

2 2ND FLOOR OFFICE PLAN  
SCALE: 3/16" = 1'-0"

1 MECHANICAL FLOOR PLAN  
SCALE: 3/16" = 1'-0"

MECHANICAL PLAN NOTES

- EXTEND FULL SIZE SUPPLY & RETURN DUCTWORK FROM ROOFTOP UNITS TO SPACE. EXTEND AS SHOWN. ACOUSTICALLY LINE THE FIRST 10'-0" OF BOTH SUPPLY AND RETURN MAIN DUCTS.
- INSTALL AND WIRE NEW 7-DAY PROGRAMMABLE THERMOSTAT. COORDINATE AND FIELD VERIFY EXACT LOCATION WITH ARCHITECT AND OWNER PRIOR TO ROUGH-IN.
- TEMPERATURE SENSOR FOR THERMOSTAT SERVING DESIGNATED ROOF TOP UNIT.
- MECHANICAL CONTRACTOR TO MOUNT SMOKE DETECTOR REMOTE KEY STATUS AND TEST STATIONS (WITH AUDIO AND VISUAL ALARM). NEXT TO UNIT THERMOSTAT. MC. TO INDICATE DETECTOR SERVING AIR CONDITIONING UNIT. COORDINATE EXACT LOCATION WITH FIRE MARSHAL PRIOR TO ROUGH-IN. ALL WIRING SHALL BE BY ELECTRICAL CONTRACTOR IN CONDUIT PER N.E.C. REMOTE STATION SHALL BE A SYSTEM SENSOR MODEL SSK451 OR EQUAL.
- SMOKE DETECTOR SHALL BE FURNISHED/INSTALLED BY MECHANICAL CONTRACTOR AND WIRED BY ELECTRICAL CONTRACTOR TO SHUT DOWN CORRESPONDING AIR CONDITIONING UNIT UNDER ALARM CONDITIONS. ALL WIRING SHALL BE IN CONDUIT PER N.E.C. SMOKE DETECTOR SHALL BE SYSTEM SENSOR MODEL DH100ACDCLP OR EQUAL.
- ROUTE 12" TOILET EXHAUST DUCT UP THROUGH ROOF AND CONNECT TO EXHAUST FAN ON ROOF. MAINTAIN A MINIMUM OF 10'-0" FROM ALL OUTSIDE AIR INTAKES AND TERMINATES 36" ABOVE ROOF.

MECHANICAL PLAN NOTES

- ROUTE 10" TRASH EXHAUST DUCT UP THROUGH ROOF AND CONNECT TO EXHAUST FAN ON ROOF. MAINTAIN A MINIMUM OF 10'-0" FROM ALL OUTSIDE AIR INTAKES AND TERMINATES 36" ABOVE ROOF.
- 4.5" WATER HEATER AIR INTAKE PIPE UP THROUGH ROOF.
- 4.5" WATER HEATER EXHAUST VENT PIPE UP THROUGH ROOF.
- INSTALL TYPE-I GREASE EXHAUST HOOD. SUPPORT HOOD PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE TRAPEZE HANGERS FOR ALL THREAD SUPPORT UNDER DUCTWORK AS REQUIRED. TRANSITION FROM HOOD CONNECTION TO WELDED KITCHEN EXHAUST DUCT SIZES SHOWN.
- INSTALL TYPE-II EXHAUST HOOD. SUPPORT HOOD PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE TRAPEZE HANGERS FOR ALL THREAD SUPPORT UNDER DUCTWORK AS REQUIRED. TRANSITION FROM HOOD CONNECTION TO WELDED DISH WASHER EXHAUST DUCT SIZES SHOWN.
- 20" GREASE EXHAUST DUCT FROM HOOD UP THRU ROOF TO KEF.
- 16" GREASE EXHAUST DUCT FROM HOOD UP THRU ROOF TO KEF.
- GREASE DUCT TO BE PROVIDED WITH KITCHEN EQUIPMENT. INSTALL PER MANUFACTURER'S INSTRUCTIONS.

MECHANICAL PLAN NOTES

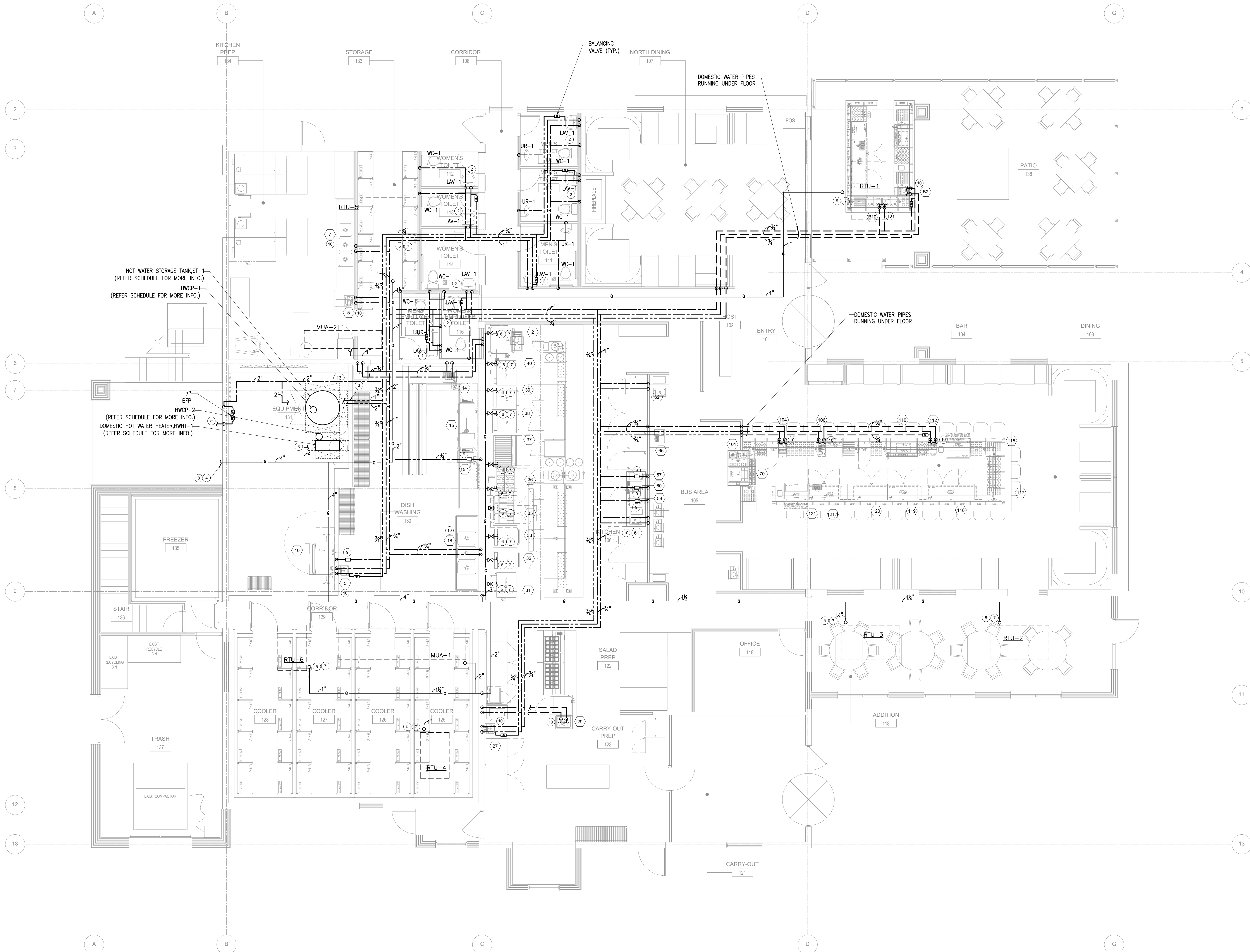
- EXTEND MAKE-UP AIR DUCT FROM HOOD COLLAR UP TO MOUNTED MAKE-UP AIR UNIT ON ROOF (MUA-1 & MUA-2).
- MAKEUP DUCT UP THRU ROOF TO MUA-1 & MUA-2.
- 17" EXHAUST DUCT FROM HOOD UP THRU ROOF TO DEF.
- EXHAUST OPENINGS SHALL BE PROVIDED WITH CLASS I MOTORIZED DAMPERS. THE DAMPERS SHALL HAVE AN AIR LEAKAGE RATE NOT GREATER THAN 4 CFM/FT<sup>2</sup> OF DAMPER SURFACE AREA AT 1.0 INCH WATER GAUGE (249 PA) AND SHALL BE LABELED BY AN APPROVED AGENCY WHEN TESTED IN ACCORDANCE WITH AMCA 500D.



- ① PROVIDE FLEXIBLE CONNECTORS ON SUPPLY AND RETURN DUCT CONNECTIONS. SET OUTSIDE AIR AS INDICATED ON ROOFTOP UNIT SCHEDULE. MECHANICAL CONTRACTOR SHALL SCRIBE INTO UNIT POSITION OF OUTSIDE AIR DAMPER AND LABEL OUTSIDE AIR VOLUME AND PERCENT OF OUTSIDE AIR.
- ② ROOF MOUNTED EXHAUST FAN. COORDINATE INSTALLATION OF FAN WITH LANDLORD AND EXISTING CONDITIONS TO ENSURE THAT FAN IS NOT INSTALLED WITHIN 10 FEET OF ANY OUTSIDE AIR INTAKE.
- ③ CONTRACTOR TO FIELD VERIFY THAT THE LOCATION OF ANY EXHAUST SOURCE SHOULD BE AT LEAST 10' AWAY FROM THE RTUs AND MAKE-UP AIR UNITS.
- ④ CONTRACTOR TO COORDINATE WITH STRUCTURAL ENGINEER AND FIELD VERIFY THE BUILDING OR STRUCTURE SHALL NOT BE WEAKENED BY THE INSTALLATION OF NEW MECHANICAL SYSTEMS ON THE ROOF.
- ⑤ 4.5"ø WATER HEATER AIR INTAKE PIPE THROUGH ROOF WITH VENT CAP. MAINTAIN A MINIMUM OF 10"-0" FROM ALL EXHAUST AIR VENTS AND TERMINATES 36" ABOVE ROOF.
- ⑥ 4.5"ø WATER HEATER FLUE PIPE UP THROUGH ROOF WITH VENT CAP. MAINTAIN A MINIMUM OF 10"-0" FROM ALL OUTSIDE AIR INTAKE AND TERMINATES 36" ABOVE ROOF.
- ⑦ CONTRACTOR TO COORDINATE WITH STRUCTURAL ENGINEER FOR PENETRATIONS. PROVIDE WATER PROOFING AND SEALING ALL ROOF PENETRATIONS.
- ⑧ PROVIDE WEATHERPROOF COATING FOR ALL EXTERIOR DUCTWORK.

9 ROOF MOUNTED GASEX EXHAUST FAN AND FAN CURB ARE PROVIDED BY KITCHEN HOOD CONTRACTOR. COORDINATE INSTALLATION OF FAN WITH LANDLORD AND SITE CONDITIONS TO ENSURE THAT FAN IS NOT INSTALLED WITHIN 10 FEET OF ANY OUTSIDE AIR INTAKE.

10 MAKE-UP AIR UNIT AND ROOF CURB ARE PROVIDED BY KITCHEN HOOD CONTRACTOR. COORDINATE LOCATION OF UNIT WITH LANDLORD AND SITE CONDITIONS. ADJUST DUCTWORK ROUTING ACCORDINGLY. PROVIDE FLEXIBLE CONNECTION ON THE SUPPLY DUCT TO FACILITATE TRANSITION TO DUCT SIZE INDICATED. FIELD VERIFY EXISTING CONDITIONS PRIOR TO BID.



# 1 DOMESTIC WATER AND GAS PLUMBING PLAN

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

## DOMESTIC WATER & GAS PIPING PLAN NOTES:

- CONNECT NEW 2" CW TO EXISTING COLD WATER MAIN IN THIS AREA FOR TENANT. PROVIDE BACKFLOW PREVENTER (RPZ) INSTALLED IN-LINE OF EQUAL PIPE DIAMETER OF THE WATER SERVICE AND SHALL BE LOCATED NO MORE THAN FIVE FEET(S) ABOVE THE FLOOR. WATER METER AS PER LANDLORD REQUIREMENTS WITH FULL-PORT SHUT-OFF VALVE SHALL BE LOCATED NEAR THE CURB OR PROPERTY LINE AND IMMEDIATELY INSIDE THE BUILDING ON INLET AND OUTLET OF WATER METER SHALL BE PROVIDED WITH DRAIN DOWN VALVE ON THE DISCHARGE SIDE OF WATER METER. EXTEND NEW PIPING AS INDICATED. FIELD VERIFY EXACT SIZE AND LOCATION OF EXISTING MAIN INCOMING WATER.
- PROVIDE A TEMPERING VALVE FOR LAVATORIES. POWER HYDROGUARD SERIES LM495, ASSE 1070 OR EQUAL SET TEMPERATURE TO A MAXIMUM OF 110°F.
- 2" CW/HW & GAS PIPING TO GAS FIRED WATER HEATER. PLUMBING CONTRACTOR SHALL EXTEND WATER HEATER FLUE TO EXTERIOR PER MANUFACTURER'S INSTRUCTIONS.
- CONTRACTOR TO VERIFY IF EXISTING GAS METER'S CAPACITY IS EQUAL TO OR GREATER THAN 4200 CFH. IF NOT, REPLACE EXISTING GAS METER WITH NEW. VERIFY EXACT LOCATION IN FIELD. COORDINATE ALL WORK WITH UTILITY COMPANY AND LANDLORD.
- EXTEND GAS LINE TO ROOFTOP UNITS. PROVIDE SHUTOFF VALVE, UNION AND DIRTLEG.

- GAS DOWN TO SERVE KITCHEN EQUIPMENT. PROVIDE SOLENOID VALVE AND INTERLOCK WITH KITCHEN EXHAUST HOOD TO SHUT DOWN UPON ACTIVATION OF FIRE SUPPRESSION SYSTEM. SEE DETAIL ON DRAWING #P-0.2 FOR ADDITIONAL INFORMATION.
- CONTRACTOR TO FIELD VERIFY EXISTING AVAILABLE GAS PRESSURE AND MAKE SURE TO PROVIDE ADEQUATE INLET PRESSURE REQUIRED FOR GAS FIRED WATER HEATER, RTU-1,2,3,4&5, MUA-1, MUA-2 AND KITCHEN EQUIPMENTS. PROVIDE LOCAL PRV FOR EACH EQUIPMENT AS PER MANUFACTURER'S RECOMMENDATION.
- CONNECT NEW 4" GAS PIPE TO EXISTING GAS MAIN IN THIS AREA FOR TENANT. EXTEND NEW PIPING AS INDICATED. FIELD VERIFY EXACT SIZE AND LOCATION OF EXISTING MAIN.
- EQUIPMENT SHALL BE PROVIDED WITH AN APPROVED BACKFLOW DEVICE APPROPRIATE FOR EACH MACHINE AND PROVIDE WATTS MODEL SD-3. CONTRACTOR TO FIELD VERIFY AND INSTALL BFP AT AN ACCESSIBLE LOCATION.
- PROVIDE TEMPERING VALVE FOR ALL PLUMBING FIXTURES AS PER MANUFACTURER'S RECOMMENDATION.

## GENERAL NOTES:

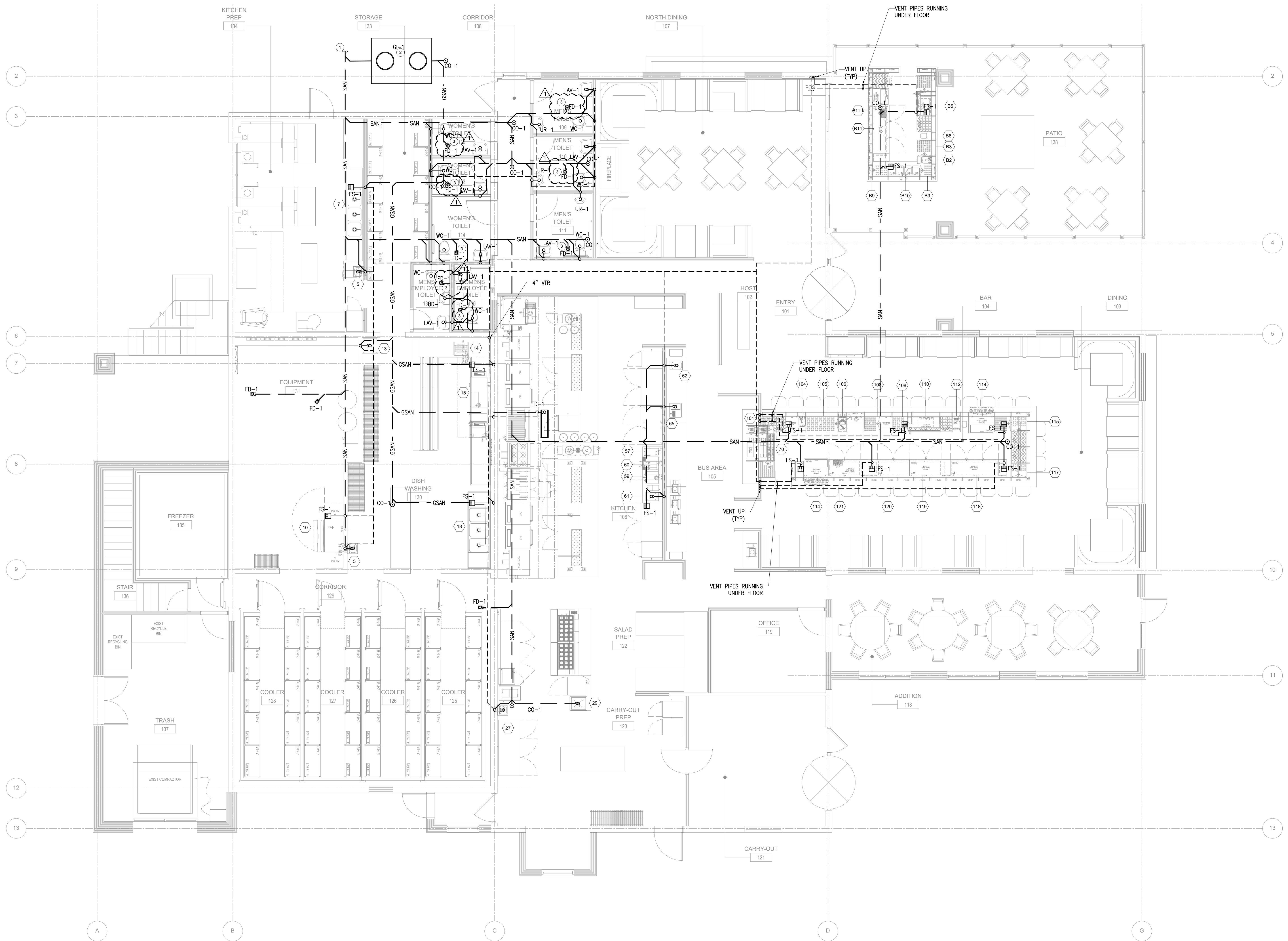
- REDUCED PRESSURE BACKFLOW PREVENTER (RPZ) SHALL BE INSTALLED ON A DEDICATED WATER SUPPLY LINE WHERE CHEMICAL UNITS AND KITCHEN EQUIPMENT OR APPLIANCES REQUIRED POTABLE WATER.
- DRAINAGE AND VENT SYSTEM SHALL BE PRESSURE TESTED WITH WATER OR AIR IN ACCORDANCE WITH ILLINOIS PLUMBING CODE, SECTION 890-1930
- ALL BACKFLOW DEVICES SHALL BE TESTED AND APPROVED BY A CROSS CONNECTION CONTROL DEVICE INSPECTOR (CCCDI) BEFORE INITIAL OPERATION.
- ALL PLUMBING INSTALLATION WORKS SHALL MEETS THE REQUIREMENTS OF THE ILLINOIS ACCESSIBILITY CODE, SECTION 890-630 (G).

- ALL NEW GAS PIPING SHALL BE TESTED IN ACCORDANCE WITH IFGC 2018, SECTION 406. MECHANICAL GAUGES USED TO MEASURE PRESSURE SHALL HAVE A RANGE SUCH THAT THE HIGHEST END OF SCALE IS NOT GREATER THAN FIVE TIMES THE TEST PRESSURE.
- AS PER IFGC 2018, SECTION 403.8, EXTERIOR GAS PIPING SHALL BE PROVIDED WITH PROTECTIVE COATING SUCH AS PAINT, TO PREVENT CORROSION.
- AS PER IFGC 2018, SECTION 404.7, PROVIDE PROTECTION FOR ALL GAS PIPING FROM PHYSICAL DAMAGE IN CONCEALED AREAS BY THE USE OF SHIELDED PLATES
- AS PER IFGC 2018, SECTION 407.2, EXTERIOR GAS PIPING ON ROOF SHALL BE PROPERLY SUPPORTED AS TO PROVIDE ADEQUATE SUPPORT FOR PIPING. PIPING SHALL BE SUPPORTED WITH METAL PIPE HOOKS, METAL PIPE STRAPS, METALS BANDS/BRAKET/HANGERS OR BUILDING STRUCTURAL COMPONENT.

- AS PER IFGC 2018 SECTION 415, PIPING SHALL BE SUPPORTED AT INTERVALS NOT EXCEEDING THE SPACING SPECIFIED IN TABLE. SPACING OF SUPPORTS FOR CSST SHALL BE IN ACCORDANCE WITH THE CSST MANUFACTURER'S INSTRUCTIONS.

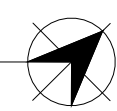
SUPPORT OF PIPING			
STEEL PIPE, NOMINAL PIPE SIZE (INCHES)	SPACING OF SUPPORT (FEET)	NOMINAL SIZE OF TUBING (SMOOTH WALL) (INCHES O.D.)	SPACING OF SUPPORT (FEET)
1/2"	6	1/2"	4
3/4" OR 1"	8	3/4" OR 1"	6
1 1/4" OR LARGER (HORIZONTAL)	10	1 1/4" OR LARGER (HORIZONTAL)	8
1 1/4" OR LARGER (VERTICAL)	EVERY FLOOR LEVEL	1 1/4" OR LARGER (VERTICAL)	EVERY FLOOR LEVEL





# **1 SANITARY PLUMBING PLAN**

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



## **SANITARY PIPING PLAN NOTES:**

- CONNECT NEW 4" SANITARY TO EXISTING MAIN IN THIS AREA. PLUMBING CONTRACTOR SHALL VERIFY EXACT LOCATION, SIZE, AND INVERT OF EXISTING SANITARY MAIN. SAWCUT AND TRENCH FLOOR AS REQUIRED AND PATCH FLOOR TO MATCH EXISTING.
- GREASE INTERCEPTOR, SCHIER GB-1000, 100 GPM, 6547 LBS CAPACITY 4" INLET W/ FLOW CONTROL 1-1/2" VENT UP. FIELD VERIFY EXACT PLACEMENT OF GREASE TRAP AND COORDINATE WITH FOOD SERVICE EQUIPMENT PLANS TO AVOID LEG CONFLICTS. PROVIDE ALL APPURTENANCES FOR A COMPLETE INSTALLATION INCLUDING FLOW CONTROL AND AIR VENT. INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH CITY REGULATIONS AND MANUFACTURER'S INSTRUCTIONS. PROVIDE PEDESTRIAN RATED POLYPROPYLENE COVER OVER-LAYS WHEN INSTALLED IN PEDESTRIAN TRAFFIC AREAS. P.C. TO ENSURE A MINIMUM OF 2% SLOPE FOR SANITARY FROM FLOOR SINK TO GREASE TRAP SUCH THAT GREASE TRAP INLET IS LOWER THAN THE FLOOR SINK OUTLET. INSTALL GREASE TRAP EXTENSION IF NECESSARY TO ALLOW FOR SLOPE FROM FLOOR SINK. P.C. TO ENSURE A MAXIMUM OF 100 GPM FLOW RATE FROM 3-COMPARTMENT SINK INTO FLOOR SINK AND INSTALL A SECONDARY FLOW CONTROL DEVICE PRIOR TO FLOOR SINK IF NECESSARY.
- 3" FLOOR DRAIN. PROVIDE WATERLESS SURESEAL TRAP SEALER FOR FLOOR DRAIN. COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER.

# ELECTRICAL LIGHTING PLAN KEYED WORK NOTES:

1. CONNECT ALL EMERGENCY EGRESS AND NIGHT LIGHTING FIXTURES TO NEAREST LIGHTING BRANCH CIRCUIT AHEAD OF ALL SWITCHING AND CONTROLS PER STATE AND LOCAL CODES. EXIT SIGNS SHALL NOT EXCEED 5 WATTS PER FACE.
2. LOCATION OF ET1125C SERIES 24-HOUR ELECTRONIC TIME SWITCH (3.1"X5.3"X8"). SEE SCHEDULE ON THIS DRAWING FOR ADDITIONAL INFORMATION. CONNECT TO P.O.S. RECEPTACLE BRANCH CIRCUIT. (PANEL A, CKT#8). COORDINATE LOCATION OF LCP PANEL WITH ARCHITECT/OWNER.
3. LOCATION OF LIGHTING CONTROL PANEL "LCP". SEE SCHEDULE ON THIS DRAWING FOR ADDITIONAL INFORMATION. CONNECT TO PANEL A, CKT#26. COORDINATE LOCATION OF LCP PANEL WITH ARCHITECT/OWNER.
4. ALL COOLER FREEZER LIGHTING FIXTURES AND RELATED LOCAL CONTROLS SHALL BE PROVIDED BY EQUIPMENT SUPPLIER. E.C. SHALL MAKE ALL FINAL CONNECTION TO FIXTURES AS REQUIRED TO ENSURE A COMPLETE OPERATION. CONNECT FIXTURES TO NEAREST 120V LIGHTING CIRCUIT.
5. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ARCHITECT/OWNER FOR EXACT DIMMING REQUIREMENTS OF THE LIGHT FIXTURES AND PROVIDE DIMMER APPROPRIATE FOR CIRCUIT CAPACITY AND LAMP DIMMING BALLAST TYPE (LUTRON MAESTRO SERIES/ APPROVED EQUAL)
6. PATIO AREA LIGHTING SHALL BE CONTROLLED BY EXTERIOR PHOTOCELL.

LIGHT FIXTURES INSTALLED IN THE SPACE SHALL BE SUPPORTED IN ACCORDANCE WITH NEC 314.23

ELECTRICAL POWER PLAN KEYED WORK NOTES:

1. COOLER CONDENSER (2.0KW-208V-1PH): PROVIDE A 30A-2P UNFUSED DISCONNECT SWITCH MOUNTED ON/AT UNIT AS REQUIRED. E.C. SHALL COORDINATE EXACT POWER REQUIREMENTS WITH EQUIPMENT MANUFACTURER. COORDINATE FINAL LOCATION IN FIELD. WIRING SHALL BE 2#12(G), 3/4"C. TO THE 20A-2P CIRCUIT BREAKER INDICATED ON DRAWING.
2. LOCATION OF ET1125C SERIES 24-HOUR ELECTRONIC TIME SWITCH (3.1"x5.3"x8"). SEE SCHEDULE ON THIS DRAWING FOR ADDITIONAL INFORMATION. COORDINATE LOCATION OF LCP PANEL WITH ARCHITECT/OWNER.
3. LOCATION OF LIGHTING CONTROL PANEL 'LCP'. SEE SCHEDULE ON THIS DRAWING FOR ADDITIONAL INFORMATION. CONNECT TO PANEL A, CKT#26. COORDINATE LOCATION OF LCP PANEL WITH ARCHITECT/OWNER.
4. COORDINATE MOUNTING AND EXACT LOCATION OF DEVICES IN P.O.S. CABINETS WITH G.C. EACH P.O.S. STATION SHALL BE (1) DOUBLE DUPLEX RECEPTACLE, (2) DATA OUTLETS, AND (1) VOICE OUTLET. COORDINATE ALL REQUIREMENTS WITH FRANCHISEE/ARCHITECT.
5. COORDINATE EXACT LOCATION & DETAILS OF KITCHEN HOOD CONTROL PANEL WITH KITCHEN HOOD MANUFACTURER.
6. EXISTING ELECTRICAL PANELS SHALL REMAIN. COORDINATE WITH ARCHITECT/OWNER.
7. EXISTING 1200A, 120/208V, 3PH, 4-WIRE MAIN DISTRIBUTION PANEL TO REMAIN.
8. DISCONNECT FOR TRASH COMPACTOR. E.C. SHALL VERIFY EXACT POWER REQUIREMENTS WITH MANUFACTURER/OWNER.

GENERAL POWER PLAN NOTES:

1. EXACT LOCATION OF MECHANICAL, PLUMBING, KITCHEN, FURNITURE SYSTEMS, OWNER FURNISHED EQUIPMENT ETC. THAT REQUIRE ELECTRICAL CONNECTIONS ARE SHOWN ON THE MECHANICAL, PLUMBING, AND/OR ARCHITECTURAL DRAWINGS. COORDINATE EXACT LOCATIONS WITH RESPECTIVE CONTRACTORS AND/OR VENDORS PRIOR TO ANY ROUGH-INS.
2. REVIEW AND COORDINATE WITH ALL TRADES CONTRACT DOCUMENTS TO DETERMINE SPECIFIC MOUNTING LOCATIONS FOR EQUIPMENT WITH ELECTRICAL CONNECTIONS. COORDINATE EXACT MOUNTING LOCATIONS WITH THE SPECIFIC TRADE AND ARCHITECT.
3. MINIMUM CONDUCTOR SIZE FOR 120V BRANCH CIRCUITS SHALL BE 12-AWG. FOR 120V BRANCH CIRCUITS WITH HOMERUN OVER 100 LINEAR FEET, A MINIMUM WIRE SIZE OF 10-AWG SHALL BE PROVIDED FROM FIRST JUNCTION/OUTLET BOX TO BRANCH CIRCUIT PANELBOARD. FOR 120V BRANCH CIRCUITS WITH HOMERUN OVER 150 LINEAR FEET, A MINIMUM OF 8-AWG SHALL BE PROVIDED FROM FIRST JUNCTION/OUTLET BOX TO BRANCH CIRCUIT PANELBOARD.
4. ALL WIRINGS SHALL BE IDENTIFIED BY PANELBOARD AND CIRCUIT NUMBERS IN ALL CABINETS, JUNCTION BOXES, WIRING TROUGHS, ENCLOSURES, SPLICE OR TERMINATION POINTS, ETC.
5. A NEW TYPED PANELBOARD DIRECTORY CARD SHALL BE PROVIDED FOR ALL PANELS INSTALLED OR MODIFIED UNDER THIS CONTRACT. NEW DIRECTORY CARDS SHALL BE LOCATED ON THE INSIDE DOOR OF ASSOCIATED PANELS.
6. IF CIRCUIT CONDUCTORS ARE SPLICED WITHIN A BOX OR TERMINATED ON EQUIPMENT WITHIN OR SUPPORTED BY A BOX, ALL EQUIPMENT GROUNDING CONDUCTOR(S) ASSOCIATED WITH ANY OF THOSE CIRCUIT CONDUCTORS SHALL BE CONNECTED WITHIN THE BOX OR TO THE BOX WITH DEVICES SUITABLE FOR THE USE IN ACCORDANCE WITH 250.8 AND 250.148(A) THROUGH (E). A CONNECTION SHALL BE MADE BETWEEN THE ONE OR MORE EQUIPMENT GROUNDING CONDUCTORS AND A METAL BOX BY MEANS OF A GROUNDING SCREW THAT SHALL BE USED FOR NO OTHER PURPOSE, EQUIPMENT LISTED FOR GROUNDING, OR A LISTED GROUNDING DEVICE.
7. ALL 125 VOLT, 1-PHASE, 15A & 20A RECEPTACLES INSTALLED IN THE LOCATIONS SPECIFIED IN 210.8(B)(1) THROUGH (8) SHALL HAVE GROUND-FAULT CIRCUIT-INTERRUPTER PROTECTION FOR PERSONNEL.