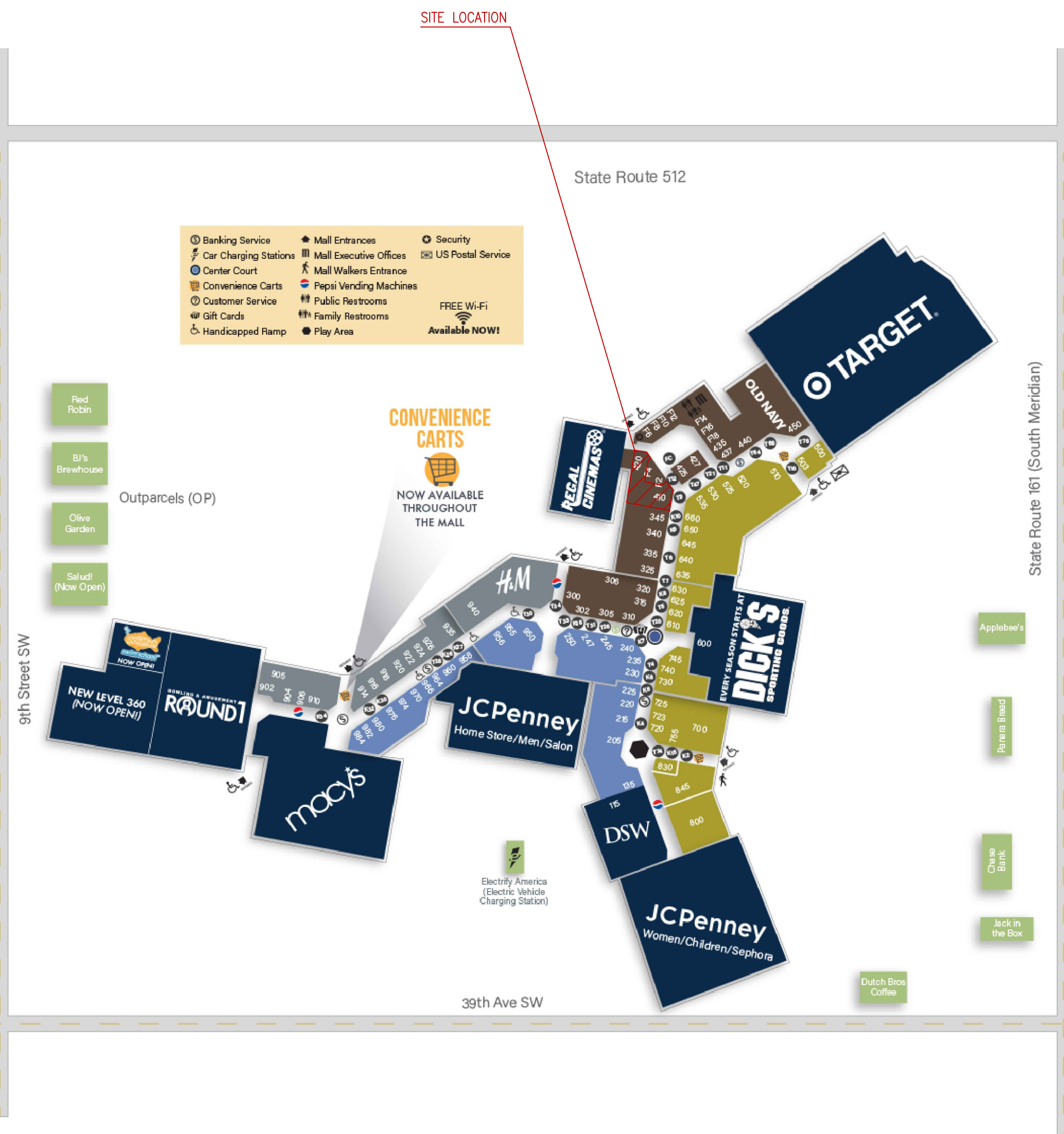


SHOE PALACE SOUTH HILL MALL #1315 3500 SOUTH MERIDIAN, SPACE #410 & #420 PUYALLUP, WA 98373 FIRE ALARM TENANT IMPROVEMENT DRAWINGS



FIRE ALARM SYMBOL LEGEND

NOTE: ALL SYMBOLS MAY NOT BE USED ON THIS PROJECT

QTY	SYMBOL	DESCRIPTION	MANUF. & PART #	MOUNTING	MOUNT IN
E	FACP	FIRE ALARM CONTROL PANEL	EXISTING	WALL - TOP @ 66"	EXISTING TO REMAIN
E	FPS	FIRE ALARM POWER SUPPLY	EXISTING	WALL - TOP @ 66"	EXISTING TO REMAIN
4	RTS	REMOTE TEST SWITCH	NOTIFIER - RTS151KEY	FIELD VERIFY	SINGLE GANG DEEP - MOUNTED FLUSH
E	SD	SMOKE DETECTOR (EXISTING)	EXISTING	CEILING	EXISTING TO REMAIN
4	DD	DUCT SMOKE DETECTOR	NOTIFIER - ND-100	INDICATED DUCT	DUCT DETECTOR HOUSING
4	RM	RELAY MODULE	NOTIFIER - FRM-1	FIELD VERIFY	4 SQ. DEEP - MOUNTED FLUSH
14	SD	SMOKE DETECTOR (NEW)	NOTIFIER - FSP-951-V	CEILING	EXISTING TO REMAIN
4	CS	CEILING MOUNT SPEAKER / STROBE	SYSTEM SENSOR - SPSR(W/L)	CEILING	4 SQ. DEEP - MOUNTED FLUSH
4	SS	SPEAKER / STROBE	SYSTEM SENSOR - SPSR(W/L)	WALL 80"-96"	4 SQ. DEEP - MOUNTED FLUSH

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
E	EXISTING	AWG	AMERICAN WIRE GAUGE
G	WITH GUARD	TWP	TWISTED PAIR
P	PENDENT MOUNT	TWSP	TWISTED SHIELDED PAIR
R	REMOVE AND RELOCATE	FPLP	FIRE POWER LIMITED PLENUM
S	SOUNDER BASE	FPLR	FIRE POWER LIMITED RISER
WP	WEATHERPROOF		
EOL	END OF LINE RESISTOR		
EOLR	END OF LINE RELAY		

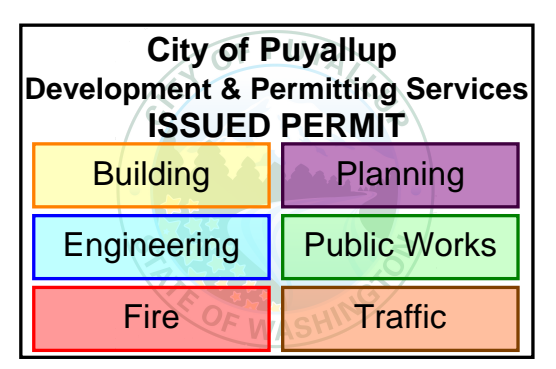
City of Puyallup Fire REVIEWED FOR COMPLIANCE
DDrake
10/17/2024
8:13:15 AM

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.



Read Permit Conditions prior to calling for inspection.



FIRE RESISTANCE RATINGS OF STRUCTURAL COMPONENTS

- | | |
|--|---------------|
| 1. STRUCTURAL FRAME | 0 HOUR RATING |
| 2. BEARING WALLS - EXTERIOR & INTERIOR | 0 HOUR RATING |
| 3. NON-BEARING WALLS | 0 HOUR RATING |
| 4. FLOOR CONSTRUCTION | 0 HOUR RATING |
| 5. ROOF FRAMING | 0 HOUR RATING |

GENERAL NOTES:

- SCOPE OF WORK: THIS PROJECT SHALL INCLUDE. TENANT IMPROVEMENTS TO EXISTING FIRE ALARM SYSTEM AT THE SOUTH HILLS MALL. CONNECT SPEAKER STROBES TO EXISTING SPEAKER AND STROBE CIRCUITS LOCATED IN TENANT SPACE. EXISTING FIRE ALARM POWER SUPPLY TO REMAIN. EXISTING SMOKE DETECTOR TO FIRE ALARM POWER SUPPLY TO REMAIN. CONNECT NEW SLC DEVICES TO EXISTING SLC CKT.
- THESE DRAWINGS ARE DIAGRAMMATIC. REFER TO THE ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS.
- INSTALLATION SHALL COMPLY WITH NEC, NFPA 72 AND ALL OTHER APPLICABLE CODES AS REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
- 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 WALLS. THE USE OF A RACEWAY IS PERMITTED AS LONG AS NO 110V OR HIGHER VOLTAGE CABLES ARE IN THE SAME RACEWAY.
- FIRE RATINGS SHALL BE MAINTAINED FOR ALL PENETRATIONS THROUGH FIRE-RATED CONSTRUCTION.
- 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, MECHANICALLY PROTECTED, ACCESSIBLE ONLY TO AUTHORIZED PERSONNEL AND SHALL BE RED AND LABELED "FIRE ALARM CIRCUIT CONTROL" IN ACCORDANCE WITH NFPA 72. ELECTRICAL CONTRACTOR SHALL PERFORM LOAD CALCULATIONS TO DETERMINE SIZE OF WIRING AND BREAKERS FOR ALL FIRE ALARM AC BRANCH CIRCUITS BASED ON THE INFORMATION PROVIDED IN THE BATTERY CALCULATIONS FOR THE FIRE ALARM EQUIPMENT.
- POWER-LIMITED AND NONPOWER-LIMITED CIRCUIT WIRING MUST REMAIN SEPARATED IN CABINET. ALL POWER-LIMITED CIRCUIT WIRING MUST REMAIN AT LEAST 0.25" AWAY FROM ANY NONPOWER-LIMITED CIRCUIT WIRING. FURTHERMORE, ALL POWER-LIMITED AND NONPOWER-LIMITED CIRCUIT WIRING MUST ENTER AND EXIT THE CABINET THROUGH DIFFERENT KNOCK OUTS AND/OR SEPARATE CONDUITS.
- WHEN UTILIZING CLASS "A" CIRCUITS, SEPARATE OUTGOING AND RETURN CONDUCTORS OF CLASS "A" CIRCUITS BY A MINIMUM OF 12" WHERE RUN VERTICALLY AND 48" WHERE RUN HORIZONTALLY.
- WHEN UTILIZING SHIELDED CABLE TIE SHIELDS THROUGH AND INSULATE AT EACH JUNCTION BOX. INSULATE AND TAPE BACK AT END.
- ALL FIRE ALARM CABLING SHALL BE ACCEPTABLE TO THE FIRE ALARM EQUIPMENT MANUFACTURER FOR THE INTENDED PURPOSE. CABLES USED IN VERTICAL RUNS SHALL BE TYPE FPLP OR FPLR. CABLE SPLICES OR TERMINATIONS SHALL BE MADE IN LISTED FITTINGS, BOXES, ENCLOSURES, FIRE ALARM DEVICES, OR UTILIZATION EQUIPMENT. WHERE INSTALLED EXPOSED, CABLES SHALL BE ADEQUATELY SUPPORTED AND INSTALLED IN SUCH A WAY THAT MAXIMUM PROTECTION AGAINST PHYSICAL DAMAGE IS AFFORDED BY BUILDING CONSTRUCTION. WHERE LOCATED WITHIN 7 FT OF THE FLOOR, CABLES SHALL BE SECURELY FASTENED IN AN APPROVED MANNER AT INTERVALS OF NOT MORE THAN 18 IN.
- SMOKE DETECTORS SHALL NOT BE INSTALLED UNTIL AFTER CONSTRUCTION CLEAN-UP IS COMPLETED AND FINAL.
- LOCATE SMOKE DETECTORS A MINIMUM OF THREE (3) FEET FROM MECHANICAL DIFFUSERS. WALL-MOUNTED SMOKE DETECTORS SHALL BE LOCATED A MAXIMUM OF 12" FROM CEILING.
- PROVIDE SYNCHRONIZATION OF ALL VISUAL NOTIFICATION APPLIANCE CIRCUITS. PROVIDE ALL REQUIRED SYNC MODULES. PROVIDE A MULTI-SYNC MODE SLAVE CONNECTION BETWEEN ALL SYNC MODULES.
- VERIFY ALL FIELD SELECTABLE AUDIBILITY SETTINGS OF NOTIFICATION APPLIANCES WITH FIRE ALARM CONTRACTOR.
- 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.
- PROVIDE OFF-SITE MONITORING AS REQUIRED BY THE INTERNATIONAL FIRE CODE, SECTION 907.6.6 AND THE LOCAL AUTHORITY HAVING JURISDICTION.
- INSTALLING CONTRACTOR SHALL, PHYSICALLY, LABEL ALL INITIATING DEVICES AND NOTIFICATION APPLIANCE CIRCUIT END OF LINE (WHEN WIRING CLASS "B"). THESE LABELS SHALL BE IN PLACE PRIOR TO START-UP AND TESTING.
- ROOMS CONTAINING CONTROLS FOR AIR-CONDITIONING SYSTEMS, SPRINKLER RISERS AND VALVES OR OTHER FIRE DETECTION, SUPPRESSION OR CONTROL ELEMENTS SHALL BE IDENTIFIED WITH PERMANENTLY MOUNTED SIGNS WITH LETTERING NOT LESS THAN 2 INCHES TALL WITH A PRINCIPAL STROKE OF NOT LESS THAN 3/8 INCH. LETTERS SHALL CONTRAST WITH BACKGROUND.

CODE ANALYSIS

- BUILDING INFORMATION:
- A) OCCUPANCY CLASSIFICATION(S): B/M
 - B) OCCUPANCY LOAD(S): 76 OCC
 - C) SPRINKLERS: YES
 - D) CONSTRUCTION TYPE: IIB
 - E) BUILDING HEIGHT: 1 STORY
 - F) PROJECT SQUARE FOOTAGE: ~6,719 S.F.
 - G) APPLICABLE CODES:
 - 2021 INTERNATIONAL FIRE CODE
 - 2019 NFPA 72
 - 2021 NEC
 - STATE AND LOCAL MARSHAL REGULATIONS
 - H) CIRCUIT CLASSIFICATION: POWER LIMITED
 - I) PARCEL NUMBER: 6021010051

FACP Additional Load Battery Calculation

9/16/2024

PROJECT NAME: SOUTH HILLS MALL SHOE PALACE
Required Standby Time: 24 Hours
Required Alarm Time: 15 Minutes
System Manufacturer: Notifier

AC Branch Current			
AC Branch Current:	2.08	Amps	120V
Maximum NAC Output			
Panel Max:	6.50	Amps	
Circuit Max:	3.00	Amps	
Regulated Load in Standby			
Device Type	Model	Number of Devices	Total Current (Amps)
SMOKE DETECTOR	FSP-951	14 X	0.002000 = 0.002800
DUCT SMOKE DETECTOR	ND-100	4 X	0.000300 = 0.001200
RELAY MODULE	FRM-1	4 X	0.000230 = 0.000920
REMOTE TEST SWITCH	RTS151KEY	4 X	0.000000 = 0.000000
TOTAL STANDBY LOAD			0.004920
Regulated Load in ALARM			
Device Type	Model	Number of Devices	Total Current (Amps)
SMOKE DETECTOR	FSP-951	14 X	0.004500 = 0.063000
DUCT SMOKE DETECTOR	ND-100	4 X	0.006500 = 0.026000
RELAY MODULE	FRM-1	4 X	0.006500 = 0.026000
REMOTE TEST SWITCH	RTS151KEY	4 X	0.007500 = 0.030000
TOTAL ALARM LOAD			1.109000
Battery Requirements			
Standby Load Current (Amps)	0.004920	X	24.00000 = 0.118080
Alarm Load Current (Amps)	1.109000	X	0.250000 = 0.277250
Total Ampere Hours (before derating factor)			0.395330
Derating Factor		X	1.2
TOTAL AMPERE HOURS REQUIRED			0.474396
BATTERIES TO BE PROVIDED (2 - 12v)			FIELD VERIFY

FPS Additional Load Battery Calculation

9/11/2024

PROJECT NAME: SOUTH HILLS MALL SHOE PALACE
Required Standby Time: 24 Hours
Required Alarm Time: 15 Minutes

AC Branch Current				
AC Branch Current:	2.08	Amps	120V	
Maximum NAC Output				
Panel Max:	6.50	Amps		
Circuit Max:	3.00	Amps		
Regulated Load in Standby				
Device Type	Model	Number of Devices	Total Current (Amps)	
TOTAL STANDBY LOAD				0.000000
Regulated Load in ALARM				
Device Type	Model	Number of Devices	Total Current (Amps)	
TOTAL ALARM LOAD				0.964000
Battery Requirements				
Standby Load Current (Amps)	0.000000	X	24.00000 = 0.000000	
Alarm Load Current (Amps)	0.964000	X	0.250000 = 0.241000	
Total Ampere Hours (before derating factor)			0.241000	
Derating Factor		X	1.2	
TOTAL AMPERE HOURS REQUIRED			0.289200	
BATTERIES TO BE PROVIDED (2 - 12v)			FIELD VERIFY	

Point to Point NAC Voltage Drop Calculation

Date: 9/11/2024
Project Name: SOUTH HILLS MALL SHOE PALACE
Circuit Number: FPS1.1

Nominal System Voltage	20.4 volts	Wire Resistance	
Minimum Device Voltage	16.0 volts	Gauge	Per 1000
Distance from source to 1st device	21 feet	14	3.07
Wire Gauge for balance of circuit		14	3.07
Max Output Current	3.00 amps	Speaker ID	S1.1
Total Circuit Current	0.964 amps	NAC ID	N1.1
Spare Current Capacity	20%		
End of Line Voltage	19.09 volts		
Notification Appliance Manufacturer			
Circuit is within limits			
Speaker Identifier	NAC Identifier	Device Model # and Candela	Device Voltage
S1.1.1	N1.1.1	SPSRL 15	1/4 0.043
S1.1.2	N1.1.2	SPSRL 30	1/2 0.063
S1.1.3	N1.1.3	SPSRL 15	1/4 0.043
S1.1.4	N1.1.4	SPSRL 75	1/2 0.111
S1.1.5	N1.1.5	SPSRL 75	1/2 0.111
S1.1.6	N1.1.6	SPSRL 75	1/2 0.111
S1.1.7	N1.1.7	SPSRL 75	1/2 0.111
S1.1.8	N1.1.8	SPSRL 30	1/2 0.063
S1.1.9	N1.1.9	SPSRL 15	1/4 0.043
S1.1.10	N1.1.10	SPSRL 15	1/4 0.043
S1.1.11	N1.1.11	SPSRL 75	1/2 0.111
S1.1.12	N1.1.12	SPSRL 75	1/2 0.111
Totals			5 0.964 397

Notes:
Wire resistance is doubled in the calculations for two wires (Positive and Negative). The voltage calculated to the last device must not be lower than the manufactures listed minimum operating voltage (IE: rated operating voltage 16-33 VDC (24 VDC nominal)).

DATE	9/16/2024
DESCRIPTION	ISSUED FOR REVIEW & APPROVAL
REVISION	0

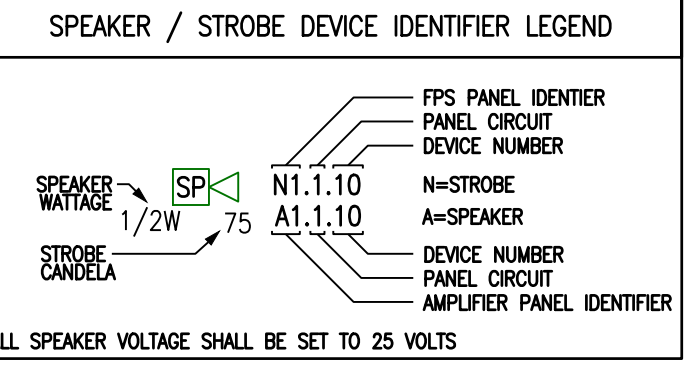
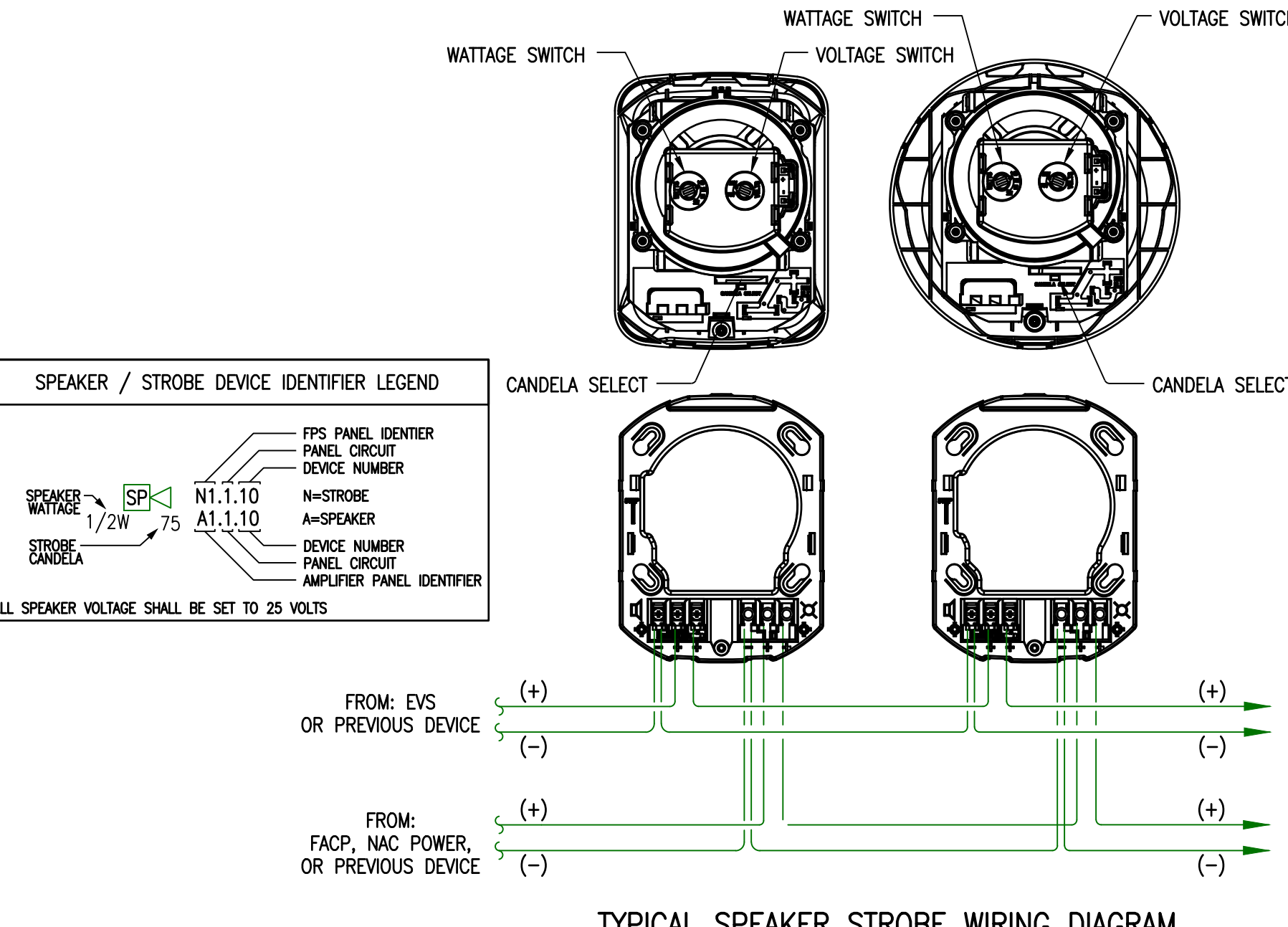
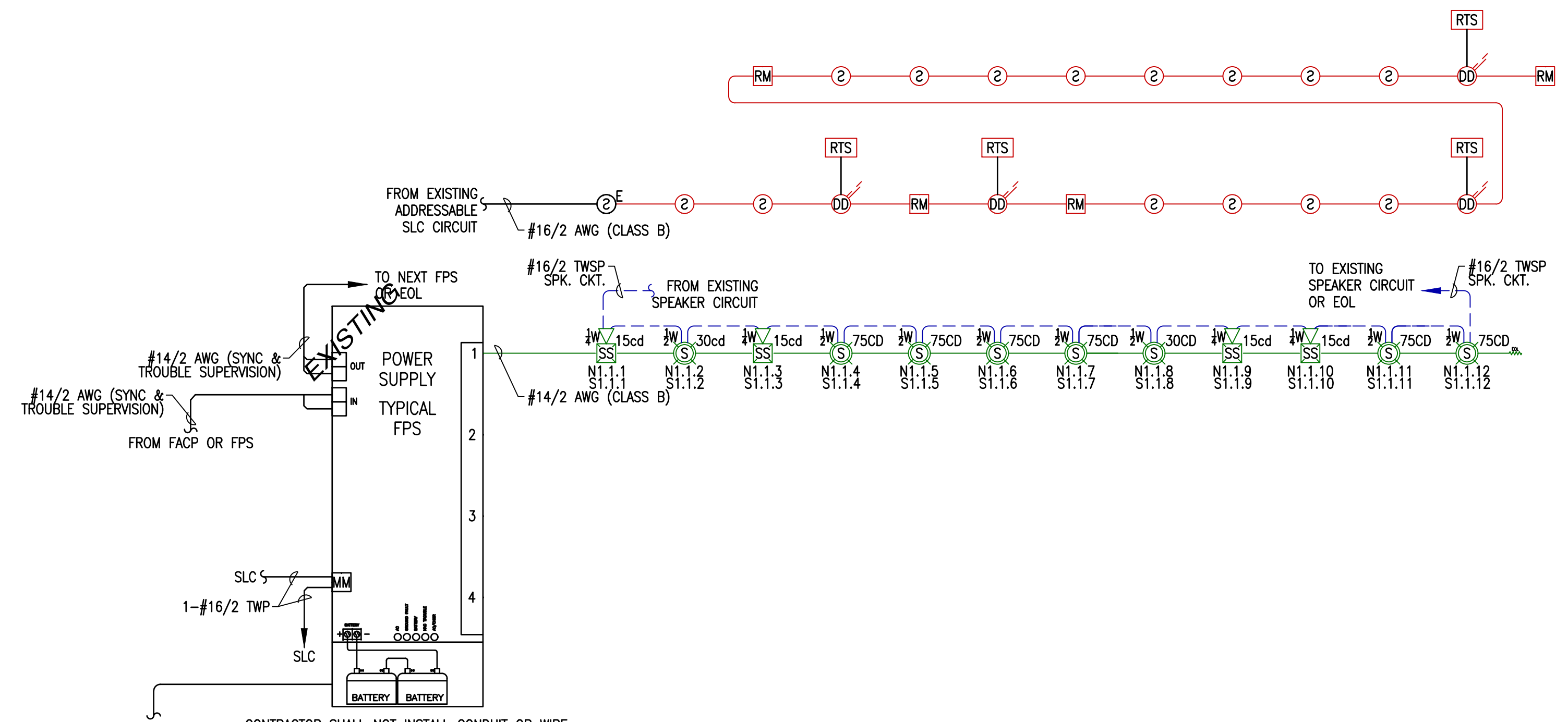
14214 NE 21st Street Bellevue, WA. 98007
(425) 641-2127 FAX (425) 562-6662

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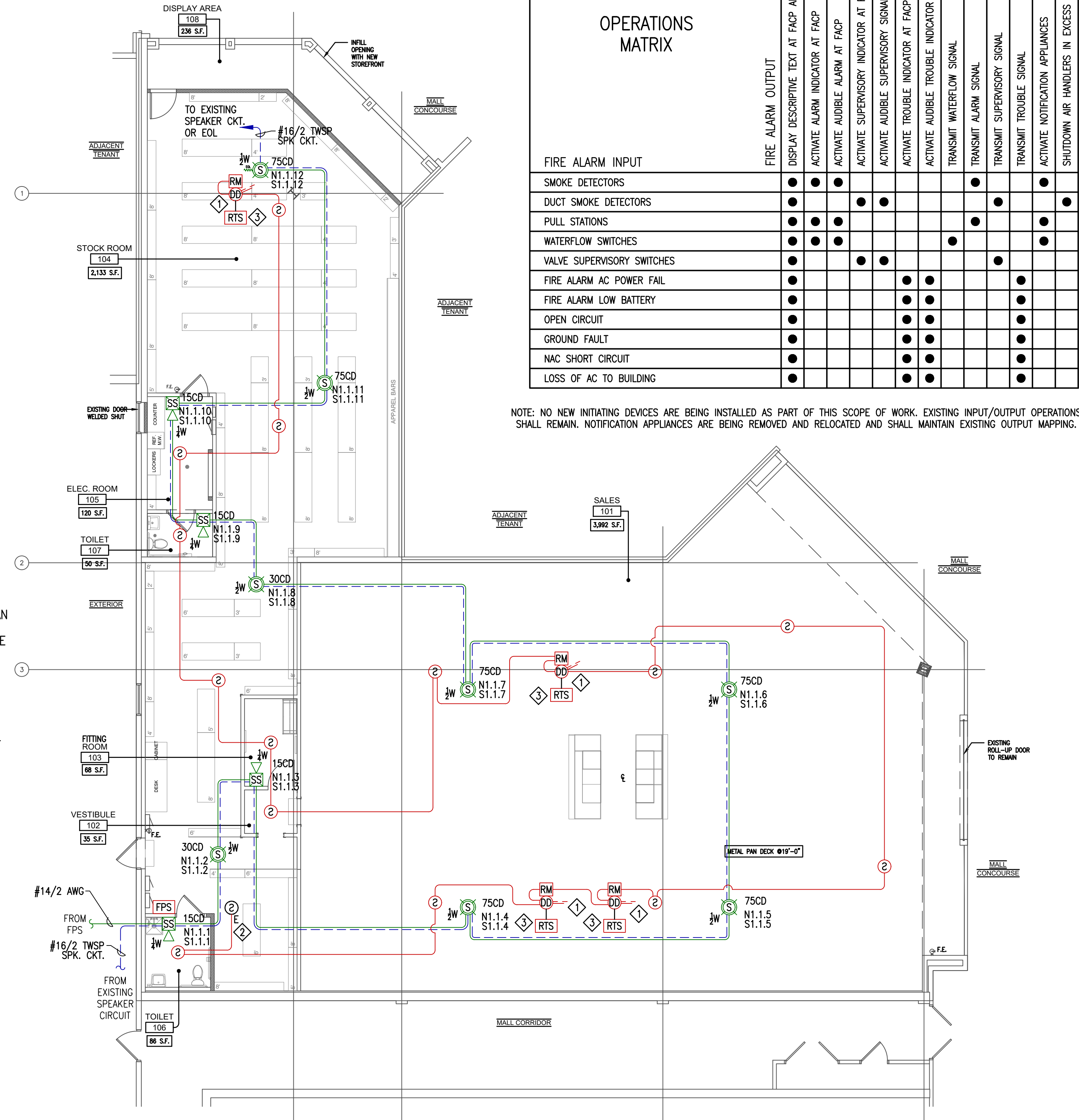
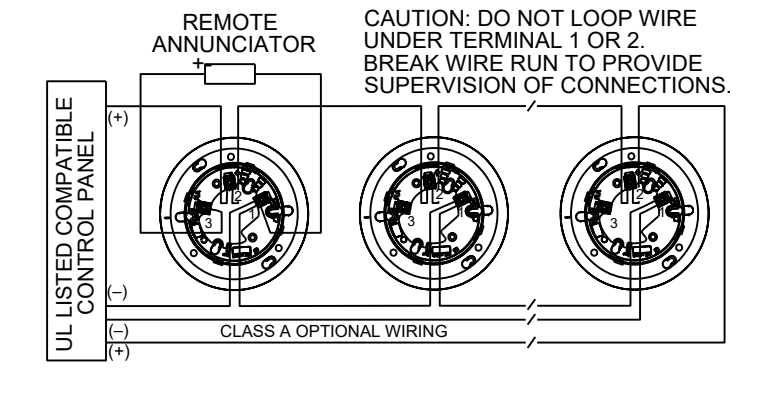
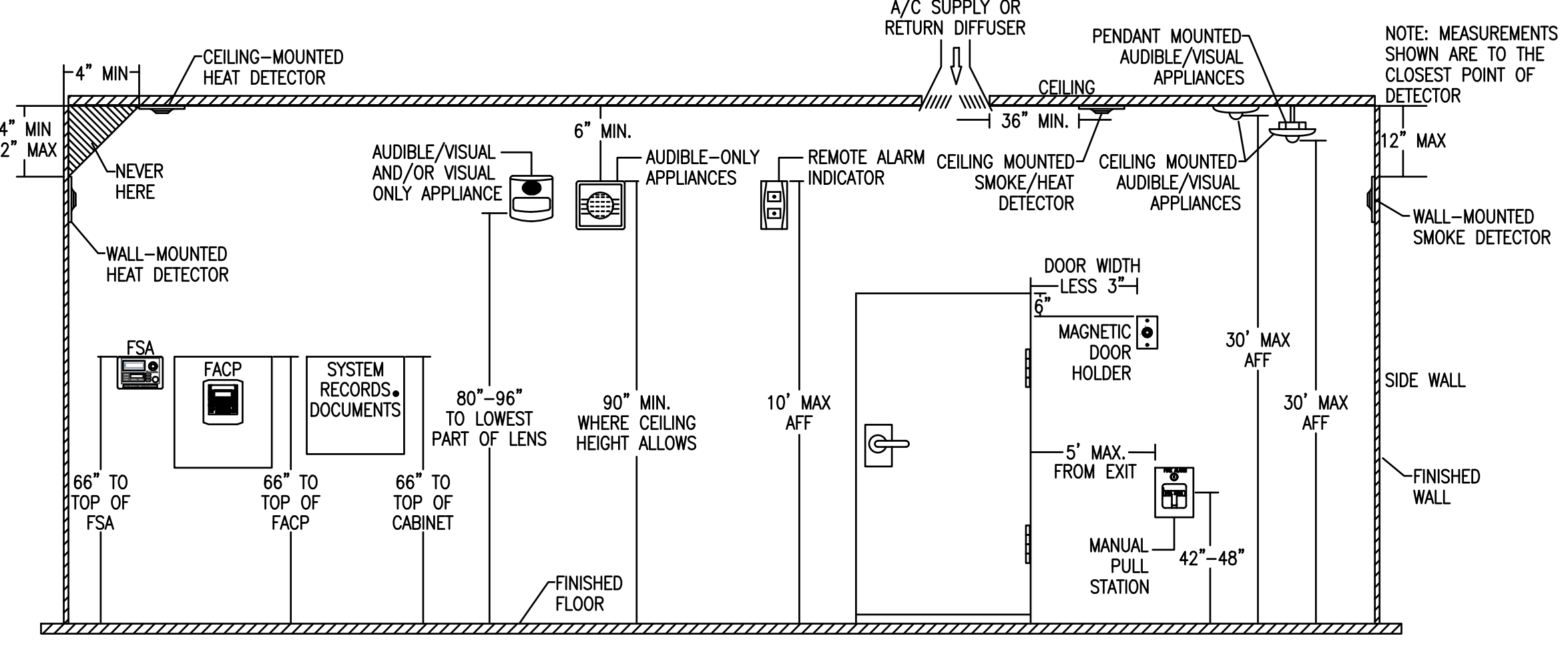
SHOE PALACE - SOUTH HILLS MALL
3500 SOUTH MERIDIAN
PUYALLUP, WA 98373
FIRE ALARM PLAN

DRAWN	NRJ UNICAD Job #24575
CHECKED	CORY W. HAWES, SET NICET IV FAS 112381
DATE	9/16/2024
REVISION	1
SCALE	1/8"=1'-0"

FA-1



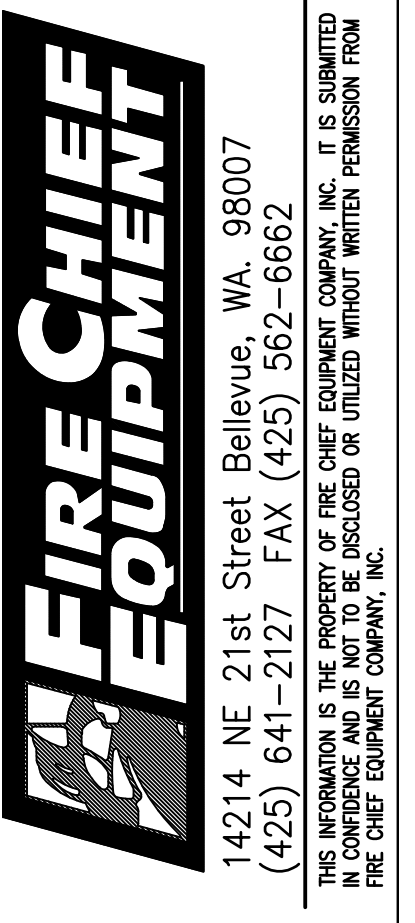
- SHEET NOTES:**
- 1. DUCT SMOKE DETECTORS PROVIDED FOR THE RETURN AIR PATH AT ALL AIR HANDLING UNITS HAVING A CAPACITY GREATER THAN 2,000 CFM AND FOR THE SUPPLY AIR PATH AT ALL AIR HANDLING UNITS HAVING A CAPACITY GREATER THAN 15,000 CFM. INSTALLING CONTRACTOR SHALL FIELD VERIFY EXACT MOUNTING, CIRCUITING AND PROGRAMMING REQUIREMENTS. PROVIDE FOR SHUT DOWN OF THE ASSOCIATED UNIT FAN(S). FIELD VERIFY UNIT POWER SOURCE. USE MULTI-VOLTAGE CONTROL RELAY(S) IF REQUIRED. FIELD VERIFY EXACT QUANTITY AND LOCATION(S) WITH MECHANICAL DIVISION. PROVIDE REMOTE ALARM/SUPERVISORY INDICATION IN A LOCATION ACCEPTABLE TO THE LOCAL AHJ WHEN IN-DUCT SMOKE DETECTOR INDICATOR IS NOT VISIBLE TO RESPONDING PERSONNEL.
 - 2. PROVIDE AND INSTALL INITIATING DEVICE(S). CONNECT NEW DEVICE(S) TO NEAREST EXISTING SLC. INSTALLING CONTRACTOR SHALL FIELD VERIFY EXISTING CIRCUIT. MAINTAIN EXISTING WIRE STYLE, CLASS, AND SUPERVISION.
 - 3. FIELD VERIFY EXACT LOCATION AND PLACEMENT OF REMOTE TEST SWITCH(S).



OPERATIONS MATRIX

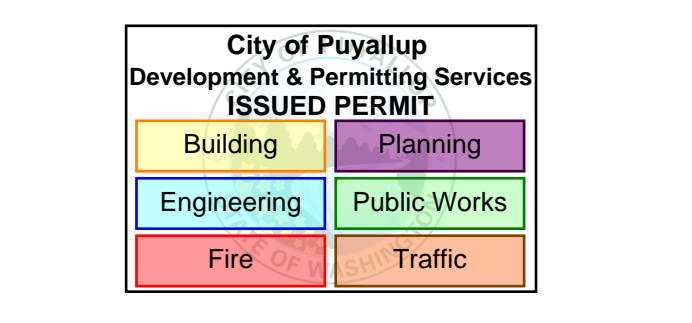
FIRE ALARM INPUT	FIRE ALARM OUTPUT
SMOKE DETECTORS	DISPLAY DESCRIPTIVE TEXT AT FACP AND/OR ANNUNCIATOR
DUCT SMOKE DETECTORS	ACTIVATE ALARM INDICATOR AT FACP
PULL STATIONS	ACTIVATE AUDIBLE ALARM AT FACP
WATERFLOW SWITCHES	ACTIVATE SUPERVISORY INDICATOR AT FACP
VALVE SUPERVISORY SWITCHES	ACTIVATE AUDIBLE SUPERVISORY SIGNAL AT FACP
FIRE ALARM AC POWER FAIL	ACTIVATE TROUBLE INDICATOR AT FACP
FIRE ALARM LOW BATTERY	ACTIVATE TROUBLE INDICATOR AT FACP
OPEN CIRCUIT	ACTIVATE TROUBLE INDICATOR AT FACP
GROUND FAULT	ACTIVATE TROUBLE INDICATOR AT FACP
NAC SHORT CIRCUIT	ACTIVATE TROUBLE INDICATOR AT FACP
LOSS OF AC TO BUILDING	ACTIVATE TROUBLE INDICATOR AT FACP
	TRANSMIT WATERFLOW SIGNAL
	TRANSMIT ALARM SIGNAL
	TRANSMIT SUPERVISORY SIGNAL
	TRANSMIT TROUBLE SIGNAL
	ACTIVATE NOTIFICATION APPLIANCES
	SHUTDOWN AIR HANDLERS IN EXCESS OF 2,000 CFM

NOTE: NO NEW INITIATING DEVICES ARE BEING INSTALLED AS PART OF THIS SCOPE OF WORK. EXISTING INPUT/OUTPUT OPERATIONS SHALL REMAIN. NOTIFICATION APPLIANCES ARE BEING REMOVED AND RELOCATED AND SHALL MAINTAIN EXISTING OUTPUT MAPPING.



SHOE PALACE - SOUTH HILLS MALL
3500 SOUTH MERIDIAN
PUYALLUP, WA 98373
FIRE ALARM PLAN

DATE	9/16/2024
REVISION	0
DESCRIPTION	ISSUED FOR REVIEW & APPROVAL



FA-2