




CENTERIS DATA CENTER

FIRE ALARM SYSTEM ADDITION

1023 39TH AVE SE, PUYALLUP, WA 98374

SYMBOL LEGEND					
SYMBOL	QTY	DESCRIPTION	MOUNTING REQUIREMENTS	SUPPLIER	PART NUMBER
	-	EXISTING CEILING HORN w/ STROBE: WHITE	EXISTING	SYSTEM SENSOR	PC2WL
	4	WALL HORN w/ STROBE: WHITE SEE DEVICE DESIGNATION FOR STROBE cd SETTING	4 SQUARE DEEP, MOUNTED AT 80" TO BOTTOM	SYSTEM SENSOR	P2WLED
	2	WALL STROBE: WHITE SEE DEVICE DESIGNATION FOR STROBE cd SETTING	4 SQUARE DEEP, MOUNTED AT 80" TO BOTTOM	SYSTEM SENSOR	SWLED

NOTES:

- 1- DEVICE SUBSCRIPT: NW=NEW RR=REMOVE & RELOCATE EX=EXISTING TO REMAIN AC=ABOVE CEILING RB=RELAY BASE WP=WATERPROOF WG=WIRE GUARD ISO=ISO BASE
- 2- CABLING SHOWN IS FOR CIRCUIT REFERENCE ONLY AND DOES NOT INTENDED TO INDICATE THE EXACT PATHWAY.
- 3- DEVICES SHOWN ON DRAWINGS IN GRAY SCALE ARE EXISTING DEVICES AND MAY NOT BE INCLUDED IN THIS SYMBOL LEGEND UNLESS NOTED.
- 4- HORN/STROBE (IF APPLICABLE) DECIBEL SETTING TO BE DETERMINED ON SITE, UNLESS OTHERWISE NOTED ON THE DRAWINGS. CAN BE FIELD ADJUSTED AT REQUEST OF AHJ.
- 5- ALL DEVICES WITH A WP SUBSCRIPT WILL REQUIRE THE USE OF A OUTDOOR OR WP BACKBOX.
- 6- ALL SPEAKERS (IF APPLICABLE) TO BE TAPPED AT 1/4 WATT UNLESS OTHERWISE SPECIFIED ON THE FAS PLANS.

WIRE LEGEND							
SYMBOL	DESCRIPTION	THHN	FPL	FPLP	WET	COLOR CODING	CIRCUIT TYPE
C	1 PAIR 14AWG FIRE RATED CABLE	YES	972	60993B	AQ226		AUDIBLE (NAC) CIRCUIT

NOTES:

- ** DIFFERENT COLORS/STRIPES COMBINATIONS TO BE USED FOR DIFFERENT CIRCUIT TYPES. LABEL ALL CIRCUITS ACCORDINGLY
- 1- WIRE MANUFACTURER IS FOR REFERENCE PURPOSE ONLY. WHEN USING OTHER MANUFACTURE, ENSURE PROPER CROSS REFERENCE
- 2- FPLP CAN BE USED IN MOST ALL APPLICATIONS WITH THE EXCLUSION OF WET AND CIRCUIT INTEGRITY REQUIREMENTS
- 3- INSTALL WIRING PER NEC. USE CABLE TYPE CONSISTENT WITH NEC REQUIREMENTS, IE: PLENUM, RISER, UNDERGROUND, ETC.
- 4- THE "Y" FIBER OPTIC CABLE LISTED IS A BELDEN CABLE PART NUMBER AS WEST PENN NO LONGER SUPPORTS FIBER OPTIC CABLE
- 5- THIS CABLE MUST BE INSTALLED IN A CONTINUOUS PATH POINT-TO-POINT. ABSOLUTLEY NO SPLICES ARE ALLOWED.
- 6- THIS IS A SPECIFIC CABLE. NO ALTERNATES ARE ALLOWED

FLAGNOTES	
NOTE #	DESCRIPTION
46	LOOP/EXTEND NAC CIRCUIT TO ADDED DEVICE AND RETURN TO ORIGIN EXISTING NAC DEVICE
67	RELOCATE EXISTING CIRCUIT EOL TO THIS DEVICE

NAC Circuit Load, Voltage Drop & Battery Load Calculations APS-1 (EXISTING)

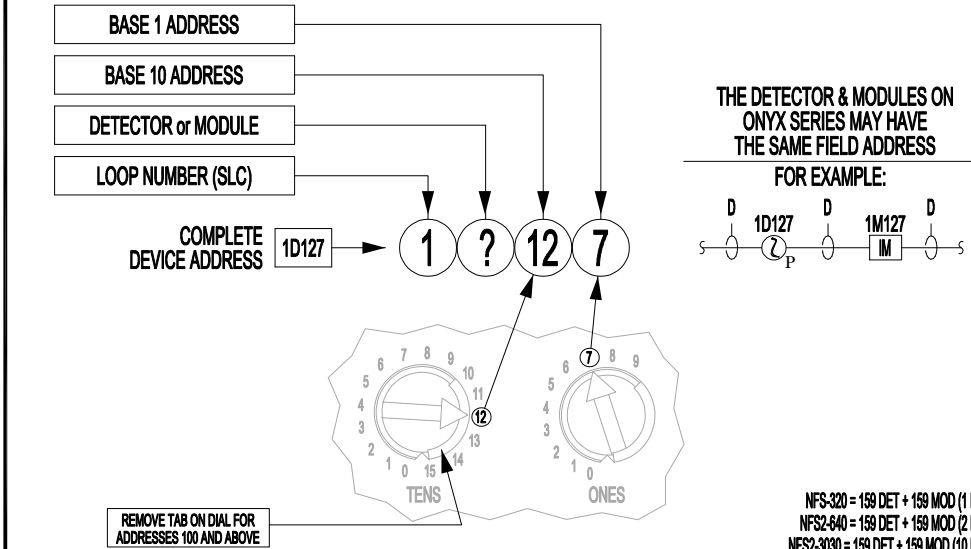
APS Name: APS-1 (EXISTING)		Circuit Identifiers:		Output #1	Output #2	Output #3	Output #4	Output #5	Output #6	Output #7	Aux Power	Total Qty
Location:	ELECTRICAL ROOM	Standby:	Alarm:	NAC Sync	NAC Sync	NAC Sync	NAC Sync	Not Used	Not Used	Not Used		
P.S. Type:	FOPS-24S8	0.0910	0.1450	N1A1	N1A2	N1A3	N1A4	X-X	X-X	X-X	X-X	4
Part #:	Description	0.0000	0.0870	2	2							2
P2WLED (75)	Wall Horn w/ Strobe set at 75cd	0.0000	0.0700	1	1							2
SWLED (75)	Wall Strobe set at 75cd	0.0000	0.0000	3	3							6
Existing Devices on Circuit:												
PC2WL (30)	Ceiling Horn w/ Strobe set at 30cd	0.0000	0.0000	6	6	0	0	0	0	0	0	12
# Devices per Circuit:		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0910
Total Standby Circuit Calculated Amps (3):		0.514	0.514	2.000	2.000	0.000	0.000	0.000	0.000	0.000	0.0000	0.1450
Total Alarm Circuit Calculated Amps (1):		14AWG	14AWG	14AWG	14AWG	14AWG	14AWG	14AWG	14AWG	14AWG	Total	
Wire Gauge Used (avg):		300	300	300	300	0	0	0	0	0	Amps	
Circuit Length (ft):		0.80	0.80	3.12	3.12	0.00	0.00	0.00	0.00	0.00	Required	
Estimated Voltage Drop (dc):		23.20	23.20	20.88	20.88	24.00	24.00	24.00	24.00	24.00	5.028	
Estimated EOL Voltage (dc):		3.3%	3.3%	13.0%	13.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Calculated Voltage Drop %:												

1) Current Draw Measurement based on: UL1971, 16-33V, DC, High db & Temporal Pattern
2) Some Outdoor/WP Devices have the same Measured Current Draw as the Indoor Devices and may not listed separately above.
3) When the APS is configured for "Doors", Output #4 shutdown on loss of AC Power. Therefore no "Standby" Current Draw is shown

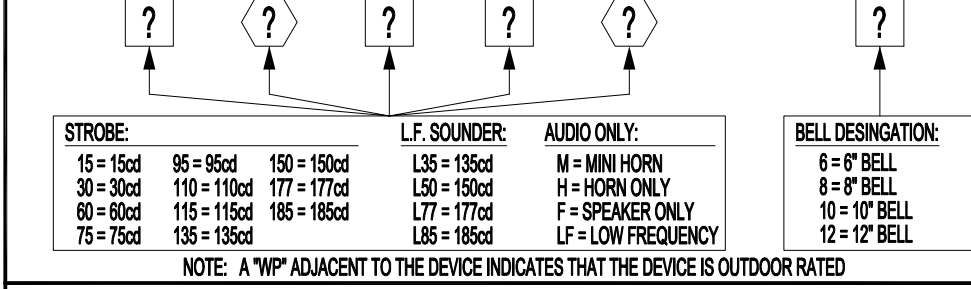
BATTERY LOAD CALC FOR APS-1 (EXISTING):		NAC P.S. Max Rating:	8,000	Total Amps Required:	5.028	% Used:	63%
Hours Standby:	24	Total Standby Current:	0.0910	Total Hours Required for Standby (AH):	2.18		
Minutes Alarm:	5	Total Alarm Current:	5.1730	Total Hours Required for Alarm (AH):	0.43		
Backup Generator?	Unknown	Spare Circuit Capacity:	20%	Minimum Battery Size Needed (AH):	2.62		
Voice Evacuation?	No	Spare Battery Load Factor:	25%	Spare Battery Capacity Required:	0.65		
Military?	No			Actual Battery Size Required (AH):	3.27		
MAXIMUM CHARGER CAPACITY IS: 18AH				Total AH Rated Batteries Supplied =	7.0		

DEVICE DESIGNATION LEGEND:

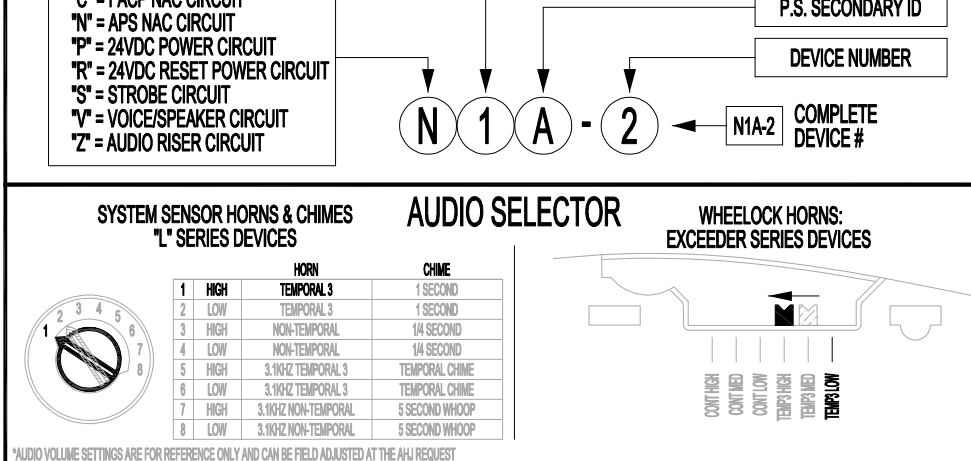
NOTIFIER ONYX SERIES ADDRESSABLE INITIATING DEVICES:



NOTIFICATION APPLIANCES:



NOTIFICATION / VISUAL CIRCUITS:



INSTALLATION & GENERAL WIRING NOTES:

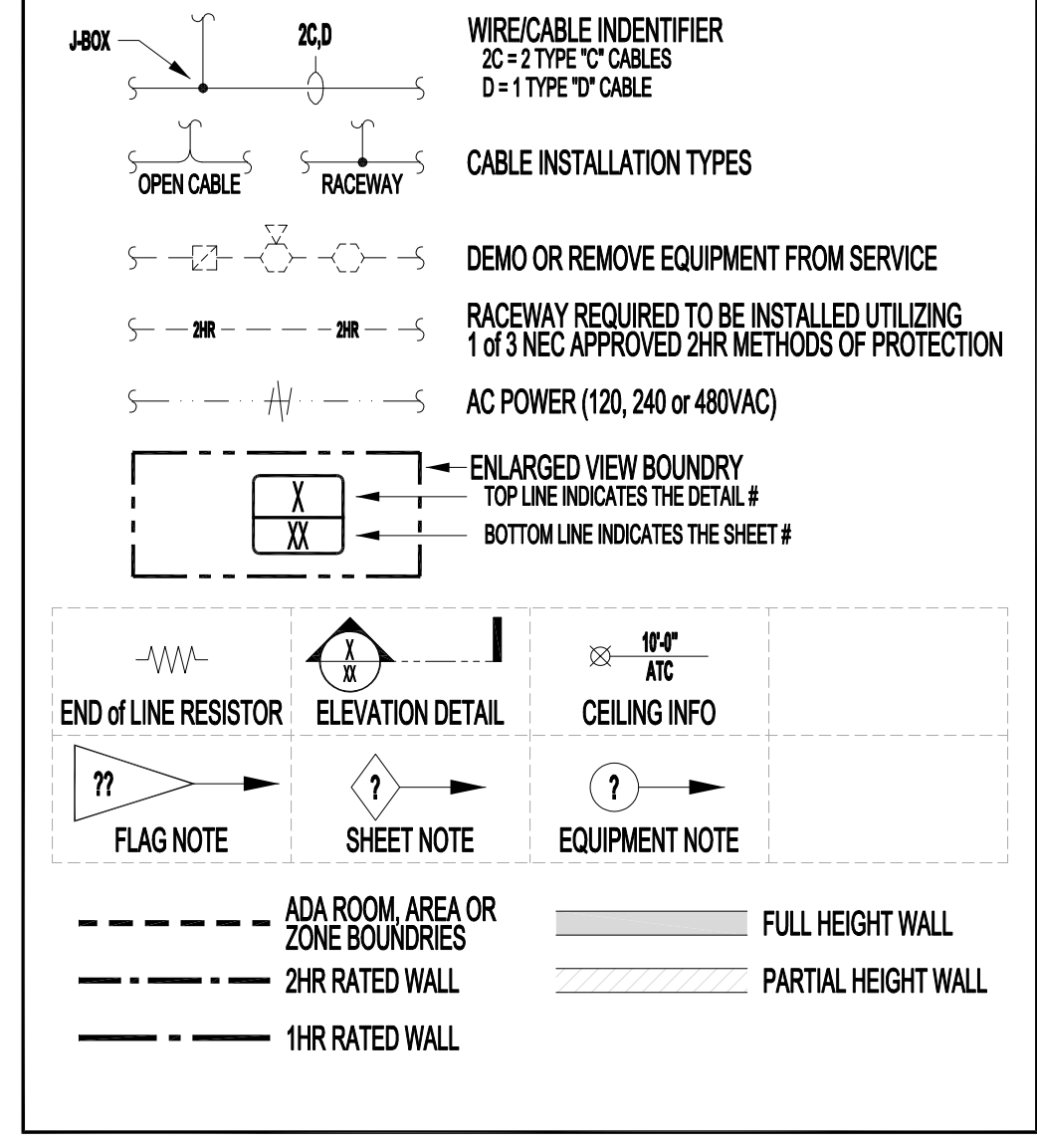
- GENERAL NOTES:
1. INSTALLATION SHALL BE ACCOMPLISHED IN STRICT COMPLIANCE WITH NFPA, LOCAL AND STATE AHJ, NEC AND CONDUIT DRAWINGS
 2. WIRE ROUTING IS DIAGRAMMATIC IN NATURE ONLY AND NOT INTENDED FOR ACTUAL CONDUIT ROUTING.
 - 2.1. WIRING SHOWN GOING "THRU" A DEVICE DOES NOT NEED TO TERMINATE AT THAT DEVICE IF DEVICE IS NOT ON THAT CIRCUIT.
 - 2.1.1. MEANING VOICE, STROBEMAN CIRCUITS DO NOT NEED TO PASS THRU SLC DEVICES & SLC CIRCUITS DO NOT NEED TO PASS THRU NOTIFICATION DEVICES. POWER CIRCUITS ONLY NEED TO GO FROM POWERED DEVICE TO POWERED DEVICE.
 3. ALL CONDUIT SIZING AND ROUTING BY ELECTRICAL CONTRACTOR PER NEC AND AHJ. VERIFY ALL LOCATIONS OF DEVICES WITH ELECTRICAL/ARCHITECTURAL PLANS. SCALE AND PLACE ALL DEVICES PER ELECTRICAL/ARCHITECTURAL PLANS.
 4. ALL CIRCUITS WILL BE PROPERLY TAGGED AND TESTED FOR OPENS, SHORTS, GROUNDS AND PROPER "END-OF-LINE" RESISTANCE. EACH CIRCUITS METER READINGS MUST BE DOCUMENTED AND PRESENTED TO RED HAWK FIRE PROTECTION FIELD TECHNICIAN UPON ARRIVAL, ONSITE FOR STARTUP & CHECKOUT.
 6. AS-BUILTS:
 - 6.1. A SET OF INSTALLATION AS-BUILT DRAWINGS SHOWING ACTUAL CONDUIT AND CONDUCTOR ROUTES SHALL BE KEPT BY PROJECT FOREMAN FOR USE BY RED HAWK FIRE PROTECTION TECHNICIAN.
 - 6.2. AS-BUILT RED LINES NOT PROVIDING THIS INFORMATION WILL BE RETURNED TO THE INSTALLATION CONTRACTOR FOR CORRECTION. RED HAWK FIRE PROTECTION IS NOT RESPONSIBLE FOR THESE DELAYS.
 7. AGREEMENT AND CONFIRMATION OF ALL MILESTONE EVENTS WILL BE MADE WITH RED HAWK FIRE PROTECTION PROJECT MANAGER.
 8. ALL RED HAWK FIRE PROTECTION FIELD SERVICES MUST BE SCHEDULED WITH RED HAWK FIRE PROTECTION PROJECT MANAGER WITH A MINIMUM OF 14 WORKING DAYS ADVANCE NOTICE.
 9. DO NOT INSTALL LINE VOLTAGE IN SAME CONDUIT AS POWER LIMITED CABLES.

- FIRE ALARM SPECIFIC NOTES:
1. SMOKE DETECTORS SHALL NOT BE INSTALLED WITHIN 36" OF ANY AIR DIFFUSER.
 2. 2019 NFPA 72-17.7.12.3 REQUIRES THAT SMOKE DETECTORS SHALL NOT BE INSTALLED UNTIL AFTER FINAL CONSTRUCTION CLEANUP.
 3. ANY SMOKE DETECTORS THAT HAVE BEEN INSTALLED PRIOR TO CLEAN-UP MUST BE CLEANED OR REPLACED AND WILL BE INVOICED ON A TBM BASIS.
 - 3.1. WALL MOUNTED NOTIFICATION DEVICES BACKBOX BETWEEN A MINIMUM OF 80" AFF TO A MAXIMUM OF 96" AFF.
 - 3.2. DEVICES THAT ARE UNABLE TO BE MOUNTED WITHIN THAT RANGE MUST BE VERIFIED BY RED HAWK FIRE PROTECTION PRIOR TO INSTALLATION.
 4. SEE FLOOR PLANS FOR CANDELA RATINGS OF EACH DEVICE INSTALLED.
 - 4.1. ALL MANUAL PULL STATIONS ARE TO BE MOUNTED AT A HEIGHT NO GREATER THAN 48" TO TOP AND NO LOWER THAN 36" TO BOTTOM (PER ADA REQUIREMENTS).
 5. FIELD VERIFY ALL SPRINKLER MONITORING DEVICES WITH FIRE PROTECTION CONTRACTOR.
 6. FIELD VERIFY ALL HVAC, FAN CONTROL, FIRE/SMOKE DAMPERS AND DUCT DETECTORS LOCATIONS WITH MECHANICAL CONTRACTOR.
 7. FACP SHALL NOT BE ENERGIZED WITHOUT THE PRESENCE OF RED HAWK FIRE PROTECTION TECHNICIANS.
 8. NO TAPPING OF SIGNALING OR INITIATING ZONE CIRCUITS ARE ALLOWED. T-TAPPING OF STYLE 4 ADDRESSABLE CIRCUITS IS ALLOWED PROVIDING A SPLICE IS PROFESSIONALLY INSTALLED. POLARITY IS OBSERVED AND SHIELDS ARE CONTINUOUS AND FREE OF GROUNDS. SHIELDS MUST BE TERMINATED AT FACP ONLY. CABLE SHIELDS SHALL BE SPLICED TOGETHER AT EVERY JUNCTION BETWEEN THE FACP AND THE LAST DEVICE ON EACH CABLE RUN. SHIELDS AND OTHER FIRE ALARM CONDUCTORS (EXCEPT POWER GROUNDS) SHALL BE INSULATED AND COMPLETELY FREE FROM CONDUIT OR EARTH GROUNDS. SHIELDS WILL BE TIES TO GROUND ONLY AT THE FACP BY THE RED HAWK FIRE PROTECTION FIELD TECHNICIAN.
 9. THE SYSTEM SHALL BE MONITORED BY A U.L. LISTED MONITORING STATION BEFORE AHJ TEST.
 10. AS-BUILTS ARE REQUIRED AT TIME OF AHJ ACCEPTANCE. RED HAWK FIRE PROTECTION REQUIRED ELECTRICAL RED LINES WITHIN 2 WEEKS PRIOR TO AHJ TESTS.
 - 10.1. EACH CIRCUIT (SLC, NAC OR POWER) MUST BE CLEARLY IDENTIFIED WITH A DISTINCT COLOR.
 - 10.2. EACH NAC CIRCUIT MUST BE CLEARLY MARKED AS TO WHICH DEVICES ARE ON EACH CIRCUIT AND IN THE ORDER THE DEVICES ARE WIRED TO COMPLETE THE CIRCUIT.

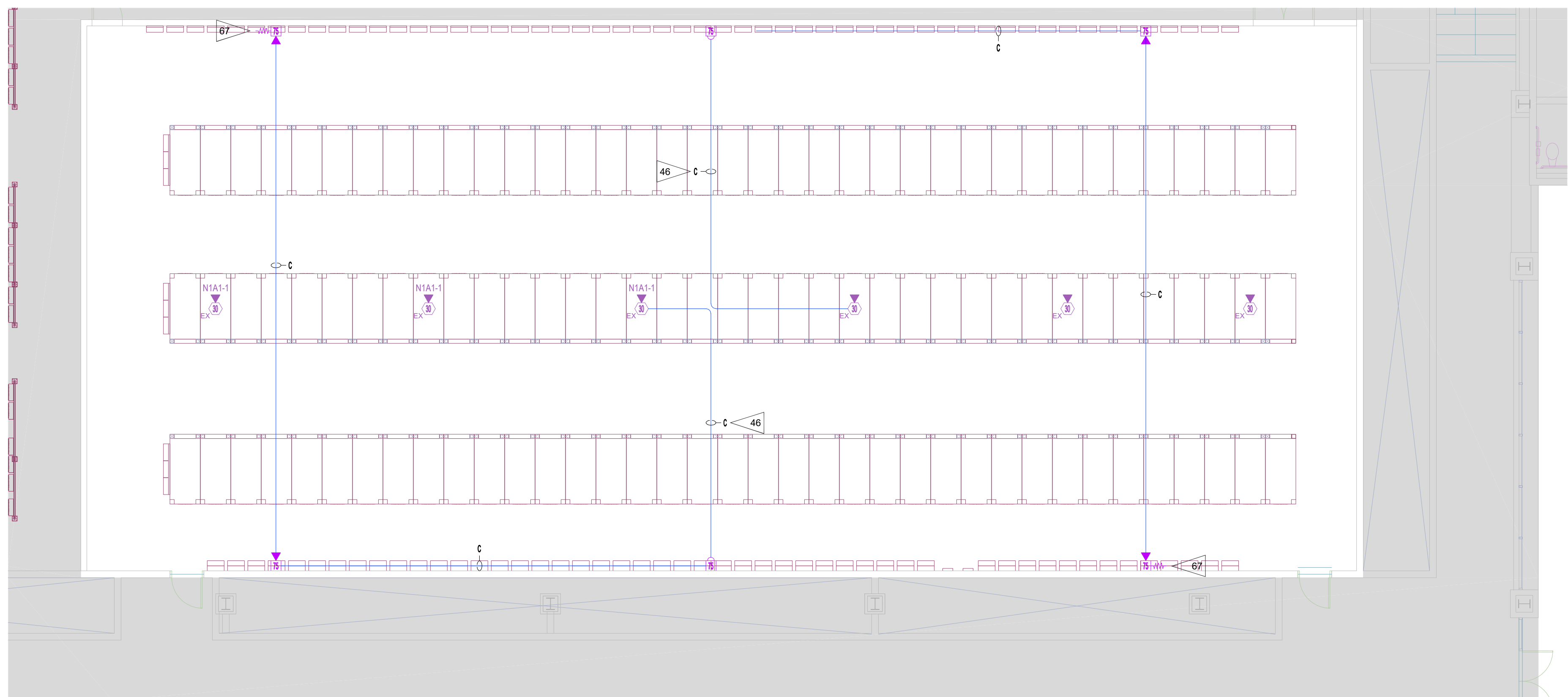
SCOPE OF WORK & DESIGN BASIS

- LEVEL 2
- NEW DEVICES ADDED TO EXISTING CIRCUIT TO ENSURE TOTAL COVERAGE AFTER FLOOR PLAN CHANGE. EXISTING NOTIFIER FOPS24-S8 TO BE UTILIZED. NEW DEVICES ADDED TO EXISTING END OF CIRCUIT(S). EOL(S) TO BE RELOCATED TO NEW END OF CIRCUIT(S). EXISTING SEQUENCE OF OPERATIONS TO REMAIN IN PLACE AND UNCHANGED. AREAS OF WORK SHOWN IN THESE DRAWINGS ARE ONLY AREAS WITHIN RED HAWK FIRE PROTECTION'S SCOPE.

SYMBOL & WIRE STYLE IDENTIFICATION



VICINITY MAP:



1 LEVEL 2 FIRE ALARM LAYOUT

SCALE: 1/8" = 1'-0"



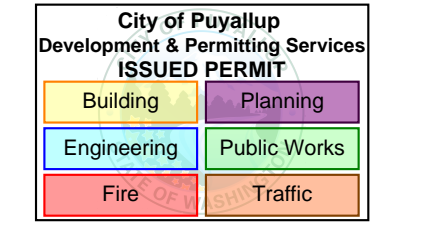
SCALE: 1/8" = 1'-0"
8 6 4 2 0



NICET Stamp



Approvals Required



Revisions

ISSUE	DATE	BY	DESCRIPTION
1	04/17/2025	SDF	PERMIT SUBMITTAL SET

Contract With

BURKE ELECTRIC

12605 44TH PL S
TUKWILA, WA 98178

Contract Name

CENTERIS DATA CENTER

1023 39TH AVE SE
PUYALLUP, WA 98374

FIRE ALARM SYSTEM ADDITION

Sheet Title

PROJECT INFO,
CALCULATIONS &
FAS LAYOUT

Key Plan

Date: 04/17/2025
Job Number: 390070
Designer: SEAN D. FOODOR
Building Permit: -

Sheet Number

FA-1.00
SHEET 1 OF 1