IntelliKnight 6808 Battery Calculation

Secondary Power Source Requirements

Device Type	Standby Current (amps) Qty		Current Draw		Total	Secondary Alarm Current (amps) Qty		Current Draw		Total
1. Control Panel										
6808 Control Panel	1	x	0.190000	=	0.170000	1	x	0.250000	=	0.250000
2. Addressable SLC Devices										
SK-PHOTO		x	0.000300	=			x	0.000300	=	
SK-PHOTO-T		x	0.000300	=			x	0.000300	=	
SK-HEAT		x	0.000300	=			x	0.000300	=	
SK-HEAT-HT		x	0.000300	=			x	0.000300	=	
SK-HEAT-ROR		x	0.000300	=			x	0.000300	=	
SK-BEAM		x	0.002000	=			x	0.002000	=	
SK-BEAM-T		x	0.002000	=			x	0.002000	=	
SK-DUCT		x	0.000300	=			x	0.000300	=	
SK-ACCLIMATE		x	0.000300	=			x	0.000300	=	
SK-CONTROL		x	0.000375	=			x	0.000375	=	
SK-MONITOR	3	x	0.000375	=	0.001125	3	x	0.000375	=	0.001125
SK-MINIMON	1	x	0.000375	=	0.000375	1	x	0.000375	=	0.000375
SK-PULL-SA		x	0.000375	=			x	0.000375	=	
SK-PULL-DA	2	x	0.000375	=	0.000750	2	x	0.000375	=	0.000750
SK-MONITOR-2		x	0.000750	=			x	0.000750	=	
SK-MON-10		x	0.003500	=			x	0.003500	=	
SK-RELAY-6		x	0.001450	=			x	0.001450	=	
SK-CONTROL-6		x	0.002250	=			x	0.002250	=	
SK-RELAY		x	0.000255	=			x	0.000255	=	
SK-RELAYMON-2		x	0.001300	=			x	0.024000	=	
SK-ZONE		x	0.000270	=			x	0.000270	=	
SK-ZONE-6		x	0.002000	=			x	0.002000	=	
SK-FIRE-CO		x	0.000300	=			x	0.007200	=	
3. SLC Accessory Bases										
B200S		x	0.000300	=			x	0.000300	=	
B200S-LF		x	0.000300	=			x	0.000300	=	
B200SR		x	0.000300	=			x	0.000300	=	
B200SR-LF		x	0.000300	=			x	0.000300	=	
B224RB		x	0.000500	=			x	0.000500	=	
RTS151		x	0.000000	=			x	0.007500	=	
RTS151KEY		x	0.000000	=			x	0.007500	=	
RA100Z		x	0.000000	=			x	0.010000	=	
4. SLC Isolator Devices										
SK-ISO		x	0.000450	=			x	0.000450	=	
ISO-6		x	0.002700	=			x	0.102000	=	
B224BI		x	0.000500	=			x	0.000500	=	
5. Auxiliary Power Draw - SLC Devices										
SK-CONTROL (Aux. Power)		x	0.001700	=			x	0.007000	=	
SK-CONTROL-6 (Aux. Power)		x	0.008000	=			x	0.020000	=	
SK-ZONE (Aux. Power)		x	0.012000	=			x	0.090000	=	
SK-ZONE-6 (Aux. Power)		x	0.050000	=			x	0.270000	=	
B200S (Aux. Power)		x	0.000500	=			x	0.035000	=	
B200S-LF (Aux. Power)		x	0.000550	=			x	0.140000	=	
B200SR (Aux. Power)		x	0.000500	=			x	0.035000	=	
B200SR-LF (Aux. Power)		x	0.001000	=			x	0.125000	=	
6. Accessory Modules										
5860		x	0.020000	=			x	0.025000	=	
5860R		x	0.020000	=			x	0.025000	=	
5824		x	0.045000	=			x	0.045000	=	
5496		x	0.010000	=			x	0.010000	=	
5865-4		x	0.035000	=			x	0.145000	=	
5865-3		x	0.035000	=			x	0.145000	=	
5880		x	0.035000	=			x	0.200000	=	
5883		x	0.000000	=			x	0.220000	=	
SK-IP-2		x	0.093000	=			x	0.136000	=	
SK-IP-2UD		x	0.098000	=			x	0.155000	=	
CELL-MOD		x	0.055000	=			x	0.100000	=	
CELL-CAB-SK		x	0.055000	=			x	0.100000	=	
SK-NIC		x	0.021000	=			x	0.021000	=	
SK-NIC-KIT		x	0.021000	=			x	0.021000	=	
SK-FSL		x	0.079000	=			x	0.079000	=	
SK-FML		x	0.053000	=			x	0.053000	=	
SK-FFT		x	0.120000	=			x	0.230000	=	
7. Miscellaneous Devices										
Conventional Detectors		x	0.000000	=			x	0.000000	=	
SK-PHOTO-W	12	x	0.000300	=	0.003600	12	x	0.000000	=	0.000000
SK-HEAT-W	1	x	0.000300	=	0.000300	1	x	0.000000	=	0.000000
Miscellaneous Device 3		x	0.000000	=			x	0.000000	=	
Miscellaneous Device 4		x	0.000000	=			x	0.000000	=	
Miscellaneous Device 5		x	0.000000	=			x	0.000000	=	
8. Notification Appliance Circuits										
NAC 1			0.000000	=				0.675000	=	0.675000
NAC 2			0.000000	=				1.071000	=	1.071000
NAC 3			0.000000	=				0.765000	=	0.765000
Door-Holder 1			0.000000	=				0.000000	=	
			Total Standby Load		**0.176150**			**Total Alarm Load**		**2.763250**

IntelliKnight 6808 Battery Calculation

Calculation in Total Sheet

		Required Standby Time in Hours	24 Hours		
Standby Load Current	**0.17615 Amps**	x	24	=	4.228 AH
		Required Alarm Time in Minutes	5 Minutes		
Alarm Load Current (Amps)	**2.76325 Amps**	x	0.084	=	0.232 AH
				Total Current Load	**4.460 AH**
	Multiply by the Derating Factor		1.2	=	x 1.20
				Total Ampere Hours Required	**5.35 AH**

Batteries:	**18AH**

IntelliKnight 6808 Circuit Detail

NAC 1

Device	Qty	Non-Alarm Draw			Total	Qty	Alarm Draw			Total
P2RL @ 15 Candela	8	x	0.000000	=	0.000000	8	x	0.073000	=	0.584000
P2RK @ 15 Candela	1	x	0.000000	=	0.000000	1	x	0.091000	=	0.091000
		x	0.000000	=			x	0.000000	=	
		x	0.000000	=			x	0.000000	=	
		x	0.000000	=			x	0.000000	=	
		x	0.000000	=			x	0.000000	=	
		x	0.000000	=			x	0.000000	=	
		x	0.000000	=			x	0.000000	=	
		x	0.000000	=			x	0.000000	=	
			Total Standby Load		**0.000000**			**Total Alarm Load**		**0.675000**

NAC 2

Device	Qty	Non-Alarm Draw			Total	Qty	Alarm Draw			Total
HR-LF	7	x	0.000000	=	0.000000	7	x	0.153000	=	1.071000
		x	0.000000	=			x	0.000000	=	
		x	0.000000	=			x	0.000000	=	
		x	0.000000	=			x	0.000000	=	
		x	0.000000	=			x	0.000000	=	
		x	0.000000	=			x	0.000000	=	
		x	0.000000	=			x	0.000000	=	
		x	0.000000	=			x	0.000000	=	
		x	0.000000	=			x	0.000000	=	
			Total Standby Load		**0.000000**			**Total Alarm Load**		**1.071000**

NAC 3

Device	Qty	Non-Alarm Draw			Total	Qty	Alarm Draw			Total
HR-LF	5	x	0.000000	=	0.000000	5	x	0.153000	=	0.765000
		x	0.000000	=			x	0.000000	=	
		x	0.000000	=			x	0.000000	=	
		x	0.000000	=			x	0.000000	=	
		x	0.000000	=			x	0.000000	=	
		x	0.000000	=			x	0.000000	=	
		x	0.000000	=			x	0.000000	=	
		x	0.000000	=			x	0.000000	=	
		x	0.000000	=			x	0.000000	=	
			Total Standby Load		**0.000000**			**Total Alarm Load**		**0.765000**

IntelliKnight 6808 EOL Voltage Drop

Starting Voltage	24 Volts
Minimum Voltage @ EOL	16 Volts
Voltage Drop Warning %	10.00%

Circuit Name	Current Draw Amps	Wire Type AWG	Resistance Ohms/1000 ft.	Length Feet (One Way)	Actual Resistance Ohms	Voltage @ EOL Volts	Percent Drop Percent
NAC 1	0.675	#12 Solid	1.93	400	1.54	22.96	4.34%
NAC 2	1.071	#12 Solid	1.93	300	1.16	22.76	5.17%
NAC 3	0.765	#12 Solid	1.93	300	1.16	23.11	3.69%

	ACTUATE COMMON ALARM INDICATOR	ACTUATE AUDIBLE ALARM SIGNAL	ACTUATE COMMON SUPERVISORY INDICATOR	ACTUATE AUDIBLE SUPERVISORY SIGNAL	ACTUATE COMMON TROUBLE INDICATOR	ACTUATE AUDIBLE TROUBLE SIGNAL	ACTUATE APARTMENT L.F. SOUNDER BASES	ACTUATE COMMON AREA NOTIFICATION APPLIANCES	TRANSMIT ALARM SIGNAL TO CENTRAL STATION	TRANSMIT SUPERVISORY SIGNAL TO CENTRAL STATION	TRANSMIT TROUBLE SIGNAL TO CENTRAL STATION
PULL STATION ACTIVATION	●	●					●	●	●		
SMOKE DETECTOR ACTIVATION	●	●					●	●	●		
WATERFLOW ACTIVATION	●	●					●	●	●		
CO DETECTOR ACTIVATION			●	●						●	
VALVE SWITCH ACTIVATION			●	●						●	
FACU AC POWER FAILURE					●	●					●
FACU LOW BATTERY					●	●					●
OPEN CIRCUIT					●	●					●
SHORT CIRCUIT					●	●					●

Reviewed for Code Compliance
Permitting and Inspections Department
Approved with Conditions
10/17/2019

CITY/TOWN APPROVAL

John Mocker, SET
John Mocker
NICET Level IV - Fire Alarm
Technician ID: 137219
Expires: 11/1/2022

NICET APPROVAL

0	Issued for Review
1	
2	
3	

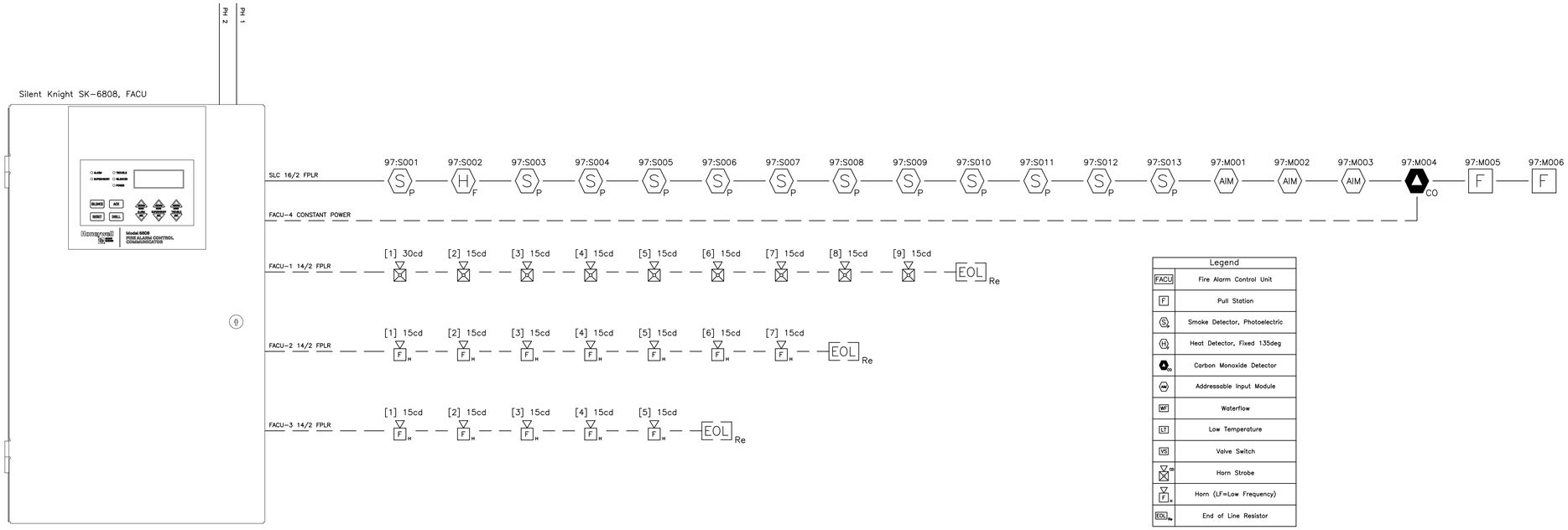
Revisions

PORT PROPERTY MANAGEMENT	DATE 09-3-2019	AUTHOR ZS	SCALE None	55 WILLIAM STREET PORTLAND, ME

CUNNINGHAM
SECURITY SYSTEMS

CALCULATIONS

FA-1



Legend	
FACU	Fire Alarm Control Unit
F	Pull Station
S	Smoke Detector, Photoelectric
H	Heat Detector, Fixed 135deg
CO	Carbon Monoxide Detector
AIM	Addressable Input Module
WF	Waterflow
LT	Low Temperature
VS	Valve Switch
	Horn Strobe
H	Horn (LF=Low Frequency)
EOL	End of Line Resistor

SLC WIREFLOW SHOWN AS SOLID LINE, NAC OR PWR SHOWN AS DASHED

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PORT PROPERTY MANAGEMENT	
DATE	09-03-2019
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SCALE	None
55 WILLIAM STREET	
PORTLAND, ME	

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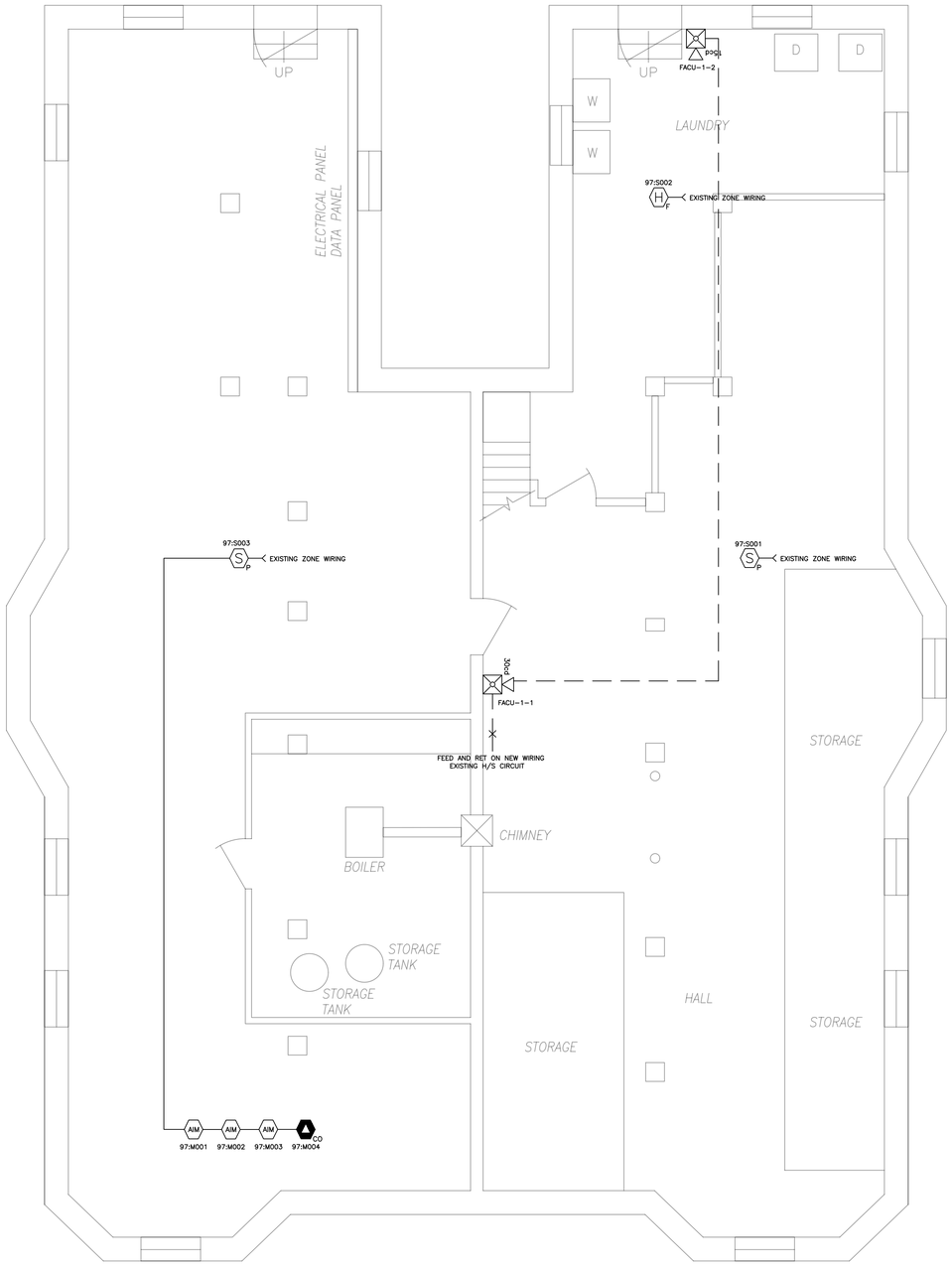
SECURITY SYSTEMS

RISER

FA-2



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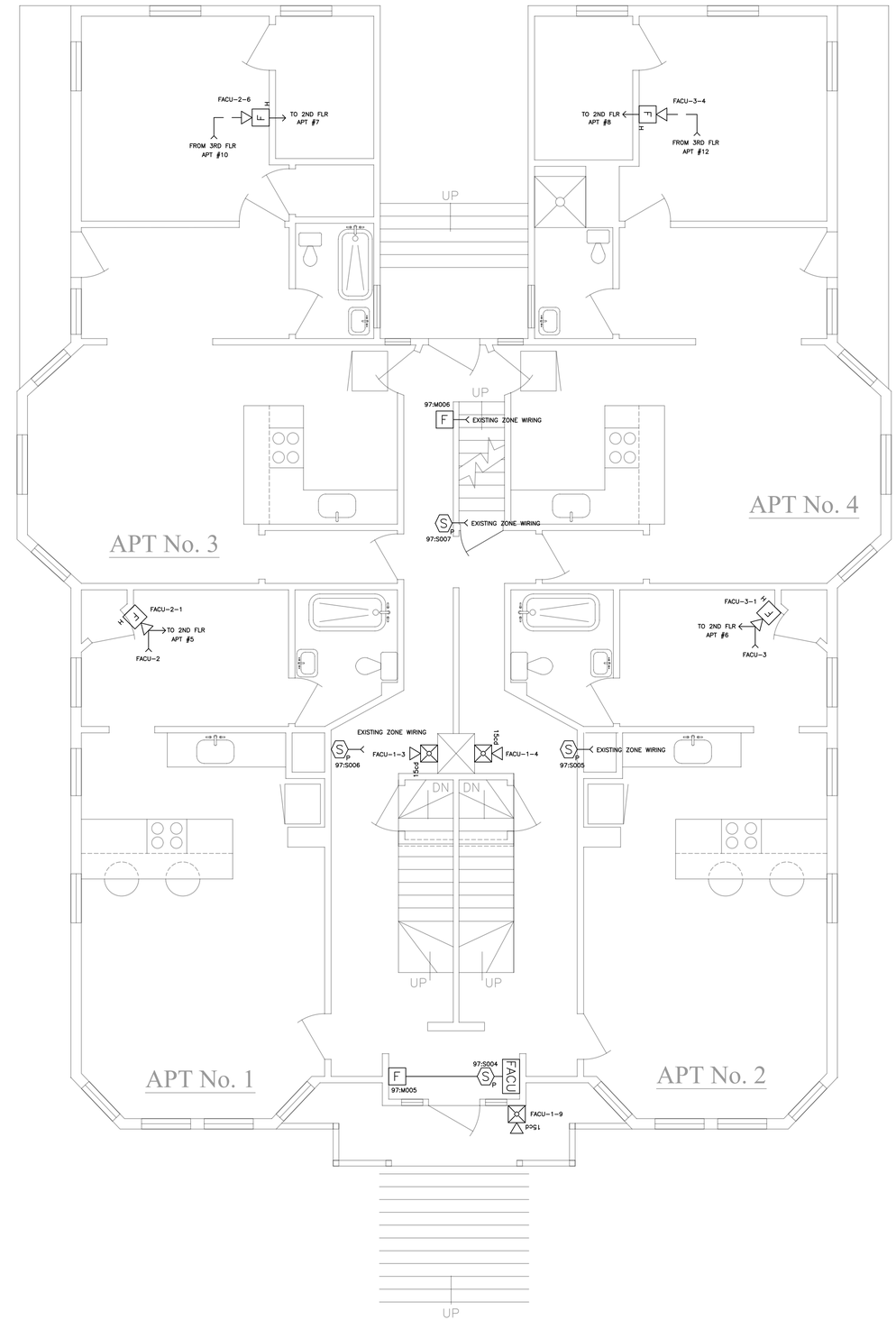
SECURITY SYSTEMS

BASEMENT

FA-3



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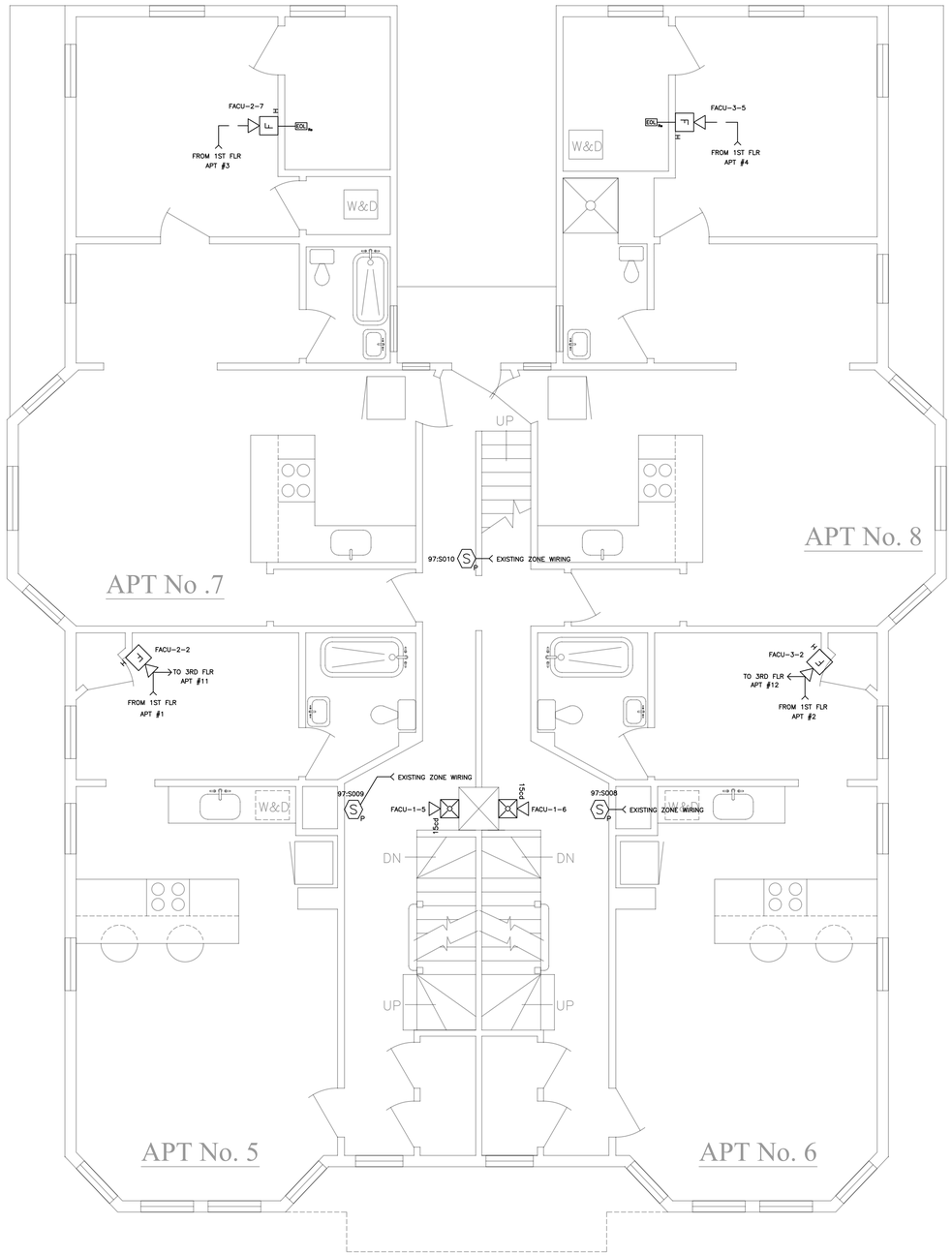
SECURITY SYSTEMS

FIRST FLOOR

FA-4



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CITY/TOWN APPROVAL

John Mocker, SET
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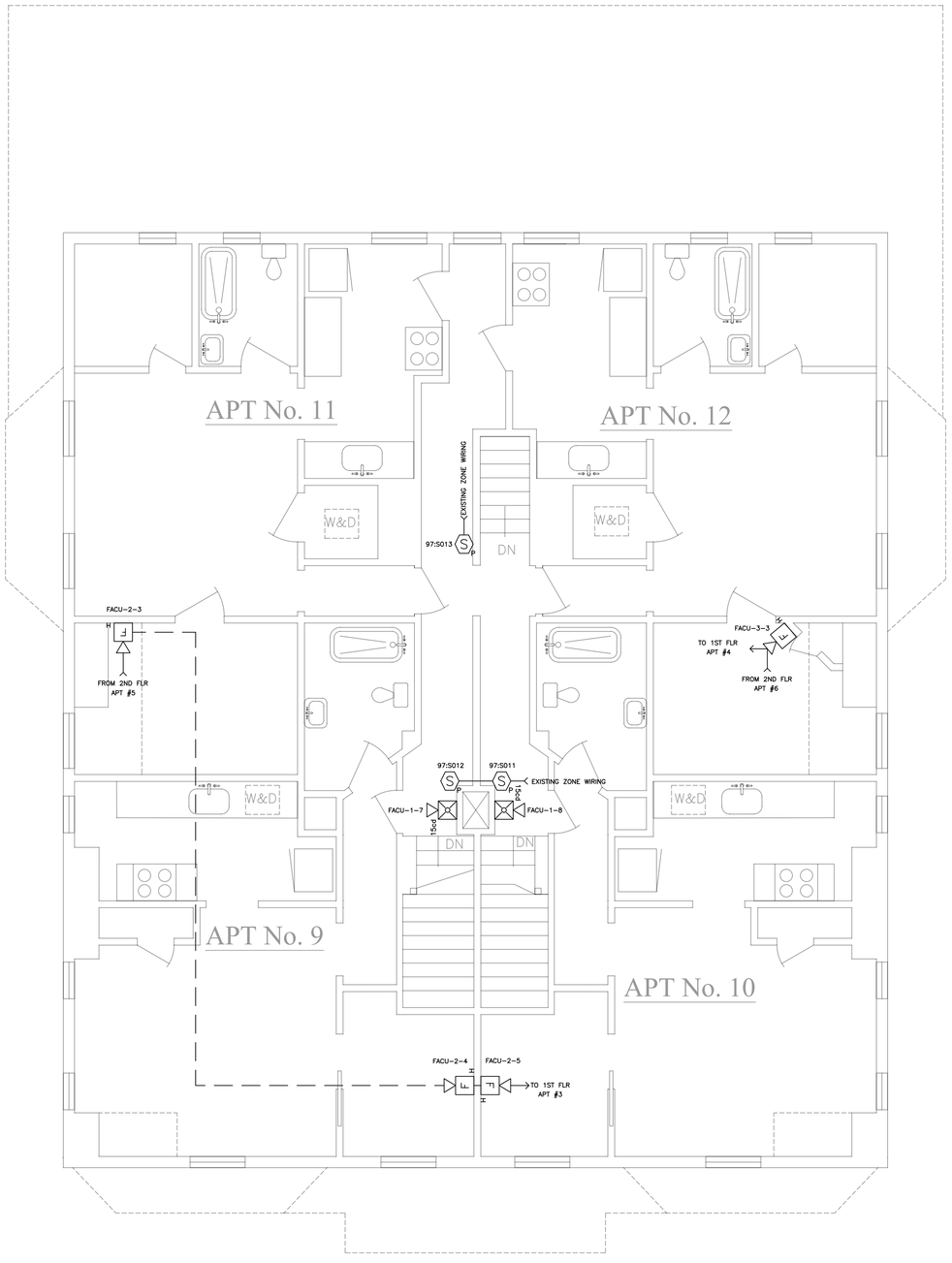
SECURITY SYSTEMS

SECOND FLOOR

FA-5



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SECURITY SYSTEMS

THIRD FLOOR

FA-6