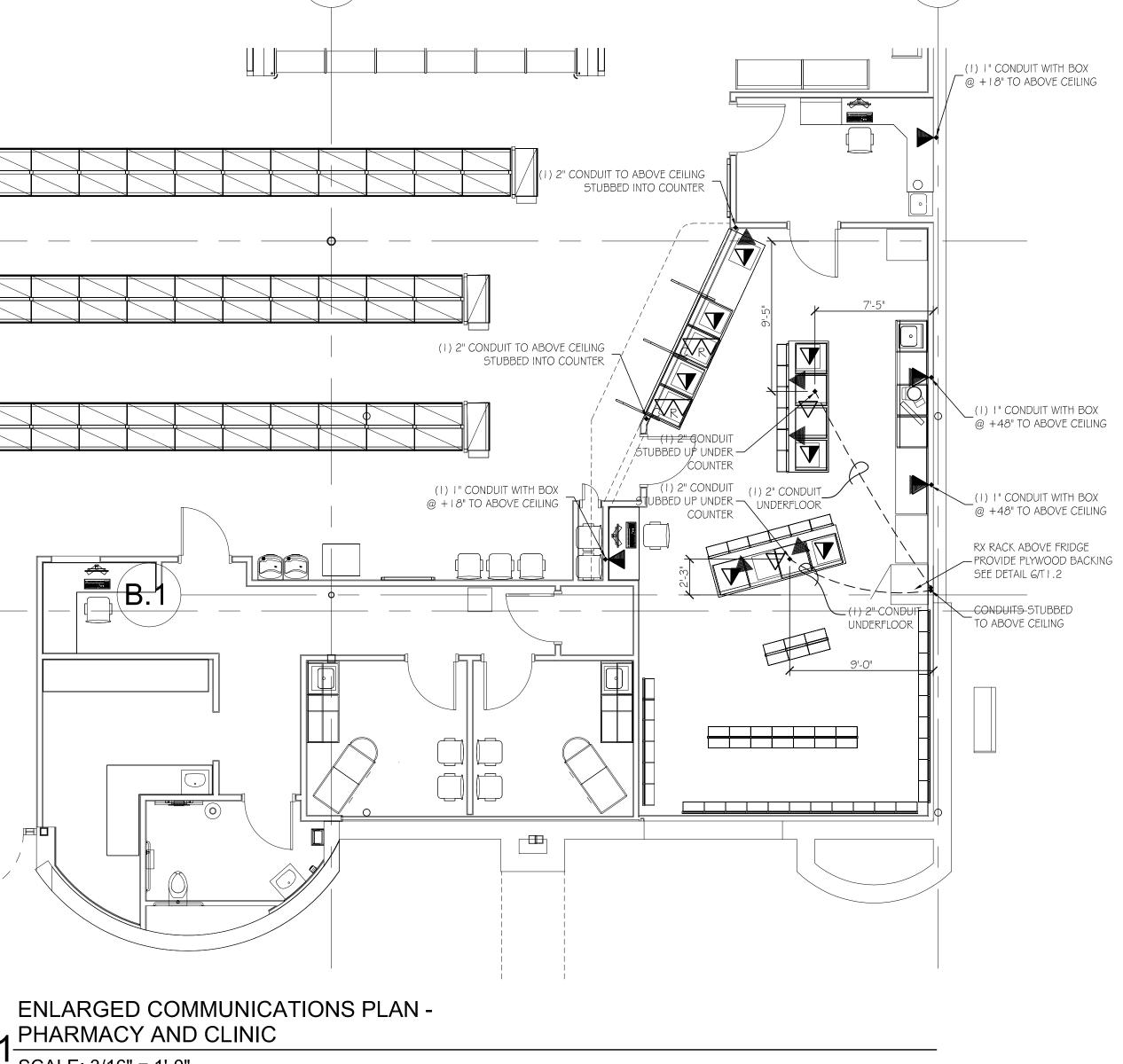


10

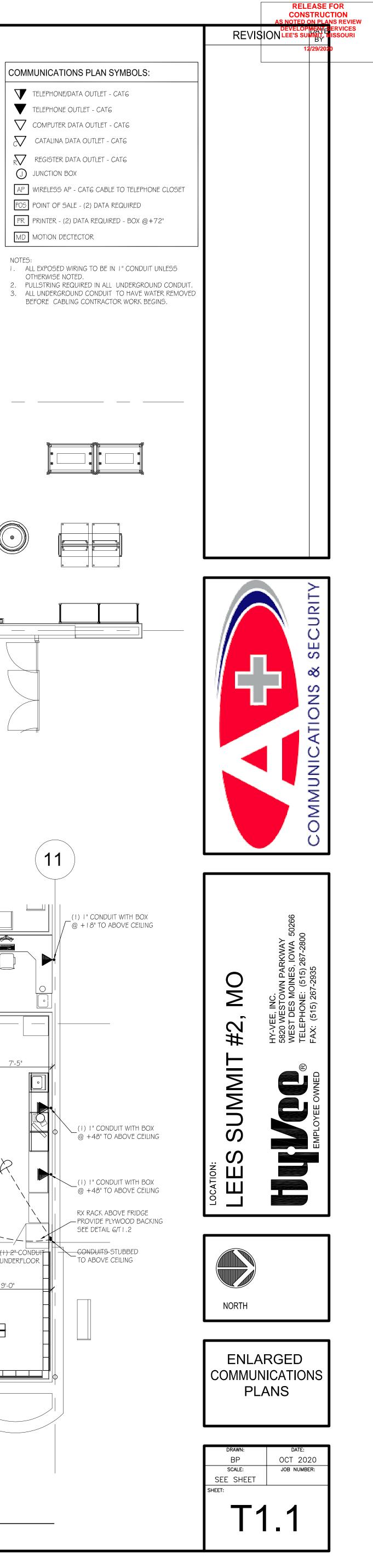


С

B



SCALE: 3/16" = 1'-0"



TELEPHONE/DATA OUTLET - CATG

 $\bigtriangledown$  computer data outlet - catg

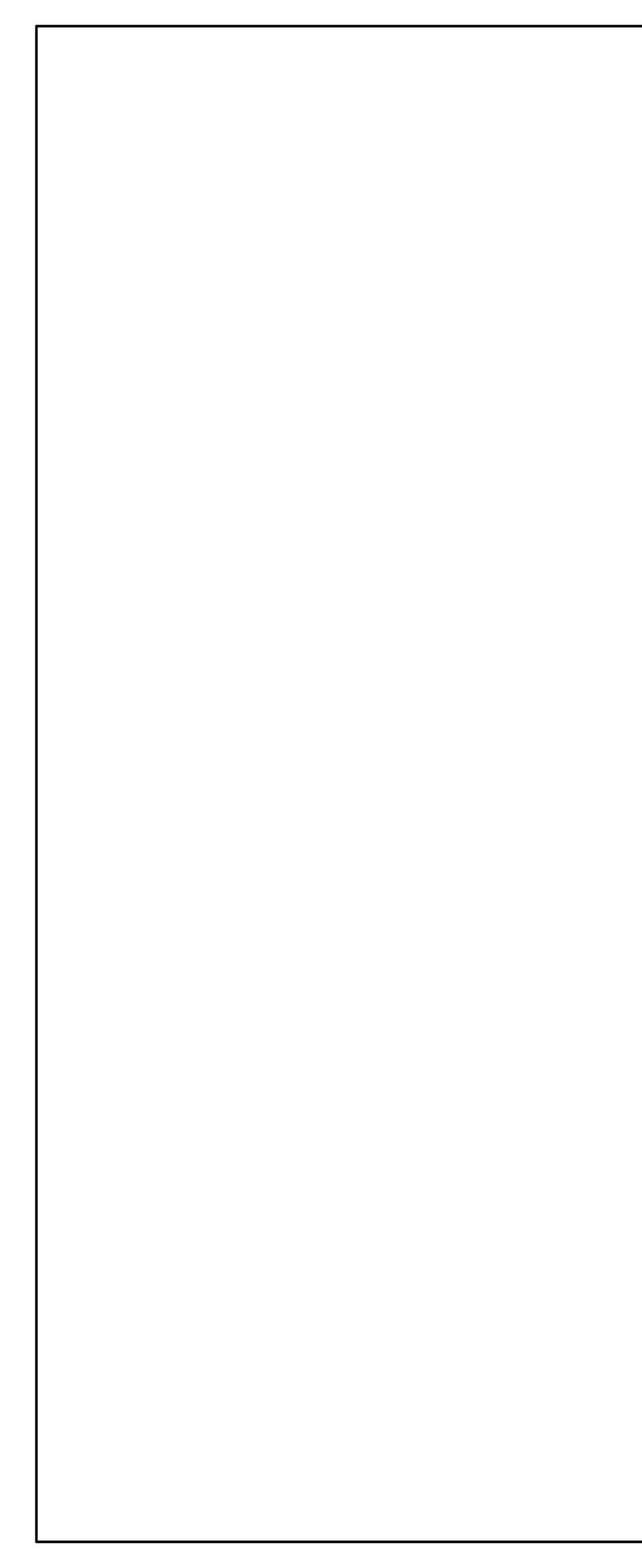
CATALINA DATA OUTLET - CATG

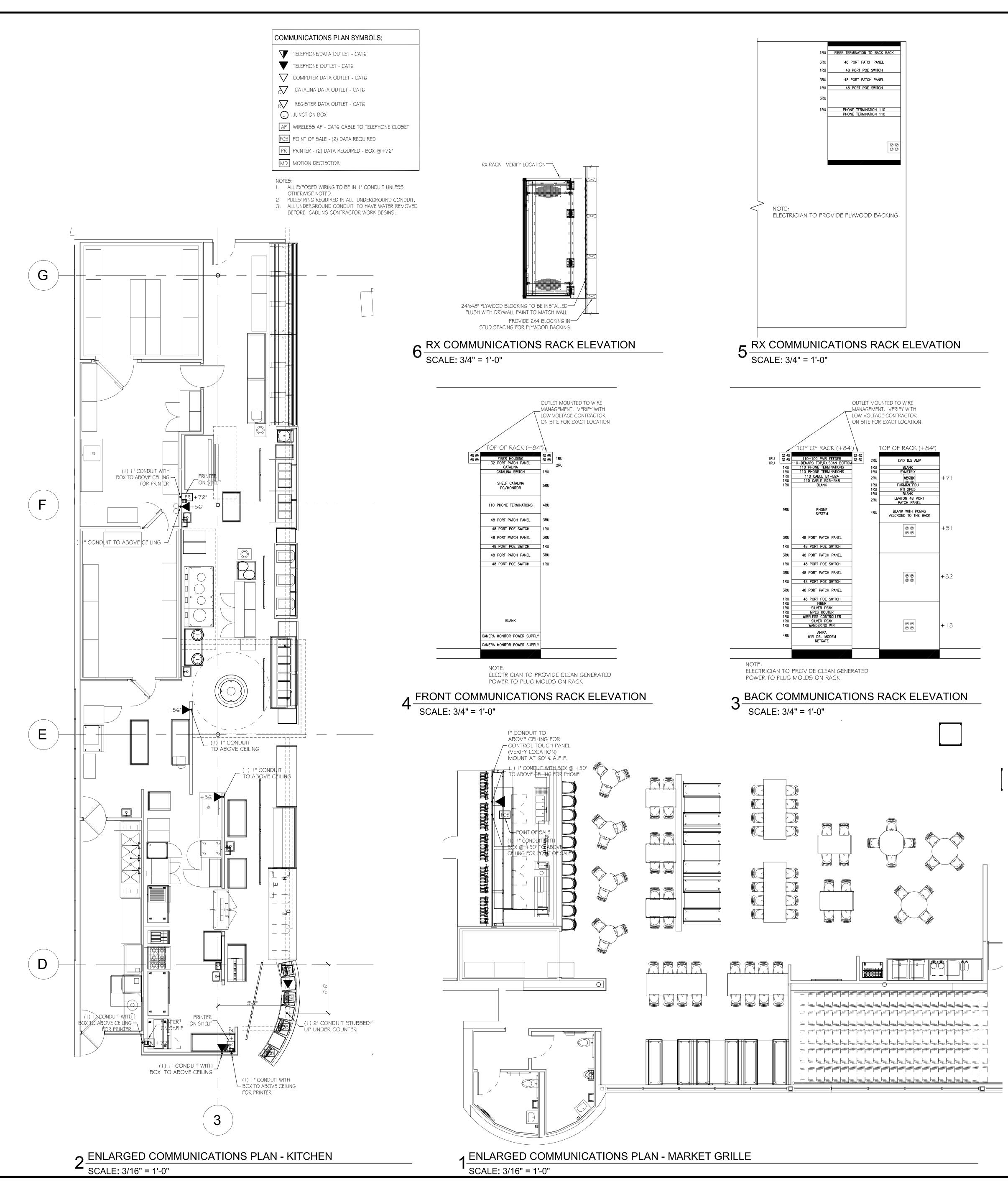
REGISTER DATA OUTLET - CATG

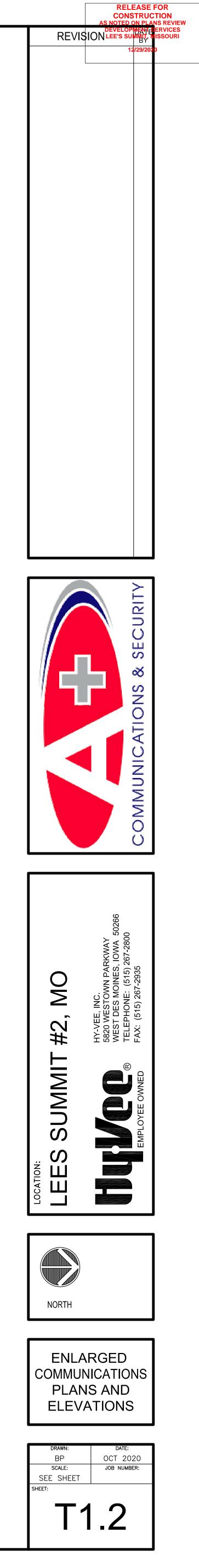
 $\bigcirc$  JUNCTION BOX

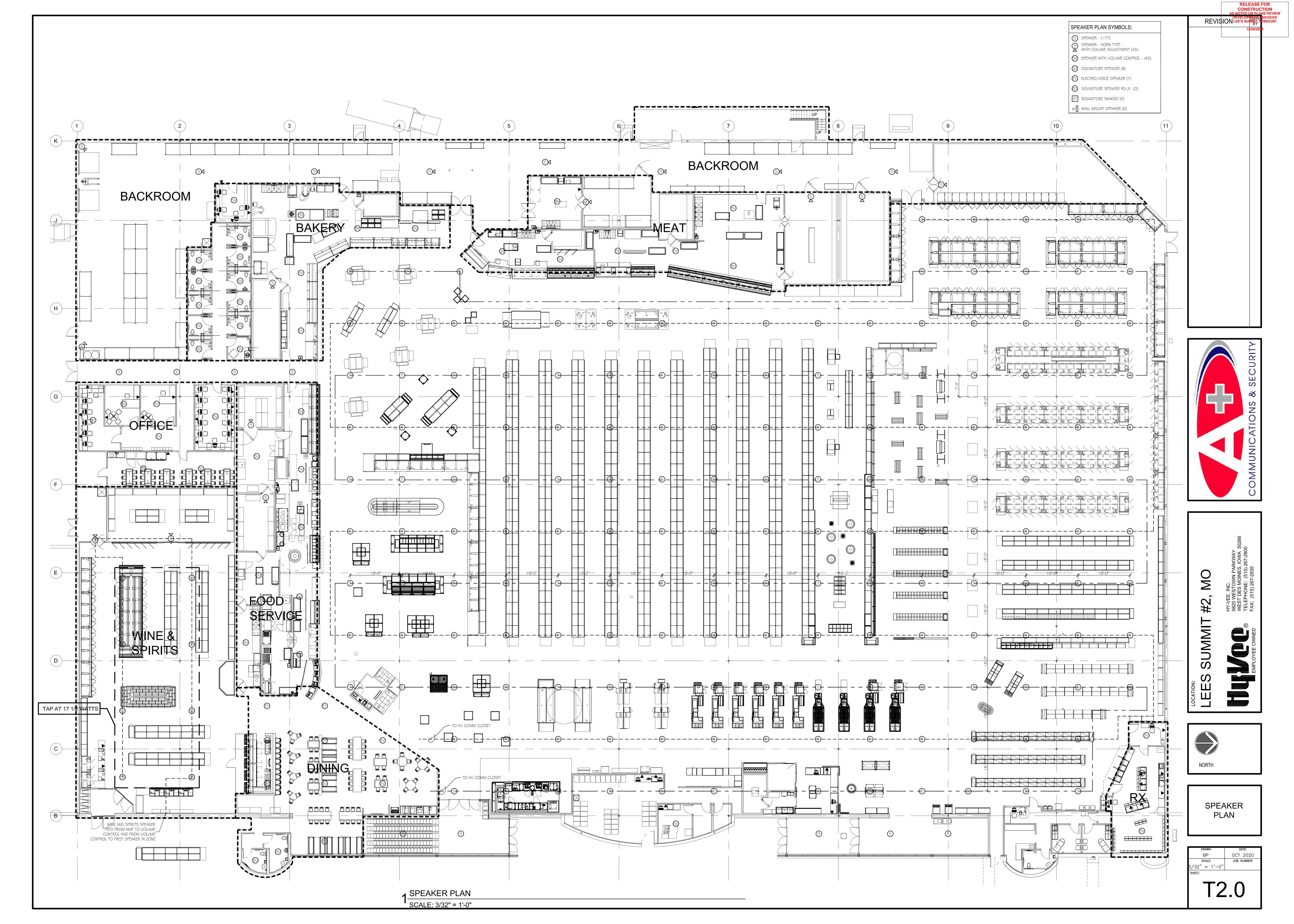
11

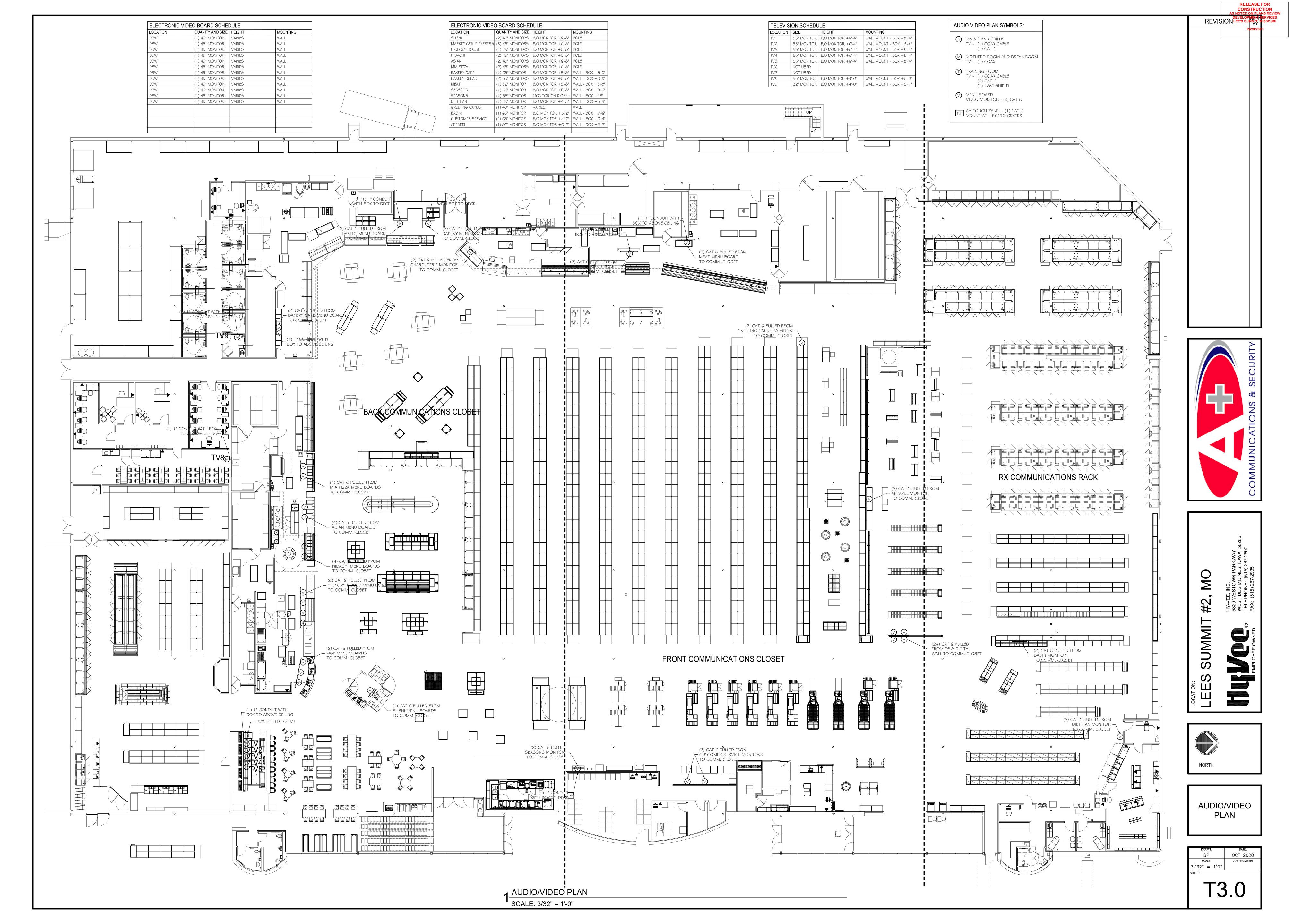
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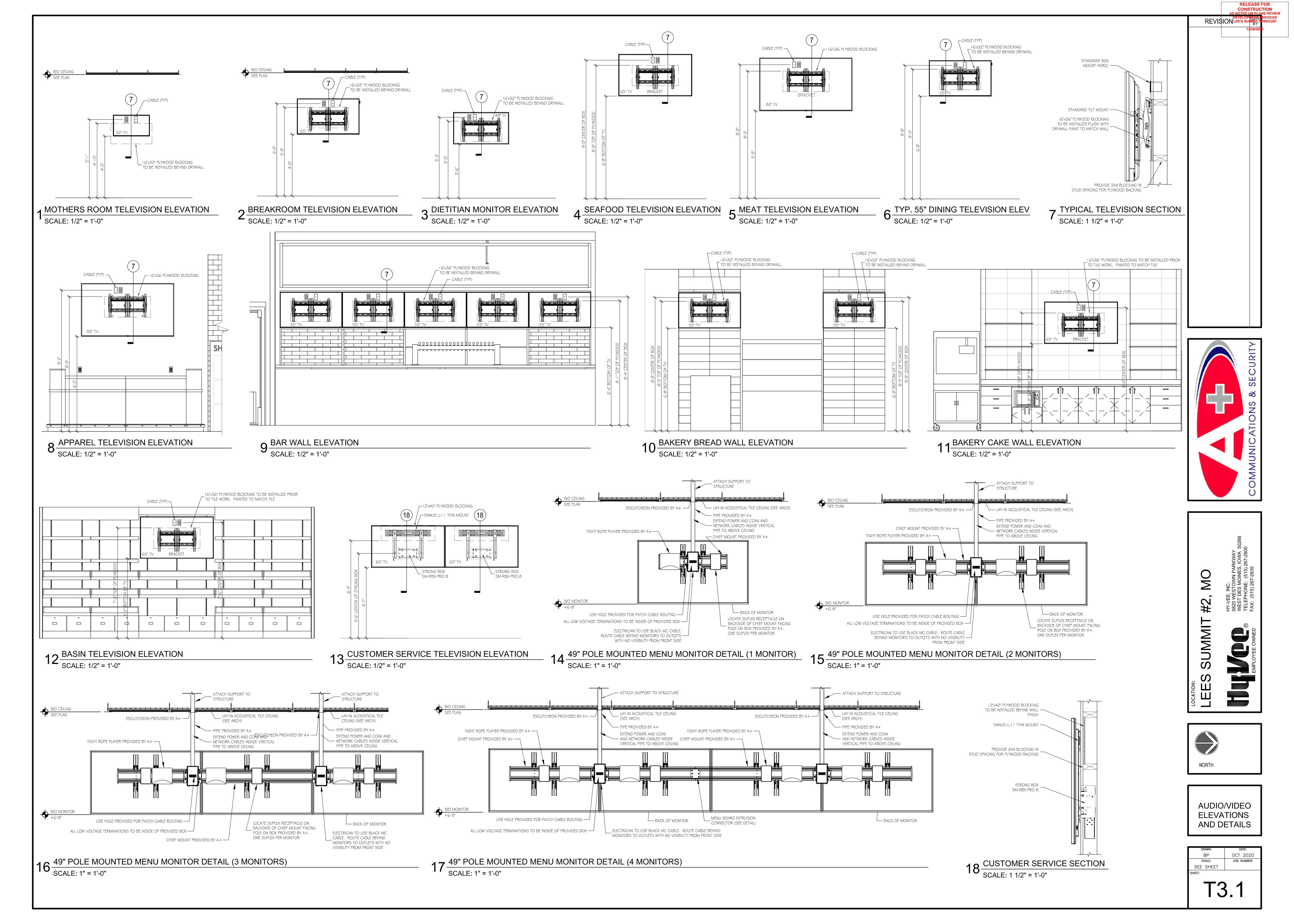


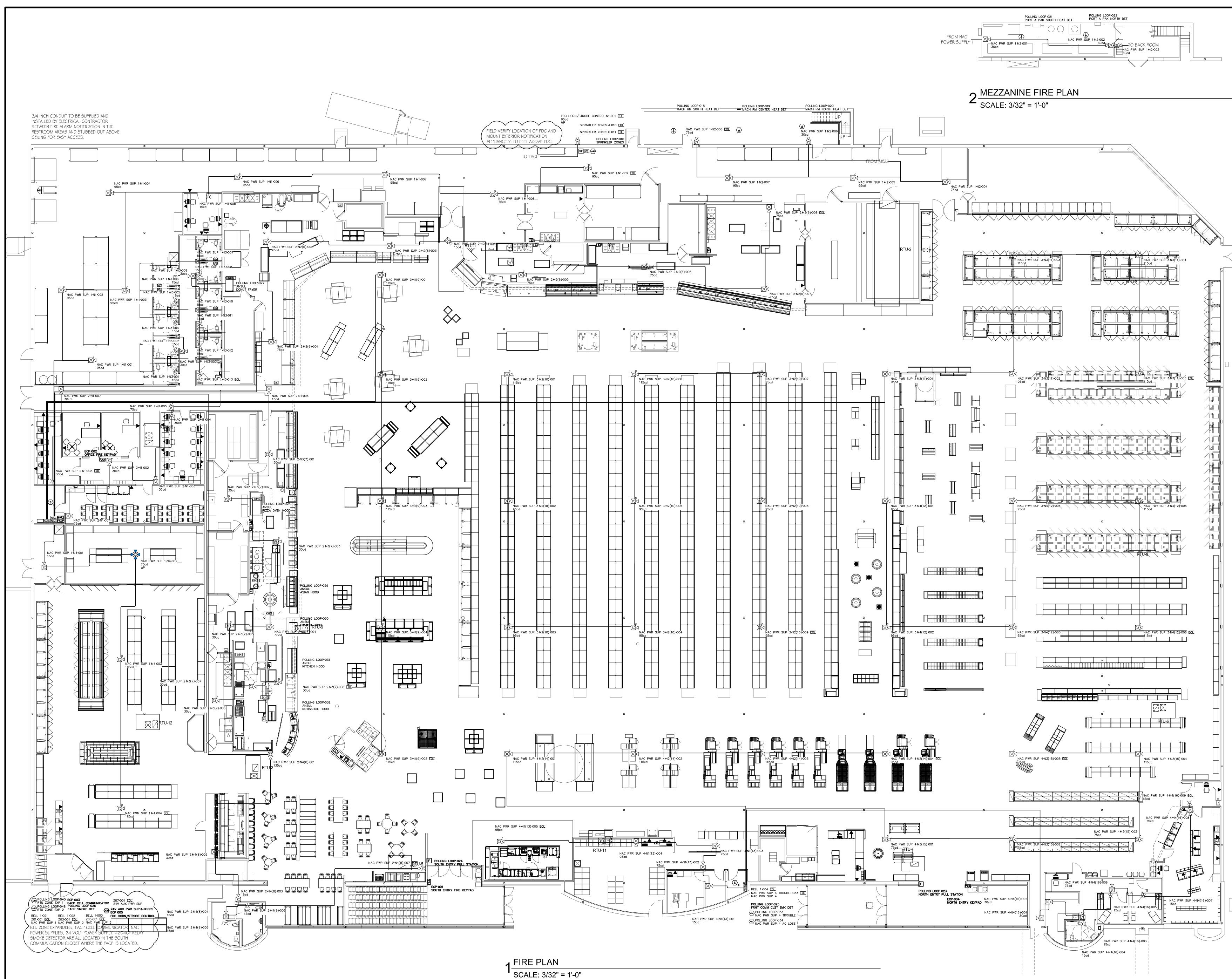


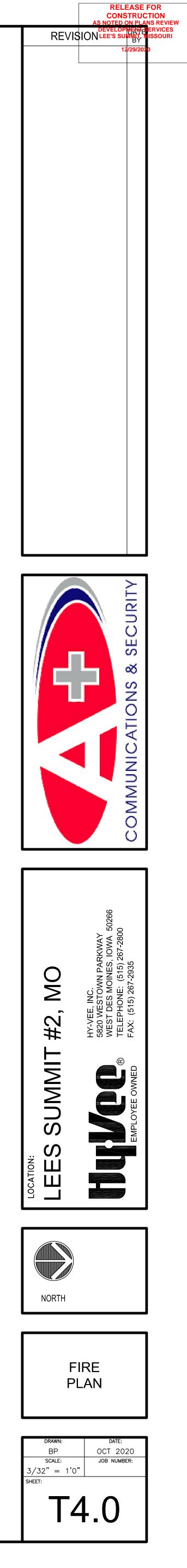


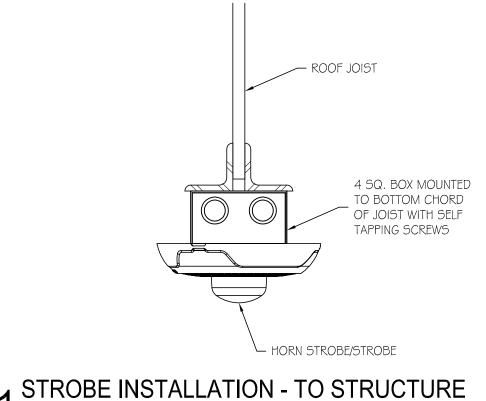




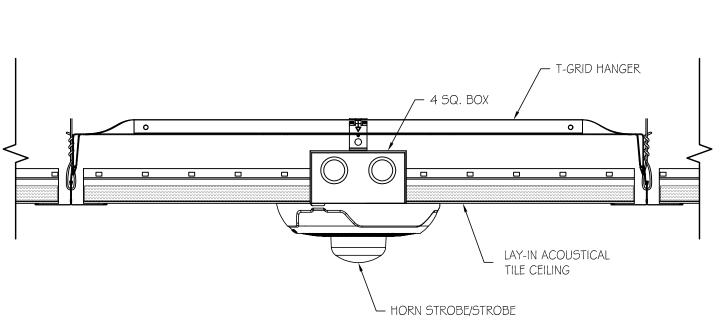








# SCALE: 3" = 1'-0"



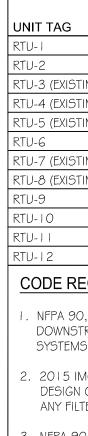
SCALE: 3" = 1'-0"

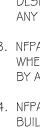
CONTRACTOR SHALL FURNISH AND INSTALL A COMPLETE FIRE ALARM SYSTEM IN ACCORDANCE WITH NFPA 72, THE INTERNATIONAL FIRE CODE CODE, AND LOCAL AND STATE REQUIREMENTS. THE SYSTEM SHOWN INCLUDES A FIRE ALARM PANEL, REMOTE ANNUNCIATOR AND OTHER PROVISIONS FOR CONNECTION TO A NOTIFICATION SERVICE FROM THE ALARM SYSTEM. THE SYSTEM SHALL HAVE THE BUILDING DEVICES UNIQUELY ADDRESSABLE. THE REFERENCING OF ZONES OR GROUPS ARE PRIMARILY FOR THE OWNER AND DESIGNER'S BENEFIT TO ASSURE COMMUNICATION WITH THE CONTRACTOR AND AUTHORITIES HAVING JURISDICTION (AHJ) SHOULD DESIGN OR OPERATIONAL QUESTIONS ARISE. THE OWNER REQUIRES THE EQUIPMENT BE FROM A SINGLE MANUFACTURER THAT HAS LOCAL (WITHIN 50 MILE RADIUS) TECHNICAL SUPPORT AND STOCKED REPLACEMENT PARTS. MANUFACTURERS ALLOWED INCLUDE: FIRELITE 9200 ULDS, OR AS APPROVED BY OWNER. A WARRANTY OF ONE (1) YEAR PARTS AND LABOR STARTING FROM THE DATE OF THE STORE OPENING OR AS AGREED UPON WITH THE OWNER IS THE CONTRACTOR'S RESPONSIBILITY. CONTRACTOR SHALL ALSO PROVIDE TWO TRAINING PERIODS IN HOW TO RUN THE CONTROL PANEL; ONE FOR A DAY SHIFT AND ONE FOR A NIGHT SHIFT.

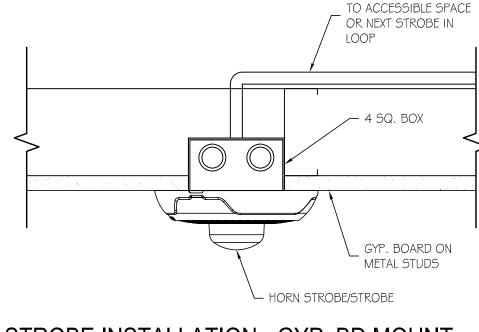
STATIONS.

INSPECTOR'S SIGN OFF OF THE FIRE SYSTEM MUST BE INCLUDED IN THE GENERAL CONTRACTOR'S

WARRANTY MANUAL.



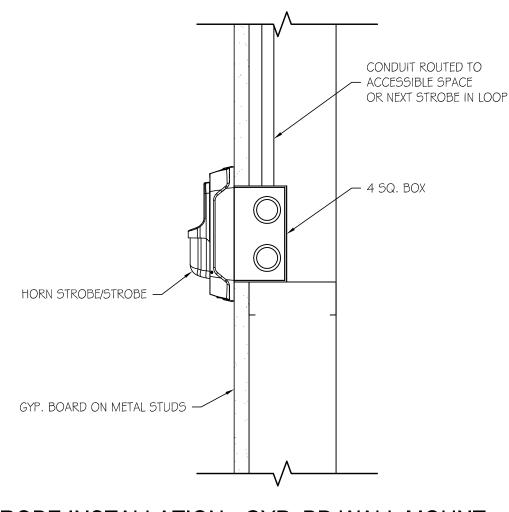


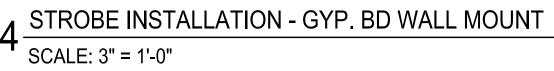


CONDUIT ROUTED



STROBE INSTALLATION - ACOUSTICAL CEILING MOUNT





### SYSTEM OUTLINE

### DESIGN CONSTRAINTS

THE SYSTEM SHALL HAVE THE FOLLOWING DESIGN CONSTRAINTS, FUNCTIONS, ACCESSORIES AND/OR REQUIREMENTS AS FOLLOWS:

- I. THE DESIGNER'S SCHEMATIC REFERS TO ZONES AND/OR GROUPS TO USE IN COMMUNICATION AND FOR "DRILLED DOWN" TO ADDRESSABLE UNITS IN THE DESIGN AS FOLLOWS: LIFE SAFETY PULL STATIONS AND SMOKE DETECTORS FIRE SPRINKLER TAMPERS AND FLOW SWITCHES
- DUCT SMOKE DETECTORS FOR THE HVAC SYSTEM AND UNITS FIRE HOOD PROTECTION SYSTEMS (BAKERY, CHINESE, KITCHEN)
- 2. FIRE ALARM "CONTROL CENTER" SHALL BE LOCATED IN THE CORRIDOR OF THE OFFICE AREA. THE REMOTE ANNUNCIATOR SHOULD BE LOCATED IN THE FRONT VESTIBULE IN AN AREA COORDINATED WITH THE AUTHORITY HAVING JURISDICTION FOR ITS FINAL PLACEMENT. A REMOTE ANNUNCIATOR SHALL BE LOCATED IN THE CORRIDOR OF THE OFFICE AREA.
- 3. THE "CONTROL CENTER" EITHER NEEDS TO PROVIDE FOR ELECTRIC TERMINATION AND RESTART FOR RESET OF DUCT SMOKE DETECTORS OR DESIGN MUST ACCOMMODATE DUCT SMOKE RESETS IMMEDIATELY ADJACENT TO THE "CONTROL CENTER" PANEL.
- 4. THIS FIRE ALARM COMMUNICATIONS PLAN INDICATES DESIGN INTENT BUT NOT NECESSARILY EXACT LAYOUT. THE FINAL DESIGN IS THE CONTRACTOR'S RESPONSIBILITY TO BE COORDINATED AND APPROVED BY THE AUTHORITY HAVING JURISDICTION.
- 5. A DESIGN SYSTEM MUST ACCOMMODATE A MINIMUM OF 15% EXPANSION POTENTIAL FOR THE SYSTEM INITIALLY INSTALLED. EXAMPLE: IF THERE ARE 85 UNIQUE, ADDRESSABLE STATIONS. THE BASE SYSTEM SHOULD ACCOMMODATE 100 ADDRESSES FOR ADDITIONAL WIRING TO EXISTING CONNECTOR POINTS AND FAIRLY SIMPLE REPROGRAMMING OF THOSE ADDITIONAL
- 7. COORDINATE ALL SALES FLOOR FIRE ALARM HORNS/STROBES WITH DECOR PLAN AS TO NOT INTERFERE WITH ANY SIGNAGE.

#### SUPERVISORY DESIGN CONSTRAINTS

FIRE ALARM CONTRACTOR WILL PROVIDE ALL PROGRAMMING, TESTING, AND COMMISSIONING TO SATISFY THE LOCAL AUTHORITY HAVING JURISDICTION OR HY-VEE REQUIREMENTS AS SET FORTH HEREIN, WHICHEVER IS MORE RESTRICTIVE. FOR ALL HVAC UNITS AND THEIR ASSOCIATED SMOKE DETECTORS, THE FIRE ALARM CONTRACTOR SHALL TEST FOR CONTROL PANEL IDENTIFICATION, ALARM, AND TROUBLE SIGNALS, AND UNIT SHUT DOWN. IF THE HVAC UNIT DOES NOT SHUT DOWN, FIRE ALARM CONTRACTOR SHALL NOTIFY GENERAL CONTRACTOR AND HVAC/SHEET METAL CONTRACTOR TO REMEDY AND RESOLVE THE UNIT SHUT DOWN REQUIREMENT. THE FIRE ALARM SYSTEM NEEDS TO RESET THE HVAC UNITS AT THE RESET LOCATION NOTED ON THE DRAWINGS. FIRE ALARM CONTRACTOR SHOULD VERIFY THAT THE REMOTE RESET UNIT TEST MODE FUNCTION OPERATES CORRECTLY PRIOR TO ANY AHJ INSPECTION. A COPY OF THE FIRE MARSHAL OR FIRE

#### IMPLEMENTATION

I. CONTRACTOR SHALL COORDINATE SPECIFIC IMPLEMENTATION DESIGN MODIFICATIONS FOR DEVICE PLACEMENT WITH RESPECT TO ARCHITECTURAL ELEVATIONS. ANY MODIFIED PLACEMENT MUST BE DISCUSSED WITH THE OWNER PRIOR TO ANY INSTALLATION ACTIVITY TO ASSURE PLACEMENT LOCATION DOES NOT IMPEDE THE OWNER'S USE OF THAT AREA.

2. VERIFY WITH THE AUTHORITY HAVING JURISDICTION BEFORE PERFORMING ANY OF THE FOLLOWING FIRE ALARM WORK IDENTIFY OWNER'S DESIRED "CONTROL CENTER" LOCATION IN OFFICE AREA COORDINATE REMOTE ANNUNCIATOR PANEL LOCATION AT AHJ'S DIRECTION (TO BE CREDITED BACK TO THE OWNER IF NOT REQUIRED.) ACKNOWLEDGEMENT OF ADDRESSABLE SYSTEM HIERARCHY WITH RESPECT TO THE OWNER'S ZONES/GROUPINGS SO ADDRESSABLE PROGRAMMING CAN BE AGREED UPON THAT FIRE ALARM SYSTEM CAN BE USED FOR NON-LIFE SAFETY TROUBLES LIKE REFRIGERATION OR DOOR ALARMS SUPERVISORY ALERTS PROVIDED THE SYSTEM IS PROGRAMMED SO NO AUTHORITIES ARE NOTIFIED FOR NON-LIFE SAFETY TROUBLES.

#### **HVAC SCOPE OF WORK**

I. DUCT SMOKE DETECTORS SHALL BE FURNISHED AND INSTALLED IN DUCT BY MECHANICAL CONTRACTOR. SEE SCHEDULE ON DRAWING.

2. DUCT SMOKE DETECTORS THAT MUST BE FIELD MOUNTED ON CUSTOM ROOFTOP UNITS (USUALLY RTU-1 AND 2), WILL BE SUPPLIED AND INSTALLED BY THE SHEET METAL CONTRACTOR. SHEET METAL CONTRACTOR IS TO USE SYSTEM SENSOR NUMBER D4 I 20.

3. SYSTEM SENSOR MODEL NUMBER D4 I 20 IS COMPRISED OF TWO COMPONENTS. I) SYSTEM SENSOR MODEL NUMBER DP4 I 20 IS A CONTROL MODULE. 2) SYSTEM SENSOR MODEL NUMBER D4S IS THE SMOKE DETECTOR.

4. SHEET METAL CONTRACTOR OR ANY PARTY PERFORMING WORK FOR SHEET METAL CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECT PLACEMENT.

5. RTU SMOKE DETECTION SHALL FALL INTO ONE OF THE TWO FOLLOWING SCENARIOS: A) RTU'S WHICH REQUIRE BOTH SUPPLY AND RETURN SMOKE DETECTORS (>2000 CFM) SHALL RECEIVE TWO DUCT SMOKE DETECTORS (D4S) WHICH ARE APPROPRIATELY WIRED TO A CENTRAL, SEPARATE CONTROL MODULE (DP4120). THE CONTROL MODULE (DP4120) SHALL BE PLACED IN A LOCATION SUCH THAT FIRE ALARM CONTRACTOR CAN ACCESS CONTROL MODULE IN A REASONABLE MANNER.

B) RTU'S WHICH REQUIRE ONLY RETURN SIDE SMOKE DETECTION (<2000 CFM) SHALL RECEIVE ONE SMOKE DETECTOR/CONTROL MODULE COMBO (D4120). IF DETECTOR PLACEMENT REQUIRES SEPARATION OF THE COMBINATION (D4 I 20) INTO IT'S TWO COMPONENTS, DP4 I 20 (CONTROL MODULE) AND D4S (SMOKE DETECTOR), IN ORDER TO HAVE THE CONTROL MODULE BE ACCESSIBLE FOLLOWING INSTALLATION, THEN THIS SHALL BE DONE.

6. FIRE ALARM CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER WIRING OF THE DUCT DETECTOR CONTROL MODULES. THIS INCLUDES ANY WIRING BETWEEN THE FIRE ALARM CONTROL PANEL AND THE DUCT DETECTOR CONTROL MODULE AND ANY WIRING BETWEEN THE DUCT DETECTOR TEST/RESET SWITCH AND THE DUCT DETECTOR CONTROL MODULE.

7. CONTROL CONTRACTOR SHALL BE RESPONSIBLE FOR ANY WIRING BETWEEN DUCT DETECTOR CONTROL MODULES AND DUCT SMOKE DETECTORS.

8. FIRE ALARM CONTRACTOR SHALL FURNISH, INSTALL, AND WIRE ALL REMOTE RESET STATIONS. 9. CONTROL CONTRACTOR IS REQUIRED TO ASSURE THE HVAC UNIT WILL SHUT DOWN IN THE EVENT OF A SMOKE DETECTOR TRIP.

			AIR SMOKE DETECTION	REQUIRED DUCT MOUNTED		TRADE RESPONSIBILITY				
6	AREA SERVED	SUPPLY AIRFLOW (CFM)	(YES/NO)	SMOKE DETECTOR LOCATIONS	SMOKE DETECTORS	WIRING	CONTROLS			
	SOUTH SALES	17,000		RETURN	MC	SEE SCOPE OF WORK	OV			
	NORTH SALES	17,000		RETURN	MC	SEE SCOPE OF WORK	OV			
STING)	DINING	3,400	]	RETURN	MC	SEE SCOPE OF WORK	OV			
STING)	EXIT VESTIBULE	3,500	]	RETURN	MC	SEE SCOPE OF WORK	OV			
STING)	ENTRY VESTIBULE	3,500		RETURN	MC	SEE SCOPE OF WORK	OV			
	PHARMACY	1,800	]	RETURN	MC	SEE SCOPE OF WORK	OV			
STING)	PHARMACY	2,640	]	NONE						
STING)	FROZEN	2,400	]	RETURN	MC	SEE SCOPE OF WORK	OV			
	KITCHEN	3,200		RETURN	MC	SEE SCOPE OF WORK	OV			
	OFFICES	1,950		RETURN	MC	SEE SCOPE OF WORK	OV			
	AOL/CUSTOMER SERVICE	3,200		RETURN	MC	SEE SCOPE OF WORK	OV			
	WINE & SPIRITS	3,200		RETURN	MC	SEE SCOPE OF WORK	OV			
REQUIR	EMENTS:			TRADE RESPONSIBILITY L	EGEND:					
		R USE IN AIR DISTRIBUTION SYS OF ANY BRANCH CONNECTIONS		EC = ELECTRICAL CONTRACTOR						
	G A CAPACITY GREATER THAN 2			OV = OWNERS VENDOR						
,		ILL BE INSTALLED IN RETURN AIR IN THE RETURN AIR DUCT OR PL		FAC = FACTORY PROVIDED						
	R OTHER AIR CONNECTIONS.			FC = FIRE ALARM CONTRACTOR						
90 AND IN	IC EXCEPTION - SMOKE DETEC	TORS ARE NOT REQUIRED IN TH	E RETURN AIR SYSTEM	MC = MECHANICAL CONTRACTOR						

. NFPA 90 AND IMC EXCEPTION - SMOKE DETECTORS ARE NOT REQUIRED IN THE RETURN AIR SYSTEM WHERE ALL PORTIONS OF THE BUILDING SERVED BY THE AIR DISTRIBUTION SYSTEM ARE PROTECTED BY AREA SMOKE DETECTORS CONNECTED TO A FIRE ALARM SYSTEM.

. NFPA 90 AND IMC CONTROLS - WHERE AN APPROVED FIRE ALARM SYSTEM IS INSTALLED IN BUILDING, THE SMOKE DETECTORS SHALL BE CONNECTED TO THE FIRE ALARM SYSTEM.

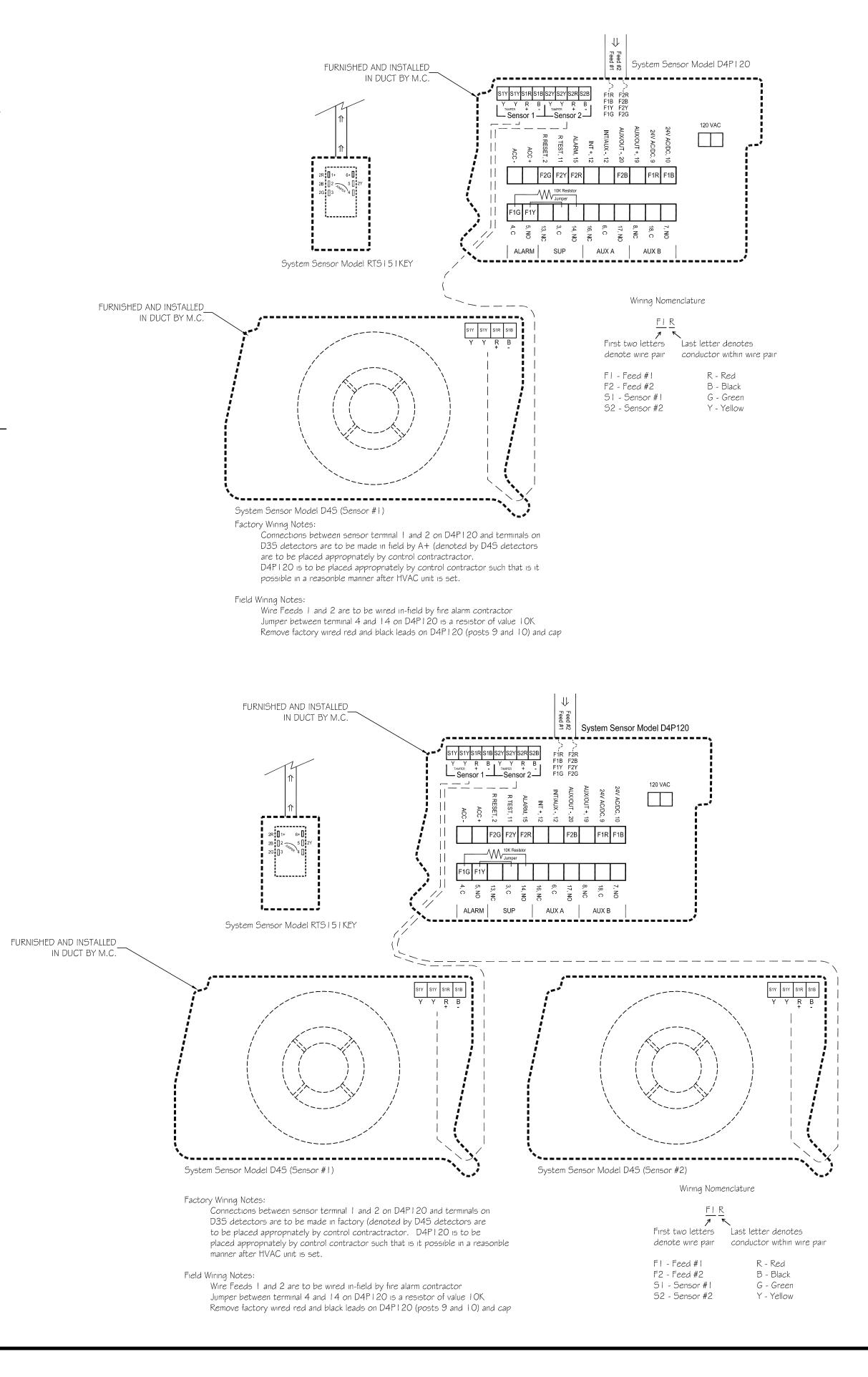
NFPA 90 AND IMC CONTROLS - UPON ACTIVATION, THE SMOKE DETECTORS SHALL SHUT DOWN ALL OPERATIONAL CAPABILITIES OF THE AIR DISTRIBUTION SYSTEM AND SHALL ACTIVATE A VISIBLE AND AUDIBLE SIGNAL AT A CONSTANT ATTENDED OR APPROVED LOCATION.

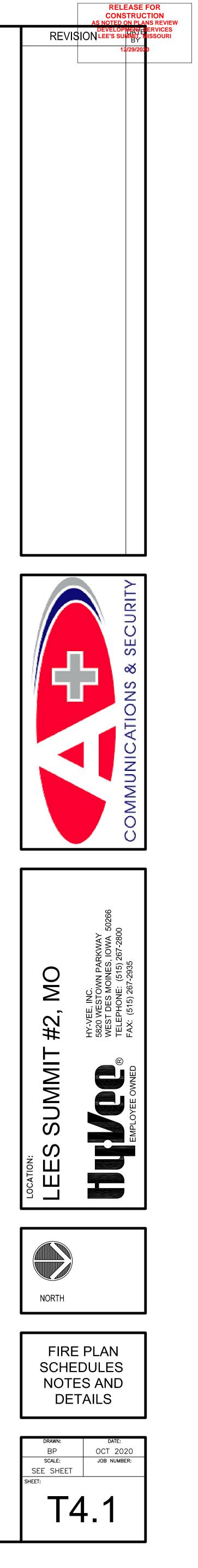
#### TRADE RESPONSIBILITY NOTES:

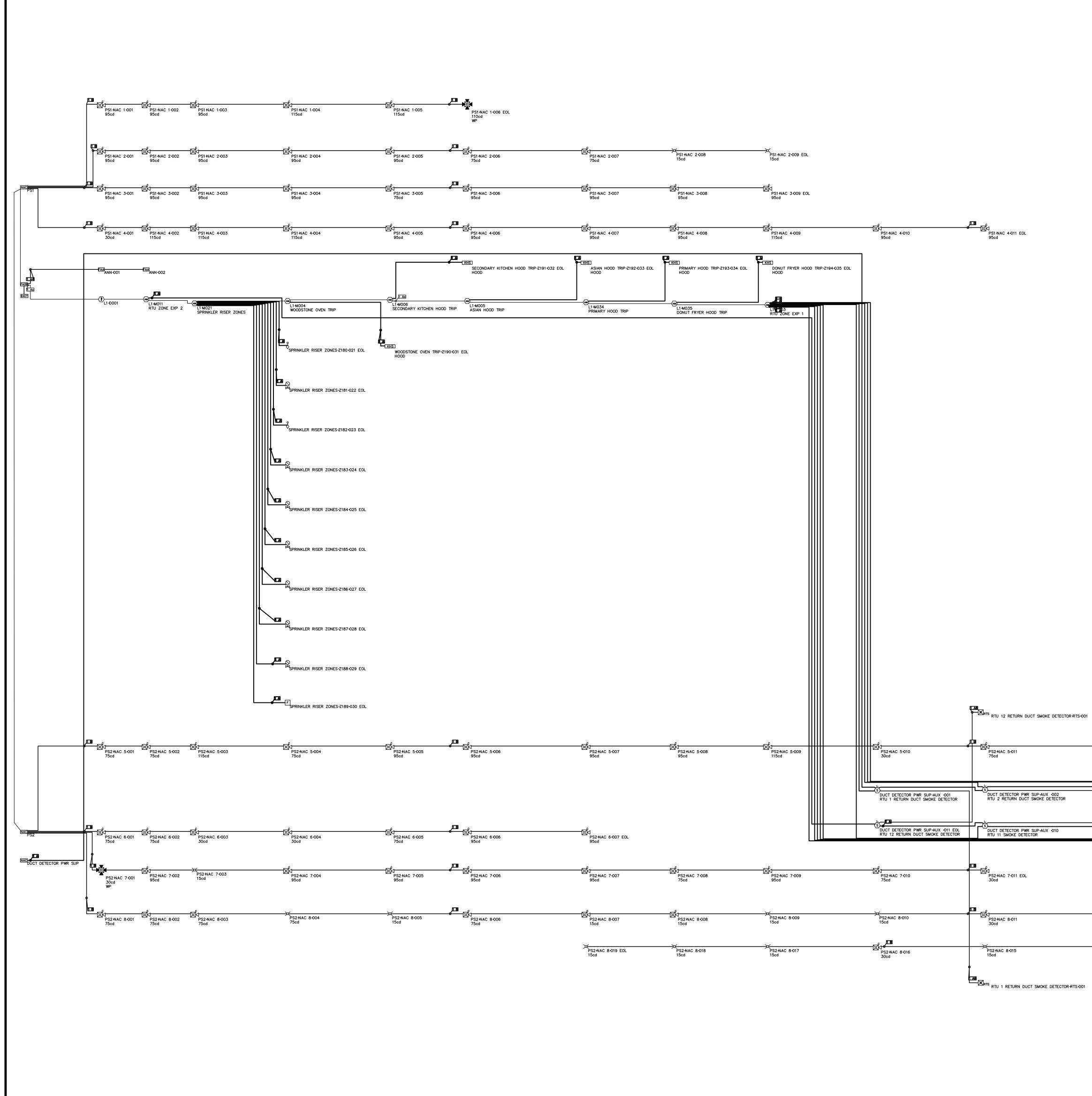
. THIS LISTING IN NO WAY SUMMARIZES THE SCOPE OF WORK REQUIRED TO BE PERFORMED BY THE CONTRACTORS.

2. FOR OWNER VENDOR FURNISHED ITEMS THE INSTALLING CONTRACTOR MAY ALSO BE REQUIRED TO RECEIVE, INVENTORY, PROTECT, STORE AND ASSEMBLE THE EQUIPMENT.

- 3. SEE THE SPECIFICATIONS, DRAWINGS AND MANUFACTURERS INSTALLATION RECOMMENDATION
- FOR COMPLETE DETAILED INSTALLATION REQUIREMENTS. 4. PROVIDE MEANS TO FURNISH AND INSTALL.
- 5. LOW VOLTAGE CABLE MATERIAL IS PROVIDED BY THE CONTROLS CONTRACTOR AND INSTALLED BY EC.

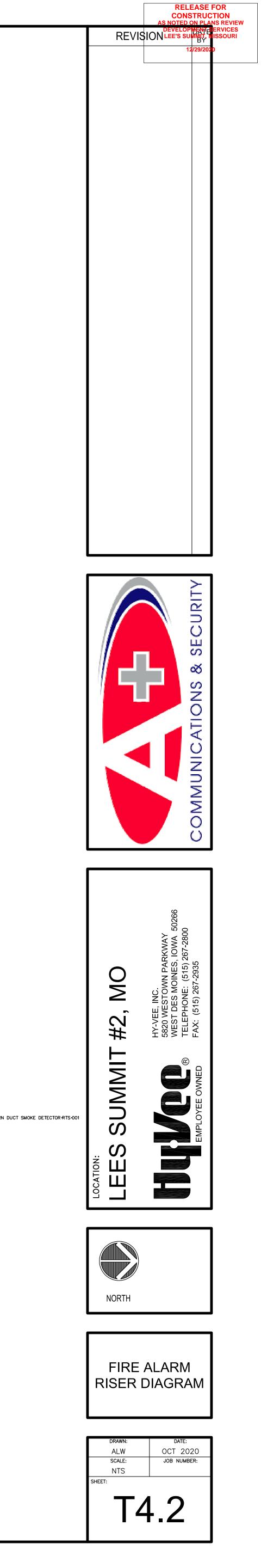






## 1 FIRE ALARM RISER DIAGRAM SCALE: NTS

RTU 11 SMOKE DETECTOR RTS-001	RTU 10 RETURN DUCT SMOKE DETECTOR RTS 001	RTS RTU 9 RETURN DUCT SMOKE DETECTOR RTS 001	TAB
PS2-NAC 5-012 75cd	PS2NAC 5-013 EOL 30cd	RTS RTU 4 RETURN DUCT SMOKE DETECTOR RTS-001	TAB
DUCT DETECTOR PWR SUPAUX 003 RTU 3 RETURN DUCT SMOKE DETECTOR	DUCT DETECTOR PWR SUP-AUX -004 RTU 4 RETURN DUCT SMOKE DETECTOR	DUCT DETECTOR PWR SUP-AUX -005 RTU 5 RETURN DUCT SMOKE DETECTOR	
DUCT DETECTOR PWR SUP AUX -009 RTU 10 RETURN DUCT SMOKE DETECTOR	DUCT DETECTOR PWR SUP-AUX -008 RTU 9 RETURN DUCT SMOKE DETECTOR	S DUCT DETECTOR PWR SUP-AUX -007 RTU 8 RETURN DUCT SMOKE DETECTOR	DUCT DETECTOR PWR SUP-AUX -006 RTU 6 RETURN DUCT SMOKE DETECTOR
15cd	PS2-NAC 8-013 15cd		
15cd	RTS RTU 3 RETURN DUCT SMOKE DETECTOR RTS-001		
	PS2NAC 5-012 75cd DUCT DETECTOR PWR SUP-AUX -003 RTU 3 RETURN DUCT SMOKE DETECTOR DUCT DETECTOR PWR SUP-AUX -009 RTU 10 RETURN DUCT SMOKE DETECTOR PS2NAC 8-012 FS2NAC 8-012 Scd	PSZNAC 5012 TScd PSZNAC 5012 TScd PSZNAC 5013 E0L DUCT DETECTOR PWR SUP-AUX -003 RTU 3 RETURN DUCT SMOKE DETECTOR DUCT DETECTOR PWR SUP-AUX -006 RTU 4 RETURN DUCT SMOKE DETECTOR DUCT DETECTOR PWR SUP-AUX -008 RTU 9 RETURN DUCT SMOKE DETECTOR PSZNAC 8012 Scd PSZNAC 8014 TScd PSZNAC 8014 TScd	PSZNAC 5012 PSZNAC 5012 PSZNAC 5012 PSZNAC 5013 E0L PSZNAC 5012 PSZNAC 5012 P



			BAT	TERY CALCULATIO	N			
			SECONDARY	POWER SOURCE REQUIRE	MENTS			
					STANDBY (AM		SEC	
		QTY	PART NO	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURR DRAW	
PANEL CO	MPONENTS	1	ES-200X MAIN BOARD			1 x 0.141	= 0.141	1 x 0.
CIRCUIT	SYMBOL	QTY	PART NO	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRI DRAW	
ANN	FAA	2	ANN-80	80-Character LCD Annunciator	2 x 0.045	= 0.09	2 × 0	
		1	CELL-MOD	Cellular Communicator	1 x 0.055	= 0.055	1 x 0.	
REMOTE SYNC		1		Remote Sync to Notification Power Supplies	1 x 0.02	= 0.02	1 x 0.	
	AIM	5	FMM-101	Addressable Mini Monitor Module	5 x 0.0003	= 0.0015	5 x 0.	
L1	< 	1	SD355(A)/B210LP	DETECTOR, SMOKE, ADDRESSABLE PHOTO W/STANDARD BASE	1 x 0.0003	= 0.0003	1 × 0.	
	AIM	3	XP10-M	Ten Input Monitor Module	3 x 0.003	= 0.009	3 × 0.	
					TOTAL STANDBY (A)	0.3168	TOT/ ALARM	
						D STANDBY		
				0.716		RED ALARM	TIME =	
		Y STANDBY		0.316	x 24	4.00 0833	=	
AT2	NDBY AND A			0.094	x 0.0		= 5 AH	
517		ING FACTOR					1.20	
SECOND			S (AMP HOURS)				9 AH	
JECOND.				 12V 12AH BATTERIES @		0.10		

FACP SMOKE DETECTOR       Image: Construction of the construction											S١	/ST	ΕIV	10	UT	PL	JTS	5						_
FACP SMOKE DETECTOR       Image: Construction of the second									NO	nec	атю	'n					FIR	E 5.4	FETY	CON	9 FAN SHUT DOWN 10 FAN SHUT DOWN 11 FAN SHUT DOWN	l		
FACP SMOKE DETECTOR       Image: Construction of the second			PLAY ALARM ON ANNUNCIATOR	TVATE AUDIBLE ALARM AT ANNUNCIATOR	PLAY SUPERVISORY SIGNAL AT ANNUNCIATOR	TVATE SOUND AT ANNUNCIATOR FOR THE SUPERVISORY SIGNAL	PLAY TROUBLE SIGNAL AT ANNUNCIATOR	TVATE SOUND AT THE ANNUNCIATOR FOR THE TROUBLE SIGNAL	TVATE INTERIOR NOTIFICATION APPLIANCES	NSMITALARM SIGNAL TO CENTRAL STATION	MSMIT SUPERVISORY SIGNAL TO CENTRAL STATION	NSMIT TROUBLE SIGNAL TO CENTRAL STATION	J I FAN SHUT DOWN	J 2 FAN SHUT DOWN	J 3 FAN SHUT DOWN	J 4 FAN SHUT DOWN	J 5 FAN SHUT DOWN	J 6 FAN SHUT DOWN	J 8 FAN SHUT DOWN	J 9 FAN SHUT DOWN	J 10 FAN SHUT DOWN	J 11 FAN SHUT DOWN	RTU 12 FAN SHUT DOWN	
SPINKLER RISER PULL STATION       Image: Spinkler Riser Pull Station         Wood Stone OVIN HOOD       Image: Spinkler Riser Pull Station         Asian Hodd       Image: Spinkler Riser Pull Station         PRIMARY KITCHEN HOOD       Image: Spinkler Riser Pull Station         Spinkler Riser Pull Station       Image: Spinkler Riser Pull Station         Spinkler Riser Pull Station       Image: Spinkler Riser Pull Station         Spinkler Riser Pull Station       Image: Spinkler Riser Pull Station         Spinkler Riser Pull Station       Image: Spinkler Riser Pull Station         Spinkler Riser Pull Station       Image: Spinkler Riser Pull Station         Spinkler Riser Pull Station       Image: Spinkler Riser Pull Station         Spinkler Riser Pull Station       Image: Spinkler Riser Pull Station         Spinkler Riser Pull Station       Image: Spinkler Riser Pull Station         Spinkler Riser Pull Station       Image: Spinkler Riser Pull Station         RTU 2 RETURN DUCT SMCKE DETECTOR       Image: Spinkler Riser Pull Station         RTU 3 RETURN DUCT SMCKE DETECTOR       Image: Spinkler Riser Pull Station         RTU 4 RETURN DUCT SMCKE DETECTOR       Image: Spinkler Riser Pull Station         RTU 8 RETURN DUCT SMCKE DETECTOR       Image: Spinkler Riser Pull Station         RTU 8 RETURN DUCT SMCKE DETECTOR       Image: Spinkler Riser Pull Pull Riser Pull Pull Station			DIS	Ę	DIS	ΡACI	DIS	β	٩C	I RP	TRA	TRA	Ĕ	Ĕ	Ĕ	Ĕ	Ĕ	ВŢ	RT	RTL	Ĕ	Ē	Щ	L
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SECONDARY KITCHEN HOOD       IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII		SPINKLER RISER PULL STATION																						
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SPINKLER RISER PULL STATION       Image: Spinkler Value Station         SPINKLER WATER FLOWS       Image: Spinkler Value Station         SPRINKLER TAMPERS       Image: Spinkler Value Station         RTU 1 RETURN DUCT SMOKE DETECTOR       Image: Value Station         RTU 2 RETURN DUCT SMOKE DETECTOR       Image: Value Station         RTU 4 RETURN DUCT SMOKE DETECTOR       Image: Value Station         RTU 5 RETURN DUCT SMOKE DETECTOR       Image: Value Station         RTU 6 RETURN DUCT SMOKE DETECTOR       Image: Value Station         RTU 9 RETURN DUCT SMOKE DETECTOR       Image: Value Station         RTU 9 RETURN DUCT SMOKE DETECTOR       Image: Value Station         RTU 9 RETURN DUCT SMOKE DETECTOR       Image: Value Station         RTU 10 RETURN DUCT SMOKE DETECTOR       Image: Value Station         RTU 11 RETURN DUCT SMOKE DETECTOR       Image: Value Station         RTU 12 RETURN DUCT SMOKE DETECTOR       Image: Value Station         RTU 12 RETURN DUCT SMOKE DETECTOR       Image: Value Station         RTU 12 RETURN DUCT SMOKE DETECTOR       Image: Value Station         RTU 12 RETURN DUCT SMOKE DETECTOR       Image: Value Station         RTU 12 RETURN DUCT SMOKE DETECTOR       Image: Value Station         RTU 12 RETURN DUCT SMOKE DETECTOR       Image: Value Station         RTU 12 RETURN DUCT SMOKE DETECTOR       Image:																								⊢
SPINKLER WATER FLOWS       Image: Sprinkler Tampers       Image: Sprinkler Tampers         RTU 1 RETURN DUCT SMCKE DETECTOR       Image: Sprinkler Tampers       Image: Sprinkler Tampers         RTU 2 RETURN DUCT SMCKE DETECTOR       Image: Sprinkler Tampers       Image: Sprinkler Tampers         RTU 2 RETURN DUCT SMCKE DETECTOR       Image: Sprinkler Tampers       Image: Sprinkler Tampers         RTU 3 RETURN DUCT SMCKE DETECTOR       Image: Sprinkler Tampers       Image: Sprinkler Tampers         RTU 4 RETURN DUCT SMCKE DETECTOR       Image: Sprinkler Tampers       Image: Sprinkler Tampers         RTU 5 RETURN DUCT SMCKE DETECTOR       Image: Sprinkler Tampers       Image: Sprinkler Tampers         RTU 8 RETURN DUCT SMCKE DETECTOR       Image: Sprinkler Tampers       Image: Sprinkler Tampers       Image: Sprinkler Tampers         RTU 9 RETURN DUCT SMCKE DETECTOR       Image: Sprinkler Tampers       Image: Sprinkler Tampers       Image: Sprinkler Tampers         RTU 10 RETURN DUCT SMCKE DETECTOR       Image: Sprinkler Tampers       Image: Sprinkler Tampers       Image: Sprinkler Tampers         RTU 11 RETURN DUCT SMCKE DETECTOR       Image: Sprinkler Tampers       Image: Sprinkler Tampers       Image: Sprinkler Tampers         RTU 12 RETURN DUCT SMCKE DETECTOR       Image: Sprinkler Tampers       Image: Sprinkler Tampers       Image: Sprinkler Tampers         RTU 12 RETURN DUCT SMCKE DETECTOR       Image: Spri																			_					⊢
SPRINKLER TAMPERS       Image: Sprinkler Tampers         RTU 1 RETURN DUCT SMOKE DETECTOR       Image: Sprinkler Tampers         RTU 2 RETURN DUCT SMOKE DETECTOR       Image: Sprinkler Tampers         RTU 3 RETURN DUCT SMOKE DETECTOR       Image: Sprinkler Tampers         RTU 4 RETURN DUCT SMOKE DETECTOR       Image: Sprinkler Tampers         RTU 5 RETURN DUCT SMOKE DETECTOR       Image: Sprinkler Tampers         RTU 6 RETURN DUCT SMOKE DETECTOR       Image: Sprinkler Tampers         RTU 8 RETURN DUCT SMOKE DETECTOR       Image: Sprinkler Tampers         RTU 9 RETURN DUCT SMOKE DETECTOR       Image: Sprinkler Tampers         RTU 10 RETURN DUCT SMOKE DETECTOR       Image: Sprinkler Tampers         RTU 11 RETURN DUCT SMOKE DETECTOR       Image: Sprinkler Tampers         RTU 12 RETURN DUCT SMOKE DETECTOR       Image: Sprinkler Tampers         RTU 12 RETURN DUCT SMOKE DETECTOR       Image: Sprinkler Tampers         RTU 12 RETURN DUCT SMOKE DETECTOR       Image: Sprinkler Tampers         RTU 12 RETURN DUCT SMOKE DETECTOR       Image: Sprinkler Tampers																								⊢
RTU 6 RETURN DUCT SMOKE DETECTOR       Image: Construction of the	<u>n</u>											$\vdash$		_	-				Н	Н			$\square$	-
RTU 6 RETURN DUCT SMOKE DETECTOR       Image: Construct of the second detector         RTU 9 RETURN DUCT SMOKE DETECTOR       Image: Construct of the second detector         RTU 10 RETURN DUCT SMOKE DETECTOR       Image: Construct of the second detector         RTU 11 RETURN DUCT SMOKE DETECTOR       Image: Construct of the second detector         RTU 12 RETURN DUCT SMOKE DETECTOR       Image: Construct of the second detector         RTU 12 RETURN DUCT SMOKE DETECTOR       Image: Construct of the second detector				-						_				_	+				$\vdash$	Η	$\vdash$		⊢┥	-
RTU 6 RETURN DUCT SMOKE DETECTOR       Image: Construction of the	Z			$\mathbf{I}$			$\vdash$			-					-				Η	H			⊢┦	-
RTU 6 RETURN DUCT SMOKE DETECTOR       Image: Construction of the	5			$\mathbf{I}$			$\vdash$			-		$\vdash$	-						Η	H			⊢┦	-
RTU 6 RETURN DUCT SMOKE DETECTOR       Image: Construction of the				$\mathbf{I}$								$\vdash$	$\rightarrow$						Η	$\vdash$			⊢┦	<u> </u>
RTU 6 RETURN DUCT SMOKE DETECTOR       Image: Construction of the	Ś			$\mathbf{I}$								$\vdash$	$\rightarrow$		-				Η	$\vdash$			⊢┦	<u> </u>
RTU 8 RETURN DUCT SMOKE DETECTOR       Image: Constraint of the second sec	ίλ.									-		$\vdash$	$\neg$	-	+						$\vdash$		$\square$	-
RTU 9 RETURN DUCT SMOKE DETECTOR       Image: Constraint of the second sec													-										H	
RTU 10 RETURN DUCT SMDKE DEFECTOR RTU 11 RETURN DUCT SMDKE DEFECTOR RTU 12 RETURN DUCT SMDKE DEFECTOR				1						_			-		$\neg$									
RTU 11 RETURN DUCT SMOKE DEFECTOR RTU 12 RETURN DUCT SMOKE DEFECTOR				1									$\neg$											
RTU 12 RETURN DUCT SMOKE DEFECTOR				1									1		Ť									
FACE LOW BATTERY				Ĺ																				
		FACP LOW BATTERY																						
FACP AC LOSS		FACP AC LOSS																						

				PANE	EL DUCT	DETECTOR P	WR SUP (AL300)	BATTERY	CALCUL	ATION				PA
						SECONDARY	POWER SOURCE REQUIRE	MENTS						
		RY ALARM T (AMPS)						STANDBY (AM	CURRENT IPS)	SECONDAF CURRENT	RY ALARM (AMPS)			
4)	CURRENT DRAW (A)	TOTAL			QTY	PART NO	DESCRIPTION			CURRENT DRAW (A) TOTAL		PANEL CO		QTY
1	1 x 0.257	= 0.257	PANEL CC	OMPONENTS	1	AL300 Main Board	Fire Alarm Aux Power Supply Main Board	1 x 0.00	= 0.00	1 x 0.069	= 0.069	PANEL CO	WPONENTS	1
~ `	CURRENT	TOTAL (A)	CIRCUIT	SYMBOL	QTY	PART NO	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL (A)	CIRCUIT	SYMBOL	QTY
	DRAW (A)		DUCT DETECTOR	Ś	11	D4120	4-Wire Photoelectric	11 x 0.021	= 0.231	11 × 0.00	= 0.00		WP WP	1
	2 x 0.16	= 0.32	PWR SUP•AUX				Duct Smoke Detector					PS1-NAC 1		3
5	1 x 0.100	= 0.100						TOTAL STANDBY (A)	0.231	TOTAL ALARM (A)	0.069		 ⊠√	2
	1 x 0.0217	= 0.0217						REQUIRE	D STANDBY	TIME = 24.00	HOURS			
										TIME = 5 MI			⊠√	2
5	5 x 0.0003	= 0.0015			Y STANDBY		0.231	x 24.00 = 5.544 AH				PS1 NAC 2	<b>A</b>	5
					RY ALARM L		0.069	× 0.0	0833		)57 AH			
3	1 x 0.0065	= 0.0065	51	ANDBY AND A						97 AH			×	2
2	3 x 0.003	= 0.009	SECONE		TING FACTOR	G (AMP HOURS)				.20 97 AH			<b>⊠</b> √	1
,			SECONE			, ,	12V 7AH BATTERIES @	 24VDC	0.000	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		PS1 NAC 3	Ŕ	8
	TOTAL ALARM (A)	0.694											 X	1
Ϋ́	TIME = 24.00	D HOURS												•
М	TIME = 5 MII											PS1•NAC 4	⊠ √	6
		603 AH 578 AH											⊠√	4
	= 0.03													

SECONDARY STANDBY LOAD SECONDARY ALARM LOAD STANDBY AND ALARM LOAD SUBTOTAL

DERATING FACTOR SECONDARY LOAD REQUIREMENTS (AMP HOURS)

		Pa	anel PS1									
Tot	al Used Current	:: (All Circuits)		5.5740A								
		Point-To-Point Voltage Drop	Calculation for I	Panel PS1 Circui	t NAC 1							
Starting Calculation Voltage: 20.4000v Minimum Operational Voltage: 16.0000v Total Circuit Current: 1.0900A Total Distance: 695.0000' Voltage Drop: 3.6393v End Of Line Voltage: 16.7607v Percent Drop: 17.84 % Wire GA=#14 AWG Distance measured using drawn segment lengths with 10.00 % additional length calculated												
Device Label	Part No.	Description	Device Current	Distance From Previous Device	Voltage At Device	Voltage Drop From Source	Voltage Drop Percent					
PS1•NAC 1•001	PC2WL	2-Wire, Horn Strobe, White 95cd	0.1650A	375.0000'	17.8903v	2.5097v	12.30 %					
PS1 NAC 1 002	PC2WL	2-Wire, Horn Strobe, White 95cd	0.1650A	55.0000'	17.5779v	2.8221v	13.83 %					
PS1 NAC 1 003	PC2WL	2-Wire, Horn Strobe, White 95cd	0.1650A	55.0000'	17.3213v	3.0788v	15.09 %					
PS1•NAC 1•004	PC2WL	2-Wire, Horn Strobe, White 115cd	0.1870A	90.0000'	16.9925v	3.4075v	16.70 %					
PS1 NAC 1.005	PC2WL	2-Wire, Horn Strobe, White 115cd	0.1870A	60.0000'	16.8421v	3.5579v	17.44 %					
PS1•NAC 1•006 EOL	PC2WK	2-Wire Horn/Strobe ceiling/outdoor white 110cd	0.2210A	60.0000'	16.7607v	3.6393v	17.84 %					

PROVIDE (2) 12V 7AH BATTERIES @ 24VDC

		Point-To-Point Voltage Drop (	Calculation for I	Panel PS1 Circuit	NAC 2		
		g Calculation Voltage: 20.4000 Total Circuit Current: 1.19 Voltage Drop: 3.4043v Percent Drop: 16.6 neasured using drawn segment	30A Total End Of Line 9 % Wire (	Operational Volt Distance: 595.00 Voltage: 16.995 GA=#14 AWG 0.00 % additional	000' 7v		
Device Label	Part No.	Description	Device Current	Distance From Previous Device	Voltage At Device	Voltage Drop From Source	Voltage Drop Percent
PS1 NAC 2.001	PC2WL	2-Wire, Horn Strobe, White 95cd	0.1650A	335.0000'	17.9461v	2.4539∨	12.03 %
PS1•NAC 2•002	PC2WL	2-Wire, Horn Strobe, White 95cd	0.1650A	45.0000'	17.6621v	2.7379v	13.42 %
PS1•NAC 2•003	PC2WL	2-Wire, Horn Strobe, White 95cd	0.1650A	45.0000'	17.4236v	2.9764v	14.59 %
PS1•NAC 2•004	PC2WL	2-Wire, Horn Strobe, White 95cd	0.1650A	45.0000'	17.2308v	3.1692v	15.54 %
PS1•NAC 2•005	PC2WL	2-Wire, Horn Strobe, White 95cd	0.1650A	35.0000'	17.1162v	3.2838v	16.10 %
PS1 NAC 2.006	PC2WL	2-Wire, Horn Strobe, White 75cd	0.1430A	30.0000'	17.0485v	3.3516v	16.43 %
PS1 NAC 2.007	PC2WL	2-Wire, Horn Strobe, White 75cd	0.1430A	30.0000'	17.0070v	3.3930v	16.63 %
PS1+NAC 2+008	SCWL	Strobe, White 15cd	0.0410A	15.0000'	16.9995v	3.4005v	16.67 %
S1 NAC 2.009 EOL	SCWL	Strobe, White 15cd	0.0410A	15.0000'	16.9957v	3.4043v	16.69 %

		Point—To—Point Voltage Drop	Calculation for F	Panel PS1 Circuit	NAC 3		
		g Calculation Voltage: 20.4000 Total Circuit Current: 1.46 Voltage Drop: 3.4557v Percent Drop: 16.9 neasured using drawn segment	30A Total End Of Line 34 % Wire (	Operational Volt Distance: 570.00 Voltage: 16.944. GA=#14 AWG D.00 % additional	000' 3v		
Device Label	Part No.	Description	Device Current	Distance From Previous Device	Voltage At Device	Voltage Drop From Source	Voltage Drop Percent
PS1 NAC 3 001	PC2WL	2-Wire, Horn Strobe, White 95cd	0.1650A	195.0000'	18.6484v	1.7517v	8.59 %
PS1 NAC 3 002	PC2WL	2-Wire, Horn Strobe, White 95cd	0.1650A	45.0000'	18.2897v	2.1103v	10.34 %
PS1+NAC 3+003	PC2WL	2-Wire, Horn Strobe, White 95cd	0.1650A	45.0000'	17.9767v	2.4233v	11.88 %
PS1•NAC 3•004	PC2WL	2-Wire, Horn Strobe, White 95cd	0.1650A	45.0000'	17.7092v	2.6908v	13.19 %
PS1+NAC 3+005	PC2WL	2-Wire, Horn Strobe, White 75cd	0.1430A	75.0000'	17.3394v	3.0606v	15.00 %
PS1 NAC 3 006	PC2WL	2-Wire, Horn Strobe, White 95cd	0.1650A	30.0000'	17.2179v	3.1821v	15.60 %
PS1 NAC 3.007	PC2WL	2-Wire, Horn Strobe, White 95cd	0.1650A	45.0000'	17.0811v	3.3189v	16.27 %
PS1 NAC 3 008	PC2WL	2-Wire, Horn Strobe, White 95cd	0.1650A	45.0000'	16.9899v	3.4101v	16.72 %
PS1 NAC 3.009 EOL	PC2WL	2-Wire, Horn Strobe, White 95cd	0.1650A	45.0000'	16.9443v	3.4557v	16.94 %

		Point-To-Point Voltage Drop (	Calculation for F	anel PS1 Circuit	NAC 4		
		g Calculation Voltage: 20.4000 Total Circuit Current: 1.82 Voltage Drop: 3.6054v Percent Drop: 17.6 neasured using drawn segment	80A Total   End Of Line 7 % Wire G	Operational Volt Distance: 545.00 Voltage: 16.794 GA=#14 AWG 0.00 % additiona	000' 6v		
Device Label	Part No.	Description	Device Current	Distance From Previous Device	Voltage At Device	Voltage Drop From Source	Voltage Dro Percent
PS1 NAC 4.001	PC2WL	2-Wire, Horn Strobe, White 30cd	0.0900A	95.0000'	19.3337v	1.0663v	5.23 %
PS1•NAC 4•002	PC2WL	2-Wire, Horn Strobe, White 115cd	0.1870A	40.0000'	18.9069v	1.4931v	7.32 %
PS1•NAC 4•003	PC2WL	2-Wire, Horn Strobe, White 115cd	0.1870A	45.0000'	18.4783v	1.9217v	9.42 %
PS1•NAC 4•004	PC2WL	2-Wire, Horn Strobe, White 115cd	0.1870A	45.0000'	18.1015v	2.2985v	11.27 %
PS1•NAC 4•005	PC2WL	2-Wire, Horn Strobe, White 95cd	0.1650A	45.0000'	17.7763v	2.6237v	12.86 %
PS1•NAC 4•006	PC2WL	2-Wire, Horn Strobe, White 95cd	0.1650A	45.0000'	17.4966v	2.9034v	14.23 %
PS1 NAC 4.007	PC2WL	2-Wire, Horn Strobe, White 95cd	0.1650A	45.0000'	17.2626v	3.1374v	15.38 %
PS1•NAC 4•008	PC2WL	2-Wire, Horn Strobe, White 95cd	0.1650A	45.0000'	17.0742v	3.3258v	16.30 %
PS1 NAC 4 009	PC2WL	2-Wire, Horn Strobe, White 115cd	0.1870A	45.0000'	16.9313v	3.4687v	17.00 %
PS1 NAC 4 010	PC2WL	2-Wire, Horn Strobe, White 95cd	0.1650A	40.0000'	16.8503v	3.5497v	17.40 %
PS1+NAC 4+011 EOL	PC2WL	2-Wire, Horn Strobe, White 95cd	0.1650A	55.0000'	16.7946v	3.6054v	17.67 %

DEVICE LEGEND       DEVICE SYMBOL     QTY.     MANUFACTURER     PART NO.     DESCR            wP         wP           2 SYSTEM         SENSOR PC2WK PC2WK PC2WK CEILING/OUTE FACP 1 FIRELITE BS-200X INTELLIGENT A FACP WITH CO	RN/STROBE DOOR WHITE ADDRESSABLE DMMUNICATOR STATION W/
WP     2     SYSTEM SENSOR     PC2WK     2-WIRE HOL CEILING/OUTE       FACE     1     FIRELITE     FS=200X     INTELLIGENT /	RN/STROBE DOOR WHITE ADDRESSABLE DMMUNICATOR STATION W/
FACE 1 FIDELITE ES-200Y INTELLIGENT /	DOÓR WHITE ADDRESSABLE DMMUNICATOR STATION W/
	OMMUNICATOR STATION W/
Image: SystemREMOTE TESTSensorRTS151KEYSWITCH, ALAFLEDS, KE	
NAC 2 FIRELITE FCPS-24S8 8-AMP, 24- SUP	
NAC 1 ALTRONIX AL300 3 AMP, 24- SUP	
FAA 2 FIRELITE ANN-80 80-CHARA ANNUN	
2 FIRELITE CELL-MOD WIRELESS COM	
I         FIRELITE         SD355(A)/B210         DETECTOR ADDRESSAE           LP         W/STAND/	SLE PHOTO
F 1 FIRELITE MANUAL PULL BG-12L MA STA	
SYSTEM SENSOR D4120 AND PROVIDE	OR INSTALLED
3 FIRELITE XP10-M TEN INPUT MO	NITOR MODULE
5 FIRELITE MMF-301 ADDRESSABLE MOD	
HOOD 5 INSTALLED BY HOOD SYSTEM CONTACT DEV OTHERS MONITOR AND INSTALLE	VICE PROVIDED D BY OTHERS
14 SYSTEM SENSOR SCWL CEILING STR	OBE WHITE
69 SYSTEM PC2WL 2-WIRE, HORN	STROBE, WHITE
2 INSTALLED BY WATERFLOW CONTACT	
7 INSTALLED BY TAMPER SWITCH TAMPER	SWITCH

#### PANEL PS1 (FCPS-24S8) BATTERY CALCULATION

#### SECONDARY POWER SOURCE REQUIREMENTS STANDBY CURRENT (AMPS) SECONDARY ALARM CURRENT (AMPS) CURRENT CURRENT DRAW (A) TOTAL (A) CURRENT CURRENT DRAW (A) TOTAL PART NO DESCRIPTION FCPS-24S8 Main<br/>BoardFire Alarm Power Supply<br/>Main Board1 x 0.091<br/>1 x 0.091= 0.091<br/>1 x 0.145= 0.145<br/>= 0.145 DESCRIPTION CURRENTTOTAL (A)CURRENTTOTAL (A)DRAW (A)DRAW (A)DRAW (A) PART NO 2-Wire Horn/Strobe $\begin{array}{c|cccc} ceiling/outdoor & white \\ 110cd \end{array} & 1 \times 0.00 \\ \hline \end{array} = 0.00 \\ 1 \times 0.221 \\ \hline \end{array} = 0.221 \\ \hline \end{array}$ PC2WK 10cd10cd10cd2-Wire, Horn Strobe,<br/>White 95cd $3 \times 0.00$ = 0.00 $3 \times 0.165$ = 0.4952-Wire, Horn Strobe,<br/>White 115cd $2 \times 0.00$ = 0.00 $2 \times 0.187$ = 0.3742-Wire, Horn Strobe,<br/>White 75cd $2 \times 0.00$ = 0.00 $2 \times 0.143$ = 0.286PC2WL PC2WL PC2WL PC2WL Ceiling Strobe<br/>15cdwhite<br/> $2 \times 0.00$ = 0.00 $2 \times 0.066$ = 0.132SCWL $\begin{array}{c|c} 2-\text{Wire, Horn Strobe,} \\ \text{White 75cd} \end{array} 1 \times 0.00 = 0.00 \\ 1 \times 0.143 = 0.143 \\ \end{array}$ PC2WL PC2WL PC2WL 2-Wire, Horn Strobe,<br/>White 30cd $1 \times 0.00$ = 0.00 $1 \times 0.09$ = 0.092-Wire, Horn Strobe,<br/>White 95cd $6 \times 0.00$ = 0.00 $6 \times 0.165$ = 0.99PC2WL 2-Wire, Horn Strobe, White 115cd 4 x 0.00 = 0.00 4 x 0.187 = 0.748 PC2WL TOTAL 0.091 TOTAL 5.769 STANDBY (A) ALARM (A) REQUIRED STANDBY TIME = 24.00 HOURS REQUIRED ALARM TIME = 5 MINUTESx 24.00= 2.184 AHx 0.0833= 0.4807 AH 0.091 5.769 2.6647 AH x 1.20 3.1977 AH

			SECONDARY	POWER SOURCE REQUIREN	IENTS			
						CURRENT PS)	SECONDA CURREN	
PANEL COM		QTY	PART NO	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	
TANLE CON	II UNENTS	1	FCPS-24S8 Main Board	Fire Alarm Power Supply Main Board	1 x 0.091	= 0.091	1 x 0.145	
CIRCUIT	SYMBOL	QTY	PART NO	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	T
	⊠ v	2	PC2WL	2-Wire, Horn Strobe, White 30cd	2 × 0.00	= 0.00	2 x 0.09	
PS2NAC 5	⊠_⁄2	5	PC2WL	2-Wire, Horn Strobe, White 75cd	5 x 0.00	= 0.00	5 x 0.143	
F 32 WAC J	⊠¤	4	PC2WL	2-Wire, Horn Strobe, White 95cd	4 x 0.00	= 0.00	4 x 0.165	
	⊠¤	2	PC2WL	2-Wire, Horn Strobe, White 115cd	2 x 0.00	= 0.00	2 x 0.187	
-	⊠¢	2	PC2WL	2-Wire, Horn Strobe, White 30cd	2 x 0.00	= 0.00	2 x 0.09	
PS2•NAC 6	⊠ͤ	3	PC2WL	2-Wire, Horn Strobe, White 75cd	3 x 0.00	= 0.00	3 x 0.143	
	⊠¤	2	PC2WL	2-Wire, Horn Strobe, White 95cd	2 x 0.00	= 0.00	2 x 0.165	
PS2NAC 7	wP WP	1	PC2WK	2-Wire Horn/Strobe ceiling/outdoor white 30cd	1 x 0.00	= 0.00	1 x 0.116	
	⊠¢	1	PC2WL	2-Wire, Horn Strobe, White 30cd	1 x 0.00	= 0.00	1 x 0.09	
	⊠ Z	2	PC2WL	2-Wire, Horn Strobe, White 75cd	2 × 0.00	= 0.00	2 x 0.143	
	⊠ Z	6	PC2WL	2-Wire, Horn Strobe, White 95cd	6 x 0.00	= 0.00	6 x 0.165	
	⊠ v	2	PC2WL	2-Wire, Horn Strobe, White 15cd	2 × 0.00	= 0.00	2 x 0.071	
	⊠¤	2	PC2WL	2-Wire, Horn Strobe, White 30cd	2 x 0.00	= 0.00	2 x 0.09	
PS2NAC 8	⊠¤	4	PC2WL	2-Wire, Horn Strobe, White 75cd	4 x 0.00	= 0.00	4 x 0.143	
-	×	10	SCWL	Ceiling Strobe white 15cd	10 x 0.00	= 0.00	10 x 0.066	
	×	1	SCWL	Ceiling Strobe white 30cd	1 x 0.00	= 0.00	1 x 0.094	
					TOTAL STANDBY (A)	0.091	TOTAL ALARM (A)	
							TIME = 24.00	
	SECONDAR	Y STANDBY		0.091	REQUI	$\frac{\text{TIME} = 5 \text{ MII}}{= 2.1}$		
		RY ALARM L		6.143	x 0.0		= 2.1 = 0.5	
STA	NDBY AND A						59 AH	
		TING FACTOR			× 1.20			
050010			S (AMP HOURS)			3 7 7 8	51 AH	-

Panel PS2

Total Used Current: (All Circuits)

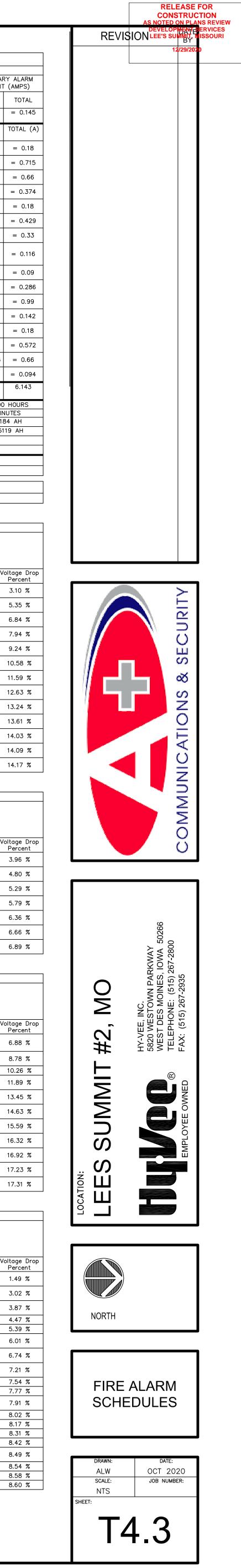
	F	Point—To—Point Voltage Drop C	Calculation for F	<sup>p</sup> anel PS2 Circui <sup>.</sup>	t NAC 5		
	·	g Calculation Voltage: 20.4000 Total Circuit Current: 1.92 Voltage Drop: 2.8899v Percent Drop: 14.1 easured using drawn segment	90A Total End Of Line 7 % Wire G	Operational Vol Distance: 429.99 Voltage: 17.510 GA=#14 AWG 0.00 % additiona	973' 1v		
Device Label	Part No.	Description	Device Current	Distance From Previous Device	Voltage At Device	Voltage Drop From Source	Voltage Perc
PS2 NAC 5 001	PC2WL	2-Wire, Horn Strobe, White 75cd	0.1430A	53.3250'	19.7684v	0.6316v	3.10
PS2•NAC 5•002	PC2WL	2-Wire, Horn Strobe, White 75cd	0.1430A	41.9943'	19.3079v	1.0921v	5.35
PS2•NAC 5•003	PC2WL	2-Wire, Horn Strobe, White 115cd	0.1870A	30.0908'	19.0043v	1.3957v	6.84
PS2•NAC 5•004	PC2WL	2-Wire, Horn Strobe, White 75cd	0.1430A	25.0275'	18.7806v	1.6194v	7.94
PS2•NAC 5•005	PC2WL	2-Wire, Horn Strobe, White 95cd	0.1650A	32.8283'	18.5159v	1.8841v	9.24
PS2•NAC 5•006	PC2WL	2-Wire, Horn Strobe, White 95cd	0.1650A	38.9997'	18.2411v	2.1589v	10.58
PS2•NAC 5•007	PC2WL	2-Wire, Horn Strobe, White 95cd	0.1650A	34.0839'	18.0353v	2.3647v	11.59
PS2•NAC 5•008	PC2WL	2-Wire, Horn Strobe, White 95cd	0.1650A	42.3367'	17.8227v	2.5773v	12.63
PS2•NAC 5•009	PC2WL	2-Wire, Horn Strobe, White 115cd	0.1870A	30.7111'	17.6996v	2.7004v	13.24
PS2•NAC 5•010	PC2WL	2-Wire, Horn Strobe, White 30cd	0.0900A	26.3635'	17.6241v	2.7759v	13.61
PS2•NAC 5•011	PC2WL	2-Wire, Horn Strobe, White 75cd	0.1430A	37.5601'	17.5374v	2.8626v	14.03
PS2•NAC 5•012	PC2WL	2-Wire, Horn Strobe, White 75cd	0.1430A	8.0191'	17.5259v	2.8741v	14.09
PS2-NAC 5-013 EOL	PC2WL	2-Wire, Horn Strobe, White 30cd	0.0900A	28.6572'	17.5101v	2.8899v	14.17

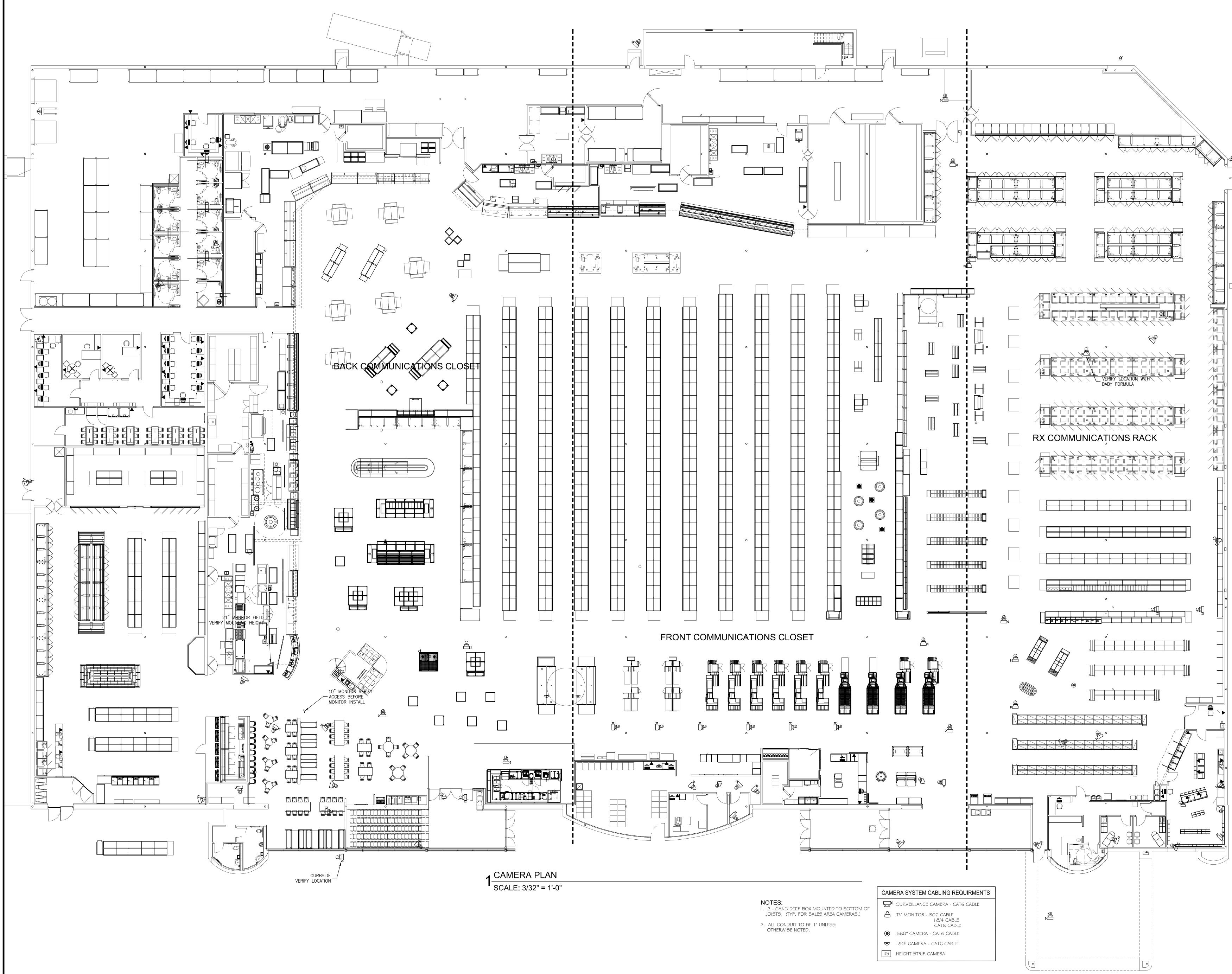
5.8060A

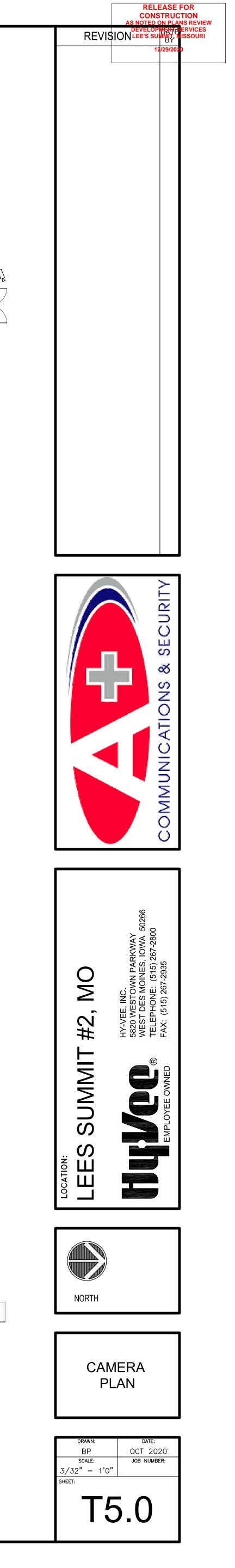
	F	Point—To—Point Voltage Drop (	Calculation for F	anel PS2 Circui	t NAC 6		
	-	g Calculation Voltage: 20.4000 Total Circuit Current: 0.93 Voltage Drop: 1.4047v Percent Drop: 6.89 easured using drawn segment	90A Total End Of Line 9 % Wire G	Operational Vol Distance: 345.0 Voltage: 18.995 A=#14 AWG 0.00 % additiona	000' 3v		
Device Label	Part No.	Description	Device Current	Distance From Previous Device	Voltage At Device	Voltage Drop From Source	Voltage Perce
PS2-NAC 6-001	PC2WL	2-Wire, Horn Strobe, White 75cd	0.1430A	140.0000'	19.5928v	0.8072v	3.96
PS2•NAC 6•002	PC2WL	2-Wire, Horn Strobe, White 75cd	0.1430A	35.0000'	19.4218v	0.9782v	4.80
PS2•NAC 6•003	PC2WL	2-Wire, Horn Strobe, White 30cd	0.0900A	25.0000'	19.3215v	1.0785v	5.29
PS2•NAC 6•004	PC2WL	2-Wire, Horn Strobe, White 30cd	0.0900A	30.0000'	19.2178v	1.1822v	5.79
PS2•NAC 6•005	PC2WL	2-Wire, Horn Strobe, White 75cd	0.1430A	40.0000'	19.1017v	1.2983v	6.36
PS2•NAC 6•006	PC2WL	2-Wire, Horn Strobe, White 95cd	0.1650A	30.0000'	19.0409v	1.3591v	6.66
PS2 NAC 6 007 EOL	PC2WL	2-Wire, Horn Strobe, White 95cd	0.1650A	45.0000'	18.9953v	1.4047v	6.89

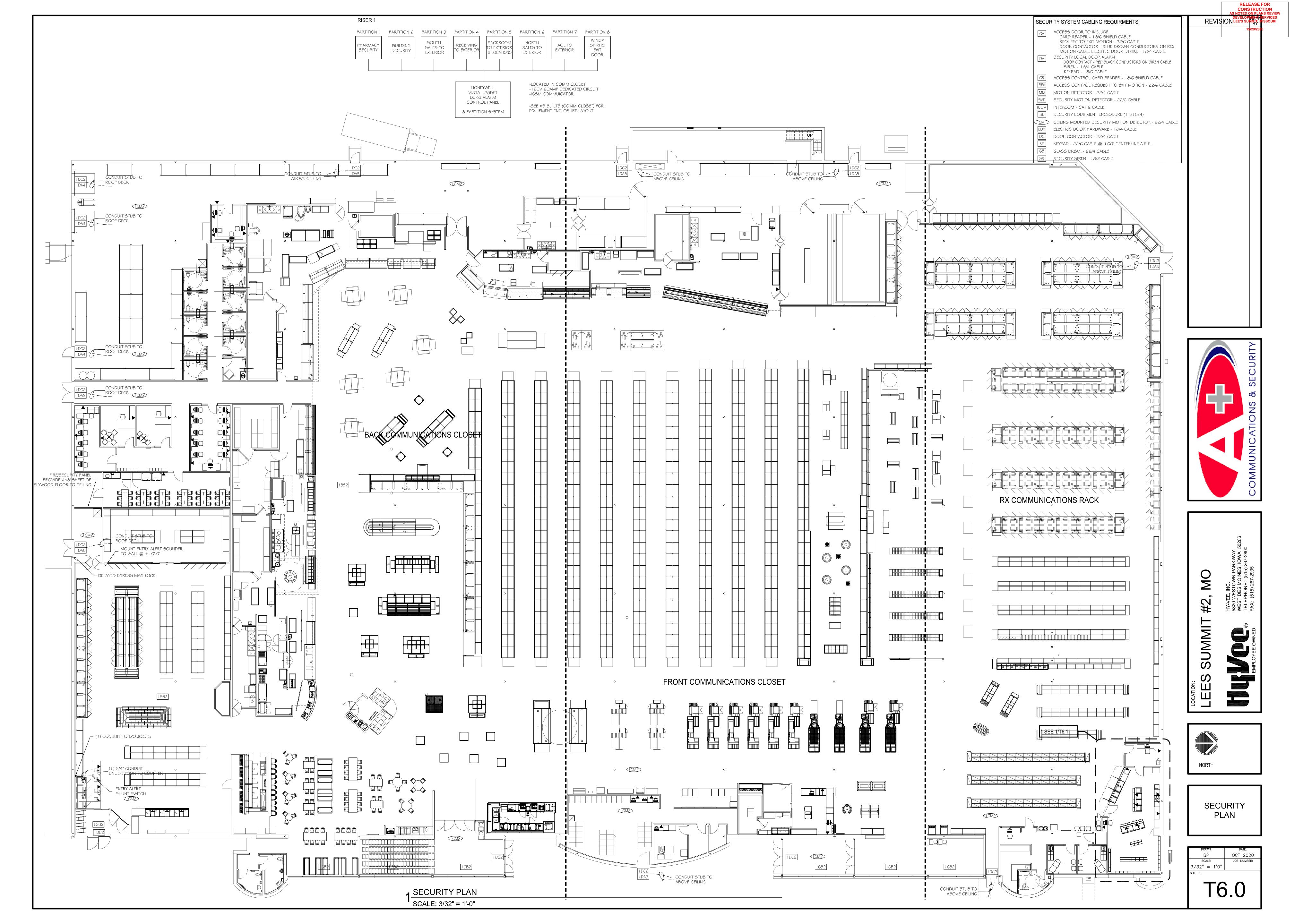
	ł	Point—To—Point Voltage Drop (	Calculation for F	Panel PS2 Circuit	t NAC 7		
		g Calculation Voltage: 20.4000 Total Circuit Current: 1.52 Voltage Drop: 3.5322v Percent Drop: 17.3 neasured using drawn segment	30A Total End Of Line 1 % Wire G	Operational Volt Distance: 589.67 Voltage: 16.867 GA=#14 AWG 0.00 % additional	721' 8v		
Device Label	Part No.	Description	Device Current	Distance From Previous Device	Voltage At Device	Voltage Drop From Source	Voltage Perc
PS2•NAC 7•001	PC2WK	2-Wire Horn/Strobe ceiling/outdoor white 30cd	0.1160A	150.0000'	18.9973v	1.4027v	6.88
PS2•NAC 7•002	PC2WL	2-Wire, Horn Strobe, White 95cd	0.1650A	45.0000'	18.6086v	1.7914v	8.78
PS2•NAC 7•003	SCWL	Strobe, White 15cd	0.0410A	39.6721'	18.3060v	2.0940v	10.26
PS2•NAC 7•004	PC2WL	2-Wire, Horn Strobe, White 95cd	0.1650A	45.0000'	17.9742v	2.4258v	11.89
PS2 NAC 7 005	PC2WL	2-Wire, Horn Strobe, White 95cd	0.1650A	50.0000'	17.6561v	2.7439v	13.45
PS2•NAC 7•006	PC2WL	2-Wire, Horn Strobe, White 95cd	0.1650A	45.0000'	17.4155v	2.9845v	14.63
PS2•NAC 7•007	PC2WL	2-Wire, Horn Strobe, White 95cd	0.1650A	45.0000'	17.2204v	3.1796v	15.59
PS2:NAC 7:008	PC2WL	2-Wire, Horn Strobe, White 75cd	0.1430A	45.0000'	17.0709v	3.3291v	16.32
PS2•NAC 7•009	PC2WL	2-Wire, Horn Strobe, White 95cd	0.1650A	50.0000'	16.9488v	3.4512v	16.92
PS2•NAC 7•010	PC2WL	2-Wire, Horn Strobe, White 75cd	0.1430A	45.0000'	16.8844v	3.5156v	17.23
PS2•NAC 7•011 EOL	PC2WL	2-Wire, Horn Strobe, White 30cd	0.0900A	30.0000'	16.8678v	3.5322v	17.3

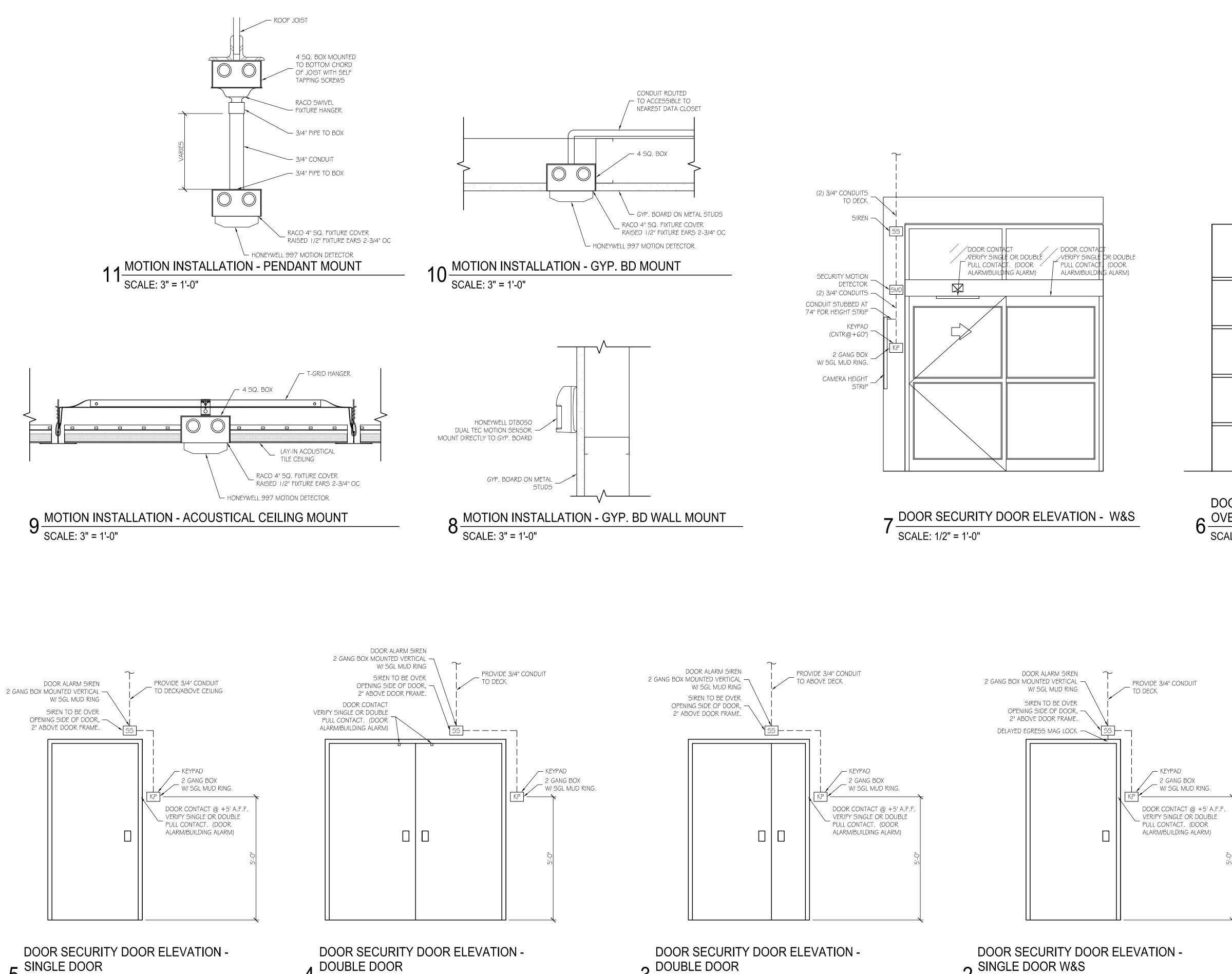
		Point—To—Point Voltage Drop (		Panel PS2 Circui	t NAC 8		
		g Calculation Voltage: 20.4000 Total Circuit Current: 1.41 Voltage Drop: 1.7539v Percent Drop: 8.60 neasured using drawn segment	50A Total End Of Line 0 % Wire G	Operational Vol <sup>.</sup> Distance: 395.00 Voltage: 18.646 A=#14 AWG 0.00 % additiona	000' 1v		
Device Label	Part No.	Description	Device Current	Distance From Previous Device	Voltage At Device	Voltage Drop From Source	Voltac Per
PS2•NAC 8•001	PC2WL	2-Wire, Horn Strobe, White 75cd	0.1430A	35.0000'	20.0959v	0.3041v	1.4
PS2•NAC 8•002	PC2WL	2-Wire, Horn Strobe, White 75cd	0.1430A	40.0000'	19.7835v	0.6165v	3.0
PS2 NAC 8 003	PC2WL	2-Wire, Horn Strobe, White 75cd	0.1430A	25.0000'	19.6102v	0.7898v	3.8
PS2•NAC 8•004	SCWL	Strobe, White 75cd	0.1110A	20.0000'	19.4891v	0.9109v	4.4
PS2•NAC 8•005	SCWL	Strobe, White 15cd	0.0410A	35.0000'	19.3011v	1.0989v	5.3
PS2 NAC 8 006	PC2WL	2-Wire, Horn Strobe, White 75cd	0.1430A	25.0000'	19.1731v	1.2269v	6.0
PS2 NAC 8 007	PC2WL	2-Wire, Horn Strobe, White 15cd	0.0710A	35.0000'	19.0246v	1.3754v	6.7
PS2•NAC 8•008	PC2WL	2-Wire, Horn Strobe, White 15cd	0.0710A	25.0000'	18.9294v	1.4706v	7.2
PS2•NAC 8•009	SCWL	Strobe, White 15cd	0.0410A	20.0000'	18.8620v	1.5380v	7.5
PS2•NAC 8•010	SCWL	Strobe, White 15cd	0.0410A	15.0000'	18.8152v	1.5848v	7.7
PS2 NAC 8 011	PC2WL	2-Wire, Horn Strobe, White 30cd	0.0900A	10.0000'	18.7865v	1.6135v	7.9
PS2•NAC 8•012	SCWL	Strobe, White 15cd	0.0410A	10.0000'	18.7634v	1.6366v	8.0
PS2•NAC 8•013	SCWL	Strobe, White 15cd	0.0410A	15.0000'	18.7324v	1.6676v	8.1
PS2•NAC 8•014	SCWL	Strobe, White 15cd	0.0410A	15.0000'	18.7053v	1.6947∨	8.3
PS2•NAC 8•015	SCWL	Strobe, White 15cd	0.0410A	15.0000'	18.6819v	1.7181v	8.4
PS2•NAC 8•016	PC2WL	2-Wire, Horn Strobe, White 30cd	0.0900A	10.0000'	18.6688v	1.7312v	8.4
PS2•NAC 8•017	SCWL	Strobe, White 15cd	0.0410A	15.0000'	18.6575v	1.7425v	8.5
PS2•NAC 8•018	SCWL	Strobe, White 15cd	0.0410A	15.0000'	18.6499v	1.7501v	8.5
PS2+NAC 8+019 EOL	SCWL	Strobe, White 15cd	0.0410A	15.0000'	18.6461v	1.7539v	8.6









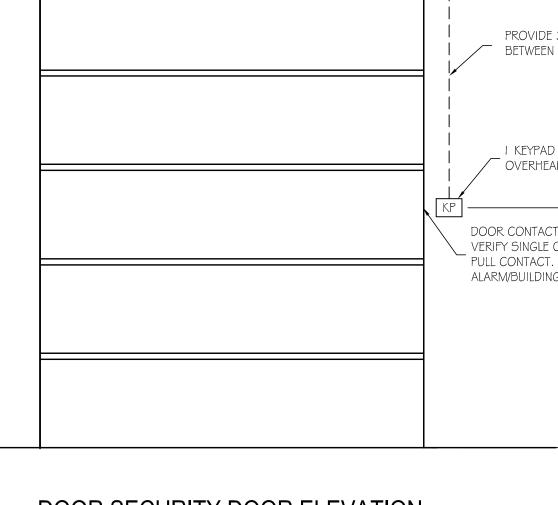


 $5 \frac{\text{SINGLE DOOR}}{\text{SCALE: 1/2"} = 1'-0"}$ 



SCALE: 1/2" = 1'-0"

• SCALE: 1/2" = 1'-0"





SCALE: 1/2" = 1'-0"

SECUE	RITY SYSTEM CABLING REQUIRMENTS
CA	ACCESS DOOR TO INCLUDE CARD READER - 18/6 SHIELD CABLE REQUEST TO EXIT MOTION - 22/6 CABLE DOOR CONTACTOR - BLUE BROWN CONDUCTORS ON REX MOTION CABLE ELECTRIC DOOR STRIKE - 18/4 CABLE
DA	SECURITY LOCAL DOOR ALARM   DOOR CONTACT - RED BLACK CONDUCTORS ON SIREN CABLE   SIREN -   8/4 CABLE   KEYPAD -   8/6 CABLE
CR	ACCESS CONTROL CARD READER - 18/6 SHIELD CABLE
REX	ACCESS CONTROL REQUEST TO EXIT MOTION - 22/6 CABLE
MD	MOTION DETECTOR - 22/4 CABLE
SMD	SECURITY MOTION DETECTOR - 22/6 CABLE
ICOM	INTERCOM - CAT 6 CABLE
SE	SECURITY EQUIPMENT ENCLOSURE (    x   5x4)
CM	CEILING MOUNTED SECURITY MOTION DETECTOR - 22/4 CABLE
EDH	ELECTRIC DOOR HARDWARE - 18/4 CABLE
DC	DOOR CONTACTOR - 22/4 CABLE
KP	KEYPAD - 22/G CABLE @ +60" CENTERLINE A.F.F.
GB	GLASS BREAK - 22/4 CABLE
55	SECURITY SIREN - 18/2 CABLE

