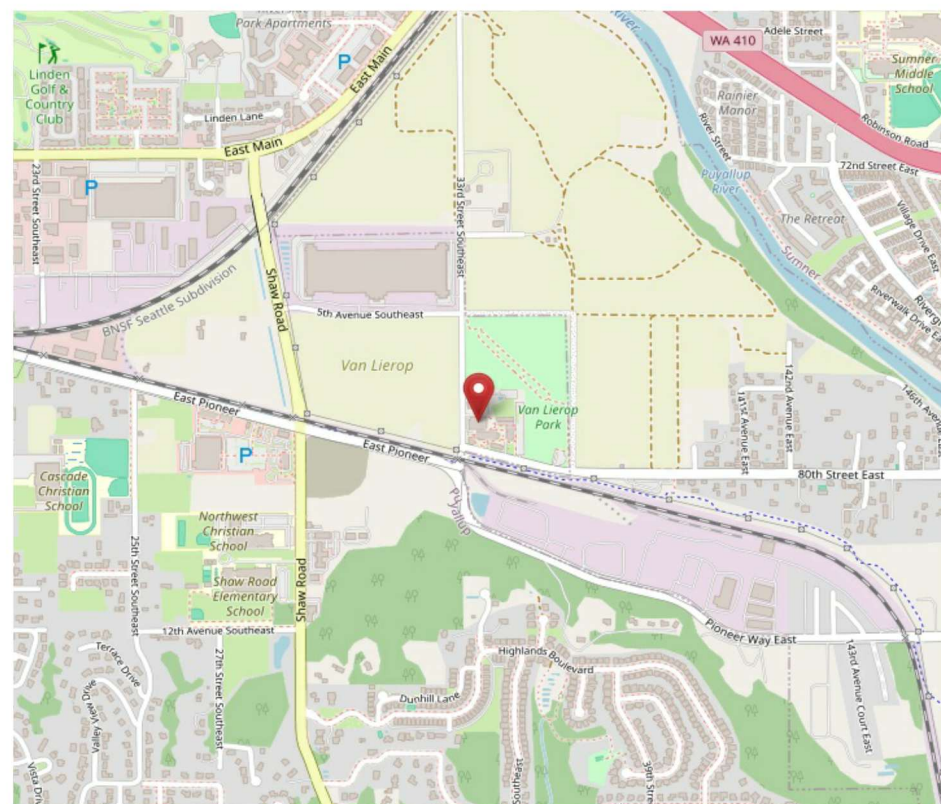


Step by Step Early Learning Center

Fire Alarm System



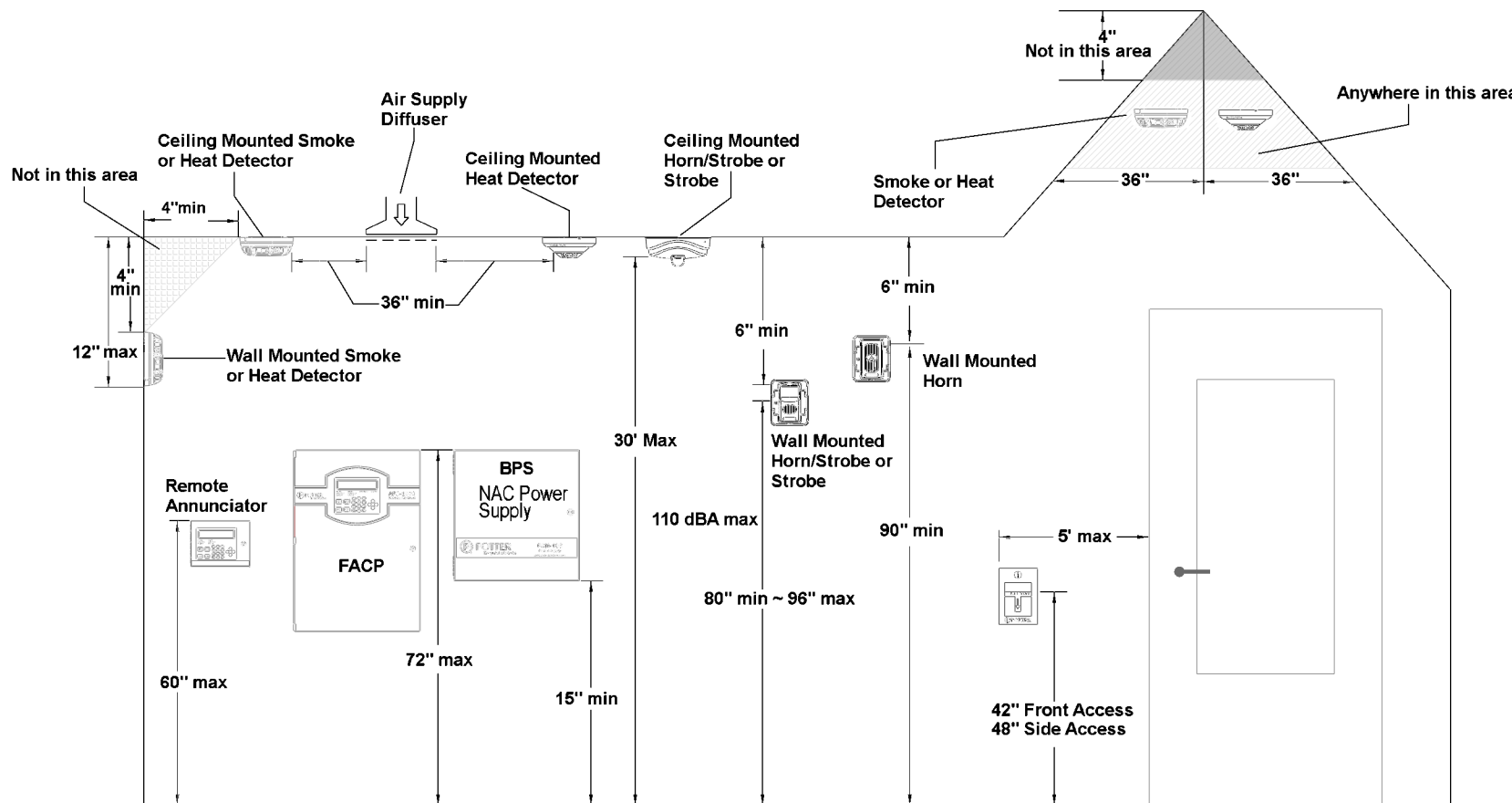
Vicinity Map



Cable/Circuit Report

Job number: 26018-1 Job name: Step by Step Early Learning Address 1: 3303 8th Ave SE BLDG E Address 2: Puyallup, WA 98372 Cable Length Coverage: 20.000000%						
Source	Circuit	Circuit Type	Circuit Abbr	Type	Description	Gauge
AMP	SPK9	Notification	S	Fire Alarm	16/2 SOL JKT FPLR 1000'BX RED	#16
AMP	SPK10	Notification	S	Fire Alarm	16/2 SOL JKT FPLR 1000'BX RED	#16
AMP	SPK11	Notification	S	Fire Alarm	16/2 SOL JKT FPLR 1000'BX RED	#16
AMP	SPK12	Notification	S	Fire Alarm	16/2 SOL JKT FPLR 1000'BX RED	#16
FACP	SIG1	Notification	V1	Fire Alarm	14/2 SOL JKT FPLR 1M RL RED	#14
FACP	SIG2	Notification	V1	Fire Alarm	14/2 SOL JKT FPLR 1M RL RED	#14
FACP	SIG3	Notification	V1	Fire Alarm	14/2 SOL JKT FPLR 1M RL RED	#14
FACP	SIG4	Notification	V1	Fire Alarm	14/2 SOL JKT FPLR 1M RL RED	#14
FACP	SIG5	Notification	V1	Fire Alarm	14/2 SOL JKT FPLR 1M RL RED	#14
FACP	SIG6	Notification	V1	Fire Alarm	14/2 SOL JKT FPLR 1M RL RED	#14
FACP	AUX1	Power	P	Fire Alarm	14/2 SOL JKT FPLR 1M RL RED	#14
FACP	SBC3	Serial	B	Fire Alarm	16/2 SOL JKT FPLR 1000'BX RED	#16
FACP	SLC1	Signaling line	U	Fire Alarm	16/2 SOL JKT FPLR 1000'BX RED	#16
FACP	ARS1	Audio	S1	Fire Alarm	16/2 SOL JKT FPLR 1000'BX RED	#16
FACP	SBC4	Serial	B	Fire Alarm	16/2 SOL JKT FPLR 1000'BX RED	#16
FACP	SBC5	Serial	B	Fire Alarm	16/2 SOL JKT FPLR 1000'BX RED	#16
Device[SLC1:45]	ZN2	Initiating	Z	Fire Alarm	16/2 SOL JKT FPLR 1000'BX RED	#16

Wire Path Label Legend		
Chr.	Position	Character Purpose
#1		Circuit count
#2		Circuit type



Mounting Equipment Elevations
(Typical)

Symbol Legend

SYMBOL	DESCRIPTION	MANUFACTURER	PART NUMBER	QUANTITY	BACKBOX REQUIREMENTS	MOUNTING HEIGHT
	LOCAL OPERATOR CONSOLE	POTTER ELECTRIC SIGNAL	LOC-1000	1	NA	72in AFF to Top
	SINGLE CHANNEL 25W, 25V OR 70V AMPLIFIER	POTTER ELECTRIC SIGNAL	SCA-2570	1	NA	72in AFF
	AFC-1000V FACP	POTTER ELECTRIC SIGNAL	AFC-1000V	1	NA	72in AFF to Top
	INTELLINET 2.0 FIRE SUBSCRIBER 8 ZONE, 7794A, LOCAL ANNUN, MCT, RED	AES CORP	7707P-88-U LP-M	1	NA	72in AFF to Top
	WEATHERTIGHT 4 WIRE PHOTO DUCT DETECTOR	SYSTEM SENSOR	D4120W	1	NA	As Required
	PHOTOELECTRIC SMOKE/CARBON MONOXIDE SENSOR	POTTER ELECTRIC SIGNAL	PAD300-PCD	16	Single Gang Box	In Ceiling
	PHOTOELECTRIC SMOKE SENSOR	POTTER ELECTRIC SIGNAL	PAD300-PD	42	Single Gang Box	In Ceiling
	FIXED TEMP AND/OR SELECTABLE ROR HEAT SENSOR	POTTER ELECTRIC SIGNAL	PAD300-HD	3	Single Gang Box	In Ceiling
	PAD100-DIM, Multi-Input Module, One SLC Loop, Two Class B or One Class A	POTTER ELECTRIC SIGNAL	PAD100-DIM	4	4sq Box (Standard)	As Required
	PAD100-PSSA, Addressable Pull Station, Single Action	POTTER ELECTRIC SIGNAL	PAD100-PSSA	1	Single Gang Box	48in to Top AFF
	ELUXA HIGH FIDELITY SPEAKER STROBE, WHITE, FIRE, CEILING	EATON	ELSPSTWC	19	4X4 DEEP	In Ceiling
	ELUXA MULTI-CANDELA STROBE WHITE, CEILING, FIRE	EATON	ELSTWC	2	Single Gang Box	In Ceiling
	ELUXA HIGH FIDELITY SPEAKER STROBE, WHITE, FIRE, WALL	EATON	ELSPSTW	2	4sq Deep Box	80in to Bottom AFF
	10 INCH 24VDC 80DB BELL Outdoor	POTTER ELECTRIC SIGNAL	PDC-10-24	1	BBK-1	As Required
	EL4XST - FR, Strobe, Red, "FIRE" Outdoor	EATON	EL4XST - FR	1	Provided w/device	As Required
	ELUXA MULTI-CANDELA STROBE WHITE, WALL, FIRE	EATON	ELSTW	9	Single Gang Box	80in to Bottom AFF
	PAD100-LED, Panel Component, Addressable LED Module	POTTER ELECTRIC SIGNAL	PAD100-LED	1	4sq Box (Standard)	N/A
	Potter, EOL, 5.1K Ohms	POTTER ELECTRIC SIGNAL	EOL-5.1	10	NA	N/A

NFPA 72 2025

17.4.7*
Unless otherwise permitted by 17.4.7.3, where detectors are installed in concealed locations or in arrangements where the detector's alarm or supervisory indicator is not visible to responding personnel, the detectors shall be provided with remote alarm or supervisory indication in a location acceptable to the authority having jurisdiction.

17.5.3.1.1
Where inaccessible areas are constructed of or contain combustible material, unless otherwise specified in 17.5.3.1.2, they shall be made accessible and shall be protected by a detector(s).

WAC 51-50-0915 Section 915—Carbon monoxide detection.

915.1.1 Where required, Carbon monoxide detection shall be provided in Group I and R occupancies and in classrooms in Group E occupancies in the locations specified in Section 915.2 where any of the conditions in Sections 915.1.2 through 915.1.6 exist.

EXCEPTIONS:

1. R-2 occupancies, with the exception of R-2 college dormitories, are required to install carbon monoxide detectors without exception.

2. Sleeping units or dwelling units in I and R-1 occupancies and R-2 college dormitories, hotel, DOC prisons and work releases and DSHS licensed boarding home and residential treatment facility occupancies which do not themselves contain a fuel-burning appliance, a fuel-burning fireplace, or have an attached garage, need not be provided with carbon monoxide alarms provided that they comply with the exceptions of 915.1.4.

915.2.3 Group E occupancies. When required by Section 915.1 in new buildings, or by Chapter 11 of the International Fire Code, carbon monoxide detection shall be installed in classrooms in Group E occupancies. Carbon monoxide alarm signals shall be automatically transmitted to an on-site location that is staffed by school personnel.

EXCEPTIONS:

1. Carbon monoxide alarm signals shall not be required to be automatically transmitted to an on-site location that is staffed by school personnel in Group E occupancies with an occupant load of 50 or less.

2. Carbon monoxide alarm signals shall not be required to be automatically transmitted to an on-site location that is staffed by school personnel in Group E occupancies where an exception contained in Section 915.1 applies, or in Group E occupancies where signals are transmitted to an off-site service monitored by a third party, such as a service that monitors fire protection systems in the building.

General notes:

1.Scope of work: This project includes the installation of a new fire alarm control panel and addressable devices. A secondary power supply will be installed to accommodate additional audio visual devices.

2.These drawings are diagrammatic. Refer to the architectural drawings for exact dimensions.

3.Installation shall comply with NEC, NFPA 72 and all other applicable codes as required by the local authority having jurisdiction.

4.Wiring depicted on these plans is schematic, actual wire locations may differ from these plans. Wiring shall be performed as actual building construction conditions allow and to minimize penetrations through area separation walls and fire rated walls. The use of a raceway is permitted as long as no 110 V or higher voltage cables are in the same raceway.

5.Final ratings shall be maintained for all penetrations through fire rated construction.

6.Power for all fire alarm panels and fire alarm power supplies must be provided by a dedicated AC branch circuit. The location of the branch circuit breaker shall be permanently identified at the control unit. Where a circuit breaker is the disconnecting means, an approved breaker locking device shall be installed. For fire alarm and/or signaling systems, the circuit disconnecting means shall have a red marking.

7.Power limited in non-power limited circuit wiring must remain separated in cabinet. All power limited circuit wiring must remain at least a quarter inch away from any non-power limited circuit wiring. Furthermore, all power limited and non-power limited circuit wiring must enter and exit the cabinet through different knockouts and or separate conduits.

8.When utilizing class A circuits, separate outgoing and return conductors of class a circuits by a minimum of 12 inches were run vertically and 48 inches were run horizontally.

9.All fire alarm cabling shall be acceptable to the fire alarm equipment manufacturer for the intended purpose.

10.Smoke detector shall not be installed until after construction cleanup is completed and final.

11.Locate smoke detectors a minimum of 3 feet from mechanical supplies. Wall-mounted smoke detectors shall be located a minimum of 4 inches and a maximum of 12 inches from ceilings.

12.Provide synchronization of all visual notification appliance circuits.

13.Upon completion of the fire alarm system installation and programming, the installing contractor shall perform final testing of the entire system, per all applicable codes, and shall coordinate and perform a final fire alarm system inspection.

14.Provide off site monitoring as required by the international fire code, section 907.6.6 and the local authority having jurisdiction.

15.Installing contractors show physically label all initiating devices and notification appliance circuit end of lines (when wiring class B). These labels shall be in place prior to start up in testing.

907.2.3Group E.

A manual fire alarm system that initiates the occupant notification signal utilizing an emergency voice/alarm communication system meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall be installed in Group E occupancies. Where automatic sprinkler systems or smoke detectors are installed, such systems or detectors shall be connected to the building fire alarm system.

Exceptions:

1.A manual fire alarm system shall not be required in Group E occupancies with an occupant load of 50 or less.

2.Emergency voice/alarm communication systems meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall not be required in Group E occupancies with occupant loads of 100 or less, provided that activation of the manual fire alarm system initiates an approved occupant notification signal in accordance with Section 907.5.

3.Manual fire alarm boxes shall not be required in Group E occupancies where all of the following apply:

3.1.Interior corridors are protected by smoke detectors.

3.2.Auditoriums, cafeterias, gymnasiums and similar areas are protected by heat detectors or other approved detection devices.

3.3.Shops and laboratories involving dusts or vapors are protected by heat detectors or other approved detection devices.

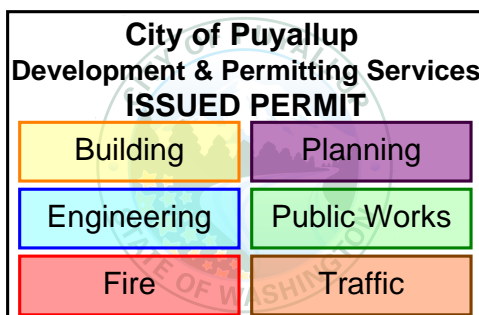
3.4.Manual activation is provided from a normally occupied location.

4.Manual fire alarm boxes shall not be required in Group E occupancies where all of the following apply:

4.1.The building is equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.

4.2.The emergency voice/alarm communication system will activate on sprinkler water flow.

4.3.Manual activation is provided from a normally occupied location.



City of Puyallup
Fire
REVIEWED
FOR
COMPLIANCE

DDrake
05/05/2025
9:48:26 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.



Jesse Houfek, SET #140609

Fire Alarm Systems, Level IV

REVISION 1:

Review
03/10/25

REVISION 2:

Corrections
04/23/25

REVISION 3:

Step by Step Early Learning Center

3303 8th Ave SE BLDG E Puyallup, WA 98372

Fire Alarm Title Sheet

DESIGNED BY:

JH

DATE:

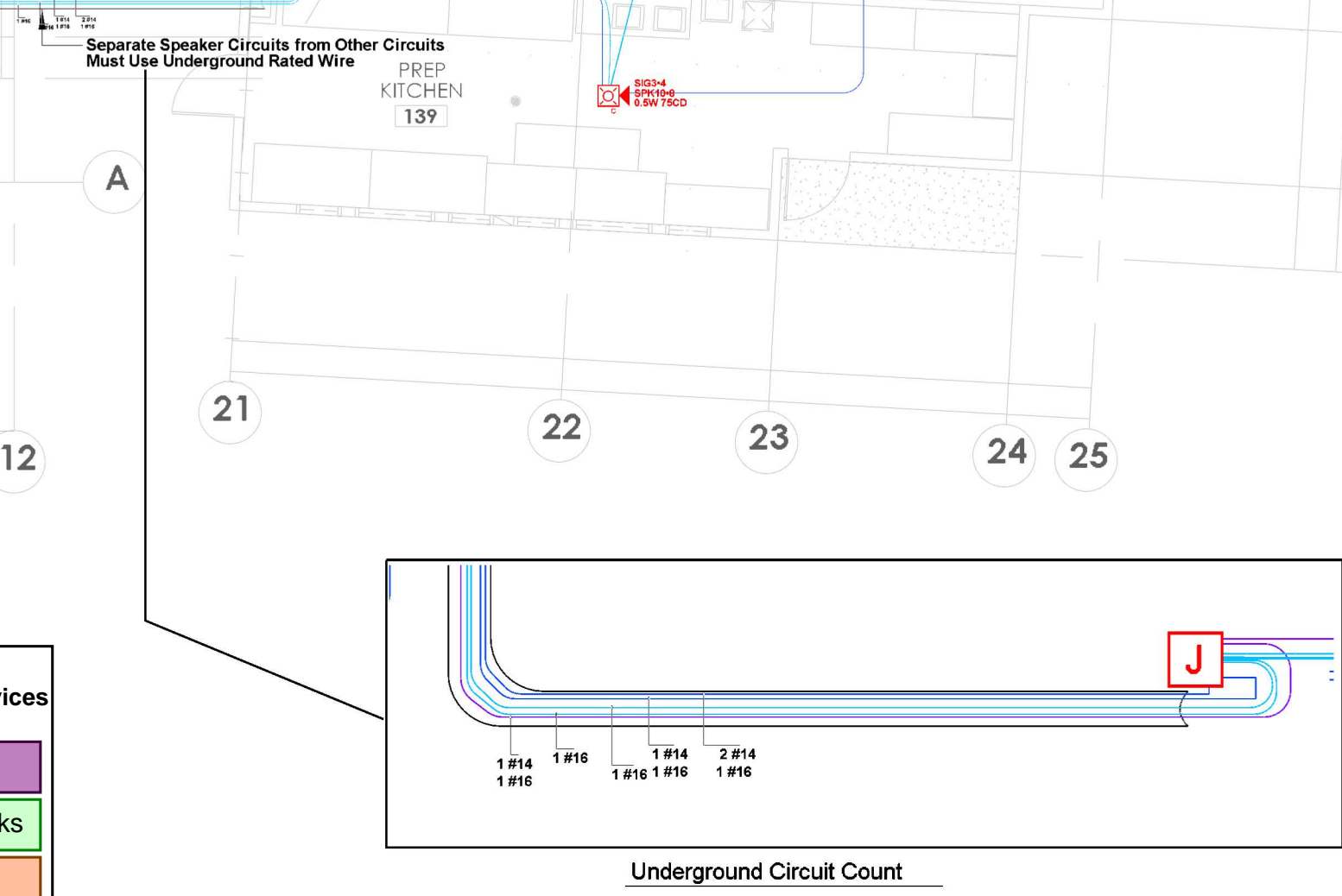
04/23/25

JOB NUMBER:

26018-1

SHEET NUMBER:

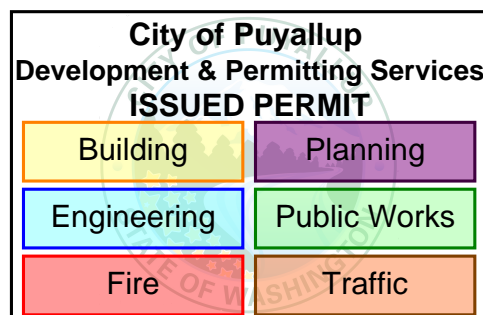
FA-1.0



A **Fire Alarm Notification**

1/8" = 1 Foot

0' 5' 10' 20'

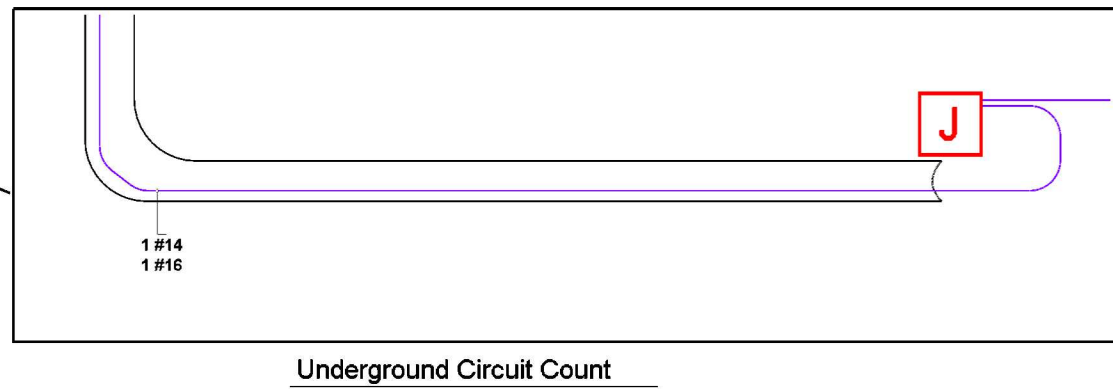
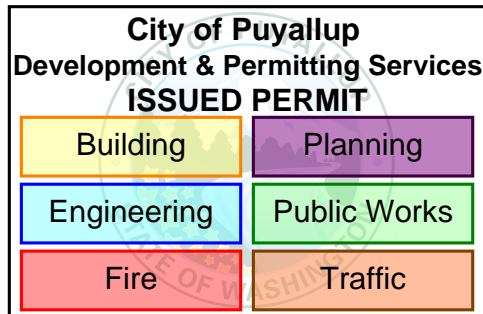
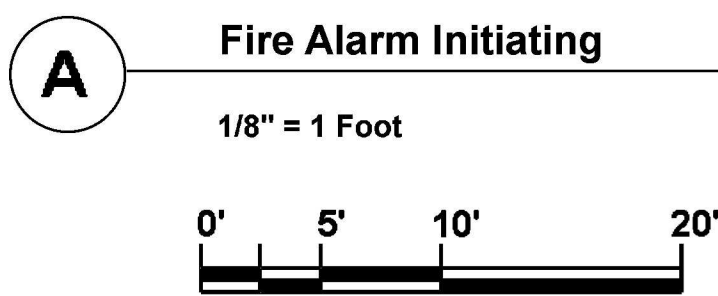
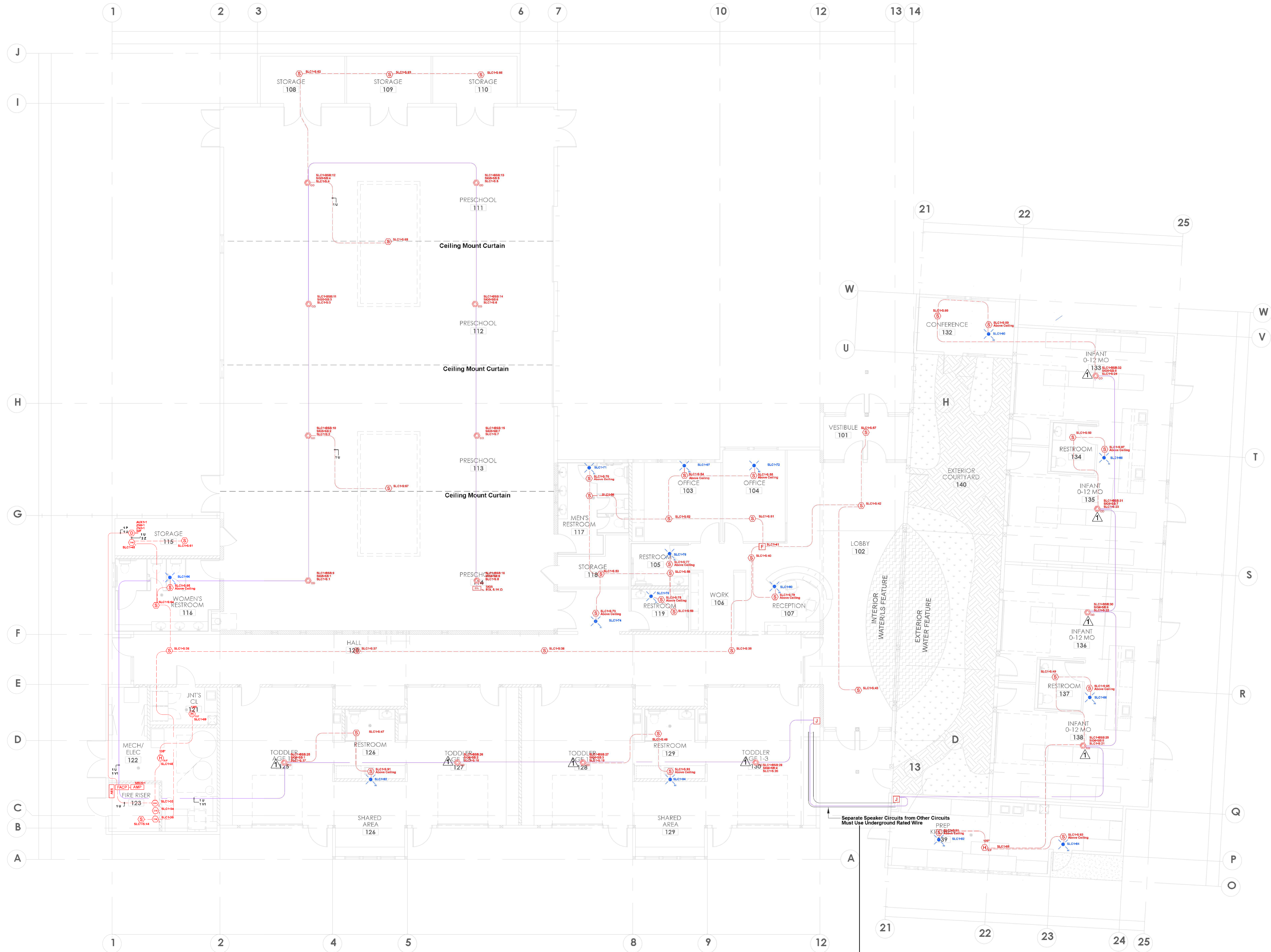


SHEET NUMBER:
A-1.1

Symbol Legend	
SYMBOL	DESCRIPTION
	LOCAL OPERATOR CONSOLE
	SINGLE CHANNEL, 25W, 25V OR 70V AMPLIFIER
	AFC-1000V FACP
	INTELLINET 2.0 FIRE SUBSCRIBER 8 ZONE, 7794A, LOCAL ANNUN, MCT, RED
	WEATHERTIGHT 4 WIRE PHOTO DUCT DETECTOR
	PHOTOELECTRIC SMOKE/CARBON MONOXIDE SENSOR
	PHOTOELECTRIC SMOKE SENSOR
	FIXED TEMP AND/OR SELECTABLE ROR HEAT SENSOR
	PAD100-DIM, Multi-Input Module, One SLC Loop, Two Class B or One Class A
	PAD100-PSSA, Addressable Pull Station, Single Action
	ELUXA HIGH FIDELITY SPEAKER STROBE, WHITE, FIRE, CEILING
	ELUXA MULTI-CANDELA STROBE WHITE, CEILING, FIRE
	ELUXA HIGH FIDELITY SPEAKER STROBE, WHITE, FIRE, WALL
	10 INCH 24VDC 800B BELL, Outdoor
	ELUXA ST - FR, Strobe, Red, "FIRE" Outdoor
	ELUXA MULTI-CANDELA STROBE WHITE, WALL, FIRE
	PAD100-LED, Panel Component, Addressable LED Module
	Potter, EOL, 5 1K Ohms

Notes

17.7.4.3.1
Detectors shall first be spaced and located within 36 in. (910 mm) of the peak, measured horizontally.



REVISION 1:
Review
03/10/25

REVISION 2:
Corrections
04/23/25

REVISION 3:

Step by Step Early Learning Center

3303 8th Ave SE BLDG E Puyallup, WA 98372

Fire Alarm Initiating

DESIGNED BY:
JH

DATE:
04/23/25

JOB NUMBER:
26018-1

SHEET NUMBER:
FA-1.2

Battery Calculations for Panel: FACP						
Part No:AFC-1000V - AFC-1000V FACP						
Part No.	Qty.	Description	Standby	Total Standby	Alarm	Total Alarm
Panel Equipment						
AFC-1000_MB	1	AFC-1000 MAIN BOARD	130.0000mA	130.0000mA	200.0000mA	200.0000mA
VM-1000	1	VM-1000 AUDIO RISER CARD	0.0000mA	0.0000mA	0.0000mA	0.0000mA
Total Panel Stby			130.0000mA		Total Panel Alarm	200.0000mA
Peripheral Devices						
ELSTW	9	ELUXA MULTI-CANDELA STROBE WHITE, WALL, FIRE (Notification) 15CD	0.0000mA	0.0000mA	22.0000mA	198.0000mA
ELSPSTWC	8	ELUXA HIGH FIDELITY SPEAKER STROBE, WHITE, FIRE, CEILING (Notification) 110CD	0.0000mA	0.0000mA	86.0000mA	688.0000mA
ELSPSTWC	9	ELUXA HIGH FIDELITY SPEAKER STROBE, WHITE, FIRE, CEILING (Notification) 30CD	0.0000mA	0.0000mA	30.0000mA	270.0000mA
EOL-5.1	6	Potter, EOL, 5.1K Ohms (Notification)	0.0000mA	0.0000mA	0.0000mA	0.0000mA
ELSTWC	2	ELUXA MULTI-CANDELA STROBE WHITE, CEILING, FIRE (Notification) 15CD	0.0000mA	0.0000mA	22.0000mA	44.0000mA
ELSPSTWC	1	ELUXA HIGH FIDELITY SPEAKER STROBE, WHITE, FIRE, CEILING (Notification) 75CD	0.0000mA	0.0000mA	60.0000mA	60.0000mA
ELSPSTWC	1	ELUXA HIGH FIDELITY SPEAKER STROBE, WHITE, FIRE, CEILING (Notification) 15CD	0.0000mA	0.0000mA	22.0000mA	22.0000mA
ELSPSTW	2	ELUXA HIGH FIDELITY SPEAKER STROBE, WHITE, FIRE, WALL (Notification) 75CD	0.0000mA	0.0000mA	60.0000mA	120.0000mA
PDC-10-24	1	10 INCH 24VDC 80DB BELL (Notification) 80dB	0.0000mA	0.0000mA	20.0000mA	20.0000mA
EL4XST - FR	1	EL4XST - FR, Strobe, Red, "FIRE" (Notification) 110CD	0.0000mA	0.0000mA	97.0000mA	97.0000mA
PAD100-SB	16	PAD100-SB ADDRESSABLE SOUNDER BASE (Notification) 85dB	4.0000mA	64.0000mA	40.0000mA	640.0000mA
D4120W	1	WEATHERTIGHT 4 WIRE PHOTO DUCT DETECTOR (Power)	0.0210mA	0.0210mA	0.0650mA	0.0650mA
PAD100-PSSA	1	PAD100-PSSA, Addressable Pull Station, Single Action (Signaling line)	0.2000mA	0.2000mA	0.2000mA	0.2000mA
PAD300-PD	42	PHOTOELECTRIC SMOKE DETECTOR (Signaling line)	0.3000mA	12.6000mA	0.3000mA	12.6000mA
PAD300-PCD	16	PHOTOELECTRIC SMOKE/CARBON MONOXIDE SENSOR (Signaling line)	1.4000mA	22.4000mA	0.3000mA	4.8000mA
PAD100-SB	16	PAD100-SB ADDRESSABLE SOUNDER BASE (Signaling line)	0.2000mA	3.2000mA	0.2000mA	3.2000mA
PAD300-HD	3	FIXED TEMP AND/OR SELECTABLE ROR HEAT SENSOR (Signaling line)	0.3000mA	0.9000mA	0.3000mA	0.9000mA
PAD100-LED	15	PAD100-LED, Panel Component, Addressable LED Module (Signaling line)	0.2000mA	3.0000mA	0.2000mA	3.0000mA
PAD100-DIM	4	PAD100-DIM, Multi-Input Module, One SLC Loop, Two Class B or One Class A (Signaling line)	0.2400mA	0.9600mA	0.2400mA	0.9600mA
D4120W	2	WEATHERTIGHT 4 WIRE PHOTO DUCT DETECTOR (Initiating)	0.0210mA	0.0420mA	0.0000mA	0.0000mA
LOC-1000	1	LOCAL OPERATOR CONSOLE, LOC-1000_MB (Audio)	0.0000mA	0.0000mA	0.0000mA	0.0000mA
LOC-1000	1	LOCAL OPERATOR CONSOLE, LOC-1000_MB (Serial)	0.0000mA	0.0000mA	0.0000mA	0.0000mA
SCA-2570	1	SINGLE CHANNEL 25W, 25V OR 70V AMPLIFIER, SCA-2570_MB (Serial)	58.0000mA	58.0000mA	608.0000mA	608.0000mA
Total Peripheral Stby			165.3230mA		Total Periph Alarm	2792.7250mA
Total Standby Amps			295.3230mA		Total Alarm Amps	2992.7250mA
Standby time: 24 Hrs 7.088Ah						
Alarm time: 5 Min 0.249Ah						
Battery requirement: 7.337Ah						
Requirement with compensation: 9.171Ah						
Compensation Factors - Standby:1.25 Alarm:1.25 Requirement with compensation:						

Battery Calculations for Panel: P2						
Part No:LOC-1000 - LOCAL OPERATOR CONSOLE						
Part No.	Qty.	Description	Standby	Total Standby	Alarm	Total Alarm
Panel Equipment						
LOC-1000_MB	1	LOC-1000_MB	77.0000mA	77.0000mA	107.0000mA	107.0000mA
Total Panel Stby			77.0000mA		Total Panel Alarm	107.0000mA
Peripheral Devices						
Total Peripheral Stby			0.0000mA		Total Periph Alarm	0.0000mA
Total Standby Amps			77.0000mA		Total Alarm Amps	107.0000mA
Standby time: 24 Hrs 1.848Ah						
Alarm time: 5 Min 0.009Ah						
Battery requirement: 1.857Ah						
Requirement with compensation: 2.321Ah						
Compensation Factors - Standby:1.25 Alarm:1.25 Requirement with compensation:						

Battery Calculations for Panel: AMP						
Part No:SCA-2570 - SINGLE CHANNEL 25W, 25V OR 70V AMPLIFIER						
Part No.	Qty.	Description	Standby	Total Standby	Alarm	Total Alarm
Panel Equipment						
SCA-2570_MB	1	SCA-2570 MAIN BOARD	0.0000mA	0.0000mA	0.0000mA	0.0000mA
Total Panel Stby			0.0000mA		Total Panel Alarm	0.0000mA
Peripheral Devices						
ELSPSTWC	18	ELUXA HIGH FIDELITY SPEAKER STROBE, WHITE, FIRE, CEILING (Notification) 82dB 0.5 Watts	0.0000mA	0.0000mA	0.0000mA	0.0000mA
EOL-5.1	4	Potter, EOL, 5.1K Ohms (Notification)	0.0000mA	0.0000mA	0.0000mA	0.0000mA
ELSPSTWC	1	ELUXA HIGH FIDELITY SPEAKER STROBE, WHITE, FIRE, CEILING (Notification) 78dB 0.25 Watts	0.0000mA	0.0000mA	0.0000mA	0.0000mA
ELSPSTW	2	ELUXA HIGH FIDELITY SPEAKER STROBE, WHITE, FIRE, WALL (Notification) 95dB 1 Watts	0.0000mA	0.0000mA	0.0000mA	0.0000mA
Total Peripheral Stby			0.0000mA		Total Periph Alarm	0.0000mA
Total Standby Amps			0.0000mA		Total Alarm Amps	0.0000mA
Standby time: 24 Hrs 0Ah						
Alarm time: 5 Min 0Ah						
Battery requirement: 0Ah						
Requirement with compensation: 0Ah						
Compensation Factors - Standby:1.25 Alarm:1.25 Requirement with compensation:						

Battery Calculations for Transponder: AES						
Part No:7707P-88-UPLP-M - INTELLINET 2.0 FIRE SUBSCRIBER 8 ZONE, 7794A, LOCAL ANNUN, MCT, RED						
Part No.	Qty.	Description	Standby	Total Standby	Alarm	Total Alarm
Panel Equipment						
7707P-88-UPLP-M_MB	1	7707P-88-UPLP-M_MB, Main Board	0.0000mA	0.0000mA	0.0000mA	0.0000mA
7795	1	7795, Panel Component, AES-Intellipro Fire Full Data Module	350.0000mA	350.0000mA	350.0000mA	350.0000mA
Total Panel Stby			350.0000mA		Total Panel Alarm	350.0000mA
Peripheral Devices						
Total Peripheral Stby			0.0000mA		Total Periph Alarm	0.0000mA
Total Standby Amps			350.0000mA		Total Alarm Amps	350.0000mA
Standby time: 24 Hrs 8.4Ah						
Alarm time: 5 Min 0.029Ah						
Battery requirement: 8.429Ah						
Requirement with compensation: 10.536Ah						
Compensation Factors - Standby:1.25 Alarm:1.25 Requirement with compensation:						

Circuit Calculations Panel: AMP Card: 01 Circuit:SPK9						
Design Criteria: Ambient temperature: 167°F Maximum dB Drop: 3 dB						
Circuit	Description	Type	Total Len	ELSPSTWC	EOL-5.1	
SPK9	Notification/Audio 70v		124'-2	4	1	
			2.00 Watts	#16	-0.00 dB	103936'
Circuit Calculations Panel: AMP Card: 01 Circuit:SPK10						
Design Criteria: Ambient temperature: 167°F Maximum dB Drop: 3 dB						
Circuit	Description	Type	Total Len	ELSPSTWC	EOL-5.1	
SPK10	Notification/Audio 70v		445'-7	7	2	1
			5.25 Watts	#16	-0.01 dB	78554'
Circuit Calculations Panel: AMP Card: 01 Circuit:SPK11						
Design Criteria: Ambient temperature: 167°F Maximum dB Drop: 3 dB						
Circuit	Description	Type	Total Len	ELSPSTWC	EOL-5.1	
SPK11	Notification/Audio 70v		283'-5%	4	1	
			2.00 Watts	#16	-0.01 dB	105422'
Circuit Calculations Panel: AMP Card: 01 Circuit:SPK12						
Design Criteria: Ambient temperature: 167°F Maximum dB Drop: 3 dB						
Circuit	Description	Type	Total Len	ELSPSTWC	EOL-5.1	
SPK12	Notification/Audio 70v		179'-3	4	1	
			2.00 Watts	#16	-0.00 dB	206206'

Standby time: 24 Hrs 8.4Ah						
Alarm time: 5 Min 0.029Ah						
Battery requirement: 8.429Ah						
Requirement with compensation: 10.536Ah						
Compensation Factors - Standby:1.25 Alarm:1.25 Requirement with compensation:						

Circuit Calculations Panel: AMP Card: 01 Circuit:SPK9						
Design Criteria: Ambient temperature: 167°F Maximum dB Drop: 3 dB						
Circuit	Description	Type	Total Len	ELSPSTWC	EOL-5.1	
SPK9	Notification/Audio 70v		124'-2	4	1	
			2.00 Watts	#16	-0.00 dB	103936'
Circuit Calculations Panel: AMP Card: 01 Circuit:SPK10						
Design Criteria: Ambient temperature: 167°F Maximum dB Drop: 3 dB						
Circuit	Description	Type	Total Len	ELSPSTWC	EOL-5.1	
SPK10	Notification/Audio 70v		445'-7	7	2	1
			5.25 Watts	#16	-0.01 dB	78554'
Circuit Calculations Panel: AMP Card: 01 Circuit:SPK11						
Design Criteria: Ambient temperature: 167°F Maximum dB Drop: 3 dB						
Circuit	Description	Type	Total Len	ELSPSTWC	EOL-5.1	
SPK11	Notification/Audio 70v		283'-5%	4	1	
			2.00 Watts	#16	-0.01 dB	105422'
Circuit Calculations Panel: AMP Card: 01 Circuit:SPK12						
Design Criteria: Ambient temperature: 167°F Maximum dB Drop: 3 dB						
Circuit	Description	Type	Total Len	ELSPSTWC	EOL-5.1	
SPK12	Notification/Audio 70v		179'-3	4	1	
			2.00 Watts	#16	-0.00 dB	206206'

Circuit Calculations							Panel: FACP Card: 00 Circuit:SIG1	
Circuit Name: SIG1								
Circuit Type: Notification							Terminal Voltage: 24V/DC	
Amperage: 3.0000A								
Cable: 16 AWG 2 CONDUCTOR BARE COPPER, TWISTED, SHIELDED, PLENUM FA, FPLP #16								
Calculations based on Running Total Length.								
Design Criteria: Ambient temperature: 167°F Max. operating voltage drop: 18%								
Device	Part No	Appliance Desc		Distance	Current	Voltage	Voltage Drop	
AFC-1000V Panel							24V	
1	ELSTW	ELUXA MULTI-CANDELA STROBE WHITE, WALL, FIRE, 15CD		30'-10"	22.0000mA	23.9334V	(0.0668V)	
2	ELSPSTWC	ELUXA HIGH FIDELITY SPEAKER STROBE, WHITE, FIRE, CEILING, 110CD		10'-5"	86.0000mA	23.9123V	(0.0211V)	
3	ELSPSTWC	ELUXA HIGH FIDELITY SPEAKER STROBE, WHITE, FIRE, CEILING, 30CD		37'-10"	30.0000mA	23.8501V	(0.0622V)	
4	ELSTW	ELUXA MULTI-CANDELA STROBE WHITE, WALL, FIRE, 15CD		21'-11"	22.0000mA	23.818V	(0.0321V)	
5	ELSPSTWC	ELUXA HIGH FIDELITY SPEAKER STROBE, WHITE, FIRE, CEILING, 30CD		21'-6"	30.0000mA	23.7882V	(0.0298V)	
6	ELSPSTWC	ELUXA HIGH FIDELITY SPEAKER STROBE, WHITE, FIRE, CEILING, 110CD		24'-11"	86.0000mA	23.7577V	(0.0305V)	
7	ELSPSTWC	ELUXA HIGH FIDELITY SPEAKER STROBE, WHITE, FIRE, CEILING, 30CD		29'-6"	30.0000mA	23.7333V	(0.0244V)	
8	ELSTW	ELUXA MULTI-CANDELA STROBE WHITE, WALL, FIRE, 15CD		22'-4"	22.0000mA	23.7182V	(0.0152V)	
9	ELSPSTWC	ELUXA HIGH FIDELITY SPEAKER STROBE, WHITE, FIRE, CEILING, 30CD		22'-1"	30.0000mA	23.7054V	(0.0128V)	
10	ELSPSTWC	ELUXA HIGH FIDELITY SPEAKER STROBE, WHITE, FIRE, CEILING, 110CD		18'-7"	86.0000mA	23.6977V	(0.0077V)	
EOL-5.1		Potter, EOL, 5.1K Ohms		1'-1"	0.0000mA	23.6977V	(0V)	
				241'-3"	444.0000mA			
					Total Current:	444.0000mA		

Circuit Calculations Panel: FACP Card: 00 Circuit:SLC1						
Circuit Name: SLC1						
Circuit Type: Signalling line/Potter - SLC Terminal Voltage: 24V/DC Amperage: 1.0000A						
Cable: 18 / 2C STR TWISTED CMP/FPLP #18						
Calculations based on Running Total Length, Main Path						
Design Criteria: Ambient temperature: 167°F Max. operating voltage drop: 18%						
Device	Part No	Appliance Desc	Distance	Current	Voltage	Voltage Drop
	AFC-1000V	Panel			24V	
S:20	PAD300-PCD	PHOTOELECTRIC SMOKE/CARBON MONOXIDE SENSOR	168'-7½"	1.4000mA	0V	(0.0368V)
SB:28	PAD100-SB	PAD100-SB ADDRESSABLE SOUNDER BASE	0'-0"	0.2000mA	23.9612V	(0.002V)
S:19	PAD300-PCD	PHOTOELECTRIC SMOKE/CARBON MONOXIDE SENSOR	33'-1½"	1.4000mA	0V	(0V)
SB:27	PAD100-SB	PAD100-SB ADDRESSABLE SOUNDER BASE	0'-0"	0.2000mA	23.9684V	(0.0029V)
S:18	PAD300-PCD	PHOTOELECTRIC SMOKE/CARBON MONOXIDE SENSOR	24'-0"	1.4000mA	0V	(0V)
SB:26	PAD100-SB	PAD100-SB ADDRESSABLE SOUNDER BASE	0'-0"	0.2000mA	23.9687V	(0.0016V)
S:17	PAD300-PCD	PHOTOELECTRIC SMOKE/CARBON MONOXIDE SENSOR	33'-3"	1.4000mA	0V	(0V)
SB:25	PAD100-SB	PAD100-SB ADDRESSABLE SOUNDER BASE	0'-0"	0.2000mA	23.9651V	(0.0016V)
S:47	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	18'-4"	0.3000mA	23.9542V	(0.0008V)
S:91	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	9'-9½"	0.3000mA	23.954V	(0.0002V)
92	PAD100-LED	PAD100-LED, Panel Component, Addressable LED Module	1'-8"	0.2000mA	23.954V	(0V)
S:21	PAD300-PCD	PHOTOELECTRIC SMOKE/CARBON MONOXIDE SENSOR	86'-8½"	1.4000mA	0V	(0.0048V)
SB:29	PAD100-SB	PAD100-SB ADDRESSABLE SOUNDER BASE	0'-0"	0.2000mA	23.9513V	(0.0071V)
S:22	PAD300-PCD	PHOTOELECTRIC SMOKE/CARBON MONOXIDE SENSOR	36'-4"	1.4000mA	0V	(0V)
SB:30	PAD100-SB	PAD100-SB ADDRESSABLE SOUNDER BASE	0'-0"	0.2000mA	23.9484V	(0.003V)
S:23	PAD300-PCD	PHOTOELECTRIC SMOKE/CARBON MONOXIDE SENSOR	27'-1"	1.4000mA	0V	(0V)
SB:31	PAD100-SB	PAD100-SB ADDRESSABLE SOUNDER BASE	0'-0"	0.2000mA	23.9463V	(0.0021V)
S:24	PAD300-PCD	PHOTOELECTRIC SMOKE/CARBON MONOXIDE SENSOR	31'-4"	1.4000mA	0V	(0V)
SB:32	PAD100-SB	PAD100-SB ADDRESSABLE SOUNDER BASE	0'-0"	0.2000mA	23.9448V	(0.0014V)
S:60	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	40'-7½"	0.3000mA	23.943V	(0.0019V)
S:89	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	16'-2"	0.3000mA	23.9426V	(0.0004V)
90	PAD100-LED	PAD100-LED, Panel Component, Addressable LED Module	1'-9"	0.2000mA	23.9425V	(0V)
S:50	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	17'-6"	0.3000mA	23.9458V	(0.0005V)
S:87	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	8'-0"	0.3000mA	23.9456V	(0.0002V)
88	PAD100-LED	PAD100-LED, Panel Component, Addressable LED Module	1'-7"	0.2000mA	23.9456V	(0V)
65	PAD300-HD	FIXED TEMP AND/OR SELECTABLE ROR HEAT SENSOR	37'-5½"	0.3000mA	23.95V	(0.0014V)
S:81	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	11'-5½"	0.3000mA	23.9499V	(0.0001V)
82	PAD100-LED	PAD100-LED, Panel Component, Addressable LED Module	1'-7"	0.2000mA	23.9499V	(0V)
S:48	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	18'-9½"	0.3000mA	23.9581V	(0.0002V)
S:93	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	9'-2"	0.3000mA	23.9581V	(0.0001V)
94	PAD100-LED	PAD100-LED, Panel Component, Addressable LED Module	1'-4½"	0.2000mA	23.9581V	(0V)
S:49	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	17'-6"	0.3000mA	23.9511V	(0.0002V)
S:85	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	8'-4"	0.3000mA	23.9511V	(0.0001V)
86	PAD100-LED	PAD100-LED, Panel Component, Addressable LED Module	1'-10½"	0.2000mA	23.9511V	(0V)
S:83	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	16'-5"	0.3000mA	23.9498V	(0.0001V)
84	PAD100-LED	PAD100-LED, Panel Component, Addressable LED Module	1'-5½"	0.2000mA	23.9498V	(0V)
S:1	PAD300-PCD	PHOTOELECTRIC SMOKE/CARBON MONOXIDE SENSOR	75'-6"	1.4000mA	0V	(0V)
SB:9	PAD100-SB	PAD100-SB ADDRESSABLE SOUNDER BASE	0'-0"	0.2000mA	23.9922V	(0.0078V)
S:2	PAD300-PCD	PHOTOELECTRIC SMOKE/CARBON MONOXIDE SENSOR	27'-10½"	1.4000mA	0V	(0V)
SB:10	PAD100-SB	PAD100-SB ADDRESSABLE SOUNDER BASE	0'-0"	0.2000mA	23.9895V	(0.0027V)
S:3	PAD300-PCD	PHOTOELECTRIC SMOKE/CARBON MONOXIDE SENSOR	25'-3½"	1.4000mA	0V	(0V)
SB:11	PAD100-SB	PAD100-SB ADDRESSABLE SOUNDER BASE	0'-0"	0.2000mA	23.9877V	(0.0018V)
S:4	PAD300-PCD	PHOTOELECTRIC SMOKE/CARBON MONOXIDE SENSOR	23'-1½"	1.4000mA	0V	(0V)
SB:12	PAD100-SB	PAD100-SB ADDRESSABLE SOUNDER BASE	0'-0"	0.2000mA	23.9861V	(0.0016V)
S:5	PAD300-PCD	PHOTOELECTRIC SMOKE/CARBON MONOXIDE SENSOR	38'-10"	1.4000mA	0V	(0V)
SB:13	PAD100-SB	PAD100-SB ADDRESSABLE SOUNDER BASE	0'-0"	0.2000mA	23.9855V	(0.0006V)
S:6	PAD300-PCD	PHOTOELECTRIC SMOKE/CARBON MONOXIDE SENSOR	23'-3"	1.4000mA	0V	(0V)
SB:14	PAD100-SB	PAD100-SB ADDRESSABLE SOUNDER BASE	0'-0"	0.2000mA	23.9852V	(0.0003V)
S:7	PAD300-PCD	PHOTOELECTRIC SMOKE/CARBON MONOXIDE SENSOR	25'-5½"	1.4000mA	0V	(0V)
SB:15	PAD100-SB	PAD100-SB ADDRESSABLE SOUNDER BASE	0'-0"	0.2000mA	23.985V	(0.0002V)
S:8	PAD300-PCD	PHOTOELECTRIC SMOKE/CARBON MONOXIDE SENSOR	27'-7½"	1.4000mA	0V	(0V)
SB:16	PAD100-SB	PAD100-SB ADDRESSABLE SOUNDER BASE	0'-0"	0.2000mA	23.985V	(0.0001V)
S:62	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	21'-3"	0.3000mA	23.9851V	(0.001V)
S:63	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	17'-0"	0.3000mA	23.9847V	(0.0004V)
S:66	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	17'-10½"	0.3000mA	23.9843V	(0.0004V)
S:68	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	28'-1½"	0.3000mA	23.986V	(0.0001V)
S:67	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	24'-6"	0.3000mA	23.989V	(0.0005V)
33	PAD100-DIM	PAD100-DIM, Multi-Input Module, One SLC Loop, Two Class B or One Class A	9'-7"	0.2400mA	23.9977V	(0.0023V)
34	PAD100-DIM	PAD100-DIM, Multi-Input Module, One SLC Loop, Two Class B or One Class A	1'-4½"	0.2400mA	23.9975V	(0.0002V)
35	PAD100-DIM	PAD100-DIM, Multi-Input Module, One SLC Loop, Two Class B or One Class A	1'-9½"	0.2400mA	23.9973V	(0.0002V)
S:36	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	39'-4½"	0.3000mA	23.989V	(0.0083V)
S:64	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	10'-11"	0.3000mA	23.9886V	(0.0004V)
45	PAD100-DIM	PAD100-DIM, Multi-Input Module, One SLC Loop, Two Class B or One Class A	16'-1"	0.2400mA	23.9881V	(0.0004V)
S:37	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	38'-0½"	0.3000mA	23.9835V	(0.0055V)
S:38	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	36'-0½"	0.3000mA	23.9788V	(0.0047V)
S:39	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	35'-10½"	0.3000mA	23.9744V	(0.0044V)
S:40	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	20'-9½"	0.3000mA	23.9723V	(0.0021V)
41	PAD100-PSSA	PAD100-PSSA, Addressable Pull Station, Single Action	3'-10½"	0.2000mA	23.972V	(0.0003V)
S:51	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	6'-11½"	0.3000mA	23.9716V	(0.0004V)
S:52	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	15'-9"	0.3000mA	23.9705V	(0.001V)
66	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	18'-10"	0.3000mA	23.9697V	(0.0009V)
S:53	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	16'-7"	0.3000mA	23.9692V	(0.0005V)
S:58	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	13'-5½"	0.3000mA	23.9688V	(0.0003V)
S:59	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	7'-7"	0.3000mA	23.9688V	(0.0001V)
S:75	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	3'-3"	0.3000mA	23.9687V	(0V)
76	PAD100-LED	PAD100-LED, Panel Component, Addressable LED Module	2'-1½"	0.2000mA	23.9687V	(0V)
S:77	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	1'-8½"	0.3000mA	23.9688V	(0V)
78	PAD100-LED	PAD100-LED, Panel Component, Addressable LED Module	2'-0"	0.2000mA	23.9688V	(0V)
S:73	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	7'-7½"	0.3000mA	23.9691V	(0V)
74	PAD100-LED	PAD100-LED, Panel Component, Addressable LED Module	1'-7½"	0.2000mA	23.9691V	(0V)
S:70	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	3'-3½"	0.3000mA	23.9697V	(0V)
71	PAD100-LED	PAD100-LED, Panel Component, Addressable LED Module	1'-11"	0.2000mA	23.9697V	(0V)
S:54	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	10'-9½"	0.3000mA	23.9704V	(0.0002V)
S:55	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	13'-2½"	0.3000mA	23.9703V	(0.0001V)
72	PAD100-LED	PAD100-LED, Panel Component, Addressable LED Module	1'-11½"	0.2000mA	23.9703V	(0V)
97	PAD100-LED	PAD100-LED, Panel Component, Addressable LED Module	1'-8½"	0.2000mA	23.9704V	(0V)
S:42	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	25'-9½"	0.3000mA	23.9717V	(0.0003V)
S:43	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	42'-2½"	0.3000mA	23.9715V	(0.0002V)
S:57	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	14'-4"	0.3000mA	23.9716V	(0.0001V)
S:79	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	11'-3½"	0.3000mA	23.9722V	(0.0001V)
80	PAD100-LED	PAD100-LED, Panel Component, Addressable LED Module	2'-0"	0.2000mA	23.9722V	(0V)
S:95	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	5'-3"	0.3000mA	23.9886V	(0V)
96	PAD100-LED	PAD100-LED, Panel Component, Addressable LED Module	1'-7½"	0.2000mA	23.9886V	(0V)
S:61	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	10'-2½"	0.3000mA	23.9881V	(0V)
S:44	PAD300-PD	PHOTOELECTRIC SMOKE DETECTOR	2'-7½"	0.3000mA	23.9973V	(0V)
46	PAD300-HD	FIXED TEMP AND/OR SELECTABLE ROR HEAT SENSOR	8'-11½"	0.3000mA	23.9977V	(0.0001V)
69	PAD300-HD	FIXED TEMP AND/OR SELECTABLE ROR HEAT SENSOR	13'-6"	0.3000mA	23.9976V	(0.0001V)
			1534'-9½"	43.2600mA		
Total Current: 43.2600mA						
(Total VDrop Percent:0.24%) Total Voltage Drop : 0.0575V						

A

Battery/Circuit Calcs.

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building

Planning

Engineering

Public Works

Fire

Traffic

WASHINGTON ALARM

80 YEARS

ANNIVERSARY

WA

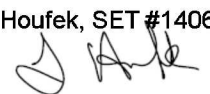
WASHINGTON ALARM

2030 Airport Way S Seattle WA 98134-1603 Phone: (206) 328-3288

NICET

CERTIFIED

Jesse Houfek, SET #140609


Fire Alarm Systems, Level IV

REVISION 1:
Review
03/10/25

REVISION 2:
Corrections
04/23/25

REVISION 3:

Step by Step Early Learning Center

3303 8th Ave SE BLDG E Puyallup, WA 98372

Battery/Circuit Calcs.

DESIGNED BY:

JH

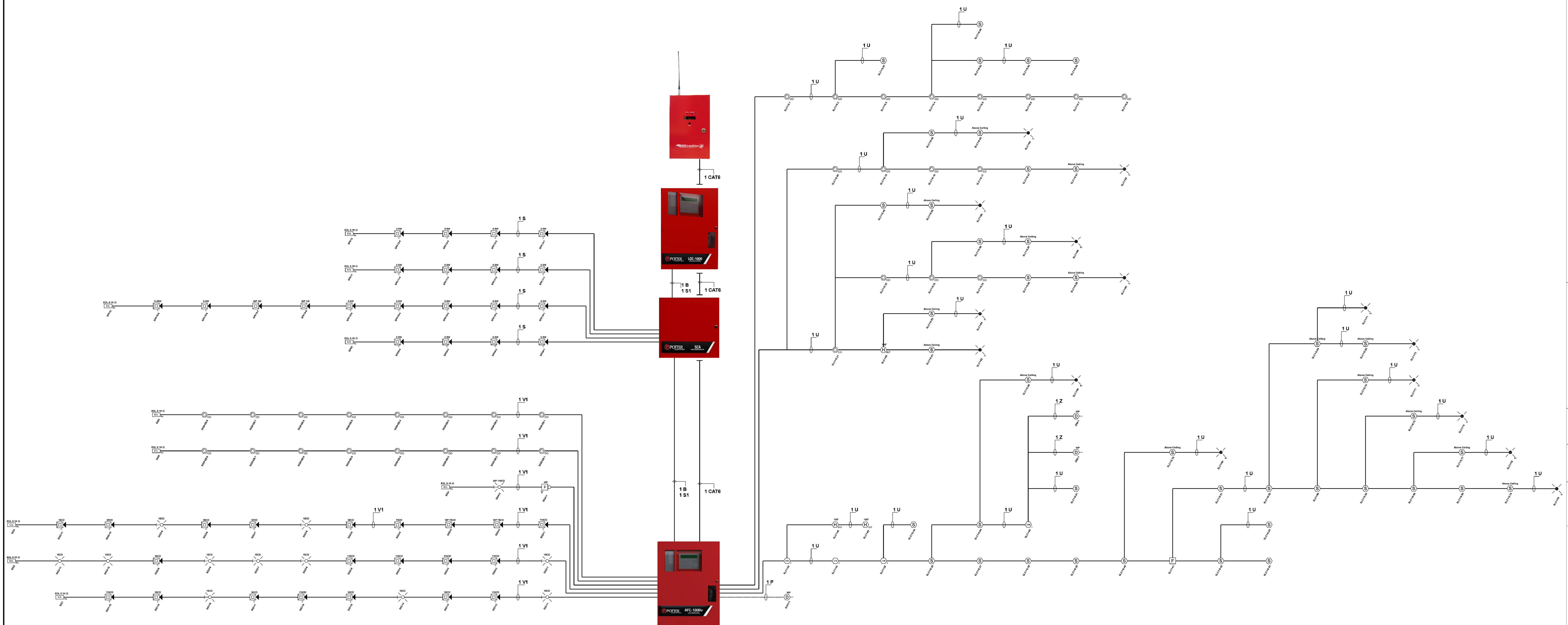
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
















04/23/25

JOB NUMBER:

26018-1

SHEET NUMBER:
FA-1.4



Symbol Legend	
SYMBOL	DESCRIPTION
	LOCAL OPERATOR CONSOLE
	SINGLE CHANNEL, 25W, 25V OR 70V AMPLIFIER
	AFC-1000V FACP
	INTELLINET 2.0 FIRE SUBSCRIBER 8 ZONE, 7794A, LOCAL ANNUN, MCT, RED
	WEATHERTIGHT 4 WIRE PHOTO DUOT DETECTOR
	PHOTOELECTRIC SMOKE/CARBON MONOXIDE SENSOR
	PHOTOELECTRIC SMOKE SENSOR
	FIXED TEMP AND/OR SELECTABLE FOR HEAT SENSOR
	PAD100-DIM, Multi-Input Module, One SLIC Loop, Two Class B or One Class A
	PAD100-PSSA, Addressable Pull Station, Single Action
	ELUXA HIGH FIDELITY SPEAKER STROBE, WHITE, FIRE, CEILING
	ELUXA MULTI-CANDELA STROBE WHITE, CEILING, FIRE
	ELUXA HIGH FIDELITY SPEAKER STROBE, WHITE, FIRE, WALL
	10 INCH 24VDC 80DB BELL, Outdoor
	EXIST* - FR, Strobe, Red, "FIRE" Outdoor
	ELUXA MULTI-CANDELA STROBE WHITE, WALL, FIRE
	PAD100-LED, Panel Component, Addressable LED Module
	Potter, EOL, 5.1K Ohms

A **Fire Alarm Riser**

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

City of Puyallup Development & Permitting Services ISSUED PERMIT	
Building	Planning
Engineering	Public Works
Fire	Traffic