
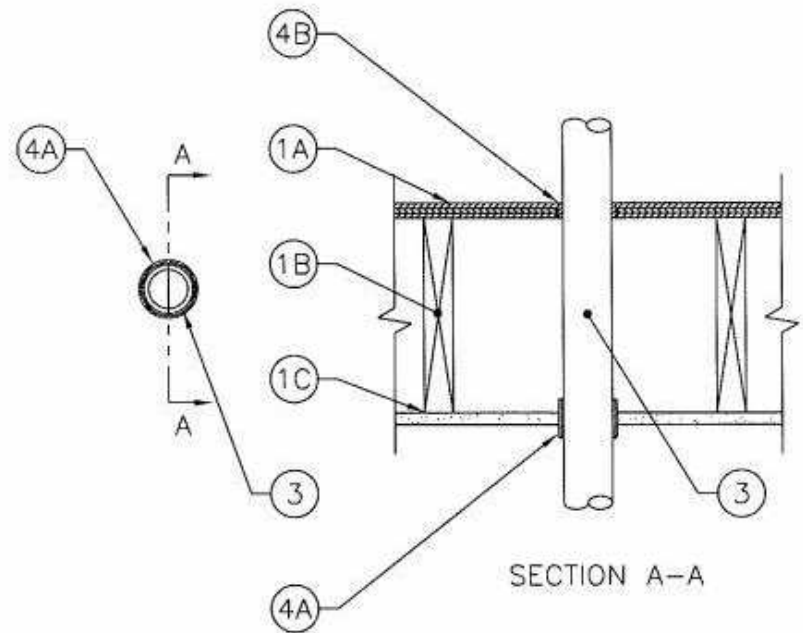


RADON DETAIL

SCALE : N.T.S.

4

	F Rating – 1 Hr	F-C-2198
	T Ratings – 3/4 and 1 Hr (See Item 4)	



1. Floor-Ceiling Assembly – The 1 hr fire rated wood joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor Ceiling Design in the UL Fire Resistance Directory and shall include the following features:
- A. Flooring System – Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture* as specified in the individual Floor-Ceiling Design. Diam of floor opening is dependent of the pipe size (Item 4).
 - B. Wood Joists – Nom 10 in. (254 mm) deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or Structural Wood Members* with bridging as required with ends firestopped.
 - C. Gypsum Board* – Thickness, type number of layers and fasteners shall be as specified in the individual Floor-Ceiling Design. Diam of ceiling opening is dependent of the pipe size (Item 4).
2. Chase Wall – (Optional, Not Shown) – The penetrant may be routed through a 1 hr fire-rated single, double or staggered wood stud/gypsum board chase wall constructed of the material and in the manner specified in the individual U300 Series Wall and Partition Design in the UL Fire Resistance Directory and which includes the following construction features:
- A. Studs – Nom 2 by 6 in. (51 by 152 mm) or double nom 2 by 4 in. (51 by 102 mm) lumber studs.
 - B. Sole Plate – Nom 2 by 6 in. (51 by 152 mm) or parallel 2 by 4 in. (51 by 102 mm) lumber plates, tightly butted. Diam of opening is dependent of the pipe size (Item 4).
 - C. Top Plate – The double top plate shall consist of two nom 2 by 6 in. (51 by 152 mm) or two sets of parallel 2 by 4 in. (51 by 102 mm) lumber plates, tightly butted. Diam of opening is dependent of the pipe size (Item 4).
 - D. Gypsum Board* – Thickness, type, number of layers and fasteners shall be as specified in individual Wall and Partition Design.

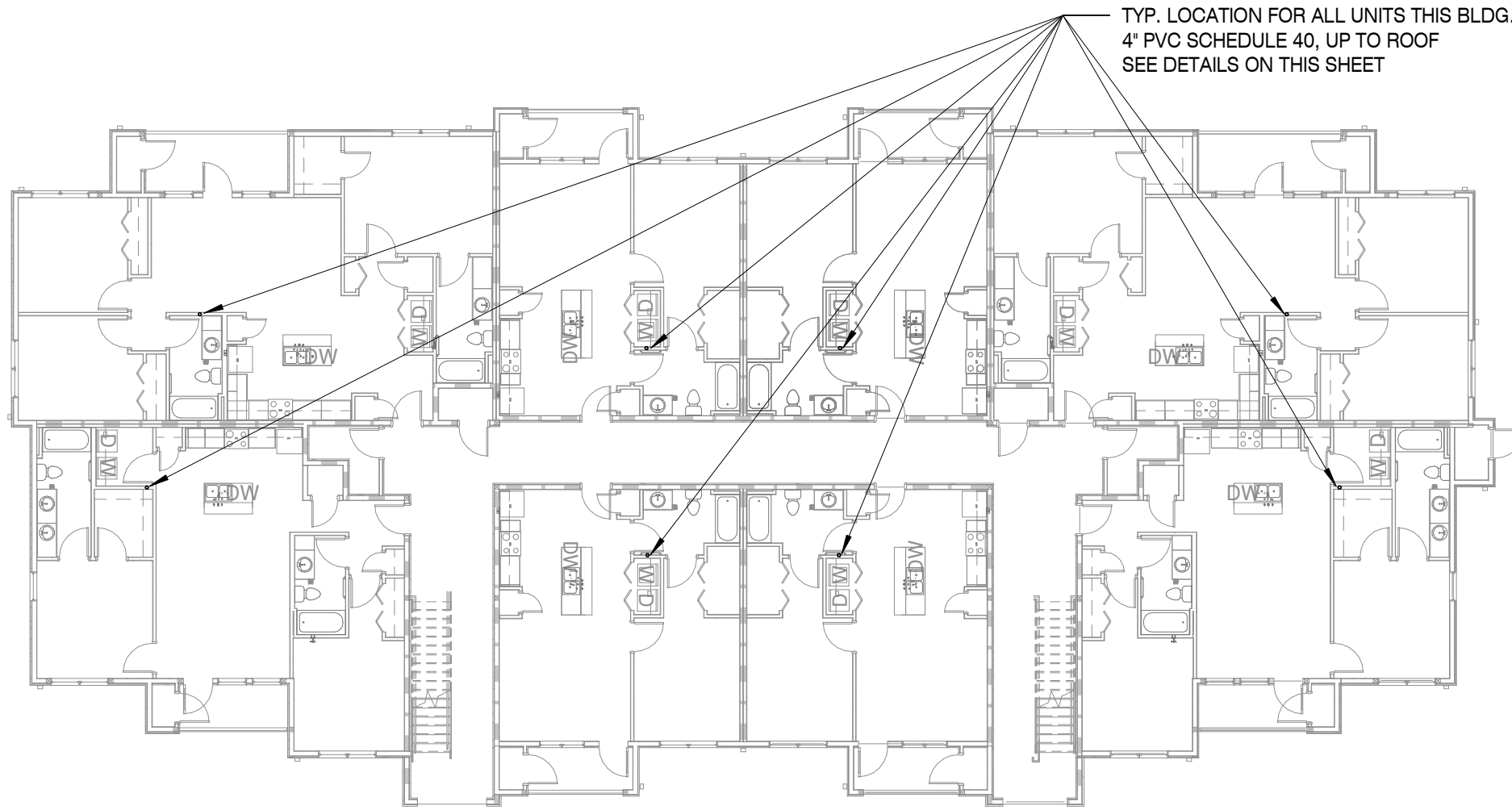
NOM. PIPE DIAMETER IN. (mm)	NUMBER OF WRAP STRIPS	DIAM OF OPENING IN. (mm)	T-RATING HR.
1 to 1 1/4 (25 to 32)	2	2 (51)	1
2 (51)	2	3 (76)	1
3 (76)	4	4 1/2 (114)	3/4
4 (102)	5	5 1/2 (140)	3/4

3. Through Penetrants – One nonmetallic pipe or conduit to be centered within the firestop system. Penetrant to be rigidly supported on both sides of floor-ceiling assembly. The following types and sizes of nonmetallic pipes or conduit may be used:
- A. Polyvinyl Chloride (PVC) Pipe – Nom 4 in. (102 mm) diam (or smaller) Schedule 40 solid core or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
 - B. Acrylonitrile Butadiene Styrene (ABS) Pipe – Nom 3 in. (76 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.
 - C. Chlorinated Polyvinyl Chloride (CPVC) Pipe – Nom 4 in. (102 mm) diam (or smaller) SDR17 CPVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
 - D. Rigid Nonmetallic Conduit+ – Nom 4 in. (102 mm) diam (or smaller) Schedule 40 PVC conduit installed in accordance with Article 347 of the National Electrical Code (NFPA No. 70).
4. Firestop System – The firestop system shall consist of the following:
- A. Fill, Void or Cavity Materials – Wrap Strip – Nom 1/8 in. (3.2 mm) thick intumescent material supplied in 2 in. (51 mm) wide strips. The number of layers of wrap strips is dependent on the size of pipe, as shown in the table below. The layers of wrap strip are individually wrapped tightly around penetrant with the ends butted and held in place with aluminum foil tape. Butted ends of successive layers may be staggered or aligned. Layers of wrap strip to be recessed into opening with the bottom surface of wraps extending 1/2 to 1 in. (13 to 25 mm) below bottom of gypsum ceiling or lower top plate. Passive Fire Protection Partners – W61
 - B. Fill, Void or Cavity Material* – Sealant – Min 3/4 in. (19 mm) thickness of fill material applied within the annulus, flush with top surface of floor or sole plate. Min 5/8 in. (16 mm) thickness of fill material applied within any annular space between the wrap strip and edge of opening, flush with bottom surface of ceiling. Passive Fire Protection Partners – 3600EX
 - C. Foil Tape – (Not Shown) – Nom 4 mil by 4 in. (102 mm) wide foil tape wrapped tightly around exposed portion of the wrap strip and overlapped onto gypsum ceiling or lower top plate and pipe a min 1 in. (25 mm).

1 HR. PVC FIRE RATING DETAIL - F - E - 2198

SCALE : N.T.S.

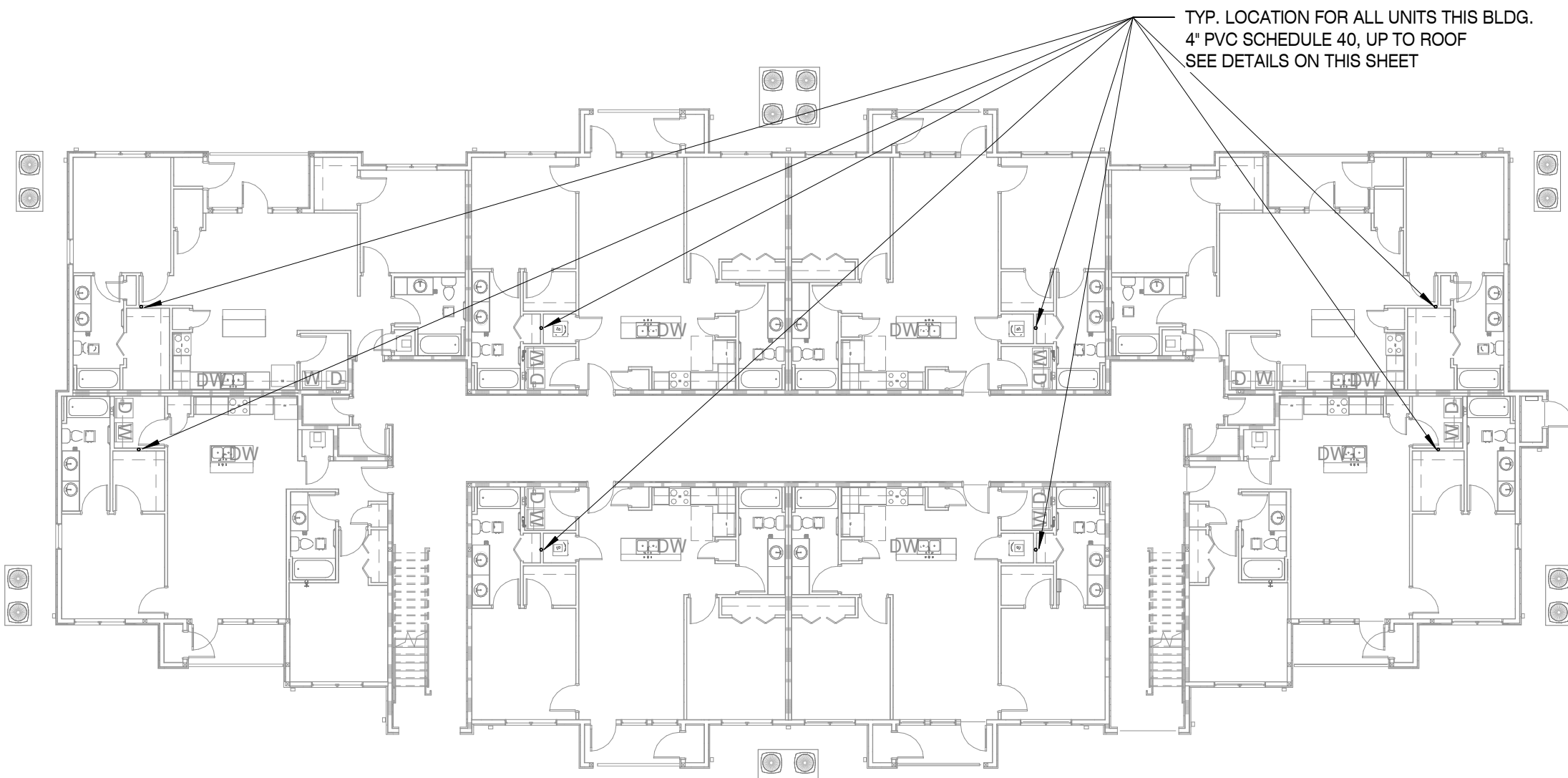
5



BUILDING TYPE 1 - RADON PIPING PLAN

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

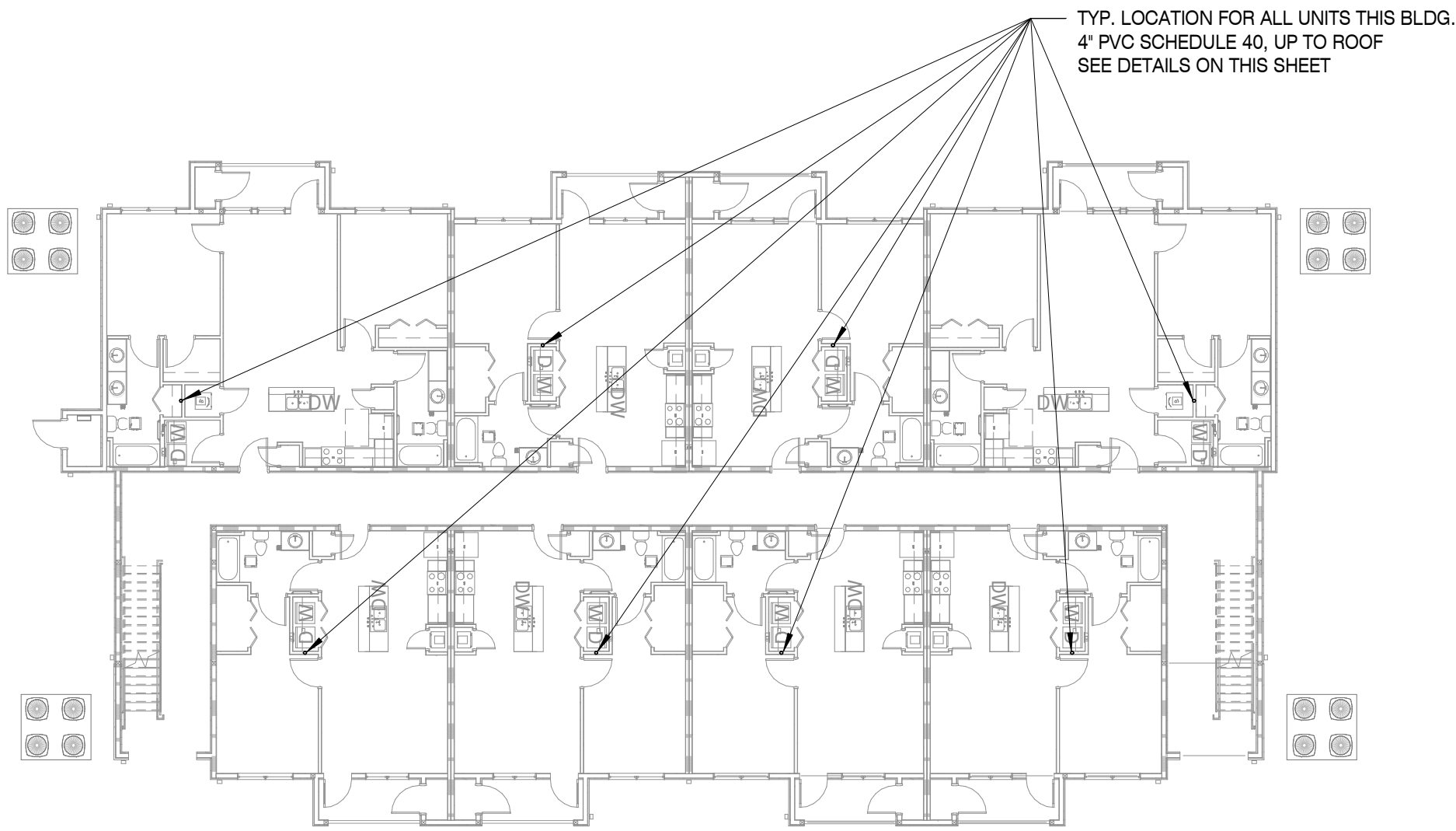
1



BUILDING TYPE 2 & 3 - RADON PIPING PLAN

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

2



BLDG TYPE 4 - RADON PIPING PLAN

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

3

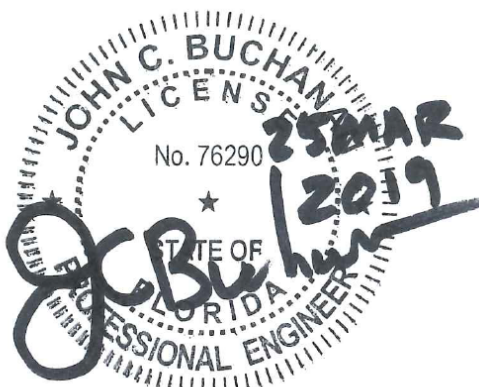
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SEAL



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PROJECT INFORMATION

PROJECT:

WESTWOOD AT
WINTER HAVEN
APARTMENTS

PROJECT ADDRESS:

Avenue G
Winter Haven, FL 36801
HUD # 067-35554

PROJECT NO.: 180888

ACTIVE DESIGN PHASE

- ☐ FOR REVIEW ONLY
☐ FOR PERMITTING ONLY
☐ SCHEMATIC DESIGN
☐ DESIGN DEVELOPMENT
☐ CONSTRUCTION BIDDING
☒ CONSTRUCTION DOCUMENTS
☐ AS-BUILT RECORD SET

REVISION INFORMATION

NO.	DATE	DESCRIPTION

KEY PLAN

SHEET INFORMATION

SHEET ISSUED: 03-25-19
DESIGNED BY: ALJ
DRAWN BY: ALJ
REVIEWED BY: KH
SHEET TITLE:

TYPICAL BUILDINGS -
RADON PLANS AND
DETAILS

SHEET NO.:

M106-1