PROPOSED WAREHOUSE
CIMCO SALES
2315 INTER AVENUE
PUYALLUP, WA 98372

FIRE ALARM SYSTEM INSTALLATION

SYMBOL LEGEND

	NEW QTY	EXIST QTY	DESCRIPTION	PART #	MANUFACTURER	MOUNTING/DIMENSIONS
FACU	1	-	FIRE ALARM CONTROL UNIT	NFW-50X	NOTIFIER	WALL MOUNTED
	2	-	BATTERY, 12V, 18AH	SLA1116	INTERSTATE	IN PANEL
DACT	1	-	DIGITAL ALARM COMMUNICATOR TRANSMITTER	SLE-LTE SERIES	STARLINK	WALL MOUNTED
DOC	1	-	DOCUMENT BOX	DBX	SPAGE AGE ELECTRONICS	WALL MOUNTED
DM	2	-	ADDRESSABLE DUAL MONITOR MODULE	FDM-1	NOTIFIER	4" SQUARE BOX
CM	1	-	ADDRESSABLE CONTROL MODULE	FCM-1	NOTIFIER	4" SQUARE BOX
RM	4	-	ADDRESSABLE RELAY MODULE	FRM-1	NOTIFIER	4" SQUARE BOX
R	4	-	MULTIVOLTAGE POWER RELAY	MR-101	NOTIFIER	4" SQUARE BOX
P	3	-	ADDRESSABLE PULL STATION DUAL ACTION	NBG-12LX	NOTIFIER	SINGLE GANG BOX
S	16	-	ADDRESSABLE PHOTOELECTRIC DETECTOR WITH BASE	FSP-951 B300-6 BASE	NOTIFIER	4" O BOX
	6	-	MULTI-CANDELA HORN/STROBE, CEILING MOUNTED	PC2WL	SYSTEM SENSOR	4" SQUARE BOX, DEEP
	1	-	WEATHERPROOF HORN/STROBE, WALL MOUNTED	P2WK	SYSTEM SENSOR	WEATHERPROOF BACKBOX

SCOPE OF WORK & DESIGN BASIS

SCOPE OF WORK

NEW FIRE ALARM SYSTEM INSTALLATION IN A NEW WAREHOUSE BUILDING SHALL INCLUDE NEW NOTIFICATION APPLIANCES, INITIATING DEVICES, AND DACT DIALER AS REFLECTED ON THE FLOOR PLAN. ALL DEVICES SHALL BE TIED TO THE FIRE ALARM CONTROL UNIT. A MONITOR MODULE SHALL BE INSTALLED FOR DIALER MONITORING AND SPRINKLER WATERFLOW AND TAMPER SWITCH. RELAY MODULES SHALL BE INSTALLED FOR THE DESTRATIFICATION FANS AND SPRINKLER BELL ACTIVATION.

BUILDING INFORMATION

USE: STORAGE OF PRODUCTS IN METAL RACKS
CONSTRUCTION TYPE: TYPE II-B, NON-SEPERATED USES. SPRINKLERED
OCCUPANCY TYPE: S1 MODERATE HAZARD STORAGE
AREA OF BUILDING: 4,973 SF
PARCEL NUMBER: 2105200140

APPLIED CODES AND STANDARDS

2019 EDITION NFPA 72
2018 INTERNATIONAL BUILDING CODE
2018 WA STATE ENERGY CODE AS APPLICABLE TO SEMI-HEATED SPACES
PUYALLUP CODES AND AMENDMENTS

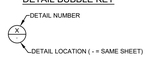
ABBREVIATIONS

AC - ABOVE CEILING
AFF - ABOVE FINISHED FLOOR
ADA - AMERICAN DISABILITIES ACT
AHJ - AUTHORITY HAVING JURISDICTION
AHU - AIR HANDLING UNIT (THIRD PARTY)
ASD - ASPIRATION SMOKE DETECTION
CD - CANDELA (EX. 15CD)
CIS - COMMON INTELLIGIBILITY SCALE
DH - DOOR HOLDER (THIRD PARTY UNO)
EF - EXHAUST FAN (THIRD PARTY)
ELEV - ELEVATOR (THIRD PARTY)
EOL - END OF LINE
EPF - ELEVATOR PRESSURIZATION FAN (THIRD PARTY)
FA - FIRE ALARM
FAA- FIRE ALARM ANNUNCIATOR
FACP - FIRE ALARM CONTROL PANEL
FACU - FIRE ALARM CONTROL UNIT
FATC - FIRE ALARM TERMINAL CABINET
FBO - FURNISHED BY OTHERS
FCU - FAN COIL UNIT (THIRD PARTY)
FFT - FIREFIGHTER'S TELEPHONE
FM - FACTORY MUTUAL
FSD - FIRE SMOKE DAMPER (THIRD PARTY)
HVAC - HEATING, VENTILATION, AND AIR CONDITIONING (THIRD PARTY)
LA - LOW AIR (THIRD PARTY)
N/A - NOT APPLICABLE
NAC - NOTIFICATION APPLIANCE CIRCUIT
NFPA - NATIONAL FIRE PROTECTION ASSOCIATION
NIC - NOT IN CONTRACT
NTS - NOT TO SCALE
PS - POWER SUPPLY
RTU - ROOF TOP UNIT (THIRD PARTY)
SLC - SIGNALING LINE CIRCUIT
SPF - STAIR PRESSURIZATION FAN (THIRD PARTY)
STI - SPEECH TRANSMISSION INDEX
TYP - TYPICAL
UNO - UNLESS NOTED OTHERWISE
VAV - VARIABLE AIR VOLUME (THIRD PARTY)
VFD - VARIABLE FREQUENCY DRIVE (THIRD PARTY)
W/ - WITH
W - WATT (EX. 1/2W)
WP - WEATHERPROOF
XP - EXPLOSION PROOF

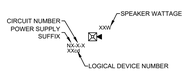
FLOOR PLAN KEY

DEVICE ADDRESS KEY

DETAIL BUBBLE KEY



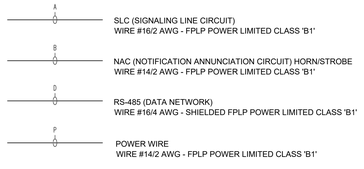
NOTIFICATION DEVICE CIRCUIT KEY



DRAWING SHEET INDEX KEY

CIRCUIT WIRING LEGEND

see NFPA 72-13 12.7



INSTALLATION & GENERAL WIRING NOTES:

GENERAL NOTES:

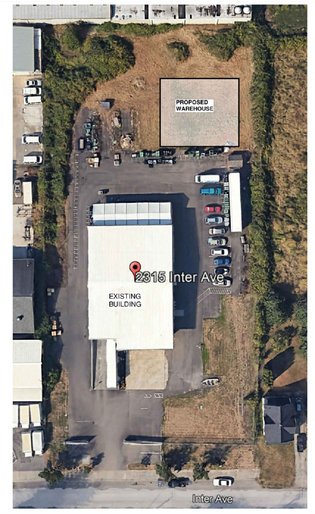
1. INSTALLATION SHALL BE ACCOMPLISHED IN STRICT COMPLIANCE WITH NFPA, LOCAL AND STATE AHJ's, NEC AND CONTRACT DRAWINGS
2. WIRE ROUTING IS DIAGRAMMATIC IN NATURE ONLY AND NOT INTENDED FOR ACTUAL CONDUIT ROUTING.
3. ALL CONDUIT SIZING AND ROUTING BY ELECTRICAL CONTRACTOR PER NEC AND AHJ
4. VERIFY ALL LOCATIONS OF DEVICES WITH ELECTRICAL/ARCHITECTURAL PLANS. SCALE AND PLACE ALL DEVICE PER ELECTRICAL/ARCHITECTURAL PLANS.
5. ALL CIRCUITS WILL BE PROPERLY TAGGED AND TESTED FOR OPENS, SHORTS, GROUNDS AND PROPER "END-OF-LINE" RESISTANCE. EACH CIRCUITS METER READING MUST BE DOCUMENTED AND PRESENTED TO ADT COMMERCIAL (RHF&S) 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 ADT COMMERCIAL (RHF&S) 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 REDLINES NOT PROVIDING THIS INFORMATION WILL BE RETURNED TO THE INSTALLATION CONTRACTOR FOR CORRECTION. ADT COMMERCIAL (RHF&S) IS NOT RESPONSIBLE FOR THESE DELAYS.
7. AGREEMENT AND CONFIRMATION OF ALL MILESTONE EVENTS WILL BE MADE WITH ADT COMMERCIAL (RHF&S) PROJECT MANAGER.
8. ALL ADT COMMERCIAL (RHF&S) FIELD SERVICES MUST BE SCHEDULED WITH ADT COMMERCIAL (RHF&S) 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. NFPA 72-17.7.1.11 REQUIRES THAT SMOKE DETECTORS SHALL NOT BE INSTALLED UNTIL AFTER FINAL CONSTRUCTION CLEAN-UP.
   - 2.1. ANY SMOKE DETECTORS THAT HAVE BEEN INSTALLED PRIOR TO CLEAN-UP MUST BE CLEANED OR REPLACED AND WILL BE INVOICED ON A T&M BASIS.
3. WALL MOUNTED NOTIFICATION DEVICES BACKBOX BETWEEN A MINIMUM OF 80" AFF TO A MAXIMUM OF 96" AFF.
   - 3.1. DEVICES THAT ARE UNABLE TO BE MOUNTED WITHIN THAT RANGE MUST BE VERIFIED BY ADT COMMERCIAL (RHF&S) PRIOR TO INSTALLATION.
   - 3.2. SEE FLOOR PLANS FOR CANDELA RATING OF EACH DEVICE INSTALLED.
4. 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 ADT COMMERCIAL (RHF&S) 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.
   - 8.1. 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 ADT COMMERCIAL (RHF&S) 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. ADT COMMERCIAL (RHF&S) 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.

FIRE ALARM / LIFE SAFETY PROVIDER:

NAME:	ADT COMMERCIAL (SEATTLE)		
ADDRESS:	21312 30TH DRIVE SE, SUITE #103		
	BOTHELL, WA 98021		
PHONE:	425-486-2600		
FAX:	425-486-2611		
PROJECT MANAGER:	Jason Streeter	jasonstreeter@adt.com	EXT:
DESIGNER:	LB		EXT:



VICINITY MAP

SHEET INDEX

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

ADT Commercial
600 Oakesdale Ave. SW
Suite 100
Renton, WA 98057
adt.com/commercial

REVISIONS

NO.	DATE	REVISION
0	04/15/24 BY: L.B.	SUBMISSION
1	- BY: ___	-
2	- BY: ___	-
3	- BY: ___	-
4	- BY: ___	-

CODES ADOPTED BY LOCAL AHJ

2019 NFPA 72 NATIONAL FIRE ALARM CODE
2018 INTERNATIONAL BUILDING CODE
2018 WA STATE ENERGY CODE

PROPOSED WAREHOUSE
CIMCO SALES

FIRE ALARM SYSTEM

BUILDING INFORMATION
PROJECT ADDRESS:
2315 INTER AVENUE
PUYALLUP, WA 98372

PROJECT MANAGER:
Jason Streeter

PREPARED BY: L.B.
CHECKED BY: H.S.
DATE: 03-13-2024
PROJECT NO: 501716114
TITLE:
COVER SHEET

SHEET:
FA-0-1

City of Puyallup
Fire
REVIEWED FOR COMPLIANCE
DDrake
04/18/2024
6:40:28 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.

DESIGNER of RECORD

JOHN PELATA

NICET III FIRE ALARM SYSTEMS

CERT # 117231
EXPIRE DATE: 07/01/2024

FOR VERIFICATION PLEASE VISIT: NICET.ORG

NOTIFICATION WIRING

SPEAKER CIRCUIT WIRING LIMITATIONS:

WIRE LENGTH LIMITATIONS:

THE MAXIMUM ALLOWABLE WIRE LENGTH IS THE FARTHEST DISTANCE THAT A SPEAKER CIRCUIT CAN EXTEND FROM THE AMPLIFIER TO THE LAST SPEAKER WITHOUT LOSING 0.5 dB OF SIGNAL. THE FOLLOWING ARE MAXIMUM DISTANCE BASED ON APPROXIMATE WATTAGE OF THE SPEAKER CIRCUIT. CIRCUIT LENGTHS ARE FURTHER BASED ON ORIGINATION OF A CIRCUIT FROM EITHER THE AMPLIFIER OR FROM THE CC1 MODULE.

ALLOWABLE LENGTH AT 25 Vrms, WITH 0.5 dB LOSS
16AWG - 20 WATTS - 231'
16AWG - 30 WATTS - 154'
16AWG - 40 WATTS - 116'

ALLOWABLE LENGTH AT 70 Vrms, WITH 0.5 dB LOSS
16AWG - 20 WATTS - 1815'
16AWG - 30 WATTS - 1210'
16AWG - 40 WATTS - 907'

NAC CIRCUIT (HORN, STROBE) WIRING LIMITATIONS:

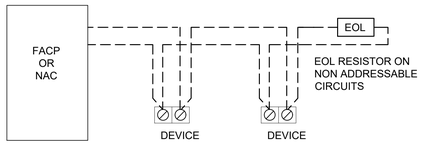
FOR 24VDC SYSTEMS, MINIMUM DEVICE OPERATING VOLTAGE IS 16VDC. VOLTAGE DROP CALCULATIONS ARE BASED ON 16VDC AND POWER SUPPLY DE-RATED AND ON DEPLETED BATTERY BACKUP PER THE PRESCRIBED PERIOD OF STANDBY AND ALARM RING TIME. THE VOLTAGE DROP WILL LIMIT THE CIRCUITS CAPACITY IN ALMOST ALL CASES AND CURRENT CANNOT BE USED AS THE ONLY CIRCUIT WIRING LIMITATION. ALTERATIONS TO CIRCUIT LENGTH FROM THOSE CALCULATED MAY CAUSE CIRCUITS TO BE OUT OF THE TOLERANCES GRANTED BY THE FIRE ALARM CODE. CHANGES TO DEVICE LOCATION OR CIRCUIT LENGTH SHALL BE COMMUNICATED TO THE ADT COMMERCIAL TEAM.

NAC CIRCUIT WIRING AND ROUTING MUST NOT EXCEED WHAT IS SHOWN ON THE DESIGN DRAWINGS AND CALCULATIONS. A VOLTAGE DROP TEST IS PART OF MOST FIRE FINALS AND IS REQUIRED BY NFPA. A FAILED FIRE FINAL MAY REQUIRE REWIRING OF THE FAILED CIRCUITS.

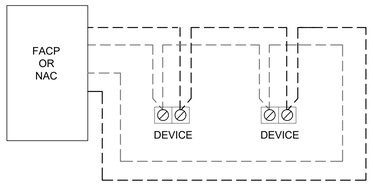
WIRE RESISTANCE RATINGS USED FOR CALCULATIONS:
18AWG - 13 OHMS PER 1000'
16AWG - 8 OHMS PER 1000'
14AWG - 5.2 OHMS PER 1000'

EXAMPLE: 1.0 AMP CIRCUIT LOAD USING #14 WIRE = 409 FEET MAXIMUM.

CLASS A OR B NOTIFICATION WIRING



CLASS B, STYLE 4 WIRING



CLASS A, STYLE 6 WIRING

SEPARATION OF CLASS A CIRCUITS - INSTALLATION EXCEPTIONS:

CLASS A OUTGOING AND RETURN CONDUCTORS, EXITING AND RETURNING TO THE CONTROL PANEL, ARE TO BE ROUTED SEPARATELY. THE MINIMUM RECOMMENDED SEPARATION IS 1 FT. VERTICALLY AND 4 FT. HORIZONTALLY. THE FOLLOWING EXCEPTIONS STILL DO NOT ELIMINATE THE 2ND PAIR OF WIRES. THEY ALLOW YOU TO USE A SINGLE RACEWAY AND ELIMINATE THE SEPARATION FOR THESE CONDITIONS.

1. WHEN MAXIMUM CABLE, ENCLOSURE, OR RACEWAY IS LESS THAN 10 FEET. NO LIMIT TO NUMBER OF DEVICES.
2. UNLIMITED CONDUIT OR RACEWAY DROP TO AN INDIVIDUAL DEVICE.
3. UNLIMITED CONDUIT OR RACEWAY DROP TO A ROOM NOT EXCEEDING 1000 SQ. FT. NO LIMIT TO THE NUMBER OF DEVICES.

RECORD DRAWINGS

AS-BUILT / RECORD DRAWING REQUIREMENTS:

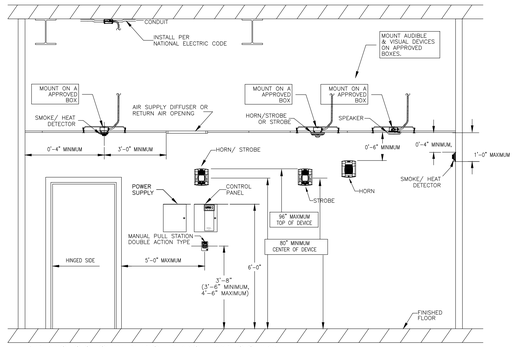
THE FOLLOWING INFORMATION SHOULD BE RECORDED ON A SEPARATE SET OF DRAWINGS FOR EACH PROJECT:

1. ANY CHANGES IN THE LOCATION OF ANY ASSOCIATED FIRE ALARM OR INTERFACE EQUIPMENT. CONTROL PANELS, ANNUNCIATORS, DETECTORS, CONTROL RELAYS, INPUT AND OUTPUT MODULES, TERMINAL CABINETS, ETC.
2. ANY CHANGES TO CIRCUIT WIRING. THIS INCLUDES DELETION OR ADDITIONAL WIRING RUNS. ANY RE-ROUTING OF CIRCUIT WIRING. ANY ADDITIONS OR DELETIONS TO THE NUMBER, LOCATION, AND ORDER OF DEVICE WIRING ON A CIRCUIT.
3. ADDRESSES AND/ OR LABELS FOR ALL ADDRESSABLE DEVICES.
4. CANDELA SETTINGS OF ALL VISUAL NOTIFICATION DEVICES.
5. WATTAGE TAP SETTINGS OF ALL SPEAKER NOTIFICATION DEVICES.

ANY CHANGES SHALL BE DISCUSSED WITH THE ADT PROJECT MANAGER TO ENSURE SYSTEM AND CODE PARAMETERS ARE MET. ADT COMMERCIAL SHALL NOT BE HELD ACCOUNTABLE FOR CHANGES MADE WITHOUT APPROVAL.

THIS INFORMATION SHALL BE NEAT AND LEGIBLE WHEN PRESENTED TO THE TECHNICIAN AT THE CONCLUSION OF THE PROJECT. PLEASE NOTE CONTACT INFORMATION ON DRAWINGS FOR INDIVIDUALS WITH FAMILIARITY OF INSTALLATION IN THE EVENT QUESTIONS ARISE DURING THE CLOSEOUT PROCESS.

MOUNTING HEIGHTS



* DEVICES SHOWN DEPICT DEVICE TYPES ONLY.

NFPA 72 AND ADA DEVICE INSTALLATION REQUIREMENTS

FIRE ALARM SYSTEM OPERATIONAL MATRIX

	ALARM						TROUBLE				SUPERVISORY				REQUIRED FUNCTIONS			
EFFECT / CAUSE	ALARM AT FACP	ALARM AT SUPERVISING STATION		ACTUATE ALL EVACUATION SIGNALS	ACTUATE SPRINKLER BELL		TROUBLE AT FACP	TROUBLE AT SUPERVISING STATION			SUPERVISORY AT FACP	SUPERVISORY AT SUPERVISING STATION			SHUTDOWN HVAC UNITS			
MANUAL PULL STATION	●	●		●											●			
AREA SMOKE DETECTORS	●	●		●											●			
WATERFLOW SWITCH	●	●		●	●													
TAMPER SWITCH											●	●						
AC POWER FAILURE							●	●										
FIRE ALARM SYSTEM LOW BATTERY, OPEN CIRCUIT, GROUND FAULT, NAC SHORT, GENERAL TROUBLE							●	●										

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

ADT Commercial
600 Oakesdale Ave. SW
Suite 100
Renton, WA 98057
adt.com/commercial

REVISIONS

NO.	DATE	REVISION
0	04/15/24 BY: L.B.	SUBMISSION
1	BY:	-
2	BY:	-
3	BY:	-
4	BY:	-

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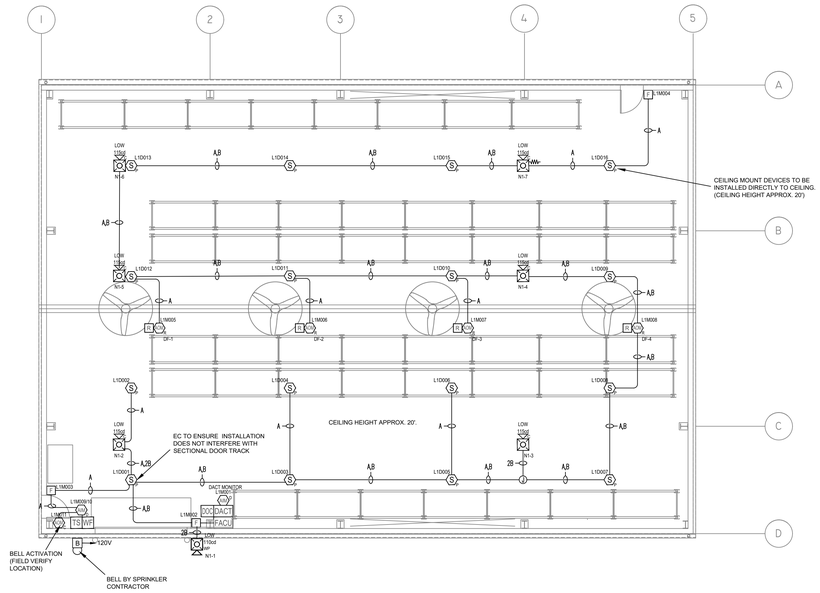
TITLE: PROJECT NOTES

SHEET: FA-0-2



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FIRE ALARM PLAN - GROUND FLOOR

SCALE: 1/8"=1'

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

ADT Commercial

600 Oakesdale Ave. SW
Suite 100
Renton, WA 98057

adt.com/commercial

REVISIONS

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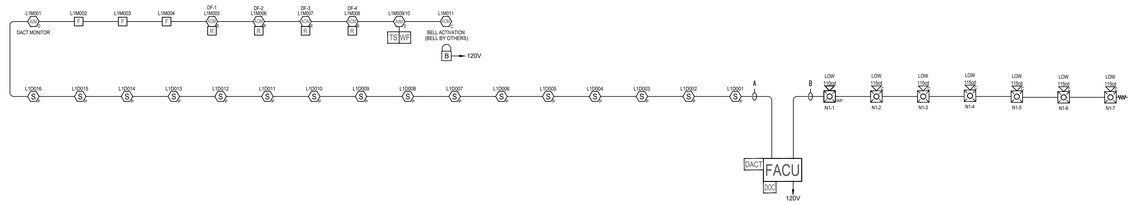
FIRE ALARM PLAN
GROUND FLOOR

SHEET:
FA-1-1

RISER DIAGRAM



GROUND FLOOR

CALCULATIONS

NOTIFIER® by Honeywell

System Power Requirements

NFW-50X Fire Alarm Control Panel

Clear Project Information

AC Branch Current Requirements — 1.75 AMPS @ 120 VAC — Check
Current required by source to power the fire alarm system.

Primary Standby Load — 0.01 Amps — Check
Current load on the primary power supply during **non-alarm** conditions.

Primary Alarm Load — 1.72 Amps — Check
Current load on the primary power supply during **alarm** conditions.

Secondary Load Requirements — 6.83 Amp Hours — Check
Total Secondary Load from the calculation table below.

Current Draw		Time (hours)	Total (AH)
Secondary Standby Load 0.221 A	x	Required Standby Time 24 hours	5.29
Secondary Alarm Load 1.981 A	x	Required Alarm Time 0.084 hours	0.17
		Total Secondary Load	5.46
	◉ USA ○ Canada	Derating factor	x 1.25
		Secondary Load Requirements	**6.83** AH

Battery Selection — 18 Amp Hours — Check
Select batteries from the list below.

18 AH Battery (12 volt)

◉ Two ○ Four (two 12VDC sets in parallel)

NOTIFIER® by Honeywell

Device Current Draw

NFW-50X Fire Alarm Control Panel

Quantity x [device current draw] = total current draw per device (in amps)

Part Number	Qty	Primary Non-Alarm	Primary Alarm	Secondary Non-Alarm
Main Circuit Board	1	x [0.00000] = 0.00000	x [0.00000] = 0.00000	x [0.14100] = 0.14100
PCZWL115	6	x [0.00000] = 0.00000	x [0.18700] = 1.12200	x [0.00000] = 0.00000
P2WK110	1	x [0.00000] = 0.00000	x [0.20200] = 0.20200	x [0.00000] = 0.00000
FSP-951	16	x [0.00030] = 0.00480	x [0.00000] =	x [0.00030] = 0.00480
FDM-1	2	x [0.00075] = 0.00150	x [0.00000] =	x [0.00075] = 0.00150
NBG-12LX	3	x [0.00030] = 0.00090	x [0.00000] = 0.00000	x [0.00030] = 0.00090
FCM-1	1	x [0.00039] = 0.00039	x [0.00000] =	x [0.00039] = 0.00039
FRM-1	4	x [0.00025] = 0.00100	x [0.00000] =	x [0.00025] = 0.00100
Max Alarm Draw - All Addressable Devices	1	x [0.00000] = 0.00000	x [0.20000] = 0.20000	x [0.00000] = 0.00000
Starlink SLE-LTE Dialer	1	x [0.00000] = 0.00000	x [0.20000] = 0.20000	x [0.07100] = 0.07100
		Total (Amperes):	**0.0086 A**	**1.7240 A**	**0.2206 A**

Part Number	Qty	Secondary Alarm
Total Primary Alarm Load - C2	1	x [1.72400] = 1.72400
Main Circuit Board	1	x [0.25700] = 0.25700
		Total (Amperes):	**1.9810 A**

VOLTAGE DROP CALCULATIONS

Power Source: FACU N
Voltage at Power Supply: 20.400
Resistance of 1000ft of Wire 3.140

Circuit Name: N1

Device Type	Current (AMP)	Qty.	Total (AMP)
PC2WL 115cd Horn/Strobe (Ceiling)	0.187000	6	1.122
P2WK 110cd WP Horn/Strobe (Wall)	0.202000	1	0.202
		Circuit N1 Total Current Draw AMP:	1.324

Wire Length of Circuit N1

Distance From Power Supply to 1st Device	A	10
Distance From 1st Device to Last Device	B	300
Weighted Wire Length	C = (A + B) / 2	155

Voltage Drop of Circuit N1

Voltage at Power Supply (Volt)	A	20.400
Resistance of 1000ft of Wire (Ohm)	B	3.140
Weighted Wire Length (Ft)	C	155
Wire Resistance (Ohm)	D = (2 x B x C) / 1000	0.973
Circuit N1 Total Current Draw AMP	E	1.324
Voltage Drop at the Last Device (Volt)	F = D x E	1.289
Voltage Drop Percentage	G = (F / A) x 100	6.32%

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NO.	DATE	REVISION
0	04/15/24 BY: L.B.	SUBMISSION
1	BY: ___	-
2	BY: ___	-
3	BY: ___	-
4	BY: ___	-

CODES ADOPTED BY LOCAL AHJ

2019 NFPA 72 NATIONAL FIRE ALARM CODE
2018 INTERNATIONAL BUILDING CODE
2018 WA STATE ENERGY CODE

PROPOSED WAREHOUSE
CIMCO SALES

FIRE ALARM SYSTEM

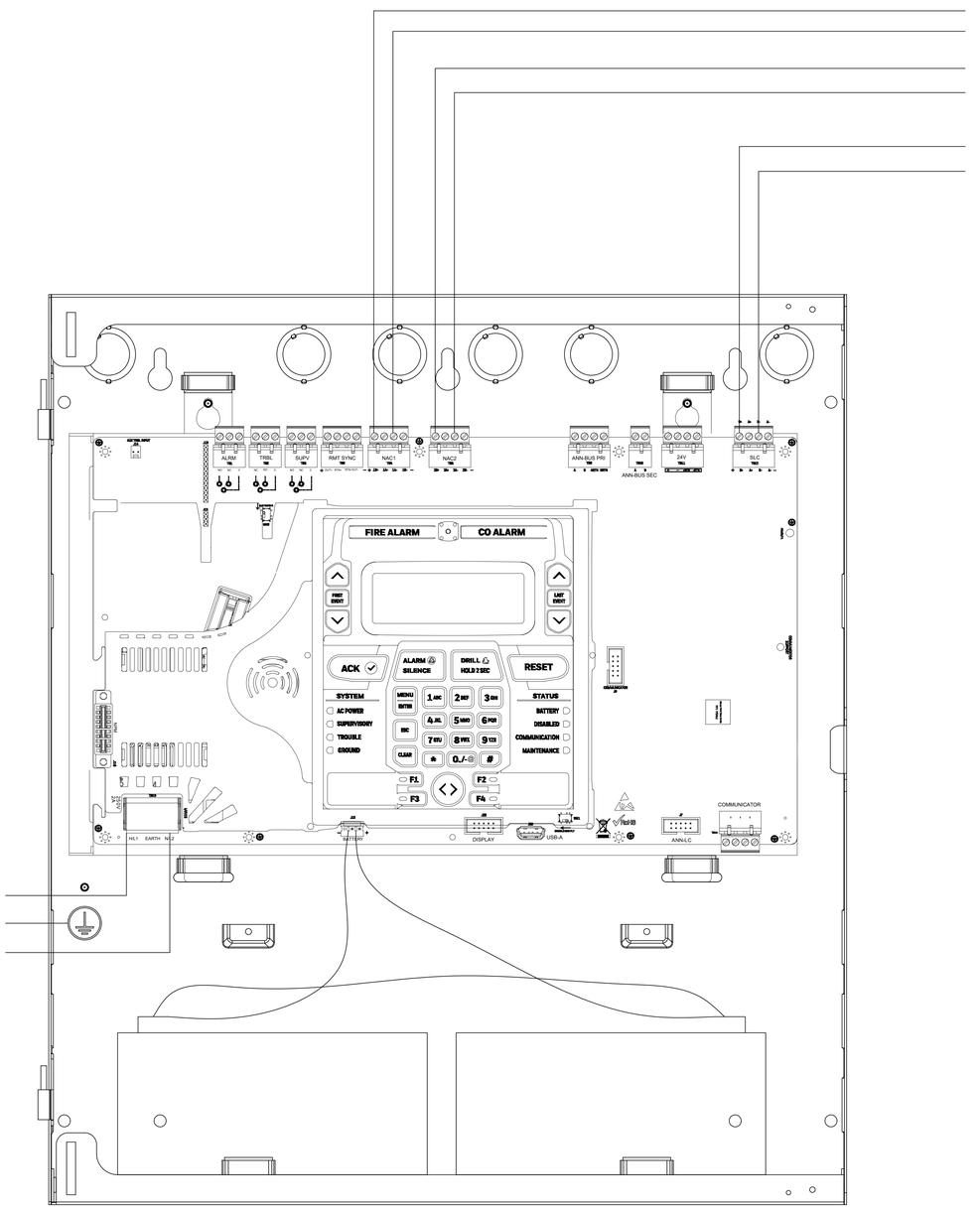
BUILDING INFORMATION
PROJECT ADDRESS:
2315 INTER AVENUE
PUYALLUP, WA 98372

PROJECT MANAGER: Jason Streeter

PREPARED BY: L.B.
CHECKED BY: H.S.
DATE: 03-13-2024
PROJECT NO: 501716114

TITLE:
FIRE ALARM
RISER DIAGRAM
AND CALCULATIONS

SHEET: FA-2-1



SPECIFICATIONS

Electrical Specifications

AC Power: Operates in either 120 or 240 VAC, 50/60 Hz, 3.25 A, auto-sensing- no switch required. Wire size: minimum 14 AWG (2.00 mm2) with 600 V insulation. Nonpower-limited, supervised.

Battery: Two 12 V 18 AH lead-acid batteries. Battery Charger Capacity: 7-18 AH (FireWarden-100X cabinet holds maximum of two 18 AH batteries.)

Communication Loop: Supervised and power-limited.

Notification Appliance Circuits:
Terminal Block provides connec-tions for four NACs, Style Y (Class B) or Style Z (Class A). Special Application power. Power-limited, supervised circuitry. Maximum signaling current per circuit: 2.5 amps special application, 250mA regulated. End-of-Line Resistor: 4.7k ohm, ½ watt (P/N 71252 UL listed) for Style Y (Class B) NAC; system capable of 1.9 kΩ - 22 kΩ ELR range. Refer to the NOTIFIER Device Compatibility Document for listed compatible devices.

Two Programmable Relays and One Fixed Trouble Relay: Con-tact rating: 2.0 A @ 30 VDC (resistive), 0.5 A @ 30 VAC (resistive). Form-C relays, non-power-limited, non-supervised.

Cabinet Specifications

Door: 19.26" (48.92 cm.) high x 16.82" (42.73 cm.) wide x 0.72" (1.82 cm.) deep. Backbox: 19.00" (48.26 cm.) high x 16.65" (42.29 cm.) wide x 5.25" (13.34 cm.) deep. Trim Ring (TR-CE/B): 22.00" (55.88 cm.) high x 19.65" (49.91 cm.) wide.

Temperature and Humidity Ranges

This system meets NFPA requirements for operation at 0 – 49°C/32 – 120°F and at a relative humidity 93% ± 2% RH (noncondensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C/60 – 80°F.

Addressable Device Accessories

End-of-Line Resistor Assembly (R-47K and R-3.9K): The 47kohm assembly supervises the NMM-100-10, NDM-100, NMM-100P, and NC-100 module circuits. The 3.9kohm assembly super-vises the NZM-100-6 module circuit. These resistors are included with each module.
Power Supervision Relay: Supervises the power to 4-wire smoke detectors and notification appliances.

Wiring Requirements

While shielded wire is not required, it is recommended that all SLC wiring be twisted-pair to minimize the effects of electrical interfer-ence. Refer to the panel manual for wiring details.

NFPA Standards
The FireWarden–50X complies with the following NFPA 72 Fire Alarm Systems requirements:
– LOCAL (Automatic, Manual, Waterflow and Sprinkler Supervi–sory).– AUXILIARY (Automatic, Manual and Waterflow) (requires 4XTM).
– REMOTE STATION (Automatic, Manual and Waterflow) (Where a DACT is not accepted, the alarm, trouble and supervi–sory relays may be connected to UL 864 listed transmitters. For reverse polarity signaling of alarm and trouble, 4XTM is required.)
– PROPRIETARY (Automatic, Manual and Waterflow).
– CENTRAL STATION (Automatic, Manual and Waterflow, and Sprinkler Supervised).
–OT, PSDN (Other Technologies, Packet–switched Data Net–work)– IBC 2012, IBC 2009, IBC 2006, IBC 2003, IBC 2000 (Seismic).
– CBC 2007 (Seismic)

Agency Listings and Approvals

The listings and approvals below apply to the basic FireWarden-100X control panel. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

•UL: S635

NFW-50X PANEL DETAILS

FOR REFERENCE ONLY. REFER TO INSTALLATION MANUAL FOR COMPLETE DETAILS.

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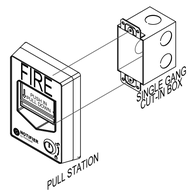
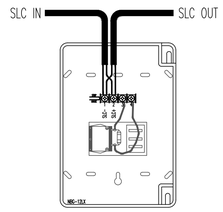
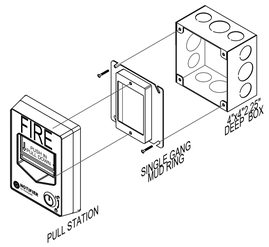
CHECKED BY: H.S.
DATE: 03-13-2024
PROJECT NO: 501716114
TITLE: FIRE ALARM PANEL DETAILS
SHEET: FA-3-1



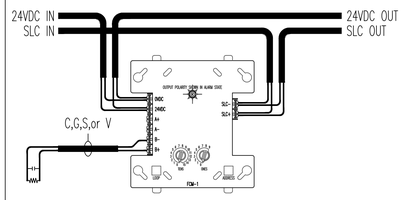


NBG-12LX PULL STATION

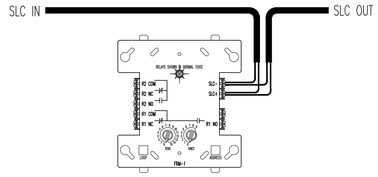


BACKBOX & MOUNTING OPTION ISOMETRICS

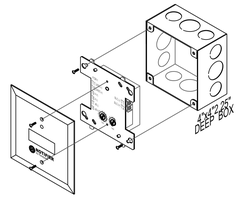
1 NBG-12LX PULL STATION W/ BACKBOX & MOUNTING ISOMETRICS
SCALE: NONE



FCM-1 24VDC OUTPUT CONTROL MODULE

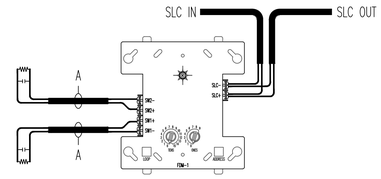


FRM-1 DUAL FORM-C RELAY CONTROL MODULE

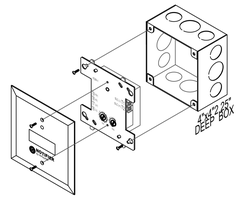


BACKBOX & MOUNTING ISOMETRIC

2 FCM-1 24VDC OUTPUT CONTROL & FRM-1 RELAY MODULES w/ BACKBOX & MOUNTING ISOMETRIC
SCALE: NONE



FDM-1 DUAL SWITCH INPUT MONITOR MODULE



BACKBOX & MOUNTING ISOMETRIC

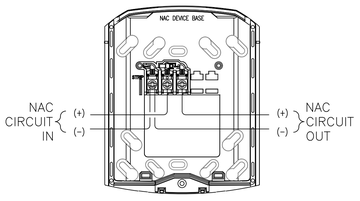
3 FDM-1 MONITOR MODULES w/ BACKBOX & MOUNTING ISOMETRICS
SCALE: NONE

MOUNTING BOX OPTIONS

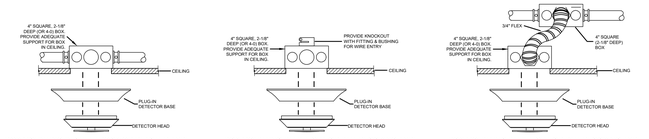
2-WIRE INDOOR PRODUCTS	4-WIRE INDOOR PRODUCTS	K SERIES PRODUCTS
4 X 4 X 1-1/2, SINGLE GANG, DOUBLE GANG, 4" OCTAGON	4 X 4 X 1-1/2, DOUBLE GANG, 4" OCTAGON	SA-WBB/ W (WALL), SA-WBBC/ CW (CEILING)

MOUNTING NOTES:

1. ADJUST THE SLIDE SWITCH ON THE REAR OF THE PRODUCT TO POSITION THE DESIRED CANDELA SETTING IN THE SMALL WINDOW ON THE FRONT OF THE UNIT.
2. ATTACH MOUNTING PLATE TO THE JUNCTION BOX.
3. CONNECT FIELD WIRING TO TERMINALS, AS SHOWN AT RIGHT.
4. ATTACH THE PRODUCT TO THE MOUNTING PLATE AND SECURE WITH THE SCREW PROVIDED.
12. 5. IF AT ALL POSSIBLE, WEATHERPROOF AUDIBLE/VISUAL DEVICES SHALL NOT BE INSTALLED WHERE DIRECT CONTACT WITH THE ELEMENTS MAY OCCUR, KEEP DEVICE UNDER AN AWNING OR CANOPY.



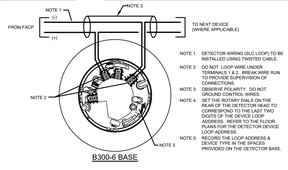
4 NAC DEVICE INSTALLATION DETAIL
SCALE: NONE



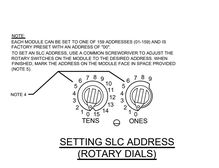
BOX MOUNTING IN SHEETROCK OR PLASTER TYPE CEILINGS (MUST BE INSTALLED WITH CONDUIT)

BOX MOUNTING IN LIFT OUT OR INTERLOCKING TYPE CEILINGS FOR SYSTEMS WITH CABLE INSTALLED IN PLENUM

BOX MOUNTING IN LIFT OUT OR INTERLOCKING TYPE CEILINGS WITH SYSTEMS INSTALLED IN CONDUIT



NOTE 1: DETECTOR WIRING (SLC LOOP) TO BE INSTALLED USING TWISTED CABLE.
NOTE 2: DO NOT LOOP WIRE UNDER TERMINALS 1 & 2. BREAK WIRE RUN TO PROVIDE SUPERVISION OF CONNECTIONS.
NOTE 3: OBSERVE POLARITY. DO NOT GROUND CONTROL WIRES.
NOTE 4: SET THE ROTARY DIALS ON THE REAR OF THE DETECTOR HEAD TO THE DESIRED ADDRESS. THE TWO DIGITS OF THE DEVICE LOOP ADDRESS. REFER TO THE FLOOR PLANS FOR THE DETECTOR DEVICE LOOP ADDRESS.
NOTE 5: RECORD THE LOOP ADDRESS & DEVICE TYPE IN THE SPACES PROVIDED ON THE DETECTOR BASE.



SETTING SLC ADDRESS (ROTARY DIALS)

5 DETECTOR BASE & BACKBOX MOUNTING ISOMETRICS
SCALE: NONE

FOR REFRENCE ONLY. REFER TO PRODUCT MANUALS FOR COMPLETE INFORMATION.

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TITLE:
DEVICE WIRING DETAILS

SHEET:
FA-4-1