

PRESSURE REDUCING VALVES (NATURAL GAS)						
MARK	SERVING	MAKE	MODEL	VALVE DEMAND	INLET PRESSURE	OUTLET PRESSURE
PRV-1	AC-1 THRU AC-8 & UH-1	FISHER	HSR	REFER TO PLAN	10 - 2.0 PSI	7" N.C.

- NOTES:
- VERIFY INLET GAS PRESSURE REQUIREMENTS FOR ALL GAS REQUIRED EQUIPMENT.
 - ALL PRV STATIONS TO BE VENTED TO BUILDING EXTERIOR THROUGH ROOF WITH FLASHING, TURN DOWN ELBOW AND STAINLESS STEEL INSET SCREEN.
 - RELIEF VENT SHALL BE LOCATED A MINIMUM OF 10'-0" FROM OUTSIDE AIR INTAKES.

GAS EQUIPMENT (2 PSI)		
MARK	DESCRIPTION	TOTAL CAPACITY
AC-1	A/C UNIT	150 MBH
AC-2	A/C UNIT	100 MBH
AC-3	A/C UNIT	250 MBH
AC-4	A/C UNIT	150 MBH
AC-5	A/C UNIT	250 MBH
AC-6	A/C UNIT	250 MBH
AC-7	A/C UNIT	250 MBH
AC-8	A/C UNIT	100 MBH
UH-1	UNIT HEATER	200 MBH
TOTAL		1700 MBH

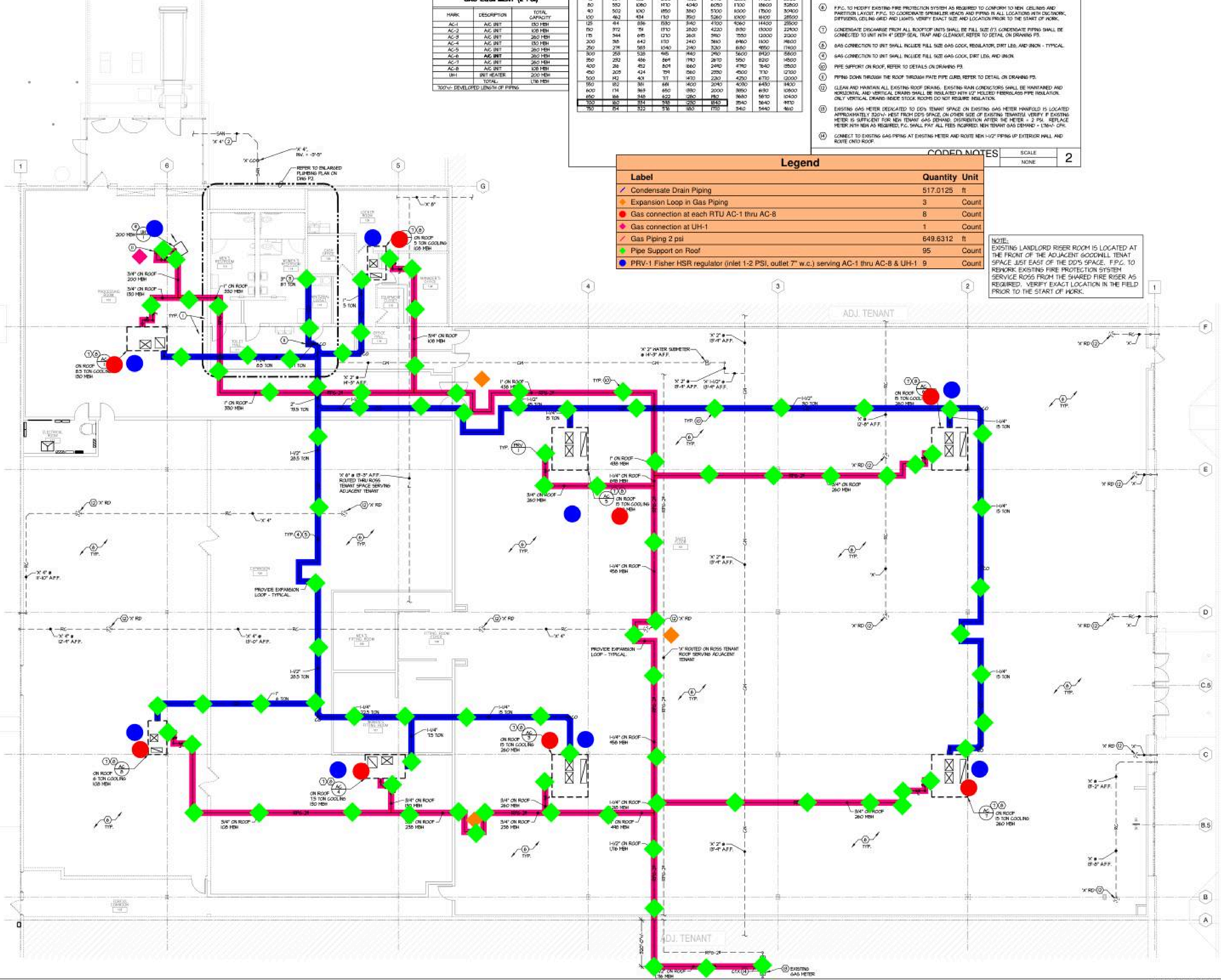
200'-0" DEVELOPED LENGTH OF PIPING

GAS SIZING TABLE									
GAS SIZING TABLE OBTAINED FROM INTERNATIONAL FUEL GAS CODE TABLE 402.4(3). 2 PSI WITH PRESSURE DROP OF 1 PSI									
LENGTH (FEET)	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
10	50	300	500	1000	1500	2500	3500	4500	5500
20	100	600	1000	2000	3000	5000	7000	9000	11000
30	150	900	1500	3000	4500	7500	10500	13500	16500
40	200	1200	2000	4000	6000	10000	14000	18000	22000
50	250	1500	2500	5000	7500	12500	17500	22500	27500
60	300	1800	3000	6000	9000	15000	21000	27000	33000
70	350	2100	3500	7000	10500	17500	24500	31500	38500
80	400	2400	4000	8000	12000	20000	28000	36000	44000
90	450	2700	4500	9000	13500	22500	31500	40500	49500
100	500	3000	5000	10000	15000	25000	35000	45000	55000
125	625	3750	6250	12500	18750	31250	43750	56250	68750
150	750	4500	7500	15000	22500	37500	52500	67500	82500
175	875	5250	8750	17500	26250	43750	61250	78750	96250
200	1000	6000	10000	20000	30000	50000	70000	90000	110000
250	1250	7500	12500	25000	37500	62500	87500	112500	137500
300	1500	9000	15000	30000	45000	75000	105000	135000	165000
350	1750	10500	17500	35000	52500	87500	122500	157500	192500
400	2000	12000	20000	40000	60000	100000	140000	180000	220000
450	2250	13500	22500	45000	67500	112500	157500	202500	247500
500	2500	15000	25000	50000	75000	125000	175000	225000	275000
550	2750	16500	27500	55000	82500	137500	192500	247500	302500
600	3000	18000	30000	60000	90000	150000	210000	270000	330000
650	3250	19500	32500	65000	97500	162500	227500	292500	357500
700	3500	21000	35000	70000	105000	175000	245000	315000	385000
750	3750	22500	37500	75000	112500	187500	262500	337500	412500
800	4000	24000	40000	80000	120000	200000	280000	360000	440000
850	4250	25500	42500	85000	127500	212500	297500	382500	467500
900	4500	27000	45000	90000	135000	225000	315000	405000	495000
950	4750	28500	47500	95000	142500	237500	332500	427500	522500
1000	5000	30000	50000	100000	150000	250000	350000	450000	550000

- DO NOT ROUTE ANY PIPING ABOVE ELECTRICAL EQUIPMENT PANELS TYP.
- P.C. REQUIRED TO SCOPE EXISTING SANITARY LINE PRIOR TO START OF WORK AND PROVIDE VIDEO RESULTS TO DD'S ON PRIOR TO TURNOVER. PROVIDE VIDEO RESULTS OF CLEAN, WORKING SANITARY LINE FROM WITHIN BUILDING TO SEWER MAIN.
 - VERIFY LOCATION, DEPTH, SIZE, AND FLOW DIRECTION PRIOR TO THE START OF WORK.
 - PLUS ALL INLET CONNECTIONS AND PATCH FLOOR.
 - PRIOR TO MAKING NEW CONNECTIONS, CONTRACTOR SHALL TEST DRAIN LINE BY FLUSHING WITH WATER, A MINIMUM OF FIVE (5) GALLONS PER MINUTE FOR FOUR (4) HOURS PRIOR TO START OF WORK.
- TERMINATE 3" CONDENSATE DISCHARGE AS SHOWN WITH APPROVED AIR GAP. REFER TO PLAN FOR PIPE SIZES.
- CONDENSATE PIPING ON ROOF, PITCH CONDENSATE PIPING TO DRAIN AS SHOWN. MAINTAIN 1/8" SLOPE MINIMUM.
- CONDENSATE PIPING SHALL BE PAINTED GRAY WITH TWO (2) COATS OF WATER-BASED LATEX PAINT RATED FOR EXTERIOR IN-LIGHT PROTECTION - TYP.
- P.P.C. TO MODIFY EXISTING FIRE PROTECTION SYSTEM AS REQUIRED TO CONFORM TO NEW CEILING AND PARTITION LAYOUT. P.P.C. TO COORDINATE SPRINKLER HEADS AND PIPING IN ALL LOCATIONS WITH DUCTWORK, DIFFUSERS, CEILING GRID AND LIGHTS. VERIFY EXACT SIZE AND LOCATION PRIOR TO THE START OF WORK.
- CONDENSATE DISCHARGE FROM ALL ROOFTOP UNITS SHALL BE FULL SIZE (7) CONDENSATE PIPING SHALL BE CONNECTED TO UNIT WITH 4" DEEP SEAL, TRAP AND CLEANOUT. REFER TO DETAIL ON DRAWING P3.
- GAS CONNECTION TO UNIT SHALL INCLUDE FULL SIZE GAS COCK, REGULATOR, DIRT LEG, AND UNION - TYPICAL.
- GAS CONNECTION TO UNIT SHALL INCLUDE FULL SIZE GAS COCK, DIRT LEG, AND UNION.
- PIPE SUPPORT ON ROOF, REFER TO DETAILS ON DRAWING P3.
- PIPING DOWN THROUGH THE ROOF THROUGH PATE PIPE CURB, REFER TO DETAIL ON DRAWING P3.
- CLEAN AND MAINTAIN ALL EXISTING ROOF DRAIN. EXISTING RAIN COLLECTORS SHALL BE MAINTAINED AND HORIZONTAL AND VERTICAL DRAIN SHALL BE INSULATED WITH 1/2" MOLDED FIBERGLASS PIPE INSULATION. ONLY VERTICAL DRAIN INSIDE STOCK ROOMS DO NOT REQUIRE INSULATION.
- EXISTING GAS METER DEDICATED TO DD'S TENANT SPACE ON EXISTING GAS METER MANIFOLD IS LOCATED APPROXIMATELY 350'-0" WEST FROM DD'S SPACE, ON OTHER SIDE OF EXISTING TENANT'S. VERIFY IF EXISTING METER IS SUFFICIENT FOR NEW TENANT (GAS DEMAND, DISTRIBUTION AFTER SEE METER - 2 PSI). REPLACE METER WITH NEW AS REQUIRED, P.C. SHALL PAY ALL FEES INCURRED. NEW TENANT GAS DEMAND - 1700'-0" GPM.
- CONNECT TO EXISTING GAS PIPING AT EXISTING METER AND ROUTE NEW 1/2" PIPING UP EXTERIOR MALL AND ROUTE ONTO ROOF.

Legend	
Label	Quantity Unit
Condensate Drain Piping	517.0125 ft
Expansion Loop in Gas Piping	3 Count
Gas connection at each RTU AC-1 thru AC-8	8 Count
Gas connection at UH-1	1 Count
Gas Piping 2 psi	649.6312 ft
Pipe Support on Roof	95 Count
PRV-1 Fisher HSR regulator (inlet 1-2 PSI, outlet 7" w.c.) serving AC-1 thru AC-8 & UH-1	9 Count

NOTE:
EXISTING LANDLORD RISER ROOM IS LOCATED AT THE FRONT OF THE ADJACENT GOODWILL TENANT SPACE JUST EAST OF THE DD'S SPACE. P.P.C. TO RENOVATE EXISTING FIRE PROTECTION SYSTEM SERVICE ROSS FROM THE SHARED FIRE RISER AS REQUIRED. VERIFY EXACT LOCATION IN THE FIELD PRIOR TO THE START OF WORK.



MARK	SWING	MAKE	MODEL	LOCAL/HA SIZE	HEAD	QPM	QPM	H.P.	ELECTRIC	REMARKS
PP-1	HR-1	TACO	505	REFERS TO PUMPS	5 TSH	5	3250	1/40	120V/1/60	ALL BRONZE PUMP. CONTROL WITH SENSING(?) DAP PROGRAMMABLE TIMER AND ADJUSTING. PROVIDE SPARE REPLACEABLE CARTRIDGE.

MARK	LOCATION	MAKE	MODEL	TANK SIZE	FUEL	HP/WT	RECOVERY	OPERATING TEMPERATURE	ELECTRIC	REMARKS
HN-1	SHELVE MOUNTED	SAWE	PEC 20 YOMCA	20 GAL.	ELECT.	4.0 HP 16 CDF	110 F 100 F	206/1/60	QUICK RECOVERY WATER HEATER - COORDINATE ELECTRICAL WITH E.C. TAP RELIEF VALVE. WAITS NO. 100E-4-125 ACCEPTABLE ALTERNATES: A.C. SMITH, RHEINOLD EQUI.	

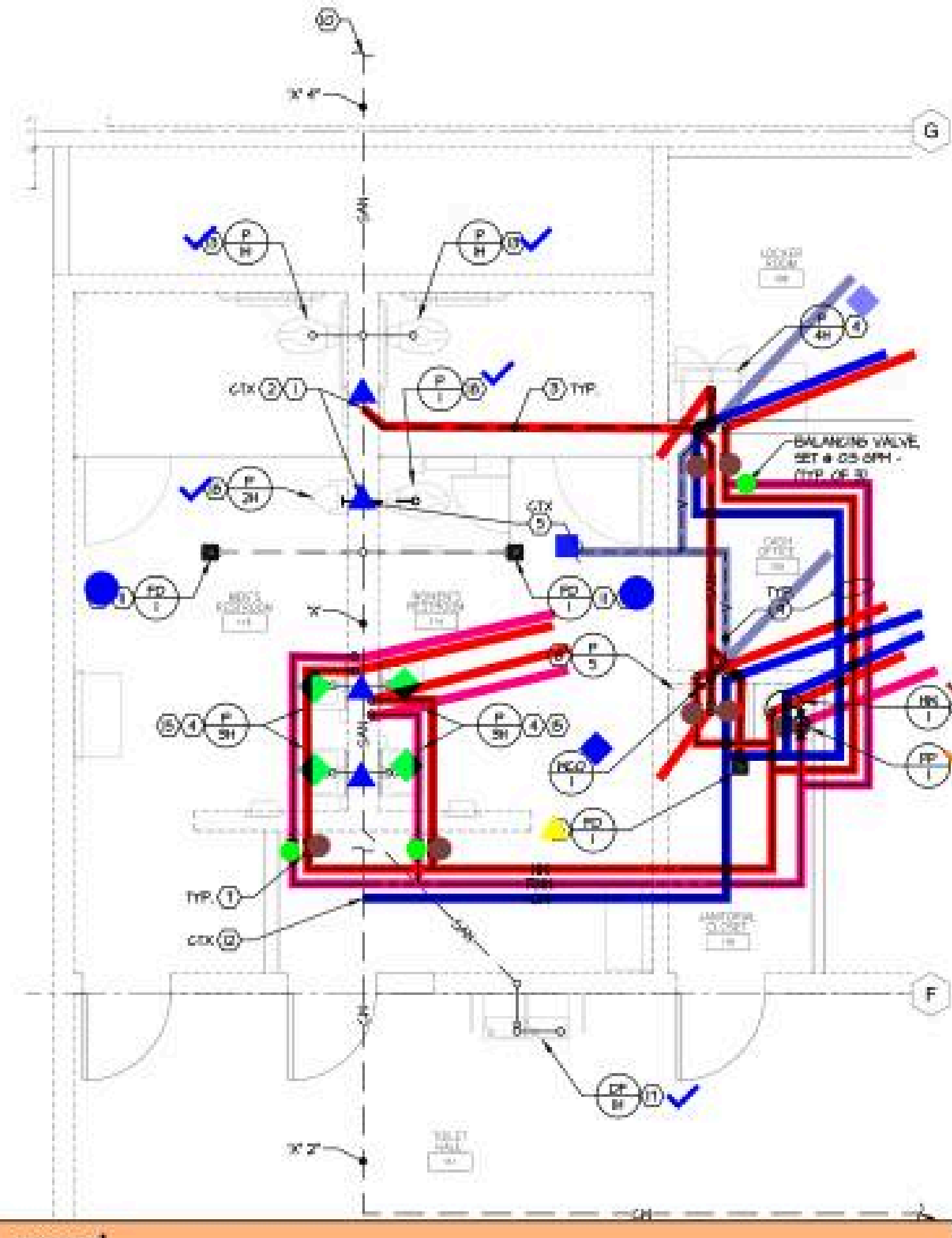
1. PROVIDE WATER HEATER SHELF BY HOUDETE, QUICK STAND HUBBARD MODEL #40-SWHP VM, REFER TO ARCHITECTURAL DRAWING A4.5 FOR DETAIL.

MARK	ITEM	MAKE	MODEL	LOCATION	SIZE	BODY	TOP	REMARKS
T0-1	FLOOR DRAIN	J.R. SMITH	300S SERIES	SEE PLANS	AS NOTED	CAST IRON	STAINLESS STEEL	SQUARE TOP - FLAT STRAINER WITH TRAP SEAL
100-1	CLEANOUT	J.R. SMITH	400S SERIES	FLOOR TYPE	AS NOTED	CAST IRON	STAINLESS STEEL	IF CLEANOUTS ARE INSTALLED ON THE SALES FLOOR, INSTALL AT MIN. DISTANCE OF 100 FT. OR LESS AS MAY BE REQUIRED BY GOVERNING AUTHORITY.
100-1	CLEANOUT	J.R. SMITH	400S SERIES	WALL TYPE	AS NOTED	CAST IRON	STAINLESS STEEL	
TN-1	TRAP PRIMER	INTELLIGON PLUMBING	DRESSON #1	SEE PLANS	1/2"	-	-	DEDICATED TO FLOOR DRAIN LOCATED IN JANITOR'S CLOSET. ON EQUAL

MARK	ITEM	MAKE	NAME	MODEL	SIZE	TRAP	STOPS	CONNECTIONS				REMARKS
								WASTE	VENT	FW	CW	
P-1	WATER CLOSET	KOHLER	WELLCOME 1.28 GPF	K-8805-0	SLAM 1111-1-28	INFLANGE	INTEGRAL	4"	2"			FLOOR MOUNTED ELONGATED TOILET WITH K-4070-0 SEAT, SLAM RHYME, EXPOSED FLUSH VALVE #1111 HIGH EFFICIENCY 1.28 GPF WITH UNCLAMP BEARER, FLUO TO NOTES #05, #10, #12 & #11.
P-2	WATER CLOSET	KOHLER	HIGHFLIT 1.28, 2.0 GPF	K-8805-0	SLAM 1111-1-28	INFLANGE	INTEGRAL	4"	2"		1"	FLOOR MOUNTED ELONGATED TOILET WITH K-4070-0 SEAT, SLAM RHYME, EXPOSED FLUSH VALVE #1111 HIGH EFFICIENCY 1.28 GPF WITH UNCLAMP BEARER, FLUO TO NOTES #05, #10, #12 & #11.
P-23	URINAL	KOHLER	BARROK	K-4981-1 2.0 GPF	SLAM 108-125	INFLANGE	INTEGRAL	2"	1 1/2"		3/4"	WALL HUNG, MOUNTED AT JOIN HEAD, 17" MAX. REPLY TO NOTE #05.
P-31	LAVATORY	AMERICAN STANDARD	LUXURINE	ELX-101 #2 CENTIS	SLAM 108-125	INFLANGE	NOTE #3	NOTE #4	1-1/2"	1-1/2"	1-1/2"	WALL HUNG, MOUNTED (CONCEALED) AHEAD, 17" MAX. REPLY TO THE AMERICAN STANDARD #0502-07-002 WITH WREST HANDLES, FLUO TO NOTES #4 & #7, MOUNTED AT JOIN HEAD, 17" MAX. REPLY TO NOTE #05. P-1000S AT JOIN DINGS 5" ON CENTER.
P-44	LOCKER ROOM SINK	ELKAY	CELEBRITY	GEK22513	AMP. STYL MOUNTNEY	NOTE #2	NOTE #3	1-1/2"	1-1/2"	1-1/2"	1-1/2"	ELKAY NO. LK-155, CHROME CUP, FLUO TO THE AMERICAN STANDARD #0433-10 (LESS SPRAW), MAXIMUM DEPTH 1.3 CM. SINK WITH WREST HANDLES.
P-5	JANITORS SINK	FLORESTONE	TERAZZO 36x24x16	MODEL BRASS	CENTRAL BRASS	3"	1/2"	1-1/2"	3/4"	3/4"	3/4"	WITH STAINLESS STEEL CAP SERVICE SINK FLUO TO CENTRAL BRASS #0054-1059G-Q FLUO TO NOTE #05.

1. INSTALL SERVICE SUEPLY & CHECK THE COCKS, STOP, AIR CLOSURES, VALVES BRACKETS, AND SAFETY DEVICES WHEN REQUIRED BY CODE SPECIFICATIONS, OR DRAWINGS.
2. ALL CHARGE NO. SHALT AMOUNT STANDARD UNLESS NOTED AND ALL VALVES IN LINE UNLESS NOTED
3. ALL CHARGE PLATE WITH CHROME PLATE WITH CHROME PLATE WITH CHROME PLATE
4. STOPS TO BE CHROME PLATE 1/2" ANGLE VALVE WITH CHROME PLATE 1/2" LONG, 1/2" O.D. FLOODED PRESS AND DISCHARGE PLATE.
5. ALL DRAIN AND WATER SUPPLY PIPING TO LANTOIRS TO BE INSULATED WITH 1/2" INSULATED CLOUTER INSULATION NOT TO BE USED.
6. WITH EXISTING 24" HOSE AND BRACKET.
7. SINK TO BE MOUNTED FLUSH WITH WALLS AND SUCORSE SEANT APPLIED AFTER SINK HAS BEEN NALL.
8. ALL FUTURE DISCHARGE INDICATES AN AKA FUTURE.
9. FLUSH WATER INEVABLE FOR AKA PIPERS SHALL BE MOUNTED ON WIDE SIDE OF TOILET AREA.
10. ALL WATER SUPPLY PIPING TO BE MOUNTED ON WIDE SIDE OF TOILET AREA. TRAP FINDER VALVES TO BE PITCHED 1/2" IN. FROM WALL TO FLOOR DRAIN.
11. WATER CLOSET BOWNS FOR PUBLIC USE OF THE DESIGNATED TYPE. SECTION 411.1.
12. ALL WATER SUPPLY PIPING AND WASTEWATER PIPING TO BE MOUNTED ON WIDE SIDE OF TOILET AREA.
13. PUBLIC LANTOIRS SHALL HAVE CONTROLS TO LIMIT THE WATER TEMPERATURE TO 110 DEGREES F.

Legend		
Label	Quantity	Unit
(FD-1)-Floor Drain with Trap Seal	1	Count
(FD-1)-Remove and Replace existing floor drains. Provide New P-Trap and Trap Seal	2	Count
(P-3H)-Remove and Replace Existing Pumping Fixtures, Vent, CWP, Rework Demo LAV Sink and Provide HWP,New Fixture Stops,,P traps and Insulation Kits	4	Count
(P-IH)-Remove existing water closets to be replaced by P-IH(rough-ins reused)	2	Count
1" Cold Water Piping	20.1323	ft
1/2" Cold Water Pipe	7.4200	ft
1/2" CW & 1/2" HW DN TO SINK. REF KITCHEN EQUIP FOR FINAL CONN	7.0389	ft
1/2" Recirculating Hot Water	44.8993	ft
2" Sanitary Pipe Below Grade-Saw Cut floor to place Piping	1.8867	ft
2" Sanitary Pipe Below Grade	3.0194	ft
3" Sanitary Pipe Below Grade	3.0150	ft
3" Sanitary Pipe Below Grade-Saw Cut floor to place Piping	21.3571	ft
Balancing Valve	3	Count
Cold Water Piping	7.0039	ft
Cold Water Piping	7.2470	ft
Cold Water Piping	27.0892	ft
Connect To Existing Sanitary Sewer	1	Count
Connect To Existing Sanitary Sewer	4	Count
DF-IH-Remove and Replace Existing Drinking Fountain Rework as Required to Provide New Fixture Stops, Supply Tubing, P traps	1	Count
Hot Water Piping	44.8052	ft
Hot Water Piping	49.8548	ft
Plumbing Pump	1	Count
Provide New Vent Piping	27.4940	ft
Recirculating Hot Water	17.5333	ft
Remove and Replace Existing Water Closet & Urinals, Rework and Connect New Urinals and Water Closet to Existing Cold Water Piping	2	Count
Sanitary Pipe Below Grade	4.2384	ft
Shut-off Valves	7	Count
Thermostat Mixing Valve Under Locker Room Sink	1	Count
Water Clean Out	1	Count
Water Heater	1	Count



PLUMBING LEGEND

4. PLUMBING SHALL BE INSTALLED AS SHOWN ON THE PERMITTED APPROVED PLANS. ANY ALTERATIONS REQUIRED DUE TO EXISTING CONDITIONS MUST BE MADE AS A REMEDY FOR NON-COMPLIANCE WITH THE PERMITTED APPROVED PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROJECT. THIS CONTRACTOR SHALL PROVIDE ACCURATE RECORD DRAWINGS CORRECTING ALL VARIATIONS FROM THE CURRENT CONSTRUCTION SET.

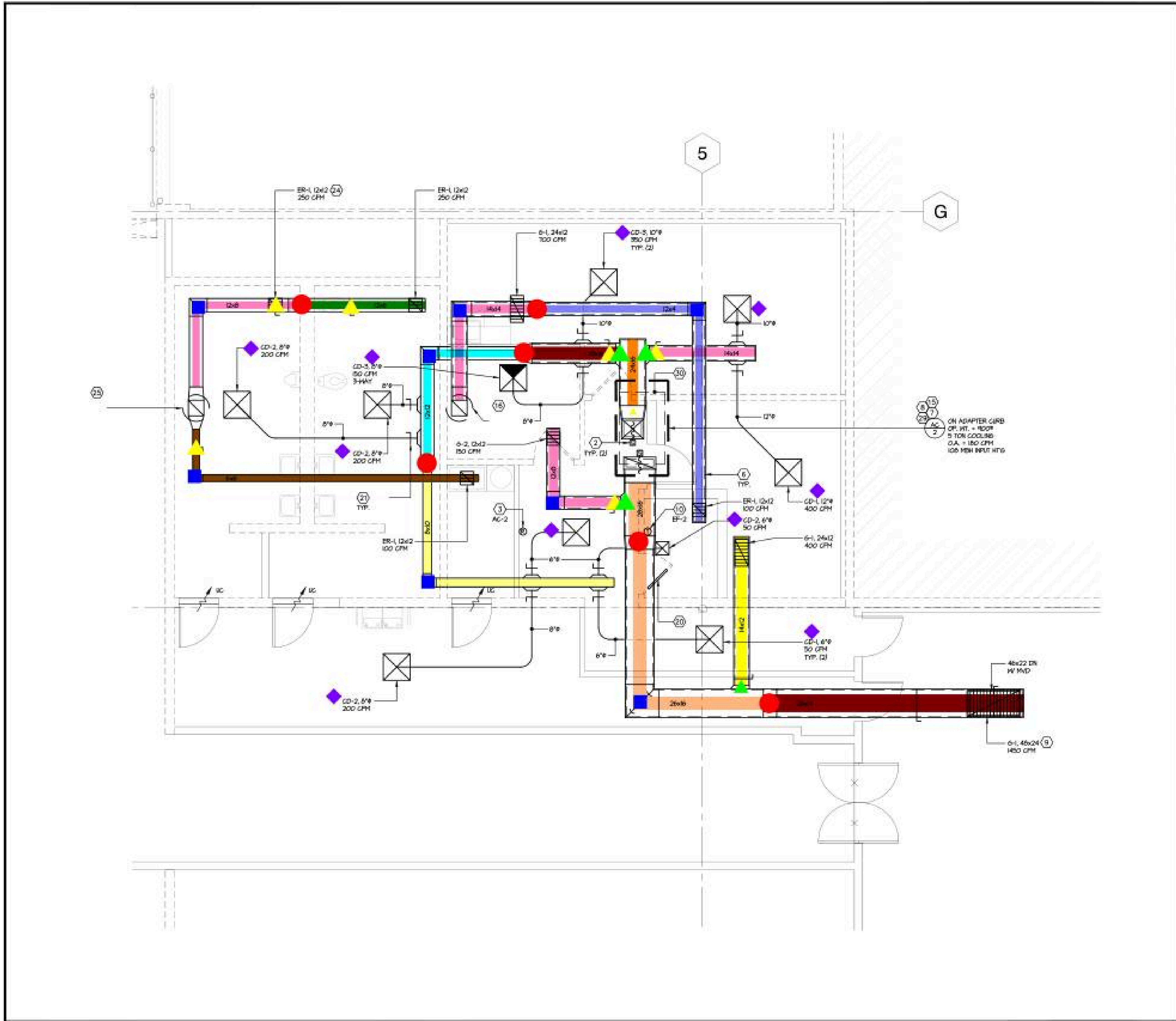
5. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES WITH THE PERMITTED APPROVED PLANS, CONCERNING AND AS FOLLOWS:

6. PLUMB CLEANOUTS ARE NOT EXISTING IN SALES PLUMB, TYPING POWER, STORAGE AREAS, EQUIPMENT ROOM, CASH ROOM OR MANAGER'S OFFICE UNLESS OTHERWISE NOTED. ANY EXISTING FLOOR CLEANOUTS IN THESE AREAS ARE TO BE REMOVED AND A HALL CLEANOUT ACCORDING TO THE PERMITTED APPROVED PLANS TO BE INSTALLED.

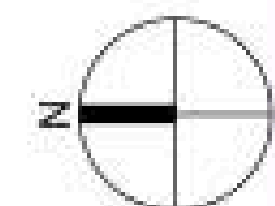
7. PLUMBING CONTRACTOR TO TEST AND VERIFY DOMESTIC WATER SERVICE PRESSURE PRIOR TO THE START OF PLUMB WORK. REPORT FINDINGS TO CONSTRUCTION MANAGER.

- CODED NOTES

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Legend		
Label	Quantity	Unit
6 x 6 Rectangular Duct	24.8298	ft
10 x 8 Rectangular Duct	22.3280	ft
12 x 4 Rectangular Duct	27.6267	ft
12 x 6 Rectangular Duct	9.2467	ft
12 x 8 Rectangular Duct	10.8934	ft
12 x 8 Rectangular Duct	14.0467	ft
12 x 12 Rectangular Duct	14.6667	ft
14 x 12 Rectangular Duct	11.4000	ft
14 x 14 Rectangular Duct	20.3333	ft
18 x 16 Rectangular Duct	6.5533	ft
24 x 16 Rectangular Duct	5.0000	ft
26x 14 Rectangular Duct	19.5000	ft
26x 16 Rectangular Duct	20.8087	ft
28x 18 Rectangular Duct	4.0000	ft
Air Device CD/1	3	Count
Air Device CD/2	5	Count
Air Device CD/3	2	Count
Connection Tee	1	Count
Duct Square Bent	8	Count
Manual Volume Dampers	1	Count
Manual Volume Dampers	6	Count
Rectangular Branching Duct and Connection	3	Count
Rectangular Duct Transition	6	Count



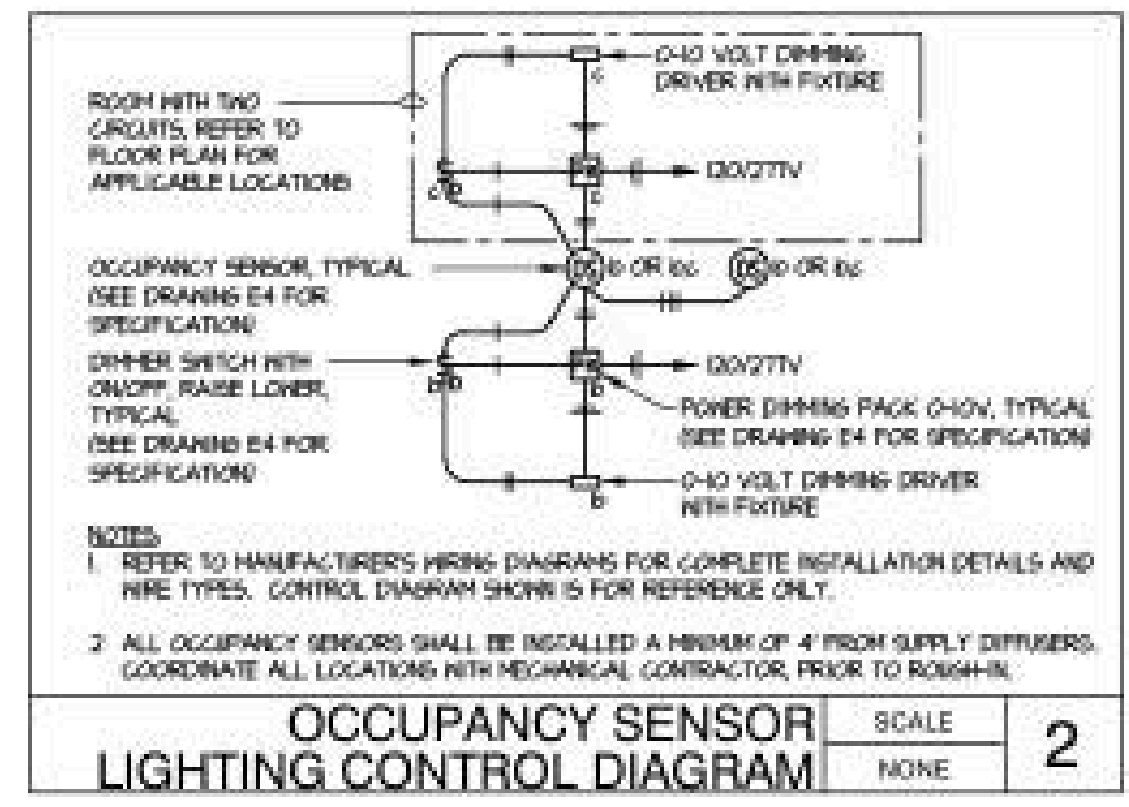
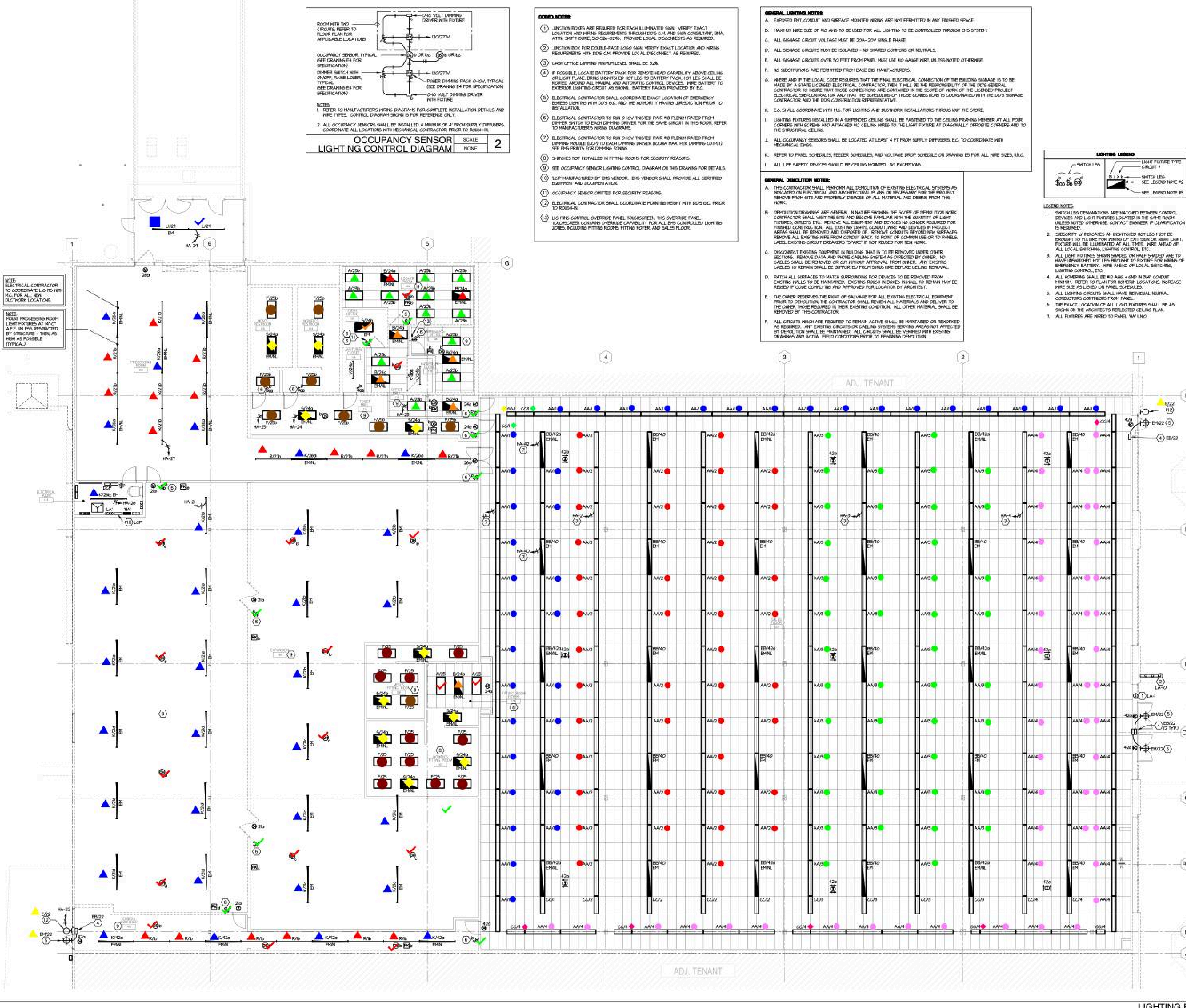
MECHANICAL OFFICE AREA FLOOR PLAN

SCALE
1/4" = 1'-0"

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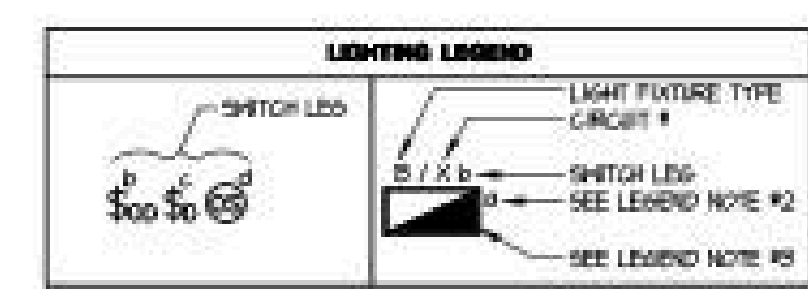
APEX ESTIMATING

Sample set · Project, owner and consultant details removed · apexestimating.com



- GENERAL NOTES:**
1. JUNCTION BOXES ARE REQUIRED FOR EACH ILLUMINATED SIGN. VERIFY EXACT LOCATION AND WIRING REQUIREMENTS THROUGH DDC'S C.H. AND SIGN CONSULTANT. BHA, ATTN: SHIP MOORE, 500-500-0206. PROVIDE LOCAL DISCONNECTS AS REQUIRED.
 2. JUNCTION BOX FOR DOUBLE-FACE LOGO SIGN. VERIFY EXACT LOCATION AND WIRING REQUIREMENTS WITH DDC'S C.H. PROVIDE LOCAL DISCONNECT AS REQUIRED.
 3. CASH OFFICE DIMMING MINIMUM LEVEL SHALL BE 50%.
 4. IF POSSIBLE, LOCATE BATTERY PACK FOR REMOTE HEAD CAPABILITY ABOVE CEILING OR LIGHT PLANE. BRING UNWITTED HOT LBS TO BATTERY PACK. HOT LBS SHALL BE NOTED AROUND ALL MANUAL AND AUTOMATIC CONTROL DEVICES. WIRE BATTERY TO EXISTING LIGHTING CIRCUIT AS SHOWN. BATTERY PACKS PROVIDED BY E.C.
 5. ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT LOCATION OF EMERGENCY EXITS LIGHTING WITH DDC'S E.C. AND THE AUTHORITY HAVING JURISDICTION PRIOR TO INSTALLATION.
 6. ELECTRICAL CONTRACTOR TO RUN 0-10V TWISTED PAIR W/ PLenum RATED FROM DIMMER SWITCH TO EACH DIMMING DRIVER FOR THE SAME CIRCUIT IN THIS ROOM. REFER TO MANUFACTURER'S WIRING DIAGRAMS.
 7. ELECTRICAL CONTRACTOR TO RUN 0-10V TWISTED PAIR W/ PLenum RATED FROM DIMMING MODULE (DDP) TO EACH DIMMING DRIVER (DDMA MAX PER DIMMING OUTPUT). SEE EHS PRINTS FOR DIMMING ZONING.
 8. SWITCHES NOT INSTALLED IN FITTING ROOMS FOR SECURITY REASONS.
 9. SEE OCCUPANCY SENSOR LIGHTING CONTROL DIAGRAM ON THIS DRAWING FOR DETAILS.
 10. 1/2" MANUFACTURED BY THIS VENDOR. THIS VENDOR SHALL PROVIDE ALL CERTIFIED EQUIPMENT AND DOCUMENTATION.
 11. OCCUPANCY SENSOR OMITTED FOR SECURITY REASONS.
 12. ELECTRICAL CONTRACTOR SHALL COORDINATE MOUNTING HEIGHT WITH DDC'S E.C. PRIOR TO ROUGH-IN.
 13. LIGHTING CONTROL OVERIDE PANEL TOUCHSCREEN, THIS OVERIDE PANEL TOUCHSCREEN CONTAINS OVERIDE CAPABILITY FOR ALL EHS CONTROLLED LIGHTING ZONES, INCLUDING FITTING ROOMS, FITTING POWER, AND SALES FLOOR.

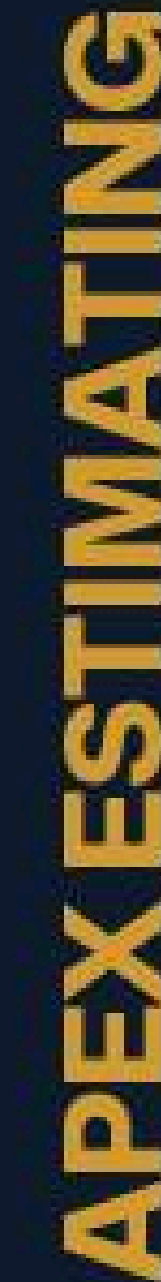
- GENERAL LIGHTING NOTES:**
- A. EXPOSED EMT, CONDUIT AND SURFACE MOUNTED WIRING ARE NOT PERMITTED IN ANY FINISHED SPACE.
 - B. MAXIMUM WIRE SIZE OF #10 AWG TO BE USED FOR ALL LIGHTING TO BE CONTROLLED THROUGH EHS SYSTEM.
 - C. ALL SIGNAGE CIRCUIT VOLTAGE MUST BE 208-240V SINGLE PHASE.
 - D. ALL SIGNAGE CIRCUITS MUST BE ISOLATED - NO SHARED COMMONS OR NEUTRALS.
 - E. ALL SIGNAGE CIRCUITS OVER 50 FEET FROM PANEL MUST USE #10 GAUGE WIRE, UNLESS NOTED OTHERWISE.
 - F. NO SUBSTITUTIONS ARE PERMITTED FROM BASE BID MANUFACTURERS.
 - G. WHERE AND IF THE LOCAL CODE REQUIRES THAT THE FINAL ELECTRICAL CONNECTION OF THE BUILDING SIGNAGE IS TO BE MADE BY A STATE LICENSED ELECTRICAL CONTRACTOR, THEN IT WILL BE THE RESPONSIBILITY OF THE DDC'S GENERAL CONTRACTOR TO INSURE THAT THOSE CONNECTIONS ARE CONTAINED IN THE SCOPE OF WORK OF THE LICENSED PROJECT ELECTRICAL SUB-CONTRACTOR AND THAT THE SCHEDULING OF THOSE CONNECTIONS IS COORDINATED WITH THE DDC'S SIGNAGE CONTRACTOR AND THE DDC'S CONSTRUCTION REPRESENTATIVE.
 - H. E.C. SHALL COORDINATE WITH H.C. FOR LIGHTING AND ELECTRIC INSTALLATIONS THROUGHOUT THE STORE.
 - I. LIGHTING FIXTURES INSTALLED IN A SUSPENDED CEILING SHALL BE FASTENED TO THE CEILING FRAMING MEMBER AT ALL FOUR CORNERS WITH SCREWS AND ATTACHED #12 CEILING WIRES TO THE LIGHT FIXTURE AT DIAGONALLY OPPOSITE CORNERS AND TO THE STRUCTURAL CEILING.
 - J. ALL OCCUPANCY SENSORS SHALL BE LOCATED AT LEAST 4 FT FROM SUPPLY DIFFUSERS, E.C. TO COORDINATE WITH MECHANICAL SHOP.
 - K. REFER TO PANEL SCHEDULES, FEEDER SCHEDULES, AND VOLTAGE DROP SCHEDULE ON DRAWING E5 FOR ALL WIRE SIZES, UNO.
 - L. ALL LIFE SAFETY DEVICES SHOULD BE CEILING MOUNTED. NO EXCEPTIONS.
- GENERAL DEMOLITION NOTES:**
- A. THIS CONTRACTOR SHALL PERFORM ALL DEMOLITION OF EXISTING ELECTRICAL SYSTEMS AS INDICATED ON ELECTRICAL AND ARCHITECTURAL PLANS OR NECESSARY FOR THE PROJECT. REMOVE FROM SITE AND PROPERLY DISPOSE OF ALL MATERIAL AND DEBRIS FROM THIS WORK.
 - B. DEMOLITION DRAWINGS ARE GENERAL IN NATURE SHOWING THE SCOPE OF DEMOLITION WORK. CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH THE QUANTITY OF LIGHT FIXTURES, OUTLETS, ETC. REMOVE ALL EQUIPMENT AND DEVICES NO LONGER REQUIRED FOR FINISHED CONSTRUCTION. ALL EXISTING LIGHTING CONDUIT, WIRE AND DEVICES IN PROTECT AREAS SHALL BE REMOVED AND DISPOSED OF. REMOVE CONDUITS BEYOND NEW SURFACES. REMOVE ALL EXISTING WIRE FROM CONDUIT BACK TO POINT OF COMMON USE OR TO PANELS. LABEL EXISTING CIRCUIT BREAKERS "SWAY" IF NOT REQUIRED FOR NEW WORK.
 - C. DISCONNECT EXISTING EQUIPMENT IN BUILDING THAT IS TO BE REMOVED UNDER OTHER SECTIONS. REMOVE DATA AND PHONE CABLE SYSTEM AS DIRECTED BY OWNER. NO CABLES SHALL BE REMOVED OR CUT WITHOUT APPROVAL FROM OWNER. ANY EXISTING CABLES TO REMAIN SHALL BE SUPPORTED FROM STRUCTURE BEFORE CEILING REMOVAL.
 - D. PATCH ALL SURFACES TO MATCH SURROUNDINGS FOR DEVICES TO BE REMOVED FROM EXISTING WALLS TO BE MAINTAINED. EXISTING ROUGH-IN BOXES IN WALL TO REMAIN MAY BE REUSED IF CODE COMPLYING AND APPROVED FOR LOCATION BY ARCHITECT.
 - E. THE OWNER RESERVES THE RIGHT OF SALVAGE FOR ALL EXISTING ELECTRICAL EQUIPMENT PRIOR TO DEMOLITION. THE CONTRACTOR SHALL REVIEW ALL MATERIALS AND DELIVER TO THE OWNER THOSE REQUIRED IN THEIR EXISTING CONDITION. ALL OTHER MATERIALS SHALL BE REMOVED BY THIS CONTRACTOR.
 - F. ALL CIRCUITS WHICH ARE REQUIRED TO REMAIN ACTIVE SHALL BE MAINTAINED OR REWORKED AS REQUIRED. ANY EXISTING CIRCUITS OR CABLES SYSTEMS SERVING AREAS NOT AFFECTED BY DEMOLITION SHALL BE MAINTAINED. ALL CIRCUITS SHALL BE VERIFIED WITH EXISTING DRAWINGS AND ACTUAL FIELD CONDITIONS PRIOR TO BEGINNING DEMOLITION.

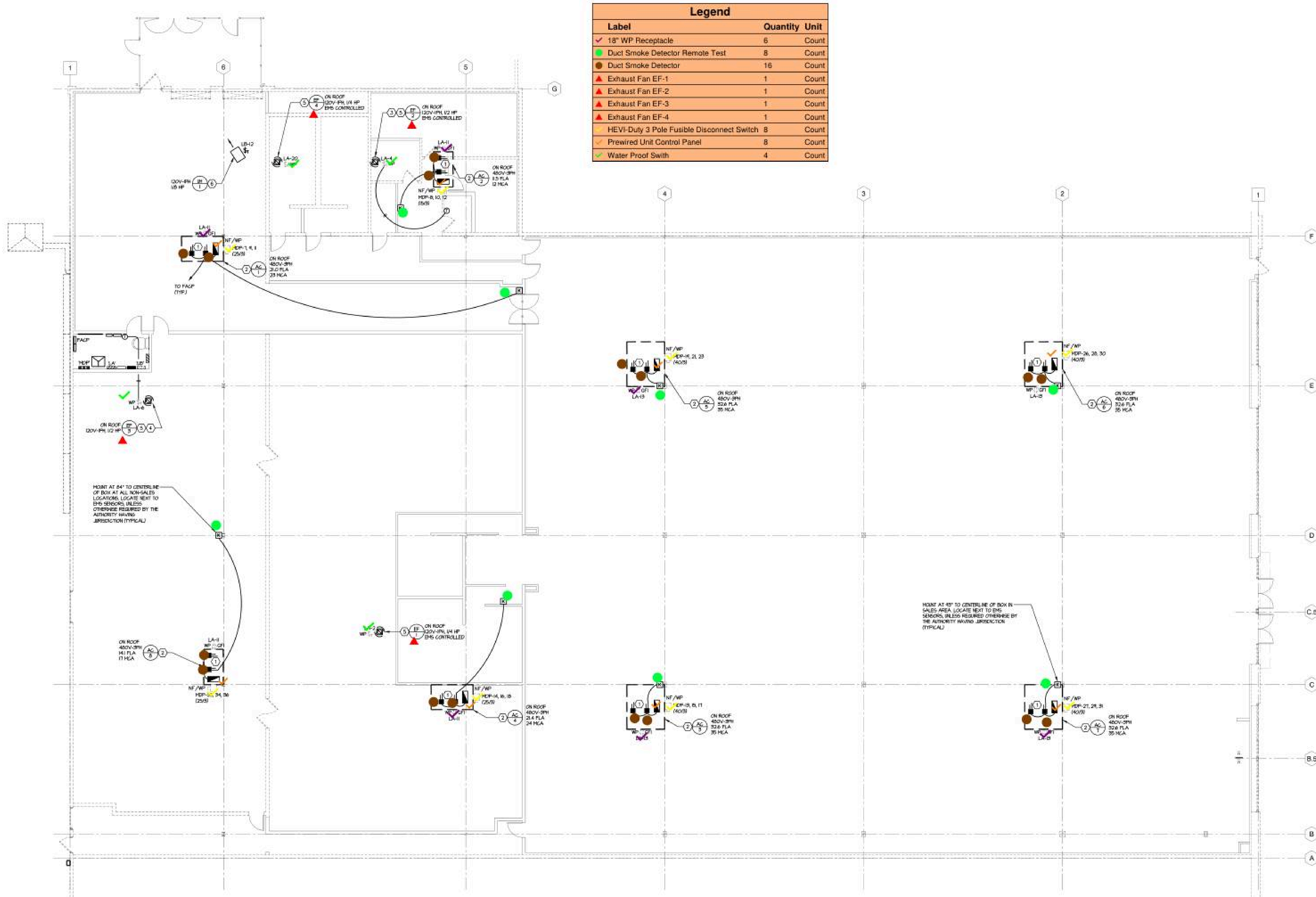


LIGHTING CONTROLS:
ALL AREAS WITH MANUAL SWITCHES, OCCUPANCY SENSORS, AND THE SALES AREA ARE CONTROLLED BY THE ENERGY MANAGEMENT SYSTEM WITH AUTOMATIC CONTROLS AND TIME CLOCK.

- LEGEND NOTES:**
1. SWITCH LBS DESIGNATIONS ARE MATCHED BETWEEN CONTROL DEVICES AND LIGHT FIXTURES LOCATED IN THE SAME ROOM UNLESS NOTED OTHERWISE. CONTACT ENGINEER IF CLARIFICATION IS REQUIRED.
 2. SUBSCRIPT 'W' INDICATES AN UNWITTED HOT LBS MUST BE BROUGHT TO FIXTURE FOR WIRING OF EXIST SIGN OR NIGHT LIGHT. FIXTURE WILL BE ILLUMINATED AT ALL TIMES. WIRE AHEAD OF ALL LOCAL SWITCHING, LIGHTING CONTROL, ETC.
 3. ALL LIGHT FIXTURES SHOWN SHADED OR HALF SHADED ARE TO HAVE UNWITTED HOT LBS BROUGHT TO FIXTURE FOR WIRING OF EMERGENCY BATTERY. WIRE AHEAD OF LOCAL SWITCHING, LIGHTING CONTROL, ETC.
 4. ALL WORKING SHALL BE #10 AWG + GAP IN 3/4" CONDUIT MINIMUM. REFER TO PLAN FOR WORKING LOCATIONS. INCREASE WIRE SIZE AS LISTED ON PANEL SCHEDULES.
 5. ALL LIGHTING CIRCUITS SHALL HAVE INDIVIDUAL NEUTRAL CONDUCTORS CONTROLLED FROM PANEL.
 6. THE EXACT LOCATION OF ALL LIGHT FIXTURES SHALL BE AS SHOWN ON THE ARCHITECT'S REFLECTED CEILING PLAN.
 7. ALL FIXTURES ARE WIRED TO PANEL W/ UNO.

Legend		
Label	Quantity	Unit
✓ Dimmer Switch	11	Count
▲ Electrical Fixture A/23b	12	Count
✓ Electrical Fixture A/24a	2	Count
▲ Electrical Fixture A/24a	2	Count
✓ Electrical Fixture B/24a	1	Count
▲ Electrical Fixture B/24a	5	Count
● Electrical Fixture F/25	11	Count
● Electrical Fixture F/25b	9	Count
▲ Electrical Fixture S/24a	10	Count
▲ Lighting Fixture TYP E	3	Count
▲ Lighting Fixture TYP K	33	Count
▲ Lighting Fixture TYP L1	1	Count
✓ Lighting Fixture TYP L	1	Count
▲ Lighting Fixture TYP R	17	Count
✓ OS/OH Occupancy Sensor	15	Count
● Provide Electrical Fixture AA/1	38	Count
● Provide Electrical Fixture AA/2	42	Count
● Provide Electrical Fixture AA/3	42	Count
● Provide Electrical Fixture AA/4	48	Count
● Provide Electrical Fixture CC/1	2	Count
● Provide Electrical Fixture CC/4	5	Count
● Provide Electrical Fixture GG/1	1	Count





Legend		
Label	Quantity	Unit
✓ 18" WP Receptacle	6	Count
● Duct Smoke Detector Remote Test	8	Count
● Duct Smoke Detector	16	Count
▲ Exhaust Fan EF-1	1	Count
▲ Exhaust Fan EF-2	1	Count
▲ Exhaust Fan EF-3	1	Count
▲ Exhaust Fan EF-4	1	Count
● HEVI-Duty 3 Pole Fusible Disconnect Switch	8	Count
✓ Prewired Unit Control Panel	8	Count
✓ Water Proof Switch	4	Count

- CODED NOTES:**
- 1 DUCT SMOKE DETECTORS IS SUPPLY AND RETURN FACTORY INSTALLED, COMPLETE WITH REMOTE TEST STATION, E.G. SHALL WIRE DUCT SMOKE DETECTORS TO FIRE ALARM CONTROL PANEL.
 - 2 ROOFTOP UNIT WITH INTEGRAL DRG RECEPTACLE AND NON-FUSED DISCONNECT SWITCH, E.G. SHALL PROVIDE ALL NEMA AS INDICATED.
 - 3 EXHAUST FAN CONTROLLED BY LINE VOLTAGE THERMOSTAT AND EMS, REFER TO WIRING DIAGRAM DETAIL, AS ON SHEET 06.
 - 4 EXHAUST FAN CONTROLLED VIA LINE VOLTAGE THERMOSTAT.
 - 5 EXHAUST FAN PROVIDED BY M.C. WITH NON-FUSED DISCONNECT SWITCH.
 - 6 UNIT HEATER SHALL BE CONTROLLED WITH HEI/UNIT EMS SENSOR PROVIDED BY EMS MANUFACTURER, REFER TO EMS PLANS FOR EXACT LOCATION AND WIRING.

PANEL		LA		MANS:		200A M.S.B.		LOCATION:		ELECTRICAL ROOM				
VOLTAGE:		208/120		A/C RATING:		10,000		FEEDER AMPACITY:		200				
PH & WIRES:		3P 4W		MOUNTING:		SURFACE		REMARKS:		ISOLATED GND TO SERV DISC (FOR PANEL, NGR)				
BUSSING AMPS:		225												
KVA LOADS														
LOAD DESCRIPTION	KVA	#	AMP	CCT	WIRE	PH. A	PH. B	PH. C	WIRE	CCT	AMP	#	KVA	LOAD DESCRIPTION
BUS - FRONT	1.20	1	20	1	D1	1.00	-----	-----	C1	2	20	1	0.70	EF/1
SPARE	0.00	1	20	3	-----	-----	1.20	-----	C1	4	20	1	1.20	EF/2
SPARE	0.00	1	20	5	-----	-----	-----	1.20	B1	8	20	1	1.20	EF/3
LOP	0.10	1	20	7	A1	0.10	-----	-----	C	8	20	1	0.00	SPARE
EMCP-1	0.10	1	20	8	A1	-----	1.30	-----	E1	10	20	1	1.20	UNDER CANOPY SIGN
ROOFTOP QFI	0.72	1	20	11	B1	-----	-----	0.90	B1	12	20	1	0.18	(1) COLUMN RECEPTACLE
ROOFTOP QFI	0.72	1	20	13	C1	0.90	-----	-----	D1	14	20	1	0.18	(1) COLUMN RECEPTACLE
HOT WATER HEATER	2.00	2	30	15	B2H	-----	2.18	-----	C1	16	20	1	0.18	(1) COLUMN RECEPTACLE
	2.00			17	-----	-----	-----	2.18	D1	18	20	1	0.18	(1) COLUMN RECEPTACLE
AUTO SOLARISER RECEPTACLE	1.00	1	20	19	B1	1.70	-----	-----	B1	20	20	1	0.20	ET/A
RECIRCULATING PUMP	0.10	1	20	21	B1	-----	0.28	-----	D1	22	20	1	0.18	SAFETY OPS
DETEX SYSTEM	0.36	1	20	23	C1	-----	-----	0.36	-----	24	20	1	0.00	SPARE
FRONT END GENERAL	0.36	1	20	25	D1	0.36	-----	-----	-----	26	20	1	0.00	SPARE
FRONT END GENERAL	0.36	1	20	27	D1	-----	0.36	-----	-----	28	20	1	0.00	SPARE
SPARE	0.00	1	20	29	-----	-----	-----	0.90	-----	30	20	1	0.00	SPARE
SPARE	0.00	1	20	31	0.36	-----	-----	-----	D1	32	20	1	0.36	FRONT END GENERAL
FRONT END GENERAL	0.36	1	20	33	D1	-----	0.36	-----	-----	34	20	1	0.00	SPARE
SPARE	0.00	1	20	35	-----	-----	0.90	-----	-----	36	20	1	0.00	SPARE
	2.41			37	-----	5.11	-----	-----	-----				2.70	SPARE
PANEL 'NCR'	1.98	3	60	39	-----	5.06	-----	-----	-----	40	125	3	3.08	PANEL 'L8'
	2.16			41	-----	-----	6.13	-----	-----	42			3.97	
CONNECTED AMPS:		88.66		10.43		10.74		10.77		CONNECTED KVA:		31.94		
NOTES: PROVIDE SOLID NEUTRAL BUS & GROUND BAR														
Demand Load Amps = 101.34														

FEEDER SCHEDULE - 3 PHASE					(NOT ALL DESIGNATIONS MAY BE USED)			
DESIGNATION	PHASE	QTY. OF SETS	GROUNDING CONDUCTOR		GROUNDING CONDUCTOR		GROUNDING CONDUCTOR	
			SIZE	SIZE	SIZE	SIZE	SIZE	SIZE
F3	3	1	#3	#12	#12	#12	1/4"	#2
F3	3	1	#3	#10	#10	#10	1/4"	#2
F3	3	1	#3	#8	#8	#10	1/4"	#2
F3	3	1	#3	#6	#6	#10	1/4"	#2
F3	3	1	#3	#4	#4	#10	1/4"	#2
F3	3	1	#3	#2	#2	#10	1/4"	#2
F3	3	1	#3	#1	#1	#10	1/4"	#2
F3	3	1	#3	#2	#2	#2	1/2"	#2
F3	3	1	#3	#1	#1	#2	1/2"	#2
F3	3	1	#3	#1/2	#1/2	#2	1/2"	#2
F3	3	1	#3	#3/8	#3/8	#2	1/2"	#2
F3	3	1	#3	#5/16	#5/16	#2	1/2"	#2
TRANSFORMER PRIMARY FEEDERS								
T1P	3	1	#3	#1	—	#2	1 1/4"	#2
TRANSFORMER SECONDARY FEEDERS								
F1S	3	1	#3	#5/8	#5/8	#2	2 1/2"	#2

ALL FEEDERS ABOVE ARE COPPER CONDUCTORS.

FEEDER DESIGNATION SUBSCRIPTS:

n = WHEN ADJACENT TO FEEDER DESIGNATION, INDICATES THAT GROUNDING CONDUCTOR IS NOT REQUIRED FOR INDICATED FEEDER

g = WHEN ADJACENT TO FEEDER DESIGNATION, INDICATES FEEDER SHALL INCLUDE ISOLATED GROUND CONDUCTOR SIZE EQUAL TO THE EQUIPMENT GROUND CONDUCTOR

EC SHALL VERIFY ALL CIRCUIT RUNS FOR ACCORDANCE FOR PROPER VOLTAGE DROP. OVERSTRESS INDICATED IN THE FOLLOWING:

100 VOLT 1 PHASE
 20 AMP CIRCUIT - 0 TO 75' - #2
 16' TO 100' - #4
 101 TO 200' - #6
 201 TO 300' - #8
 301 TO 400' - #10
 401 TO 500' - #12

208 VOLT 1 PHASE
 20 AMP CIRCUIT - 0 TO 100' - #2
 101 TO 200' - #4
 201 TO 300' - #6
 301 TO 400' - #8

277 VOLT 1 PHASE
 20 AMP CIRCUIT - 0 TO 75' - #2
 16' TO 100' - #4
 101 TO 200' - #6
 201 TO 300' - #8
 301 TO 500' - #10

PANEL		NCR														
VOLTAGE:		208/120		MAINS:		M.L.O.		LOCATION:		ELECTRICAL ROOM						
PH & WIRES		3P 4W		A/C RATING:		10,000		FEEDER AMPACITY:		55						
BUSING AMPS:		125		MOUNTING:		SURFACE		REMARKS:		ISOL. GND TO SERV DIS.						
						KVA LOADS										
LOAD DESCRIPTION		KVA	P	AMP	CCT	WRE	PH A	PH B	PH C	WRE	CCT	AMP	P	KVA	LOAD DESCRIPTION	
LOUNGE COMPUTER RECEPTACLE		0.18	1	✓	20	1	B1q	0.54	-----	01	2	20	1	0.36	LOSS PREVENTION RECEPTALS	
CASH OFFICE RECEPTABLES		0.54	1	✓	20	3	B1q	-----	1.08	-----	B1q	4	20	1	0.54	EQUIPMENT ROOM RECEPTABLES
MANAGER'S BO-PC		0.18	1	✓	20	5	B1q	-----	0.72	-----	B1q	6	20	1	0.54	EQUIPMENT ROOM RECEPTABLES
EQUIPMENT CLOSET RACK		0.18	1	✓	20	7	B1q	0.54	-----	B1q	8	20	1	0.36	EQUIPMENT ROOM RECEPTABLES	
CHECKOUT REGISTERS		0.18	1	✓	20	9	D1q	-----	0.36	-----	D1q	10	20	1	0.18	CHECKOUT REGISTERS
CHECKOUT REGISTERS		0.18	1	✓	20	11	D1q	-----	0.36	-----	D1q	12	20	1	0.18	CHECKOUT REGISTERS
INTELEX		0.36	1	✓	20	13	A1	0.36	-----	-----	14	20	1	0.00	SPARE	
EQUIPMENT CLOSET ROUTER & MODEM		0.18	1	✓	20	15	B1q	-----	0.18	-----	16	20	1	0.00	SPARE	
LOSS PREVENTION POWER		0.72	1	✓	20	17	B1q	-----	0.72	-----	18	20	1	0.00	SPARE	
LOSS PREVENTION POWER		0.72	1	✓	20	19	B1q	0.72	-----	-----	20	20	1	0.00	SPARE	
MUSIC / PAGING SYSTEM		0.36	1	✓	20	21	B1q	-----	0.36	-----	22	20	1	0.00	SPARE	
ALTBONIX		0.36	1	✓	20	23	B1q	-----	0.36	-----	24	20	1	0.00	SPARE	
L FACP		0.25	1	✓	20	25	A1	0.25	-----	-----	26	20	1	0.00	SPARE	
SPARE		0.00	1	✓	20	27	-----	0.00	-----	-----	28	20	1	0.00	SPARE	
SPARE		0.00	1	✓	20	29	-----	0.00	0.00	-----	30	20	1	0.00	SPARE	
SPARE		0.00	1	✓	20	31	0.00	-----	-----	-----	32	20	1	0.00	SPARE	
SPARE		0.00	1	✓	20	33	-----	0.00	-----	-----	34	20	1	0.00	SPARE	
SPARE		0.00	1	✓	20	35	-----	0.00	0.00	-----	36	20	1	0.00	SPARE	
SPARE		0.00	1	✓	20	37	0.00	-----	-----	-----	38	20	1	0.00	SPARE	
SPARE		0.00	1	✓	20	39	-----	0.00	-----	-----	40	20	1	0.00	SPARE	
SPARE		0.00	1	✓	20	41	-----	0.00	-----	-----	42	20	1	0.00	SPARE	
		CONNECTED AMPS:			18.18		2.41	1.98	2.16		CONNECTED KVA:			6.55		
NOTES:		PROVIDE SOLID NEUTRAL BUS, GROUND BAR & ISOLATED GROUND BAR														
L = INDICATES LOCK-ON CIRCUIT BREAKER																
		Demand Load Amps = 18.18														

MAIN DISTRIBUTION PANEL			
NON-CONTINUOUS LOADS			
RECEPTACLES AT 180 VA EACH			
- HVAC LOAD (GREATER OF HEATING/COOLING)	13.42	NEC	11.71
HEATING =	176.59	100%	176.59
COOLING =	0.43 KVA		
- MISCELLANEOUS	10.97	100%	10.97
- KITCHEN EQUIPMENT	0.00	0%	0.00
- PIECES OF EQUIPMENT			
CONTINUOUS LOADS			
= GENERAL LIGHTING			
NEC METHOD=	69.01 KVA	125%	86.27
=	23,004 SQ. FT. X 3.0 VA / SQ. FT.		
ACTUAL LOAD=	13.23 KVA		
= OUTSIDE SIGN CIRCUITS	2.40	125%	3.00
= 2 X 1200 VA/E.A. =			
= SHOW WINDOW LIGHTING	5.40	125%	6.75
= 27.0 FEET X 200 VA/FT =			
= HOT WATER HEATER	4.00	125%	5.00
MINIMUM SIZE SERVICE			
= SUB TOTAL NON-CONTINUOUS LOADS			199.26
= SUB TOTAL CONTINUOUS LOADS			150.02
		TOTAL =	300.28 KVA
SERVICE VOLTAGE =	480		
PHASE =	3		
		AMPS =	361.18

Legend		
Label	Quantity	Unit
	3	Count
 1P/20A Circuit Breaker	118	Count
 3P/30A Circuit Breaker	1	Count
 3P/60A Circuit Breaker	1	Count
 3P/125A Circuit Breaker	1	Count
 New Panel HA 125 , 480/277V, 3Phase	1	Count
 New Panel LA 125 , 200/120V, 3Phase	1	Count
 New Panel NCR 125 , 200/120V, 3Phase	1	Count

