



A FIRE ALARM REPLACEMENT SUBMITTAL

ROSS #0593

4102 S MERIDIAN, SUITE C
PUYALLUP, WA 98373



everOn™

BRANCH #66955
600 OAKESDALE AVE SW,
SUITE 100
RENTON WA 98057

844-538-3766
WEB: EVERONSOLUTIONS.COM



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FIRE ALARM SYSTEM

This fire alarm shop drawing was prepared for equipment application only. The information contained herein is intended to aid in the installation of this system. No design changes have been made to the engineer of record's contract documents.



Melissa A. Johnson
NICET #147320
FIRE ALARM SYSTEMS LVL III
EXPIRES 05/01/2027 12/9/2024

CENTRAL STATION LISTING
CCN File No. Vol. No.
UUFX S2684 20

REVISIONS

NO.	DATE	REVISION
△	12/9/2024 BY: MAJ	- FOR PERMIT
△	1/17/2024 BY: MAJ	-F.M. REJECTION: CHANGE ALL HEATS TO SMOKES, ADD 4 SMOKES.
△	BY: ____	.
△	BY: ____	.
△	BY: ____	.
△	BY: ____	.

CODES ADOPTED BY LOCAL AHJ
2021 WASHINGTON STATE BUILDING CODE
2021 WASHINGTON STATE EX. BUILDING CODE
2021 WASHINGTON STATE FIRE CODE
2023 WASHINGTON STATE ELECTRICAL CODE
2019 NFPA 72

PREPARED BY: M.A. JOHNSON

CHECKED BY: D.J. TAYLOR

PROJECT MANAGER: D. NEEDHAM

DATE: 12/9/2024

PROJECT NO: 300325818

TITLE: COVER SHEET
NOTES/LEGENDS
OPS MATRIX
DEVICE SCHEDULE

SHEET:

FA-0

1 of 4

- FIRE ALARM DRAWING INDEX -

SHEET NO.	SHEET DESCRIPTION
FA-0	TITLE SHEET, GENERAL NOTES & COMMUNICATION MATRIX
FA-1	FIRE ALARM SYSTEM FLOOR PLAN & ADDRESS SCHEDULE
FA-2	FIRE ALARM SYSTEM FLOOR PLAN & RISER DIAGRAM
FA-3	SYSTEM CALCULATIONS

- SCOPE OF WORK -

THIS PROJECT IS FOR THE INSTALLATION OF A REPLACEMENT, ADDRESSABLE, MONITORED, U.L. LISTED, FIRE ALARM SYSTEM. EXISTING SMOKE & HEAT DETECTORS, PULL STATIONS, NOTIFICATION AND WIRE SHALL BE REPLACED. THE NEW SYSTEM SHALL HAVE A CELLULAR SOLE PATH COMMUNICATOR FOR OFF PREMISE NOTIFICATION. THE SYSTEM SHALL MEET NFPA 72 STANDARDS. FULL NOTIFICATION THROUGHOUT. A REMOTE ANNUNCIATOR SHALL BE LOCATED BY FRONT ENTRANCE. UPON COMMISSIONING OF NEW FIRE ALARM SYSTEM, ALL EXISTING DEVICES AND WIRE SHALL BE REMOVED.

- MONITORING NOTES -

EVERON SOLUTIONS
4221 W. JOHN CARPENTER FWY.
IRVING, TEXAS 75063

ALARM SERVICE COMPANY: (3577745)
[PARTY SITE NO: (3577745)]
[LISTED SERVICE FROM: IRVING, TX]

THE ALARM SERVICE COMPANY IS UL LISTED IN THE FOLLOWING CERTIFICATE SERVICE CATEGORIES:

FILE-VOL NO.	CCN	LISTING CATEGORY
BP10566-1	CZRM	MONITORING STATIONS, NATIONAL INDUSTRIAL SECURITY
S2684-20	UUFX	CENTRAL-STATION PROTECTIVE SIGNALING SERVICES [SIGNAL AND FIRE ALARM EQUIPMENT AND SERVICES]
BP1790-3 S5337-6	CPVX UUJS	[BURGLAR ALARMS SYSTEMS] CENTRAL STATION LOCAL, AUXILIARY, REMOTE STATION AND PROPRIETARY PROTECTIVE SIGNALING SERVICES
BP6719-3 BP8312-38	CRZH CVSG	NATIONAL INDUSTRIAL SECURITY SYSTEMS MERCANTILE BURGLAR ALARM SYSTEMS
THIS CERTIFICATE EXPIRES ON 31-DEC-2025		

- FIRE EQUIPMENT LEGEND -

SYMBOL	QTY	EXISTING	MANUFACTURER	PART NO	DESCRIPTION
FACU	1		POTTER	AFC-1000	FIRE ALARM CONTROL PANEL
	1		SPACE AGE ELECTRONICS	E120V-GT	HYBRID SURGE PROTECTION DEVICE
	2		POWER SONIC	PS-12180	12V 18 AH BATTERY
	1		POTTER	UD-2000	PFC SERIES DIGITAL ALARM COMMUNICATOR TRANSMITTER
CELL	1		NAPCO	SLE-MAX2-FIRE	UNIVERSAL FIRE COMMUNICATOR, DUAL SIM, DUAL PATH, PANEL-POWERED TECHNOLOGY, ABS PLASTIC HOUSING
DOC	1		SPACE AGE ELECTRONICS	SSU00690	FIRE ALARM DOCUMENT CABINET W/8GB USB DRIVE (ACE-11), RED WITH CUSTOM LOGO
FAA	1		POTTER	RA-6500	160 CHARACTER LCD ANNUNCIATOR
☒	5		SYSTEM SENSOR	RTS151KEY	REMOTE TEST STATION W/ SWITCH, ALARM & POWER LEADS, KEY RESET
⬡S	63		POTTER	PAD300-PD W/PAD300-6DB	PHOTOELECTRIC SMOKE DETECTOR WITH 6" STANDARD BASE
F	4		POTTER	PAD100-PSDA	ADDRESSABLE PULL STATION DUAL ACTION
⬡M	2		POTTER	PAD100-DIM	DUAL INPUT MODULE
SS	2		DITEK	DTK-2MHL24BWB	2 PAIR / 4 WIRE SURGE MODULE W/BASE FOR PIV, NAC, IDC ETC.
⬡O	5		POTTER	PAD100-OROI	ONE RELAY ONE INPUT MODULE
⬡S	5	X	GENERIC	EXISTING	DUCT DETECTOR
WFI	1	X	GENERIC	EXISTING	WATERFLOW SWITCH
VSI	1	X	GENERIC	EXISTING	VALVE TAMPER SUPERVISORY SWITCH
☒	1	X	GENERIC	EXISTING	OS&Y
☒	1	X	GENERIC	EXISTING	KNOX BOX
⬡WP	2		POTTER	HS-24WR-WP	OUTDOOR HORN STROBE, FIXED 75 CANDELA, STANDARD ENCLOSURE, RED
⬡C	13		POTTER	CHS-24W	HORN STROBE, CEILING, WHITE
⬡C	14		POTTER	CS-24W	STROBE, CEILING, WHITE

- CABLE AND WIRE LEGEND -

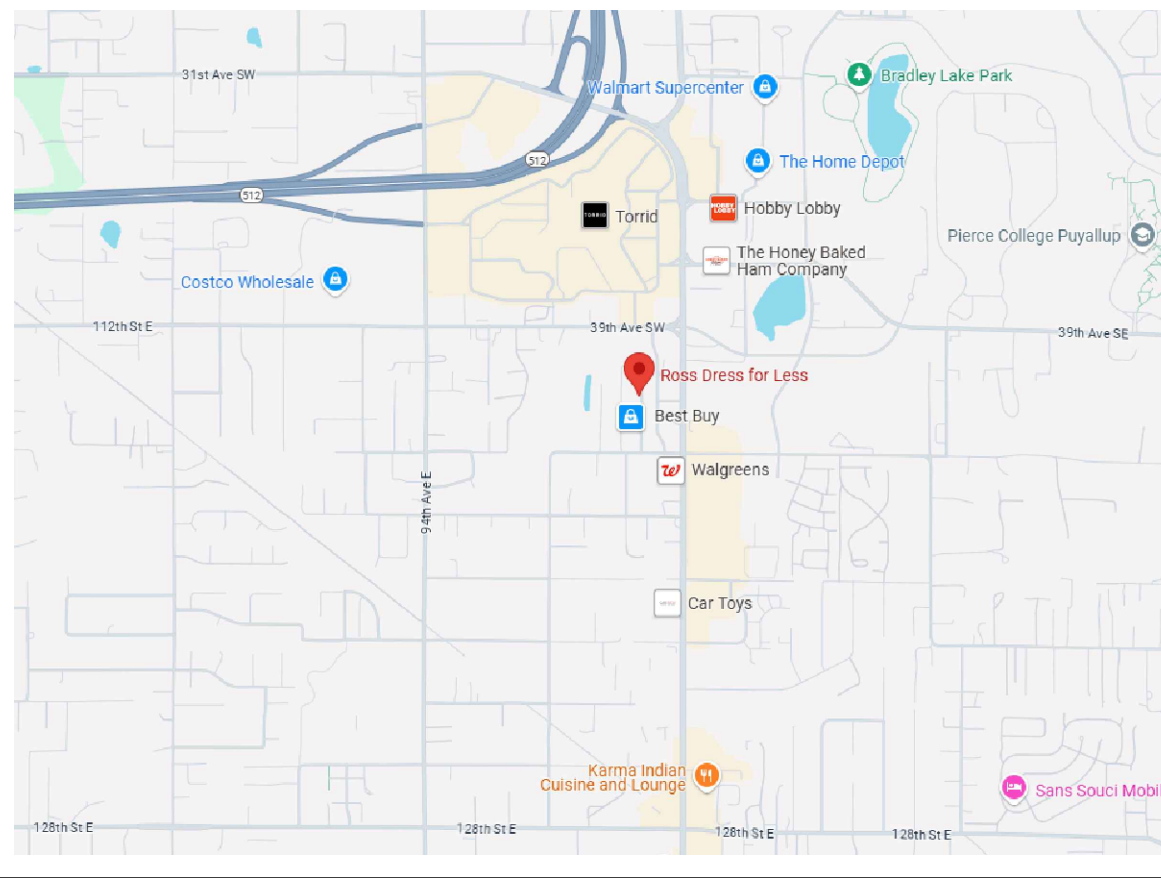
LABEL	PART NO	DESCRIPTION
A	16/2 FPLP SLC	2 COND. SOLID COPPER FPLP ADDRESSABLE UNSHIELDED
V	14/2 FPLP/R	2 COND. SOLID COPPER FPLP/R ANALOG UNSHIELDED
B, RTS, Z	18/4 FPLP/R	4 COND. SOLID COPPER FPLP/R ANALOG UNSHIELDED

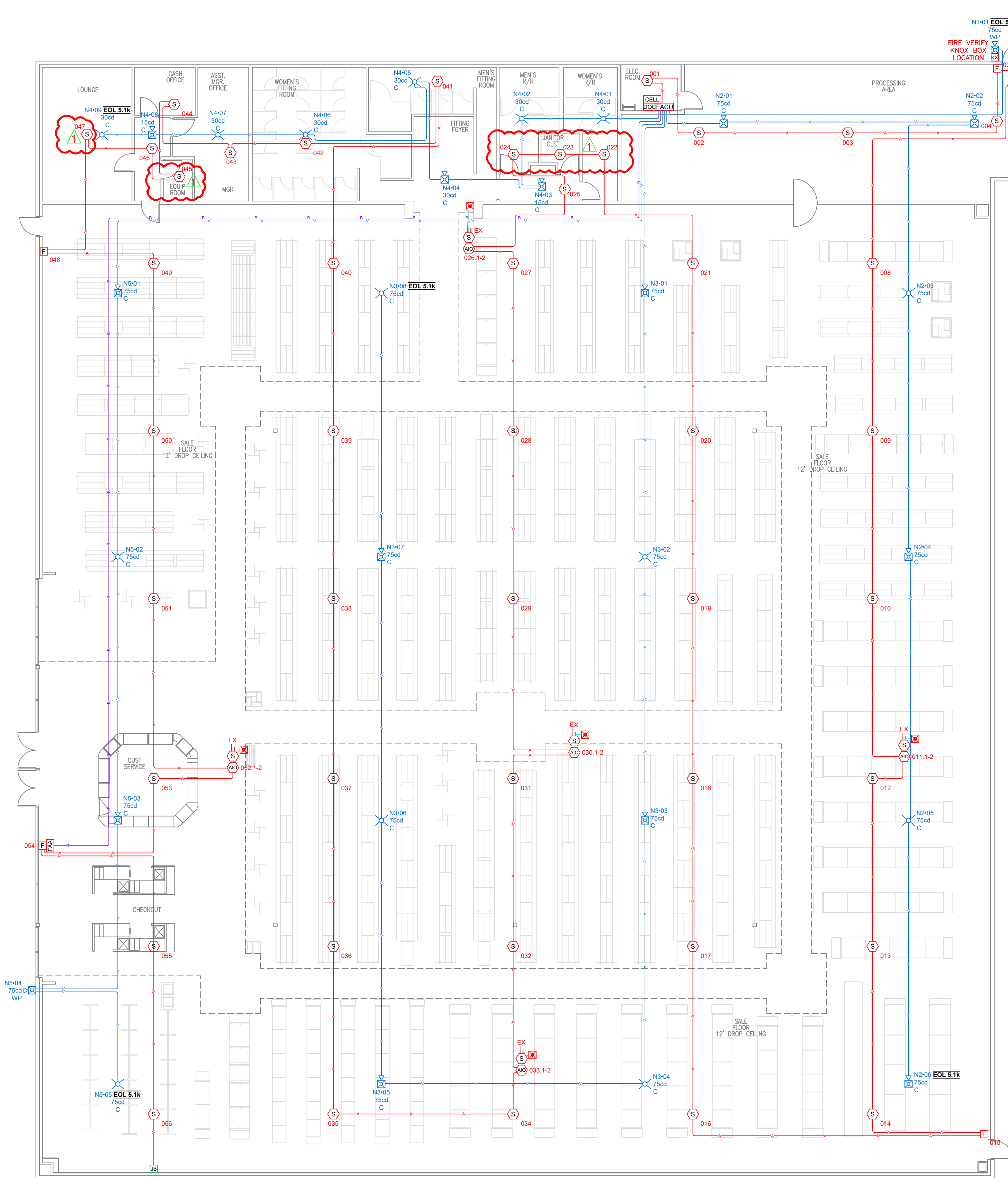
REJECTION REVISION-1/17/2025: △
CHANGE ALL HEAT DETECTORS TO
SMOKE DETECTORS.
ADD 4-SMOKE DETECTORS IN
WOMEN'S R/R, MEN'S R/R, JAN.
CLOSET, EQUIP. ROOM.

SYSTEM OUTPUTS

	ACTIVATE COMMON ALARM SIGNAL INDICATOR	ACTIVATE ADDRESSABLE ALARM SIGNAL INDICATOR	ACTIVATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTIVATE ADDRESSABLE SUPERVISORY SIGNAL INDICATOR	ACTIVATE COMMON TROUBLE SIGNAL INDICATOR	ACTIVATE ADDRESSABLE TROUBLE SIGNAL INDICATOR	ACTIVATE ALARM INDICATOR	ACTIVATE GENERAL EVACUATION SIGNAL	DISPLAY OPEN AND DESCRIPTION OF BRAIN ON CD DISPLAY	TRANSFER FIRE ALARM SIGNAL TO SUPERVISING STATION	TRANSFER DISARM SIGNAL TO SUPERVISING STATION	TRANSFER REARMING SIGNAL TO SUPERVISING STATION	ACTIVATE NOTIFICATION APPRANCE	ACTIVATE HVAC SHUTDOWN
SYSTEM INPUTS	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1 MANUAL PULL STATION	●	●					●	●	●	●				1
2 SMOKE DETECTION	●	●					●	●	●	●				2
3 DUCT SMOKE DETECTOR			●	●					●		●		●	3
4 SPRINKLER WATERFLOW	●	●					●	●	●	●		●		4
5 VALVE TAMPER			●	●				●			●			5
6 FIRE ALARM SYSTEM AC POWER FAILURE					●	●					●			6
7 FIRE ALARM SYSTEM LOW BATTERY					●	●					●			7
8 OPEN CIRCUIT					●	●					●			8
9 GROUND FAULT					●	●					●			9
10 WIRE-TO-WIRE SHORT (SLC & NAC)					●	●					●			10
11 LOSS OF CARRIER					●	●					●			11
12 NOTIFICATION DEVICE SHORT CIRCUIT					●	●					●			12
13 RADIO COMMUNICATIONS FAILURE CONDITION				●							●			13
14 RADIO COMMUNICATIONS LOW/MISSING BATTERY					●	●					●			14
15 RADIO COMMUNICATIONS AC FAILURE CONDITION					●	●					●			15
16														16
	A	B	C	D	E	F	G	H	I	J	K	L	M	N

- SITE LOCATION -

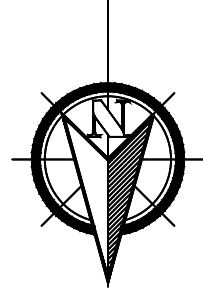




FLOOR PLAN

SCALE: 3/32" = 1'

SCALE: 3/32"=1'-0" (IN FEET)
0 5' 10' 20'

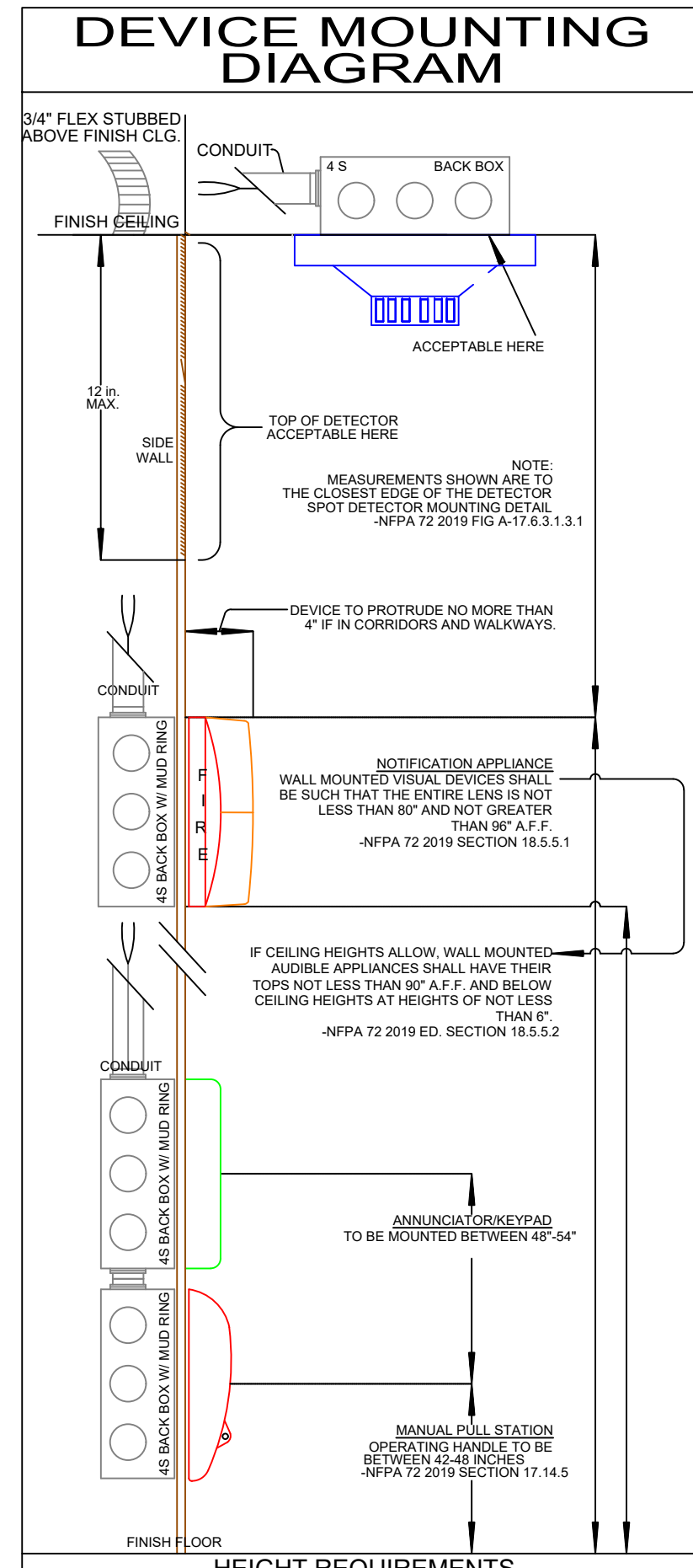


DEVICE ADDRESS SCHEDULE

SCALE: N.T.S.

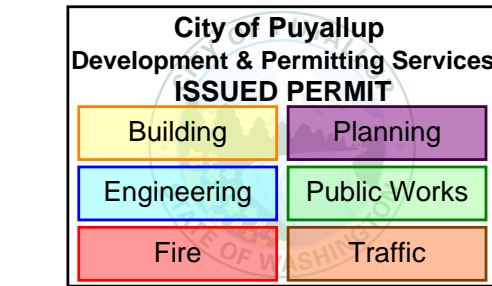
DEVICE SCHEDULE

DEVICE ADDRESS	PART #	DEVICE	REPORTING SIGNAL			LOCATION
			ALARM	SUPR.	TRBL.	
001	PAD300-PD	SMOKE DETECTOR	XX			PANEL SMOKE
002	PAD300-PD	SMOKE DETECTOR	XX			PROCESSING AREA
003	PAD300-PD	SMOKE DETECTOR	XX			PROCESSING AREA
004	PAD300-PD	SMOKE DETECTOR	XX			PROCESSING AREA
005	PAD100-PSDA	PULL STATION	XX			DOCK ENTRANCE
006.1	PAD100-DIM	DUAL INPUT MODULE		XX		SPRINKLER VAULT - OS&Y
006.2	PAD100-DIM	DUAL INPUT MODULE				SPARE
007.1	PAD100-DIM	DUAL INPUT MODULE	XX			SPRINKLER RISER-W. FLOW
007.2	PAD100-DIM	DUAL INPUT MODULE		XX		SPRINKLER RISER-TAMPER
008	PAD300-PD	SMOKE DETECTOR	XX			SALES FLOOR
009	PAD300-PD	SMOKE DETECTOR	XX			SALES FLOOR
010	PAD300-PD	SMOKE DETECTOR	XX			SALES FLOOR
011.1	PAD100-OROI	OUTPUT MODULE		XX		RTU SHUTDOWN
011.2	PAD100-OROI	INPUT MODULE		XX		RTU MONITORING
012	PAD300-PD	SMOKE DETECTOR	XX			SALES FLOOR
013	PAD300-PD	SMOKE DETECTOR	XX			SALES FLOOR
014	PAD300-PD	SMOKE DETECTOR	XX			SALES FLOOR
015	PAD100-PSDA	PULL STATION	XX			SALES FLOOR
016	PAD300-PD	SMOKE DETECTOR	XX			SALES FLOOR
017	PAD300-PD	SMOKE DETECTOR	XX			SALES FLOOR
018	PAD300-PD	SMOKE DETECTOR	XX			SALES FLOOR
019	PAD300-PD	SMOKE DETECTOR	XX			SALES FLOOR
020	PAD300-PD	SMOKE DETECTOR	XX			SALES FLOOR
021	PAD300-PD	SMOKE DETECTOR	XX			SALES FLOOR
022	PAD300-PD	SMOKE DETECTOR	XX			WOMEN'S R/R
023	PAD300-PD	SMOKE DETECTOR	XX			JANITOR CLOSET
024	PAD300-PD	SMOKE DETECTOR	XX			MEN'S R/R
025	PAD300-PD	SMOKE DETECTOR	XX			R/R HALL
026.1	PAD100-OROI	OUTPUT MODULE		XX		RTU SHUTDOWN
026.2	PAD100-OROI	INPUT MODULE		XX		RTU MONITORING
027	PAD300-PD	SMOKE DETECTOR	XX			SALES FLOOR
028	PAD300-PD	SMOKE DETECTOR	XX			SALES FLOOR
029	PAD300-PD	SMOKE DETECTOR	XX			SALES FLOOR
030.1	PAD100-OROI	OUTPUT MODULE		XX		RTU SHUTDOWN
030.2	PAD100-OROI	INPUT MODULE		XX		RTU MONITORING
031	PAD300-PD	SMOKE DETECTOR	XX			SALES FLOOR
032	PAD300-PD	SMOKE DETECTOR	XX			SALES FLOOR
033.1	PAD100-OROI	OUTPUT MODULE		XX		RTU SHUTDOWN
033.2	PAD100-OROI	INPUT MODULE		XX		RTU MONITORING
034	PAD300-PD	SMOKE DETECTOR	XX			SALES FLOOR
035	PAD300-PD	SMOKE DETECTOR	XX			SALES FLOOR
036	PAD300-PD	SMOKE DETECTOR	XX			SALES FLOOR
037	PAD300-PD	SMOKE DETECTOR	XX			SALES FLOOR
038	PAD300-PD	SMOKE DETECTOR	XX			SALES FLOOR
039	PAD300-PD	SMOKE DETECTOR	XX			SALES FLOOR
040	PAD300-PD	SMOKE DETECTOR	XX			SALES FLOOR
041	PAD300-PD	SMOKE DETECTOR	XX			MEN'S FITTING ROOM
042	PAD300-PD	SMOKE DETECTOR	XX			WOMEN'S FITTING ROOM
043	PAD300-PD	SMOKE DETECTOR	XX			MGR/ASST. MGR OFFICE
044	PAD300-PD	SMOKE DETECTOR	XX			CASH OFFICE
045	PAD300-PD	SMOKE DETECTOR	XX			EQUIP ROOM
046	PAD300-PD	SMOKE DETECTOR	XX			OFFICE HALL
047	PAD300-PD	SMOKE DETECTOR	XX			LOUNGE
048	PAD100-PSDA	PULL STATION	XX			SE EMERGENCY EXIT
049	PAD300-PD	SMOKE DETECTOR	XX			SALES FLOOR
050	PAD300-PD	SMOKE DETECTOR	XX			SALES FLOOR
051	PAD300-PD	SMOKE DETECTOR	XX			SALES FLOOR
052.1	PAD100-OROI	OUTPUT MODULE		XX		RTU SHUTDOWN
052.2	PAD100-OROI	INPUT MODULE		XX		RTU MONITORING
053	PAD300-PD	SMOKE DETECTOR	XX			CUSTOMER SERVICE
054	PAD100-PSDA	PULL STATION	XX			MAIN ENTRANCE
055	PAD300-PD	SMOKE DETECTOR	XX			CHECKOUT
056	PAD300-PD	SMOKE DETECTOR	XX			SALES FLOOR
057	PAD300-PD	SMOKE DETECTOR	XX			ABOVE CEILING TILE
058	PAD300-PD	SMOKE DETECTOR	XX			ABOVE CEILING TILE
059	PAD300-PD	SMOKE DETECTOR	XX			ABOVE CEILING TILE
060	PAD300-PD	SMOKE DETECTOR	XX			ABOVE CEILING TILE
061	PAD300-PD	SMOKE DETECTOR	XX			ABOVE CEILING TILE
062	PAD300-PD	SMOKE DETECTOR	XX			ABOVE CEILING TILE
063	PAD300-PD	SMOKE DETECTOR	XX			ABOVE CEILING TILE
064	PAD300-PD	SMOKE DETECTOR	XX			ABOVE CEILING TILE
065	PAD300-PD	SMOKE DETECTOR	XX			ABOVE CEILING TILE
066	PAD300-PD	SMOKE DETECTOR	XX			ABOVE CEILING TILE
067	PAD300-PD	SMOKE DETECTOR	XX			ABOVE CEILING TILE
068	PAD300-PD	SMOKE DETECTOR	XX			ABOVE CEILING TILE
069	PAD300-PD	SMOKE DETECTOR	XX			ABOVE CEILING TILE
070	PAD300-PD	SMOKE DETECTOR	XX			ABOVE CEILING TILE
071	PAD300-PD	SMOKE DETECTOR	XX			ABOVE CEILING TILE
072	PAD300-PD	SMOKE DETECTOR	XX			ABOVE CEILING TILE
073	PAD300-PD	SMOKE DETECTOR	XX			ABOVE CEILING TILE
074	PAD300-PD	SMOKE DETECTOR	XX			ABOVE CEILING TILE



- COMMUNICATOR NOTE -

STARLINK FIRE SELF-SUPERVISION
NFPA 72 REQUIRES THAT ANY FIRE COMMUNICATOR TROUBLE BE LOCALLY ANNUNCIATED BY THE FIRE PANEL WITHIN 200 SECONDS OF THE TROUBLE. THE TROUBLES INCLUDE: LOSS OF SIGNAL, NOC SUPERVISION CHECKING FAILURE, ETC. THE STARLINK SLE-LTEV-FIRE FIRE COMMUNICATOR MODELS INCLUDE A SELF-SUPERVISING FIRE COMMUNICATOR FEATURE THAT ALLOWS THE COMMUNICATOR TO ANNUNCIATE A COMMUNICATION TROUBLE WITHOUT THE NEED FOR WIRING TO AN FACU ZONE INPUT OR ANY FACU REPROGRAMMING. THIS IS ACCOMPLISHED BY DROPPING THE EMULATED PHONE LINE VOLTAGE TO THE FACU SECONDARY PHONE LINE, CAUSING THE FACU TO ANNUNCIATE A COMMUNICATION TROUBLE. TO ENABLE SELF-SUPERVISION, SIMPLY REMOVE JUMPER JP2. NOTE THAT WHEN USING SELF-SUPERVISION, SOME FACUS MAY REQUIRE THE JUMPER JP2 SHUNT TO BE REMOVED FOR THE PRIMARY PHONE LINE TO RESTORE CORRECTLY. TO ALSO REPORT A COMMUNICATOR TROUBLE TO THE CENTRAL STATION, ENABLE THE FEATURE "TIPPING WIRING FAULT REPORT" IN THE ADVANCED TAB IN THE STARLINK NOC.



City of Puyallup
Fire
REVIEWED
FOR
COMPLIANCE

DDrake
01/30/2025
7:56:32 AM



THE APPROVED CONSTRUCTION
PLANS AND ALL ENGINEERING
MUST BE POSTED ON THE JOB AT
ALL INSPECTIONS IN A VISIBLE AND
READILY ACCESSIBLE LOCATION.

Approval of submitted plans is not an
approval of omissions or oversight by this
office or noncompliance with any
applicable regulations of local government.
The contractor is responsible for making
sure that the building complies with all
applicable building codes and regulations of
the local government.

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3	BY: ____	
4	BY: ____	
5	BY: ____	
6	BY: ____	

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2021 WASHINGTON STATE FIRE CODE
2023 WASHINGTON STATE ELECTRICAL CODE
2019 NFPA 72

PREPARED BY: M.A. JOHNSON

CHECKED BY: D.J. TAYLOR
PROJECT
MANAGER: D. NEEDHAM

DATE: 12/9/2024

PROJECT NO: 300325818

TITLE:
FLOORPLAN

ADDRESS SCHEDULE

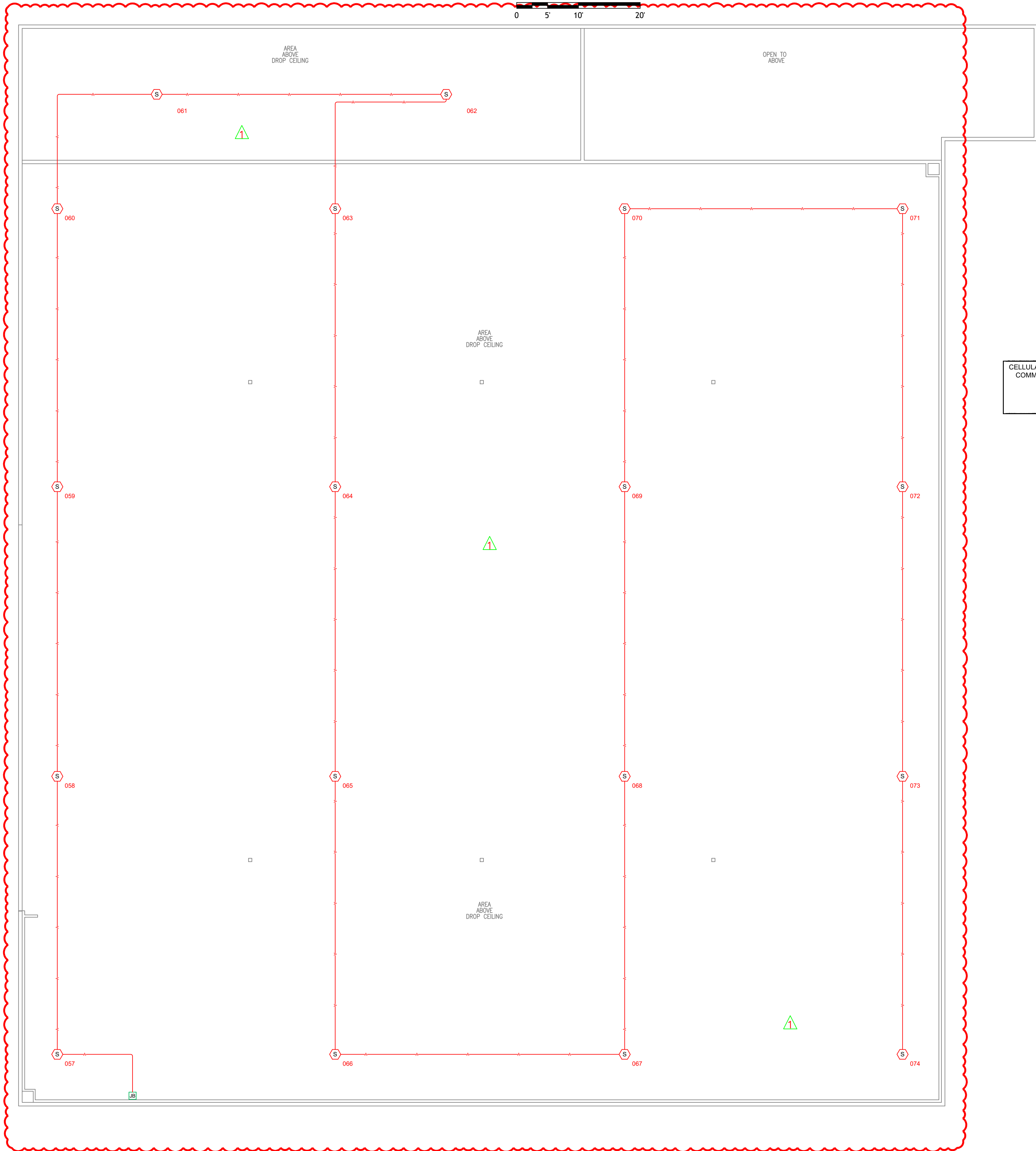
SHEET:

FA-1

2 of 4

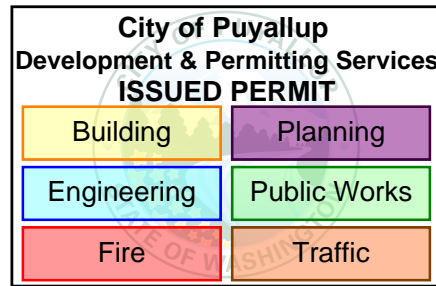
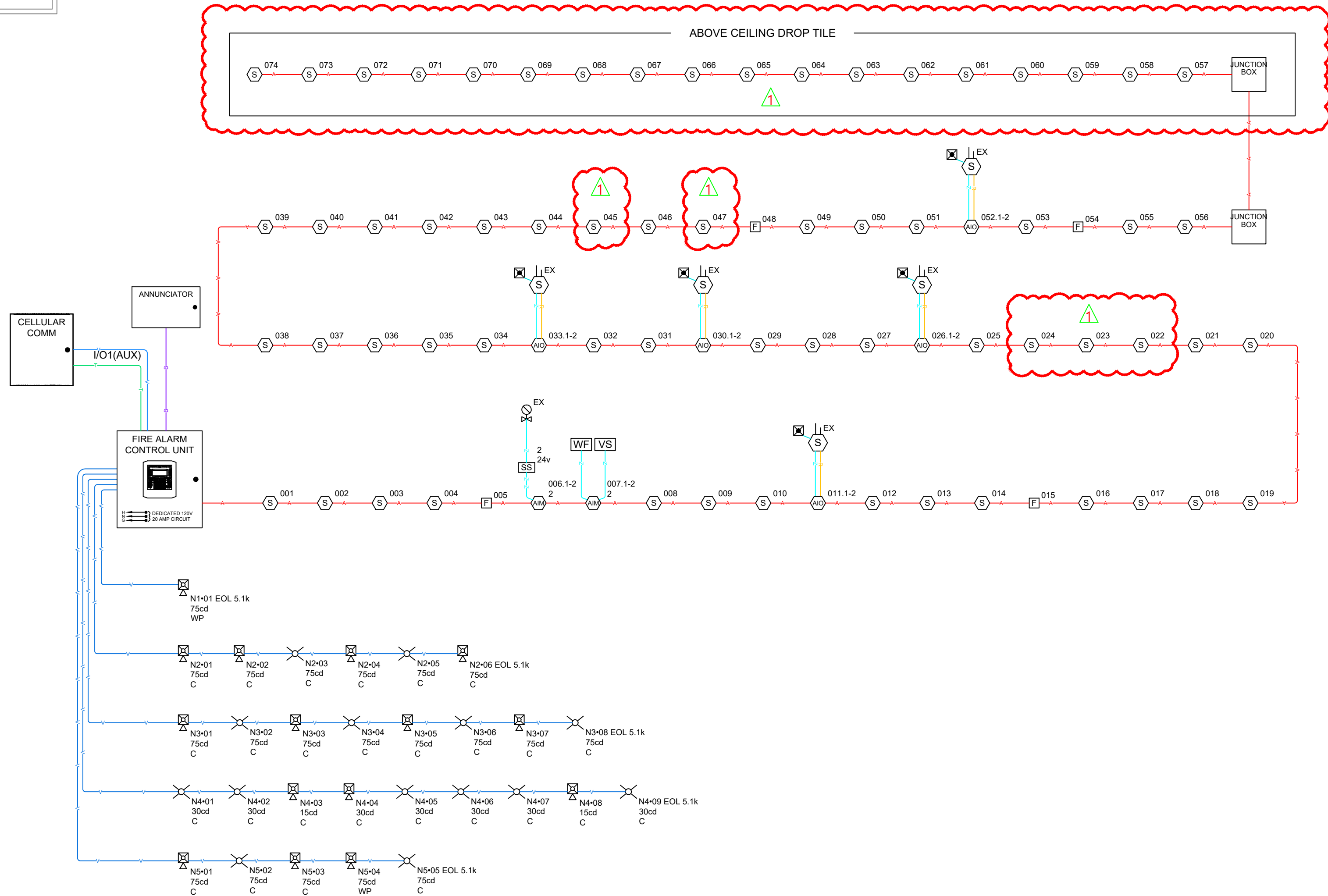
ABOVE DROP CEILING

SCALE: 3/32" = 1'0" SCALE: 3/32"=1'-0" (IN FEET)



RISER DIAGRAM

SCALE: N.T.S.



everOn™

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CHECKED BY: D.J. TAYLOR
PROJECT MANAGER: D. NEEDHAM
DATE: 12/9/2024
PROJECT NO: 300325818

TITLE:
FLOOR PLAN

RISER DIAGRAM

SHEET:
FA-2
3 of 4

VOLTAGE DROP CALCS

SCALE: N.T.S.

N1 POINT-TO-POINT REPORT							CIRCUIT SETTINGS		TOTALS	
							Starting Calculation Voltage:	20.40	Max. Voltage Drop:	0.11
							Min. Operational Voltage:	16	End Of Line Voltage:	20.29
							Max. Circuit Current (A):	3	Voltage Drop Percent:	0.52 %
							Wire Resistance (Ω/kFt):	3.07	Total Circuit Current (A):	0.226
Circuit Wiring Properties: "V" 14/2 FPLP/R NAC 14 AWG, 2 Cond. Solid Copper FPLP/R Analog Unshielded							Total Circuit Length (Ft):	76	Spare Current (A):	2.77
Distance measured using drawn segment lengths with 10.00 % additional length calculated							Total Circuit Resistance (Ω):	0.4669	Spare Current (A) Percent:	92.47 %
Device Label	Part No.	Description	Device Current (A)	Remaining Current (A)	Dist. From Previous (Ft)	Resistance From Previous (Ω)	Voltage Drop From Previous	Voltage At Device	Total Voltage Drop	Voltage Drop Percent
N1*01 EOL 5.1k	HS-24WR-WP	Outdoor Horn Strobe, Fixed 75 Candela, Standard Enclosure, Red	0.226	0.226	76	0.4669	0.11	20.29	0.11	0.52 %

Calculation Methods:
Resistance From Previous (Ω) = Wire Resistance (Ω/Ft) x 2 x Dist. From Previous (Ft)
Voltage Drop From Previous = Resistance From Previous (Ω) x Remaining Current (A)

N2 POINT-TO-POINT REPORT							CIRCUIT SETTINGS		TOTALS	
							Starting Calculation Voltage:	20.40	Max. Voltage Drop:	0.830
							Min. Operational Voltage:	16	End Of Line Voltage:	19.57
							Max. Circuit Current (A):	3	Voltage Drop Percent:	4.06 %
							Wire Resistance (Ω/kFt):	3.07	Total Circuit Current (A):	1.09
Circuit Wiring Properties: "V" 14/2 FPLP/R NAC 14 AWG, 2 Cond. Solid Copper FPLP/R Analog Unshielded							Total Circuit Length (Ft):	239	Spare Current (A):	1.91
Distance measured using drawn segment lengths with 10.00 % additional length calculated							Total Circuit Resistance (Ω):	1.47	Spare Current (A) Percent:	63.53 %
Device Label	Part No.	Description	Device Current (A)	Remaining Current (A)	Dist. From Previous (Ft)	Resistance From Previous (Ω)	Voltage Drop From Previous	Voltage At Device	Total Voltage Drop	Voltage Drop Percent
N2*01	CHS-24W	Horn Strobe, Ceiling, White 75cd	0.19	1.09	12	0.0745	0.08	20.32	0.08	0.40 %
N2*02	CHS-24W	Horn Strobe, Ceiling, White 75cd	0.19	0.9040	45	0.2744	0.25	20.07	0.33	1.62 %
N2*03	CS-24W	Strobe, Ceiling, White 75cd	0.167	0.7140	42	0.2579	0.18	19.89	0.510	2.52 %
N2*04	CHS-24W	Horn Strobe, Ceiling, White 75cd	0.19	0.5470	46	0.2853	0.16	19.73	0.670	3.28 %
N2*05	CS-24W	Strobe, Ceiling, White 75cd	0.167	0.357	48	0.2919	0.1	19.63	0.770	3.79 %
N2*06 EOL 5.1k	CHS-24W	Horn Strobe, Ceiling, White 75cd	0.19	0.19	46	0.2853	0.05	19.57	0.830	4.06 %

Calculation Methods:
Resistance From Previous (Ω) = Wire Resistance (Ω/Ft) x 2 x Dist. From Previous (Ft)
Voltage Drop From Previous = Resistance From Previous (Ω) x Remaining Current (A)

N3 POINT-TO-POINT REPORT							CIRCUIT SETTINGS		TOTALS	
							Starting Calculation Voltage:	20.40	Max. Voltage Drop:	1.74
							Min. Operational Voltage:	16	End Of Line Voltage:	18.66
							Max. Circuit Current (A):	3	Voltage Drop Percent:	8.51 %
							Wire Resistance (Ω/kFt):	3.07	Total Circuit Current (A):	1.43
Circuit Wiring Properties: "V" 14/2 FPLP/R NAC 14 AWG, 2 Cond. Solid Copper FPLP/R Analog Unshielded							Total Circuit Length (Ft):	364	Spare Current (A):	1.57
Distance measured using drawn segment lengths with 10.00 % additional length calculated							Total Circuit Resistance (Ω):	2.23	Spare Current (A) Percent:	52.40 %
Device Label	Part No.	Description	Device Current (A)	Remaining Current (A)	Dist. From Previous (Ft)	Resistance From Previous (Ω)	Voltage Drop From Previous	Voltage At Device	Total Voltage Drop	Voltage Drop Percent
N3*01	CHS-24W	Horn Strobe, Ceiling, White 75cd	0.19	1.43	35	0.2146	0.31	20.09	0.31	1.50 %
N3*02	CS-24W	Strobe, Ceiling, White 75cd	0.167	1.24	47	0.2904	0.36	19.73	0.670	3.26 %
N3*03	CHS-24W	Horn Strobe, Ceiling, White 75cd	0.19	1.07	46	0.2853	0.31	19.43	0.970	4.76 %
N3*04	CS-24W	Strobe, Ceiling, White 75cd	0.167	0.8810	47	0.2904	0.26	19.17	1.23	6.02 %
N3*05	CHS-24W	Horn Strobe, Ceiling, White 75cd	0.19	0.7140	47	0.2905	0.21	18.97	1.43	7.03 %
N3*06	CS-24W	Strobe, Ceiling, White 75cd	0.167	0.5240	46	0.2853	0.15	18.82	1.58	7.77 %
N3*07	CHS-24W	Horn Strobe, Ceiling, White 75cd	0.19	0.357	47	0.2904	0.1	18.71	1.69	8.27 %
N3*08 EOL 5.1k	CS-24W	Strobe, Ceiling, White 75cd	0.167	0.167	46	0.2853	0.05	18.66	1.74	8.51 %

Calculation Methods:
Resistance From Previous (Ω) = Wire Resistance (Ω/Ft) x 2 x Dist. From Previous (Ft)
Voltage Drop From Previous = Resistance From Previous (Ω) x Remaining Current (A)

N4 POINT-TO-POINT REPORT							CIRCUIT SETTINGS		TOTALS	
							Starting Calculation Voltage:	20.40	Max. Voltage Drop:	0.49
							Min. Operational Voltage:	16	End Of Line Voltage:	19.91
							Max. Circuit Current (A):	3	Voltage Drop Percent:	2.39 %
							Wire Resistance (Ω/kFt):	3.07	Total Circuit Current (A):	1.02
Circuit Wiring Properties: "V" 14/2 FPLP/R NAC 14 AWG, 2 Cond. Solid Copper FPLP/R Analog Unshielded							Total Circuit Length (Ft):	140	Spare Current (A):	1.98
Distance measured using drawn segment lengths with 10.00 % additional length calculated							Total Circuit Resistance (Ω):	0.8570	Spare Current (A) Percent:	66.13 %
Device Label	Part No.	Description	Device Current (A)	Remaining Current (A)	Dist. From Previous (Ft)	Resistance From Previous (Ω)	Voltage Drop From Previous	Voltage At Device	Total Voltage Drop	Voltage Drop Percent
N4*01	CS-24W	Strobe, Ceiling, White 30cd	0.101	1.02	11	0.0681	0.07	20.33	0.07	0.34 %
N4*02	CS-24W	Strobe, Ceiling, White 30cd	0.101	0.9150	14	0.0866	0.08	20.25	0.15	0.73 %
N4*03	CHS-24W	Horn Strobe, Ceiling, White 15cd	0.143	0.8140	14	0.0841	0.07	20.18	0.22	1.06 %
N4*04	CHS-24W	Horn Strobe, Ceiling, White 30cd	0.124	0.6710	17	0.1047	0.07	20.11	0.29	1.41 %
N4*05	CS-24W	Strobe, Ceiling, White 30cd	0.101	0.5470	21	0.1303	0.07	20.04	0.36	1.76 %
N4*06	CS-24W	Strobe, Ceiling, White 30cd	0.101	0.446	26	0.1593	0.07	19.97	0.43	2.11 %
N4*07	CS-24W	Strobe, Ceiling, White 30cd	0.101	0.345	17	0.1065	0.04	19.93	0.47	2.29 %
N4*08	CHS-24W	Horn Strobe, Ceiling, White 15cd	0.143	0.244	11	0.0673	0.02	19.92	0.48	2.37 %
N4*09 EOL 5.1k	CS-24W	Strobe, Ceiling, White 30cd	0.101	0.101	8	0.0501	0.01	19.91	0.49	2.39 %

Calculation Methods:
Resistance From Previous (Ω) = Wire Resistance (Ω/Ft) x 2 x Dist. From Previous (Ft)
Voltage Drop From Previous = Resistance From Previous (Ω) x Remaining Current (A)

N5 POINT-TO-POINT REPORT							CIRCUIT SETTINGS		TOTALS	
							Starting Calculation Voltage:	20.40	Max. Voltage Drop:	1.28
							Min. Operational Voltage:	16	End Of Line Voltage:	19.12
							Max. Circuit Current (A):	3	Voltage Drop Percent:	6.28 %
							Wire Resistance (Ω/kFt):	3.07	Total Circuit Current (A):	0.940
Circuit Wiring Properties: "V" 14/2 FPLP/R NAC 14 AWG, 2 Cond. Solid Copper FPLP/R Analog Unshielded							Total Circuit Length (Ft):	301	Spare Current (A):	2.06
Distance measured using drawn segment lengths with 10.00 % additional length calculated							Total Circuit Resistance (Ω):	1.85	Spare Current (A) Percent:	68.67 %
Device Label	Part No.	Description	Device Current (A)	Remaining Current (A)	Dist. From Previous (Ft)	Resistance From Previous (Ω)	Voltage Drop From Previous	Voltage At Device	Total Voltage Drop	Voltage Drop Percent
N5*01	CHS-24W	Horn Strobe, Ceiling, White 75cd	0.19	0.940	131	0.80470	0.760	19.64	0.760	3.71 %
N5*02	CS-24W	Strobe, Ceiling, White 75cd	0.167	0.750	47	0.2904	0.22	19.43	0.970	4.78 %
N5*03	CHS-24W	Horn Strobe, Ceiling, White 75cd	0.19	0.5830	46	0.2853	0.17	19.26	1.14	5.59 %
N5*04	HS-24WR-WP	Outdoor Horn Strobe, Fixed 75 Candela, Standard Enclosure, Red	0.226	0.393	45	0.2771	0.11	19.15	1.25	6.13 %
N5*05 EOL 5.1k	CS-24W	Strobe, Ceiling, White 75cd	0.167	0.167	31	0.1929	0.03	19.12	1.28	6.28 %

Calculation Methods:
Resistance From Previous (Ω) = Wire Resistance (Ω/Ft) x 2 x Dist. From Previous (Ft)
Voltage Drop From Previous = Resistance From Previous (Ω) x Remaining Current (A)

AFC-1000 BATTERY CALCS

SCALE: N.T.S.

AFC-1000 (SECONDARY POWER SOURCE REQUIREMENTS)								
PANEL POWER SUPPLY MAX CURRENT = 10A				TOTAL USED CAPACITY (IN ALARM) = 5.3184A (53.18 %)				
				STANDBY CURRENT (AMPS)		SECONDARY ALARM CURRENT (AMPS)		
PANEL COMPONENTS	QTY	PART NO.	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL	
I/O 1 (NAC)	CELL	1	AFC-1000 Main Board	Fire Alarm Control Panel Main Board	0.13	0.13	0.22	0.22
		1	UD-2000	PFC Series Digital Alarm Communicator Transmitter	0.016	0.016	0.023	0.023
CIRCUIT	SYMBOL	QTY	PART NO	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL (A)
L1		2	PAD100-DIM	Dual Input Module	0.0002	0.0005	0.0002	0.0005
		5	PAD100-OROI	One Relay One Input Module	0.0002	0.0012	0.0002	0.0012
		4	PAD100-PSDA	Addressable Pull Station Dual Action	0.0002	0.0008	0.0002	0.0008
		63	PAD300-PD w/PAD300-6DB	Photoelectric Smoke Detector with 6" Standard Base	0.0003	0.0189	0.0003	0.0189
N1		1	HS-24WR-WP	Outdoor Horn Strobe, Fixed 75 Candela, Standard Enclosure, Red 75cd	0	0	0.226	0.226
N2		4	CHS-24W	Horn Strobe, Ceiling, White 75cd	0	0	0.19	0.760
		2	CS-24W	Strobe, Ceiling, White 75cd	0	0	0.167	0.334
N3		4	CHS-24W	Horn Strobe, Ceiling, White 75cd	0	0	0.19	0.760
		4	CS-24W	Strobe, Ceiling, White 75cd	0	0	0.167	0.6680
N4		1	CHS-24W	Horn Strobe, Ceiling, White 30cd	0	0	0.124	0.124
		2	CHS-24W	Horn Strobe, Ceiling, White 15cd	0	0	0.143	0.286
		6	CS-24W	Strobe, Ceiling, White 30cd	0	0	0.101	0.6060
N5		2	CHS-24W	Horn Strobe, Ceiling, White 75cd	0	0	0.19	0.38
		2	CS-24W	Strobe, Ceiling, White 75cd	0	0	0.167	0.334
		1	HS-24WR-WP	Outdoor Horn Strobe, Fixed 75 Candela, Standard Enclosure, Red 75cd	0	0	0.226	0.226
P-LINK		1	RA-6500	160 Character LCD Annunciator	0.02	0.02	0.025	0.025
					TOTAL STANDBY (A)	0.2724	TOTAL ALARM (A)	5.32
					REQUIRED STANDBY TIME = 24 HOURS			
					REQUIRED ALARM TIME = 5 MINUTES			
SECONDARY STANDBY LOAD (A)			0.2724		24		6.54	
SECONDARY ALARM LOAD (A)			5.32		0.08		0.44	
STANDBY AND ALARM SUBTOTAL (AMP HOURS)							6.98	
DERATING FACTOR							1.25	
SECONDARY LOAD REQUIREMENTS (AMP HOURS)							8.73	
PROVIDE (2) 12V 18AH BATTERIES								