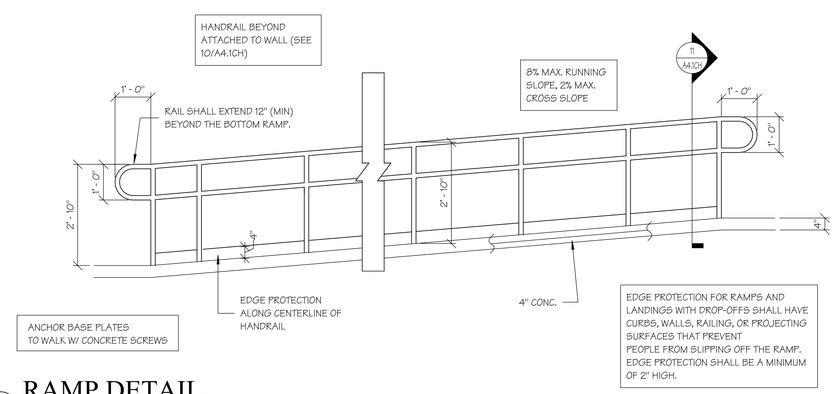
10 A4.1CH HANDRAIL
SCALE: 6" = 1'-0"



11 A4.1CH HANDRAIL DETAIL
SCALE: 1" = 1'-0"



12 A4.1CH STAIR SECTION
SCALE: 3/8" = 1'-0"



13 A4.1CH RAMP DETAIL
SCALE: 1/2" = 1'-0"

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04 FEB 2021

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SHEET NO. A4.1CH

FRAMING DETAILS
PERMIT SET

JOB NO. 3984

Design No. U305

December 07, 2017

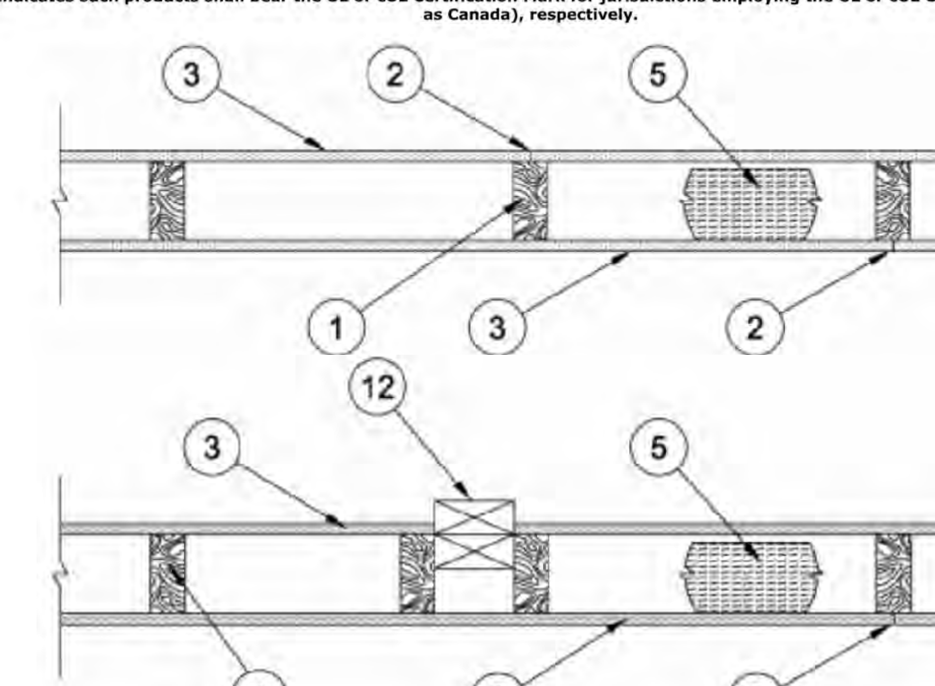
Bearing Wall Rating — 1 Hr

Finish Rating — See Items 3, 3A, 3D, 3E, 3F, 3G, 3H, 3J and 3L.

STC Rating - 56 (See Item 9)

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



1. **Wood Studs —** Nom 2 by 4 in. spaced 16 in. OC max, effectively firestopped.

2. **Joints and Nail-Heads —** Joints covered with joint compound and paper tape. Joint compound and paper tape may be omitted when square edge boards are used. As an alternate, nom 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard with the joints reinforced with paper tape. Nailheads exposed or covered with joint compound.

3. **Gypsum Board* —** 5/8 in. thick paper or vinyl surfaced, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. When used in widths other than 48 in., gypsum panels are to be installed horizontally. For an alternate method of attachment of gypsum panels, refer to Items 6, 6A or 6B, **Steel Framing Members***.

When Items 6, 6B, or 6C **Steel Framing Members***, are used, gypsum panels attached to furring channels with 1 in. long Type S bugle-head steel screws spaced 12 in. OC.

When Item 6A, **Steel Framing Members***, is used, two layers of gypsum panels attached to furring channels. Base layer attached to furring channels with 1 in. long Type S bugle-head steel screws spaced 12 in. OC. Face layer attached to furring channels with 1-5/8 in. long Type S bugle-head steel screws spaced 12 in. OC. All joints in face layers staggered with joints in base layers. One layer of gypsum board attached to opposite side of wood stud without furring channels as described in Item 3.

When Item 7, resilient channels are used, 5/8 in. thick, 4 ft wide gypsum panels applied vertically. Screw attached furring channels with 1 in. long, self-drilling, self-tapping Type S or S-12 steel screws spaced 8 in. OC, vertical joints located midway between studs.

ACADIA DRYWALL SUPPLIES LTD — Type X (finish rating 22 min), 5/8 Type X, Moisture Resistant Type X, Gypsum Sheathing Type X, Mold & Mildew Resistant Type X and Mold & Mildew Resistant AR Type X, Type Blueglass Exterior Sheathing

AMERICAN GYPSUM CO — Types AGX-1(finish rating 23 min.), M-Glass (finish rating 23 min.), Type AGX-11 (finish rating 26 min), Type AGX-12 (finish rating 22 min), Type LightRoc (finish rating 23 min.) or Type AG-C

BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO — Type DBX-1 (finish rating 24 min)

CERTAINTEED GYPSUM INC — Type 1, Type SF3 (finish rating 20 min) or FRPC; Type C, Type X or Type X-1 (finish rating 26 min); Type EGRG or GlasRoc (finish rating 23 min), Type Habito (finish rating 26 min).

CGC INC — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SCX (finish rating 24 min), Type SHX (finish rating 24 min), Type ULX (finish rating 22 min), Type WRC (finish rating 24 min), Type WRX (finish rating 24 min)

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Type LGFC6A (finish rating 34 min), Type LGFC2A, Type LGFC-C/A, Type LGFC-WD, Type LGLLX (finish rating 21 min)

GEORGIA-PACIFIC GYPSUM L L C — Type 5 (finish rating 26 min), Type 6 (finish rating 23 min), Type 9 (finish rating 26 min), Type C (finish rating 26 min), Type DGG (finish rating 20 min), Type GPFS1 (finish rating 20 min), Type GPFS2 (finish rating 20 min), Type GPFS6 (finish rating 26 min), Type DS, Type DAP, Type DD (finish rating 20 min), Type DA, Type DAPC, Type LS (finish rating 23 min), Type X, Veneer Plaster Base - Type X, Water Rated - Type X, Sheathing - Type X, Soffit - Type X, Type LWX (finish rating 22 min), Veneer Plaster Base-Type LWX (finish rating 22 min), Water Rated-Type LWX (finish rating 22 min), Sheathing Type-LWX (finish rating 22 min), Soffit-Type LWX (finish rating 22 min), Type DGLW (finish rating 22 min), Water Rated-Type DGLW (finish rating 22 min), Sheathing Type- DGLW (finish rating 22 min), Soffit-Type DGLW (finish rating 22 min), Type LWX (finish rating 22 min), Type LW2X (finish rating 22 min), Veneer Plaster Base - Type LW2X (finish rating 22 min), Water Rated - Type LW2X (finish rating 22 min), Sheathing - Type LW2X (finish rating 22 min), Soffit - Type LW2X (finish rating 22 min),

NATIONAL GYPSUM CO — Type FSK (finish rating 20 min), Type FSK-G (finish rating 20 min), Type FSW (finish rating 20 min), Type FSW-2 (finish rating 24 min), Type FSW-3 (finish rating 20 min), Type FSW-5 (finish rating 22 min), Type FSW-G (finish rating 20 min), Type FSK-C (finish rating 20 min), Type FSW-C (finish rating 20 min), Type FSMR-C, Type FSW-6 (finish rating 20 min), Type FSL (finish rating 24 min), Type FSW-8

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types C, PG-2 (finish rating 20 min), PG-3 (finish rating 20 min), Types PG-3W, PG-5W (finish rating 20 min), Type PG-4 (finish rating 20 min), Type PG-6 (finish rating 23 min), Types PG-3WS, PG-5WS, PGS-WRS (finish rating 20 min), Types PG-5, PG-9 (finish rating 26 min), PG-11 PG-13 (Nails increased to 2 in.), or Type PG-C

PANEL REY S A — Type GREX, PRX, PRC, PRC2; Types RHX, MDX, ETX (finish rating 22 min)

SIAM GYPSUM INDUSTRY (SARABURI) CO LTD — Type EX-1 (finish rating 26 min)

THAI GYPSUM PRODUCTS PCL — Type C, Type X (finish rating 26 min)

UNITED STATES GYPSUM CO — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type FRX-G (finish rating 29 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SHX (finish rating 24 min), Type SCX (finish rating 24 min), Type SGX (finish rating 24 min), Type ULX (finish rating 22 min), Type WRX (finish rating 24 min), Type WRC (finish rating 24 min), Type ULIX (finish rating 20 min)

USG BORAL DRYWALL SFZ LLC — Type SGX (finish rating 24 min).

USG MEXICO S A DE C V — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type WRX (finish rating 24 min), Type WRC (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SHX (finish rating 24 min), SCX (finish rating 24 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min), Type ULX (finish rating 22 min)

3A. **Gypsum Board* —** (As an alternate to Item 3) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. When used in widths of other than 48 in., gypsum boards are to be installed horizontally.

AMERICAN GYPSUM CO — Types AGX-1 (finish rating 25 min.), M-Glass (finish rating 25 min.), AG-C (finish rating 25 min.), LighttRoc (finish rating 25 min.)

CERTAINTEED GYPSUM INC — Type C, Type X or Type X-1 (finish rating 26 min)

CGC INC — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SCX (finish rating 24 min), Type SHX (finish rating 24 min), Type WRC (finish rating 24 min), Type WRX (finish rating 24 min)

NATIONAL GYPSUM CO — Type FSW (finish rating 24 min)

UNITED STATES GYPSUM CO — Type AR (finish rating 24 min), Type SCX (finish rating 24 min), Type SGX (finish rating 24 min), Type C (finish rating 24 min), Type WRX (finish rating 24 min), Type WRC (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SHX (finish rating 24 min), Type FRX-G (finish rating 24 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min)

USG BORAL DRYWALL SFZ LLC — Types C, SCX, SGX (finish rating 24 min).

USG MEXICO S A DE C V — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type WRX (finish rating 24 min), Type WRC (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SHX (finish rating 24 min), Type SCX, Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min)

3B. **Gypsum Board* —** (As an alternate to Item 3) — Nom 3/4 in. thick, installed with 1-7/8 in. long cement coated nails as described in Item 3 or 1-3/8 in. long Type W coarse thread gypsum panel steel screws as described in Item 3A.

CGC INC — Types AR, IP-AR

UNITED STATES GYPSUM CO — Types AR, IP-AR

USG MEXICO S A DE C V — Types AR, IP-AR

3C. **Gypsum Board* —** (As an alternate to Items 3, 3A and 3B) — 5/8 in. thick, 2 ft wide, tongue and groove edge, applied horizontally to one side of the assembly. Installed with 1-7/8 in. long cement coated nails as described in Item 3 or 1-1/4 in. long Type W coarse thread gypsum panel steel screws as described in Item 3A. Joint covering (Item 2) not required.

CGC INC — Type SHX

UNITED STATES GYPSUM CO — Type SHX

USG MEXICO S A DE C V — Type SHX

3D. **Gypsum Board* —** (As an alternate to Items 3, 3A, 3B, or 3C — Not Shown) — For Direct Application to Studs Only- Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-5/8 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. placed on the face of studs and attached to the stud with two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs or tabs may be used in lieu of or in addition to the lead batten strips or optional at other locations. Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards underneath screw locations prior to the installation of the screws. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

RAY-BAR ENGINEERING CORP — Type RB-LBG (finish rating 24 min)

3E. **Gypsum Board* —** (As an alternate to Items 3, 3A, 3B, 3C, and 3D) — 5/8 in. thick gypsum panels, with square edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last 2 screws 1 and 4 in. from edge of board or nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. When used in widths of other than 48 in., gypsum boards are to be installed horizontally.

GEORGIA-PACIFIC GYPSUM L L C — Type DGG (finish rating 20 min), GreenGlass Type X (finish rating 23 min)

3F. **Gypsum Board* —** (As an alternate to Items 3, 3A, 3B, 3C, 3D, and 3E) — 5/8 in. glass-mat faced with square edges, applied either horizontally or vertically. Gypsum panels nailed 7 in. OC around the perimeter and in the field with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. Nails shall be placed 1 inch and 3 inch from horizontal joints and 7 inch OC thereafter.

CGC INC — Type USGX (finish rating 22 min)

UNITED STATES GYPSUM CO — Type USGX (finish rating 22 min.)

USG BORAL DRYWALL SFZ LLC — , Type USGX (finish rating 22 min.)

USG MEXICO S A DE C V — Type USGX (finish rating 22 min.)

3G. **Gypsum Board* —** (As an alternate to Items 3 through 3F) — 5/8 in. thick paper surfaced applied vertically. Gypsum panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads.

GEORGIA-PACIFIC GYPSUM L L C — Type X ComfortGuard Sound Deadening Gypsum Board (finish rating 27 min)

3H. **Gypsum Board* —** (As an alternate to Items 3) — Not to be used with items 6 or 7. 5/8 in. thick paper surfaced applied vertically only. Gypsum panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads.

NATIONAL GYPSUM CO — SoundBreak XP Type X Gypsum Board

3I. **Gypsum Board* —** (As an alternate to Items 3 through 3H, Not Shown) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically. Panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. Panel joints covered with paper tape and two layers of joint compound. Nailheads covered with two layers of joint compound.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock ES (finish rating 20 min)

3J. **Gypsum Board* —** (As an alternate to Item 3) — Not to be used with items 6 or 7. 5/8 in. thick paper surfaced applied vertically or horizontally. Gypsum panels secured per item 3 or 3A.

CERTAINTEED GYPSUM INC — Type SilentFX

3K. **Gypsum Board* —** (As an alternate to Item 3) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a maximum 8 in. OC with the last screw 1 in. from the edge of the board. When used in widths other than 48 in., gypsum panels are to be installed horizontally.

NATIONAL GYPSUM CO — Type FSK (finish rating 20 min), Type FSK-G (finish rating 20 min), Type FSW (finish rating 20 min), Type FSW-2 (finish rating 24 min), Type FSW-3 (finish rating 20 min), Type FSW-5 (finish rating 22 min), Type FSW-G (finish rating 20 min), Type FSK-C (finish rating 20 min), Type FSW-C (finish rating 20 min), Type FSMR-C, Type FSW-6 (finish rating 20 min), Type FSL (finish rating 24 min).

3L. **Gypsum Board* —** (As an alternate to Item 3) — For Direct Application to Studs Only — Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-5/8 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 10 ft long with a max thickness of 0.140 in. placed on the face of studs and attached to the stud with two 1 in. long Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, max 5/16 in. diam by max 0.140 in. thick. compression fitted or adhered over the screw heads. Lead batten strips to have a purity of 99.5% meeting the Federal specification QQ-L-201f, Grades "B, C or D".

MAYCO INDUSTRIES INC — "X-Ray Shielded Gypsum"

3M. **Gypsum Board* —** (As an alternate to Items 3) — For Direct Application to Studs Only — For use as the base layer or as the face layer. Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-5/8 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and in the field when applied as the base layer. When applied as the face layer screw length to be increased to 2-1/2 in. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick. Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Fasteners for face layer gypsum panels (Items 4, 4A or 4B) when installed over lead backed board to be min 2-1/2 in. Type S-12 bugle head steel screws spaced as described in Item 4.

RADIATION PROTECTION PRODUCTS INC — Type RPP - Lead Lined Drywall

3N. **Gypsum Board* —** (As an alternate to Item 3) — 5/8 in. thick, 4 ft. wide, applied horizontally or vertically with vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Secured as described in Item 3 or 3A.

CERTAINTEED GYPSUM INC — Easi-Lite Type X (finish rating 24 min), Easi-Lite Type X-2 (finish rating 24 min)

3K. **Gypsum Board* —** (As an alternate to Item 3) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a maximum 8 in. OC with the last screw 1 in. from the edge of the board. When used in widths other than 48 in., gypsum panels are to be installed horizontally.

NATIONAL GYPSUM CO — Type FSK (finish rating 20 min), Type FSK-G (finish rating 20 min), Type FSW (finish rating 20 min), Type FSW-2 (finish rating 24 min), Type FSW-3 (finish rating 20 min), Type FSW-5 (finish rating 22 min), Type FSW-G (finish rating 20 min), Type FSK-C (finish rating 20 min), Type FSW-C (finish rating 20 min), Type FSMR-C, Type FSW-6 (finish rating 20 min), Type FSL (finish rating 24 min).

3L. **Gypsum Board* —** (As an alternate to Item 3) — For Direct Application to Studs Only — Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-5/8 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 10 ft long with a max thickness of 0.140 in. placed on the face of studs and attached to the stud with two 1 in. long Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, max 5/16 in. diam by max 0.140 in. thick. compression fitted or adhered over the screw heads. Lead batten strips to have a purity of 99.5% meeting the Federal specification QQ-L-201f, Grades "B, C or D".

MAYCO INDUSTRIES INC — "X-Ray Shielded Gypsum"

3M. **Gypsum Board* —** (As an alternate to Items 3) — For Direct Application to Studs Only — For use as the base layer or as the face layer. Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-5/8 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and in the field when applied as the base layer. When applied as the face layer screw length to be increased to 2-1/2 in. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick. Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Fasteners for face layer gypsum panels (Items 4, 4A or 4B) when installed over lead backed board to be min 2-1/2 in. Type S-12 bugle head steel screws spaced as described in Item 4.

RADIATION PROTECTION PRODUCTS INC — Type RPP - Lead Lined Drywall

3N. **Gypsum Board* —** (As an alternate to Item 3) — 5/8 in. thick, 4 ft. wide, applied horizontally or vertically with vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Secured as described in Item 3 or 3A.

CERTAINTEED GYPSUM INC — Easi-Lite Type X (finish rating 24 min), Easi-Lite Type X-2 (finish rating 24 min)

3O. **Wall and Partition Facings and Accessories* —** (As an alternate to Item 3, Not Shown) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically. Panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. Panel joints covered with paper tape and two layers of joint compound. Nailheads covered with two layers of joint compound.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock 527 (finish rating 24 min).

3P. **Gypsum Board* —** (As an alternate to Item 3, Not Shown) — Two layers nom. 5/16 in. thick gypsum panels applied vertically or horizontally. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered or backed by wood studs. Horizontal joints on the same side between face and base layers need not be staggered. Base layer gypsum panels fastened to studs with 1-1/4 in. long drywall nails spaced 8 in. OC. Face layer gypsum panels fastened to studs with 1-7/8 in. long drywall nails spaced 8 in. OC starting with a 4" stagger.

NATIONAL GYPSUM CO — Type FSW (finish rating 25 min)

3Q. **Gypsum Board* —** (As an alternate to Item 3) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a maximum 10 in. OC with the last two screws 4 and 1 in. from the edges of the board. When used in widths other than 48 in., gypsum panels are to be installed horizontally.

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Type LGFC6A (finish rating 21 min), Type LGFC2A, Type LGFC-C/A, Type LGFC-WD, Type LGLLX

INTERNATIONAL CELLULOSE CORP — Celbar-RL

5H. **Foamed Plastic* —** (Optional -For use with Item 3R) — Spray applied, foamed plastic insulation, at any thickness from partial fill to completely filling stud cavity.

SES FOAM INC — SES 2 lb. Spray Foam and Sucraseal 0.5 lb. Spray Foam.

6. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6a) to studs. Clips spaced 48 in. OC. RSIC-1 and RSIC-1 (2.75) clips secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. RSIC-V and RSIC-V (2.75) clips secured to studs with No. 8 x 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips. RSIC-1 and RSIC-V clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) and RSIC-V (2.75) clips for use with 2-23/32 in. wide furring channels.

PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-V, RSIC-1 (2.75), RSIC-V (2.75)

6A. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members on one side of studs as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. Batts and Blankets placed in stud cavity as described in Item 5. Two layers of gypsum board attached to furring channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6Aa) to one side of studs only. Clips spaced 48 in. OC., and secured to studs with two No. 8 x 2-1/2 in. coarse drywall screws, one through the hole at each end of the clip. Furring channels are friction fitted into clips.

KINETICS NOISE CONTROL INC — Type Isomax

6B. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6Ba) to studs. Clips spaced 48 in. OC. Genie clips secured to studs with No. 8 x 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.

PLITEQ INC — Type Genie Clip

6C. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6Ca) to studs. Clips spaced 48 in. OC., and secured to studs with No. 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips.

STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237 or A237R

7. **Furring Channel —** Optional — Not Shown — For use on one side of the wall - Resilient channels, 25 MSG galv steel, spaced vertically 24 in. OC, flange portion screw attached to one side of studs with 1-1/4 in. long diamond shaped point, double lead Phillips head steel screws. When resilient channels are used, insulation, Items 5C or 5D is required.

8. **Caulking and Sealants —** (Not Shown, Optional) — A bead of acoustical sealant applied around the partition perimeter for sound control.

INTERNATIONAL CELLULOSE CORP — Celbar-RL

5H. **Foamed Plastic* —** (Optional -For use with Item 3R) — Spray applied, foamed plastic insulation, at any thickness from partial fill to completely filling stud cavity.

SES FOAM INC — SES 2 lb. Spray Foam and Sucraseal 0.5 lb. Spray Foam.

6. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6a) to studs. Clips spaced 48 in. OC. RSIC-1 and RSIC-1 (2.75) clips secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. RSIC-V and RSIC-V (2.75) clips secured to studs with No. 8 x 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips. RSIC-1 and RSIC-V clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) and RSIC-V (2.75) clips for use with 2-23/32 in. wide furring channels.

PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-V, RSIC-1 (2.75), RSIC-V (2.75)

6A. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members on one side of studs as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. Batts and Blankets placed in stud cavity as described in Item 5. Two layers of gypsum board attached to furring channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6Aa) to one side of studs only. Clips spaced 48 in. OC., and secured to studs with two No. 8 x 2-1/2 in. coarse drywall screws, one through the hole at each end of the clip. Furring channels are friction fitted into clips.

KINETICS NOISE CONTROL INC — Type Isomax

6B. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6Ba) to studs. Clips spaced 48 in. OC. Genie clips secured to studs with No. 8 x 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.

PLITEQ INC — Type Genie Clip

6C. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6Ca) to studs. Clips spaced 48 in. OC., and secured to studs with No. 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips.

STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237 or A237R

7. **Furring Channel —** Optional — Not Shown — For use on one side of the wall - Resilient channels, 25 MSG galv steel spaced vertically 24 in. OC, flange portion screw attached to one side of studs with 1-1/4 in. long diamond shaped point double lead Phillips head steel screws. When resilient channels are used, insulation, Items 5C or 5D is required.

8. **Caulking and Sealants —** (Not Shown, Optional) — A bead of acoustical sealant applied around the partition perimeter for sound control.

9. **STC Rating —** The STC Rating of the wall assembly is 56 when it is constructed as described by Items 1 through 6, except:

A. Item 2, above — Nailheads Shall be covered with joint compound.

B. Item 2, above — Joints As described, shall be covered with fiber tape and joint compound.

C. Item 5, above — Batts and Blankets* The cavities formed by the studs shall be friction fit with R-19 unfaced fiberglass insulation batts measuring 6-1/4 in. thick and 15-1/4 in. wide.

D. Item 6, above — Steel Framing Members* Type RSIC-1 clips shall be used to attach gypsum board to studs on either side of the wall assembly.

E. Item 8, above — Caulking and Sealants (Not Shown) A bead of acoustical sealant shall be applied around the partition perimeter for sound control.

F. Steel Corner Fasteners (Item 4), Fiber, Sprayed (Items 5A and 5B) and Steel Framing Members (Item 6A), not evaluated as alternatives for obtaining STC rating.

10. **Wall and Partition Facings and Accessories* —** (Optional, Not Shown) — Nominal 1/2 in. thick, 4 ft wide panels, for optional use as an additional layer on one or both sides of the assembly. Panels attached in accordance with manufacturer's recommendations. When the QR-500 or QR-510 panel is installed between the wood framing and the UL Classified gypsum board, the required UL Classified gypsum board layer(s) is/are to be installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock QR-500 and QR-510

11. **Cementitious Backer Units* —** (Optional Item Not Shown — For Use On Face Of 1 Hr Systems With All Standard Items Required) - 7/16 in., 1/2 in., 5/8 in., 3/4 in. or 1 in. thick, min. 32 in. wide. Applied vertically or horizontally with vertical joints centered over studs. Fastened to studs and runners with cement board screws of adequate length to penetrate stud by a minimum of 3/8 in. for steel framing members, and a minimum of 3/4 in. for wood framing members spaced a max of 8 in. OC. When 4 ft. wide boards are used, horizontal joints need not be backed by framing.

NATIONAL GYPSUM CO — Type DuraBacker, PermaBase, DuraBacker Plus, or PermaBase Plus

12. **Non-Bearing Wall Partition Intersection —** (Optional) —Two nominal 2 by 4 in. studs or nominal 2 by 6 in. studs nailed together with two 3 in. long 10d nails spaced a max. 16 in. OC. vertically and fastened to one side of the minimum 2 by 4 in. stud with 3 in. long 10d nails spaced a max. 16 in. OC. vertically. Intersection between partition wood studs to be flush with the 2 by 4 in. studs. The wall partition wood studs are to be framed by with a second 2 by 4 in. wood stud fastened with 3 in. long 10d nails spaced a max. 16 in. OC. vertically. Maximum one non-bearing wall partition intersection per stud cavity. Non-bearing wall partition stud depth shall be at a minimum equal to the depth of the bearing wall.

13. **Mesh Netting —** (Not Shown) — Any thin, woven or non-woven fibrous netting material attached with staples to the outer face of one row of studs to facilitate the installation of the sprayed fiber from the opposite row.

14. **Mineral and Fiber Board* —** (Optional, Not Shown) — For optional use as an additional layer on one side of wall. Nom 1/2 in. thick, 4 ft wide with long dimension parallel and centered over studs. Attached to framing with 2 in. long Type W steel screws, spaced 12 in. OC. The required UL Classified gypsum board layer(s) is/are to be installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.

HOMASOTE CO — Homasote Type 440-32

14A. **Mineral and Fiber Board* —** (Optional, Not Shown) — For use with Items 14B-14E) — For optional use as an additional layer on one side of wall. Nom 1/2 in. thick, 4 ft wide with long dimension parallel and centered over studs. Attached to framing with minimum 1-3/8 in. long ring shanked nails or 1-1/4 in. long Type W steel screws, spaced 12 in. OC along board edges and 24 in. OC in field of board along intermediate framing. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.

HOMASOTE CO — Homasote Type 440-32

14B. **Glass Fiber Insulation —** (For use with Item 14A) — 3-1/2 in. thick glass fiber batts bearing the UL Classification Marking as to Surface Burning and/or Fire Resistance, placed to fill the interior of the wall. See Batts and Blankets (BKNV or BZJZ) categories for names of Classified companies.

14C. **Batts and Blankets* —** (As an alternate to Item 14B, For use with Item 14A), 3 in. thick mineral wool batts, placed to fill interior of wall, attached to the 3-1/2 in. face of the studs with staples placed 24 in. OC.

THERMAFIBER INC — Type SAFB, SAFB FF

14D. **Adhesive —** (For use with Item 14A) — Construction grade adhesive applied in vertical, serpentine, nominal 3/8 in. wide beads down the length of both vertical edges of Mineral and Fiber Board (Item 14A).

14E. **Gypsum Board* —** (For use with Item 14A) — 5/8 in. thick, 4 ft wide, applied vertically over Mineral and Fiber Board (Item 14A) with vertical joints located anywhere over stud cavities. Secured to mineral and fiber boards with 1-1/2 in. Type G Screws spaced 8 in. OC along edges of each vertical joint and 12 in. OC in intermediate field of the Mineral and Fiber Board (Item 14A). Secured to outermost studs and bearing plates with 2 in. long Type S screws spaced 8 in. OC. Gypsum Board joints covered with paper tape and joint compound. Screw heads covered with joint compound. Finish Rating 30 Min.

AMERICAN GYPSUM CO — Type AG-C

STATE OF MISSOURI
M. RANDALL PORTER
A-2012006244
ARCHITECT

04 FEB 2021

M. RANDALL PORTER
A-2012006244

ARIA APARTMENTS LEE'S SUMMIT
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

Wallace
ARCHITECTS L.L.C.
Columbia, MO
P 573-256-7200

WALLACE ARCHITECTS, LLC
MISSOURI STATE CERTIFICATE OF AUTHORITY: 2003019614

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CERTAINTEED GYPSUM INC — Type FRPC, Type C

CGC INC — Types C, IP-X2, IPC-AR

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Type LGFC-C/A

GEORGIA-PACIFIC GYPSUM L L C — Types 5, DAPC, TG-C

NATIONAL GYPSUM CO — Types FSK-C, FSW-C

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type PG-C

PANEL REY S A — Type PRC

THAI GYPSUM PRODUCTS PCL — Type C

UNITED STATES GYPSUM CO — Types C, IP-X2, IPC-AR

USG BORAL DRYWALL SFZ LLC — Type C

USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Design No. U341

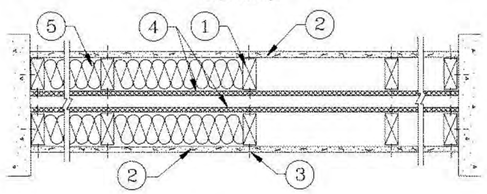
November 19, 2019

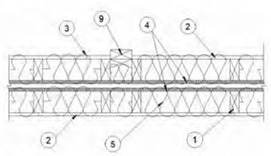
Bearing Wall Rating — 1 Hr.

Finish Rating — Min 20 min.

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**





HORIZONTAL SECTION

1. **Wood Studs —** Nom 2 by 4 in., spaced 24 in. OC max. Cross braced at mid-height and effectively firestopped at top and bottom of wall. No min. air space between stud rows except to accommodate attachment of sheathing, where required. See items 4 and 5.

2. **Gypsum Board* — Any 5/8 in. thick UL Classified Gypsum Board that is eligible for use in Design Nos. L501, G512 or U305.** Nom 5/8 in. thick 4 ft wide. Gypsum board applied horizontally or vertically, unless specified below, and nailed to studs and bearing plates 7 in. OC with 6d cement coated nails, 1-7/8 in. long, 0.0915 in. shank diam and 1/4 in. diam head. As an alternate, No. 6 bugle head drywall screws, 1-7/8 in. long, may be substituted for the 6d cement coated nails.

When **Steel Framing Members*** (Item 6-6C) are used, wallboard attached to furring channels with 1 in. long Type S bugle-head steel screws spaced 12 in. OC.

When used in widths other than 48 in., gypsum board to be installed horizontally.

AMERICAN GYPSUM CO (View Classification) — CKNX.R14196

BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO (View Classification) — CKNX.R19374

CABOT MANUFACTURING ULC (View Classification) — CKNX.R25370

CERTAINTEED GYPSUM INC (View Classification) — CKNX.R3660

CGC INC (View Classification) — CKNX.R19751

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C (View Classification) — CKNX.R18482

GEORGIA-PACIFIC GYPSUM L L C (View Classification) — CKNX.R2717

LOADMASTER SYSTEMS INC (View Classification) — CKNX.R11809

NATIONAL GYPSUM CO (View Classification) — CKNX.R3501

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM (View Classification) — CKNX.R7094

PANEL REY S A (View Classification) — CKNX.R21796

SIAM GYPSUM INDUSTRY (SARABURI) CO LTD (View Classification) — CKNX.R19262

THAI GYPSUM PRODUCTS PCL (View Classification) — CKNX.R27517

UNITED STATES GYPSUM CO (View Classification) — CKNX.R1319

USG BORAL DRYWALL SFZ LLC (View Classification) — CKNX.R38438

USG BORAL DRYWALL SFZ LLC (View Classification) — CKNX.R38438

USG MEXICO S A DE C V (View Classification) — CKNX.R16089

2A. **Gypsum Board* —** (As an alternate to Item 2, not shown) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically to studs and bearing plates on one side of the assembly with 1-5/8 in. long Type S screws spaced 12 in. OC at perimeter of panels and 8 in. OC in the field. Horizontal joints of vertically applied panels need not be backed by studs. Panel joints covered with paper tape and two layers of joint compound. Screwheads covered with two layers of joint compound. Batts and Blankets placed in stud cavity as described in Item 5C. Not evaluated for use with Steel Framing Members, Furring Channels or Fiber, Sprayed.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock QR-530 (finish rating 23 min).

2B. **Gypsum Board* —** (As an alternate to Item 2, not shown) — Any 5/8 in. thick gypsum panels that are eligible for use in Design Nos. L501, G512 or U305, supplied by the Classified companies listed below shown in the **Gypsum Board*** (CKNX) category. Applied horizontally or vertically and attached to studs and bearing plates with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. When used in widths other than 48 in., gypsum board to be installed horizontally.

UNITED STATES GYPSUM CO

USG BORAL DRYWALL SFZ LLC

USG MEXICO S A DE C V

2C. **Gypsum Board* —** (As an alternate to Item 2, Not Shown) — 5/8 in. thick gypsum panels applied horizontally or vertically and attached to studs and bearing plates with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. When used in widths other than 48 in., gypsum board to be installed horizontally.

AMERICAN GYPSUM CO — Types AGX-1, M-Glass, AG-C, LightRoc

CERTAINTEED GYPSUM INC — Type C, Type X or Type X-1

NATIONAL GYPSUM CO — Type FSK, Type FSK-G, Type FSW, Type FSW-3, Type FSW-5, Type FSW-G, Type FSK-C, Type FSW-C, Type FSMR-C, Type FSW-6, Type FSL

THAI GYPSUM PRODUCTS PCL — Type C or Type X

2D. **Gypsum Board* —** (As an alternate to Items 2, 2A, 2B and 2C) — 5/8 in. thick gypsum panels, with square edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last 2 screws 1 and 4 in. from edge of board or nailed as described in Item 2. When used in widths of other than 48 in., gypsum boards are to be installed horizontally.

GEORGIA-PACIFIC GYPSUM L L C — GreenGlass Type X, Type DGG.

2E. **Gypsum Board* —** (As an alternate to Items 2 through 2D) — 5/8 in. thick, 4 ft. wide, paper surfaced applied vertically only and secured as described in Item 2.

GEORGIA-PACIFIC GYPSUM L L C — Type X ComfortGuard Sound Deadening Gypsum Board.

2F. **Gypsum Board* —** (As an alternate to Items 2 through 2E) - Installed as described in Item 2. 5/8 in. thick, 4 ft. wide, paper surfaced, applied vertically only and fastened to the studs and plates with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 1/4 in. diam heads, 7 in. OC. Not for use with item #6.

NATIONAL GYPSUM CO — Type SBWB

2G. **Gypsum Board* —** (As an alternate to Items 2 through 2F) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and secured as described in Item 2.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types QuietRock ES.

2H. **Gypsum Board* —** (As an alternate to Items 2 through 2G) — Installed as described in Item 2. 5/8 in. thick, 4 ft. wide, paper surfaced, applied vertically or horizontally fastened to the studs and plates with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board.

CERTAINTEED GYPSUM INC — Type SilentFX

2I. **Wall and Partition Facings and Accessories* —** (As an alternate to Items 2 through 2H) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and secured as described in Item 2.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock 527.

2J. **Gypsum Board* —** (As an alternate to 5/8 in. Type FSW in Item 2) — 2 layers nom. 5/16 in. thick gypsum panels applied vertically or horizontally. Horizontal joints on the same side need not be staggered. Inner layer attached with fasteners, as described in item 2, spaced 24 in. OC. Outer layer attached per Item 2.

NATIONAL GYPSUM CO — Type FSW.

2K. **Gypsum Board* —** (As an alternate to Item 2) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a maximum 10 in. OC with the last two screws 4 and 1 in. from the edges of the board. When used in widths other than 48 in., gypsum panels are to be installed horizontally.

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Type LGFC6A (finish rating 21 min), Type LGFC2A, Type LGFC-C/A, Type LGFC-WD, Type LGLLX

3. **Joints and Nailheads —** Gypsum board joints of outer layer covered with tape and joint compound. Nail heads of outer layer covered with joint compound. As an alternate, nom 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard with joints reinforced with paper tape.

4. **Sheathing —** (Optional) — Septum may be sheathed with min 7/16 in. thick wood structural panels min grade "C-D" or "Sheathing" or min 1/2 in. thick **Mineral and Fiber Boards***.

See **Mineral and Fiber Boards** (CERZ) category for names of Classified companies.

5. **Batts and Blankets* —** 3-1/2 in. max thickness glass or mineral fiber batt insulation. **Optional** when sheathing (Item 4) is used on both halves of wall.

See **Batts and Blankets** (BZJZ) category for list of Classified companies.

5A. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 5) — Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product with a nominal dry density of 2.7 lb/ft^3. Alternate Application Method: The fiber is applied without water or adhesive at a nominal dry density of 3.5 lb/ft^3, in accordance with the application instructions supplied with the product.

U S GREENFIBER L L C — INS735, INS745 and INS750LD for use with wet or dry application. INS515LD, INS541LD, INS735, INS765LD, and INS773LD are to be used for dry application only.

5B. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 5) when Sheathing (Item 4) is used on both halves of wall - Spray applied cellulose insulation material. The fiber is applied with water to interior surfaces in accordance with the application instructions supplied with the product. Applied to completely fill the enclosed cavity. Minimum dry density of 4.3 pounds per cubic ft.

NU-WOOL CO INC — Cellulose Insulation

5C. **Batts and Blankets* —** (Required for use with Wall and Partition Facings and Accessories, Item 2A. Use of Sheathing, Item 4, does not nullify requirement of Item 5C for use with Item 2A) — Glass fiber insulation, nom 3-1/2 in. thick, min. density of 0.80 pcf, with a flame spread of 25 or less and a smoke developed of 50 or less, friction-fitted to completely fill the stud cavities. See Batts and Blankets Category (BKNV) for names of manufacturers.

5D. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 5) and Item 5A when Sheathing (Item 4) is used on both halves of wall - Spray applied cellulose fiber. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. The minimum dry density shall be 4.30 lbs/ft^3.

INTERNATIONAL CELLULOSE CORP — Celbar-RL

5E. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 5) - Spray-applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. To facilitate the installation of the material, any thin, woven or non-woven netting may be attached by any means possible to the outer face the studs. The material shall reach equilibrium moisture content before the installation of materials on either face of the studs. The minimum dry density shall be 5.79 lbs/ft^3.

APPLEGATE HOLDINGS L L C — Applegate Advanced Stabilized Cellulose Insulation

6. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:

A. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Wallboard attached to furring channels as described in Item 2.

B. **Steel Framing Members* —** Used to attach furring channels (Item a) to studs (Item 1) . Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. Furring channels are friction fitted into clips. RSIC-1 clip for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) clip for use with 2-23/32 in. wide furring channels.

PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-1 (2.75).

7. **Wall and Partition Facings and Accessories* —** (Optional, Not shown) — Nominal 1/2 in. thick, 4 ft wide panels, for optional use as an additional layer on one or both sides of the assembly. Panels attached in accordance with manufacturer's recommendations. When the QR-500 or QR-510 panel is installed between the wood framing and the UL Classified gypsum board, the required UL Classified gypsum board layer(s) is/are to be installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock QR-500 and QR-510

8. **Mineral and Fiber Board* —** ((Optional, Not Shown) — For optional use as an additional layer on one or both sides of wall. Nom 1/2 in. thick, 4 ft wide with long dimension parallel and centered over studs. Attached to framing as described in Item 2. The required UL Classified gypsum board layer(s) is/are to be installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.

HOMASOTE CO — Homasote Type 440-32

9. **Non-Bearing Wall Partition Intersection —** (Optional) — Two nominal 2 by 4 in. stud or nominal 2 by 6 in. stud nailed together with two 3in. long 10d nails spaced a max. 16 in. OC. vertically and fastened to one side of the minimum 2 by 4 in. stud with 3 in. long 10d nails spaced a max 16 in. OC. vertically. Intersection between partition wood studs to be flush with the 2 by 4 in. studs. The wall partition wood studs are to be framed by with a second 2 by 4 in. wood stud fastened with 3 in. long 10d nails spaced a max. 16 in. OC. vertically. Maximum one non-bearing wall partition intersection per stud cavity. Non-bearing wall partition stud depth shall be at a minimum equal to the depth of the bearing wall.

(Optional, Not Shown) Alternate Construction For Use On One Side Of The Wall.

10. **Mineral and Fiber Board* —** For use with Items 10A-10D) —Nom 1/2 in. thick, 4 ft wide with long dimension parallel and centered over studs. Attached to framing with minimum 1-3/8 in. long ring shanked nails or 1-1/4 in. long Type W steel screws, spaced 12 in. OC along board edges and 24 in. OC in field of board along intermediate framing. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.

HOMASOTE CO — Homasote Type 440-32

FIRE RATED ASSEMBLIES

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STATE OF MISSOURI
M. RANDALL PORTER
A-2012006244
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10A. **Glass Fiber Insulation —** (For use with Item 10) — 3-1/2 in. thick glass fiber batts bearing the UL Classification Marking as to Surface Burning and/or Fire Resistance, placed to fill the interior of the wall. See Batts and Blankets (BKNV or BZJZ) categories for names of Classified companies.

10B. **Batts and Blankets* —** (As an alternate to Item 10B, For use with Item 10), 3 in. thick mineral wool batts, placed to fill interior of wall, attached to the 3-1/2 in. face of the studs with staples placed 24 in. OC.

THERMAFIBER INC — Type SAFB, SAFB FF

10C. **Adhesive —** (For use with Item 10) — Construction grade adhesive applied in vertical, serpentine, nominal 3/8 in. wide beads down the length of both vertical edges of Mineral and Fiber Board (Item 14A).

10D. **Gypsum Board* —** (For use with Item 10) — 5/8 in. thick, 4 ft wide, applied vertically over Mineral and Fiber Board (Item 14A) with vertical joints located anywhere over stud cavities. Secured to mineral and fiber boards with 1-1/2 in. Type G Screws spaced 8 in. OC along edges of each vertical joint and 12 in. OC in intermediate field of the Mineral and Fiber Board (Item 10). Secured to outermost studs and bearing plates with 2 in. long Type S screws spaced 8 in. OC. Gypsum Board joints covered with paper tape and joint compound. Screw heads covered with joint compound. Finish Rating 30 Min.

AMERICAN GYPSUM CO — Type AG-C

CERTAINTEED GYPSUM INC — Type FRPC, Type C

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Type LGFC-C/A

GEORGIA-PACIFIC GYPSUM L L C — Types 5, DAPC, TG-C

NATIONAL GYPSUM CO — Types FSK-C, FSW-C

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type PG-C

PANEL REY S A — Type PRC

THAI GYPSUM PRODUCTS PCL — Type C

UNITED STATES GYPSUM CO — Type CTypes C, IP-X2, IPC-AR

USG BORAL DRYWALL SFZ LLC — Type C

USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2019-11-19

ROOF-CEILING SYSTEMS

GA FILE NO. RC 2602	GENERIC	1 HOUR FIRE

WOOD TRUSSES, GYPSUM WALLBOARD

Base layer 5/8" type X gypsum wallboard applied at right angles to wood trusses 24" o.c. with 1 1/4" Type W or S drywall screws 24" o.c. **Face** layer 5/8" type X gypsum wallboard or gypsum veneer base applied at right angles to trusses with 1 7/8" Type W or S drywall screws 12" o.c. at joints and intermediate trusses and 1 1/2" Type G drywall screws 12" o.c. placed 2" back on either side of end joints. Joints offset 24" from base layer joints. Wood trusses supporting 1/2" wood structural panels applied at right angles to trusses with 5d nails. Appropriate roof covering.

Approx. Ceiling Weight: 5 psf
Fire Test: FM FC 172, 2-25-72; ITS, 8-6-98

FIRE RATED ASSEMBLIES

PERMIT SET

STATE OF MISSOURI
M. RANDALL PORTER
A-2012006244
ARCHITECT

04 FEB 2021
M. RANDALL PORTER
A-2012006244

ARIA APARTMENTS LEE'S SUMMIT
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

Wallace ARCHITECTS L.L.C.
Columbia, MO
P 573-256-7200

WALLACE ARCHITECTS, LLC
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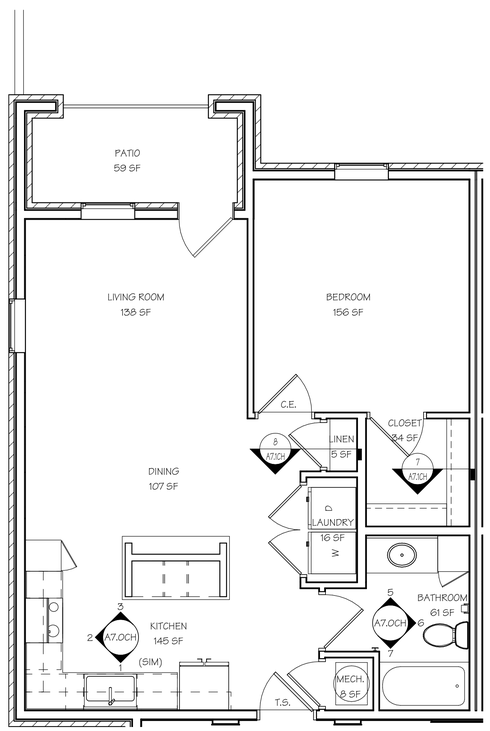
UNIT FINISH SCHEDULE

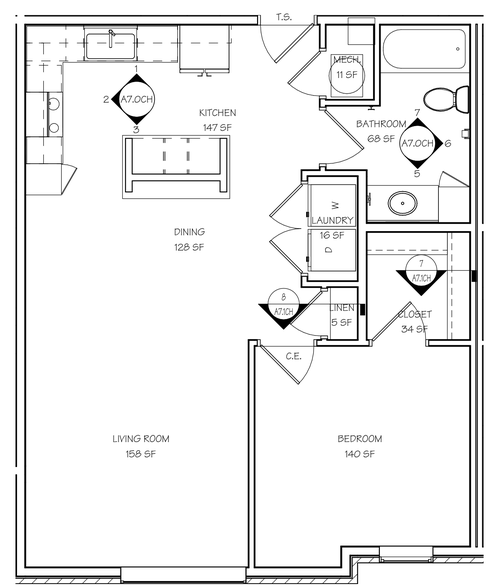
Name	Floor Finish	Base Finish	Wall Finish	Ceiling Finish
BATHROOM	PORCELAIN	WOOD BASE	PAINTED GYP. BD.	SUSPENDED CEILING
BEDROOM	CARPET	WOOD BASE	PAINTED GYP. BD.	SUSPENDED CEILING
CLOSET	CARPET	WOOD BASE	PAINTED GYP. BD.	SUSPENDED CEILING
DINING	VINYL PLANK	WOOD BASE	PAINTED GYP. BD.	SUSPENDED CEILING
KITCHEN	VINYL PLANK	WOOD BASE	PAINTED GYP. BD.	SUSPENDED CEILING
LAUNDRY	VINYL PLANK	WOOD BASE	PAINTED GYP. BD.	SUSPENDED CEILING
LINEN	VINYL PLANK	WOOD BASE	PAINTED GYP. BD.	SUSPENDED CEILING
LIVING ROOM	VINYL PLANK	WOOD BASE	PAINTED GYP. BD.	SUSPENDED CEILING
MECH.	SEALED CONCRETE	NONE OR NO ADDITIONAL FINISH	NONE OR NO ADDITIONAL FINISH	SUSPENDED CEILING
PATIO	SEALED CONCRETE	NONE OR NO ADDITIONAL FINISH	NONE OR NO ADDITIONAL FINISH	NONE OR NO ADDITIONAL FINISH

GENERAL FINISH NOTES

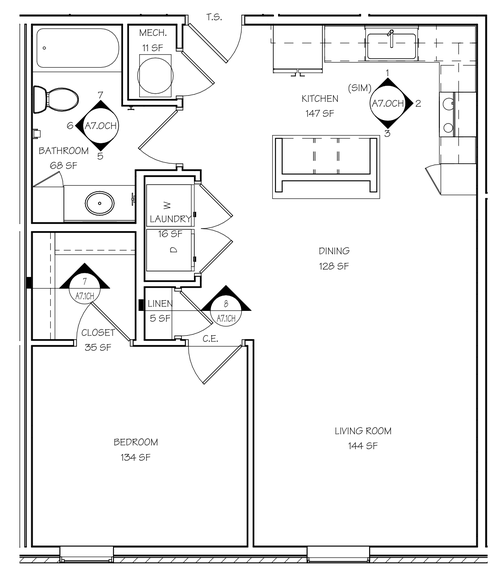
1) CITY APPROVED NUMBERS OR ADDRESS IDENTIFICATION SHALL BE PROVIDED & INSTALLED BY THE CONTRACTOR. SIGNAGE IS TO BE PLAINLY VISIBLE & LEGIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY. EACH DWELLING UNIT SHALL BE IDENTIFIED AT THE MAIN ENTRY. NUMBERS SHALL BE 4" TALL MIN., MIN. STROKE OF 0.5" & SHALL BE OF CONTRASTING COLOR TO THE BACKGROUND.
2) CONTRACTOR SHALL FURNISH ONE MAILBOX PER UNIT (SEE SPECS).
3) CERTIFICATION OF R-49 CEILING INSULATION MUST BE POSTED IN ATTIC.
4) PROVIDE CARPET EDGES AS NECESSARY, DESIGNATED BY "CE" (COLOR SELECTED BY OWNER).
5) COAT AND BEDROOM CLOSETS SHALL HAVE EPOXY-COATED WIRE SHELVING.
6) PRIME & PAINT WALLS BEHIND MILLWORK.
7) STAIN & SEAL MILLWORK AS SPECIFIED.
8) SUBMIT SAMPLES OF FLOOR TRANSITIONS FOR APPROVAL OF COLOR & TYPE.
9) APPLY SILICONE CAULK BETWEEN CONCRETE AND BOTTOM OF THE DRYWALL.
10) SEAL CONCRETE FLOOR TO REDUCE MOISTURE PENETRATION.
11) APPROPRIATELY SIZED BLINDS SHALL BE PROVIDED AND INSTALLED FOR EACH GLAZED OPENING, INCLUDING PAIRED WINDOWS (PROVIDED WITH TWO SETS) AND DOOR GLAZING WHERE HALF LITE OR LARGER. 2" FAUX WOOD BLINDS (WHITE).
12) IF ALTERNATE FLOORING IS SELECTED, ADDITIONAL TRANSITION STRIPS WILL BE REQUIRED.



1 A6.0CH UNIT CH-A FINISH FLOOR PLAN
SCALE: 1/4" = 1'-0"



2 A6.0CH UNIT CH-B FINISH PLAN
SCALE: 1/4" = 1'-0"



3 A6.0CH UNIT CH-C FINISH PLAN
SCALE: 1/4" = 1'-0"

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LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

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UNIT FINISH PLAN

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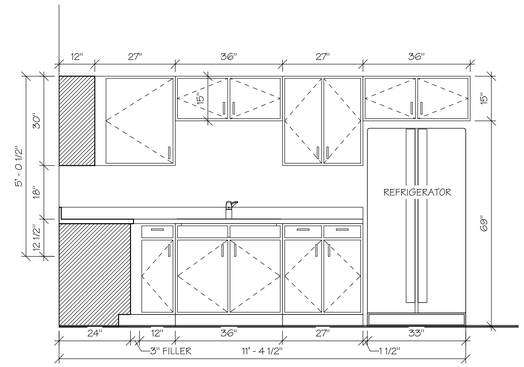
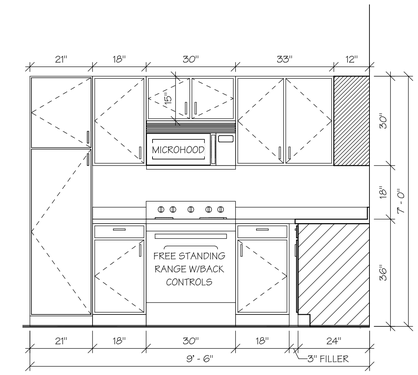
2/10/2021 12:09:41 PM

NOTE:
CONTRACTOR OPTION TO ORDER TUBS, SHOWERS WITH FACTOR INSTALLED GRAB BAR BLOCKING. IF SELECTED, BLOCKING MUST STILL COVER AT LEAST THE AREAS SHOWN.

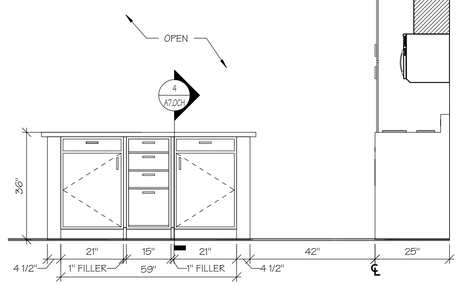
GRAB BAR BLOCKING NOTE:
MANUFACTURER INSTALLED INTEGRAL BACKING OR 2X8 BLOCKING FOR GRAB BARS



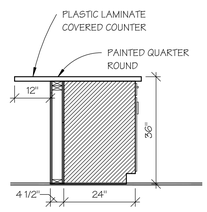
1 A7.0CH KITCHEN ELEVATION A
SCALE: 1/2" = 1'-0"



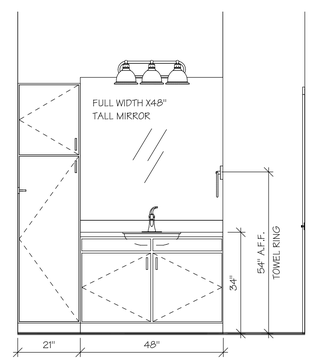
2 A7.0CH KITCHEN ELEVATION B
SCALE: 1/2" = 1'-0"



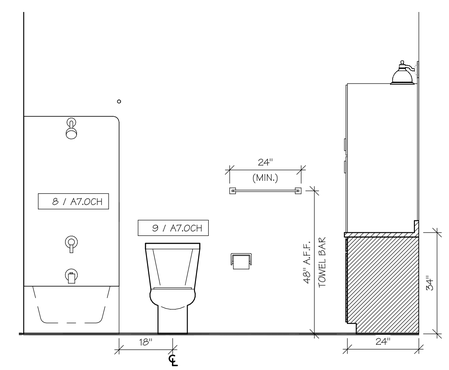
3 A7.0CH KITCHEN ELEVATION C
SCALE: 1/2" = 1'-0"



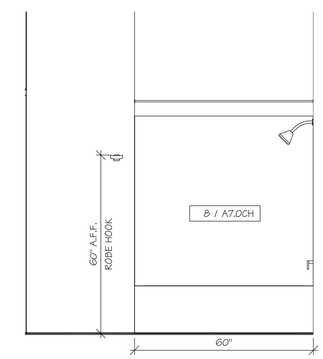
4 A7.0CH KITCHEN BAR SECTION
SCALE: 1/2" = 1'-0"



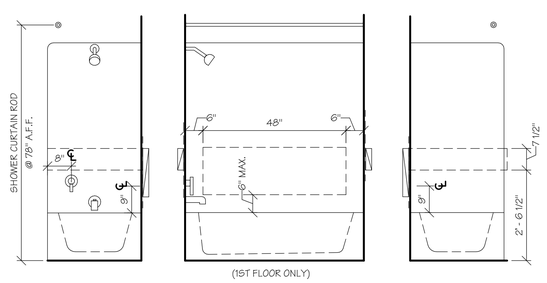
5 A7.0CH BATHROOM ELEVATION A
SCALE: 1/2" = 1'-0"



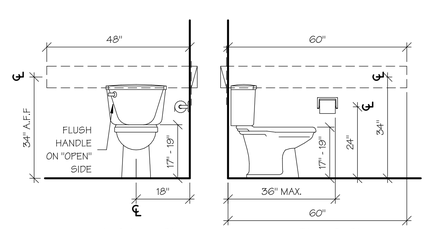
6 A7.0CH BATHROOM ELEVATION B
SCALE: 1/2" = 1'-0"



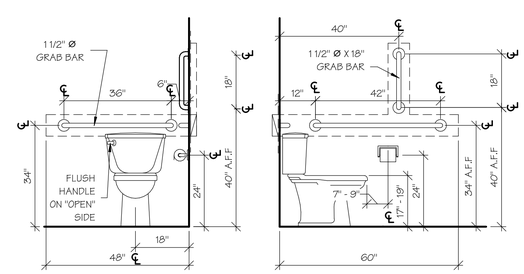
7 A7.0CH BATHROOM ELEVATION C
SCALE: 1/2" = 1'-0"



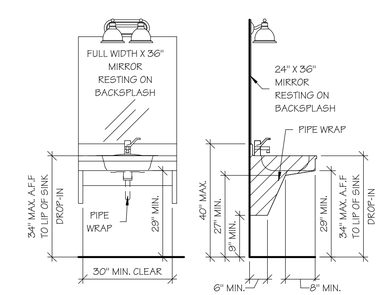
8 A7.0CH FHA/ANSI TUB/SHOWER NOTES & DETAILS
SCALE: 1/2" = 1'-0"



9 A7.0CH FHA/ANSI WATER CLOSET NOTES & DETAILS
SCALE: 1/2" = 1'-0"



10 A7.0CH ADA PUBLIC WATER CLOSET NOTES & DETAILS
SCALE: 1/2" = 1'-0"



11 A7.0CH WALL HUNG VANITY
SCALE: 1/2" = 1'-0"

INTERIOR ELEVATIONS NOTES AND DETAILS

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LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

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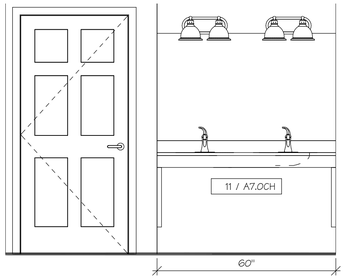
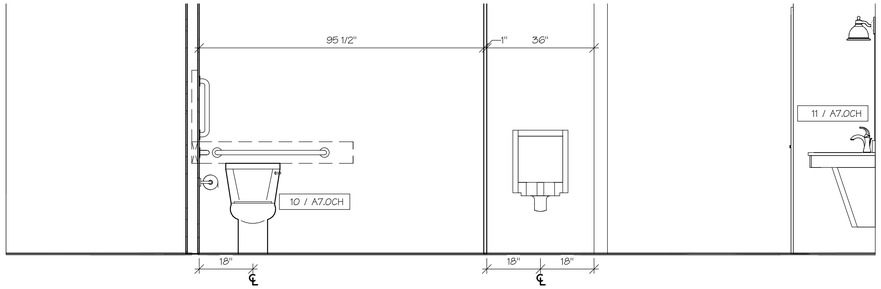
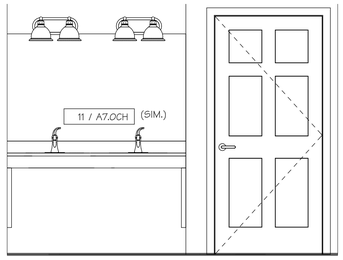


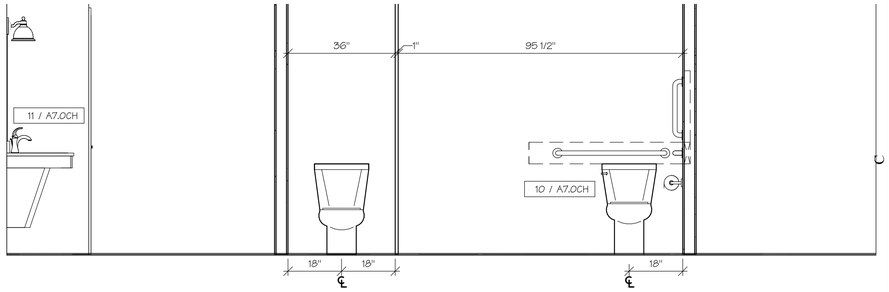
1 A7.1CH MEN'S PUBLIC RESTROOM/ SHOWER ELEVATION 1
SCALE: 1/2" = 1'-0"



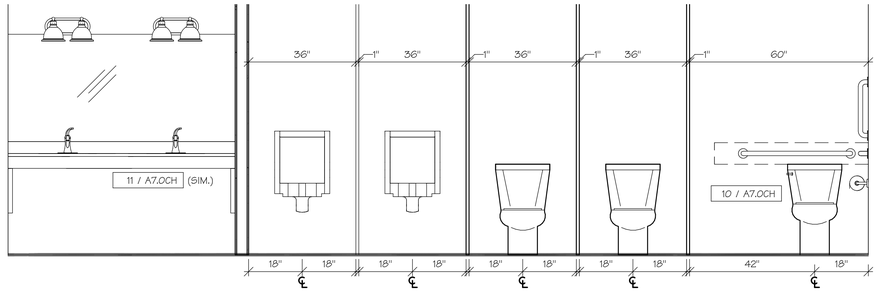
2 A7.1CH MEN'S PUBLIC RESTROOM/SHOWER ELEVATION 2
SCALE: 1/2" = 1'-0"



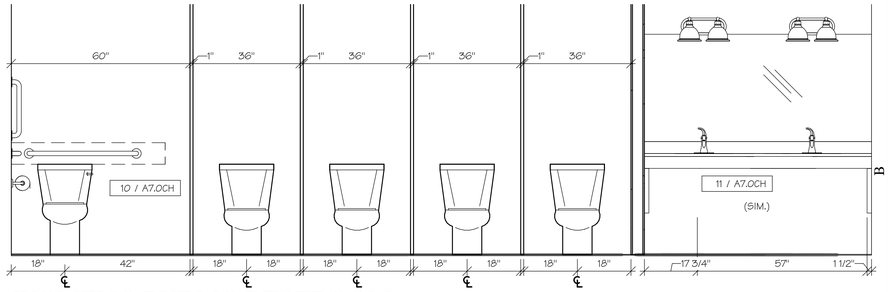
3 A7.1CH WOMEN'S PUBLIC RESTROOM/ SHOWER ELEVATION 1
SCALE: 1/2" = 1'-0"



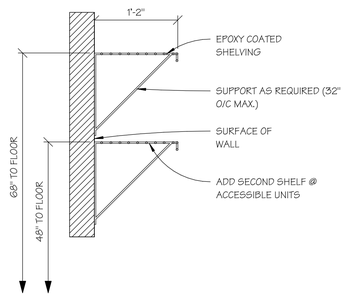
4 A7.1CH WOMEN'S PUBLIC RESTROOM/SHOWER ELEVATION 2
SCALE: 1/2" = 1'-0"



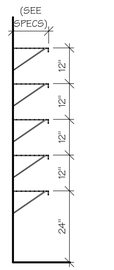
5 A7.1CH MEN'S PUBLIC RESTROOM
SCALE: 1/2" = 1'-0"



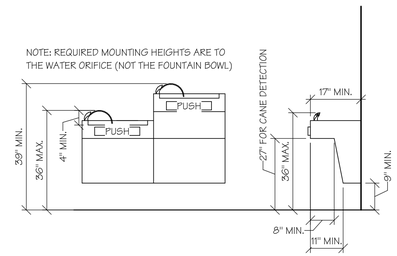
6 A7.1CH WOMEN'S PUBLIC RESTROOM
SCALE: 1/2" = 1'-0"



7 A7.1CH CLOSET SHELF
SCALE: 1" = 1'-0"



8 A7.1CH SHELVING
SCALE: 1/2" = 1'-0"



9 A7.1CH WATER FOUNTAIN
SCALE: 1/2" = 1'-0"

INTERIOR ELEVATIONS

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ARCHITECT

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ARIA APARTMENTS LEE'S SUMMIT
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

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ARCHITECT
04 FEB 2021

ARIA APARTMENTS LEE'S SUMMIT
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

INTERIOR FINISH KEY (CORRIDORS)

FLOORS:

TILE

T-1 PORCELIAN CERAMIC TILE, STONEPEAK, SIMPLY MODERN, SIMPLY GREY 12"x12"

BASE

RB-1 RUBBER BASE, JOHNSONITE, MILLWORK, MANDALAY 4.5", 20 CHARCOAL

WALLS:

PAINT

IPS-1A EGGSHELL LATEX ON GYP. BD. BENJAMIN MOORE, SILVER CHAIN 1472

IPS-1B EGGSHELL LATEX ON GYP. BD. BENJAMIN MOORE, CAPE MAY COBBLESTONE 1474

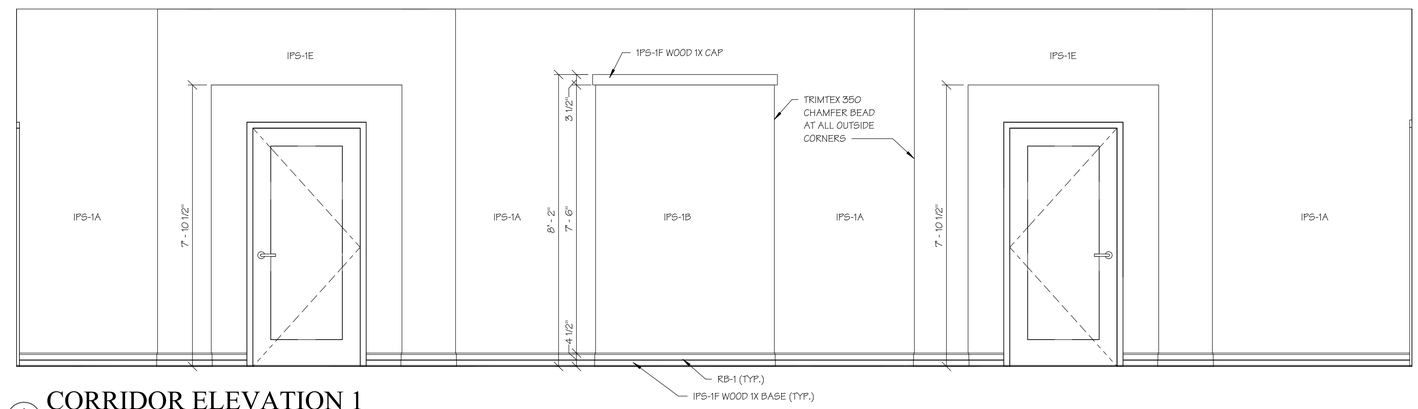
IPS-1E EGGSHELL LATEX ON GYP. BD. BENJAMIN MOORE, 1636 PROVIDENCE BLUE (ACCENT)

IPS-1F EGGSHELL LATEX ON GYP. BD. BENJAMIN MOORE, HC166 KENDALL CHARCOAL

CEILINGS:

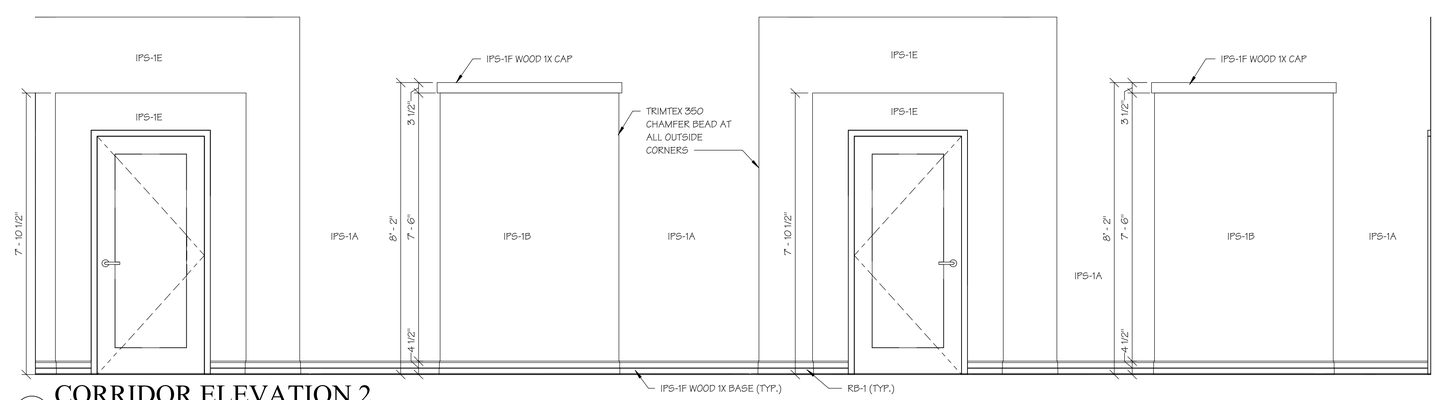
AC-1 ACOUSTICAL CEILING, USG, MARS CEILING TILE, FLB EDGE, CENTRICITEE DXT TRACK

IPS-2A FLAT LATEX ON GYP, BENJAMIN MOORE, 1636 PROVIDENCE BLUE (ACCENT)



1 A7.2CH CORRIDOR ELEVATION 1

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



2 A7.2CH CORRIDOR ELEVATION 2

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

CORRIDOR ELEVATIONS

PERMIT SET

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1	04 FEB 2021	PERMIT SET
2		
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ARIA APARTMENTS LEE'S SUMMIT
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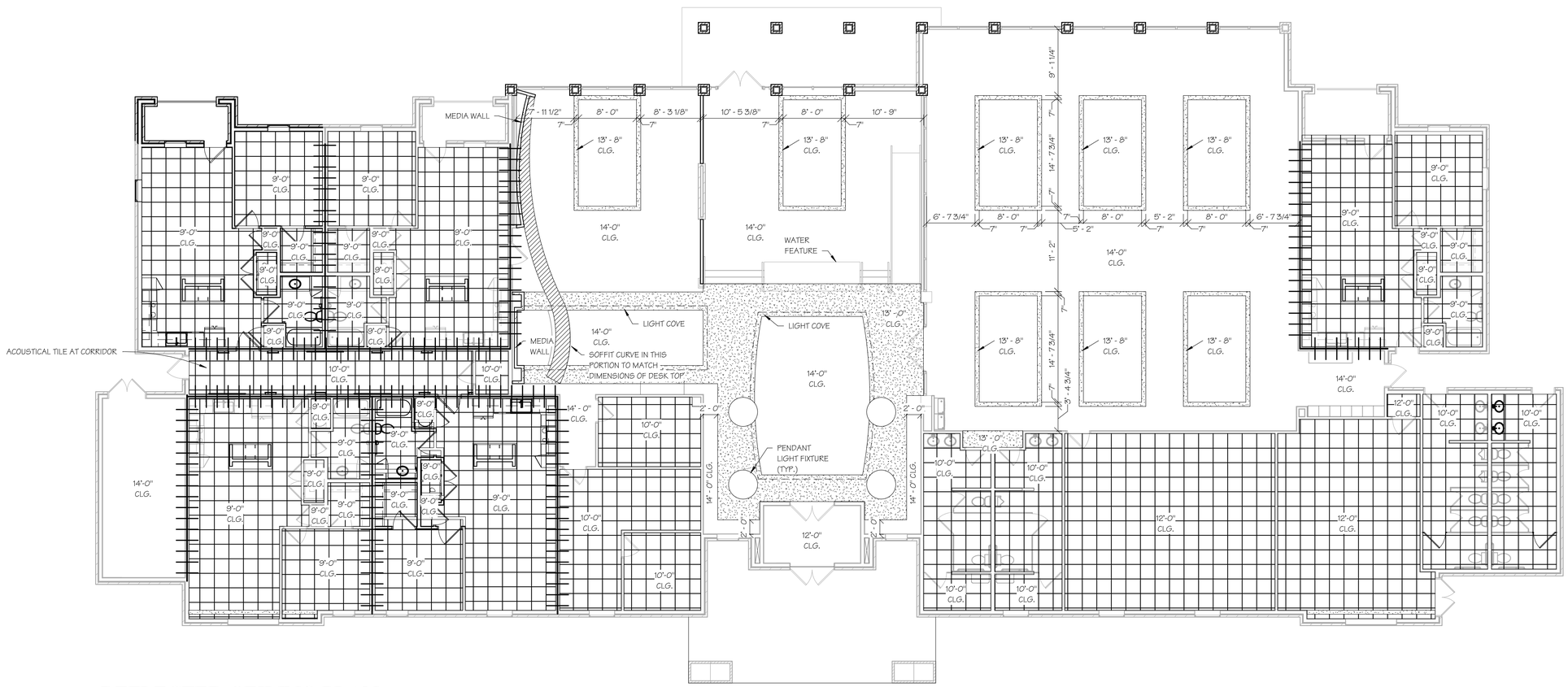
LEGEND

(2) LAYERS 5/8" TYPE "X" GYP. BD. WITH SUSPENDED ACT CEILING BELOW; 24X24 PANELS (SUSPENDED GYP. CEILING @ UNITS)	
(2) LAYERS 5/8" TYPE "X" GYP. BD. @ CORRIDOR WITH SUSPENDED ACT CEILING BELOW; 24X48 PANELS	
5/8" GYP. BD. (14'-0" A.F.F.)	
5/8" GYP. BD.	
ONE HOUR RATED PARTITION WALL	



1 A8.0CH REFLECTED CEILING PLAN
SCALE: 1/8" = 1'-0"

REFLECTED CEILING PLANS

PERMIT SET

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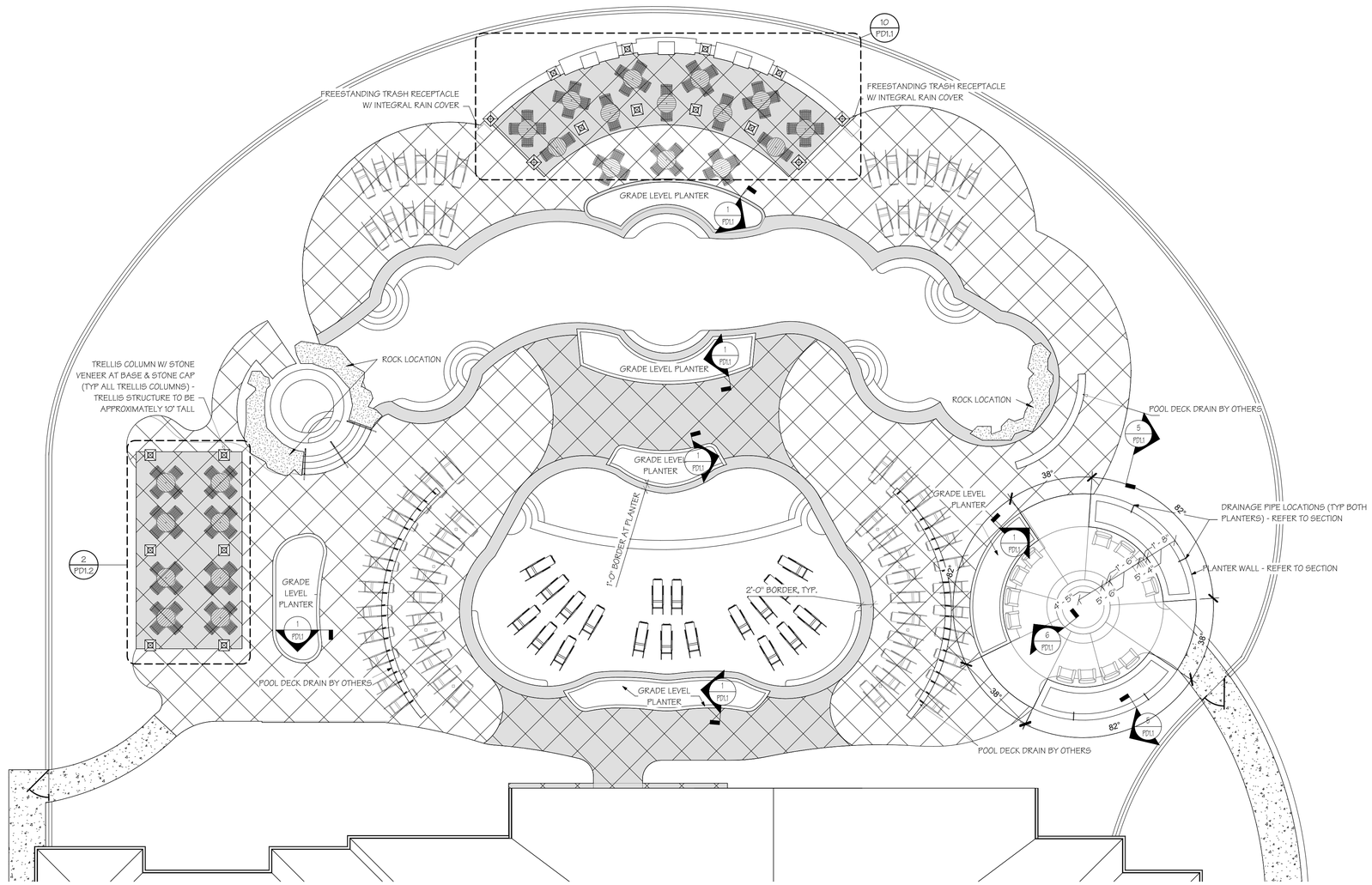
POOL AREA LEGEND

STAINED CONCRETE, SOLOMAN COLORS "SANDSTONE" SCORED 4' SQUARE WHERE INDICATED

STAINED CONCRETE - SOLOMON COLORS "THYME" SCORED 4' SQUARE WHERE INDICATED

NOTE:
POOL INSTALLATION AND OPERATION DRAWINGS SHALL BE BY POOL CONTRACTOR



1 PD1.0 POOL AREA PLAN
SCALE: 1" = 10'-0"

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POOL AREA PLAN

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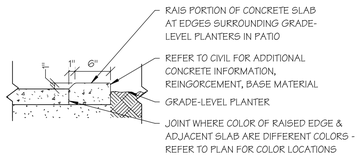
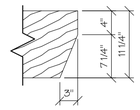


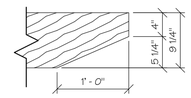
RAISED EDGE AT GRADE-LEVEL PLANTERS

1 PD1.1 SCALE: 1" = 1'-0"



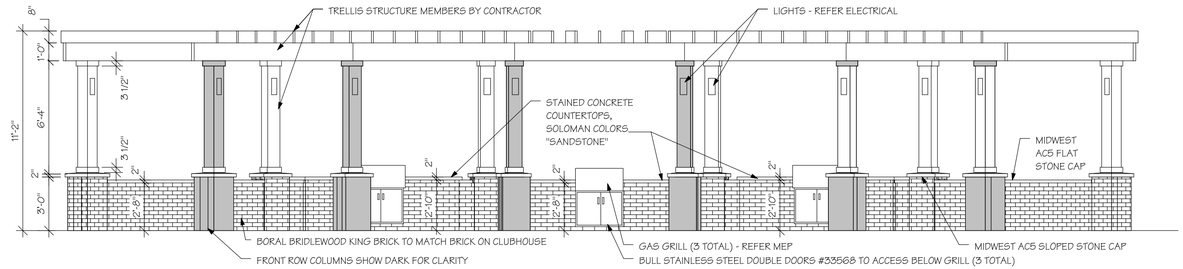
TRELLIS BEAM END DETAIL

2 PD1.1 SCALE: 1" = 1'-0"



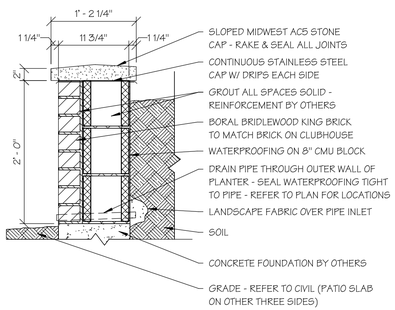
TRELLIS JOIST END DETAIL

3 PD1.1 SCALE: 1" = 1'-0"



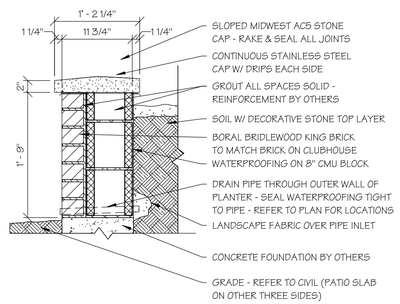
CURVED TRELLIS FRONT ELEVATION

4 PD1.1 SCALE: 1/4" = 1'-0"



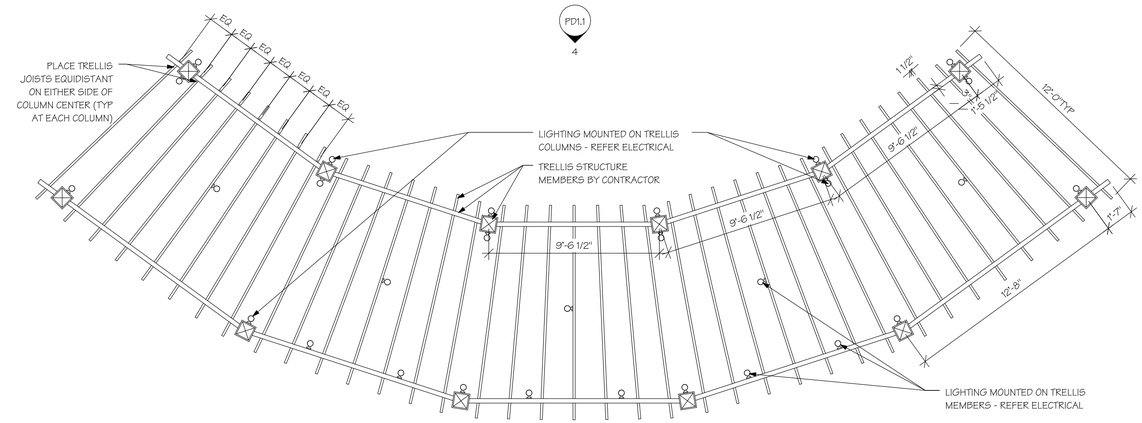
SECTION AT RAISED PLANTER

5 PD1.1 SCALE: 1" = 1'-0"



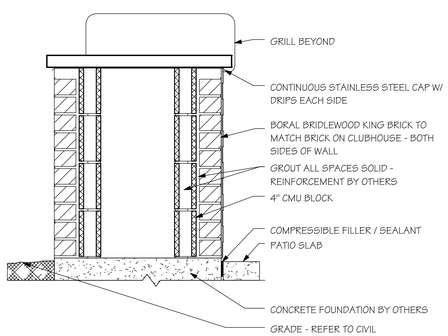
SECTION AT FIRE PIT

6 PD1.1 SCALE: 1" = 1'-0"



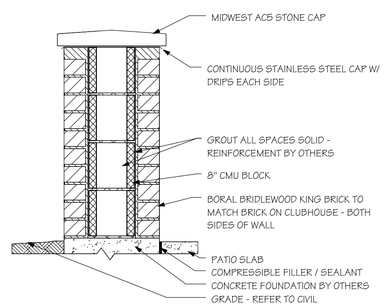
CURVED TRELLIS REFLECTED CEILING PLAN

7 PD1.1 SCALE: 1/4" = 1'-0"



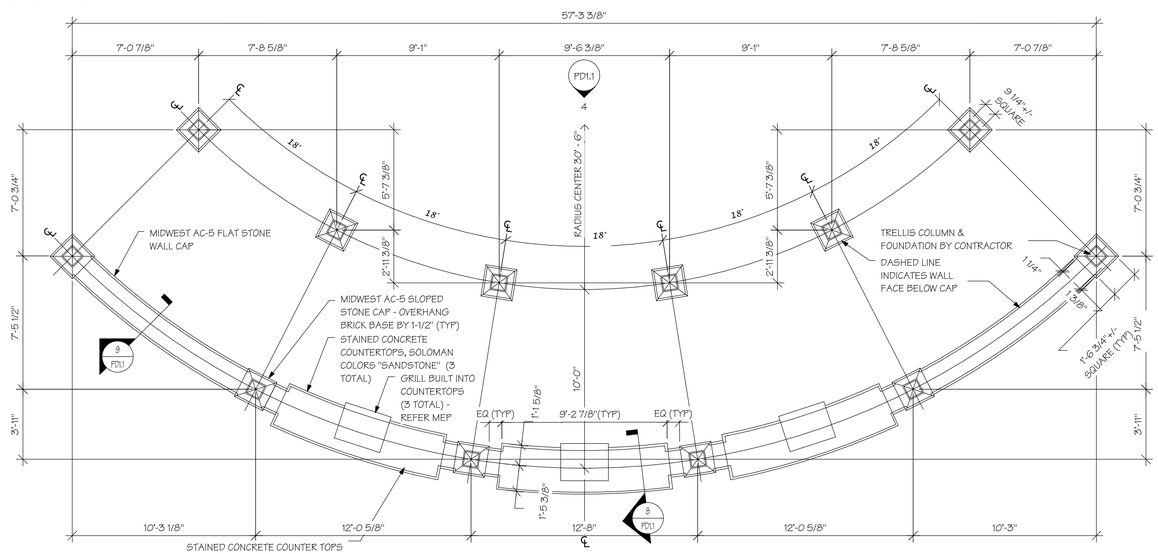
SECTION AT TRELLIS COUNTERTOP

8 PD1.1 SCALE: 1" = 1'-0"



SECTION AT TRELLIS WALL

9 PD1.1 SCALE: 1" = 1'-0"



CURVED TRELLIS FLOOR PLAN

10 PD1.1 SCALE: 1/4" = 1'-0"

POOL AREA SECTIONS & CURVED TRELLIS PLANS

PERMIT SET

STATE OF MISSOURI
M. RANDALL PORTER
A-2012006244
ARCHITECT
04 FEB 2021
M. RANDALL PORTER
A-2012006244

ARIA APARTMENTS LEE'S SUMMIT
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

Wallace ARCHITECTS L.L.C.
Columbia, MO
P 573-256-7200
WALLACE ARCHITECTS, LLC
MISSOURI STATE CERTIFICATE OF AUTHORITY: 2003019614

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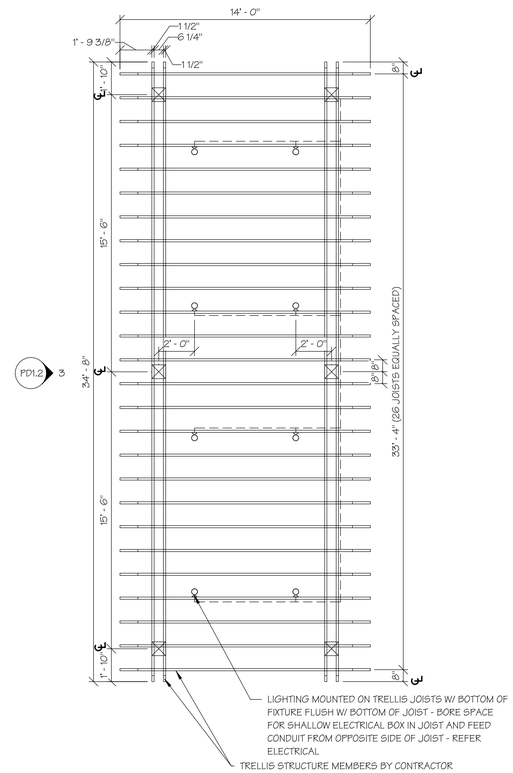
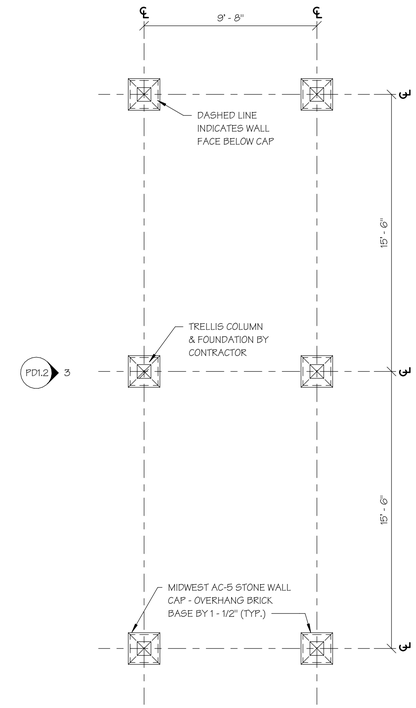


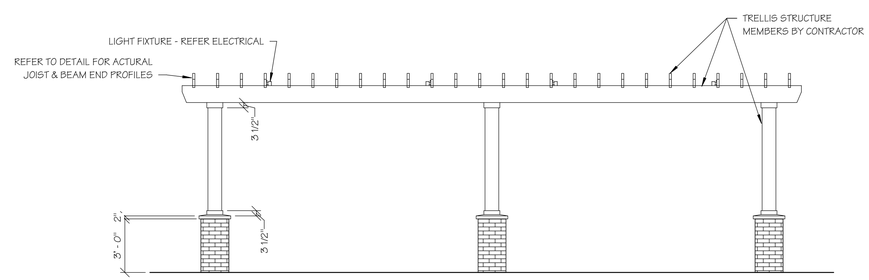
1 PD1.2 TRELLIS RCP

SCALE: 1/4" = 1'-0"



2 PD1.2 TRELLIS FLOOR PLAN

SCALE: 1/4" = 1'-0"



3 PD1.2 TRELLIS FRONT ELEVATION

SCALE: 1/4" = 1'-0"

POOL AREA TRELLIS PLANS

PERMIT SET

STATE OF MISSOURI
M. RANDALL PORTER
A-2012006244
ARCHITECT

04 FEB 2021

M. RANDALL PORTER
A-2012006244

ARIA APARTMENTS LEE'S SUMMIT

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ARIA APARTMENTS LEE'S SUMMIT

GARAGE BUILDINGS

LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

PROJECT INFORMATION

SITE DATA	
SITE ZONING:	(SEE CIVIL)
SITE SIZE:	(SEE CIVIL)
SITE DENSITY:	(SEE CIVIL)
NO. OF PARKING SPACES:	(SEE CIVIL)
CODES AND REGULATIONS	
BLDG. & RELATED CODES:	2018 IBC, IFC, IMC & 2018 IECC W/ LOCAL AMMENDMENTS
ELECT. CODE:	2017 NEC W/ LOCAL AMMENDMENTS
FIRE CODE:	2018 IFC W/ ,OCAL AMMENDMENTS
ACCESSIBILITY:	ICC/ANSI A117.1- 2009; FAIR HOUSING ACT
MISC.:	ALL APPLICABLE FEDERAL, STATE & LOCAL CODES, LAWS & ORDINANCES
BUILDING CODE DATA	
USE GROUP:	U (PRIVATE GARAGES)
CONSTRUCTION TYPE:	5B
EXT. WALL CONSTRUCTION:	NON-RATED
OTHER WALL CONSTRUCTION:	SEPARATION WALLS = NON-RATED
TOTAL ALLOW. AREA:	5,500 SF/FLOOR
TOTAL ACTUAL AREA:	GARAGE "A" 1135 SF; GARAGE "A" ACC. 1215 SF; GARAGE "B" 1675 SF; GARAGE "C" 2263 SF GARAGE "D" 3306 SF; GARAGE "E" 4475 SF
ALLOW. HEIGHT & FLOORS:	40'-0"/1 STORY
ACTUAL HEIGHT & FLOORS:	GARAGE "A" 18'-3 1/2"/1 STORY; GARAGE "A" ACC. 18'-3 1/2"/1 STORY; GARAGE "B" 18'-10 3/4"/1 STORY; GARAGE "C" 21'-9 1/4"/1 STORY; GARAGE "D" 18'-10 3/4"/1 STORY; GARAGE "E" 21'-9 1/4"/1 STORY
HEIGHT/AREA ADJUSTMENTS:	NONE REQUIRED, NONE TAKEN
SPRINKLER SYSTEM:	NONE REQUIRED, NONE INSTALLED

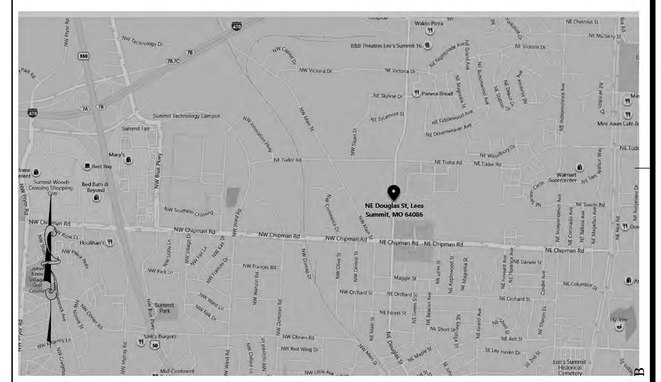
INDEX TO DRAWINGS

GARAGE BUILDINGS INDEX TO DRAWINGS

Sheet Number	Sheet Name	Sheet Issue Date	Current Revision Date	Current Revision Description
1 - COVER SHEET				
0.0GB	GARAGE BUILDINGS COVER SHEET	04 FEB 2021	04 FEB 2021	PERMIT SET
2 - STRUCTURAL				
S100GB	GENERAL STRUCTURAL DATA	04 FEB 2021	04 FEB 2021	PERMIT SET
S200GB	GARAGE BUILDING A,B, & C - FOUNDATION PLANS	04 FEB 2021	04 FEB 2021	PERMIT SET
S201GB	GARAGE BUILDING D & E - FOUNDATION PLANS	04 FEB 2021	04 FEB 2021	PERMIT SET
S210GB	FOUNDATION DETAILS	04 FEB 2021	04 FEB 2021	PERMIT SET
S300GB	GARAGE BUILDING A,B, & C - FRAMING PLANS	04 FEB 2021	04 FEB 2021	PERMIT SET
S301GB	GARAGE BUILDING D & E - FRAMING PLANS	04 FEB 2021	04 FEB 2021	PERMIT SET
S310GB	FRAMING DETAILS	04 FEB 2021	04 FEB 2021	PERMIT SET
3 - ARCHITECTURAL				
A1.0GB	GARAGE TYPE "A" BUILDING PLAN/FINISH PLAN	04 FEB 2021	04 FEB 2021	PERMIT SET
A1.1GB	GARAGE TYPE "B" & "C" BUILDING PLANS/FINISH PLANS	04 FEB 2021	04 FEB 2021	PERMIT SET
A1.2GB	GARAGE TYPE "D" BUILDINGN PLAN/FINISH PLAN	04 FEB 2021	04 FEB 2021	PERMIT SET
A1.3GB	GARAGE TYPE "E" BUILDING PLAN/FINISH PLAN	04 FEB 2021	04 FEB 2021	PERMIT SET
A2.0GB	GARAGE "A" & "B" ROOF PLANS	04 FEB 2021	04 FEB 2021	PERMIT SET
A2.1GB	GARAGE "C", "D" & "E" ROOF PLANS	04 FEB 2021	04 FEB 2021	PERMIT SET
A3.0GB	EXTERIOR ELEVATIONS	04 FEB 2021	04 FEB 2021	PERMIT SET
A3.1GB	EXTERIOR ELEVATIONS	04 FEB 2021	04 FEB 2021	PERMIT SET
A3.2GB	EXTERIOR ELEVATIONS	04 FEB 2021	04 FEB 2021	PERMIT SET
A3.3GB	EXTERIOR ELEVATIONS	04 FEB 2021	04 FEB 2021	PERMIT SET

ARCHITECT'S JOB NO. 3984

PROJECT LOCATION MAP



SIGNATURE AREAS

NOTE: PROJECT CONSTRUCTION MUST BE IN COMPLIANCE WITH ALL APPLICABLE CODES, ORDINANCES, LAWS, AND REGULATIONS AS ENUMERATED ELSEWHERE IN THE PLANS AND SPECIFICATIONS.

ARCHITECT: WALLACE ARCHITECTS, L.L.C.
302 CAMPUSVIEW DRIVE SUITE 208, COLUMBIA, MO 65201
BY: DATE:

OWNER: ARIA LS, LLC
4240 PHILIPS FARM ROAD, COLUMBIA, MO. 65201
BY: DATE:

CONTRACTOR: CENTRAL STATES CONSTRUCTION
4215 PHILIPS FARM ROAD, COLUMBIA, MO. 65201
BY: DATE:

BY: DATE:

PM: RP
PC: RS

PLAN SET NO.

GARAGE BUILDINGS COVER SHEET

PERMIT SET

STATE OF MISSOURI
M. RANDALL PORTER
2012006244
ARCHITECT
04 FEB 2021

ARIA APARTMENTS LEE'S SUMMIT
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

Wallace ARCHITECTS L.L.C.
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Aria Lee's Summit Apartments
Garage Plans

Lee's Summit, Jackson County, Missouri

GENERAL NOTES

ELEVATION DATUM
SEE ARCHITECTURAL DRAWINGS OR SITE PLAN FOR FINISH FLOOR ELEVATIONS

DESIGN SPECIFICATIONS
2018 INTERNATIONAL BUILDING CODE

EARTHWORK
EARTHWORK OPERATIONS SHALL BE PERFORMED UNDER THE DIRECTION OF A PROFESSIONAL TESTING AGENCY TO ASSURE COMPLIANCE WITH THE RECOMMENDATIONS OF THE SOILS REPORT. BY OLSSON, INC. DATED AUGUST 22, 2019.

CONCRETE

CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF THE CURRENT ACI 301, SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS, ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, ACI 305 SPECIFICATIONS FOR HOT WATER CONCRETE, AND ACI 306 SPECIFICATIONS FOR COLD WEATHER CONCRETE, WITH THE FOLLOWING ADDITIONAL REQUIREMENTS:

1. CONCRETE SHALL DEVELOP THE FOLLOWING 28–DAY MINIMUM COMPRESSIVE STRENGTH:

FOUNDATIONS	–	3,000 PSI
CAST–IN–PLACE WALLS	–	3,500 PSI
FLOOR SLAB	–	4,000 PSI
EXTERIOR SLABS, WALLS AND CURBS	–	4,000 PSI

2. ALL FOOTINGS SHALL BEAR ON UNDISTURBED SOIL OR ENGINEERED FILL.
3. CHLORIDE– BASED ADMIXTURES ARE PROHIBITED IN ALL REINFORCED CONCRETE.
4. REINFORCING STEEL SHALL CONFORM TO ASTM A615, A616, OR A617, GRADE 60.
5. ALL CONTINUOUS REINFORCING STEEL THAT MEETS AT A CORNER SHALL BE TIED TOGETHER WITH A CORNER BAR THAT HAS SUFFICIENT LAP DISTANCE IN EACH DIRECTION
6. CONTINUOUS REINFORCING BARS LAP LENGTH SHALL BE A MINIMUM OF 48 BAR DIAMETERS UNLESS NOTED OTHERWISE
7. CONCRETE SLUMP SHALL BE A MAXIMUM OF 4" +/– 1" (ASTM C– 143) AS DELIVERED IN THE FIELD. CONTRACTOR MAY USE CHEMICAL ADMIXTURES TO ATTAIN A MAXIMUM SLUMP OF 8" FOR WORKABILITY. NO WATER MAY BE ADDED TO THE CONCRETE MIX ON SITE UNLESS WATER IS WITHHELD AT THE BATCHING FACILITY. IF WATER IS WITHHELD AT THE BATCHING FACILITY IT SHOULD BE REFLECTED ON THE LOAD TICKET. THE TOTAL AMOUNT OF WATER IN THE MIX SHALL NOT EXCEED WHAT IS NOTED ON THE APPROVED MIXED. THIS SHALL BE NOTED IN THE SPECIAL INSPECTOR'S RECORDS.
8. CONCRETE EXPOSED TO WEATHER, VEHICLES, AND/OR DEICING CHEMICALS SHALL BE AIR–ENTRAINED WITH 6% (+/–) 1.5% ENTRAINED AIR BY VOLUME AT POINT OF DISCHARGE. DO NOT ALLOW AIR CONTENT OF TROWELED FINISHED FLOORS TO EXCEED 3%.
9. SUBMIT CONCRETE MIX PROPORTIONS PRIOR TO START OF WORK. DO NOT BEGIN CONCRETE PRODUCTION UNTIL MIXES HAVE BEEN REVIEWED AND ARE ACCEPTABLE TO THE ENGINEER.
10. READY MIX CONCRETE SHALL COMPLY WITH REQUIREMENTS OF ASTM C94.
11. CONCRETE WORK EXECUTION
    A. CONSTRUCT FORMS TO CORRECT SIZE, SHAPE, ALIGNMENT, ELEVATION AND POSITION; AND TO SUPPORT VERTICAL AND LATERAL LOADS.
    B. POSITION, SUPPORT, AND SECURE REINFORCEMENT AGAINST DISPLACEMENT. MINIMUM CONCRETE COVER FOR REINFORCEMENT SHALL BE, UNLESS NOTED OTHERWISE ON THE DRAWINGS:
       CAST AGAINST AND EXPOSED TO EARTH........3 INCHES
       EXPOSED TO EARTH OR WEATHER..................2 INCHES
       NOT EXPOSED TO WEATHER OR
       IN CONTACT WITH EARTH.................................1 ½ INCHES
    C. PROVIDE CONTROL JOINTS IN SLABS–ON–GRADE AT NOT GREATER THAN 15 FEET ON CENTER IN EACH DIRECTION. SAW CUT CONTROL JOINTS MINIMUM ¼ OF SLAB DEPTH, AS SOON AFTER SLAB FINISHING WITHOUT DISLODGING AGGREGATE.
    D. STEEL TROWEL FINISH ALL INTERIOR CONCRETE SLABS, BROOM FINISH ALL EXTERIOR CONCRETE SLABS.
    E. CURE ALL CONCRETE IN COMPLIANCE WITH ACI 301, USING A LIQUID TYPE MEMBRANE, NON–RESIDUAL, CURING COMPOUND COMPLYING WITH ASTM C309. ASSURE COMPATIBILITY WITH FINISH FLOOR COVERING.

POST-INSTALLED ANCHORS

1. ALL POST–INSTALLED ANCHORS SHALL MEET THE REQUIREMENTS OF THE CODE–CITED EDITION OF ACI 318, APPENDIX "D", AND SHALL BE ACCEPTABLE FOR BOTH CRACKED AND UNCRACKED CONCRETE.
2. EXPANSION ANCHORS HAVE BEEN DESIGNED AS HILTI KWIK BOLT TZ ANCHORS, UNLESS NOTED OTHERWISE.
3. ADHESIVE ANCHORS HAVE BEEN DESIGNED TO USE HILTI HIT HY 150 ADHESIVE IN CONCRETE OR SOLID MASONRY, UNLESS NOTED OTHERWISE.
4. EQUIVALENT ANCHORS MAY BE SUBMITTED FOR THE ENGINEER'S APPROVAL. SUBMITTALS ARE THE CONTRACTOR'S RESPONSIBILITY AND MUST INCLUDE EVALUATION REPORTS FROM THE INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS (ICBO).
5. EMBEDMENT DEPTH IS DEFINED AS THE DISTANCE FROM THE SURFACE OF THE LOAD–BEARING BASE MATERIAL TO THE DEEPEST PART OF THE ANCHOR AFTER THE ANCHOR HAS BEEN DRIVEN INTO THE HOLE BUT NOT YET EXPANDED.
6. ADHESIVE ANCHORS SHALL BE ACCEPTABLE FOR LONG–TERM LOADING. WHEN BASE MATERIAL TEMPERATURES ARE BELOW 40 DEG F, ONLY NON–EPOXY–BASED ADHESIVES SHALL BE USED.
7. POST–INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE DRAWINGS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER PRIOR TO USING POST–INSTALLED ANCHORS FOR MISSING OR MISPLACED CAST–IN–PLANE ANCHORS. CARE SHALL BE TAKEN TO AVOID CONFLICTS WITH EXISTING REINFORCING BARS. HOLES SHALL BE DRILLED AND CLEANED PER ANCHOR MANUFACTURER'S SPECIFICATIONS.
8. STAINLESS STEEL ANCHORS ARE REQUIRED AT ALL PERMANENTLY EXPOSED WEATHER CONDITIONS.

TIMBER

TIMBER WORK SHALL CONFORM TO ALL REQUIREMENTS OF THE CURRENT ANSI/AF&PA NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION, WITH THE FOLLOWING SUPPLEMENTAL REQUIREMENTS:

1. FOR COMMON MEMBER SIZES, THE SPECIES AND GRADES SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE:

A.	2X4	SPF No.1/No.2
B.	2X6	SPF No.1/No.2
C.	2X8	DF–L No.2
D.	2X10	DF–L S.S.
E.	2X12	DF–L S.S.

   EQUIVALENT (OR BETTER) GRADES & SPECIES MAY BE SUBMITTED FOR THE ENGINEER'S APPROVAL.

2. SIZES SHOWN FOR LUMBER ARE NOMINAL SIZES.
3. TIMBER EXPOSED TO WEATHER OR GROUND, OR IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE–IMPREGNATED BY AN APPROVED PROCESS AND PRESERVATIVE.
4. SPLICING OF JOISTS, STUDS, OR HEADERS IS PROHIBITED EXCEPT AS SHOWN.
5. BOLTS SHALL CONFORM TO ASTM A307. HOLES SHALL BE DRILLED PER SECTION 11.1.2 OF THE 2005 ANSI/AF&PA NDS FOR WOOD CONSTRUCTION.
6. LAG SCREWS AND WOOD SCREWS SHALL BE INSTALLED PER SECTIONS 11.1.3 AND 11.1.4, RESPECTIVELY, OF THE 2005 ANSI/AF&PA NDS FOR WOOD CONSTRUCTION.
7. COMMON NAILS SHALL BE USED, UNLESS NOTED OTHERWISE. IN ADDITION, NAILS SHALL BE GALVANIZED, IF EXPOSED TO WEATHER OR MOISTURE. TOE–NAILS SHALL BE DRIVEN PER SECTION 11.1.5.4 OF THE 2005 ANSI/AF&PA NDS FOR WOOD CONSTRUCTION.
8. FASTENING SHALL BE PER THE IBC MINIMUM FASTENING SCHEDULE, TABLE 2304.9.1, UNLESS NOTED OTHERWISE.
9. CONNECTIONS/CONNECTORS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.

PREFABRICATED WOOD TRUSSES

1. FLOOR & ROOF TRUSSES SHALL BE DESIGNED IN ACCORDANCE WITH THE TRUSS PLATE INSTITUTE (TPI) DESIGN SPECIFICATION FOR METAL PLATE CONNECTED WOOD TRUSSES, AND THE ANSI/NF&PA NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION.
2. PROVIDE TEMPORARY AND PERMANENT BRACING ON ALL TRUSSES, AS REQUIRED TO PROVIDE MEMBER AND TRUSS STABILITY.
3. FLOOR & ROOF TRUSSES SHALL BE DESIGNED AND CONSTRUCTED FOR A MAXIMUM TOTAL LOAD DEFLECTION OF L/360 AND TO SAFELY SUPPORT THE FOLLOWING LOADS:
   A. DEAD, LIVE, SNOW, WIND, EARTHQUAKE: SEE PROJECT DESIGN DATA ON COVER SHEET.
   B. MECHANICAL PIPE LOAD: TRUSSES SHALL BE DESIGNED FOR A CONCENTRATED LOAD OF 250 LBS HUNG ANYWHERE ALONG THE BOTTOM CHORD.
   C. OVER–FRAMING LOAD: TRUSSES SHALL ALSO BE DESIGNED TO SUPPORT ADDITIONAL OVERBUILD FRAMING, SUCH AS THAT WHICH FORMS VALLEYS AND HIPS ON ROOFS.
   D. DRIFTED SNOW LOAD: TRUSSES SHALL BE DESIGNED TO SUPPORT DRIFTED SNOW LOADS IN ACCORDANCE WITH THE APPROPRIATE BUILDING CODE.
   E. IN–PLANE LATERAL LOADS: TRUSSES SHALL BE DESIGNED TO SUPPORT ANY LATERAL LOADS CARRIED AXIALLY IN THE PLANE OF THE TRUSS, AS SHOWN ON THE PLANS.
4. GABLED END TRUSSES SHALL HAVE VERTICAL MEMBERS SPACED AT 16" O.C. MAXIMUM.
5. SUBMITTALS SHALL INCLUDE THE FOLLOWING:
   A. SHOP DRAWINGS PREPARED UNDER THE SUPERVISION OF, AND SIGNED AND SEALED BY, A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS BUILT. THESE DRAWINGS SHALL INDICATE SPECIES, GRADE, AND SIZES OF LUMBER TO BE USED; PITCH, SPAN, CAMBER, CONFIGURATION, AND SPACING FOR EACH TYPE OF TRUSS REQUIRED; TYPE, SIZE, MATERIAL, FINISH, AND LOCATION OF METAL CONNECTOR PLATES; AND BEARING DETAILS. SHOW TRUSS LAYOUT AND ALL REQUIRED TEMPORARY AND PERMANENT BRACING AFFECTING THE STRUCTURAL CAPACITY OF THE TRUSSES.

PROVIDE COMPLETE ENGINEERING DESIGN CALCULATIONS THAT INCLUDE DESIGN VALUES, DESIGN ANALYSIS INDICATING LOADING, ASSUMED ALLOWABLE STRESSES, STRESS DIAGRAMS, AND CALCULATIONS, AND ANY OTHER INFORMATION NEEDED FOR REVIEW. THE CALCULATIONS SHALL HAVE BEEN SIGNED AND SEALED BY A QUALIFIED PROFESSIONAL ENGINEER WHO IS REGISTERED IN THE STATE WHERE THE PROJECT IS BUILT AND WHO IS RESPONSIBLE FOR PREPARATION OF THE CALCULATIONS.

SPECIAL INSPECTIONS

THE FOLLOWING ITEMS REQUIRE SPECIAL INSPECTION IN ACCORDANCE WITH CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE.

a. CONCRETE GROUT DESIGN MIX (PERIODIC)
b. PLACING OF CONCRETE AND REINFORCING STEEL (CONTINUOUS OF CONCRETE SAMPLING / PERIODIC OF REINFORCING)
c. BOLTS & ANCHORS EMBEDDED IN CONCRETE (PERIODIC)
d. STRUCTURAL STEEL FABRICATIONS (UNLESS AISC APPROVED) (PERIODIC)
e. STRUCTURAL STEEL BOLTING & WELDING (PERIODIC)
f. POST INSTALLED ANCHORS IN CONCRETE (CONTINUOUS)
g. IN–SITU SOILS, EXCAVATIONS, FILLING & COMPACTION (PERIODIC)
h. MASONRY AND REINFORCING STEEL (CONTINUOUS ON CELL GROUTING / PERIODIC ON REINFORCING)
i. WOOD FRAMING:
   i.a. SHEAR WALLS; WALL SIZE, CONFIGURATION, BLOCKING, PANEL GRADE, PANEL THICKNESS, AND FASTENING. (PERIODIC)
   i.b. DIAPHRAGMS (FLOOR AND ROOF SHEATHING); SIZE, CONFIGURATION, BLOCKING, PANEL GRADE, PANEL THICKNESS, AND FASTENING. (PERIODIC)
   i.c. FRAMING MEMBERS AND DETAILS (PERIODIC)
   i.d. MATERIAL GRADE (PERIODIC)
   i.e. CONNECTIONS; HANGERS, HOLD DOWNS, BUILT–UP COLUMNS, BUILT–UP BEAMS (PERIODIC)
   i.f. PRE–ENGINEERED TRUSSES; FRAMING, CONNECTIONS, BRIDGING (PERIODIC)

THE CONTRACTOR SHALL REQUEST SPECIAL INSPECTION OF THE ITEMS LISTED ABOVE PRIOR TO THOSE ITEMS BECOMING INACCESSIBLE AND UNOBSERVABLE DUE TO PROGRESSION OF THE WORK.

DESIGN DATA

2018 INTERNATIONAL BUILDING CODE / ASCE 7-16

BUILDING OCCUPANCY CATEGORY: II

ROOF LOAD

LIVE LOAD	20
TOP CHORD DEAD/COLLATERAL LOAD	10
BOTTOM CHORD DEAD/COLLATERAL LOAD	10
TOTAL TO TRUSS	40 lbs/sq.ft

ROOF SNOW LOAD* (*UNBALANCED & DRIFTING SNOW TO BE DETERMINED IN ADDITION TO UNIFORM LOAD, WHERE APPLICABLE)

p_g =	20 lbs/sq.ft
C_e =	1.0
I_s =	1.0
C_t =	1.0
p_f =	20 lbs/sq.ft
p_s =	20 lbs/sq.ft

BASIC DESIGN WIND LOAD

V =	115 M.P.H. (3-SECOND GUST)
I_w =	1.0
EXPOSURE	C
INTERNAL PRESSURE COEFFICIENT =	± 0.18
MAXIMUM COMPONENTS & CLADDING WIND	± 24.59 lbs/sq.ft

EARTHQUAKE DESIGN DATA

S_S = 0.100
S_1 = 0.068
S_{DS} = 0.086
S_{D1} = 0.068
SITE CLASS C
SEISMIC DESIGN CATEGORY B
BASIC SEISMIC-FORCE-RESISTING SYSTEM =
LIGHT-FRAMED WALLS SHEATHED WITH STRUCTURAL PANELS
R = 6.5
Ω_o = 3.0
C_d = 4.0
I_E = 1.0
EQUIVALENT LATERAL FORCE PROCEDURE
V = 0.013W

NET ALLOWABLE SOIL BEARING: 2,500 lbs/sq.ft**

(**PER OLSSON, INC GEOTECHNICAL REPORT DATED AUGUST 22, 2019)

INDEX OF SHEETS

GENERAL STRUCTURAL DATA	S100GB
GARAGE BUILDING A, B, & C - FOUNDATION PLANS	S200GB
GARAGE BUILDING D & E - FOUNDATION PLANS	S201GB
FOUNDATION DETAILS	S210GB
GARAGE BUILDING A, B, & C - FRAMING PLANS	S300GB
GARAGE BUILDING D & E - FRAMING PLANS	S301GB
FRAMING DETAILS	S310GB

REVISIONS:

No.	Date
PHASE 1–PERMIT	02/04/2021

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

STATE OF MISSOURI
JARED W. VERSLUES
NUMBER PE-2017000387
PROFESSIONAL ENGINEER

STRUCTURAL ENGINEER:
CROCKETT ENGINEERING CONSULTANTS
1000 W. Nifong Blvd., Bldg. 1
Columbia, Missouri 65203
(573) 447-0292
www.crockettengineering.com
Crockett Engineering Consultants, LLC
Missouri Certificate of Authority #2000151301

CLIENT:
CENTRAL STATES CONSTRUCTION
4215 PHILIPS FARM RD
COLUMBIA, MISSOURI

ARIA LEE'S SUMMIT APARTMENTS
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

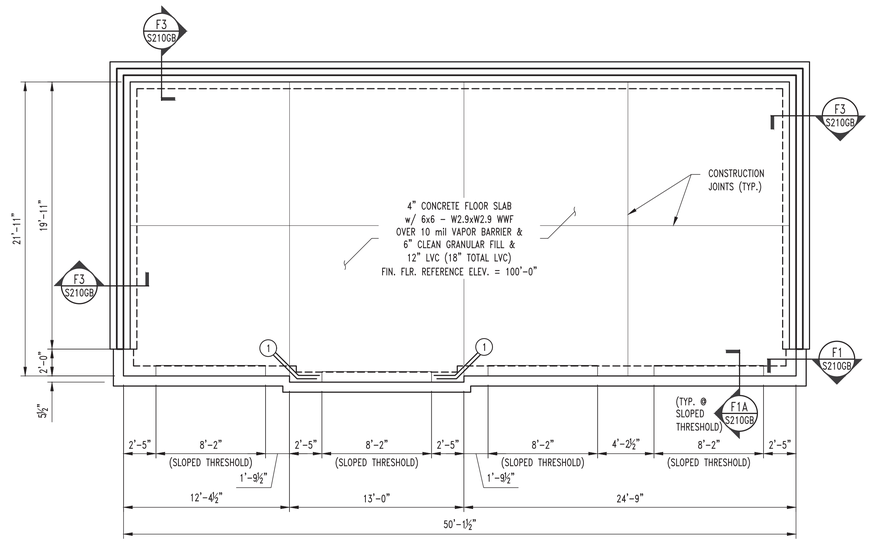
DRAWING INCLUDES:
GENERAL STRUCTURAL DATA

DESIGNED:	JWV
DRAWN:	SEH
PROJECT NO.:	190299
SHEET:	S100GB

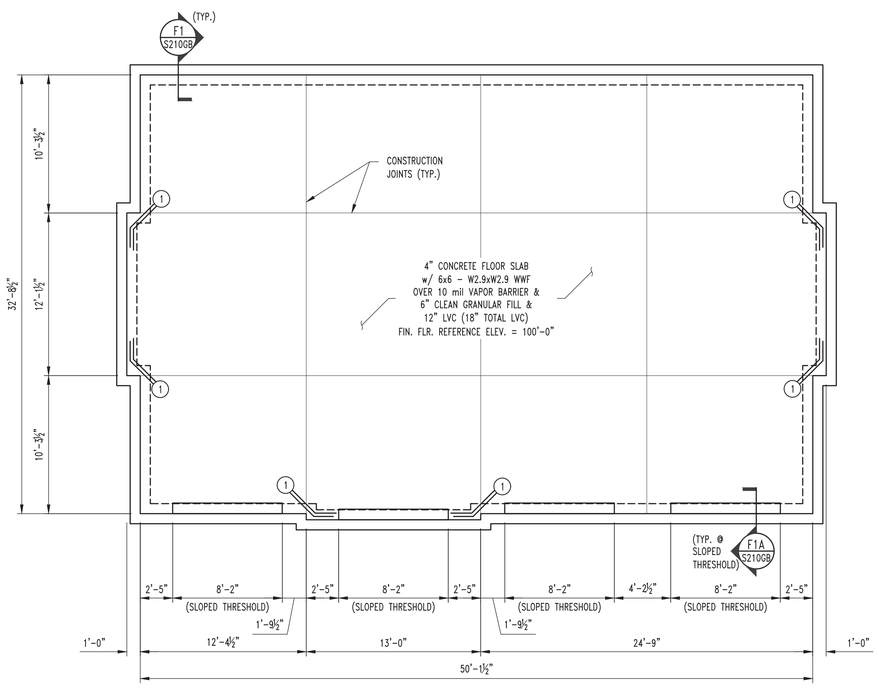
NOTE:
ALL DIMENSIONS TO EDGE OF SLAB
& ℄ OF FOOTING, UNLESS NOTED OTHERWISE.

FOUNDATION NOTES

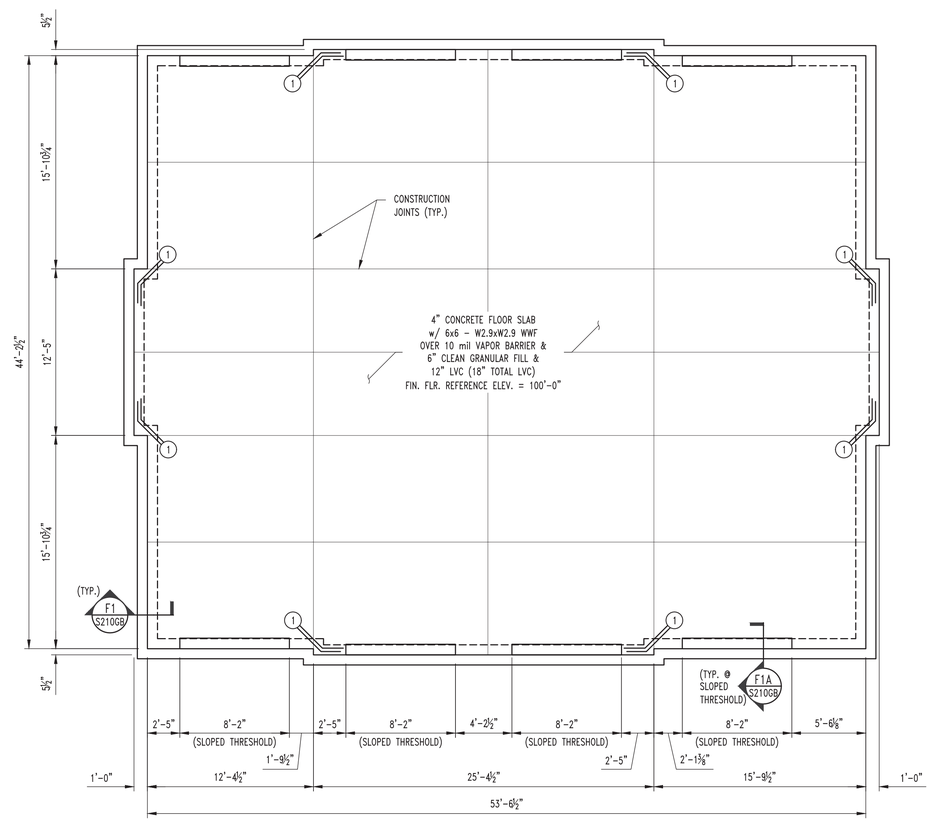
1. REENTRANT CORNER BARS, REFER TO TYPICAL CRACK CONTROL REINFORCING DETAIL S210GB.
2. FOOTING STEP-REFER TO DETAIL FS1/S210GB



1 S200GB FOUNDATION PLAN (GARAGE BUILDING A)
SCALE: 3/16" = 1'-0"
PLAN NORTH



2 S200GB FOUNDATION PLAN (GARAGE BUILDING B)
SCALE: 3/16" = 1'-0"
PLAN NORTH



3 S200GB FOUNDATION PLAN (GARAGE BUILDING C)
SCALE: 3/16" = 1'-0"
PLAN NORTH

REVISIONS:

No.	Date
PHASE 1-PERMIT	02/04/2021

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

STATE OF MISSOURI
JARED W. VERSLUES
NUMBER PE-2017000387
PROFESSIONAL ENGINEER

STRUCTURAL ENGINEER:
CROCKETT
ENGINEERING CONSULTANTS
1000 W. Nifong Blvd. Bldg. 1
Columbia, Missouri 65203
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www.crockettengineering.com
Crockett Engineering Consultants, LLC
Missouri Certificate of Authority
#2006015501

CLIENT:
CENTRAL STATES CONSTRUCTION
4215 PHILLIPS FARM RD
COLUMBIA, MISSOURI

ARIA LEE'S SUMMIT APARTMENTS

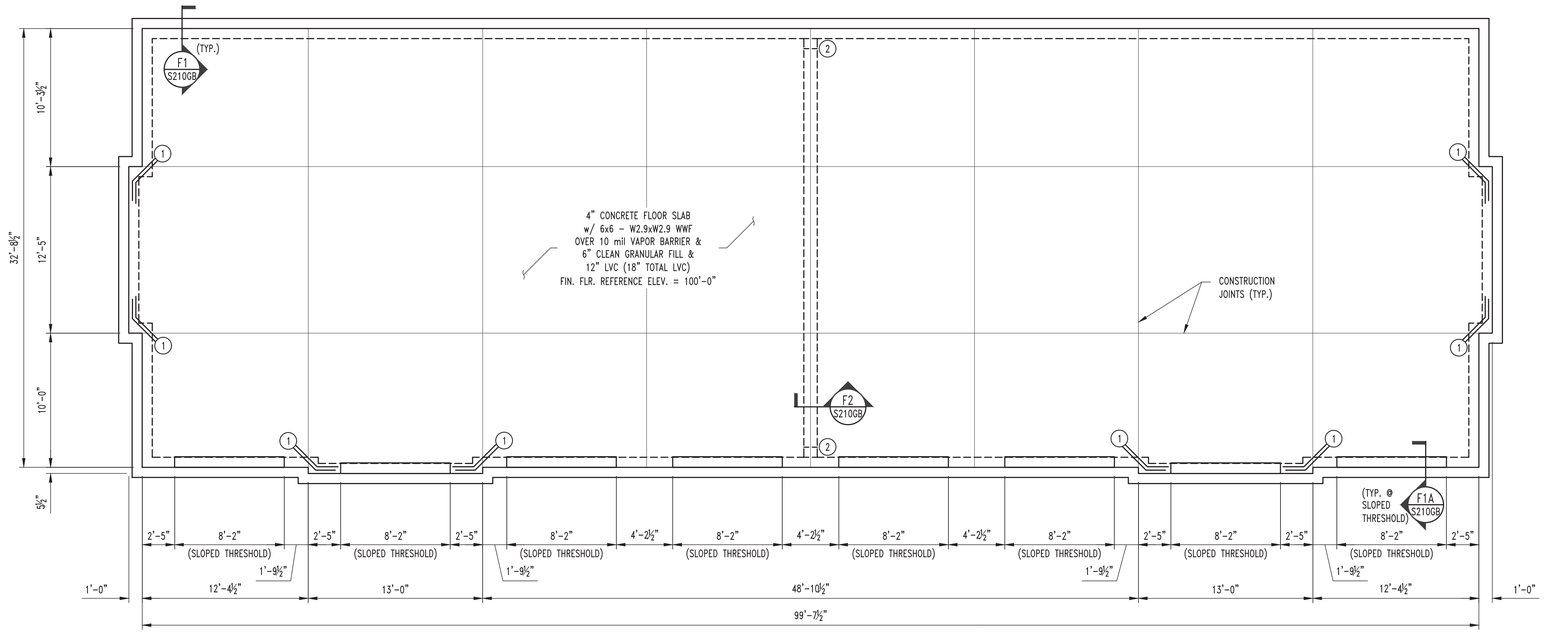
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

DRAWING INCLUDES:
GARAGE BUILDING A, B, & C FOUNDATION PLANS

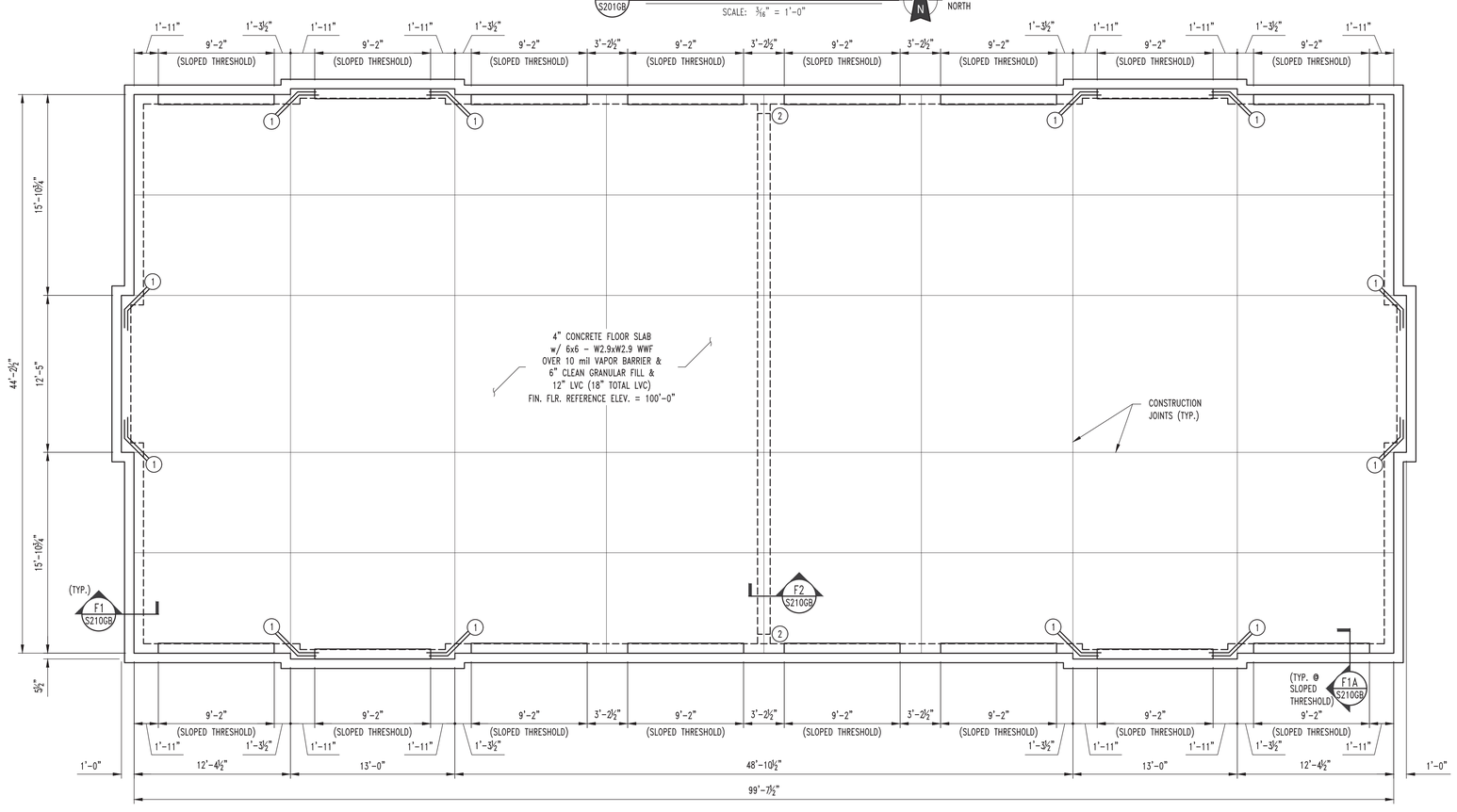
DESIGNED:	JWV
DRAWN:	SEH
PROJECT NO.:	190299

SHEET:
S200GB

NOTE:
ALL DIMENSIONS TO EDGE OF SLAB
& ℄ OF FOOTING, UNLESS NOTED OTHERWISE.



1 S201GB FOUNDATION PLAN (GARAGE BUILDING D)
SCALE: 3/16" = 1'-0"
PLAN NORTH



2 S201GB FOUNDATION PLAN (GARAGE BUILDING E)
SCALE: 3/16" = 1'-0"
PLAN NORTH

FOUNDATION NOTES

1. REENTRANT CORNER BARS, REFER TO TYPICAL CRACK CONTROL REINFORCING DETAIL S210GB.
2. FOOTING STEP-REFER TO DETAIL FS1/S210GB.

REVISIONS:

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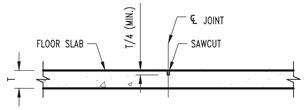
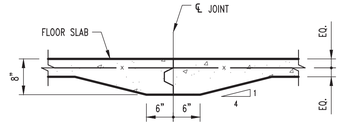
DRAWING INCLUDES:
GARAGE BUILDING D & E FOUNDATION PLANS

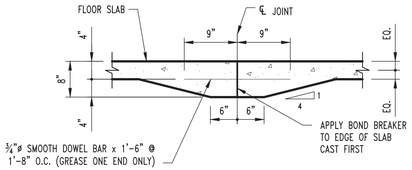
DESIGNED:	JWV
DRAWN:	SEH
PROJECT NO.:	190299
SHEET:	S201GB



CONTRACTION JOINT



CONSTRUCTION JOINT



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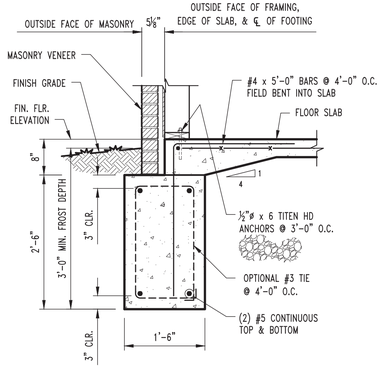
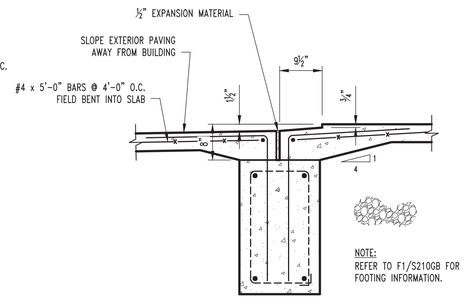
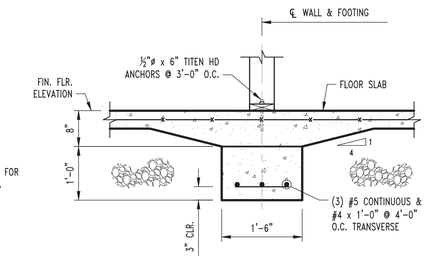


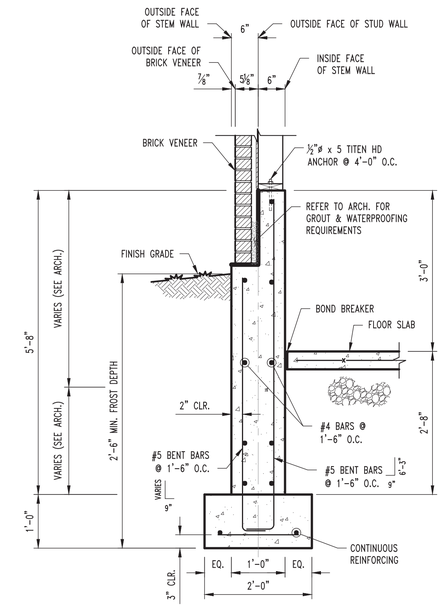
F1 S200GB THRU S201GB CONT. FOOTING SECTION



F1A S200GB THRU S201GB SLOPED THRESHOLD SECTION

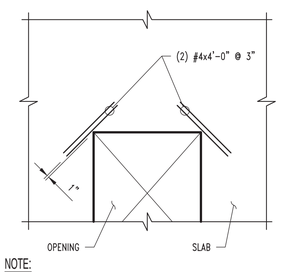


F2 S200GB THRU S201GB CONT. INTERIOR FOOTING SECTION



F3 S200 CONTINUOUS FOOTING SECTION

SCALE: ¾" = 1'-0"



NOTE:
TYPICAL AT ALL REENTRANT CORNERS FOR SLAB-ON-GRADE & STRUCTURAL SLAB. REINFORCING TO BE CENTERED IN SLAB THICKNESS.

CRACK CONTROL REINFORCING

REVISIONS:

No.	Date
PHASE 1-PERMIT	02/04/2021

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STATE OF MISSOURI
JARED W. VERSLUES
NUMBER PE-2017000387
PROFESSIONAL ENGINEER

STRUCTURAL ENGINEER:
CROCKETT
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CENTRAL STATES CONSTRUCTION
4215 PHILIPS FARM RD
COLUMBIA, MISSOURI

ARIA LEE'S SUMMIT APARTMENTS

LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

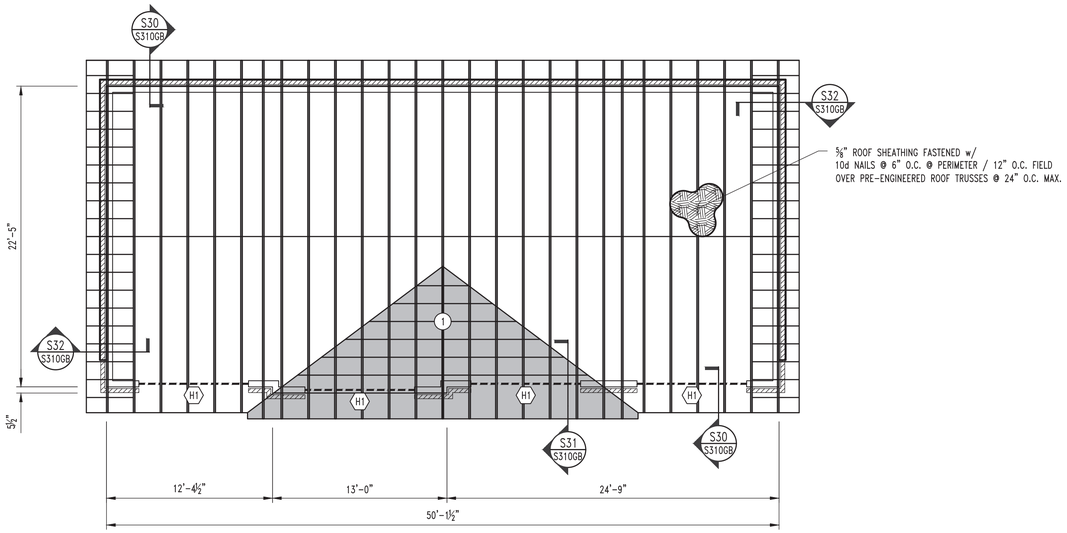
DRAWING INCLUDES:

FOUNDATION DETAILS

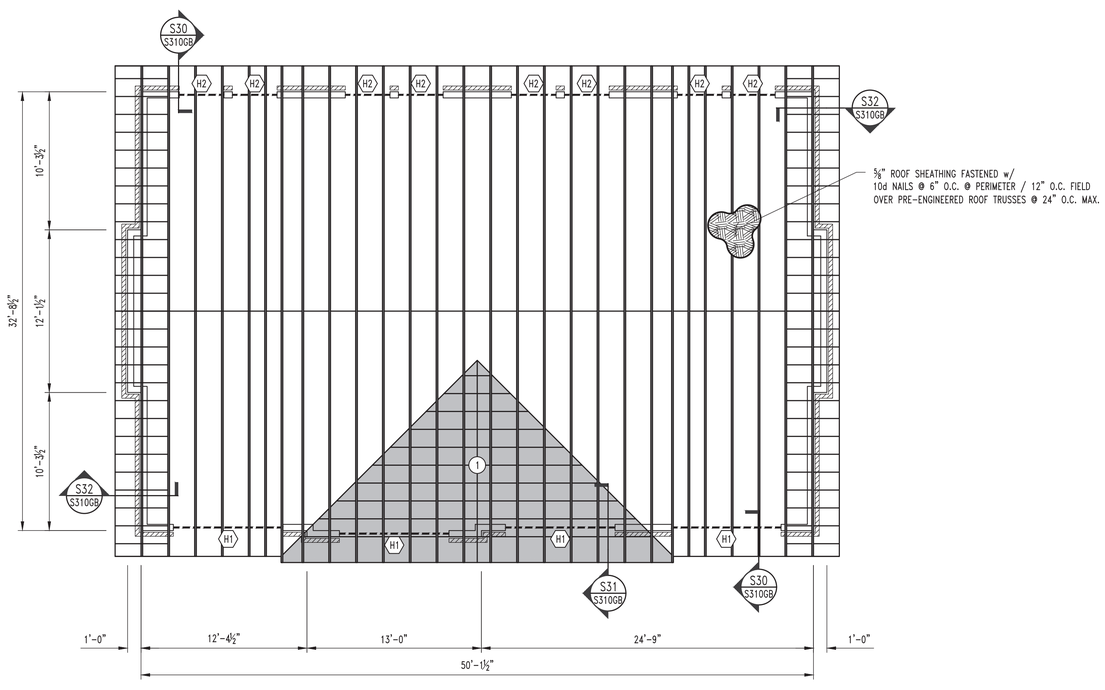
DESIGNED:	JWV
DRAWN:	SEH
PROJECT NO.:	190299

SHEET:
S210GB

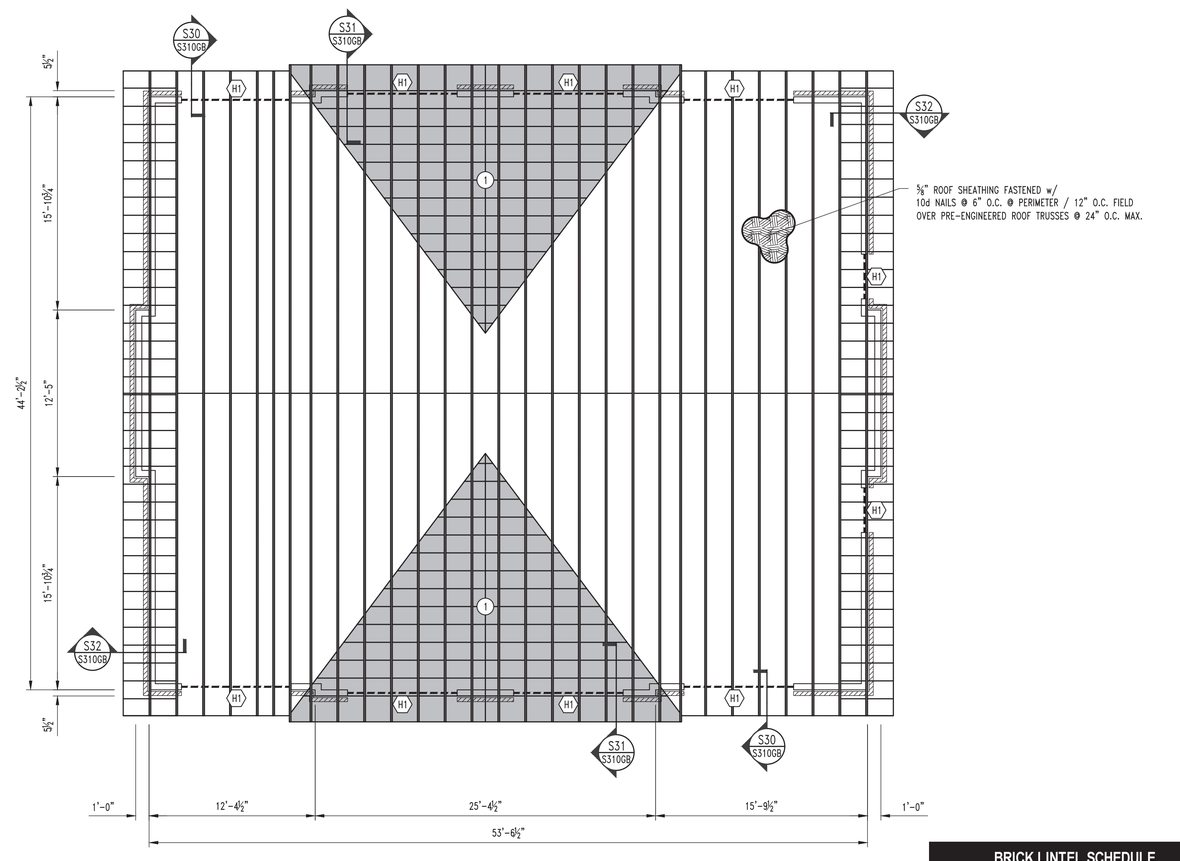
NOTE:
ALL DIMENSIONS ARE TO OUTSIDE FACE OF FRAMING UNLESS NOTED OTHERWISE.



1 S300GB ROOF FRAMING PLAN (GARAGE BUILDING A)
SCALE: 3/16" = 1'-0"
PLAN NORTH



2 S300GB ROOF FRAMING PLAN (GARAGE BUILDING B)
SCALE: 3/16" = 1'-0"
PLAN NORTH



3 S300GB ROOF FRAMING PLAN (GARAGE BUILDING C)
SCALE: 3/16" = 1'-0"
PLAN NORTH

ROOF FRAMING NOTES

1. FRAME ROOF OVER PRE-ENGINEERED TRUSSES TO CREATE RIDGE, VALLEY, OR HIP w/ 2x NO. 2 SPF. RAFTER OR PRE-ENGINEERED TRUSSES @ 24" O.C.

BRICK LINTEL SCHEDULE

SPAN	Lintel
L ≤ 4'-0"	L4x3-1/2x3/8 w/ 6" BEARING EACH SIDE
GARAGE LINTEL	L6x4x3/8 w/ 8" BEARING EACH SIDE

HEADER SCHEDULE

MARK	HEADER	CRIPPLE	JAMB
"H1"	(3) DFL Sel. Str. 2x10's	(2) SPF No. 1/No. 2 2x6's	(3) SPF No. 1/No. 2 2x6's
"H2"	(2) SPF No. 1/No. 2 2x6's	(1) SPF No. 1/No. 2 2x6	(1) SPF No. 1/No. 2 2x6

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4215 PHILLIPS FARM RD
COLUMBIA, MISSOURI

ARIA LEE'S SUMMIT APARTMENTS

LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

DRAWING INCLUDES:
GARAGE BUILDING A, B, & C FRAMING PLANS

DESIGNED:	JWV
DRAWN:	SEH
PROJECT NO.:	190299
SHEET:	S300GB

NOTE:
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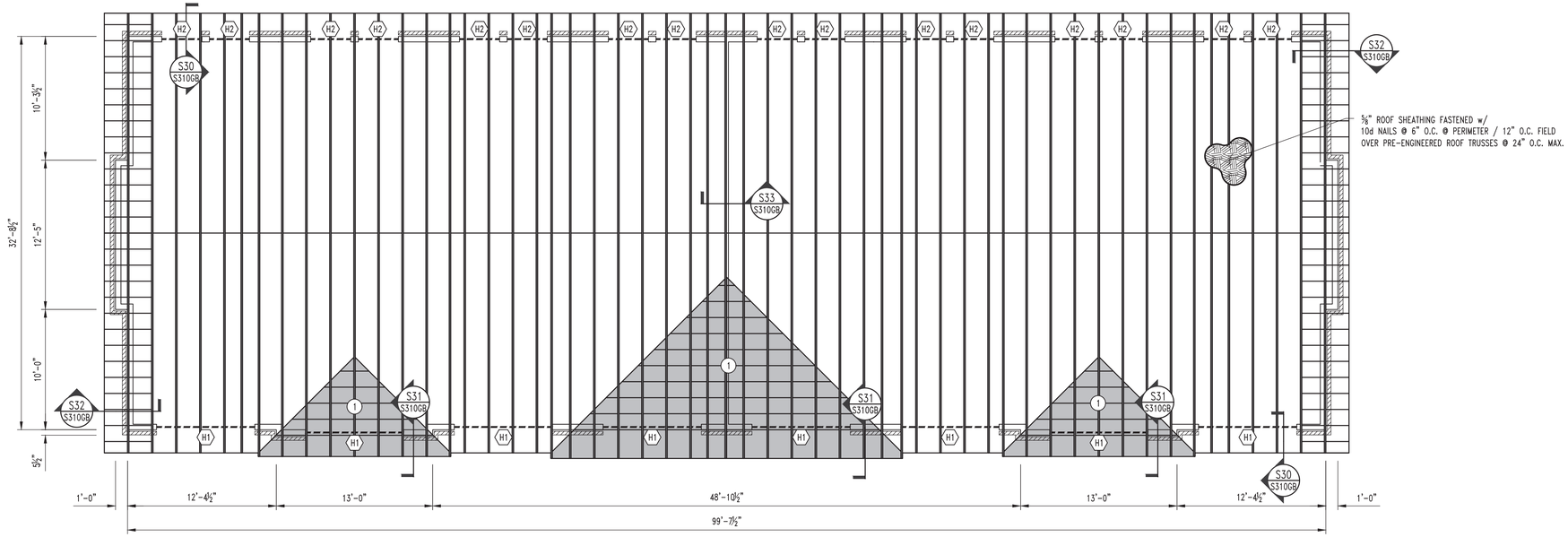
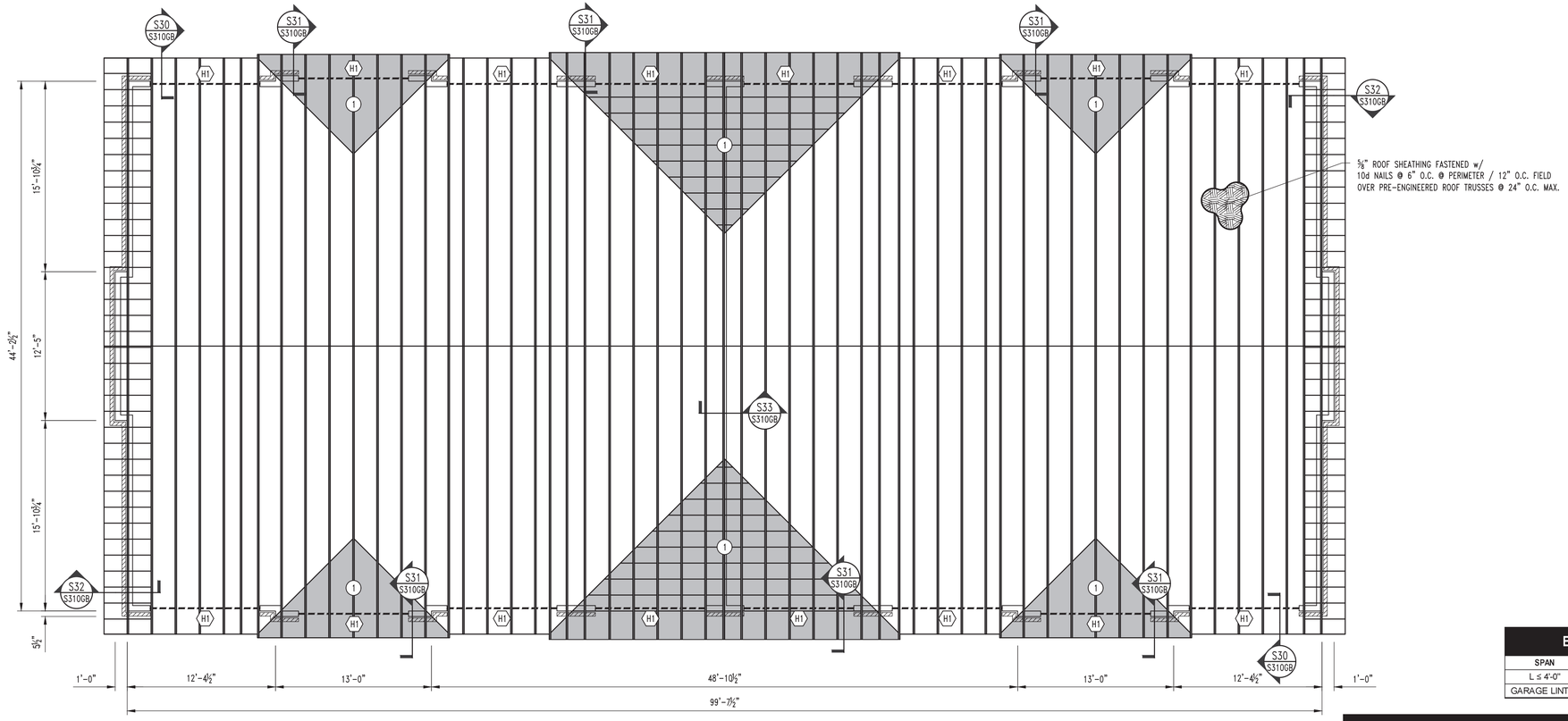


1 S301GB ROOF FRAMING PLAN (GARAGE BUILDING D)
SCALE: 3/16" = 1'-0"
PLAN NORTH



2 S301GB ROOF FRAMING PLAN (GARAGE BUILDING E)
SCALE: 3/16" = 1'-0"
PLAN NORTH

ROOF FRAMING NOTES

1. FRAME ROOF OVER PRE-ENGINEERED TRUSSES TO CREATE RIDGE, VALLEY, OR HIP w/ 2x NO. 2 SPF. RAFTER OR PRE-ENGINEERED TRUSSES @ 24" O.C.

BRICK LINTEL SCHEDULE

SPAN	Lintel
L ≤ 4'-0"	L4x3-1/2x3/8 w/ 6" BEARING EACH SIDE
GARAGE LINTEL	L6x4x3/8 w/ 8" BEARING EACH SIDE

HEADER SCHEDULE

MARK	HEADER	CRIPPLE	JAMB
"H1"	(3) DFL Sel. Str. 2x10's	(2) SPF No. 1/No. 2 2x6's	(3) SPF No. 1/No. 2 2x6's
"H2"	(2) SPF No. 1/No. 2 2x6's	(1) SPF No. 1/No. 2 2x6	(1) SPF No. 1/No. 2 2x6

REVISIONS:

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PHASE 1-PERMIT	02/04/2021

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STATE OF MISSOURI
JARED W. VERSLUES
NUMBER PE-2017000387
PROFESSIONAL ENGINEER

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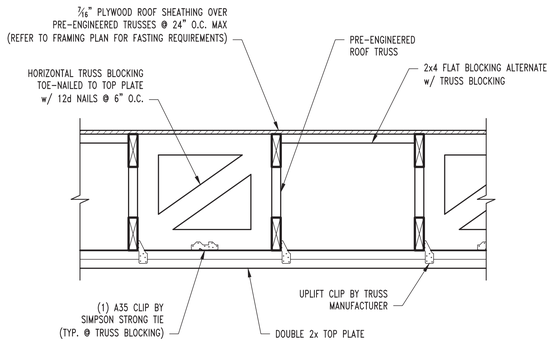
CLIENT:
CENTRAL STATES CONSTRUCTION
4215 PHILIPS FARM RD
COLUMBIA, MISSOURI

ARIA LEE'S SUMMIT APARTMENTS

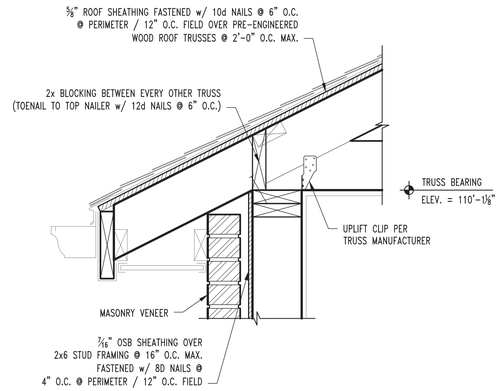
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

DRAWING INCLUDES:
GARAGE BUILDING D & E FRAMING PLANS

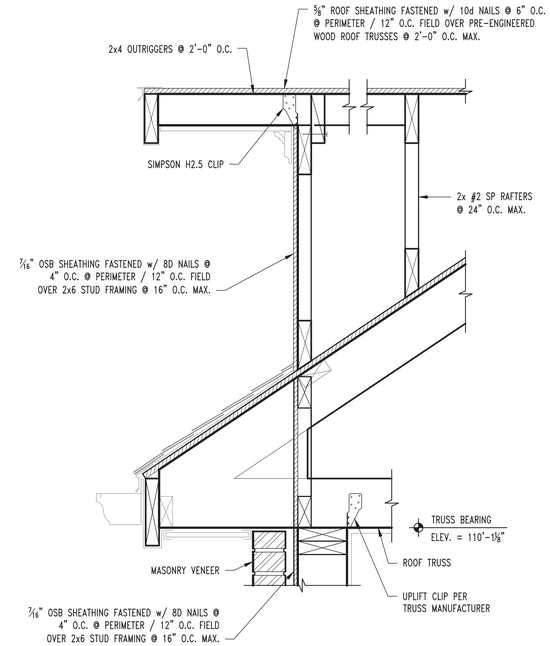
DESIGNED: JWV
DRAWN: SEH
PROJECT NO.: 190299
SHEET: S301GB



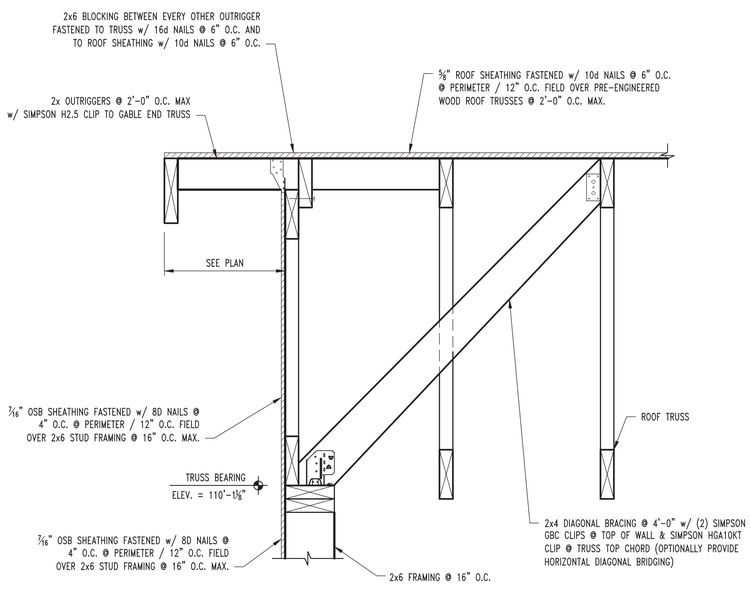
TYP. TRUSS BLOCKING DETAIL



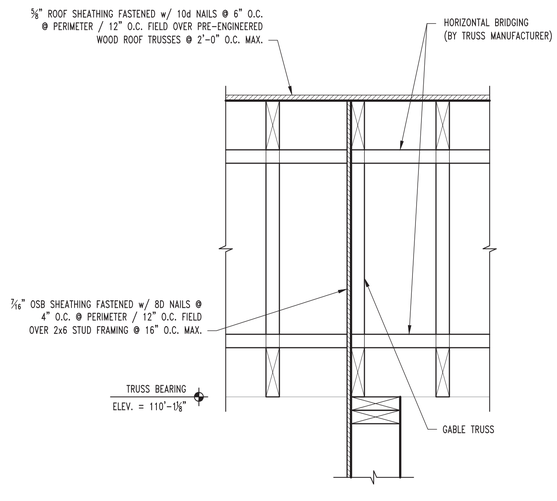
S30
S300GB THRU S301GB
ROOF FRAMING DETAIL



S31
S300GB THRU S301GB
ROOF FRAMING DETAIL



S32
S300GB THRU S301GB
ROOF FRAMING DETAIL
SCALE: 1½" = 1'-0"



S33
S300GB THRU S301GB
ROOF FRAMING DETAIL
SCALE: 1½" = 1'-0"

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ARIA LEE'S SUMMIT APARTMENTS

LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

DRAWING INCLUDES:
FRAMING DETAILS

DESIGNED:	JWV
DRAWN:	SEH
PROJECT NO.:	190299

SHEET:
S310GB

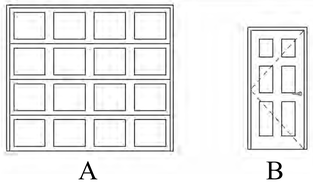
FINISH SCHEDULE

ROOM NAME	Finish			
	FLOOR	BASE	WALL	CEILING
ACCESSIBLE GARAGE				
GARAGE	SEALED CONCRETE	NONE OR NO ADDITIONAL FINISH	PAINTED GYP BD.	PAINTED GYP BD.
STORAGE	SEALED CONCRETE	NONE OR NO ADDITIONAL FINISH	PAINTED GYP BD.	PAINTED GYP BD.

DOOR SCHEDULE

TYPE MARK	SIZE	ELEV.	PANEL MATL.	DESCRIPTION
1	8'-0" x 8'-0" x 1 3/4"	A	STEEL	DECORATIVE MULTI-PANEL METAL
2	3'-0" x 6'-8" x 1 3/4"	B	STEEL	6 PANEL, CATCH CHAIN CLOSER, SECURITY HINGES

DOOR ELEVATIONS



GENERAL NOTES

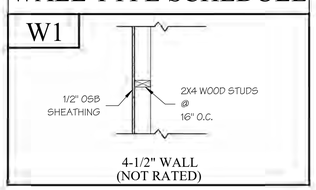
1) DIMENSIONS SHOWN ARE FACE OF STUD TO FACE OF STUD

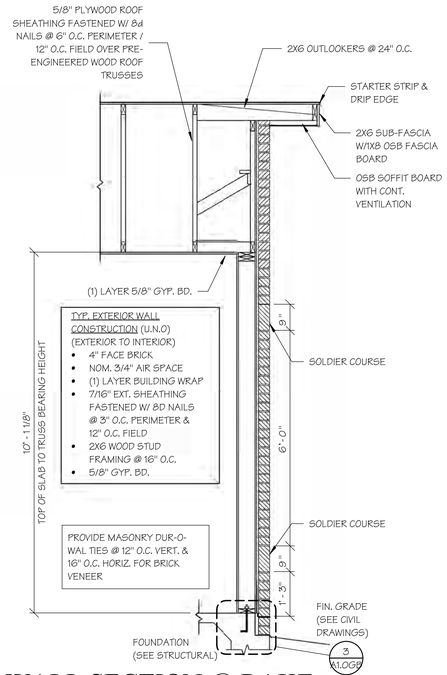
2) SEAL CONCRETE FLOOR TO REDUCE MOISTURE PENETRATION.

SPECIAL INSTRUCTION:
STRUCTURAL DRAWINGS AND SPECIFICATIONS TAKE PRECEDENCE OVER ANY DRAWING, DETAIL OR NOTE SHOWN ON THIS SHEET. CONTRACTORS, SUBCONTRACTORS, AND SUPPLIERS MUST REFERENCE STRUCTURAL DRAWINGS AND/ OR SPECIFICATIONS BEFORE CONSTRUCTING, OR SUPPLYING ANY LOAD-BEARING, OR LOAD-RESISTING ELEMENT SHOWN ON THIS SHEET.

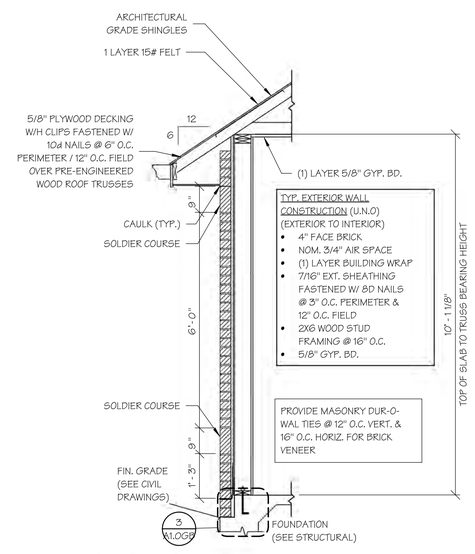
WALL TYPE SCHEDULE

W1

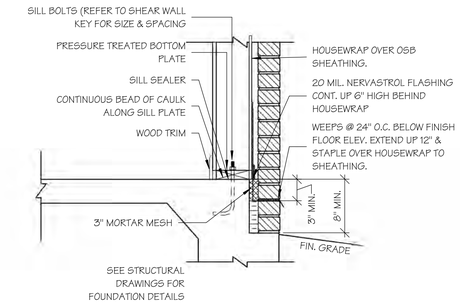




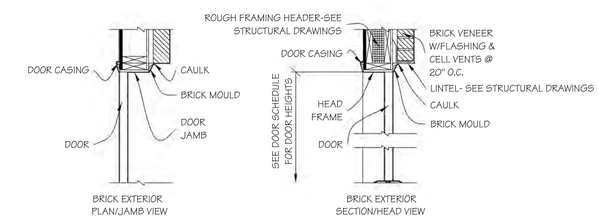
1 A1.0GB WALL SECTION @ RAKE
SCALE: 1/2" = 1'-0"



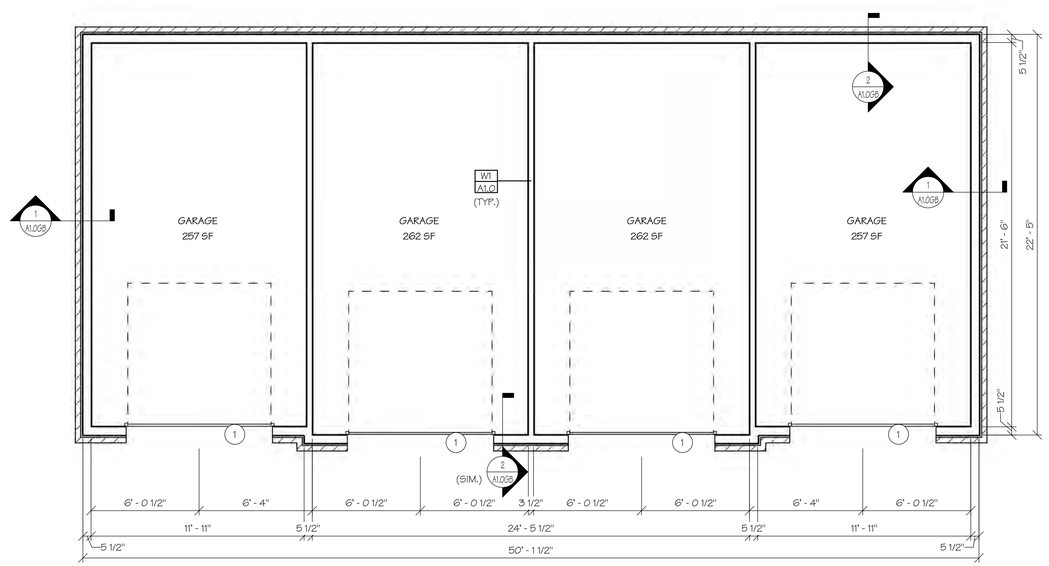
2 A1.0GB WALL SECTION @ EAVE
SCALE: 1/2" = 1'-0"



3 A1.0GB TYP. FOUNDATION FLASHING DETAIL
SCALE: 1" = 1'-0"



4 A1.0GB WALL SECTIONS AND DETAILS @ EXTERIOR DOORS
SCALE: 3/4" = 1'-0"



5 A1.0GB GARAGE TYPE "A" BUILIDNG PLAN/FINISH PLAN
SCALE: 1/4" = 1'-0"

GARAGE TYPE "A" BUILDING PLAN/FINISH PLAN

PERMIT SET

STATE OF MISSOURI
M. RANDALL PORTER
2012006244
ARCHITECT
04 FEB 2021

ARIA APARTMENTS LEE'S SUMMIT
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

Wallace ARCHITECTS L.L.C.
Columbia, MO
P 573-256-7200
WALLACE ARCHITECTS, LLC
MISSOURI STATE CERTIFICATE OF AUTHORITY: 2003019614

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1ST ISSUE
04 FEB 2021

ISSUE/REVISIONS
1 04 FEB 2021 PERMIT SET

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JOB NO. 3984

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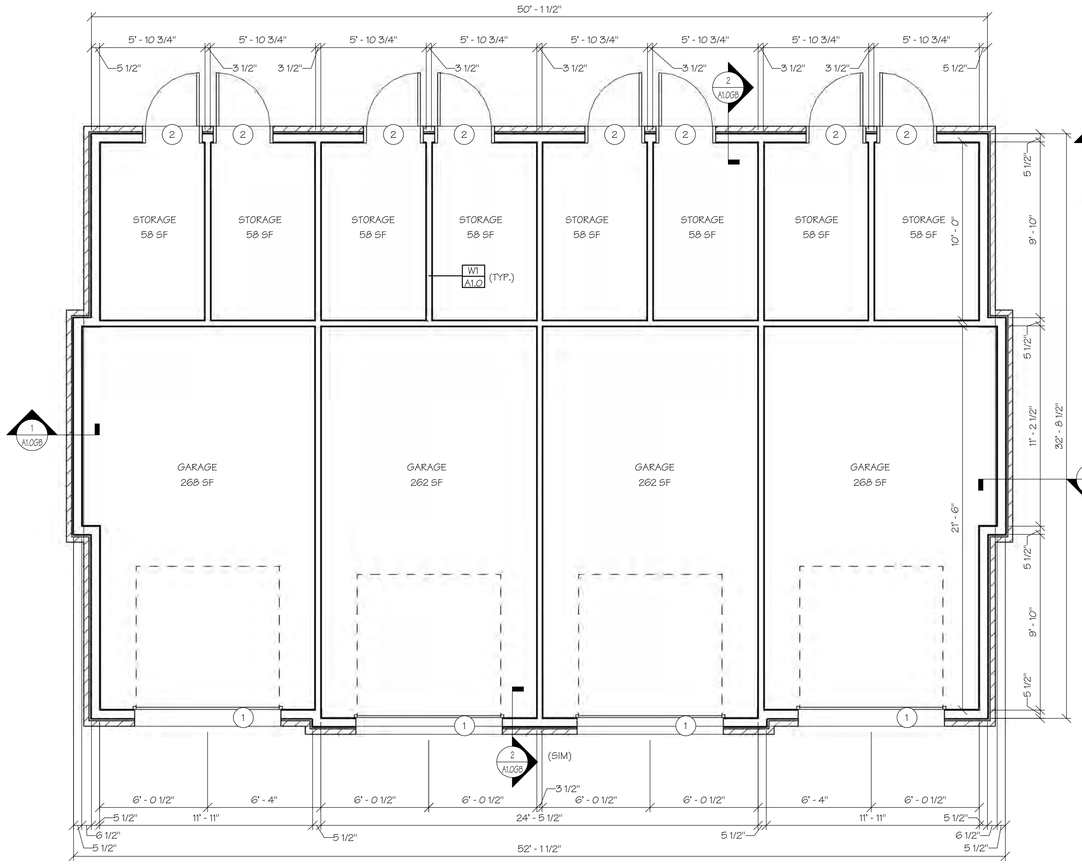
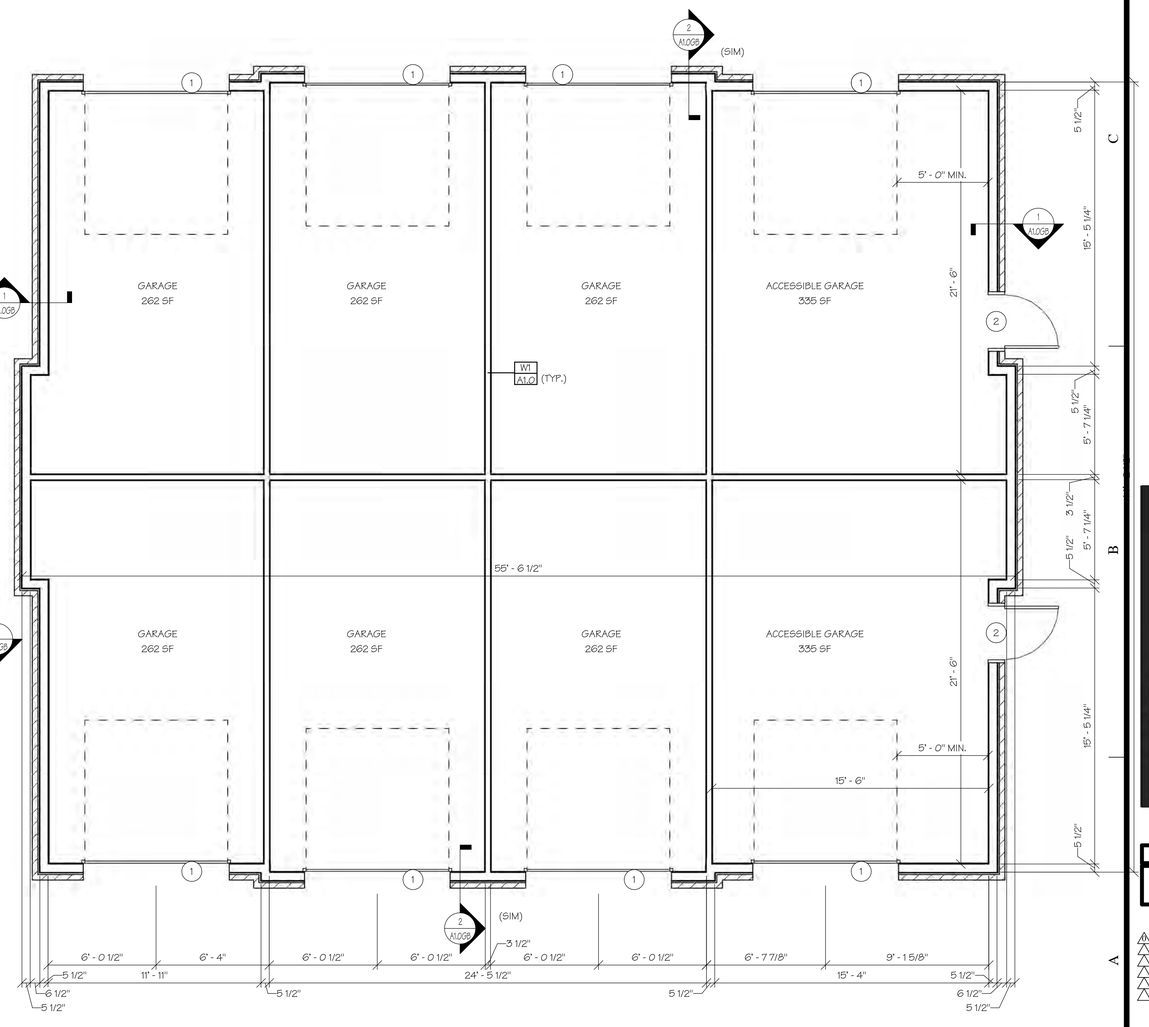


1 A1.0GB SCALE: 1/4" = 1'-0"

GARAGE TYPE "B" BUILDING PLAN/FINISH PLAN



2 A1.0GB SCALE: 1/4" = 1'-0"

GARAGE TYPE "C" BUILIDNG PLAN/FINISH PLAN

GARAGE TYPE "B" & "C" BUILDING PLANS/FINISH PLANS

PERMIT SET

STATE OF MISSOURI
M. RANDALL PORTER
A-2012006244
ARCHITECT
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ISSUE/REVISIONS

1	04 FEB 2021	PERMIT SET
2		
3		
4		
5		

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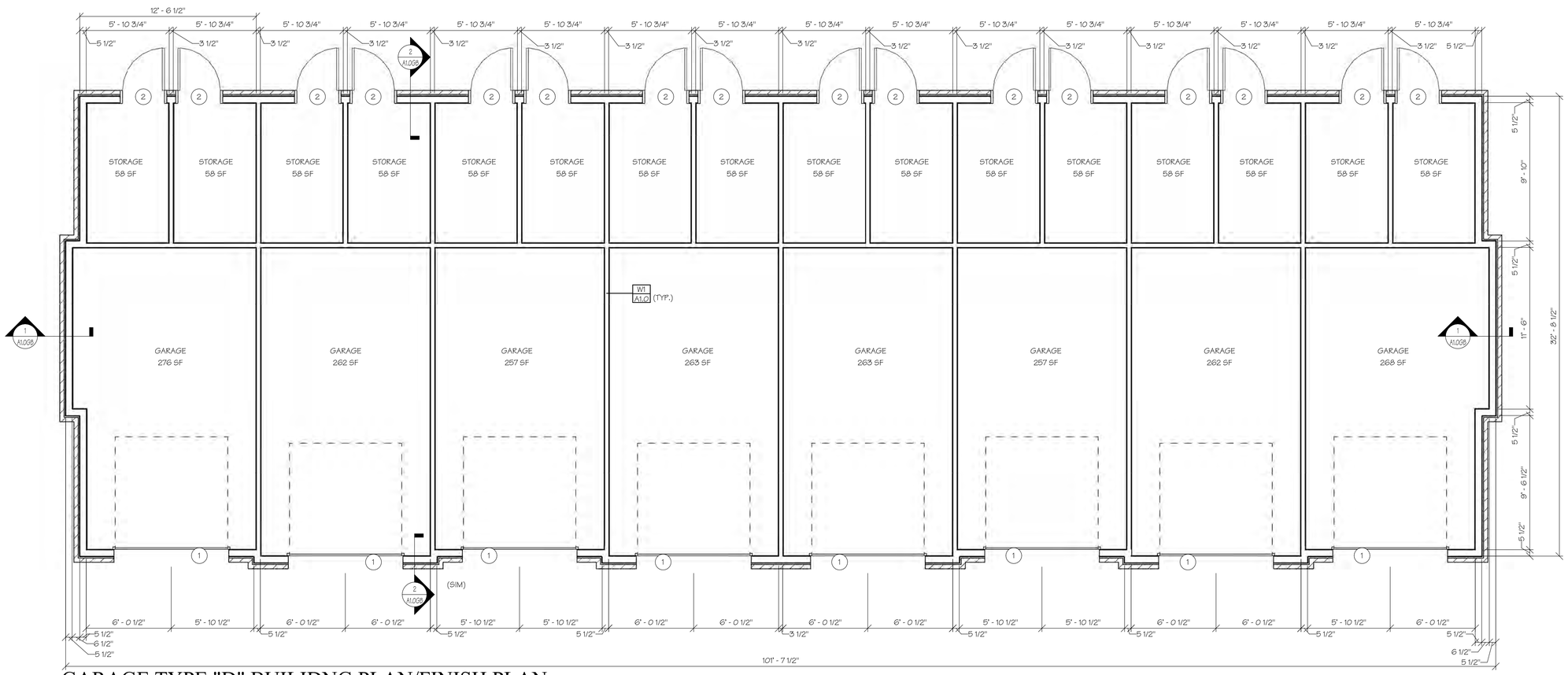
2/10/2021 2:16:08 PM



1 A1.2GB GARAGE TYPE "D" BUILIDNG PLAN/FINISH PLAN

SCALE: 1/4" = 1'-0"

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ISSUE/REVISIONS

1	04 FEB 2021	PERMIT SET
2		
3		
4		
5		
6		

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JOB NO. 3984

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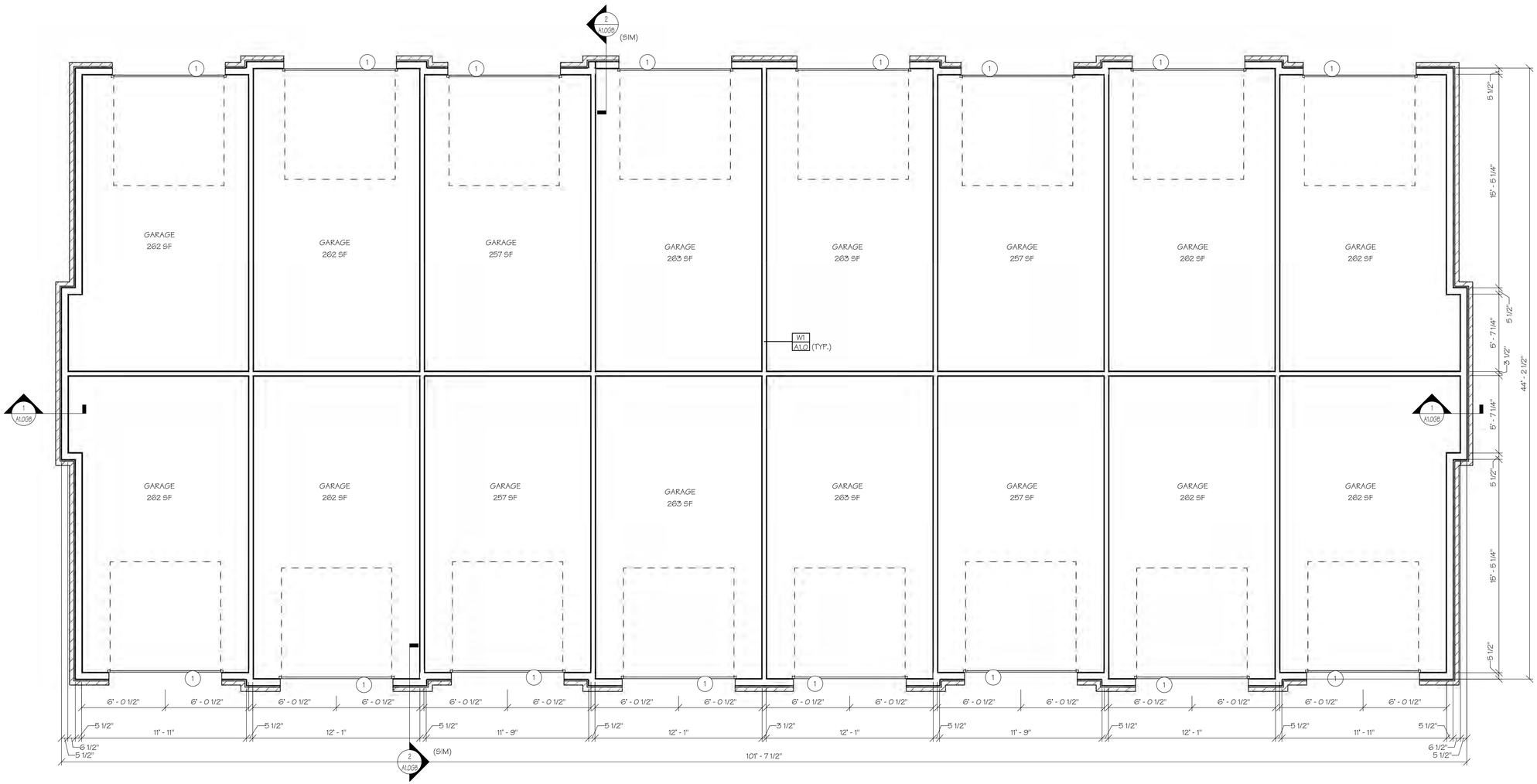
GARAGE TYPE "D" BUILDINGN PLAN/FINISH PLAN

PERMIT SET



1 A1.3GB SCALE: 1/4" = 1'-0"

GARAGE TYPE "E" BUILDING PLAN/FINISH PLAN

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GARAGE TYPE "E" BUILIDNG PLAN/FINISH PLAN

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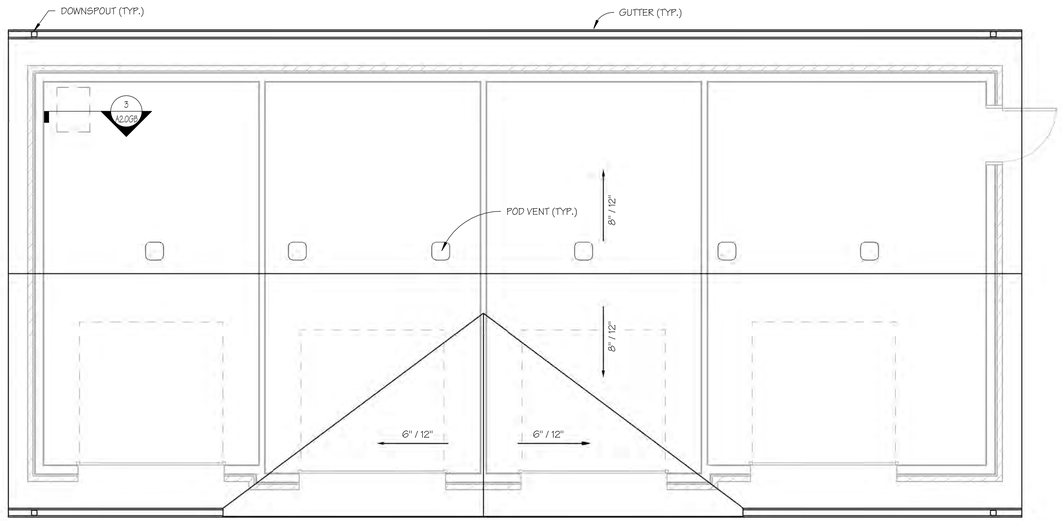
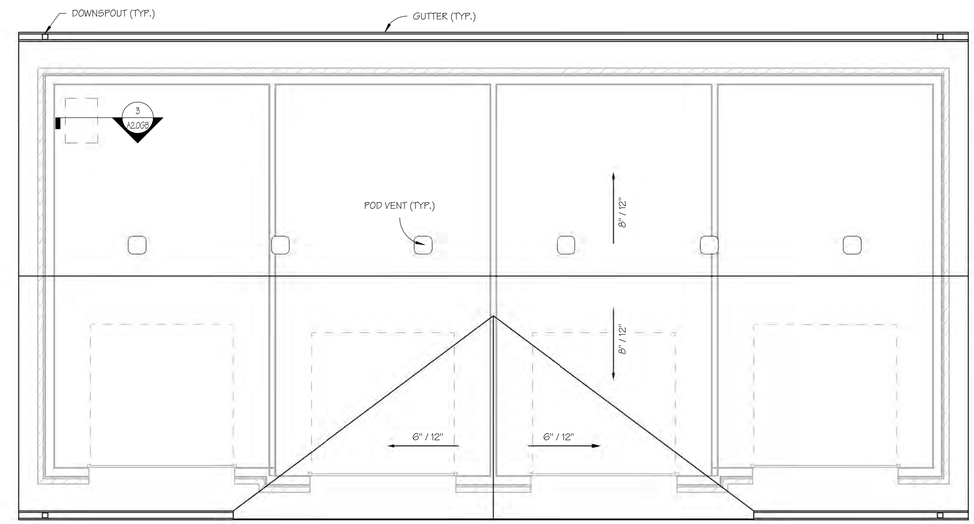


1 A2.0GB GARAGE TYPE "A" ACCESSIBLE ROOF PLAN

SCALE: 1/4" = 1'-0"



2 A2.0GB GARAGE TYPE "A" ROOF PLAN

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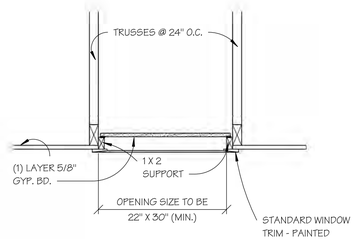


3 A2.0GB ATTIC ACCESS

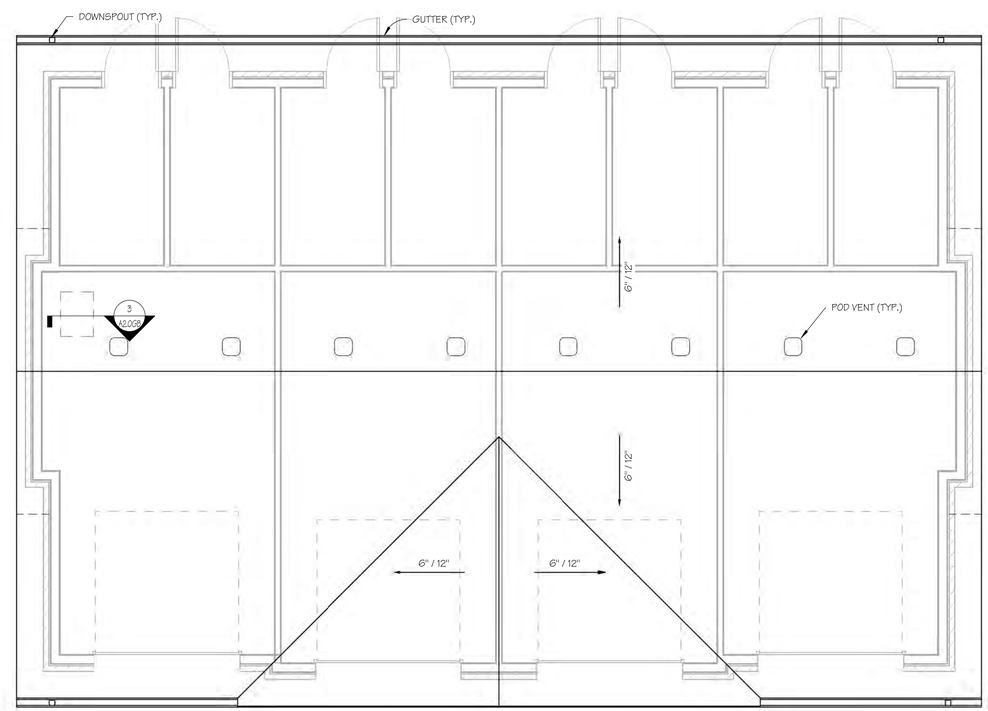
SCALE: 1" = 1'-0"

ATTIC COMPARTMENT VENTILATION

NAME	TYPE	AREA	TOTAL REQ'D VENT. (SQ. IN.)	SOFFIT VENT (SQ. IN.)	ROOF VENT (SQ. IN.)
GARAGE "A"	ATTIC SPACE	1135 SF	545	272	272
GARAGE "A" (ACCESSIBLE)	ATTIC SPACE	1215 SF	583	292	292
GARAGE "B"	ATTIC SPACE	1675 SF	804	402	402
GARAGE "C"	ATTIC SPACE	2264 SF	1087	543	543
GARAGE "D"	ATTIC SPACE	3307 SF	1587	794	794
GARAGE "E"	ATTIC SPACE	4476 SF	2148	1074	1074

GENERAL ATTIC VENTILATION NOTES

1) TOTAL FREE AREA SHALL EQUAL 1/300 OF ATTIC AREAS W/50% OF VENT AREA AT ROOF AND 50% AT SOFFITS.
2) SPECIFIED VENTILATION POD QUANTITY BASED ON 70 SQ. IN FREE AREA PER POD. ADJUST QUANTITY AS REQUIRED BASED ON FREE AREA OF SPECIFIC VENTILATION POD USED.



4 A2.0GB GARAGE TYPE "B" ROOF PLAN

SCALE: 1/4" = 1'-0"

GARAGE "A" & "B" ROOF PLANS

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A2012000244
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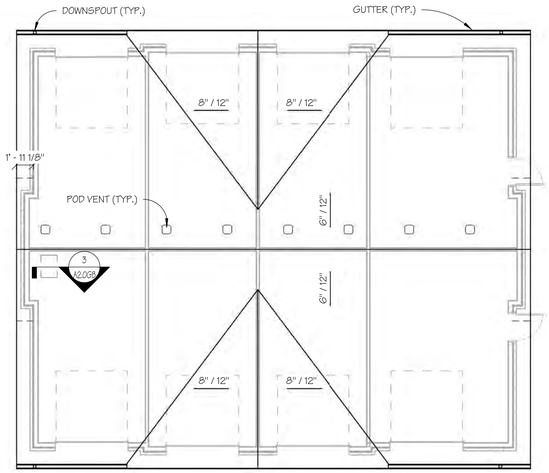
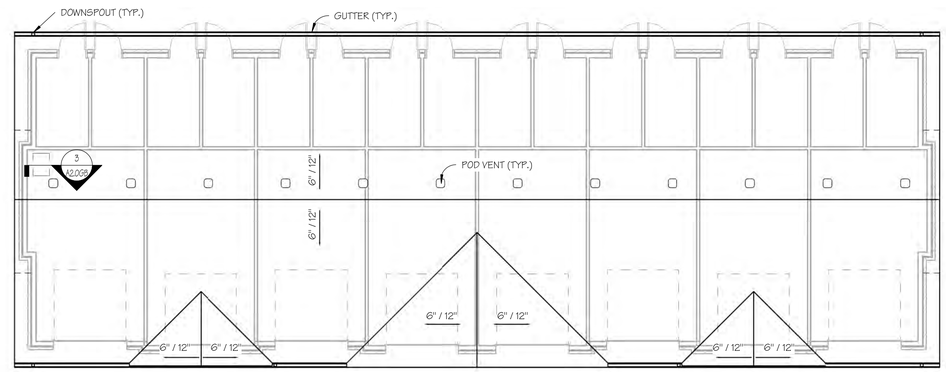


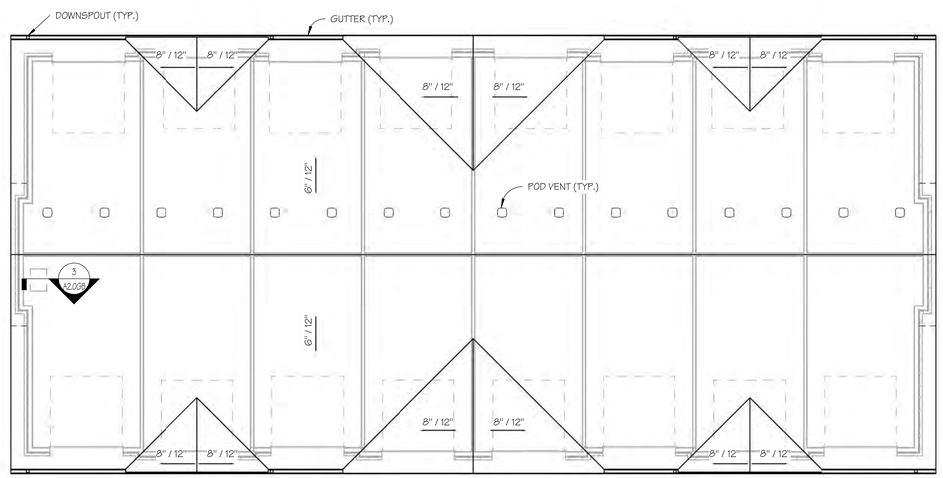
1 A2.1GB GARAGE TYPE "C" ROOF PLAN

SCALE: 1/8" = 1'-0"



2 A2.1GB GARAGE TYPE "D" ROOF PLAN

SCALE: 1/8" = 1'-0"



3 A2.1GB GARAGE TYPE "E" ROOF PLAN

SCALE: 1/8" = 1'-0"

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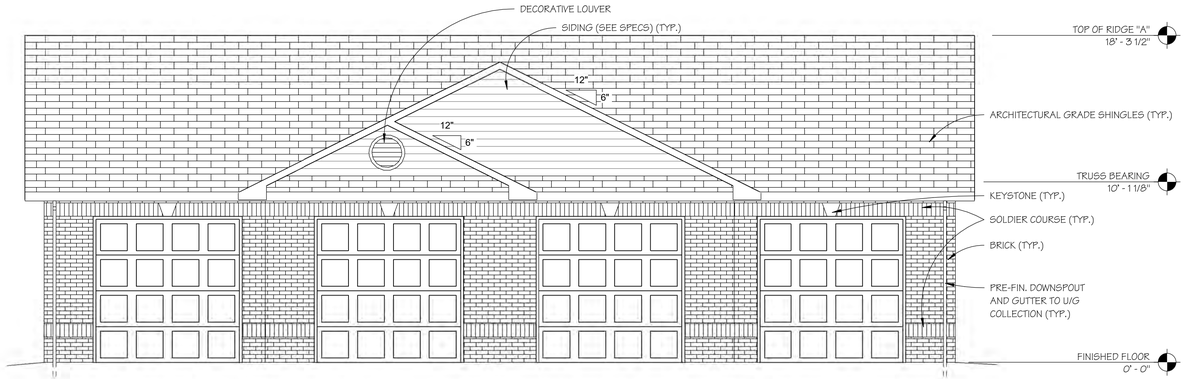
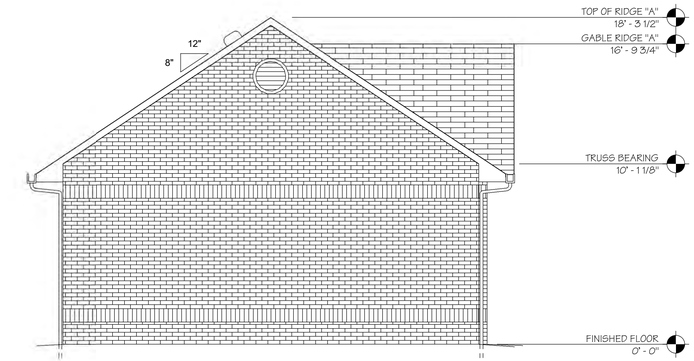
GARAGE "C", "D" & "E" ROOF PLANS

PERMIT SET



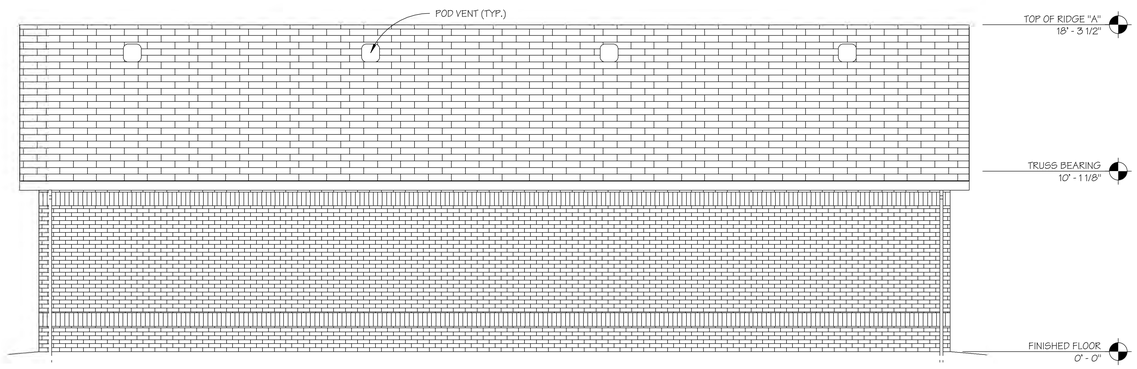
1 A3.0GB GARAGE "A" FRONT ELEVATION

SCALE: 1/4" = 1'-0"



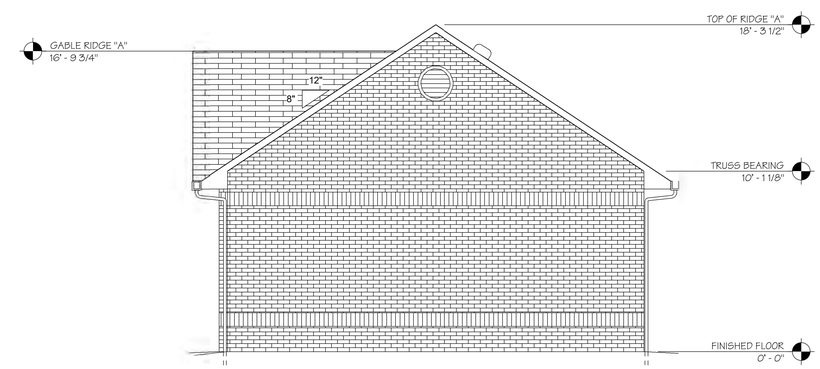
2 A3.0GB GARAGE "A" LEFT ELEVATION

SCALE: 1/4" = 1'-0"



3 A3.0GB GARAGE "A" REAR ELEVATION

SCALE: 1/4" = 1'-0"



4 A3.0GB GARAGE "A" RIGHT ELEVATION

SCALE: 1/4" = 1'-0"

EXTERIOR ELEVATIONS

PERMIT SET

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ISSUE/REVISIONS

1	04 FEB 2021	PERMIT SET
2		
3		
4		
5		

SHEET NO. A3.0GB

JOB NO. 3984

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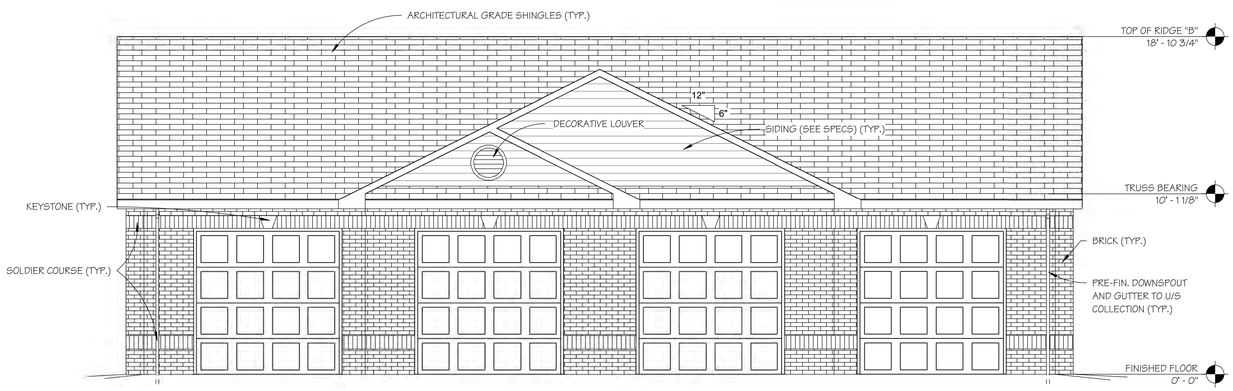
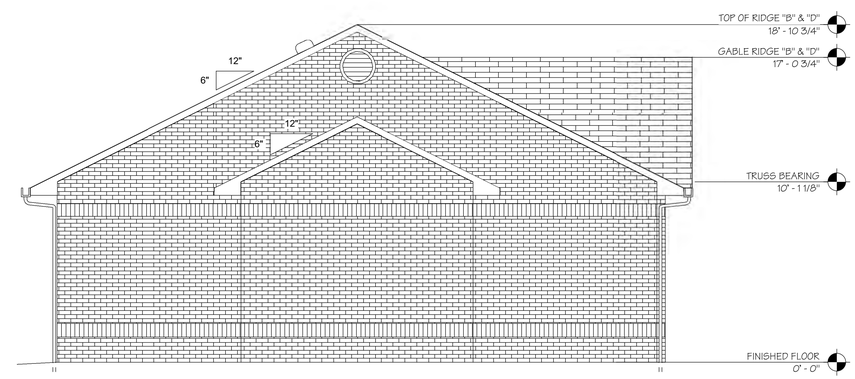


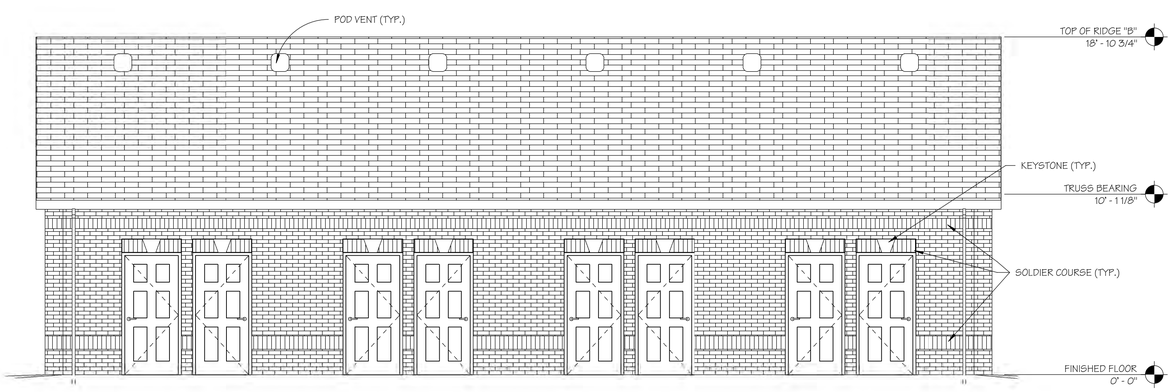
2 A3.1GB GARAGE "B" FRONT ELEVATION

SCALE: 1/4" = 1'-0"



3 A3.1GB GARAGE "B" & "D" LEFT ELEVATIONS

SCALE: 1/4" = 1'-0"



4 A3.1GB GARAGE "B" REAR ELEVATION

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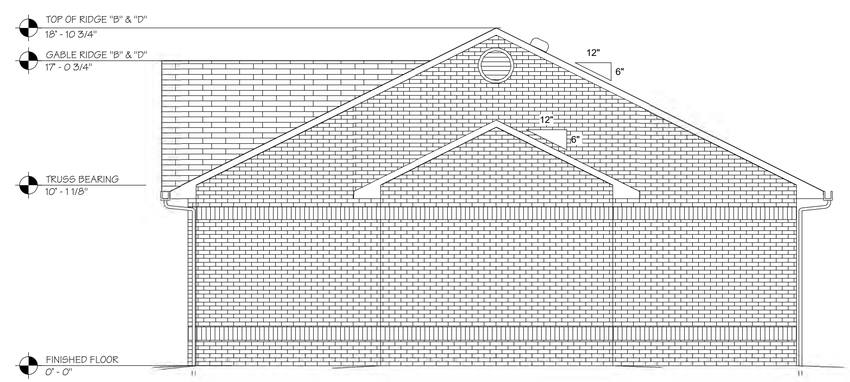

5 A3.1GB GARAGE "B" & "D" RIGHT ELEVATION

SCALE: 1/4" = 1'-0"

EXTERIOR ELEVATIONS

PERMIT SET

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M. RANDALL PORTER
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SHEET NO. A3.1GB

JOB NO. 3984

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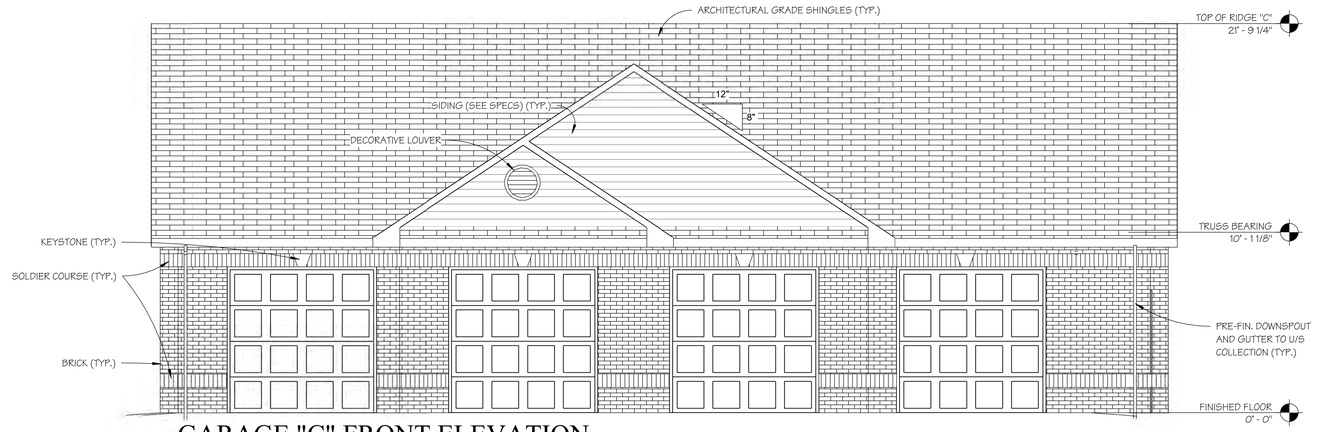
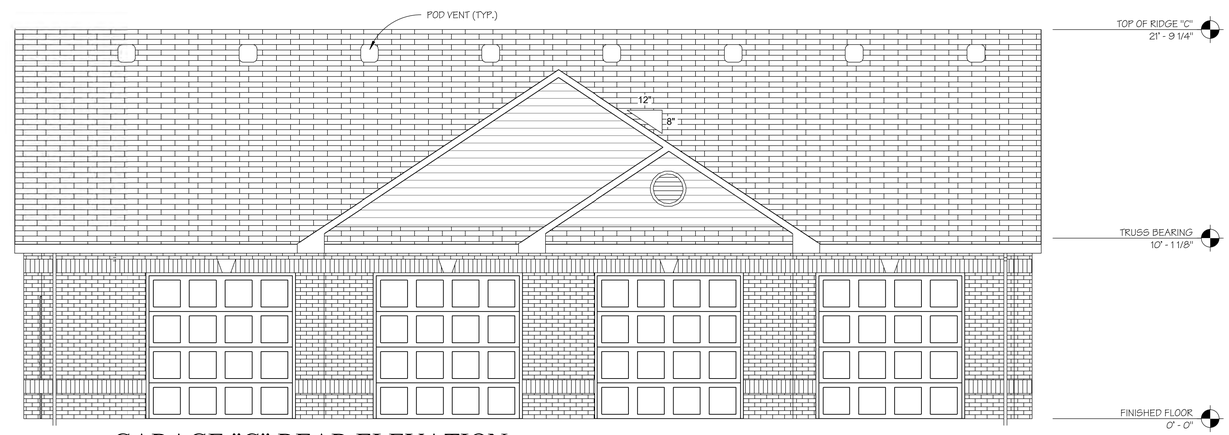


GARAGE "C" FRONT ELEVATION

1 / A3.2GB SCALE: 1/4" = 1'-0"



GARAGE "C" REAR ELEVATION

2 / A3.2GB SCALE: 1/4" = 1'-0"

GARAGE "C" & "E" LEFT & RIGHT ELEVATION

3 / A3.2GB SCALE: 1/4" = 1'-0"

EXTERIOR ELEVATIONS

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1	04 FEB 2021	PERMIT SET
2		
3		
4		
5		

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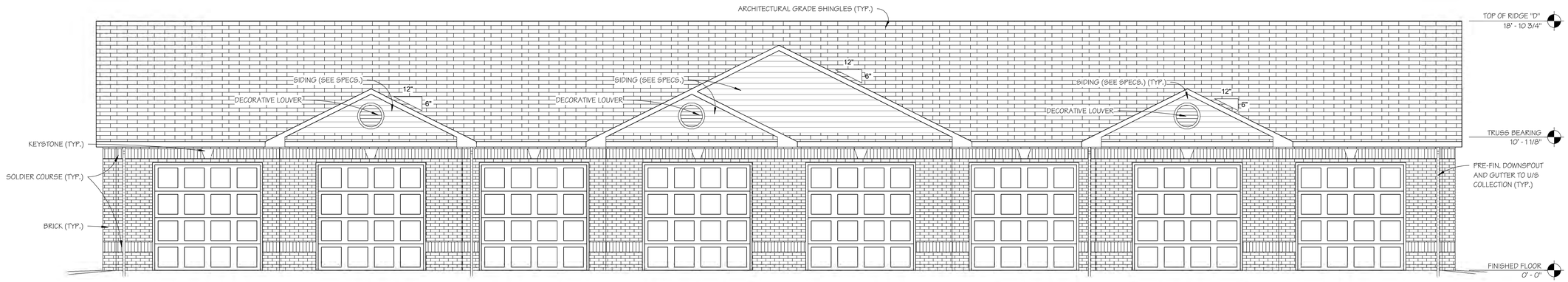
2/10/2021 2:16:27 PM



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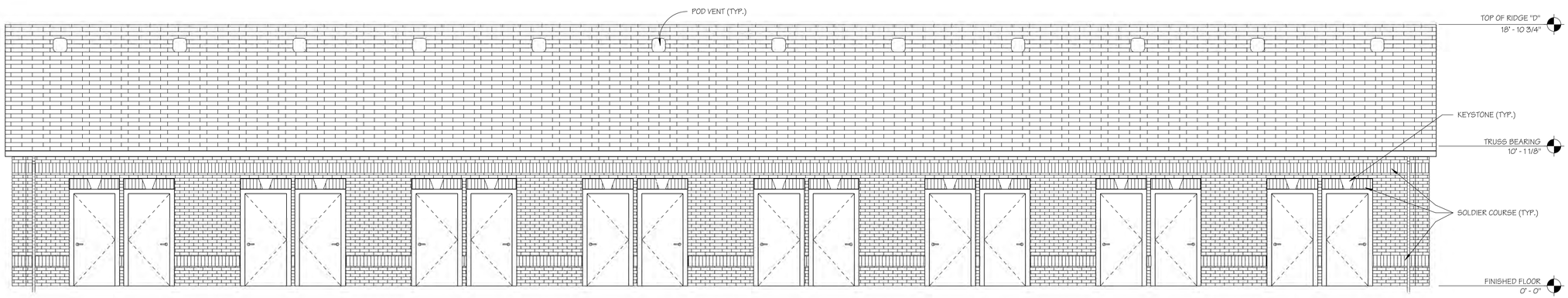
SCALE: 1/4" = 1'-0"



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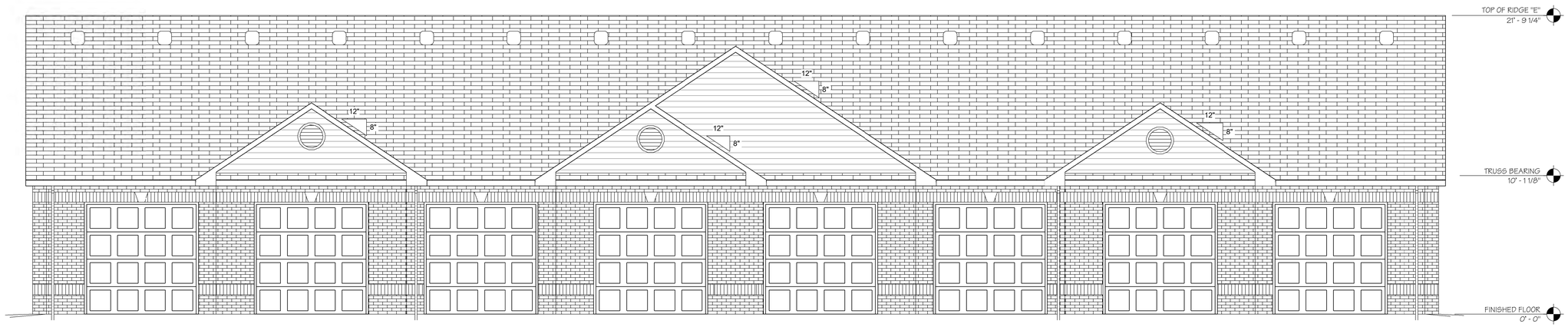

GARAGE "E" FRONT ELEVATION SIMILAR

3 A3.3GB GARAGE "E" REAR ELEVATION

SCALE: 1/4" = 1'-0"

EXTERIOR ELEVATIONS

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ARCHITECT
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ARIA APARTMENTS LEE'S SUMMIT

MAINTENANCE BUILDING

LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

PROJECT INFORMATION

SITE DATA	
SITE ZONING:	(SEE CIVIL)
SITE SIZE:	(SEE CIVIL)
SITE DENSITY:	(SEE CIVIL)
NO. OF PARKING SPACES:	(SEE CIVIL)
CODES AND REGULATIONS	
BLDG. & RELATED CODES:	2018 IBC, IPC, IMC & 2018 IECC W/ LOCAL AMMENDMENTS
ELECT. CODE:	2017 NEC W/ LOCAL AMMENDMENTS
FIRE CODE:	2018 IFC W/ LOCAL AMMENDMENTS
ACCESSIBILITY:	
MISC.:	ALL APPLICABLE FEDERAL, STATE & LOCAL CODES, LAWS & ORDINANCES
BUILDING CODE DATA	
USE GROUP:	S-1
CONSTRUCTION TYPE:	5B
EXT. WALL CONSTRUCTION:	NON-RATED
OTHER WALL CONSTRUCTION:	INTERIOR WALLS = NON-RATED
TOTAL ALLOW. AREA:	9,000 SF/FLOOR
TOTAL ACTUAL AREA:	1628 SF
ALLOW. HEIGHT & FLOORS:	40'-0"/1 STORY
ACTUAL HEIGHT & FLOORS:	24'-4"/1 STORY
HEIGHT/AREA ADJUSTMENTS:	NONE REQUIRED, NONE TAKEN
SPRINKLER SYSTEM:	NONE REQUIRED, NONE INSTALLED

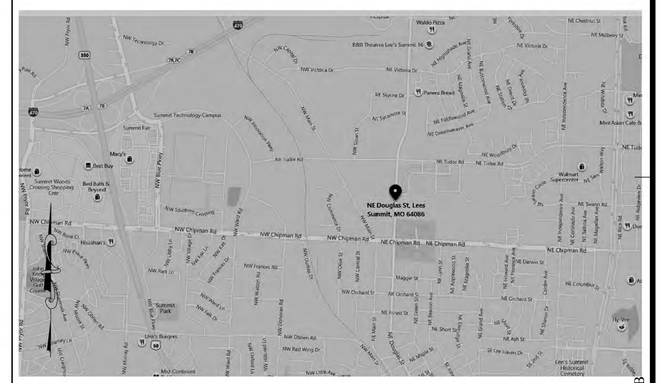
INDEX TO DRAWINGS

MAINTENANCE BUILDING INDEX

Sheet Number	Sheet Name	Sheet Issue Date	Current Revision Date	Current Revision Description
1 - COVER SHEET				
0.0MB	MAINTENANCE BUILDING COVERSHEET	04 FEB 2021	04 FEB 2021	PERMIT SET
2 - STRUCTURAL				
S100MB	GENERAL STRUCTURAL DATA	04 FEB 2021	04 FEB 2021	PERMIT SET
S200MB	FOUNDATION & FRAMING PLAN	04 FEB 2021	04 FEB 2021	PERMIT SET
S210MB	FOUNDATION & FRAMING DETAILS	04 FEB 2021	04 FEB 2021	PERMIT SET
3 - ARCHITECTURAL				
A1.0MB	DIMENSION/FINISH PLANS	04 FEB 2021	04 FEB 2021	PERMIT SET
A2.0MB	ROOF PLAN	04 FEB 2021	04 FEB 2021	PERMIT SET
A3.0MB	EXTERIOR ELEVATIONS	04 FEB 2021	04 FEB 2021	PERMIT SET
A4.0MB	FRAMING DETAILS	04 FEB 2021	04 FEB 2021	PERMIT SET
A7.0MB	INTERIOR ELEVATIONS	04 FEB 2021	04 FEB 2021	PERMIT SET

ARCHITECT'S JOB NO. 3984

PROJECT LOCATION MAP



SIGNATURE AREAS

NOTE: PROJECT CONSTRUCTION MUST BE IN COMPLIANCE WITH ALL APPLICABLE CODES, ORDINANCES, LAWS, AND REGULATIONS AS ENUMERATED ELSEWHERE IN THE PLANS AND SPECIFICATIONS.

ARCHITECT: WALLACE ARCHITECTS, L.L.C.
302 CAMPUSVIEW DRIVE SUITE 208, COLUMBIA, MO 65201
BY: DATE:

OWNER: ARIA LS, LLC
4240 PHILIPS FARM ROAD, COLUMBIA, MO. 65201
BY: DATE:

CONTRACTOR: CENTRAL STATES CONSTRUCTION
4215 PHILIPS FARM ROAD, COLUMBIA, MO. 65201
BY: DATE:

DATE:

PM: RP
PC: RS

PLAN SET NO.

MAINTENANCE BUILDING COVERSHEET

PERMIT SET

STATE OF MISSOURI
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Aria Lee's Summit Apartments
Maintenance Building Plans

Lee's Summit, Jackson County, Missouri

GENERAL NOTES

ELEVATION DATUM
SEE ARCHITECTURAL DRAWINGS OR SITE PLAN FOR FINISH FLOOR ELEVATIONS

DESIGN SPECIFICATIONS
2018 INTERNATIONAL BUILDING CODE

EARTHWORK
EARTHWORK OPERATIONS SHALL BE PERFORMED UNDER THE DIRECTION OF A PROFESSIONAL TESTING AGENCY TO ASSURE COMPLIANCE WITH THE RECOMMENDATIONS OF THE SOILS REPORT. BY OLSSON, INC. DATED AUGUST 22, 2019.

CONCRETE

CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF THE CURRENT ACI 301, SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS, ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, ACI 305 SPECIFICATIONS FOR HOT WATER CONCRETE, AND ACI 306 SPECIFICATIONS FOR COLD WEATHER CONCRETE, WITH THE FOLLOWING ADDITIONAL REQUIREMENTS:

1. CONCRETE SHALL DEVELOP THE FOLLOWING 28-DAY MINIMUM COMPRESSIVE STRENGTH:

FOUNDATIONS	–	3,000 PSI
CAST-IN-PLACE WALLS	–	3,500 PSI
FLOOR SLAB	–	4,000 PSI
EXTERIOR SLABS, WALLS AND CURBS	–	4,000 PSI

2. ALL FOOTINGS SHALL BEAR ON UNDISTURBED SOIL OR ENGINEERED FILL.
3. CHLORIDE- BASED ADMIXTURES ARE PROHIBITED IN ALL REINFORCED CONCRETE.
4. REINFORCING STEEL SHALL CONFORM TO ASTM A615, A616, OR A617, GRADE 60.
5. ALL CONTINUOUS REINFORCING STEEL THAT MEETS AT A CORNER SHALL BE TIED TOGETHER WITH A CORNER BAR THAT HAS SUFFICIENT LAP DISTANCE IN EACH DIRECTION
6. CONTINUOUS REINFORCING BARS LAP LENGTH SHALL BE A MINIMUM OF 48 BAR DIAMETERS UNLESS NOTED OTHERWISE
7. CONCRETE SLUMP SHALL BE A MAXIMUM OF 4" +/- 1" (ASTM C- 143) AS DELIVERED IN THE FIELD. CONTRACTOR MAY USE CHEMICAL ADMIXTURES TO ATTAIN A MAXIMUM SLUMP OF 8" FOR WORKABILITY. NO WATER MAY BE ADDED TO THE CONCRETE MIX ON SITE UNLESS WATER IS WITHHELD AT THE BATCHING FACILITY. IF WATER IS WITHHELD AT THE BATCHING FACILITY IT SHOULD BE REFLECTED ON THE LOAD TICKET. THE TOTAL AMOUNT OF WATER IN THE MIX SHALL NOT EXCEED WHAT IS NOTED ON THE APPROVED MIXED. THIS SHALL BE NOTED IN THE SPECIAL INSPECTOR'S RECORDS.
8. CONCRETE EXPOSED TO WEATHER, VEHICLES, AND/OR DEICING CHEMICALS SHALL BE AIR-ENTRAINED WITH 6% (+/-) 1.5% ENTRAINED AIR BY VOLUME AT POINT OF DISCHARGE. DO NOT ALLOW AIR CONTENT OF TROWELED FINISHED FLOORS TO EXCEED 3%.
9. SUBMIT CONCRETE MIX PROPORTIONS PRIOR TO START OF WORK. DO NOT BEGIN CONCRETE PRODUCTION UNTIL MIXES HAVE BEEN REVIEWED AND ARE ACCEPTABLE TO THE ENGINEER.
10. READY MIX CONCRETE SHALL COMPLY WITH REQUIREMENTS OF ASTM C94.
11. CONCRETE WORK EXECUTION
    - A. CONSTRUCT FORMS TO CORRECT SIZE, SHAPE, ALIGNMENT, ELEVATION AND POSITION; AND TO SUPPORT VERTICAL AND LATERAL LOADS.
    - B. POSITION, SUPPORT, AND SECURE REINFORCEMENT AGAINST DISPLACEMENT. MINIMUM CONCRETE COVER FOR REINFORCEMENT SHALL BE, UNLESS NOTED OTHERWISE ON THE DRAWINGS:
      - CAST AGAINST AND EXPOSED TO EARTH........3 INCHES
      - EXPOSED TO EARTH OR WEATHER..................2 INCHES
      - NOT EXPOSED TO WEATHER OR IN CONTACT WITH EARTH....................................1 ½ INCHES
    - C. PROVIDE CONTROL JOINTS IN SLABS-ON-GRADE AT NOT GREATER THAN 15 FEET ON CENTER IN EACH DIRECTION. SAW CUT CONTROL JOINTS MINIMUM ¼ OF SLAB DEPTH, AS SOON AFTER SLAB FINISHING WITHOUT DISLODGING AGGREGATE.
    - D. STEEL TROWEL FINISH ALL INTERIOR CONCRETE SLABS, BROOM FINISH ALL EXTERIOR CONCRETE SLABS.
    - E. CURE ALL CONCRETE IN COMPLIANCE WITH ACI 301, USING A LIQUID TYPE MEMBRANE, NON-RESIDUAL, CURING COMPOUND COMPLYING WITH ASTM C309. ASSURE COMPATIBILITY WITH FINISH FLOOR COVERING.

POST-INSTALLED ANCHORS

1. ALL POST-INSTALLED ANCHORS SHALL MEET THE REQUIREMENTS OF THE CODE-CITED EDITION OF ACI 318, APPENDIX "D", AND SHALL BE ACCEPTABLE FOR BOTH CRACKED AND UNCRACKED CONCRETE.
2. EXPANSION ANCHORS HAVE BEEN DESIGNED AS HILTI KWIK BOLT TZ ANCHORS, UNLESS NOTED OTHERWISE.
3. ADHESIVE ANCHORS HAVE BEEN DESIGNED TO USE HILTI HIT HY 150 ADHESIVE IN CONCRETE OR SOLID MASONRY, UNLESS NOTED OTHERWISE.
4. EQUIVALENT ANCHORS MAY BE SUBMITTED FOR THE ENGINEER'S APPROVAL. SUBMITTALS ARE THE CONTRACTOR'S RESPONSIBILITY AND MUST INCLUDE EVALUATION REPORTS FROM THE INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS (ICBO).
5. EMBEDMENT DEPTH IS DEFINED AS THE DISTANCE FROM THE SURFACE OF THE LOAD-BEARING BASE MATERIAL TO THE DEEPEST PART OF THE ANCHOR AFTER THE ANCHOR HAS BEEN DRIVEN INTO THE HOLE BUT NOT YET EXPANDED.
6. ADHESIVE ANCHORS SHALL BE ACCEPTABLE FOR LONG-TERM LOADING. WHEN BASE MATERIAL TEMPERATURES ARE BELOW 40 DEG F, ONLY NON-EPOXY-BASED ADHESIVES SHALL BE USED.
7. POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE DRAWINGS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER PRIOR TO USING POST-INSTALLED ANCHORS FOR MISSING OR MISPLACED CAST-IN-PLANE ANCHORS. CARE SHALL BE TAKEN TO AVOID CONFLICTS WITH EXISTING REINFORCING BARS. HOLES SHALL BE DRILLED AND CLEANED PER ANCHOR MANUFACTURER'S SPECIFICATIONS.
8. STAINLESS STEEL ANCHORS ARE REQUIRED AT ALL PERMANENTLY EXPOSED WEATHER CONDITIONS.

TIMBER

TIMBER WORK SHALL CONFORM TO ALL REQUIREMENTS OF THE CURRENT ANSI/AF&PA NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION, WITH THE FOLLOWING SUPPLEMENTAL REQUIREMENTS:

1. FOR COMMON MEMBER SIZES, THE SPECIES AND GRADES SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE:

A.	2X4	SPF No.1/No.2
B.	2X6	SPF No.1/No.2
C.	2X8	DF-L No.2
D.	2X10	DF-L S.S.
E.	2X12	DF-L S.S.

EQUIVALENT (OR BETTER) GRADES & SPECIES MAY BE SUBMITTED FOR THE ENGINEER'S APPROVAL.

2. SIZES SHOWN FOR LUMBER ARE NOMINAL SIZES.
3. TIMBER EXPOSED TO WEATHER OR GROUND, OR IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE-IMPREGNATED BY AN APPROVED PROCESS AND PRESERVATIVE.
4. SPLICING OF JOISTS, STUDS, OR HEADERS IS PROHIBITED EXCEPT AS SHOWN.
5. BOLTS SHALL CONFORM TO ASTM A307. HOLES SHALL BE DRILLED PER SECTION 11.1.2 OF THE 2005 ANSI/AF&PA NDS FOR WOOD CONSTRUCTION.
6. LAG SCREWS AND WOOD SCREWS SHALL BE INSTALLED PER SECTIONS 11.1.3 AND 11.1.4, RESPECTIVELY, OF THE 2005 ANSI/AF&PA NDS FOR WOOD CONSTRUCTION.
7. COMMON NAILS SHALL BE USED, UNLESS NOTED OTHERWISE. IN ADDITION, NAILS SHALL BE GALVANIZED, IF EXPOSED TO WEATHER OR MOISTURE. TOE-NAILS SHALL BE DRIVEN PER SECTION 11.1.5.4 OF THE 2005 ANSI/AF&PA NDS FOR WOOD CONSTRUCTION.
8. FASTENING SHALL BE PER THE IBC MINIMUM FASTENING SCHEDULE, TABLE 2304.9.1, UNLESS NOTED OTHERWISE.
9. CONNECTIONS/CONNECTORS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.

PREFABRICATED WOOD TRUSSES

1. FLOOR & ROOF TRUSSES SHALL BE DESIGNED IN ACCORDANCE WITH THE TRUSS PLATE INSTITUTE (TPI) DESIGN SPECIFICATION FOR METAL PLATE CONNECTED WOOD TRUSSES, AND THE ANSI/NF&PA NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION.
2. PROVIDE TEMPORARY AND PERMANENT BRACING ON ALL TRUSSES, AS REQUIRED TO PROVIDE MEMBER AND TRUSS STABILITY.
3. FLOOR & ROOF TRUSSES SHALL BE DESIGNED AND CONSTRUCTED FOR A MAXIMUM TOTAL LOAD DEFLECTION OF L/360 AND TO SAFELY SUPPORT THE FOLLOWING LOADS:
   - A. DEAD, LIVE, SNOW, WIND, EARTHQUAKE: SEE PROJECT DESIGN DATA ON COVER SHEET.
   - B. MECHANICAL PIPE LOAD: TRUSSES SHALL BE DESIGNED FOR A CONCENTRATED LOAD OF 250 LBS HUNG ANYWHERE ALONG THE BOTTOM CHORD.
   - C. OVER-FRAMING LOAD: TRUSSES SHALL ALSO BE DESIGNED TO SUPPORT ADDITIONAL OVERBUILD FRAMING, SUCH AS THAT WHICH FORMS VALLEYS AND HIPS ON ROOFS.
   - D. DRIFTED SNOW LOAD: TRUSSES SHALL BE DESIGNED TO SUPPORT DRIFTED SNOW LOADS IN ACCORDANCE WITH THE APPROPRIATE BUILDING CODE.
   - E. IN-PLANE LATERAL LOADS: TRUSSES SHALL BE DESIGNED TO SUPPORT ANY LATERAL LOADS CARRIED AXIALLY IN THE PLANE OF THE TRUSS, AS SHOWN ON THE PLANS.
4. GABLED END TRUSSES SHALL HAVE VERTICAL MEMBERS SPACED AT 16" O.C. MAXIMUM.
5. SUBMITTALS SHALL INCLUDE THE FOLLOWING:
   - A. SHOP DRAWINGS PREPARED UNDER THE SUPERVISION OF, AND SIGNED AND SEALED BY, A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS BUILT. THESE DRAWINGS SHALL INDICATE SPECIES, GRADE, AND SIZES OF LUMBER TO BE USED; PITCH, SPAN, CAMBER, CONFIGURATION, AND SPACING FOR EACH TYPE OF TRUSS REQUIRED; TYPE, SIZE, MATERIAL, FINISH, AND LOCATION OF METAL CONNECTOR PLATES; AND BEARING DETAILS. SHOW TRUSS LAYOUT AND ALL REQUIRED TEMPORARY AND PERMANENT BRACING AFFECTING THE STRUCTURAL CAPACITY OF THE TRUSSES.

PROVIDE COMPLETE ENGINEERING DESIGN CALCULATIONS THAT INCLUDE DESIGN VALUES, DESIGN ANALYSIS INDICATING LOADING, ASSUMED ALLOWABLE STRESSES, STRESS DIAGRAMS, AND CALCULATIONS, AND ANY OTHER INFORMATION NEEDED FOR REVIEW. THE CALCULATIONS SHALL HAVE BEEN SIGNED AND SEALED BY A QUALIFIED PROFESSIONAL ENGINEER WHO IS REGISTERED IN THE STATE WHERE THE PROJECT IS BUILT AND WHO IS RESPONSIBLE FOR PREPARATION OF THE CALCULATIONS.

SPECIAL INSPECTIONS

THE FOLLOWING ITEMS REQUIRE SPECIAL INSPECTION IN ACCORDANCE WITH CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE.

- a. CONCRETE GROUT DESIGN MIX (PERIODIC)
- b. PLACING OF CONCRETE AND REINFORCING STEEL (CONTINUOUS OF CONCRETE SAMPLING / PERIODIC OF REINFORCING)
- c. BOLTS & ANCHORS EMBEDDED IN CONCRETE (PERIODIC)
- d. STRUCTURAL STEEL FABRICATIONS (UNLESS AISC APPROVED) (PERIODIC)
- e. STRUCTURAL STEEL BOLTING & WELDING (PERIODIC)
- f. POST INSTALLED ANCHORS IN CONCRETE (CONTINUOUS)
- g. IN-SITU SOILS, EXCAVATIONS, FILLING & COMPACTION (PERIODIC)
- h. MASONRY AND REINFORCING STEEL (CONTINUOUS ON CELL GROUTING / PERIODIC ON REINFORCING)
- i. WOOD FRAMING:
  - i.a. SHEAR WALLS; WALL SIZE, CONFIGURATION, BLOCKING, PANEL GRADE, PANEL THICKNESS, AND FASTENING. (PERIODIC)
  - i.b. DIAPHRAGMS (FLOOR AND ROOF SHEATHING); SIZE, CONFIGURATION, BLOCKING, PANEL GRADE, PANEL THICKNESS, AND FASTENING. (PERIODIC)
  - i.c. FRAMING MEMBERS AND DETAILS (PERIODIC)
  - i.d. MATERIAL GRADE (PERIODIC)
  - i.e. CONNECTIONS; HANGERS, HOLD DOWNS, BUILT-UP COLUMNS, BUILT-UP BEAMS (PERIODIC)
  - i.f. PRE-ENGINEERED TRUSSES; FRAMING, CONNECTIONS, BRIDGING (PERIODIC)

THE CONTRACTOR SHALL REQUEST SPECIAL INSPECTION OF THE ITEMS LISTED ABOVE PRIOR TO THOSE ITEMS BECOMING INACCESSIBLE AND UNOBSERVABLE DUE TO PROGRESSION OF THE WORK.

DESIGN DATA

2018 INTERNATIONAL BUILDING CODE / ASCE 7-16

BUILDING OCCUPANCY CATEGORY: II

ROOF LOAD

LIVE LOAD	20
TOP CHORD DEAD/COLLATERAL LOAD	10
BOTTOM CHORD DEAD/COLLATERAL LOAD	10
TOTAL TO TRUSS	40 lbs/sq.ft

ROOF SNOW LOAD* (*UNBALANCED & DRIFTING SNOW TO BE DETERMINED IN ADDITION TO UNIFORM LOAD, WHERE APPLICABLE)

p_g =	20 lbs/sq.ft
C_e =	1.0
I_s =	1.0
C_t =	1.0
p_f =	20 lbs/sq.ft
p_s =	20 lbs/sq.ft

BASIC DESIGN WIND LOAD

V =	115 M.P.H. (3-SECOND GUST)
I_w =	1.0
EXPOSURE	C
INTERNAL PRESSURE COEFFICIENT =	± 0.18
MAXIMUM COMPONENTS & CLADDING WIND	± 24.59 lbs/sq.ft

EARTHQUAKE DESIGN DATA

- S_S = 0.100
- S_1 = 0.068
- S_{DS} = 0.086
- S_{D1} = 0.068
- SITE CLASS C
- SEISMIC DESIGN CATEGORY B
- BASIC SEISMIC-FORCE-RESISTING SYSTEM = LIGHT-FRAMED WALLS SHEATHED WITH STRUCTURAL PANELS
- R = 6.5
- Ω_o = 3.0
- C_d = 4.0
- I_E = 1.0
- EQUIVALENT LATERAL FORCE PROCEDURE
- V = 0.013W

NET ALLOWABLE SOIL BEARING: 2,500 lbs/sq.ft**

(**PER OLSSON, INC GEOTECHNICAL REPORT DATED AUGUST 22, 2019)

INDEX OF SHEETS

GENERAL STRUCTURAL DATA	S100MB
FOUNDATION & FRAMING PLAN	S200MB
FOUNDATION & FRAMING DETAILS	S210MB

REVISIONS:

No.	Date
PHASE 1-PERMIT	02/04/2021

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

STATE OF MISSOURI
JARED W. VERSLUES
NUMBER PE-2017000387
PROFESSIONAL ENGINEER

STRUCTURAL ENGINEER:
CROCKETT
ENGINEERING CONSULTANTS
1000 W. Nifong Blvd., Bldg. 1
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www.crockettengineering.com
Crockett Engineering Consultants, LLC
Missouri Certificate of Authority
#2000151301

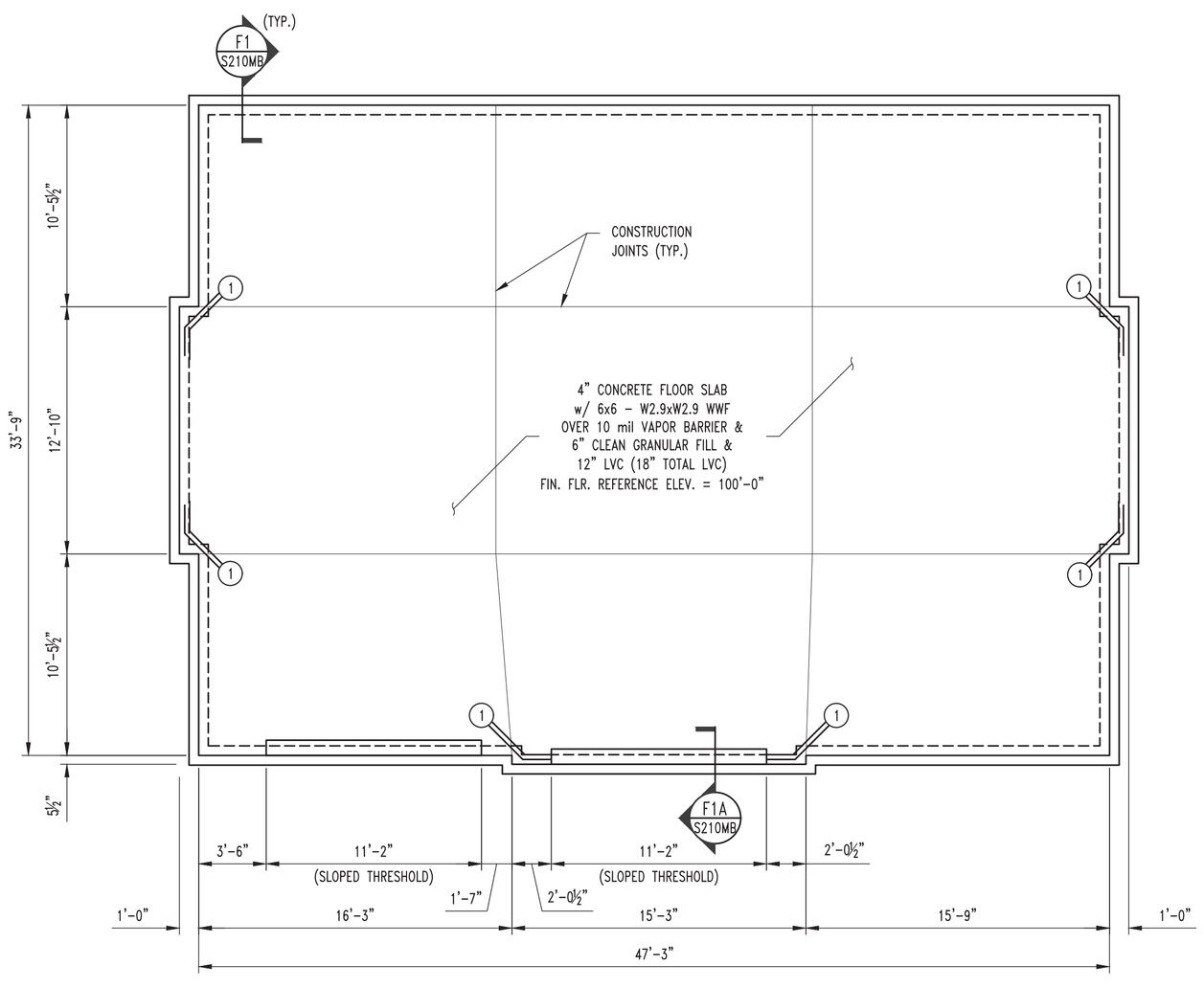
CLIENT:
CENTRAL STATES CONSTRUCTION
4215 PHILIPS FARM RD
COLUMBIA, MISSOURI

ARIA LEE'S SUMMIT APARTMENTS
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

DRAWING INCLUDES:
GENERAL STRUCTURAL DATA

DESIGNED: JWV
DRAWN: SEH
PROJECT NO.: 190299
SHEET: S100MB

NOTE:
ALL DIMENSIONS TO EDGE OF SLAB
& ℄ OF FOOTING, UNLESS NOTED OTHERWISE.



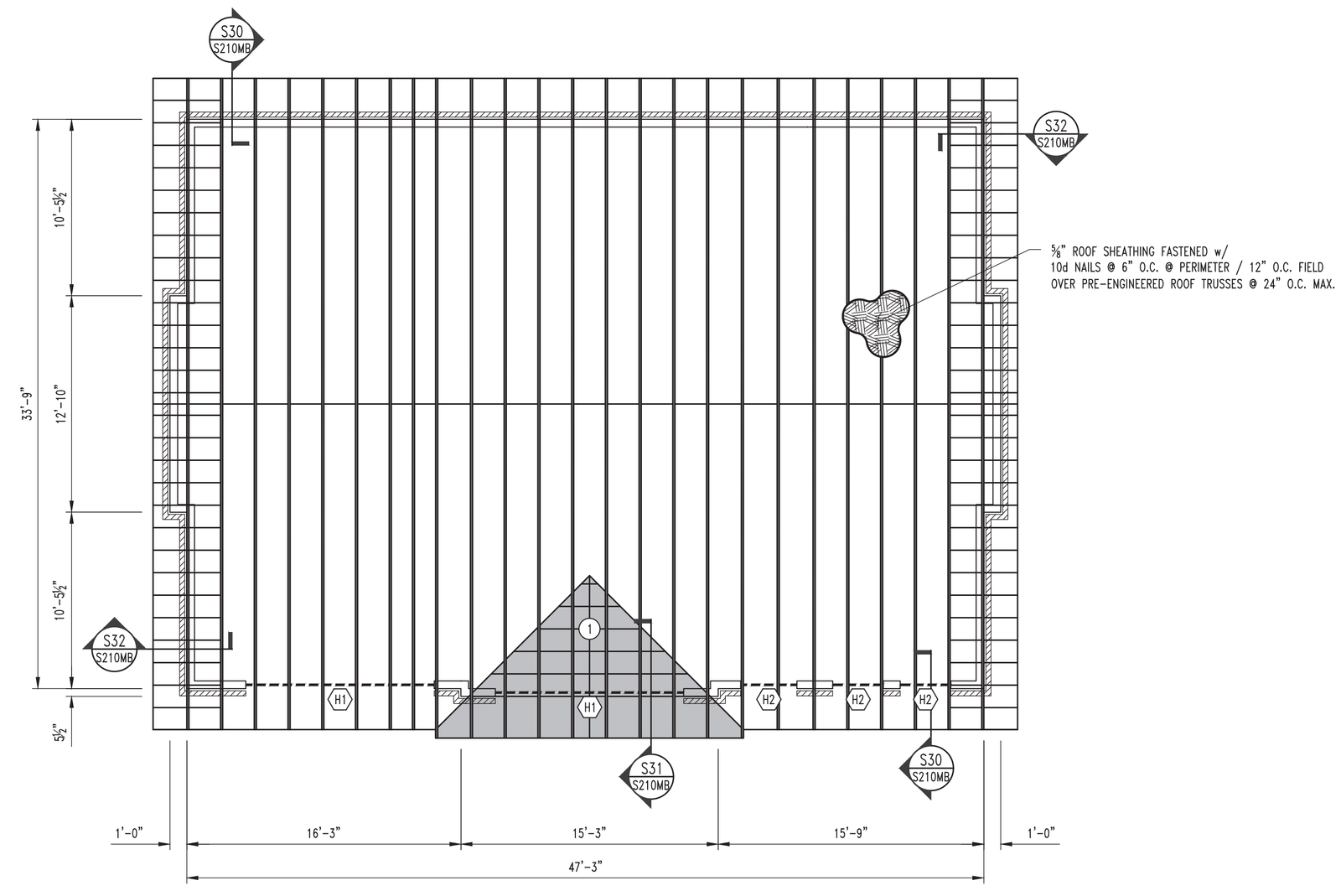
FOUNDATION NOTES

1. REENTRANT CORNER BARS, REFER TO TYPICAL CRACK CONTROL REINFORCING DETAIL S210MB.
2. FOOTING STEP-REFER TO DETAIL FS1/S210MB.

1 S200MB — FOUNDATION PLAN (MAINT. BUILDING)

SCALE: 3/16" = 1'-0"

PLAN NORTH



ROOF FRAMING NOTES

1. FRAME ROOF OVER PRE-ENGINEERED TRUSSES TO CREATE RIDGE, VALLEY, OR HIP w/ 2x NO. 2 SPF. RAFTER OR PRE-ENGINEERED TRUSSES @ 24" O.C.

2 S200MB — ROOF FRAMING PLAN (MAINT. BUILDING)

SCALE: 3/16" = 1'-0"

PLAN NORTH

BRICK LINTEL SCHEDULE

SPAN	Lintel
L ≤ 4'-0"	L4x3-1/2x3/8 w/ 6" BEARING EACH SIDE
GARAGE LINTEL	L6x4x3/8 w/ 8" BEARING EACH SIDE

HEADER SCHEDULE

MARK	HEADER	CRIPPLE	JAMB
"H1"	(3) DFL Sel. St. 2x10's	(2) SPF No. 1/No. 2 2x6's	(3) SPF No. 1/No. 2 2x6's
"H2"	(2) SPF No. 1/No. 2 2x6's	(1) SPF No. 1/No. 2 2x6	(1) SPF No. 1/No. 2 2x6

REVISIONS:

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THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

STATE OF MISSOURI
JARED W. VERSLUES
NUMBER PE-2017000387
PROFESSIONAL ENGINEER

STRUCTURAL ENGINEER:
CROCKETT
ENGINEERING CONSULTANTS
1000 W. Nifong, Bldg. 7, Suite 1
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(573) 447-0292
www.crockettengineering.com
Crockett Engineering Consultants, LLC
Missouri Certificate of Authority
#2006015501

CLIENT:
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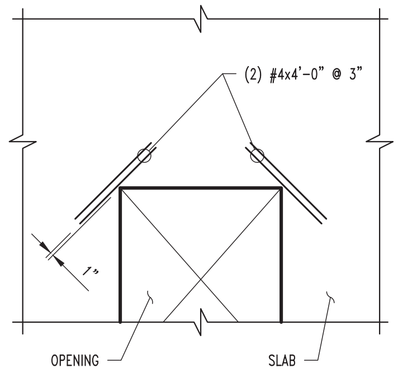
4215 PHILIPS FARM RD
COLUMBIA, MISSOURI

ARIA LEE'S SUMMIT APARTMENTS

LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

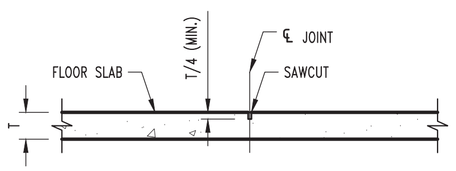
DRAWING INCLUDES:
FOUNDATION & FRAMING PLANS

DESIGNED: JWV
DRAWN: SEH
PROJECT NO.: 190299
SHEET: S200MB

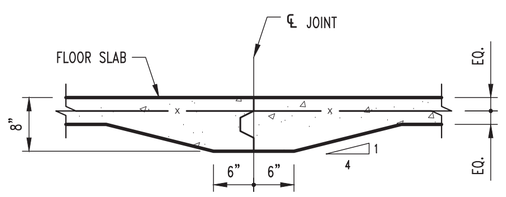


NOTE:
TYPICAL AT ALL REENTRANT CORNERS FOR SLAB-ON-GRADE & STRUCTURAL SLAB. REINFORCING TO BE CENTERED IN SLAB THICKNESS.

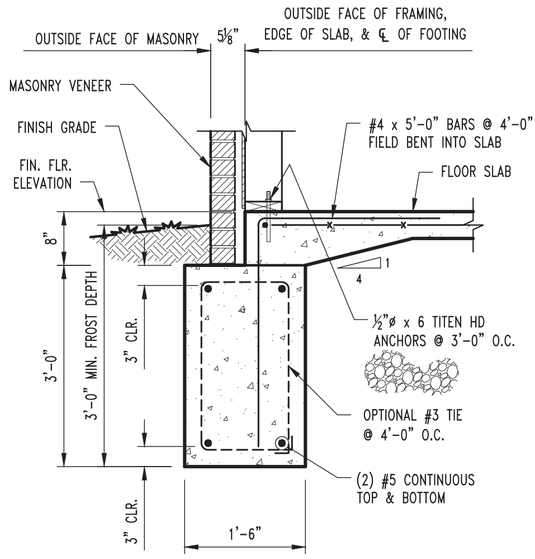
CRACK CONTROL REINFORCING



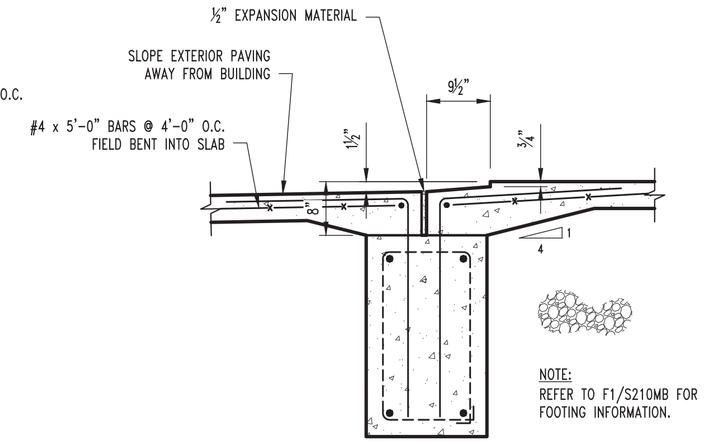
CONTRACTION JOINT



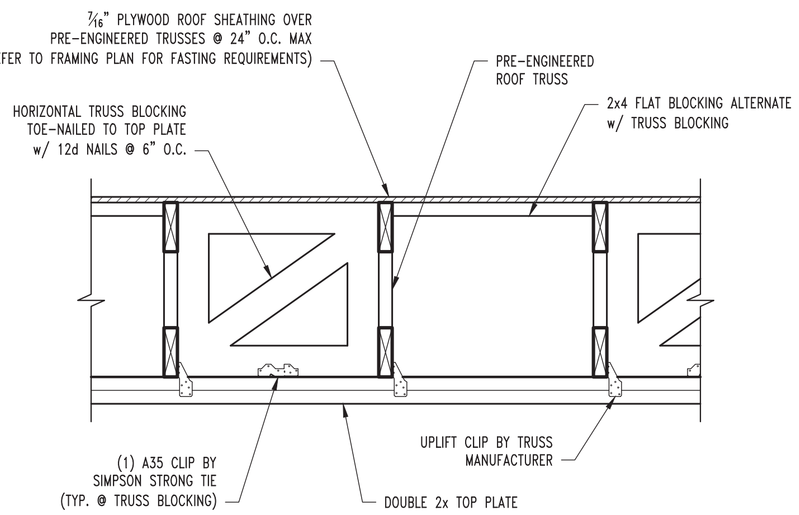
CONSTRUCTION JOINT



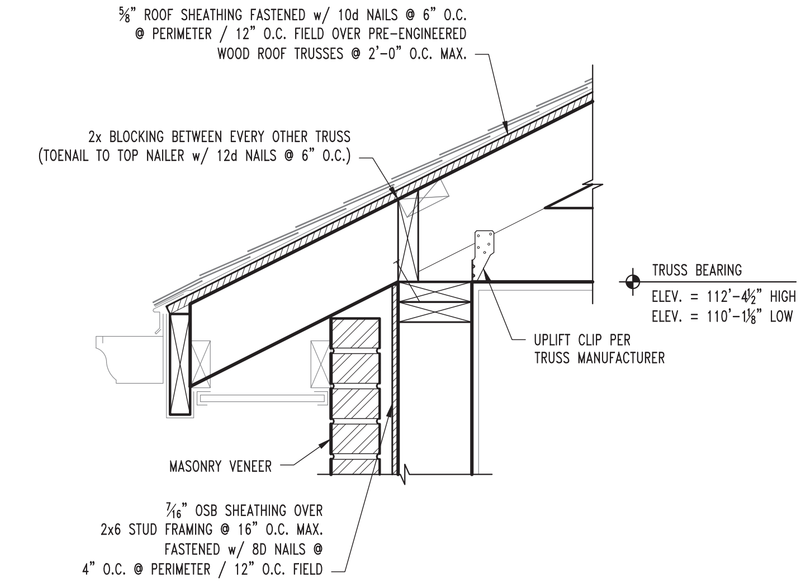
F1 / S200MB CONT. FOOTING SECTION



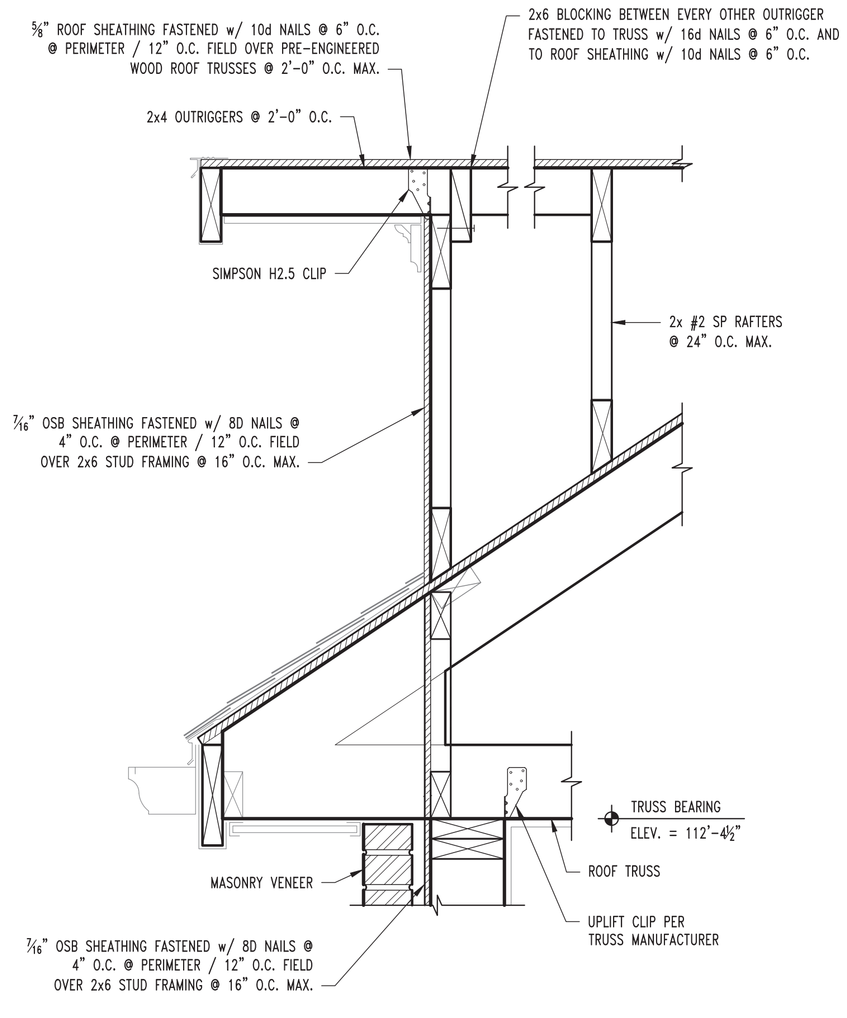
F1A / S200MB SLOPED THRESHOLD SECTION



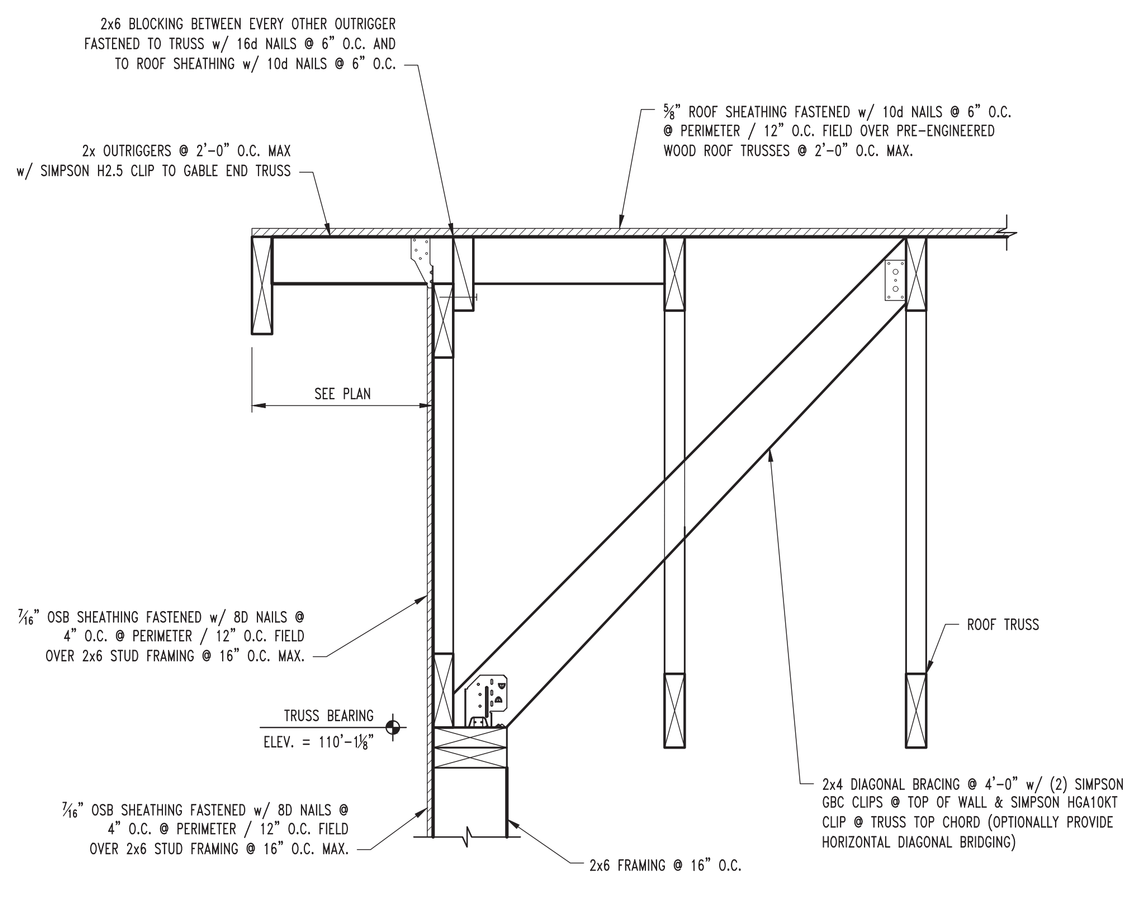
TYP. TRUSS BLOCKING DETAIL



S30 / S200MB ROOF FRAMING DETAIL



S31 / S200MB ROOF FRAMING DETAIL



S32 / S300GB THRU S301GB ROOF FRAMING DETAIL

SCALE: 1½" = 1'-0"

REVISIONS:

No.	Date
PHASE 1-PERMIT	02/04/2021

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DRAWING INCLUDES:
FOUNDATION & FRAMING DETAILS

DESIGNED:	JWV
DRAWN:	SEH
PROJECT NO.:	190299

SHEET:
S210MB

DOOR SCHEDULE

TYPE MARK	SIZE	ELEV.	PANEL MATL.	GLAZING	DESCRIPTION
1	11' x 9' x 1 3/4"	A	STEEL INSULATED	NONE	DECORATIVE MULTI-PANEL INSULATED METAL, R4.75 MIN. INSUL VAL.
2	3'-0" x 6'-8" x 1 3/4"	B	STEEL INSULATED	NONE	INSULATED, FLUSH PANEL
3	3'-0" x 6'-8" x 1 3/4"	B	STEEL INSULATED	NONE	INSULATED, FLUSH PANEL
4	3'-0" x 6'-8" x 1 3/4"	D	STEEL INSULATED	1/2" TEMPERED INSULATED GLASS	INSULATED, FLUSH PANEL
5	PR. 3'-0" x 6'-8" x 1 3/4"	C	STEEL INSULATED	NONE	INSULATED, FLUSH PANEL

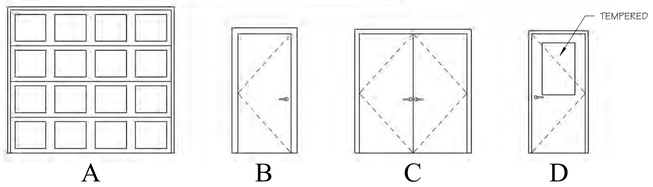
FINISH SCHEDULE

ROOM NAME	FINISH			
	FLOOR	BASE	WALL	CEILING
MAINTENANCE/BAY AREA	SEALED CONCRETE	NONE OR NO ADDITIONAL FINISH	PAINTED GYP BD.	PAINTED GYP BD.
OFFICE	SEALED CONCRETE	HARDI-TRIM	PAINTED GYP BD.	PAINTED GYP BD.
RESTROOM	SEALED CONCRETE	HARDI-TRIM	PAINTED GYP BD.	PAINTED GYP BD.
STORAGE	SEALED CONCRETE	HARDI-TRIM	PAINTED GYP BD.	PAINTED GYP BD.

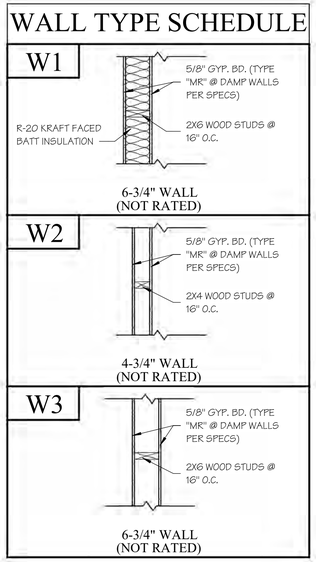
GENERAL NOTES

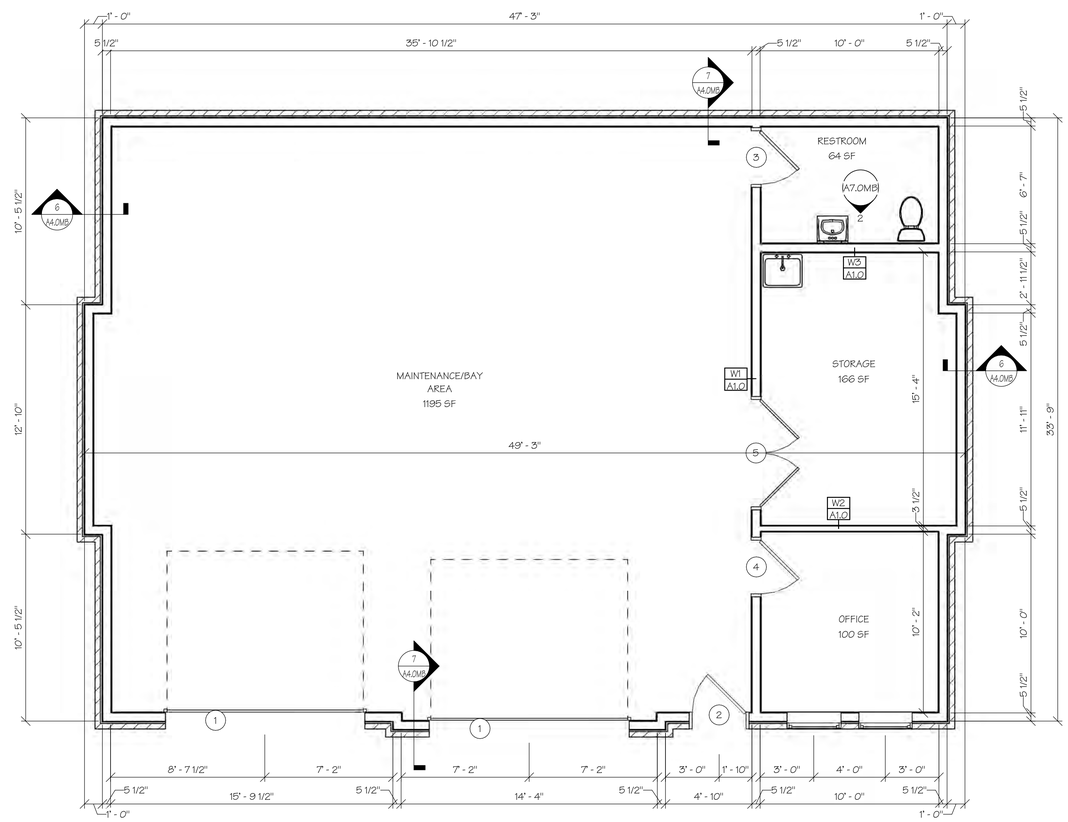
1) CERTIFICATION OF R-38 CEILING INSULATION MUST BE POSTED IN ATTIC.
2) DIMENSIONS SHOWN ARE FACE OF STUD TO FACE OF STUD
3) SEAL CONCRETE FLOOR TO REDUCE MOISTURE PENETRATION.
4) EXTEND FINISH FLOORING MATERIAL BENEATH LAVATORY IN TOILET ROOM.

DOOR ELEVATIONS



WALL TYPE SCHEDULE





1 A1.0MB DIMENSION PLAN
SCALE: 1/4" = 1'-0"

DIMENSION/FINISH PLANS

PERMIT SET

M. RANDALL PORTER
A-2012006244
ARCHITECT
STATE OF MISSOURI
04 FEB 2021
M. RANDALL PORTER
A-2012006244

ARIA APARTMENTS LEE'S SUMMIT
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

Wallace ARCHITECTS L.L.C.
Columbia, MO
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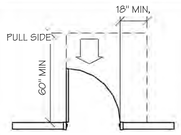
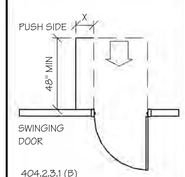
MANEUVERING CLEARANCES AT DOORS

PER ADAAG 2010

NOTE: WHERE ANY OBSTRUCTION WITHIN 18 INCHES OF THE LATCH SIDE OF A DOORWAY PROJECTS MORE THAN 8 INCHES BEYOND THE FACE OF THE DOOR, MEASURED PERPENDICULAR TO THE FACE OF THE DOOR, MANEUVERING CLEARANCES FOR A FORWARD APPROACH SHALL BE PROVIDED.

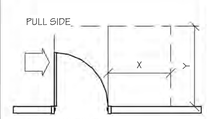


404.2.3.1 (A)
FRONT APPROACH - PULL SIDE



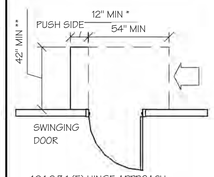
404.2.3.1 (B)
FRONT APPROACH - PUSH SIDE

NOTE: X = 12" MIN IF DOOR HAS BOTH A CLOSER AND LATCH



404-2-3-1 (C) HINGE APPROACH - PULL SIDE
X = 36" MIN AND Y = 60" MIN

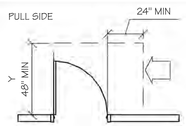
404.2.3.1 (D) HINGE APPROACH - PULL SIDE
X = 42" MIN AND Y = 54" MIN



404.2.3.1 (E) HINGE APPROACH - PULL SIDE

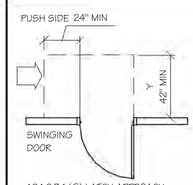
* IF BOTH A CLOSER AND LATCH ARE PROVIDED.

** 48" MIN IF BOTH CLOSER AND LATCH PROVIDED.



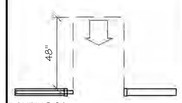
404.2.3.1 (F) LATCH APPROACH - PULL SIDE

NOTE: Y = 54" MIN IF DOOR HAS A CLOSER

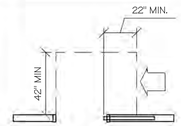


404.2.3.1 (G) LATCH APPROACH - PUSH SIDE

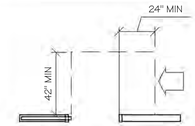
NOTE: Y = 48" MIN IF DOOR HAS A CLOSER



404.2.3.2 (A) FRONT APPROACH

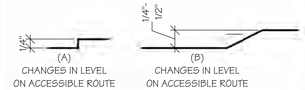


404.2.3.2 (B) POCKET OR HINGE APPROACH

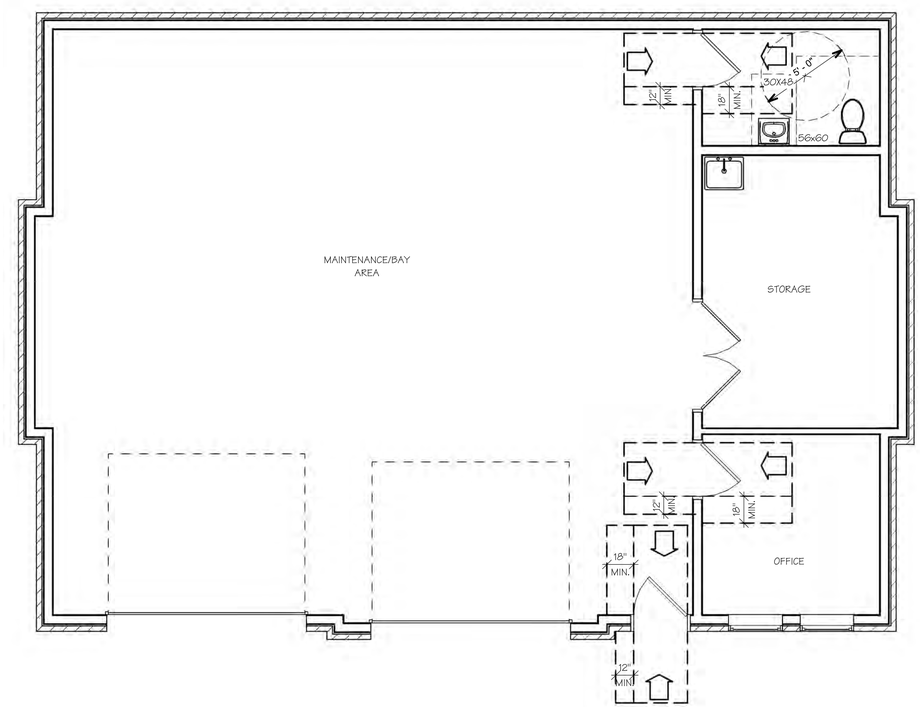


404.2.3.2 (C)
STOP OR LATCH APPROACH

CHANGES IN LEVEL ON AN ACCESSIBLE ROUTE



NOTE: STAIRS SHALL NOT BE PART OF AN ACCESSIBLE ROUTE.



1 A1.MB CLEAR FLOOR SPACE PLAN
SCALE: 1/4" = 1'-0"

ACCESSIBILITY PLANS

PERMIT SET

STATE OF MISSOURI
M. RANDALL PORTER
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ARCHITECT

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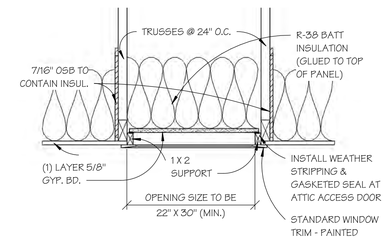
ATTIC COMPARTMENT VENTILATION

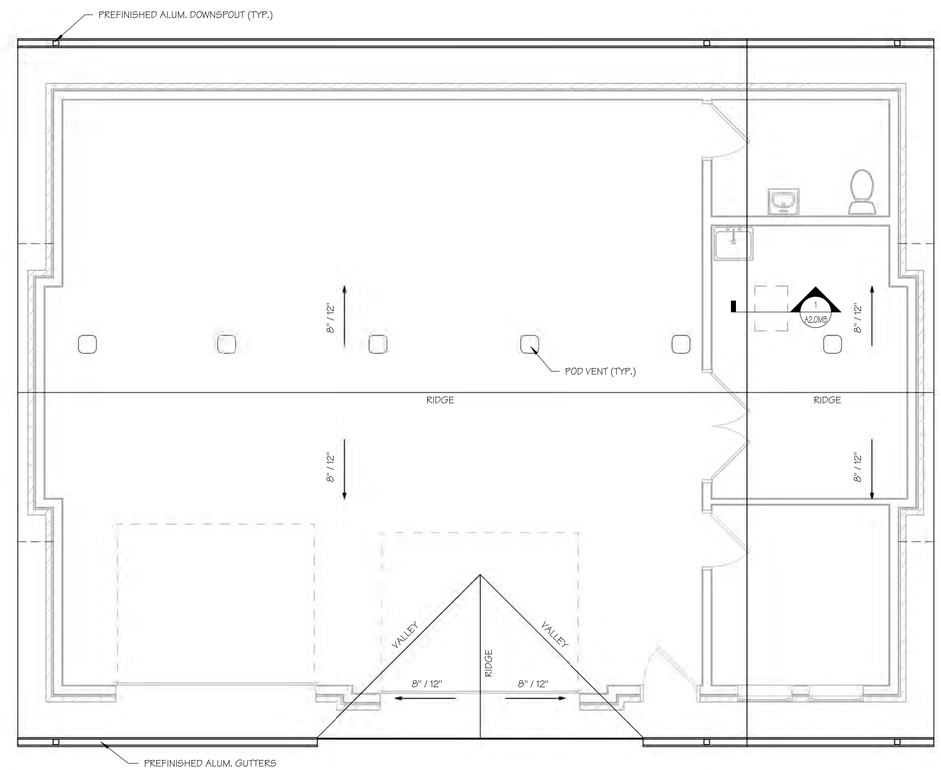
NAME	TYPE	AREA	TOTAL REQ'D VENT. (SQ. IN.)	SOFFIT VENT (SQ. IN.)	ROOF VENT (SQ. IN.)
MAINTENANCE BLDG.	ATTIC SPACE	1602 SF	769	384	384

GENERAL ATTIC VENTILATION NOTES

1) TOTAL FREE AREA SHALL EQUAL 1/300 OF ATTIC AREAS W/50% OF VENT AREA AT ROOF AND 50% AT SOFFITS.
2) SPECIFIED VENTILATION POD QUANTITY BASED ON 70 SQ. IN FREE AREA PER POD. ADJUST QUANTITY AS REQUIRED BASED ON FREE AREA OF SPECIFIC VENTILATION POD USED.



1 / A2.0MB ATTIC ACCESS DETAIL
SCALE: 1" = 1'-0"



2 / A2.0MB MAINTENANCE BUILDING ROOF PLAN
SCALE: 1/4" = 1'-0"

ROOF PLAN

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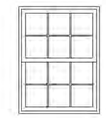
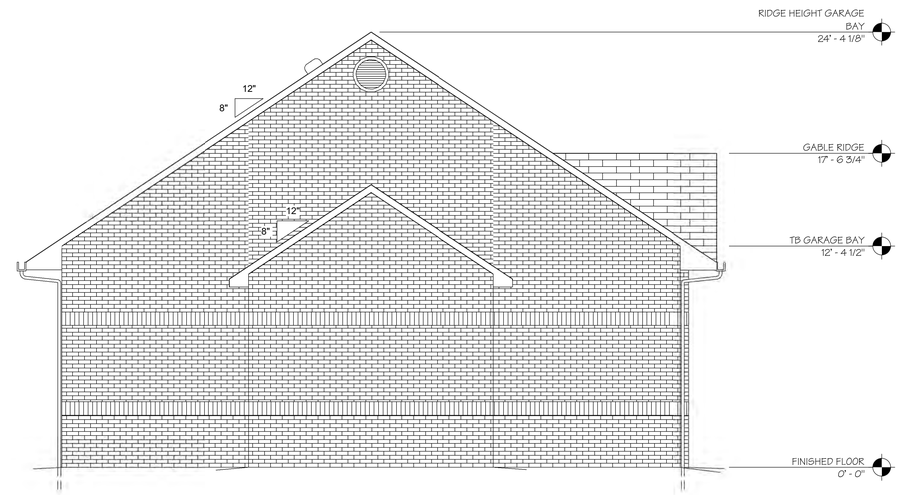
WINDOW SCHEDULE				
TYPE MARK	SIZE	HARDWARE	GLAZING	COMMENTS
1	3'-0"" x 4'-0"	STANDARD	INSULATED LOW-E	SINGLE HUNG W/SCREEN

WINDOW ELEVATION

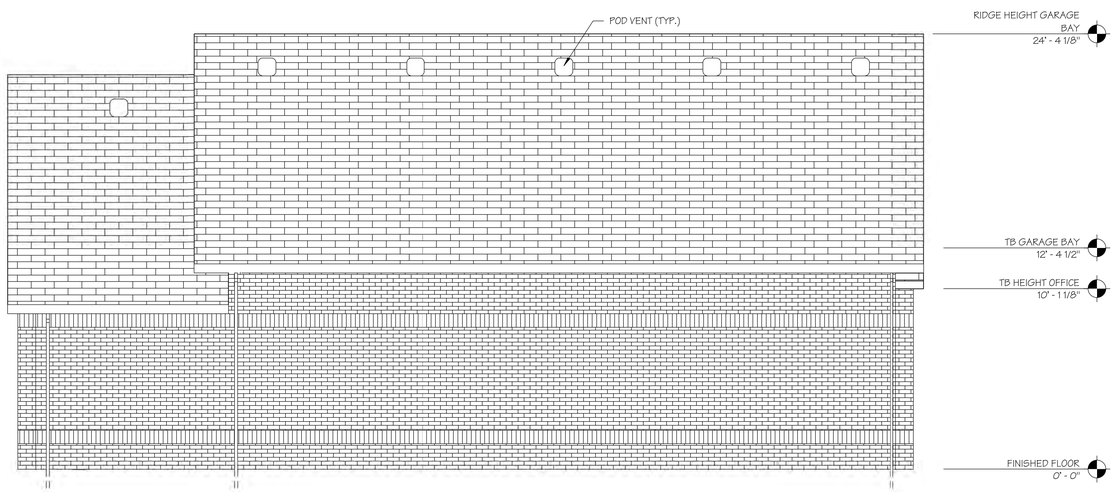


1

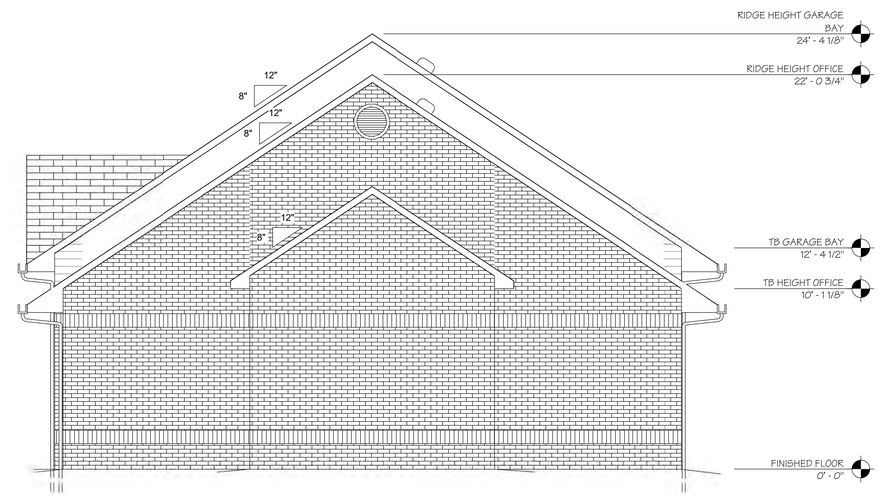
1 A3.0MB FRONT ELEVATION
SCALE: 1/4" = 1'-0"



2 A3.0MB LEFT ELEVATION
SCALE: 1/4" = 1'-0"



3 A3.0MB BACK ELEVATION
SCALE: 1/4" = 1'-0"



4 A3.0MB RIGHT ELEVATION
SCALE: 1/4" = 1'-0"

EXTERIOR ELEVATIONS

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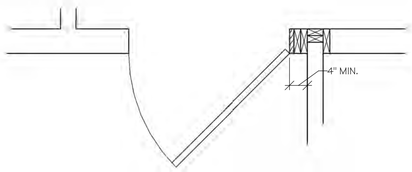
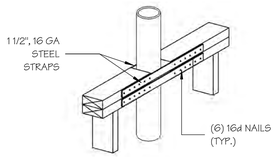
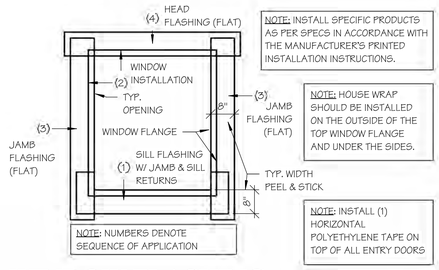


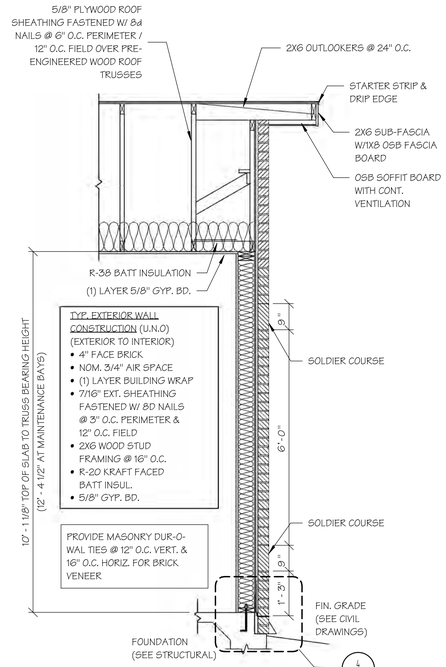
1 / M4.0MB TYP. DOOR FRAMING DETAIL
SCALE: 3/4" = 1'-0"



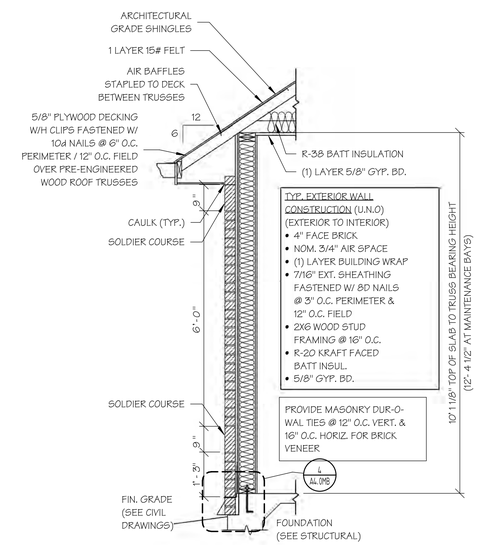
2 / M4.0MB PLATE CUT DETAIL
SCALE: 1" = 1'-0"



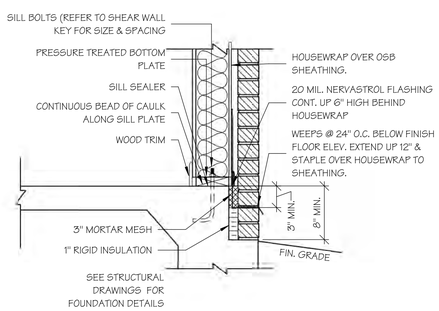
3 / M4.0MB WINDOW FLASHING
SCALE: 1/2" = 1'-0"



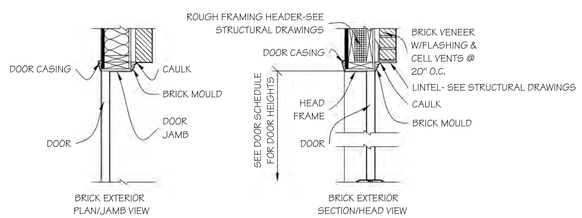
6 / M4.0MB WALL SECTION @ RAKE
SCALE: 1/2" = 1'-0"



7 / M4.0MB WALL SECTION @ EAVE
SCALE: 1/2" = 1'-0"



4 / M4.0MB FOUNDATION FLASHING DETAIL
SCALE: 1" = 1'-0"



WALL SECTIONS AND DETAILS @ EXTERIOR DOORS

5 / M4.0MB
SCALE: 3/4" = 1'-0"

FRAMING DETAILS

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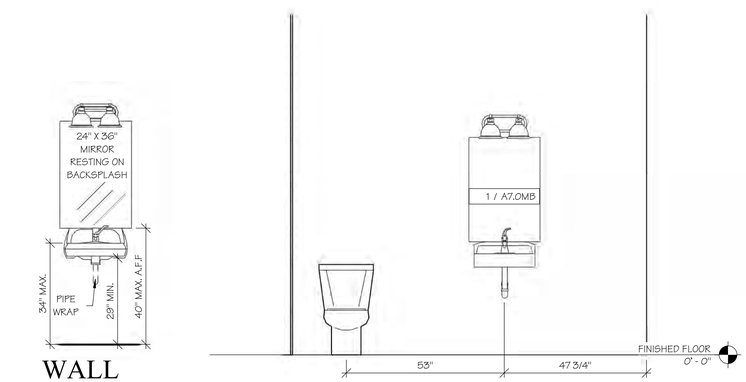

1 A7.0MB WALL HUNG LAV.
SCALE: 1/2" = 1'-0"

2 A7.0MB BATHROOM ELEVATION
SCALE: 1/2" = 1'-0"

INTERIOR ELEVATIONS

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M. RANDALL PORTER
A-2012006244
ARCHITECT

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Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

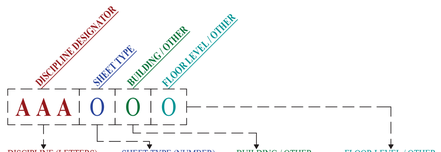
GENERAL MEP SPECIFICATIONS

1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW AND UNDERSTAND ALL DRAWINGS AND SPECIFICATIONS IN THE CONTRACT DOCUMENTS. EACH CONTRACTOR IS RESPONSIBLE FOR ALL WORK ASSOCIATED WITH HIS TRADE REGARDLESS OF WHERE THE WORK IS DEPICTED IN THE DRAWINGS OR SPECIFICATIONS.
2. THE LAYOUT OF SYSTEMS SHOWN ON PLANS ARE APPROXIMATE AND WILL NEED TO BE COORDINATED IN FIELD. THE CONTRACTOR SHALL INCLUDE THIS COORDINATION IN HIS SCOPE AND INCLUDE ALL COSTS OF MODIFYING THE LAYOUT AS REQUIRED IN HIS BID.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY PARTS AND LABOR TO PRODUCE A COMPLETE AND FULLY OPERATIONAL SYSTEM UNLESS STATED OTHERWISE ON PLANS.
4. ALL MATERIALS TO BE NEW, FIRST CLASS, AND INSTALLED PER MANUFACTURE'S PUBLISHED INSTRUCTIONS.
5. ALL WORK SHALL BE PERFORMED IN COMPLIANCE WITH LOCALLY ADOPTED CODES AND ORDINANCES.
6. CONTRACTOR IS RESPONSIBLE FOR TO COORDINATE EQUIPMENT LOCATIONS AND SYSTEM ROUTING WITH OTHER TRADES PRIOR TO INSTALLATION.
7. CONTRACTOR TO GUARANTEE ALL MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE DATE THE PROJECT IS TURN OVER TO THE OWNER, UNLESS NOTED OTHERWISE.
8. CONTRACTOR IS TO INCLUDE IN HIS SCOPE THE COST OF ALL PERMITS, INSPECTIONS, METERING, AND TAPS ASSOCIATED WITH HIS WORK.
9. CONTRACTOR IS RESPONSIBLE FOR ALL EXCAVATION, CUTTING, CORING, PATCHING, AND BACKFILL REQUIRED TO COMPLETE HIS WORK, UNLESS NOTED OTHERWISE.
10. THESE PLANS ARE NOT TO BE SCALED. SEE ARCHITECTURAL PLANS FOR DIMENSIONS. WHERE THERE IS A CONFLICT BETWEEN ARCHITECTURAL DIMENSIONS AND MEP DIMENSION, ARCHITECTURAL SHALL GOVERN.
11. SEE DISCIPLINE SHEETS FOR ADDITIONAL DISCIPLINE SPECIFIC SPECIFICATIONS.

DEFERRED SUBMITTAL NOTES

1. FIRE ALARM CONTRACTOR TO PROVIDE DEFERRED SUBMITTAL FOR FIRE ALARM SYSTEM. SUBMITTAL TO INCLUDE BATTERY CALCULATION, VOLTAGE DROP CALCULATIONS, AND DEVICE CUT SHEETS FOR DEVICES AND PANELS.
2. FIRE SPRINKLER CONTRACTOR TO PROVIDE DEFERRED SUBMITTAL FOR FIRE SPRINKLER SYSTEM. SUBMITTAL TO INCLUDE HYDRAULIC CALCULATIONS AND SPRINKLER DRAWINGS SEALED BY A QUALIFIED DESIGN PROFESSIONAL LICENSED BY THE STATE.

SHEET NOMENCLATURE



DISCIPLINE (LETTERS)	SHEET TYPE (NUMBER)	BUILDING / OTHER	FLOOR LEVEL / OTHER
• MEP = GENERAL / SITE	• 1 = PLANS	• 1 = BUILDING A	• 1 = FIRST FLOOR
• M = MECHANICAL	• 5 = DETAILS	• 2 = BUILDING B	• 2 = SECOND FLOOR
• EP = POWER	• 6 = SCHEDULES / ETC. (BUILDING / FLOOR LEVEL ONLY APPLY FOR PLAN SHEETS)	• 3 = BUILDING C	• 3 = THIRD FLOOR
• EL = LIGHTING		• 4 = MAINT. BLDG.	• 4 = FOURTH FLOOR
• PS = SANITARY		• 5 = GARAGE(S)	
• PW = WATER		• 6 = CLUBHOUSE	

NOTES:
SHEET NOMENCLATURE OUTLINED ABOVE APPLIES TO THE MAJORITY OF SHEETS, SPECIFICALLY ALL PLAN SHEETS FOR EACH APARTMENT BUILDING. REFER TO SHEET INDEX FOR SHEET TITLES.

FIRE RATED PENETRATION NOTES

- THIS BUILDING CONTAINS FIRE RATED ASSEMBLIES. SEE ARCHITECTURAL PLANS FOR LOCATIONS.
- A UL LISTED FIRESTOP SYSTEM SHALL BE INSTALLED AT EACH PENETRATION OF A HORIZONTAL OR VERTICAL RATED ASSEMBLY IN ACCORDANCE WITH ASTM E814 OR UL 1479.
- EACH CONTRACTOR IS RESPONSIBLE FOR PROVIDING PROTECTION FOR HIS PENETRATIONS THRU RATED ASSEMBLIES.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND MAINTAINING A CATALOG OF ALL UL LISTED FIRESTOP ASSEMBLIES

REFERENCED CODES IN EFFECT

2018 INTERNATIONAL MECHANICAL CODE

2018 INTERNATIONAL PLUMBING CODE

2018 INTERNATIONAL FUEL GAS CODE

2018 INTERNATIONAL FIRE CODE

2017 NATIONAL ELECTRIC CODE

SHEET INDEX

1.	MEP1	MECHANICAL - ELECTRICAL - PLUMBING COVER SHEET
2.	MEP2	MEP SITE UTILITIES PLAN
3.	MEP3	SITE LIGHTING PLAN
4.	MEP4	POOL AREA - MEP PLAN
5.	M111	BUILDING 'A' - FIRST FLOOR - HVAC PLAN
6.	M112	BUILDING 'A' - SECOND FLOOR - HVAC PLAN
7.	M113	BUILDING 'A' - THIRD FLOOR - HVAC PLAN
8.	M114	BUILDING 'A' - FOURTH FLOOR - HVAC PLAN
9.	M121	BUILDING 'B' - FIRST FLOOR - HVAC PLAN
10.	M122	BUILDING 'B' - SECOND FLOOR - HVAC PLAN
11.	M123	BUILDING 'B' - THIRD FLOOR - HVAC PLAN
12.	M124	BUILDING 'B' - FOURTH FLOOR - HVAC PLAN
13.	M131	BUILDING 'C' - FIRST FLOOR - HVAC PLAN
14.	M132	BUILDING 'C' - SECOND FLOOR - HVAC PLAN
15.	M133	BUILDING 'C' - THIRD FLOOR - HVAC PLAN
16.	M134	BUILDING 'C' - FOURTH FLOOR - HVAC PLAN
17.	M141	MAINTENANCE BUILDING - HVAC PLAN
18.	M161	CLUBHOUSE - HVAC PLAN
19.	M162	CLUBHOUSE - HVAC PLAN
20.	M163	CLUBHOUSE - HVAC PLAN
21.	M501	HVAC DETAILS
22.	M601	HVAC SCHEDULES
23.	EP111	BUILDING 'A' - FIRST FLOOR - POWER PLAN
24.	EP112	BUILDING 'A' - SECOND FLOOR - POWER PLAN
25.	EP113	BUILDING 'A' - THIRD FLOOR - POWER PLAN
26.	EP114	BUILDING 'A' - FOURTH FLOOR - POWER PLAN
27.	EP121	BUILDING 'B' - FIRST FLOOR - POWER PLAN
28.	EP122	BUILDING 'B' - SECOND FLOOR - POWER PLAN
29.	EP123	BUILDING 'B' - THIRD FLOOR - POWER PLAN
30.	EP124	BUILDING 'B' - FOURTH FLOOR - POWER PLAN
31.	EP131	BUILDING 'C' - FIRST FLOOR - POWER PLAN
32.	EP132	BUILDING 'C' - SECOND FLOOR - POWER PLAN
33.	EP133	BUILDING 'C' - THIRD FLOOR - POWER PLAN
34.	EP134	BUILDING 'C' - FOURTH FLOOR - POWER PLAN
35.	EP141	MAINTENANCE BUILDING - POWER PLAN
36.	EP151	GARAGE 'A', 'B', & 'C' - POWER PLAN
37.	EP152	GARAGE 'D' - POWER PLAN
38.	EP153	GARAGE 'E' - POWER PLAN
39.	EP161	CLUBHOUSE - POWER PLAN
40.	EP162	CLUBHOUSE - POWER PLAN
41.	EP163	CLUBHOUSE - POWER PLAN
42.	EL111	BUILDING 'A' - FIRST FLOOR - LIGHTING PLAN
43.	EL112	BUILDING 'A' - SECOND FLOOR - LIGHTING PLAN
44.	EL113	BUILDING 'A' - THIRD FLOOR - LIGHTING PLAN
45.	EL114	BUILDING 'A' - FOURTH FLOOR - LIGHTING PLAN
46.	EL121	BUILDING 'B' - FIRST FLOOR - LIGHTING PLAN
47.	EL122	BUILDING 'B' - SECOND FLOOR - LIGHTING PLAN
48.	EL123	BUILDING 'B' - THIRD FLOOR - LIGHTING PLAN
49.	EL124	BUILDING 'B' - FOURTH FLOOR - LIGHTING PLAN
50.	EL131	BUILDING 'C' - FIRST FLOOR - LIGHTING PLAN
51.	EL132	BUILDING 'C' - SECOND FLOOR - LIGHTING PLAN
52.	EL133	BUILDING 'C' - THIRD FLOOR - LIGHTING PLAN
53.	EL134	BUILDING 'C' - FOURTH FLOOR - LIGHTING PLAN
54.	EL141	MAINTENANCE BUILDING - LIGHTING PLAN
55.	EL151	GARAGE 'A', 'B', & 'C' - LIGHTING PLAN
56.	EL152	GARAGE 'D' - LIGHTING PLAN
57.	EL153	GARAGE 'E' - LIGHTING PLAN
58.	EL161	CLUBHOUSE - LIGHTING PLAN
59.	EL162	CLUBHOUSE - LIGHTING PLAN

SHEET INDEX (CONTINUED)

60.	EL163	CLUBHOUSE - LIGHTING PLAN
61.	E501	ELECTRICAL DETAILS
62.	E502	ELECTRICAL DETAILS
63.	E601	ELECTRICAL SCHEDULES
64.	E602	ELECTRICAL SCHEDULES
65.	E603	ELECTRICAL SCHEDULES
66.	FA111	BUILDING 'A' - FIRST FLOOR - FIRE ALARM PLAN
67.	FA112	BUILDING 'A' - SECOND FLOOR - FIRE ALARM PLAN
68.	FA113	BUILDING 'A' - THIRD FLOOR - FIRE ALARM PLAN
69.	FA114	BUILDING 'A' - FOURTH FLOOR - FIRE ALARM PLAN
70.	FA121	BUILDING 'B' - FIRST FLOOR - FIRE ALARM PLAN
71.	FA122	BUILDING 'B' - SECOND FLOOR - FIRE ALARM PLAN
72.	FA123	BUILDING 'B' - THIRD FLOOR - FIRE ALARM PLAN
73.	FA124	BUILDING 'B' - FOURTH FLOOR - FIRE ALARM PLAN
74.	FA131	BUILDING 'C' - FIRST FLOOR - FIRE ALARM PLAN
75.	FA132	BUILDING 'C' - SECOND FLOOR - FIRE ALARM PLAN
76.	FA133	BUILDING 'C' - THIRD FLOOR - FIRE ALARM PLAN
77.	FA134	BUILDING 'C' - FOURTH FLOOR - FIRE ALARM PLAN
78.	FA161	CLUBHOUSE - FIRE ALARM PLAN
79.	FA162	CLUBHOUSE - FIRE ALARM PLAN
80.	FA163	CLUBHOUSE - FIRE ALARM PLAN
81.	PS111	BUILDING 'A' - FIRST FLOOR - SANITARY SEWER PLAN
82.	PS121	BUILDING 'B' - FIRST FLOOR - SANITARY SEWER PLAN
83.	PS131	BUILDING 'C' - FIRST FLOOR - SANITARY SEWER PLAN
84.	PS141	MAINTENANCE BUILDING - SANITARY SEWER PLAN
85.	PS161	CLUBHOUSE - SANITARY SEWER PLAN
86.	PS162	CLUBHOUSE - SANITARY SEWER PLAN
87.	PS163	CLUBHOUSE - SANITARY SEWER PLAN
88.	PW111	BUILDING 'A' - FIRST FLOOR - WATER PLAN
89.	PW121	BUILDING 'B' - FIRST FLOOR - WATER PLAN
90.	PW131	BUILDING 'C' - FIRST FLOOR - WATER PLAN
91.	PW141	MAINTENANCE BUILDING - WATER PLAN
92.	PW161	CLUBHOUSE - WATER & GAS PLAN
93.	PW162	CLUBHOUSE - WATER & GAS PLAN
94.	PW163	CLUBHOUSE - WATER & GAS PLAN
95.	P501	PLUMBING DETAILS & SCHEDULES
96.	UP.11A	11A MEP UNIT PLAN
97.	UP.11B	11B MEP UNIT PLAN
98.	UP.11B-ACC	11B-ACC MEP UNIT PLAN
99.	UP.11C	11C MEP UNIT PLAN
100.	UP.11D	11D MEP UNIT PLAN
101.	UP.11E	11E MEP UNIT PLAN
102.	UP.22A	22A MEP UNIT PLAN
103.	UP.22A-ACC	22A-ACC MEP UNIT PLAN
104.	UP.22B	22B MEP UNIT PLAN
105.	UP.22C	22C MEP UNIT PLAN
106.	UP.22C-2	22C MEP UNIT PLAN (CONTINUED)
107.	UP.22D	22D MEP UNIT PLAN
108.	UP.22D-2	22D MEP UNIT PLAN (CONTINUED)
109.	UP.32A	32A MEP UNIT PLAN
110.	UP.32A-2	32A MEP UNIT PLAN (CONTINUED)
111.	UP.32A-ACC	32A-ACC MEP UNIT PLAN
112.	UP.32A-ACC-2	32A-ACC MEP UNIT PLAN (CONTINUED)

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J2 PROJECT No:	J20055
J2 DESIGN:	ACW

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Mechanical - Electrical - Plumbing Design Drawings for
Aria Apartments - Lee's Summit
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

MECHANICAL - ELECTRICAL - PLUMBING COVER SHEET

SHEET NUMBER

MEP1

MEP SITE PLAN PLAN SYMBOL LEGEND

- SANITARY SEWER PIPING
- COLD WATER LINE
- CIRCUIT WIRING
- PROPOSED PAD-MOUNT TRANSFORMER (208Y/120V 3-PH)
- 'T#' — INDICATES TRANSFORMER IDENTIFICATION NUMBER (REFER TO POWER RISERS FOR DETAILS)

MEP SITE UTILITIES PLAN GENERAL NOTES:

1. REFER TO CIVIL PLANS FOR EXACT UTILITY LOCATIONS AND CONTINUATIONS, ADDITIONAL DETAILS, REQUIREMENTS, ETC.
2. REFER TO CIVIL DRAWINGS FOR SITE SPRINKLER PIPING ROUTING (SEPARATE FROM DOMESTIC).
3. COORDINATE DETAILS OF NEW ELECTRIC SERVICE WITH RON DEJARNETTE AT EVERGY INC. (RON.DEJARNETTE@EVERGY.COM)
4. REFER TO OVERALL PLAN SHEETS FOR CONTINUATIONS OF UTILITIES WITHIN BUILDINGS.
5. BUILDINGS #7-#13 AND ASSOCIATED GARAGES ARE TO BE CONSTRUCTED AS PART OF PROJECT "PHASE II"; COORDINATE SEQUENCING AND PHASING REQUIREMENTS WITH OWNER.

MEP SITE UTILITIES PLAN KEY NOTES:

1. 6" SANITARY SEWER LINE INTO BUILDING; SEE CIVIL PLANS FOR LINE CONTINUATION ON SITE, SEE PS100 SERIES SHEETS FOR LINE CONTINUATION WITHIN BUILDING.
2. 4" DOMESTIC WATER LINE INTO BUILDING; SEE CIVIL PLANS FOR LINE CONTINUATION ON SITE, SEE PW100 SERIES SHEETS FOR LINE CONTINUATION WITHIN BUILDING.
3. UNDERGROUND SECONDARY CONDUCTORS FROM PAD-MOUNT TRANSFORMER TO ELECTRICAL METER CENTER (MOUNTED ON EXTERIOR OF BUILDING). REFER TO POWER RISER FOR ADDITIONAL DETAILS. SEE KEY NOTE 4.
4. 208Y/120V 3-PH PAD-MOUNT TRANSFORMER; 'TX' INDICATES TRANSFORMER IDENTIFICATION CORRESPONDING TO POWER RISERS. SEE POWER RISERS FOR ADDITIONAL DETAILS.
5. UNDERGROUND SECONDARY CONDUCTORS FROM PAD-MOUNT TRANSFORMER TO DIRECT METER BASE (MOUNTED ON EXTERIOR OF BUILDING) FOR MAINTENANCE BUILDING. REFER TO POWER RISER FOR ADDITIONAL DETAILS. SEE KEY NOTE 4.
6. ¾" DOMESTIC WATER LINE & 3" SANITARY SEWER LINE INTO MAINTENANCE BUILDING; SEE CIVIL PLANS FOR LINE CONTINUATION ON SITE, SEE PS100 & PW100 SERIES SHEETS FOR LINE CONTINUATION WITHIN BUILDING.
7. 1" UNDERGROUND PVC CONDUIT WITH EITHER: (3) #6 CU. & (1) #10 CU. EQ. GRD. OR (3) #4 AL. & (1) #8 AL. EQ. GRD. (AS ALTERNATE BID) FROM APARTMENT BUILDING HOUSE PANEL TO GARAGE SUB-PANEL; SEE OVERALL ELECTRICAL PLANS AND ELECTRICAL SCHEDULES FOR DETAILS.
8. (4) 2" UNDERGROUND PVC CONDUIT(S) BACK TO CLUBHOUSE I.T. ROOM FOR BUILDING INTERCONNECTIVITY. COORDINATE EXACT ROUTING AND TERMINATION LOCATIONS WITH OWNER PRIOR TO INSTALLATION.
9. CONDUIT/CONDUCTORS FROM METER CENTER TO TRASH COMPACTOR LOCATION. PROVIDE & INSTALL DISCONNECT AT PAD LOCATION. SEE POWER RISER FOR DETAILS. COORDINATE EXACT LOCATION & REQUIREMENTS WITH EQUIPMENT PROVIDER.

MEP SITE UTILITIES PLAN

SCALE: 1" = 60'

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Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

MEP SITE UTILITIES PLAN

SHEET NUMBER

MEP2

SITE LIGHTING PLAN SYMBOL LEGEND

CIRCUIT WIRING

X1 — "X1" INDICATES FIXTURE TYPE (REFER TO SCHEDULE)

POLE LIGHT

ARROW INDICATES FORWARD AIMING DIRECTION

PX-XX — CIRCUIT TAG

1.1 — PHOTOMETRIC CALCULATIONS (IN FOOT-CANDLES)

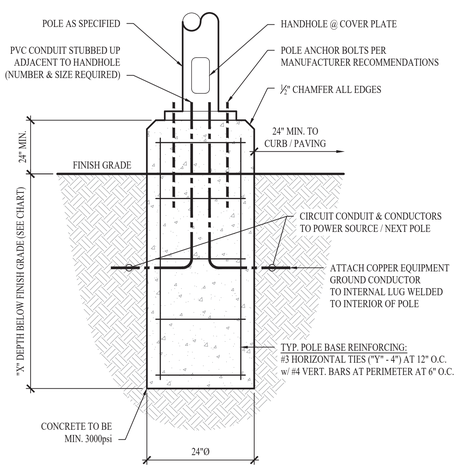
SITE LIGHTING PLAN GENERAL NOTES:

1. REFER TO E500 SERIES SHEETS FOR ELECTRICAL SCHEDULES, SPECIFICATIONS, ADDITIONAL REQUIREMENTS, ETC.
2. SITE PHOTOMETRIC VALUES SHOWN HAVE BEEN CALCULATED PER SPECIFIED FIXTURES AT INDICATED MOUNTING HEIGHTS. ANY CHANGES OR ALTERATIONS TO LIGHTING LAYOUT SHOWN WILL REQUIRE RECALCULATING SITE PHOTOMETRICS AND WILL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR / EQUIPMENT SUPPLIER.
3. PHOTOMETRIC CALCULATIONS SHOWN DO NOT INCLUDE EXISTING LIGHT FIXTURES, ONLY NEW POLE LIGHTS SHOWN.
4. REFER TO CIVIL PLANS FOR SITE PHASING AND BUILDING CONSTRUCTION.

SITE LIGHTING PLAN KEY NOTES:

1. 1 1/4" PVC CONDUIT WITH (2) #3 CU. & (1) #8 CU. EQ. GRD.
2. 1 1/4" PVC CONDUIT WITH (2) #4 CU. & (1) #8 CU. EQ. GRD.
3. 1" PVC CONDUIT WITH (2) #6 CU. & (1) #10 CU. EQ. GRD.
4. 1" PVC CONDUIT WITH (2) #8 CU. & (1) #10 CU. EQ. GRD.
5. 1" PVC CONDUIT WITH (2) #10 CU. & (1) #10 CU. EQ. GRD.
6. WIRE THRU 'LCP1' (CLUBHOUSE) RELAYS #6 & #7.
7. WIRE THRU 'LCPB' RELAYS #2 & #3.
8. WIRE THRU 'LCPC' RELAYS #2 & #3.
9. WIRE THRU 'LCPA' RELAYS #2 & #3.

POLE HEIGHT	"X" DEPTH
10ft - 14ft	4'-6"
15ft - 20ft	6'-0"
21ft - 25ft	7'-0"



TYP. LIGHT POLE DETAIL - 1

SITE LIGHTING PLAN

SCALE: 1" = 60'

SITE LIGHTING FIXTURE SCHEDULE

TAG	MANUFACTURER (OR EQUAL)	MODEL NUMBER (OR EQUAL)	DESCRIPTION	MOUNTING	LUMEN OUTPUT	CCT (°K)	CRI	VOLTS	WATTS	NOTES
PL1	MCGRAW-EDISON	GLEON-AF-08-LED-E1-5WQ-MS/DIM-L40	LED POLE LIGHT	26' POLE ON 2' BASE	33,106	4000	70	208	257	VALMONT 'SSS' POLE
PL2	MCGRAW-EDISON	GLEON-AF-04-LED-E1-SL3-MS/DIM-L40	LED POLE LIGHT	26' POLE ON 2' BASE	15,821	4000	70	208	129	VALMONT 'SSS' POLE
PL3	MCGRAW-EDISON	GLEON-AF-04-LED-E1-SL4-MS/DIM-L40	LED POLE LIGHT	26' POLE ON 2' BASE	15,033	4000	70	208	129	VALMONT 'SSS' POLE
PL4	MCGRAW-EDISON	GLEON-AF-04-LED-E1-T3-MS/DIM-L40	LED POLE LIGHT	26' POLE ON 2' BASE	15,824	4000	70	208	129	VALMONT 'SSS' POLE
PL5	MCGRAW-EDISON	GLEON-AF-04-LED-E1-T4FT-04-MS/DIM-L40	LED POLE LIGHT	26' POLE ON 2' BASE	15,915	4000	70	208	129	VALMONT 'SSS' POLE

NOTES:

1. VERIFY LIGHT FIXTURE FINISHES WITH OWNER / ARCHITECT PRIOR TO INSTALLATION

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Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

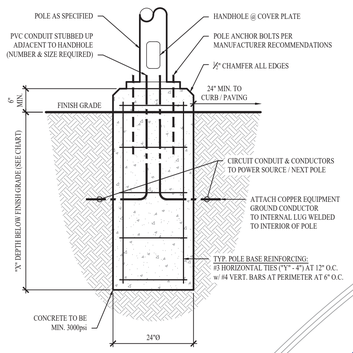
SHEET TITLE

SITE LIGHTING PLAN

SHEET NUMBER

MEP3

POLE HEIGHT	"X" DEPTH
10ft - 14ft	4'-6"
15ft - 20ft	6'-0"
21ft - 25ft	7'-0"



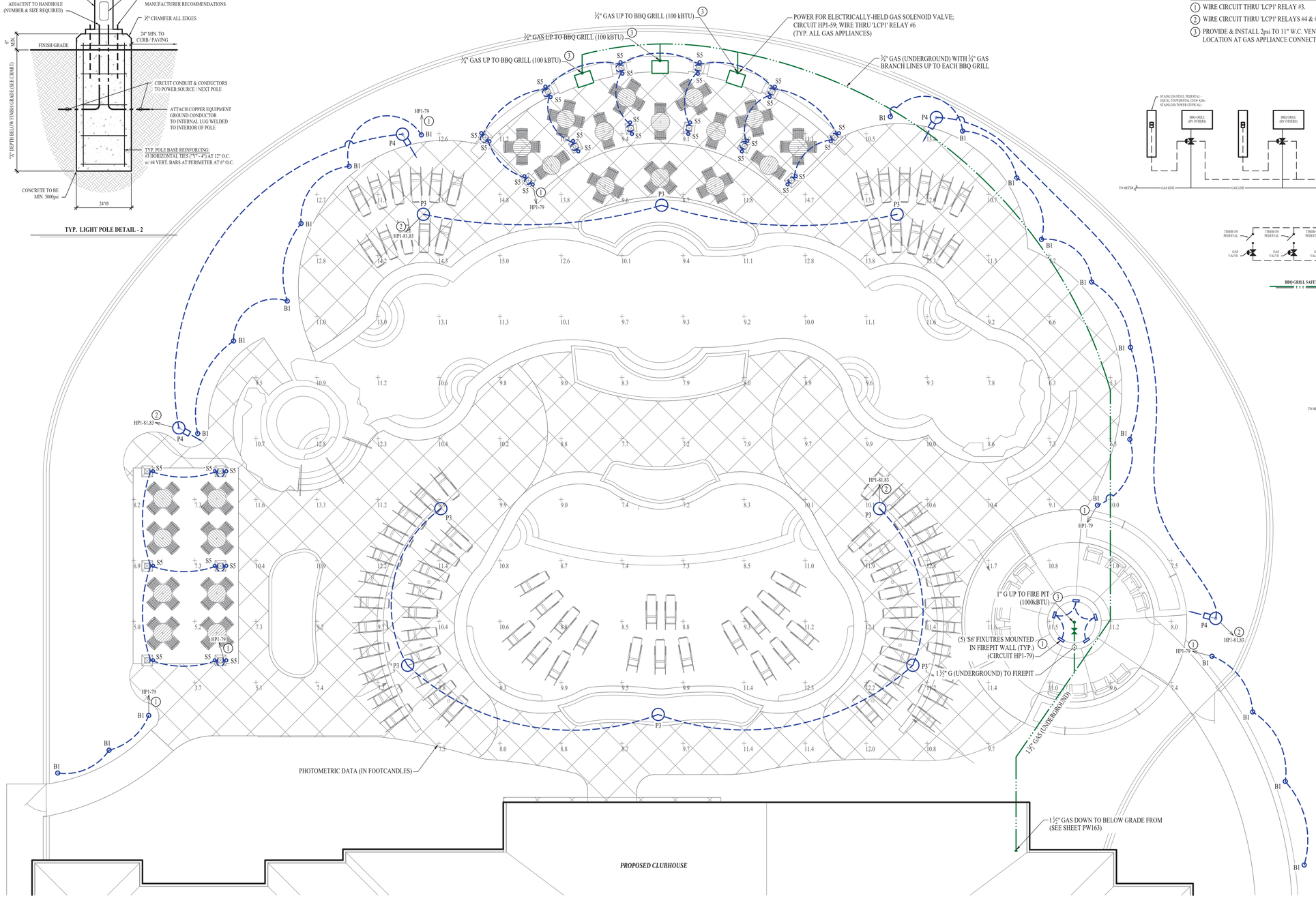
TYP. LIGHT POLE DETAIL - 2

GENERAL NOTES:

1. REFER TO PLAN SHEETS AND RESPECTIVE TRADE DETAIL SHEETS FOR ADDITIONAL INFORMATION, REQUIREMENTS, SCHEDULES, ETC.

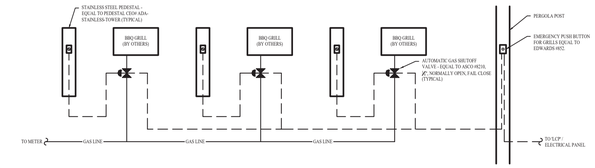
KEY NOTES:

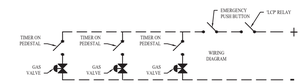
1. WIRE CIRCUIT THRU 'LCP1' RELAY #3.
2. WIRE CIRCUIT THRU 'LCP1' RELAYS #4 & #5.
3. PROVIDE & INSTALL 2psi TO 11" W.C. VENTLESS REGULATOR AND SHUT-OFF VALVE IN ACCESSIBLE LOCATION AT GAS APPLIANCE CONNECTION.



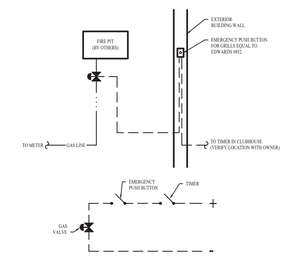
MEP PLAN - POOL AREA

SCALE: 1/8" = 1'-0"





BBQ GRILL SAFETY SHUTOFF DETAIL



FIRE PIT SAFETY SHUTOFF DETAIL

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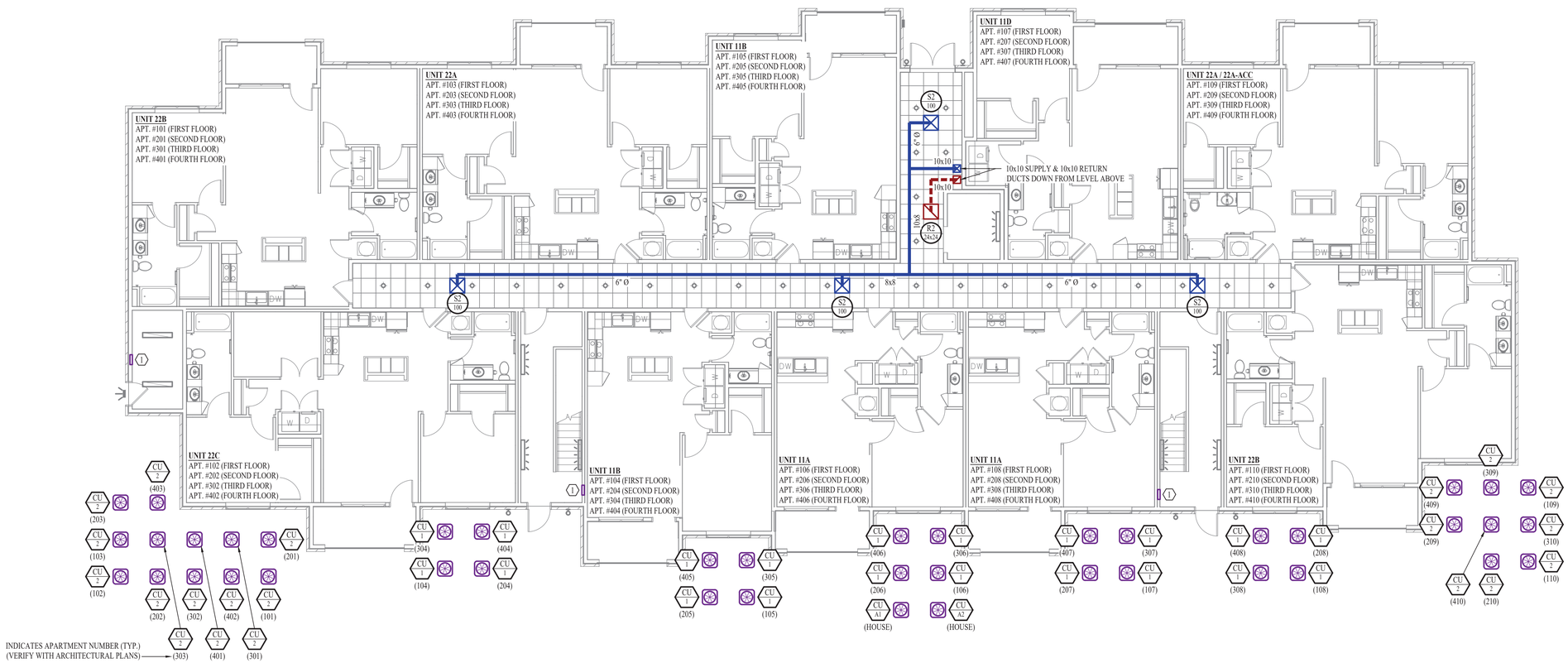
SHEET TITLE

POOL AREA - MEP PLAN

SHEET NUMBER

MEP4



BUILDING 'A' - FIRST FLOOR - HVAC PLAN

SCALE: 1/8" = 1' - 0"

HVAC PLAN GENERAL NOTES:

1. REFER TO M500 & M600 SERIES SHEETS FOR ADDITIONAL HVAC DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. REFER TO 'UP' SERIES SHEETS FOR HVAC PLANS WITHIN EACH APARTMENT.
3. ALL REFRIGERANT PIPING SHALL ROUTE IN SPACES ABOVE FINISHED CEILINGS AND WITHIN WALL CAVITIES. DO NOT EXCEED MAXIMUM REFRIGERANT LINESET LENGTH AS SPECIFIED BY EQUIPMENT MANUFACTURER.
4. ALL DUCTWORK IN COMMON SPACES SHALL ROUTE ABOVE SUSPENDED CEILINGS UNLESS NOTED OTHERWISE.

HVAC PLAN KEY NOTES:

1 WALL HEATER EQUAL TO BERKO VFK404F PROVIDED & INSTALLED BY ELECTRICIAN.

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Aria Apartments - Lee's Summit

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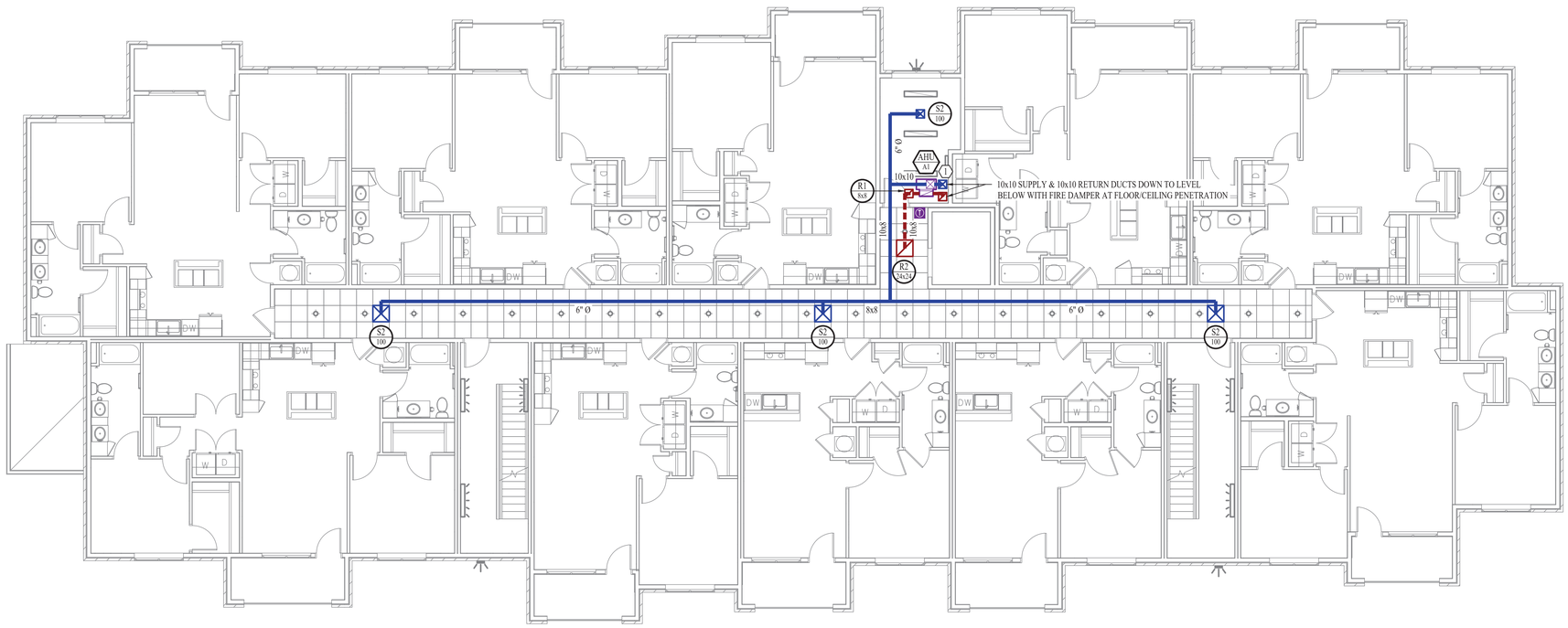
Lee's Summit, Jackson County, Missouri

SHEET TITLE

BUILDING 'A'
FIRST FLOOR
HVAC PLAN

SHEET NUMBER

M111



BUILDING 'A' - SECOND FLOOR - HVAC PLAN

SCALE: 1/8" = 1' - 0"

HVAC PLAN GENERAL NOTES:

1. REFER TO M500 & M600 SERIES SHEETS FOR ADDITIONAL HVAC DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. REFER TO 'UP' SERIES SHEETS FOR HVAC PLANS WITHIN EACH APARTMENT.
3. ALL REFRIGERANT PIPING SHALL ROUTE IN SPACES ABOVE FINISHED CEILINGS AND WITHIN WALL CAVITIES. DO NOT EXCEED MAXIMUM REFRIGERANT LINESET LENGTH AS SPECIFIED BY EQUIPMENT MANUFACTURER.
4. ALL DUCTWORK IN COMMON SPACES SHALL ROUTE ABOVE SUSPENDED CEILINGS UNLESS NOTED OTHERWISE.

HVAC PLAN KEY NOTES:

1. CONDENSATE TO DISCHARGE IN FLOOR DRAIN WITHIN MECHANICAL ROOM.

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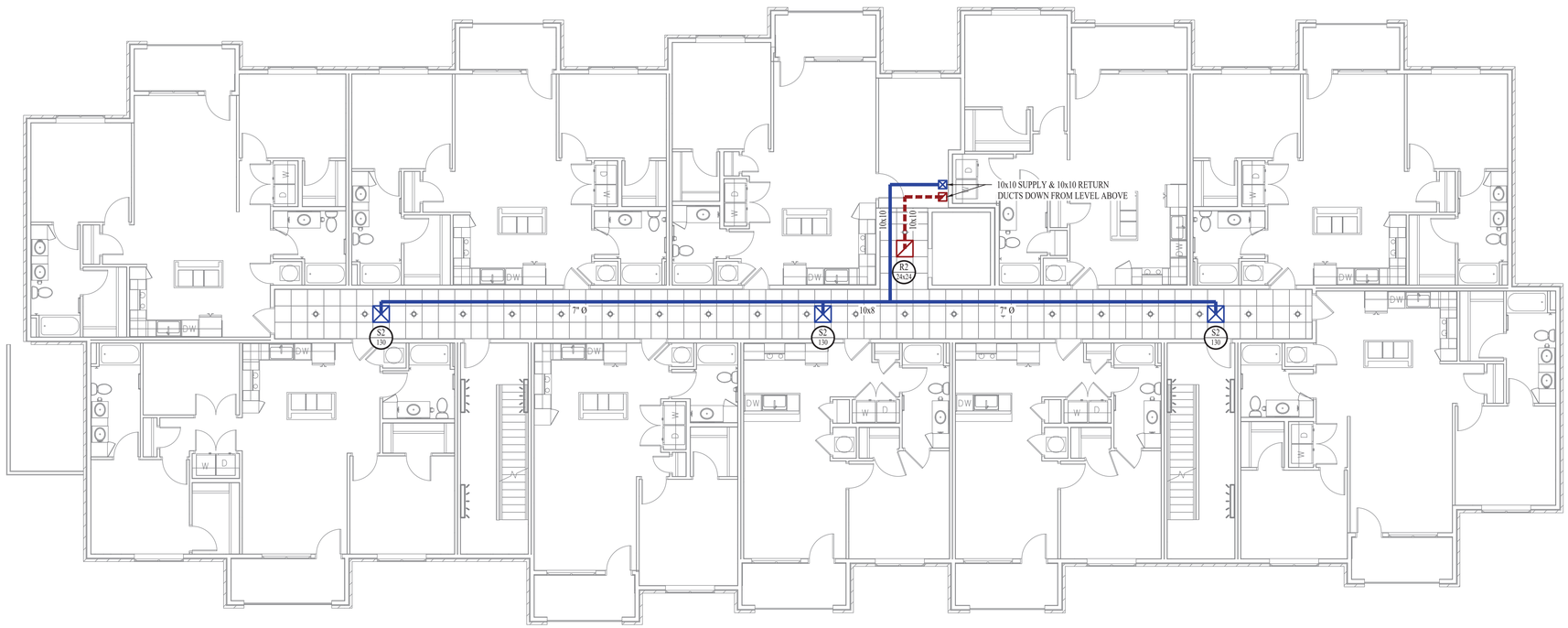
SHEET TITLE

BUILDING 'A' SECOND FLOOR HVAC PLAN

SHEET NUMBER

M112



BUILDING 'A' - THIRD FLOOR - HVAC PLAN

SCALE: 1/8" = 1' - 0"

HVAC PLAN GENERAL NOTES:

1. REFER TO M500 & M600 SERIES SHEETS FOR ADDITIONAL HVAC DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. REFER TO 'UP' SERIES SHEETS FOR HVAC PLANS WITHIN EACH APARTMENT.
3. ALL REFRIGERANT PIPING SHALL ROUTE IN SPACES ABOVE FINISHED CEILINGS AND WITHIN WALL CAVITIES. DO NOT EXCEED MAXIMUM REFRIGERANT LINESET LENGTH AS SPECIFIED BY EQUIPMENT MANUFACTURER.
4. ALL DUCTWORK IN COMMON SPACES SHALL ROUTE ABOVE SUSPENDED CEILINGS UNLESS NOTED OTHERWISE.

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J2 PROJECT No:	J20055
J2 DESIGN:	ACW

ISSUE TITLE	DATE
PHASE I - PERMIT SET	01 - 07 - 2021

Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

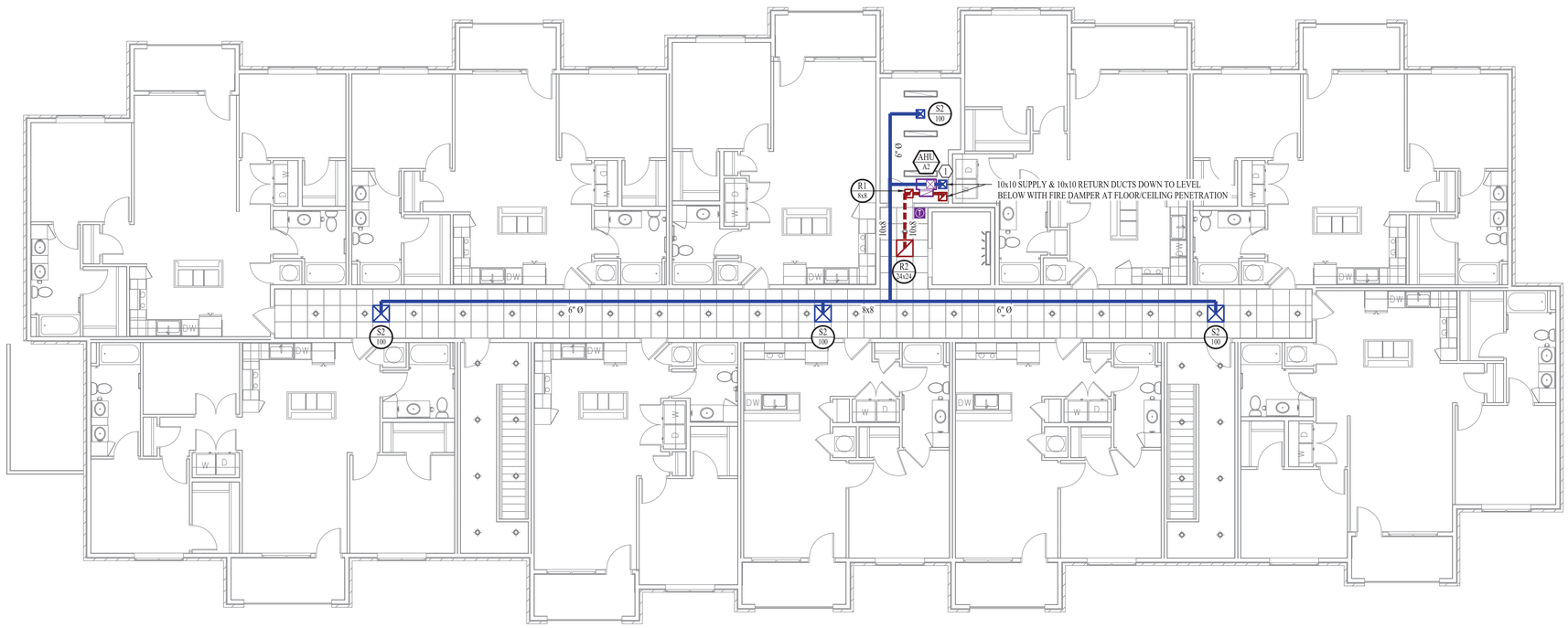
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

BUILDING 'A' THIRD FLOOR HVAC PLAN

SHEET NUMBER

M113



BUILDING 'A' - FOURTH FLOOR - HVAC PLAN

SCALE: 1/8" = 1' - 0"

HVAC PLAN GENERAL NOTES:

1. REFER TO M500 & M600 SERIES SHEETS FOR ADDITIONAL HVAC DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. REFER TO 'UP' SERIES SHEETS FOR HVAC PLANS WITHIN EACH APARTMENT.
3. ALL REFRIGERANT PIPING SHALL ROUTE IN SPACES ABOVE FINISHED CEILINGS AND WITHIN WALL CAVITIES. DO NOT EXCEED MAXIMUM REFRIGERANT LINESET LENGTH AS SPECIFIED BY EQUIPMENT MANUFACTURER.
4. ALL DUCTWORK IN COMMON SPACES SHALL ROUTE ABOVE SUSPENDED CEILINGS UNLESS NOTED OTHERWISE.

HVAC PLAN KEY NOTES:

1. CONDENSATE TO DISCHARGE IN FLOOR DRAIN WITHIN MECHANICAL ROOM.

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Aria Apartments - Lee's Summit

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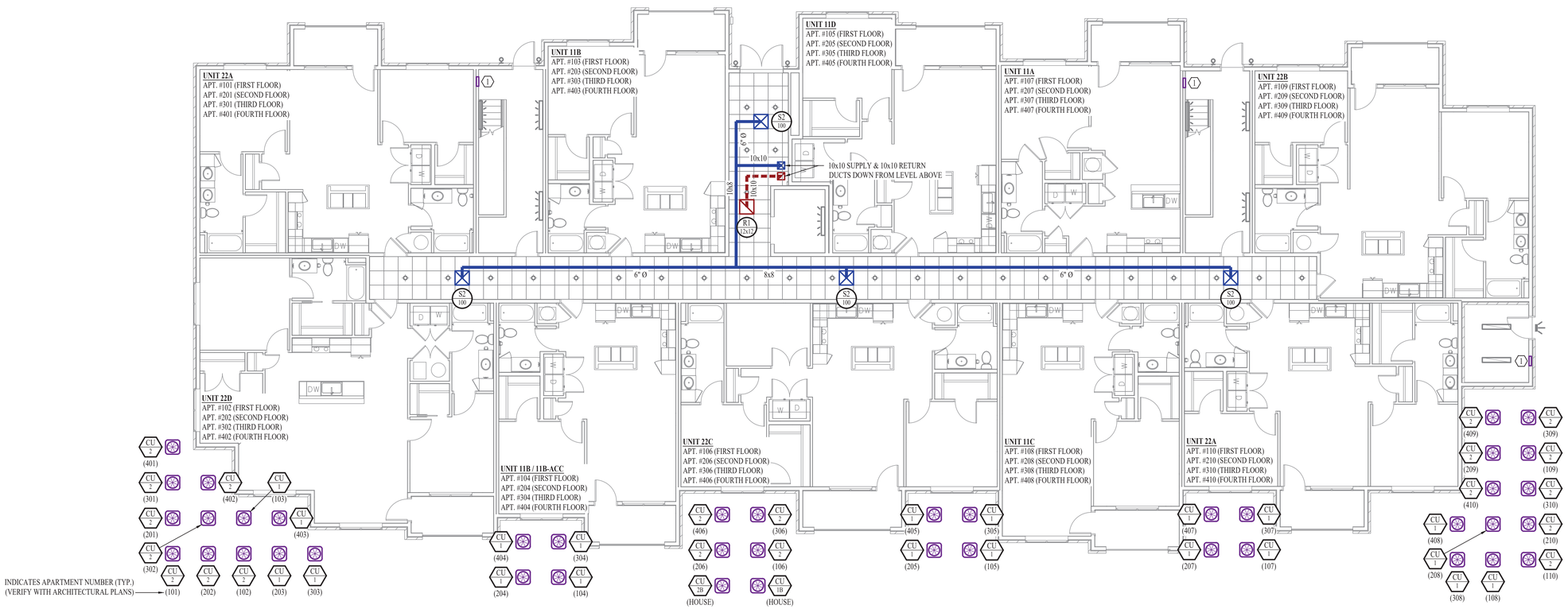
Lee's Summit, Jackson County, Missouri

SHEET TITLE

BUILDING 'A' FOURTH FLOOR HVAC PLAN

SHEET NUMBER

M114



BUILDING 'B' - FIRST FLOOR - HVAC PLAN

SCALE: 1/8" = 1' - 0"

HVAC PLAN GENERAL NOTES:

1. REFER TO M500 & M600 SERIES SHEETS FOR ADDITIONAL HVAC DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. REFER TO 'UP' SERIES SHEETS FOR HVAC PLANS WITHIN EACH APARTMENT.
3. ALL REFRIGERANT PIPING SHALL ROUTE IN SPACES ABOVE FINISHED CEILINGS AND WITHIN WALL CAVITIES. DO NOT EXCEED MAXIMUM REFRIGERANT LINESET LENGTH AS SPECIFIED BY EQUIPMENT MANUFACTURER.
4. ALL DUCTWORK IN COMMON SPACES SHALL ROUTE ABOVE SUSPENDED CEILINGS UNLESS NOTED OTHERWISE.

HVAC PLAN KEY NOTES:

(1) WALL HEATER EQUAL TO BERKO VFK404F PROVIDED & INSTALLED BY ELECTRICIAN.

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Aria Apartments - Lee's Summit

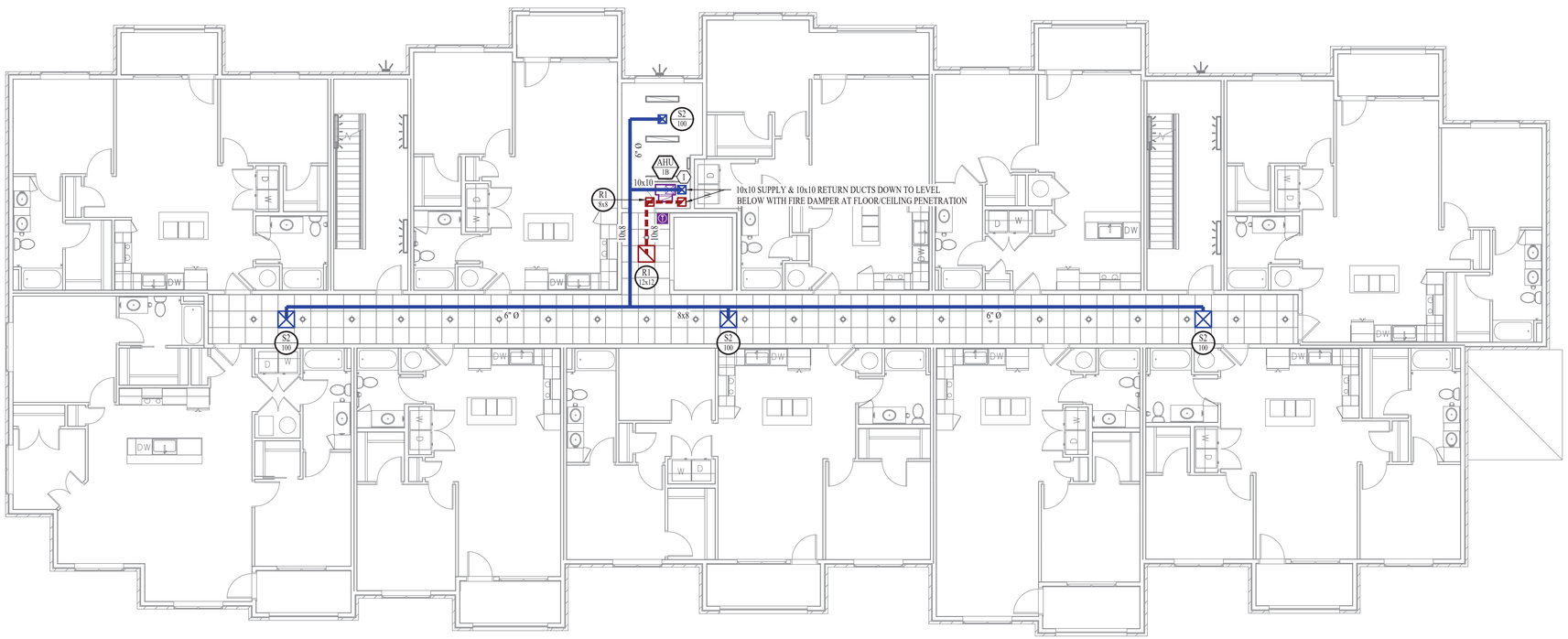
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

BUILDING 'B' FIRST FLOOR HVAC PLAN

SHEET NUMBER

M121



BUILDING 'B' - SECOND FLOOR - HVAC PLAN

SCALE: 1/8" = 1' - 0"

HVAC PLAN GENERAL NOTES:

1. REFER TO M500 & M600 SERIES SHEETS FOR ADDITIONAL HVAC DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. REFER TO 'UP' SERIES SHEETS FOR HVAC PLANS WITHIN EACH APARTMENT.
3. ALL REFRIGERANT PIPING SHALL ROUTE IN SPACES ABOVE FINISHED CEILINGS AND WITHIN WALL CAVITIES. DO NOT EXCEED MAXIMUM REFRIGERANT LINESET LENGTH AS SPECIFIED BY EQUIPMENT MANUFACTURER.
4. ALL DUCTWORK IN COMMON SPACES SHALL ROUTE ABOVE SUSPENDED CEILINGS UNLESS NOTED OTHERWISE.

HVAC PLAN KEY NOTES:

1 CONDENSATE TO DISCHARGE IN FLOOR DRAIN WITHIN MECHANICAL ROOM.

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Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

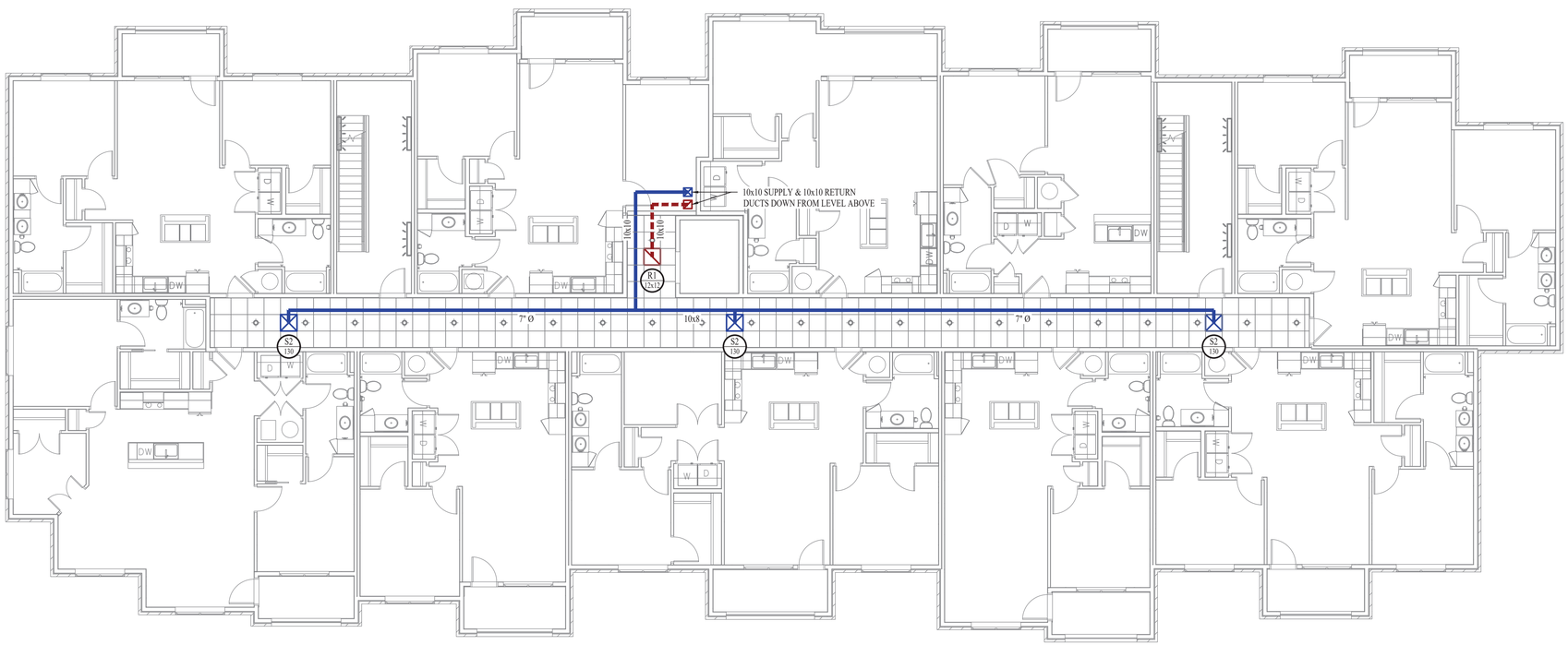
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

BUILDING 'B' SECOND FLOOR HVAC PLAN

SHEET NUMBER

M122



BUILDING 'B' - THIRD FLOOR - HVAC PLAN

SCALE: 1/8" = 1' - 0"

HVAC PLAN GENERAL NOTES:

1. REFER TO M500 & M600 SERIES SHEETS FOR ADDITIONAL HVAC DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. REFER TO 'UP' SERIES SHEETS FOR HVAC PLANS WITHIN EACH APARTMENT.
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Aria Apartments - Lee's Summit

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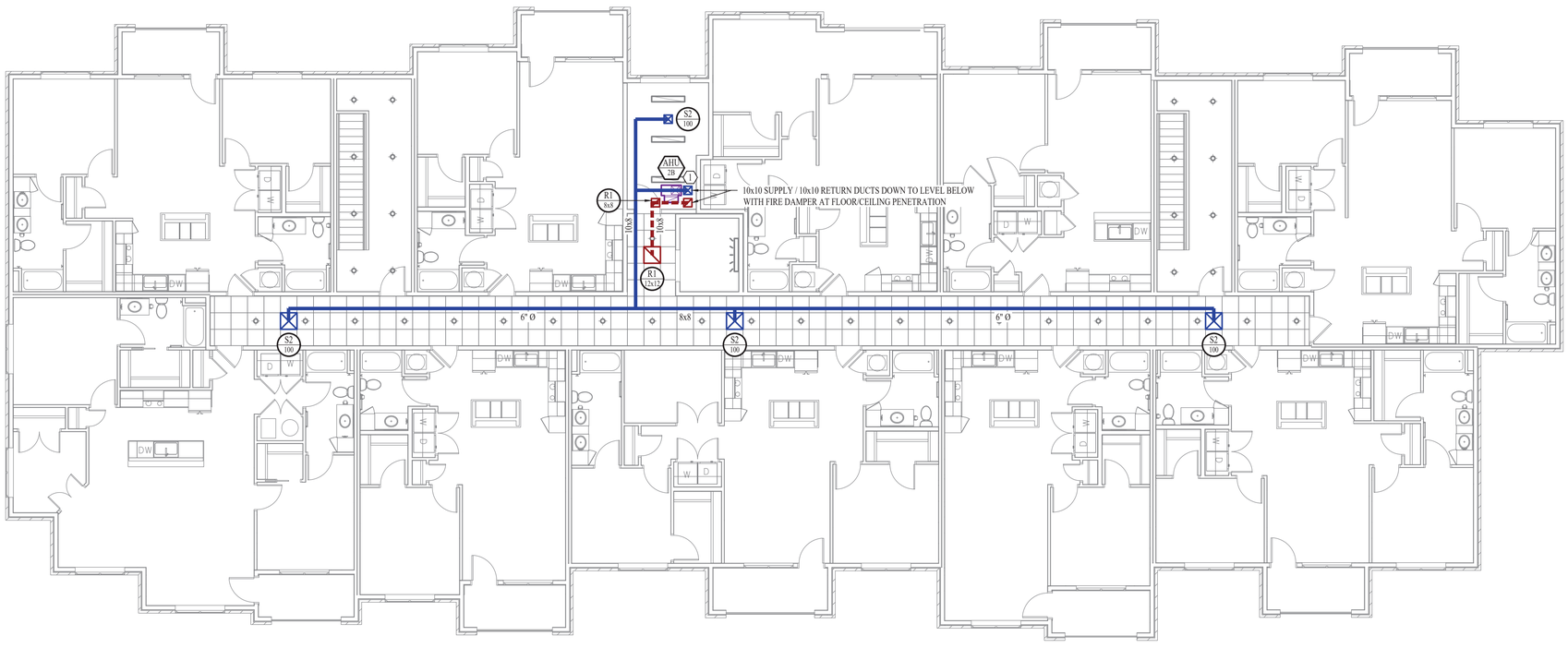
Lee's Summit, Jackson County, Missouri

SHEET TITLE

**BUILDING 'B'
THIRD FLOOR
HVAC PLAN**

SHEET NUMBER

M123



BUILDING 'B' - FOURTH FLOOR - HVAC PLAN

SCALE: 1/8" = 1' - 0"

HVAC PLAN GENERAL NOTES:

1. REFER TO M500 & M600 SERIES SHEETS FOR ADDITIONAL HVAC DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. REFER TO 'UP' SERIES SHEETS FOR HVAC PLANS WITHIN EACH APARTMENT.
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HVAC PLAN KEY NOTES:

1 CONDENSATE TO DISCHARGE IN FLOOR DRAIN WITHIN MECHANICAL ROOM.

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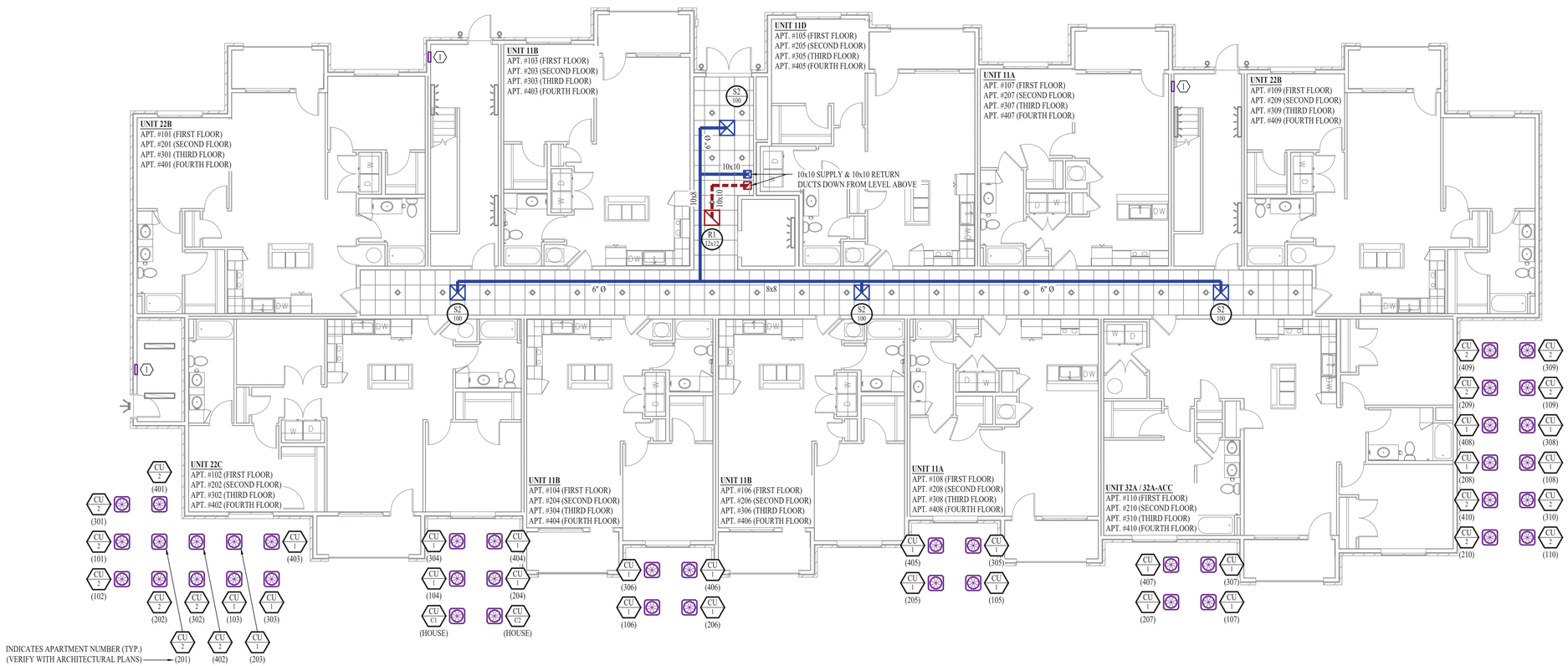
SHEET TITLE

BUILDING 'B' FOURTH FLOOR HVAC PLAN

SHEET NUMBER

M124



BUILDING 'C' - FIRST FLOOR - HVAC PLAN

SCALE: 1/8" = 1' - 0"

HVAC PLAN GENERAL NOTES:

1. REFER TO M500 & M600 SERIES SHEETS FOR ADDITIONAL HVAC DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. REFER TO 'UP' SERIES SHEETS FOR HVAC PLANS WITHIN EACH APARTMENT.
3. ALL REFRIGERANT PIPING SHALL ROUTE IN SPACES ABOVE FINISHED CEILINGS AND WITHIN WALL CAVITIES. DO NOT EXCEED MAXIMUM REFRIGERANT LINESET LENGTH AS SPECIFIED BY EQUIPMENT MANUFACTURER.
4. ALL DUCTWORK IN COMMON SPACES SHALL ROUTE ABOVE SUSPENDED CEILINGS UNLESS NOTED OTHERWISE.

HVAC PLAN KEY NOTES:

(1) WALL HEATER EQUAL TO BERKO VFK404F PROVIDED & INSTALLED BY ELECTRICIAN.

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Aria Apartments - Lee's Summit

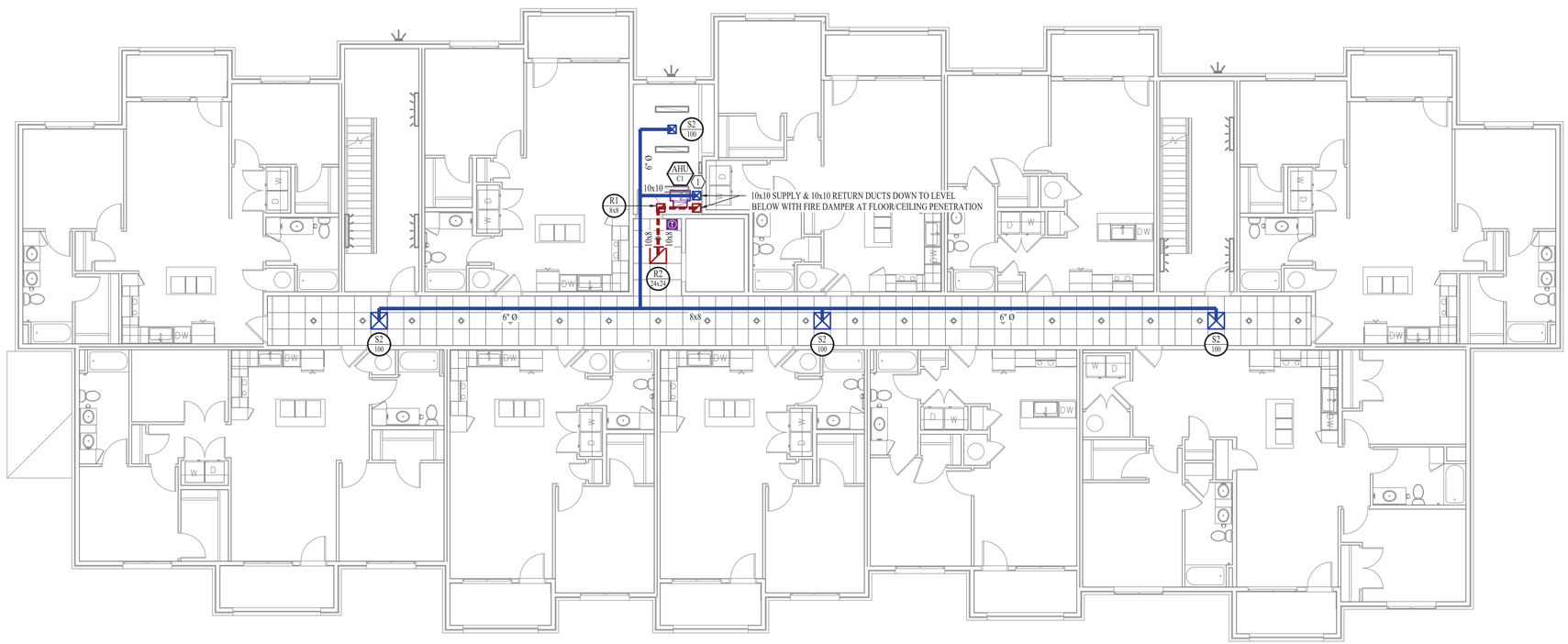
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

BUILDING 'C'
FIRST FLOOR
HVAC PLAN

SHEET NUMBER

M131



BUILDING 'C' - SECOND FLOOR - HVAC PLAN

SCALE: 1/8" = 1' - 0"

HVAC PLAN GENERAL NOTES:

1. REFER TO M500 & M600 SERIES SHEETS FOR ADDITIONAL HVAC DETAILS, SCHEDULES, REQUIREMENTS, ETC.
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HVAC PLAN KEY NOTES:

1 CONDENSATE TO DISCHARGE IN FLOOR DRAIN WITHIN MECHANICAL ROOM.

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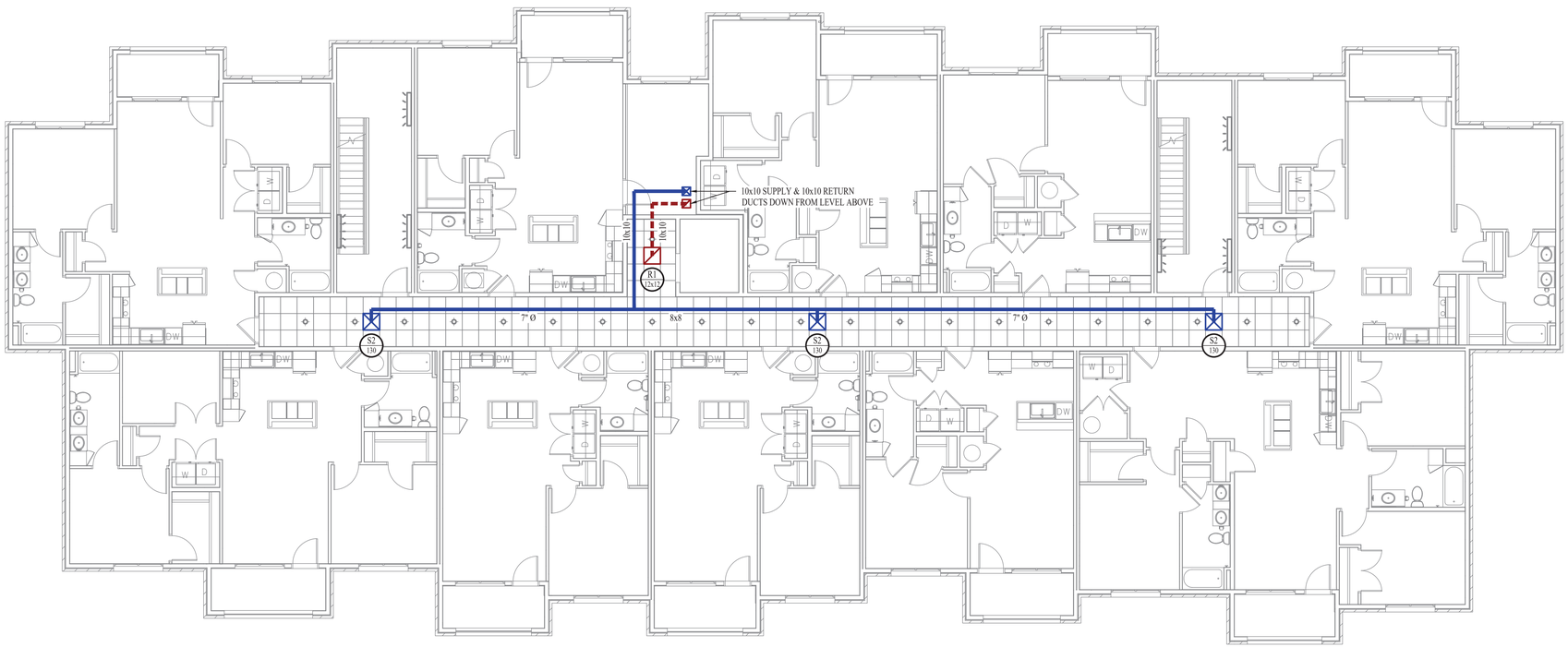
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

BUILDING 'C' SECOND FLOOR HVAC PLAN

SHEET NUMBER

M132



BUILDING 'C' - THIRD FLOOR - HVAC PLAN

SCALE: 1/8" = 1' - 0"

HVAC PLAN GENERAL NOTES:

1. REFER TO M500 & M600 SERIES SHEETS FOR ADDITIONAL HVAC DETAILS, SCHEDULES, REQUIREMENTS, ETC.
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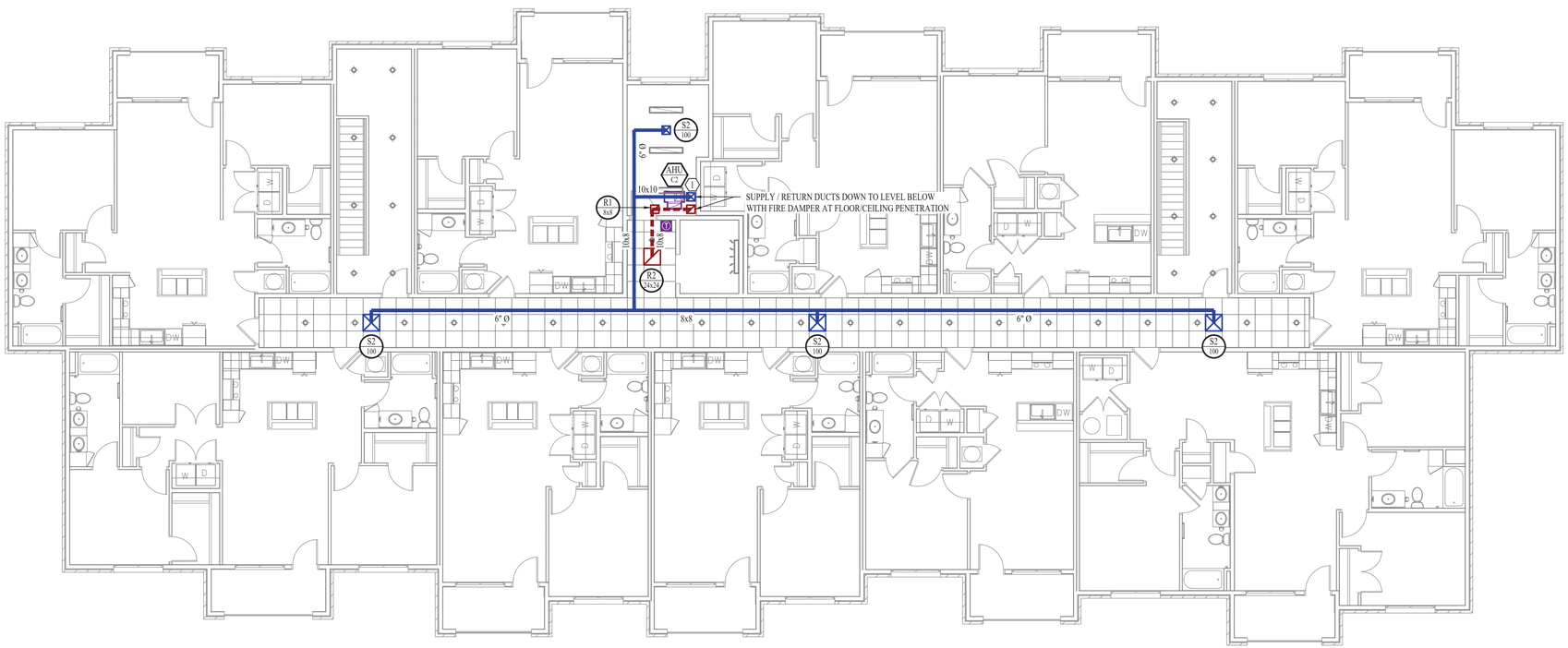
Lee's Summit, Jackson County, Missouri

SHEET TITLE

BUILDING 'C' THIRD FLOOR HVAC PLAN

SHEET NUMBER

M133



BUILDING 'C' - FOURTH FLOOR - HVAC PLAN

SCALE: 1/8" = 1' - 0"

HVAC PLAN GENERAL NOTES:

1. REFER TO M500 & M600 SERIES SHEETS FOR ADDITIONAL HVAC DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. REFER TO 'UP' SERIES SHEETS FOR HVAC PLANS WITHIN EACH APARTMENT.
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HVAC PLAN KEY NOTES:

1 CONDENSATE TO DISCHARGE IN FLOOR DRAIN WITHIN MECHANICAL ROOM.

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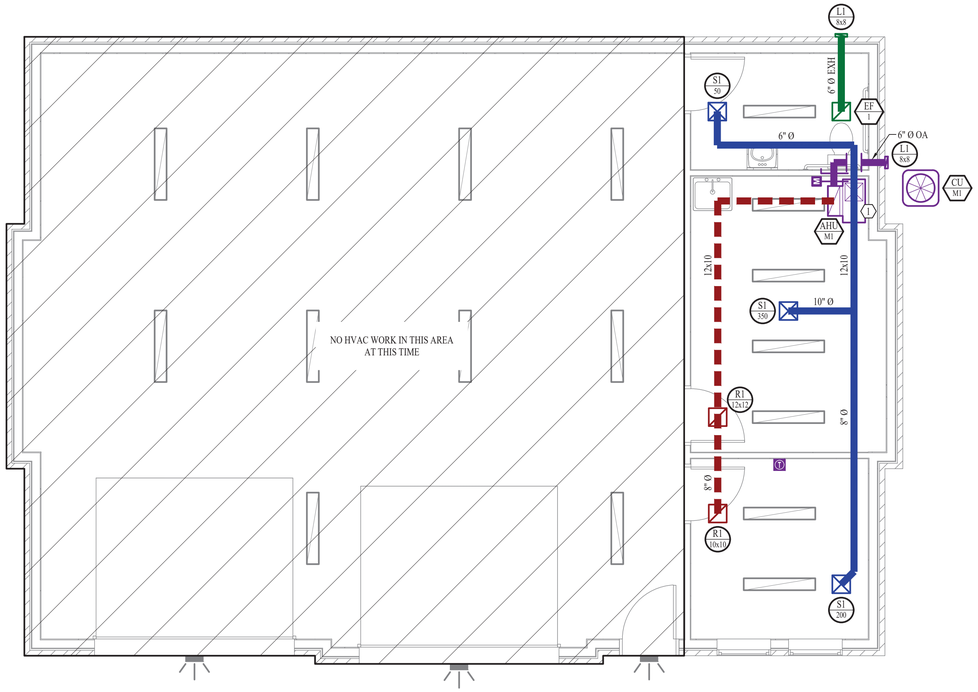
SHEET TITLE

BUILDING 'C' FOURTH FLOOR HVAC PLAN

SHEET NUMBER

M134



MAINTENANCE BUILDING - HVAC PLAN

SCALE: 1/4" = 1' - 0"

HVAC PLAN GENERAL NOTES:

1. REFER TO M500 & M600 SERIES SHEETS FOR ADDITIONAL HVAC DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. ALL DUCTWORK SHOWN SHALL ROUTE ABOVE CEILINGS / WITHIN ATTIC SPACE UNLESS NOTED OTHERWISE.
3. REFRIGERANT LINES SHALL ROUTE ABOVE FINISHED CEILINGS / WITHIN WALL CAVITIES TO REMAIN CONCEALED.

HVAC PLAN KEY NOTES:

1. CONDENSATE TO DISCHARGE IN NEARBY FLOOR DRAIN.

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Aria Apartments - Lee's Summit

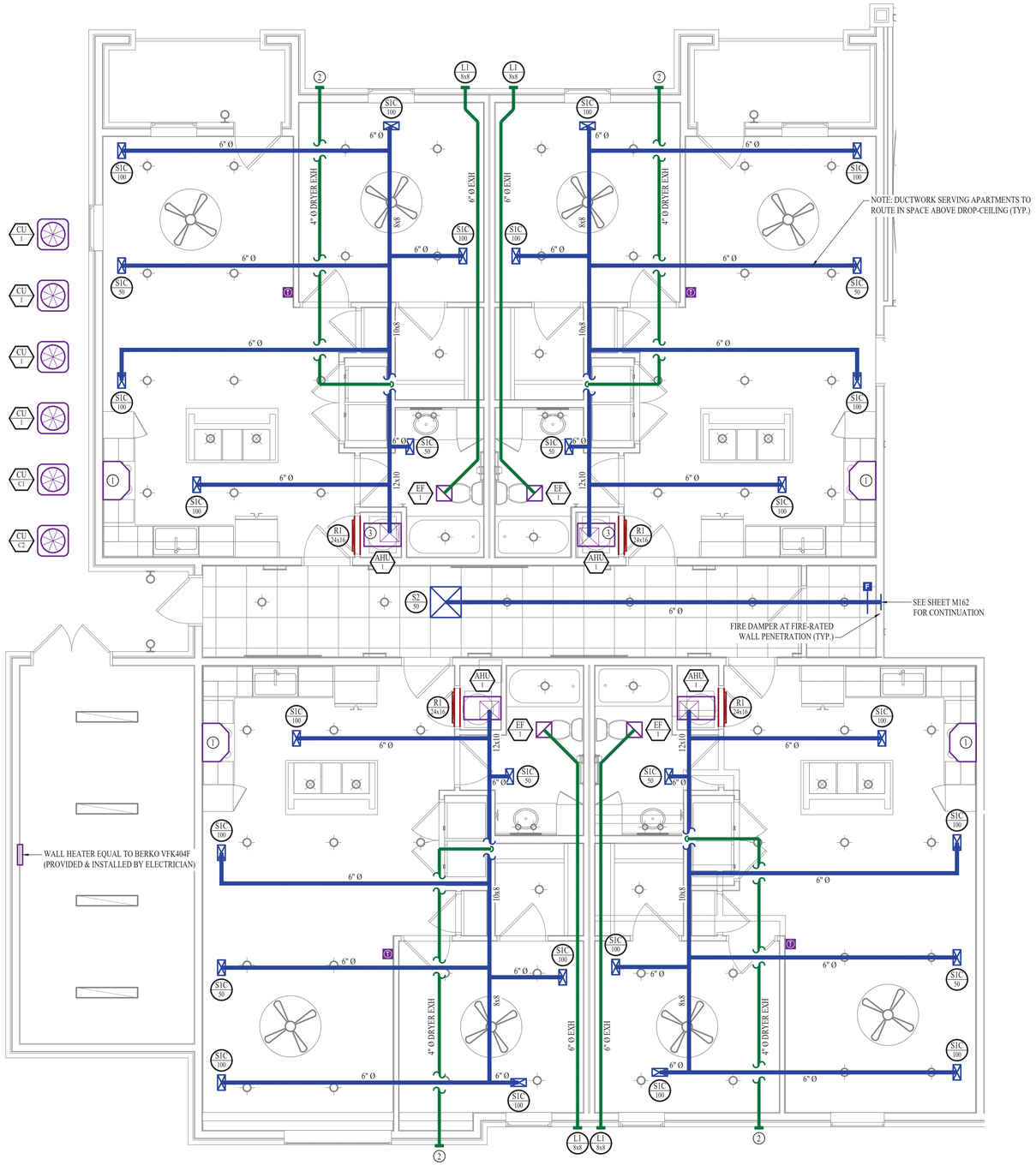
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

MAINTENANCE BUILDING HVAC PLAN

SHEET NUMBER

M141



HVAC PLAN - AREA A

SCALE: 1/4" = 1'-0"

HVAC PLAN GENERAL NOTES:

1. REFER TO M500 & M600 SERIES SHEETS FOR HVAC SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. APARTMENTS MEET NATURAL VENTILATION REQUIREMENT PER 2018 IMC 402 AND ARE EXEMPT FROM MECHANICAL VENTILATION REQUIREMENTS.
3. REFRIGERANT PIPING SHALL ROUTE IN SPACES ABOVE FINISHED CEILINGS AND WITHIN WALL CAVITIES TO REMAIN CONCEALED.
4. SUPPLY DUCTWORK FROM AHU AT FLOOR/CEILING PENETRATION SHALL BE PROTECTED BY A FIRE RADIATION DAMPER WHERE PENETRATING A FIRE-RATED ASSEMBLY. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
5. WRAP ALL DRYER DUCTS WITH FIREMASTER (OR EQUAL) DUCT WRAP.
6. TOTAL DEVELOPED LENGTH OF EXHAUST DUCT SHALL BE INDICATED ON A PERMANENT LABEL WITHIN 6' OF DRYER VENT CONNECTION.

HVAC PLAN KEY NOTES:

1. RESIDENTIAL RECIRCULATION HOOD TO BE SUPPLIED & INSTALLED BY GC.
2. TERMINATE 4" DRYER EXHAUST WITH VENT EQUAL TO DRYER WALL VENT #DWV4.
3. AHU LOCATED ABOVE WATER HEATER, COORDINATE WITH PLUMBING CONTRACTOR. CONDENSATE TO DISCHARGE IN FLOOR DRAIN WITHIN CLOSET. SEE SHEET M501 FOR RETURN AIR DETAILS.

KEY PLAN

SCALE: 1" = 50 ft

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Aria Apartments - Lee's Summit

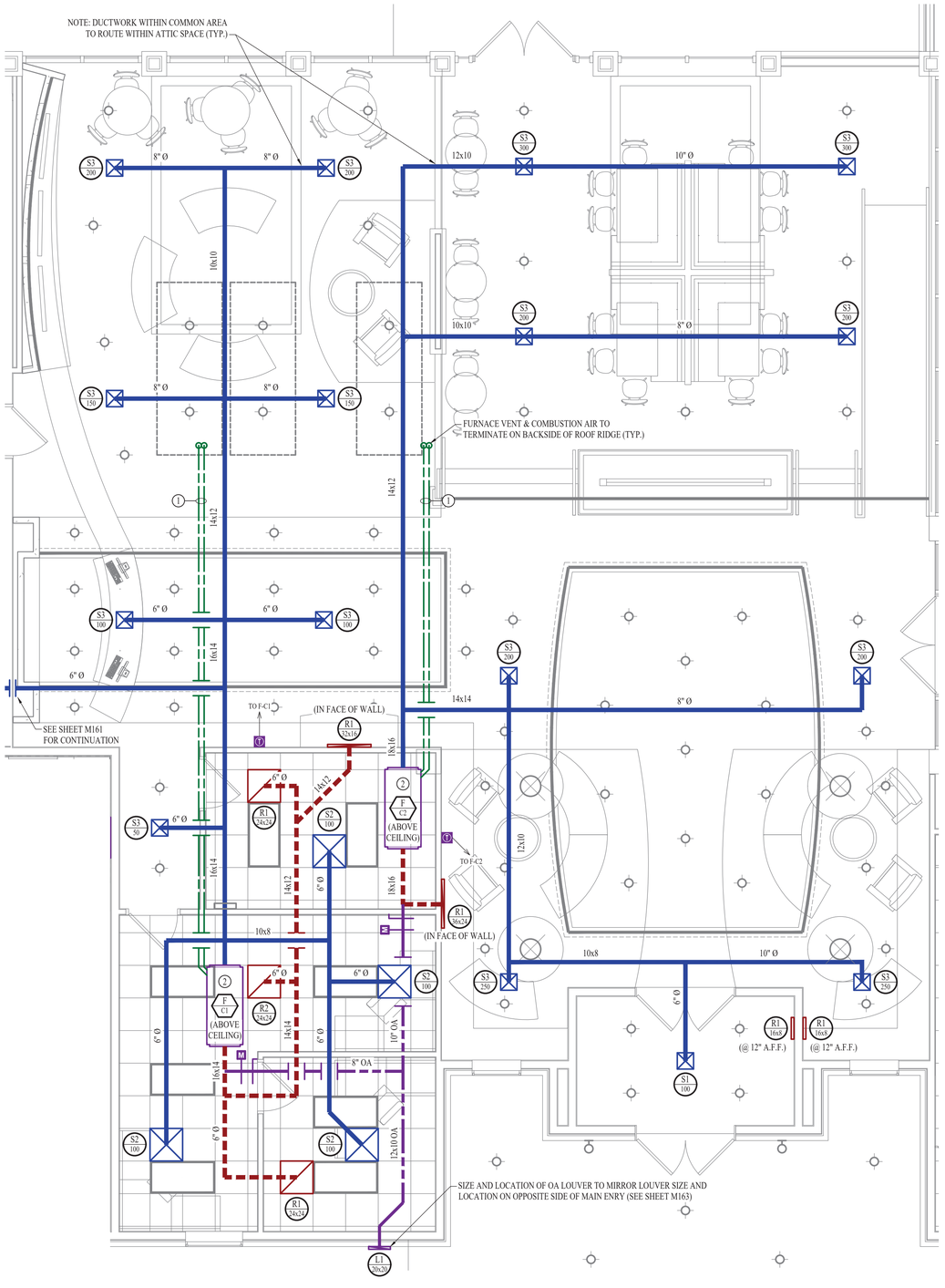
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

CLUBHOUSE HVAC PLAN

SHEET NUMBER

M161



HVAC PLAN - AREA B

SCALE: 1/4" = 1'-0"

HVAC PLAN GENERAL NOTES:

1. REFER TO M500 & M600 SERIES SHEETS FOR HVAC SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. REFRIGERANT PIPING SHALL ROUTE IN SPACES ABOVE FINISHED CEILINGS AND WITHIN WALL CAVITIES TO REMAIN CONCEALED.

HVAC PLAN KEY NOTES:

1. FURNACE VENT & COMBUSTION AIR ROUTED IN ATTIC SPACE UP THRU ROOF, TERMINATE PER MANUFACTURER'S SPECIFICATIONS.
2. CONDENSATE DRAIN FROM FURNACE(S) TO DISCHARGE IN FLOOR DRAIN WITHIN NEARBY MECHANICAL ROOM.

KEY PLAN

SCALE: 1" = 50 ft

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Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

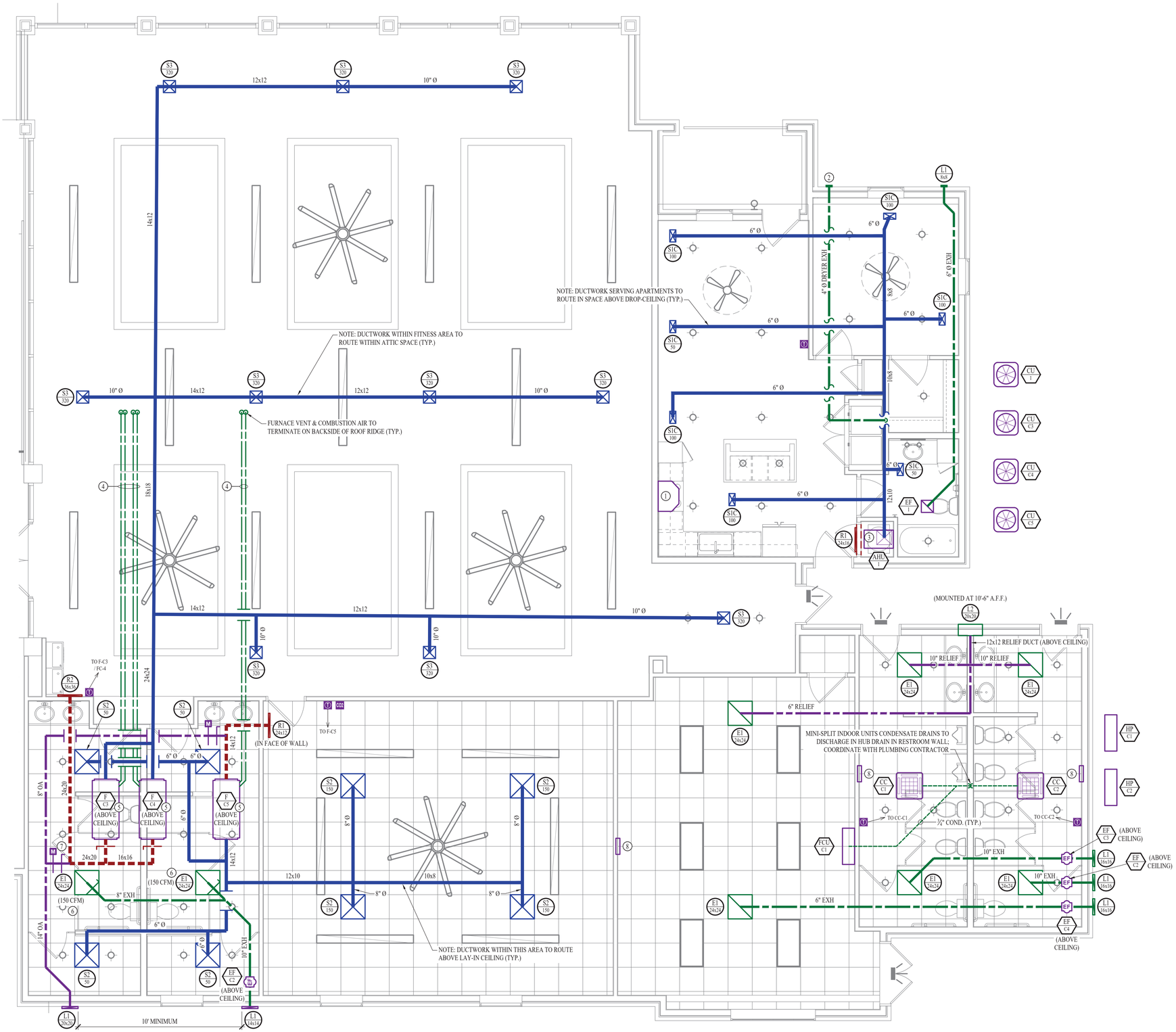
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

CLUBHOUSE HVAC PLAN

SHEET NUMBER

M162



HVAC PLAN - AREA C

SCALE: 1/4" = 1'-0"

HVAC PLAN GENERAL NOTES:

1. REFER TO M500 & M600 SERIES SHEETS FOR HVAC SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. APARTMENTS MEET NATURAL VENTILATION REQUIREMENT PER 2018 IMC 402 AND ARE EXEMPT FROM MECHANICAL VENTILATION REQUIREMENTS.
3. REFRIGERANT PIPING SHALL ROUTE IN SPACES ABOVE FINISHED CEILINGS AND WITHIN WALL CAVITIES TO REMAIN CONCEALED.
4. SUPPLY DUCTWORK FROM AHU AT FLOOR/CEILING PENETRATION SHALL BE PROTECTED BY A FIRE RADIATION DAMPER WHERE PENETRATING A FIRE-RATED ASSEMBLY. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
5. WRAP ALL DRYER DUCTS WITH FIREMASTER (OR EQUAL) DUCT WRAP.
6. TOTAL DEVELOPED LENGTH OF EXHAUST DUCT SHALL BE INDICATED ON A PERMANENT LABEL WITHIN 6' OF DRYER VENT CONNECTION.

HVAC PLAN KEY NOTES:

1. RESIDENTIAL RECIRCULATION HOOD TO BE SUPPLIED & INSTALLED BY GC.
2. TERMINATE 4" DRYER EXHAUST WITH VENT EQUAL TO DRYER WALL VENT #DWV4.
3. AHU LOCATED ABOVE WATER HEATER, COORDINATE WITH PLUMBING CONTRACTOR. CONDENSATE TO DISCHARGE IN FLOOR DRAIN WITHIN CLOSET. SEE SHEET M501 FOR RETURN AIR DETAILS.
4. FURNACE VENT & COMBUSTION AIR ROUTED IN ATTIC SPACE UP THRU ROOF, TERMINATE PER MANUFACTURER'S SPECIFICATIONS.
5. CONDENSATE DRAIN FROM FURNACE(S) TO DISCHARGE IN HUB DRAIN IN RESTROOM WALL, COORDINATE WITH PLUMBING CONTRACTOR.
6. BALANCE EXHAUST FLOW TO AMOUNT SHOWN (XXX CFM).
7. 12" OA CONNECTION TO F-C3 / F-C4 RETURN DUCT WITH MOTORIZED & BALANCE DAMPER.
8. WALL HEATER EQUAL TO BERKO VFK404F. (PROVIDED & INSTALLED BY ELECTRICIAN)

KEY PLAN

SCALE: 1" = 50 ft

James Watson, P.E. January 7, 2021
PE-2015017071
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J2 PROJECT No:	J20055
J2 DESIGN:	ACW

ISSUE TITLE	DATE
PHASE I - PERMIT SET	01 - 07 - 2021

Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

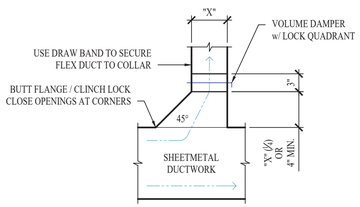
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

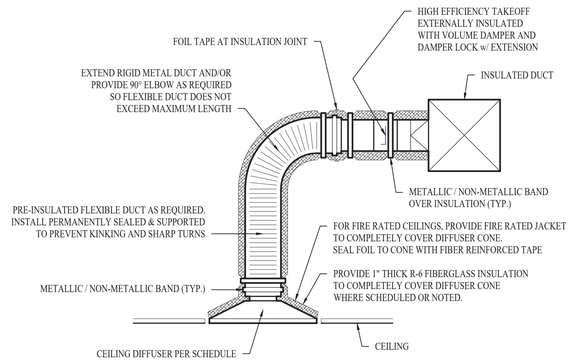
CLUBHOUSE HVAC PLAN

SHEET NUMBER

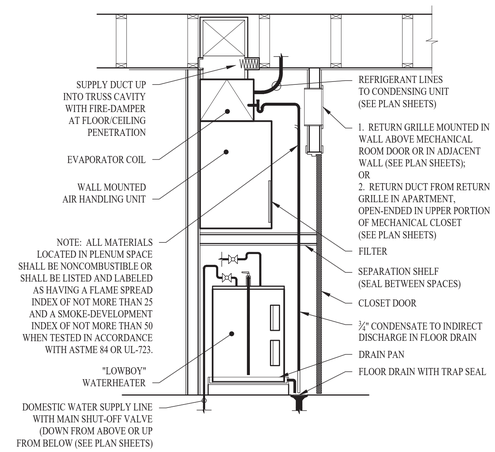
M163



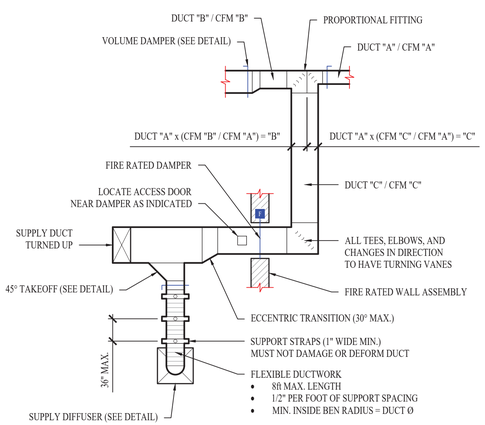
TYPICAL 45° TAKEOFF DETAIL



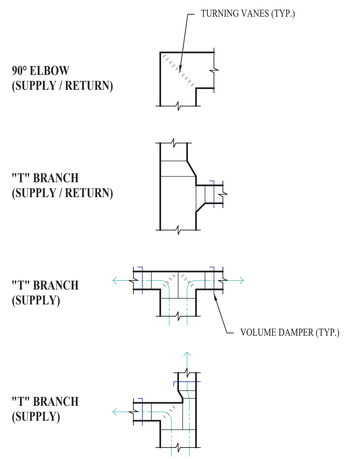
TYPICAL LAY-IN DIFFUSER DETAIL



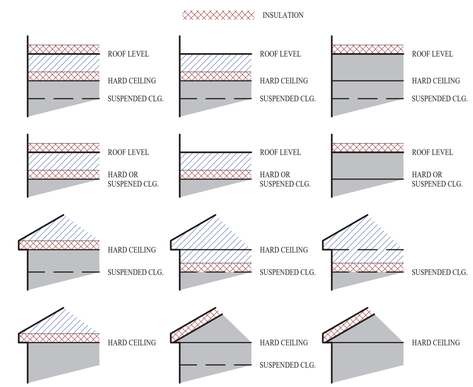
STACKED WATER HEATER / AHU DETAIL



TYPICAL DUCTWORK DETAIL



TYPICAL DUCTWORK FITTINGS DETAIL



DUCT INSIDE THERMAL ENVELOPE INSULATION REQUIREMENTS

RECTANGULAR
- SUPPLY = 1" LINER
- RETURN = 1" LINER
- EXHAUST = NONE
- OUTSIDE AIR = 2" WRAP

ROUND
- SUPPLY = 1½" WRAP
- RETURN = NONE
- EXHAUST = NONE
- OUTSIDE AIR = 2" WRAP

SPIRAL
- SUPPLY = NONE
- RETURN = NONE
- EXHAUST = NONE
- OUTSIDE AIR = 2" WRAP

DUCT OUTSIDE THERMAL ENVELOPE INSULATION REQUIREMENTS

RECTANGULAR
- SUPPLY = 1" LINER & 1½" WRAP
- RETURN = 1" LINER @ 1½" WRAP
- EXHAUST = 1½" WRAP
- OUTSIDE AIR = NONE

ROUND
- SUPPLY = 2" WRAP
- RETURN = 2" WRAP
- EXHAUST = 1½" WRAP
- OUTSIDE AIR = NONE

SPIRAL
- SUPPLY = 2" WRAP
- RETURN = 2" WRAP
- EXHAUST = 1½" WRAP
- OUTSIDE AIR = NONE

TYPICAL BUILDING INTERIOR DUCT INSULATION DIAGRAM

STATE OF MISSOURI
JAMES P. WATSON
NUMBER PE-2015017071
PROFESSIONAL ENGINEER

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Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

HVAC DETAILS & SCHEDULES

SHEET NUMBER

M501

HVAC SPECIFICATIONS

1. EQUIPMENT
   - 1.1. ALL EQUIPMENT MUST PROVIDE THE PERFORMANCE SPECIFIED ON PLANS. WHERE SPECIFIC MAKES AND MODELS ARE INDICATED ON PLAN, CONTRACTOR TO PROVIDE MODEL INDICATED OR APPROVED EQUAL.
   - 1.2. CONTRACTOR TO SUPPLY SUBMITTALS FOR ALL EQUIPMENT FOR REVIEW BY ARCHITECT AND ENGINEER PRIOR TO PURCHASE.
   - 1.3. ALL HORIZONTAL FURNACES WITH AC COILS TO BE EQUIPPED WITH CORROSION RESISTANT DRAIN PAIN. DRAIN PAN TO DISCHARGE TO SANITARY WASTE VIA INDIRECT CONNECTION WITH AIR GAP. DRAIN PAN TO PROVIDE SECONDARY OVERFLOW OR FLOAT SWITCH INTERLOCKED WITH UNIT TO SHUT DOWN UNIT ON HIGH WATER SIGNAL.
   - 1.4. ALL EXTERIOR REFRIGERANT COILS TO BE PROTECTED BY FACTORY EQUIPPED HAIL GUARDS.
   - 1.5. REFRIGERANT PIPING TO BE ACR COPPER OR TYPE L COPPER.
2. DUCTWORK
   - 2.1. DUCTWORK TO BE GALVANIZED STEEL, SEAL CLASS B, CONSTRUCTED PER SMACNA STANDARDS.
   - 2.2. 26 GA. MINIMUM UP TO 16" DUCT, 24 GA. UP TO 20", 22 GA. UP TO 24", 20 GA. UP TO 28", AND 18 GA. UP TO 36".
   - 2.3. TURNING VANES TO BE PROVIDED AND INSTALLED AT ALL 90° BENDS AND TEES.
   - 2.4. DUCT DIMENSIONS LISTED ARE TO INTERIOR OF DUCT LINER.
   - 2.5. BALANCE DAMPERS MUST BE PROVIDED TO ALLOW ADJUSTMENT AT EACH AIR TERMINAL.
     - 2.5.1. WHERE BRANCH TAKEOFF IS ACCESSIBLE (ABOVE LAY-IN CEILING OR EXPOSED DUCT), THE BALANCE DAMPER IS TO BE INSTALLED AT TAKEOFF.
     - 2.5.2. WHERE TAKEOFF IS INACCESSIBLE (IN ATTIC OR SOFFIT), THE BALANCE DAMPER IS TO BE LOCATED SO IT IS ACCESSIBLE FROM FACE OF AIR DEVICE.
3. INSULATION
   - 3.1. DUCTWORK
     - 3.1.1. SEE "TYPICAL DUCT INSULATION DIAGRAM" FOR INSTALLATION SPECIFIC REQUIREMENTS.
     - 3.1.2. INTERNAL DUCT LINER TO BE EQUAL TO 'JOHNS MANVILLE LINACOUSTIC R-300'.
     - 3.1.3. EXTERNAL DUCT WRAP TO INCLUDE VAPOR BARRIER. EQUAL TO 'JOHNS MANVILLE MICROLITE' WITH FSK JACKET.
   - 3.2. REFRIGERANT PIPING
     - 3.2.1. REFRIGERANT PIPING SHALL BE TYPE ACR OR TYPE L COPPER.
     - 3.2.2. SPLIT SYSTEM (SUCTION LINE ONLY) - 1" CLOSED CELL ELASTOMERIC FOAM (EQUAL TO 'ARMAFLEX AP').
   - 3.3. VRV/VRF SYSTEMS (BOTH SUCTION AND HOT GAS LINES) 1 ½" EPDM (EQUAL TO 'AEROFLEX AEROCEL AC') WITHIN CONDITIONED SPACES & 2" EDPM (EQUAL TO 'AEROFLEX AEROCEL AC') IN UNCONDITIONED SPACES, AND WITH BANDED ALUMINUM SHIELDING IN EXTERIOR SPACES.
   - 3.4. CONDENSATE PIPING
     - 3.4.1. SPLIT SYSTEMS - WHERE CONDENSATE PIPING IS LOCATED IN UNCONDITIONED SPACE, INSULATE WITH ½" ELASTOMERIC. NO INSULATION REQUIRED IN CONDITIONED SPACES.
     - 3.4.2. VRV/VRF - INSULATE WITH ½" ELASTOMERIC.
4. WORKMANSHIP
   - 4.1. COORDINATE WITH OTHER TRADES SO THAT HVAC EQUIPMENT AND DUCT WORK DOES NOT BLOCK REQUIRED ACCESS OR CLEARANCE TO EQUIPMENT.
   - 4.2. ALL HVAC EQUIPMENT IS TO BE INSTALLED PER MANUFACTURER'S PUBLISHED RECOMMENDATIONS.
   - 4.3. ALL EQUIPMENT TO BE INSTALLED LEVEL AND PLUMB.
   - 4.4. ROOFTOP MOUNTED RTUS TO BE INSTALLED ON CURBS PER MANUFACTURES INSTRUCTIONS.
   - 4.5. GRADE MOUNTED RTUS, CONDENSING UNITS, AND HEAT PUMPS TO BE INSTALLED ON 4" REINFORCED CONCRETE PAD EXTENDING 4" BEYOND EACH EDGE OF THE EQUIPMENT, OR A MANUFACTURER APPROVED PRE-MANUFACTURED BASE.
5. TESTING AND BALANCING
   - 5.1. ALL SYSTEMS MUST BE BALANCED TO WITHIN 10% OF VALUES INDICATED ON PLAN.
   - 5.2. HVAC CONTRACTOR TO PROVIDE WRITTEN BALANCE REPORT INCLUDING FLOW VALUES INDICATED ON PLAN AND ACTUAL MEASURED VALUES.
   - 5.3. THIRD PARTY CERTIFIED TEST AND BALANCE NOT REQUIRED.

HVAC PLAN SYMBOL LEGEND

- X — EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE)
- # — EQUIPMENT REFERENCE NUMBER
- X — DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE)
- # — CUBIC FEET PER MINUTE (CFM) / FACE SIZE
- SUPPLY DUCTWORK
- RETURN DUCTWORK
- EXHAUST DUCTWORK
- OUTSIDE AIR DUCTWORK
- FLEX DUCT
- VENT / COMBUSTION AIR
- CONDENSATION LINE
- REFRIGERANT LINE
- TIE INTO EXISTING
- SUPPLY DIFFUSER (HATCH INDICATES "NO FLOW ZONE")
- RETURN DIFFUSER
- BALANCE DAMPER
- M — MOTORIZED DAMPER
- CD — CEILING RADIATION DAMPER
- FD — FIRE RATED DAMPER
- SD — SMOKE DAMPER
- T — THERMOSTAT
- CO2 — CO2 DETECTOR
- DS — RETURN DUCT SMOKE DETECTOR WIRED TO FAN STARTER TO SHUT UNIT(S) DOWN AND SEND ALARM SIGNAL TO FIRE ALARM SYSTEM (IF PRESENT) OR TO REMOTE SOUNDER LOCATED IN AN OCCUPIED SPACE (EQUAL TO SYSTEM SENSOR #D4120)
- RS — REMOTE SOUNDER WIRED TO RETURN DUCT SMOKE DETECTOR (EQUAL TO SYSTEM SENSOR #MHW)

HVAC EQUIPMENT SCHEDULE - APARTMENTS

TAG	EQUIPMENT DESCRIPTION	LOCATION SERVED	SIZE (TONS)	ORIENTATION	TOTAL AIRFLOW (CFM)	OA AIRFLOW MAX/MIN (CFM)	HEATING	COOLING (IA: 80 DB/67 WB, OA: 95 DB)			ELECTRICAL			NOTES
							ELECTRIC (KW)	SENSIBLE (KBTU)	TOTAL (KBTU)	MIN EFF. (SEER)	VOLTS/PH	MCA	OCP	
AHU-1	AIR HANDLER	1BR APARTMENTS	1.5	VERTICAL	600	-	5	-	-	-	208/1	24	30-2	1
AHU-2	AIR HANDLER	2BR APARTMENTS	2	VERTICAL	800	-	5	-	-	-	208/1	24	30-2	1
AHU-A1	AIR HANDLER	BLDG A; FLOORS 1 & 2	2	VERTICAL	800	-	5	-	-	-	208/1	24	30-2	2
AHU-A2	AIR HANDLER	BLDG A; FLOORS 3 & 4	2	VERTICAL	800	-	5	-	-	-	208/1	24	30-2	2
AHU-B1	AIR HANDLER	BLDG B; FLOORS 1 & 2	2	VERTICAL	800	-	5	-	-	-	208/1	24	30-2	2
AHU-B2	AIR HANDLER	BLDG B; FLOORS 3 & 4	2	VERTICAL	800	-	5	-	-	-	208/1	24	30-2	2
AHU-C1	AIR HANDLER	BLDG C; FLOORS 1 & 2	2	VERTICAL	800	-	5	-	-	-	208/1	24	30-2	2
AHU-C2	AIR HANDLER	BLDG C; FLOORS 3 & 4	2	VERTICAL	800	-	5	-	-	-	208/1	24	30-2	2
AHU-M1	AIR HANDLER	MAINTENANCE BLDG	1.5	VERTICAL	600	100	5	-	-	-	208/1	24	30-2	1,3
CU-1	CONDENSING UNIT	1BR APARTMENTS	1.5	-	-	-	-	13.2	17.8	13	208/1	12	20	4
CU-2	CONDENSING UNIT	2BR APARTMENTS	2	-	-	-	-	17.2	23.0	13	208/1	18	30	4
CU-1A	CONDENSING UNIT	BLDG A; FLOORS 1 & 2	2	-	-	-	-	17.2	23.0	13	208/1	18	30	4
CU-2A	CONDENSING UNIT	BLDG A; FLOORS 3 & 4	2	-	-	-	-	17.2	23.0	13	208/1	18	30	4
CU-1B	CONDENSING UNIT	BLDG B; FLOORS 1 & 2	2	-	-	-	-	17.2	23.0	13	208/1	18	30	4
CU-2B	CONDENSING UNIT	BLDG B; FLOORS 3 & 4	2	-	-	-	-	17.2	23.0	13	208/1	18	30	4
CU-1C	CONDENSING UNIT	BLDG C; FLOORS 1 & 2	2	-	-	-	-	17.2	23.0	13	208/1	18	30	4
CU-2C	CONDENSING UNIT	BLDG C; FLOORS 3 & 4	2	-	-	-	-	17.2	23.0	13	208/1	18	30	4
CU-M1	CONDENSING UNIT	MAINTENANCE BLDG	1.5	-	-	-	-	13.2	17.8	13	208/1	12	20	4
EF-1	EXHAUST FAN	APARTMENTS	-	IN-CEILING	80	-	-	-	-	-	120/1	1	15	5

NOTES:

1. PROVIDE AND INSTALL 7 DAY PROGRAMABLE HONEYWELL THERMOSTAT. COORDINATE EXACT MOUNTING LOCATION WITH OWNER.
2. PROVIDE AND INSTALL 7-DAY PROGRAMMABLE HONEYWELLL THERMOSTAT WITH LOCKING COVER; CORDINATE EXACT MOUNTING LOCATION WITH OWNER.
3. WITH LOW-LEAK MOTORIZED OUTSIDE AIR DAMPER TO OPEN WHEN UNIT IS IN HEATING OR COOLING MODE.
4. WITH FACTORY HAIL GUARDS & LOW-AMBIENT PACKAGE FOR OPERATION TO 0° F.
5. CEILING-MOUNTED EXHAUST FAN EQUAL TO BROAN/NUTONE #QTXEN080 WITH #RDFQL RADIATION DAMPER & BACKDRAFT DAMPER

HVAC EQUIPMENT SCHEDULE - CLUBHOUSE

TAG	EQUIPMENT DESCRIPTION	SIZE (TONS)	ORIENTATION	TOTAL AIRFLOW (CFM)	OA AIRFLOW MAX/MIN (CFM)	HEATING		COOLING (IA: 80 DB/67 WB, OA: 95 DB)			ELECTRICAL			NOTES
						GAS INPUT (KBTU)	MIN. AFUE EFF. (%)	SENSIBLE (KBTU)	TOTAL (KBTU)	MIN EFF. (SEER)	VOLTS/PH	MCA	OCP	
F-C1	FURNACE	3.5	HORIZONTAL	1400	170 / 170	80	90	-	-	-	120/1	10	20	1,2,4
F-C2	FURNACE	5.0	HORIZONTAL	2000	370 / 0	100	90	-	-	-	120/1	14	20	1,2,4
F-C3	FURNACE	4.0	HORIZONTAL	1600	300 / 0	100	90	-	-	-	120/1	12	20	1,2,3,5
F-C4	FURNACE	4.0	HORIZONTAL	1600	300 / 0	100	90	-	-	-	120/1	12	20	1,2,3,5
F-C5	FURNACE	2.0	HORIZONTAL	800	150 / 0	40	90	-	-	-	120	10	20	1,2,4
CC-C1	MULTI-SPLIT CEILING CASSETTE	0.75	IN-CEILING	300	-	-	-	-	-	-	208/1	1	15	8
CC-C2	MULTI-SPLIT CEILING CASSETTE	0.75	IN-CEILING	300	-	-	-	-	-	-	208/1	1	15	8
FCU-C1	MINI-SPLIT FAN-COIL UNIT	2.0	WALL-MOUNT	700	-	-	-	-	-	-	(POWERED THRU HP-C2)			10
CU-C1	CONDENSING UNIT	3.5	-	-	-	-	-	31.2	40.0	13	208/1	24	40	6,7
CU-C2	CONDENSING UNIT	5.0	-	-	-	-	-	41.0	57.0	13	208/1	33	50	6,7
CU-C3	CONDENSING UNIT	4.0	-	-	-	-	-	35.4	46.0	13	208/1	27	45	6,7
CU-C4	CONDENSING UNIT	4.0	-	-	-	-	-	35.4	46.0	13	208/1	27	45	6,7
CU-C5	CONDENSING UNIT	2.0	-	-	-	-	-	17.2	23.0	13	208/1	18	30	6,7
HP-C1	MULTI-SPLIT HEAT PUMP	1.5	-	-	-	19 kBTU (HEAT PUMP)		12.0	18.0	19	208/1	14	20	9
HP-C2	MINI-SPLIT HEAT PUMP	2.0	-	-	-	24 kBTU (HEAT PUMP)		16.0	24.0	18	208/1	18	20	11
EF-C1	EXHAUST FAN	-	INLINE	300	-	-	-	-	-	-	120/1	2	20	12
EF-C2	EXHAUST FAN	-	INLINE	375	-	-	-	-	-	-	120/1	3	20	12
EF-C3	EXHAUST FAN	-	INLINE	375	-	-	-	-	-	-	120/1	3	20	12
EF-C4	EXHAUST FAN	-	INLINE	50	-	-	-	-	-	-	120/1	1	20	12

NOTES:

1. PROVIDE AND INSTALL 7 DAY PROGRAMABLE HONEYWELL THERMOSTAT. COORDINATE EXACT MOUNTING LOCATION WITH OWNER.
2. INCLUDE CORROSION RESISTANT DRAIN PAN WITH OVERFLOW SWITCH WIRED TO SHUT DOWN UNIT.
3. WITH CO2 SENSOR AND MOTORIZED DAMPER. DAMPER TO OPEN ON HIGH CO2 LEVEL DETECTION.
4. WITH LOW LEAKAGE MOTORIZED OUTSIDE AIR DAMPER. DAMPER TO CONTROL OPEN DURING OCCUPIED HOURS AND CLOSED DURING UNOCCUPIED HOURS THRU THERMOSTAT SCHEDULE.
5. WITH TWINNING KIT
6. WITH FACTORY HAIL GUARD.
7. LOW AMBIENT PACKAGE FOR OPERATION TO 0° F.
8. MULTI-SPLIT (2:1) CEILING CASSETTE EQUAL TO DAIKIN FFQ09Q2VJU MATED TO HP-C1; WITH WIRED REMOTE CONTROLLER
9. MULTI-SPLIT (2:1) HEAT PUMP EQUAL TO DAIKIN 2MXS18NMVJU
10. MINI-SPLIT FAN-COIL UNIT EQUAL TO DAIKIN FTX24NMVJU MATED TO HP-C2; WITH WIRED REMOTE CONTROLLER
11. MINI-SPLIT HEAT PUMP EQUAL TO DAIKIN RX24NMVJU
12. IN-LINE EXHAUST FAN EQUAL TO SOLER & PALU #TD-SILENT SERIES; FLOW RATED AT 1/4" STATIC PRESSURE; WITH SPEED CONTROLLER AND BACKDRAFT DAMPER

OUTSIDE AIR VENTILATION CALCULATIONS

APARTMENT	NET OCCUPIABLE AREA (APPROXIMATE SQFT)	MINIMUM OPENABLE AREA FOR NATURAL VENTILATION (4% FLOOR AREA)	ACTUAL OPENABLE AREA (APPROXIMATE SQFT)	REQUIRED OUTSIDE AIR REMAINING (PERCENTAGE)
11A	685	27.4	56	0
11B	736	29.4	56	0
11C	788	31.5	56	0
11D	786	31.4	56	0
11E	873	34.9	74	0
22A	1020	40.8	74	0
22B	1100	44.0	74	0
22C	1179	47.2	74	0
22D	1294	51.8	74	0
32A	1415	56.6	74	0

NOTES:

1. CALCULATIONS SHOWN ABOVE ARE BASED ON 2018 IMC 402: NATURAL VENTILATION

AIR DEVICE SCHEDULE

TAG	SERVICE	MANUFACTURER (OR EQUAL)	MODEL (OR EQUAL)	SIZE	COLOR / FINISH	NOTES
L1	EXH / OA	POTTORFF	EFD	AS SHOWN	PRIMED**	**PAINT TO MATCH EXTERIOR
L2	OA	POTTORFF	EOD	AS SHOWN	PRIMED**	**PAINT TO MATCH EXTERIOR, WITH 'CBD' COUNTERBALANCE DAMPER
E1	EXHAUST	PRICE	80	AS SHOWN	WHITE	
R1	RETURN	PRICE	530	AS SHOWN	WHITE	WITH DRYWALL KIT WHERE REQUIRED
R2	RETURN	PRICE	80	AS SHOWN	WHITE	
S1	SUPPLY	PRICE	520	8x6	WHITE	WITH CEILING RADIATION DAMPER
S1C	SUPPLY	PRICE	520	8x6	WHITE	WITHOUT CEILING RADIATION DAMPER
S2	SUPPLY	PRICE	SPD	24x24	WHITE	WITH BUTTERFLY DAMPER
S3	SUPPLY	PRICE	SPD	12x12	WHITE	WITH DRYWALL KIT & BUTTERFLY DAMPER

NOTES:

1. VERIFY AIR DEVICE FINISHES WITH OWNER/ARCHITECT PRIOR TO INSTALLATION

STATE OF MISSOURI
JAMES P. WATSON
NUMBER PE-2015017071
PROFESSIONAL ENGINEER

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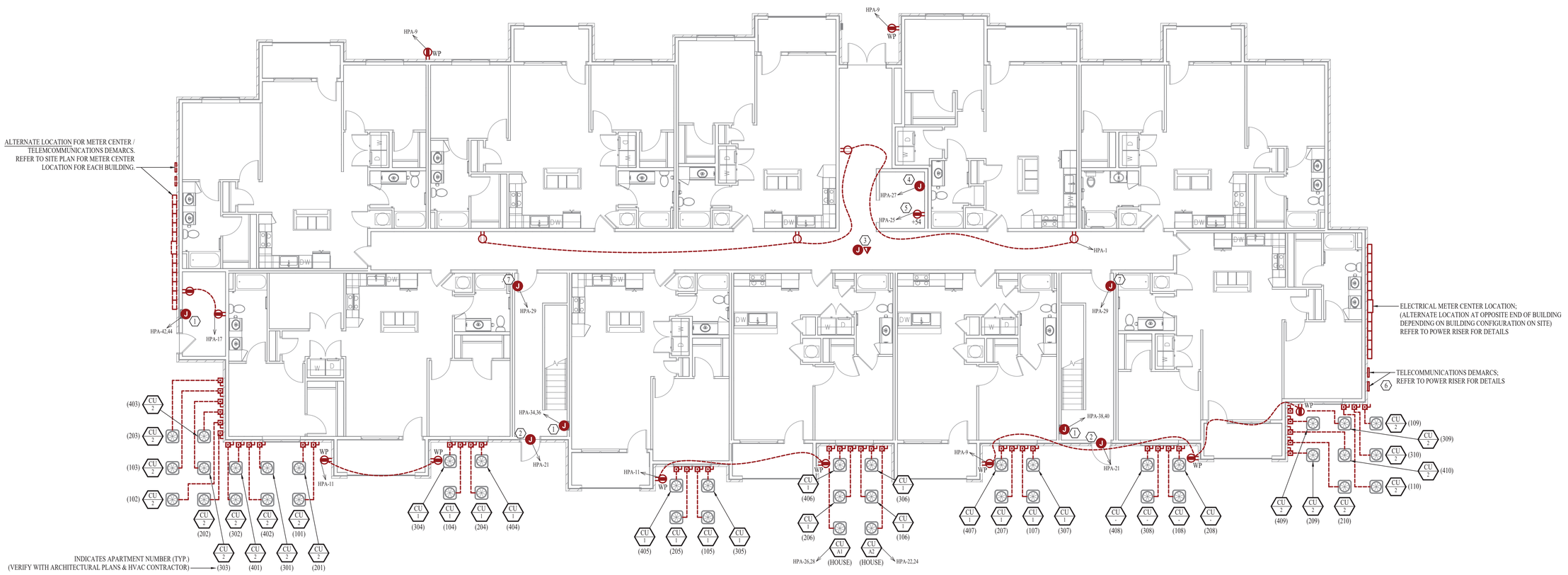
SHEET TITLE

HVAC DETAILS & SCHEDULES

SHEET NUMBER

M601



BUILDING 'A' - FIRST FLOOR - POWER PLAN

SCALE: 1/8" = 1' - 0"

POWER PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR ADDITIONAL POWER DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. REFER TO 'UP' SERIES SHEETS FOR POWER PLANS WITHIN EACH APARTMENT.
3. CIRCUITS FOR CONDENSING UNITS ARE AS FOLLOWS:
   - 3.1. P1-6,8 FOR TYPICAL ONE-BEDROOM APARTMENTS
   - 3.2. P2-6,8 FOR TYPICAL TWO-BEDROOM APARTMENTS
   - 3.3. P3-6,8 FOR TYPICAL THREE-BEDROOM APARTMENTS
   - REFER TO ARCHITECTURAL PLANS FOR APARTMENT NUMBERS.

POWER PLAN KEY NOTES:

1. PROVIDE & INSTALL WALL-HEATER EQUAL TO BERKO VFK404F.
2. POWER FOR ACCESS CONTROLS ABOVE SECURE SIDE OF DOOR, COORDINATE DETAILS WITH DOOR HARDWARE SUPPLIER / INSTALLER; REFER TO E500 SERIES SHEETS FOR DETAILS.
3. PROVIDE & INSTALL J-BOX FOR CCTV CAMERA WITH CAT6 CABLE FROM MDF ROOM (2ND FLOOR I.T. CLOSET). PROVIDE ADDITIONAL 10' COIL OF CAT6 CABLING.
4. POWER FOR SUMP PUMP LOCATED IN ELEVATOR PIT, COORDINATE WITH PLUMBING CONTRACTOR.
5. RECEPTACLE LOCATED IN ELEVATOR PIT, REFER TO E500 SERIES SHEETS FOR DETAILS.
6. PROVIDE & INSTALL (2) 2" PVC CONDUITS WITH WIDE SWEEP ELBOWS FROM TELECOMMUNICATIONS DEMARCS TO MDF ROOM (2ND FLOOR I.T. CLOSET).
7. POWER FOR STAIRWELL DOOR MAG-HOLD (OPEN) TO RELEASE UPON FIRE DETECTION. COORDINATE DETAILS WITH DOOR HARDWARE INSTALLER / FIRE ALARM CONTRACTOR.

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J2 PROJECT No:	J20055
J2 DESIGN:	ACW

ISSUE TITLE	DATE
PHASE I - PERMIT SET	01 - 07 - 2021

Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

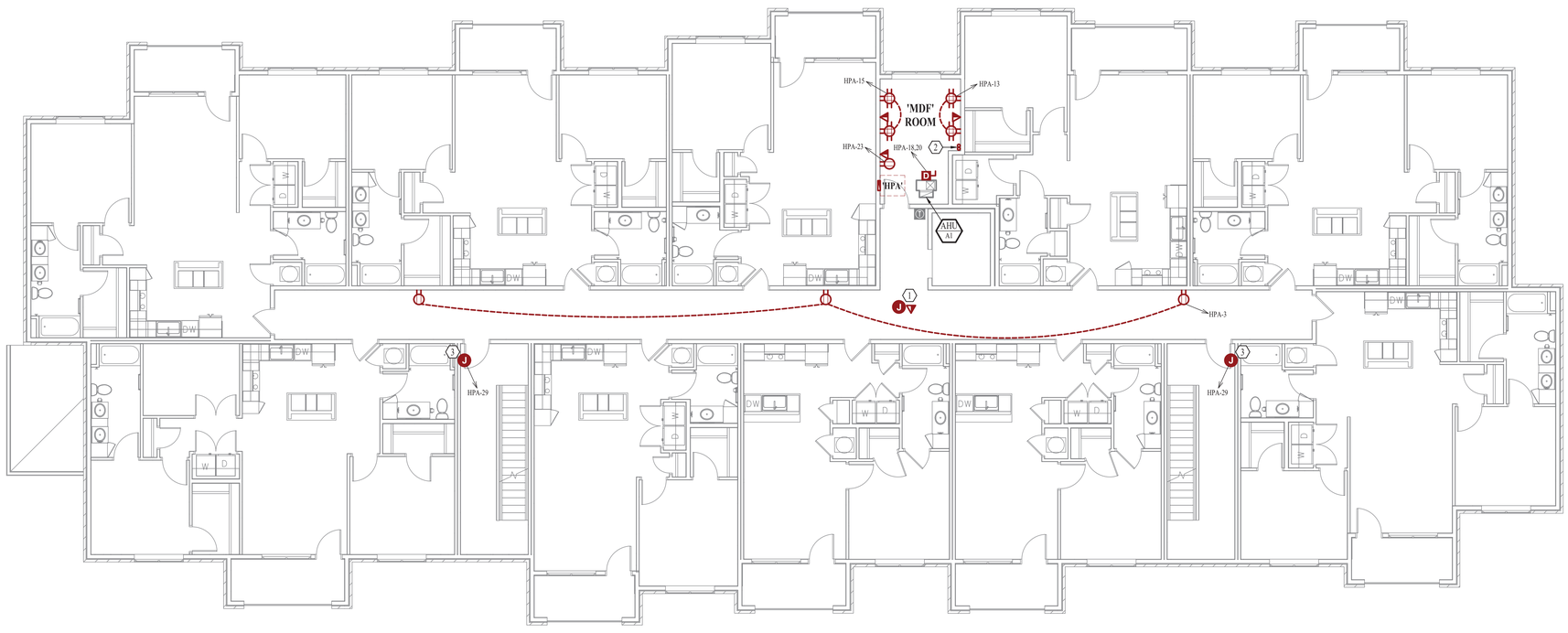
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

BUILDING 'A' FIRST FLOOR POWER PLAN

SHEET NUMBER

EP111



BUILDING 'A' - SECOND FLOOR - POWER PLAN

SCALE: 1/8" = 1' - 0"

POWER PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR ADDITIONAL POWER DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. REFER TO 'UP' SERIES SHEETS FOR POWER PLANS WITHIN EACH APARTMENT.

POWER PLAN KEY NOTES:

1. PROVIDE & INSTALL J-BOX FOR CCTV CAMERA WITH CAT6 CABLE FROM MDF ROOM (2ND FLOOR I.T. CLOSET). PROVIDE ADDITIONAL 10' COIL OF CAT6 CABLING.
2. PROVIDE & INSTALL (2) 2" PVC CONDUITS WITH WIDE SWEEP ELBOWS FROM TELECOMMUNICATIONS DEMARCS TO MDF ROOM (2ND FLOOR I.T. CLOSET); SEE SHEET EP111 FOR DEMARC LOCATIONS.
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Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

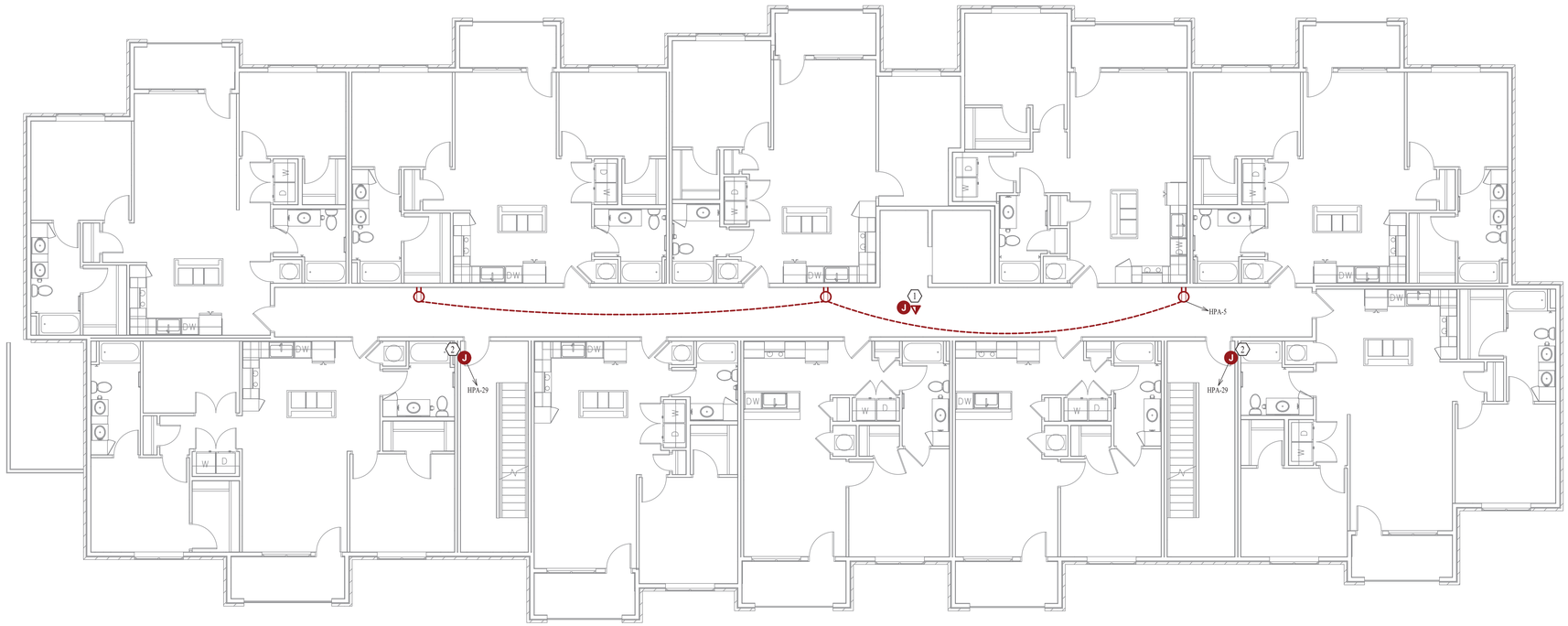
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

BUILDING 'A' SECOND FLOOR POWER PLAN

SHEET NUMBER

EP112



BUILDING 'A' - THIRD FLOOR - POWER PLAN

SCALE: 1/8" = 1' - 0"

POWER PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR ADDITIONAL POWER DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. REFER TO 'UP' SERIES SHEETS FOR POWER PLANS WITHIN EACH APARTMENT.

POWER PLAN KEY NOTES:

1. PROVIDE & INSTALL J-BOX FOR CCTV CAMERA WITH CAT6 CABLE FROM MDF ROOM (2ND FLOOR I.T. CLOSET). PROVIDE ADDITIONAL 10' COIL OF CAT6 CABLING.
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ISSUE TITLE	DATE
PHASE I - PERMIT SET	01 - 07 - 2021

Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

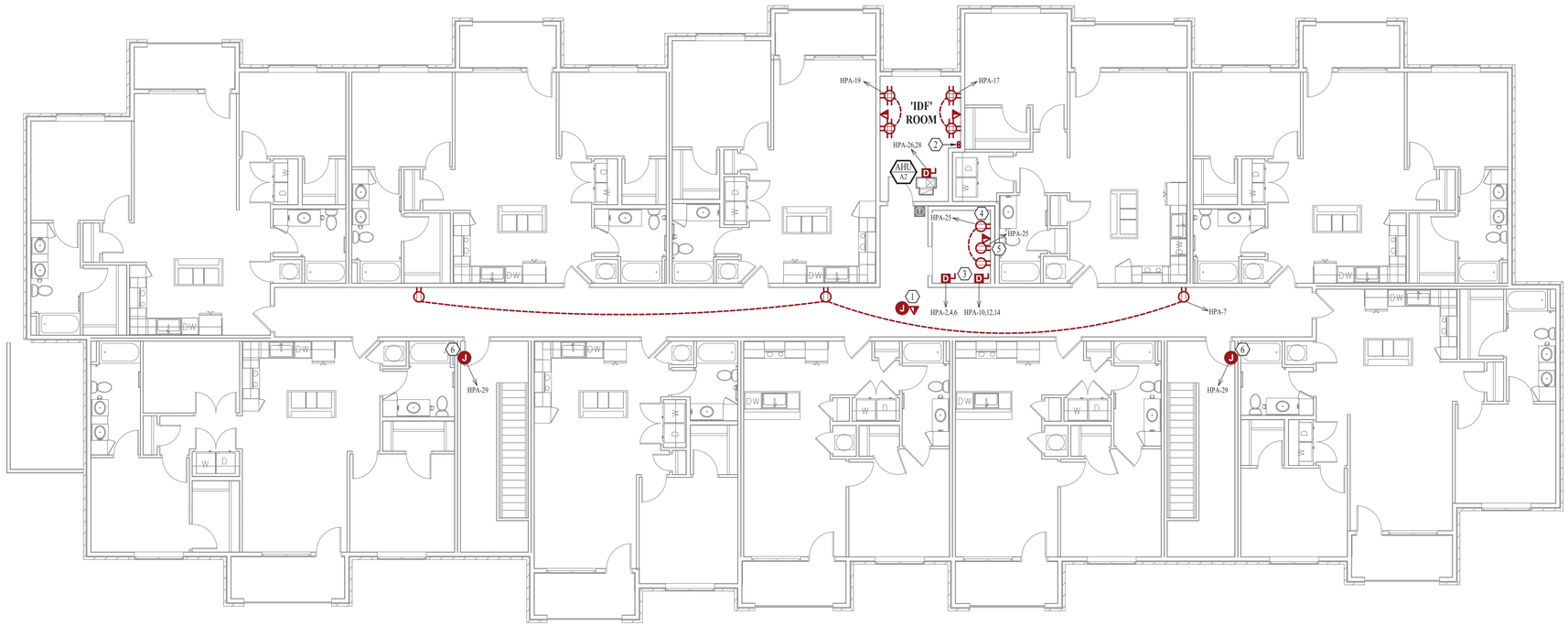
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

BUILDING 'A' THIRD FLOOR POWER PLAN

SHEET NUMBER

EP113



BUILDING 'A' - FOURTH FLOOR - POWER PLAN

SCALE: 1/8" = 1' - 0"

POWER PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR ADDITIONAL POWER DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. REFER TO 'UP' SERIES SHEETS FOR POWER PLANS WITHIN EACH APARTMENT.

POWER PLAN KEY NOTES:

1. PROVIDE & INSTALL J-BOX FOR CCTV CAMERA WITH CAT6 CABLE FROM MDF ROOM (2ND FLOOR I.T. CLOSET). PROVIDE ADDITIONAL 10' COIL OF CAT6 CABLING.
2. PROVIDE & INSTALL (2) 2" PVC CONDUITS WITH WIDE SWEEP ELBOWS FROM MDF ROOM (2ND FLOOR I.T. CLOSET); TO IDF ROOM (4TH FLOOR I.T. CLOSET).
3. (2) ELEVATOR DISCONNECTS (SUPPLIED WITH ELEVATOR EQUIPMENT) INSTALLED IN ELEVATOR FRAME ON 4TH FLOOR. COORDINATE WITH ELEVATOR EQUIPMENT SUPPLIER / INSTALLER.
4. RECEPTACLE LOCATED IN ELEVATOR SHAFT, REFER TO E500 SERIES SHEETS FOR DETAILS.
5. PROVIDE & INSTALL RECEPTACLE FOR CAMERA CONNECTION; INSTALL ON TOP OF ELEVATOR CAB. COORDINATE WITH ELEVATOR EQUIPMENT SUPPLIER / INSTALLER.
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J2 PROJECT No:	J20055
J2 DESIGN:	ACW

ISSUE TITLE	DATE
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Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

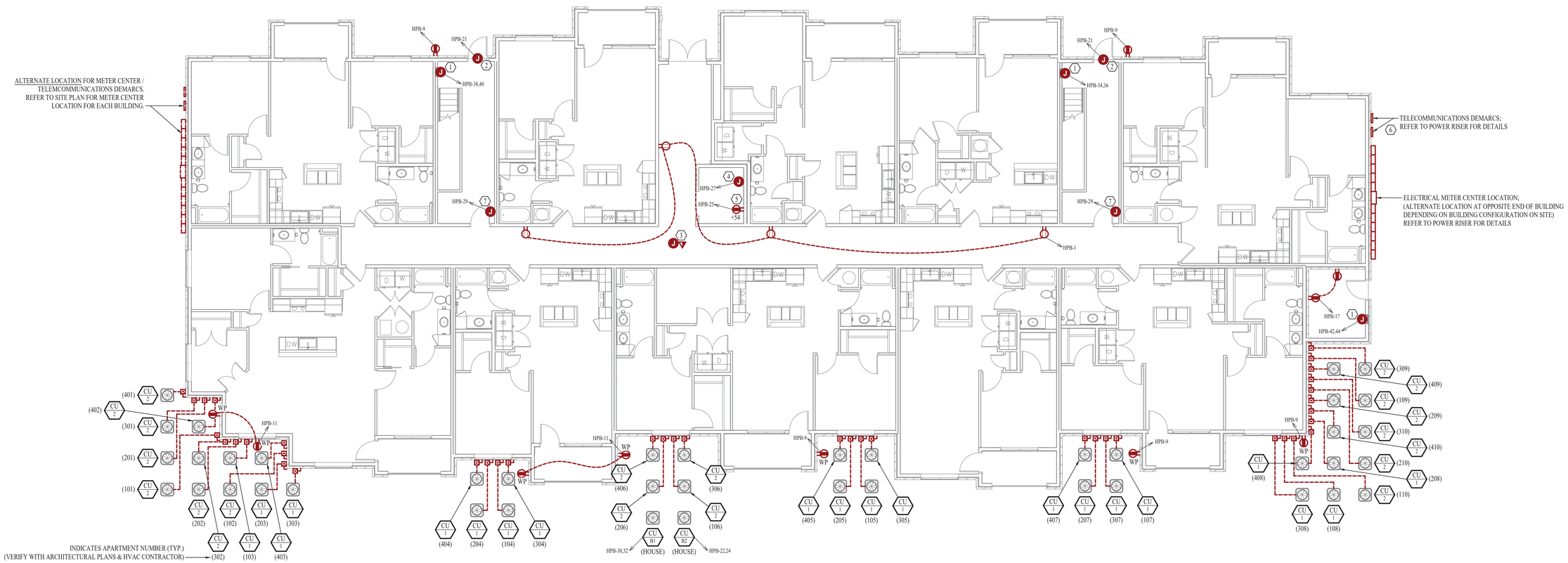
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

BUILDING 'A' FOURTH FLOOR POWER PLAN

SHEET NUMBER

EP114



BUILDING 'B' - FIRST FLOOR - POWER PLAN

SCALE: 1/8" = 1' - 0"

POWER PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR ADDITIONAL POWER DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. REFER TO 'UP' SERIES SHEETS FOR POWER PLANS WITHIN EACH APARTMENT.
3. CIRCUITS FOR CONDENSING UNITS ARE AS FOLLOWS:
   - 3.1. P1-6,8 FOR TYPICAL ONE-BEDROOM APARTMENTS
   - 3.2. P2-6,8 FOR TYPICAL TWO-BEDROOM APARTMENTS
   - 3.3. P3-6,8 FOR TYPICAL THREE-BEDROOM APARTMENTS

   REFER TO ARCHITECTURAL PLANS FOR APARTMENT NUMBERS.

POWER PLAN KEY NOTES:

1. PROVIDE & INSTALL WALL-HEATER EQUAL TO BERKO VFK404F.
2. POWER FOR ACCESS CONTROLS ABOVE SECURE SIDE OF DOOR, COORDINATE DETAILS WITH DOOR HARDWARE SUPPLIER / INSTALLER; REFER TO E500 SERIES SHEETS FOR DETAILS.
3. PROVIDE & INSTALL J-BOX FOR CCTV CAMERA WITH CAT6 CABLE FROM MDF ROOM (2ND FLOOR I.T. CLOSET). PROVIDE ADDITIONAL 10' COIL OF CAT6 CABLING.
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J2 PROJECT No:	J20055
J2 DESIGN:	ACW

ISSUE TITLE	DATE
PHASE I - PERMIT SET	01 - 07 - 2021

Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

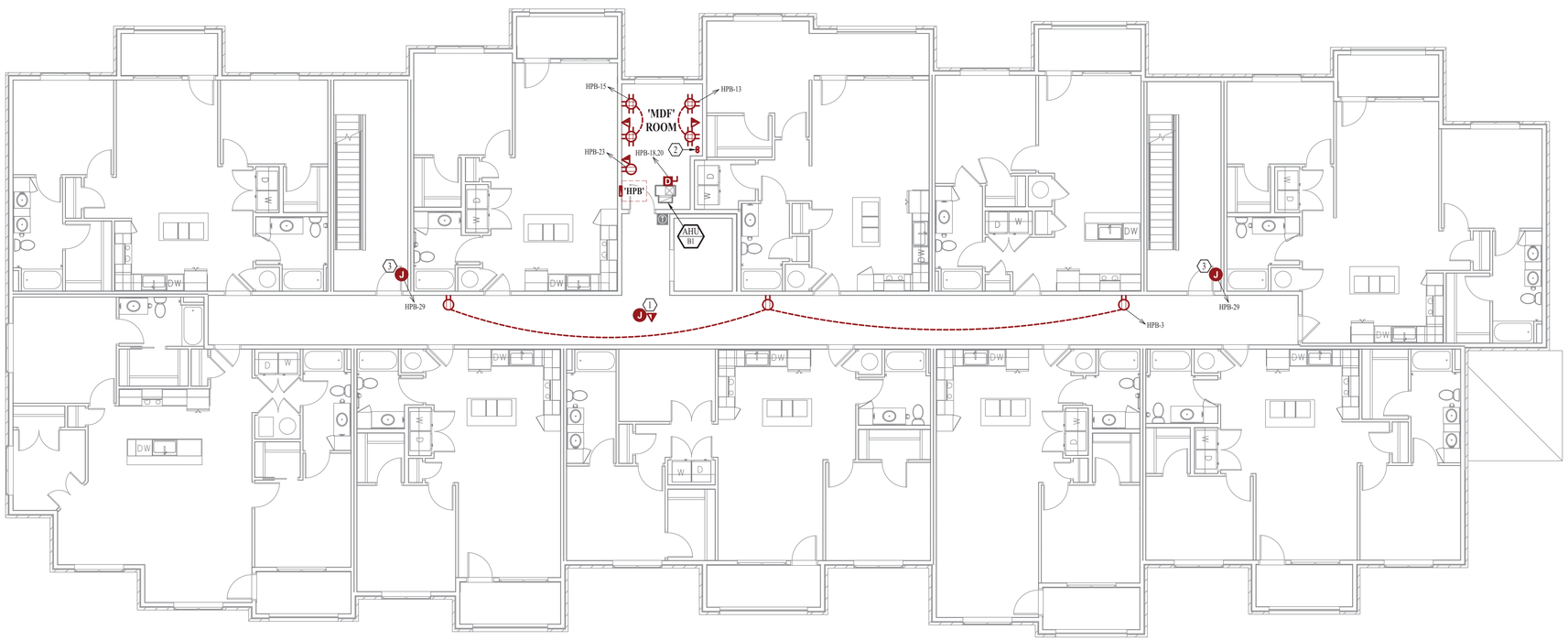
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

BUILDING 'B' FIRST FLOOR POWER PLAN

SHEET NUMBER

EP121



BUILDING 'B' - SECOND FLOOR - POWER PLAN

SCALE: 1/8" = 1' - 0"

POWER PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR ADDITIONAL POWER DETAILS, SCHEDULES, REQUIREMENTS, ETC.
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POWER PLAN KEY NOTES:

1. PROVIDE & INSTALL J-BOX FOR CCTV CAMERA WITH CAT6 CABLE FROM MDF ROOM (2ND FLOOR I.T. CLOSET). PROVIDE ADDITIONAL 10' COIL OF CAT6 CABLING.
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3. POWER FOR STAIRWELL DOOR MAG-HOLD (OPEN) TO RELEASE UPON FIRE DETECTION. COORDINATE DETAILS WITH DOOR HARDWARE INSTALLER / FIRE ALARM CONTRACTOR.

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J2 PROJECT No:	J20055
J2 DESIGN:	ACW

ISSUE TITLE	DATE
PHASE I - PERMIT SET	01 - 07 - 2021

Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

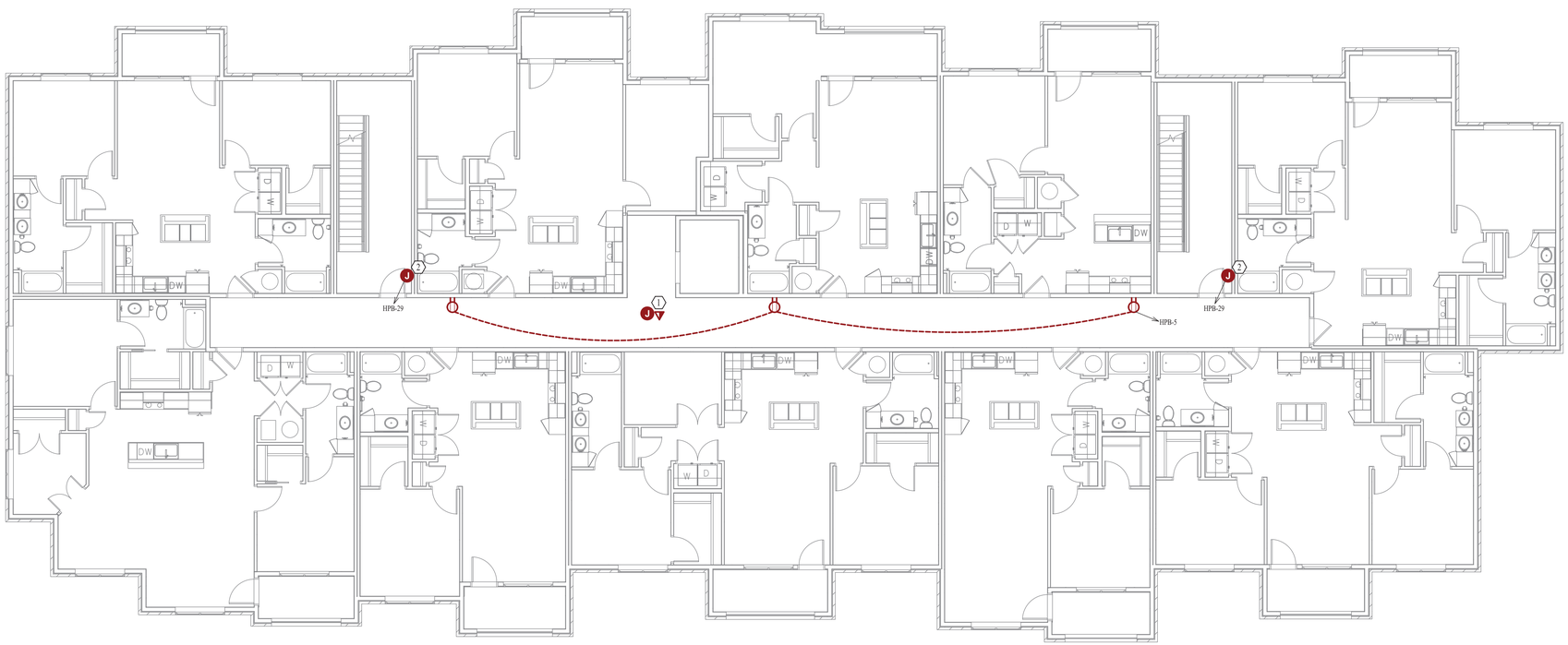
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

BUILDING 'B' SECOND FLOOR POWER PLAN

SHEET NUMBER

EP122



BUILDING 'B' - THIRD FLOOR - POWER PLAN

SCALE: 1/8" = 1' - 0"

POWER PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR ADDITIONAL POWER DETAILS, SCHEDULES, REQUIREMENTS, ETC.
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POWER PLAN KEY NOTES:

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J2 PROJECT No:	J20055
J2 DESIGN:	ACW

ISSUE TITLE	DATE
PHASE I - PERMIT SET	01 - 07 - 2021

Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

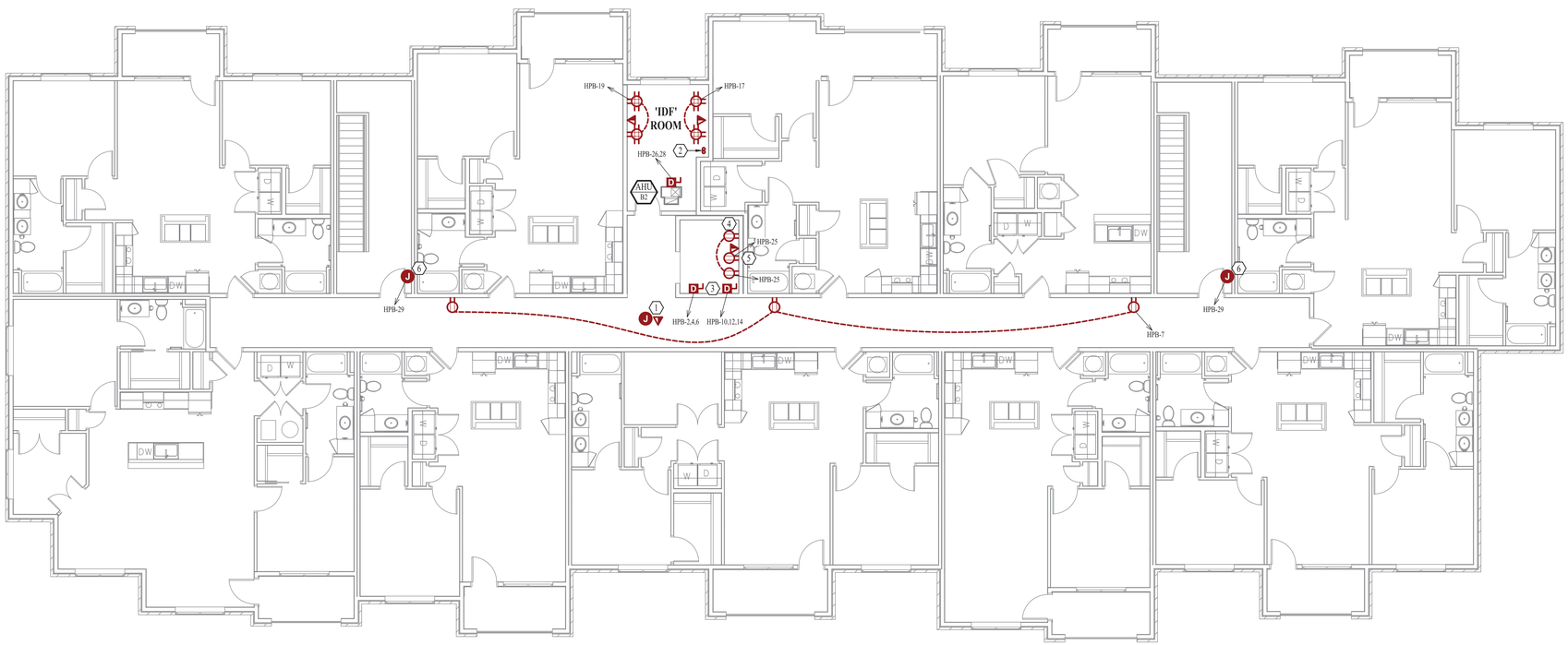
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

BUILDING 'B' THIRD FLOOR POWER PLAN

SHEET NUMBER

EP123



BUILDING 'B' - FOURTH FLOOR - POWER PLAN

SCALE: 1/8" = 1' - 0"

POWER PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR ADDITIONAL POWER DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. REFER TO 'UP' SERIES SHEETS FOR POWER PLANS WITHIN EACH APARTMENT.

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4. RECEPTACLE LOCATED IN ELEVATOR SHAFT, REFER TO E500 SERIES SHEETS FOR DETAILS.
5. PROVIDE & INSTALL RECEPTACLE FOR CAMERA CONNECTION; INSTALL ON TOP OF ELEVATOR CAB. COORDINATE WITH ELEVATOR EQUIPMENT SUPPLIER / INSTALLER.
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J2 PROJECT No:	J20055
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ISSUE TITLE	DATE
PHASE I - PERMIT SET	01 - 07 - 2021

Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

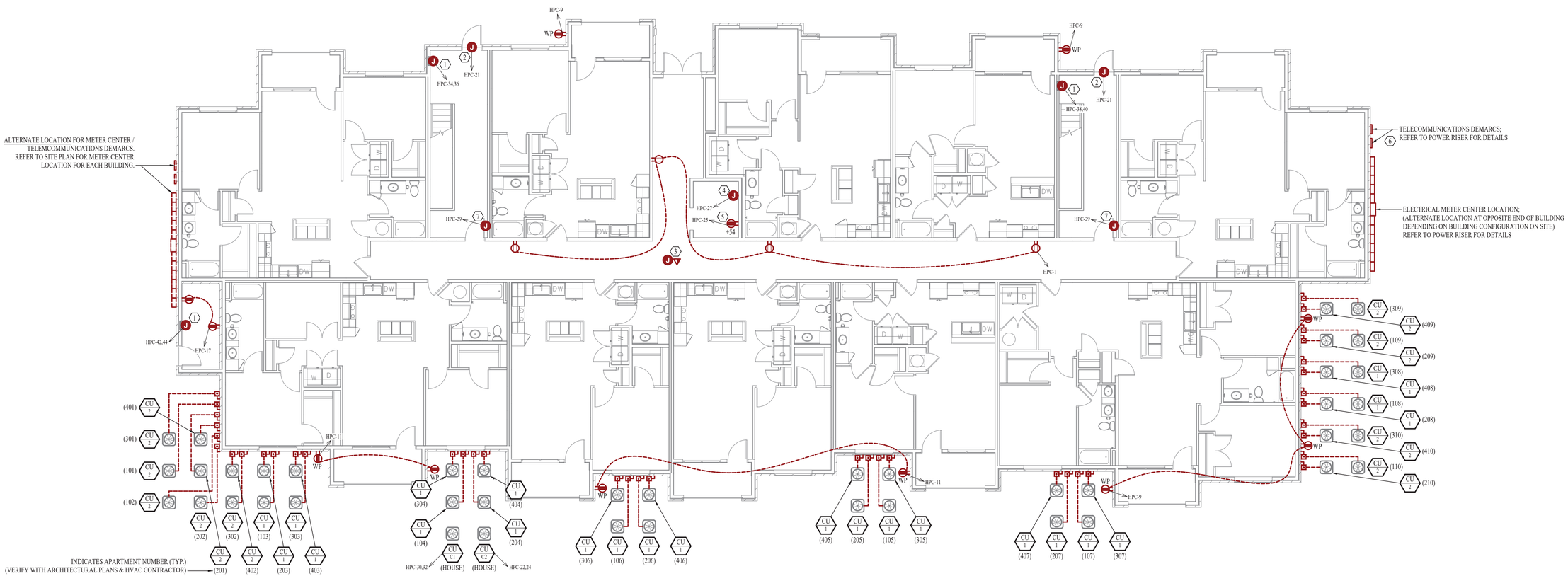
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

BUILDING 'B' FOURTH FLOOR POWER PLAN

SHEET NUMBER

EP124



BUILDING 'C' - FIRST FLOOR - POWER PLAN

SCALE: 1/8" = 1' - 0"

POWER PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR ADDITIONAL POWER DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. REFER TO 'UP' SERIES SHEETS FOR POWER PLANS WITHIN EACH APARTMENT.
3. CIRCUITS FOR CONDENSING UNITS ARE AS FOLLOWS:
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   - 3.3. P3-6,8 FOR TYPICAL THREE-BEDROOM APARTMENTS
   REFER TO ARCHITECTURAL PLANS FOR APARTMENT NUMBERS.

POWER PLAN KEY NOTES:

1. PROVIDE & INSTALL WALL-HEATER EQUAL TO BERKO VFK404F.
2. POWER FOR ACCESS CONTROLS ABOVE SECURE SIDE OF DOOR, COORDINATE DETAILS WITH DOOR HARDWARE SUPPLIER / INSTALLER; REFER TO E500 SERIES SHEETS FOR DETAILS.
3. PROVIDE & INSTALL J-BOX FOR CCTV CAMERA WITH CAT6 CABLE FROM MDF ROOM (2ND FLOOR I.T. CLOSET). PROVIDE ADDITIONAL 10' COIL OF CAT6 CABLING.
4. POWER FOR SUMP PUMP LOCATED IN ELEVATOR PIT, COORDINATE WITH PLUMBING CONTRACTOR.
5. RECEPTACLE LOCATED IN ELEVATOR PIT, REFER TO E500 SERIES SHEETS FOR DETAILS.
6. PROVIDE & INSTALL (2) 2" PVC CONDUITS WITH WIDE SWEEP ELBOWS FROM TELECOMMUNICATIONS DEMARCS TO MDF ROOM (2ND FLOOR I.T. CLOSET).
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Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

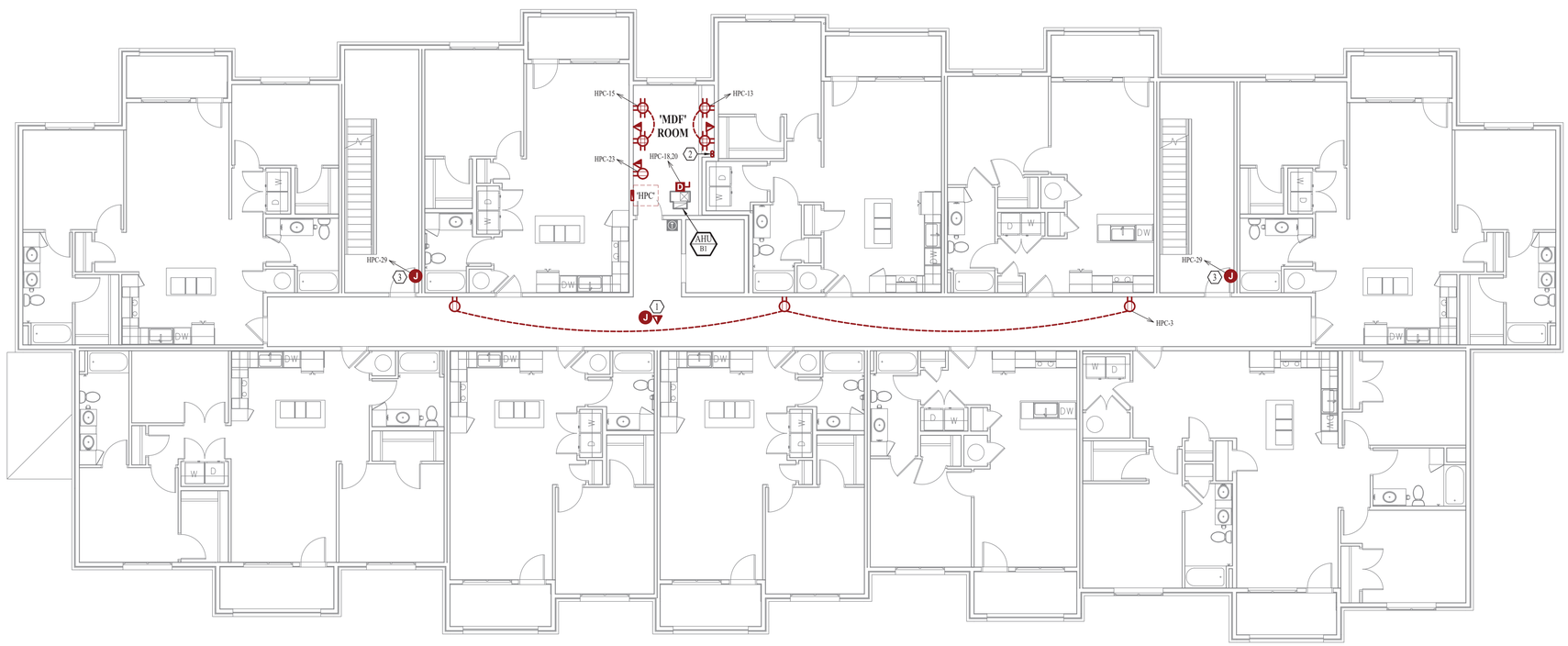
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

BUILDING 'C' FIRST FLOOR POWER PLAN

SHEET NUMBER

EP131



BUILDING 'C' - SECOND FLOOR - POWER PLAN

SCALE: 1/8" = 1' - 0"

POWER PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR ADDITIONAL POWER DETAILS, SCHEDULES, REQUIREMENTS, ETC.
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2. PROVIDE & INSTALL (2) 2" PVC CONDUITS WITH WIDE SWEEP ELBOWS FROM TELECOMMUNICATIONS DEMARCS TO MDF ROOM (2ND FLOOR I.T. CLOSET); SEE SHEET EP131 FOR DEMARC LOCATIONS.
3. POWER FOR STAIRWELL DOOR MAG-HOLD (OPEN) TO RELEASE UPON FIRE DETECTION. COORDINATE DETAILS WITH DOOR HARDWARE INSTALLER / FIRE ALARM CONTRACTOR.

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J2 PROJECT No:	J20055
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Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

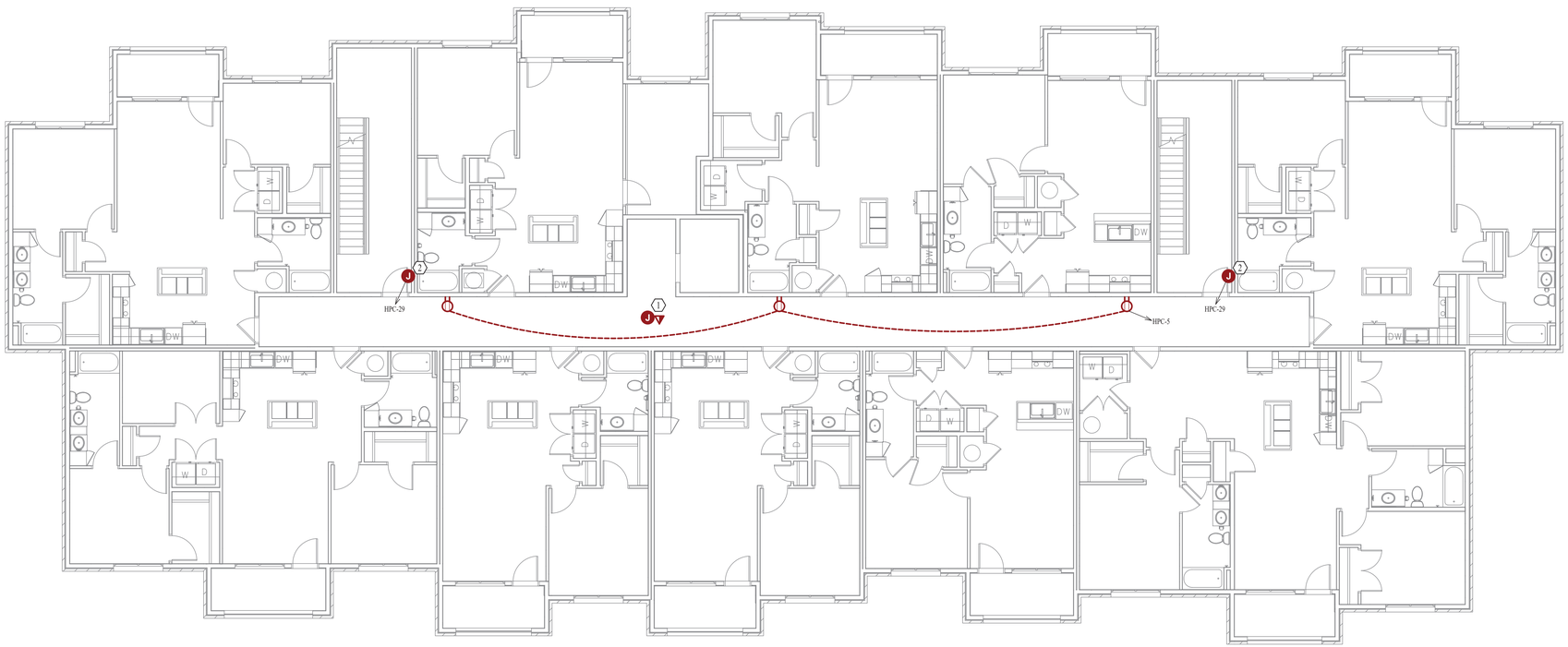
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

BUILDING 'C' SECOND FLOOR POWER PLAN

SHEET NUMBER

EP132



BUILDING 'C' - THIRD FLOOR - POWER PLAN

SCALE: 1/8" = 1' - 0"

POWER PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR ADDITIONAL POWER DETAILS, SCHEDULES, REQUIREMENTS, ETC.
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Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

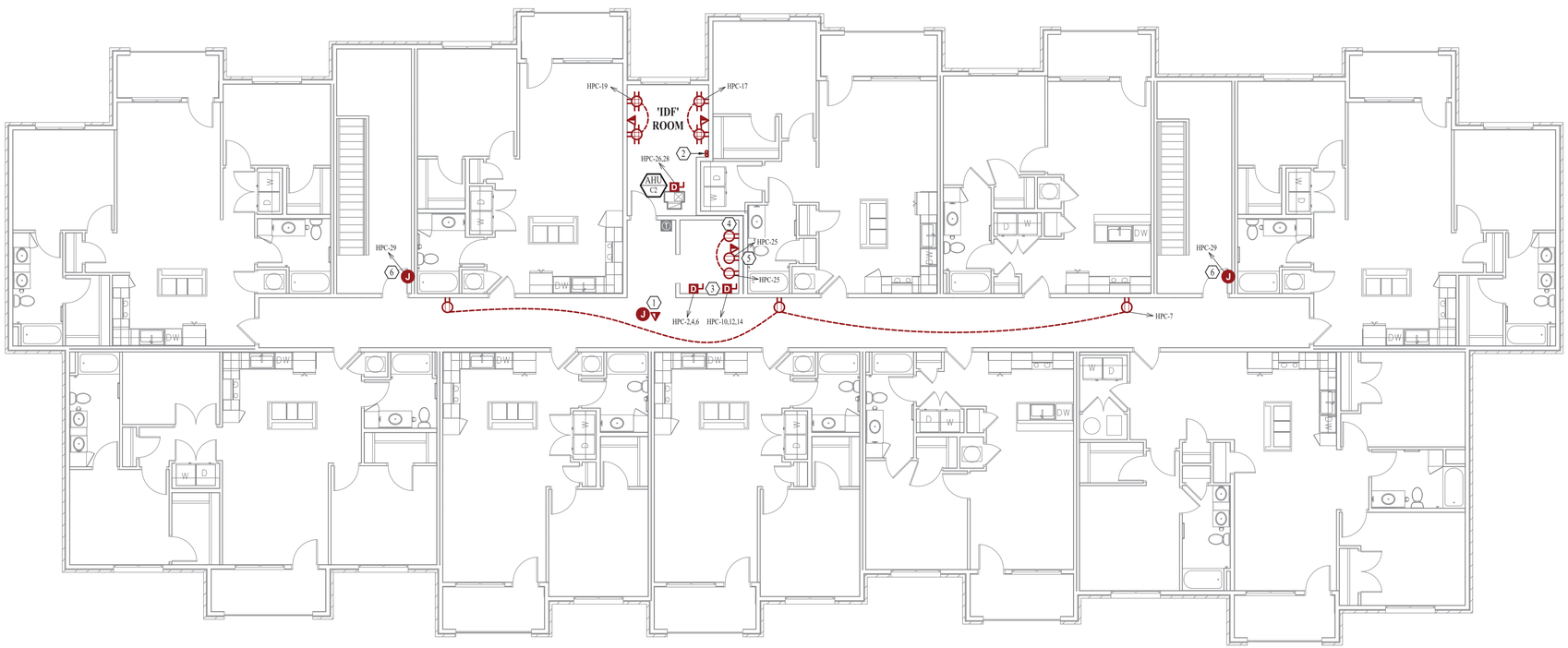
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

BUILDING 'C' THIRD FLOOR POWER PLAN

SHEET NUMBER

EP133



BUILDING 'C' - FOURTH FLOOR - POWER PLAN

SCALE: 1/8" = 1' - 0"

POWER PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR ADDITIONAL POWER DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. REFER TO 'UP' SERIES SHEETS FOR POWER PLANS WITHIN EACH APARTMENT.

POWER PLAN KEY NOTES:

1. PROVIDE & INSTALL J-BOX FOR CCTV CAMERA WITH CAT6 CABLE FROM MDF ROOM (2ND FLOOR I.T. CLOSET). PROVIDE ADDITIONAL 10' COIL OF CAT6 CABLING.
2. PROVIDE & INSTALL (2) 2" PVC CONDUITS WITH WIDE SWEEP ELBOWS FROM MDF ROOM (2ND FLOOR I.T. CLOSET); TO IDF ROOM (4TH FLOOR I.T. CLOSET).
3. (2) ELEVATOR DISCONNECTS (SUPPLIED WITH ELEVATOR EQUIPMENT) INSTALLED IN ELEVATOR FRAME ON 4TH FLOOR. COORDINATE WITH ELEVATOR EQUIPMENT SUPPLIER / INSTALLER.
4. RECEPTACLE LOCATED IN ELEVATOR SHAFT, REFER TO E500 SERIES SHEETS FOR DETAILS.
5. PROVIDE & INSTALL RECEPTACLE FOR CAMERA CONNECTION; INSTALL ON TOP OF ELEVATOR CAB. COORDINATE WITH ELEVATOR EQUIPMENT SUPPLIER / INSTALLER.
6. POWER FOR STAIRWELL DOOR MAG-HOLD (OPEN) TO RELEASE UPON FIRE DETECTION. COORDINATE DETAILS WITH DOOR HARDWARE INSTALLER / FIRE ALARM CONTRACTOR.

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J2 PROJECT No:	J20055
J2 DESIGN:	ACW

ISSUE TITLE	DATE
PHASE I - PERMIT SET	01 - 07 - 2021

Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

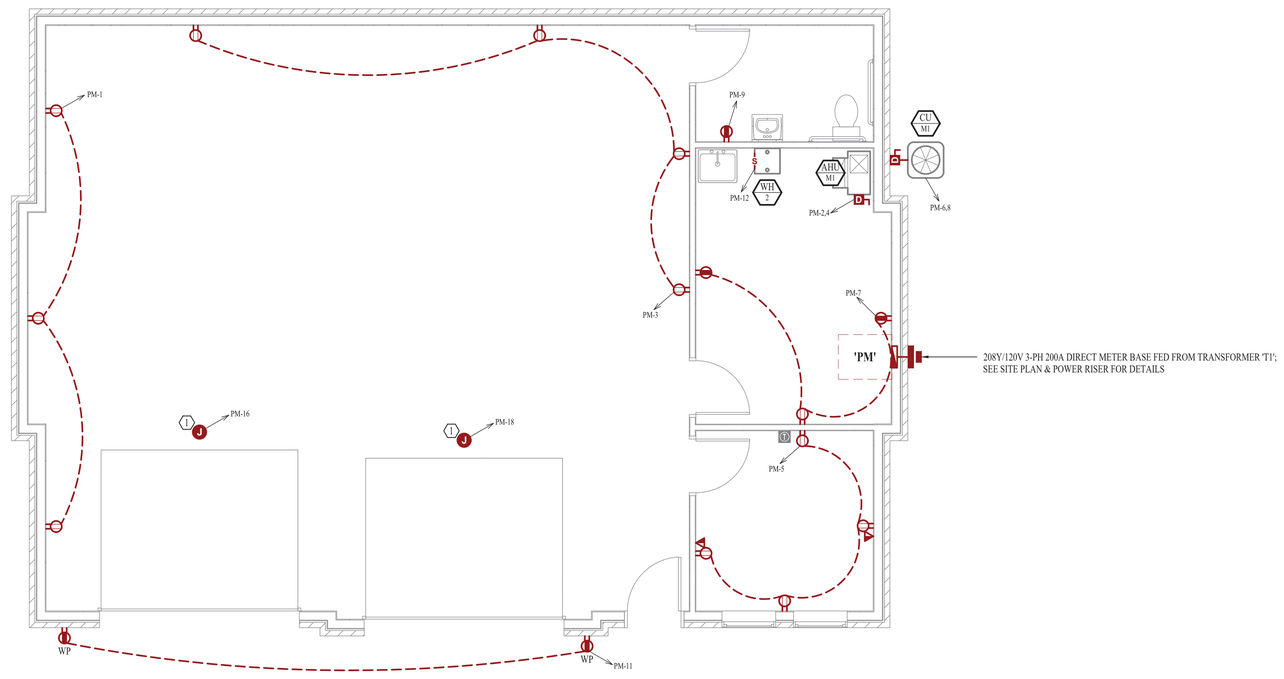
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

BUILDING 'C' FOURTH FLOOR POWER PLAN

SHEET NUMBER

EP134



MAINTENANCE BUILDING - POWER PLAN

SCALE: 1/4" = 1' - 0"

POWER PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR ADDITIONAL POWER DETAILS, SCHEDULES, REQUIREMENTS, ETC.

POWER PLAN KEY NOTES:

1. POWER FOR OVERHEAD DOOR OPENER, COORDINATE WITH EQUIPMENT PROVIDER/INSTALLER.

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Aria Apartments - Lee's Summit

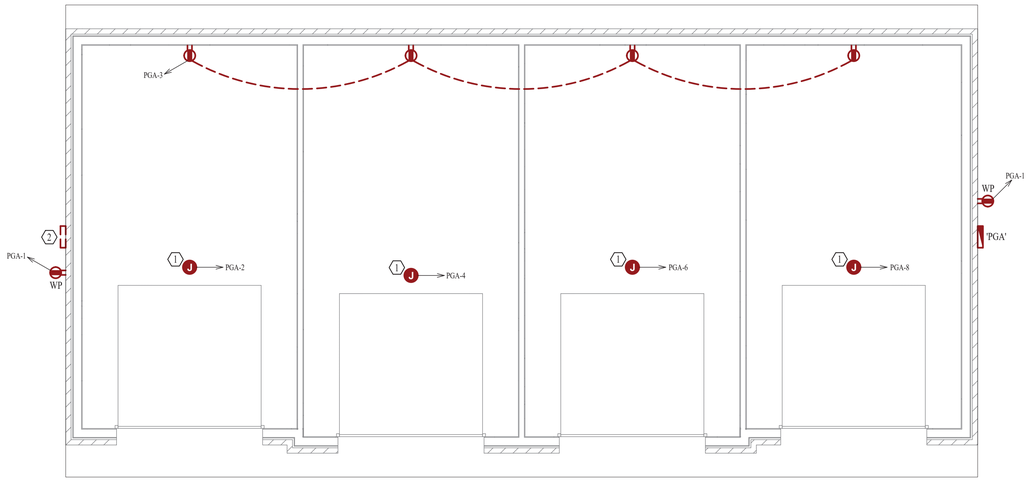
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

MAINTENANCE BUILDING POWER PLAN

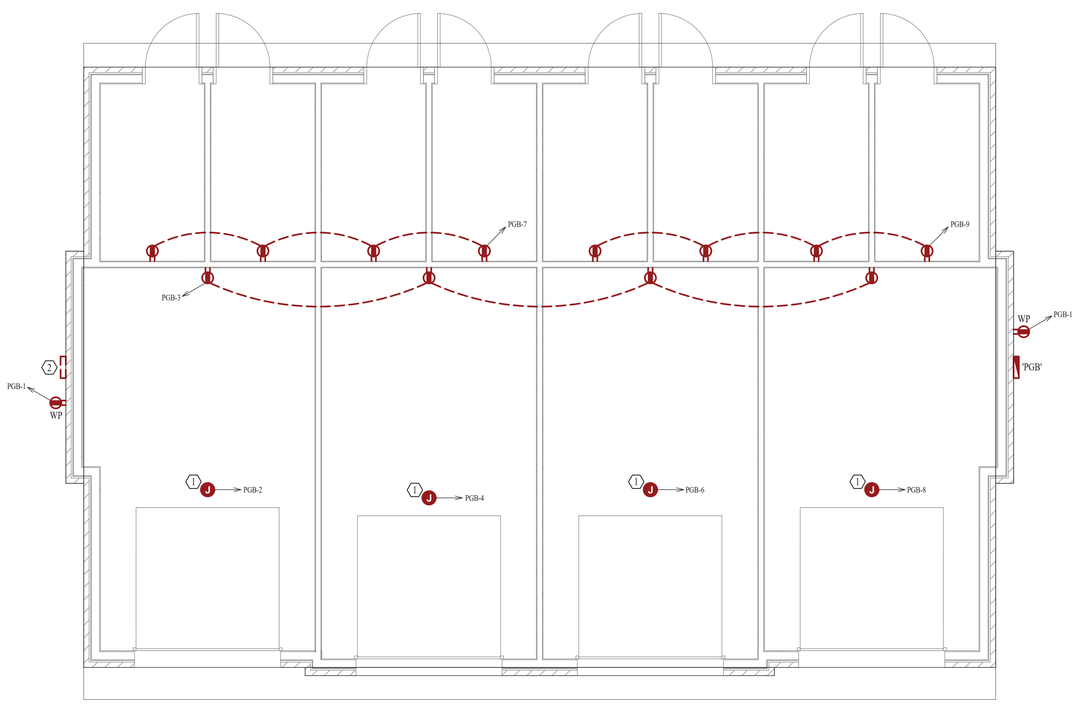
SHEET NUMBER

EP141



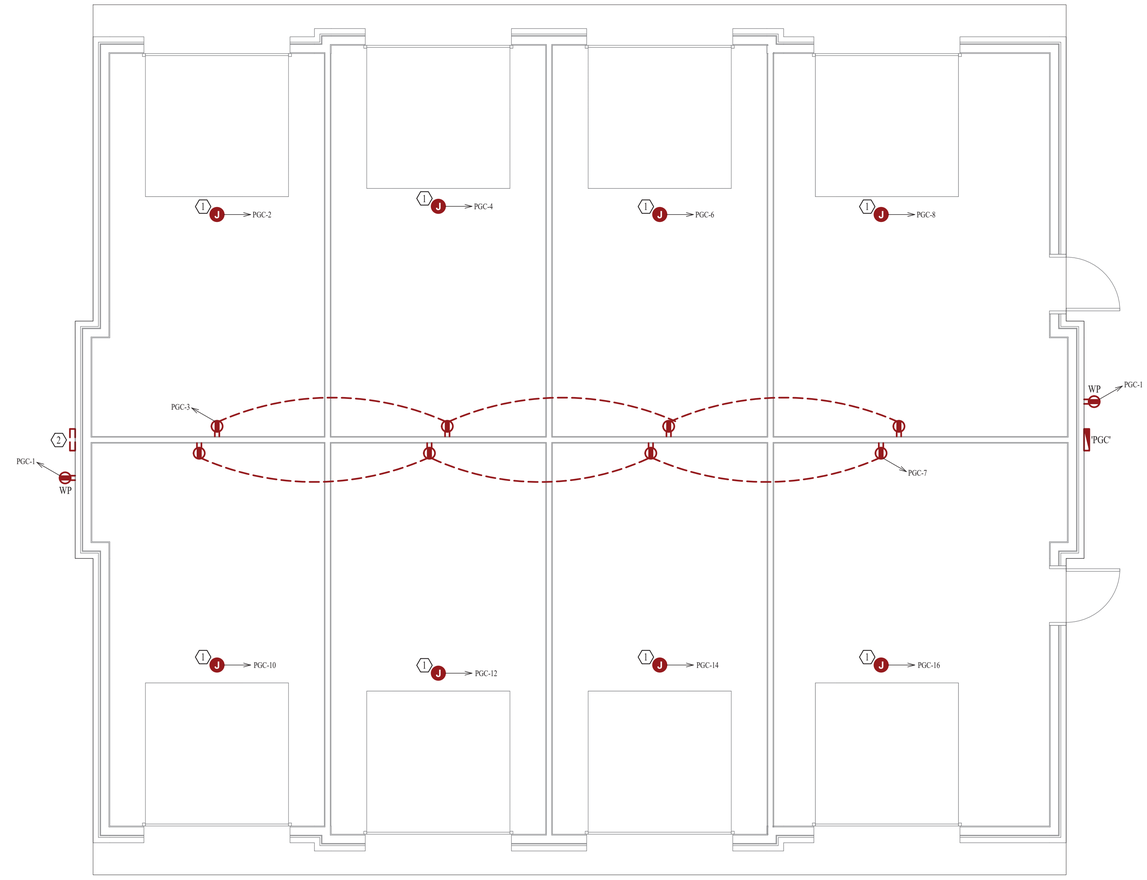
GARAGE 'A' - POWER PLAN

SCALE: 1/4" = 1' - 0"



GARAGE 'B' - POWER PLAN

SCALE: 1/4" = 1' - 0"



GARAGE 'C' - POWER PLAN

SCALE: 1/4" = 1' - 0"

POWER PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR ADDITIONAL POWER DETAILS, SCHEDULES, REQUIREMENTS, ETC.

POWER PLAN KEY NOTES:

1. POWER FOR OVERHEAD DOOR OPENER. COORDINATE EXACT LOCATION & DETAILS WITH EQUIPMENT PROVIDER/INSTALLER.
2. ALTERNATE ELECTRICAL PANEL 'PGX' LOCATION DEPENDING ON BUILDING CONFIGURATION ON SITE. SEE SITE PLAN FOR DETAILS.

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Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

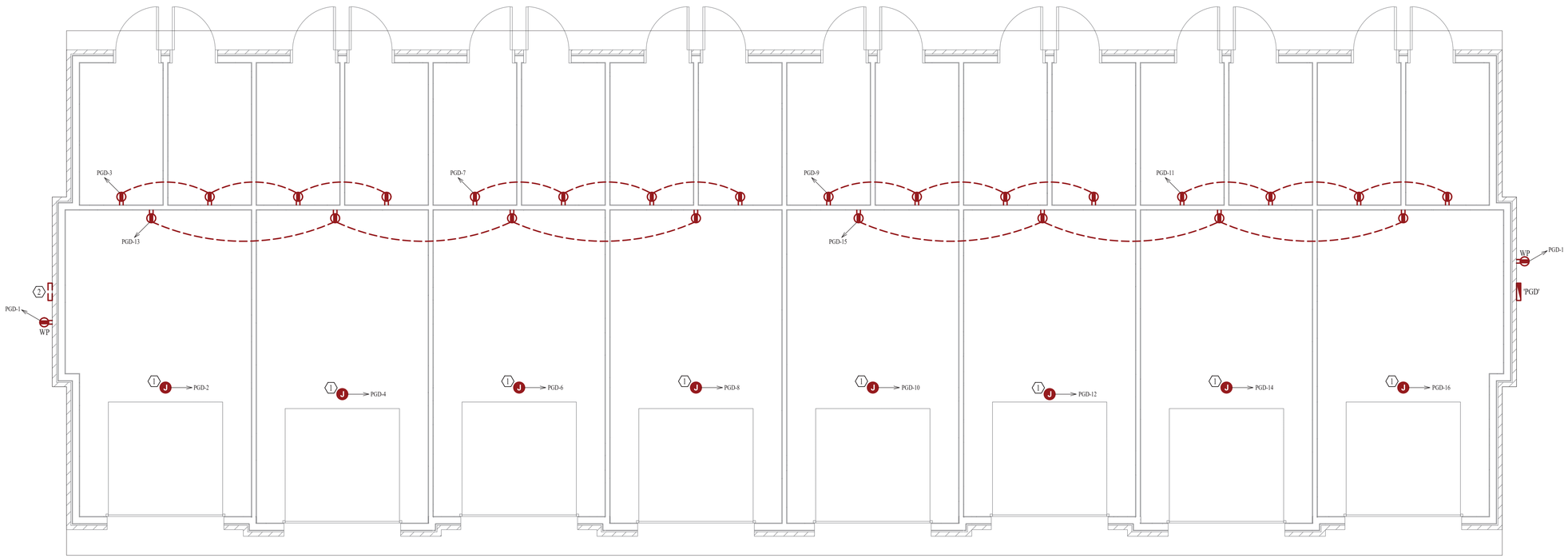
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

GARAGE 'A', 'B', & 'C' POWER PLAN

SHEET NUMBER

EP151



GARAGE 'D' - POWER PLAN

SCALE: 1/4" = 1' - 0"

POWER PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR ADDITIONAL POWER DETAILS, SCHEDULES, REQUIREMENTS, ETC.

POWER PLAN KEY NOTES:

1. POWER FOR OVERHEAD DOOR OPENER. COORDINATE EXACT LOCATION & DETAILS WITH EQUIPMENT PROVIDER/INSTALLER.
2. ALTERNATE ELECTRICAL PANEL 'PGX' LOCATION DEPENDING ON BUILDING CONFIGURATION ON SITE. SEE SITE PLAN FOR DETAILS.

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Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

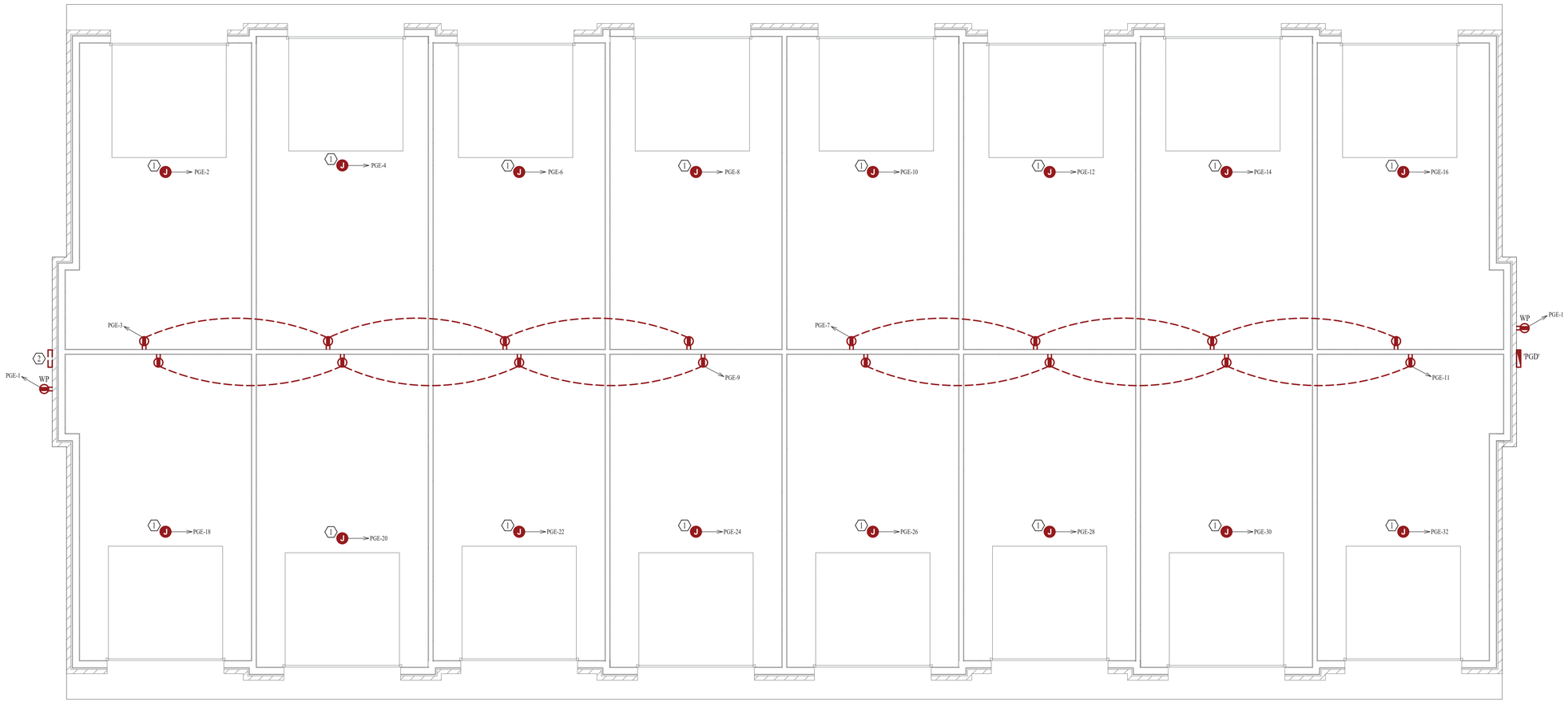
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

GARAGE 'D'
POWER PLAN

SHEET NUMBER

EP152



GARAGE 'E' - POWER PLAN

SCALE: 1/4" = 1' - 0"

POWER PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR ADDITIONAL ELECTRICAL DETAILS, SCHEDULES, REQUIREMENTS, ETC.

POWER PLAN KEY NOTES:

1. POWER FOR OVERHEAD DOOR OPENER. COORDINATE EXACT LOCATION & DETAILS WITH EQUIPMENT PROVIDER/INSTALLER.
2. ALTERNATE ELECTRICAL PANEL 'PGX' LOCATION DEPENDING ON BUILDING CONFIGURATION ON SITE. SEE SITE PLAN FOR DETAILS.

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Aria Apartments - Lee's Summit

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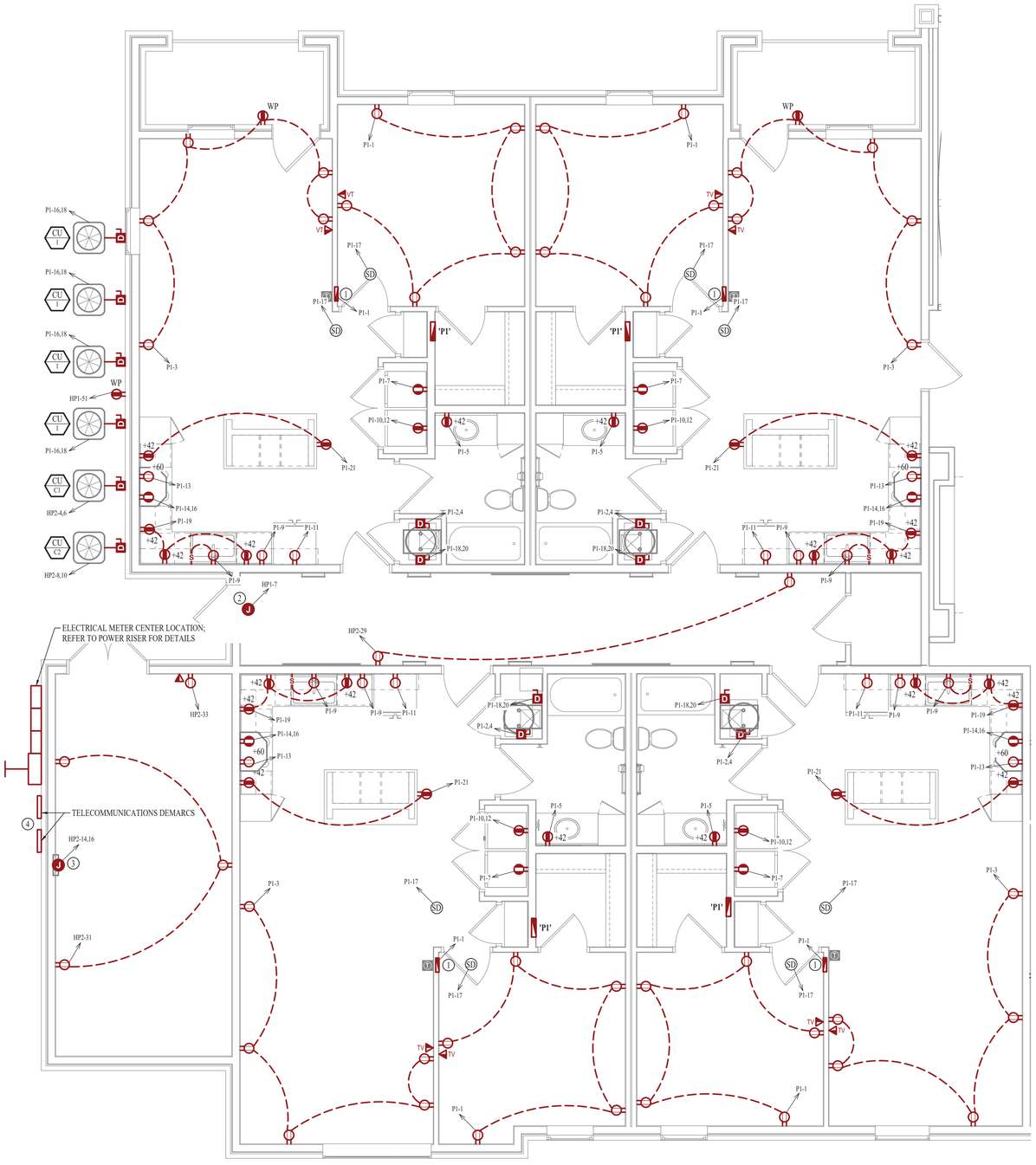
Lee's Summit, Jackson County, Missouri

SHEET TITLE

GARAGE 'E'
POWER PLAN

SHEET NUMBER

EP153



POWER PLAN - AREA A

SCALE: 1/4" = 1'-0"

POWER PLAN SYMBOL LEGEND

- CIRCUIT WIRING
- PX-XX — CIRCUIT TAG
- JUNCTION BOX
- XX +42 — RECEPTACLE
  - INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
  - "WP" = WEATHERPROOF OUTDOOR RECEPTACLE
  - "AW" = ABOVE WINDOW RECEPTACLE
  - "AC" = ABOVE CEILING RECEPTACLE
  - "EX" = EXISTING RECEPTACLE TO REMAIN
- GFCI DUPLEX CONVENIENCE RECEPTACLE
- 208V RECEPTACLE
- QUADPLEX CONVENIENCE RECEPTACLE
- USB OUTLET
- DATA / PHONE JACK
  BOX WITH 1" CONDUIT & CAT6 CABLE BACK TO I.T. CLOSET IN COMMON AREAS,
  BOX WITH 1" CONDUIT & CAT6 CABLE BACK TO MEDIA PANEL IN APARTMENTS
  (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
- FLOOR RECEPTACLE
- FLOOR DATA
- DISCONNECT

POWER PLAN GENERAL NOTES:

1. SEE SHEET E501 FOR ADDITIONAL ELECTRICAL NOTES, DETAILS, & SCHEDULES.

POWER PLAN KEY NOTES:

1. MEDIA PANEL LOCATION; DATA/TV WIRING TO TERMINATE AT THIS LOCATION. DETERMINE EXACT LOCATION & DETAILS WITH OWNER PRIOR TO INSTALLATION. OWNER'S SUBCONTRACTOR TO PROVIDE & INSTALL MEDIA PANEL AND PROVIDE/INSTALL/TERMINATE ALL LOW VOLTAGE WIRING.
2. POWER FOR ACCESS CONTROLS ABOVE SECURE SIDE OF DOOR. COORDINATE EXACT LOCATION & REQUIREMENTS WITH DOOR HARDWARE SUPPLIER.
3. PROVIDE & INSTALL WALL HEATER EQUAL TO BERKO VFK404F.
4. PROVIDE & INSTALL (2) 2" PVC CONDUITS WITH PULL-STRINGS FROM DEMARCATION LOCATIONS ON BUILDING EXTERIOR TO I.T. CLOSET. COORDINATE DETAILS WITH OWNER.

KEY PLAN

SCALE: 1" = 50 ft

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Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

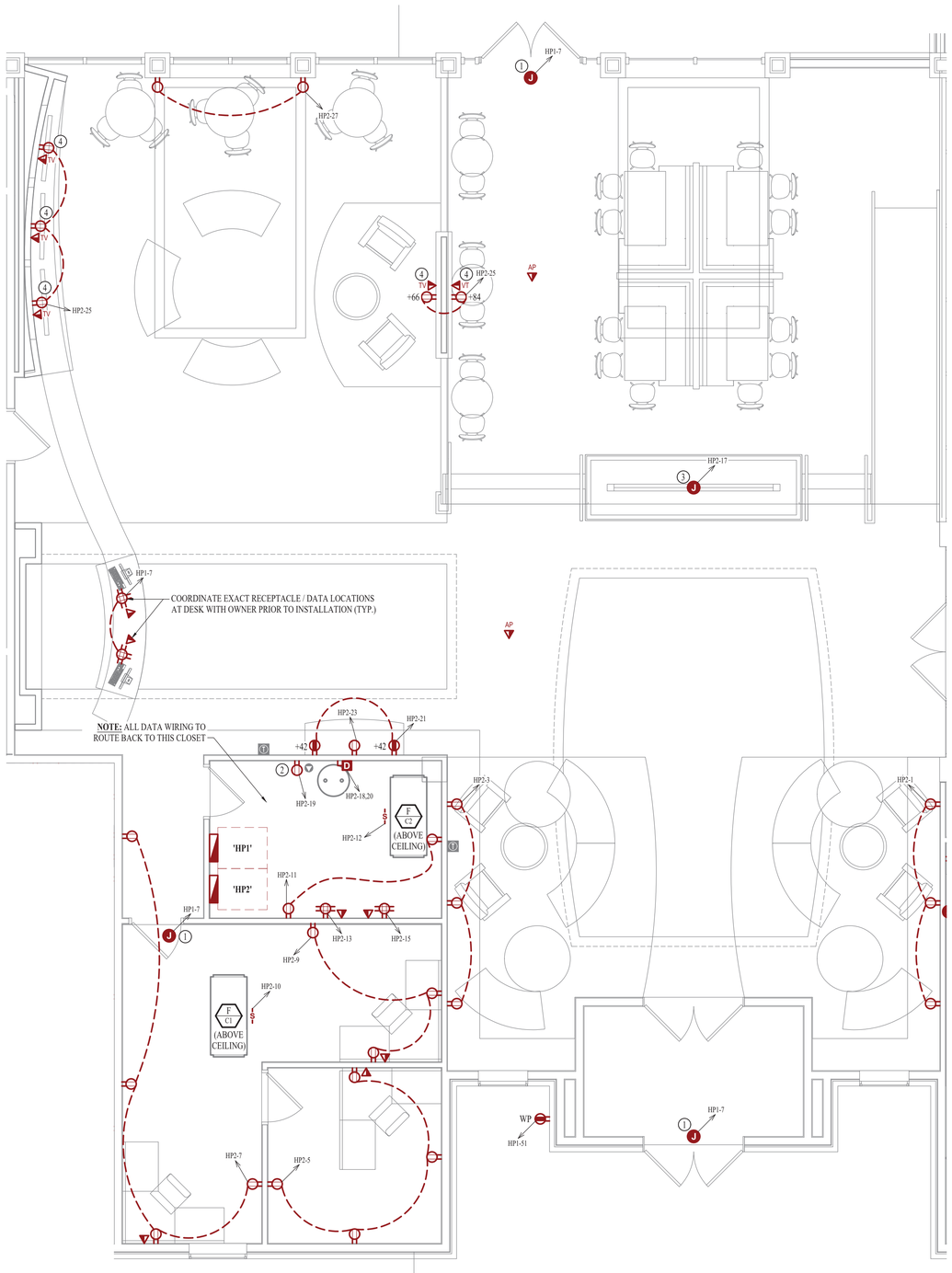
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

CLUBHOUSE POWER PLAN

SHEET NUMBER

EP161



POWER PLAN - AREA B

SCALE: 1/4" = 1'-0"

POWER PLAN SYMBOL LEGEND

- CIRCUIT WIRING
- PX-XX — CIRCUIT TAG
- JUNCTION BOX
- XX +42 — RECEPTACLE
  - INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
  - "WP" = WEATHERPROOF OUTDOOR RECEPTACLE
  - "AW" = ABOVE WINDOW RECEPTACLE
  - "AC" = ABOVE CEILING RECEPTACLE
  - "EX" = EXISTING RECEPTACLE TO REMAIN
- GFCI DUPLEX CONVENIENCE RECEPTACLE
- 208V RECEPTACLE
- QUADPLEX CONVENIENCE RECEPTACLE
- USB OUTLET
- DATA / PHONE JACK
  BOX WITH 1" CONDUIT & CAT6 CABLE BACK TO I.T. CLOSET IN COMMON AREAS,
  BOX WITH 1" CONDUIT & CAT6 CABLE BACK TO MEDIA PANEL IN APARTMENTS
  (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
- FLOOR RECEPTACLE
- FLOOR DATA
- DISCONNECT

POWER PLAN GENERAL NOTES:

1. SEE SHEET E501 FOR ADDITIONAL ELECTRICAL NOTES, DETAILS, & SCHEDULES.

POWER PLAN KEY NOTES:

1. POWER FOR ACCESS CONTROLS ABOVE SECURE SIDE OF DOOR.
   COORDINATE EXACT LOCATION & REQUIREMENTS WITH DOOR HARDWARE SUPPLIER.
2. POWER FOR HOT-WATER RECIRCULATION PUMP.
   COORDINATE EXACT LOCATION & REQUIREMENTS WITH PLUMBING CONTRACTOR.
   WIRE THRU 'LCP1' RELAY #1.
3. POWER FOR WATER FEATURE.
   COORDINATE EXACT LOCATION & REQUIREMENTS WITH OWNER.
4. POWER FOR TELEVISIONS ON WALL.
   COORDINATE EXACT LOCATION & REQUIREMENTS WITH OWNER.

KEY PLAN

SCALE: 1" = 50 ft

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ISSUE TITLE	DATE
PHASE I - PERMIT SET	01 - 07 - 2021

Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

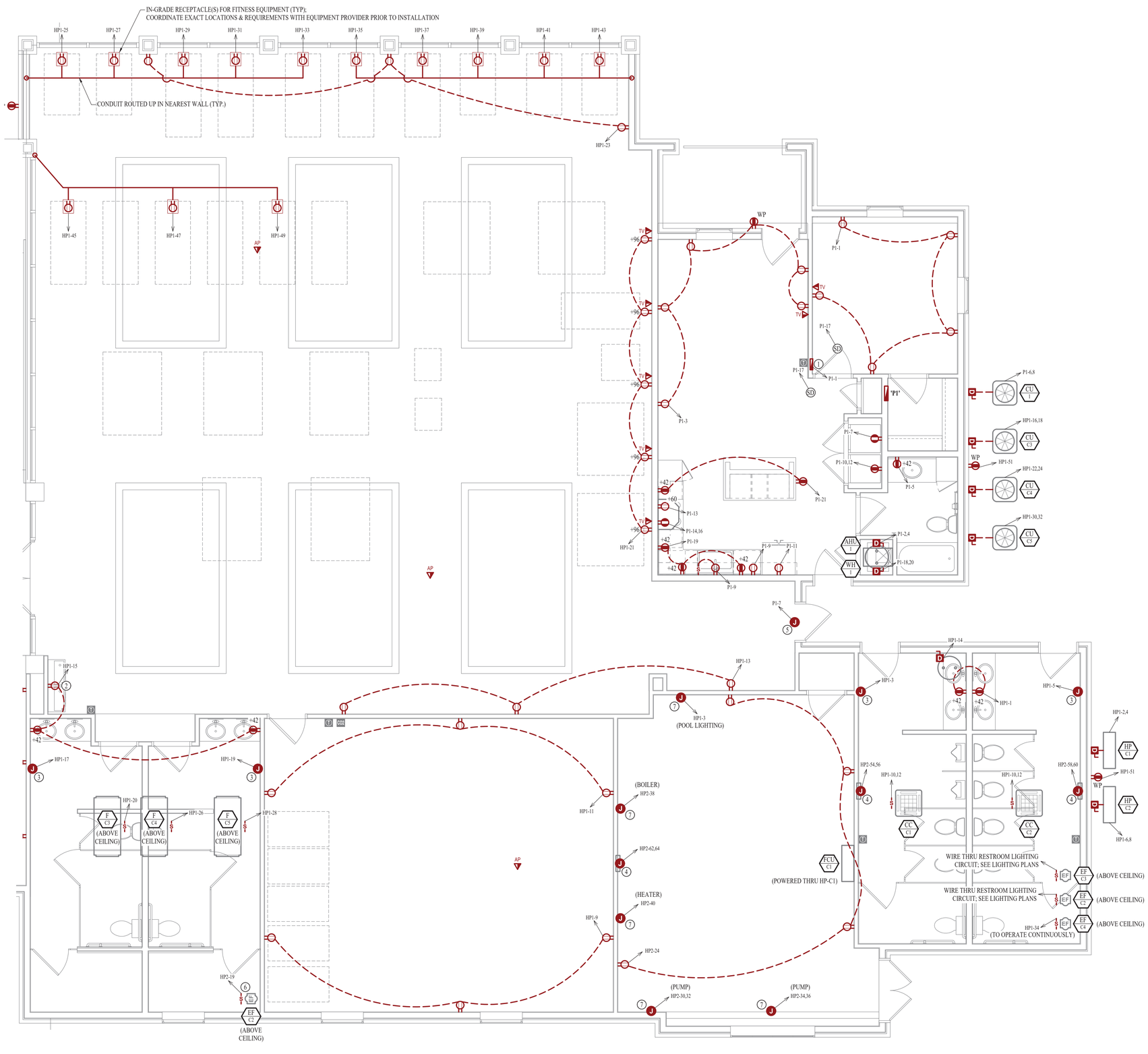
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

CLUBHOUSE POWER PLAN

SHEET NUMBER

EP162



POWER PLAN - AREA C

SCALE: 1/4" = 1'-0"

POWER PLAN GENERAL NOTES:

1. SEE SHEET E501 FOR ADDITIONAL ELECTRICAL NOTES, DETAILS, & SCHEDULES.
2. ALL RECEPTACLES FOR FITNESS EQUIPMENT SHALL HAVE ISOLATED GROUND.

POWER PLAN KEY NOTES:

1. MEDIA PANEL LOCATION; DATA/TV WIRING TO TERMINATE AT THIS LOCATION. DETERMINE EXACT LOCATION & DETAILS WITH OWNER PRIOR TO INSTALLATION. OWNER'S SUBCONTRACTOR TO PROVIDE & INSTALL MEDIA PANEL AND PROVIDE/INSTALL/TERMINATE ALL LOW VOLTAGE WIRING.
2. CIRCUIT DRINKING FOUNTAIN RECEPTACLE DOWNSTREAM OF GFCI RECEPTACLE SO THAT DRINKING FOUNTAIN RECEPTACLE IS GFCI PROTECTED.
3. PROVIDE & INSTALL HAND DRYER EQUAL TO XLERATOR #XL-BWX. COORDINATE EXACT LOCATION & REQUIREMENTS WITH OWNER.
4. PROVIDE & INSTALL WALL-HEATER EQUAL TO BERKO VFK404F.
5. POWER FOR ACCESS CONTROLS ABOVE SECURE SIDE OF DOOR. COORDINATE EXACT LOCATION & REQUIREMENTS WITH DOOR HARDWARE SUPPLIER.
6. WIRE EXHAUST FAN THRU 'LCP1' RELAY #1.
7. POWER FOR POOL EQUIPMENT. COORDINATE EXACT LOCATION & REQUIREMENTS WITH POOL EQUIPMENT SUPPLIER.

POWER PLAN SYMBOL LEGEND

- CIRCUIT WIRING
- PX-XX — CIRCUIT TAG
- J — JUNCTION BOX
- XX +42 — RECEPTACLE
  - INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
  - "WP" = WEATHERPROOF OUTDOOR RECEPTACLE
  - "AW" = ABOVE WINDOW RECEPTACLE
  - "AC" = ABOVE CEILING RECEPTACLE
  - "EX" = EXISTING RECEPTACLE TO REMAIN
- GFCI DUPLEX CONVENIENCE RECEPTACLE
- 208V RECEPTACLE
- QUADPLEX CONVENIENCE RECEPTACLE
- USB OUTLET
- DATA / PHONE JACK
  - BOX WITH 1" CONDUIT & CAT6 CABLE BACK TO I.T. CLOSET IN COMMON AREAS, BOX WITH 1" CONDUIT & CAT6 CABLE BACK TO MEDIA PANEL IN APARTMENTS (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
- FLOOR RECEPTACLE
- FLOOR DATA
- DISCONNECT

KEY PLAN

SCALE: 1" = 50 ft

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Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

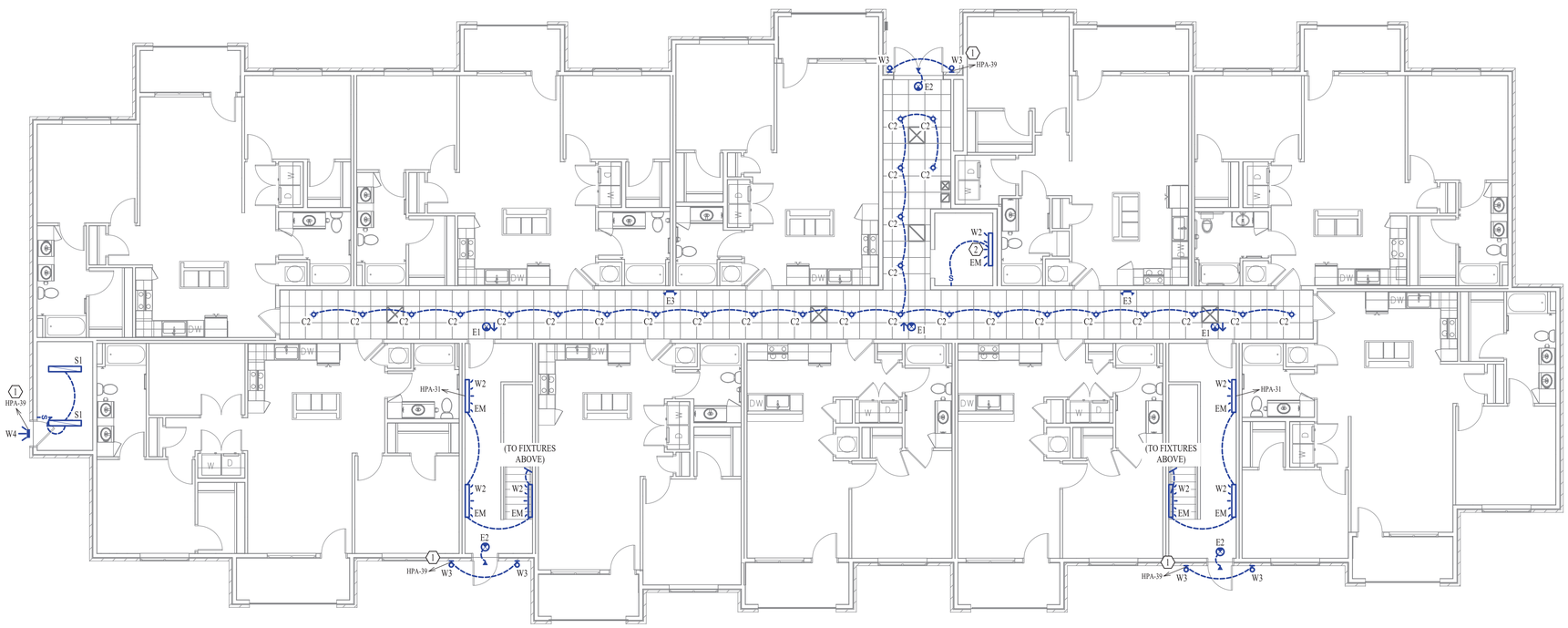
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

CLUBHOUSE POWER PLAN

SHEET NUMBER

EP163



BUILDING 'A' - FIRST FLOOR - LIGHTING PLAN

SCALE: 1/8" = 1' - 0"

LIGHTING PLAN GENERAL NOTES:

1. REFER TO E500 SERIES SHEETS FOR ADDITIONAL LIGHTING DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. REFER TO 'UP' SERIES SHEETS FOR LIGHTING PLANS WITHIN EACH APARTMENT.
3. ALL LIGHTING SHOWN ON FIRST FLOOR TO BE ON CIRCUIT HPA-31 UNLESS NOTED OTHERWISE.

LIGHTING PLAN KEY NOTES:

1. WIRE THRU LIGHTING CONTROL RELAY PANEL 'LCPA' RELAY #1.
2. LIGHT FIXTURE LOCATED IN ELEVATOR PIT, SEE DETAIL SHEETS.

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Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

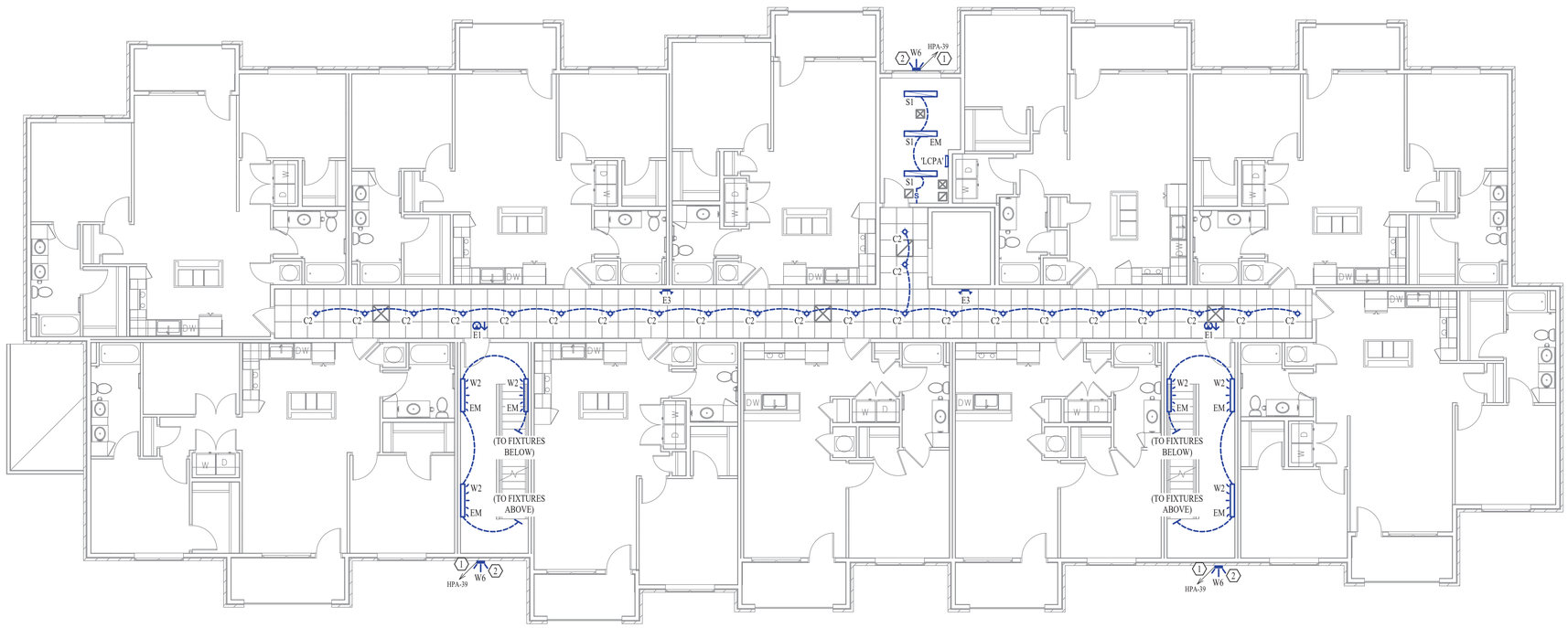
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

BUILDING 'A' FIRST FLOOR LIGHTING PLAN

SHEET NUMBER

EL111



BUILDING 'A' - SECOND FLOOR - LIGHTING PLAN

SCALE: 1/8" = 1' - 0"

LIGHTING PLAN GENERAL NOTES:

1. REFER TO E500 SERIES SHEETS FOR ADDITIONAL LIGHTING DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. REFER TO 'UP' SERIES SHEETS FOR LIGHTING PLANS WITHIN EACH APARTMENT.
3. ALL LIGHTING SHOWN ON SECOND FLOOR TO BE ON CIRCUIT HPA-33 UNLESS NOTED OTHERWISE.

LIGHTING PLAN KEY NOTES:

1. WIRE THRU LIGHTING CONTROL RELAY PANEL 'LCPA' RELAY #1.
2. WALLPACK MOUNTED AT APPROXIMATELY 18' ABOVE GRADE (IN FLOOR/CEILING ASSEMBLY BETWEEN SECOND AND THIRD FLOORS) CENTERED ABOVE EXTERIOR DOOR ON FIRST FLOOR.

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Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

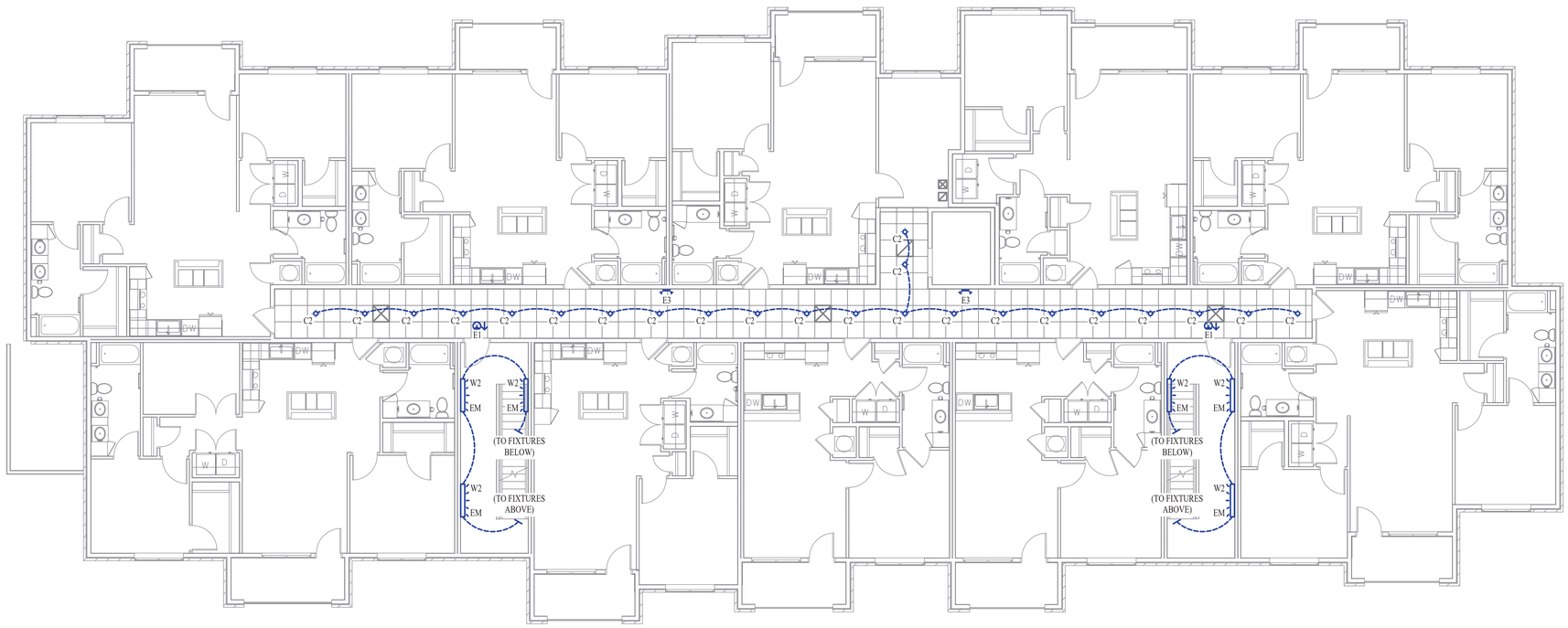
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

BUILDING 'A' SECOND FLOOR LIGHTING PLAN

SHEET NUMBER

EL112



BUILDING 'A' - THIRD FLOOR - LIGHTING PLAN

SCALE: 1/8" = 1' - 0"

LIGHTING PLAN GENERAL NOTES:

1. REFER TO E500 SERIES SHEETS FOR ADDITIONAL LIGHTING DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. REFER TO 'UP' SERIES SHEETS FOR LIGHTING PLANS WITHIN EACH APARTMENT.
3. ALL LIGHTING SHOWN ON THIRD FLOOR TO BE ON CIRCUIT HPA-35 UNLESS NOTED OTHERWISE.

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Aria Apartments - Lee's Summit

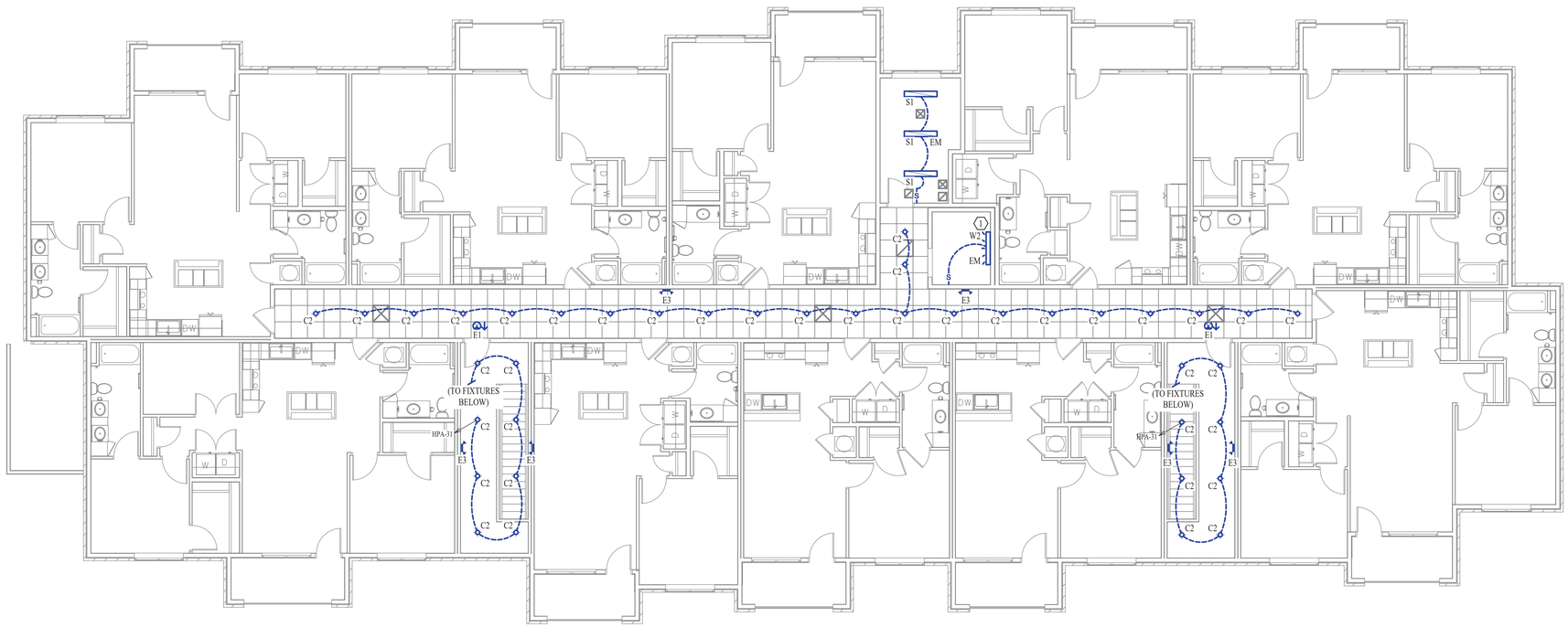
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

**BUILDING 'A'
THIRD FLOOR
LIGHTING PLAN**

SHEET NUMBER

EL113



BUILDING 'A' - FOURTH FLOOR - LIGHTING PLAN

SCALE: 1/8" = 1' - 0"

LIGHTING PLAN GENERAL NOTES:

1. REFER TO E500 SERIES SHEETS FOR ADDITIONAL LIGHTING DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. REFER TO 'UP' SERIES SHEETS FOR LIGHTING PLANS WITHIN EACH APARTMENT.
3. ALL LIGHTING SHOWN ON FOURTH FLOOR TO BE ON CIRCUIT HPA-37 UNLESS NOTED OTHERWISE.

LIGHTING PLAN KEY NOTES:

1. LIGHT FIXTURE LOCATED AT TOP OF ELEVATOR SHAFT, SEE DETAIL SHEETS.

STATE OF MISSOURI
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J2 PROJECT No:	J20055
J2 DESIGN:	ACW

ISSUE TITLE	DATE
PHASE I - PERMIT SET	01 - 07 - 2021

Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

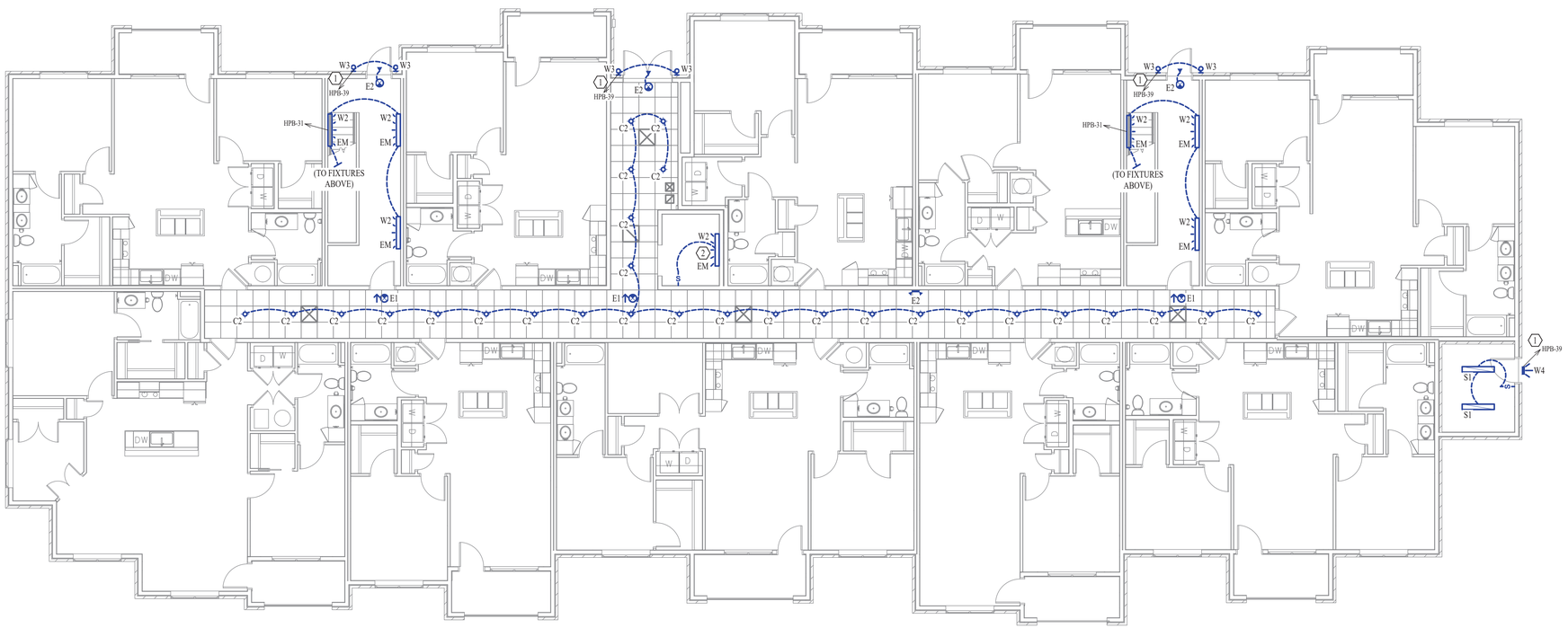
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

BUILDING 'A' FOURTH FLOOR LIGHTING PLAN

SHEET NUMBER

EL114



BUILDING 'B' - FIRST FLOOR - LIGHTING PLAN

SCALE: 1/8" = 1' - 0"

LIGHTING PLAN GENERAL NOTES:

1. REFER TO E500 SERIES SHEETS FOR ADDITIONAL LIGHTING DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. REFER TO 'UP' SERIES SHEETS FOR LIGHTING PLANS WITHIN EACH APARTMENT.
3. ALL LIGHTING SHOWN ON FIRST FLOOR TO BE ON CIRCUIT HPB-31 UNLESS NOTED OTHERWISE.

LIGHTING PLAN KEY NOTES:

1. WIRE THRU LIGHTING CONTROL RELAY PANEL 'LCPB' RELAY #1.
2. LIGHT FIXTURE LOCATED IN ELEVATOR PIT, SEE DETAIL SHEETS.

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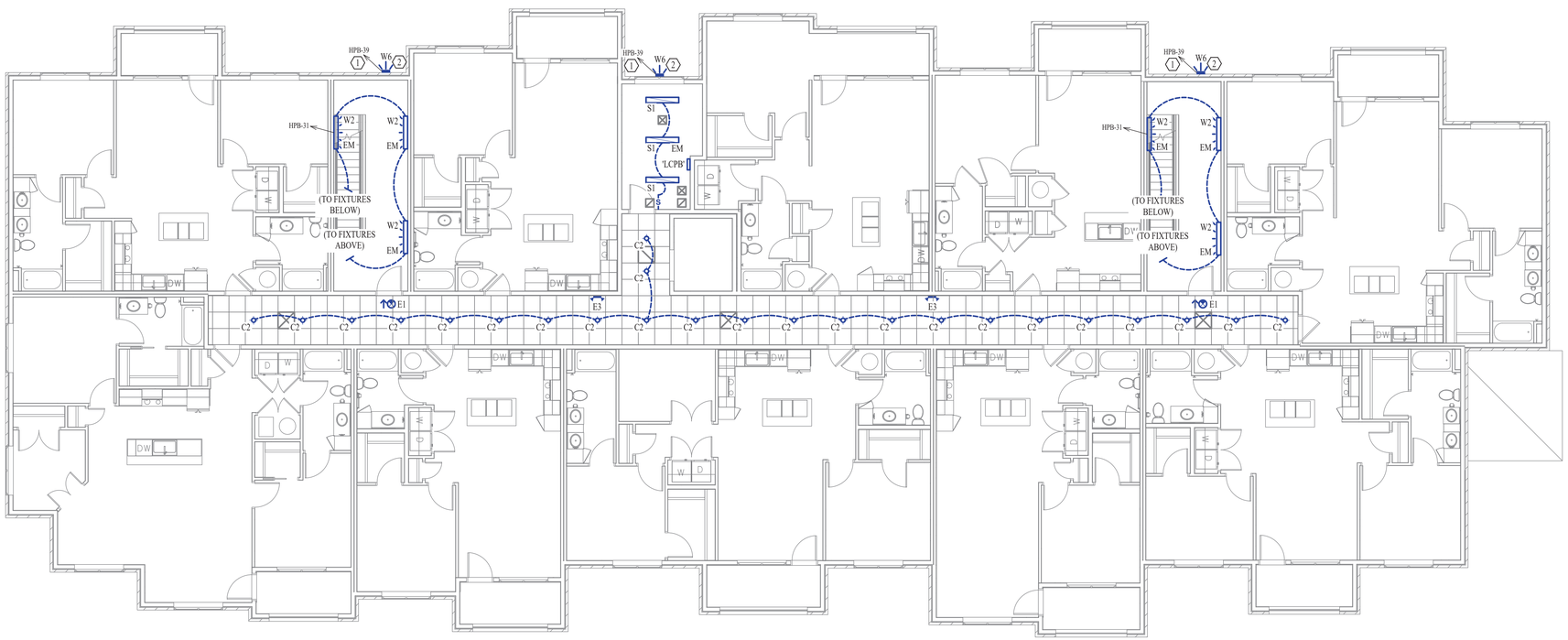
Lee's Summit, Jackson County, Missouri

SHEET TITLE

BUILDING 'B' FIRST FLOOR LIGHTING PLAN

SHEET NUMBER

EL121



BUILDING 'B' - SECOND FLOOR - LIGHTING PLAN

SCALE: 1/8" = 1' - 0"

LIGHTING PLAN GENERAL NOTES:

1. REFER TO E500 SERIES SHEETS FOR ADDITIONAL LIGHTING DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. REFER TO 'UP' SERIES SHEETS FOR LIGHTING PLANS WITHIN EACH APARTMENT.
3. ALL LIGHTING SHOWN ON SECOND FLOOR TO BE ON CIRCUIT HPB-33 UNLESS NOTED OTHERWISE.

LIGHTING PLAN KEY NOTES:

1. WIRE THRU LIGHTING CONTROL RELAY PANEL 'LCPB' RELAY #1.
2. WALLPACK MOUNTED AT APPROXIMATELY 18' ABOVE GRADE (IN FLOOR/CEILING ASSEMBLY BETWEEN SECOND AND THIRD FLOORS) CENTERED ABOVE EXTERIOR DOOR ON FIRST FLOOR.

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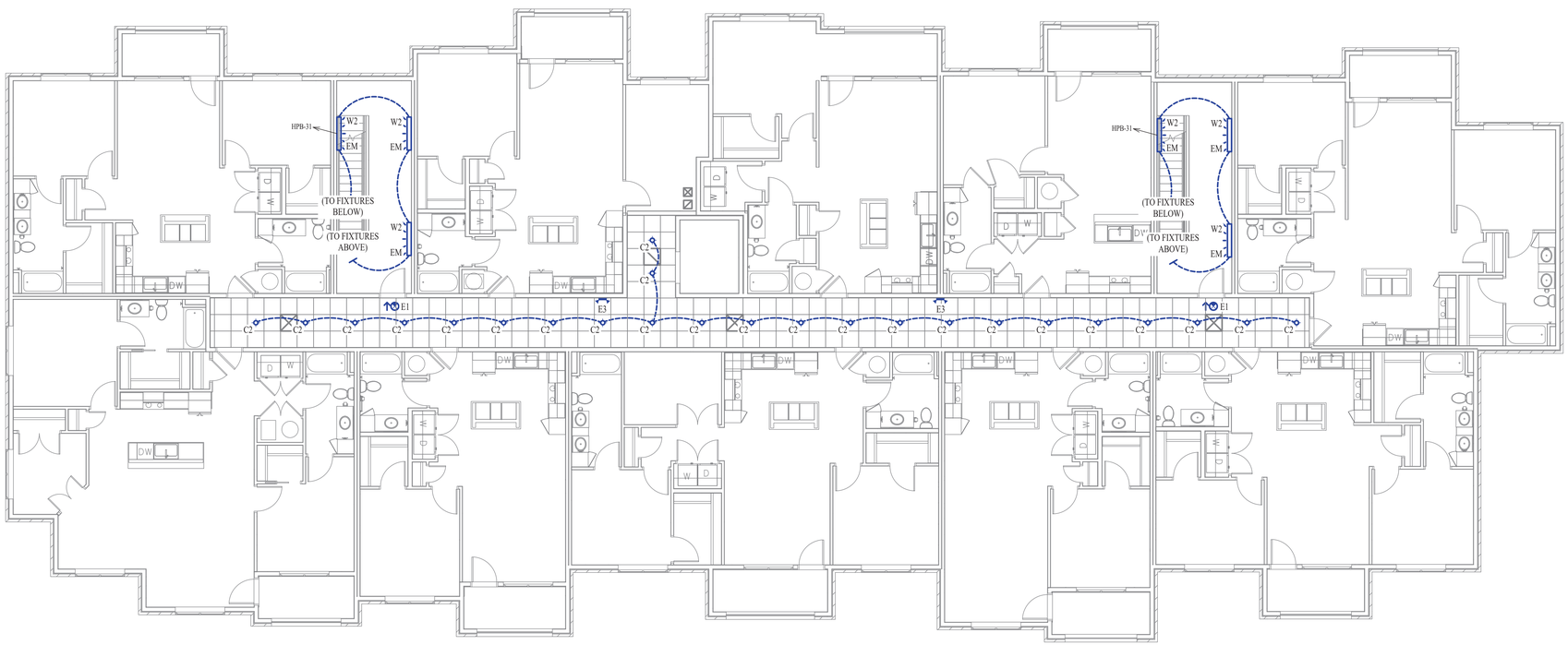
SHEET TITLE

BUILDING 'B' SECOND FLOOR LIGHTING PLAN

SHEET NUMBER

EL122



BUILDING 'B' - THIRD FLOOR - LIGHTING PLAN

SCALE: 1/8" = 1' - 0"

LIGHTING PLAN GENERAL NOTES:

1. REFER TO E500 SERIES SHEETS FOR ADDITIONAL LIGHTING DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. REFER TO 'UP' SERIES SHEETS FOR LIGHTING PLANS WITHIN EACH APARTMENT.
3. ALL LIGHTING SHOWN ON THIRD FLOOR TO BE ON CIRCUIT HPB-35 UNLESS NOTED OTHERWISE.

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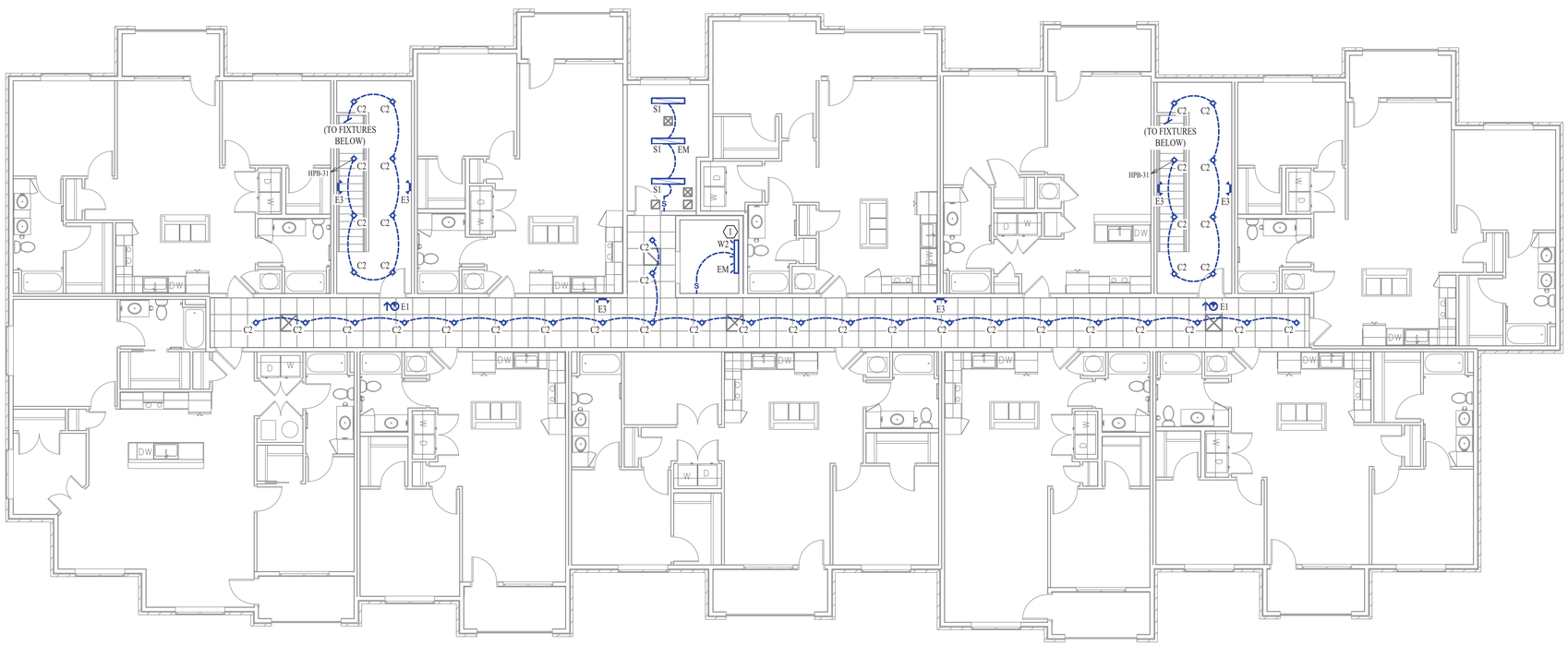
Lee's Summit, Jackson County, Missouri

SHEET TITLE

BUILDING 'B' THIRD FLOOR LIGHTING PLAN

SHEET NUMBER

EL123



BUILDING 'B' - FOURTH FLOOR - LIGHTING PLAN

SCALE: 1/8" = 1' - 0"

LIGHTING PLAN GENERAL NOTES:

1. REFER TO E500 SERIES SHEETS FOR ADDITIONAL LIGHTING DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. REFER TO 'UP' SERIES SHEETS FOR LIGHTING PLANS WITHIN EACH APARTMENT.
3. ALL LIGHTING SHOWN ON FOURTH FLOOR TO BE ON CIRCUIT HPB-37 UNLESS NOTED OTHERWISE.

LIGHTING PLAN KEY NOTES:

1. LIGHT FIXTURE LOCATED AT TOP OF ELEVATOR SHAFT, SEE DETAIL SHEETS.

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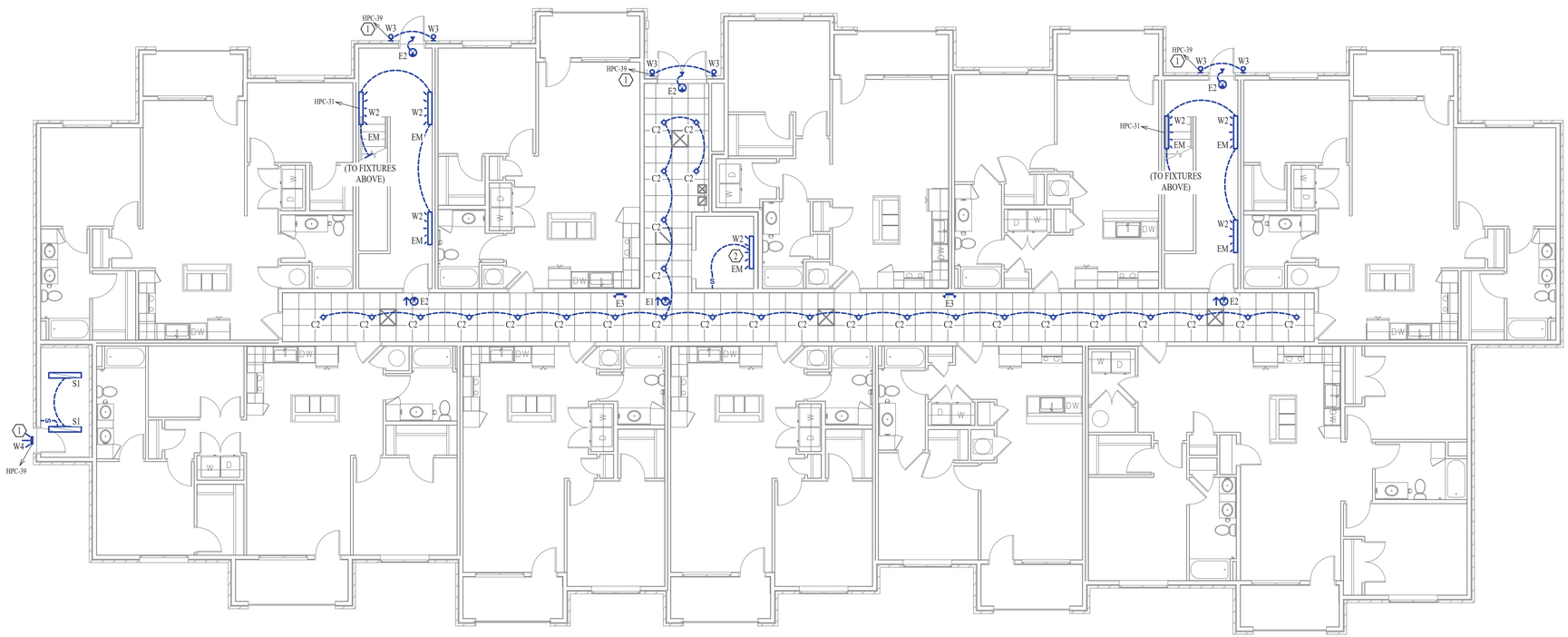
Lee's Summit, Jackson County, Missouri

SHEET TITLE

BUILDING 'B' FOURTH FLOOR LIGHTING PLAN

SHEET NUMBER

EL124



BUILDING 'C' - FIRST FLOOR - LIGHTING PLAN

SCALE: 1/8" = 1' - 0"

LIGHTING PLAN GENERAL NOTES:

1. REFER TO E500 SERIES SHEETS FOR ADDITIONAL LIGHTING DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. REFER TO 'UP' SERIES SHEETS FOR LIGHTING PLANS WITHIN EACH APARTMENT.
3. ALL LIGHTING SHOWN ON FIRST FLOOR TO BE ON CIRCUIT HPC-31 UNLESS NOTED OTHERWISE.

LIGHTING PLAN KEY NOTES:

1. WIRE THRU LIGHTING CONTROL RELAY PANEL 'LCPC' RELAY #1.
2. LIGHT FIXTURE LOCATED IN ELEVATOR PIT, SEE DETAIL SHEETS.

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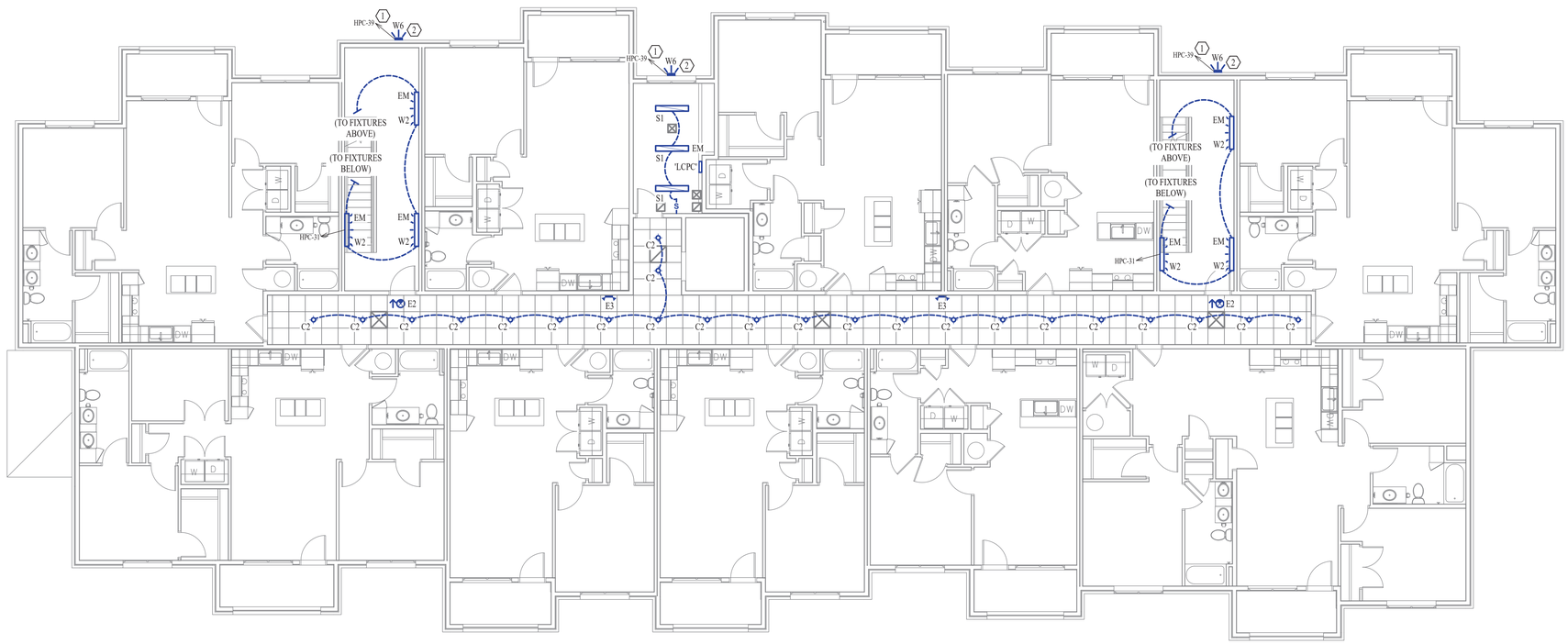
SHEET TITLE

BUILDING 'C' FIRST FLOOR LIGHTING PLAN

SHEET NUMBER

EL131



BUILDING 'C' - SECOND FLOOR - LIGHTING PLAN

SCALE: 1/8" = 1' - 0"

LIGHTING PLAN GENERAL NOTES:

1. REFER TO E500 SERIES SHEETS FOR ADDITIONAL LIGHTING DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. REFER TO 'UP' SERIES SHEETS FOR LIGHTING PLANS WITHIN EACH APARTMENT.
3. ALL LIGHTING SHOWN ON SECOND FLOOR TO BE ON CIRCUIT HPC-33 UNLESS NOTED OTHERWISE.

LIGHTING PLAN KEY NOTES:

1. WIRE THRU LIGHTING CONTROL RELAY PANEL 'LCPC' RELAY #1.
2. WALLPACK MOUNTED AT APPROXIMATELY 18' ABOVE GRADE (IN FLOOR/CEILING ASSEMBLY BETWEEN SECOND AND THIRD FLOORS) CENTERED ABOVE EXTERIOR DOOR ON FIRST FLOOR.

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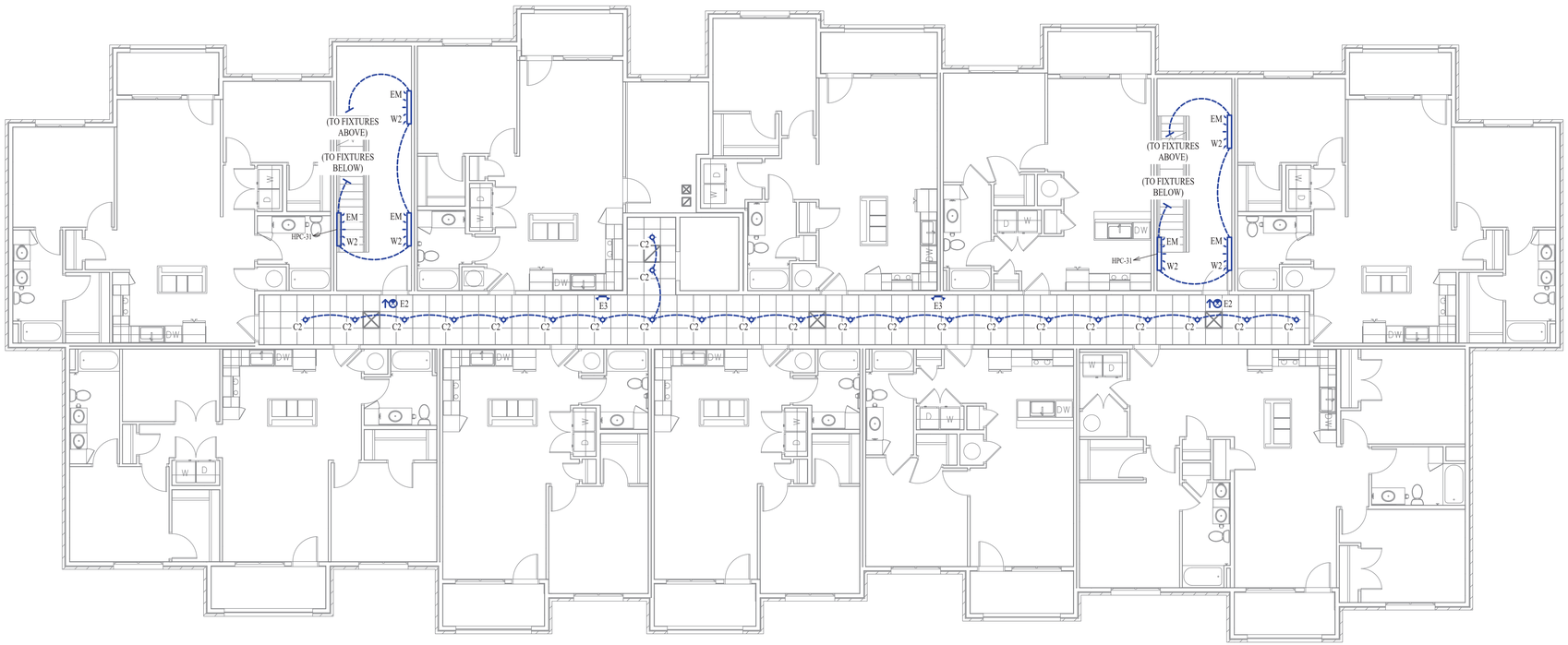
Lee's Summit, Jackson County, Missouri

SHEET TITLE

BUILDING 'C' SECOND FLOOR LIGHTING PLAN

SHEET NUMBER

EL132



BUILDING 'C' - THIRD FLOOR - LIGHTING PLAN

SCALE: 1/8" = 1' - 0"

LIGHTING PLAN GENERAL NOTES:

1. REFER TO E500 SERIES SHEETS FOR ADDITIONAL LIGHTING DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. REFER TO 'UP' SERIES SHEETS FOR LIGHTING PLANS WITHIN EACH APARTMENT.
3. ALL LIGHTING SHOWN ON THIRD FLOOR TO BE ON CIRCUIT HPC-35 UNLESS NOTED OTHERWISE.

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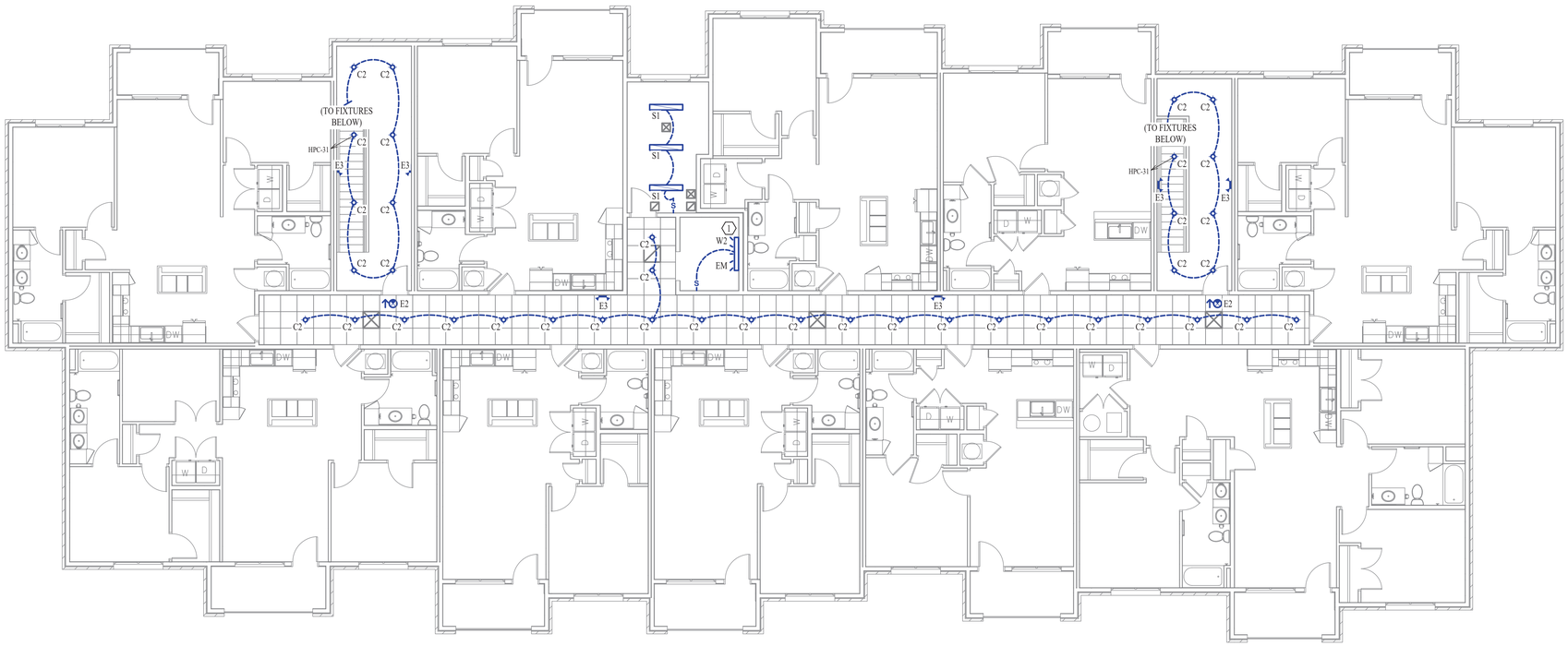
SHEET TITLE

**BUILDING 'C'
THIRD FLOOR
LIGHTING PLAN**

SHEET NUMBER

EL133



BUILDING 'C' - FOURTH FLOOR - LIGHTING PLAN

SCALE: 1/8" = 1' - 0"

LIGHTING PLAN GENERAL NOTES:

1. REFER TO E500 SERIES SHEETS FOR ADDITIONAL LIGHTING DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. REFER TO 'U3' SERIES SHEETS FOR LIGHTING PLANS WITHIN EACH APARTMENT.
3. ALL LIGHTING SHOWN ON FOURTH FLOOR TO BE ON CIRCUIT HPC-37 UNLESS NOTED OTHERWISE.

LIGHTING PLAN KEY NOTES:

1. LIGHT FIXTURE LOCATED AT TOP OF ELEVATOR SHAFT, SEE DETAIL SHEETS.

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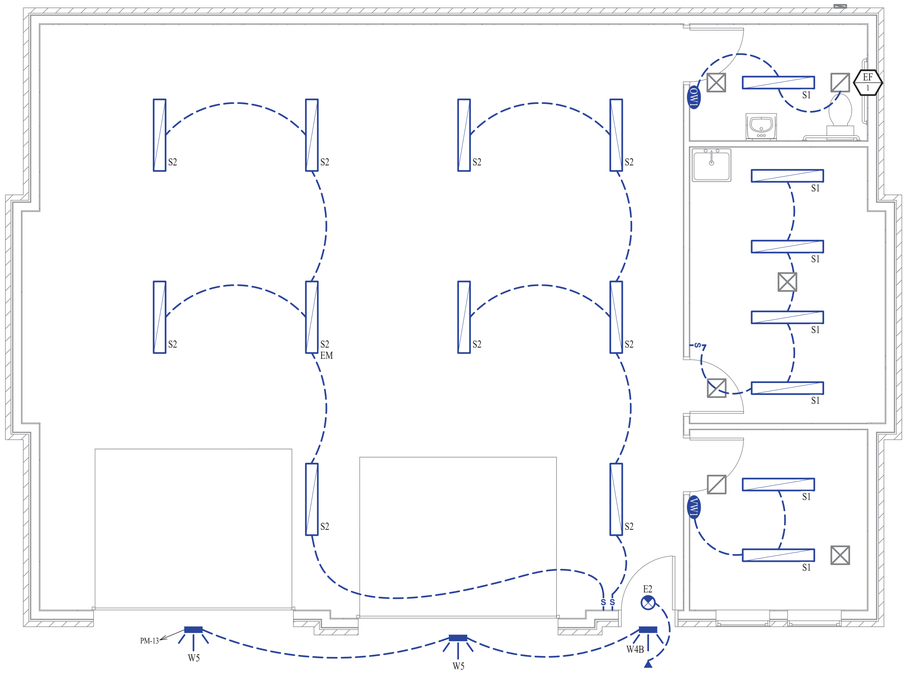
Lee's Summit, Jackson County, Missouri

SHEET TITLE

BUILDING 'C' FOURTH FLOOR LIGHTING PLAN

SHEET NUMBER

EL134



MAINTENANCE BUILDING - LIGHTING PLAN

SCALE: 1/4" = 1' - 0"

LIGHTING PLAN GENERAL NOTES:

1. REFER TO E500 SERIES SHEETS FOR ADDITIONAL LIGHTING DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. ALL INTERIOR LIGHTING WITHIN MAINTENANCE BUILDING SHALL BE ON CIRCUIT PM-15 UNLESS NOTED OTHERWISE.

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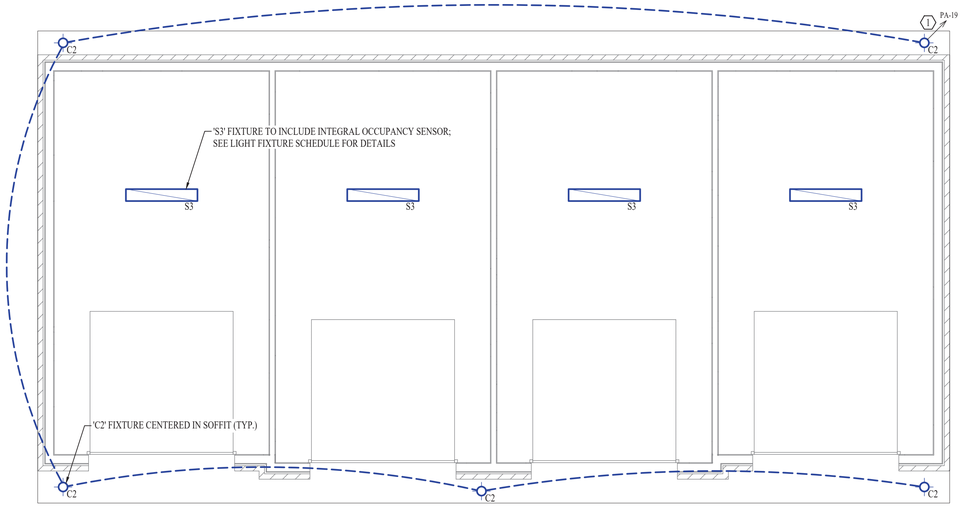
Lee's Summit, Jackson County, Missouri

SHEET TITLE

MAINTENANCE BUILDING LIGHTING PLAN

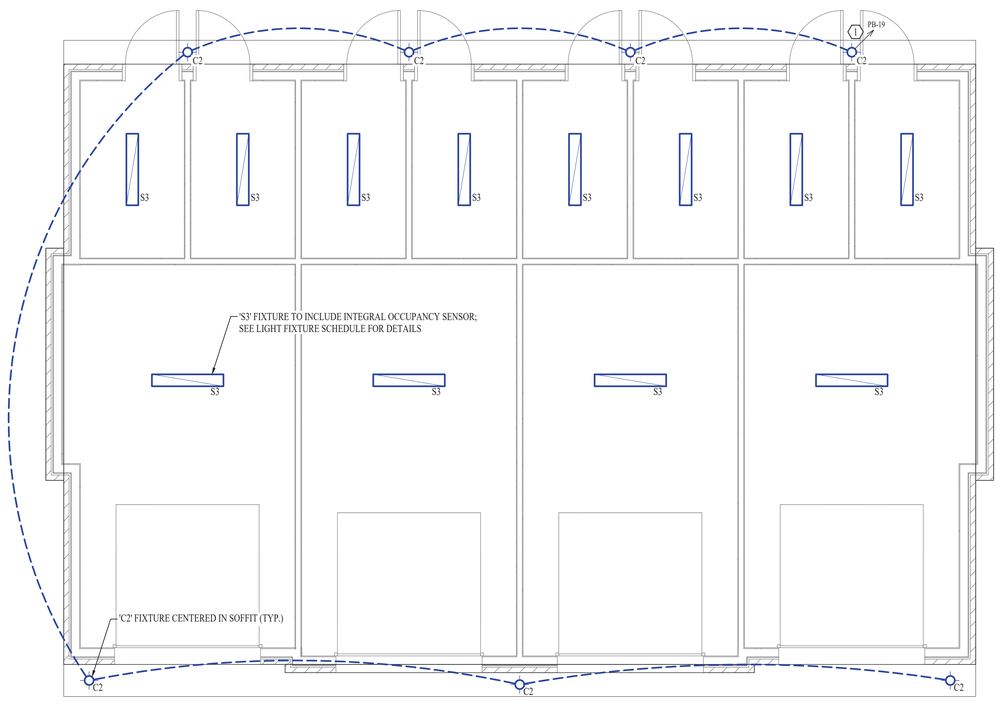
SHEET NUMBER

EL141



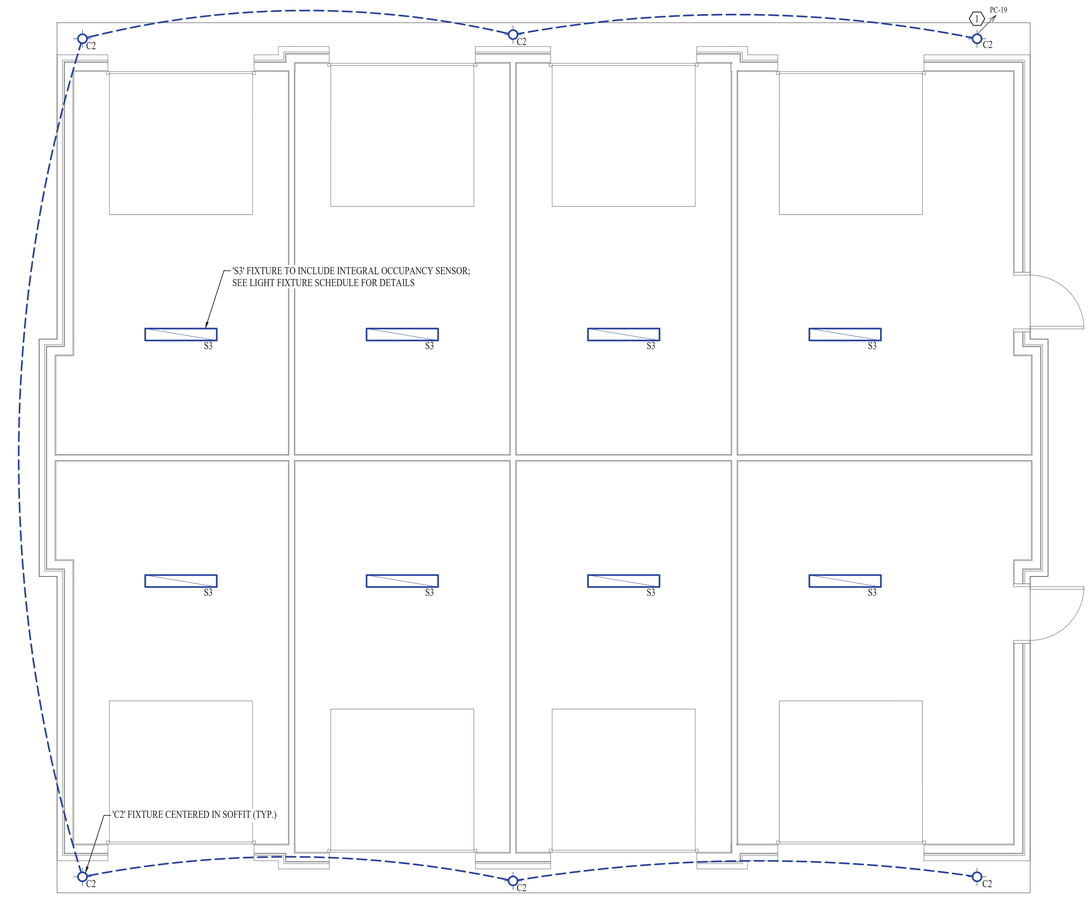
GARAGE 'A' - LIGHTING PLAN

SCALE: 1/4" = 1' - 0"



GARAGE 'B' - LIGHTING PLAN

SCALE: 1/4" = 1' - 0"



GARAGE 'C' - LIGHTING PLAN

SCALE: 1/4" = 1' - 0"

LIGHTING PLAN GENERAL NOTES:

1. REFER TO E500 SERIES SHEETS FOR ADDITIONAL LIGHTING DETAILS, SCHEDULES, REQUIREMENTS, ETC.

LIGHTING PLAN KEY NOTES:

1. WIRE EXTERIOR LIGHTING THRU PHOTOCELL (TO BE PROVIDED & INSTALLED BY ELECTRICIAN).

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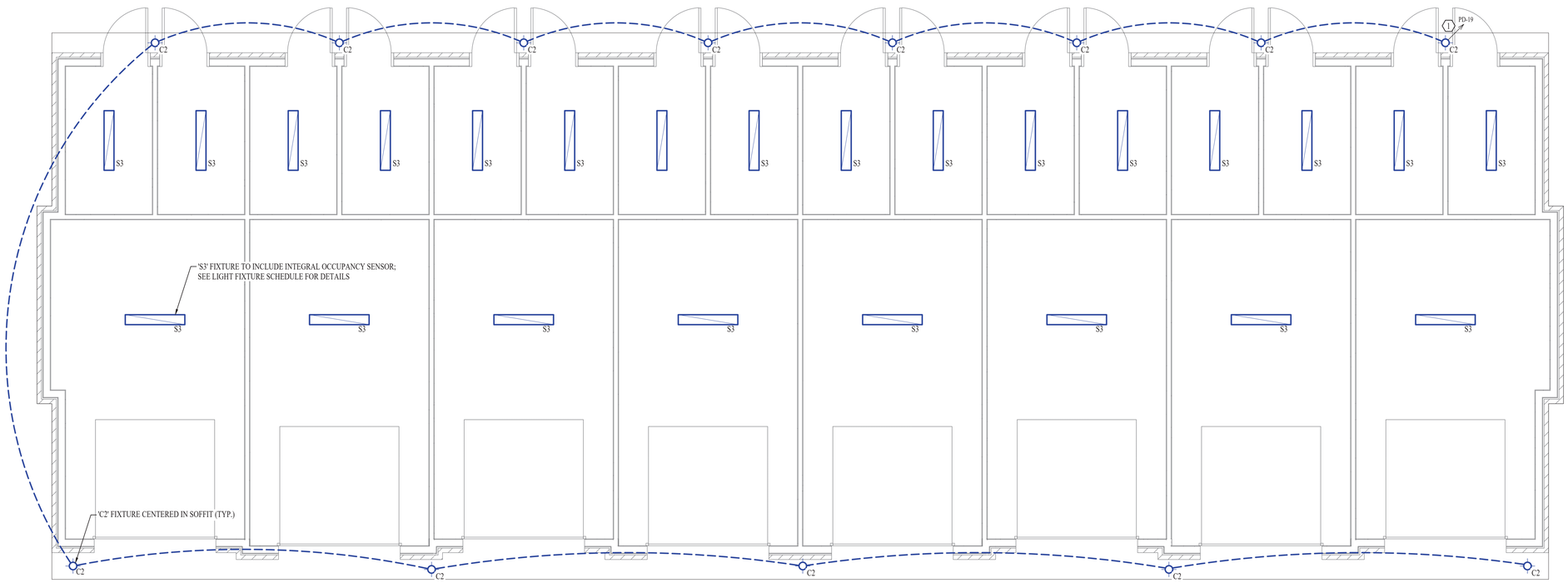
Lee's Summit, Jackson County, Missouri

SHEET TITLE

GARAGE 'A', 'B', & 'C' LIGHTING PLAN

SHEET NUMBER

EL151



GARAGE 'D' - LIGHTING PLAN

SCALE: 1/4" = 1' - 0"

LIGHTING PLAN GENERAL NOTES:

1. REFER TO E500 SERIES SHEETS FOR ADDITIONAL LIGHTING DETAILS, SCHEDULES, REQUIREMENTS, ETC.

LIGHTING PLAN KEY NOTES:

1. WIRE EXTERIOR LIGHTING THRU PHOTOCELL (TO BE PROVIDED & INSTALLED BY ELECTRICIAN).

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ISSUE TITLE	DATE
PHASE I - PERMIT SET	01 - 07 - 2021

Mechanical - Electrical - Plumbing Design Drawings for

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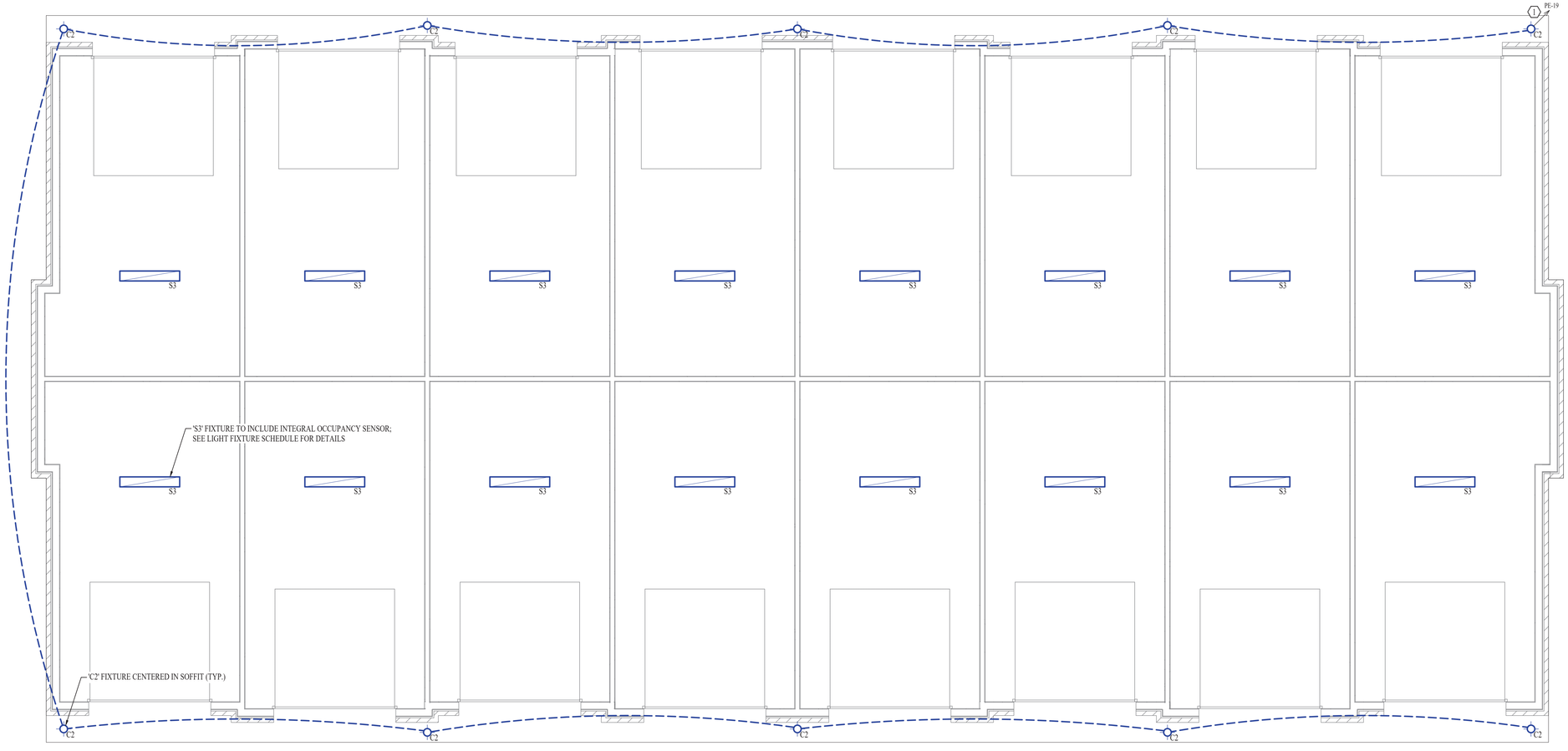
Lee's Summit, Jackson County, Missouri

SHEET TITLE

GARAGE 'D' LIGHTING PLAN

SHEET NUMBER

EL152



GARAGE 'E' - LIGHTING PLAN

SCALE: 1/4" = 1' - 0"

LIGHTING PLAN GENERAL NOTES:

1. REFER TO E500 SERIES SHEETS FOR ADDITIONAL LIGHTING DETAILS, SCHEDULES, REQUIREMENTS, ETC.

LIGHTING PLAN KEY NOTES:

1. WIRE EXTERIOR LIGHTING THRU PHOTOCELL (TO BE PROVIDED & INSTALLED BY ELECTRICIAN).

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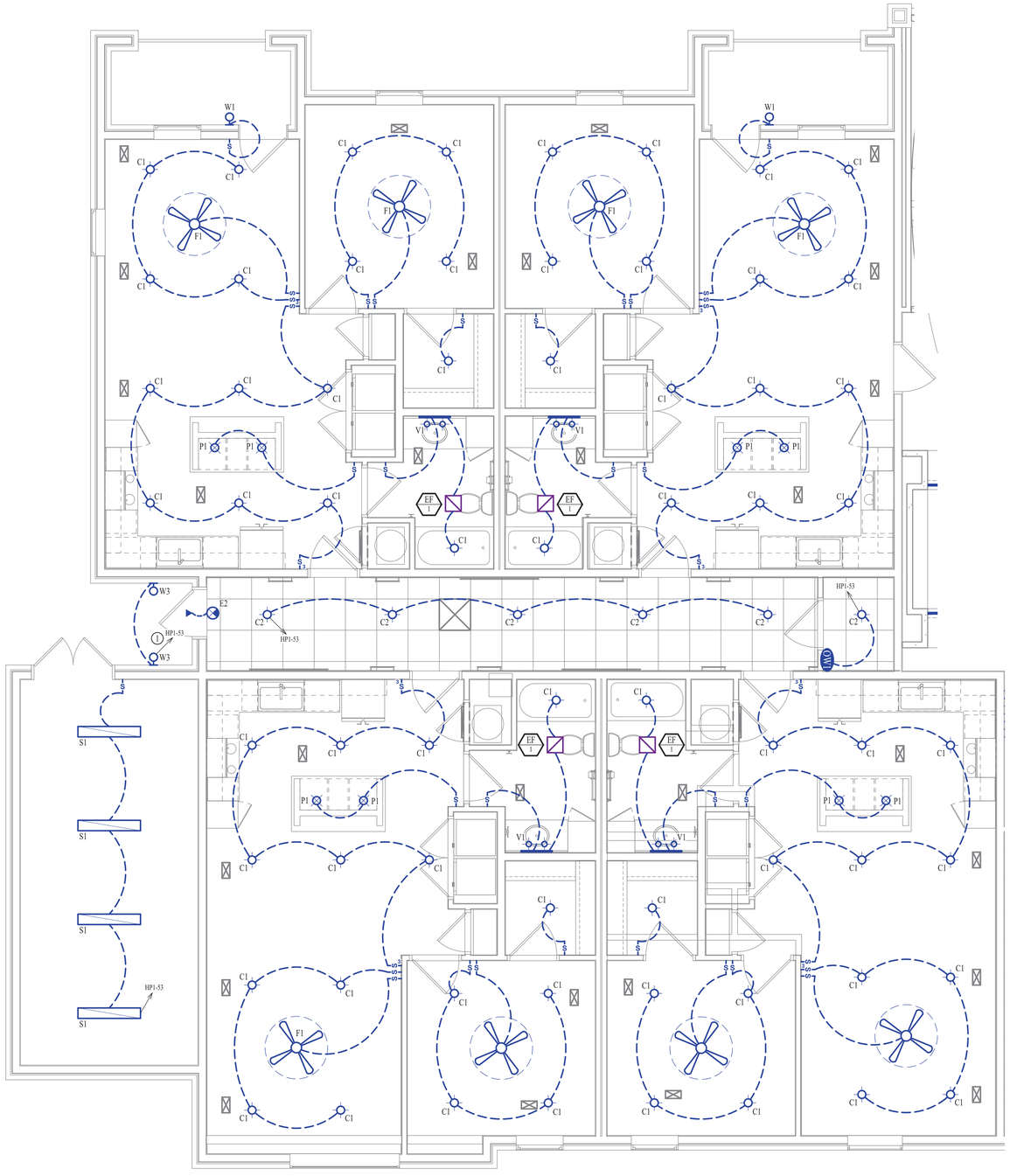
SHEET TITLE

GARAGE 'E' LIGHTING PLAN

SHEET NUMBER

EL153



LIGHTING PLAN - AREA A

SCALE: 1/4" = 1'-0"

LIGHTING PLAN SYMBOL LEGEND

- X1 — "X1" INDICATES FIXTURE TYPE (REFER TO SCHEDULE)
- LIGHTING FIXTURE
- EM — "EM" INDICATES EMERGENCY BATTERY BACKUP
- NL — "NL" INDICATES UN-SWITCHED NIGHT LIGHT
- EXIT LIGHT
- INDICATES REQUIRED REMOTE HEAD
- EMERGENCY EGRESS LIGHT
- TOGGLE SWITCH
- SWITCH TYPE
- D — DIMMER SWITCH
- MS1 — MOMENTARY SWITCH
- OW1 — OCCUPANCY SENSOR, WALL MOUNTED
- OC1 — OCCUPANCY SENSOR, CEILING MOUNTED
- VW1 — VACANCY SENSOR, WALL MOUNTED
- VC1 — VACANCY SENSOR, CEILING MOUNTED

LIGHTING PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR LIGHTING SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. ALL LIGHTING SHOWN WITHIN APARTMENTS SHALL BE ON CIRCUIT P1-15 UNLESS NOTED OTHERWISE.

LIGHTING PLAN KEY NOTES:

1. WIRE EXTERIOR LIGHTING THRU 'LCP1' RELAY #2.

KEY PLAN

SCALE: 1" = 50 ft

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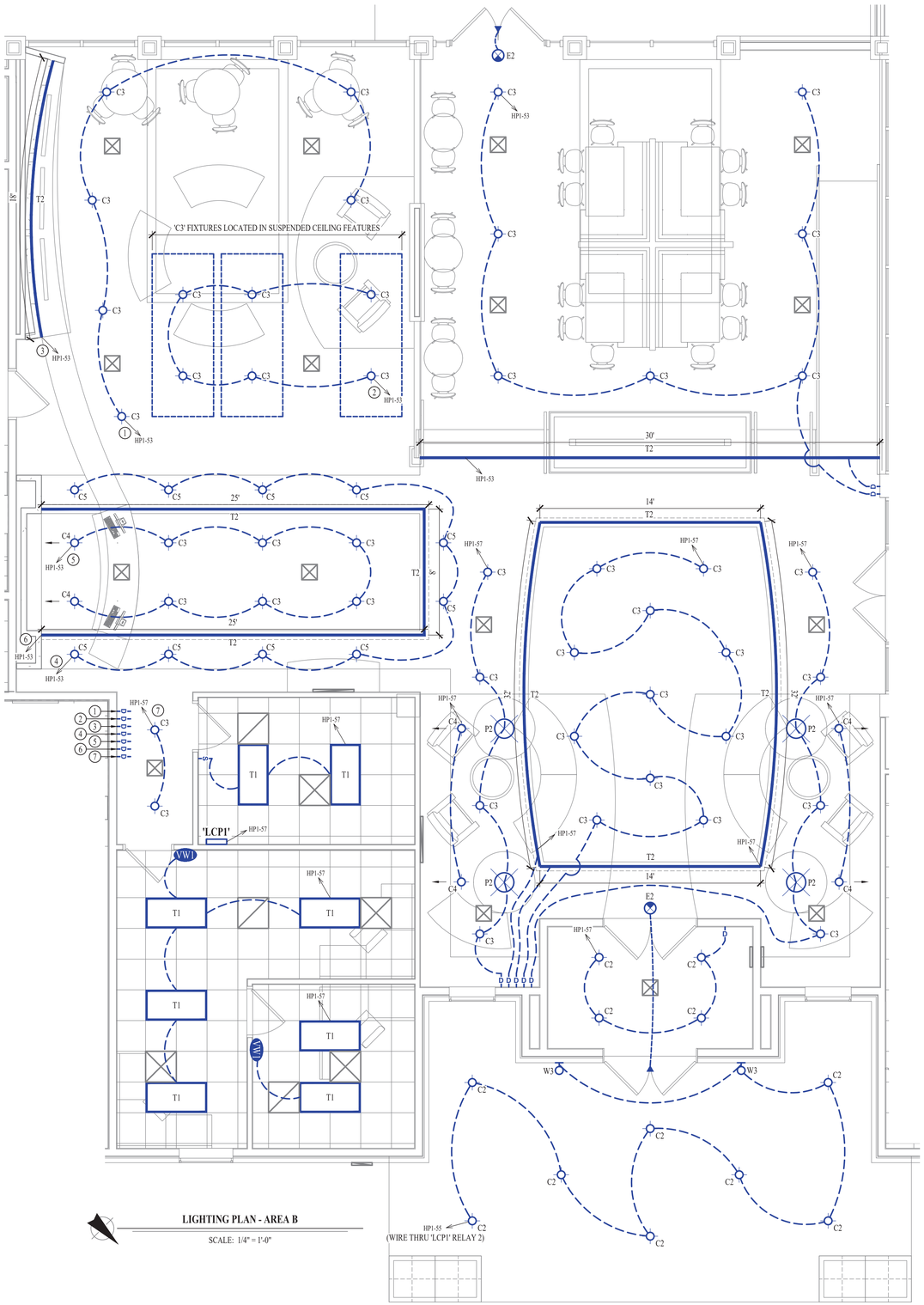
Lee's Summit, Jackson County, Missouri

SHEET TITLE

CLUBHOUSE LIGHTING PLAN

SHEET NUMBER

EL161



LIGHTING PLAN - AREA B

SCALE: 1/4" = 1'-0"

LIGHTING PLAN SYMBOL LEGEND

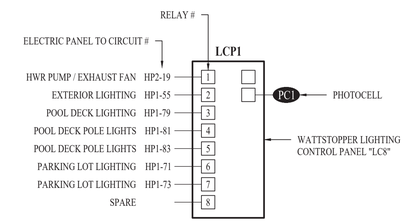
- X1 — "X1" INDICATES FIXTURE TYPE (REFER TO SCHEDULE)
- LIGHTING FIXTURE
- EM — "EM" INDICATES EMERGENCY BATTERY BACKUP
- NL — "NL" INDICATES UN-SWITCHED NIGHT LIGHT
- EXIT LIGHT
- INDICATES REQUIRED REMOTE HEAD
- EMERGENCY EGRESS LIGHT
- TOGGLE SWITCH
- SWITCH TYPE
- D — DIMMER SWITCH
- MS1 — MOMENTARY SWITCH
- OW1 — OCCUPANCY SENSOR, WALL MOUNTED
- OC1 — OCCUPANCY SENSOR, CEILING MOUNTED
- VW1 — VACANCY SENSOR, WALL MOUNTED
- VC1 — VACANCY SENSOR, CEILING MOUNTED

LIGHTING PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR LIGHTING SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. ALL LIGHTING SHOWN WITHIN APARTMENTS SHALL BE ON CIRCUIT P1-15 UNLESS NOTED OTHERWISE.
3. CEILING FANS SHALL BE AT LEAST 24" AWAY (IN ALL DIRECTIONS) FROM POSSIBLE OBSTRUCTIONS.
4. FANS SHALL NOT MOUNTED WITHIN TWO TIMES FAN DIAMETER OF RETURN AIR INTAKES OR EXHAUST, AND SHALL NOT BE INSTALLED WITHIN DIRECT LINE OF DISCHARGE OF SUPPLY DIFFUSERS.
5. EXTENSION TUBES 48" OR LONGER SHALL BE INSTALLED WITH GUY WIRES PER MANUFACTUERER'S INSTALLATION REQUIREMENTS.
6. FANS SHALL BE AT LEAST TWO AND ONE-HALF TIMES FAN DIAMETER AWAY FROM NEIGHBORING FANS.

LIGHTING PLAN KEY NOTES:

1. WIRE CIRCUIT INDICATED THRU DIMMER SWITCH WITH KEYED NOTE 1.
2. WIRE CIRCUIT INDICATED THRU DIMMER SWITCH WITH KEYED NOTE 2.
3. WIRE CIRCUIT INDICATED THRU DIMMER SWITCH WITH KEYED NOTE 3.
4. WIRE CIRCUIT INDICATED THRU DIMMER SWITCH WITH KEYED NOTE 4.
5. WIRE CIRCUIT INDICATED THRU DIMMER SWITCH WITH KEYED NOTE 5.
6. WIRE CIRCUIT INDICATED THRU DIMMER SWITCH WITH KEYED NOTE 6.
7. WIRE CIRCUIT INDICATED THRU DIMMER SWITCH WITH KEYED NOTE 7.



LIGHTING CONTROL PANEL SCHEDULE

RELAY #	OVERRIDE SWITCH	OPERATIONAL SCHEDULE
1	NO	ON DURING OCCUPIED HOURS
2	NO	ON DURING NIGHT HOURS
3	NO	ON DURING NIGHT HOURS
4	NO	ON DURING EXTENDED HOURS
5	NO	ON DURING EXTENDED HOURS
6	NO	ON DURING NIGHT HOURS
7	NO	ON DURING NIGHT HOURS
8	-	-

LIGHTING CONTROL PANEL

KEY PLAN

SCALE: 1" = 50 ft

STATE OF MISSOURI
JAMES P. WATSON
NUMBER PE-2015017071
PROFESSIONAL ENGINEER

James Watson, P.E. January 7, 2021
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J2 PROJECT No:	J20055
J2 DESIGN:	ACW

ISSUE TITLE	DATE
PHASE I - PERMIT SET	01 - 07 - 2021

Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

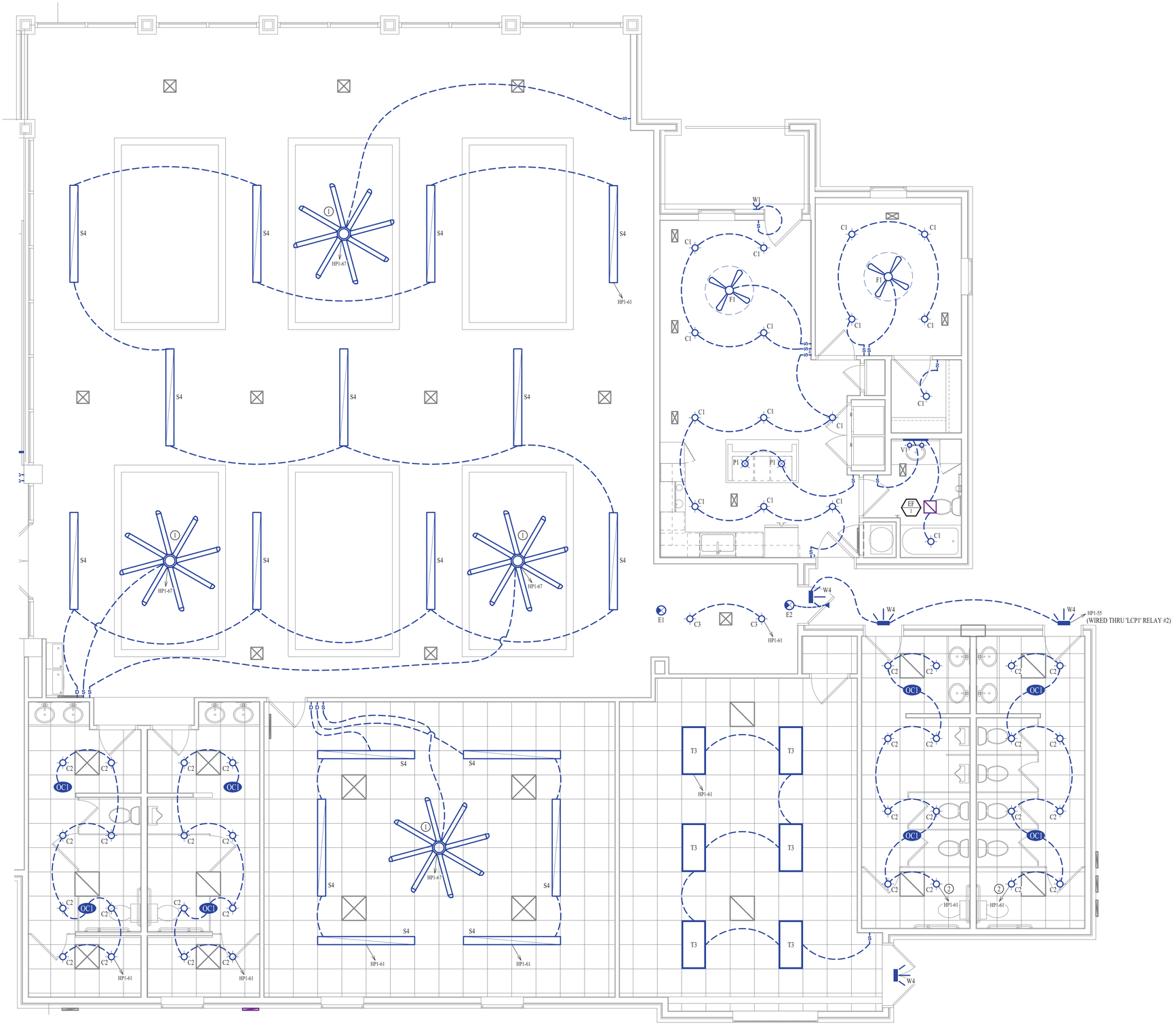
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

CLUBHOUSE LIGHTING PLAN

SHEET NUMBER

EL162



LIGHTING PLAN - AREA C

SCALE: 1/4" = 1'-0"

LIGHTING PLAN GENERAL NOTES:

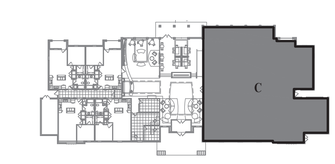
1. REFER TO E500 & E600 SERIES SHEETS FOR LIGHTING SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. ALL LIGHTING SHOWN WITHIN APARTMENTS SHALL BE ON CIRCUIT P1-15 UNLESS NOTED OTHERWISE.

LIGHTING PLAN KEY NOTES:

1. CEILING FAN EQUAL TO BIG ASS FANS #ESSENCE MODEL WITH VARIABLE SPEED CONTROLLER. MOUNT FAN 2' BELOW CEILING. SEE GENERAL NOTES REGARDING FAN MOUNTING DETAILS.
2. WIRE EXHAUST FAN IN RESTROOM THRU OCCPANCY SENSOR / LIGHTING CIRCUIT.

LIGHTING PLAN SYMBOL LEGEND

- X1 — "X1" INDICATES FIXTURE TYPE (REFER TO SCHEDULE)
- LIGHTING FIXTURE
- EM — "EM" INDICATES EMERGENCY BATTERY BACKUP
- NL — "NL" INDICATES UN-SWITCHED NIGHT LIGHT
- EXIT LIGHT
- INDICATES REQUIRED REMOTE HEAD
- EMERGENCY EGRESS LIGHT
- TOGGLE SWITCH
- SWITCH TYPE
- DIMMER SWITCH
- MS1 — MOMENTARY SWITCH
- OW1 — OCCUPANCY SENSOR, WALL MOUNTED
- OC1 — OCCUPANCY SENSOR, CEILING MOUNTED
- VW1 — VACANCY SENSOR, WALL MOUNTED
- VC1 — VACANCY SENSOR, CEILING MOUNTED



KEY PLAN

SCALE: 1" = 50 ft

STATE OF MISSOURI
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Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

CLUBHOUSE LIGHTING PLAN

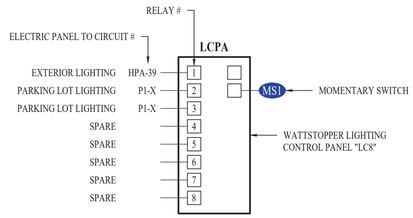
SHEET NUMBER

EL163

ELECTRICAL SPECIFICATIONS

1. GENERAL
   - 1.1. THE ENTIRE ELECTRICAL SYSTEM SHALL BE CONTINUOUSLY GROUNDED. EVERY BRANCH CONDUIT SHALL INCLUDE A GREEN GROUND CONDUCTOR SIZED PER NEC.
   - 1.2. ARC-FAULT CIRCUITS SHALL BE RUN WITH A DEDICATED NEUTRAL AS REQUIRED BY MANUFACTURER.
   - 1.3. PROVIDE PERMANENT ARC-FLASH LABEL AFFIXED TO EVERY DISCONNECT AND PANEL.
   - 1.4. PROVIDE TYPE WRITTEN PANEL SCHEDULE FOR EACH PANEL.
2. MATERIALS
   - 2.1. CONDUIT & CONDUCTORS
     - 2.1.1. ALL CONDUCTORS SIZES INDICATED ON PLANS ARE COPPER UNLESS NOTED OTHERWISE.
     - 2.1.2. ABOVE GRADE CONDUCTORS SHALL BE THHN COPPER. BELOW GRADE CONDUCTORS SHALL BE XHHW-2.
     - 2.1.3. MINIMUM CONDUCTOR SIZE SHALL BE #12 UNLESS NOTED OTHERWISE. 120V, 20 AMP CIRCUITS WITH CONDUCTOR LENGTH GREATER THAN 100' SHALL BE MINIMUM #10. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR MEASURING ACTUAL CONDUCTOR LENGTH AND INCREASING CONDUCTOR SIZE TO COMPENSATE FOR VOLTAGE DROP AS REQUIRED BY NEC.
     - 2.1.4. RIGID GALVANIZED OR SCHEDULE 40 PVC CONDUIT SHALL BE USED FOR SERVICE WIRING, BELOW GRADE INSTALLATIONS, OR WHERE EXPOSED TO WEATHER.
     - 2.1.5. IN APPLICATIONS OTHER THAN THOSE LISTED IN 2.1.4, EMT OR MC CABLE IS ACCEPTABLE. WHERE CONDUCTORS ARE PROTECTED FROM DAMAGE, ENCLOSED IN BUILDING MATERIALS, AND CONSTRUCTION IS OF A PERMITTED TYPE, NM CABLE MAY BE USED.
   - 2.2. DEVICES
     - 2.2.1. CONTRACTOR TO PROVIDE J-BOXES, COVER PLATES, AND ANY ACCESSORIES REQUIRED TO PROVIDE A COMPLETE SYSTEM. SEE ARCHITECTURAL PLANS FOR DEVICE COLORS.
     - 2.2.1. DUPLEX RECEPTACLES SHALL BE TAMPER RESISTANT, 20 AMP, EQUAL TO LEVITON CR20.
     - 2.2.2. TOGGLE WALL SWITCHES SHALL BE EQUAL TO LEVITON CS120-2
     - 2.2.3. DIMMER SWITCHES SHALL BE TESTED WITH FIXTURES AND LAMPS FOR COMPATIBILITY.

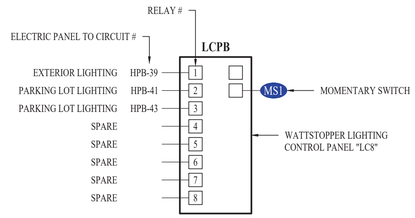
LIGHTING CONTROL PANEL NOTE:
POLE LIGHTS, RELAYS, & CIRCUIT NUMBERS SHOWN DO NOT APPLY TO ALL BUILDINGS. SEE SITE LIGHTING PLAN ON SHEET MEP3 FOR DETAILS.



LIGHTING CONTROL PANEL SCHEDULE

RELAY #	OVERRIDE SWITCH	OPERATIONAL SCHEDULE
1	NO	ON DURING NIGHT HOURS (PHOTOCELL INPUT)
2	NO	ON DURING NIGHT HOURS (PHOTOCELL INPUT)
3	NO	ON DURING NIGHT HOURS (PHOTOCELL INPUT)
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-

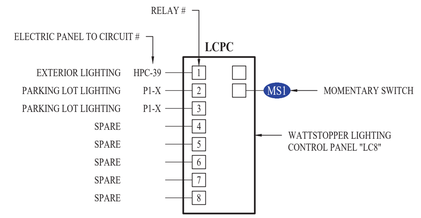
LIGHTING CONTROL PANEL 'LCPA'



LIGHTING CONTROL PANEL SCHEDULE

RELAY #	OVERRIDE SWITCH	OPERATIONAL SCHEDULE
1	NO	ON DURING NIGHT HOURS (PHOTOCELL INPUT)
2	NO	ON DURING NIGHT HOURS (PHOTOCELL INPUT)
3	NO	ON DURING NIGHT HOURS (PHOTOCELL INPUT)
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-

LIGHTING CONTROL PANEL 'LCPB'



LIGHTING CONTROL PANEL SCHEDULE

RELAY #	OVERRIDE SWITCH	OPERATIONAL SCHEDULE
1	NO	ON DURING NIGHT HOURS (PHOTOCELL INPUT)
2	NO	ON DURING NIGHT HOURS (PHOTOCELL INPUT)
3	NO	ON DURING NIGHT HOURS (PHOTOCELL INPUT)
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-

LIGHTING CONTROL PANEL 'LCPC'

'TSU' MOTOR CONTROL (BY ELEVATOR EQUIPMENT SUPPLIER)

'DS1' FUSED DISCONNECT (BY ELECTRICAL CONTRACTOR)
208V, 3-PH, 60 AMP FUSED DISCONNECT WITH AUXILIARY CONTROLS

TAS SINGLE-PHASE TRANSFORMER (BY ELEVATOR EQUIPMENT SUPPLIER - IF REQUIRED)

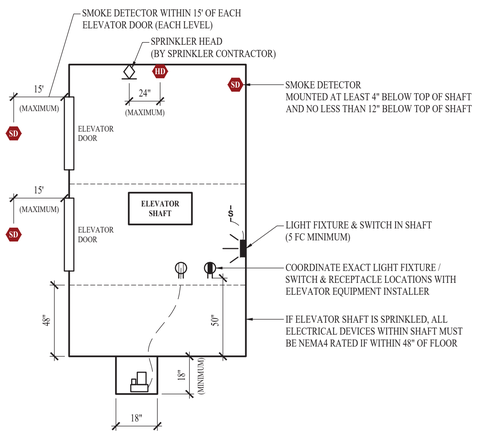
JH1 NON-FUSED DISCONNECT (BY ELECTRICAL CONTRACTOR)
208V, 60A, 3-POLE WITH AUXILIARY CONTROLS

VF VARIABLE FREQUENCY DRIVE (BY ELEVATOR EQUIPMENT SUPPLIER)

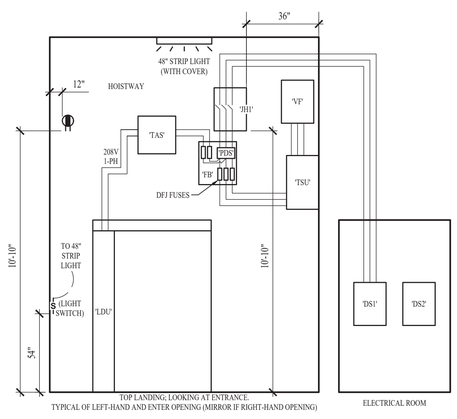
LDU OPERATION CONTROLLER (BY ELEVATOR EQUIPMENT SUPPLIER)

FB FUSE BOX (BY ELEVATOR EQUIPMENT SUPPLIER)

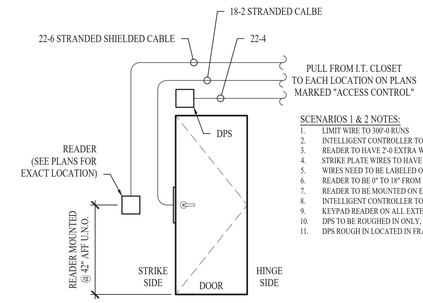
DS2 DISCONNECT FOR CAB-LIGHTS (BY ELECTRICAL CONTRACTOR)
30A, 2-POLE DISCONNECT FUSED AT 15 AMPS



ELEVATOR DETAIL

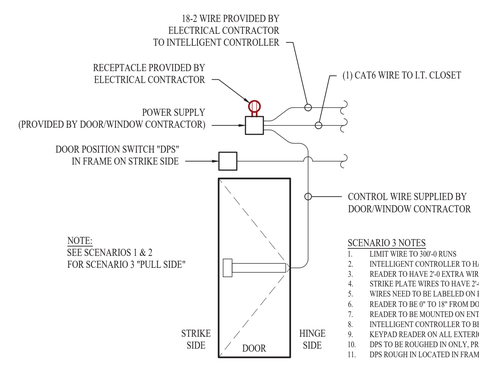


SCHINDLER ELEVATOR DETAIL



SCENARIOS 1 & 2 NOTES:
1. LIMIT WIRE TO 300'-0 RUNS
2. INTELLIGENT CONTROLLER TO HAVE 1'-0 EXTRA WIRE INSIDE BOX
3. READER TO HAVE 2'-0 EXTRA WIRE OUTSIDE WALL
4. STRIKE PLATE WIRES TO HAVE 2'-0 EXTRA WIRE OUTSIDE STRIKE PLATE
5. WIRES NEED TO BE LABELED ON BOTH ENDS
6. READER TO BE 0" TO 18" FROM DOOR KNOB @ SAME HEIGHT
7. READER TO BE MOUNTED ON ENTRY SIDE OF DOOR (SEE TOP VIEW)
8. INTELLIGENT CONTROLLER TO BE MOUNTED IN DATA / I.T. CLOSET.
9. KEYPAD READER ON ALL EXTERIOR DOORS
10. DPS TO BE ROUGHED IN ONLY, PROVIDE NO HARDWARE.
11. DPS ROUGH IN LOCATED IN FRAME ON STRIKE SIDE.

SCENARIOS 1 & 2



SCENARIO 3 NOTES
1. LIMIT WIRE TO 300'-0 RUNS
2. INTELLIGENT CONTROLLER TO HAVE 1'-0 EXTRA WIRE INSIDE BOX
3. READER TO HAVE 2'-0 EXTRA WIRE OUTSIDE WALL
4. STRIKE PLATE WIRES TO HAVE 2'-0 EXTRA WIRE OUTSIDE STRIKE PLATE
5. WIRES NEED TO BE LABELED ON BOTH ENDS
6. READER TO BE 0" TO 18" FROM DOOR KNOB @ SAME HEIGHT
7. READER TO BE MOUNTED ON ENTRY SIDE OF DOOR (SEE TOP VIEW)
8. INTELLIGENT CONTROLLER TO BE MOUNTED IN DATA / I.T. CLOSET.
9. KEYPAD READER ON ALL EXTERIOR DOORS
10. DPS TO BE ROUGHED IN ONLY, PROVIDE NO HARDWARE.
11. DPS ROUGH IN LOCATED IN FRAME ON STRIKE SIDE.

SCENARIO 3 "PUSH SIDE"

ACCESS CONTROLS DETAIL

ACCESS CONTROLS REQUIRED HARDWARE

SCENARIO - 1
- CYLINDRICAL LOCKSET
- ELECTRIC STRIKE
- CLOSER
- READER
- DPS
- TYPICALLY INTERIOR
- TYPICALLY WOOD OR HOLLOW METAL DOORS ON HOLLOW METAL OR TIMELY FRAMES

SCENARIO - 2
- RIM MOUNT PANIC
- ELECTRIC STRIKE
- CLOSER
- READER
- DPS
- INTERIOR/EXTERIOR
- TYPICALLY HOLLOW METAL OR STOREFRONT

SCENARIO - 3
- ELECTRIFIED PANIC
- POWER SUPPLY
- CLOSER
- READER
- DPS
- PULL
- EXTERIOR
- TYPICALLY STOREFRONT

James Watson, P.E. January 7, 2021
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Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

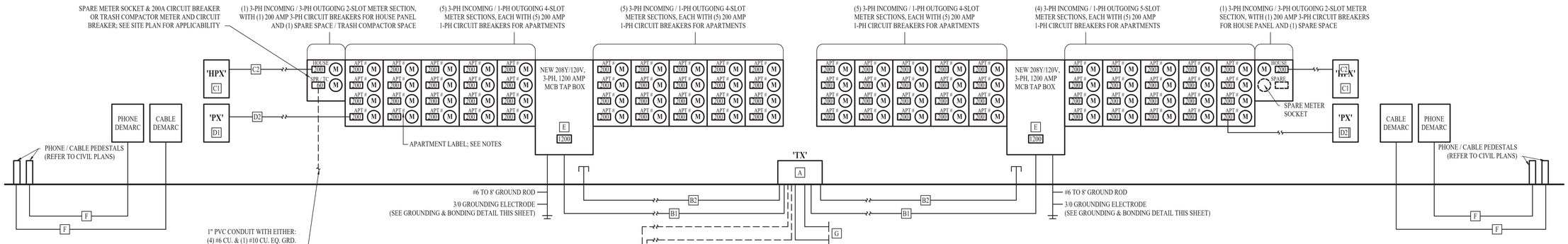
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

ELECTRICAL DETAILS & SCHEDULES

SHEET NUMBER

E501



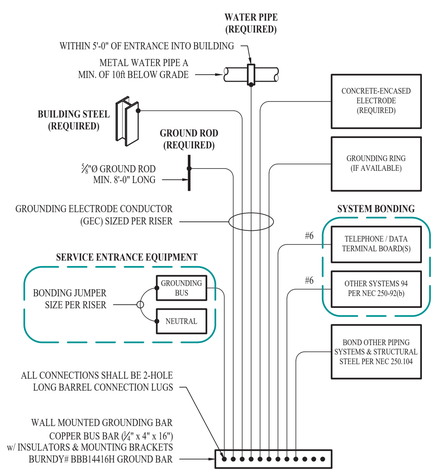
TYPICAL POWER RISER

POWER RISER KEY NOTES:

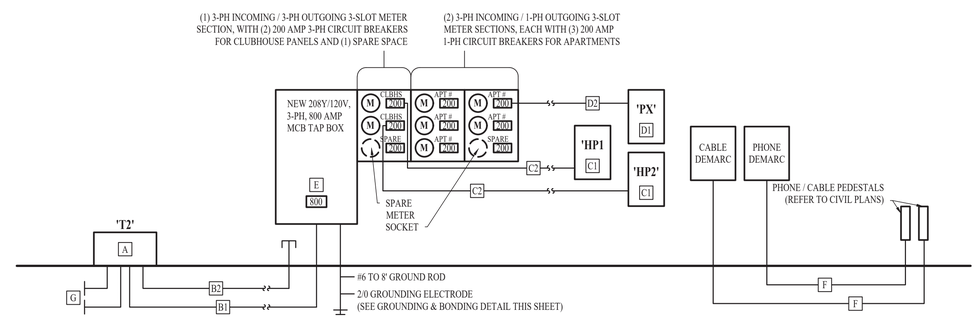
- A DEDICATED PAD-MOUNTED TRANSFORMER BY EVERGY. CONTRACTOR TO PROVIDE & INSTALL PAD PER EVERGY SPECIFICATIONS.
- B1 UNDERGROUND SECONDARY CONDUCTORS: (4) PVC CONDUIT WITH EITHER (4) #350 CU. OR (4) #500 AL. IN EACH (AS ALTERNATE BID)
- B2 (1) SPARE 4" PVC CONDUIT WITH PULL-STRING.
- C1 208Y/120V 3-PH 200A MLO 84-CIRCUIT HOUSE ELECTRICAL PANEL.
- C2 (1) 2½" PVC CONDUIT WITH EITHER: (4) #3/O CU. & (1) 6 CU. EQ. GRD. OR (4) #250 AL. & (1) #4 AL. EQ. GRD. AS ALTERNATE BID.
- D1 TYPICAL APARTMENT ELECTRICAL PANEL: 208/120V 1-PH 200A MLO 30 CIRCUIT ELECTRICAL PANEL. AIC-RATING TO BE 22,000A IF < 120' FROM METER. AIC-RATING TO BE 10,000A IF > 120' FROM METER CENTER.
- D2 SER CABLING FROM METER CENTER TO APARTMENT ELECTRICAL PANEL: -3/O - 3/O CU. WITH #6 CU. EQ. GRD. IF ≤ 200' TOTAL LENGTH -4/O - 4/O CU. WITH #4 CU. EQ. GRD. IF > THAN 200' TOTAL LENGTH OR -#250 - #250 AL. WITH #2 AL. EQ. GRD. IF ≤ 200' TOTAL LENGTH -#350 - #350 AL. WITH #2 AL. EQ. GRD. IF > 200' TOTAL LENGTH (PROVIDE ALUMINUM OPTIONS AS ALTERNATE BID)
- E METER CENTER AIC-RATING AS FOLLOWS: AIC-RATING TO BE 100,000A (MINIMUM) IF < 45' FROM TRANSFORMER. AIC-RATING TO BE 62,000A (MINIMUM) IF >45' AND <125' FROM TRANSFORMER. AIC-RATING TO BE 42,000A (MINIMUM) IF > 125' FROM TRANSFORMER.
- F (2) 3" PVC CONDUIT WITH PULL-STRING FROM TELECOMMUNICATIONS PEDESTAL TO DEMARCATION ON BUILDING.
- G UNDERGROUND PRIMARY CONDUCTORS. COORDINATE EXACT REQUIREMENTS WITH EVERGY.

POWER RISER GENERAL NOTES:

1. RISER DIAGRAM SHOWS APPLIES TO THE FOLLOWING:
   - 1.1. TRANSFORMER 'T3' SERVING BUILDING #2 & BUILDING #10.
   - 1.2. TRANSFORMER 'T4' SERVING BUILDING #5 & BUILDING #6.
   - 1.3. TRANSFORMER 'T5' SERVING BUILDING #7 & BUILDING #13.
   - 1.4. TRANSFORMER 'T6' SERVING BUILDING #8 & BUILDING #9.
   - 1.5. TRANSFORMER 'T7' SERVING BUILDING #11 & BUILDING #12.
2. SEE MEP SITE UTILITY PLAN ON SHEET MEP2 FOR APPROXIMATE TRANSFORMER AND BUILDING METER CENTER LOCATIONS.
3. COORDINATE DETAILS OF NEW ELECTRIC SERVICES WITH EVERGY.
4. AIC-RATINGS ARE BASED ON 750kVA TRANSFORMER (100%PF, 2.5% Z) LOCATED APPROXIMATELY WHERE SHOWN ON PLANS.
   - 4.1. ELECTRICIAN TO RECALCULATE ARC-FAULT RATINGS IF CONDITIONS VARY FROM THOSE SHOWN ON PLANS.
5. EACH METER TO BE PERMANENTLY LABELED WITH CORRESPONDING APARTMENT NUMBER.



TYPICAL GROUNDING & BONDING DETAIL



CLUBHOUSE POWER RISER

POWER RISER KEY NOTES:

- A DEDICATED PAD-MOUNTED TRANSFORMER BY EVERGY. CONTRACTOR TO PROVIDE & INSTALL PAD PER EVERGY SPECIFICATIONS.
- B1 UNDERGROUND SECONDARY CONDUCTORS: (2) PVC CONDUIT WITH EITHER (4) #500 CU. OR (4) #1/O AL. IN EACH (AS ALTERNATE BID)
- B2 (1) SPARE 4" PVC CONDUIT WITH PULL-STRING.
- C1 208Y/120V 3-PH 200A MLO 42 / 84-CIRCUIT HOUSE ELECTRICAL PANEL.
- C2 (1) 2½" PVC CONDUIT WITH EITHER: (4) #3/O CU. & (1) 6 CU. EQ. GRD. OR (4) #250 AL. & (1) #4 AL. EQ. GRD. AS ALTERNATE BID.
- D1 TYPICAL APARTMENT ELECTRICAL PANEL: 208/120V 1-PH 200A MLO 30 CIRCUIT ELECTRICAL PANEL. AIC-RATING TO BE 22,000A IF < 80' FROM METER. AIC-RATING TO BE 10,000A IF > 80' FROM METER CENTER.
- D2 SER CABLING FROM METER CENTER TO APARTMENT ELECTRICAL PANEL: -3/O - 3/O CU. WITH #6 CU. EQ. GRD. IF ≤ 200' TOTAL LENGTH -4/O - 4/O CU. WITH #4 CU. EQ. GRD. IF > THAN 200' TOTAL LENGTH OR -#250 - #250 AL. WITH #2 AL. EQ. GRD. IF ≤ 200' TOTAL LENGTH -#350 - #350 AL. WITH #2 AL. EQ. GRD. IF > 200' TOTAL LENGTH (PROVIDE ALUMINUM OPTIONS AS ALTERNATE BID)
- E METER CENTER AIC-RATING TO BE 24,500A (MINIMUM).
- F (2) 3" PVC CONDUIT WITH PULL-STRING FROM TELECOMMUNICATIONS PEDESTAL TO DEMARCATION ON BUILDING.
- G UNDERGROUND PRIMARY CONDUCTORS. COORDINATE EXACT REQUIREMENTS WITH EVERGY.

POWER RISER GENERAL NOTES:

1. SEE MEP SITE UTILITY PLAN ON SHEET MEP2 FOR APPROXIMATE TRANSFORMER AND BUILDING METER CENTER LOCATIONS.
2. COORDINATE DETAILS OF NEW ELECTRIC SERVICES WITH EVERGY.
3. AIC-RATINGS ARE BASED ON 300kVA TRANSFORMER (100%PF, 2.5% Z) LOCATED APPROXIMATELY WHERE SHOWN ON PLANS.
   - 3.1. ELECTRICIAN TO RECALCULATE ARC-FAULT RATINGS IF CONDITIONS VARY FROM THOSE SHOWN ON PLANS.

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Lee's Summit, Jackson County, Missouri

SHEET TITLE

ELECTRICAL DETAILS & SCHEDULES

SHEET NUMBER

E502

PANEL 'HP1' SCHEDULE (CLUBHOUSE)

VOLTAGE		PANEL SIZE		MOUNTING		AIC RATING		
208Y/120V 3-PH		200A MLO		SURFACE		22,000	PHASE "A" LOAD	177
							PHASE "B" LOAD	170.5
NEMA RATING: 1							PHASE "C" LOAD	175.5
CIRCUIT NUMBER	DESCRIPTION	BREAKER SIZE	AMPS	PHASE	AMPS	BREAKER SIZE	DESCRIPTION	CIRCUIT NUMBER
1	RESTROOM RECEPTS.	20-1	3	A	14	20-2	MINI-SPLIT (F/CU-C1 / HP-C1)	2
3	RESTROOM HAND DRYER	20-1	4	B	14	-	-	4
5	RESTROOM HAND DRYER	20-1	4	C	18	20-2	MULTI-SPLIT HEAT PUMP (HP-C2)	6
7	ACCESS CONTROLS	20-1	3	A	18	-	-	8
9	GROUP FITNESS RECEPTS.	20-1	4.5	B	1	15-2	MULTI-SPLIT CASSETTES (CC-C1 / CC-C2)	10
11	GROUP FITNESS RECEPTS.	20-1	4.5	C	1	-	-	12
13	FITNESS RECEPTS.	20-1	4.5	A	13	20-1	RESTROOM WATER HEATER	14
15	BATHROOM RECEPTS. / DRINKING FOUNTAIN	20-1	10	B	27	45-2	CONDENSING UNIT (CU-C3)	16
17	BATHROOM HAND DRYER	20-1	4	C	27	-	-	18
19	BATHROOM HAND DRYER	20-1	4	A	12	20-1	FURNACE (F-C3)	20
21	FITNESS TV RECEPTS.	20-1	7.5	B	27	45-2	CONDENSING UNIT (CU-C4)	22
23	FITNESS RECEPTS.	20-1	4.5	C	27	-	-	24
25	FITNESS STEPPER	20-1	4	A	12	20-1	FURNACE (F-C4)	26
27	FITNESS STEPPER	20-1	4	B	10	20-1	FURNACE (F-C5)	28
29	FITNESS TREADMILL	20-1	4	C	18	30-2	CONDENSING UNIT (CU-C5)	30
31	FITNESS TREADMILL	20-1	4	A	18	-	-	32
33	FITNESS TREADMILL	20-1	4	B	1	20-1	POOL STORAGE EXHAUST FAN	34
35	FITNESS TREADMILL	20-1	4	C	14	20-2	RESTROOM WALL HEATER	36
37	FITNESS TREADMILL	20-1	4	A	14	-	-	38
39	FITNESS SPARE IN-GRADE RECEPT.	20-1	1.5	B	14	20-2	RESTROOM WALL HEATER	40
41	FITNESS SPARE IN-GRADE RECEPT.	20-1	1.5	C	14	-	-	42
43	FITNESS SPARE IN-GRADE RECEPT.	20-1	1.5	A	14	20-2	POOL STORAGE WALL HEATER	44
45	FITNESS ELLIPTICAL	20-1	4	B	14	-	-	46
47	FITNESS ELLIPTICAL	20-1	4	C		20-1	SPARE	48
49	FITNESS ELLIPTICAL	20-1	4	A		20-1	SPARE	50
51	OUTDOOR RECEPTS.	20-1	6	B		20-1	SPARE	52
53	INTERIOR LIGHTING	20-1	10	C		20-1	SPARE	54
55	BUILDING EXTERIOR LIGHTING	20-1	3	A		20-1	SPARE	56
57	INTERIOR LIGHTING	20-1	9	B			OPEN	58
59	POOL DECK GAS VALVES	20-1	1	C			OPEN	60
61	INTERIOR LIGHTING	20-1	8	A			OPEN	62
63	SPARE	20-1		B			OPEN	64
65	SPARE	20-1		C			OPEN	66
67	CEILING FANS	20-1	3	A			OPEN	68
69	SPARE	20-1		B			OPEN	70
71	PARKING LOT LIGHTING	20-2	7	C			OPEN	72
73	-	-	7	A			OPEN	74
75	SPARE	20-1		B			OPEN	76
77	SPARE	20-1		C			OPEN	78
79	POOL DECK LIGHTING	20-1	9	A			OPEN	80
81	POOL DECK POLE LIGHTS	20-2	8	B			OPEN	82
83	-	-	8	C			OPEN	84

NOTES:

A: PANEL SHALL BE EQUAL TO SQUARE D MODEL "QO"

B: ELECTRICIAN SHALL VERIFY BREAKER WITH EQUIPMENT PRIOR TO PURCHASE & INSTALL.

C: AFTER COMPLETION OF WORK, ELECTRICIAN SHALL PROVIDE A TYPE WRITTEN PANEL DIRECTORY IN NEW PANEL.

PANEL 'HP2' SCHEDULE (CLUBHOUSE)

VOLTAGE		PANEL SIZE		MOUNTING		AIC RATING		
208Y/120V 3-PH		200A MLO		SURFACE		22,000	PHASE "A" LOAD	139
							PHASE "B" LOAD	140
NEMA RATING: 1							PHASE "C" LOAD	140
CIRCUIT NUMBER	DESCRIPTION	BREAKER SIZE	AMPS	PHASE	AMPS	BREAKER SIZE	DESCRIPTION	CIRCUIT NUMBER
1	MAIN ENTRY RECEPTS.	20-1	4.5	A	10	20-1	FURNACE (F-C1)	2
3	MAIN ENTRY RECEPTS.	20-1	4.5	B	24	40-2	CONDENSING UNIT (CU-C1)	4
5	OFFICE RECEPTS.	20-1	6	C	24	-	-	6
7	OFFICE RECEPTS.	20-1	6	A	33	50-2	CONDENSING UNIT (CU-C2)	8
9	OFFICE RECEPTS.	20-1	4.5	B	33	-	-	10
11	I.T. CLOSET RECEPTS.	20-1	3	C	14	20-1	FURNACE (F-C2)	12
13	I.T. QUADRECEPT.	20-1	3	A	14	20-2	POOL STORAGE WALL HEATER	14
15	I.T. QUADRECEPT.	20-1	3	B	14	-	-	16
17	WATER FEATURE	20-1	5	C	22	30-2	WATER HEATER	18
19	HWR PUMP / EXHAUST FAN	20-1	2	A	22	-	-	20
21	BEVERAGE STATION RECEPTS.	20-1	3	B		20-1	SPARE	22
23	BEVERAGE STATION REGRIGERATOR	20-1	8	C	6	20-1	POOL EQUIPMENT ROOM RECEPTS.	24
25	COMMON AREA TVs	20-1	3	A		20-1	SPARE	26
27	COMMON AREA RECEPTS.	20-1	3	B	5	20-1	POOL LIGHTS	28
29	CORRIDOR RECEPTS.	20-1	3	C	4	20-2	PUMP	30
31	POOL STRAGE RECEPTS.	20-1	4.5	A	4	-	-	32
33	FIRE ALARM CONTROL PANEL	20-1	1	B	12	20-2	PUMP	34
35	SPARE	20-1		C	12	-	-	36
37	SPARE	20-1		A	5	20-1	BOILER	38
39	SPARE	20-1		B	5	20-1	HEATER	40
41	SPARE	20-1		C	5	20-1	CHEMICAL CONTROLLER	42
43	SPARE	20-1		A		20-1	SPARE	44
45	SPARE	20-1		B		20-1	SPARE	46
47	SPARE	20-1		C		20-1	SPARE	48
49	SPARE	20-1		A		20-1	SPARE	50
51	SPARE	20-1		B		20-1	SPARE	52
53	SPARE	20-1		C	14	20-2	RESTROOM WALL HEATER	54
55	SPARE	20-1		A	14	-	-	56
57	SPARE	20-1		B	14	20-2	RESTROOM WALL HEATER	58
59	OPEN			C	14	-	-	60
61	OPEN			A	14	20-2	POOL EQUIPMENT WALL HEATER	62
63	OPEN			B	14	-	-	64
65	OPEN			C			OPEN	66
67	OPEN			A			OPEN	68
69	OPEN			B			OPEN	70
71	OPEN			C			OPEN	72
73	OPEN			A			OPEN	74
75	OPEN			B			OPEN	76
77	OPEN			C			OPEN	78
79	OPEN			A			OPEN	80
81	OPEN			B			OPEN	82
83	OPEN			C			OPEN	84

NOTES:

A: PANEL SHALL BE EQUAL TO SQUARE D MODEL "QO"

B: ELECTRICIAN SHALL VERIFY BREAKER WITH EQUIPMENT PRIOR TO PURCHASE & INSTALL.

C: AFTER COMPLETION OF WORK, ELECTRICIAN SHALL PROVIDE A TYPE WRITTEN PANEL DIRECTORY IN NEW PANEL.

ELECTRICAL PANEL 'HPB' SCHEDULE - BUILDINGS #2

VOLTAGE		PANEL SIZE		MOUNTING		AIC RATING		
208Y/120V 3-PH		200A MLO		RECESSED		22,000	PHASE "A" LOAD	163.5
							PHASE "B" LOAD	162
NEMA RATING: 1							PHASE "C" LOAD	159.5
CIRCUIT NUMBER	DESCRIPTION	BREAKER SIZE	AMPS	PHASE	AMPS	BREAKER SIZE	DESCRIPTION	CIRCUIT NUMBER
1	FIRST FLOOR CORRIDOR RECEPTS.	20-1	6	A	42	60-3	ELEVATOR	2
3	SECOND FLOOR CORRIDOR RECEPTS.	20-1	4.5	B	42	-	-	4
5	THIRD FLOOR CORRIDOR RECEPTS.	20-1	4.5	C	42	-	-	6
7	FOURTH FLOOR CORRIDOR RECEPTS.	20-1	4.5	A		ST	SHUNT TRIP SPACE	8
9	EXTERIOR RECEPTS.	20-1	7.5	B	2	30-3	ELEVATOR LIGHTS & MISC.	10
11	EXTERIOR RECEPTS.	20-1	6	C	2	-	-	12
13	SECOND FLOOR I.T. CLOSET RECEPTS.	20-1	6	A	2	-	-	14
15	SECOND FLOOR I.T. CLOSET RECEPTS.	20-1	6	B		ST	SHUNT TRIP SPACE	16
17	FOURTH FLOOR I.T. CLOSET RECEPTS.	20-1	6	C	24	30-2	AIR HANDLING UNIT (AHU-B1)	18
19	FOURTH FLOOR I.T. CLOSET RECEPTS.	20-1	6	A	24	-	-	20
21	ACCESS CONTROLS	20-1	5	B	18	30-2	CONDENSING UNIT (CU-B1)	22
23	FACP	20-1	1	C	18	-	-	24
25	ELEVATOR SHAFT RECEPTS.	20-1	3	A	24	30-2	AIR HANDLING UNIT (AHU-B2)	26
27	ELEVATOR PIT SUMP PUMP	20-1	10	B	24	-	-	28
29	INTERIOR DOOR MAGHOLDS	20-1	5	C	18	30-2	CONDENSING UNIT (CU-B2)	30
31	FIRST FLOOR INTERIOR / STAIR LIGHTING	20-1	8	A	18	-	-	32
33	SECOND FLOOR INTERIOR LIGHTING	20-1	3	B	14	20-2	WALL HEATER	34
35	THIRD FLOOR INTERIOR LIGHTING	20-1	3	C	14	-	-	36
37	FOURTH FLOOR INTERIOR LIGHTING	20-1	3	A	14	20-2	WALL HEATER	38
39	EXTERIOR BUILDING LIGHTING	20-1	3	B	14	-	-	40
41	PARKING LOT LIGHTING	20-2	7	C	14	20-2	RISER ROOM WALL HEATER	42
43	-	-	7	A	14	-	-	44
45	SPARE	20-1		B			OPEN	46
47	SPARE	20-1		C			OPEN	48
49	SPARE	20-1		A			OPEN	50
51	SPARE	20-1		B			OPEN	52
53	SPARE	20-1		C			OPEN	54
55	SPARE	20-1		A			OPEN	56
57	SPARE	20-1		B			OPEN	58
59	SPARE	20-1		C			OPEN	60
61	SPARE	20-1		A			OPEN	62
63	SPARE	20-1		B			OPEN	64
65	SPARE	20-1		C			OPEN	66
67	SPARE	20-1		A			OPEN	68
69	SPARE	20-1		B			OPEN	70
71	OPEN			C			OPEN	72
73	OPEN			A			OPEN	74
75	OPEN			B			OPEN	76
77	OPEN			C			OPEN	78
79	OPEN			A			OPEN	80
81	OPEN			B	27	60-2	SUB-FEED GARAGE TYPE 'E'	82
83	OPEN			C	31	-	OPEN	84

NOTES:

A: PANEL SHALL BE EQUAL TO SQUARE D MODEL "QO"

B: ELECTRICIAN SHALL VERIFY BREAKER WITH EQUIPMENT PRIOR TO PURCHASE & INSTALL.

C: AFTER COMPLETION OF WORK, ELECTRICIAN SHALL PROVIDE A TYPE WRITTEN PANEL DIRECTORY IN NEW PANEL.

D: RECEPTACLE LOAD DIVERSITY HAS BEEN APPLIED TO PANEL LOAD PER 2018 NEC 220.44

ELECTRICAL PANEL 'HPB' SCHEDULE - BUILDING #3

VOLTAGE		PANEL SIZE		MOUNTING		AIC RATING		
208Y/120V 3-PH		200A MLO		RECESSED		22,000	PHASE "A" LOAD	160.5
							PHASE "B" LOAD	153
NEMA RATING: 1							PHASE "C" LOAD	164.5
CIRCUIT NUMBER	DESCRIPTION	BREAKER SIZE	AMPS	PHASE	AMPS	BREAKER SIZE	DESCRIPTION	CIRCUIT NUMBER
1	FIRST FLOOR CORRIDOR RECEPTS.	20-1	6	A	42	60-3	ELEVATOR	2
3	SECOND FLOOR CORRIDOR RECEPTS.	20-1	4.5	B	42	-	-	4
5	THIRD FLOOR CORRIDOR RECEPTS.	20-1	4.5	C	42	-	-	6
7	FOURTH FLOOR CORRIDOR RECEPTS.	20-1	4.5	A		ST	SHUNT TRIP SPACE	8
9	EXTERIOR RECEPTS.	20-1	7.5	B	2	30-3	ELEVATOR LIGHTS & MISC.	10
11	EXTERIOR RECEPTS.	20-1	6	C	2	-	-	12
13	SECOND FLOOR I.T. CLOSET RECEPTS.	20-1	6	A	2	-	-	14
15	SECOND FLOOR I.T. CLOSET RECEPTS.	20-1	6	B		ST	SHUNT TRIP SPACE	16
17	FOURTH FLOOR I.T. CLOSET RECEPTS.	20-1	6	C	24	30-2	AIR HANDLING UNIT (AHU-B1)	18
19	FOURTH FLOOR I.T. CLOSET RECEPTS.	20-1	6	A	24	-	-	20
21	ACCESS CONTROLS	20-1	5	B	18	30-2	CONDENSING UNIT (CU-B1)	22
23	FACP	20-1	1	C	18	-	-	24
25	ELEVATOR SHAFT RECEPTS.	20-1	3	A	24	30-2	AIR HANDLING UNIT (AHU-B2)	26
27	ELEVATOR PIT SUMP PUMP	20-1	10	B	24	-	-	28
29	INTERIOR DOOR MAGHOLDS	20-1	5	C	18	30-2	CONDENSING UNIT (CU-B2)	30
31	FIRST FLOOR INTERIOR / STAIR LIGHTING	20-1	8	A	18	-	-	32
33	SECOND FLOOR INTERIOR LIGHTING	20-1	3	B	14	20-2	WALL HEATER	34
35	THIRD FLOOR INTERIOR LIGHTING	20-1	3	C	14	-	-	36
37	FOURTH FLOOR INTERIOR LIGHTING	20-1	3	A	14	20-2	WALL HEATER	38
39	EXTERIOR BUILDING LIGHTING	20-1	3	B	14	-	-	40
41	PARKING LOT LIGHTING	20-2	7	C	14	20-2	RISER ROOM WALL HEATER	42
43	-	-	7	A	14	-	-	44
45	SPARE	20-1		B			OPEN	46
47	SPARE	20-1		C			OPEN	48
49	SPARE	20-1		A			OPEN	50
51	SPARE	20-1		B			OPEN	52
53	SPARE	20-1		C			OPEN	54
55	SPARE	20-1		A			OPEN	56
57	SPARE	20-1		B			OPEN	58
59	SPARE	20-1		C			OPEN	60
61	SPARE	20-1		A			OPEN	62
63	SPARE	20-1		B			OPEN	64
65	SPARE	20-1		C			OPEN	66
67	SPARE	20-1		A			OPEN	68
69	SPARE	20-1		B			OPEN	70
71	OPEN			C			OPEN	72
73	OPEN			A			OPEN	74
75	OPEN			B			OPEN	76
77	OPEN			C			OPEN	78
79	OPEN			A			OPEN	80
81	OPEN			B	7	60-2	SUB-FEED GARAGE TYPE 'A'	82
83	OPEN			C	10	-	OPEN	84

NOTES:

A: PANEL SHALL BE EQUAL TO SQUARE D MODEL "QO"

B: ELECTRICIAN SHALL VERIFY BREAKER WITH EQUIPMENT PRIOR TO PURCHASE & INSTALL.

C: AFTER COMPLETION OF WORK, ELECTRICIAN SHALL PROVIDE A TYPE WRITTEN PANEL DIRECTORY IN NEW PANEL.

D: RECEPTACLE LOAD DIVERSITY HAS BEEN APPLIED TO PANEL LOAD PER 2018 NEC 220.44.

ELECTRICAL PANEL 'P1' SCHEDULE - (TYPICAL ONE-BEDROOM APARTMENT)

VOLTAGE		PANEL SIZE		MOUNTING		AIC RATING		
208/120V 1-PH		200A MLO		RECESSED		SEE RISER	PHASE "A" LOAD	126.5
							PHASE "B" LOAD	130.5
NEMA RATING: 1								
CIRCUIT NUMBER	DESCRIPTION	BREAKER SIZE	AMPS	PHASE	AMPS	BREAKER SIZE	DESCRIPTION	CIRCUIT NUMBER
1	BEDROOM RECEPTS.	15-1	9	A	24	30-2	AIR HANDLING UNIT (AHU-1)	2
3	LIVING ROOM RECEPTS.	15-1	9	B	24	-	-	4
5	BATHROOM RECEPT.	20-1	1.5	A	12	20-2	CONDENSING UNIT (CU-1)	6
7	WASHING MACHINE	20-1	8	B	12	-	-	8
9	DISHWASHER / DISPOSAL	20-1	8	A	20	30-2	DRYER	10
11	REFRIGERATOR	20-1	8	B	20	-	-	12
13	RANGE HOOD / MICROWAVE	20-1	8	A	30	50-2	STOVE	14
15	LIGHTING	15-1	5	B	30	-	-	16
17	SMOKE DETECTORS	15-1	1	A	22	30-2	WATER HEATER	18
19	KITCHEN RECEPTS.	20-1	4.5	B	22	-	-	20
21	KITCHEN RECEPTS.	15-1	3	A		15-1	SPARE	22
23	RECEPTS. (UNIT 11E ONLY)	15-1	6	B		15-1	SPARE	24
25	SPARE	20-1		A		20-1	SPARE	26
27	SPARE	20-1		B			OPEN	28
29	SPARE	20-1		A			OPEN	30

NOTES:

A: PANEL SHALL BE EQUAL TO SQUARE D MODEL "QO"

B: ELECTRICIAN SHALL VERIFY BREAKER WITH EQUIPMENT PRIOR TO PURCHASE & INSTALL.

C: AFTER COMPLETION OF WORK, ELECTRICIAN SHALL PROVIDE A TYPE WRITTEN PANEL DIRECTORY IN NEW PANEL.

D: TYPICAL PANEL SCHEDULE ABOVE REPRESENTS HIGHEST LOAD OF ONE-BEDROOM APARTMENT, SOME APARTMENTS MAY HAVE LESS RECEPTACLE LOAD PER 2017 NEC ARTICLE 220.

E: CIRCUIT BREAKERS SHOWN ABOVE IN **BOLD UNDERLINED** TEXT SHALL BE ARC-FAULT CIRCUIT INTERRUPTER (AFCI) PER 2017 NEC 210.12.

ELECTRICAL PANEL 'P2' SCHEDULE - (TYPICAL TWO-BEDROOM APARTMENT)

VOLTAGE		PANEL SIZE		MOUNTING		AIC RATING		
208/120V 1-PH		200A MLO		RECESSED		SEE RISER	PHASE "A" LOAD	134
							PHASE "B" LOAD	132
NEMA RATING: 1								
CIRCUIT NUMBER	DESCRIPTION	BREAKER SIZE	AMPS	PHASE	AMPS	BREAKER SIZE	DESCRIPTION	CIRCUIT NUMBER
1	BEDROOM RECEPTS.	15-1	9	A	24	30-2	AIR HANDLING UNIT (AHU-1)	2
3	LIVING ROOM RECEPTS.	15-1	9	B	24	-	-	4
5	BATHROOM RECEPT.	20-1	1.5	A	18	30-2	CONDENSING UNIT (CU-1)	6
7	WASHING MACHINE	20-1	8	B	18	-	-	8
9	DISHWASHER / DISPOSAL	20-1	8	A	20	30-2	DRYER	10
11	REFRIGERATOR	20-1	8	B	20	-	-	12
13	RANGE HOOD / MICROWAVE	20-1	8	A	30	50-2	STOVE	14
15	LIGHTING	15-1	5	B	30	-	-	16
17	SMOKE DETECTORS	15-1	1	A	22	30-2	WATER HEATER	18
19	KITCHEN RECEPTS.	20-1	3	B	22	-	-	20
21	KITCHEN RECEPTS.	15-1	3	A		15-1	SPARE	22
23	RECEPTS. (UNITS 22C/22D ONLY)	15-1	6	B		15-1	SPARE	24
25	BEDROOM RECEPTS.	15-1	7.5	A		20-1	SPARE	26
27	BATHROOM RECEPT.	20-1	3	B			OPEN	28
29	SPARE	20-1		A			OPEN	30

NOTES:

A: PANEL SHALL BE EQUAL TO SQUARE D MODEL "QO"

B: ELECTRICIAN SHALL VERIFY BREAKER WITH EQUIPMENT PRIOR TO PURCHASE & INSTALL.

C: AFTER COMPLETION OF WORK, ELECTRICIAN SHALL PROVIDE A TYPE WRITTEN PANEL DIRECTORY IN NEW PANEL.

D: TYPICAL PANEL SCHEDULE ABOVE REPRESENTS HIGHEST LOAD OF ONE-BEDROOM APARTMENT, SOME APARTMENTS MAY HAVE LESS RECEPTACLE LOAD PER 2017 NEC ARTICLE 220.

E: CIRCUIT BREAKERS SHOWN ABOVE IN **BOLD UNDERLINED** TEXT SHALL BE ARC-FAULT CIRCUIT INTERRUPTER (AFCI) PER 2017 NEC 210.12.

ELECTRICAL PANEL 'P3' SCHEDULE - (TYPICAL THREE-BEDROOM APARTMENT)

VOLTAGE		PANEL SIZE		MOUNTING		AIC RATING		
208/120V 1-PH		200A MLO		RECESSED		SEE RISER	PHASE "A" LOAD	137
							PHASE "B" LOAD	132
NEMA RATING: 1								
CIRCUIT NUMBER	DESCRIPTION	BREAKER SIZE	AMPS	PHASE	AMPS	BREAKER SIZE	DESCRIPTION	CIRCUIT NUMBER
1	BEDROOM RECEPTS.	15-1	9	A	24	30-2	AIR HANDLING UNIT (AHU-1)	2
3	LIVING ROOM RECEPTS.	15-1	9	B	24	-	-	4
5	BATHROOM RECEPT.	20-1	1.5	A	18	30-2	CONDENSING UNIT (CU-1)	6
7	WASHING MACHINE	20-1	8	B	18	-	-	8
9	DISHWASHER / DISPOSAL	20-1	8	A	20	30-2	DRYER	10
11	REFRIGERATOR	20-1	8	B	20	-	-	12
13	RANGE HOOD / MICROWAVE	20-1	8	A	30	50-2	STOVE	14
15	LIGHTING	15-1	5	B	30	-	-	16
17	SMOKE DETECTORS	15-1	1	A	22	30-2	WATER HEATER	18
19	KITCHEN RECEPTS.	20-1	3	B	22	-	-	20
21	KITCHEN RECEPTS.	15-1	3	A		15-1	SPARE	22
23	BEDROOM RECEPTS.	15-1	6	B		15-1	SPARE	24
25	BEDROOM RECEPTS.	15-1	7.5	A		20-1	SPARE	26
27	BATHROOM RECEPT.	20-1	3	B		20-1	SPARE	28
29	ENTRY AREA RECEPTS.	20-1	3	A		20-1	SPARE	30

NOTES:

A: PANEL SHALL BE EQUAL TO SQUARE D MODEL "QO"

B: ELECTRICIAN SHALL VERIFY BREAKER WITH EQUIPMENT PRIOR TO PURCHASE & INSTALL.

C: AFTER COMPLETION OF WORK, ELECTRICIAN SHALL PROVIDE A TYPE WRITTEN PANEL DIRECTORY IN NEW PANEL.

D: TYPICAL PANEL SCHEDULE ABOVE REPRESENTS HIGHEST LOAD OF ONE-BEDROOM APARTMENT, SOME APARTMENTS MAY HAVE LESS RECEPTACLE LOAD PER 2017 NEC ARTICLE 220.

E: CIRCUIT BREAKERS SHOWN ABOVE IN **BOLD UNDERLINED** TEXT SHALL BE ARC-FAULT CIRCUIT INTERRUPTER (AFCI) PER 2017 NEC 210.12.

STATE OF MISSOURI
JAMES P. WATSON
NUMBER PE-2015017071
PROFESSIONAL ENGINEER

James Watson, P.E. January 7, 2021
PE-2015017071
MO Certificate of Authority # 2018029680

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J2 PROJECT No:	J20055
J2 DESIGN:	ACW

ISSUE TITLE	DATE
PHASE I - PERMIT SET	01 - 07 - 2021

Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

ELECTRICAL SCHEDULES

SHEET NUMBER

E601

ELECTRICAL PANEL 'HPC' SCHEDULE - BUILDING #4

VOLTAGE	PANEL SIZE	MOUNTING	AIC RATING		
208Y/120V 3-PH	200A MLO	RECSESSED	22,000	PHASE "A" LOAD	172.5
				PHASE "B" LOAD	162
NEMA RATING: 1				PHASE "C" LOAD	166.5

CIRCUIT NUMBER	DESCRIPTION	BREAKER SIZE	AMPS	PHASE	AMPS	BREAKER SIZE	DESCRIPTION	CIRCUIT NUMBER
1	FIRST FLOOR CORRIDOR RECEPTS.	20-1	6	A	42	60-3	ELEVATOR	2
3	SECOND FLOOR CORRIDOR RECEPTS.	20-1	4.5	B	42	-	-	4
5	THIRD FLOOR CORRIDOR RECEPTS.	20-1	4.5	C	42	-	-	6
7	FOURTH FLOOR CORRIDOR RECEPTS.	20-1	4.5	A		ST	SHUNT TRIP SPACE	8
9	EXTERIOR RECEPTS.	20-1	7.5	B	2	30-3	ELEVATOR LIGHTS & MISC.	10
11	EXTERIOR RECEPTS.	20-1	6	C	2	-	-	12
13	SECOND FLOOR I.T. CLOSET RECEPTS.	20-1	6	A	2	-	-	14
15	SECOND FLOOR I.T. CLOSET RECEPTS.	20-1	6	B		ST	SHUNT TRIP SPACE	16
17	FOURTH FLOOR I.T. CLOSET RECEPTS.	20-1	6	C	24	30-2	AIR HANDLING UNIT (AHU-B1)	18
19	FOURTH FLOOR I.T. CLOSET RECEPTS.	20-1	6	A	24	-	-	20
21	ACCESS CONTROLS	20-1	5	B	18	30-2	CONDENSING UNIT (CU-B1)	22
23	FACP	20-1	1	C	18	-	-	24
25	ELEVATOR SHAFT RECEPTS.	20-1	3	A	24	30-2	AIR HANDLING UNIT (AHU-B2)	26
27	ELEVATOR PIT SUMP PUMP	20-1	10	B	24	-	-	28
29	INTERIOR DOOR MAG HOLDS	20-1	5	C	18	30-2	CONDENSING UNIT (CU-B2)	30
31	FIRST FLOOR INTERIOR / STAIR LIGHTING	20-1	8	A	18	-	-	32
33	SECOND FLOOR INTERIOR LIGHTING	20-1	3	B	14	20-2	WALL HEATER	34
35	THIRD FLOOR INTERIOR LIGHTING	20-1	3	C	14	-	-	36
37	FOURTH FLOOR INTERIOR LIGHTING	20-1	3	A	14	20-2	WALL HEATER	38
39	EXTERIOR BUILDING LIGHTING	20-1	3	B	14	-	-	40
41	PARKING LOT LIGHTING	20-2	6	C	14	20-2	RISER ROOM WALL HEATER	42
43	-	-	6	A	14	-	-	44
45	SPARE	20-1		B			OPEN	46
47	SPARE	20-1		C			OPEN	48
49	SPARE	20-1		A			OPEN	50
51	SPARE	20-1		B			OPEN	52
53	SPARE	20-1		C			OPEN	54
55	SPARE	20-1		A			OPEN	56
57	SPARE	20-1		B			OPEN	58
59	SPARE	20-1		C			OPEN	60
61	SPARE	20-1		A			OPEN	62
63	SPARE	20-1		B			OPEN	64
65	SPARE	20-1		C			OPEN	66
67	SPARE	20-1		A			OPEN	68
69	SPARE	20-1		B			OPEN	70
71	OPEN			C			OPEN	72
73	OPEN			A			OPEN	74
75	OPEN			B			OPEN	76
77	OPEN			C	7	60-2	SUB-FEED GARAGE TYPE 'A'	78
79	OPEN			A	10	-	OPEN	80
81	OPEN			B	27	60-2	SUB-FEED GARAGE TYPE 'D'	82
83	OPEN			C	32	-	OPEN	84

NOTES:
A: PANEL SHALL BE EQUAL TO SQUARE D MODEL "QO"
B: ELECTRICIAN SHALL VERIFY BREAKER WITH EQUIPMENT PRIOR TO PURCHASE & INSTALL.
C: AFTER COMPLETION OF WORK, ELECTRICAN SHALL PROVIDE A TYPE WRITTEN PANEL DIRECTORY IN NEW PANEL.
D: RECEPTACLE LOAD DIVERSITY HAS BEEN APPLIED TO PANEL LOAD PER 2018 NEC 220.44.

ELECTRICAL PANEL 'HPA' SCHEDULE - BUILDING #6

VOLTAGE	PANEL SIZE	MOUNTING	AIC RATING		
208Y/120V 3-PH	200A MLO	RECESSED	22,000	PHASE "A" LOAD	179.5
				PHASE "B" LOAD	168
NEMA RATING: 1				PHASE "C" LOAD	180.5

CIRCUIT NUMBER	DESCRIPTION	BREAKER SIZE	AMPS	PHASE	AMPS	BREAKER SIZE	DESCRIPTION	CIRCUIT NUMBER
1	FIRST FLOOR CORRIDOR RECEPTS.	20-1	6	A	42	60-3	ELEVATOR	2
3	SECOND FLOOR CORRIDOR RECEPTS.	20-1	4.5	B	42	-	-	4
5	THIRD FLOOR CORRIDOR RECEPTS.	20-1	4.5	C	42	-	-	6
7	FOURTH FLOOR CORRIDOR RECEPTS.	20-1	4.5	A		ST	SHUNT TRIP SPACE	8
9	EXTERIOR RECEPTS.	20-1	7.5	B	2	30-3	ELEVATOR LIGHTS & MISC.	10
11	EXTERIOR RECEPTS.	20-1	6	C	2	-	-	12
13	SECOND FLOOR I.T. CLOSET RECEPTS.	20-1	6	A	2	-	-	14
15	SECOND FLOOR I.T. CLOSET RECEPTS.	20-1	6	B		ST	SHUNT TRIP SPACE	16
17	FOURTH FLOOR I.T. CLOSET RECEPTS.	20-1	6	C	24	30-2	AIR HANDLING UNIT (AHU-A1)	18
19	FOURTH FLOOR I.T. CLOSET RECEPTS.	20-1	6	A	24	-	-	20
21	ACCESS CONTROLS	20-1	5	B	18	30-2	CONDENSING UNIT (CU-A1)	22
23	FACP	20-1	1	C	18	-	-	24
25	ELEVATOR SHAFT RECEPTS.	20-1	3	A	24	30-2	AIR HANDLING UNIT (AHU-A2)	26
27	ELEVATOR PIT SUMP PUMP	20-1	10	B	24	-	-	28
29	INTERIOR DOOR MAG HOLDS	20-1	5	C	18	30-2	CONDENSING UNIT (CU-A2)	30
31	FIRST FLOOR INTERIOR / STAIR LIGHTING	20-1	8	A	18	-	-	32
33	SECOND FLOOR INTERIOR LIGHTING	20-1	3	B	14	20-2	WALL HEATER	34
35	THIRD FLOOR INTERIOR LIGHTING	20-1	3	C	14	-	-	36
37	FOURTH FLOOR INTERIOR LIGHTING	20-1	3	A	14	20-2	WALL HEATER	38
39	EXTERIOR BUILDING LIGHTING	20-1	3	B	14	-	-	40
41	SPARE	20-1		C	14	20-2	RISER ROOM WALL HEATER	42
43	PARKING LOT LIGHTING	20-2	6	A	14	-	-	44
45	SPARE	20-1		B			OPEN	46
47	SPARE	20-1		C			OPEN	48
49	SPARE	20-1		A			OPEN	50
51	SPARE	20-1		B			OPEN	52
53	SPARE	20-1		C			OPEN	54
55	SPARE	20-1		A			OPEN	56
57	SPARE	20-1		B			OPEN	58
59	SPARE	20-1		C			OPEN	60
61	SPARE	20-1		A			OPEN	62
63	SPARE	20-1		B			OPEN	64
65	SPARE	20-1		C			OPEN	66
67	SPARE	20-1		A			OPEN	68
69	SPARE	20-1		B			OPEN	70
71	OPEN			C			OPEN	72
73	OPEN			A			OPEN	74
75	OPEN			B			OPEN	76
77	OPEN			C	27	60-2	SUB-FEED GARAGE TYPE 'E'	78
79	OPEN			A	31	-	OPEN	80
81	OPEN			B	27	60-2	SUB-FEED GARAGE TYPE 'D'	82
83	OPEN			C	32	-	OPEN	84

NOTES:
A: PANEL SHALL BE EQUAL TO SQUARE D MODEL "QO"
B: ELECTRICIAN SHALL VERIFY BREAKER WITH EQUIPMENT PRIOR TO PURCHASE & INSTALL.
C: AFTER COMPLETION OF WORK, ELECTRICAN SHALL PROVIDE A TYPE WRITTEN PANEL DIRECTORY IN NEW PANEL.
D: RECEPTACLE LOAD DIVERSITY HAS BEEN APPLIED TO PANEL LOAD PER 2018 NEC 220.44.

ELECTRICAL PANEL 'HPA' SCHEDULE - BUILDINGS #8, #9

VOLTAGE	PANEL SIZE	MOUNTING	AIC RATING		
208Y/120V 3-PH	200A MLO	RECESSED	22,000	PHASE "A" LOAD	142.5
				PHASE "B" LOAD	135
NEMA RATING: 1				PHASE "C" LOAD	121.5

CIRCUIT NUMBER	DESCRIPTION	BREAKER SIZE	AMPS	PHASE	AMPS	BREAKER SIZE	DESCRIPTION	CIRCUIT NUMBER
1	FIRST FLOOR CORRIDOR RECEPTS.	20-1	6	A	42	60-3	ELEVATOR	2
3	SECOND FLOOR CORRIDOR RECEPTS.	20-1	4.5	B	42	-	-	4
5	THIRD FLOOR CORRIDOR RECEPTS.	20-1	4.5	C	42	-	-	6
7	FOURTH FLOOR CORRIDOR RECEPTS.	20-1	4.5	A		ST	SHUNT TRIP SPACE	8
9	EXTERIOR RECEPTS.	20-1	7.5	B	2	30-3	ELEVATOR LIGHTS & MISC.	10
11	EXTERIOR RECEPTS.	20-1	6	C	2	-	-	12
13	SECOND FLOOR I.T. CLOSET RECEPTS.	20-1	6	A	2	-	-	14
15	SECOND FLOOR I.T. CLOSET RECEPTS.	20-1	6	B		ST	SHUNT TRIP SPACE	16
17	FOURTH FLOOR I.T. CLOSET RECEPTS.	20-1	6	C	24	30-2	AIR HANDLING UNIT (AHU-A1)	18
19	FOURTH FLOOR I.T. CLOSET RECEPTS.	20-1	6	A	24	-	-	20
21	ACCESS CONTROLS	20-1	5	B	18	30-2	CONDENSING UNIT (CU-A1)	22
23	FACP	20-1	1	C	18	-	-	24
25	ELEVATOR SHAFT RECEPTS.	20-1	3	A	24	30-2	AIR HANDLING UNIT (AHU-A2)	26
27	ELEVATOR PIT SUMP PUMP	20-1	10	B	24	-	-	28
29	INTERIOR DOOR MAG HOLDS	20-1	5	C	18	30-2	CONDENSING UNIT (CU-A2)	30
31	FIRST FLOOR INTERIOR / STAIR LIGHTING	20-1	8	A	18	-	-	32
33	SECOND FLOOR INTERIOR LIGHTING	20-1	3	B	14	20-2	WALL HEATER	34
35	THIRD FLOOR INTERIOR LIGHTING	20-1	3	C	14	-	-	36
37	FOURTH FLOOR INTERIOR LIGHTING	20-1	3	A	14	20-2	WALL HEATER	38
39	EXTERIOR BUILDING LIGHTING	20-1	3	B	14	-	-	40
41	SPARE	20-1		C	14	20-2	RISER ROOM WALL HEATER	42
43	SPARE	20-1		A	14	-	-	44
45	SPARE	20-1		B			OPEN	46
47	SPARE	20-1		C			OPEN	48
49	SPARE	20-1		A			OPEN	50
51	SPARE	20-1		B			OPEN	52
53	SPARE	20-1		C			OPEN	54
55	SPARE	20-1		A			OPEN	56
57	SPARE	20-1		B			OPEN	58
59	SPARE	20-1		C			OPEN	60
61	SPARE	20-1		A			OPEN	62
63	SPARE	20-1		B			OPEN	64
65	SPARE	20-1		C			OPEN	66
67	SPARE	20-1		A			OPEN	68
69	SPARE	20-1		B			OPEN	70
71	OPEN			C			OPEN	72
73	OPEN			A			OPEN	74
75	OPEN			B			OPEN	76
77	OPEN			C			OPEN	78
79	OPEN			A			OPEN	80
81	OPEN			B			OPEN	82
83	OPEN			C			OPEN	84

NOTES:
A: PANEL SHALL BE EQUAL TO SQUARE D MODEL "QO"
B: ELECTRICIAN SHALL VERIFY BREAKER WITH EQUIPMENT PRIOR TO PURCHASE & INSTALL.
C: AFTER COMPLETION OF WORK, ELECTRICAN SHALL PROVIDE A TYPE WRITTEN PANEL DIRECTORY IN NEW PANEL.
D: RECEPTACLE LOAD DIVERSITY HAS BEEN APPLIED TO PANEL LOAD PER 2018 NEC 220.44.

ELECTRICAL PANEL 'HPC' SCHEDULE - BUILDING #5

VOLTAGE	PANEL SIZE	MOUNTING	AIC RATING		
208Y/120V 3-PH	200A MLO	RECSESSED	22,000	PHASE "A" LOAD	181.5
				PHASE "B" LOAD	150
NEMA RATING: 1				PHASE "C" LOAD	172.5

CIRCUIT NUMBER	DESCRIPTION	BREAKER SIZE	AMPS	PHASE	AMPS	BREAKER SIZE	DESCRIPTION	CIRCUIT NUMBER
1	FIRST FLOOR CORRIDOR RECEPTS.	20-1	6	A	42	60-3	ELEVATOR	2
3	SECOND FLOOR CORRIDOR RECEPTS.	20-1	4.5	B	42	-	-	4
5	THIRD FLOOR CORRIDOR RECEPTS.	20-1	4.5	C	42	-	-	6
7	FOURTH FLOOR CORRIDOR RECEPTS.	20-1	4.5	A		ST	SHUNT TRIP SPACE	8
9	EXTERIOR RECEPTS.	20-1	7.5	B	2	30-3	ELEVATOR LIGHTS & MISC.	10
11	EXTERIOR RECEPTS.	20-1	6	C	2	-	-	12
13	SECOND FLOOR I.T. CLOSET RECEPTS.	20-1	6	A	2	-	-	14
15	SECOND FLOOR I.T. CLOSET RECEPTS.	20-1	6	B		ST	SHUNT TRIP SPACE	16
17	FOURTH FLOOR I.T. CLOSET RECEPTS.	20-1	6	C	24	30-2	AIR HANDLING UNIT (AHU-B1)	18
19	FOURTH FLOOR I.T. CLOSET RECEPTS.	20-1	6	A	24	-	-	20
21	ACCESS CONTROLS	20-1	5	B	18	30-2	CONDENSING UNIT (CU-B1)	22
23	FACP	20-1	1	C	18	-	-	24
25	ELEVATOR SHAFT RECEPTS.	20-1	3	A	24	30-2	AIR HANDLING UNIT (AHU-B2)	26
27	ELEVATOR PIT SUMP PUMP	20-1	10	B	24	-	-	28
29	INTERIOR DOOR MAG HOLDS	20-1	5	C	18	30-2	CONDENSING UNIT (CU-B2)	30
31	FIRST FLOOR INTERIOR / STAIR LIGHTING	20-1	8	A	18	-	-	32
33	SECOND FLOOR INTERIOR LIGHTING	20-1	3	B	14	20-2	WALL HEATER	34
35	THIRD FLOOR INTERIOR LIGHTING	20-1	3	C	14	-	-	36
37	FOURTH FLOOR INTERIOR LIGHTING	20-1	3	A	14	20-2	WALL HEATER	38
39	EXTERIOR BUILDING LIGHTING	20-1	3	B	14	-	-	40
41	PARKING LOT LIGHTING	20-2	6	C	14	20-2	RISER ROOM WALL HEATER	42
43	-	-	6	A	14	-	-	44
45	SPARE	20-1		B			OPEN	46
47	SPARE	20-1		C			OPEN	48
49	SPARE	20-1		A			OPEN	50
51	SPARE	20-1		B			OPEN	52
53	SPARE	20-1		C			OPEN	54
55	SPARE	20-1		A			OPEN	56
57	SPARE	20-1		B			OPEN	58
59	SPARE	20-1		C			OPEN	60
61	SPARE	20-1		A			OPEN	62
63	SPARE	20-1		B			OPEN	64
65	SPARE	20-1		C			OPEN	66
67	SPARE	20-1		A			OPEN	68
69	SPARE	20-1		B			OPEN	70
71	OPEN			C			OPEN	72
73	OPEN			A			OPEN	74
75	OPEN			B			OPEN	76
77	OPEN			C	11	60-2	SUB-FEED GARAGE TYPE 'C'	78
79	OPEN			A	19	-	OPEN	80
81	OPEN			B	15	60-2	SUB-FEED GARAGE TYPE 'B'	82
83	OPEN			C	16	-	-	84

NOTES:
A: PANEL SHALL BE EQUAL TO SQUARE D MODEL "QO"
B: ELECTRICIAN SHALL VERIFY BREAKER WITH EQUIPMENT PRIOR TO PURCHASE & INSTALL.
C: AFTER COMPLETION OF WORK, ELECTRICAN SHALL PROVIDE A TYPE WRITTEN PANEL DIRECTORY IN NEW PANEL.
D: RECEPTACLE LOAD DIVERSITY HAS BEEN APPLIED TO PANEL LOAD PER 2018 NEC 220.44.

ELECTRICAL PANEL 'HPC' SCHEDULE - BUILDING #7

VOLTAGE	PANEL SIZE	MOUNTING	AIC RATING		
208Y/120V 3-PH	200A MLO	RECSESSED	22,000	PHASE "A" LOAD	156.5
				PHASE "B" LOAD	135
NEMA RATING: 1				PHASE "C" LOAD	139.5

CIRCUIT NUMBER	DESCRIPTION	BREAKER SIZE	AMPS	PHASE	AMPS	BREAKER SIZE	DESCRIPTION	CIRCUIT NUMBER
1	FIRST FLOOR CORRIDOR RECEPTS.	20-1	6	A	42	60-3	ELEVATOR	2
3	SECOND FLOOR CORRIDOR RECEPTS.	20-1	4.5	B	42	-	-	4
5	THIRD FLOOR CORRIDOR RECEPTS.	20-1	4.5	C	42	-	-	6
7	FOURTH FLOOR CORRIDOR RECEPTS.	20-1	4.5	A		ST	SHUNT TRIP SPACE	8
9	EXTERIOR RECEPTS.	20-1	7.5	B	2	30-3	ELEVATOR LIGHTS & MISC.	10
11	EXTERIOR RECEPTS.	20-1	6	C	2	-	-	12
13	SECOND FLOOR I.T. CLOSET RECEPTS.	20-1	6	A	2	-	-	14
15	SECOND FLOOR I.T. CLOSET RECEPTS.	20-1	6	B		ST	SHUNT TRIP SPACE	16
17	FOURTH FLOOR I.T. CLOSET RECEPTS.	20-1	6	C	24	30-2	AIR HANDLING UNIT (AHU-B1)	18
19	FOURTH FLOOR I.T. CLOSET RECEPTS.	20-1	6	A	24	-	-	20
21	ACCESS CONTROLS	20-1	5	B	18	30-2	CONDENSING UNIT (CU-B1)	22
23	FACP	20-1	1	C	18	-	-	24
25	ELEVATOR SHAFT RECEPTS.	20-1	3	A	24	30-2	AIR HANDLING UNIT (AHU-B2)	26
27	ELEVATOR PIT SUMP PUMP	20-1	10	B	24	-	-	28
29	INTERIOR DOOR MAG HOLDS	20-1	5	C	18	30-2	CONDENSING UNIT (CU-B2)	30
31	FIRST FLOOR INTERIOR / STAIR LIGHTING	20-1	8	A	18	-	-	32
33	SECOND FLOOR INTERIOR LIGHTING	20-1	3	B	14	20-2	WALL HEATER	34
35	THIRD FLOOR INTERIOR LIGHTING	20-1	3	C	14	-	-	36
37	FOURTH FLOOR INTERIOR LIGHTING	20-1	3	A	14	20-2	WALL HEATER	38
39	EXTERIOR BUILDING LIGHTING	20-1	3	B	14	-	-	40
41	SPARE	20-1		C	14	20-2	RISER ROOM WALL HEATER	42
43	SPARE	20-1		A	14	-	-	44
45	SPARE	20-1		B			OPEN	46
47	SPARE	20-1		C			OPEN	48
49	SPARE	20-1		A			OPEN	50
51	SPARE	20-1		B			OPEN	52
53	SPARE	20-1		C			OPEN	54
55	SPARE	20-1		A			OPEN	56
57	SPARE	20-1		B			OPEN	58
59	SPARE	20-1		C			OPEN	60
61	SPARE	20-1		A			OPEN	62
63	SPARE	20-1		B			OPEN	64
65	SPARE	20-1		C			OPEN	66
67	SPARE	20-1		A			OPEN	68
69	SPARE	20-1		B			OPEN	70
71	OPEN			C			OPEN	72
73	OPEN			A			OPEN	74
75	OPEN			B			OPEN	76
77	OPEN			C			OPEN	78
79	OPEN			A			OPEN	80
81	OPEN			B			OPEN	82
83	OPEN			C			OPEN	84

NOTES:
A: PANEL SHALL BE EQUAL TO SQUARE D MODEL "QO"
B: ELECTRICIAN SHALL VERIFY BREAKER WITH EQUIPMENT PRIOR TO PURCHASE & INSTALL.
C: AFTER COMPLETION OF WORK, ELECTRICAN SHALL PROVIDE A TYPE WRITTEN PANEL DIRECTORY IN NEW PANEL.
D: RECEPTACLE LOAD DIVERSITY HAS BEEN APPLIED TO PANEL LOAD PER 2018 NEC 220.44.

ELECTRICAL PANEL 'HPB' SCHEDULE - BUILDING #10

VOLTAGE	PANEL SIZE	MOUNTING	AIC RATING		
208Y/120V 3-PH	200A MLO	RECESSED	22,000	PHASE "A" LOAD	160.5
				PHASE "B" LOAD	153
NEMA RATING: 1				PHASE "C" LOAD	157.5

CIRCUIT NUMBER	DESCRIPTION	BREAKER SIZE	AMPS	PHASE	AMPS	BREAKER SIZE	DESCRIPTION	CIRCUIT NUMBER
1	FIRST FLOOR CORRIDOR RECEPTS.	20-1	6	A	42	60-3	ELEVATOR	2
3	SECOND FLOOR CORRIDOR RECEPTS.	20-1	4.5	B	42	-	-	4
5	THIRD FLOOR CORRIDOR RECEPTS.	20-1	4.5	C	42	-	-	6
7	FOURTH FLOOR CORRIDOR RECEPTS.	20-1	4.5	A		ST	SHUNT TRIP SPACE	8
9	EXTERIOR RECEPTS.	20-1	7.5	B	2	30-3	ELEVATOR LIGHTS & MISC.	10
11	EXTERIOR RECEPTS.	20-1	6	C	2	-	-	12
13	SECOND FLOOR I.T. CLOSET RECEPTS.	20-1	6	A	2	-	-	14
15	SECOND FLOOR I.T. CLOSET RECEPTS.	20-1	6	B		ST	SHUNT TRIP SPACE	16
17	FOURTH FLOOR I.T. CLOSET RECEPTS.	20-1	6	C	24	30-2	AIR HANDLING UNIT (AHU-B1)	18
19	FOURTH FLOOR I.T. CLOSET RECEPTS.	20-1	6	A	24	-	-	20
21	ACCESS CONTROLS	20-1	5	B	18	30-2	CONDENSING UNIT (CU-B1)	22
23	FACP	20-1	1	C	18	-	-	24
25	ELEVATOR SHAFT RECEPTS.	20-1	3	A	24	30-2	AIR HANDLING UNIT (AHU-B2)	26
27	ELEVATOR PIT SUMP PUMP	20-1	10	B	24	-	-	28
29	INTERIOR DOOR MAG HOLDS	20-1	5	C	18	30-2	CONDENSING UNIT (CU-B2)	30
31	FIRST FLOOR INTERIOR / STAIR LIGHTING	20-1	8	A	18	-	-	32
33	SECOND FLOOR INTERIOR LIGHTING	20-1	3	B	14	20-2	WALL HEATER	34
35	THIRD FLOOR INTERIOR LIGHTING	20-1	3	C	14	-	-	36
37	FOURTH FLOOR INTERIOR LIGHTING	20-1	3	A	14	20-2	WALL HEATER	38
39	EXTERIOR BUILDING LIGHTING	20-1	3	B	14	-	-	40
41	SPARE	20-1		C	14	20-2	RISER ROOM WALL HEATER	42
43	SPARE	20-1		A	14	-	-	44
45	SPARE	20-1		B			OPEN	46
47	SPARE	20-1		C			OPEN	48
49	SPARE	20-1		A			OPEN	50
51	SPARE	20-1		B			OPEN	52
53	SPARE	20-1		C			OPEN	54
55	SPARE	20-1		A			OPEN	56
57	SPARE	20-1		B			OPEN	58
59	SPARE	20-1		C			OPEN	60
61	SPARE	20-1		A			OPEN	62
63	SPARE	20-1		B			OPEN	64
65	SPARE	20-1		C			OPEN	66
67	SPARE	20-1		A			OPEN	68
69	SPARE	20-1		B			OPEN	70
71	OPEN			C			OPEN	72
73	OPEN			A			OPEN	74
75	OPEN			B			OPEN	76
77	OPEN			C			OPEN	78
79	OPEN			A			OPEN	80
81	OPEN			B			OPEN	82
83	OPEN			C			OPEN	84

NOTES:
A: PANEL SHALL BE EQUAL TO SQUARE D MODEL "QO"
B: ELECTRICIAN SHALL VERIFY BREAKER WITH EQUIPMENT PRIOR TO PURCHASE & INSTALL.
C: AFTER COMPLETION OF WORK, ELECTRICAN SHALL PROVIDE A TYPE WRITTEN PANEL DIRECTORY IN NEW PANEL.
D: RECEPTACLE LOAD DIVERSITY HAS BEEN APPLIED TO PANEL LOAD PER 2018 NEC 220.44.

STATE OF MISSOURI
JAMES P. WATSON
NUMBER PE-2015017071
PROFESSIONAL ENGINEER

James Watson, P.E. January 7, 2021
PE-2015017071
MO Certificate of Authority # 2018029680

J-SQUARED ENGINEERING
2401 Bernadette Drive, Suite 201
Columbia, Missouri 65203
573 - 234 - 4492 phone
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J2 PROJECT No:	J20055
J2 DESIGN:	ACW

ISSUE TITLE	DATE
PHASE I - PERMIT SET	01 - 07 - 2021

Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

ELECTRICAL SCHEDULES

SHEET NUMBER

E602

ELECTRICAL PANEL 'PGA' SCHEDULE - (TYPICAL GARAGE TYPE 'A')

VOLTAGE	PANEL SIZE	MOUNTING	AIC RATING		
208/120V 1-PH	100A MLO	SURFACE	10,000	PHASE "A" LOAD	7
				PHASE "B" LOAD	10
NEMA RATING: 3R					

CIRCUIT NUMBER	DESCRIPTION	BREAKER SIZE	AMPS	PHASE	AMPS	BREAKER SIZE	DESCRIPTION	CIRCUIT NUMBER
1	EXTERIOR RECEPTACLES	20-1	3	A	1.5	20-1	OVERHEAD DOOR OPENER	2
3	INTERIOR RECEPTACLES	20-1	6	B	1.5	20-1	OVERHEAD DOOR OPENER	4
5	INTERIOR LIGHTING	20-1	1	A	1.5	20-1	OVERHEAD DOOR OPENER	6
7	SPARE	20-1		B	1.5	20-1	OVERHEAD DOOR OPENER	8
9	SPARE	20-1		A			OPEN	10
11	SPARE	20-1		B			OPEN	12
13	SPARE	20-1		A			OPEN	14
15	SPARE	20-1		B			OPEN	16
17	SPARE	20-1		A			OPEN	18
19	EXTERIOR LIGHTING	20-1	1	B			OPEN	20

NOTES:
A: PANEL SHALL BE EQUAL TO SQUARE D MODEL "QO"
B: ELECTRICIAN SHALL VERIFY BREAKER WITH EQUIPMENT PRIOR TO PURCHASE & INSTALL.
C: AFTER COMPLETION OF WORK, ELECTRICAN SHALL PROVIDE A TYPE WRITTEN PANEL DIRECTORY IN NEW PANEL.

ELECTRICAL PANEL 'PGB' SCHEDULE - (TYPICAL GARAGE TYPE 'B')

VOLTAGE	PANEL SIZE	MOUNTING	AIC RATING		
208/120V 1-PH	100A MLO	SURFACE	10,000	PHASE "A" LOAD	15
				PHASE "B" LOAD	16
NEMA RATING: 3R					

CIRCUIT NUMBER	DESCRIPTION	BREAKER SIZE	AMPS	PHASE	AMPS	BREAKER SIZE	DESCRIPTION	CIRCUIT NUMBER
1	EXTERIOR RECEPTACLES	20-1	3	A	1.5	20-1	OVERHEAD DOOR OPENER	2
3	INTERIOR RECEPTACLES	20-1	6	B	1.5	20-1	OVERHEAD DOOR OPENER	4
5	INTERIOR LIGHTING	20-1	3	A	1.5	20-1	OVERHEAD DOOR OPENER	6
7	INTERIOR RECEPTACLES	20-1	6	B	1.5	20-1	OVERHEAD DOOR OPENER	8
9	INTERIOR RECEPTACLES	20-1	6	A			OPEN	10
11	SPARE	20-1		B			OPEN	12
13	SPARE	20-1		A			OPEN	14
15	SPARE	20-1		B			OPEN	16
17	SPARE	20-1		A			OPEN	18
19	EXTERIOR LIGHTING	20-1	1	B			OPEN	20

NOTES:
A: PANEL SHALL BE EQUAL TO SQUARE D MODEL "QO"
B: ELECTRICIAN SHALL VERIFY BREAKER WITH EQUIPMENT PRIOR TO PURCHASE & INSTALL.
C: AFTER COMPLETION OF WORK, ELECTRICAN SHALL PROVIDE A TYPE WRITTEN PANEL DIRECTORY IN NEW PANEL.

ELECTRICAL PANEL 'PGC' SCHEDULE - (TYPICAL GARAGE TYPE 'C')

VOLTAGE	PANEL SIZE	MOUNTING	AIC RATING		
208/120V 1-PH	100A MLO	SURFACE	10,000	PHASE "A" LOAD	11
				PHASE "B" LOAD	19
NEMA RATING: 3R					

CIRCUIT NUMBER	DESCRIPTION	BREAKER SIZE	AMPS	PHASE	AMPS	BREAKER SIZE	DESCRIPTION	CIRCUIT NUMBER
1	EXTERIOR RECEPTACLES	20-1	3	A	1.5	20-1	OVERHEAD DOOR OPENER	2
3	INTERIOR RECEPTACLES	20-1	6	B	1.5	20-1	OVERHEAD DOOR OPENER	4
5	INTERIOR LIGHTING	20-1	2	A	1.5	20-1	OVERHEAD DOOR OPENER	6
7	INTERIOR RECEPTACLES	20-1	6	B	1.5	20-1	OVERHEAD DOOR OPENER	8
9	SPARE	20-1		A	1.5	20-1	OVERHEAD DOOR OPENER	10
11	SPARE	20-1		B	1.5	20-1	OVERHEAD DOOR OPENER	12
13	SPARE	20-1		A	1.5	20-1	OVERHEAD DOOR OPENER	14
15	SPARE	20-1		B	1.5	20-1	OVERHEAD DOOR OPENER	16
17	SPARE	20-1		A			OPEN	18
19	EXTERIOR LIGHTING	20-1	1	B			OPEN	20

NOTES:
A: PANEL SHALL BE EQUAL TO SQUARE D MODEL "QO"
B: ELECTRICIAN SHALL VERIFY BREAKER WITH EQUIPMENT PRIOR TO PURCHASE & INSTALL.
C: AFTER COMPLETION OF WORK, ELECTRICAN SHALL PROVIDE A TYPE WRITTEN PANEL DIRECTORY IN NEW PANEL.

ELECTRICAL PANEL 'PGD' SCHEDULE - (TYPICAL GARAGE TYPE 'D')

VOLTAGE	PANEL SIZE	MOUNTING	AIC RATING		
208/120V 1-PH	100A MLO	SURFACE	10,000	PHASE "A" LOAD	27
				PHASE "B" LOAD	32
NEMA RATING: 3R					

CIRCUIT NUMBER	DESCRIPTION	BREAKER SIZE	AMPS	PHASE	AMPS	BREAKER SIZE	DESCRIPTION	CIRCUIT NUMBER
1	EXTERIOR RECEPTACLES	20-1	3	A	1.5	20-1	OVERHEAD DOOR OPENER	2
3	INTERIOR RECEPTACLES	20-1	6	B	1.5	20-1	OVERHEAD DOOR OPENER	4
5	INTERIOR LIGHTING	20-1	6	A	1.5	20-1	OVERHEAD DOOR OPENER	6
7	INTERIOR RECEPTACLES	20-1	6	B	1.5	20-1	OVERHEAD DOOR OPENER	8
9	INTERIOR RECEPTACLES	20-1	6	A	1.5	20-1	OVERHEAD DOOR OPENER	10
11	INTERIOR RECEPTACLES	20-1	6	B	1.5	20-1	OVERHEAD DOOR OPENER	12
13	INTERIOR RECEPTACLES	20-1	6	A	1.5	20-1	OVERHEAD DOOR OPENER	14
15	INTERIOR RECEPTACLES	20-1	6	B	1.5	20-1	OVERHEAD DOOR OPENER	16
17	SPARE	20-1		A		20-1	SPARE	18
19	EXTERIOR LIGHTING	20-1	2	B		20-1	SPARE	20

NOTES:
A: PANEL SHALL BE EQUAL TO SQUARE D MODEL "QO"
B: ELECTRICIAN SHALL VERIFY BREAKER WITH EQUIPMENT PRIOR TO PURCHASE & INSTALL.
C: AFTER COMPLETION OF WORK, ELECTRICAN SHALL PROVIDE A TYPE WRITTEN PANEL DIRECTORY IN NEW PANEL.

ELECTRICAL PANEL 'PGE' SCHEDULE - (TYPICAL GARAGE TYPE 'E')

VOLTAGE	PANEL SIZE	MOUNTING	AIC RATING		
208/120V 1-PH	100A MLO	SURFACE	10,000	PHASE "A" LOAD	27
				PHASE "B" LOAD	31
NEMA RATING: 3R					

CIRCUIT NUMBER	DESCRIPTION	BREAKER SIZE	AMPS	PHASE	AMPS	BREAKER SIZE	DESCRIPTION	CIRCUIT NUMBER
1	EXTERIOR RECEPTACLES	20-1	3	A	1.5	20-1	OVERHEAD DOOR OPENER	2
3	INTERIOR RECEPTACLES	20-1	6	B	1.5	20-1	OVERHEAD DOOR OPENER	4
5	INTERIOR LIGHTING	20-1	6	A	1.5	20-1	OVERHEAD DOOR OPENER	6
7	INTERIOR RECEPTACLES	20-1	6	B	1.5	20-1	OVERHEAD DOOR OPENER	8
9	INTERIOR RECEPTACLES	20-1	6	A	1.5	20-1	OVERHEAD DOOR OPENER	10
11	INTERIOR RECEPTACLES	20-1	6	B	1.5	20-1	OVERHEAD DOOR OPENER	12
13	SPARE	20-1		A	1.5	20-1	OVERHEAD DOOR OPENER	14
15	SPARE	20-1		B	1.5	20-1	OVERHEAD DOOR OPENER	16
17	SPARE	20-1		A	1.5	20-1	OVERHEAD DOOR OPENER	18
19	EXTERIOR LIGHTING	20-1	1	B	1.5	20-1	OVERHEAD DOOR OPENER	20
21	SPARE			A	1.5	20-1	OVERHEAD DOOR OPENER	22
23	SPARE			B	1.5	20-1	OVERHEAD DOOR OPENER	24
25	OPEN			A	1.5	20-1	OVERHEAD DOOR OPENER	26
27	OPEN			B	1.5	20-1	OVERHEAD DOOR OPENER	28
29	OPEN			A	1.5	20-1	OVERHEAD DOOR OPENER	30
31	OPEN			B	1.5	20-1	OVERHEAD DOOR OPENER	32
33	OPEN			A			OPEN	34
35	OPEN			B			OPEN	36
37	OPEN			A			OPEN	38
39	OPEN			B			OPEN	40
41	OPEN			A			OPEN	42

NOTES:
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ELECTRICAL PANEL 'PM' SCHEDULE - (MAINTENANCE BUILDING)

VOLTAGE	PANEL SIZE	MOUNTING	AIC RATING		
208Y/120V 3-PH	200A MCB	SURFACE	22,000	PHASE "A" LOAD	46
				PHASE "B" LOAD	48.5
NEMA RATING: 1				PHASE "C" LOAD	44

CIRCUIT NUMBER	DESCRIPTION	BREAKER SIZE	AMPS	PHASE	AMPS	BREAKER SIZE	DESCRIPTION	CIRCUIT NUMBER
1	MAINTENANCE BAY RECEPTS.	20-1	4.5	A	24	30-2	AIR HANDLING UNIT (AHU-M1)	2
3	MAINTENANCE BAY RECEPTS.	20-1	6	B	24	-	-	4
5	OFFICE RECEPTS.	20-1	6	C	12	20-2	CONDENSING UNIT (CU-M1)	6
7	STORAGE RECEPTS.	20-1	4.5	A	12	-		8
9	RESTROOM RECEPT.	20-1	1.5	B		20-1	SPARE	10
11	EXTERIOR RECEPTS.	20-1	3	C	13	20-1	WATER HEATER (WH-2)	12
13	EXTERIOR LIGHTING	20-1	1	A			SPARE	14
15	INTERIOR LIGHTING	20-1	7	B	10	20-1	OVERHEAD DOOR OPENER	16
17	SPARE	20-1		C	10	20-1	OVERHEAD DOOR OPENER	18
19	SPARE	20-1		A			OPEN	20
21	SPARE	20-1		B			OPEN	22
23	SPARE	20-1		C			OPEN	24
25	SPARE	20-1		A			OPEN	26
27	SPARE	20-1		B			OPEN	28
29	SPARE	20-1		C			OPEN	30

NOTES:
A: PANEL SHALL BE EQUAL TO SQUARE D MODEL "QO"
B: ELECTRICIAN SHALL VERIFY BREAKER WITH EQUIPMENT PRIOR TO PURCHASE & INSTALL.
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ELECTRICAL PANEL 'HPB' SCHEDULE - BUILDINGS #11, #12, #13

VOLTAGE	PANEL SIZE	MOUNTING	AIC RATING		
208Y/120V 3-PH	200A MLO	RECESSED	22,000	PHASE "A" LOAD	166.5
				PHASE "B" LOAD	160
NEMA RATING: 1				PHASE "C" LOAD	156.5

CIRCUIT NUMBER	DESCRIPTION	BREAKER SIZE	AMPS	PHASE	AMPS	BREAKER SIZE	DESCRIPTION	CIRCUIT NUMBER
1	FIRST FLOOR CORRIDOR RECEPTS.	20-1	6	A	42	60-3	ELEVATOR	2
3	SECOND FLOOR CORRIDOR RECEPTS.	20-1	4.5	B	42	-	-	4
5	THIRD FLOOR CORRIDOR RECEPTS.	20-1	4.5	C	42	-	-	6
7	FOURTH FLOOR CORRIDOR RECEPTS.	20-1	4.5	A		ST	SHUNT TRIP SPACE	8
9	EXTERIOR RECEPTS.	20-1	7.5	B	2	30-3	ELEVATOR LIGHTS & MISC.	10
11	EXTERIOR RECEPTS.	20-1	6	C	2	-	-	12
13	SECOND FLOOR I.T. CLOSET RECEPTS.	20-1	6	A	2	-	-	14
15	SECOND FLOOR I.T. CLOSET RECEPTS.	20-1	6	B		ST	SHUNT TRIP SPACE	16
17	FOURTH FLOOR I.T. CLOSET RECEPTS.	20-1	6	C	24	30-2	AIR HANDLING UNIT (AHU-B1)	18
19	FOURTH FLOOR I.T. CLOSET RECEPTS.	20-1	6	A	24	-	-	20
21	ACCESS CONTROLS	20-1	5	B	18	30-2	CONDENSING UNIT (CU-B1)	22
23	FACP	20-1	1	C	18	-	-	24
25	ELEVATOR SHAFT RECEPTS.	20-1	3	A	24	30-2	AIR HANDLING UNIT (AHU-B2)	26
27	ELEVATOR PIT SUMP PUMP	20-1	10	B	24	-	-	28
29	INTERIOR DOOR MAG HOLDS	20-1	5	C	18	30-2	CONDENSING UNIT (CU-B2)	30
31	FIRST FLOOR INTERIOR / STAIR LIGHTING	20-1	8	A	18	-	-	32
33	SECOND FLOOR INTERIOR LIGHTING	20-1	3	B	14	20-2	WALL HEATER	34
35	THIRD FLOOR INTERIOR LIGHTING	20-1	3	C	14	-	-	36
37	FOURTH FLOOR INTERIOR LIGHTING	20-1	3	A	14	20-2	WALL HEATER	38
39	EXTERIOR BUILDING LIGHTING	20-1	3	B	14	-	-	40
41	SPARE	20-1		C	14	20-2	RISER ROOM WALL HEATER	42
43	SPARE	20-1		A	14	-	-	44
45	SPARE	20-1		B			OPEN	46
47	SPARE	20-1		C			OPEN	48
49	SPARE	20-1		A			OPEN	50
51	SPARE	20-1		B			OPEN	52
53	SPARE	20-1		C			OPEN	54
55	SPARE	20-1		A			OPEN	56
57	SPARE	20-1		B			OPEN	58
59	SPARE	20-1		C			OPEN	60
61	SPARE	20-1		A			OPEN	62
63	SPARE	20-1		B			OPEN	64
65	SPARE	20-1		C			OPEN	66
67	SPARE	20-1		A			OPEN	68
69	SPARE	20-1		B			OPEN	70
71	OPEN			C			OPEN	72
73	OPEN			A			OPEN	74
75	OPEN			B			OPEN	76
77	OPEN			C	7	60-2	SUB-FEED GARAGE TYPE 'A' / 'A-ACC'	78
79	OPEN			A	10	-	OPEN	80
81	OPEN			B	7	60-2	SUB-FEED GARAGE TYPE 'A'	82
83	OPEN			C	10	-	OPEN	84

NOTES:
A: PANEL SHALL BE EQUAL TO SQUARE D MODEL "QO"
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C: AFTER COMPLETION OF WORK, ELECTRICAN SHALL PROVIDE A TYPE WRITTEN PANEL DIRECTORY IN NEW PANEL.
D: RECEPTACLE LOAD DIVERSITY HAS BEEN APPLIED TO PANEL LOAD PER 2018 NEC 220.44.

HOUSE ELECTRICAL PANEL SCHEDULE SUMMARY

BUILDING NUMBER	BUILDING TYPE	SUB-FED BUILDINGS	NOTES
1	CLUBHOUSE	NONE	PANELS 'HP1' & 'HP2'
2	'B'	(1) GARAGE TYPE 'E'	
3	'B'	(1) GARAGE TYPE 'A'	
4	'C'	(1) GARAGE TYPE 'A' (1) GARAGE TYPE 'D'	
5	'C'	(1) GARAGE TYPE 'A' (1) GARAGE TYPE 'C'	
6	'A'	(1) GARAGE TYPE 'D' (1) GARAGE TYPE 'E'	
7	'C'	NONE	
8	'A'	NONE	SAME AS BUILDING #9
9	'A'	NONE	SAME AS BUILDING #8
10	'B'	NONE	
11	'B'	(1) GARAGE TYPE 'A' (1) GARAGE TYPE 'A-ACC'	SAME AS BUILDINGS #12 & #13
12	'B'	(1) GARAGE TYPE 'A' (1) GARAGE TYPE 'A-ACC'	SAME AS BUILDINGS #11 & #13
13	'B'	(2) GARAGE TYPE 'A'	SAME AS BUILDINGS #11 & #12
MAINTENANCE BUILDING	-	NONE	PANEL 'PM'

NOTES:
1. CONFIRM BUILDING IDENTIFICATION NUMBER & TYPE WITH ARCHITECTURAL PLANS
2. REFER TO OVERALL PLANS FOR BUILDING LOCATIONS, DETAILS, ETC.

LIGHT FIXTURE SCHEDULE

TAG	MANUFACTURER (OR EQUAL)	MODEL NUMBER (OR EQUAL)	DESCRIPTION	MOUNTING	LUMEN OUTPUT	CCT (°K)	CRI	VOLTS	WATTS	NOTES
B1	LITHONIA	D8XB-16C-700-30K-SYM-MVOLT	LED BOLLARD	IN-GROUND	2802	3000	70	120	39	
C1	HALO	HLC6-09-930-1E-WH	6" SURFACE CAN	SURFACE / CEILING	900	3000	90	120	16	APARTMENTS
C2	HALO	SLD612-830-WH-UNV	6" SURFACE CAN	SURFACE / CEILING	1215	3000	80	120	15	COMMON AREAS
C3	INDY	L6-2330U-GI-L600WH-CQ	6" RECESSED CAN	RECESSSED / CEILING	2300	3000	80	120	24	
C4	LITHONIA	6GL-LED-30K-90CRI	6" DIRECTIONAL CAN	RECESSED / CEILING	620	3000	80	120	11	
C5	INDY	L4-2330U-GI-80CRI	4" RECESSED CAN	RECESSED / CEILING	2300	3000	80	120	24	
E1	SURE-LITES	APLC7RG	INTERIOR EXIT LIGHT WITH HEADS	SURF. / WALL / CEILING	-	-	-	120	1	WITH RED LETTERS
E2	SURE-LITES	APLC7RG WITH APWR2	INTERIOR EXIT LIGHT WITH EXTERIOR REMOTE HEAD	SURFACE / CEILING	-	-	-	120	1	WITH RED LETTERS
E3	SURE-LITES	SEL50	EMERGENCY EGRESS LIGHT	SURFACE / WALL	-	-	-	120	1	
F1	RP LIGHTING	1052-BNR	CEILING FAN W/ LIGHT KIT	SURFACE / CEILING	1000	3000	80	120	80	WITH #1RP51LED-BN-3K LIGHT KIT
P1	RP LIGHTING	4430-BN	MINI PENDANT	SURFACE / CEILING	600	3000	80	120	8	
P2	CONTECH	CRS89630R-B / CRSS-TQRCD2-B	LED FABRIC PENDANT	SURFACE / CEILING	750	3000	80	120	8	SHADE SELECTED BY OWNER
P3	INVUE	LXS-B4-LED-D1-T5-7030	DECORATIVE POLE TOP	12' POLE	9500	3000	70	208	99	WITH 12' # ARP POLE; BASE FLUSH WITH FINISHED GRADE
P4	LUMARK	NAV-AF-06-D-UNV-T4F-T-7030-1200	POLE LIGHT	22' POLE	23136	3000	70	208	193	WITH 22' #SSS POLE; BASE FLUSH WITH FINISHED GRADE
S1	METALUX	4SNLED-LD5-41SL-LN-UNV-L840-CD1-U	4' STRIP	SURFACE / CEILING	4144	4000	80	120	31	WITH 'EL14W" EMERGENCY BACK-UP WHERE INDICATED
S2	METALUX	4SNLED-LD5-64SL-LN-UNV-L840-CD1-U	4' STRIP	SURFACE / CEILING	6435	4000	80	120	55	
S3	METALUX	4SRL-LD5-41SL-LN-UNV-L840-CD-1-SVPD2	4' STRIP	SURFACE/CEILING	4131	4000	80	120	30	WITH INTEGRAL OCCUPANCY SENSOR
S4	PEERLESS	BRM9L-8-MSL8-80CRI-30K-ID1500LMF-10/96-120	8' SUSPENDED DIRECT / INDIRECT	SURFACE / CEILING	12768	3000	80	120	96	FLAT END CAPS; RIGID MOUNTING SYSTEM 2' BELOW CEILING
S5	HYDREL	GEM-1LED16-30K-12-FL-CNS	OUTDOOR ACCENT	SURFACE / WALL	260	3000	80	120	6	WITH 120V TO 12V TRANSFORMERS; 9' ABOVE GRADE
S6	FC LIGHTING	FCSL105-120V-3L-CRI85-2L	STEP LIGHT	IN WALL (FIREPIT)	190	3000	85	120	10	
T1	METALUX	24FPLED4735C	2x4 LED FLAT PANEL	CEILING / GRID	4591	3500	80	120	41	
T2	CONTECH	TLT12V13K	LED TAPE LIGHT	SURFACE / COVE	73 / ft	3000	80	120	0.7 / ft	WITH POWER SUPPLIES
T3	METALUX	24FPLED4740C	2x4 LED FLAT PANEL	CEILING / GRID	4556	4000	80	120	41	
V1	RP LIGHTING	4904-BN-4	LED VANITY	SURFACE / WALL	2110	3000	80	120	30	
W1	KICHLER	49892OZ	PATIO WALLPACK	SURFACE / WALL	800	3000	92	120	10	
W2	METALUX	4BCCLED-LD4-40SL-F-UNV-L830-CD1-U	4' WALL MOUNT	SURFACE / WALL	4000	3000	85	120	42	WITH 'EL14W" EMERGENCY BACK-UP WHERE INDICATED
W3	FEISS	OL13702ANBZ-L1	DECORATIVE WALL SCONCE	SURFACE / WALL	1915	2700	90	120	26	MOUNT AT 8' ABOVE FINISHED GRADE
W4	LUMARK	XTOR3B-W	WALLPACK	SURFACE / WALL	2751	4000	70	120	26	CENTER ABOVE DOOR
W4B	LUMARK	XTOR3B-W-PC1	WALLPACK	SURFACE / WALL	2751	4000	70	120	26	WITH INTEGRAL PHOTOCELL' CENTER ABOVE DOOR
W5	LUMARK	XTOR4B-W-PC1	WALLPACK	SURFACE / WALL	3995	4000	70	120	38	WITH INTEGRAL PHOTOCELL; CENTER ABOVE DOOR
W6	MCGRAW-EDISON	GWC-AF-01-LED-E1-T4FT	WALLPACK	SURFACE / WALL	6542	4000	70	120	59	SEE PLANS FOR MOUNTING HEIGHT

NOTES:
1. VERIFY LIGHT FIXTURE FINISHES WITH OWNER / ARCHITECT PRIOR TO INSTALLATION

STATE OF MISSOURI
JAMES P. WATSON
NUMBER PE-2015017071
PROFESSIONAL ENGINEER

James Watson, P.E. January 7, 2021
PE-2015017071
MO Certificate of Authority # 2018029680

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J2 DESIGN:	ACW

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Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

ELECTRICAL SCHEDULES

SHEET NUMBER

E603

FIRE ALARM DEVICE TYPICAL LOCATIONS:

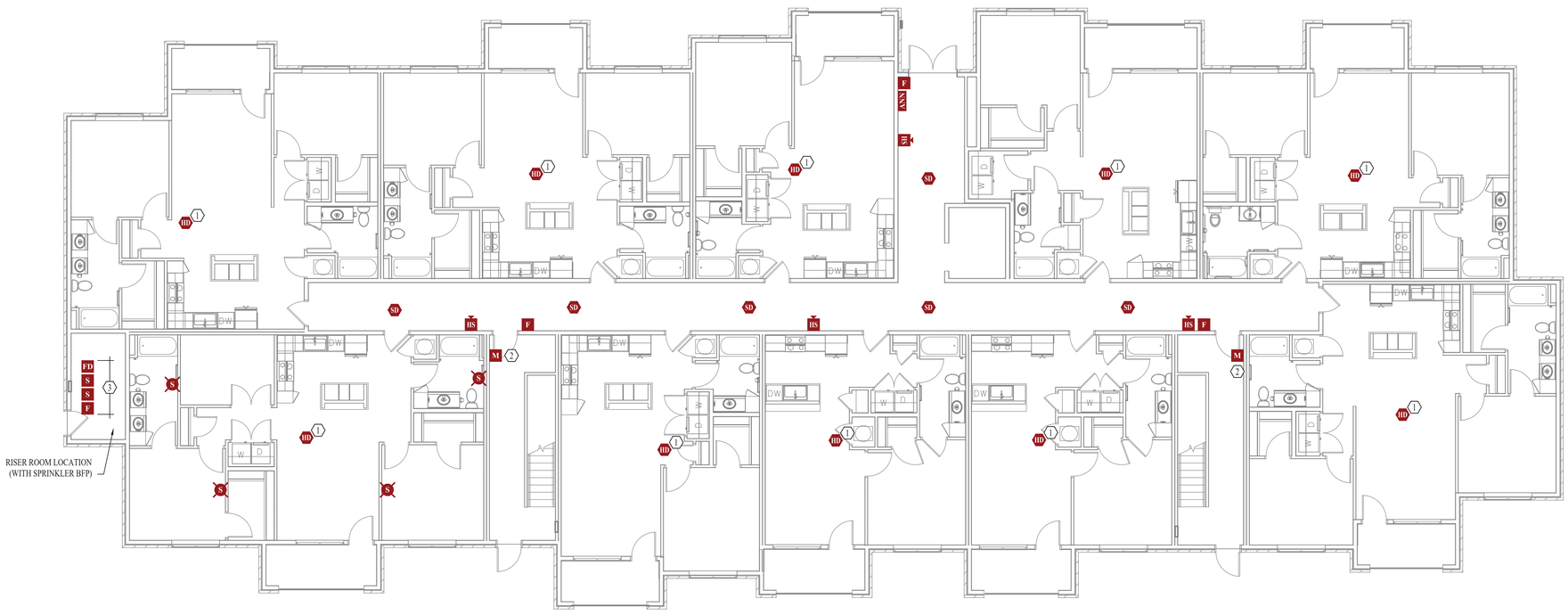
1. VERIFY EXACT LOCATIONS WITH LATEST NFPA REQUIREMENTS;
2. CEILING MOUNTED SMOKE / HEAT DETECTORS:
   - 2.1. MUST BE MOUNTED AT LEAST 36" FROM HVAC GRILLES / DIFFUSERS
   - 2.2. MUST BE LOCATED AT LEAST 4" FROM WALL/CEILING INTERSECTIONS (MEASURED FROM EDGE OF DEVICE)
3. WALL MOUNTED SMOKE / HEAT DETECTORS:
   - 3.1. MUST BE LOCATED AT LEAST 4" FROM WALL/CEILING INTERSECTIONS (MEASURED FROM EDGE OF DEVICE)
   - 3.2. MUST BE LOCATED WITHIN AT LEAST 12" FROM WALL/CEILING INTERSECTION (MEASURED FROM EDGE OF DEVICE)
4. MANUAL PULL STATIONS:
   - 4.1. MUST BE LOCATED WITHIN 5' OF EXTERIOR DOORWAY (MEASURED FROM CENTER OF PULL STATION TO NEAREST EDGE OF DOOR)
   - 4.2. MUST BE LOCATED BETWEEN 42" AND 54" A.F.F. (MEASURED FROM FINISH FLOOR TO CENTER OFF PULL STATION)
5. MAGNETIC DOOR HOLDER:
   - 5.1. MUST BE LOCATED 6" BELOW TOP OF DOOR (MEASURED FROM TOP OF DOOR TO TOP OF DOOR HOLDER)
   - 5.2. MUST BE LOCATED DOOR WIDTH MINUS THREE INCHES FROM DOOR (MEASURED FROM NEAREST EDGE OF HOLDER TO NEAREST EDGE OF DOOR).
6. FIRE ALARM CONTROL PANEL:
   - 6.1. MUST BE LOCATED AT MAXIMUM OF 72" A.F.F. (MEASURED FROM FINISH FLOOR TO TOP OF FIRE ALARM CONTROL PANEL)
7. FIRE ALARM ANNUNCIATOR:
   - 7.1. MUST BE LOCATED AT MAXIMUM OF 60" A.F.F. (MEASURED FROM FINISH FLOOR TO TOP OF FIRE ALARM ANNUNCIATOR PANEL)
8. WALL MOUNTED STROBE DEVICES (VISUAL ONLY):
   - 8.1. MUST BE LOCATED AT 84" A.F.F. (MEASURED FROM FINISH FLOOR TO BOTTOM OF BACK BOX)
   - 8.2. MUST BE LOCATED AT MOST 24" FROM WALL/CEILING INTERSECTION WITHIN HANDICAP BEDROOMS (MEASURED FROM WALL/CEILING INTERSECTION TO BOTTOM OF BACK BOX)
9. WALL-MOUNTED HORN / STROBE DEVICES (AUDIBLE & VISUAL):
   - 9.1. MUST BE LOCATED AT 84" A.F.F. (MEASURED FROM FINISH FLOOR TO BOTTOM OF BACK BOX)

FIRE ALARM LEGEND

F	MANUAL PULL STATION
SD	SMOKE DETECTOR (PHOTOELECTRIC UNLESS NOTED OTHERWISE)
S	STROBE - CEILING MOUNT
HS	HORN STROBE - WALL MOUNT
HS	HORN STROBE - CEILING MOUNT
T	TAMPER SWITCH
OM	OUTPUT MODULE FOR AUXILIARY CONTROL (DOOR HOLDERS, ETC.)
WF	WATER FLOW SWITCH
FACP	FIRE ALARM CONTROL PANEL
ANN	FIRE ALARM ANNUNCIATOR

FIRE ALARM SYSTEM SPECIFICATIONS:

1. FIRE ALARM SYSTEM SHALL BE AN ADDRESSABLE SYSTEM THAT IS NONCODED, UL-LISTED, WITH MULTIPLEX SIGNAL TRANSMISSION AND HORN / STROBE EVACUATION.
2. EVERY FIRE ALARM SYSTEM COMPONENT SHALL BE UL-LISTED AND UL-CERTIFIED, TESTED BY MANUFACTURERS AS A COMPLETE SYSTEM, AND MEET ALL APPLICABLE REQUIREMENTS OF NFPA 72.
3. ALL FIRE ALARM WIRING TO BE PLENUM RATED.
4. ALL INITIATING DEVICES INSTALLED IN UNCONDITIONED SPACES SHALL BE CONVENTIONAL DEVICES SUITABLE FOR USE IN EXTREME HIGH AND LOW TEMPERATURES AND HIGH HUMIDITY. SUCH DEVICES SHALL BE SUPERVISED BY ADDRESSABLE MONITOR MODULES LOCATED IN CONDITIONED SPACES.
5. QUANTITIES, TYPES, AND LOCATIONS OF INITIATING DEVICES AND OUTPUT MODULES FOR INTERCONNECTION WITH FIRE SUPPRESSION MUST BE COORDINATED WITH CONTRACTORS THAT ARE RESPONSIBLE FOR THOSE SYSTEMS.
6. ON CAMPUSES WITH EXISTING BUILDINGS WITH FIRE ALARM SYSTEMS, ALL NEW FIRE ALARM SYSTEMS SHALL BE COMPRISED OF COMPONENTS WHICH WILL BE SUPPORTED BY THE OWNER'S CURRENT FIRE ALARM SYSTEM SERVICE CONTRACT.



BUILDING 'A' - FIRST FLOOR - FIRE ALARM PLAN

SCALE: 1/8" = 1' - 0"

FIRE ALARM PLAN GENERAL NOTES:

1. PROVIDE & INSTALL WEATHERPROOF HORN/STROBE AT FDC LOCATION (REFER TO CIVIL SHEETS FOR LOCATION).
2. FIRE ALARM SYSTEM MUST COMPLY WITH 2018 IBC 907 & NFPA 72.

FIRE ALARM PLAN KEY NOTES:

1. 135°F HEAT DETECTOR WITH SOUNDER BASE.
2. OUTPUT MODULE DEVICE TO RELEASE MAG-HOLD (NORMALLY HELD OPEN) ON FIRE DETECTION.
3. MANUAL PULL-STATION, WATER FLOW DETECTION DEVICE, AND (2) VALVE SUPERVISORY DEVICES WITHIN RISER ROOM.

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J2 PROJECT No:	J20055
J2 DESIGN:	ACW

ISSUE TITLE	DATE
PHASE I - PERMIT SET	01 - 07 - 2021

Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

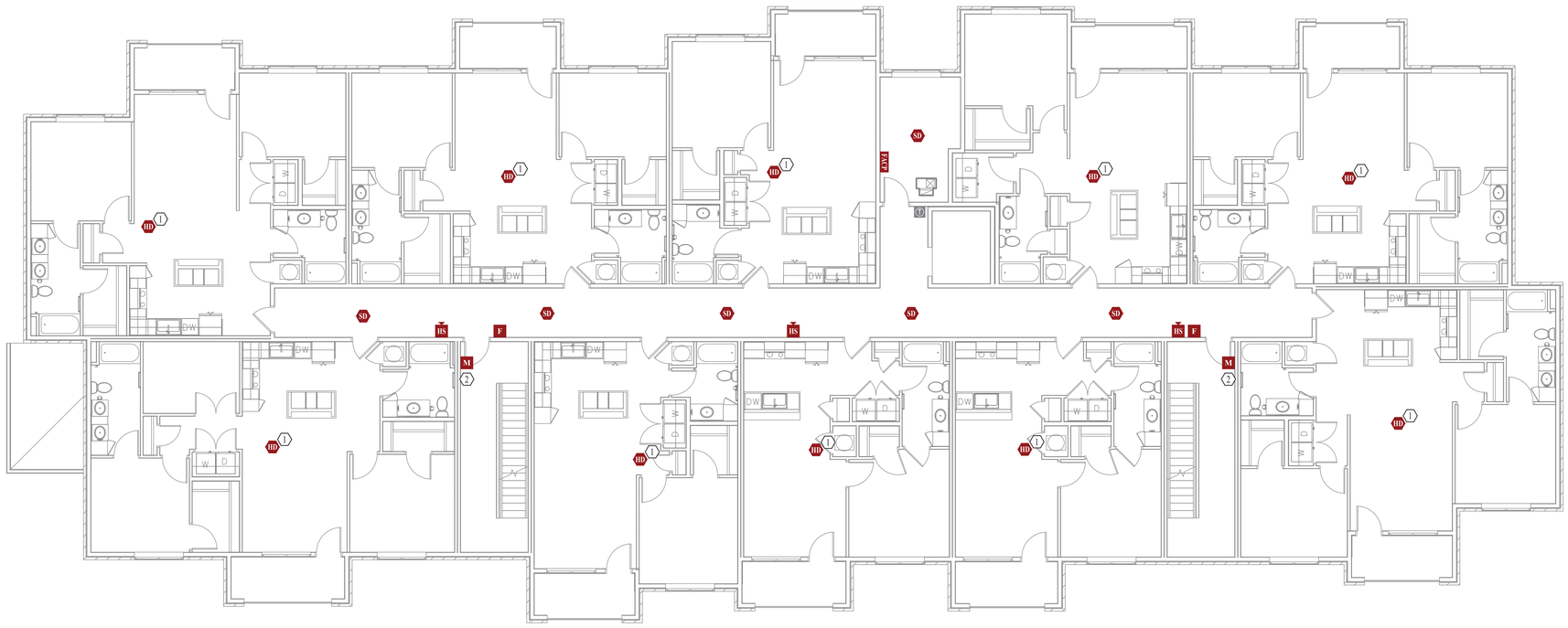
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

BUILDING 'A'
FIRST FLOOR
FIRE ALARM PLAN

SHEET NUMBER

FA111



BUILDING 'A' - SECOND FLOOR - FIRE ALARM PLAN

SCALE: 1/8" = 1' - 0"

FIRE ALARM PLAN GENERAL NOTES:

1. REFER TO SHEET FA111 FOR FIRE ALARM SYSTEM DETAILS, REQUIREMENTS, ETC.
2. FIRE ALARM SYSTEM MUST COMPLY WITH 2018 IBC 907 & NFPA 72.

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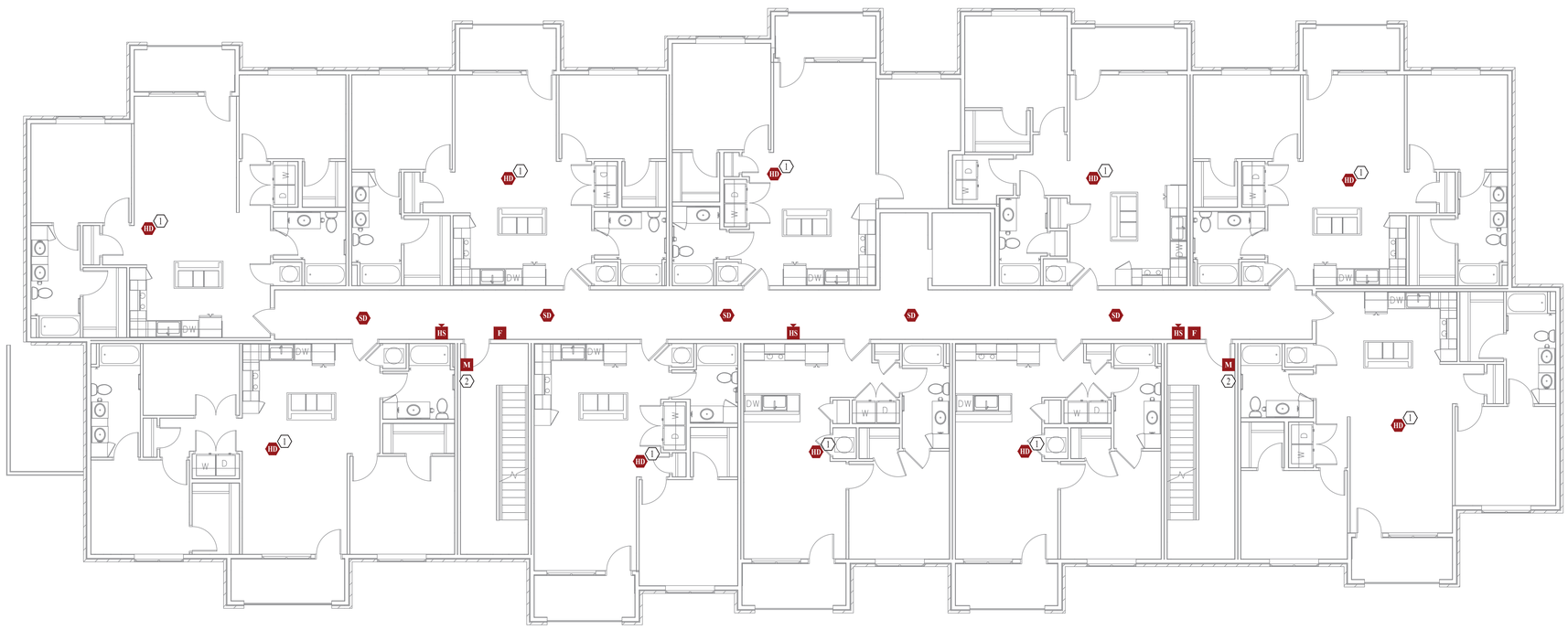
SHEET TITLE

BUILDING 'A' SECOND FLOOR FIRE ALARM PLAN

SHEET NUMBER

FA112



BUILDING 'A' - THIRD FLOOR - FIRE ALARM PLAN

SCALE: 1/8" = 1' - 0"

FIRE ALARM PLAN GENERAL NOTES:

1. REFER TO SHEET FA111 FOR FIRE ALARM SYSTEM DETAILS, REQUIREMENTS, ETC.
2. FIRE ALARM SYSTEM MUST COMPLY WITH 2018 IBC 907 & NFPA 72.

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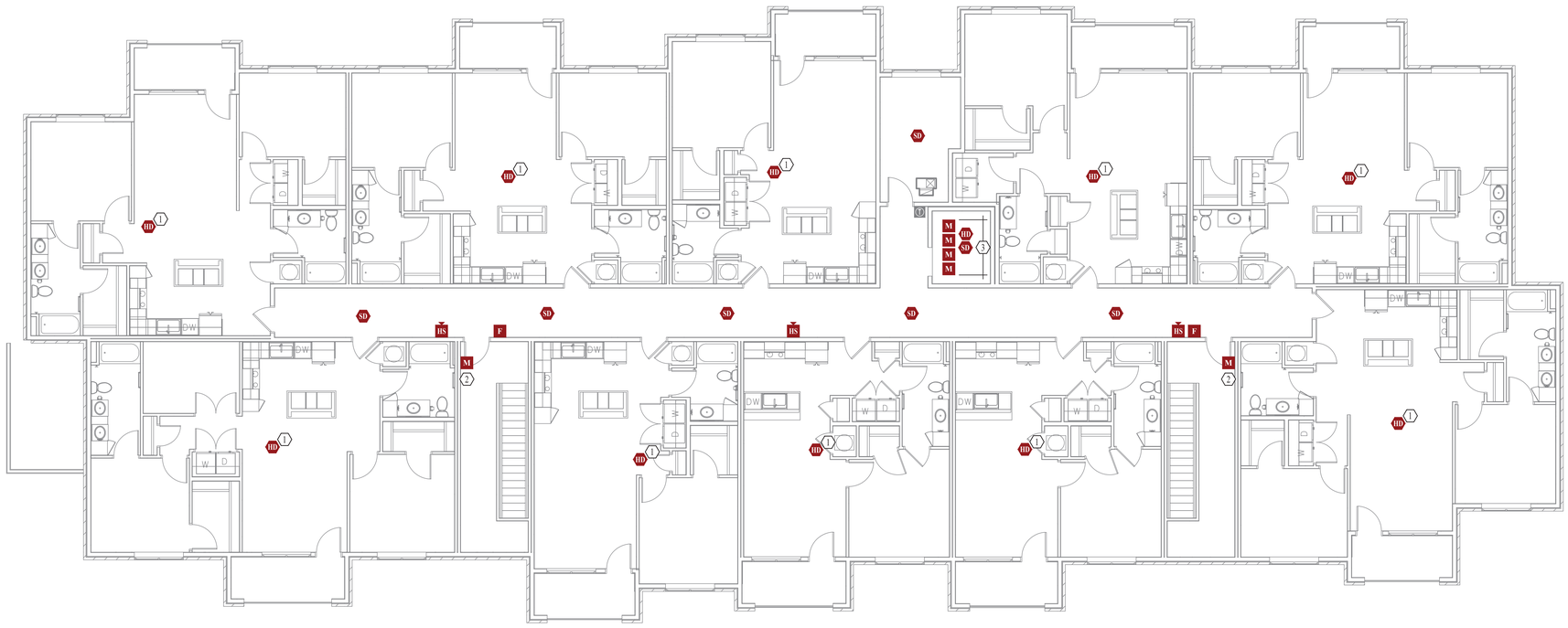
**BUILDING 'A'
THIRD FLOOR
FIRE ALARM PLAN**

SHEET NUMBER

FA113



BUILDING 'A' - FOURTH FLOOR - FIRE ALARM PLAN

SCALE: 1/8" = 1' - 0"

FIRE ALARM PLAN GENERAL NOTES:

1. REFER TO SHEET FA111 FOR FIRE ALARM SYSTEM DETAILS, REQUIREMENTS, ETC.
2. FIRE ALARM SYSTEM MUST COMPLY WITH 2018 IBC 907 & NFPA 72.

FIRE ALARM PLAN KEY NOTES:

1. 135°F HEAT DETECTOR WITH SOUNDER BASE.
2. OUTPUT MODULE DEVICE TO RELEASE MAG-HOLD (NORMALLY HELD OPEN) ON FIRE DETECTION.
3. DEVICES AT TOP OF ELEVATOR SHAFT, SEE ELEVATOR DETAILS.

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SHEET TITLE

**BUILDING 'A'
FOURTH FLOOR
FIRE ALARM PLAN**

SHEET NUMBER

FA114

BUILDING 'B' - FIRST FLOOR - FIRE ALARM PLAN

SCALE: 1/8" = 1' - 0"

FIRE ALARM PLAN GENERAL NOTES:

1. REFER TO SHEET FA111 FOR FIRE ALARM SYSTEM DETAILS, REQUIREMENTS, ETC.
2. PROVIDE & INSTALL WEATHERPROOF HORN\STROBE AT FDC LOCATION (REFER TO CIVIL SHEETS FOR LOCATION).
3. FIRE ALARM SYSTEM MUST COMPLY WITH 108 IBC 907 & NFPA 72.

FIRE ALARM PLAN KEY NOTES:

1. 135°F HEAT DETECTOR WITH SOUNDER BASE.
2. OUTPUT MODULE DEVICE TO RELEASE MAG-HOLD (NORMALLY HELD OPEN) ON FIRE DETECTION.
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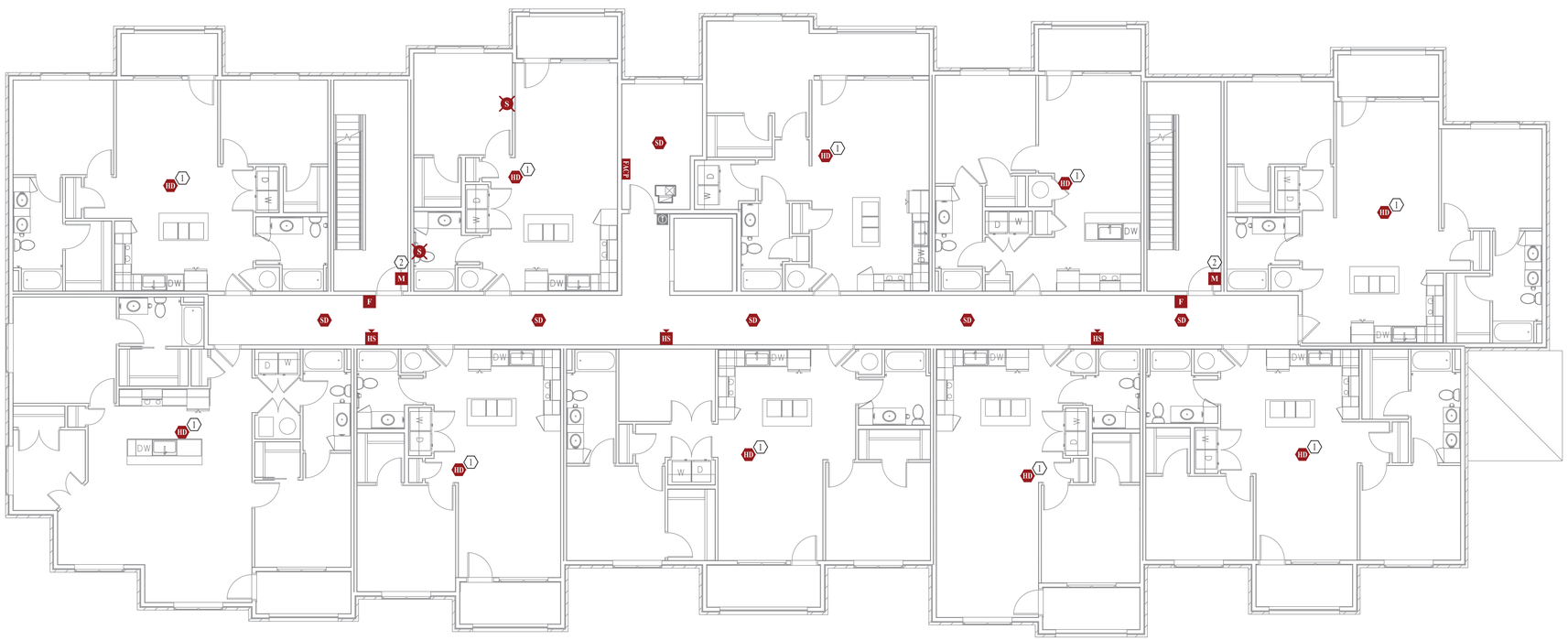
SHEET TITLE

**BUILDING 'B'
FIRST FLOOR
FIRE ALARM PLAN**

SHEET NUMBER

FA121



BUILDING 'B' - SECOND FLOOR - FIRE ALARM PLAN

SCALE: 1/8" = 1' - 0"

FIRE ALARM PLAN GENERAL NOTES:

1. REFER TO SHEET FA111 FOR FIRE ALARM SYSTEM DETAILS, REQUIREMENTS, ETC.
2. FIRE ALARM SYSTEM MUST COMPLY WITH 2018 IBC 907 & NFPA 72.

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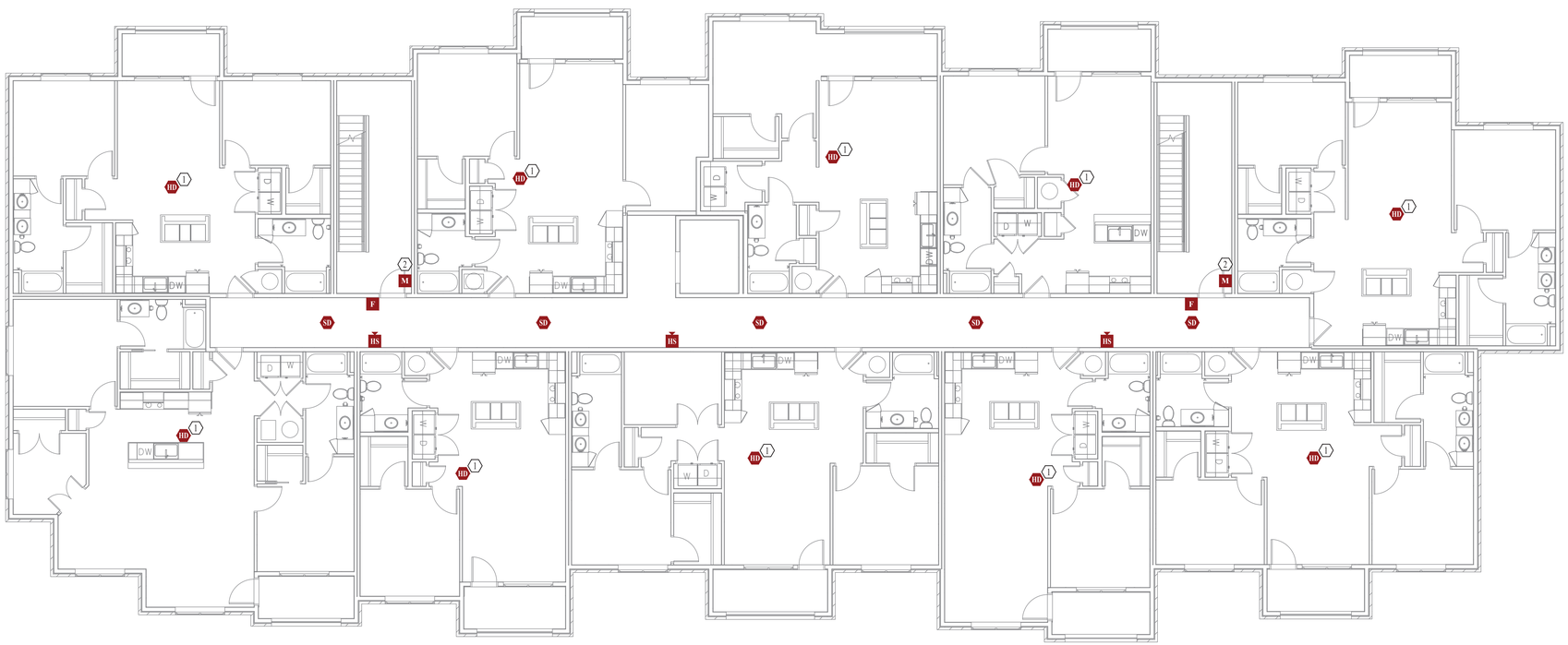
SHEET TITLE

BUILDING 'B' SECOND FLOOR FIRE ALARM PLAN

SHEET NUMBER

FA122



BUILDING 'B' - THIRD FLOOR - FIRE ALARM PLAN

SCALE: 1/8" = 1' - 0"

FIRE ALARM PLAN GENERAL NOTES:

1. REFER TO SHEET FA111 FOR FIRE ALARM SYSTEM DETAILS, REQUIREMENTS, ETC.
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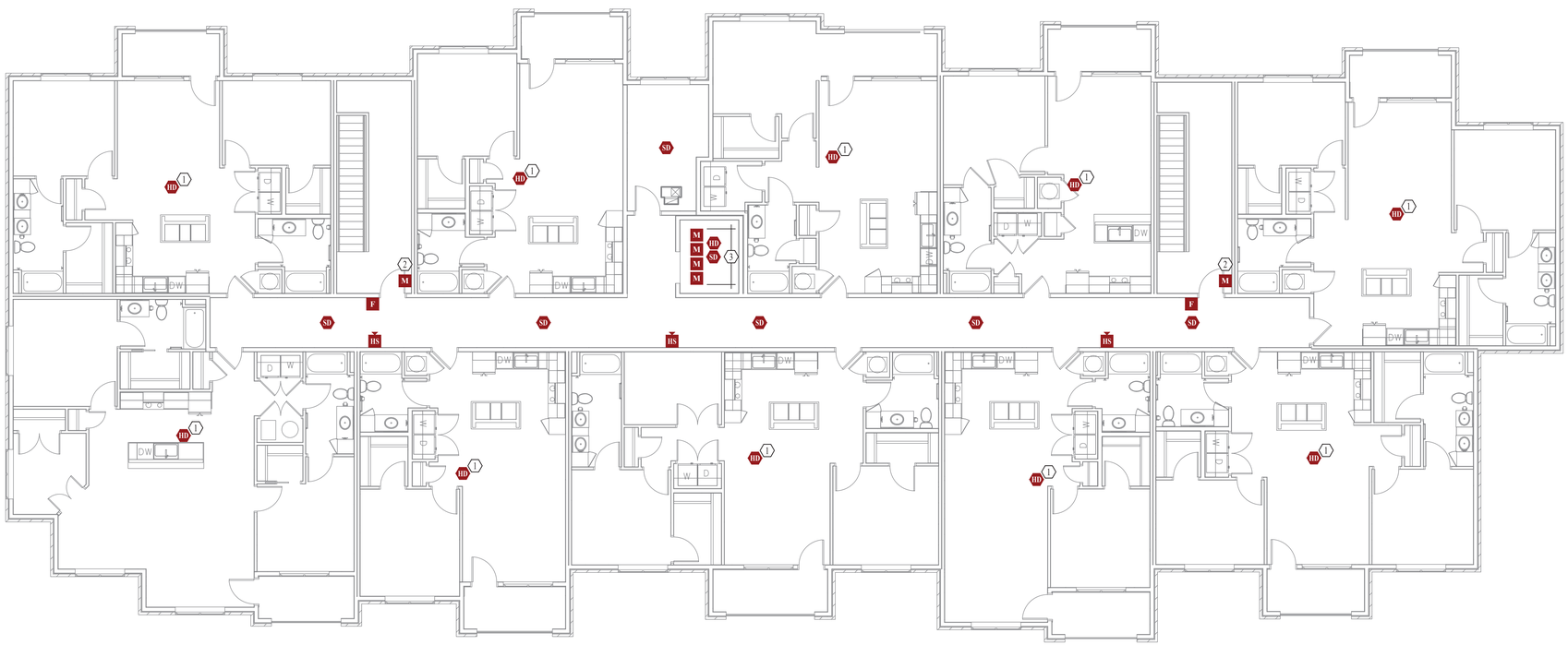
SHEET TITLE

BUILDING 'B'
THIRD FLOOR
FIRE ALARM PLAN

SHEET NUMBER

FA123



BUILDING 'B' - FOURTH FLOOR - FIRE ALARM PLAN

SCALE: 1/8" = 1' - 0"

FIRE ALARM PLAN GENERAL NOTES:

1. REFER TO SHEET FA111 FOR FIRE ALARM SYSTEM DETAILS, REQUIREMENTS, ETC.
2. FIRE ALARM SYSTEM MUST COMPLY WITH 2018 IBC 907 & NFPA 72.

FIRE ALARM PLAN KEY NOTES:

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3. DEVICES AT TOP OF ELEVATOR SHAFT, SEE ELEVATOR DETAILS.

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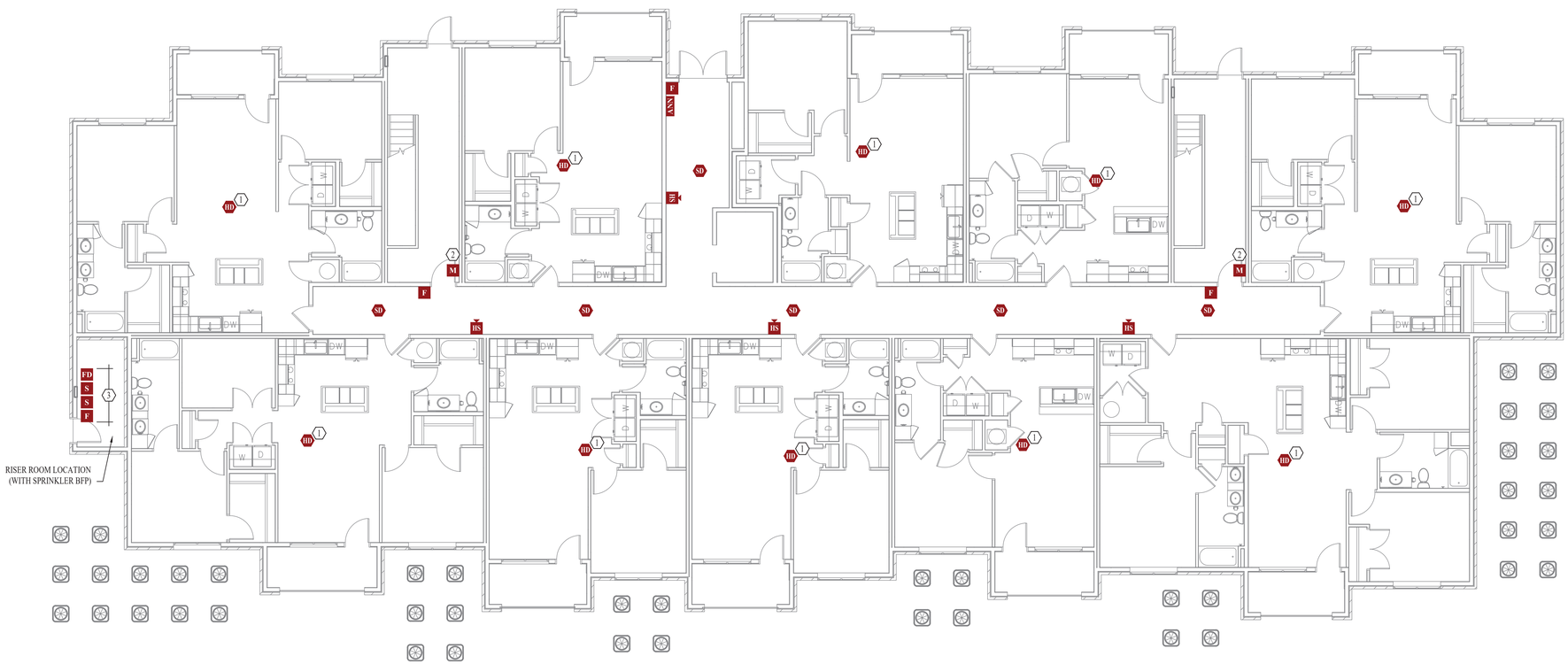
SHEET TITLE

**BUILDING 'B'
FOURTH FLOOR
FIRE ALARM PLAN**

SHEET NUMBER

FA124



BUILDING 'C' - FIRST FLOOR - FIRE ALARM PLAN

SCALE: 1/8" = 1' - 0"

FIRE ALARM PLAN GENERAL NOTES:

1. REFER TO SHEET FA111 FOR FIRE ALARM SYSTEM DETAILS, REQUIREMENTS, ETC.
2. PROVIDE & INSTALL WEATHERPROOF HORN/STROBE AT FDC LOCATION (REFER TO CIVIL SHEETS FOR LOCATION).
3. FIRE ALARM SYSTEM MUST COMPLY WITH 2018 IBC 907 & NFPA 72.

FIRE ALARM PLAN KEY NOTES:

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3. MANUAL PULL-STATION, WATER FLOW DETECTION DEVICE, AND (2) VALVE SUPERVISORY DEVICES WITHIN RISER ROOM.

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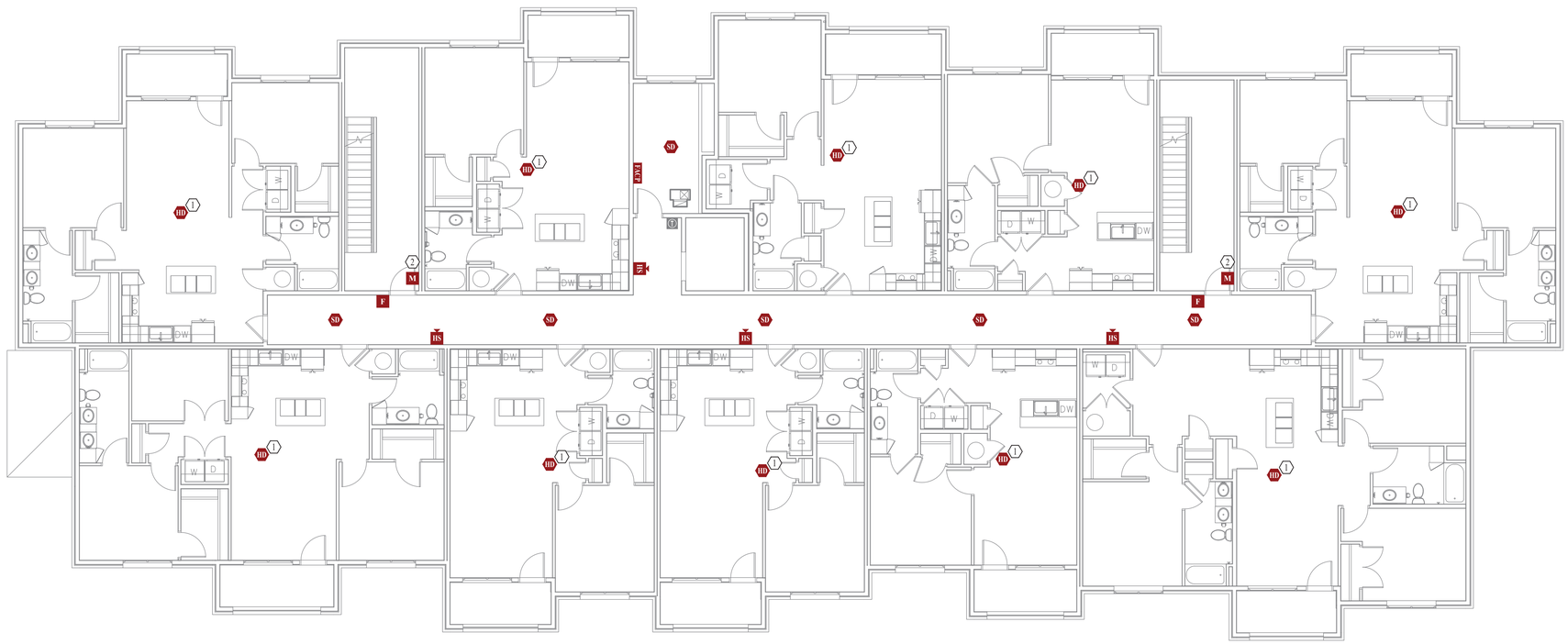
Lee's Summit, Jackson County, Missouri

SHEET TITLE

**BUILDING 'C'
FIRST FLOOR
FIRE ALARM PLAN**

SHEET NUMBER

FA131



BUILDING 'C' - SECOND FLOOR - FIRE ALARM PLAN

SCALE: 1/8" = 1' - 0"

FIRE ALARM PLAN GENERAL NOTES:

1. REFER TO SHEET FA111 FOR FIRE ALARM SYSTEM DETAILS, REQUIREMENTS, ETC.
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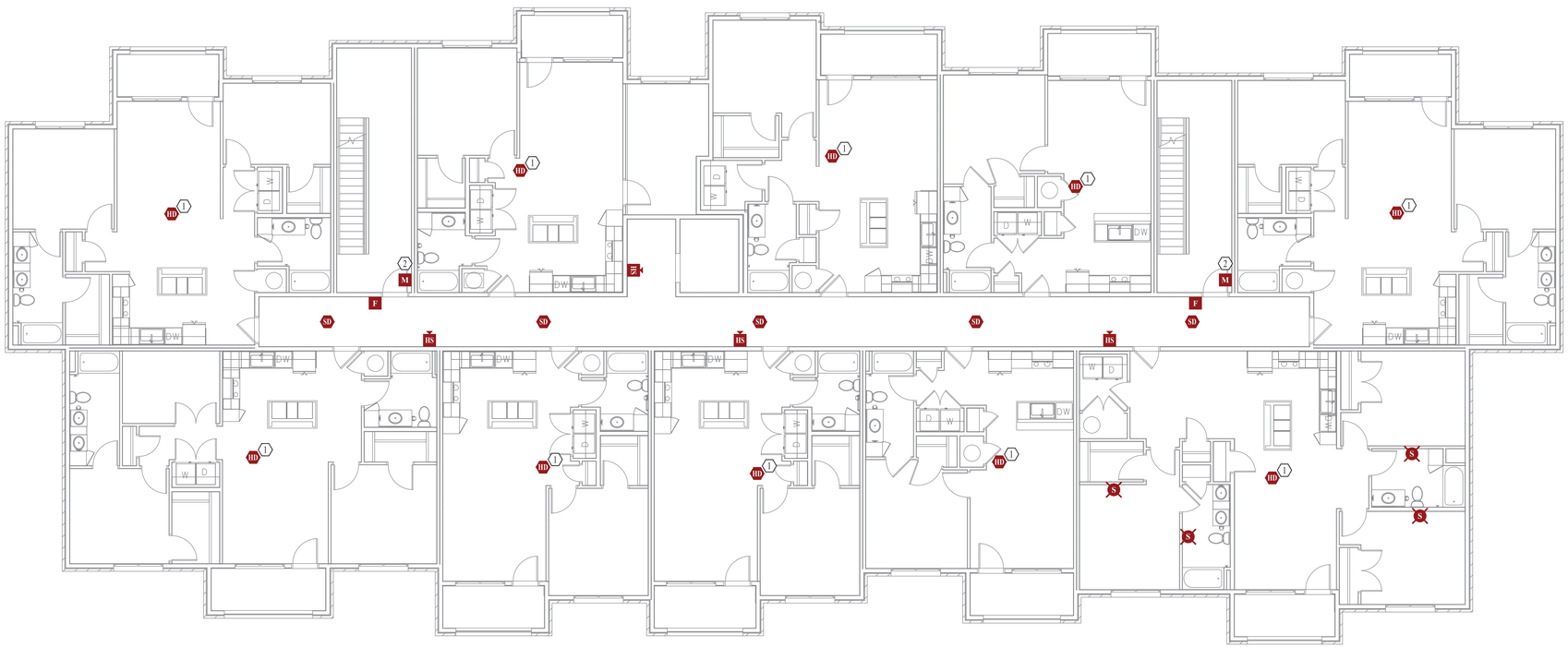
BUILDING 'C' SECOND FLOOR FIRE ALARM PLAN

SHEET NUMBER

FA132



BUILDING 'C' - THIRD FLOOR - FIRE ALARM PLAN

SCALE: 1/8" = 1' - 0"

FIRE ALARM PLAN GENERAL NOTES:

1. REFER TO SHEET FA111 FOR FIRE ALARM SYSTEM DETAILS, REQUIREMENTS, ETC.
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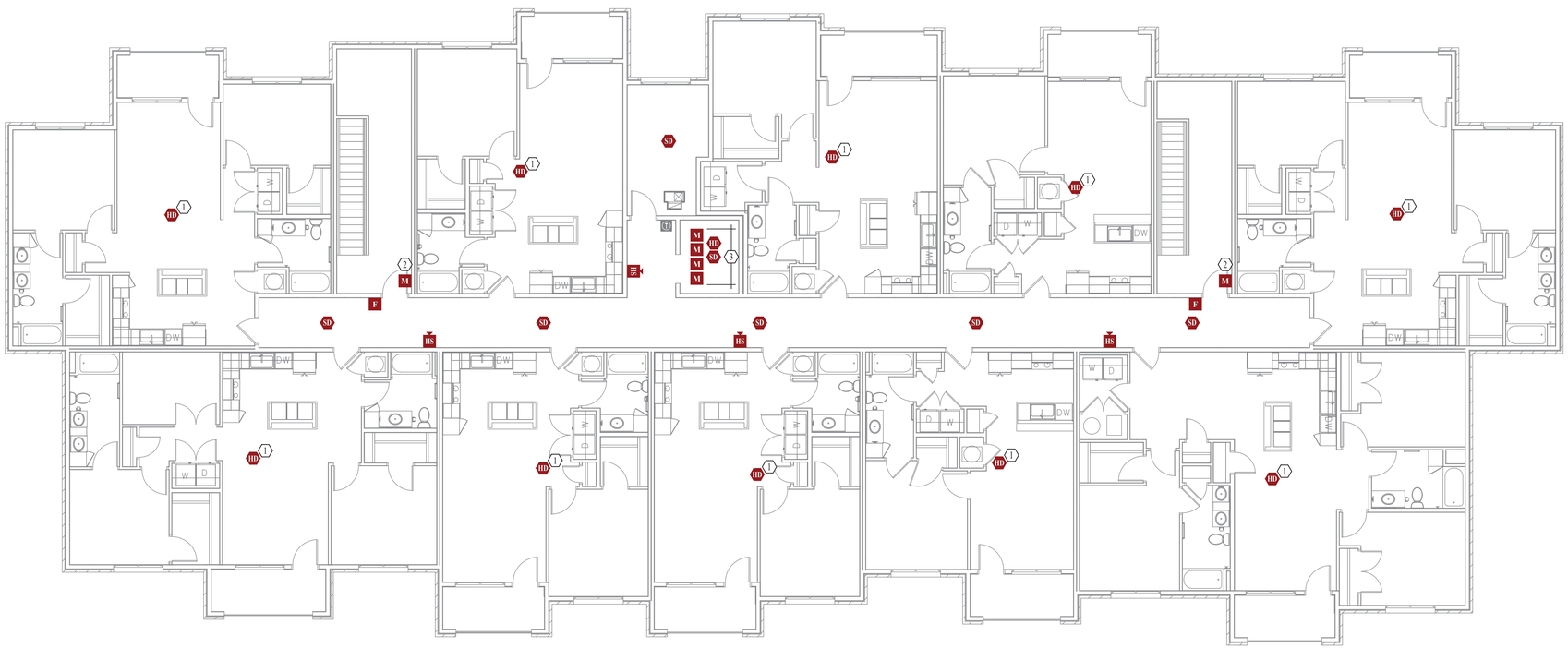
**BUILDING 'C'
THIRD FLOOR
FIRE ALARM PLAN**

SHEET NUMBER

FA133



BUILDING 'C' - FOURTH FLOOR - FIRE ALARM PLAN

SCALE: 1/8" = 1' - 0"

FIRE ALARM PLAN GENERAL NOTES:

1. REFER TO SHEET FA111 FOR FIRE ALARM SYSTEM DETAILS, REQUIREMENTS, ETC.
2. FIRE ALARM SYSTEM MUST COMPLY WITH 2018 IBC 907 & NFPA 72.

FIRE ALARM PLAN KEY NOTES:

1. 135°F HEAT DETECTOR WITH SOUNDER BASE.
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3. DEVICES AT TOP OF ELEVATOR SHAFT, SEE ELEVATOR DETAILS.

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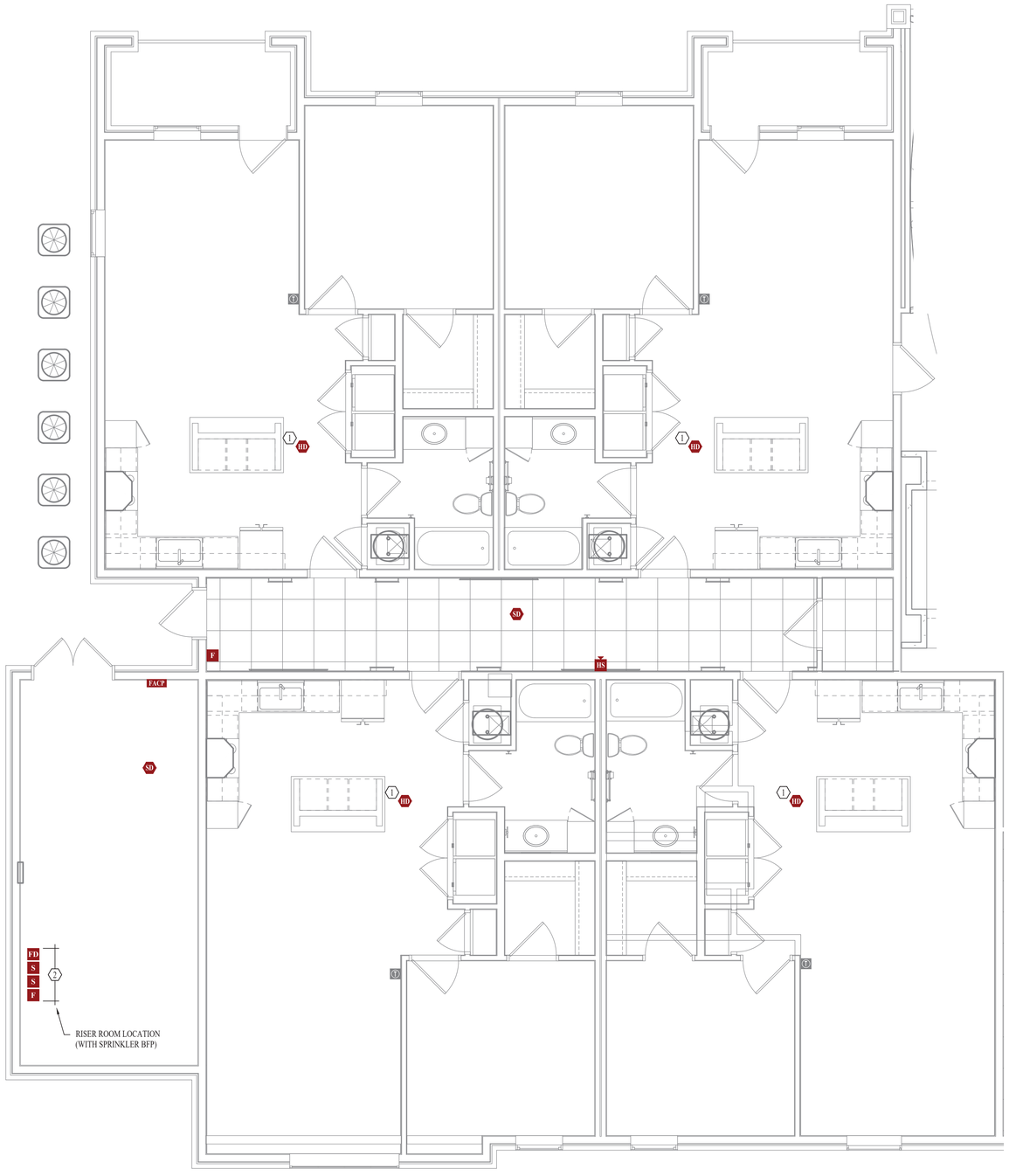
SHEET TITLE

**BUILDING 'C'
FOURTH FLOOR
FIRE ALARM PLAN**

SHEET NUMBER

FA134



FIRE ALARM PLAN - AREA A

SCALE: 1/4" = 1'-0"

FIRE ALARM PLAN GENERAL NOTES:

1. REFER TO SHEET FA111 FOR FIRE ALARM SYSTEM DETAILS, REQUIREMENTS, ETC.
2. PROVIDE & INSTALL WEATHERPROOF HORN/STROBE AT FDC LOCATION (REFER TO CIVIL SHEETS FOR LOCATION).
3. FIRE ALARM SYSTEM MUST COMPLY WITH 2018 IBC 907 & NFPA 72.

FIRE ALARM PLAN KEY NOTES:

1. 135°F HEAT DETECTOR WITH SOUNDER BASE.
2. MANUAL PULL-STATION, WATER FLOW DETECTION DEVICE, AND (2) VALVE SUPERVISORY DEVICES WITHIN RISER ROOM.

FIRE ALARM PLAN SYMBOL LEGEND

F	MANUAL PULL STATION
M	MODULE
O	OUTPUT MODULE
SD	SMOKE DETECTOR
S	STROBE - CEILING MOUNT
S	STROBE - WALL MOUNT
HS	HORN STROBE - WALL MOUNT
HS	HORN STROBE - CEILING MOUNT
T	TAMPER SWITCH
WF	WATER FLOW SWITCH
FACP	FIRE ALARM CONTROL PANEL
ANN	FIRE ALARM ANNUNCIATOR

KEY PLAN

SCALE: 1" = 50 ft

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J2 PROJECT No:	J20055
J2 DESIGN:	ACW

ISSUE TITLE	DATE
PHASE I - PERMIT SET	01 - 07 - 2021

Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

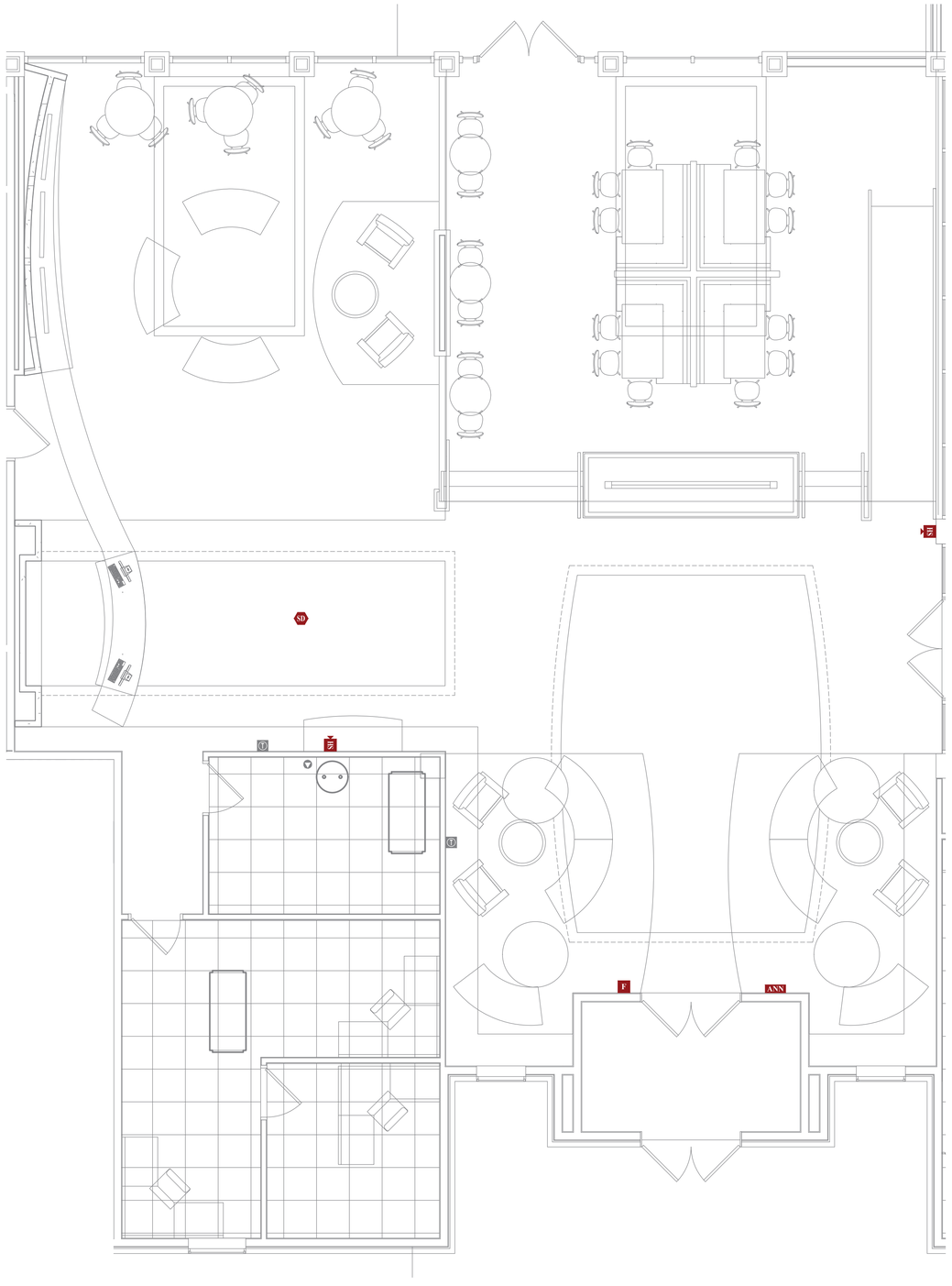
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

CLUBHOUSE FIRE ALARM PLAN

SHEET NUMBER

FA161



FIRE ALARM PLAN - AREA B

SCALE: 1/4" = 1'-0"

FIRE ALARM PLAN GENERAL NOTES:

1. REFER TO SHEET FA111 FOR FIRE ALARM SYSTEM DETAILS, REQUIREMENTS, ETC.
2. PROVIDE & INSTALL WEATHERPROOF HORN/STROBE AT FDC LOCATION (REFER TO CIVIL SHEETS FOR LOCATION).
3. FIRE ALARM SYSTEM MUST COMPLY WITH 2018 IBC 907 & NFPA 72.

FIRE ALARM PLAN SYMBOL LEGEND

F	MANUAL PULL STATION
M	MODULE
O	OUTPUT MODULE
SD	SMOKE DETECTOR
S	STROBE - CEILING MOUNT
S	STROBE - WALL MOUNT
HS	HORN STROBE - WALL MOUNT
HS	HORN STROBE - CEILING MOUNT
T	TAMPER SWITCH
WF	WATER FLOW SWITCH
FACP	FIRE ALARM CONTROL PANEL
ANN	FIRE ALARM ANNUNCIATOR

KEY PLAN

SCALE: 1" = 50 ft

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Aria Apartments - Lee's Summit

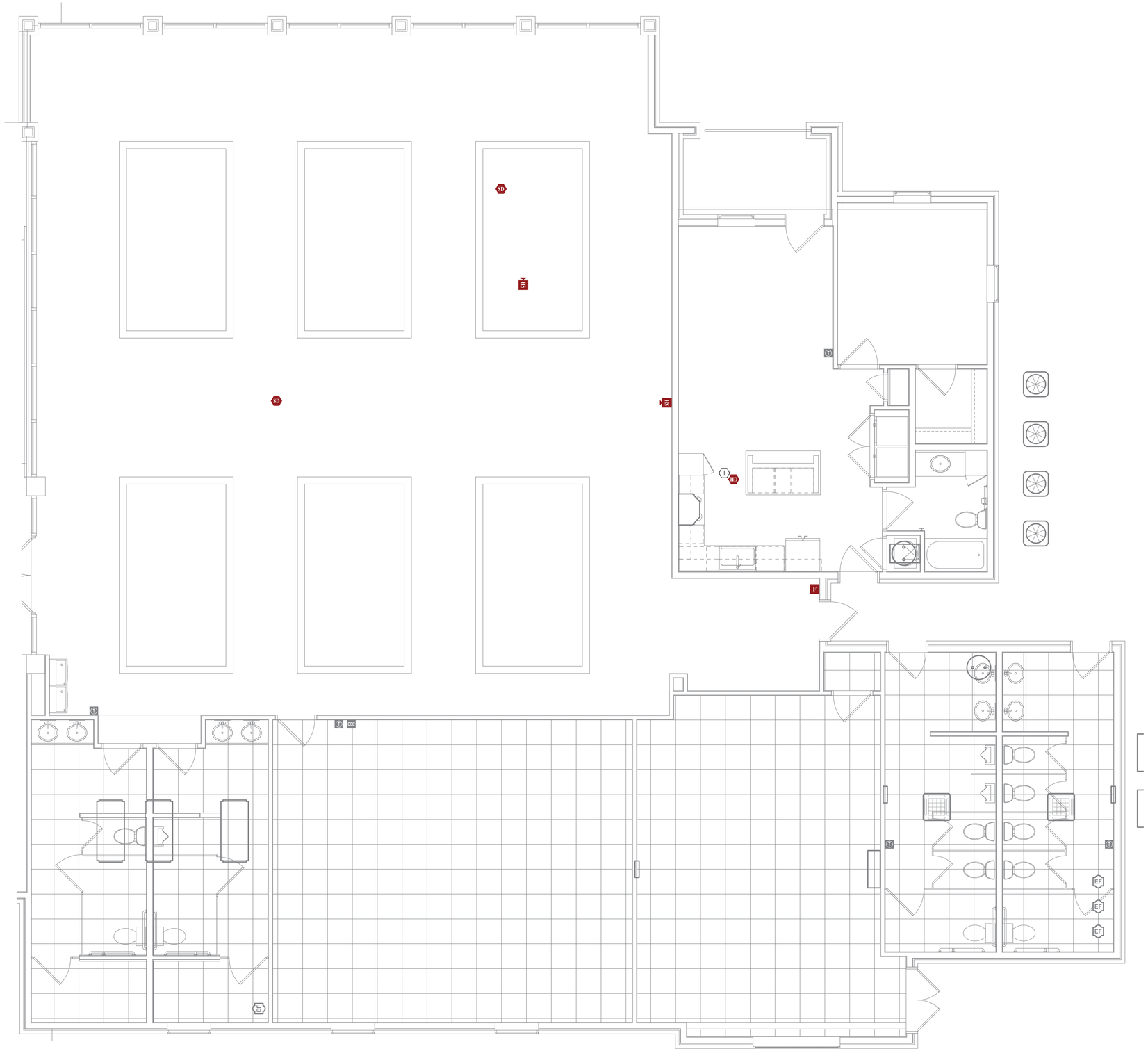
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

CLUBHOUSE FIRE ALARM PLAN

SHEET NUMBER

FA162



FIRE ALARM PLAN - AREA C

SCALE: 1/4" = 1'-0"

FIRE ALARM PLAN GENERAL NOTES:

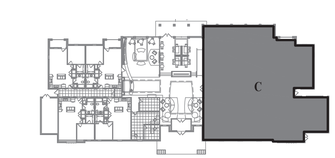
1. REFER TO SHEET FA111 FOR FIRE ALARM SYSTEM DETAILS, REQUIREMENTS, ETC.
2. PROVIDE & INSTALL WEATHERPROOF HORN/STROBE AT FDC LOCATION (REFER TO CIVIL SHEETS FOR LOCATION).
3. FIRE ALARM SYSTEM MUST COMPLY WITH 2018 IBC 907 & NFPA 72.

FIRE ALARM PLAN KEY NOTES:

1. 135°F HEAT DETECTOR WITH SOUNDER BASE.
2. MANUAL PULL-STATION, WATER FLOW DETECTION DEVICE, AND (2) VALVE SUPERVISORY DEVICES WITHIN RISER ROOM.

FIRE ALARM PLAN SYMBOL LEGEND

F	MANUAL PULL STATION
M	MODULE
O	OUTPUT MODULE
SD	SMOKE DETECTOR
S	STROBE - CEILING MOUNT
S	STROBE - WALL MOUNT
HS	HORN STROBE - WALL MOUNT
HS	HORN STROBE - CEILING MOUNT
T	TAMPER SWITCH
WF	WATER FLOW SWITCH
FACP	FIRE ALARM CONTROL PANEL
ANN	FIRE ALARM ANNUNCIATOR



KEY PLAN

SCALE: 1" = 50 ft

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Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

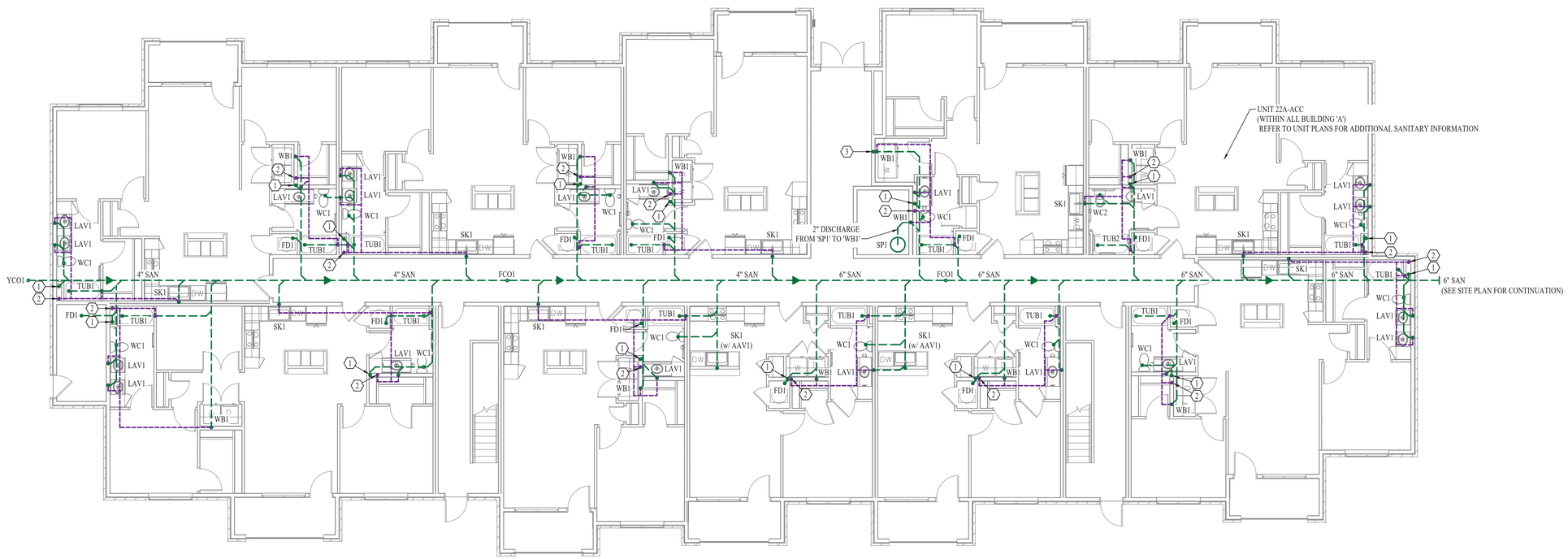
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

CLUBHOUSE FIRE ALARM PLAN

SHEET NUMBER

FA163



BUILDING 'A' - FIRST FLOOR - SANITARY SEWER PLAN

SCALE: 1/8" = 1' - 0"

SANITARY SEWER PLAN GENERAL NOTES:

1. REFER TO P500 SERIES SHEETS FOR ADDITIONAL PLUMBING DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. REFER TO 'UP' SERIES SHEETS FOR SANITARY SEWER PLANS WITHIN EACH APARTMENT ON UPPER LEVELS.
3. LEFT-TO-RIGHT FLOW DIRECTION SHOWN; RIGHT-TO-LEFT FLOW DIRECTION AS REQUIRED SHALL BE A MIRROR OF THIS PLAN. REFER TO SITE PLAN FOR GENERAL SANITARY FLOW DIRECTIONS/CONNECTION POINTS.
4. ALL SANITARY SEWER PIPING SHOWN ON THIS LEVEL SERVING ONLY ONE APARTMENT OR LESS (NO SANITARY SEWER STACKS) SHALL BE 3" (4" IF COLLECTING SANITARY SEWER STACK).
5. ALL SANITARY VENT PIPING SHOWN ON THIS LEVEL SERVING MORE THAN ONE PLUMBING FIXTURE SHALL BE 2". REFER TO PLUMBING CONNECTION SCHEDULE FOR VENT PIPE SIZING FOR INDIVIDUAL FIXTURES. SANITARY VENT PIPING SHALL BE 3" WHERE MULTIPLE FLOORS COMBINE.
6. DRAINAGE FIXTURE UNIT COUNTS:
   - 6.1. 1-BR APARTMENTS = 12 DFU's EACH
   - 6.2. 2-BR APARTMENTS = 17 DFU's EACH
   - 6.3. TOTAL BUILDING = 580 DFU's

SANITARY SEWER PLAN KEY NOTES:

1. 3" SANITARY STACK DOWN FROM FLOOR ABOVE TO 4" HORIZONTAL BRANCH WITH CLEANOUT AT BASE OF STACK WITH ACCESSIBLE COVER.
2. 3" VENT STACK UP THROUGH ROOF.
3. 3" SANITARY STACK UP TO (1) FLOOR DRAIN 'FD1' IN MECHANICAL ROOM ON SECOND FLOOR, CONTINUES UP TO (1) FLOOR DRAIN 'FD1' IN MECHANICAL ROOM ON FOURTH FLOOR.

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Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

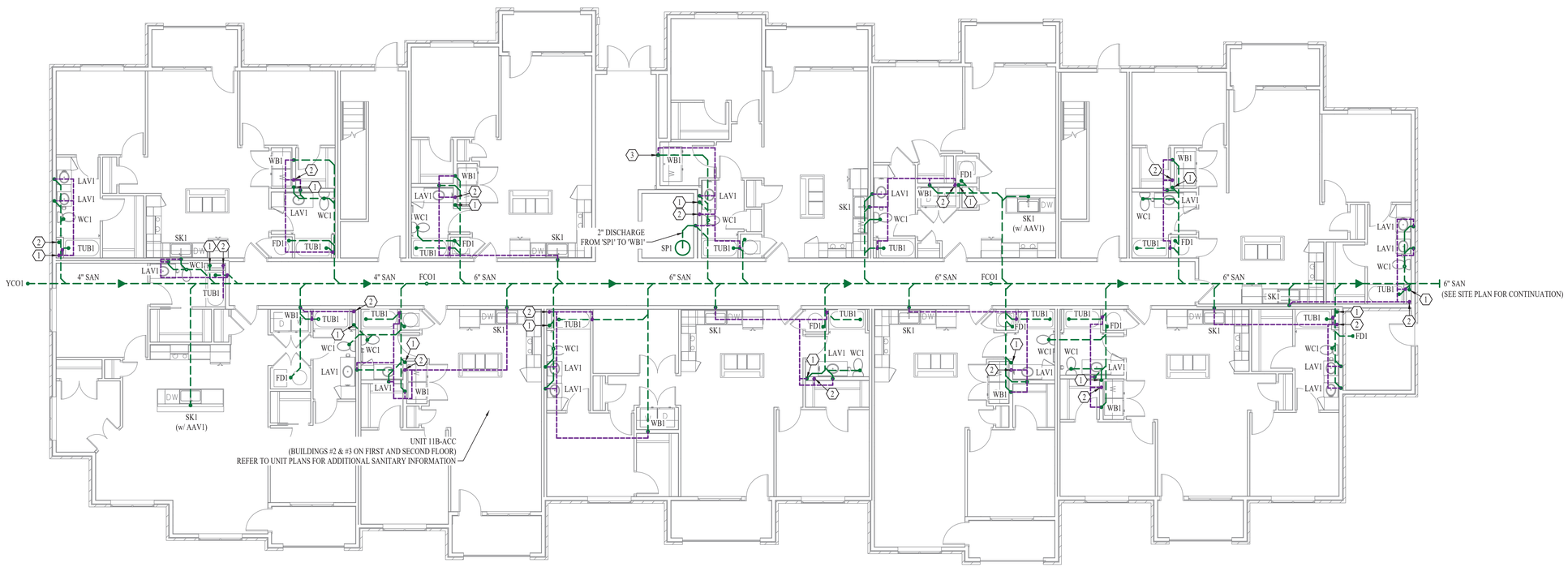
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

BUILDING 'A' FIRST FLOOR SANITARY SEWER PLAN

SHEET NUMBER

PS111



BUILDING 'B' - FIRST FLOOR - SANITARY SEWER PLAN

SCALE: 1/8" = 1' - 0"

SANITARY SEWER PLAN GENERAL NOTES:

1. REFER TO P500 SERIES SHEETS FOR ADDITIONAL PLUMBING DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. REFER TO 'UP' SERIES SHEETS FOR SANITARY SEWER PLANS WITHIN EACH APARTMENT ON UPPER LEVELS.
3. LEFT-TO-RIGHT FLOW DIRECTION SHOWN; LEFT-TO-RIGHT FLOW DIRECTION AS REQUIRED SHALL BE A MIRROR OF THIS PLAN. REFER TO SITE PLAN FOR GENERAL SANITARY FLOW DIRECTIONS/CONNECTION POINTS.
4. ALL SANITARY SEWER PIPING SHOWN ON THIS LEVEL SERVING ONLY ONE APARTMENT OR LESS (NO SANITARY SEWER STACKS) SHALL BE 3" (4" IF COLLECTING SANITARY SEWER STACK).
5. ALL SANITARY VENT PIPING SHOWN ON THIS LEVEL SERVING MORE THAN ONE PLUMBING FIXTURE SHALL BE 2". REFER TO PLUMBING CONNECTION SCHEDULE FOR VENT PIPE SIZING FOR INDIVIDUAL FIXTURES. SANITARY VENT PIPING SHALL BE 3" WHERE MULTIPLE FLOORS COMBINE.
6. DRAINAGE FIXTURE UNIT COUNTS:
   - 6.1. 1-BR APARTMENTS = 12 DFU's EACH
   - 6.2. 2-BR APARTMENTS = 17 DFU's EACH
   - 6.3. TOTAL BUILDING = 580 DFU's

SANITARY SEWER PLAN KEY NOTES:

1. 3" SANITARY STACK DOWN FROM FLOOR ABOVE TO 4" HORIZONTAL BRANCH WITH CLEANOUT AT BASE OF STACK WITH ACCESSIBLE COVER.
2. 3" VENT STACK UP TO THROUGH ROOF.
3. 3" SANITARY STACK UP TO (1) FLOOR DRAIN 'FD1' IN MECHANICAL ROOM ON SECOND FLOOR, CONTINUES UP TO (1) FLOOR DRAIN 'FD1' IN MECHANICAL ROOM ON FOURTH FLOOR.

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Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

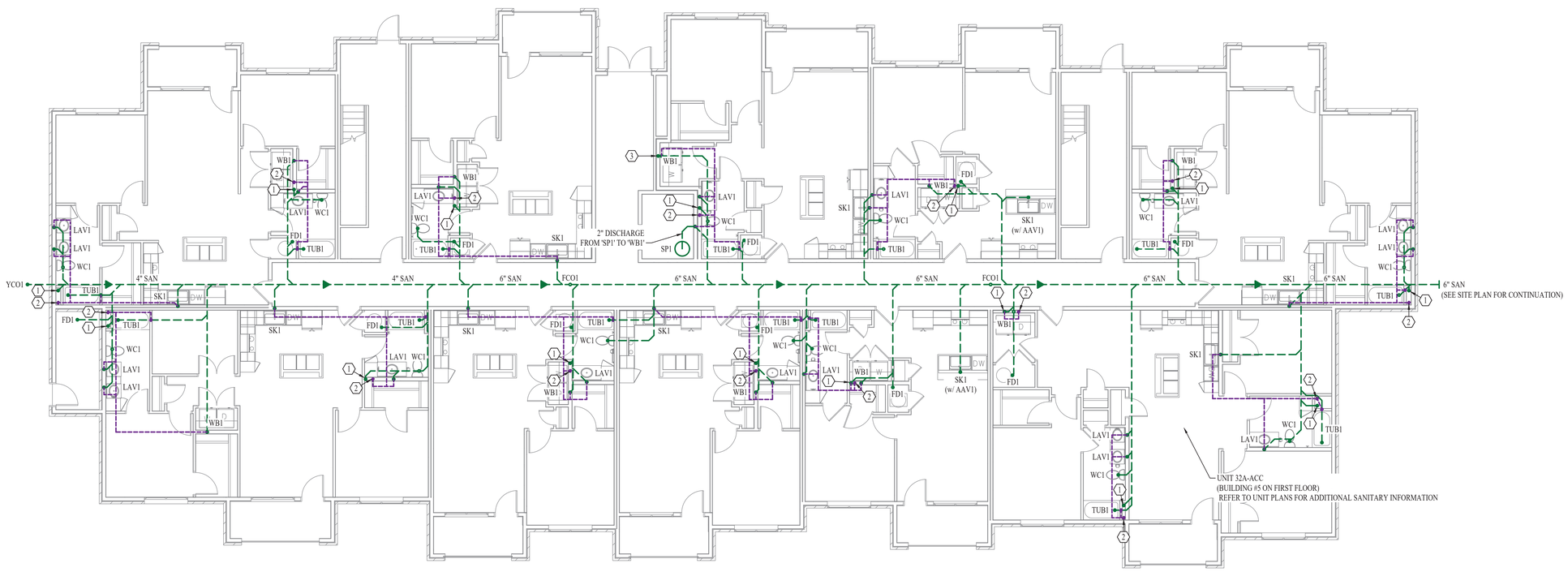
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

BUILDING 'B' FIRST FLOOR SANITARY SEWER PLAN

SHEET NUMBER

PS121



BUILDING 'C' - FIRST FLOOR - SANITARY SEWER PLAN

SCALE: 1/8" = 1' - 0"

SANITARY SEWER PLAN GENERAL NOTES:

1. REFER TO P500 SERIES SHEETS FOR ADDITIONAL PLUMBING DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. REFER TO 'UP' SERIES SHEETS FOR SANITARY SEWER PLANS WITHIN EACH APARTMENT ON UPPER LEVELS.
3. LEFT-TO-RIGHT FLOW DIRECTION SHOWN; LEFT-TO-RIGHT FLOW DIRECTION AS REQUIRED SHALL BE A MIRROR OF THIS PLAN. REFER TO SITE PLAN FOR GENERAL SANITARY FLOW DIRECTIONS/CONNECTION POINTS.
4. ALL SANITARY SEWER PIPING SHOWN ON THIS LEVEL SERVING ONLY ONE APARTMENT OR LESS (NO SANITARY SEWER STACKS) SHALL BE 3" (4" IF COLLECTING SANITARY SEWER STACK).
5. ALL SANITARY VENT PIPING SHOWN ON THIS LEVEL SERVING MORE THAN ONE PLUMBING FIXTURE SHALL BE 2". REFER TO PLUMBING CONNECTION SCHEDULE FOR VENT PIPE SIZING FOR INDIVIDUAL FIXTURES. SANITARY VENT PIPING SHALL BE 3" WHERE MULTIPLE FLOORS COMBINE.
6. DRAINAGE FIXTURE UNIT COUNTS:
   - 6.1. 1-BR APARTMENTS = 12 DFU's EACH
   - 6.2. 2-BR APARTMENTS = 17 DFU's EACH
   - 6.3. 3-BR APARTMENTS = 22 DFU's EACH
   - 6.4. TOTAL BUILDING = 580 DFU's

SANITARY SEWER PLAN KEY NOTES:

1. 3" SANITARY STACK DOWN FROM FLOOR ABOVE TO 4" HORIZONTAL BRANCH WITH CLEANOUT AT BASE OF STACK WITH ACCESSIBLE COVER.
2. 3" VENT STACK UP TO THROUGH ROOF.
3. 3" SANITARY STACK UP TO (1) FLOOR DRAIN 'FD1' IN MECHANICAL ROOM ON SECOND FLOOR, CONTINUES UP TO (1) FLOOR DRAIN 'FD1' IN MECHANICAL ROOM ON FOURTH FLOOR.

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ISSUE TITLE	DATE
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Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

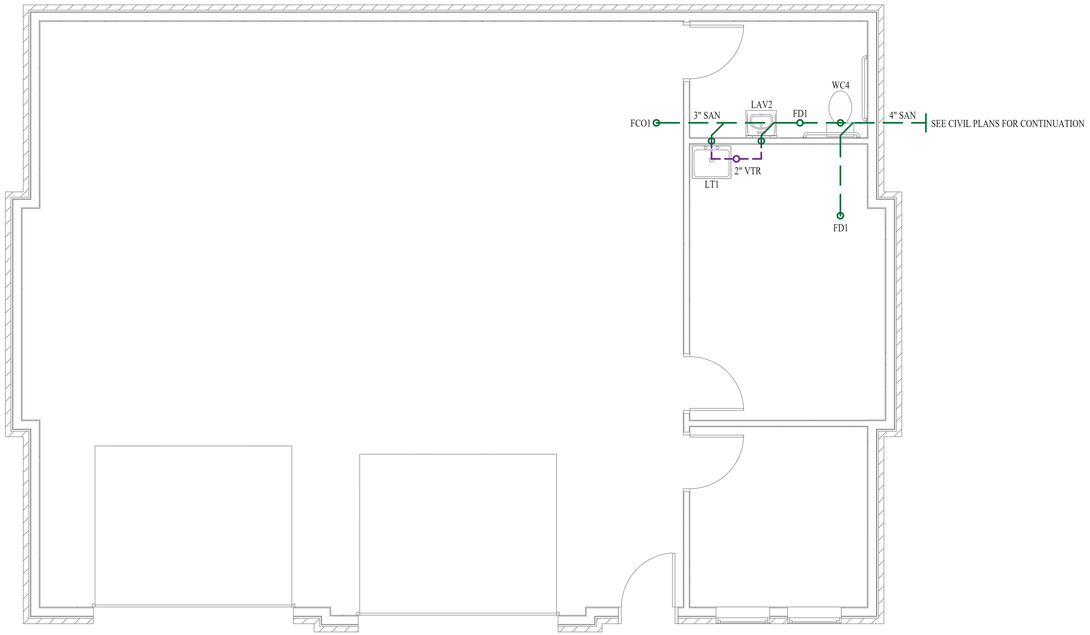
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

BUILDING 'C' FIRST FLOOR SANITARY SEWER PLAN

SHEET NUMBER

PS131



MAINTENANCE BUILDING - SANITARY SEWER PLAN

SCALE: 1/4" = 1' - 0"

SANITARY SEWER PLAN GENERAL NOTES:

1. REFER TO P500 SERIES SHEETS FOR ADDITIONAL PLUMBING DETAILS, SCHEDULES, REQUIREMENTS, ETC.

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Aria Apartments - Lee's Summit

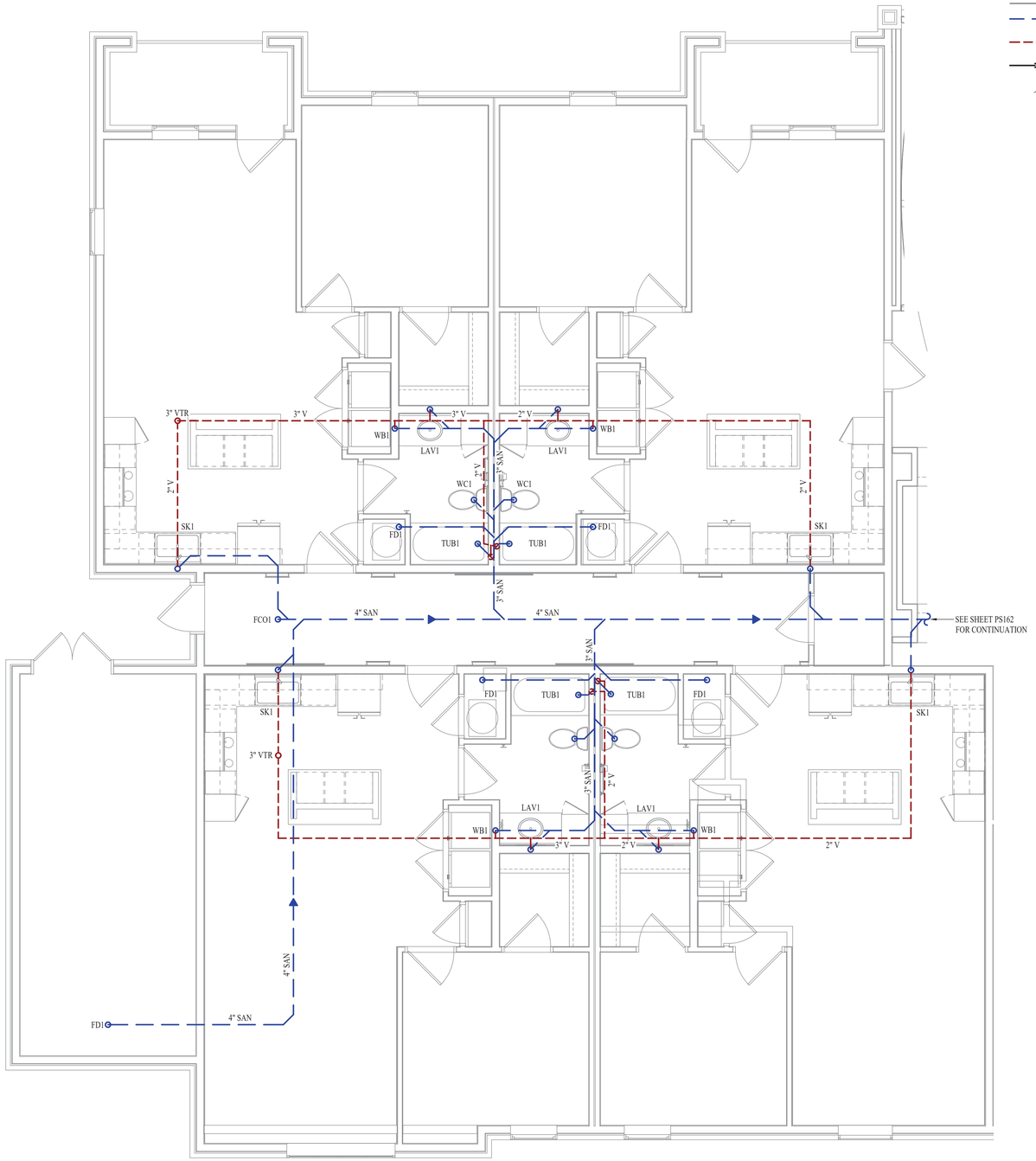
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

MAINTENANCE BUILDING SEWER PLAN

SHEET NUMBER

PS141



SANITARY SEWER PLAN - AREA A

SCALE: 1/4" = 1'-0"

SANITARY SEWER PLAN SYMBOL LEGEND

- SANITARY SEWER PIPING
- VENT PIPING
- PIPING TURNED DOWN / TURNED UP
- TIE INTO EXISTING

SANITARY SEWER PLAN GENERAL NOTES:

1. SEE SHEET P501 FOR ADDITIONAL PLUMBING NOTES, DETAILS, & SCHEDULES.

KEY PLAN

SCALE: 1" = 50 ft

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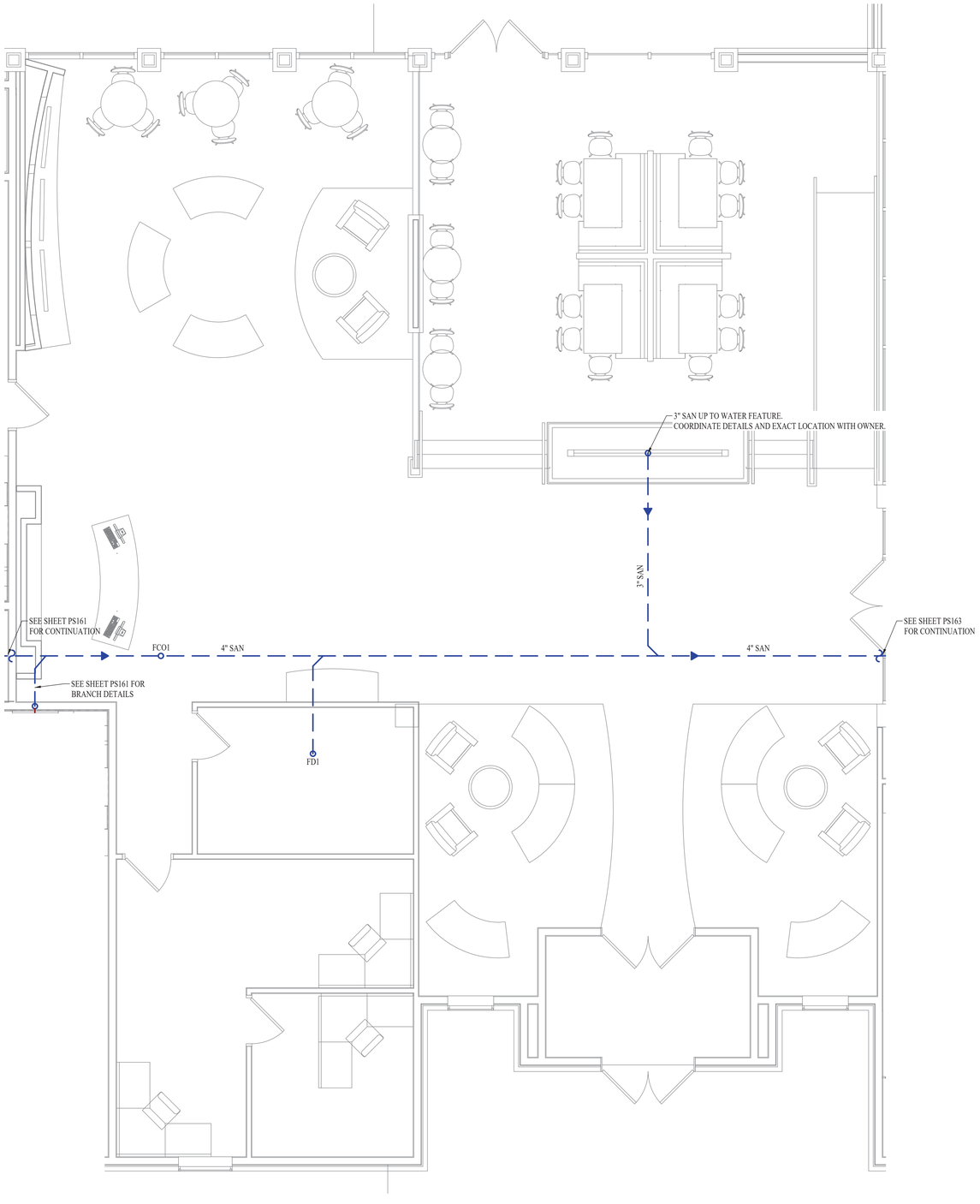
SHEET TITLE

CLUBHOUSE SANITARY SEWER PLAN

SHEET NUMBER

PS161



SANITARY SEWER PLAN - AREA B

SCALE: 1/4" = 1'-0"

SANITARY SEWER PLAN SYMBOL LEGEND

- SANITARY SEWER PIPING
- VENT PIPING
- PIPING TURNED DOWN / TURNED UP
- TIE INTO EXISTING

SANITARY SEWER PLAN GENERAL NOTES:

1. SEE SHEET P501 FOR ADDITIONAL PLUMBING NOTES, DETAILS, & SCHEDULES.

KEY PLAN

SCALE: 1" = 50 ft

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Aria Apartments - Lee's Summit

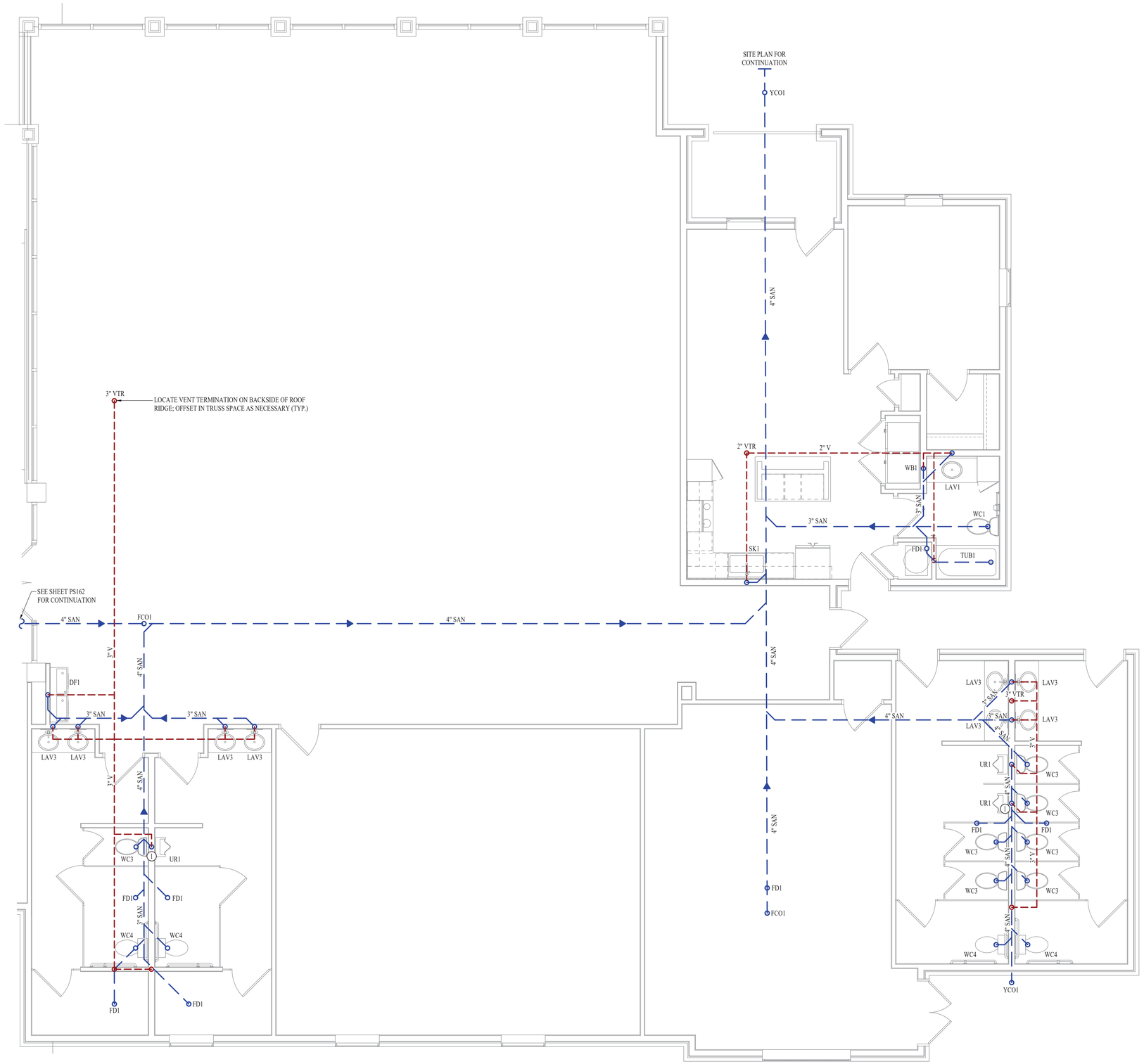
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

CLUBHOUSE SANITARY SEWER PLAN

SHEET NUMBER

PS162



SANITARY SEWER PLAN - AREA C

SCALE: 1/4" = 1'-0"

SANITARY SEWER PLAN SYMBOL LEGEND

- SANITARY SEWER PIPING
- VENT PIPING
- PIPING TURNED DOWN / TURNED UP
- TIE INTO EXISTING

SANITARY SEWER PLAN GENERAL NOTES:

1. SEE SHEET P501 FOR ADDITIONAL PLUMBING NOTES, DETAILS, & SCHEDULES.

SANITARY SEWER PLAN KEY NOTES:

1. PROVIDE & INSTALL HUB-DRAIN IN WALL (WITH ACCESS COVER & TRAP GUARD) FOR CONDENSATE DISCHARGE FROM FURNACES ABOVE CEILING. COORDINATE WITH HVAC CONTRACTOR.

KEY PLAN

SCALE: 1" = 50 ft

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Aria Apartments - Lee's Summit

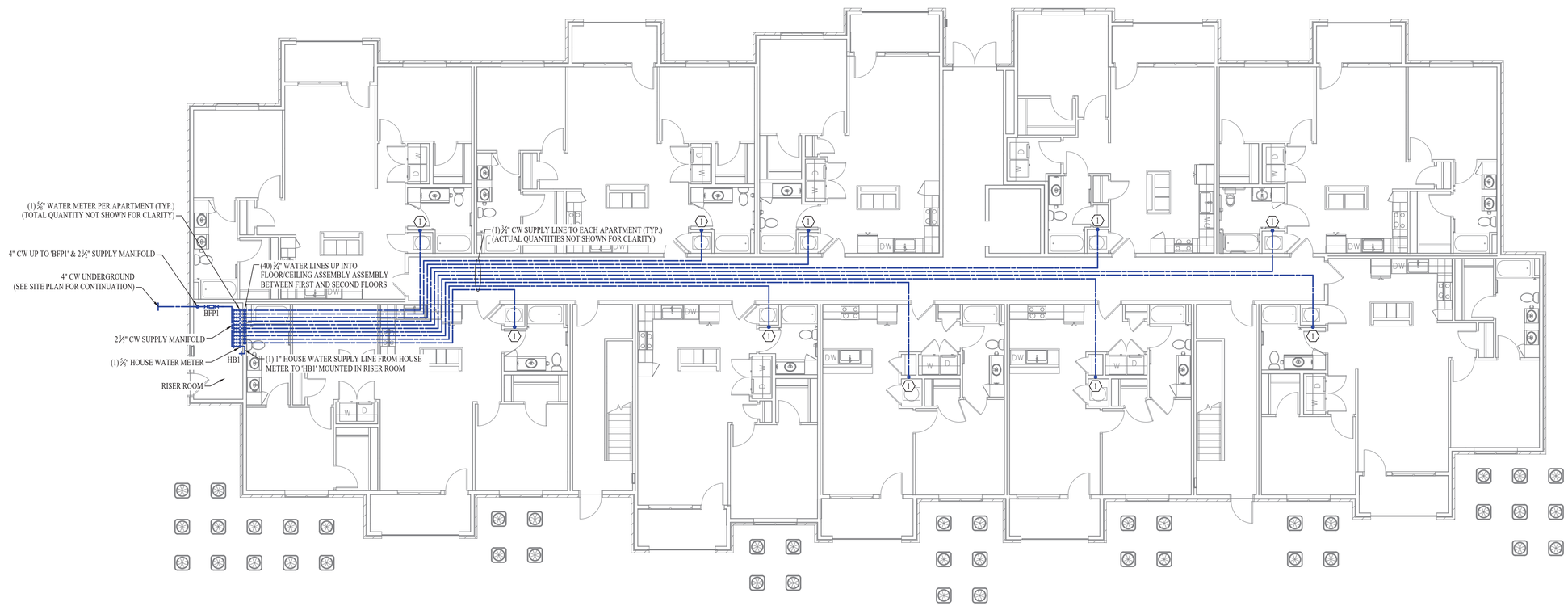
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

CLUBHOUSE SANITARY SEWER PLAN

SHEET NUMBER

PS163



BUILDING 'A' - FIRST FLOOR - WATER PLAN

SCALE: 1/8" = 1' - 0"

WATER PLAN GENERAL NOTES:

1. REFER TO P500 SERIES SHEETS FOR ADDITIONAL PLUMBING DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. REFER TO 'UP' SERIES SHEETS FOR WATER PIPING PLANS WITHIN EACH APARTMENT.
3. REFER TO CIVIL PLANS FOR SITE SPRINKLER PIPING ROUTING TO EACH BUILDING.
4. SUPPLY UNIT FIXTURE COUNTS:
   - 4.1. 1-BR APARTMENT = 7.8 WFSU's EACH
   - 4.2. 2-BR APARTMENT = 11.4 WFSU's EACH
   - 4.3. TOTAL BUILDING = 384 WFSU's

WATER PLAN KEY NOTES:

1. (1) ¾" SUPPLY LINE DOWN TO FIRST FLOOR APARTMENT; SEE UNIT PLAN FOR CONTINUATION. (3) ¾" SUPPLY LINES UP TO ABOVE; (1) TO SECOND FLOOR APARTMENT, (1) TO THIRD FLOOR APARTMENT, (1) TO THIRD FLOOR APARTMENT; SEE UNIT PLANS FOR CONTINUATION.

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Aria Apartments - Lee's Summit

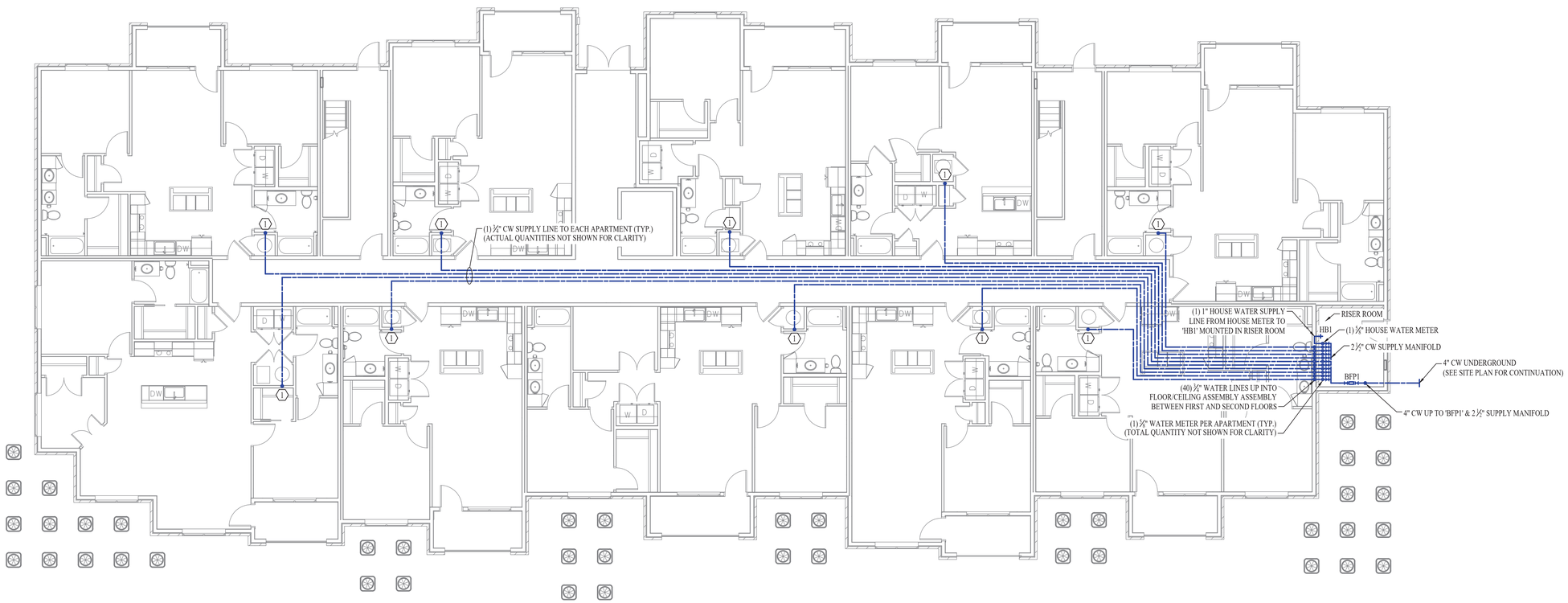
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

BUILDING 'A' FIRST FLOOR WATER PLAN

SHEET NUMBER

PW111



BUILDING 'B' - FIRST FLOOR - WATER PLAN

SCALE: 1/8" = 1' - 0"

WATER PLAN GENERAL NOTES:

1. REFER TO P500 SERIES SHEETS FOR ADDITIONAL PLUMBING DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. REFER TO 'UP' SERIES SHEETS FOR WATER PIPING PLANS WITHIN EACH APARTMENT.
3. REFER TO CIVIL PLANS FOR SITE SPRINKLER PIPING ROUTING TO EACH BUILDING.
4. SUPPLY UNIT FIXTURE COUNTS:
   - 4.1. 1-BR APARTMENT = 7.8 WFSU's EACH
   - 4.2. 2-BR APARTMENT = 11.4 WFSU's EACH
   - 4.3. TOTAL BUILDING = 384 WFSU's

WATER PLAN KEY NOTES:

1. (1) ¾" SUPPLY LINE DOWN TO FIRST FLOOR APARTMENT; SEE UNIT PLAN FOR CONTINUATION. (3) ¾" SUPPLY LINES UP TO ABOVE; (1) TO SECOND FLOOR APARTMENT, (1) TO THIRD FLOOR APARTMENT, (1) TO THIRD FLOOR APARTMENT; SEE UNIT PLANS FOR CONTINUATION.

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J2 PROJECT No:	J20055
J2 DESIGN:	ACW

ISSUE TITLE	DATE
PHASE I - PERMIT SET	01 - 07 - 2021

Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

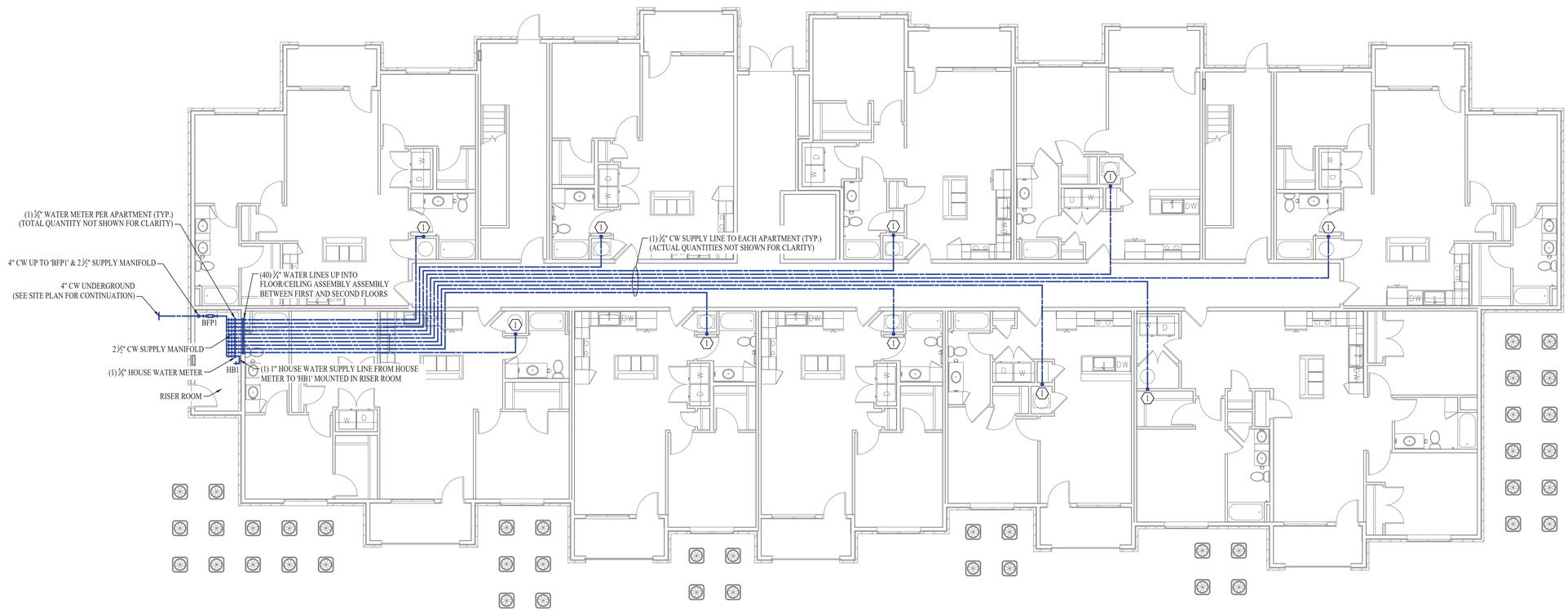
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

BUILDING 'B' FIRST FLOOR WATER PLAN

SHEET NUMBER

PW121



BUILDING 'C' - FIRST FLOOR - WATER PLAN

SCALE: 1/8" = 1' - 0"

WATER PLAN GENERAL NOTES:

1. REFER TO P500 SERIES SHEETS FOR ADDITIONAL PLUMBING DETAILS, SCHEDULES, REQUIREMENTS, ETC.
2. REFER TO 'UP' SERIES SHEETS FOR WATER PIPING PLANS WITHIN EACH APARTMENT.
3. REFER TO CIVIL PLANS FOR SITE SPRINKLER PIPING ROUTING TO EACH BUILDING.
4. SUPPLY UNIT FIXTURE COUNTS:
   - 4.1. 1-BR APARTMENT = 7.8 WFSU's EACH
   - 4.2. 2-BR APARTMENT = 11.4 WFSU's EACH
   - 4.3. 3-BR APARTMENT = 15.0 WSFU's EACH
   - 4.4. TOTAL BUILDING = 384 WFSU's

WATER PLAN KEY NOTES:

1 (1) ½" SUPPLY LINE DOWN TO FIRST FLOOR APARTMENT; SEE UNIT PLAN FOR CONTINUATION. (3) ½" SUPPLY LINES UP TO ABOVE; (1) TO SECOND FLOOR APARTMENT, (1) TO THIRD FLOOR APARTMENT, (1) TO THIRD FLOOR APARTMENT; SEE UNIT PLANS FOR CONTINUATION.

STATE OF MISSOURI
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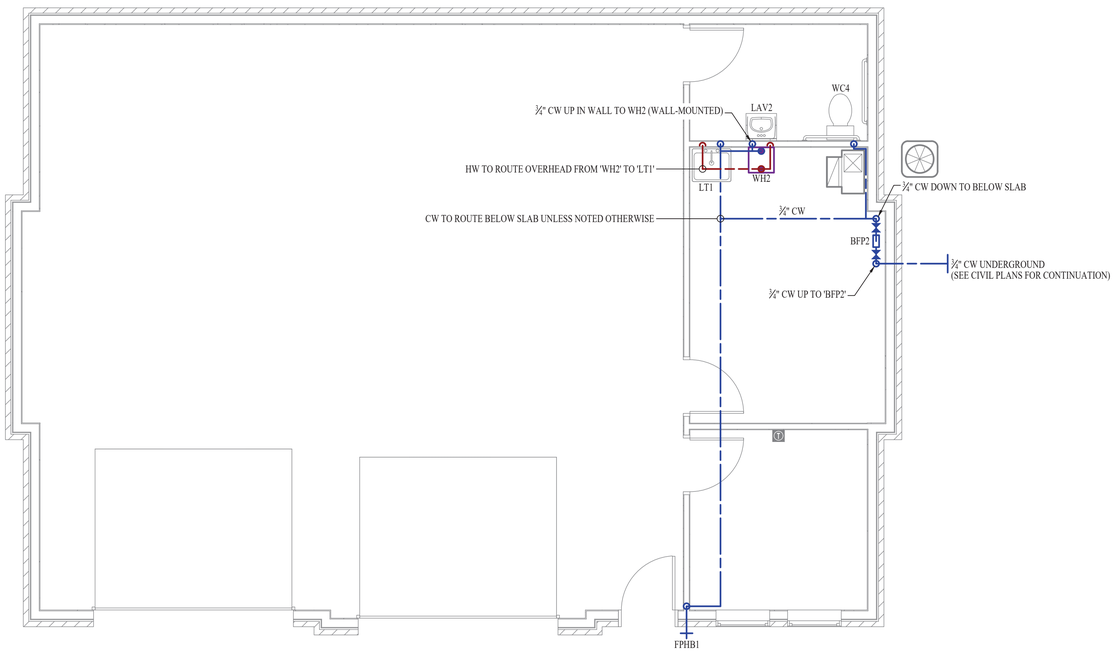
SHEET TITLE

BUILDING 'C' FIRST FLOOR WATER PLAN

SHEET NUMBER

PW131



MAINTENANCE BUILDING - WATER PLAN

SCALE: 1/4" = 1' - 0"

WATER PLAN GENERAL NOTES:

1. REFER TO P500 SERIES SHEETS FOR ADDITIONAL PLUMBING DETAILS, SCHEDULES, REQUIREMENTS, ETC.

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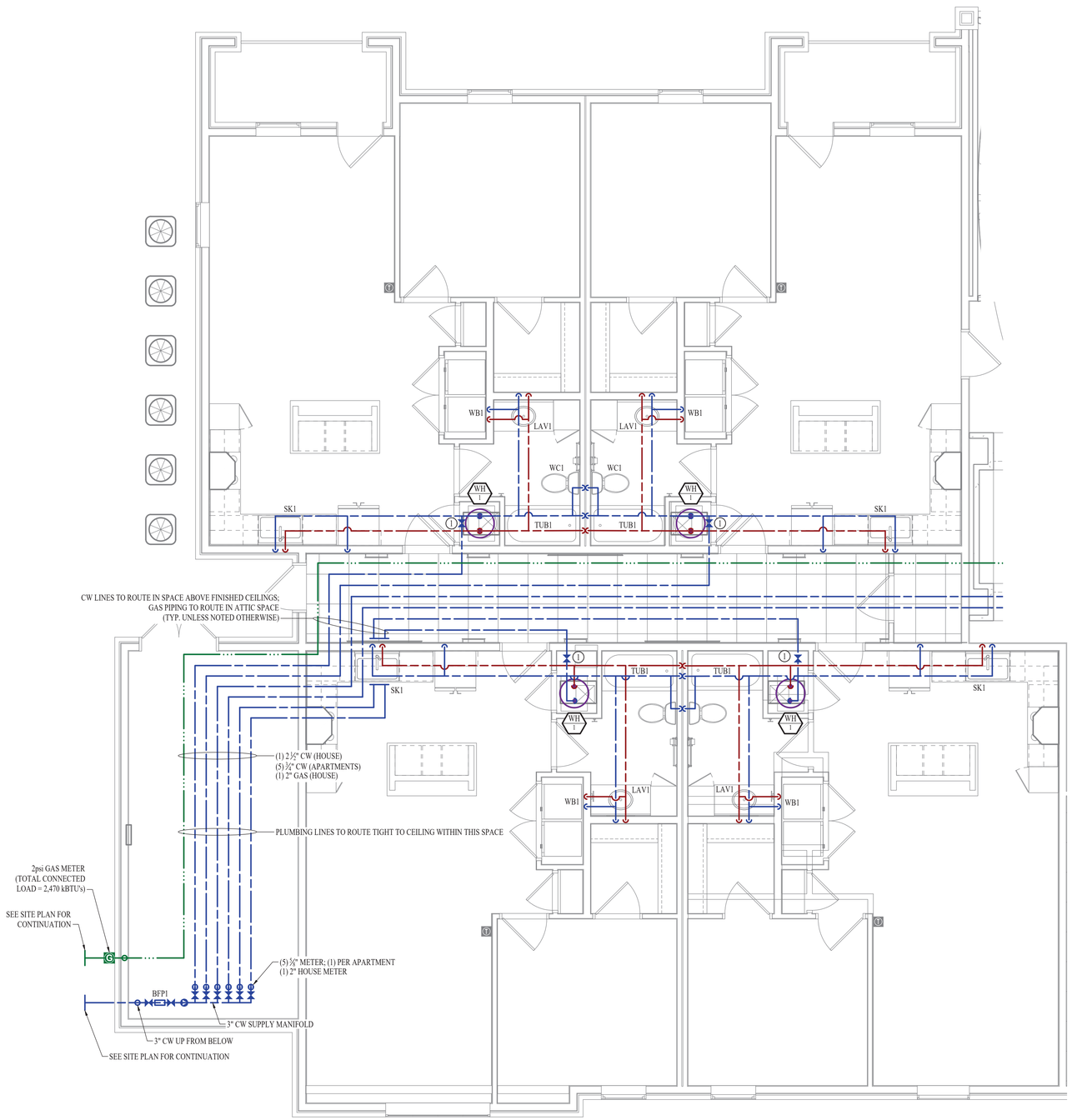
SHEET TITLE

MAINTENANCE BUILDING WATER PLAN

SHEET NUMBER

PW141



WATER & GAS PLAN - AREA A

SCALE: 1/4" = 1'-0"

WATER & GAS PLAN SYMBOL LEGEND

- COLD WATER LINE
- HOT WATER LINE
- HOT WATER RECIRCULATION LINE
- FILTERED WATER LINE
- WATER METER
- VALVE
- PUMP
- GAS LINE
- GAS METER
- AIR LINE
- PIPING TURNED DOWN / TURNED UP
- TIE INTO EXISTING

WATER & GAS PLAN GENERAL NOTES:

1. SEE SHEET P501 FOR ADDITIONAL PLUMBING NOTES, DETAILS, & SCHEDULES.
2. ALL PLUMBING LOCATED IN EXTERIOR WALLS SHALL ROUTE WITHIN INSULATION BARRIER.

WATER & GAS PLAN KEY NOTES:

1. PROVIDE MAIN WATER SHUT-OFF VALVE IN ACCESSIBLE LOCATION WITHIN APARTMENT MECHANICAL ROOM.

KEY PLAN

SCALE: 1" = 50 ft

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Aria Apartments - Lee's Summit

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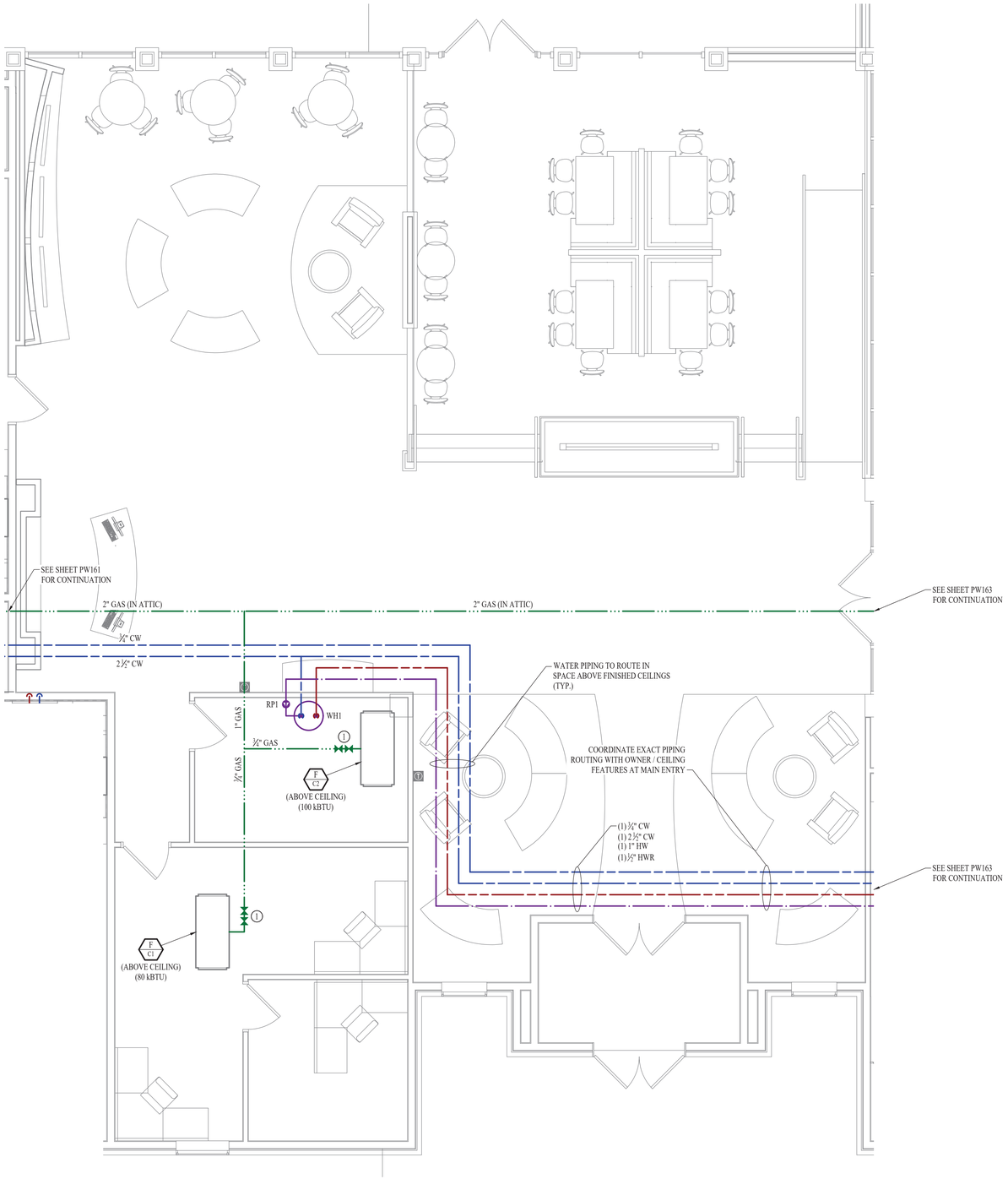
SHEET TITLE

CLUBHOUSE WATER & GAS PLAN

SHEET NUMBER

PW161



WATER & GAS PLAN - AREA B

SCALE: 1/4" = 1'-0"

WATER & GAS PLAN SYMBOL LEGEND

- COLD WATER LINE
- HOT WATER LINE
- HOT WATER RECIRCULATION LINE
- FILTERED WATER LINE
- WATER METER
- VALVE
- PUMP
- GAS LINE
- GAS METER
- AIR LINE
- PIPING TURNED DOWN / TURNED UP
- TIE INTO EXISTING

WATER & GAS PLAN GENERAL NOTES:

1. SEE SHEET P501 FOR ADDITIONAL PLUMBING NOTES, DETAILS, & SCHEDULES.
2. ALL PLUMBING FIXTURES AND PIPING LABELED "EX." OR "EXISTING" SHALL BE EXISTING TO REMAIN UNLESS NOTED OTHERWISE.

WATER & GAS PLAN KEY NOTES:

1. PROVIDE & INSTALL 2psi TO 11" W.C. VENTLESS REGULATOR, SHUT-OFF VALVE, & DRIP LEG AT EQUIPMENT CONNECTION.

KEY PLAN

SCALE: 1" = 50 ft

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Aria Apartments - Lee's Summit

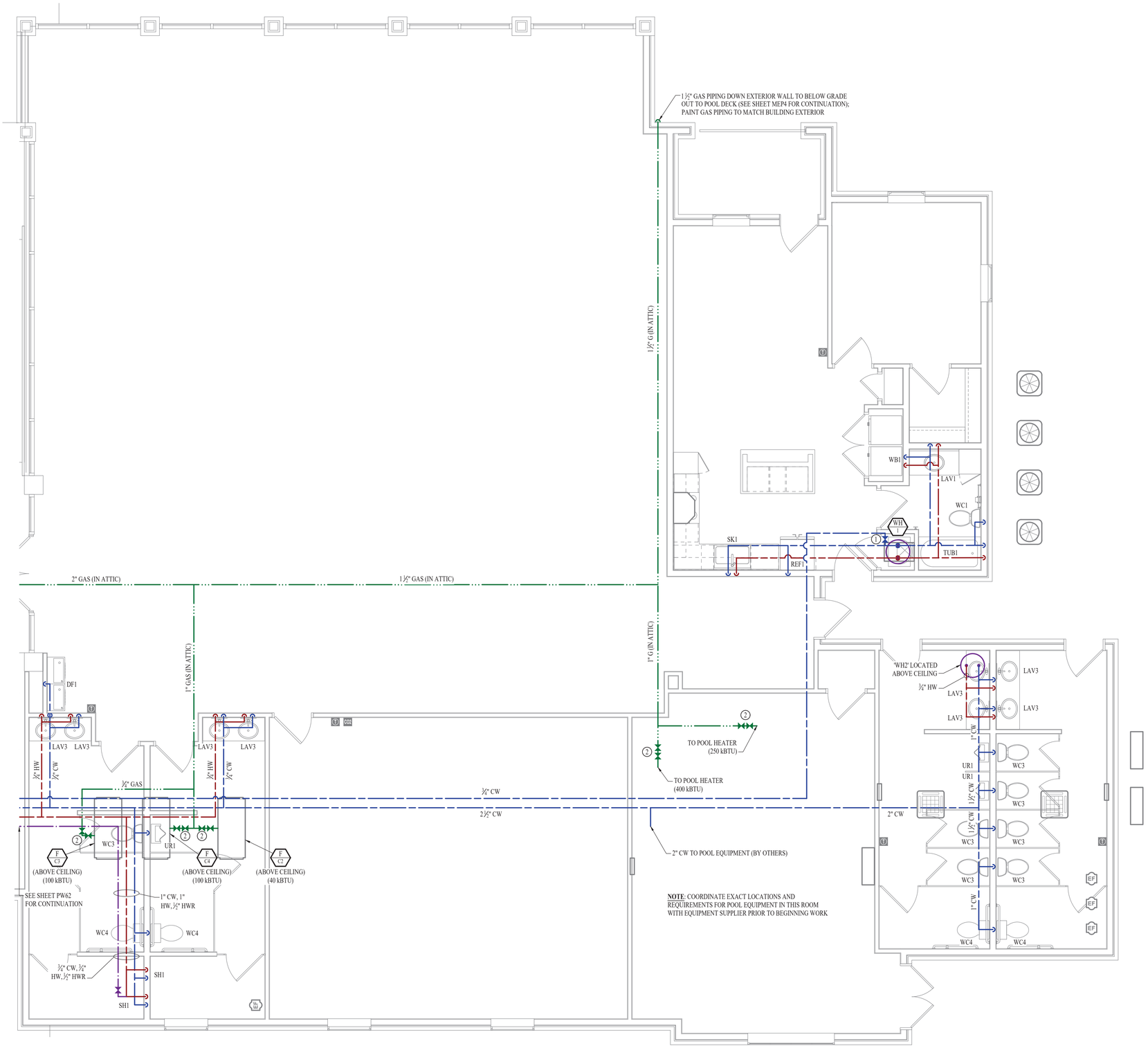
Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

CLUBHOUSE WATER & GAS PLAN

SHEET NUMBER

PW162



WATER & GAS PLAN - AREA C

SCALE: 1/4" = 1'-0"

WATER & GAS PLAN GENERAL NOTES:

1. SEE SHEET P501 FOR ADDITIONAL PLUMBING NOTES, DETAILS, & SCHEDULES.
2. ALL PLUMBING LOCATED IN EXTERIOR WALLS SHALL ROUTE WITHIN INSULATION BARRIER.

WATER & GAS PLAN KEY NOTES:

1. PROVIDE MAIN WATER SHUT-OFF VALVE IN ACCESSIBLE LOCATION WITHIN APARTMENT MECHANICAL ROOM.
2. PROVIDE & INSTALL 2psi TO 11" W.C. VENTLESS REGULATOR, SHUT-OFF VALVE, & DRIP LEG AT EQUIPMENT CONNECTION.

WATER & GAS PLAN SYMBOL LEGEND

- COLD WATER LINE
- HOT WATER LINE
- HOT WATER RECIRCULATION LINE
- FILTERED WATER LINE
- WATER METER
- VALVE
- PUMP
- GAS LINE
- GAS METER
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- PIPING TURNED DOWN / TURNED UP
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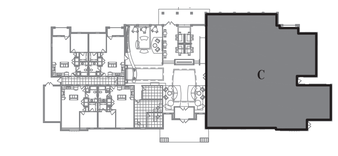

KEY PLAN

SCALE: 1" = 50 ft

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Lee's Summit, Jackson County, Missouri

SHEET TITLE

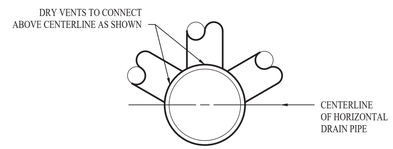
CLUBHOUSE WATER & GAS PLAN

SHEET NUMBER

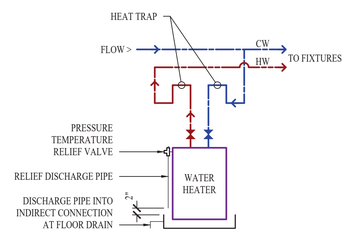
PW163

PLUMBING SPECIFICATIONS

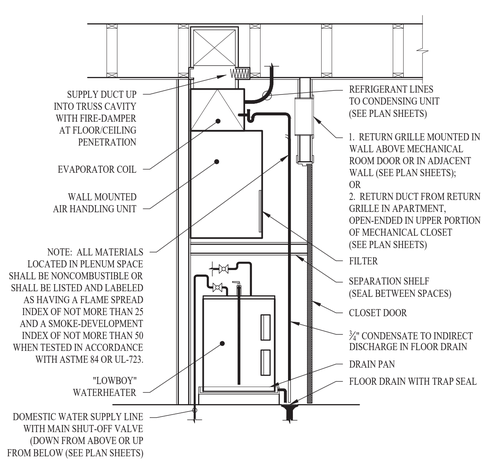
1. GENERAL
   - 1.1. PLUMBING CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL ESCUTCHEONS, ½ TURN STOPS, P-TRAPS, AND SUPPLY LINES TO PROVIDE A COMPLETE SYSTEM AT EACH FIXTURE INDICATED ON PLANS UNLESS NOTED OTHERWISE.
2. SANITARY
   - 2.1. BELOW AND ABOVE GRADE WASTE AND VENT PIPING IN BUILDING TO BE SOLID CORE SCH. 40 PVC DWV.
   - 2.2. NO PIPE SMALLER THAN 2" BELOW GRADE.
   - 2.3. WASTE AND VENT PIPING IN PLENUMS TO BE CAST IRON, OR PVC WITH AN INSULATION WRAP LISTED FOR USE AS SUCH AN ASSEMBLY.
   - 2.4. ALL VENT PIPE TERMINATIONS ARE TO BE LOCATED EITHER 10' HORIZONTALLY OR 3' ABOVE MECHANICAL AIR INTAKE LOCATIONS.
3. DOMESTIC WATER
   - 3.1. DOMESTIC WATER PIPING TO BE EITHER COPPER OR PEX. WHERE PEX PIPING IS USED, IT SHALL BE INCREASED ONE PIPE SIZE FROM WHAT IS INDICATED ON PLANS FOR ALL PORTIONS OF THE SYSTEM.
   - 3.2. PEX-A MAY BE INSTALLED AT SIZES INDICATED ON PLANS IF AN ENGINEERED PLAN IS SUBMITTED SHOWING ACCEPTABLE PRESSURE DROPS AND FLUID VELOCITIES. APPROVAL MUST BE GRANTED PRIOR TO PURCHASE AND INSTALLATION.
   - 3.3. COPPER WATER PIPING BELOW GRADE SHALL BE TYPE "K". BELOW GRADE JOINTS SHALL BE SILVER SOLDERED. THERE SHALL BE NO JOINTS IN WATER PIPING LOCATED BENEATH BUILDING SLAB.
   - 3.4. COPPER WATER PIPING ABOVE GRADE SHALL BE TYPE "L".
   - 3.5. PROVIDE WATER HAMMER ARRESTORS AT ALL QUICK-CLOSE VALVES. FIXTURES REQUIRING WATER HAMMER ARRESTORS INCLUDE BUT ARE NOT LIMITED TO FLUSH VALVES, SENSOR FAUCETS, AND WASHING MACHINE BOXES. AIR CHAMBERS ARE NOT ACCEPTABLE.
   - 3.6. DOMESTIC WATER PIPING INSULATION
     - 3.6.1. ALL HW PIPING, WHETHER COPPER OR PEX, SHALL BE INSULATED WITH PLENUM RATED CLOSED CELL ELASTOMERIC INSULATION. FOR PIPING LESS THAN 1½", INSULATION THICKNESS TO BE 1". FOR PIPING 1½" OR GREATER, INSULATION THICKNESS SHALL BE 1½".
     - 3.6.2. CW COPPER PIPING TO INSULATED WITH ½" PLENUM RATED CLOSED CELL ELASTOMERIC INSULATION. CW PEX NEED NOT BE INSULATED UNLESS NOTED OTHERWISE.
4. GAS PIPING
   - 4.1. ABOVE GRADE NATURAL GAS AND LP PIPING TO BE SCH. 40 BLACK STEEL WITH CLASS 150 THREADED FITTINGS.
   - 4.2. WHERE PIPING IS EXPOSED ON EXTERIOR FACE OF BUILDING, PAINT TO MATCH BUILDING. PAINT YELLOW IN ALL OTHER LOCATIONS.
   - 4.3. ON ROOFTOPS, INSTALL GAS PIPE WITH "ROOFTOP BLOX" PER MANUFACTURE'S INSTRUCTION.



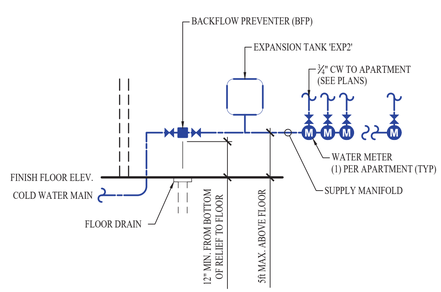
DRY VENT DETAIL



HOT WATER DETAIL



STACKED WATER HEATER / AHU DETAIL



TYP. WATER RISER DETAIL

PLUMBING FIXTURE SCHEDULE

TAG	DESCRIPTION	MANUFACTURER (OR EQUAL)	MODEL (OR EQUAL)	NOTES
AAV1	AIR ADMITTANCE VALVE	OATEY	39020	1.5" - 6 DFU MAX
BFP1	BACKFLOW PREVENTER	WILKINS	975	RPZ - 2.5"
BFP2	BACKFLOW PREVENTER	WILKINS	975SXL2	RPZ - 3/4"
DF1	HIGH / LOW DRINKING FOUNTAIN	ELKAY	LZSTL8WSLK	WITH BOTTLE FILLER
EXP1	EXPANSION TANK	WATTS	PLT-5	
EXP2	EXPANSION TANK	WATTS	DETA-160	47 GALLON ACCEPTANCE
FCO1	FLOOR CLEANOUT	ZURN	1400	
FD1	FLOOR DRAIN	ZURN	Z415-BZ	
FPHB1	FROST PROOF HOSE BIBB	WOODFORD	MODEL 67	
HB1	HOSE BIBB	WOODFORD	MODEL 21	
LAV1	INTEGRAL BOWL SINK	--	--	WITH PFISTER G142-8000 CHROME FAUCET
LAV2	LAVATORY (WALL HUNG W/ MANUAL FAUCET)	AMERICAN STANDARD	355.012	WITH ZURN Z81104-XL FAUCET, 1/4 TURN STOPS, BRAIDED STAINLESS STEEL SUPPLIES, TRUBRO LAV GUARD 2, AND 'TMV1'
LAV3	LAVATORY (DROP-IN W/ MANUAL FAUCET)	AMERICAN STANDARD	475.028	WITH ZURN Z81104-XL FAUCET, 1/4 TURN STOPS, BRAIDED STAINLESS STEEL SUPPLIES, AND 'TMV1'
LT1	LAUNDRY TUB - FLOOR MOUNT	SWAN	MF0000FM	WITH FAUCET
REF1	REFRIGERATOR ICE MAKER BOX	SIOUX CHIEF	696-G1000MF	
RP1	RECIRCULATION PUMP	GRUNDFOS	UP10-15BUA/TLC	
SH1	ADA SHOWER / VALVE	DELTA	51900	WITH MIXING VALVE
SK1	KITCHEN SINK	DAYTON	DSESR12722	WITH PFISTER F-529-7CRS FAUCET & ISE DISPOSAL #BADGER-1
SP1	SUMP PUMP	ZOELLER	153-0002	120V, 1/2 HP
TUB1	TUB / SHOWER	AQUARIUS	G6030TS	WITH PFISTER R89-0300 CHROME TRIM KIT
TUB2	ADA TUB / SHOWER	AQUATIC	2603SMTE	WITH GRAB BARS & ADA HAND-HELD SHOWER ASSEMBLY
TMV1	THERMOSTATIC MIXING VALVE - POINT OF USE	WATTS	LFUSG	
WB1	WASHER BOX	SIOUX CHIEF	696-G2303	
WC1	WATER CLOSET - STANDARD HEIGHT - TANK	AMERICAN STANDARD	215CA.004	WITH CHURCH 7200SLEC SEAT AND COVER, STAINLESS BRAIDED SUPPLY, AND 1/4 TURN SHUT-OFF.
WC2	WATER CLOSET - ADA HEIGHT - TANK	AMERICAN STANDARD	215AA.004	WITH CHURCH 7200SLEC SEAT AND COVER, STAINLESS BRAIDED SUPPLY, AND 1/4 TURN SHUT-OFF.
WC3	WATER CLOSET - STANDARD HEIGHT - TANK	AMERICAN STANDARD	215CA.004	WITH CHURCH 9500SSCT SELF SUSTAINING SEAT, STAINLESS BRAIDED SUPPLY, AND 1/4 TURN SHUT-OFF.
WC4	WATER CLOSET - ADA HEIGHT - TANK	AMERICAN STANDARD	215AA.004	WITH CHURCH 9500SSCT SELF SUSTAINING SEAT, STAINLESS BRAIDED SUPPLY, AND 1/4 TURN SHUT-OFF.
WH1	WATER HEATER - ELECTRIC - LOWBOY	AO SMITH	ECLB-40	38 GALLON; 208V; 4500W
WH2	WATER HEATER - ELECTRIC	RUUD	ESGP20	20 GALLON, 120V, 1500W, WITH 'EXP1'
YCO1	YARD CLEAN OUT	ZURN	Z1400	

NOTES:
1. VERIFY NECESSARY FIXTURES MEET ADA REQUIREMENTS WITH ARCHITECT PRIOR TO INSTALLATION

PLUMBING CONNECTION SIZING SCHEDULE

FIXTURE		SANITARY PIPING		SUPPLY PIPING	
TYPE	TYPICAL ABBREVIATION	WASTE CONNECTION	VENT CONNECTION	COLD WATER CONNECTION	HOT WATER CONNECTION
DRINKING FOUNTAIN	DF	1-1/2"	1-1/4"	1/2"	-
FLOOR DRAIN	FD	3"	2"	-	-
HAND / HAIR SINK	HS / SK	2"	1-1/4"	1/2"	1/2"
HOSE BIBB	HB	-	-	3/4"	-
LAVATORY	LAV	1-1/2"	1-1/4"	1/2"	1/2"
MOP SINK	MS	3"	1-1/2"	1/2"	1/2"
ICE MAKER OUTLET BOX	REF	-	-	1/2"	-
SHOWER	SH	3"	1-1/2"	1/2"	1/2"
URINAL	UR	2"	1-1/4"	3/4"	-
WATER CLOSET (FLUSH TANK)	WC	3"	2"	1/2"	-
WATER CLOSET (FLUSH VALVE)	WC	3"	2"	1"	-

NOTES:
1. SIZES SHOWN ABOVE ARE TYPICAL UNLESS NOTED OTHERWISE ON PLANS

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Aria Apartments - Lee's Summit

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Lee's Summit, Jackson County, Missouri

SHEET TITLE

PLUMBING DETAILS

SHEET NUMBER

P501

HVAC PLAN SYMBOL LEGEND

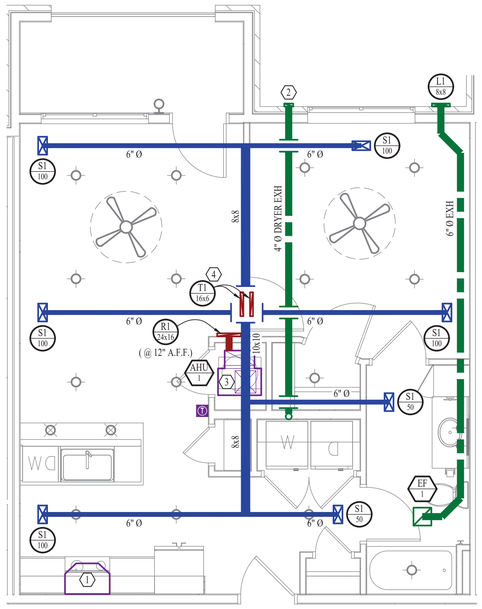
- EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE)
- EQUIPMENT REFERENCE NUMBER
- DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE)
- CUBIC FEET PER MINUTE (CFM) / FACE SIZE
- SUPPLY DUCTWORK
- RETURN DUCTWORK
- EXHAUST DUCTWORK
- SUPPLY DIFFUSER
- RETURN DIFFUSER
- BALANCE DAMPER
- CEILING RADIATION DAMPER
- FIRE RATED DAMPER
- THERMOSTAT

HVAC PLAN GENERAL NOTES:

1. REFER TO M500 & M600 SERIES SHEETS FOR HVAC SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. APARTMENT MEETS NATURAL VENTILATION REQUIREMENT PER 2015 IMC 402 AND IS EXEMPT FROM MECHANICAL VENTILATION REQUIREMENTS.
3. REFER TO M100 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS. REFRIGERANT PIPING SHALL ROUTE IN SPACES ABOVE FINISHED CEILINGS AND WITHIN WALL CAVITIES TO REMAIN CONCEALED.
4. SUPPLY DUCTWORK FROM AHU AT FLOOR/CEILING PENETRATION SHALL BE PROTECTED BY A FIRE RADIATION DAMPER. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
5. WRAP ALL DRYER DUCTS WITH FIREMASTER (OR EQUAL) DUCT WRAP.
6. TOTAL DEVELOPED LENGTH OF EXHAUST DUCT SHALL BE INDICATED ON A PERMANENT LABEL WITHIN 6' OF DRYER VENT CONNECTION. TOTAL DEVELOPED LENGTH FOR THIS UNIT IS APPROXIMATELY 25' PER 2018 IMC 504.8.4.

HVAC PLAN KEY NOTES:

1. RESIDENTIAL RECIRCULATION HOOD TO BE SUPPLIED & INSTALLED BY GC.
2. TERMINATE 4" DRYER EXHAUST WITH VENT EQUAL TO DRYER WALL VENT #DWV4.
3. AHU LOCATED ABOVE WATER HEATER, COORDINATE WITH PLUMBING CONTRACTOR. CONDENSATE TO DISCHARGE IN FLOOR DRAIN WITHIN CLOSET. 12x10 RETURN DUCT (OR EQUAL) THRU WALL TO RETURN GRILLE.
4. TRANSFER GRILLE CENTERED ABOVE BOTH SIDES OF DOOR.



HVAC PLAN

SCALE: ¼" = 1' - 0"

POWER PLAN SYMBOL LEGEND

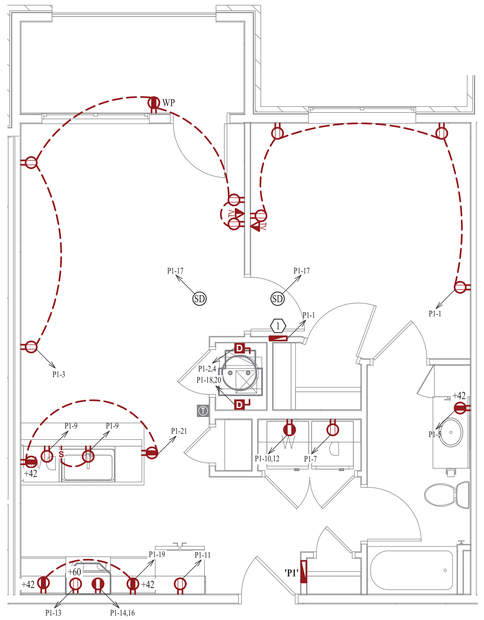
- CIRCUIT WIRING
- P#-XX — CIRCUIT TAG
- JUNCTION BOX
- XX +42 — RECEPTACLE
  - INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX (STD @ 18" AFF UNLESS NOTED OTHERWISE)
  - "WP" = WEATHERPROOF OUTDOOR RECEPTACLE
- GFCI DUPLEX CONVENIENCE RECEPTACLE
- 208V RECEPTACLE
- QUADPLEX CONVENIENCE RECEPTACLE
- DATA / PHONE JACK BOX WITH 1" CONDUIT & CAT6 TO MEDIA PANEL LOCATION (SEE PLAN) (STANDARD @ 18" A.F.F. UNLESS NOTED OTHERWISE)
- DISCONNECT
- SD — 120V SMOKE DETECTOR WITH LOW-VOLTAGE CONTACTS WIRED TO SHUT DOWN AHU UPON FIRE DETECTION. COORDINATE WITH HVAC CONTRACTOR.

POWER PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR POWER SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. REFER TO M100 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS.
3. VERIFY EACH DATA/RECEPTACLE LOCATION WITH OWNER PRIOR TO INSTALLATION.

POWER PLAN KEY NOTES:

1. MEDIA PANEL LOCATION; DATA/TV WIRING TO TERMINATE AT THIS LOCATION. DETERMINE EXACT LOCATION & DETAILS WITH OWNER PRIOR TO INSTALLATION. OWNER'S SUBCONTRACTOR TO PROVIDE & INSTALL MEDIA PANEL AND PROVIDE/INSTALL/TERMINATE ALL LOW VOLTAGE WIRING.



POWER PLAN

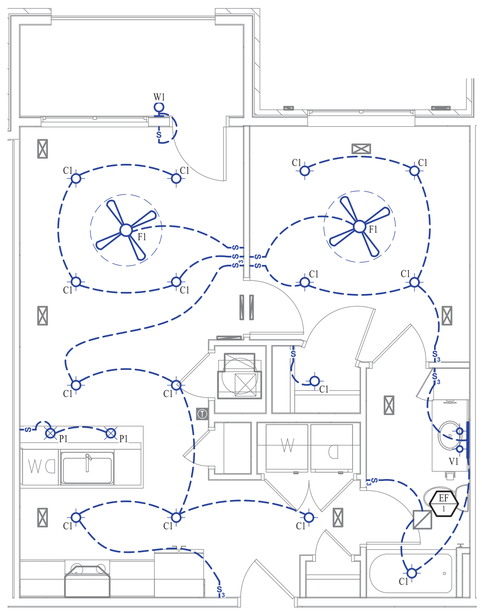
SCALE: ¼" = 1' - 0"

LIGHTING PLAN SYMBOL LEGEND

- X1 — LIGHTING FIXTURE
  - "X1" INDICATES FIXTURE TYPE (REFER TO SCHEDULE)
- TOGGLE SWITCH
- SWITCH TYPE
- DIMMER SWITCH

LIGHTING PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR LIGHTING SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. ALL LIGHTING SHOWN SHALL BE ON CIRCUIT P1-15 UNLESS NOTED OTHERWISE.



LIGHTING PLAN

SCALE: ¼" = 1' - 0"

PLUMBING PLAN SYMBOL LEGEND

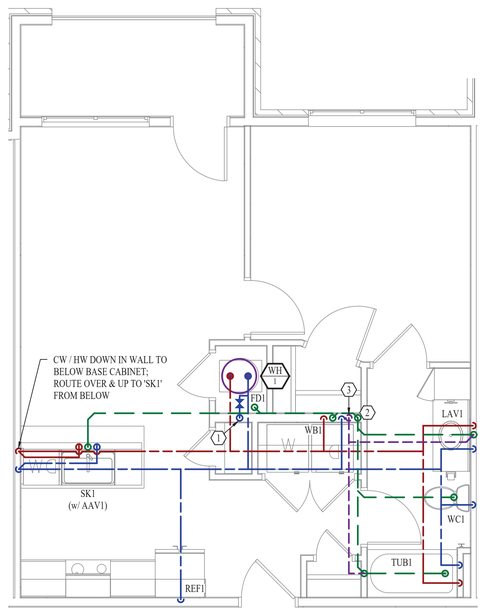
- SANITARY SEWER PIPING
- VENT PIPING
- COLD WATER LINE
- HOT WATER LINE
- VALVE
- PIPING TURNED DOWN / TURNED UP

PLUMBING PLAN GENERAL NOTES:

1. REFER TO P500 SERIES SHEETS FOR PLUMBING SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. REFER TO OVERALL PLUMBING PLAN SHEETS FOR SANITARY PIPING PLANS FOR UNITS ON MAIN LEVEL.
3. ALL PLUMBING LOCATED ON EXTERIOR WALLS SHALL ROUTE WITHIN INSULATION BARRIER.
4. ALL DOMESTIC SUPPLY LINES SERVING MORE THAN (1) FIXTURE SHALL BE ¾" UNLESS NOTED OTHERWISE.
5. ALL SANITARY SEWER PIPING SERVING MORE THAN (1) FIXTURE SHALL BE 3" UNLESS NOTED OTHERWISE.

PLUMBING PLAN KEY NOTES:

1. ¾" CW PIPE UP FROM BELOW WITH SHUT-OFF VALVE IN ACCESSIBLE LOCATION. SEE OVERALL PLUMBING PLANS FOR DETAILS.
2. 3" SANITARY STACK DOWN TO LEVEL BELOW (SEE GENERAL NOTES).
3. 3" SANITARY VENT STACK UP THROUGH ROOF ON FOURTH FLOOR.



PLUMBING PLAN

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STATE OF MISSOURI
JAMES P. WATSON
NUMBER PE-2015017071
PROFESSIONAL ENGINEER

James Watson, P.E. January 7, 2021
PE-2015017071
MO Certificate of Authority # 2018029680

J-SQUARED ENGINEERING
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573 - 234 - 4492 phone
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J2 PROJECT No:	J20055
J2 DESIGN:	ACW

ISSUE TITLE	DATE
PHASE I - PERMIT SET	01 - 07 - 2021

Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

11A
MEP UNIT PLAN

SHEET NUMBER

UP.11A

HVAC PLAN SYMBOL LEGEND

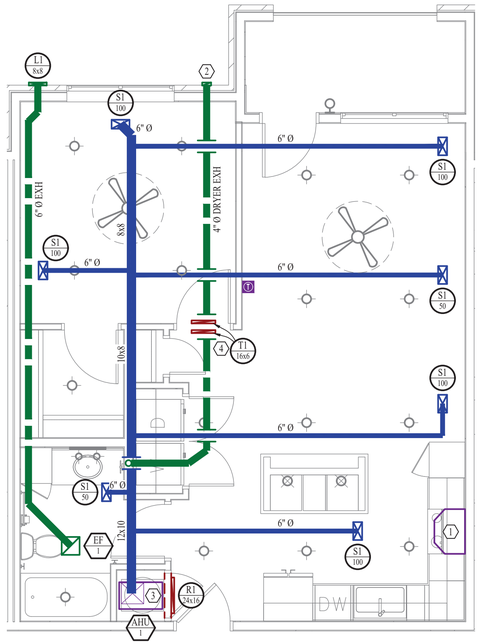
- EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE)
- EQUIPMENT REFERENCE NUMBER
- DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE)
- CUBIC FEET PER MINUTE (CFM) / FACE SIZE
- SUPPLY DUCTWORK
- RETURN DUCTWORK
- EXHAUST DUCTWORK
- SUPPLY DIFFUSER
- RETURN DIFFUSER
- BALANCE DAMPER
- CEILING RADIATION DAMPER
- FIRE RATED DAMPER
- THERMOSTAT

HVAC PLAN GENERAL NOTES:

1. REFER TO M500 & M600 SERIES SHEETS FOR HVAC SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. APARTMENT MEETS NATURAL VENTILATION REQUIREMENT PER 2015 IMC 402 AND IS EXEMPT FROM MECHANICAL VENTILATION REQUIREMENTS.
3. REFER TO M100 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS. REFRIGERANT PIPING SHALL ROUTE IN SPACES ABOVE FINISHED CEILINGS AND WITHIN WALL CAVITIES TO REMAIN CONCEALED.
4. SUPPLY DUCTWORK FROM AHU AT FLOOR/CEILING PENETRATION SHALL BE PROTECTED BY A FIRE RADIATION DAMPER. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
5. WRAP ALL DRYER DUCTS WITH FIREMASTER (OR EQUAL) DUCT WRAP.
6. TOTAL DEVELOPED LENGTH OF EXHAUST DUCT SHALL BE INDICATED ON A PERMANENT LABEL WITHIN 6' OF DRYER VENT CONNECTION. TOTAL DEVELOPED LENGTH FOR THIS UNIT IS APPROXIMATELY 35' PER 2018 IMC 504.8.4.

HVAC PLAN KEY NOTES:

1. RESIDENTIAL RECIRCULATION HOOD TO BE SUPPLIED & INSTALLED BY GC.
2. TERMINATE 4" DRYER EXHAUST WITH VENT EQUAL TO DRYER WALL VENT #DWV4.
3. AHU LOCATED ABOVE WATER HEATER, COORDINATE WITH PLUMBING CONTRACTOR. CONDENSATE TO DISCHARGE IN FLOOR DRAIN WITHIN CLOSET. SEE M500 SERIES SHEETS FOR RETURN AIR DETAILS.
4. TRANSFER GRILLE CENTERED ABOVE BOTH SIDES OF DOOR.



HVAC PLAN

SCALE: ¼" = 1' - 0"

POWER PLAN SYMBOL LEGEND

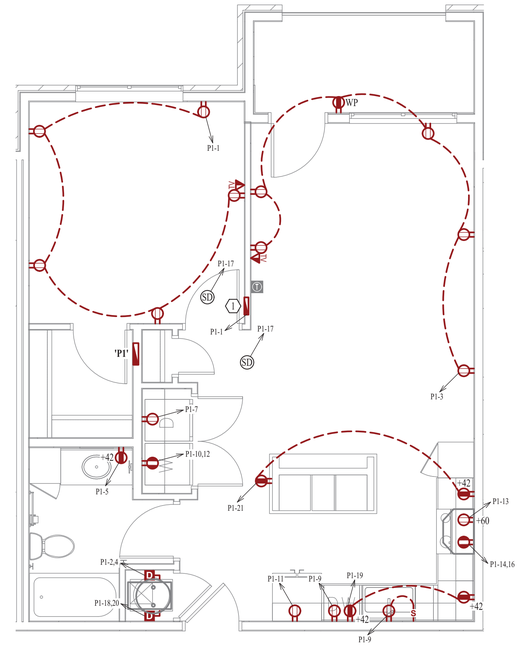
- CIRCUIT WIRING
- PX-XX — CIRCUIT TAG
- JUNCTION BOX
- XX +42 — RECEPTACLE
  - INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX (STD @ 18" AFF UNLESS NOTED OTHERWISE)
  - "WP" = WEATHERPROOF OUTDOOR RECEPTACLE
- GFCI DUPLEX CONVENIENCE RECEPTACLE
- 208V RECEPTACLE
- QUADPLEX CONVENIENCE RECEPTACLE
- DATA / PHONE JACK BOX WITH 1" CONDUIT & CAT6 TO MEDIA PANEL LOCATION (SEE PLAN) (STANDARD @ 18" A.F.F. UNLESS NOTED OTHERWISE)
- DISCONNECT
- SD — 120V SMOKE DETECTOR WITH LOW-VOLTAGE CONTACTS WIRED TO SHUT DOWN AHU UPON FIRE DETECTION. COORDINATE WITH HVAC CONTRACTOR.

POWER PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR POWER SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. REFER TO M100 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS.
3. VERIFY EACH DATA/RECEPTACLE LOCATION WITH OWNER PRIOR TO INSTALLATION.

POWER PLAN KEY NOTES:

1. MEDIA PANEL LOCATION; DATA/TV WIRING TO TERMINATE AT THIS LOCATION. DETERMINE EXACT LOCATION & DETAILS WITH OWNER PRIOR TO INSTALLATION. OWNER'S SUBCONTRACTOR TO PROVIDE & INSTALL MEDIA PANEL AND PROVIDE/INSTALL/TERMINATE ALL LOW VOLTAGE WIRING.



POWER PLAN

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LIGHTING PLAN SYMBOL LEGEND

- X1 — LIGHTING FIXTURE
  - "X1" INDICATES FIXTURE TYPE (REFER TO SCHEDULE)
- TOGGLE SWITCH
- S3 — SWITCH TYPE
- D — DIMMER SWITCH

LIGHTING PLAN GENERAL NOTES:

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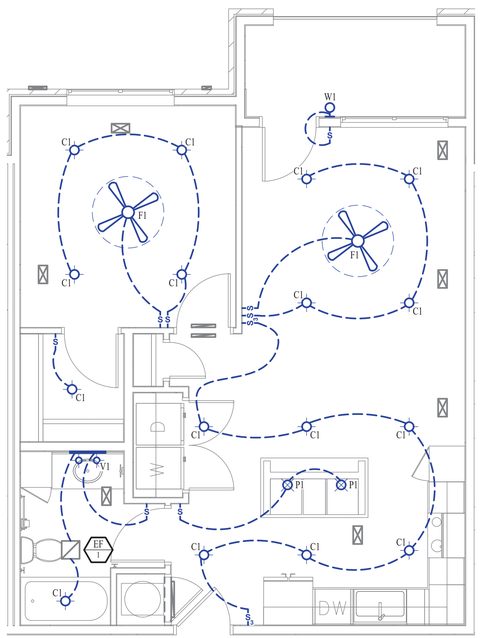

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PLUMBING PLAN SYMBOL LEGEND

- SANITARY SEWER PIPING
- VENT PIPING
- COLD WATER LINE
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- VALVE
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PLUMBING PLAN GENERAL NOTES:

1. REFER TO P500 SERIES SHEETS FOR PLUMBING SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. REFER TO OVERALL PLUMBING PLAN SHEETS FOR SANITARY PIPING PLANS FOR UNITS ON MAIN LEVEL.
3. ALL PLUMBING LOCATED ON EXTERIOR WALLS SHALL ROUTE WITHIN INSULATION BARRIER.
4. ALL DOMESTIC SUPPLY LINES SERVING MORE THAN (1) FIXTURE SHALL BE ½" UNLESS NOTED OTHERWISE.
5. ALL SANITARY SEWER PIPING SERVING MORE THAN (1) FIXTURE SHALL BE 3" UNLESS NOTED OTHERWISE.

PLUMBING PLAN KEY NOTES:

1. ½" CW PIPE UP FROM BELOW WITH SHUT-OFF VALVE IN ACCESSIBLE LOCATION. SEE OVERALL PLUMBING PLANS FOR DETAILS.
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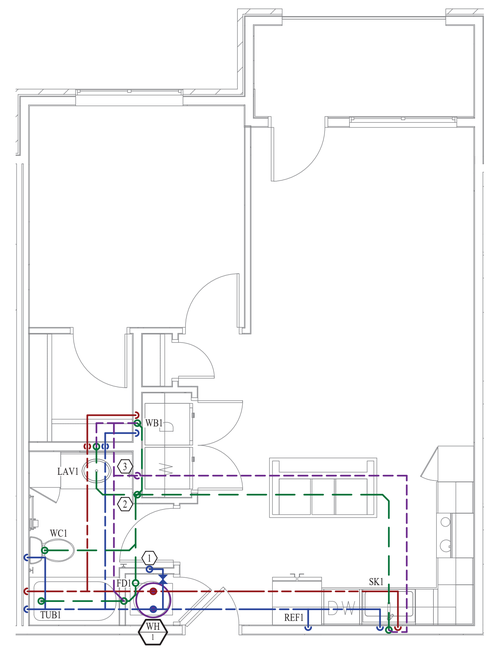

PLUMBING PLAN

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Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

11B MEP UNIT PLAN

SHEET NUMBER

UP.11B

HVAC PLAN SYMBOL LEGEND

- EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE)
- EQUIPMENT REFERENCE NUMBER
- DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE)
- CUBIC FEET PER MINUTE (CFM) / FACE SIZE
- SUPPLY DUCTWORK
- RETURN DUCTWORK
- EXHAUST DUCTWORK
- SUPPLY DIFFUSER
- RETURN DIFFUSER
- BALANCE DAMPER
- CEILING RADIATION DAMPER
- FIRE RATED DAMPER
- THERMOSTAT

HVAC PLAN GENERAL NOTES:

1. REFER TO M500 & M600 SERIES SHEETS FOR HVAC SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. APARTMENT MEETS NATURAL VENTILATION REQUIREMENT PER 2015 IMC 402 AND IS EXEMPT FROM MECHANICAL VENTILATION REQUIREMENTS.
3. REFER TO M100 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS. REFRIGERANT PIPING SHALL ROUTE IN SPACES ABOVE FINISHED CEILINGS AND WITHIN WALL CAVITIES TO REMAIN CONCEALED.
4. SUPPLY DUCTWORK FROM AHU AT FLOOR/CEILING PENETRATION SHALL BE PROTECTED BY A FIRE RADIATION DAMPER. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
5. WRAP ALL DRYER DUCTS WITH FIREMASTER (OR EQUAL) DUCT WRAP.
6. TOTAL DEVELOPED LENGTH OF EXHAUST DUCT SHALL BE INDICATED ON A PERMANENT LABEL WITHIN 6' OF DRYER VENT CONNECTION. TOTAL DEVELOPED LENGTH FOR THIS UNIT IS APPROXIMATELY 35' PER 2018 IMC 504.8.4.

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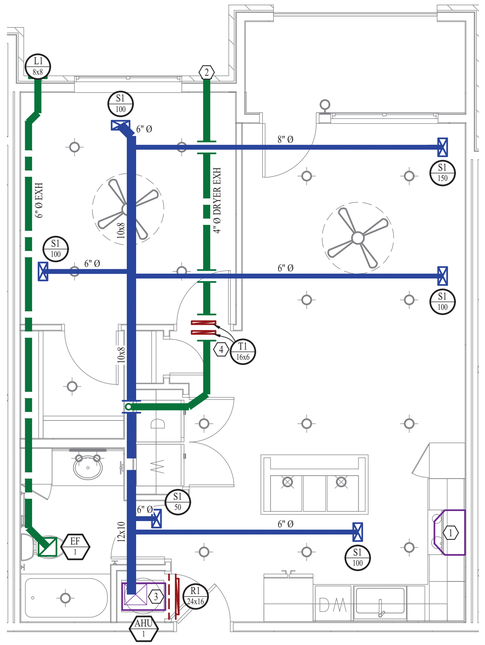
4. TRANSFER GRILLE CENTERED ABOVE BOTH SIDES OF DOOR.



HVAC PLAN

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POWER PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR POWER SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
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POWER PLAN KEY NOTES:

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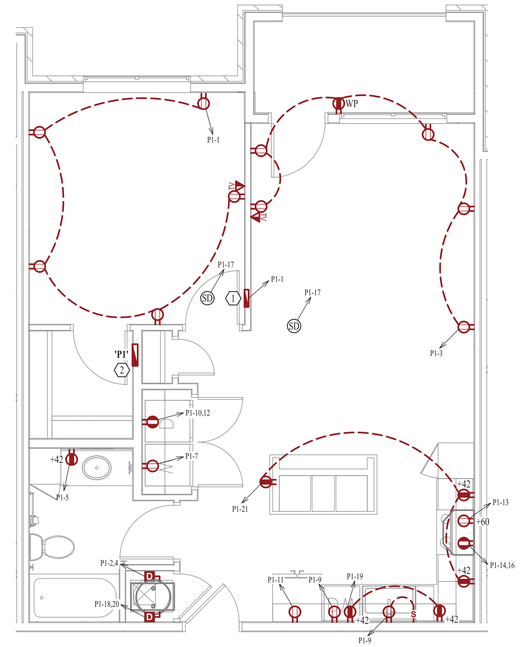
2. ELECTRICAL PANEL MOUNTING HEIGHT MUST MEET ADA ACCESSIBILITY REQUIREMENTS; REFER TO ARCHITECTURAL PLANS.



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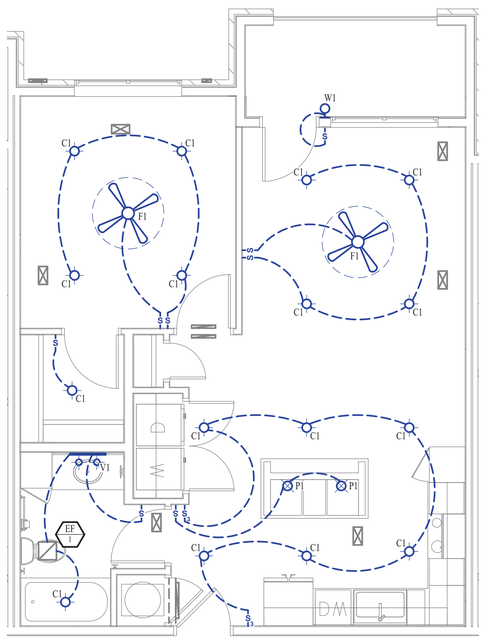
LIGHTING PLAN SYMBOL LEGEND

- X1 — LIGHTING FIXTURE
  - "X1" INDICATES FIXTURE TYPE (REFER TO SCHEDULE)
- S3 — TOGGLE SWITCH
  - SWITCH TYPE
- D — DIMMER SWITCH

LIGHTING PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR LIGHTING SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. ALL LIGHTING SHOWN SHALL BE ON CIRCUIT P1-15 UNLESS NOTED OTHERWISE.



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PLUMBING PLAN GENERAL NOTES:

1. REFER TO P500 SERIES SHEETS FOR PLUMBING SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. REFER TO OVERALL PLUMBING PLAN SHEETS FOR SANITARY PIPING PLANS FOR UNITS ON MAIN LEVEL.
3. ALL PLUMBING LOCATED ON EXTERIOR WALLS SHALL ROUTE WITHIN INSULATION BARRIER.
4. UNITS 11B-ACC ARE LOCATED WITHIN BUILDING 'B' #10, #11, & #12 ON 1ST AND 2ND FLOORS (CONFIRM WITH ARCHITECT). OFFSET SANITARY / VENT STACKS WITHIN FLOOR / CEILING ASSEMBLY AS REQUIRED IN ORDER TO ROUTE WITHIN WALLS AS SHOWN (STACKS DO NOT ALIGN WITHIN ACCESSIBLE BATHROOM LAYOUTS VERSUS TYPICAL BATHROOMS).
5. DOMESTIC SUPPLY LINES SERVING MORE THAN (1) FIXTURE SHALL BE ½" UNLESS NOTED OTHERWISE.
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1. ½" CW PIPE UP FROM BELOW WITH SHUT-OFF VALVE IN ACCESSIBLE LOCATION. SEE OVERALL PLUMBING PLANS FOR DETAILS.
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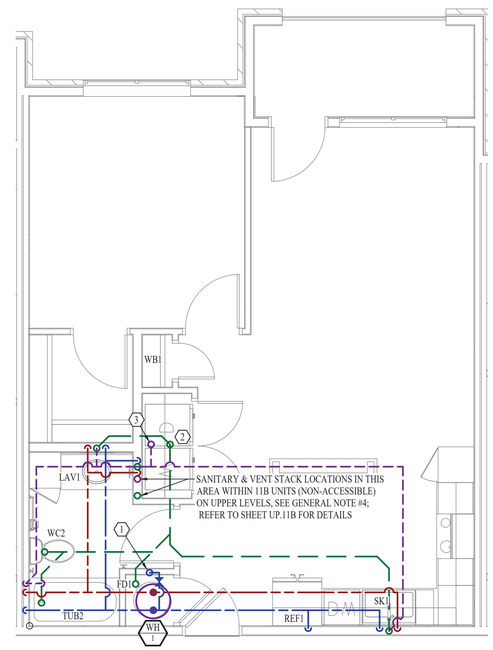

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SHEET TITLE

11B-ACC MEP UNIT PLAN

SHEET NUMBER

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3. REFER TO M100 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS. REFRIGERANT PIPING SHALL ROUTE IN SPACES ABOVE FINISHED CEILINGS AND WITHIN WALL CAVITIES TO REMAIN CONCEALED.
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HVAC PLAN KEY NOTES:

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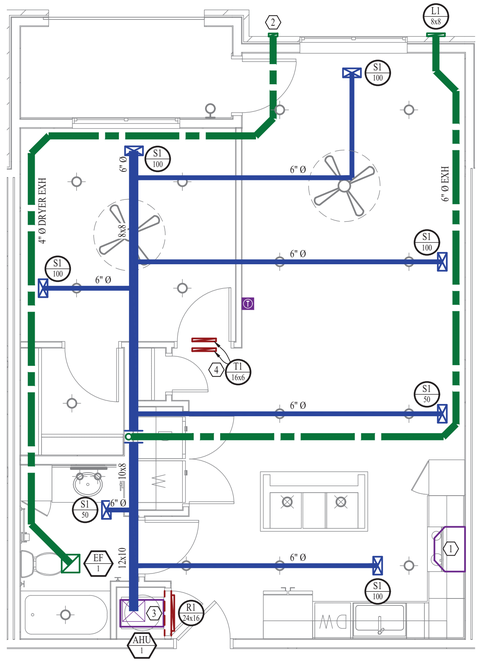

HVAC PLAN

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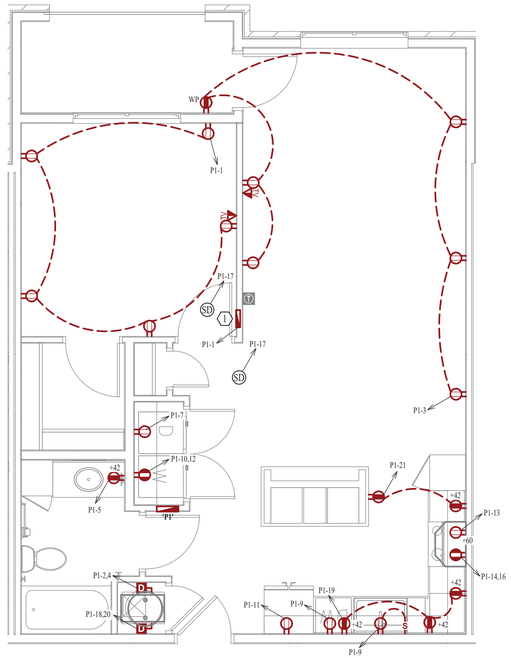

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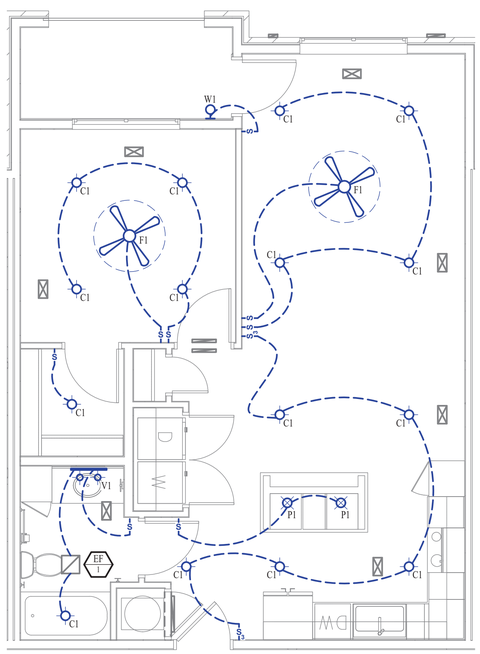


LIGHTING PLAN

SCALE: ¼" = 1' - 0"

PLUMBING PLAN SYMBOL LEGEND

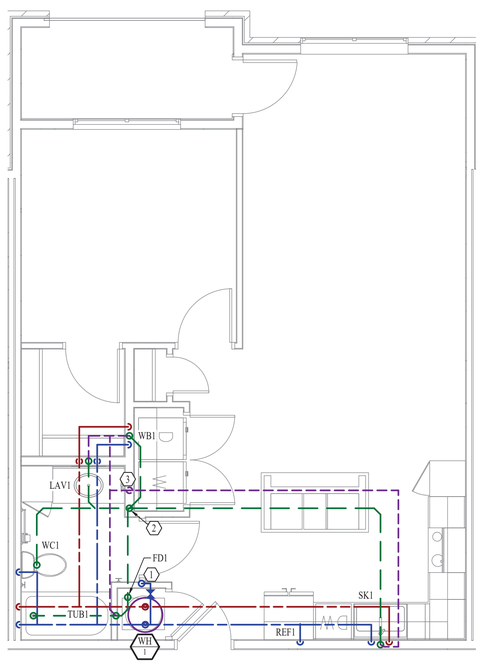
- SANITARY SEWER PIPING
- VENT PIPING
- COLD WATER LINE
- HOT WATER LINE
- VALVE
- PIPING TURNED DOWN / TURNED UP

PLUMBING PLAN GENERAL NOTES:

1. REFER TO P500 SERIES SHEETS FOR PLUMBING SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. REFER TO OVERALL PLUMBING PLAN SHEETS FOR SANITARY PIPING PLANS FOR UNITS ON MAIN LEVEL.
3. ALL PLUMBING LOCATED ON EXTERIOR WALLS SHALL ROUTE WITHIN INSULATION BARRIER.
4. ALL DOMESTIC SUPPLY LINES SERVING MORE THAN (1) FIXTURE SHALL BE ½" UNLESS NOTED OTHERWISE.
5. ALL SANITARY SEWER PIPING SERVING MORE THAN (1) FIXTURE SHALL BE 3" UNLESS NOTED OTHERWISE.

PLUMBING PLAN KEY NOTES:

1. ½" CW PIPE UP FROM BELOW WITH SHUT-OFF VALVE IN ACCESSIBLE LOCATION. SEE OVERALL PLUMBING PLANS FOR DETAILS.
2. 3" SANITARY STACK DOWN TO LEVEL BELOW (SEE GENERAL NOTES).
3. 3" SANITARY VENT STACK UP THROUGH ROOF ON FOURTH FLOOR.



PLUMBING PLAN

SCALE: ¼" = 1' - 0"

STATE OF MISSOURI
JAMES P. WATSON
NUMBER PE-2015017071
PROFESSIONAL ENGINEER

James Watson, P.E. January 7, 2021
PE-2015017071
MO Certificate of Authority # 2018029680

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Columbia, Missouri 65203
573 - 234 - 4492 phone
www.j-squaredeng.com

J2 PROJECT No:	J20055
J2 DESIGN:	ACW

ISSUE TITLE	DATE
PHASE I - PERMIT SET	01 - 07 - 2021

Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

11C
MEP UNIT PLAN

SHEET NUMBER

UP.11C

HVAC PLAN SYMBOL LEGEND

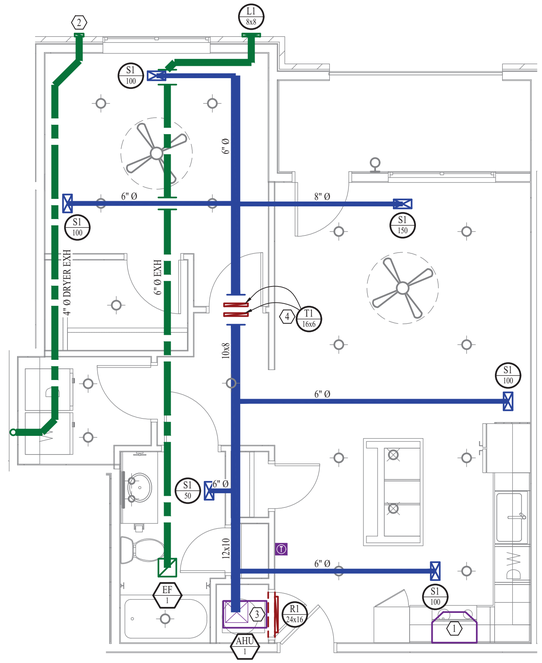
- EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE)
- EQUIPMENT REFERENCE NUMBER
- DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE)
- CUBIC FEET PER MINUTE (CFM) / FACE SIZE
- SUPPLY DUCTWORK
- RETURN DUCTWORK
- EXHAUST DUCTWORK
- SUPPLY DIFFUSER
- RETURN DIFFUSER
- BALANCE DAMPER
- CEILING RADIATION DAMPER
- FIRE RATED DAMPER
- THERMOSTAT

HVAC PLAN GENERAL NOTES:

1. REFER TO M500 & M600 SERIES SHEETS FOR HVAC SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. APARTMENT MEETS NATURAL VENTILATION REQUIREMENT PER 2015 IMC 402 AND IS EXEMPT FROM MECHANICAL VENTILATION REQUIREMENTS.
3. REFER TO M100 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS. REFRIGERANT PIPING SHALL ROUTE IN SPACES ABOVE FINISHED CEILINGS AND WITHIN WALL CAVITIES TO REMAIN CONCEALED.
4. SUPPLY DUCTWORK FROM AHU AT FLOOR/CEILING PENETRATION SHALL BE PROTECTED BY A FIRE RADIATION DAMPER. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
5. WRAP ALL DRYER DUCTS WITH FIREMASTER (OR EQUAL) DUCT WRAP.
6. TOTAL DEVELOPED LENGTH OF EXHAUST DUCT SHALL BE INDICATED ON A PERMANENT LABEL WITHIN 6' OF DRYER VENT CONNECTION. TOTAL DEVELOPED LENGTH FOR THIS UNIT IS APPROXIMATELY 40' PER 2018 IMC 504.8.4.

HVAC PLAN KEY NOTES:

1. RESIDENTIAL RECIRCULATION HOOD TO BE SUPPLIED & INSTALLED BY GC.
2. TERMINATE 4" DRYER EXHAUST WITH VENT EQUAL TO DRYER WALL VENT #DWV4.
3. AHU LOCATED ABOVE WATER HEATER, COORDINATE WITH PLUMBING CONTRACTOR. CONDENSATE TO DISCHARGE IN FLOOR DRAIN WITHIN CLOSET. SEE M500 SERIES SHEETS FOR RETURN AIR DETAILS.
4. TRANSFER GRILLE CENTERED ABOVE BOTH SIDES OF DOOR.



HVAC PLAN

SCALE: ¼" = 1' - 0"

POWER PLAN SYMBOL LEGEND

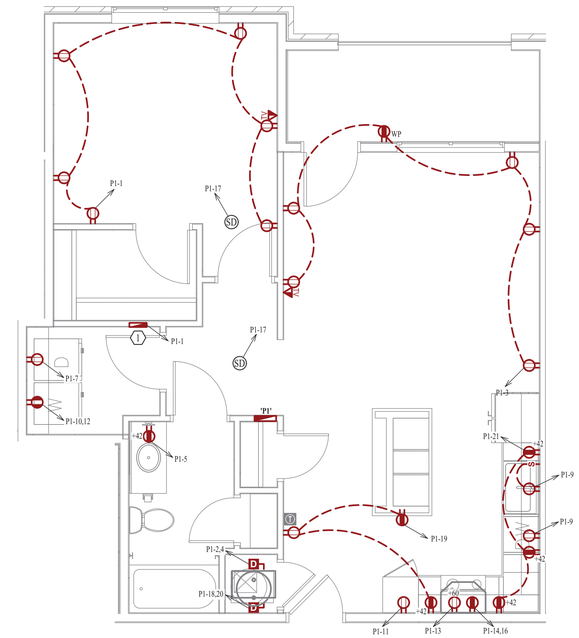
- CIRCUIT WIRING
- PX-XX — CIRCUIT TAG
- JUNCTION BOX
- XX +42 — RECEPTACLE
  - INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX (STD @ 18" AFF UNLESS NOTED OTHERWISE)
  - "WP" = WEATHERPROOF OUTDOOR RECEPTACLE
- GFCI DUPLEX CONVENIENCE RECEPTACLE
- 208V RECEPTACLE
- QUADPLEX CONVENIENCE RECEPTACLE
- DATA / PHONE JACK BOX WITH 1" CONDUIT & CAT6 TO MEDIA PANEL LOCATION (SEE PLAN) (STANDARD @ 18" A.F.F. UNLESS NOTED OTHERWISE)
- DISCONNECT
- SD — 120V SMOKE DETECTOR WITH LOW-VOLTAGE CONTACTS WIRED TO SHUT DOWN AHU UPON FIRE DETECTION. COORDINATE WITH HVAC CONTRACTOR.

POWER PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR POWER SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. REFER TO M100 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS.
3. VERIFY EACH DATA/RECEPTACLE LOCATION WITH OWNER PRIOR TO INSTALLATION.

POWER PLAN KEY NOTES:

1. MEDIA PANEL LOCATION; DATA/TV WIRING TO TERMINATE AT THIS LOCATION. DETERMINE EXACT LOCATION & DETAILS WITH OWNER PRIOR TO INSTALLATION. OWNER'S SUBCONTRACTOR TO PROVIDE & INSTALL MEDIA PANEL AND PROVIDE/INSTALL/TERMINATE ALL LOW VOLTAGE WIRING.



POWER PLAN

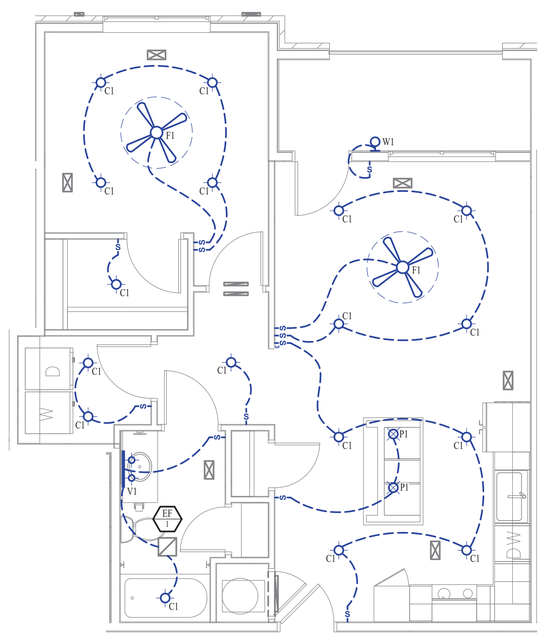
SCALE: ¼" = 1' - 0"

LIGHTING PLAN SYMBOL LEGEND

- X1 — LIGHTING FIXTURE
  - "X1" INDICATES FIXTURE TYPE (REFER TO SCHEDULE)
- TOGGLE SWITCH
- SWITCH TYPE
- DIMMER SWITCH

LIGHTING PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR LIGHTING SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. ALL LIGHTING SHOWN SHALL BE ON CIRCUIT P1-15 UNLESS NOTED OTHERWISE.



LIGHTING PLAN

SCALE: ¼" = 1' - 0"

PLUMBING PLAN SYMBOL LEGEND

- SANITARY SEWER PIPING
- VENT PIPING
- COLD WATER LINE
- HOT WATER LINE
- VALVE
- PIPING TURNED DOWN / TURNED UP

PLUMBING PLAN GENERAL NOTES:

1. REFER TO P500 SERIES SHEETS FOR PLUMBING SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. REFER TO OVERALL PLUMBING PLAN SHEETS FOR SANITARY PIPING PLANS FOR UNITS ON MAIN LEVEL.
3. ALL PLUMBING LOCATED ON EXTERIOR WALLS SHALL ROUTE WITHIN INSULATION BARRIER.
4. ALL DOMESTIC SUPPLY LINES SERVING MORE THAN (1) FIXTURE SHALL BE ½" UNLESS NOTED OTHERWISE.
5. ALL SANITARY SEWER PIPING SERVING MORE THAN (1) FIXTURE SHALL BE 3" UNLESS NOTED OTHERWISE.

PLUMBING PLAN KEY NOTES:

1. ½" CW PIPE UP FROM BELOW WITH SHUT-OFF VALVE IN ACCESSIBLE LOCATION. SEE OVERALL PLUMBING PLANS FOR DETAILS.
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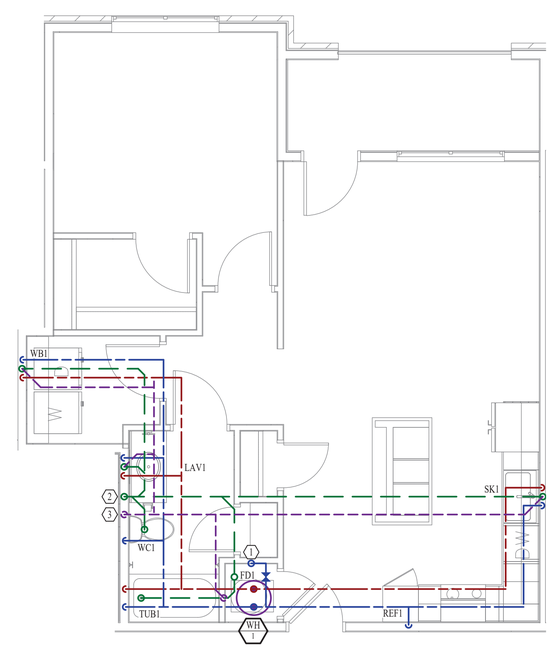

PLUMBING PLAN

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Aria Apartments - Lee's Summit

Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

11D MEP UNIT PLAN

SHEET NUMBER

UP.11D

HVAC PLAN SYMBOL LEGEND

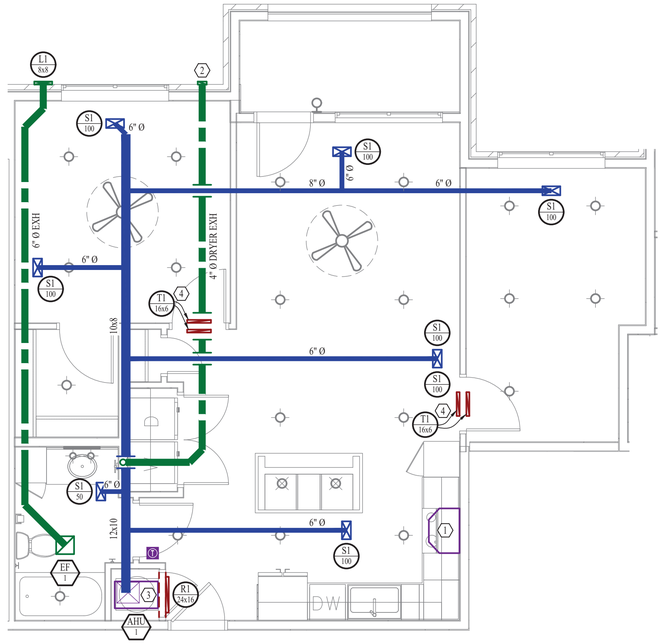
- EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE)
- EQUIPMENT REFERENCE NUMBER
- DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE)
- CUBIC FEET PER MINUTE (CFM) / FACE SIZE
- SUPPLY DUCTWORK
- RETURN DUCTWORK
- EXHAUST DUCTWORK
- SUPPLY DIFFUSER
- RETURN DIFFUSER
- BALANCE DAMPER
- CEILING RADIATION DAMPER
- FIRE RATED DAMPER
- THERMOSTAT

HVAC PLAN GENERAL NOTES:

1. REFER TO M500 & M600 SERIES SHEETS FOR HVAC SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. APARTMENT MEETS NATURAL VENTILATION REQUIREMENT PER 2015 IMC 402 AND IS EXEMPT FROM MECHANICAL VENTILATION REQUIREMENTS.
3. REFER TO M100 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS. REFRIGERANT PIPING SHALL ROUTE IN SPACES ABOVE FINISHED CEILINGS AND WITHIN WALL CAVITIES TO REMAIN CONCEALED.
4. SUPPLY DUCTWORK FROM AHU AT FLOOR/CEILING PENETRATION SHALL BE PROTECTED BY A FIRE RADIATION DAMPER. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
5. WRAP ALL DRYER DUCTS WITH FIREMASTER (OR EQUAL) DUCT WRAP.
6. TOTAL DEVELOPED LENGTH OF EXHAUST DUCT SHALL BE INDICATED ON A PERMANENT LABEL WITHIN 6' OF DRYER VENT CONNECTION. TOTAL DEVELOPED LENGTH FOR THIS UNIT IS APPROXIMATELY 35' PER 2018 IMC 504.8.4.

HVAC PLAN KEY NOTES:

1. RESIDENTIAL RECIRCULATION HOOD TO BE SUPPLIED & INSTALLED BY GC.
2. TERMINATE 4" DRYER EXHAUST WITH VENT EQUAL TO DRYER WALL VENT #DWV4.
3. AHU LOCATED ABOVE WATER HEATER, COORDINATE WITH PLUMBING CONTRACTOR. CONDENSATE TO DISCHARGE IN FLOOR DRAIN WITHIN CLOSET. SEE M500 SERIES SHEETS FOR RETURN AIR DETAILS.
4. TRANSFER GRILLE CENTERED ABOVE BOTH SIDES OF DOOR.



HVAC PLAN

SCALE: ¼" = 1' - 0"

POWER PLAN SYMBOL LEGEND

- CIRCUIT WIRING
- PX-XX — CIRCUIT TAG
- JUNCTION BOX
- XX +42 — RECEPTACLE
  - INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX (STD @ 18" AFF UNLESS NOTED OTHERWISE)
  - "WP" = WEATHERPROOF OUTDOOR RECEPTACLE
- GFCI DUPLEX CONVENIENCE RECEPTACLE
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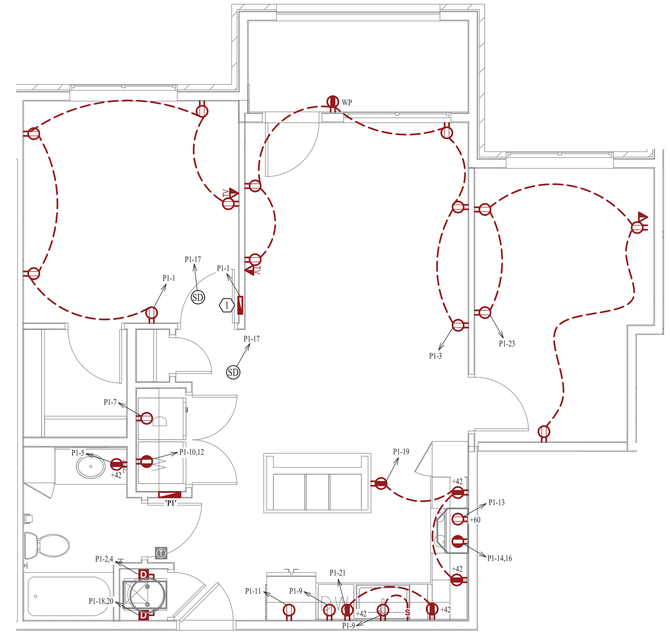
- DATA / PHONE JACK BOX WITH 1" CONDUIT & CAT6 TO MEDIA PANEL LOCATION (SEE PLAN) (STANDARD @ 18" A.F.F. UNLESS NOTED OTHERWISE)
- DISCONNECT
- SD — 120V SMOKE DETECTOR WITH LOW-VOLTAGE CONTACTS WIRED TO SHUT DOWN AHU UPON FIRE DETECTION. COORDINATE WITH HVAC CONTRACTOR.

POWER PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR POWER SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. REFER TO M100 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS.
3. VERIFY EACH DATA/RECEPTACLE LOCATION WITH OWNER PRIOR TO INSTALLATION.

POWER PLAN KEY NOTES:

1. MEDIA PANEL LOCATION; DATA/TV WIRING TO TERMINATE AT THIS LOCATION. DETERMINE EXACT LOCATION & DETAILS WITH OWNER PRIOR TO INSTALLATION. OWNER'S SUBCONTRACTOR TO PROVIDE & INSTALL MEDIA PANEL AND PROVIDE/INSTALL/TERMINATE ALL LOW VOLTAGE WIRING.



POWER PLAN

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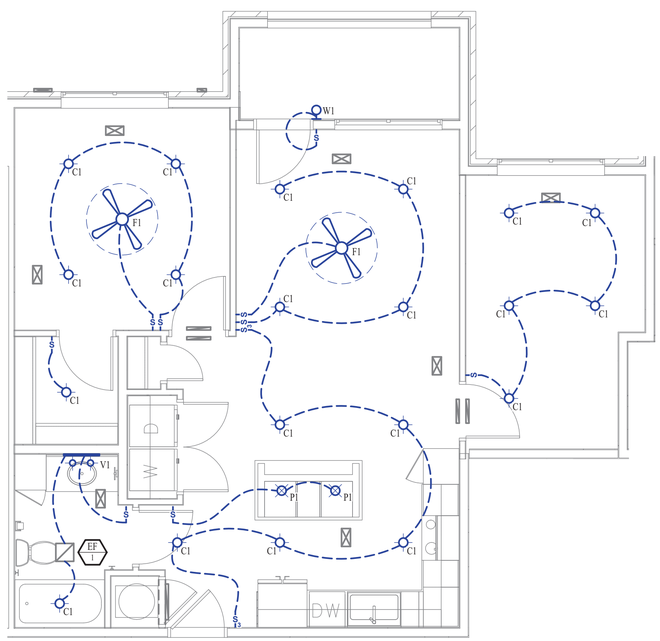
LIGHTING PLAN SYMBOL LEGEND

- X1 — LIGHTING FIXTURE
  - "X1" INDICATES FIXTURE TYPE (REFER TO SCHEDULE)
- TOGGLE SWITCH
  - SWITCH TYPE
- DIMMER SWITCH

LIGHTING PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR LIGHTING SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. ALL LIGHTING SHOWN SHALL BE ON CIRCUIT P1-15 UNLESS NOTED OTHERWISE.



LIGHTING PLAN

SCALE: ¼" = 1' - 0"

PLUMBING PLAN SYMBOL LEGEND

- SANITARY SEWER PIPING
- VENT PIPING
- COLD WATER LINE
- HOT WATER LINE
- VALVE
- PIPING TURNED DOWN / TURNED UP

PLUMBING PLAN GENERAL NOTES:

1. REFER TO P500 SERIES SHEETS FOR PLUMBING SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. REFER TO OVERALL PLUMBING PLAN SHEETS FOR SANITARY PIPING PLANS FOR UNITS ON MAIN LEVEL.
3. ALL PLUMBING LOCATED ON EXTERIOR WALLS SHALL ROUTE WITHIN INSULATION BARRIER.
4. ALL DOMESTIC SUPPLY LINES SERVING MORE THAN (1) FIXTURE SHALL BE ½" UNLESS NOTED OTHERWISE.
5. ALL SANITARY SEWER PIPING SERVING MORE THAN (1) FIXTURE SHALL BE 3" UNLESS NOTED OTHERWISE.

PLUMBING PLAN KEY NOTES:

1. ½" CW PIPE UP FROM BELOW WITH SHUT-OFF VALVE IN ACCESSIBLE LOCATION. SEE OVERALL PLUMBING PLANS FOR DETAILS.
2. 3" SANITARY STACK DOWN TO LEVEL BELOW (SEE GENERAL NOTES).
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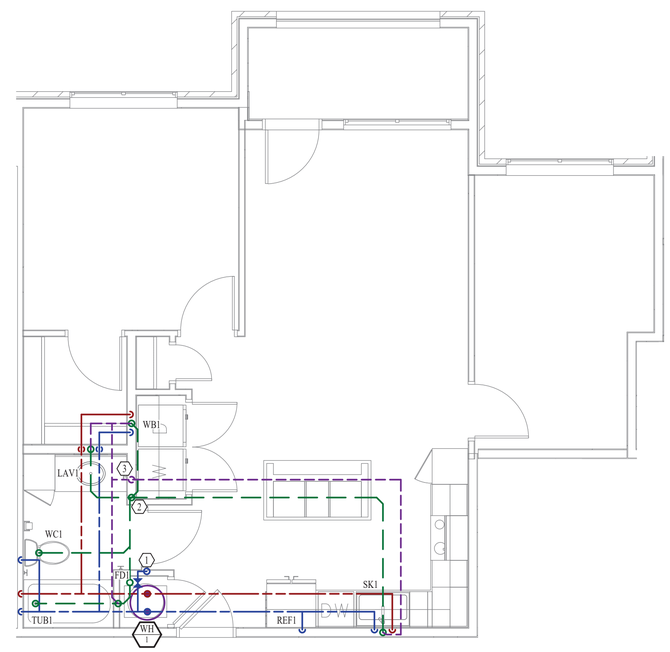

PLUMBING PLAN

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Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

11E
MEP UNIT PLAN

SHEET NUMBER

UP.11E

HVAC PLAN SYMBOL LEGEND

- EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE)
- EQUIPMENT REFERENCE NUMBER
- DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE)
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- EXHAUST DUCTWORK
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- RETURN DIFFUSER
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HVAC PLAN GENERAL NOTES:

1. REFER TO M500 & M600 SERIES SHEETS FOR HVAC SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. APARTMENT MEETS NATURAL VENTILATION REQUIREMENT PER 2015 IMC 402 AND IS EXEMPT FROM MECHANICAL VENTILATION REQUIREMENTS.
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5. WRAP ALL DRYER DUCTS WITH FIREMASTER (OR EQUAL) DUCT WRAP.
6. TOTAL DEVELOPED LENGTH OF EXHAUST DUCT SHALL BE INDICATED ON A PERMANENT LABEL WITHIN 6' OF DRYER VENT CONNECTION. TOTAL DEVELOPED LENGTH FOR THIS UNIT IS APPROXIMATELY 30' PER 2018 IMC 504.8.4.

HVAC PLAN KEY NOTES:

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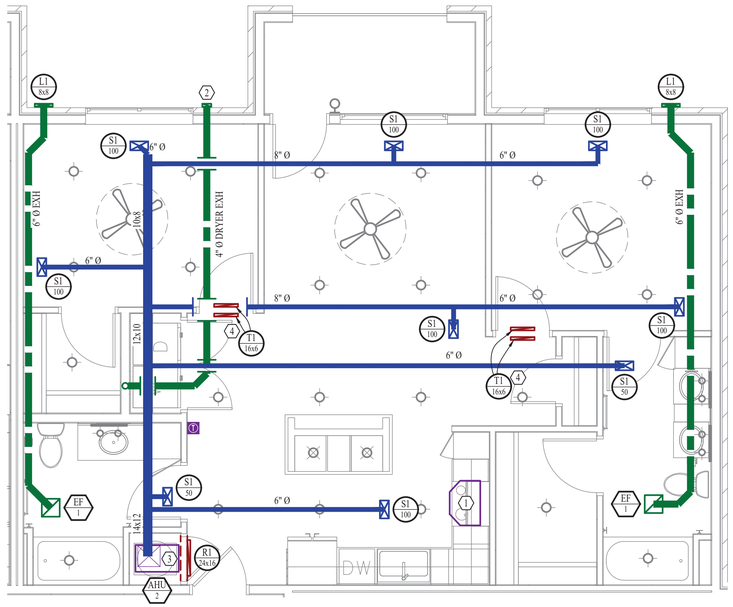
2. TERMINATE 4" DRYER EXHAUST WITH VENT EQUAL TO DRYER WALL VENT #DWV4.
3. AHU LOCATED ABOVE WATER HEATER, COORDINATE WITH PLUMBING CONTRACTOR. CONDENSATE TO DISCHARGE IN FLOOR DRAIN WITHIN CLOSET. SEE M500 SERIES SHEETS FOR RETURN AIR DETAILS.
4. TRANSFER GRILLE CENTERED ABOVE BOTH SIDES OF DOOR.



HVAC PLAN

SCALE: ¼" = 1' - 0"

POWER PLAN SYMBOL LEGEND

- CIRCUIT WIRING
- PX-XX — CIRCUIT TAG
- JUNCTION BOX
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  - INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX (STD @ 18" AFF UNLESS NOTED OTHERWISE)
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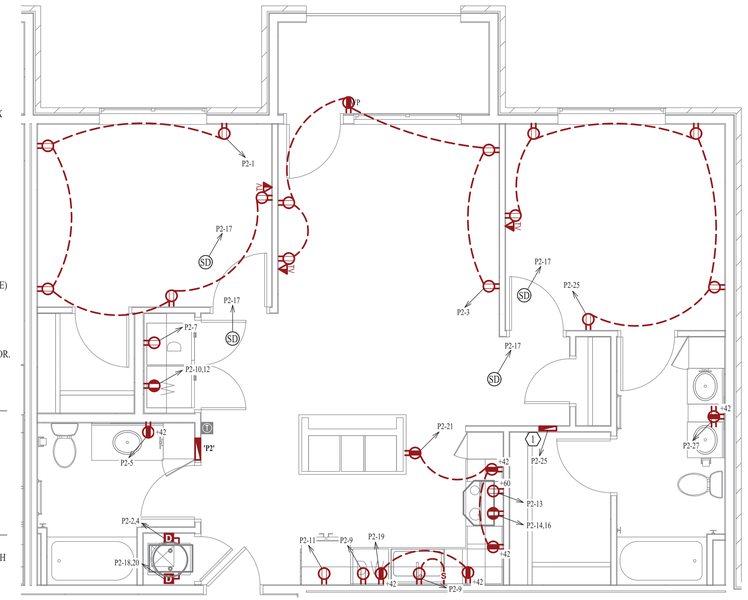

POWER PLAN

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LIGHTING PLAN SYMBOL LEGEND

- X1 — LIGHTING FIXTURE
  - "X1" INDICATES FIXTURE TYPE (REFER TO SCHEDULE)
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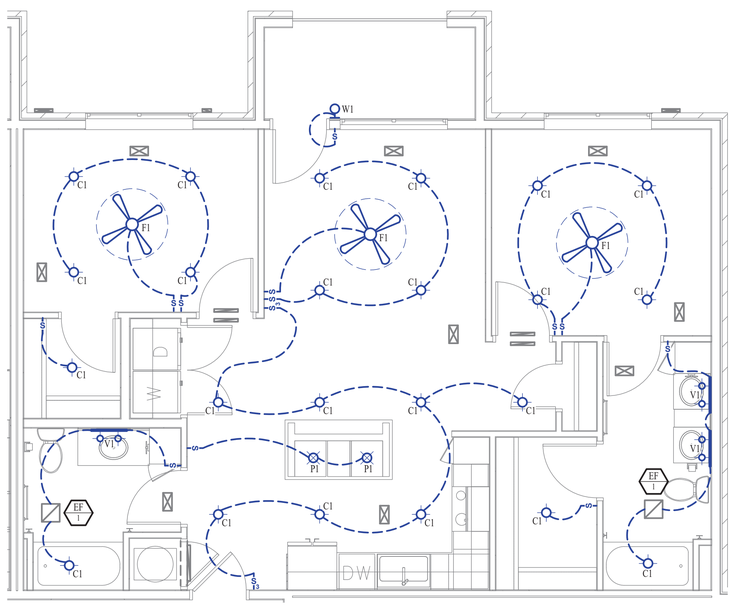
- SWITCH TYPE
- DIMMER SWITCH

LIGHTING PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR LIGHTING SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. ALL LIGHTING SHOWN SHALL BE ON CIRCUIT P2-15 UNLESS NOTED OTHERWISE.



LIGHTING PLAN

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- SANITARY SEWER PIPING
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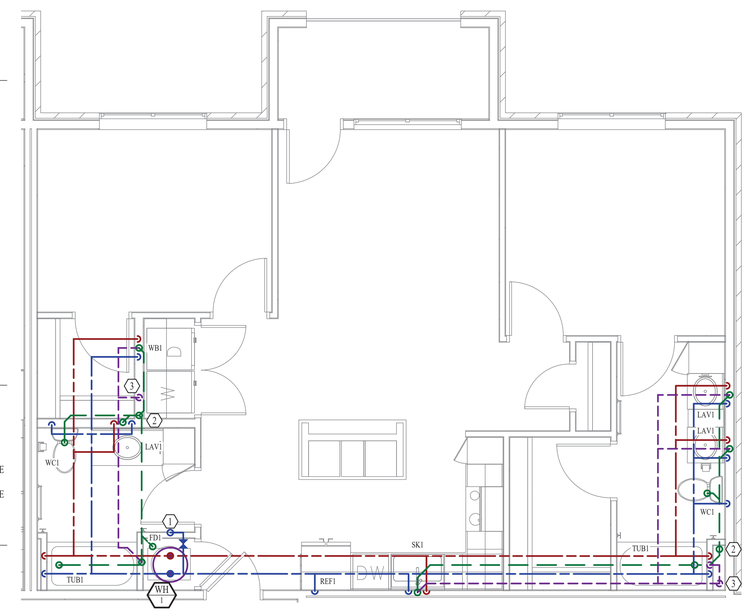

PLUMBING PLAN

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SHEET TITLE

22A
MEP UNIT PLAN

SHEET NUMBER

UP.22A

HVAC PLAN SYMBOL LEGEND

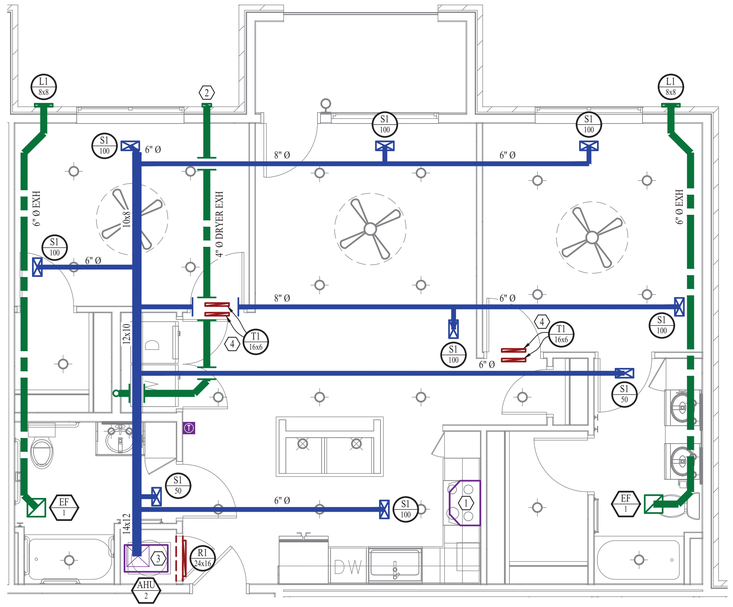
- EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE)
- EQUIPMENT REFERENCE NUMBER
- DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE)
- CUBIC FEET PER MINUTE (CFM) / FACE SIZE
- SUPPLY DUCTWORK
- RETURN DUCTWORK
- EXHAUST DUCTWORK
- SUPPLY DIFFUSER
- RETURN DIFFUSER
- BALANCE DAMPER
- CEILING RADIATION DAMPER
- FIRE RATED DAMPER
- THERMOSTAT

HVAC PLAN GENERAL NOTES:

1. REFER TO M500 & M600 SERIES SHEETS FOR HVAC SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. APARTMENT MEETS NATURAL VENTILATION REQUIREMENT PER 2015 IMC 402 AND IS EXEMPT FROM MECHANICAL VENTILATION REQUIREMENTS.
3. REFER TO M100 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS. REFRIGERANT PIPING SHALL ROUTE IN SPACES ABOVE FINISHED CEILINGS AND WITHIN WALL CAVITIES TO REMAIN CONCEALED.
4. SUPPLY DUCTWORK FROM AHU AT FLOOR/CEILING PENETRATION SHALL BE PROTECTED BY A FIRE RADIATION DAMPER. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
5. WRAP ALL DRYER DUCTS WITH FIREMASTER (OR EQUAL) DUCT WRAP.
6. TOTAL DEVELOPED LENGTH OF EXHAUST DUCT SHALL BE INDICATED ON A PERMANENT LABEL WITHIN 6' OF DRYER VENT CONNECTION. TOTAL DEVELOPED LENGTH FOR THIS UNIT IS APPROXIMATELY 30' PER 2018 IMC 504.8.4.

HVAC PLAN KEY NOTES:

1. RESIDENTIAL RECIRCULATION HOOD TO BE SUPPLIED & INSTALLED BY GC.
2. TERMINATE 4" DRYER EXHAUST WITH VENT EQUAL TO DRYER WALL VENT #DWV4.
3. AHU LOCATED ABOVE WATER HEATER, COORDINATE WITH PLUMBING CONTRACTOR. CONDENSATE TO DISCHARGE IN FLOOR DRAIN WITHIN CLOSET. SEE M500 SERIES SHEETS FOR RETURN AIR DETAILS.
4. TRANSFER GRILLE CENTERED ABOVE BOTH SIDES OF DOOR.



HVAC PLAN

SCALE: ¼" = 1' - 0"

POWER PLAN SYMBOL LEGEND

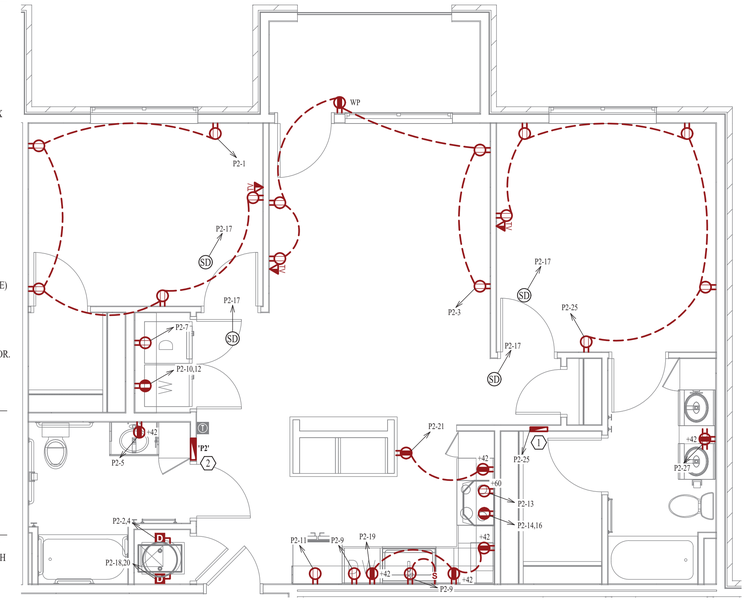
- CIRCUIT WIRING
- PX-XX — CIRCUIT TAG
- JUNCTION BOX
- RECEPTACLE — XX, +42: INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX (STD @ 18" AFF UNLESS NOTED OTHERWISE); "WP" = WEATHERPROOF OUTDOOR RECEPTACLE
- GFCI DUPLEX CONVENIENCE RECEPTACLE
- 208V RECEPTACLE
- QUADPLEX CONVENIENCE RECEPTACLE
- DATA / PHONE JACK BOX WITH 1" CONDUIT & CAT6 TO MEDIA PANEL LOCATION (SEE PLAN) (STANDARD @ 18" A.F.F. UNLESS NOTED OTHERWISE)
- DISCONNECT
- SD — 120V SMOKE DETECTOR WITH LOW-VOLTAGE CONTACTS WIRED TO SHUT DOWN AHU UPON FIRE DETECTION. COORDINATE WITH HVAC CONTRACTOR.

POWER PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR POWER SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. REFER TO M100 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS.
3. VERIFY EACH DATA/RECEPTACLE LOCATION WITH OWNER PRIOR TO INSTALLATION.

POWER PLAN KEY NOTES:

1. MEDIA PANEL LOCATION; DATA/TV WIRING TO TERMINATE AT THIS LOCATION. DETERMINE EXACT LOCATION & DETAILS WITH OWNER PRIOR TO INSTALLATION. OWNER'S SUBCONTRACTOR TO PROVIDE & INSTALL MEDIA PANEL AND PROVIDE/INSTALL/TERMINATE ALL LOW VOLTAGE WIRING.
2. ELECTRICAL PANEL MOUNTING HEIGHT MUST MEET ADA ACCESSIBILITY REQUIREMENTS; REFER TO ARCHITECTURAL PLANS.



POWER PLAN

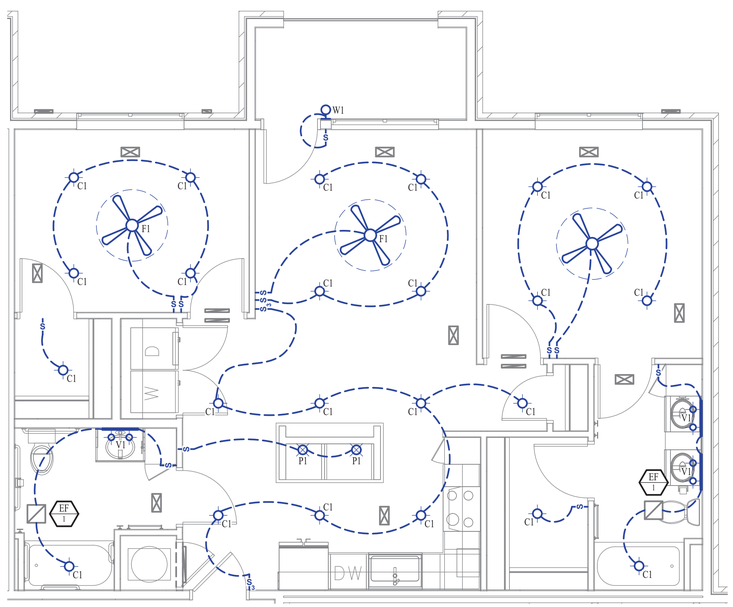
SCALE: ¼" = 1' - 0"

LIGHTING PLAN SYMBOL LEGEND

- X1 — LIGHTING FIXTURE; "X1" INDICATES FIXTURE TYPE (REFER TO SCHEDULE)
- TOGGLE SWITCH; SWITCH TYPE
- DIMMER SWITCH

LIGHTING PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR LIGHTING SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. ALL LIGHTING SHOWN SHALL BE ON CIRCUIT P2-15 UNLESS NOTED OTHERWISE.



LIGHTING PLAN

SCALE: ¼" = 1' - 0"

PLUMBING PLAN SYMBOL LEGEND

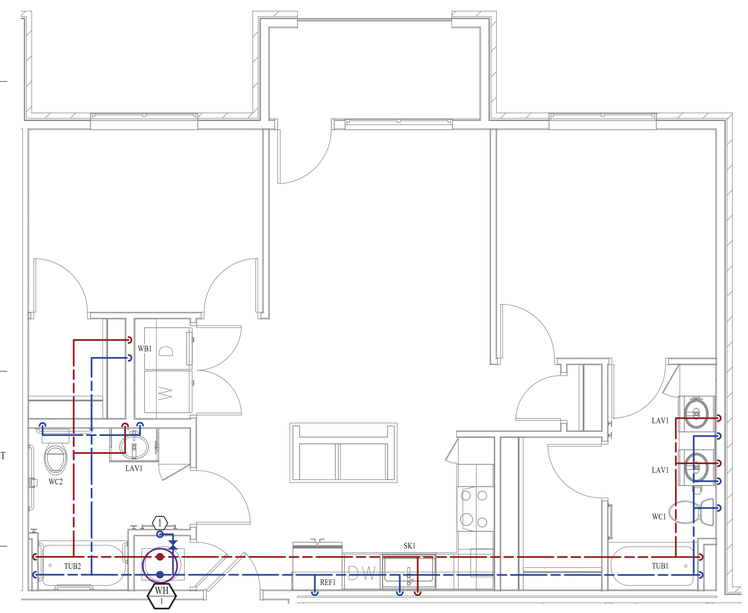
- SANITARY SEWER PIPING
- VENT PIPING
- COLD WATER LINE
- HOT WATER LINE
- VALVE
- PIPING TURNED DOWN / TURNED UP

PLUMBING PLAN GENERAL NOTES:

1. REFER TO P500 SERIES SHEETS FOR PLUMBING SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. REFER TO OVERALL PLUMBING PLAN SHEETS FOR SANITARY PIPING PLANS FOR UNITS ON MAIN LEVEL.
3. ALL PLUMBING LOCATED ON EXTERIOR WALLS SHALL ROUTE WITHIN INSULATION BARRIER.
4. UNITS 22A-ACC ARE LOCATED WITHIN ALL 'A' BUILDINGS ON 1ST FLOOR (CONFIRM WITH ARCHITECT). REFER TO OVERALL SANITARY PLANS FOR SANITARY SEWER & VENT ROUTING WITHIN 22A-ACC UNITS (SANITARY & VENT STACKS ALIGN WITHIN 22A & 22-ACC UNITS).

PLUMBING PLAN KEY NOTES:

1. ¾" CW PIPE UP FROM BELOW WITH SHUT-OFF VALVE IN ACCESSIBLE LOCATION. SEE OVERALL PLUMBING PLANS FOR DETAILS.
2. 3" SANITARY STACK DOWN TO LEVEL BELOW (SEE GENERAL NOTES).
3. 3" SANITARY VENT STACK UP THROUGH ROOF ON FOURTH FLOOR.



PLUMBING PLAN

SCALE: ¼" = 1' - 0"

STATE OF MISSOURI
JAMES P. WATSON
NUMBER PE-2015017071
PROFESSIONAL ENGINEER

James Watson, P.E. January 7, 2021
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J2 PROJECT No:	J20055
J2 DESIGN:	ACW

ISSUE TITLE	DATE
PHASE I - PERMIT SET	01 - 07 - 2021

Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

22A-ACC
MEP UNIT PLAN

SHEET NUMBER

UP.22A-ACC

HVAC PLAN SYMBOL LEGEND

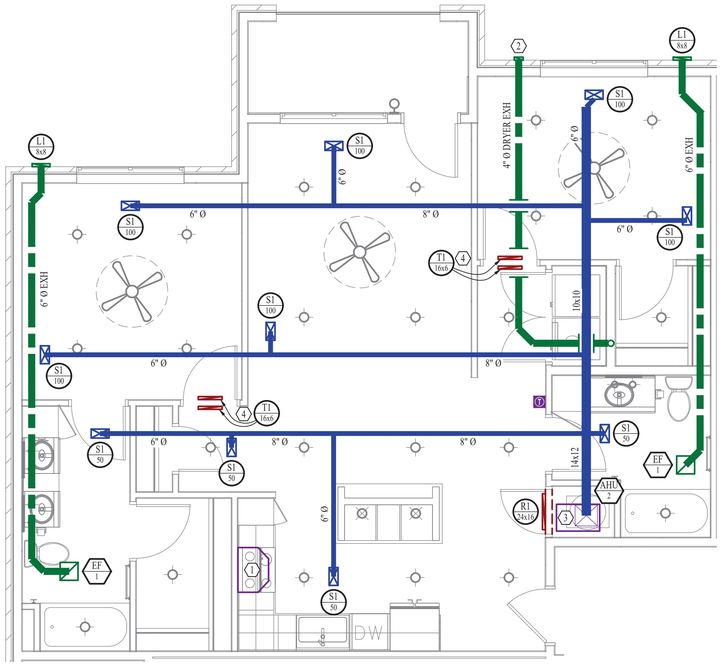
- EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE)
- EQUIPMENT REFERENCE NUMBER
- DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE)
- CUBIC FEET PER MINUTE (CFM) / FACE SIZE
- SUPPLY DUCTWORK
- RETURN DUCTWORK
- EXHAUST DUCTWORK
- SUPPLY DIFFUSER
- RETURN DIFFUSER
- BALANCE DAMPER
- CEILING RADIATION DAMPER
- FIRE RATED DAMPER
- THERMOSTAT

HVAC PLAN GENERAL NOTES:

1. REFER TO M500 & M600 SERIES SHEETS FOR HVAC SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. APARTMENT MEETS NATURAL VENTILATION REQUIREMENT PER 2015 IMC 402 AND IS EXEMPT FROM MECHANICAL VENTILATION REQUIREMENTS.
3. REFER TO M100 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS. REFRIGERANT PIPING SHALL ROUTE IN SPACES ABOVE FINISHED CEILINGS AND WITHIN WALL CAVITIES TO REMAIN CONCEALED.
4. SUPPLY DUCTWORK FROM AHU AT FLOOR/CEILING PENETRATION SHALL BE PROTECTED BY A FIRE RADIATION DAMPER. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
5. WRAP ALL DRYER DUCTS WITH FIREMASTER (OR EQUAL) DUCT WRAP.
6. TOTAL DEVELOPED LENGTH OF EXHAUST DUCT SHALL BE INDICATED ON A PERMANENT LABEL WITHIN 6' OF DRYER VENT CONNECTION. TOTAL DEVELOPED LENGTH FOR THIS UNIT IS APPROXIMATELY 30' PER 2018 IMC 504.8.4.

HVAC PLAN KEY NOTES:

1. RESIDENTIAL RECIRCULATION HOOD TO BE SUPPLIED & INSTALLED BY GC.
2. TERMINATE 4" DRYER EXHAUST WITH VENT EQUAL TO DRYER WALL VENT #DWV4.
3. AHU LOCATED ABOVE WATER HEATER, COORDINATE WITH PLUMBING CONTRACTOR. CONDENSATE TO DISCHARGE IN FLOOR DRAIN WITHIN CLOSET. SEE M500 SERIES SHEETS FOR RETURN AIR DETAILS.
4. TRANSFER GRILLE CENTERED ABOVE BOTH SIDES OF DOOR.



HVAC PLAN

SCALE: ¼" = 1' - 0"

POWER PLAN SYMBOL LEGEND

- CIRCUIT WIRING
- PX-XX — CIRCUIT TAG
- JUNCTION BOX
- XX +42 — RECEPTACLE
  - INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX (STD @ 18" AFF UNLESS NOTED OTHERWISE)
  - "WP" = WEATHERPROOF OUTDOOR RECEPTACLE
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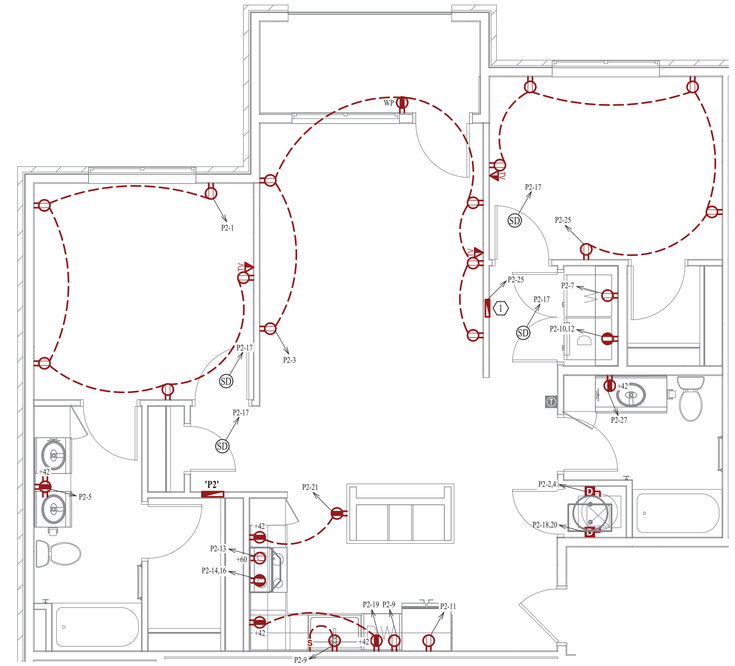
- DATA / PHONE JACK BOX WITH 1" CONDUIT & CAT6 TO MEDIA PANEL LOCATION (SEE PLAN) (STANDARD @ 18" A.F.F. UNLESS NOTED OTHERWISE)
- DISCONNECT
- SD — 120V SMOKE DETECTOR WITH LOW-VOLTAGE CONTACTS WIRED TO SHUT DOWN AHU UPON FIRE DETECTION. COORDINATE WITH HVAC CONTRACTOR.

POWER PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR POWER SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. REFER TO M100 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS.
3. VERIFY EACH DATA/RECEPTACLE LOCATION WITH OWNER PRIOR TO INSTALLATION.

POWER PLAN KEY NOTES:

1. MEDIA PANEL LOCATION; DATA/TV WIRING TO TERMINATE AT THIS LOCATION. DETERMINE EXACT LOCATION & DETAILS WITH OWNER PRIOR TO INSTALLATION. OWNER'S SUBCONTRACTOR TO PROVIDE & INSTALL MEDIA PANEL AND PROVIDE/INSTALL/TERMINATE ALL LOW VOLTAGE WIRING.



POWER PLAN

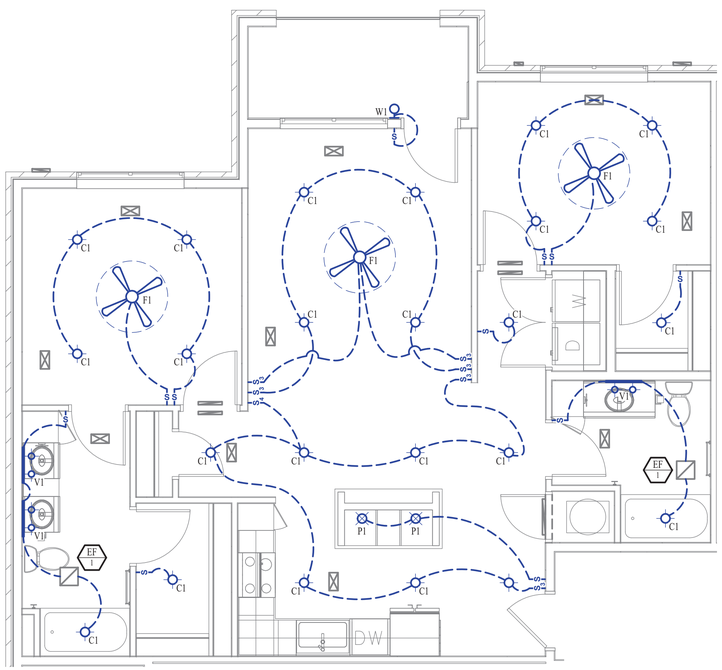
SCALE: ¼" = 1' - 0"

LIGHTING PLAN SYMBOL LEGEND

- X1 — LIGHTING FIXTURE
  - "X1" INDICATES FIXTURE TYPE (REFER TO SCHEDULE)
- TOGGLE SWITCH
- SWITCH TYPE
- DIMMER SWITCH

LIGHTING PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR LIGHTING SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. ALL LIGHTING SHOWN SHALL BE ON CIRCUIT P2-15 UNLESS NOTED OTHERWISE.



LIGHTING PLAN

SCALE: ¼" = 1' - 0"

PLUMBING PLAN SYMBOL LEGEND

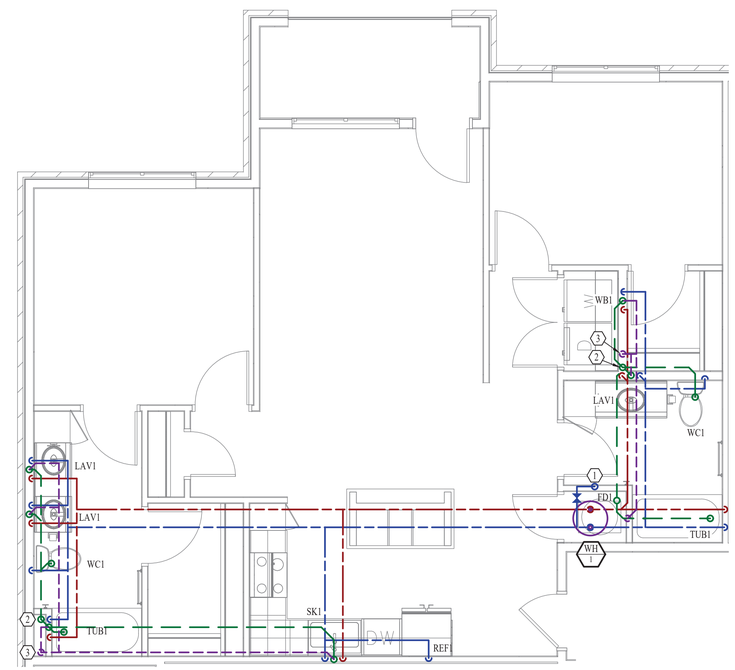
- SANITARY SEWER PIPING
- VENT PIPING
- COLD WATER LINE
- HOT WATER LINE
- VALVE
- PIPING TURNED DOWN / TURNED UP

PLUMBING PLAN GENERAL NOTES:

1. REFER TO P500 SERIES SHEETS FOR PLUMBING SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. REFER TO OVERALL PLUMBING PLAN SHEETS FOR SANITARY PIPING PLANS FOR UNITS ON MAIN LEVEL.
3. ALL PLUMBING LOCATED ON EXTERIOR WALLS SHALL ROUTE WITHIN INSULATION BARRIER.

PLUMBING PLAN KEY NOTES:

1. ¾" CW PIPE UP FROM BELOW WITH SHUT-OFF VALVE IN ACCESSIBLE LOCATION. SEE OVERALL PLUMBING PLANS FOR DETAILS.
2. 3" SANITARY STACK DOWN TO LEVEL BELOW (SEE GENERAL NOTES).
3. 3" SANITARY VENT STACK UP THROUGH ROOF ON FOURTH FLOOR.



PLUMBING PLAN

SCALE: ¼" = 1' - 0"

STATE OF MISSOURI
JAMES P. WATSON
NUMBER PE-2015017071
PROFESSIONAL ENGINEER

James Watson, P.E. January 7, 2021
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J2 PROJECT No:	J20055
J2 DESIGN:	ACW

ISSUE TITLE	DATE
PHASE I - PERMIT SET	01 - 07 - 2021

Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

22B
MEP UNIT PLAN

SHEET NUMBER

UP.22B

HVAC PLAN SYMBOL LEGEND

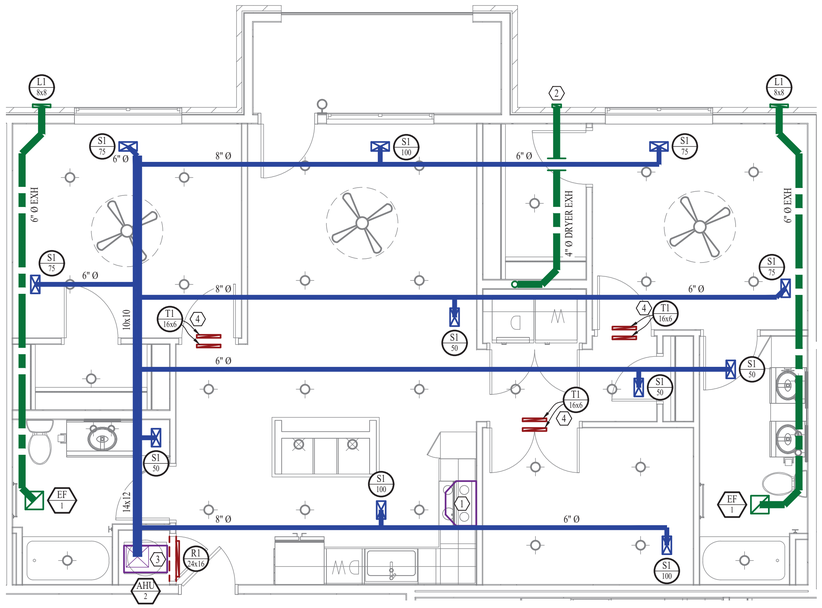
- EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE)
- EQUIPMENT REFERENCE NUMBER
- DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE)
- CUBIC FEET PER MINUTE (CFM) / FACE SIZE
- SUPPLY DUCTWORK
- RETURN DUCTWORK
- EXHAUST DUCTWORK
- SUPPLY DIFFUSER
- RETURN DIFFUSER
- BALANCE DAMPER
- CEILING RADIATION DAMPER
- FIRE RATED DAMPER
- THERMOSTAT

HVAC PLAN GENERAL NOTES:

1. REFER TO M500 & M600 SERIES SHEETS FOR HVAC SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. APARTMENT MEETS NATURAL VENTILATION REQUIREMENT PER 2015 IMC 402 AND IS EXEMPT FROM MECHANICAL VENTILATION REQUIREMENTS.
3. REFER TO M100 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS. REFRIGERANT PIPING SHALL ROUTE IN SPACES ABOVE FINISHED CEILINGS AND WITHIN WALL CAVITIES TO REMAIN CONCEALED.
4. SUPPLY DUCTWORK FROM AHU AT FLOOR/CEILING PENETRATION SHALL BE PROTECTED BY A FIRE RADIATION DAMPER. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
5. WRAP ALL DRYER DUCTS WITH FIREMASTER (OR EQUAL) DUCT WRAP.
6. TOTAL DEVELOPED LENGTH OF EXHAUST DUCT SHALL BE INDICATED ON A PERMANENT LABEL WITHIN 6' OF DRYER VENT CONNECTION. TOTAL DEVELOPED LENGTH FOR THIS UNIT IS APPROXIMATELY 20' PER 2018 IMC 504.8.4.

HVAC PLAN KEY NOTES:

1. RESIDENTIAL RECIRCULATION HOOD TO BE SUPPLIED & INSTALLED BY GC.
2. TERMINATE 4" DRYER EXHAUST WITH VENT EQUAL TO DRYER WALL VENT #DWV4.
3. AHU LOCATED ABOVE WATER HEATER, COORDINATE WITH PLUMBING CONTRACTOR. CONDENSATE TO DISCHARGE IN FLOOR DRAIN WITHIN CLOSET. SEE M500 SERIES SHEETS FOR RETURN AIR DETAILS.
4. TRANSFER GRILLE CENTERED ABOVE BOTH SIDES OF DOOR.



HVAC PLAN

SCALE: ¼" = 1' - 0"

PLUMBING PLAN SYMBOL LEGEND

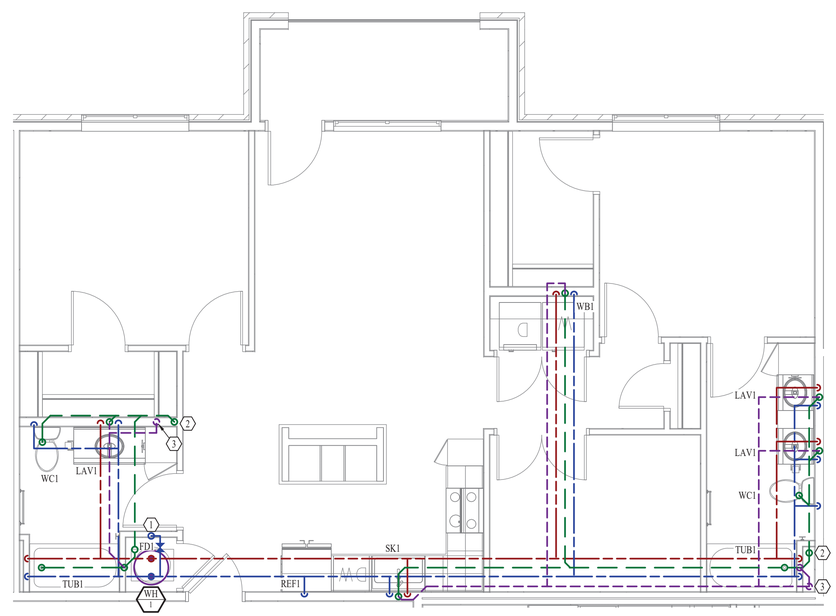
- SANITARY SEWER PIPING
- VENT PIPING
- COLD WATER LINE
- HOT WATER LINE
- VALVE
- PIPING TURNED DOWN / TURNED UP

PLUMBING PLAN GENERAL NOTES:

1. REFER TO P500 SERIES SHEETS FOR PLUMBING SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. REFER TO OVERALL PLUMBING PLAN SHEETS FOR SANITARY PIPING PLANS FOR UNITS ON MAIN LEVEL.
3. ALL PLUMBING LOCATED ON EXTERIOR WALLS SHALL ROUTE WITHIN INSULATION BARRIER.
4. ALL DOMESTIC SUPPLY LINES SERVING MORE THAN (1) FIXTURE SHALL BE ¾" UNLESS NOTED OTHERWISE.
5. ALL SANITARY SEWER PIPING SERVING MORE THAN (1) FIXTURE SHALL BE 3" UNLESS NOTED OTHERWISE.

PLUMBING PLAN KEY NOTES:

1. ½" CW PIPE UP FROM BELOW WITH SHUT-OFF VALVE IN ACCESSIBLE LOCATION. SEE OVERALL PLUMBING PLANS FOR DETAILS.
2. 3" SANITARY STACK DOWN TO LEVEL BELOW (SEE GENERAL NOTES).
3. 3" SANITARY VENT STACK UP THROUGH ROOF ON FOURTH FLOOR.



PLUMBING PLAN

SCALE: ¼" = 1' - 0"

STATE OF MISSOURI
JAMES P. WATSON
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J2 PROJECT No:	J20055
J2 DESIGN:	ACW

ISSUE TITLE	DATE
PHASE I - PERMIT SET	01 - 07 - 2021

Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

22C
MEP UNIT PLAN

SHEET NUMBER

UP.22C

POWER PLAN SYMBOL LEGEND

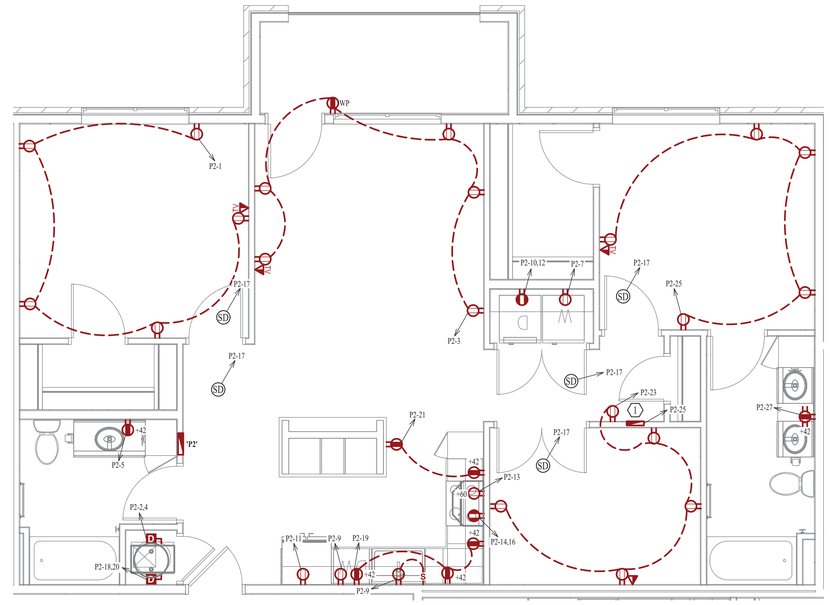
- CIRCUIT WIRING
- PX-XX — CIRCUIT TAG
- J — JUNCTION BOX
- XX +42 — RECEPTACLE
  - INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX (STD @ 18" AFF UNLESS NOTED OTHERWISE)
  - "WP" = WEATHERPROOF OUTDOOR RECEPTACLE
- GFCI DUPLEX CONVENIENCE RECEPTACLE
- 208V RECEPTACLE
- QUADPLEX CONVENIENCE RECEPTACLE
- DATA / PHONE JACK BOX WITH 1" CONDUIT & CAT6 TO MEDIA PANEL LOCATION (SEE PLAN) (STANDARD @ 18" A.F.F. UNLESS NOTED OTHERWISE)
- D J — DISCONNECT
- SD — 120V SMOKE DETECTOR WITH LOW-VOLTAGE CONTACTS WIRED TO SHUT DOWN AHU UPON FIRE DETECTION. COORDINATE WITH HVAC CONTRACTOR.

POWER PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR POWER SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. REFER TO M100 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS.
3. VERIFY EACH DATA/RECEPTACLE LOCATION WITH OWNER PRIOR TO INSTALLATION.

POWER PLAN KEY NOTES:

1. MEDIA PANEL LOCATION; DATA/TV WIRING TO TERMINATE AT THIS LOCATION. DETERMINE EXACT LOCATION & DETAILS WITH OWNER PRIOR TO INSTALLATION. OWNER'S SUBCONTRACTOR TO PROVIDE & INSTALL MEDIA PANEL AND PROVIDE/INSTALL/TERMINATE ALL LOW VOLTAGE WIRING.



POWER PLAN

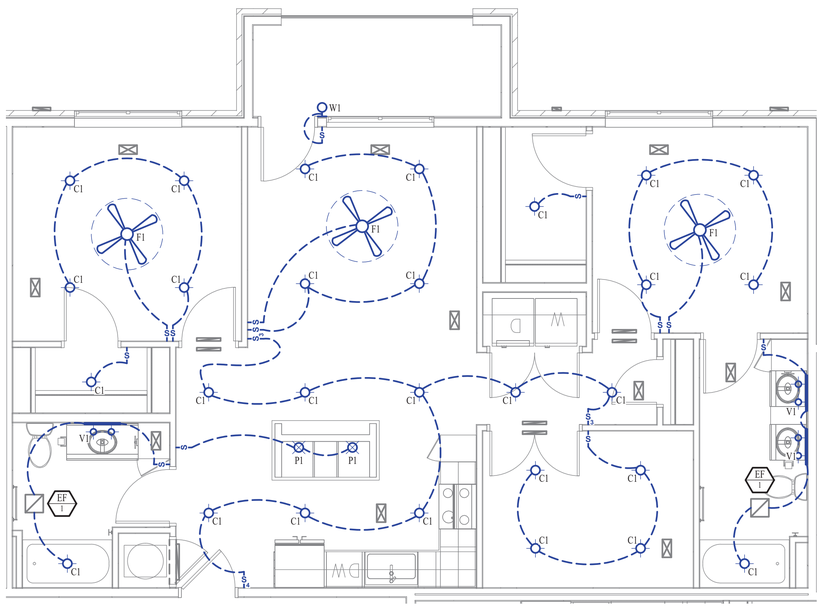
SCALE: ¼" = 1' - 0"

LIGHTING PLAN SYMBOL LEGEND

- X1 — LIGHTING FIXTURE
  - "X1" INDICATES FIXTURE TYPE (REFER TO SCHEDULE)
- S — TOGGLE SWITCH
  - SWITCH TYPE
- D — DIMMER SWITCH

LIGHTING PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR LIGHTING SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. ALL LIGHTING SHOWN SHALL BE ON CIRCUIT P2-15 UNLESS NOTED OTHERWISE.



LIGHTING PLAN

SCALE: ¼" = 1' - 0"

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Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

22C
MEP UNIT PLAN

SHEET NUMBER

UP.22C-2

HVAC PLAN SYMBOL LEGEND

- EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE)
- EQUIPMENT REFERENCE NUMBER
- DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE)
- CUBIC FEET PER MINUTE (CFM) / FACE SIZE
- SUPPLY DUCTWORK
- RETURN DUCTWORK
- EXHAUST DUCTWORK
- SUPPLY DIFFUSER
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- BALANCE DAMPER
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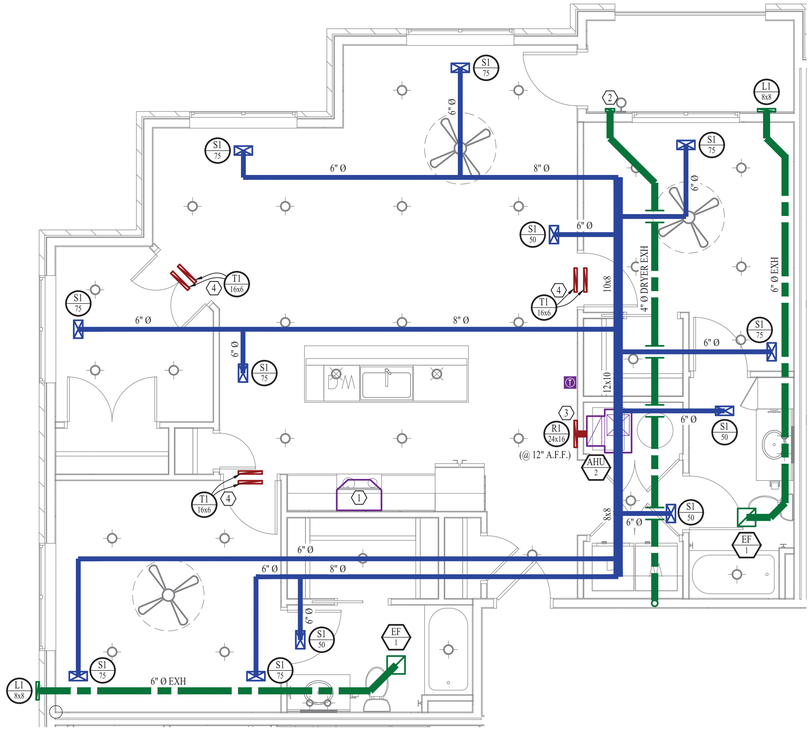
5. WRAP ALL DRYER DUCTS WITH FIREMASTER (OR EQUAL) DUCT WRAP.
6. TOTAL DEVELOPED LENGTH OF EXHAUST DUCT SHALL BE INDICATED ON A PERMANENT LABEL WITHIN 6' OF DRYER VENT CONNECTION. TOTAL DEVELOPED LENGTH FOR THIS UNIT IS APPROXIMATELY 40' PER 2018 IMC 504.8.4.

HVAC PLAN KEY NOTES:

1. RESIDENTIAL RECIRCULATION HOOD TO BE SUPPLIED & INSTALLED BY GC.
2. TERMINATE 4" DRYER EXHAUST WITH VENT EQUAL TO DRYER WALL VENT #DWV4.
3. 14x12 RETURN AIR DUCT THRU WALL TO RETURN GRILLE.
4. TRANSFER GRILLE CENTERED ABOVE BOTH SIDES OF DOOR.



HVAC PLAN

SCALE: ¼" = 1' - 0"

PLUMBING PLAN SYMBOL LEGEND

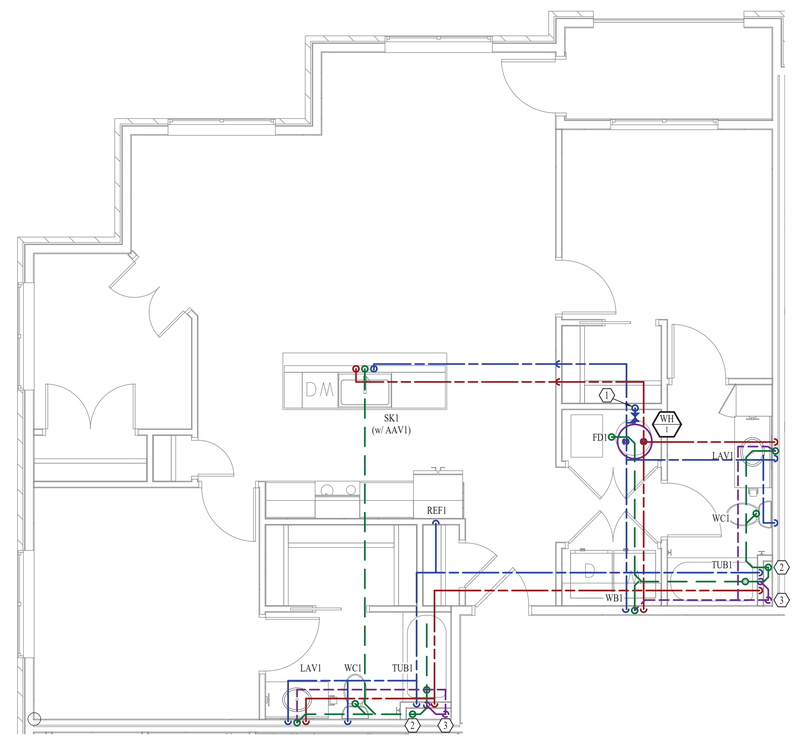
- SANITARY SEWER PIPING
- VENT PIPING
- COLD WATER LINE
- HOT WATER LINE
- VALVE
- PIPING TURNED DOWN / TURNED UP

PLUMBING PLAN GENERAL NOTES:

1. REFER TO P500 SERIES SHEETS FOR PLUMBING SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. REFER TO OVERALL PLUMBING PLAN SHEETS FOR SANITARY PIPING PLANS FOR UNITS ON MAIN LEVEL.
3. ALL PLUMBING LOCATED ON EXTERIOR WALLS SHALL ROUTE WITHIN INSULATION BARRIER.
4. ALL DOMESTIC SUPPLY LINES SERVING MORE THAN (1) FIXTURE SHALL BE ¾" UNLESS NOTED OTHERWISE.
5. ALL SANITARY SEWER PIPING SERVING MORE THAN (1) FIXTURE SHALL BE 3" UNLESS NOTED OTHERWISE.

PLUMBING PLAN KEY NOTES:

1. ¾" CW PIPE UP FROM BELOW WITH SHUT-OFF VALVE IN ACCESSIBLE LOCATION. SEE OVERALL PLUMBING PLANS FOR DETAILS.
2. 3" SANITARY STACK DOWN TO LEVEL BELOW (SEE GENERAL NOTES).
3. 3" SANITARY VENT STACK UP THROUGH ROOF ON FOURTH FLOOR.



PLUMBING PLAN

SCALE: ¼" = 1' - 0"

STATE OF MISSOURI
JAMES P. WATSON
NUMBER PE-2015017071
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J2 PROJECT No:	J20055
J2 DESIGN:	ACW

ISSUE TITLE	DATE
PHASE I - PERMIT SET	01 - 07 - 2021

Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

22D
MEP UNIT PLAN

SHEET NUMBER

UP.22D

POWER PLAN SYMBOL LEGEND

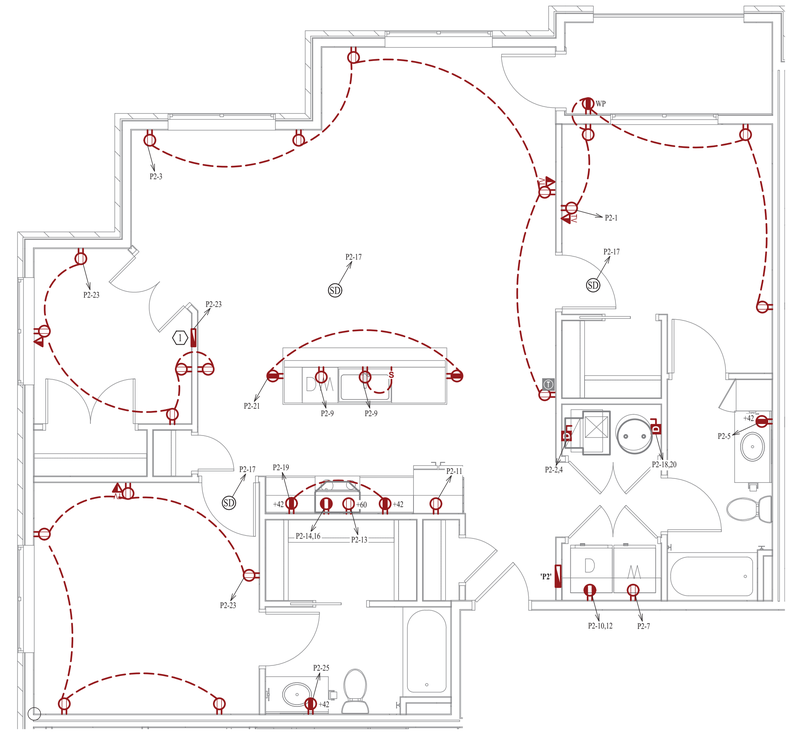
- CIRCUIT WIRING
- PX-XX — CIRCUIT TAG
- J — JUNCTION BOX
- XX, +42 — RECEPTACLE
  - INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX (STD @ 18" AFF UNLESS NOTED OTHERWISE)
  - "WP" = WEATHERPROOF OUTDOOR RECEPTACLE
- GFCI DUPLEX CONVENIENCE RECEPTACLE
- 208V RECEPTACLE
- QUADPLEX CONVENIENCE RECEPTACLE
- DATA / PHONE JACK
  BOX WITH 1" CONDUIT & CAT6 TO MEDIA PANEL LOCATION (SEE PLAN)
  (STANDARD @ 18" A.F.F. UNLESS NOTED OTHERWISE)
- D — DISCONNECT
- SD — 120V SMOKE DETECTOR WITH LOW-VOLTAGE CONTACTS WIRED TO SHUT DOWN AHU UPON FIRE DETECTION. COORDINATE WITH HVAC CONTRACTOR.

POWER PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR POWER SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. REFER TO M100 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS.
3. VERIFY EACH DATA/RECEPTACLE LOCATION WITH OWNER PRIOR TO INSTALLATION.

POWER PLAN KEY NOTES:

1. MEDIA PANEL LOCATION; DATA/TV WIRING TO TERMINATE AT THIS LOCATION. DETERMINE EXACT LOCATION & DETAILS WITH OWNER PRIOR TO INSTALLATION. OWNER'S SUBCONTRACTOR TO PROVIDE & INSTALL MEDIA PANEL AND PROVIDE/INSTALL/TERMINATE ALL LOW VOLTAGE WIRING.



POWER PLAN

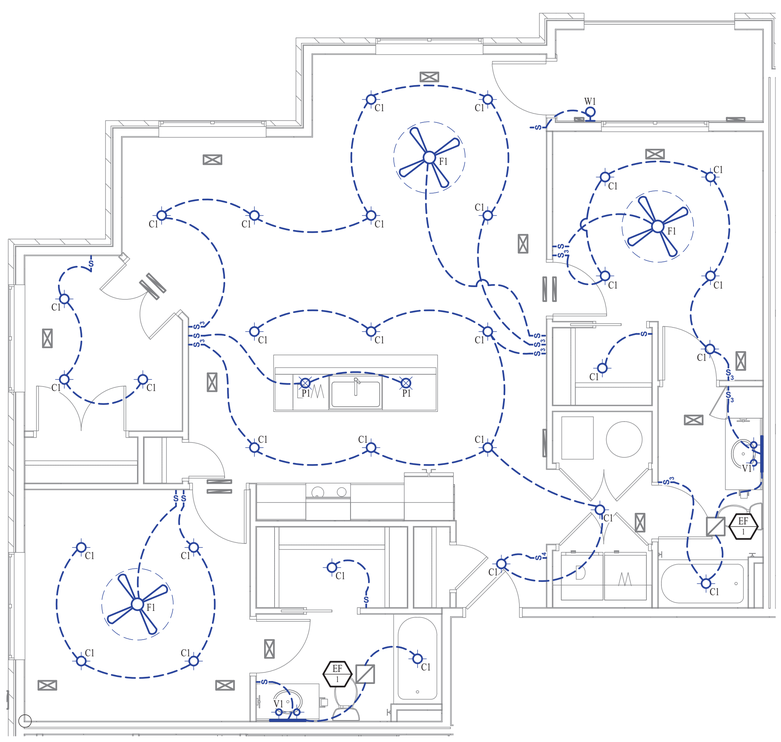
SCALE: ¼" = 1' - 0"

LIGHTING PLAN SYMBOL LEGEND

- X1 — LIGHTING FIXTURE
  - "X1" INDICATES FIXTURE TYPE (REFER TO SCHEDULE)
- TOGGLE SWITCH
- SWITCH TYPE
- DIMMER SWITCH

LIGHTING PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR LIGHTING SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. ALL LIGHTING SHOWN SHALL BE ON CIRCUIT P2-15 UNLESS NOTED OTHERWISE.



LIGHTING PLAN

SCALE: ¼" = 1' - 0"

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Aria Apartments - Lee's Summit

Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

22D
MEP UNIT PLAN

SHEET NUMBER

UP.22D-2

HVAC PLAN SYMBOL LEGEND

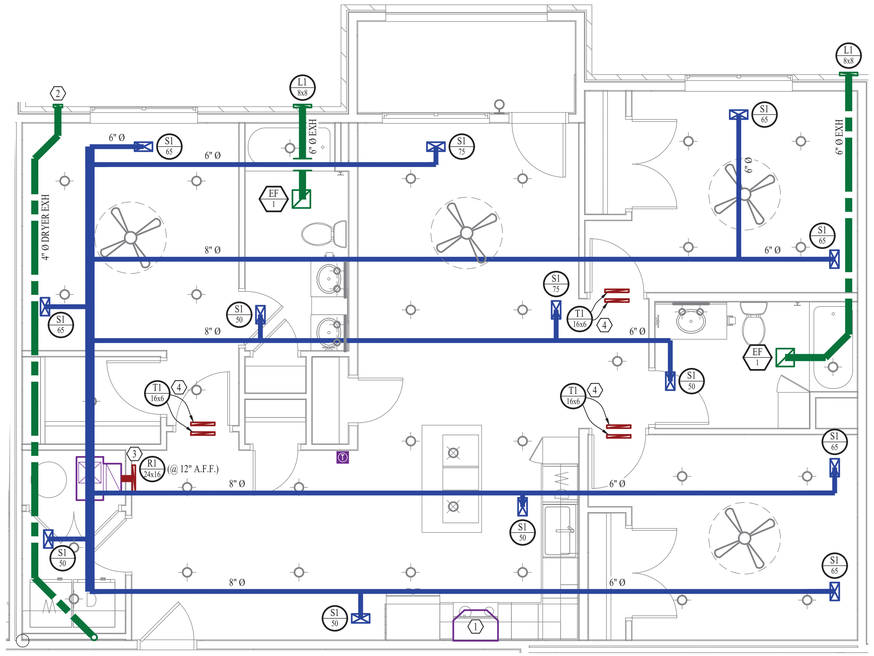
- EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE)
- EQUIPMENT REFERENCE NUMBER
- DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE)
- CUBIC FEET PER MINUTE (CFM) / FACE SIZE
- SUPPLY DUCTWORK
- RETURN DUCTWORK
- EXHAUST DUCTWORK
- SUPPLY DIFFUSER
- RETURN DIFFUSER
- BALANCE DAMPER
- CEILING RADIATION DAMPER
- FIRE RATED DAMPER
- THERMOSTAT

HVAC PLAN GENERAL NOTES:

1. REFER TO M500 & M600 SERIES SHEETS FOR HVAC SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. APARTMENT MEETS NATURAL VENTILATION REQUIREMENT PER 2015 IMC 402 AND IS EXEMPT FROM MECHANICAL VENTILATION REQUIREMENTS.
3. REFER TO M100 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS. REFRIGERANT PIPING SHALL ROUTE IN SPACES ABOVE FINISHED CEILINGS AND WITHIN WALL CAVITIES TO REMAIN CONCEALED.
4. SUPPLY DUCTWORK FROM AHU AT FLOOR/CEILING PENETRATION SHALL BE PROTECTED BY A FIRE RADIATION DAMPER. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
5. WRAP ALL DRYER DUCTS WITH FIREMASTER (OR EQUAL) DUCT WRAP.
6. TOTAL DEVELOPED LENGTH OF EXHAUST DUCT SHALL BE INDICATED ON A PERMANENT LABEL WITHIN 6' OF DRYER VENT CONNECTION. TOTAL DEVELOPED LENGTH FOR THIS UNIT IS APPROXIMATELY 45' PER 2018 IMC 504.8.4.

HVAC PLAN KEY NOTES:

1. RESIDENTIAL RECIRCULATION HOOD TO BE SUPPLIED & INSTALLED BY GC.
2. TERMINATE 4" DRYER EXHAUST WITH VENT EQUAL TO DRYER WALL VENT #DWV4.
3. 14x12 RETURN DUCT THRU WALL TO RETURN GRILLE.
4. TRANSFER GRILLE CENTERED ABOVE BOTH SIDES OF DOOR.



HVAC PLAN

SCALE: ¼" = 1' - 0"

PLUMBING PLAN SYMBOL LEGEND

- SANITARY SEWER PIPING
- VENT PIPING
- COLD WATER LINE
- HOT WATER LINE
- VALVE
- PIPING TURNED DOWN / TURNED UP

PLUMBING PLAN GENERAL NOTES:

1. REFER TO P500 SERIES SHEETS FOR PLUMBING SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. REFER TO OVERALL PLUMBING PLAN SHEETS FOR SANITARY PIPING PLANS FOR UNITS ON MAIN LEVEL.
3. ALL PLUMBING LOCATED ON EXTERIOR WALLS SHALL ROUTE WITHIN INSULATION BARRIER.
4. ALL DOMESTIC SUPPLY LINES SERVING MORE THAN (1) FIXTURE SHALL BE ¾" UNLESS NOTED OTHERWISE.
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PLUMBING PLAN KEY NOTES:

1. ¾" CW PIPE UP FROM BELOW WITH SHUT-OFF VALVE IN ACCESSIBLE LOCATION. SEE OVERALL PLUMBING PLANS FOR DETAILS.
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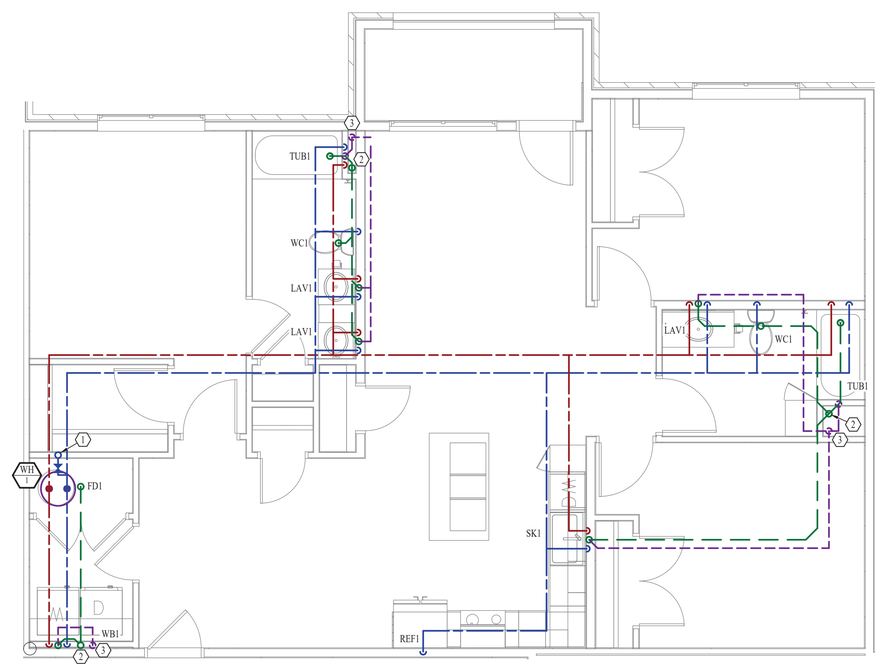

PLUMBING PLAN

SCALE: ¼" = 1' - 0"

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Mechanical - Electrical - Plumbing Design Drawings for

Aria Apartments - Lee's Summit

Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

32A
MEP UNIT PLAN

SHEET NUMBER

UP.32A

POWER PLAN SYMBOL LEGEND

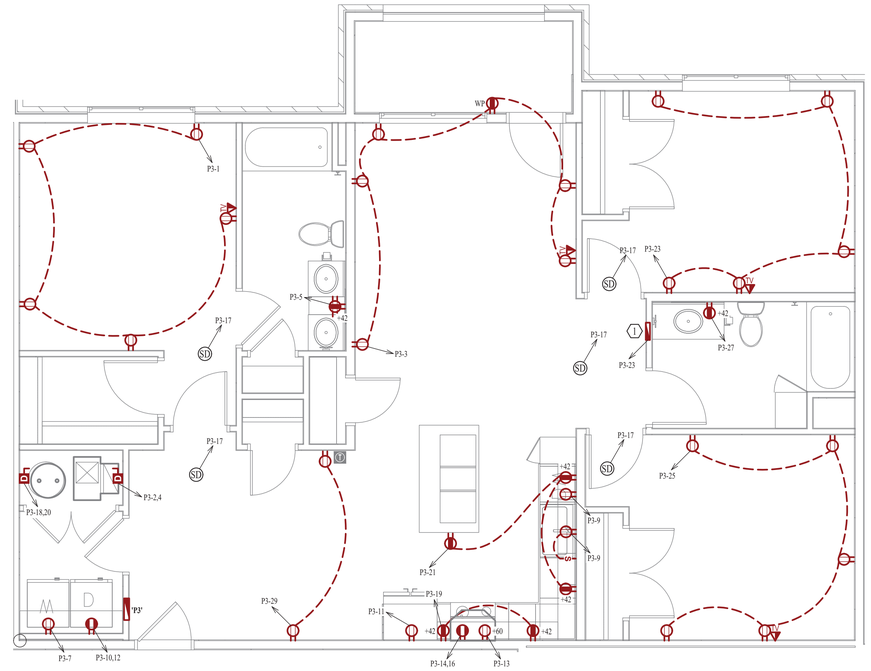
- CIRCUIT WIRING
- PX-XX — CIRCUIT TAG
- JUNCTION BOX
- XX +42 — RECEPTACLE
  - INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX (STD @ 18" AFF UNLESS NOTED OTHERWISE)
  - "WP" = WEATHERPROOF OUTDOOR RECEPTACLE
- GFCI DUPLEX CONVENIENCE RECEPTACLE
- 208V RECEPTACLE
- QUADPLEX CONVENIENCE RECEPTACLE
- DATA / PHONE JACK BOX WITH 1" CONDUIT & CAT6 TO MEDIA PANEL LOCATION (SEE PLAN) (STANDARD @ 18" A.F.F. UNLESS NOTED OTHERWISE)
- DISCONNECT
- SD — 120V SMOKE DETECTOR WITH LOW-VOLTAGE CONTACTS WIRED TO SHUT DOWN AHU UPON FIRE DETECTION. COORDINATE WITH HVAC CONTRACTOR.

POWER PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR POWER SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. REFER TO SHEET M100 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS.
3. VERIFY EACH DATA/RECEPTACLE LOCATION WITH OWNER PRIOR TO INSTALLATION.

POWER PLAN KEY NOTES:

1. MEDIA PANEL LOCATION; DATA/TV WIRING TO TERMINATE AT THIS LOCATION. DETERMINE EXACT LOCATION & DETAILS WITH OWNER PRIOR TO INSTALLATION. OWNER'S SUBCONTRACTOR TO PROVIDE & INSTALL MEDIA PANEL AND PROVIDE/INSTALL/TERMINATE ALL LOW VOLTAGE WIRING.



POWER PLAN

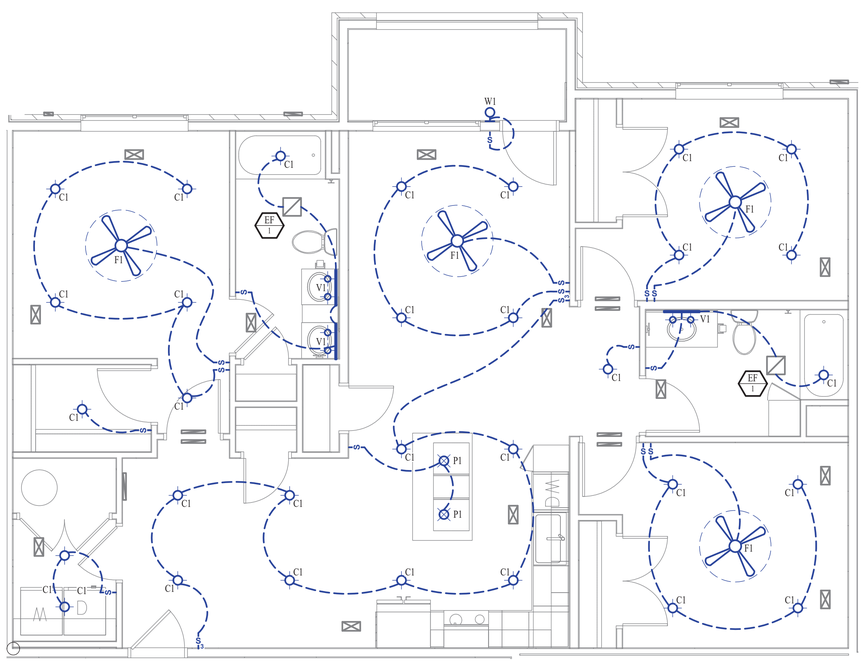
SCALE: ¼" = 1' - 0"

LIGHTING PLAN SYMBOL LEGEND

- X1 — LIGHTING FIXTURE
  - "X1" INDICATES FIXTURE TYPE (REFER TO SCHEDULE)
- TOGGLE SWITCH
  - SWITCH TYPE
- DIMMER SWITCH

LIGHTING PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR LIGHTING SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. ALL LIGHTING SHOWN SHALL BE ON CIRCUIT P3-15 UNLESS NOTED OTHERWISE.



LIGHTING PLAN

SCALE: ¼" = 1' - 0"

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Aria Apartments - Lee's Summit

Northeast Douglas Road & Lee's Summit Road
Lee's Summit, Jackson County, Missouri

SHEET TITLE

32A
MEP UNIT PLAN

SHEET NUMBER

UP.32A-2

HVAC PLAN SYMBOL LEGEND

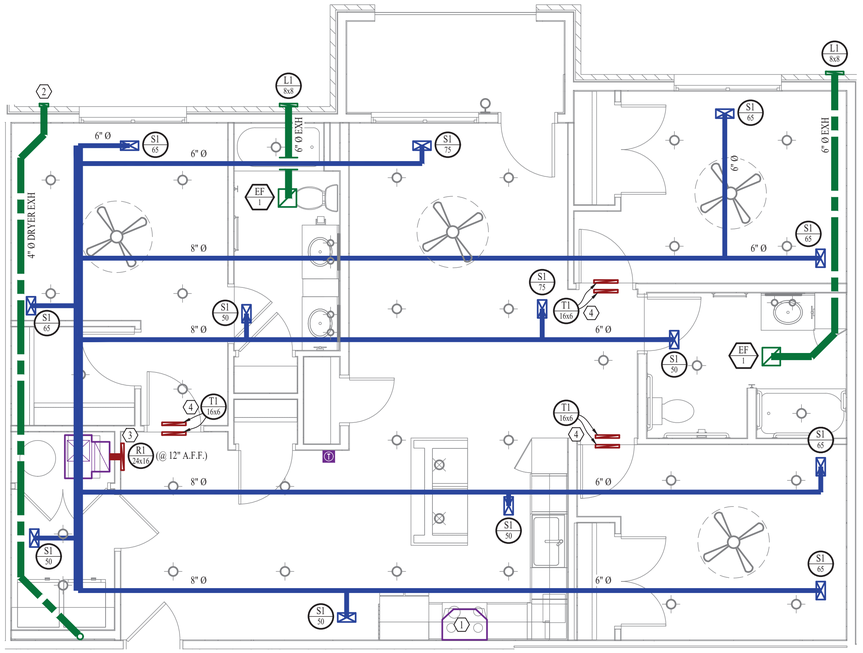
- EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE)
- EQUIPMENT REFERENCE NUMBER
- DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE)
- CUBIC FEET PER MINUTE (CFM) / FACE SIZE
- SUPPLY DUCTWORK
- RETURN DUCTWORK
- EXHAUST DUCTWORK
- SUPPLY DIFFUSER
- RETURN DIFFUSER
- BALANCE DAMPER
- CEILING RADIATION DAMPER
- FIRE RATED DAMPER
- THERMOSTAT

HVAC PLAN GENERAL NOTES:

1. REFER TO M500 & M600 SERIES SHEETS FOR HVAC SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. APARTMENT MEETS NATURAL VENTILATION REQUIREMENT PER 2015 IMC 402 AND IS EXEMPT FROM MECHANICAL VENTILATION REQUIREMENTS.
3. REFER TO M100 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS. REFRIGERANT PIPING SHALL ROUTE IN SPACES ABOVE FINISHED CEILINGS AND WITHIN WALL CAVITIES TO REMAIN CONCEALED.
4. SUPPLY DUCTWORK FROM AHU AT FLOOR/CEILING PENETRATION SHALL BE PROTECTED BY A FIRE RADIATION DAMPER. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
5. WRAP ALL DRYER DUCTS WITH FIREMASTER (OR EQUAL) DUCT WRAP.
6. TOTAL DEVELOPED LENGTH OF EXHAUST DUCT SHALL BE INDICATED ON A PERMANENT LABEL WITHIN 6' OF DRYER VENT CONNECTION. TOTAL DEVELOPED LENGTH FOR THIS UNIT IS APPROXIMATELY 45' PER 2018 IMC 504.8.4.

HVAC PLAN KEY NOTES:

1. RESIDENTIAL RECIRCULATION HOOD TO BE SUPPLIED & INSTALLED BY GC.
2. TERMINATE 4" DRYER EXHAUST WITH VENT EQUAL TO DRYER WALL VENT #DWV4.
3. 14x12 RETURN DUCT THRU WALL TO RETURN GRILLE.
4. TRANSFER GRILLE CENTERED ABOVE BOTH SIDES OF DOOR.



HVAC PLAN

SCALE: ¼" = 1' - 0"

PLUMBING PLAN SYMBOL LEGEND

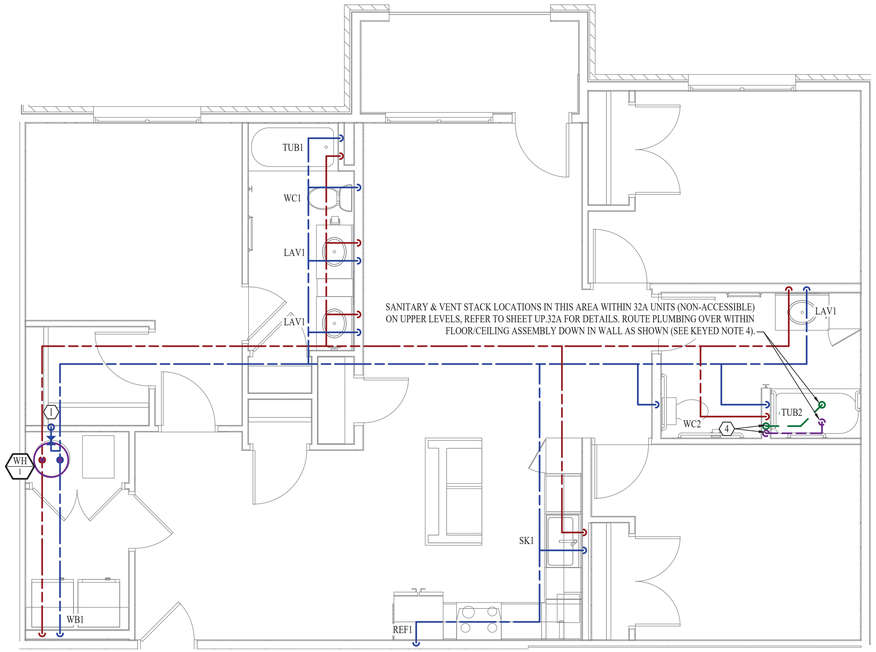
- SANITARY SEWER PIPING
- VENT PIPING
- COLD WATER LINE
- HOT WATER LINE
- VALVE
- PIPING TURNED DOWN / TURNED UP

PLUMBING PLAN GENERAL NOTES:

1. REFER TO P500 SERIES SHEETS FOR PLUMBING SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. REFER TO OVERALL PLUMBING PLAN SHEETS FOR SANITARY PIPING PLANS FOR UNITS ON MAIN LEVEL.
3. ALL PLUMBING LOCATED ON EXTERIOR WALLS SHALL ROUTE WITHIN INSULATION BARRIER.
4. UNIT 32A-ACC LOCATED WITHIN BUILDING 'C' #4 ON 1ST FLOOR (CONFIRM WITH ARCHITECT). OFFSET SANITARY / VENT STACKS WITHIN FLOOR / CEILING ASSEMBLY AS REQUIRED IN ORDER TO ROUTE WITHIN WALLS AS SHOWN (STACKS DO NOT ALIGN WITHIN ACCESSIBLE BATHROOM LAYOUTS VERSUS TYPICAL BATHROOMS).
5. ALL DOMESTIC SUPPLY LINES SERVING MORE THAN (1) FIXTURE SHALL BE ½" UNLESS NOTED OTHERWISE.
6. ALL SANITARY SEWER PIPING SERVING MORE THAN (1) FIXTURE SHALL BE 3" UNLESS NOTED OTHERWISE.

PLUMBING PLAN KEY NOTES:

1. ¾" CW PIPE UP FROM BELOW WITH SHUT-OFF VALVE IN ACCESSIBLE LOCATION. SEE OVERALL PLUMBING PLANS FOR DETAILS.
2. 3" SANITARY STACK DOWN TO LEVEL BELOW (SEE GENERAL NOTES).
3. 3" SANITARY VENT STACK UP THROUGH ROOF ON FOURTH FLOOR.
4. SANITARY & VENT STACKS FROM ABOVE DOWN IN WALL IN THIS LOCATION. SEE PS100 SERIES SHEETS FOR OVERALL SANITARY AND VENT ROUTING WITHIN 32A-ACC UNIT ON FIRST FLOOR.



PLUMBING PLAN

SCALE: ¼" = 1' - 0"

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Lee's Summit, Jackson County, Missouri

SHEET TITLE

32A-ACC
MEP UNIT PLAN

SHEET NUMBER

UP.32A-ACC

POWER PLAN SYMBOL LEGEND

- CIRCUIT WIRING
- PX-XX — CIRCUIT TAG
- JUNCTION BOX
- XX +42 — RECEPTACLE
  - INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX (STD @ 18" AFF UNLESS NOTED OTHERWISE)
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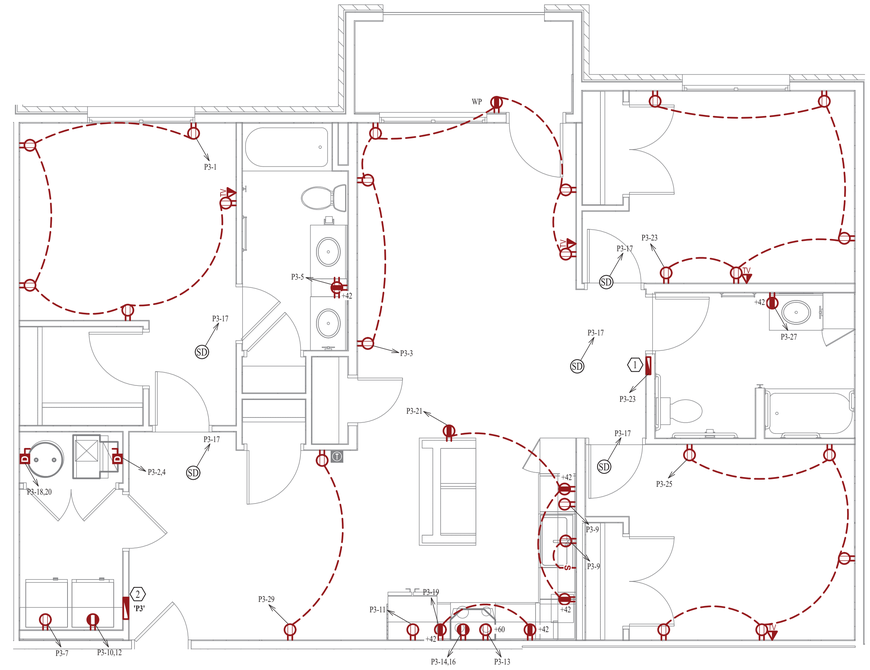
- DATA / PHONE JACK BOX WITH 1" CONDUIT & CAT6 TO MEDIA PANEL LOCATION (SEE PLAN) (STANDARD @ 18" A.F.F. UNLESS NOTED OTHERWISE)
- DISCONNECT
- SD — 120V SMOKE DETECTOR WITH LOW-VOLTAGE CONTACTS WIRED TO SHUT DOWN AHU UPON FIRE DETECTION. COORDINATE WITH HVAC CONTRACTOR.

POWER PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR POWER SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. REFER TO SHEET MEP2 FOR CONDENSING UNIT LOCATIONS.
3. VERIFY EACH DATA/RECEPTACLE LOCATION WITH OWNER PRIOR TO INSTALLATION.

POWER PLAN KEY NOTES:

1. MEDIA PANEL LOCATION; DATA/TV WIRING TO TERMINATE AT THIS LOCATION. DETERMINE EXACT LOCATION & DETAILS WITH OWNER PRIOR TO INSTALLATION. OWNER'S SUBCONTRACTOR TO PROVIDE & INSTALL MEDIA PANEL AND PROVIDE/INSTALL/TERMINATE ALL LOW VOLTAGE WIRING.
2. ELECTRICAL PANEL MOUNTING HEIGHT MUST MEET ADA ACCESSIBILITY REQUIREMENTS; REFER TO ARCHITECTURAL PLANS.



POWER PLAN

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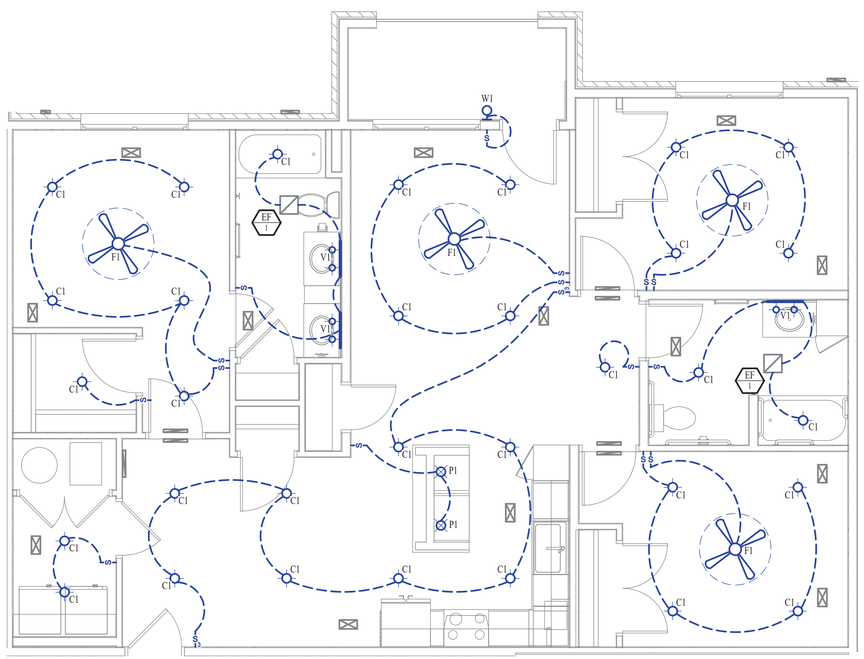
LIGHTING PLAN SYMBOL LEGEND

- X1 — LIGHTING FIXTURE
  - "X1" INDICATES FIXTURE TYPE (REFER TO SCHEDULE)
- TOGGLE SWITCH
- SWITCH TYPE
- DIMMER SWITCH

LIGHTING PLAN GENERAL NOTES:

1. REFER TO E500 & E600 SERIES SHEETS FOR LIGHTING SCHEDULES, DETAILS, ADDITIONAL REQUIREMENTS, ETC.
2. ALL LIGHTING SHOWN SHALL BE ON CIRCUIT P3-15 UNLESS NOTED OTHERWISE.



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SHEET NUMBER

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