GENERAL ELECTRICAL NOTES

1. FIRE ALARM SYSTEM SHALL BE INSTALLED AND TESTED IN STRICT ACCORDANCE WITH NFPA 72, 2019 EDITION, NATIONAL FIRE ALARM CODE, NFPA 70, 2017 EDITION, NATIONAL ELECTRICAL CODE AND INTERNATIONAL BUILDING CODE (IBC) 2018 EDITION, AS WELL AS STATE AND LOCAL BUILDING CODES AND STANDARDS.
2. FIRE ALARM CONDUCTORS AND CABLES SHALL BE INSTALLED IN STRICT ACCORDANCE WITH NFPA 70, 2017 EDITION NATIONAL ELECTRICAL CODE AND SPECIFICALLY WITH ARTICLES 760, 770 AND 800, WHERE APPLICABLE. OPTICAL FIBER CABLES SHALL BE PROTECTED AGAINST MECHANICAL INJURY IN ACCORDANCE WITH ARTICLE 760.
3. FIRE ALARM CONDUCTORS AND CABLES SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. CONDUCTORS AND CABLES SHALL BE SUPPORTED BY THE BUILDING STRUCTURE IN SUCH A MANNER THAT THE CABLE WILL NOT BE DAMAGED BY NORMAL BUILDING USE.
4. THE INSTALLING ELECTRICAL CONTRACTOR MUST PROVIDE THE FIRE ALARM CONTRACTOR (KELLER FIRE & SAFETY) WITH ACCURATE MARKED UP DRAWINGS SHOWING ALL JUNCTION BOXES, TERMINAL CABINETS, DEVICE LOCATIONS, WIRE ROUTING, ETC. FOR THE USE IN MAKING OF "RECORD DRAWINGS". FINAL PAYMENT WILL NOT BE AUTHORIZED UNTIL THE RECORD DOCUMENTS HAVE BEEN RECEIVED AND APPROVED.
5. CONDUIT ROUTING AND CONDUIT SIZE SHALL BE DETERMINED BY THE CONTRACTOR, IN CONJUNCTION WITH NFPA 70 (NEC), AND INDICATED ON THE RECORD DRAWINGS. CONDUIT FILL SHALL NOT EXCEED 40%.
6. PRIMARY POWER SOURCE (120VAC) TO FACP AND POWER SUPPLIES MUST BE ON A DEDICATED BRANCH CIRCUIT FROM THE EMERGENCY GENERATOR (IF APPLICABLE), WITH DISCONNECTING MEANS MARKED "FIRE ALARM CONTROL CIRCUIT". THE LOCATION OF THE DISCONNECT MUST BE IDENTIFIED AT THE FACP AND ALL POWER SUPPLIES. ALL FIRE ALARM CIRCUIT BREAKERS MUST ME CLEARLY MARKED AND MECHANICALLY SECURED TO PREVENT ANY UNAUTHORIZED TAMPERING.
7. DEVICE POLARITY MUST BE OBSERVED ON ALL DC CIRCUITS (SLC), IDC, NAC, AND AUXILIARY POWER).
8. ALL INITIATING AND NOTIFICATION CIRCUIT WIRING MUST BE SUPERVISED.
9. ALL WIRING, INCLUDING SHIELDS, MUST BE DRY AND FREE OF SHORTS AND GROUNDS.
10. INITIATING DEVICES SHALL BE SUPPORTED INDEPENDENTLY OF THERE ATTACHMENT TO FIRE ALARM CIRCUIT CONDUCTORS.
11. FIRE ALARM CIRCUITS SHALL BE IDENTIFIED AT TERMINAL AND JUNCTION LOCATIONS, IN A MANNER THAT WILL PREVENT UNINTENTIONAL INTERFERENCE WITH THE SIGNALING LINE CIRCUIT (SLC) DURING TESTING AND SERVICING (NEC ARTICLE 760-10).
12. SMOKE DETECTORS SHALL BE MOUNTED IN ACCORDANCE WITH NFPA 72. DETECTORS SHALL NOT BE LOCATED IN A DIRECT AIR FLOW NOR CLOSER THAN 3 FEET (1 METER) FROM AN AIR SUPPLY DIFFUSER OR RETURN AIR OPENING. FURTHER, DETECTORS SHALL NOT BE INSTALLED WITHIN 1 FOOT OF LIGHT FIXTURES.
13. DETECTORS SHALL NOT BE INSTALLED UNTIL AFTER THE CONSTRUCTION CLEANUP OF ALL TRADES IS COMPLETE AND FINAL.
14. ALL FIRE ALARM DEVICES MUST BE INSTALLED IN A PROPER BACK BOX. NO DEVICE SHALL BE INSTALLED WITHOUT A BACK BOX.
15. POWER-LIMITED FIRE ALARM CIRCUIT CONDUCTORS AND CABLES (NEC ARTICLE 760-71) SHALL BE INSTALLED AS FOLLOWS:
    - A. IN RACEWAY OR EXPOSED ON THE SURFACE OF CEILING AND SIDE WALLS OR "FISHED" IN CONCEALED SPACES. 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 SUCH AS BASEBOARDS, DOOR FRAMES, LEDGES, ETC. WHERE LOCATED WITHIN 7 FEET (2.13 METERS) OF THE FLOOR, CABLES SHALL BE SECURELY FASTENED IN AN APPROVED MANNER AT INTERVALS OF NOT MORE THAN 18 INCHES.
    - B. IN METAL RACEWAYS OR RIGID NONMETALLIC CONDUIT WHERE PASSING THROUGH A FLOOR OR WALL TO A HEIGHT OF 7 FEET (2.13 METERS) ABOVE THE FLOOR, UNLESS ADEQUATE PROTECTION CAN BE AFFORDED BY BUILDING CONSTRUCTION SUCH AS DETAILED IN (A) ABOVE, OR UNLESS A EQUIVALENT SOLID GUARD IS PROVIDED.
    - C. IN RIGID METAL CONDUIT, RIGID NONMETALLIC CONDUIT, INTERMEDIATED METAL CONDUIT, OR ELECTRICAL METALLIC TUBING WHERE INSTALLED IN HOISTWAYS. (EXCEPTION: AS PROVIDED IN NEC SECTION 620-71 FOR ELEVATORS AND SIMILAR EQUIPMENT)
16. ALL DEVICES HALL BE LABELED WITH THEIR ADDRESS OR CIRCUIT NUMBER.
17. POWER-LIMITED CIRCUIT CABLES AND CONDUCTORS SHALL NOT BE PLACED IN ANY CABLE, CABLE TRAY, COMPARTMENT, ENCLOSURE, OUTLET BOX, RACEWAY, OR SIMILAR FITTING WITH CONDUCTORS OF ELECTRIC LIGHT, POWER, CLASS 1 NONPOWER-LIMITED FIRE ALARM CIRCUIT CONDUCTORS, OR MEDIUM POWER NETWORK-POWER BOARD BAND COMMUNICATIONS CIRCUITS (NEC ARTICLE 760-54).
18. POWER-LIMITED CIRCUIT CONDUCTORS SHALL NOT BE STRAPPED, TAPED OR ATTACHED BY ANY MEANS TO THE EXTERIOR OF ANY CONDUIT OR OTHER RACEWAY AS A MEANS OF SUPPORT.
19. INITIATING DEVICE CIRCUITS (IDC) AND NOTIFICATION APPLIANCE CIRCUITS (NAC), ARE TWO WIRE CLASS "B". NO "T-TAPPING" IS ALLOWED ON ANY OF THESE CIRCUITS.
20. AUXILIARY POWER CIRCUITS ARE TWO WIRE CIRCUITS THAT CAN BE T-TAPPED AS REQUIRED.
21. SIGNALING LINE CIRCUITS (SLC) DESIGNATED AS CLASS "B" ARE TWO WIRE DATA COMMUNICATIONS CIRCUITS. T-TAPPING IS ALLOWED ONLY AT JUNCTION BOXES AND SLC DEVICES, BUT SHALL BE KEPT TO A MINIMUM.
22. SIGNALING LINE CIRCUITS (SLC) DESIGNATED AS CLASS "A" ARE TWO WIRE DATA COMMUNICATIONS CIRCUITS. NO T-TAPPING IS PERMITTED. THE OUTGOING AND RETURN CONDUCTORS OF A CLASS "A" CIRCUIT, EXITING FROM AND RETURNING TO THE CONTROL UNIT, RESPECTIVELY, MUST BE ROUTED SEPARATELY. THE OUTGOING AND RETURN (REDUNDANT) CIRCUIT CONDUCTORS SHALL NOT BE RUN IN THE SAME CABLE ASSEMBLY, ENCLOSURE, OR RACEWAY. THE OUTGOING AND RETURN CIRCUIT CONDUCTORS SHALL BE PERMITTED TO BE RUN IN THE SAME CABLE ASSEMBLY, ENCLOSURE, OR RACEWAY ONLY UNDER THE FOLLOWING CONDITIONS:
    - FOR A DISTANCE OF 10 FEET (3 METERS) WHERE THE OUTGOING AND RETURN CONDUCTORS ENTER OR EXIT THE INITIATING DEVICE, NOTIFICATION APPLIANCE, OR CONTROL UNIT ENCLOSURES.
    - SINGLE CONDUIT/RACEWAY DROPS (UNLIMITED LENGTH) TO INDIVIDUAL DEVICES OR APPLIANCES.
    - SINGLE CONDUIT/RACEWAY DROPS TO MULTIPLE DEVICES OR APPLIANCES INSTALLED WITH A SINGLE ROOM NOT EXCEEDING 1000 FEET (92.9 METERS) IN AREA.
23. OPENINGS AROUND ELECTRICAL PENETRATIONS THROUGH FIRE-RESISTANT/RATED WALLS, PARTITIONS, FLOORS OR CEILINGS SHALL BE FIRE STOPPED USING APPROVED METHODS TO MAINTAIN THE FIRE RESISTANCE RATING.
24. ALL CIRCUITS SHALL BE METER TESTED FOR INTEGRITY PRIOR TO CONNECTING TO A PANEL.

SCOPE OF WORK

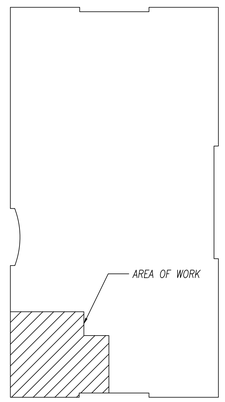
KELLER FIRE AND SAFETY SHALL PROVIDE GAMEDAY MEN'S HEALTH WITH A FIRELITE, FIRE ALARM ADDITION. DRAWINGS ARE BASED ON PROPOSAL DATED 1/3/2024 BY KAWB.

GENERAL NOTES

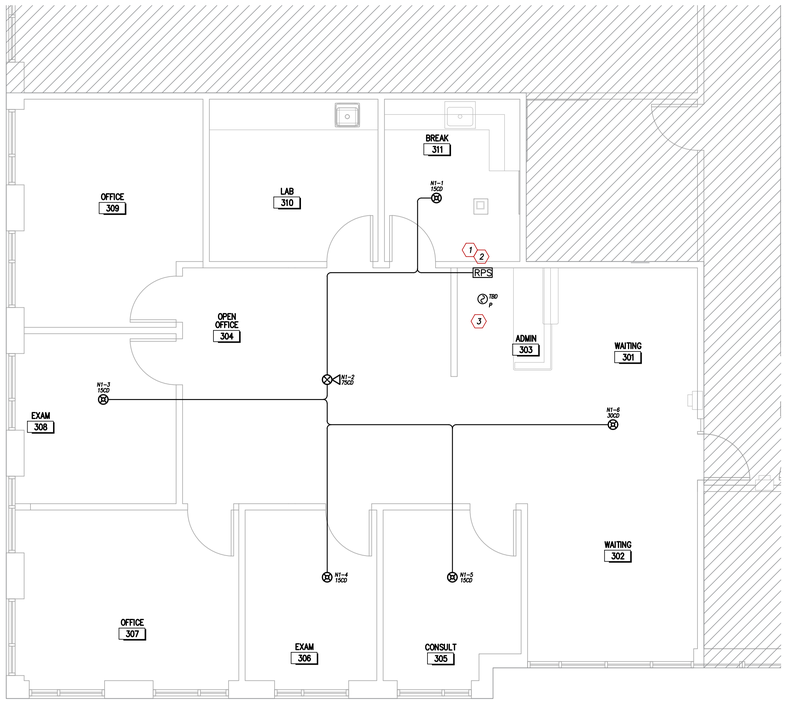
1. DRAWINGS ARE SCHEMATIC BY NATURE AND MAY NOT REFLECT EXACT FIELD LOCATIONS. AT PROJECT CLOSEOUT, THE INSTALLING CONTRACTOR SHALL SUBMIT ONE SET OF RECORD PRINTS HAVING ALL CHANGES NEATLY TRANSFERRED FROM THE FIELD SET TO A NEW SET (USING RED PENCIL). A CLEAN SET OF SHOP DRAWINGS WILL BE PROVIDED FOR THIS PURPOSE. FINAL PAYMENT WILL NOT BE AUTHORIZED UNTIL THE RECORD DOCUMENTS HAVE BEEN RECEIVED AND APPROVED.
2. EXISTING FIRE SPRINKLER SYSTEM TO REMAIN, UNLESS NOTED OTHERWISE.
3. HATCHED AREA IS NOT IN SCOPE.

KEYED NOTES

1. REMOTE POWER SUPPLY REQUIRES 120VAC DEDICATED BY OTHERS. FIELD VERIFY IF NEW POWER SUPPLY IS REQUIRED AND FINAL LOCATION.
2. REMOTE POWER SUPPLY REQUIRES SYNC CIRCUIT FROM NEAREST POWER SUPPLY. FIELD LOCATE AND RECORD ON REDLINED "AS-BUILTS".
3. SMOKE DETECTOR REQUIRES CKT. L FROM NEAREST ASSOCIATED DEVICE. FIELD LOCATE NEAREST ASSOCIATED DEVICE AND RECORD ON REDLINED "AS-BUILTS".

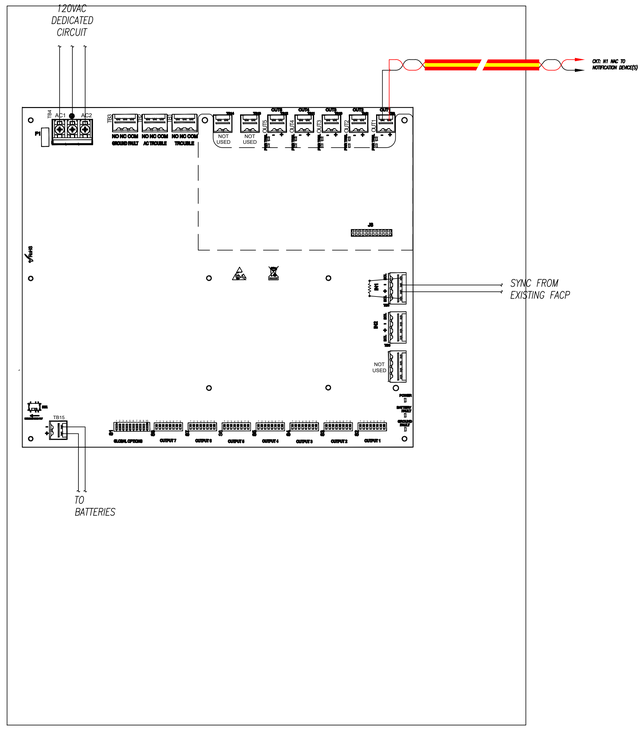


SITE MAP: 3RD FLOOR
NTS

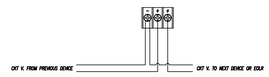


PARTIAL THIRD FLOOR: FIRE ALARM PLAN
1/4"=1'-0"

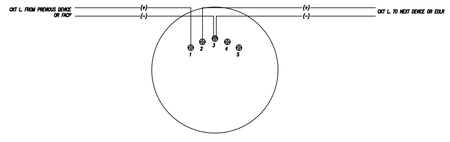
0' 3' 5' 10'



REMOTE POWER SUPPLY WIRING DETAIL
NTS



NOTIFICATION DEVICE WIRING DETAIL
NTS



SMOKE DETECTOR WIRING DETAIL
NTS

EQUIPMENT SCHEDULE

SYMBOL	QTY	PART NUMBER	MFG	BACKBOX	MOUNTING HEIGHT	DESCRIPTION
RPS	1	FL-PS6	FIRELITE	20"H x 14.5"W x 3.5"D	72" A.F.F. TO TOP OF CABINET	REMOTE POWER SUPPLY
	2	PS-1270	POWERSONIC	INSIDE RPS	N/A	12V, 7AH BATTERY
	1	2W-B	FIRELITE	4" OCTAGON	N/A	PHOTOELECTRIC SMOKE DETECTOR, WHITE
	1	PC2WL	SYSTEMSENSOR	4" SQUARE	N/A	CEILING MOUNT HORN/STROBE, WHT
	1	SCWL	SYSTEMSENSOR	4" SQUARE	N/A	CEILING MOUNT STROBE, WHT

CIRCUIT SCHEDULE

CIRCUIT	CABLE/WIRE DESCRIPTION	FUNCTION	REMARKS
L	18AWG 2-CONDUCTOR FPLP; WINDY CITY WIRE #762360 (OR EQUIV.)	EX. SIGNALING LINE CIRCUIT	INITIATING DEVICES (RED JACKET, RED STRIPE)
N1	14AWG 2-CONDUCTOR FPLP; WINDY CITY WIRE #767963 (OR EQUIV.)	NOTIFICATION CIRCUIT 1	VISUAL DEVICES (RED JACKET, YELLOW STRIPE)

NAC VOLTAGE DROP CALCULATIONS

Project Name:	MENS GAMEDAY HEALTH	Date:	1/17/2024
Project Number:	5-24-0004	Panel:	FLPS6
Nominal system voltage:	20.4	Min. device voltage:	16

Circuit Number:	N1	
Area Covered:		
Wire Type:	#14/2 fplp cable (6120ul)	
Wire Resistance:	2.43	ohms/1000'
Circuit Length:	200	feet
Device Mfg:		
Circuit Output (Amps):	1.5	
Circuit Results:		
Voltage Drop:	0.36	volts
End of line Voltage:	20.04	PASS
Voltage Drop %:	1.76%	
Total circuit resistance:	0.972	ohms
Resistance Max:	11.89	ohms

Device	Current Draw (A)	Qty.	Subtotal Current Draw (A)
15CD STROBE	0.041	4	0.164
30CD STROBE	0.063	1	0.063
75CD HORN/STROBE	0.143	1	0.143
			0.000
			0.000
			0.000
			0.000
Totals:		6	0.370

Max. Circuit Length: 2,447 feet

Battery Calculator

Project:	GAMEDAY MEN'S HEALTH	Prj. No:	5-24-0004
Panel:	FL-PS6		
Location:	ADMIN AREA		

		Standby (Amps)		Alarm (Amps)	
Quantity	Device	Current	Total Current	Current	Total Current
1	CONTROLLER	0.139	0.139	0.157	0.157
1	NAC N1	0.000	0.000	0.370	0.370
			0.000		0.000
			0.000		0.000
			0.000		0.000
			0.000		0.000
			0.000		0.000
			0.000		0.000
			0.000		0.000
			0.000		0.000
			0.000		0.000
			0.000		0.000
			0.000		0.000
			0.000		0.000
			0.000		0.000
			0.000		0.000
			0.000		0.000
			0.000		0.000
			0.000		0.000
			0.000		0.000
			0.000		0.000
		Totals:	0.139		0.527

Standby	
Total System Standby Current (Amps)	0.139
x Required Standby Time (hr)	24
Required Standby Capacity (Amp-hr):	3.336

Alarm	
Total System Alarm Current (Amps)	0.527
x Required Alarm Time (hr)[1]	0.083
Required Alarm Capacity (Amp-hr):	0.044
(1) Expressed in decimals of an hour.	

Total Required Capacity (Amp-hr) =	3.380
Optional Safety Factor	20%
Required Battery Capacity (Amp-hr)	**5**

STATE OF MISSOURI
GREGORY P. GLADFELTER
NUMBER
E-2000150421
REGISTERED PROFESSIONAL ENGINEER
01/29/2024

GREGORY P. GLADFELTER PE
10233 MILLSTONE DRIVE, #4112
LENEXA, KS 66220

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RELEASED FOR CONSTRUCTION
As Noted on Plan Review
Lees Summit Fire Department
Lee's Summit, Missouri
02/12/2024

NO	DATE	REVISION	DRWN	CHKD

KELLER FIRE & SAFETY
1118 MAGNA AVENUE
KANSAS CITY, MISSOURI 64105
TEL: (913) 371-8484
FAX: (913) 371-1457
- PORTABLE FIRE EXTINGUISHERS
- RANGE HOOD SYSTEMS
- FIRE ALARM SYSTEMS
- FIRE SUPPRESSION SYSTEMS
- 24 HOUR SERVICE

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CUSTOMER:

GAMEDAY MEN'S HEALTH
200 NE MISSOURI ROAD, SUITE 303
LEE'S SUMMIT, MO 64086

PROJECT TITLE:

FIRELITE, FIRE ALARM ADDITION

SHEET TITLE:

PARTIAL THIRD FLOOR:
FIRE ALARM PLAN AND DETAILS

PLOT SCALE:	AS NOTED
ISSUED FOR:	INSTALL
ISSUED DATE:	1/18/2023
PROJECT SALESMAN:	KAWB
DESIGNED BY:	JEF
DRAWN BY:	JEF
CHECKED BY:	AJS
PROJECT TECHNICIAN:	

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DRAWING NUMBER:

FA100

1 OF 1 SHEETS

FILE: 5-24-0004