

PIERCE COLLEGE

S.T.E.M. BUILDING

1601 39TH AVENUE SE PUYALLUP, WA 98374

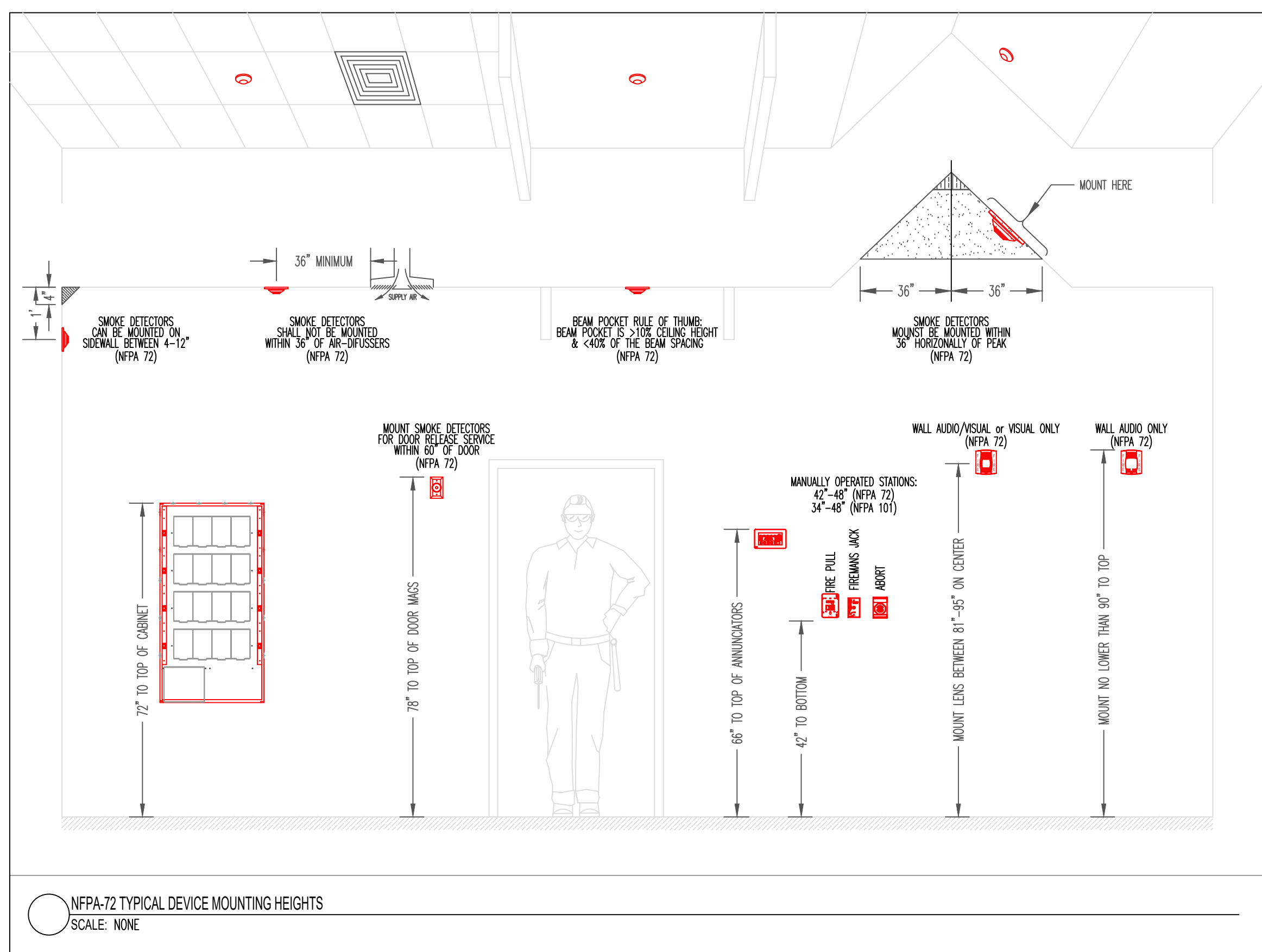
FIRE ALARM SYSTEM

SYMBOL	LEGEND	DESCRIPTION	MOUNTING REQUIREMENTS	SUPPLIER	PART NUMBER
[FACU]	1	INTELLIGENT FIRE ALARM SYSTEM CONTROL PANEL	388w ENCLOSURE MOUNTED AT 72" TO TOP	NOTIFIER	NFS-3030
[EVA]	1	REMOTE VOICE EVACUATION PANEL 2x5W AMPLIFIERS & CIRCUITS 110VAC 2.0A	PART INCLUDES ENCLOSURE. MOUNT AT 72" TO TOP	NOTIFIER	NFC-100 w NFC026
[MIC]	1	VOICE EVACUATION REMOTE MICROPHONE	PART INCLUDES ENCLOSURE. MOUNT AT 72" TO TOP	NOTIFIER	NFC-RM
[FAA]	1	REMOTE ANNUNCIATOR - 160 CHARACTER	ASB-208 ENCLOSURE AT 60" TO TOP	NOTIFIER	LCD-160
[D]	318	INTELLIGENT PHOTO SMOKE DETECTOR	4 SQUARE DEEP w 3" ROUND RING	NOTIFIER	FSP461 w B300-6
[H]	10	INTELLIGENT HEAT DETECTOR: 130° (FIXED TEMP)	4 SQUARE DEEP w 3" ROUND RING	NOTIFIER	FST461 wB300-4
[H]	7	INTELLIGENT HEAT DETECTOR: 160° (FIXED TEMP)	4 SQUARE DEEP w 3" ROUND RING	NOTIFIER	FST461H wB300-6
[D]	31	INTELLIGENT DUCT PHOTO SMOKE DETECTOR	SURFACE MOUNT (DO NOT REIFY INFORMATION) MOUNT RTS AT 12" BELOW CEILING ON WALL	NOTIFIER	DNR wFSP461R
[M]	1	INTELLIGENT MANUAL PULL STATION	4 SQUARE DEEP w 1 GANG RING. MOUNTED AT 48" TO TOP	NOTIFIER	NBS-102-X
[M]	1	INTELLIGENT MONITOR MODULE	4 SQUARE DEEP	NOTIFIER	PM41
[M]	16	INTELLIGENT MONITOR MODULE DUAL CIRCUIT	4 SQUARE DEEP	NOTIFIER	PM41
[M]	4	INTELLIGENT OUTPUT CONTROL MODULE	4 SQUARE DEEP	NOTIFIER	FCM1
[M]	21	INTELLIGENT RELAY MODULE	4 SQUARE DEEP	NOTIFIER	PM41
[M]	2	S/LC ISOLATION MODULE	4 SQUARE DEEP	NOTIFIER	ISO-X
[R]	4	DRY-CONTACT REMOTE SLAVE RELAY (SPDT)	PART INCLUDES BACKBOX. SURFACE MOUNT	FUNCTIONAL DEVICES, INC	RIB01BDC
[S]	2	24VDC SURGE SUPPRESSOR: 4PR, 14-30VDC, 19-22AWG	4 SQUARE DEEP	DTEK	DTK-4L1PLV1
[NAC]	3	REMOTE NAC POWER SUPPLY w ONBOARD FCM1 8.0A, 7-3 NA NAC & 1-0.5A AUX POWER	PART INCLUDES BACKBOX. SURFACE MOUNT	NOTIFIER	HFP-PS10B w FCM1
[S]	9	CEILING SPEAKER: WHITE	4 SQUARE DEEP w EXT RING. MOUNTED AT 80" TO BOTTOM	SYSTEM SENSOR	SPCWL
[S]	87	CEILING SPEAKER w STROBE: WHITE SEE DEVICE DESIGNATION FOR STROBE SETTING	4 SQUARE DEEP w EXT RING. CENTER ON CEILING TILE	SYSTEM SENSOR	SPCWL
[S]	30	CEILING STROBE: WHITE SEE DEVICE DESIGNATION FOR STROBE SETTING	4 SQUARE DEEP w EXT RING. CENTER ON CEILING TILE	SYSTEM SENSOR	SPCWL
[S]	1	WALL SPEAKER: SQUARE: WHITE	4 SQUARE DEEP w EXT RING. MOUNTED AT 80" AFF TO TOP	SYSTEM SENSOR	SPWL
[S]	10	WALL SPEAKER w STROBE: WHITE SEE DEVICE DESIGNATION FOR STROBE SETTING	4 SQUARE DEEP w EXT RING. MOUNTED AT 80" TO BOTTOM	SYSTEM SENSOR	SPSWL
[S]	2	WALL SPEAKER w STROBE: WHITE: WEATHERPROOF SEE DEVICE DESIGNATION FOR STROBE SETTING	PART INCLUDES WP BACKBOX. MOUNT AT 80" TO BOTTOM	SYSTEM SENSOR	SPSWK
[S]	1	SPRINKLER WATERFLOW BELL 1/2" BELL, RED, 24VDC	WPBB BACK BOX SURFACE MOUNT AT NO HIGHER THAN 120" ABOVE GRADE	SYSTEM SENSOR	SBM44-10

- NOTES:
- 1- DEVICE SUBSCRIPT: RR-REMOVE & RELOCATE EX-EXISTING TO REMAIN AC-ABOVE CEILING RB-RELAY BASE WP-WATERPROOF WG-WIRE GUARD
 - 2- CABLING SHOWN IS FOR CIRCUIT REFERENCE ONLY AND DOES NOT INTEND 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- SET HORN/STROBE DOUBLE SETTING TO LOW FROM FACTORY SETTINGS OF HIGH, UNLESS OTHERWISE NOTED ON THE DRAWINGS.
 - 5- ALL DEVICES WITH A WP SUBSCRIPT WILL REQUIRE THE USE OF AN OUTDOOR WP BACKBOX.

FLAGNOTES

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1	MOUNT DETECTOR TO THE DECK, DIRECTLY ABOVE THE DETECTOR AT THE CEILING CLOUD LEVEL.
3	MOUNT DETECTOR TO THE DECK OR WALL. MOUNT TO THE STRUCTURE (TOP OF THE DETECTOR HEAD MAXIMUM OF 12") FROM THE DECK.
4	WALL-MOUNT DETECTOR IN THE SKYLIGHT.
5	MOUNT DETECTOR UNDER STAIR LANDING.
6	WALL-MOUNT DETECTOR TO THE STRUCTURE (TOP OF THE DETECTOR HEAD MAXIMUM OF 12") FROM THE DECK, ABOVE CEILING BAFFLES.
7	ROUTE 120VAC SWITCH LEG OF DAMPER CIRCUIT FOR DAMPER SHUTDOWN (ON ALARM) THROUGH RIB01BDC. LOCATE WITHIN 3' OF ELECTRICAL PANEL PROVIDING 120VAC FOR DAMPER CIRCUIT.
8	ROUTE 120VAC SHUNT-TRIP POWER THROUGH RIB01BDC CONTACTS FOR ELEVATOR POWER SHUTDOWN & DISCONNECT.
9	MOUNT DETECTOR ON STRUCTURE IN VERTICAL SHAFT. PROVIDE ACCESS HATCH.
10	MOUNT DETECTOR ON STRUCTURE ABOVE ACCESS HATCH.



SCOPE OF WORK & DESIGN BASIS

- NEW FIRE ALARM SYSTEM WITH VOICE EVACUATION, FULL COVERAGE SMOKE DETECTION, MONITORING HVAC, SPRINKLER SYSTEM, ERRCS, GENERATOR.
- IN OPEN AREAS FIRST AND SECOND FLOORS SMOKE DETECTOR AND NOTIFICATION DEVICES ARE TO BE WALL MOUNTED PER ARCHITECT.

DESIGN CRITERIA APPLIED CODES AND STANDARDS:

NFPA 72 2019 EDITION
IBC 2018 EDITION WITH WASHINGTON AMENDMENTS
NFPA 70 (NEC) 2017 EDITION
PUYALLUP MUNICIPAL CODE

DOCUMENTS RECEIVED BYADT:

Ingrinus ARCHITECTURE
SHEETS: ARCH ELECTRICAL DRAWING SETS
DATE: 08/31/2022

USE AND OCCUPANCY CLASSIFICATION (SECTIONS 302, 303, 304 & 311) GROUP "B" BUSINESS (HIGHER EDUCATION FACILITIES, OFFICES, ALL OTHER AREAS EXCEPT AS NOTED BELOW) GROUP "A-3" ASSEMBLY (LECTURE HALL) GROUP "S-1" STORAGE

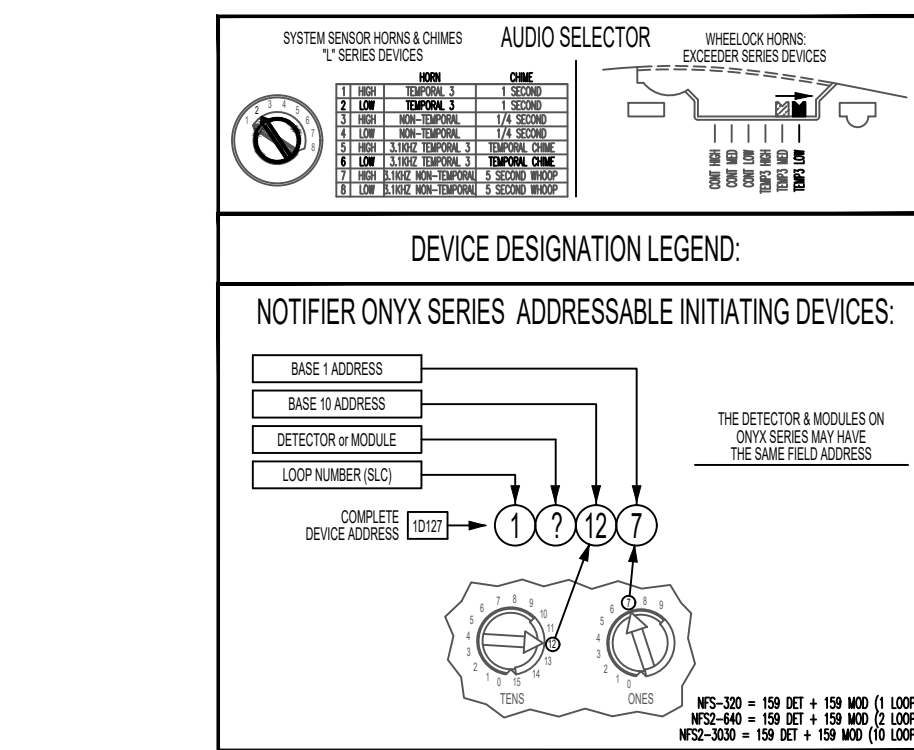
INSTALLATION & GENERAL WIRING NOTES:

GENERAL NOTES:

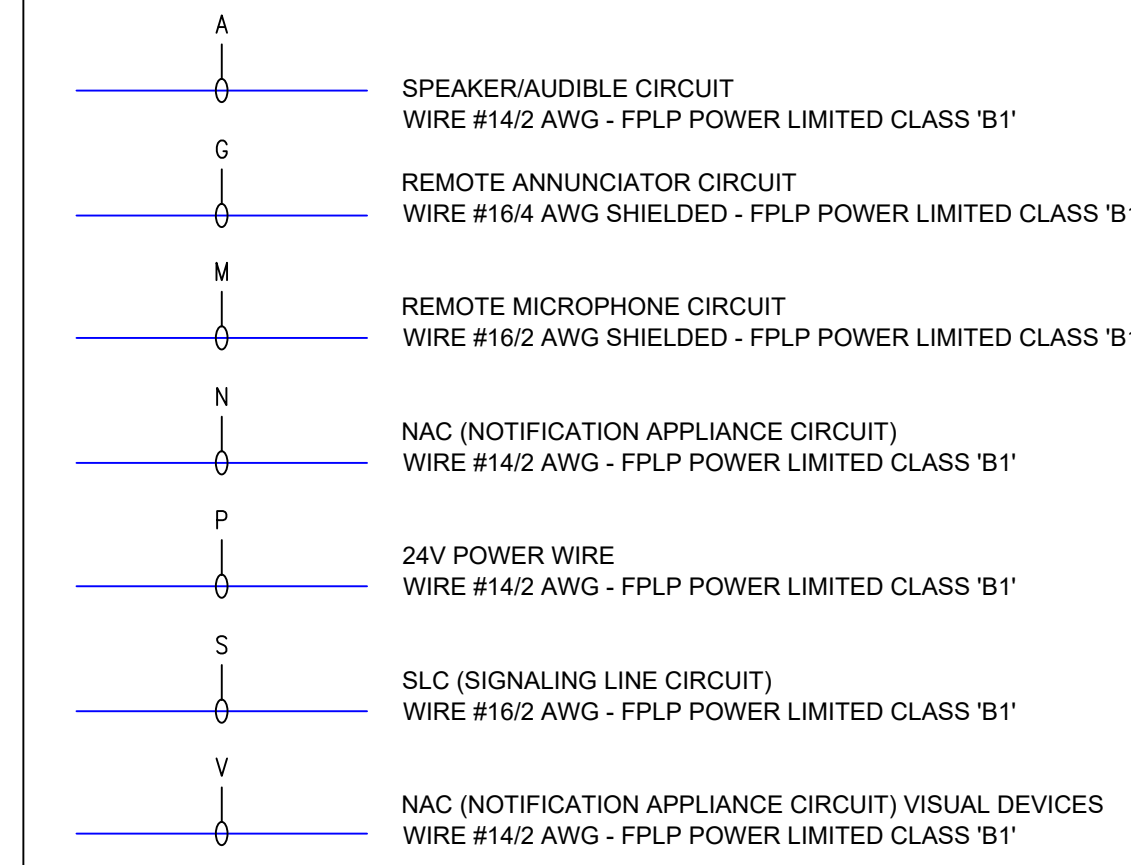
1. INSTALLATION SHALL BE ACCOMPLISHED IN STRICT COMPLIANCE WITH NFPA LOCAL AND STATE AHJ, NEC AND CONTRACT DRAWINGS.
2. WIRE ROUTING IS DIAGRAMMATIC IN NATURE ONLY AND NOT INTENDED FOR ACTUAL CONDUIT ROUTING.
3. ALL CONDUIT SIZING AND ROUTING BY ELECTRICAL CONTRACTOR PER NEC AND AHJ.
4. VERIFY ALL LOCATIONS OF DEVICES WITH ELECTRICAL/ARCHITECTURAL PLANS. SCALE AND PLACE ALL DEVICES PER ELECTRICAL/ARCHITECTURAL PLANS.
5. ALL CIRCUITS WILL BE PROPERLY TAGGED AND TESTED FOR OPENS, SHORTS, GROUNDING AND PROPER "END-OF-LINE" RESISTANCE. EACH CIRCUIT'S METER READING MUST BE DOCUMENTED AND PRESENTED TO ADT COMMERCIAL/EVERON FIELD TECHNICIAN UPON ARRIVAL ON SITE FOR STARTUP & CHECKOUT.
6. AS-BUILTS:
 - 6.1. A SET OF INSTALLATION AS-BUILT DRAWINGS SHOWING ACTUAL CIRCUIT ROUTES SHALL BE KEPT BY PROJECT FOREMAN FOR USE BY ADT COMMERCIAL/EVERON FIELD TECHNICIAN.
 - 6.2. AS-BUILTS SHALL BE KEPT ORDERLY AND BE CLEARLY MARKED WITH DIFFERENT COLOR PENS FOR EACH CIRCUIT AND/OR CIRCUIT TYPE. AS-BUILTS MUST INDICATE CHANGES TO THE FINAL DEVICE INSTALLED LOCATIONS IF NOT INSTALLED AT LOCATION SHOWN ON DESIGN DOCUMENTS.
 - 6.3. AS-BUILT REVISIONS NOT PROVIDING THIS INFORMATION WILL BE RETURNED TO THE INSTALLATION CONTRACTOR FOR CORRECTION. ADT COMMERCIAL/EVERON IS NOT RESPONSIBLE FOR THESE DELAYS.
7. AGREEMENT AND CONFIRMATION OF ALL MILESTONE EVENTS WILL BE MADE WITH ADT COMMERCIAL/EVERON PROJECT MANAGER.
8. ALL ADT COMMERCIAL/EVERON FIELD SERVICES MUST BE SCHEDULED WITH ADT COMMERCIAL/EVERON 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 30" OF ANY AIR DIFFUSER.
2. 2019 NFPA 72 5.7.1.1.11 REQUIRES THAT SMOKE DETECTORS SHALL NOT BE INSTALLED UNTIL AFTER FINAL CONSTRUCTION CLEAN-UP.
3. ANY SMOKE DETECTORS THAT HAVE BEEN INSTALLED PRIOR TO CLEAN-UP MUST BE CLEANED OR REPLACED AND WILL BE INVOICED ON A TAB BASIS.
4. WALL MOUNTED NOTIFICATION DEVICES BACKBOX BETWEEN A MINIMUM OF 8" AFF TO A MAXIMUM OF 80" AFF.
5. DEVICES THAT ARE UNABLE TO BE MOUNTED WITHIN THAT RANGE MUST BE VERIFIED BY ADT COMMERCIAL/EVERON PRIOR TO INSTALLATION.
6. SEE FLOOR PLANS FOR CANDLELAMP RATING OF EACH DEVICE INSTALLED.
7. ALL MANUAL PULL STATIONS ARE TO BE MOUNTED AT A HEIGHT BETWEEN 42"-48" AFF (PER ADA REQUIREMENTS).
8. FIELD VERIFY ALL SPRINKLER MONITORING DEVICES WITH FIRE PROTECTION CONTRACTOR.
9. FIELD VERIFY ALL HVAC, FAN CONTROL, FIRE/SMOKE DAMPERS AND DUCT DETECTORS LOCATIONS WITH MECHANICAL CONTRACTOR.
10. FACU SHALL NOT BE ENERGIZED WITHOUT THE PRESENCE OF ADT COMMERCIAL/EVERON TECHNICIANS.
11. NO TAPPING OF SIGNALING OR INITIATING ZONE CIRCUITS ARE ALLOWED. TAPPING OF STYLE 4 ADDRESSABLE CIRCUITS IS ALLOWED PROVIDED A SPICE IS PROFESSIONALLY INSTALLED. POLARITY IS OBSERVED AND SHIELDS ARE CONTINUOUSLY AND FREE OF GROUNDS. SHIELDS MUST BE TERMINATED AT FACU ONLY.
12. CABLE SHIELDS SHALL BE SPICED TOGETHER AT EVERY JUNCTION BETWEEN THE FACU 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 FACU BY THE ADT COMMERCIAL/EVERON FIELD TECHNICIAN.
13. THE SYSTEM SHALL BE MONITORED BY A UL LISTED MONITORING STATION BEFORE AHJ TEST.
14. AS-BUILTS ARE REQUIRED AT TIME OF AHJ ACCEPTANCE. ADT COMMERCIAL/EVERON REQUIRED ELECTRICAL RED LINES WITHIN 2 WEEKS PRIOR TO AHJ TESTS.
15. EACH CIRCUIT (S/LC, NAC OR POWER) MUST BE CLEARLY IDENTIFIED WITH A DISTINCT COLOR.
16. EACH NAC/SPEAKER 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.

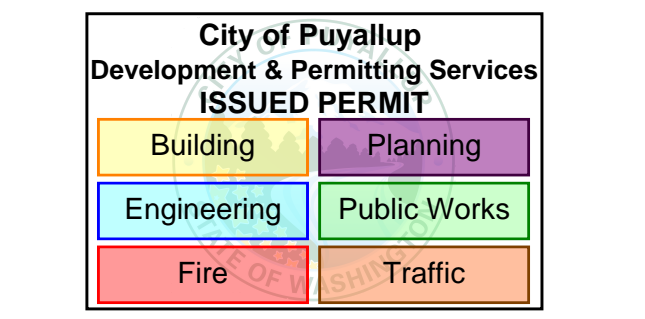
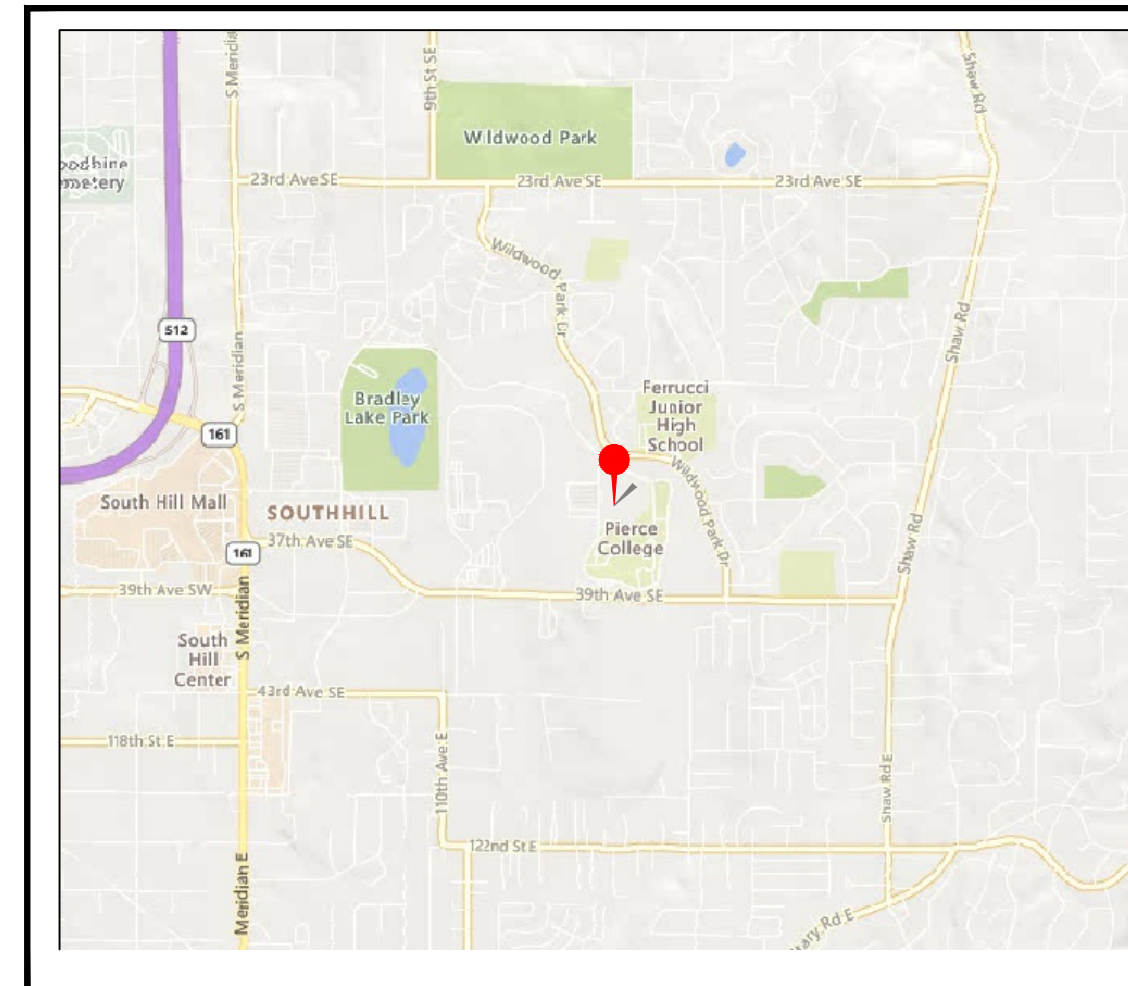


CIRCUIT WIRING LEGEND



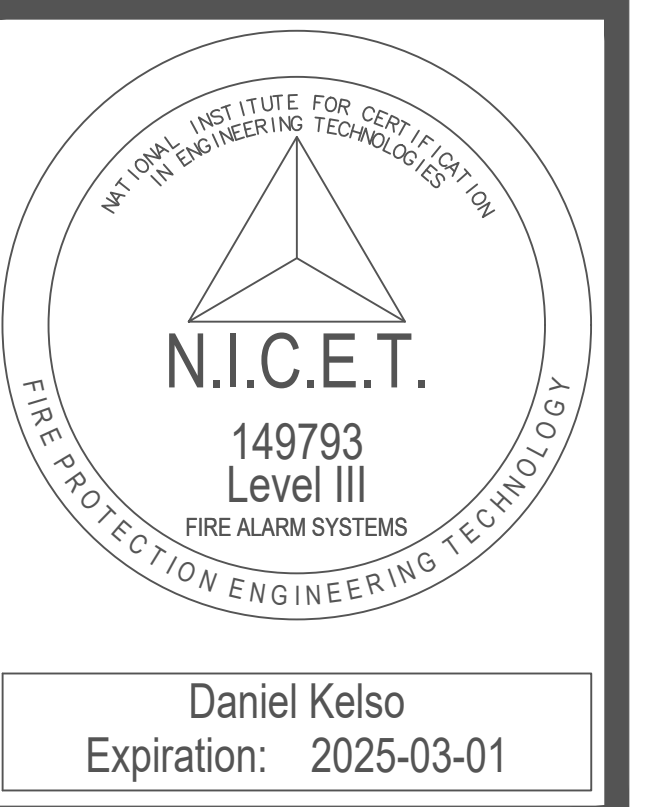
PROJECT CONTACT INFORMATION:

CUSTOMER: Valley Electric
ADDRESS: 1100 Merrill Creek PRVY
Everett, WA 98203
CONTACT: Joe Tremblay
PHONE: 206.743.5989
FAX:
EMAIL: joet@velectric.com



600 Oakesdale Ave. SW
Suite 100
Renton, WA 98057

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REVISIONS

NO.	DATE	REVISION
1	07/2024 BYDK	REDESIGN FOR RESUBMISSION
2	BY: -	-
3	BY: -	-
4	BY: -	-

CODES ADOPTED BY LOCAL AHJ

2019 NFPA 72 NATIONAL FIRE ALARM CODE
2018 INTERNATIONAL BUILDING CODE
2017 NFPA 70 NATIONAL ELECTRICAL CODE

PIERCE COLLEGE - S.T.E.M. BLDG.
1601 39TH AVE SE PUYALLUP, WA 98374

FIRE ALARM SYSTEM

BUILDING INFORMATION
GROUPS: B, A-3, S-1
TYPE II-B, FULLY SPRINKLERED
TOTAL BLDG AREA: 53,997 SQFT.

SHEET NO.	DESCRIPTION
FA-0-1	COVER SHEET
FA-0-2	PROJECT NOTES
FA-1-0	0 FLOOR PLAN
FA-1-1	1ST FLOOR PLAN
FA-1-2	2ND FLOOR PLAN
FA-1-3	3RD FLOOR PLAN
FA-1-R	ROOFTOP PLAN
FA-2-1	FIRE ALARM RISER
FA-2-2	FIRE ALARM RISER (CONT.)
FA-5-1	CALCULATIONS

PROJECT MANAGER:

dougmorgan@everonsolutions.com

PREPARED BY: DK

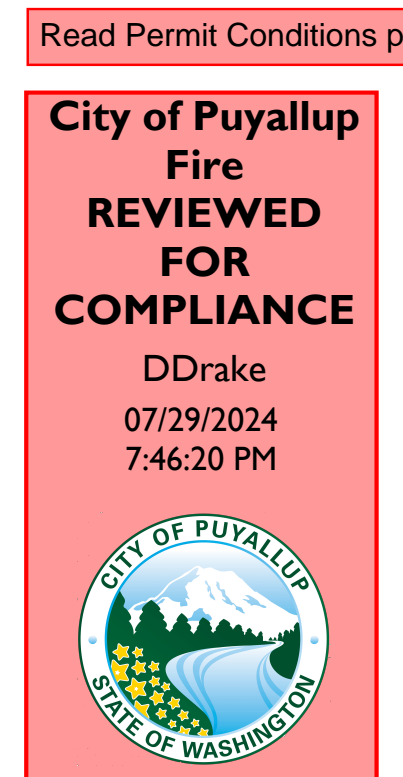
CHECKED BY: JP

DATE: 07/20/2024

PROJECT NO: 281716084

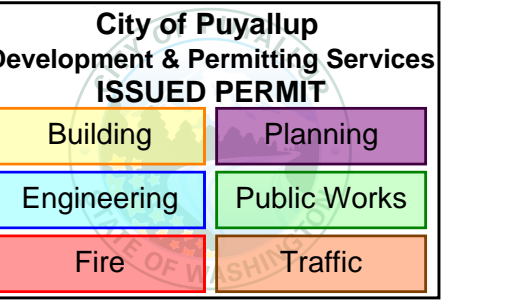
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SHEET: FA-0-1



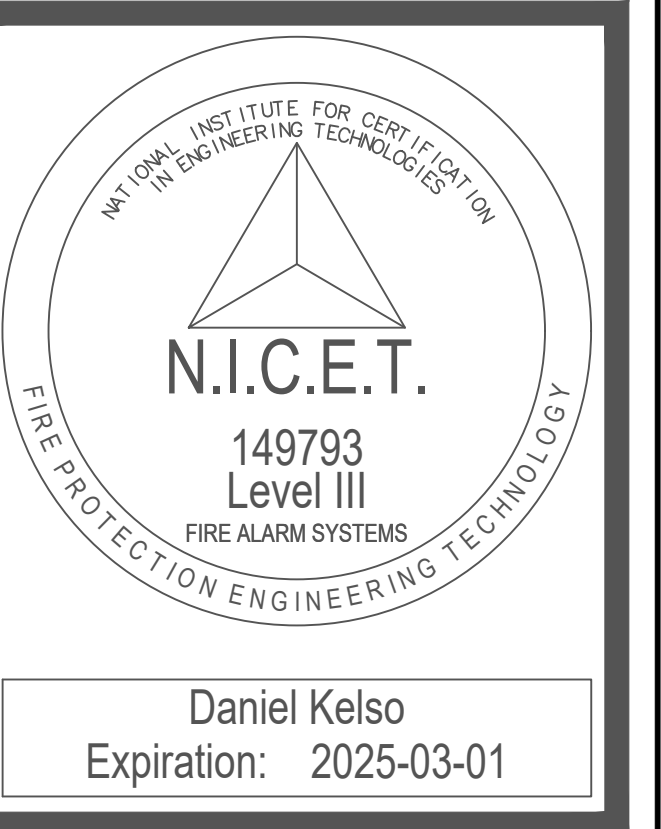
THE APPROVED CONSTRUCTION PLANS AND ALL ENGINEERING MUST BE POSTED ON THE JOB AT ALL INSPECTIONS IN A VISIBLE AND READILY ACCESSIBLE LOCATION.

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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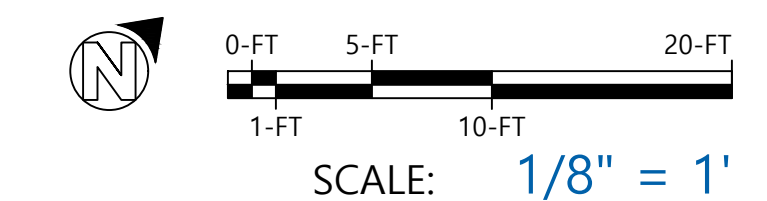
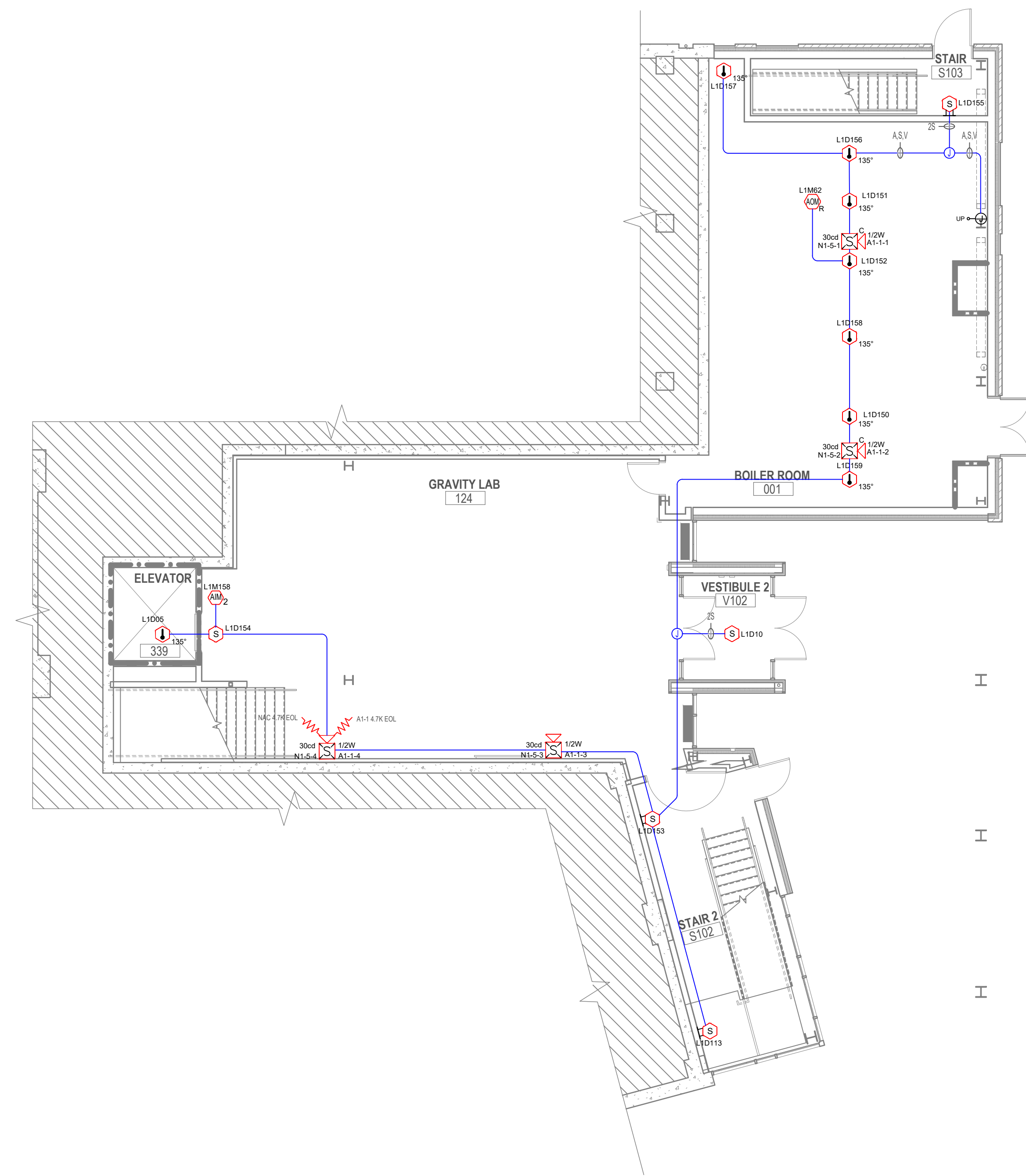
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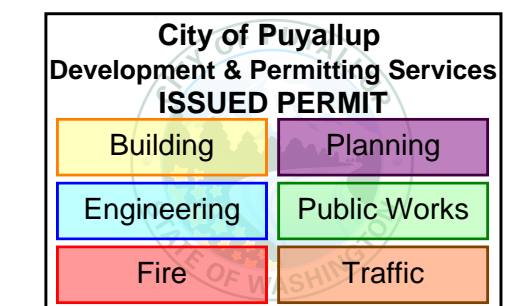
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TITLE:

0 FLOOR PLAN

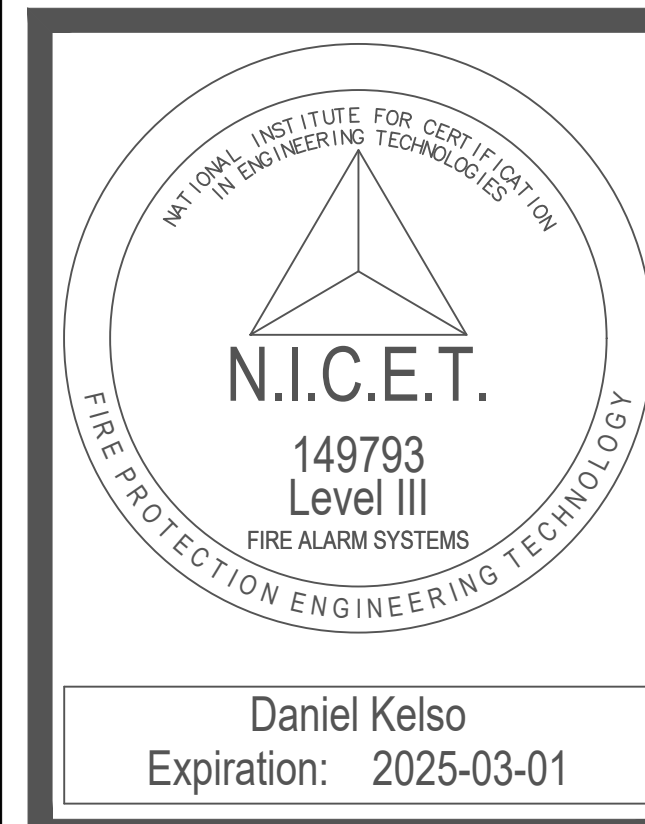
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dougmorgan@everonsolutions.com

PREPARED BY: **DK**

CHECKED BY: **JP**

DATE: **07/20-2024**

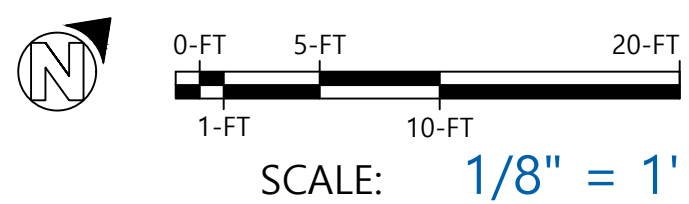
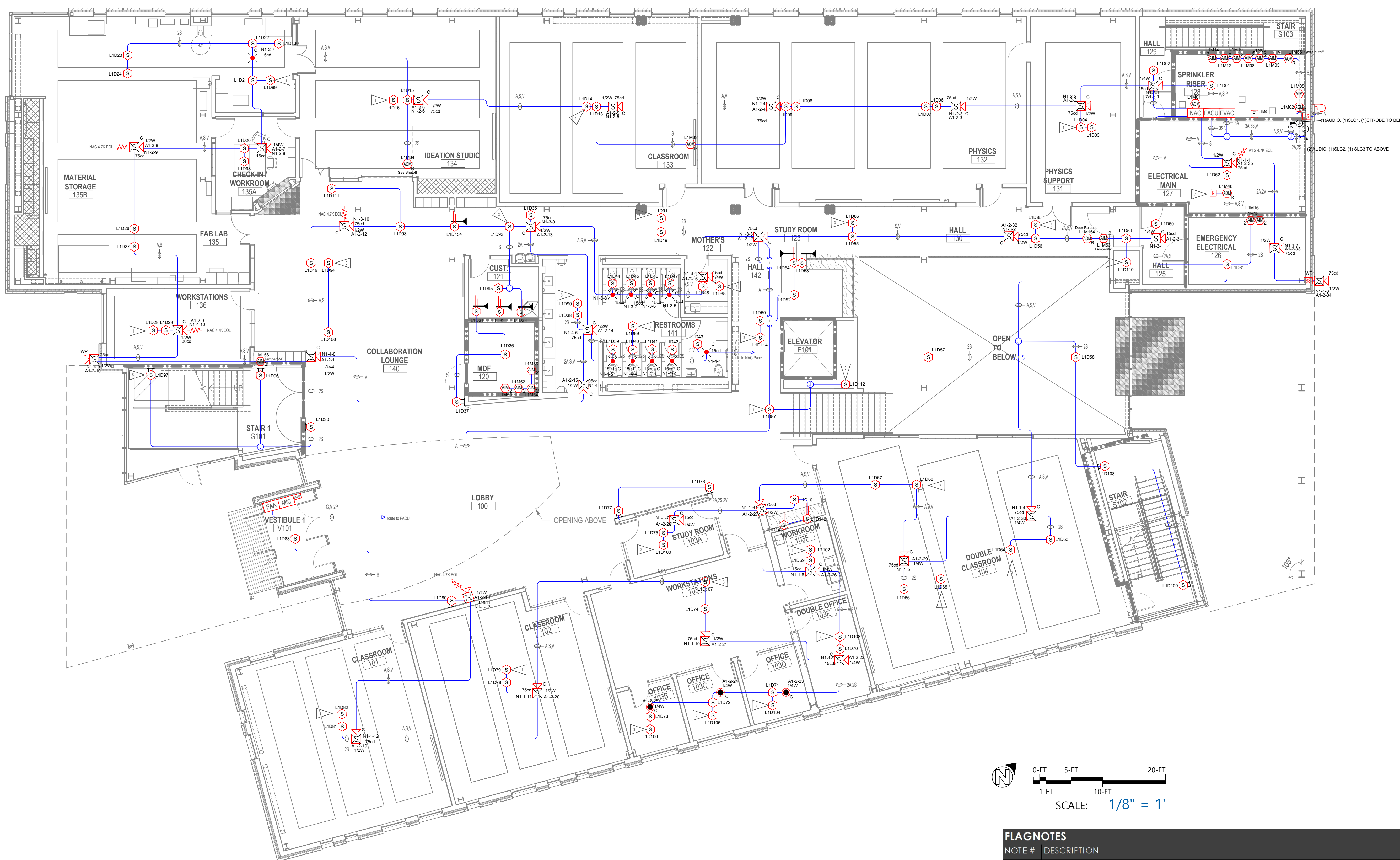
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TITLE:

1ST FLOOR PLAN

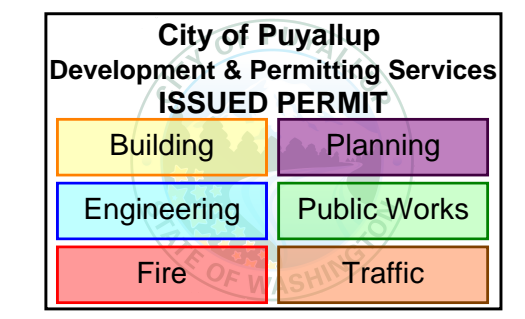
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FA-1-1

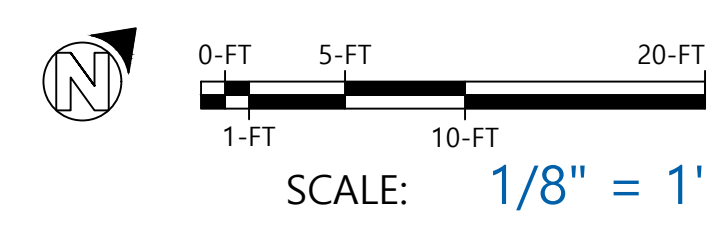
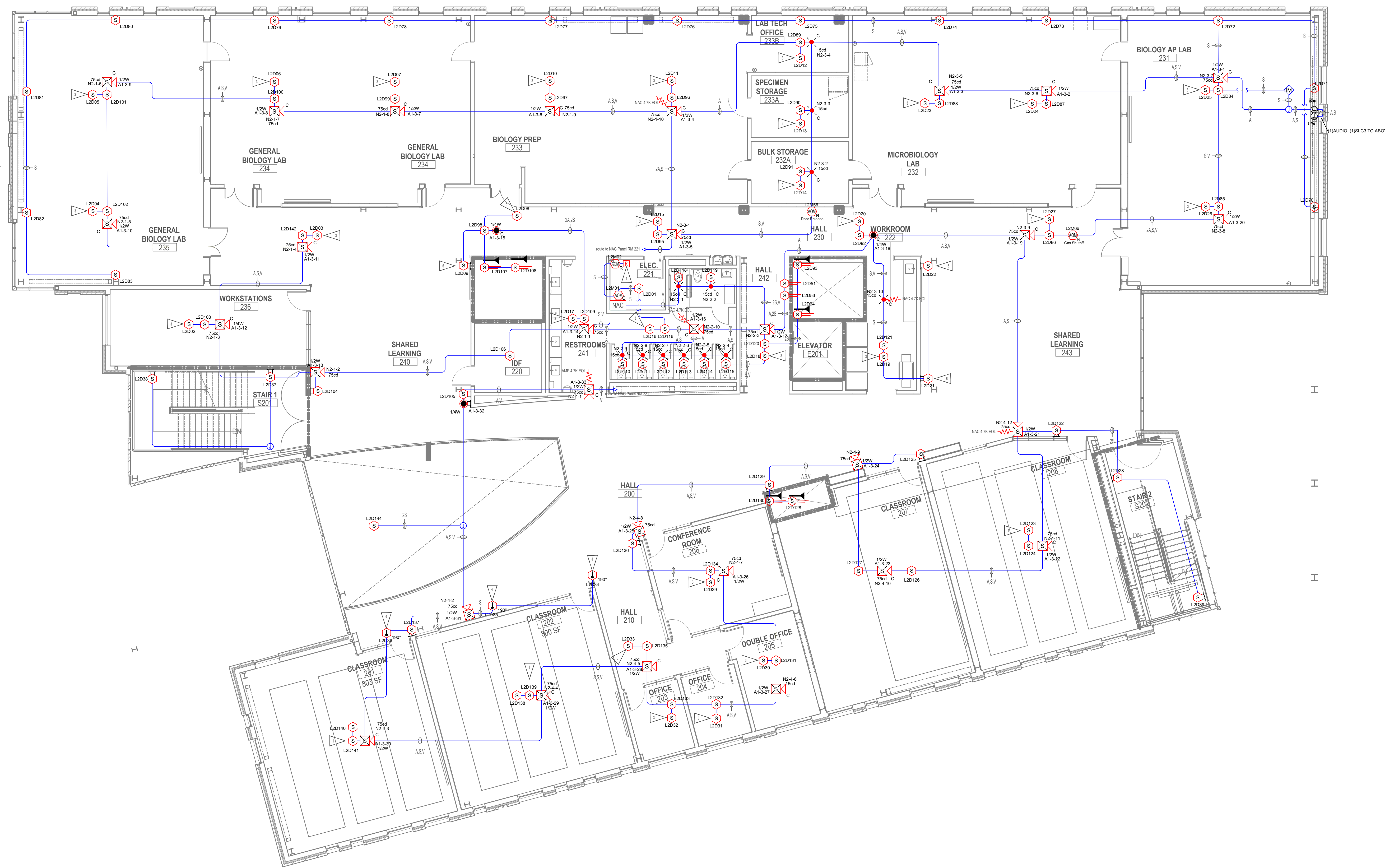
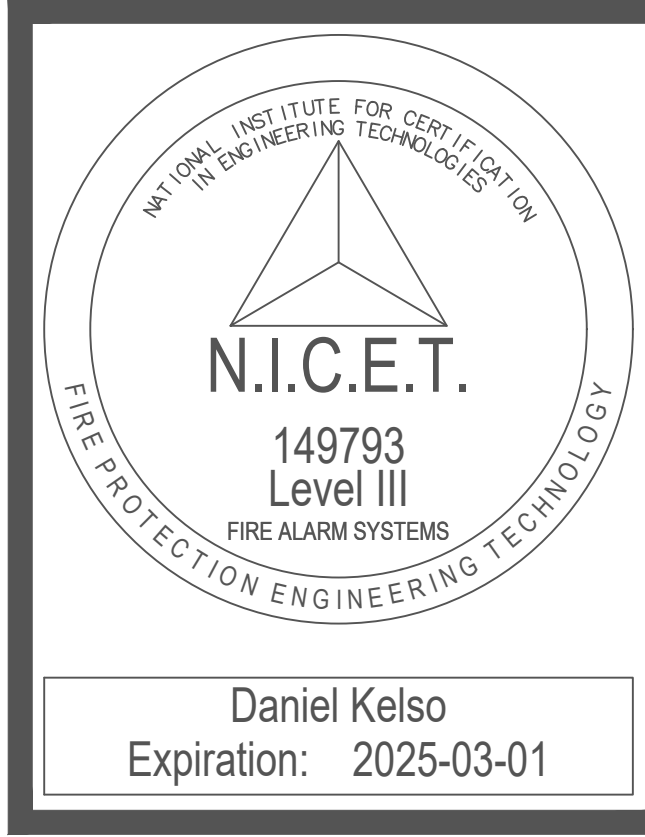


FLAGNOTES

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3	MOUNT DETECTOR TO THE DECK OR WALL-MOUNT TO THE STRUCTURE (TOP OF THE DETECTOR HEAD MAXIMUM OF 12") FROM THE DECK.
4	WALL-MOUNT DETECTOR IN THE SKYLIGHT.
5	MOUNT DETECTOR UNDER STAIR LANDING.
6	WALL-MOUNT DETECTOR TO THE STRUCTURE (TOP OF THE DETECTOR HEAD MAXIMUM OF 12") FROM THE DECK, ABOVE CEILING BAFFLES.
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8	ROUTE 120VAC SHUNT-TRIP POWER THROUGH RIB01BDC CONTACTS FOR ELEVATOR POWER SHUTDOWN & DISCONNECT.
9	MOUNT DETECTOR ON STRUCTURE IN VERTICAL SHAFT. PROVIDE ACCESS HATCH.
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dougmorgan@everonsolutions.com

PREPARED BY: **DK**

CHECKED BY: **JP**

DATE: **07/20-2024**

PROJECT NO: **281716084**

TITLE:

2ND FLOOR PLAN

SHEET:
FA-1-2

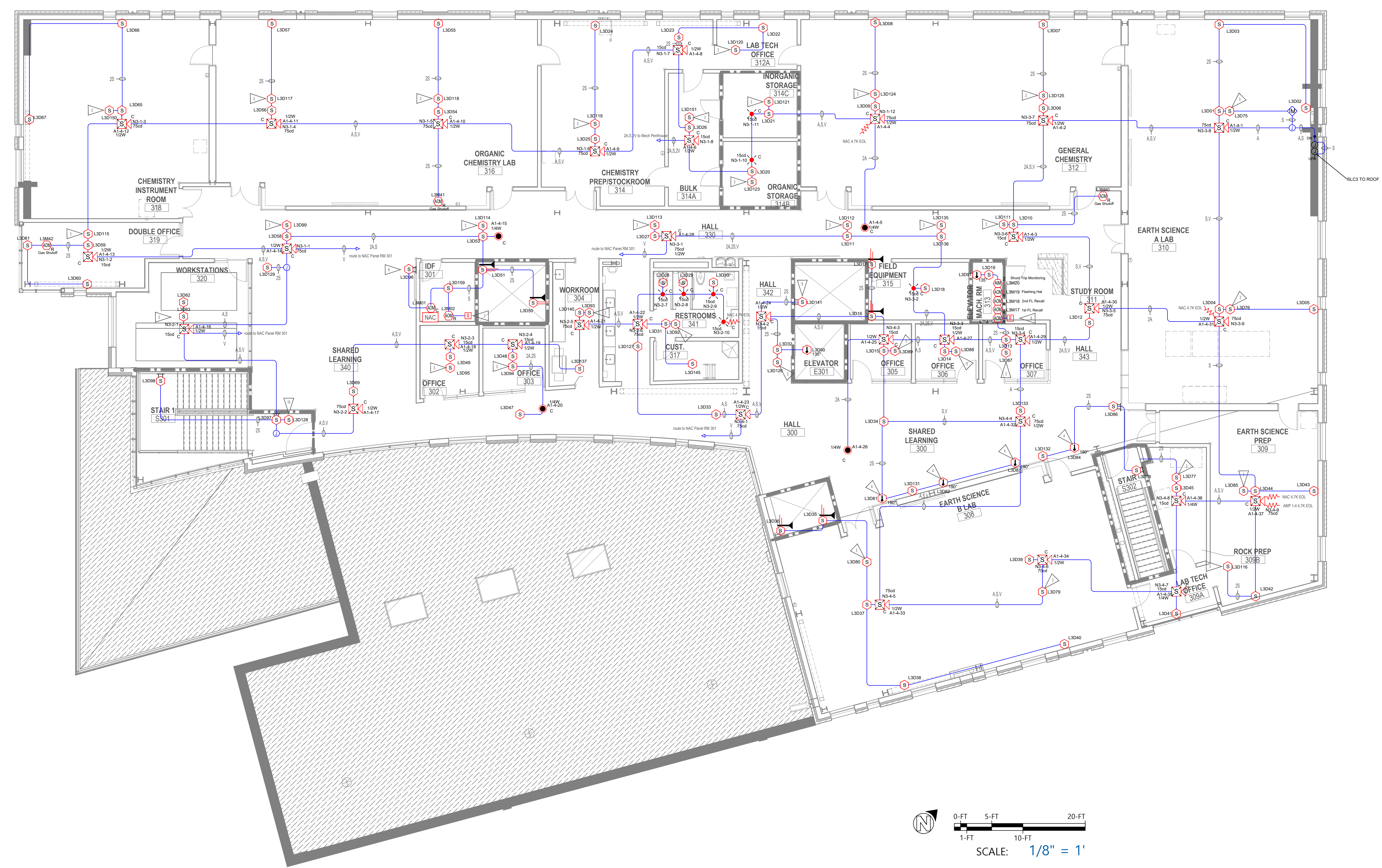
City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic



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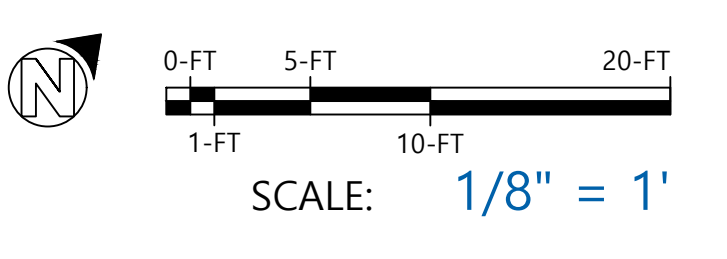
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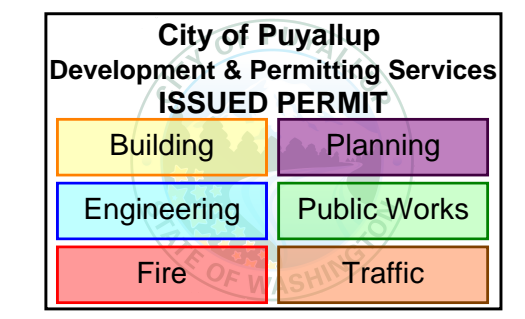
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FA-1-3

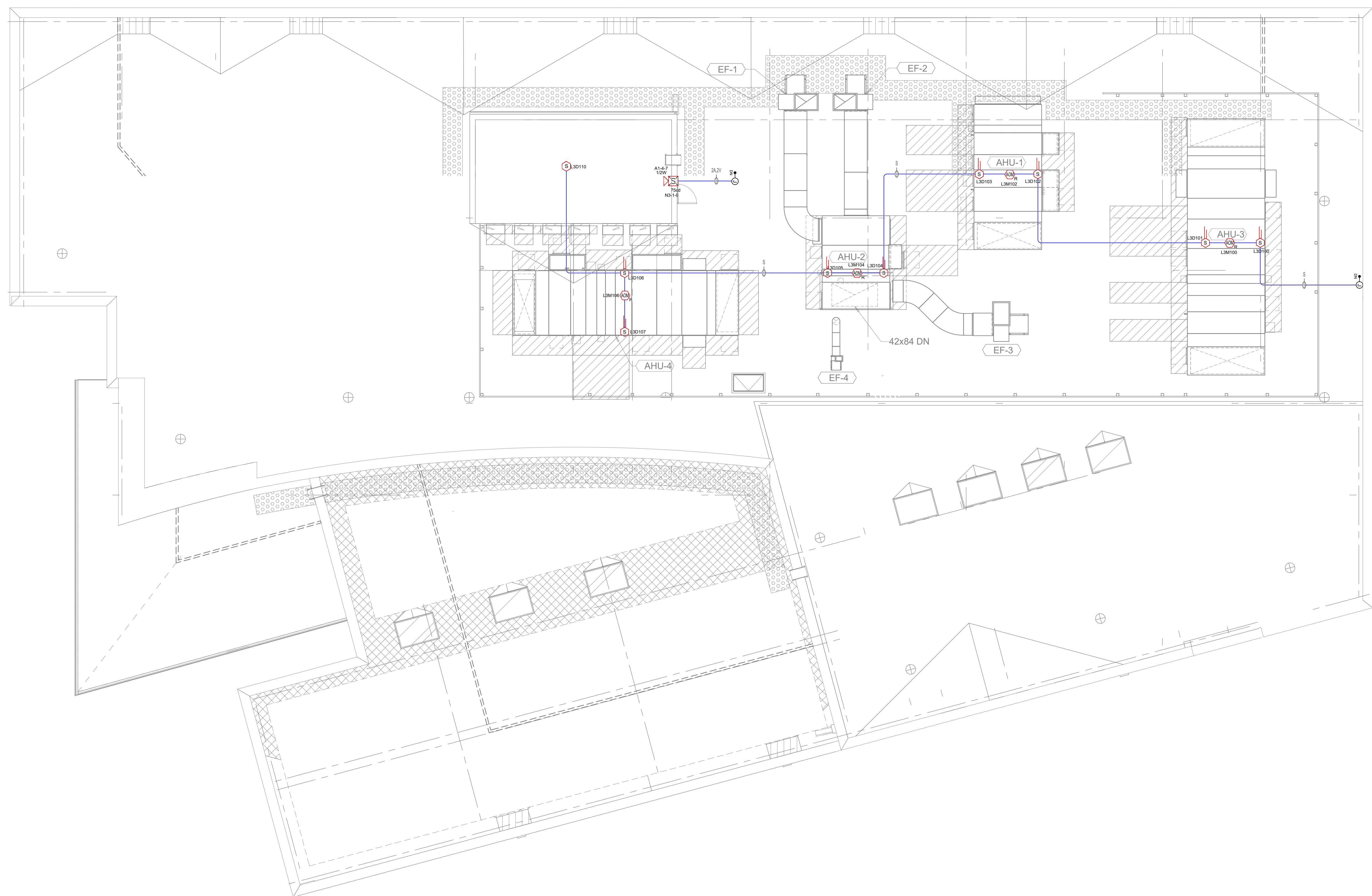
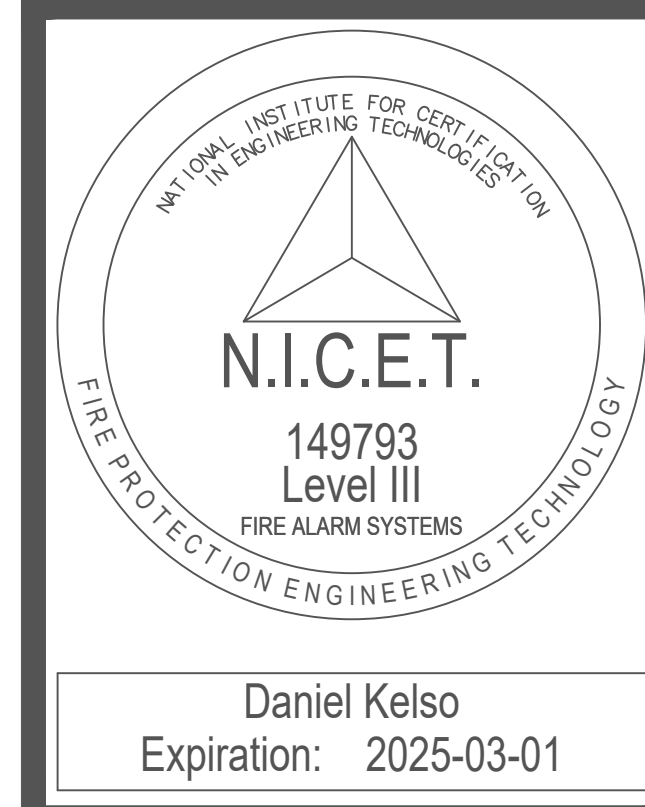


NOTE #	DESCRIPTION
1	MOUNT DETECTOR TO THE DECK, DIRECTLY ABOVE THE DETECTOR AT THE CEILING CLOUD LEVEL.
3	MOUNT DETECTOR TO THE DECK OR WALL-MOUNT TO THE STRUCTURE (TOP OF THE DETECTOR HEAD MAXIMUM OF 12") FROM THE DECK.
4	WALL-MOUNT DETECTOR IN THE SKYLIGHT.
5	MOUNT DETECTOR UNDER STAIR LANDING.
6	WALL-MOUNT DETECTOR TO THE STRUCTURE (TOP OF THE DETECTOR HEAD MAXIMUM OF 12") FROM THE DECK, ABOVE CEILING BAFFLES.
7	ROUTE 120VAC SWITCH LEGS OF DAMPER CIRCUIT FOR DAMPER SHUTDOWN (ON ALARM) THROUGH RIB01BDC. LOCATE WITHIN 3' OF ELECTRICAL PANEL, PROVIDING 120VAC FOR DAMPER CIRCUIT.
8	ROUTE 120VAC SHUNT-TRIP POWER THROUGH RIB01BDC CONTACTS FOR ELEVATOR POWER SHUTDOWN & DISCONNECT.
9	MOUNT DETECTOR ON STRUCTURE IN VERTICAL SHAFT. PROVIDE ACCESS HATCH.
10	MOUNT DETECTOR ON STRUCTURE ABOVE ACCESS HATCH.



600 Oakesdale Ave. SW
Suite 100
Renton, WA 98057

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REVISIONS

NO.	DATE	REVISION
1	07/2024 BYDK	REDESIGN FOR RESUBMISSION
2	BY:___	-
3	BY:___	-
4	BY:___	-

CODES ADOPTED BY LOCAL AHJ
2019 NFPA 72 NATIONAL FIRE ALARM CODE
2018 INTERNATIONAL BUILDING CODE
2017 NFPA 70 NATIONAL ELECTRICAL CODE

**PIERCE COLLEGE -
S.T.E.M. BLDG.
1601 39TH AVE SE
PUYALLUP, WA 98374**

FIRE ALARM SYSTEM

BUILDING INFORMATION
GROUPS: B, A-3, S-1
TYPE II-B, FULLY SPRINKLERED
TOTAL BLDG AREA: 53,997 SQFT.

PROJECT MANAGER:
dougmorgan@everonsolutions.com

PREPARED BY: **DK**

CHECKED BY: **JP**

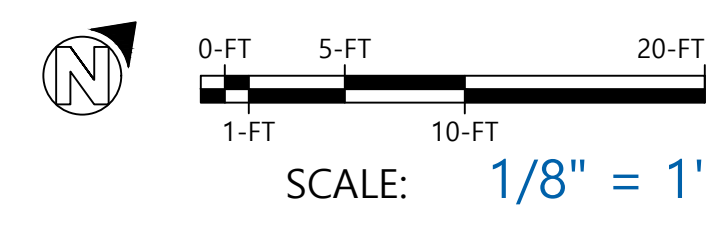
DATE: **07/20-2024**

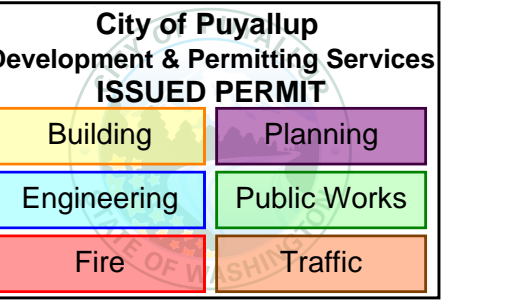
PROJECT NO: **281716084**

TITLE:

ROOF TOP PLAN

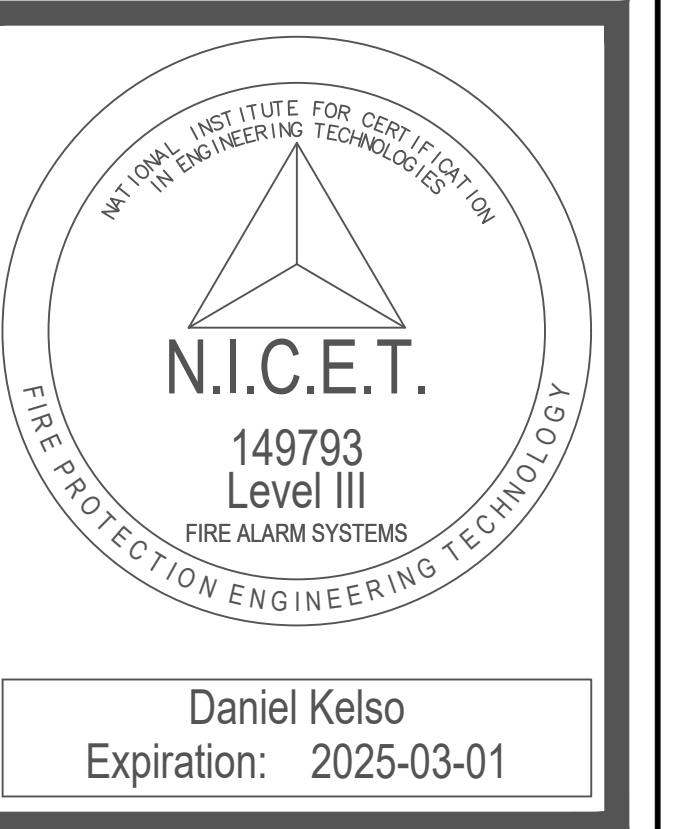
SHEET:
FA-1-R





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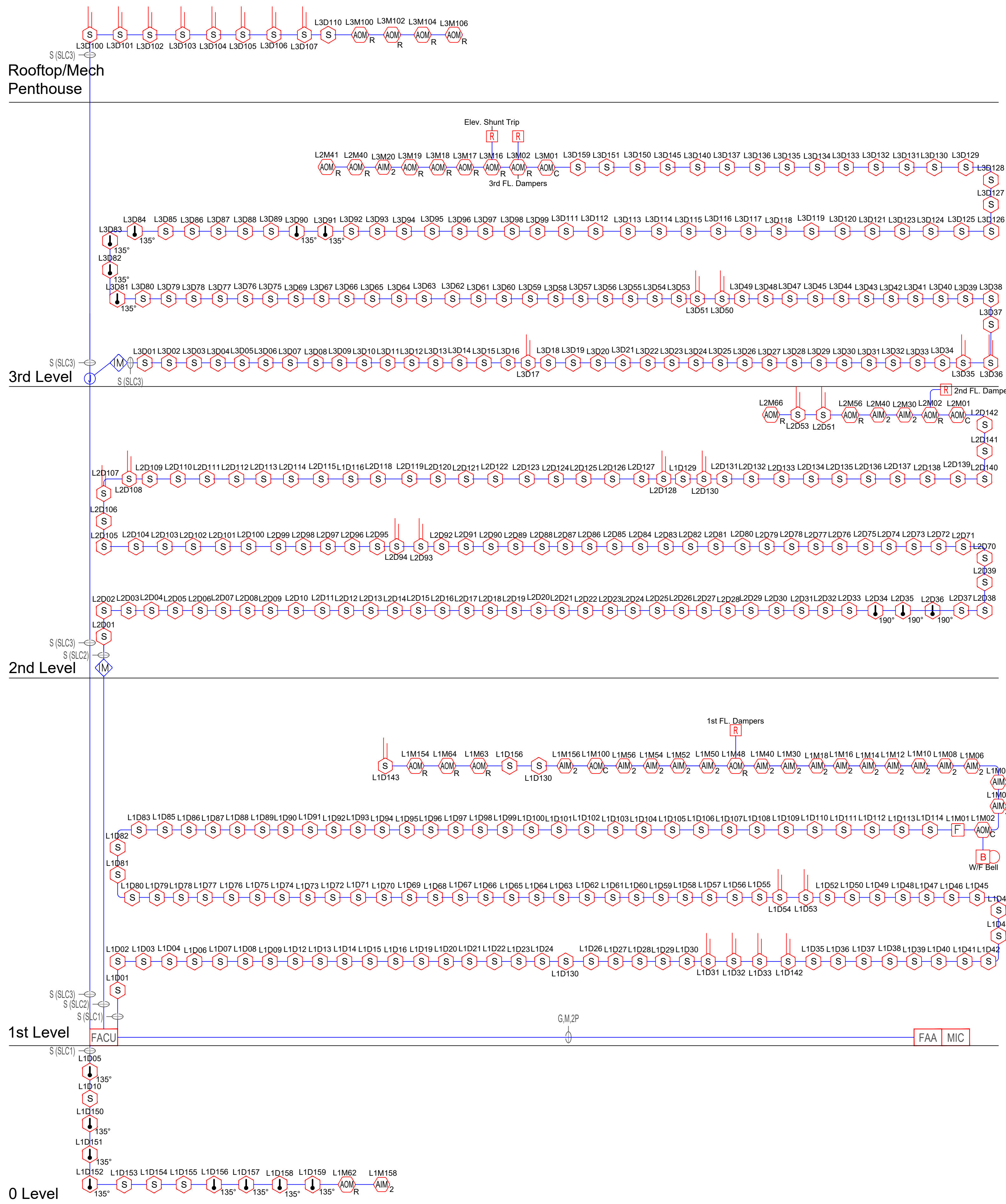
PROJECT NO: **281716084**

TITLE:

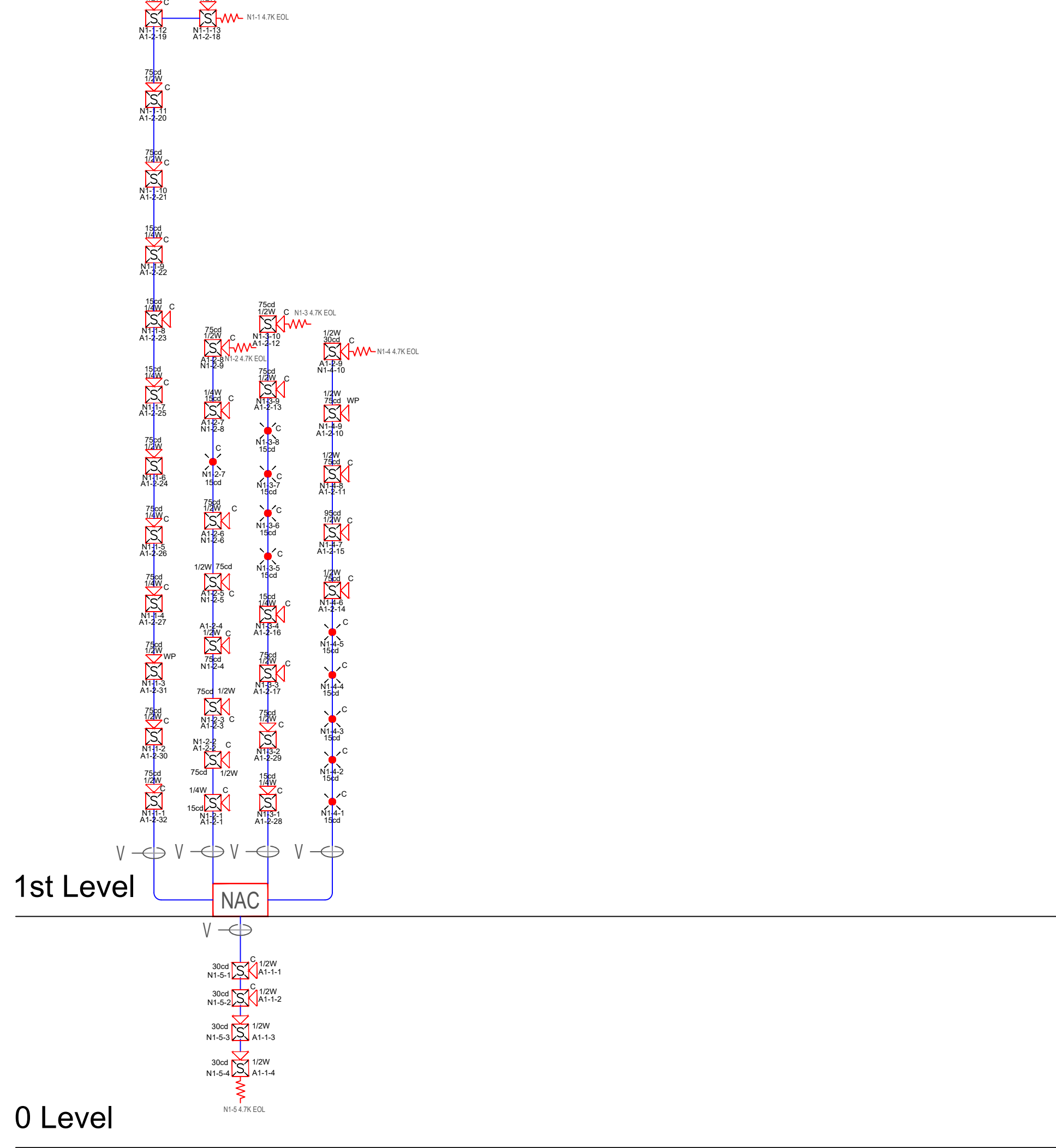
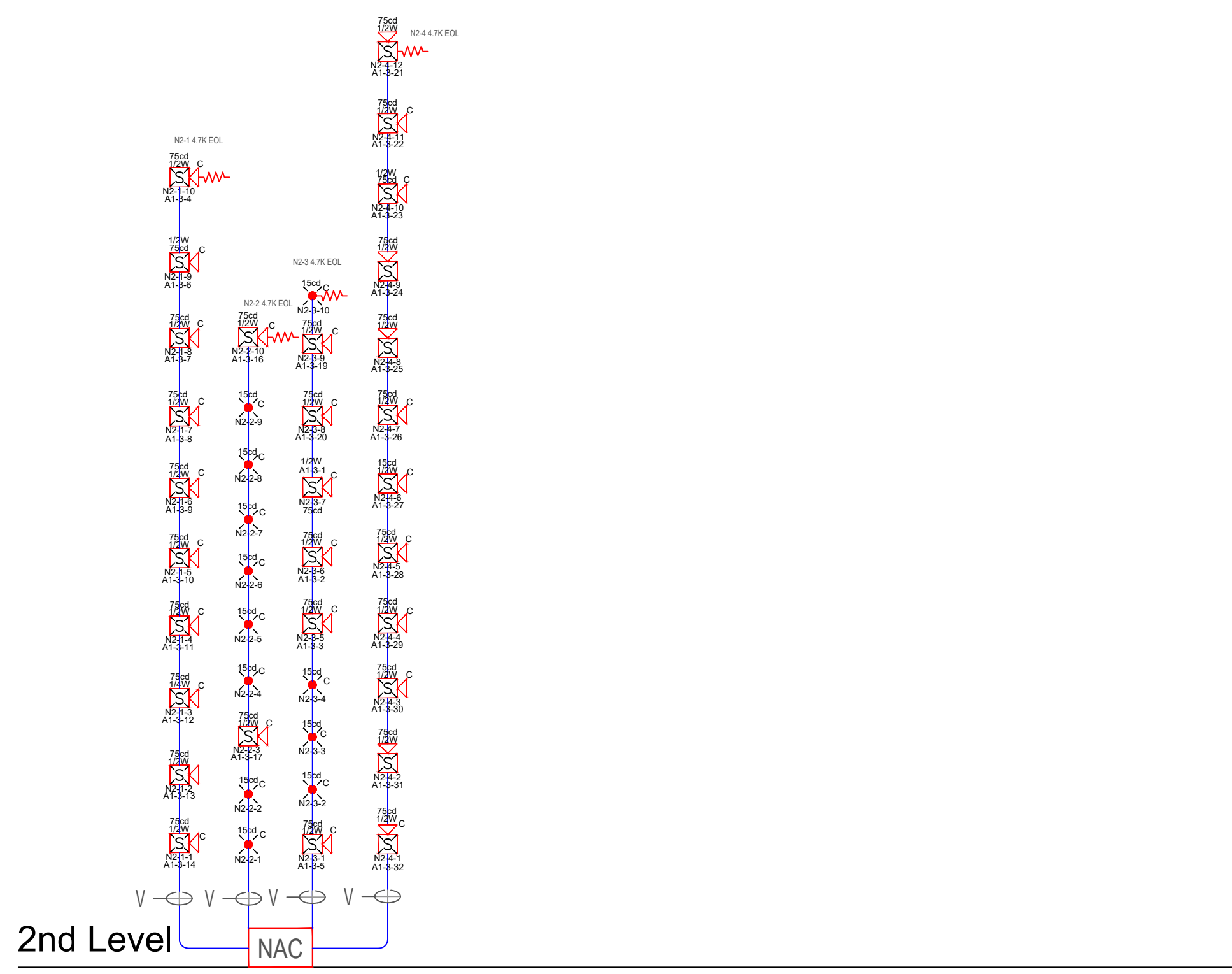
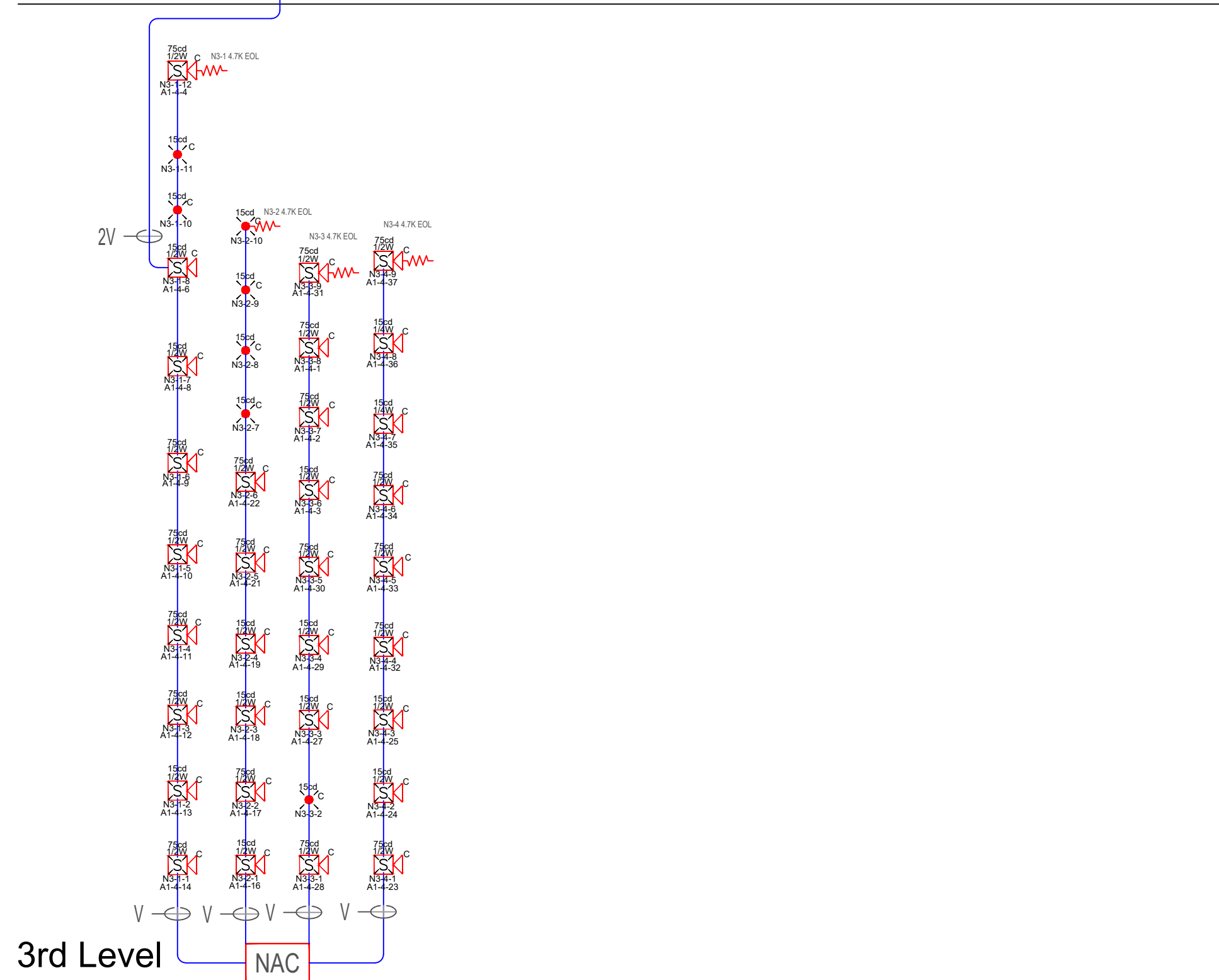
FIRE ALARM RISER

SHEET:

FA-2-1

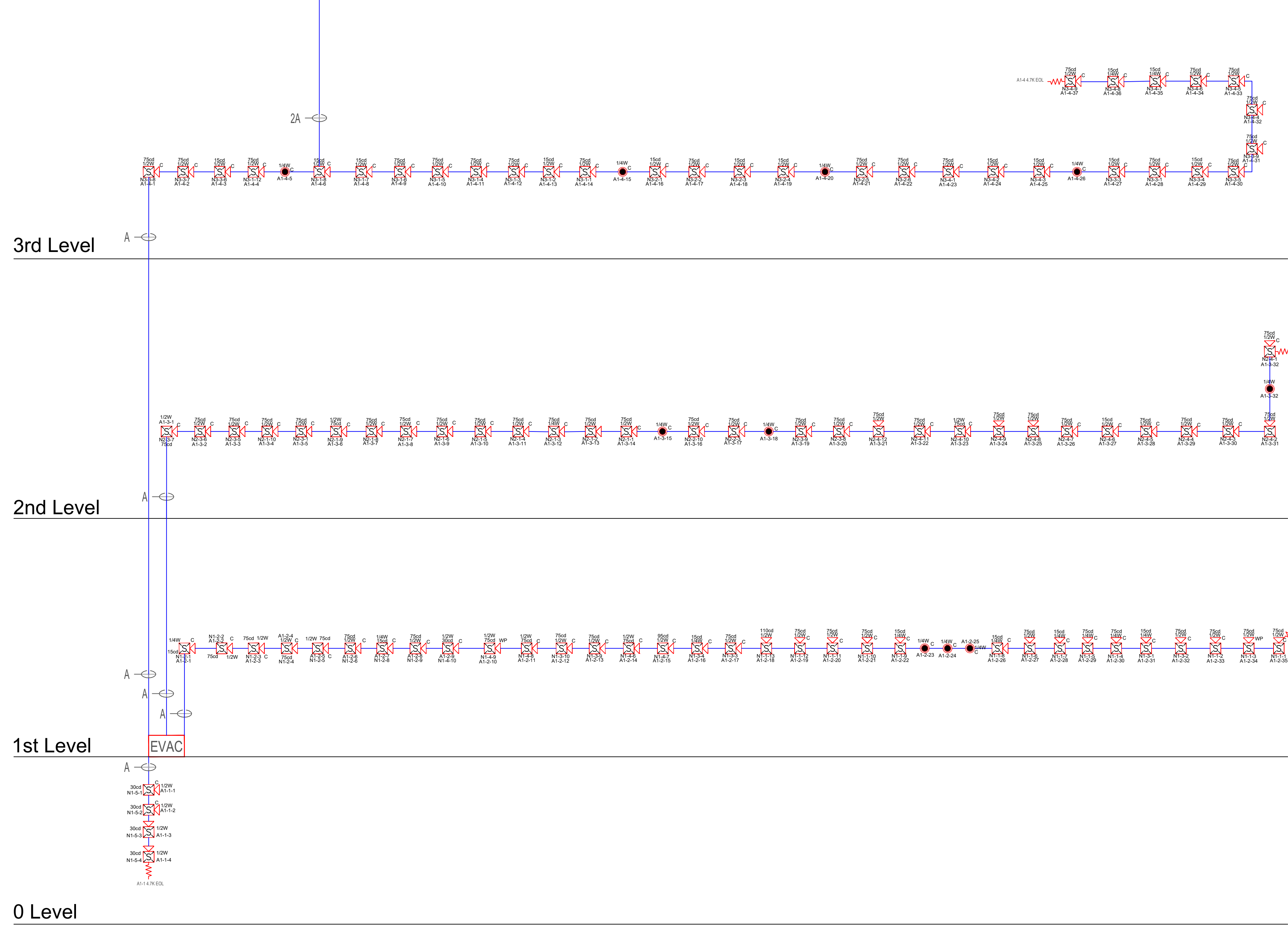


Rooftop & Mech Penthouse

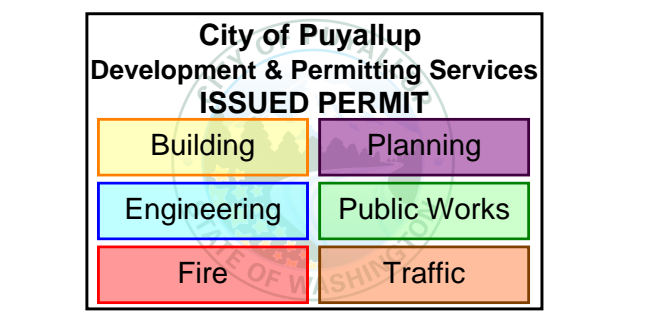


0 Level

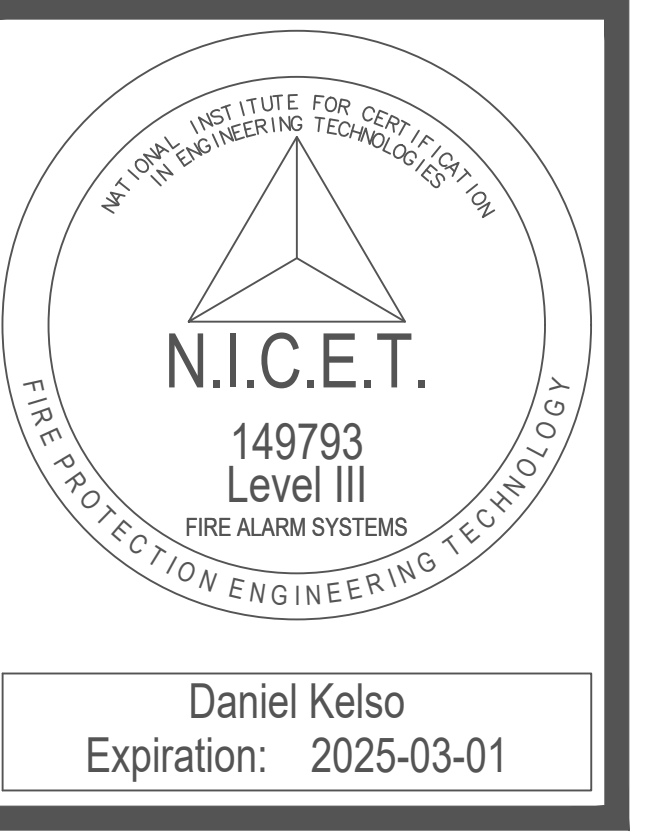
Rooftop/Mech Penthouse



0 Level



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FIRE ALARM SYSTEM

BUILDING INFORMATION
GROUPS: B, A-3, S-1
TYPE II-B, FULLY SPRINKLERED
TOTAL BLDG AREA: 53,997 SQFT.

PROJECT MANAGER:
dougmorgan@everonsolutions.com

PREPARED BY: **DK**
CHECKED BY: **JP**

DATE: **07/20-2024**
PROJECT NO: **281716084**

TITLE:
FIRE ALARM RISER (CONT.)

SHEET:
FA-2-2

FACP BATTERY LOAD CALCULATION										NFS2-3030	
FACP INFORMATION:											
FACP ID:		NFS2-3030		VOICE EVACUATION?		Yes		CLASS A WIRING:		No	
MOUNTING LOCATION:		RM. 128		GENERATOR POWER?		Yes		STANDBY HOURS:		4	
FACP USED:		NFS2-3030 (AMPS-24)		MILITARY-DOD?		No		ALARM MINUTES:		15	
POWER CALC for NFS2-3030:											
LINE	QTY	MANUFACTURE:	PART #:	DEVICE DESCRIPTION:	EACH DEVICE		SUB-TOTAL				
					STANDBY	ALARM	STANDBY	ALARM			
1	2	Notifier	LCM-320	SLC Loop Control Module	0.1300	0.1300	0.2600	0.2600			
2	1	Notifier	LEM-320	SLC Loop Expander Control Module	0.1000	0.1000	0.1000	0.1000			
3	1	Notifier	LCD-160	Remote Annunciator - 160 Character	0.0750	0.3250	0.0750	0.3250			
4	316	Notifier	FSP-951	Intelligent Photoelectric Detector - White	0.0002	0.0045	0.0032	1.4220			
5	10	Notifier	FST-951	Intelligent Heat Detector - 135° Fixed Temp. White	0.0002	0.0045	0.0020	0.0450			
6	7	Notifier	FST-951H	Intelligent Heat Detector - 190° Fixed Temp. White	0.0002	0.0045	0.0014	0.0315			
7											
8	31	Notifier	DNR	Dust Detector Housing (Requires FSP-951R Smoke Detector)	0.0000	0.0000					
9	31	Notifier	FSP-951R	Intelligent Photoelectric Smoke Detector for DNR Dust Smoke Housing	0.0003	0.0065	0.0093	0.2015			
10											
11	1	Notifier	NRG-12LK	Addressable Manual Pull Station	0.0004	0.0050	0.0004	0.0050			
12	1	Notifier	FM-1	Addressable Monitor Module	0.0004	0.0050	0.0004	0.0050			
13	16	Notifier	FCM-1	Addressable Dual Monitor Module	0.0002	0.0064	0.0038	0.1024			
14	4	Notifier	FCM-1	Addressable Control Module (NAC)	0.0004	0.0065	0.0016	0.0260			
15	21	Notifier	FRM-1	Addressable Relay Module	0.0002	0.0065	0.0048	0.1365			
16	2	Notifier	ISB-X	Isolation Module	0.0005	0.0110	0.0009	0.0340			
17	10	Notifier	PSB-10	Remote I/O NAC Power Supply 7-3.0A Output	0.0002	0.1450	0.0100	1.4500			
18	10	Notifier	FCM-1	Addressable NAC Control Module for NAC PS	0.0004	0.0051	0.0039	0.0510			
19	1	System Sensor	SSM24-10	Electric Bell, 10", 24VDC	0.0000	0.0300		0.0300			
20											
21											
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36											
37											
38											
39											
40											
					TOTAL CURRENT DRAWS:		1.436	4.224			
BATTERY LOAD CALC for NFS2-3030:											
FACP P.S. MAX RATING:		5.000		TOTAL AMPS REQUIRED:		4.224		TOTAL % USED:		84%	
TOTAL STANDBY CURRENT DRAW: (1.436A) x 4 HRS = 5.744 AMP HOURS (AH):					TOTAL ALRM CURRENT DRAW: (4.224 A) x 15 MIN = 1.056 AMP HOURS (AH):						
MINIMUM BATTERY SIZE NEEDED (AH):					PLUS 20% SPARE BATTERY CAPACITY (AH):					6.80	
ACTUAL BATTERY SIZE REQUIRED (AH):										8.16	
MAXIMUM CHARGER CAPACITY IS: 200 AH:					TOTAL BATTERIES SUPPLIED (AH):					12.0	

SPEAKER RISER CIRCUIT LOAD, VOLTAGE DROP & BATTERY LOAD CALCULATION										NFC-100 w/ NFC-CE6			
AMPLIFIER INFORMATION:													
AMP Name:		NFC-100 w/ NFC-CE6		25V or 70V CIRCUITS?		25		CLASS A WIRING:		No			
Location:		RM. 128		GENERATOR POWER?		Yes		STANDBY HOURS:		4			
AMP Type:		NFC-100 w/ NFC-CE6		MILITARY-DOD?		No		ALARM MINUTES:		15			
VOLTAGE DROP CALC for NFC-100 w/ NFC-CE6:										A100 w			
DEVICE PART #:	DEVICE DESCRIPTION:	WATTS (P)	AMPS (A)	AUDIO #1	AUDIO #2	AUDIO #3	AUDIO #4	AUDIO #5			TOTAL QTY		
		W/ NFC-6	W/ NFC-6	W/ NFC-6	W/ NFC-6	W/ NFC-6	W/ NFC-6	W/ NFC-6	W/ NFC-6	W/ NFC-6	W/ NFC-6		
SPSCW(L)	Ceiling Speaker set at 1/4 Watt	0.25	0.010	10	4	5						20	
SPSCW(L)	Ceiling Speaker set at 1/2 Watt	0.5	0.020	2	23	24	30					79	
SPSCW(L)	Ceiling Speaker set at 1 Watt	1	0.040									0	
SPSCW(L)	Ceiling Speaker set at 2 Watt	2	0.080									0	
SPSW(L)	Wall Speaker set at 1/4 Watt	0.25	0.010									0	
SPSW(L)	Wall Speaker set at 1/2 Watt	0.5	0.020	2	2	5	1					10	
SPSW(L)	Wall Speaker set at 1 Watt	1	0.040									0	
SPSW(L)	Wall Speaker set at 2 Watt	2	0.080									0	
		0.000										0	
		0.000										0	
# OF DEVICES ON CIRCUIT:				4	35	33	37	0	0	0	0	109	
CIRCUIT CONTROLLED BY:				NFC-100	NFC-100	NFC-100	NFC-100	NFC-100					
TOTAL WATTS per CIRCUIT:				2.00	15.00	15.50	17.00	0.00	0.00	0.00	0.00	0.00	49.50
TOTAL ALARM CIRCUIT CALCULATED AMPS (I):				0.08	0.60	0.62	0.68	0.00	0.00	0.00	0.00	0.00	1.98
WIRE GAUGE USED (AWG):				14AWG	14AWG	14AWG	14AWG	14AWG	14AWG	14AWG	14AWG	14AWG	TOTAL
ESTIMATED CIRCUIT LENGTH (FT):				200	1200	1325	1415					WATTS	
ESTIMATED VOLTAGE DROP (DC):				0.08	3.74	4.27	5.00	0.00	0.00	0.00	0.00	0.00	REQUIRED
ESTIMATED EOL VOLTAGE (DC):				24.92	21.26	20.73	20.00	25.00	25.00	25.00	25.00	25.00	49.50
CALCULATED VOLTAGE DROP AS A %:				0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
BATTERY LOAD CALC for NFC-100 w/ NFC-CE6:													
FACP P.S. MAX RATING:		5.000		TOTAL AMPS REQUIRED:		4.224		TOTAL % USED:		50%			
TOTAL STANDBY CURRENT DRAW FROM CALC: (0.4 A) + MAIN BOARD STANDBY LOAD: (0.272A) x 4 HRS = 1.088 AMP HOURS (AH):					TOTAL ALARM CURRENT DRAW FROM CALC: (1.98 A) + MAIN BOARD ALARM LOAD: (0.446A) x 15 MIN = 0.406 AMP HOURS (AH):								
MINIMUM BATTERY SIZE NEEDED (AH):					PLUS 20% SPARE BATTERY CAPACITY (AH):					1.7			
ACTUAL BATTERY SIZE REQUIRED (AH):										2.0			
MAXIMUM CHARGER CAPACITY IS: 26 (AH):					TOTAL BATTERIES SUPPLIED (AH):					12.0			

NAC CIRCUIT LOAD, VOLTAGE DROP AND BATTERY CALCULATION										APS-1		
POWER SUPPLY INFORMATION:												
POWER SUPPLY ID:		APS-1		VOICE EVACUATION?		Yes		CLASS A WIRING:		No		
INSTALLED LOCATION:		RM. 128		GENERATOR POWER?		Yes		STANDBY HOURS:		4		
POWER SUPPLY USED:		HPF-PS10		MILITARY-DOD?		No		ALARM MINUTES:		15		
VOLTAGE DROP CALC for APS-1:												
DEVICE PART #:	DEVICE DESCRIPTION:	CURRENT DRAWS:	NAC #1	NAC #2	NAC #3	NAC #4	NAC #5	NAC #6	AUX POWER	TOTAL		
		STANDBY ALARM									QTY	
SPCW(L)	Ceiling Speaker (No Strobe)	0.0000	0.0000								0	
SPSCW(L15)	Ceiling Speaker w/ Strobe set at 15cd	0.0000	0.0410	3	2	2					7	
SPSCW(L30)	Ceiling Speaker w/ Strobe set at 30cd	0.0000	0.0630				1				1	
SPSCW(L75)	Ceiling Speaker w/ Strobe set at 75cd	0.0000	0.1110	8	6	4	2				20	
SPSCW(L95)	Ceiling Speaker w/ Strobe set at 95cd	0.0000	0.1340				1				1	
SCWL(15)	Ceiling Strobe set at 15cd	0.0000	0.0410		1	4	5				10	
SCWL(30)	Ceiling Strobe set at 30cd	0.0000	0.0630								0	
SCWL(75)	Ceiling Strobe set at 75cd	0.0000	0.1110								0	
SCWL(95)	Ceiling Strobe set at 95cd	0.0000	0.1340								0	
SCWL(115)	Ceiling Strobe set at 115cd	0.0000	0.1580								0	
SPWL(-)	Wall Speaker (No Strobe)	0.0000	0.0000								0	
SPSW(L15)	Wall Speaker w/ Strobe set at 15cd	0.0000	0.0430								0	
SPSW(L30)	Wall Speaker w/ Strobe set at 30cd	0.0000	0.0630								0	
SPSW(L75)	Wall Speaker w/ Strobe set at 75cd	0.0000	0.1070								0	
SPSW(L110)	Wall Speaker w/ Strobe set at 110cd	0.0000	0.1480	1							1	
SWL(15)	Wall Strobe set at 15cd	0.0000	0.0430								0	
SWL(30)	Wall Strobe set at 30cd	0.0000	0.0630								0	
SWL(75)	Wall Strobe set at 75cd	0.0000	0.1070								0	
SWL(95)	Wall Strobe set at 95cd	0.0000	0.1210								0	
FCM-1	Addressable Control Module (NAC)	0.0004	0.0065						1		1	
SPSWK(75)	Wall Speaker w/ Strobe set at 75cd	0.0000	0.1580								2	
SWL(15)	Wall Strobe set at 15cd	0.0000	0.0430								0	
TOTAL QTY OF DEVICES PER CIRCUIT:			13	9	10	10	0	0	1		43	
TOTAL STANDBY CIRCUIT CALCULATED AMPS (I):			0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
TOTAL ALARM CIRCUIT CALCULATED AMPS (I):			1.317	0.789	0.690	0.782	0.000	0.000	0.007	3.585		
WIRE GAUGE USED (AWG):			14AWG	14AWG	14AWG	14AWG	14AWG	14AWG	14AWG	14AWG	TOTAL	
CIRCUIT LENGTH (FT):			525	365	285	340	0	0	0.25	AMPs		
ESTIMATED VOLTAGE DROP (DC):			3.60	1.50	1.02	1.38	0.00	0.00	0.00	REQUIRED		
ESTIMATED EOL VOLTAGE (DC):			20.4	22.5	23.0	22.6	24.0	24.0	24.0	3.585		
CALCULATED VOLTAGE DROP %:			15.0%	6.2%	4.3%	5.5%	0.0%	0.0%	0.0%			
BATTERY LOAD CALC for APS-1:												
NAC P.S. MAX RATING:		10.000		TOTAL AMPS REQUIRED:		3.770		TOTAL % USED:		38%		
TOTAL STANDBY CURRENT DRAW FROM CALC: (0.00039 A) + MAIN BOARD STANDBY LOAD: (0.126A) x 4 HRS = 0.505 AMP HOURS (AH):					TOTAL ALARM CURRENT DRAW FROM CALC: (3.585 A) + MAIN BOARD ALARM LOAD: (0.185A) x 15 MIN = 0.942 AMP HOURS (AH):							
MINIMUM BATTERY SIZE NEEDED (AH):					PLUS 20% SPARE BATTERY CAPACITY (AH):					1.45		
ACTUAL BATTERY SIZE REQUIRED (AH):										1.74		
MAXIMUM CHARGER CAPACITY IS: 33 AH:					TOTAL BATTERIES SUPPLIED (AH):					7.0		

NAC CIRCUIT LOAD, VOLTAGE DROP AND BATTERY CALCULATION										APS-2	
POWER SUPPLY INFORMATION:											
POWER SUPPLY ID:		APS-2		VOICE EVACUATION?		Yes		CLASS A WIRING:		No	
INSTALLED LOCATION:		RM. 221		GENERATOR POWER?		Yes		STANDBY HOURS:		4	
POWER SUPPLY USED:		HPF-PS10		MILITARY-DOD?		No		ALARM MINUTES:			