

61G15-32.004 DESIGN OF WATER BASED FIRE **PROTECTION SYSTEMS.**

- (1) WATER BASED FIRE PROTECTION SYSTEMS INCLUDE, BUT ARE NOT LIMITED TO, AUTOMATIC SPRINKLER SYSTEMS OF WET, DRY, FINE WATER SPRAY (MIST), MANUAL AND DELUGE VALVE CONTROLLED TYPES. PUMPING SYSTEMS, STANDPIPES, FIRE WATER MAINS AND DEDICATED FIRE PROTECTION WATER SOURCES.
- (2) TO ENSURE MINIMUM DESIGN QUALITY IN FIRE PROTECTION SYSTEM ENGINEERING DOCUMENTS, SAID DOCUMENTS SHALL INCLUDE AS A MINIMUM THE FOLLOWING INFORMATION WHEN APPLICABLE:
- (A) THE POINT OF SERVICE FOR THE FIRE PROTECTION WATER SUPPLY AS DEFINED BY SECTION 633.021(18), F.S.

THE POINT OF SERVICE AND FIRE DEPARTMENT CONNECTION IS LOCATED ON CIVIL DRAWINGS

(B) APPLICABLE NFPA STANDARD TO BE APPLIED, OR IN THE CASE WHERE NO SUCH STANDARD EXISTS, THE ENGINEERING STUDY, JUDGEMENTS, AND/OR PERFORMANCE BASED ANALYSIS AND CONCLUSIONS.

NFPA 13R, 2013 EDITION, INSTALLATION OF SPRINKLER SYSTEMS NFPA 24, 2010 EDITION, INSTALLATION OF FIRE SERVICE MAINS.

- (C) CLASSIFICATION OF HAZARD OCCUPANCY FOR EACH ROOM OR AREA.
- SYSTEM DESIGNED PER NFPA 13R USING A 0.05 GPM/SQ FT FOR ALL DWELLING UNITS (RESIDENTIAL OCCUPANCY) USING RESIDENTIAL SPRINKLERS. (D) DESIGN APPROACH, WHICH INCLUDES SYSTEM TYPE, DENSITIES, DEVICE
- TEMPERATURE RATING, AND SPACING FOR EACH SEPARATE HAZARD OCCUPANCY. SPRINKLER SYSTEM TO EXTEND INTO ALL AREAS IN ACCORDANCE WITH NFPA 13R LISTED AND APPROVED UPRIGHT SPRINKLER HEADS TO BE PROVIDED. SEE FIRE PROTECTION SCHEDULE ON THIS SHEET. HEADS SHALL BE RATED AT 155 DEGREES F.
- (E) CHARACTERISTICS OF WATER SUPPLY TO BE USED, SUCH AS MAIN SIZE AND LOCATION, WHETHER IT IS DEAD-END OR CIRCULATING; AND IF DEAD-END, THE DISTANCE TO THE NEAREST CIRCULATING MAIN, AS WELL AS ITS MINIMUM DURATION AND RELIABILITY FOR THE MOST HYDRAULICALLY DEMANDING DESIGN AREA

THE WATER SUPPLY FOR THIS SPRINKLER SYSTEM IS PROVIDED BY A 10 INCH PRIVATELY OWNED WATER MAIN. THE DURATION FOR THE MOST REMOTE HYDRAULICALLY DEMANDING AREA IS 100 G.P.M. FOR 60 MINUTES.

(F) WHEN PRIVATE OR PUBLIC WATER SUPPLIES ARE USED, THE FLOW TEST DATA, INCLUDING TIME AND DATE OF TEST, WHO CONDUCTED THE TEST OR SUPPLIED INFORMATION, TEST ELEVATION, STATIC GAUGE PRESSURE AT NO FLOW, FLOW RATE WITH RESIDUAL GAUGE PRESSURE, HYDRANT BUTT COEFFICIENT, AND LOCATION THE TEST IN RELATION TO THE HYDRAULIC POINT OF SERVICE.

PROVIDED BY SPRINKLER CONTRACTOR.

(G) VALVING AND ALARM REQUIREMENTS TO MINIMIZE POTENTIAL FOR IMPAIRMENTS AND UNRECOGNIZED FLOW OF WATER.

THE FIRE SPRINKLER RISER FOR THE BUILDING WILL BE EQUIPPED WITH A WATER FLOW SWITCH WITH A LOCAL ALARM AND OFF-SITE MONITORING.

(H) MICROBIAL INDUCED CORROSION (MIC). THE ENGINEER OF RECORD SHALL MAKE REASONABLE EFFORTS TO IDENTIFY WATER SUPPLIES THAT COULD LEAD TO MICROBIAL INDUCED CORROSION (MIC). SUCH EFFORTS MAY CONSIST OF DISCUSSIONS WITH LOCAL WATER PURVEYOR AND/OF FIRE OFFICIAL, FAMILIARITY WITH CONDITIONS IN THE LOCAL AREA, OR LABORATORY TESTING OF WATER SUPPLIES. WHEN CONDITION ARE FOUND THAT MAY RESULT IN MIC CONTAMINATION OF THE FIRE PROTECTION PIPING, THE ENGINEER SHALL DESIGN CORRECTIVE MEASURES.

BASED ON DISCUSSIONS WITH THE LOCAL WATER UTLITIES, THERE HAVE BEEN NO INDICATIONS OF M.I.C.

(I) BACKFLOW PREVENTION AND METERING SPECIFICATIONS AND DETAILS TO MEET LOCAL WATER PREVENTER REQUIREMENTS INCLUDING MAXIMUM ALLOWABLE PRESSURE DROP.

THE BACKFLOW PREVENTION DEVICE ASSEMBLY AND METERING EQUIPMENT WILL MEET THE REQUIREMENTS OF THE LOCAL WATER PURVEYOR. MAX. PRESSURE DROP 8 PSI.

(J) QUALITY AND PERFORMANCE SPECIFICATIONS OF ALL YARD AND INTERIOR FIRE PROTECTION COMPONENTS.

ALL NEW YARD AND INTERIOR FIRE PROTECTION EQUIPMENT SHALL BE U.L. LISTED AND F.M. APPROVED.

(3) CONTRACTOR SUBMITTALS WHICH DEVIATE FROM THE ABOVE MINIMUM DESIGN PARAMETERS SHALL BE CONSIDERED MATERIAL DEVIATIONS AND REQUIRE SUPPLEMENTAL ENGINEERING APPROVAL AND DOCUMENTATION.

THE SUCCESSFUL FLORIDA LICENSED FIRE PROTECTION CONTRACTOR SHALL SUBMIT FIRE PROTECTION SHOP DRAWINGS AS NEEDED TO FULFILL THE REQUIREMENTS FOR A FIRE SPRINKLER PERMIT.

- (4) IN THE EVENT THE ENGINEER OF RECORD PROVIDES MORE INFORMATION AND DIRECTION THAN IS ESTABLISHED ABOVE, HE OR SHE SHALL BE HELD RESPONSIBLE FOR THE TECHNICAL ACCURACY OF THE WORK IN ACCORDANCE WITH APPLICABLE CODES, STANDARDS, AND SOUND ENGINEERING PRINCIPLES.
- (5) THE UNDERGROUND AND INSIDE PIPING SHALL BE HYDROSTATICALLY TESTED AT 200 PSI FOR 2 HOURS PER 16.2.1
- (6) THE FIRE PROTECTION CONTRACTOR SHALL COMPLY WITH CHAPTER 10 SECTION 10.2:
- A. ALL UNDERGROUND PIPING FROM THE WATER MAIN TO THE RISER SHALL BE COMPLETELY FLUSHED. THE FLUSHING SHALL CONTINUE FOR SUFFICIENT TIME TO ENSURE CLEANING.
- B. THE MINIMUM FLOW SHALL NOT BE LESS THAN: HYDRAULICALLY CALCULATED DEMAND INCLUDING HOSE STREAM ALLOWANCE, FLOW RATE AVAILABLE UNDER FIRE CONDITIONS.
- (7) ALL PIPING AND APPURTENANCES SHALL BE PRESSURE TESTED AT 200 PSI OR 50 PSI IN EXCESS OF SYSTEM PRESSURE, WHICH EVER IS GREATER, FOR A MINIMUM OF 2 HOURS WITH OUT ANY LOSSES.

SYMBOL	TEMP. RATING	ТҮРЕ	ORIFICE SIZE	K-
•	155°F	SEMI-RECESSED PENDENT	1/2"	
	155°F	SEMI-RECESSED PENDENT	1/2"	
•	155°F	HORIZONTAL SIDEWALL	1/2"	E

HANGER SPACING FOR CPVC PIPING		
NOMINAL PIPE SIZE	MAX. SPACI	
(INCHES)	(FEET)	
3/4"	5-1/2	
1"	6	
1-1/4"	6-1/2	
1-1/2"	7	
2"	8	
2-1/2"	9	
3"	10	

FIRE PROTECTION SPRINKLER DESIGN

- 1. THESE DRAWINGS ARE INTENDED TO ILLUSTRATE THE DESIGN INTENT AND AID IN THE COORDINATION OF ELEMENTS OF A FIRE PROTECTION SPRINKLER DESIGN.
- 2. THE DESIGN OF THE FIRE PROTECTION SPRINKLER SYSTEM SHA BE PROVIDED IN ACCORDANCE WITH THE REQUIREMENTS OF TH AUTHORITY HAVING JURISDICTION AND THE APPLICABLE STANDARDS FROM THE NATIONAL FIRE PROTECTION ASSOCIATI (NFPA)
- 3. THE FIRE PROTECTION SRRINKLER DESIGN SHALL BE COORDINA WITH OTHER ASPECTS OF THE BUILDING DESIGN INCLUDING, BU NOT LIMITED TO, FIRE ALARM, ELECTRICAL POWER AND LIGHTIN REFLECTED CEILING, DUCTWORK, PLUMBING AND THE BUILDING STRUCTURAL SYSTEM.
- 4. THE FIRE PROTECTION SPRINKLER DESIGN DRAWINGS SHALL BI SUBMITTED FOR COORDINATION PRIOR TO INSTALLATION OF TH SYSTEM. INSTALLATION WITHOUT COORDINATION WILL BE AT TH CONTRACTOR'S RISK AND REWORK OF THE SYSTEM SHALL BE PROVIDED WITHOUT ADDITIONAL COST.
- 5. APPLICABLE FIRE CODES. FLORIDA FIRE PREVENTION CODE FIF EDITION, BASED ON NFPA 1, FIRE CODE, 2013 EDITION AND NFPA 101, LIFE SAFETY CODE, 2013 EDITION.
- 6. A STATE OF FLORIDA LICENSED FIRE SPRINKLER CONTRACTOR PROVIDE THE LAYOUT DOCUMENTS.

GENERAL NOTES

1. ALL WORK & MATERIAL SHALL BE DONE IN ACCORDANCE WITH AND THE LOCAL AUTHORITY.

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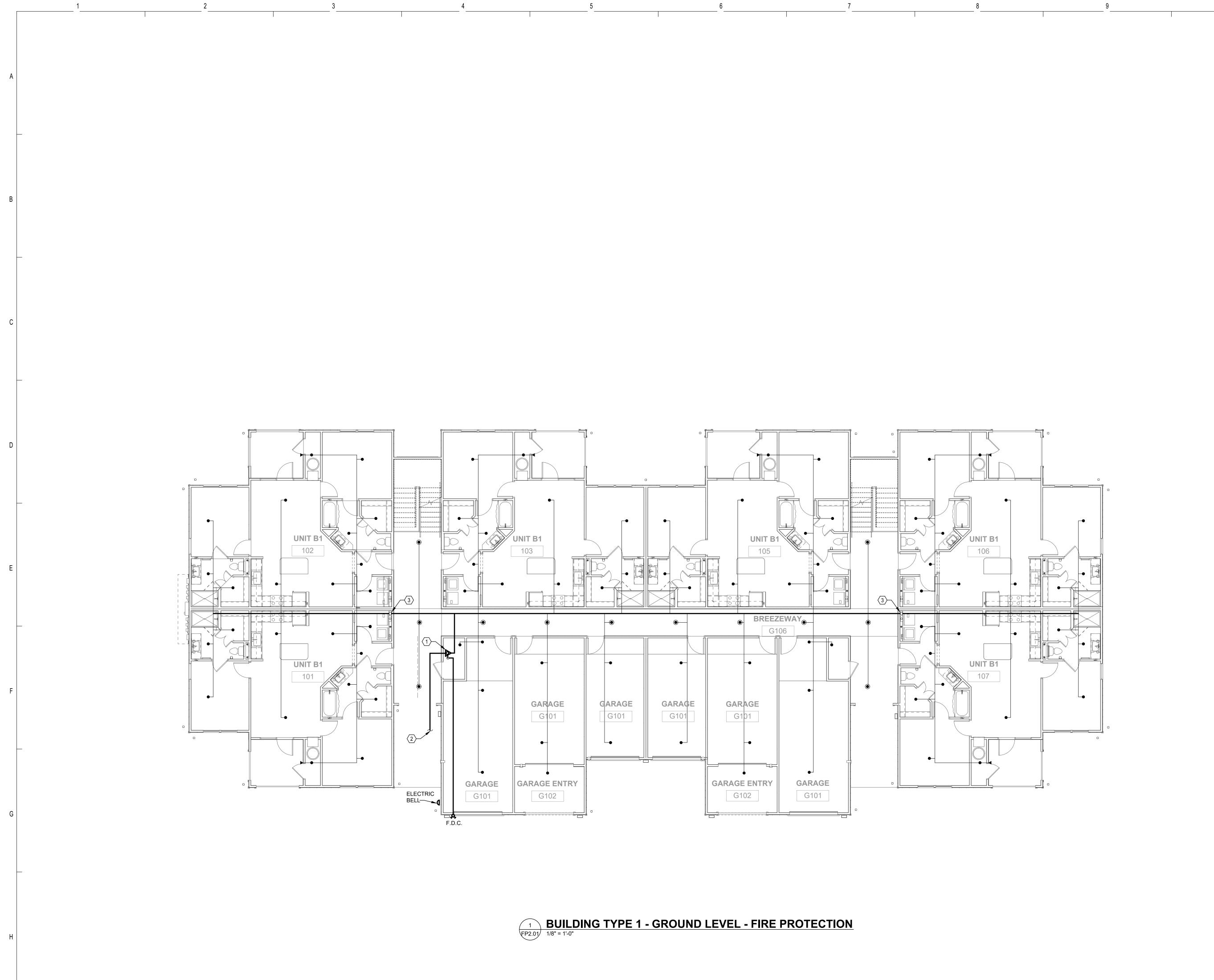
- 2. ALL PIPE AND FITTINGS TO BR CPVC, UNLESS NOTER OTHERW FOR THE BLDG. RISER WHICH SHALL BE SCHEDULE 40 GALVAN
- 3. ALL RESIDENTIAL SPRINKLER HEAD SPACING TO BE IN ACCOR THE MANUFACTURER'S LISTING. 4. ALL FIREWALL PENETRATIONS TO BE SEALED IN ACCORDANCI
- 5. PROVIDE SIGN ON DOOR INDICATING "FIRE RISER INSIDE".
- 6. ALL FIRE SPRINKLER WORK, INCLUDING CHANGES, ADDITIONS RELOCATIONS, IMPROVEMENTS, AND/OR MODIFICATIONS TO T SPRINKLER SYSTEM, MUST BE DONE PER NFPA-13 2013 EDITIC LICENSED FIRE SPRINKLER CONTRACTOR WITH SEPARATE PE PLANS.

DESIGN CRITERIA

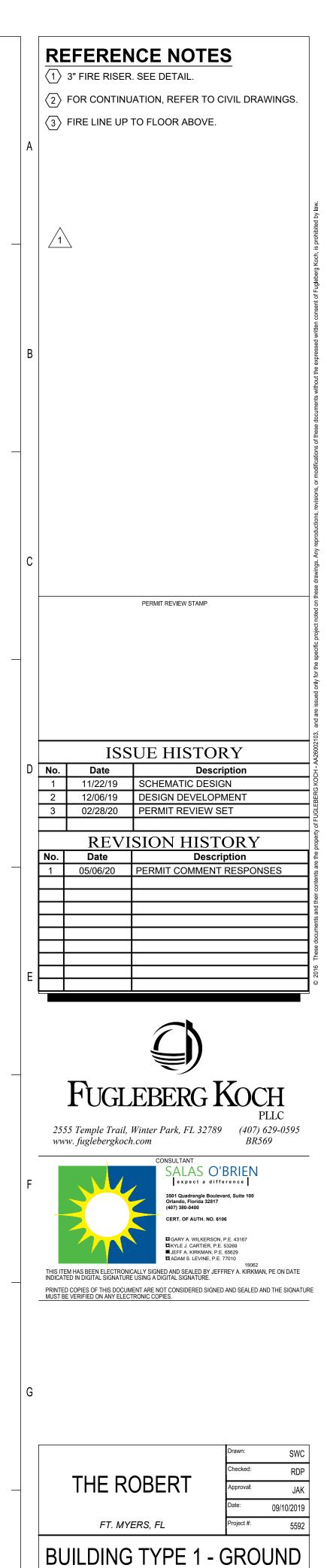
RATING.

1. THE NUMBER OF DESIGN SPRINKLERS SHALL INCLUDE ALL SPRINKLERS WITHIN A COMPARTMENT UP TO A MINIMUM OF FOUR SPRINKLERS UNDER A FLAT, SMOOTH, HORIZONTAL CEILING, ANY LINTEL WITH 8" MINIMUM WILL DIVIDE AN AREA INTO TWO COMPARTMENTS.

FIRE PROTEC	TION SCHEDULE					
K-FACTOR	FINISH	ACCESSORIES	SELECTION			
4.9	WHITE		TYCO RAPID RESPONSE SERIES	ک ا	A	
5.6	WHITE	WHITE ESCUTCHEON	LFII TYCO RAPID RESPONSE SERIES			
\sim			LFII			
4.2	CHROME	-	TYCO RAPID RESPONSE SERIES			
2		Ĺ	2			
	FIRE PRO	OTECTION SYMBOL LEGEND				
	F	FIRE PROTECTION SUPPLY F	PIPING			:
		SOLENOID VALVE WITH TAM	PER SWITCH		В	
		BUTTERFLY VALVE WITH TAI	MPER SWITCH			-
	FDC-	FIRE DEPARTMENT CONNEC	TION PIPING			-
		PIPE HANGER				
		POST INDICATING VALVE				:
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	ABBREV	IATIONS				PERMIT REVIEW STAMP
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· · ·	FH FDC	FIRE HYDRANT				ISSUE HISTORY
	FS	FLOW SWITCH				Date Description 1 11/22/19 SCHEMATIC DESIGN
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) گر	FIRE H	YDRANT FLOW TEST DATA			E	
6	TEST DATE					
H NFPA 13R	TEST BY:		ERS FIRE DEPARTMENT 045	\parallel		
	LOCATION		KER LANE ERS FLORIDA			
NIZED STEEL	STATIC PR	ESSURE 56 PSI		{		FUGLEBERG KOCH
	RESIDUAL	PRESSURE: 48 PSI 2226 GPM	1	$\ $		PLLC 2555 Temple Trail, Winter Park, FL 32789 (407) 629-0595 www.fuglebergkoch.com BR569
	PITOT SIZE			{		CONSULTANT SALAS O'BRIEN
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						Drawn: SWC
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						Date: 09/10/2019 FT. MYERS, FL Project #: 5592
						LEGEND, SCHEDULES AND
						DETAILS - FIRE PROTECTION
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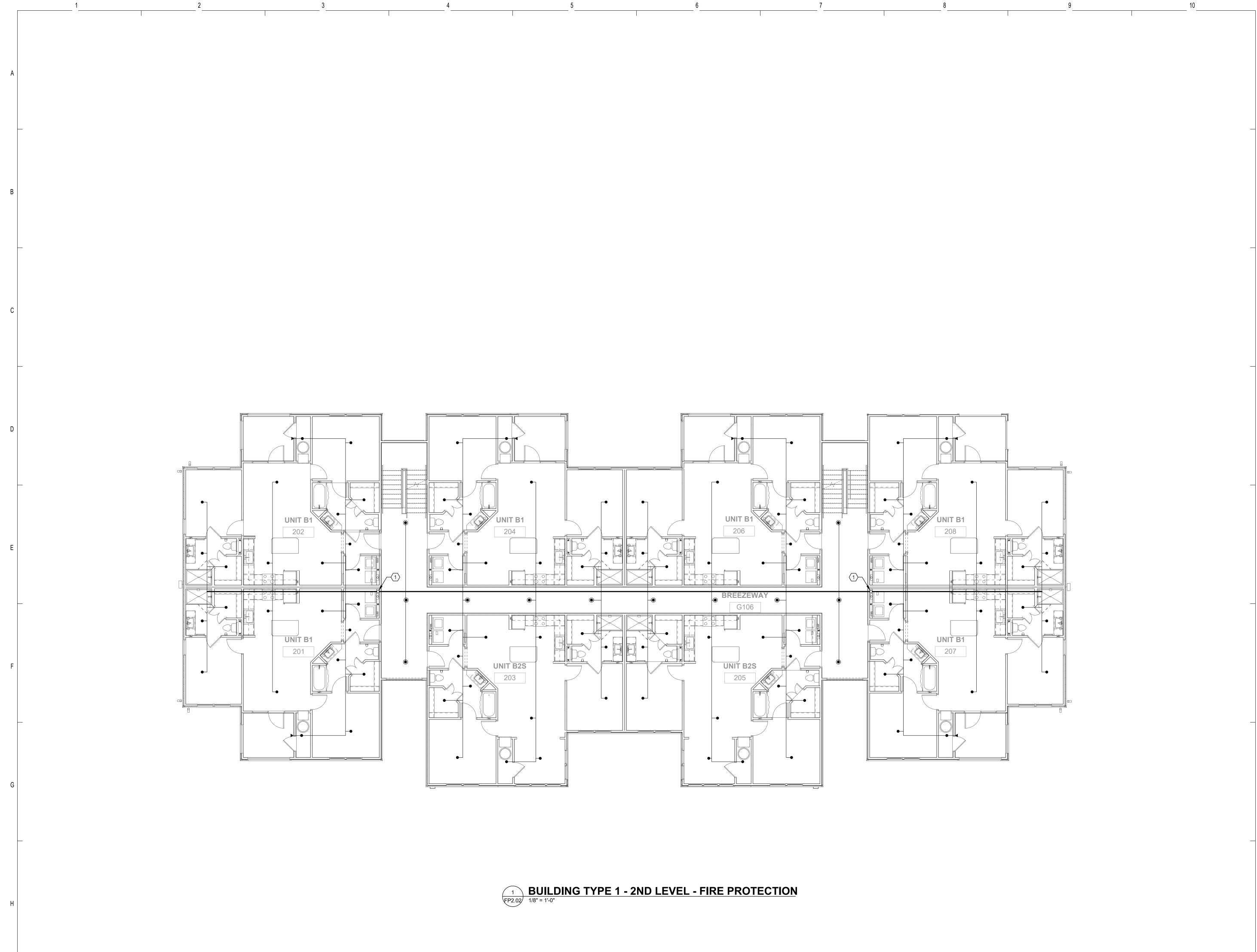




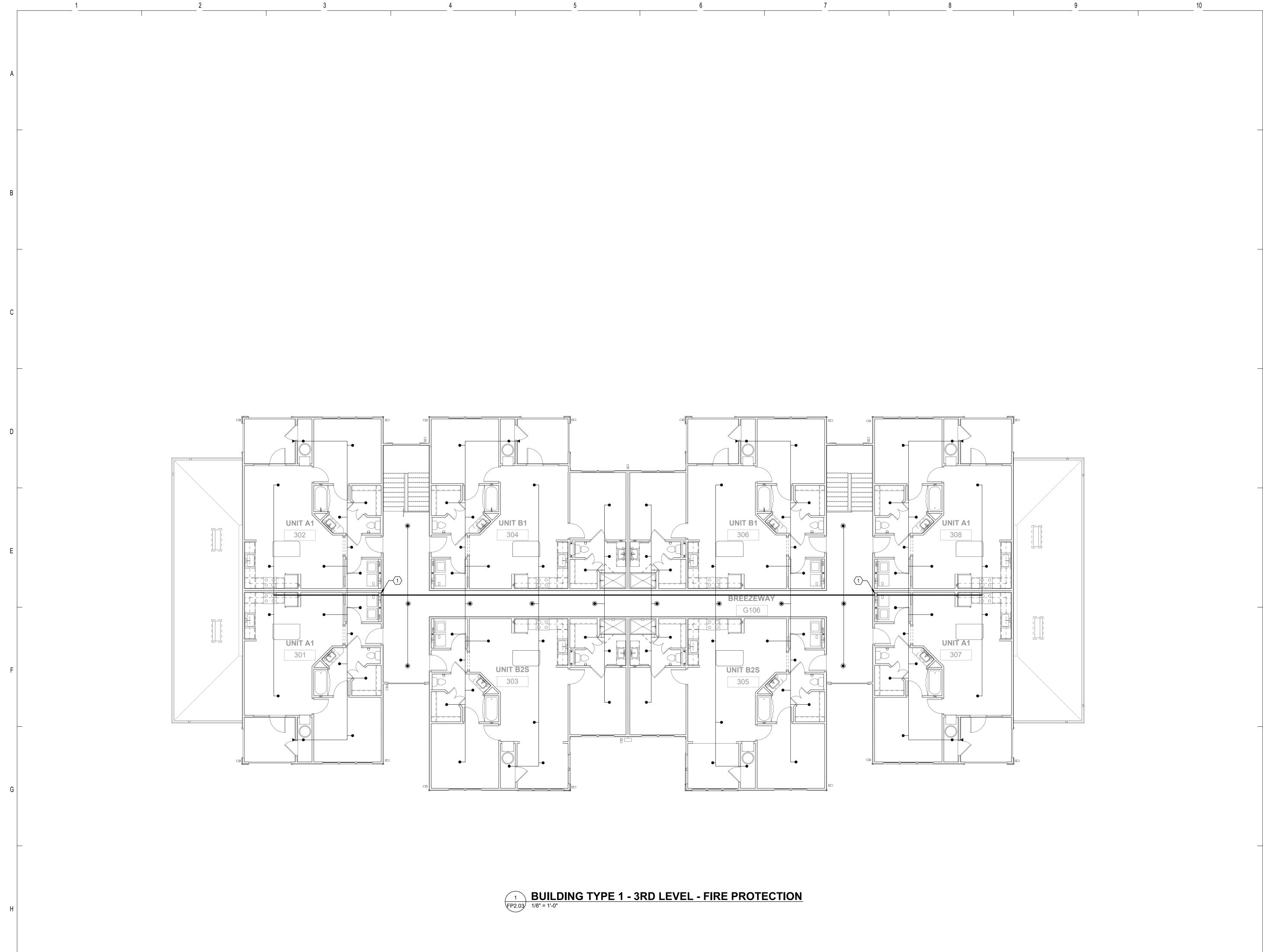


LEVEL - FIRE PROTECTION

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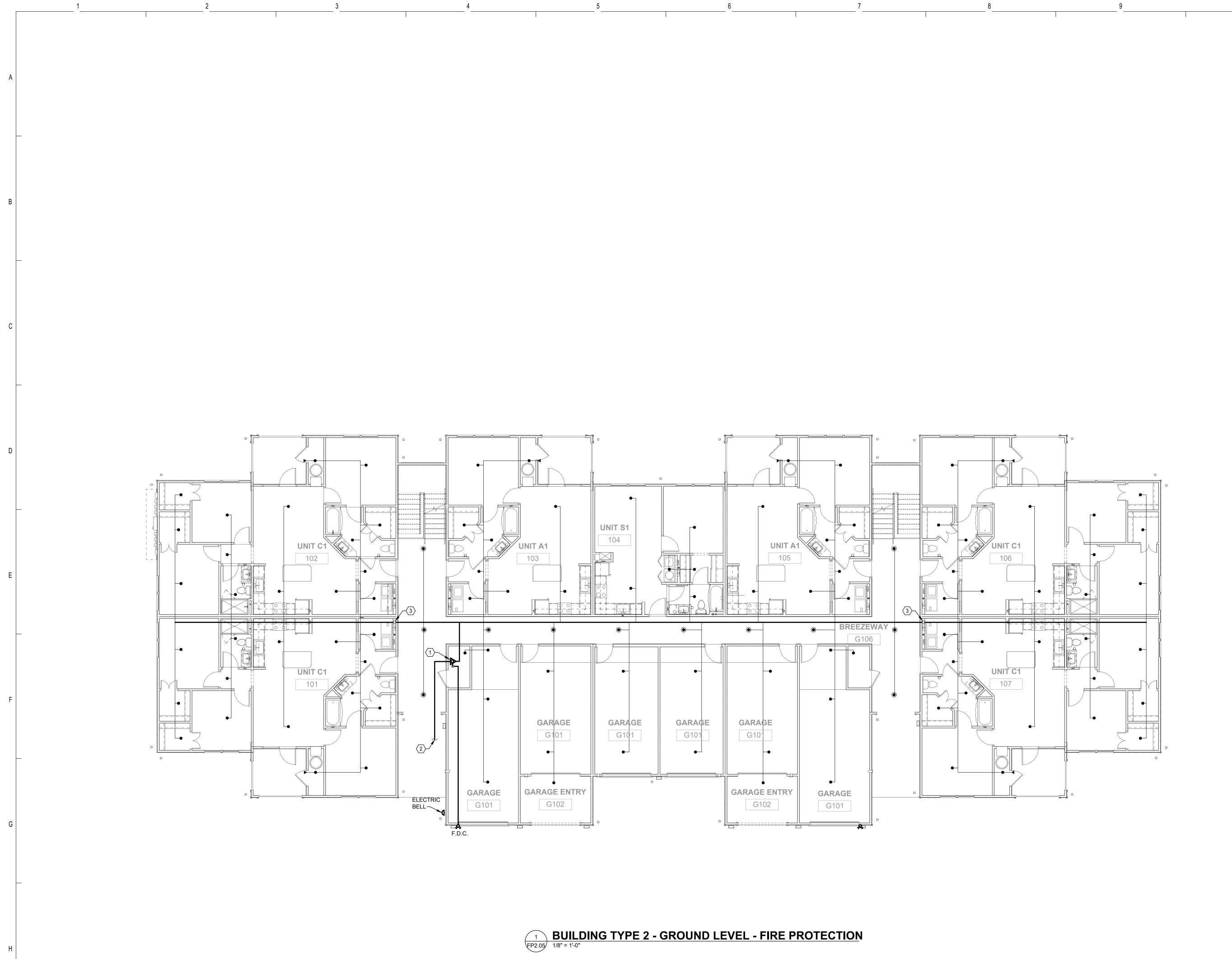


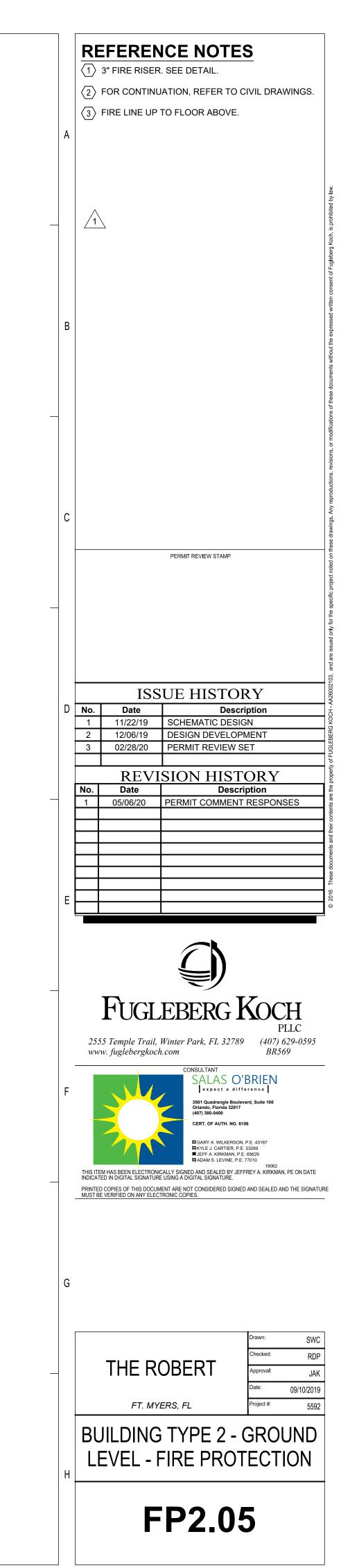
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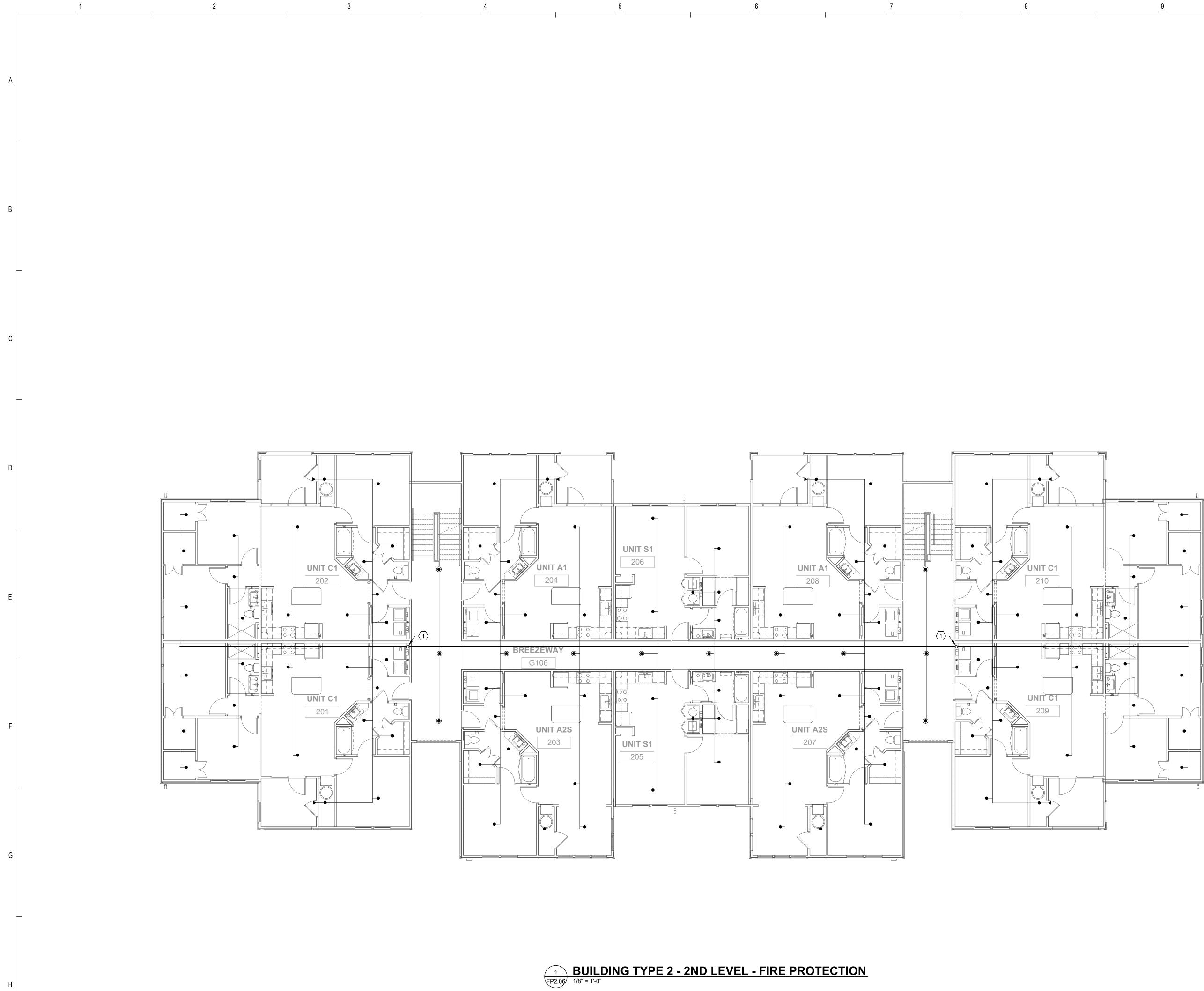


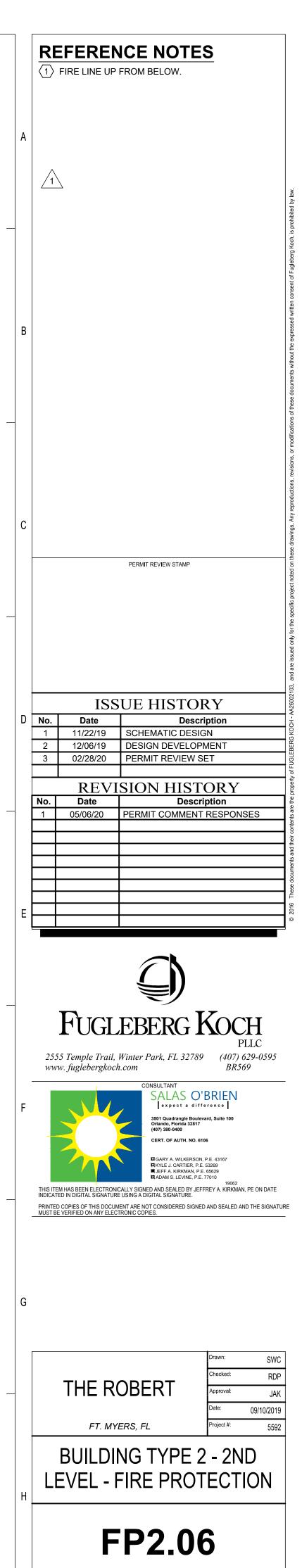


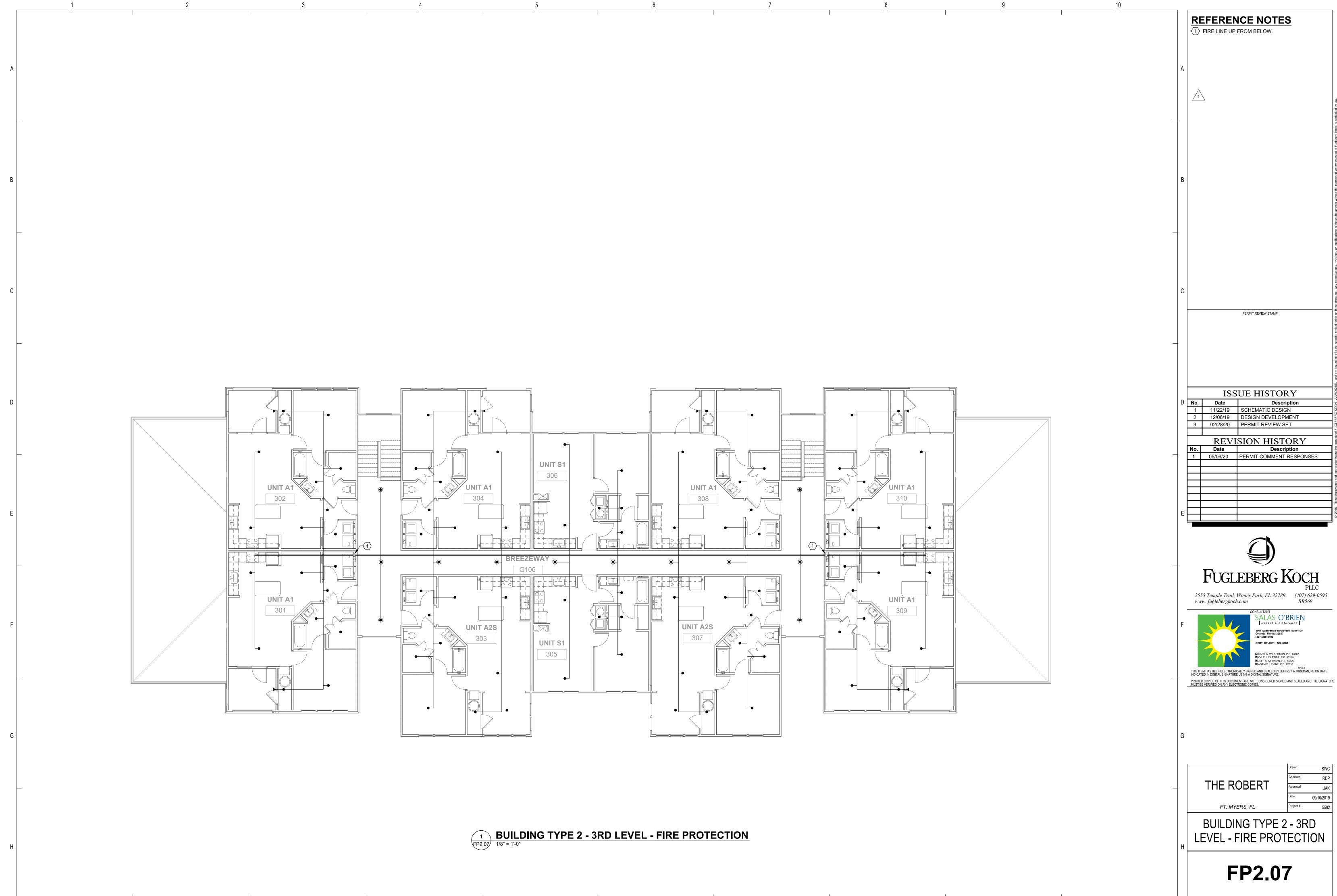
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		www.fuglebergkoch.com BR569
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	F	3501 Quadrangle Boulevard, Suite 100
		Orlando, Florida 32817 (407) 380-0400 CERT. OF AUTH. NO. 6106
		GARY A. WILKERSON, P.E. 43167 KYLE J. CARTIER, P.E. 53269
		ADAM S. LEVINE, P.E. 77010
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	[Drawn: SWC
		Checked: RDP
		THE ROBERT
		Date: 09/10/2019
		FT. MYERS, FL Project #: 5592
		BUILDING TYPE 1 - 3RD
		LEVEL - FIRE PROTECTION
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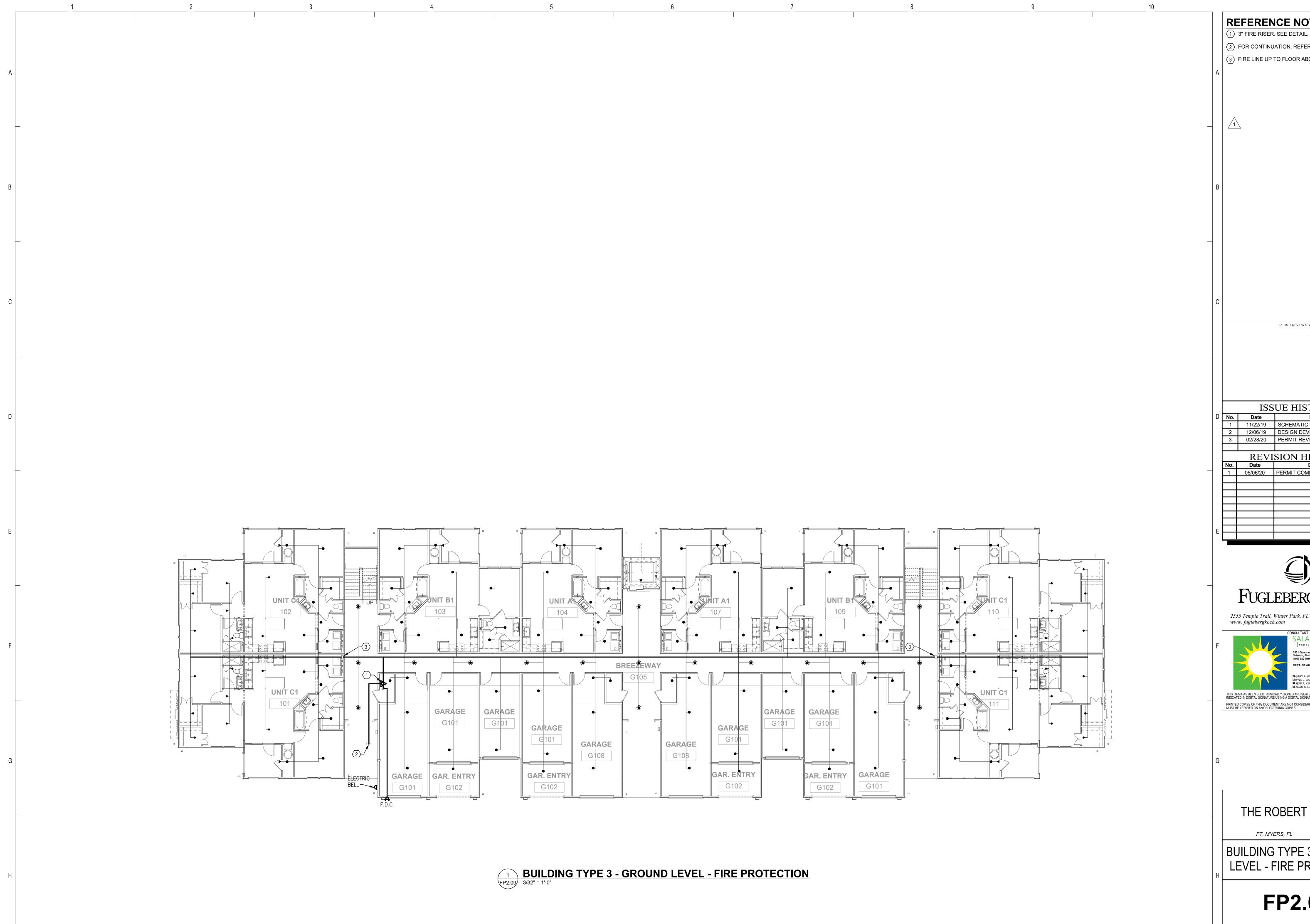








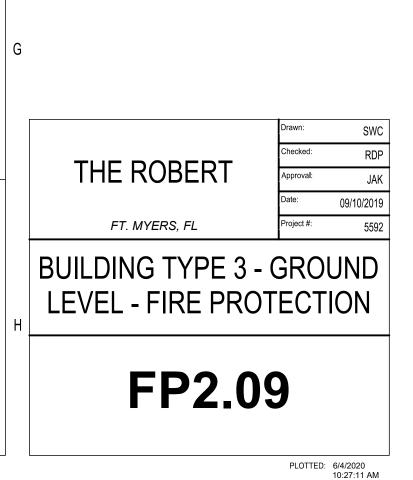
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-	FUGLEBERG KOCH PLLC 2555 Temple Trail, Winter Park, FL 32789 www.fuglebergkoch.com
F	CONSULTANT SALAS O'BRIEN (apoct a difference) Soft Quadrangle Boulevard, Suite 100 Orlande, Florida 32817 (407) 380-0400 CERT. OF AUTH. NO. 6106 I GARY A. WILKERSON, P.E. 43167 I YLE J. CARTIER, P.E. 53269 JEFF A. KIRKMAN, P.E. 65629 JEFF A. KIRKMAN, P.E. 65629 JEFF A. KIRKMAN, P.E. 65629 JEFF A. KIRKMAN, P.E. 000 THIS ITEM HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY JEFFREY A. KIRKMAN, PE ON DATE INDICATED IN DIGITAL SIGNATURE USING A DIGITAL SIGNATURE. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.
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	Drawn: SWC Checked: RDP Approval: JAK Date: 09/10/2019 Project #: 5592 BUILDING TYPE 2 - 3RD LEVEL - FIRE PROTECTION
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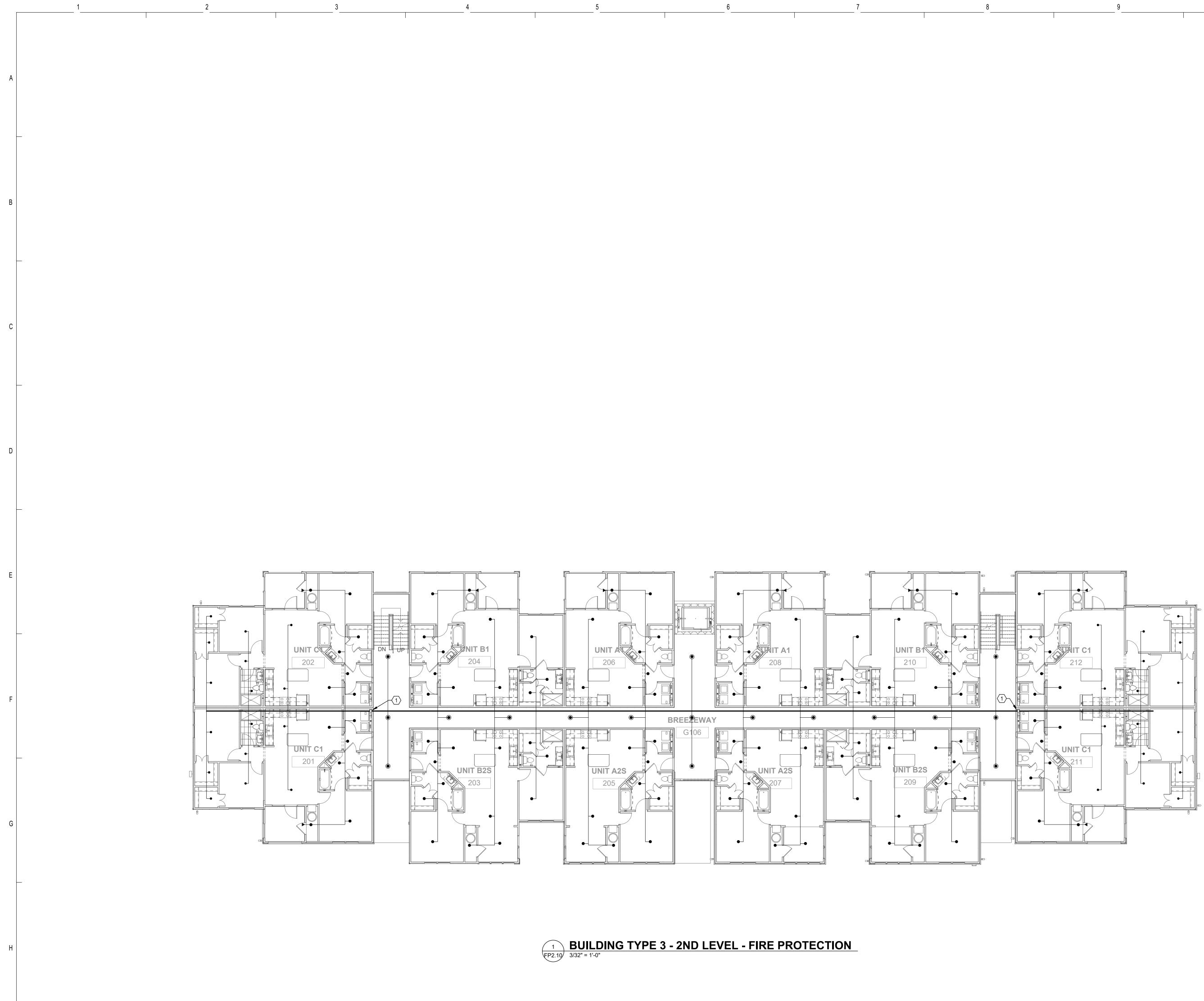


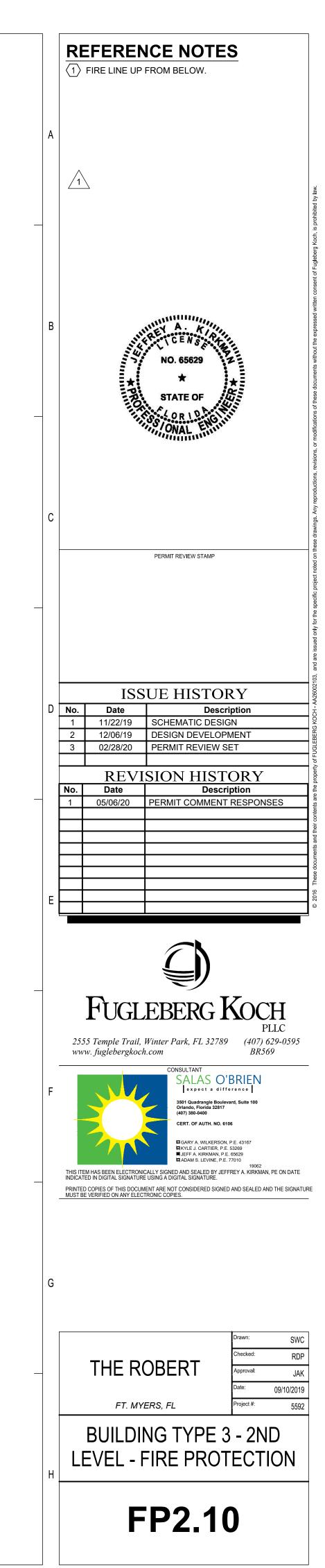
	REFERENCE NOTES
	$\langle 1 \rangle$ 3" FIRE RISER. SEE DETAIL.
	$\langle 2 \rangle$ FOR CONTINUATION, REFER TO CIVIL DRAWINGS.
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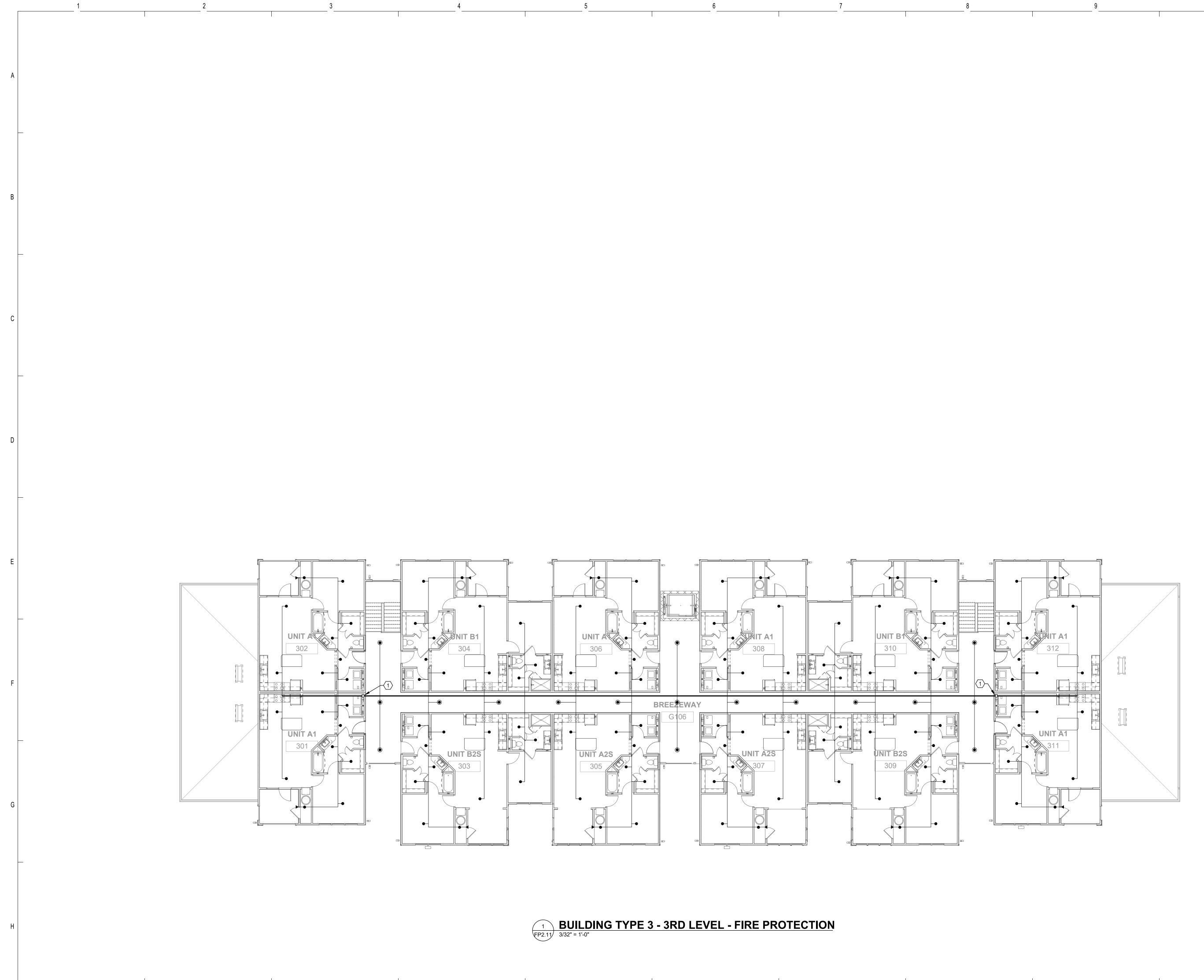
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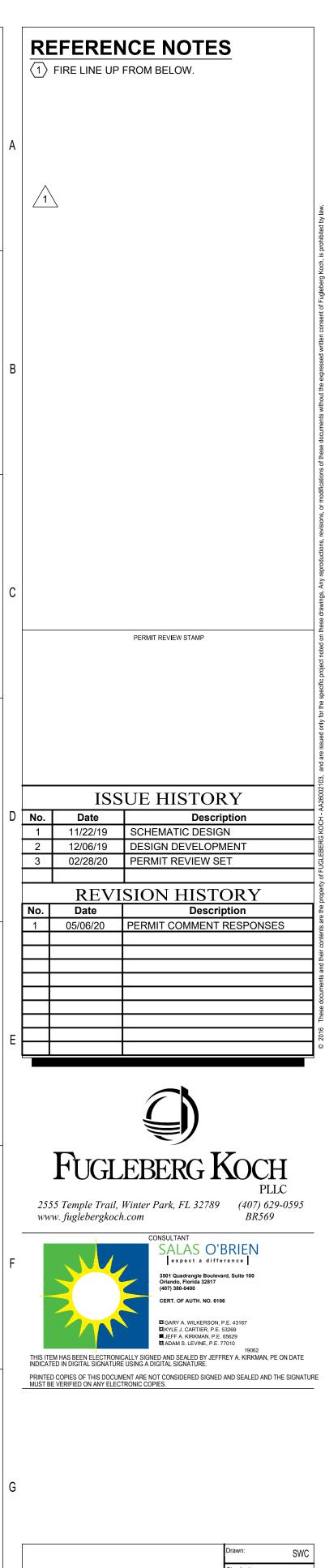


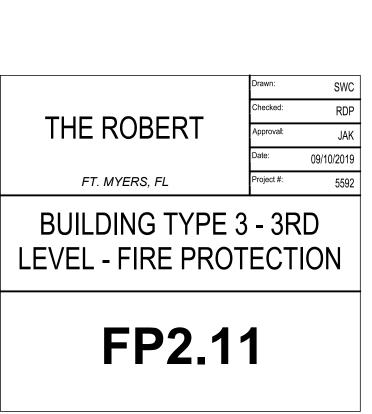


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