

GENERAL NOTES

- A. VERIFY ALL EXISTING MECHANICAL EQUIPMENT, PIPING, CONTROLS, ETC.
- COORDINATE MECHANICAL EQUIPMENT AND PIPING INSTALLATION WITH OTHER TRADES TO SUIT EXISTING CONDITIONS.
- WORK TO BE PERFORMED AND COMPLETED DURING THE HEATING SEASON WHEN CODING TOWER AND CHILLER ARE NOT IN OPERATION.
- AFTER DEMOLITION NEW CHILLER TO BE TRANSPORTED INTO MACHINE ROOM THROUGH EXISTING ROOF OPENING PRIOR TO ROOF WORK AND

DRAWING NOTES (DEMO)

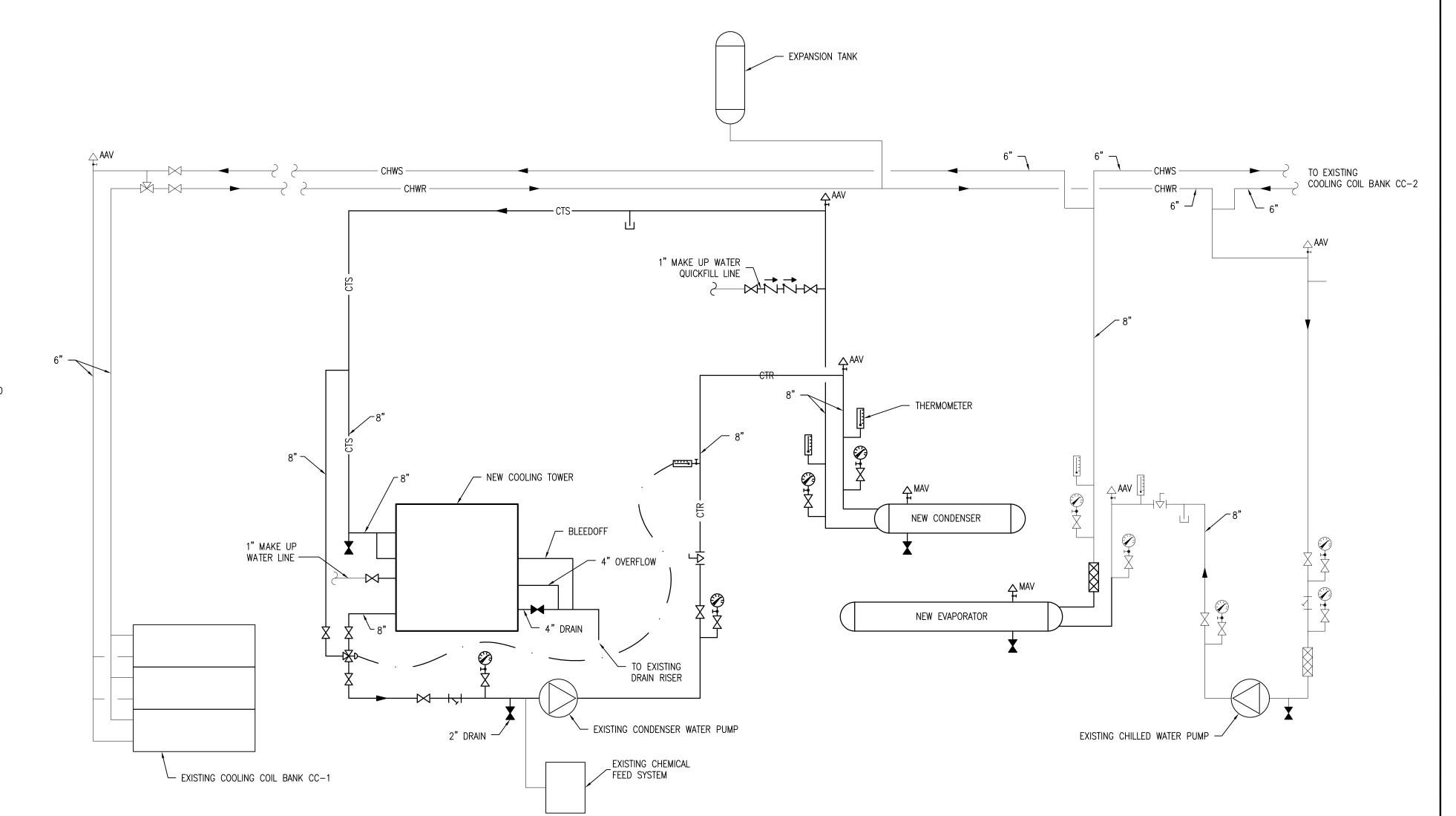
- 1. EXISTING MARLEY COOLING TOWER C/W I-BEAM STEEL SUPPORT, VIBRATION ISOLATORS AND BRACKETS TO BE REMOVED. EXISTING 8" THICK CONCRETE PAD W/8" THICK X 20" HIGH CONCRETE STUB WALLS TO REMAIN IN PLACE. EXISTING SPRINKLER HEAD AND PIPING LOCATED UNDERNEATH THE EXISTING COOLING TOWER TO BE ADJUSTED TO ENSURE SPRINKLER COVERAGE PERFORMANCE TO NFPA 13 CODE REQUIREMENTS.
- 2. EXISTING ALCO CENTRIFUGAL CONDENSER WATER PUMP (1050 GPM, 60FT HEAD PRESSURE) TO REMAIN.
- 3. EXISTING ALCO CENTRIFUGAL CHILLED WATER PUMP (840 GPM, 60FT HEAD PRESSURE)
- 4. EXISTING CARRIER CHILLER TO BE REMOVED. EXISTING 6" THICK CONCRETE PAD TO
- 5. EXISTING CONCRETE PAD TO REMAIN.
- 6. EXISTING FLOOR DRAIN TO REMAIN.
- 7. EXISTING ELECTRICAL EQUIPMENT.
- 8. EXISTING AIR COMPRESSOR TO REMAIN. 9. EXISTING AIR DRYER TO REMAIN.
- 10. EXISTING EXPANSION TANK BETWEEN CONCRETE CEILING JOISTS TO REMAIN.
- 11. EXISTING STEAM UNIT HEATER TO BE REMOVED. REMOVE ASSOCIATED STEAM AND CONDENSATE PIPING BACK TO MAIN AND CAP.
- 12. EXISTING DRAINAGE RISER TO REMAIN AND TO BE UTILIZED IN NEW CONSTRUCTION. REFER TO NEW CONSTRUCTION PLAN. REMOVE DRAINAGE LINES TO EXISTING COOLING
- 13. EXISTING WASHER AND DRYER TO REMAIN.
- 14. EXISTING CHEMICAL FEED SYSTEM TO REMAIN.
- 15. EXISTING COOLING TOWER RETURN PIPING AND ASSOCIATED VALVES AND GAUGES BETWEEN EXISTING CHILLER AND EXISTING CONDENSER PUMP FLANGE TO BE REMOVED.
- 16. EXISTING COOLING TOWER RETURN PIPING AND ASSOCIATED VALVES AND GAUGES BETWEEN EXISTING COOLING TOWER AND EXISTING CONDENSER PUMP FLANGE TO BE
- 17. EXISTING COOLING TOWER SUPPLY PIPING AND ASSOCIATED VALVES AND GAUGES BETWEEN EXISTING CHILLER AND EXISTING COOLING TOWER TO BE REMOVED.
- 18. CHILLED WATER SUPPLY AND RETURN LINES TO REMAIN.
- 19. EXISTING MAKEUP WATER FEED LINE TO EXISTING COOLING TOWER. REMOVE PIPING AND ASSOCIATED VALVES FROM EXISTING COOLING TOWER TO SECOND EXISTING SHUT OFF VALVE. REFER TO NEW CONSTRUCTION PLAN.
- 20. EXISTING MAKEUP WATER FEED LINE FOR QUICKFILL. REMOVE PIPING AND ASSOCIATED VALVE TO IMMEDIATELY AFTER BACKFLOW VALVE. REFER TO NEW CONSTRUCTION PLAN.
- 21. EXISTING CONDENSATE RISER TO REMAIN.
- 22. EXISTING LOW PRESSURE STEAM LINE TO REMAIN.
- 23. EXISTING SLIDING DOORS, ABOVE COOLING TOWER ON ROOF, TO BE REMOVED.

DRAWING NOTES (NEW CONSTRUCTION)

- 1. NEW CHILLER TO BE MOUNTED ON EXISTING CONCRETE PAD. 2. MODIFY AND PROVIDE NEW PIPING TO EXISTING CHILLED WATER PIPING AS NECESSARY TO CONNECT TO NEW CHILLER EVAPORATOR PORTS. PROVIDE
- 3. NEW AIR HANDLING UNIT SUSPENDED FROM CEILING C/W SPRING
- 4. NEW EXHAUST FAN SUSPENDED FROM CEILING C/W SPRING ISOLATORS.
- 5. CONNECT NEW CONDENSATE LINE SERVING AHU-1 TO EXISTING CONDENSATE SERVICE AT THIS LOCATION.
- 6. CONNECT NEW LOW PRESSURE STEAM LINE SERVING AHU-1 TO EXISTING LOW PRESSURE STEAM SERVICE.
- 7. STEEL SUPPORT STRUCTURE FOR NEW COOLING TOWER LOCATED ABOVE ROOF. REFER TO STRUCTURAL DRAWINGS.
- 8. SINGLE DEFLECTION SUPPLY GRILLE EH. PRICE MODEL 36X24/510D/F/L/A/B12 OR EQUAL. BALANCE TO 2500 CFM.
- 9. 24X24 RETURN AIR DAMPER C/W METAL MESH GRILLE OVER OPENING. 10. PROVIDE INSULATED 18X18 ACCESS DOOR FOR DAMPER INSPECTION.
- 11. 24X24 EXHAUST DUCT DOWN TO 12" ABOVE FLOOR. PROVIDE METAL MESH GRILLE OVER INLET. BALANCE TO 5000 CFM.
- 12. 14X42 SUPPLY DUCT THROUGH ROOF, BETWEEN EXISTING CONCRETE ROOF JOIST, TO GOOSENECK C/W 2" EXTERNAL INSULATION.
- ROOF JOIST, TO GOOSENECK C/W 2" EXTERNAL INSULATION. 14. NEW 4" DRAIN & OVERFLOW PIPE UP THROUGH ROOF TO NEW COOLING
- TOWER C/W HEAT TRACING, INSULATION AND ALUMINUM JACKET. 15. CONNECT NEW COOLING TOWER DRAIN AND OVERFLOW PIPE TO EXISTING
- DRAINAGE RISER. 16. NEW 1" MAKE UP WATER LINE UP THROUGH ROOF TO NEW COOLING
- TOWER C/W HEAT TRACING, INSULATION AND ALUMINUM JACKET. 17. CONNECT NEW MAKE UP WATER LINE TO EXISTING MAKE UP WATER LINE.
- REFER TO DEMOLITION PLAN.
- 19. COOLING TOWER RETURN AND SUPPLY LINES CONNECTION TO NEW CHILLER. 20. CONNECT NEW MAKE UP WATER LINE FOR QUICK FILL TO EXISTING MAKE UP WATER QUICKFILL LINE C/W REDUCED PRESSURE BACKFLOW PREVENTER, DRAIN OPEN ENDED OVER NEAREST FLOOR DRAIN. REFER TO
- 21. NEW 8" COOLING TOWER RETURN LINE UP THROUGH ROOF.
- 22. NEW 8" COOLING TOWER SUPPLY LINE UP THROUGH ROOF.
- 23. CONNECT NEW 8" COOLING TOWER RETURN LINE TO EXISTING CONDENSER
- 24. MANUAL EXHAUST FAN SWITCH FOR EMERGENCY USE INTERLOCKED TO EF-1. THE SWITCH OUTSIDE THE MACHINE ROOM IS TO BE CAPABLE OF STARTING BUT NOT STOPPING THE EXHAUST FAN. REFER TO ELECTRICAL
- 25. REFRIGERANT VAPOUR DETECTOR INTERLOCKED TO AHU-1 AND EF-1
- 26. NEW BLEEDOFF LINE BETWEEN NEW COOLING TOWER SUPPLY LINE AND EXISTING DRAINAGE RISER.

DRAWING NOTES (ROOF CONSTRUCTION)

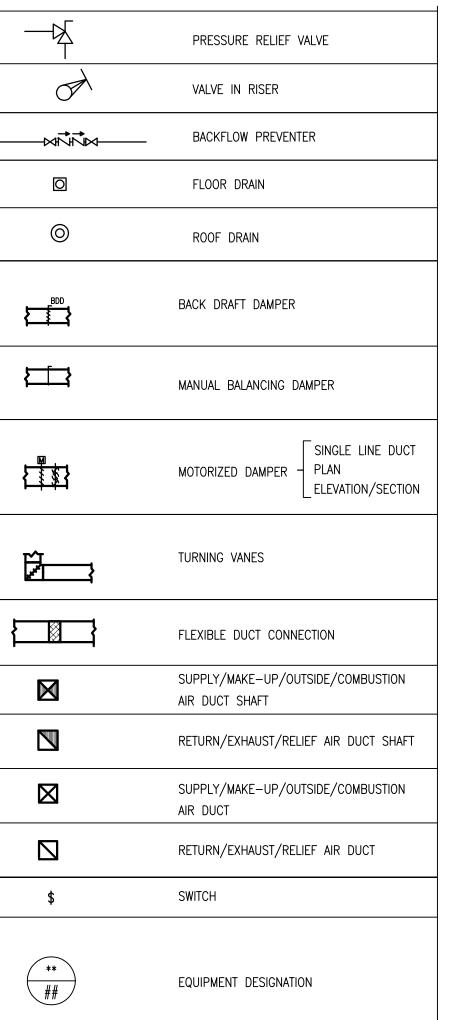
- 1. NEW COOLING TOWER SUPPORTED BY STEEL STRUCTURE. REFER TO STRUCTURAL DRAWINGS.
- 2. EXISTING ROOF OPENING TO BE FILLED IN TO MAINTAIN ROOF CONSTRUCTION. REFER TO STRUCTURAL.
- 3. REMOVE EXISTING GUIDE RAIL AND EXISTING HATCH DOORS. PATCH/REPAIR ROOF TO MAINTAIN EXISTING ROOF CONSTRUCTION.
- 4. NEW 4" DRAIN AND OVERFLOW PIPE TO NEW COOLING TOWER C/W HEAT TRACING, INSULATION AND ALUMINUM JACKET.
- 5. NEW 1" MAKE UP WATER LINE TO NEW COOLING TOWER C/W HEAT TRACING, INSULATION AND ALUMINUM JACKET.
- 6. NEW COOLING TOWER RETURN LINE FROM NEW COOLING TOWER.
- 7. NEW COOLING TOWER SUPPLY LINE TO NEW COOLING TOWER. 8. 14X42 SUPPLY DUCT FOR AHU-1 C/W GOOSENECK. REFER TO
- STRUCTURAL FOR ROOF PENETRATION DETAILS. 9. 14X42 EXHAUST DUCT FOR EF-1 C/W GOOSENECK AND BACKDRAFT

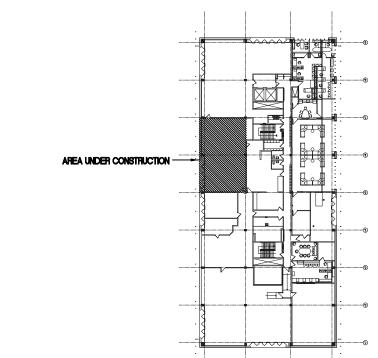


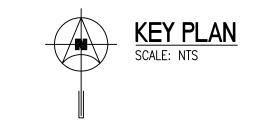
3 SCHEMATIC OF CHILLED & CONDENSER WATER PIPING

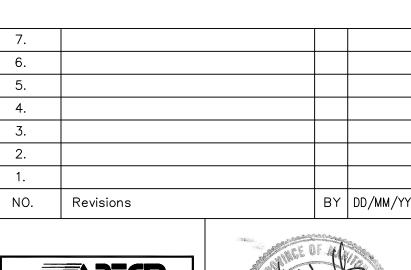
<u>LEGEND</u>

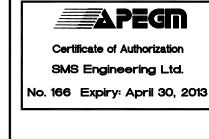
| с | COIL CONDENSATE | —————————————————————————————————————— | PRESSURE F |
|---------------|--------------------------------|--|-------------------------------|
| cts | COOLING TOWER SUPPLY | T | T NESSONE T |
| CTR | COOLING TOWER RETURN | | VALVE IN RI |
| —— LPS —— | LOW PRESSURE STEAM | | BACKFLOW F |
| ——⋈—— | SHUT-OFF VALVE | 0 | FLOOR DRAII |
| — | NORMALLY CLOSED SHUT-OFF VALVE | (a) | ROOF DRAIN |
| 14 | MANUAL BALANCING VALVE | | |
| | CHECK VALVE | BDD | BACK DRAFT D |
| <u> </u> | PRESSURE REDUCING VALVE | | MANUAL BALAN |
| | FLEX CONNECTION | | |
| | PUMP | | MOTORIZED DA |
| - | DIRECTION OF FLOW | Ľ | TURNING VANES |
| - | PIPE CAP | | TORNING VANE. |
| | UNION | | FLEXIBLE DUCT |
| © | PRESSURE GAUGE C/W SHUT-OFF | M | SUPPLY/MAKE- AIR DUCT SHAI |
| <u> </u> | THERMOMETER GAUGE C/W SHUT-OFF | | RETURN/EXHAL |
| PS | PRESSURE SWITCH | | SUPPLY/MAKE- AIR DUCT |
| ☐ FS | FLOW SWITCH | | RETURN/EXHAL |
| <u></u> | AUTO AIR VENT | \$ | SWITCH |
| - | STEAM TRAP | | |
| | STRAINER | ## EQUIPMENT | EQUIPMENT DE |
| <u> </u> | CONTROL VALVE | | |
| <u> </u> | 3-WAY VALVE | | |
| | | | |













CITY OF WINNIPEG COOLING PLANT REPLACEMENT 151 PRINCESS STREET BID OPPORTUNITY 887-2012

MACHINE ROOM COOLING PLAN MECHANICAL PLANS

| Drawn By | Checked By | Approved By |
|-------------------|-------------------|--------------------------|
| TDU | DH | HJW |
| Scale AS NOTED | Date NOV. 2012 | Project No. 09-307-02 |
| Revision Number | Drawing Number | Sheet Order |
| 0 | M1 | 1 OF 1 |