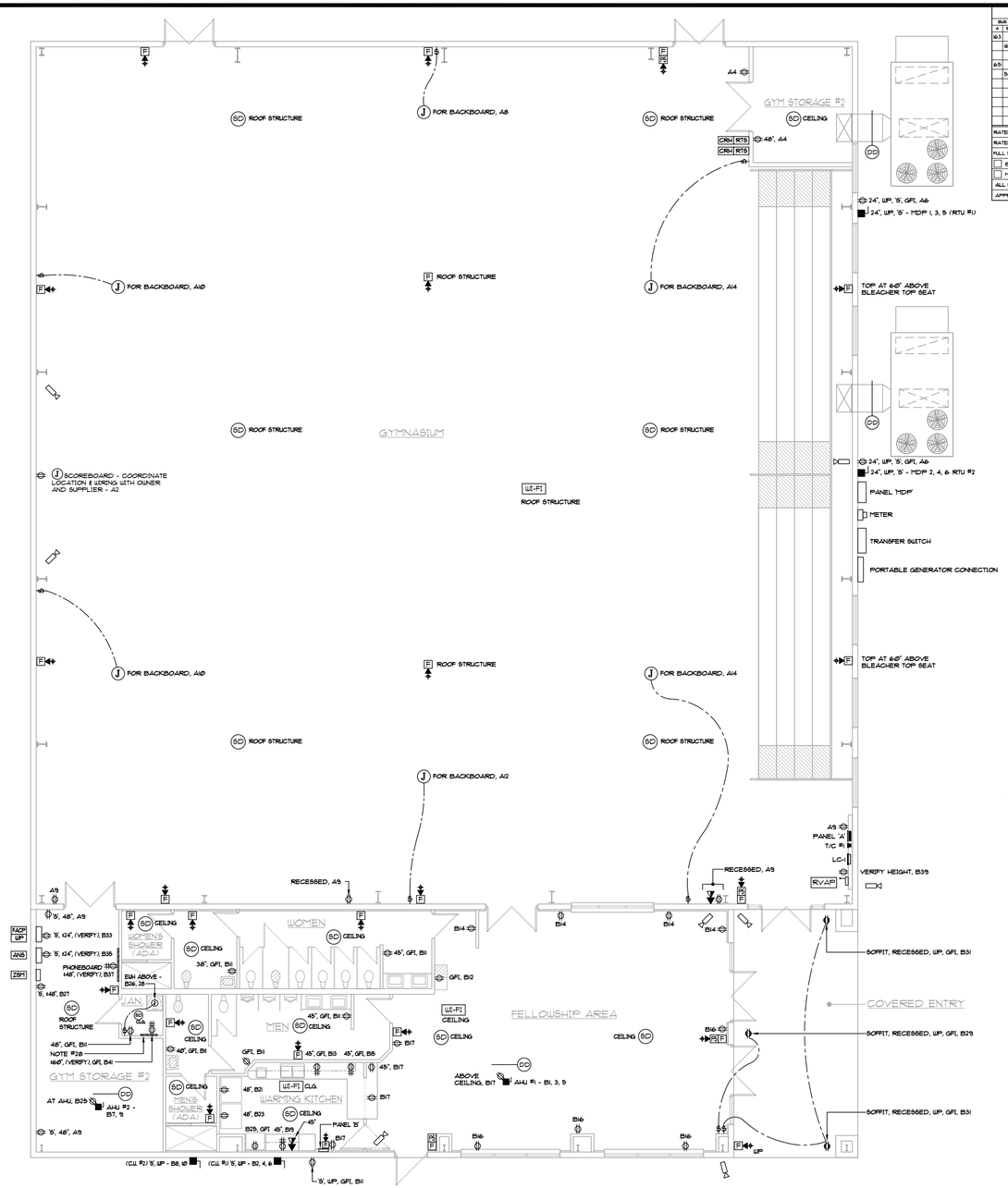
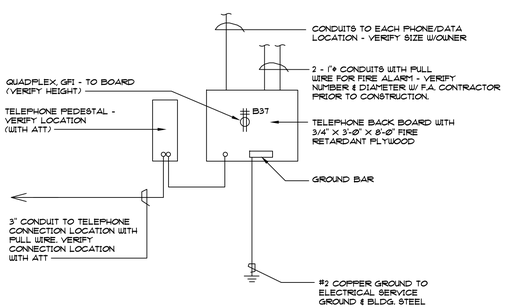


POWER / FIRE ALARM PLAN

1/8" = 1'-0"



TELEPHONE RISER DIAGRAM

NO SCALE

PANEL BOARD SCHEDULE 'MDP'

BUS AMP A	BUS AMP B	BUS AMP C	LOAD DESCRIPTION	POLE	TRIP	#	#	TRIP	POLE	LOAD DESCRIPTION	BUS AMP A	BUS AMP B	BUS AMP C
163			RTU #1 #3/0, 2"	3	200	1	2	200	3	RTU #2 #3/0, 2"	163		
	163		—	—	—	3	4	—	—	—		163	
		163	—	—	—	5	6	—	—	—			163
65			PANEL 'A' #3, 1½"	3	100	7	8	200	3	PANEL 'B' #3/0, 2"	65		
	56		—	—	—	9	10	—	—	—		147	
		43	—	—	—	11	12	—	—	—			54
						13	14						
						15	16						
						17	18						
						19	20						

RATED VOLTAGE: ■ VERIFY 120/208 ☐ 208/240 ☐ 277/480 — 3 PHASE 4 WIRE — POLES: ☐ 2 ☐ 3Ø ☐ 4Ø

RATED AMPS: ☐ 400 ☐ 260 ☐ 300 ☐ 225 ■ 600 — MOUNT: ■ SURFACE ☐ FLUSH

FULL NEUTRAL BUS ■ GROUND BUS ☐

☐ BOLT-IN TYPE ■ PLUG-IN TYPE — FEED IS TO BE: ■ BOTTOM ☐ SIDE

☐ MAIN LUG ONLY ■ MAIN CIRCUIT BREAKER 600 AMPS

ALL BREAKERS MUST BE RATED TO INTERRUPT A SHORT CIRCUIT 35C OF 65,000 AMPS SYMMETRICAL (VERIFY)

APPROVED MANUFACTURERS - SQUARE 'D' OR EQUAL - NEMA 3R - LOCKING COVER

PANEL BOARD SCHEDULE 'A'

BUS AMP A	BUS AMP B	BUS AMP C	LOAD DESCRIPTION	POLE	TRIP	#	#	TRIP	POLE	LOAD DESCRIPTION	BUS AMP A	BUS AMP B	BUS AMP C
21			GYM LIGHTS THRU LC-1 #8, ¾"	2	40	1	2	20	1	SCOREBOARD #12, ½"	3		
	21		—	—	—	3	4	20	1	RECEPTACLES & LIGHTS #12, ½"		3	
		163	EXTERIOR LIGHTS (1) #12, ½"	1	20	5	6	20	1	GFI RECEPTACLES #12, ½"			3
4			LIGHTS	2	20	7	8	25	1	MOTORIZED BACKBOARD (2) #12, ½"	16	21	
	9		RECEPTACLES	2	20	9	10	25	1	MOTORIZED BACKBOARD (2) #12, ½"	16		21
		8	SPARE #12, ½"	1	20	11	12	25	1	MOTORIZED BACKBOARD (2) #12, ½"		16	
			SPARE #12, ½"	1	20	13	14	25	1	MOTORIZED BACKBOARD (2) #12, ½"	16		12
						15	16	25	1	MOTORIZED BACKBOARD (2) #12, ½"		12	
						17	18	25	1	MOTORIZED BACKBOARD (2) #12, ½"		16	
						19	20				6		

RATED VOLTAGE: ■ VERIFY 120/208 ☐ 208/240 ☐ 277/480 — 3 PHASE 4 WIRE — POLES: ☐ 2 ☐ 3Ø ■ 4Ø

RATED AMPS: ■ 200 ☐ 150 ☐ 100 ☐ 225 ☐ 600 — MOUNT: ☐ SURFACE ■ FLUSH

FULL NEUTRAL BUS ■ GROUND BUS ☐

☐ BOLT-IN TYPE ■ PLUG-IN TYPE — FEED IS TO BE: ■ BOTTOM ☐ SIDE

■ MAIN LUG ONLY ☐ MAIN CIRCUIT BREAKER ____ AMPS

ALL BREAKERS MUST BE RATED TO INTERRUPT A SHORT CIRCUIT 35C OF 22,000 AMPS SYMMETRICAL (VERIFY)

APPROVED MANUFACTURERS - SQUARE 'D' OR EQUAL - LOCKING COVER

NOTES:
1.) WP - AT FIXTURE.
2.) BASED UPON 1 HP MOTOR AT 60V. (VERIFY PRIOR TO CONSTRUCTION).

PANEL BOARD SCHEDULE 'B'

BUS AMP A	BUS AMP B	BUS AMP C	LOAD DESCRIPTION	POLE	TRIP	#	#	TRIP	POLE	LOAD DESCRIPTION	BUS AMP A	BUS AMP B	BUS AMP C
			AHU #1 #8, ¾"	3	50	1	2	50	3	C.U. #1 #8, ¾"	33		
		47	—	—	—	3	4	—	—	—			33
		47	—	—	—	5	6	—	—	—			33
			AHU #2 #10, ¾"	2	25	7	8	25	2	C.U. #2 #10, ¾"	17		
	21		—	—	—	9	10	—	—	—		17	
		9	RECEPTACLES - GFI #12, ½"	1	20	11	12	20	1	EWC #12, ½"			6
	12		RECEPTACLES - GFI #12, ½"	1	20	13	14	20	1	RECEPTACLES #12, ½"	6		
12			RECEPTACLES - GFI #12, ½"	1	20	15	16	20	1	RECEPTACLES #12, ½"		6	
		45	RECEPTACLES #12, ½"	1	20	17	18	20	1	LIGHTS & EIP #5 & 2 #12, ½"			8
6			RECEPTACLES #12, ½"	1	20	19	20	20	1	LIGHTS & EIP #3 & 4 #12, ½"	6		
	10		REFRIGERATOR #12, ½"	1	20	21	22	20	1	LIGHTS #12, ½"		6	
	10		REFRIGERATOR #12, ½"	1	20	23	24	20	1	EXTERIOR LIGHTS THRU PEC & T/C #1 #12, ½"			6
10			ICEMAKER #12, ½"	1	20	25	26	30	2	EWH #10, ¾"	22		
	9		SPARE #12, ½"	1	20	27	28	—	—			22	
		6	SOFIT RECEPTACLE #12, ½"	1	20	29	30	20	2	EXTERIOR LIGHTS #12, ½"	4		
12			2 SOFFIT RECEPTACLES #12, ½"	1	20	31	32	20	2	SPARE			
	8		FACP #12, ½"	1	20	33	34						
		8	ANNUNCIATOR #12, ½"	1	20	35	36						
8			PHONE BOARD #12, ½"	1	20	37	38						
	6		REMOTE ANNUNCIATOR #12, ½"	1	20	39	40						
						41	42						

RATED VOLTAGE: ■ VERIFY 120/208 ☐ 208/240 ☐ 277/480 — 3 PHASE 4 WIRE — POLES: ☐ 2 ☐ 3Ø ■ 4Ø

RATED AMPS: ☐ 400 ☐ 260 ■ 300 ☐ 225 ☐ 600 — MOUNT: ☐ SURFACE ■ FLUSH

FULL NEUTRAL BUS ☐ GROUND BUS ☐

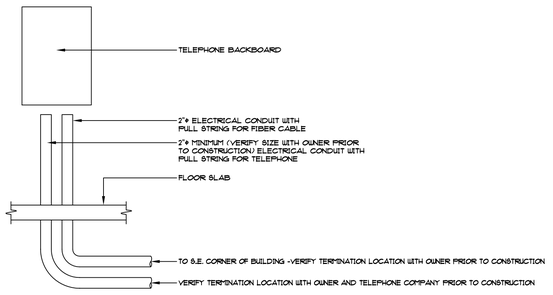
☐ BOLT-IN TYPE ■ PLUG-IN TYPE — FEED IS TO BE: ☐ BOTTOM ☐ SIDE

☐ MAIN LUG ONLY ☐ MAIN CIRCUIT BREAKER ____ AMPS

ALL BREAKERS MUST BE RATED TO INTERRUPT A SHORT CIRCUIT 35C OF 22,000 AMPS SYMMETRICAL (VERIFY)

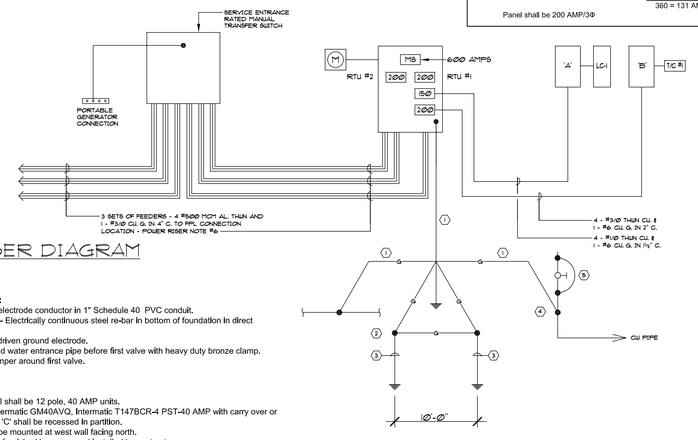
APPROVED MANUFACTURERS - SQUARE 'D' OR EQUAL - LOCKING COVER

NOTES:
1.) P.E.C. AT FIXTURE.



TELEPHONE RISER DIAGRAM

NO SCALE



POWER RISER DIAGRAM

NO SCALE

POWER RISER KEY NOTES:

1.) (1) #3/0 CU grounding electrode conductor in 1" Schedule 40 PVC conduit.
2.) Exothermic connection - Electrically continuous steel re-bar in bottom of foundation in direct contact with earth.
3.) ¾"ø X 10' long copper driven ground electrode.
4.) Connection to metal cold water entrance pipe before first valve with heavy duty bronze clamp.
5.) (1) #3/0 CU bonding jumper around first valve.

POWER RISER NOTES:

1.) Lighting contactor panel shall be 12 pole, 40 AMP units.
2.) Time clocks shall be Intermatic GM40AVQ, Intermatic T147BCR-4 PST-40 AMP with carry over or equal. Time clock 'A' & 'C' shall be recessed in partition.
3.) Photoelectric cell shall be mounted at west wall facing north.
4.) Dimming panel shall be furnished by owner and installed by contractor.
5.) Submit cut sheets of all equipment to architect prior to construction.
6.) FPL connection location T,B,D. Maximum run = 100 feet with #500 feeders. Increase feeders & ground wire one size for every 100 feet.

ELECTRICAL NOTES:

1.) All electrical work shall comply with the 2020 Florida Building Code, and the 2018 National Electrical Code with local amendments.
2.) Provide written panel directory to indicate panel circuiting for all new & existing circuits.
3.) Switches, receptacles, and cover plate colors shall be standard units and color to match existing.
4.) All electrical equipment exposed to the weather shall be weatherproof.
5.) The electrical sub-contractor shall be responsible for full coordination of this work with that of the general contractor and the other sub-contractors.
6.) Provide architect with as-built drawings.
7.) Provide a guarantee against defective workmanship, materials and equipment for a period of one year from the date of final acceptance by the owner.
8.) All power and control wiring shall be by the electrical sub-contractor. All wiring shall be in conduit. Control wiring as directed by A/C sub-contractor.
9.) Electrical contractor shall be responsible for all applicable fees, taxes, and permits.
10.) All wiring devices shall be U.L. listed.
11.) All conduit shall be Schedule 80 PVC where exposed to physical damage as required by Code. EMT may be used indoors, where not subject to abuse. Schedule 40 PVC may be used underground and where not exposed to physical damage per Code.
12.) All wire shall be copper #12 and smaller shall be solid THWN. #10 and larger shall be stranded THWN. Control wiring shall be #14 THHN.
13.) All panels and disconnects shall be Square D, Cutler-Hammer, General Electric, or Siemens. Disconnects shall be rated general duty.
14.) NOT USED.
15.) Phone/data wiring burglar alarm and sound system are not in contact (N.I.C.).
16.) Coordinate all equipment electrical requirements with manufacturer.
17.) All circuit breakers shall be plug in type. Downstream circuit breakers shall be series rated with main breaker. Panels shall have keyed door latch.
18.) **Furnish service disconnects for all air-conditioning/mechanical units. Verify breaker sizes with mechanical contractor required sizes prior to construction.**
19.) **W.P.** denotes weatherproof. Weatherproof receptacle covers shall be equal to GE 9231-9 series.
20.) All work shall be concealed unless otherwise noted.
21.) **'S'** denotes surface mounted outlet.
22.) Verify electrical requirements for owner's equipment prior to construction.
23.) Low voltage conduits shall have pull strings.
24.) Firestop conduit penetrations at fire rated assemblies.
25.) Building shall have fire alarm system with voice evacuation feature and be connected to fire sprinkler system. System shall be monitored by approved monitoring company. Submit shop drawings and cut sheets to Architect and Building/Fire Departments for review prior to construction.
26.) LC-1 shall be 8 pole / 40 amp (220 volt) lighting contactor.
27.) T/C #1 shall be Intermatic T147BCR-4PST-40 AMP with carry over.
28.) 36" X 36" fire retardant plywood backboard - top at 8'-0" A.F.F. (Verify).
29.) Coordinate Gymnasium and Fellowship Hall sound / speaker systems prior to construction.
30.) Coordinate cameras and motorized backboards requirements & locations with owner prior to construction.
31.) **Separate permits shall be required for all low voltage systems including, but not limited to fire alarm, CCTV, phone, data and wireless systems. Furnish equipment cut sheets and drawings to Building Department prior to construction.**

ELECTRICAL LOAD CALCULATIONS

PANEL MDP:

RTU#1	58,680 Watts
RTU #2	58,680
PANEL 'A'	20,380
Panel 'B'	47,315
TOTAL=	185,055 Watts
	360 = 514 AMPS

Panel shall be 600 AMP/3Φ

PANEL 'A':

Gym Lights - 4,400 Watts X 1.25	5,500 Watts
Exterior Lights - 960 Watts X 1.25	1,200
Scoreboard	1,440
Receptacles & Lights	1,800
Motorized Backboards - 6 @ 1,920 Watts	11,510
TOTAL =	21,460 Watts
	360 = 60 AMPS

Panel shall be 150 AMP/3Φ

PANEL 'B':

A/C #1	17,000 Watts
A/C #2	4,400
General Receptacles - 30 @ 180 Watts	5,400
Refrigerator - 2 @ 1,440 Watts	2,880
Icemaker	1,200
Soffit Receptacles - 3 @ 720 Watts	2,160
FACP	960
Annunciator	960
Remote Annunciator	720
Phone Board	960
EWC	720
Interior Lights - 1,500 Watts X 1.25	1,875
Exhaust Fans	370
EWH	4,500
Wall Pack Lights - 480 Watts X 1.25	600
Exterior Lights - 360 Watts X 1.25	450
Warming Kitchen Receptacles - 3 @ 720 Watts	2,160
TOTAL =	47,315 Watts
	360 = 131 AMPS

Panel shall be 200 AMP/3Φ

FIRE ALARM NOTES:

1.) All products refer to Honeywell or approved equal. Substitutions shall be approved prior to installation.
2.) All work shall conform to current edition of NFPA 72, 2018 NFPA 1 & 101, 7th Edition of Florida Fire Prevention Code and 2020 FBC.
3.) Firestop penetrations at fire rated assembly per U.L. Standards.
4.) All material shall be new, U.L. approved compatible and suitable for fire service use.
5.) Install duct smoke detector with remote test station at all A/C units. If one detector is activated, all A/C units will shut down.
6.) Interlock Fire Alarm System to fire sprinkler system.
7.) No elevator at this project.
8.) Main fire alarm control panel shall have voice evacuation system & microprocessor base systems with addressable, intelligent detectors, addressable control relay and monitor modules. Visible and audible system annunciators and other system controlled devices as required.
9.) Routing of Fire Alarm System conduit is diagrammatic only. Verify exact locations prior to starting work.
10.) All Fire Alarm visual signals (strobes) shall activate upon initiation of general alarm.
11.) All Fire Alarm visual signals in open area shall have a three plus temporal pattern.
12.) Manual stations shall be installed at 48" A.F.F. to handle or 42" to bottom.
13.) Notification system shall be 75 db or 15 db above ambient, whichever is greater.
14.) Mount Fire Alarm systems strobes with entire lens at 80" A.F.F. or 6" below ceiling, whichever is lower and complies with A.D.A. standards.
15.) Fire Alarm panel shall have earth ground connection as required by system manufacturer, and N.E.C. Article 760. (Note: panel neutral or conduit ground is not acceptable).
16.) General alarm shall be annunciated upon activation of any pull station or detection device.
17.) Trouble signal shall be annunciated upon failure or removal of any detection or manual device.
18.) HVAC duct smoke detectors shall be connected to the Fire Alarm Control Panel and shall initiate a supervisory signal only.
19.) Provide certificate of completion at final Inspection of Fire Alarm System.
20.) Fire Alarm contractor shall provide a detailed set of shop drawings (including device cut sheets). Complete point to point wiring diagram, floor plan drawings indicating all device locations and numbers, complete battery calculations and complete notification appliance circuit calculations (for the system to be installed) to the Building Department (AHJ) and architect at the time of application for building permit.
21.) Provide owner with a complete system and installation manual covering all system equipment installed. Keep at the main fire alarm control panel.
22.) Furnish/install 2-1"ø phone conduits, with pull wire, from A.C.T to main telephone connection location.
23.) Furnish/install dedicated 1P-20 AMP circuit with #12 copper wire for R.P.S., F.A.C.P., A.C.T, & annunciator panel.
24.) Battery backup shall have 8 hour capacity. Standby time = 24 hours.
25.) SPECIFICATIONS - HONEYWELL U.O.N.:

F.A.C.P.	7100-ID with dialer
LCD Display	LCD-7100 (remote serial)
Smoke Sensor	ASD- PL2F
Duct Detector	ADPF with RTS 451 key
Relay Control Module	FCI Velocity Series AOM-2RF
Pull Station	MS-7
Addressable Monitor Module	AMM-2F
Addressable Output Module	ADM-2SF (control)
Visual Strobe	Cooper Wheelock RSS 24 MCW-FR
Weatherproof Appliances	Cooper Wheelock ASWP-24-MCHW-FR with WPBB-R back box and gasket.
Power Supply	Cooper Wheelock Powerpath PS-24-8MC

26.) Fire Alarm System shall be monitored at all times.
27.) FACP and power supply enclosures shall have top at 6'-0" A.F.F. maximum.
28.) System shall handle remote supervisory station.
29.) Notification appliances and initiating device addressable circuits shall be Class B.
30.) Furnish 110V. power to annunciator panel as required by fire alarm contractor.
31.) Furnish and install tamper switches at PIV and backflow device. Coordinate locations with Civil Plans.
32.) Sound system shall shut off when fire alarm activates.

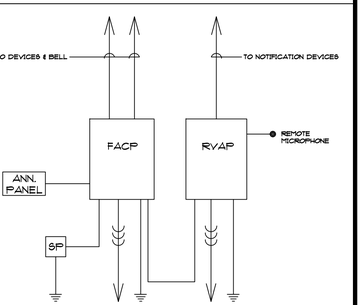
ELECTRIC LEGEND (NOTE #1)

- ⊙ NEW DUPLEX FLOOR OUTLET BR486 UNIT WITH COVER - GFI
- ▲ NEW 220V OUTLET
- (J) NEW ELECTRICAL JUNCTION BOX
- ⊕ NEW DUPLEX OUTLET - 18" A.F.F. U.O.N. TO CENTER U.O.N.
- ⊕ NEW QUADPLEX OUTLET - 18" A.F.F. U.O.N. TO CENTER U.O.N.
- ▼ NEW DATA JUNCTION BOX AT 18" A.F.F. U.O.N. WITH ¾" ø CONDUIT TO ABOVE CEILING AND PULL WIRE.
- ▼ NEW TELEPHONE JUNCTION BOX AT 18" A.F.F. U.O.N. WITH ¾" ø CONDUIT TO ABOVE CEILING AND PULL WIRE.
- ▼ NEW DATA/TELEPHONE JUNCTION BOX AT 18" A.F.F. U.O.N. WITH ¾" ø CONDUIT TO ABOVE CEILING AND PULL WIRE.
- (J) NEW LOW VOLTAGE JUNCTION BOX WITH ¾" ø TO ABOVE CEILING, WITH PULL WIRE.
- $ NEW SWITCH
- $D NEW DIMMER SWITCH
- ■ NEW DISCONNECT (NEMA 3R AT EXTERIOR)
- NEW CABLE TV BOX WITH ¾"ø CONDUIT TO ABOVE CEILING, WITH PULL WIRE - VERIFY HEIGHT WITH OWNER
- (T) NEW THERMOSTAT
- $PL SWITCH WITH PILOT LIGHT
- WE-F1 WE-F1 HOT SPOT - COORDINATE WITH OWNER
- SECURITY CAMERA - COORDINATE WITH OWNER

NOTES:
1.) NOT ALL SYMBOLS MAY APPLY TO THIS PROJECT.
2.) HEIGHTS SHOWN ARE TO CENTER OF DEVICE.

FIRE ALARM LEGEND

- FPS - PULL STATION
- FPS - PULL STATION/HORN / STROBE LIGHT- MAXIMUM 15 DBA/MINIMUM 75 CD
- F - HORN / STROBE LIGHT- MAXIMUM 15 DBA/MINIMUM 75 CD
- F - STROBE LIGHT- MINIMUM 75 CD
- DD - DUCT SMOKE DETECTOR WITH RELAY
- SD - SMOKE DETECTOR
- F.A.C.P. - FIRE ALARM CONTROL PANEL
- RVAP - REMOTE VOICE ANNUNCIATOR PANEL WITH MICROPHONE
- R.P.S. - REMOTE POWER SUPPLY
- R.T.S. - REMOTE TEST STATION FOR DUCT DETECTOR WITH AUDIBLE/VISUAL DEVICE
- A.C.T. - FIRE ALARM COMMUNICATION TRANSMITTER
- F WP - WEATHER PROOF DEVICE
- TS - TAMPER SWITCH AT FIRE SPRINKLER LINE
- FS - FLOW SWITCH AT FIRE SPRINKLER LINE
- B WP - FLOW BELL
- R - RELAY
- WD - WIRELESS DIALER
- SP - SURGE PROTECTOR
- PIV - POST INDICATOR VALVE
- ZSM - ZONE SPLITTER MODULE



FIRE ALARM RISER DIAGRAM

NO SCALE

REVISIONS	BY

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STATE OF FLORIDA — ROBERT E. KUOPPALA — AR9481 — REGISTERED ARCHITECT

Robert Kuoppala E Kuoppala

Digitally signed by Robert Kuoppala E Kuoppala
Date: 2022.02.28 16:09:41 -05'00'

NEW ATHLETIC / FELLOWSHIP BUILDING
HOBE SOUND BIBLE COLLEGE
11924 S.E. GOMEZ AVE.
HOBE SOUND, MARTIN COUNTY, FLORIDA

DRAWN	GUT
CHECKED	REK
DATE	FEBRUARY 23, 2022
SCALE	AS NOTED
COMM. NO.	18-06
SHEET	E-1
OF	3 SHEETS