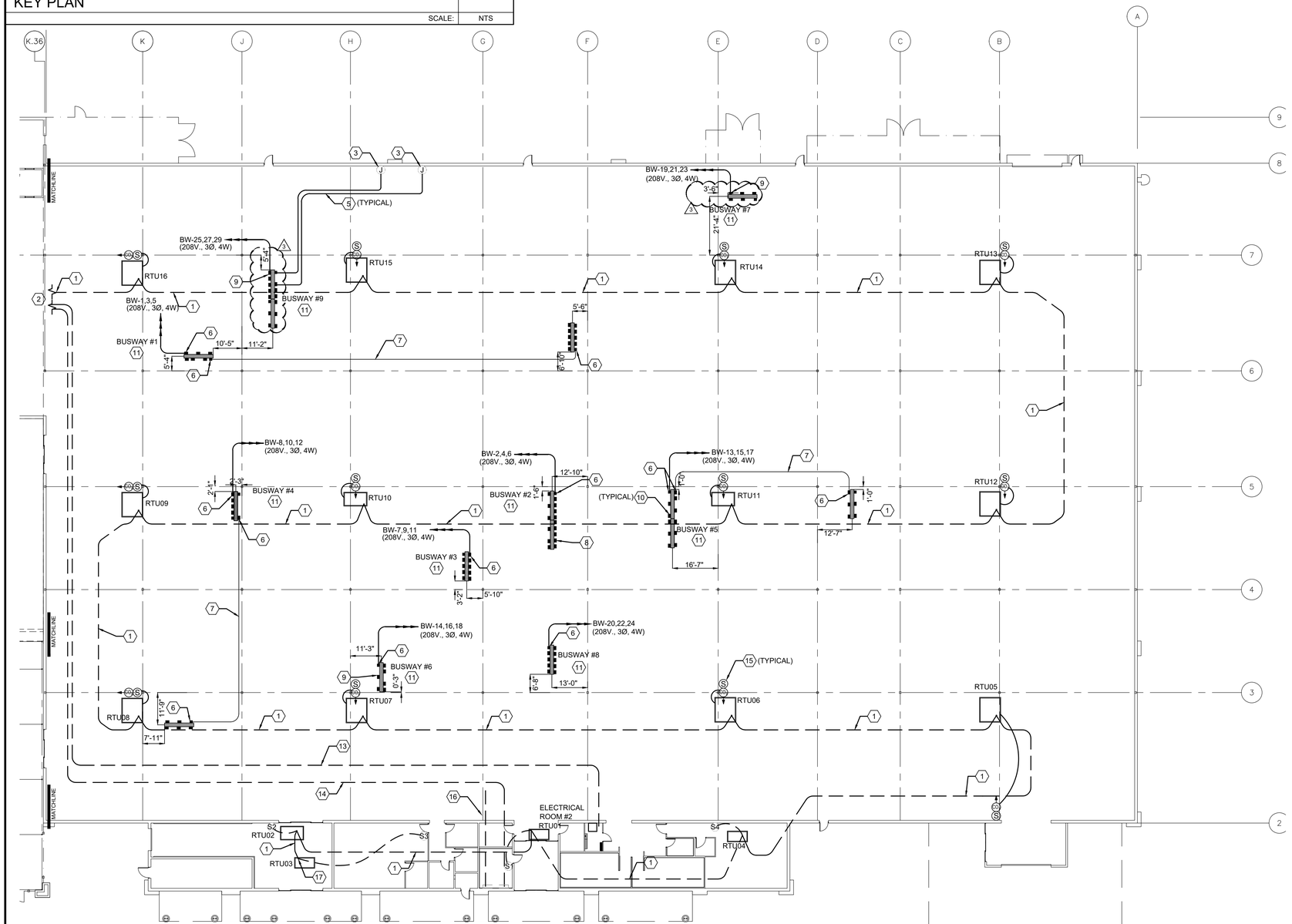


KEY PLAN

SCALE: NTS



SALES FLOOR - DISPLAY POWER AND BMS COMMUNICATION PLAN

SCALE: 1"=20'-0"

01

SHEET NOTES

1. ALL NON-BACNET COMMUNICATIONS LINK WIRING FOR THE BUILDING MANAGEMENT SYSTEM SHALL BE AN 18GA., SHIELDED, TWISTED PAIR WITH TINNED COPPER CONDUCTORS. CABLE SHALL BE A BELDEN #8760.
2. ALL BACNET COMMUNICATIONS LINK WIRING, SUCH AS THE RTU COMMUNICATIONS LOOP, SHALL BE A 22GA., SHIELDED, TWISTED PAIR WITH TINNED COPPER CONDUCTORS. CABLE SHALL BE A BELDEN #3105A.
3. ALL COMMUNICATIONS LINK AND INDOOR SENSOR WIRING SHALL BE TIE-WRAPPED TO TOP OF BAR JOISTS.
4. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL COMMUNICATIONS LINK WIRING AS INDICATED ON THE DRAWINGS. ALL WIRING MUST BE ROUTED AND INSTALLED AS INDICATED ON THE PLANS. EACH WIRE SHALL BE PROPERLY TAGGED AT EACH END AND MUST BE OHMED OUT AND TESTED FOR BOTH OPENS AND/OR SHORTS. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL CONNECTIONS OF INDOOR SENSORS AND COMMUNICATIONS LINK WIRING TO ROOF-TOP-UNITS AND CONTROL CABINETS BEFORE THE CONTROL CONTRACTOR, M&S ELECTRIC, IS ON SITE TO CHECK OUT AND STARTUP THE SYSTEM. (FOR SENSOR WIRING, SEE NOTE BELOW).
5. NO SPLICES WILL BE ALLOWED IN THE COMMUNICATIONS LINK WIRING. CONTINUOUS RUNS MUST EXTEND FROM ONE UNIT TO THE NEXT. ALL TERMINATIONS WILL OCCUR AT EACH UNIT'S TERMINAL STRIP.
6. THE SALES FLOOR SENSOR WIRING SHALL BE RUN DOWN COLUMN FROM EACH RTU TO THE CORRESPONDING SENSOR JUNCTION BOX(ES) IN 3/4" EMT CONDUIT. THE CONDUIT SHALL BE TERMINATED IN A SHALLOW UTILITY JUNCTION BOX (LOCATION TO BE COORDINATED WITH MECHANICAL CONTRACTOR) WITH A COMPRESSION CONNECTOR.
7. ENCLOSED AREA (NON-SALES AREA) SENSOR CABLE(S) AND 3/4" EMT CONDUIT(S) SHALL BE ROUTED FROM THE APPROPRIATE RTU TO THE CORRESPONDING RECESSED WALL MOUNTED JUNCTION BOX(ES) FOR SENSOR(S).
8. ENCLOSED AREA (NON-SALES AREA) TEMPERATURE SENSORS SHALL REQUIRE A JUNCTION BOX WITH A BELDEN #8760 CABLE ROUTED FROM THE RTU. ALLOW FOR 5' EXCESS CABLE AT THE RTU AND 2' EXCESS CABLE AT THE JUNCTION BOX.
9. ENCLOSED AREA (NON-SALES AREA) CO2 SENSORS SHALL REQUIRE A JUNCTION BOX WITH ONE (1) BELDEN #7895A OR TWO (2) BELDEN #8760 CABLES ROUTED FROM THE RTU TO PANEL "RP2" FOR ENCLOSED SPACES AT THE FRONT OF STORE OR "CP1" FOR ENCLOSED SPACES AT THE REAR OF THE STORE. ALLOW 5' EXCESS CABLE AT THE RTU AND 5' EXCESS CABLE WITHIN THE RESPECTIVE PANEL.
10. CONCEALED CONDUITS SHALL BE TERMINATED IN A 4"x4" RECESSED JUNCTION BOX WITH A RAISED SINGLE GANG GYP. BOARD TRIM RING. TERMINATIONS AT THE RTU CONTROL SECTION AND AT THE SENSOR SHALL BE BY MECHANICAL CONTRACTOR.
11. BUSWAY SHALL BE MOUNTED EDGEWISE. WHEN RUNNING PERPENDICULAR TO BAR JOISTS, SECURE TO TOP CHORD OF EVERY JOIST. WHEN RUNNING PARALLEL TO BAR JOISTS, SECURE EVERY 10'-0" (MAXIMUM) USING UNISTRUT THAT SPANS TOP CHORD OF TWO BAR JOISTS. SEE DETAIL 3-E6.02.
12. ALL BUSWAY SHALL BE INSTALLED SUCH THAT IT IS STRAIGHT AND FREE OF OFFSETS OR BENDS. LIGHT FIXTURE LOCATIONS HAVE PRIORITY OVER BUSWAY LOCATIONS.
13. CONTRACTOR SHALL INSTALL ALL BUSWAY SUCH THAT "A" PHASE IS ON TOP AND "C" PHASE IS ON BOTTOM. SEE DETAIL 3-E6.02 FOR EXACT ORDER OF PHASES, NEUTRAL, AND GROUND.
14. CONTRACTOR SHALL INSTALL BUSWAY IN LOCATIONS INDICATED. DIMENSIONS FOR EACH BUSWAY ARE APPROXIMATE. COORDINATE LOCATIONS WITH LIGHTS, SPRINKLER HEADS, AND HVAC DUCT SO AS NOT TO INTERFERE WITH THE FUNCTION OF EACH.
15. CONTRACTOR SHALL INSTALL END ENCLOSURES ON ENDS OF BUSWAY AS NEEDED.
16. BUSWAY SHALL BE PROTECTED FROM THE CEILING PAINT PROCESS. ELECTRICAL CONTRACTOR SHALL ENSURE THAT NO PAINT DURING THE CEILING PAINT PROCESS REACHES THE BUSWAY, BUS PLUGS, OR BUS TAP BOXES.
17. CONTRACTOR SHALL INSTALL ALL BUSWAY PLUGS IN APPROXIMATE LOCATIONS ON THE BUS AS INDICATED ON THESE DRAWINGS.
18. THE BMS COMMUNICATION WIRING LOOP SHALL BE INSTALLED AS NOTED ON THE PLANS. THE COMMUNICATION LOOP AND SENSOR CABLES SHALL BE PROPERLY IDENTIFIED. FAILURE TO DO SO MAY RESULT IN COSTS CHARGED TO THE ELECTRICAL SUB-CONTRACTOR BY LOWE'S.
19. ALL BUSWAY PLUG-IN PANELS SHALL HAVE (1) 20 AMPERE, 3-POLE BREAKER EXCEPT FOR THE CARPET ROLLERS, THE WIRE RACK ROLLER AND THE BLIND CUTTER. THE CARPET AND WIRE RACK ROLLER BUSWAY PLUG-IN PANELS SHALL BE EQUIPPED WITH (1) QO320 BREAKER EACH (20 AMPERE, 3-POLE). THE BLIND CUTTER BUSWAY PLUG-IN PANEL SHALL BE EQUIPPED WITH (1) QOB250HID BREAKER (50 AMP 2-POLE).
20. NO BUSWAY SHALL BE INSTALLED SO AS TO BLOCK A LIGHT FIXTURE. LIGHT FIXTURE LOCATIONS HAVE PRIORITY OVER BUSWAY.
21. ANY MULTIPLE CIRCUIT RUN IN A SINGLE CONDUIT FROM SINGLE POLE BREAKERS SHALL HAVE A DEDICATED NEUTRAL PULLED WITH EACH CIRCUIT.
22. THE ELECTRICAL CONTRACTOR SHALL PROVIDE A 30' TELESCOPIC FIBERGLASS HOT STICK. HASTINGS HV-230 OR EQUAL FOR OPERATING THE BUSPLUG DISCONNECTING MEANS.

KEYED NOTES

1. 22 GA., TWO CONDUCTOR, TWISTED PAIR SHIELDED CABLE TIE-WRAPPED TO TOP OF BAR JOISTS. CABLE SHALL BE BELDEN TYPE #3105A.
2. SEE SHEET E4.01 FOR CONTINUATION.
3. PROVIDE A 4" x 4" x 2-1/8" J.B. WITH BLANK COVER ON BOTTOM SIDE OF BOTTOM CHORD OF JOIST WHERE INDICATED. LEAVE 12" OF SLACK WIRE WIRE-NUTTED AND TAPED IN JUNCTION BOX (LABEL "FLOORING ROLLERS"). SEE DETAIL 11-E6.02.
4. NOT USED.
5. CARPET ROLLER BRANCH CIRCUIT WIRING SHALL CONSIST OF (3)#12, (1)#12 EG. IN 3/4" CONDUIT. (TYPICAL FOR EACH CARPET ROLLER) CARPET ROLLER IS PROTECTED BY A 20 AMPERE, 3-POLE BREAKER WITHIN THE BUSWAY PLUG-IN.
6. CONTRACTOR SHALL INSTALL BUSWAY TAP BOX IN LOCATION SHOWN. TAP BOX SHALL BE UTILIZED FOR INTERCONNECTION OF BUSWAY SECTIONS ON THE SAME CIRCUIT AND AS AN IN-FEED TO THE BUSWAY FROM THE SERVING PANEL.
7. CONTRACTOR SHALL INTERCONNECT BUSWAY SECTIONS UTILIZING (4)#2, (1) #6 EG. IN 1-1/2" CONDUIT.
8. SERVE WIRE RACK ROLLER FROM BUSWAY AT THIS LOCATION. WIRE RACK IS PROTECTED BY A 20 AMPERE, 3-POLE BREAKER WITHIN THE BUSWAY PLUG-IN.
9. SERVE BLIND CUTTER FROM BUSWAY AT THIS LOCATION. BLIND CUTTER IS PROTECTED BY A 50 AMPERE, 2-POLE BREAKER WITHIN THE BUSWAY PLUG-IN.
10. BUSWAY PLUG-IN ENCLOSURE WITH (1) 20 AMPERE, 3-POLE, SQUARE-D QO BREAKER.
11. CONTRACTOR SHALL MOUNT BUSWAY ABOVE BOTTOM CHORD OF JOISTS. SEE DETAIL 03-E6.02.
12. NOT USED.
13. (1) 18 GA., TWO CONDUCTOR TWISTED PAIR SHIELDED CABLE TIE WRAPPED TO STRUCTURE (BELDEN #8760) FROM ELECTRICAL ROOM #1 BMS CABINET TO ELECTRICAL ROOM #2 BMS CABINET. LEAVE 10' OF CONDUCTOR COILED ABOVE EACH BMS CABINET.
14. (4) 18 GA., TWO CONDUCTOR TWISTED PAIR SHIELDED CABLES (BELDEN #8760) TIE-WRAPPED TO STRUCTURE. ROUTE FROM THE SECURITY PANEL IN THE TELEPHONE ROOM TO THE BMS CABINET IN ELECTRICAL ROOM #1. LEAVE 20' OF CABLE. FOR EACH CABLE, COILED ABOVE BMS CABINET AND IN SECURITY SYSTEM TROUGH. CONNECTION TO THE SECURITY PANEL SHALL BE MADE BY VECTOR CONTRACTOR.
15. SEE DETAIL 07-E6.02 FOR COLUMN MOUNTED SENSORS.
16. PROVIDE 1" C. STUBBED FROM SECURITY SYSTEM TROUGH TO ABOVE BOTTOM CHORD OF ROOF JOISTS AND THEN THROUGH WALL TO SALES FLOOR. (FOR BMS CABLE. SEE KEYED NOTE #14).
17. INSTALL A 120 OHM, END OF LINE RESISTOR FOR THE COMMUNICATION LOOP.

ORIGINAL	SECOND	FINAL

REVISIONS

PRE-BID SET ISSUE DATE / POST BID SET ISSUE DATE

DATE		DESCRIPTION
10.10 2025	1	PLAN REVIEW COMMENTS
10.07 2026	3	CRITERIA UPDATES

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SALES FLOOR DISPLAY POWER AND BMS COMMUNICATION PLAN

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