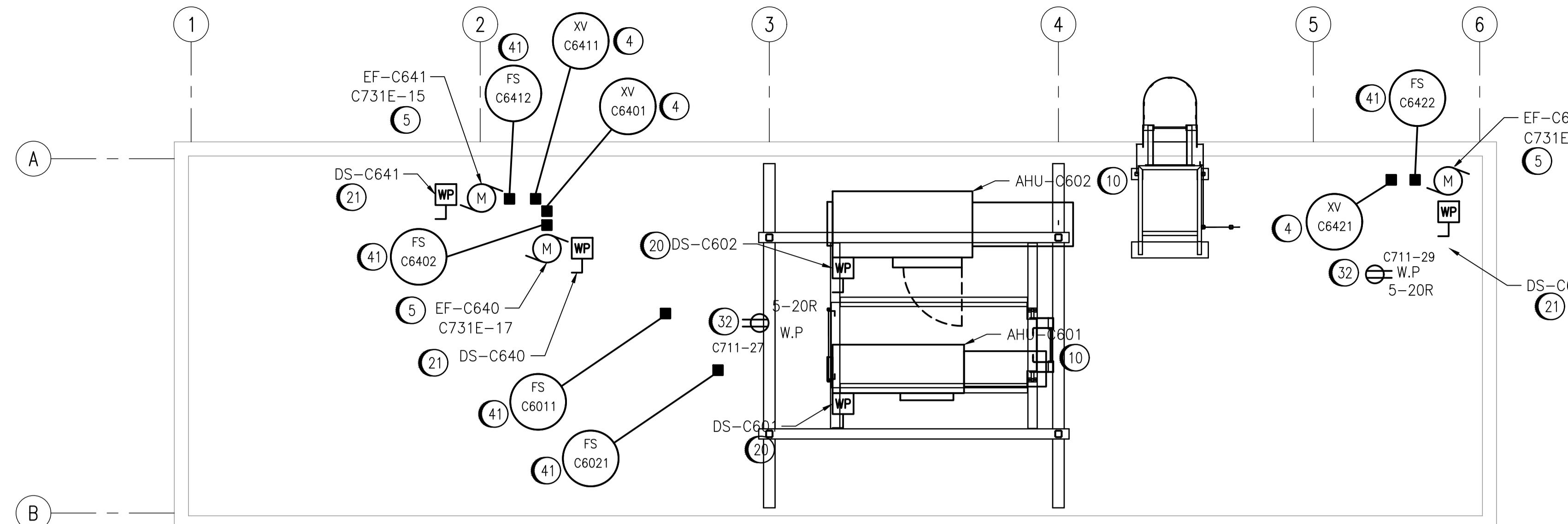
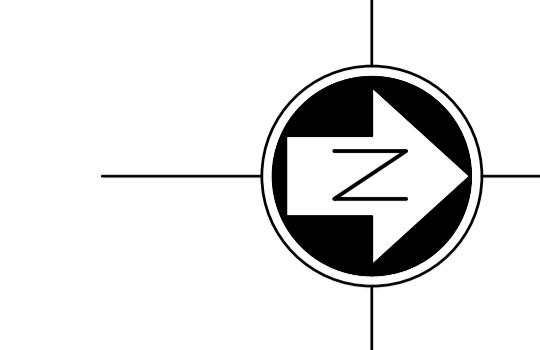


GENERAL NOTES:

1. ALL CONDUIT AND CABLING IS NEW AND TO BE PROVIDED BY THE CONTRACTOR.
2. ALL EQUIPMENT SHOWN ON THIS DRAWING IS NEW UNLESS OTHERWISE INDICATED AS EXISTING.
3. INSTRUMENTATION DEVICES LOCATION ARE APPROPRIATE. CONTRACTOR TO COORDINATE WITH THE CITY TO DETERMINE OPTIMAL LOCATION FOR EQUIPMENT BASED ON EXISTING CONFIGURATION.
4. CONTRACTOR IS RESPONSIBLE TO CALIBRATE ALL NEW INSTRUMENTATION DEVICES. CONTRACTOR TO VERIFY WITH CONTRACT ADMINISTRATOR THE DEVICE TO CALIBRATE TO.

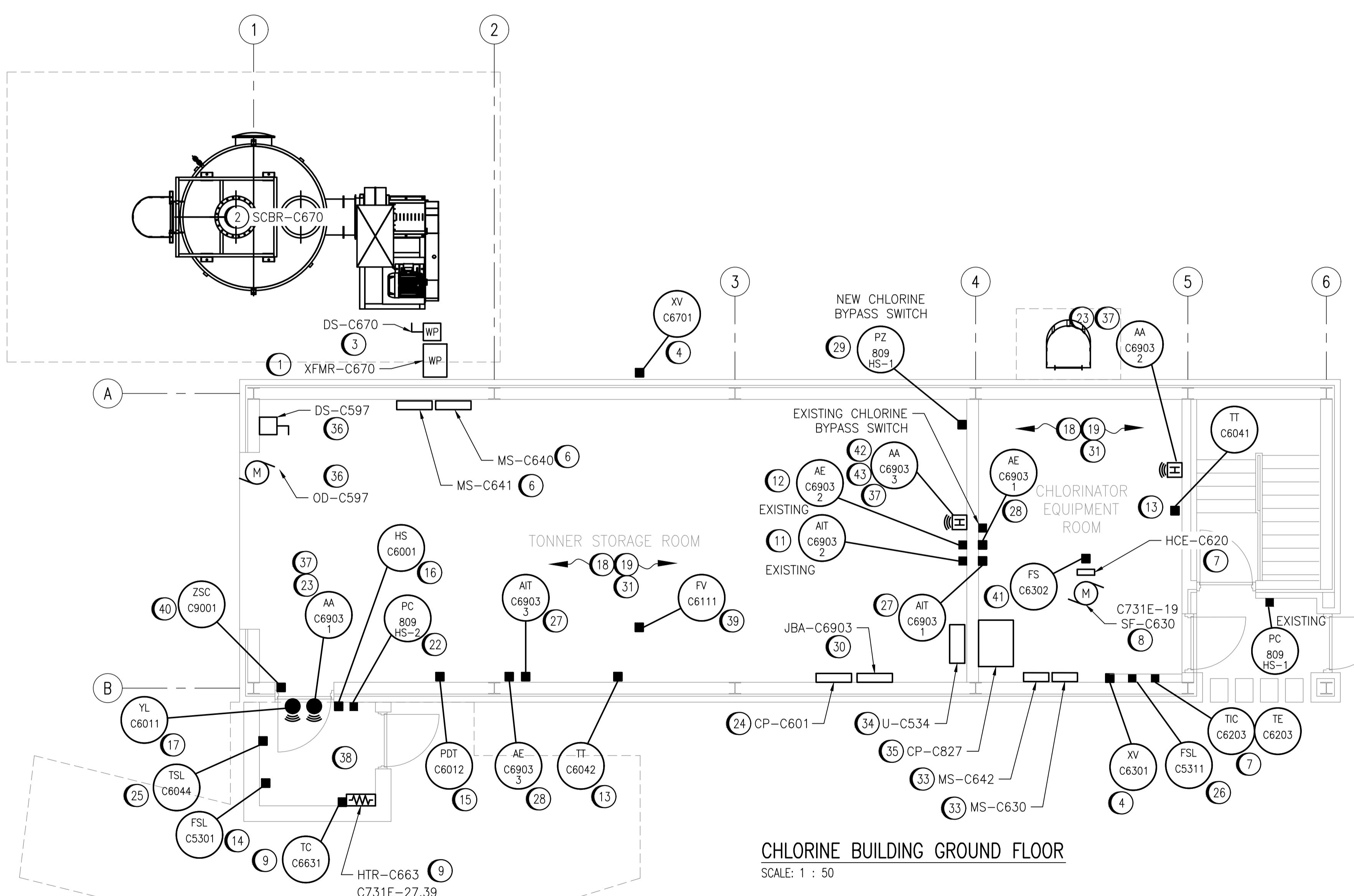
CONSTRUCTION NOTES:

- 1 PROVIDE NEW 75kVA OUTDOOR AUTOTRANSFORMER XFMER-C670 TO SERVICE CHLORINE SCRUBBER SCBR-C670. AUTOTRANSFORMER PROVIDED BY ELECTRICAL CONTRACTOR
- 2 PROVIDE NEW CHLORINE GAS SCRUBBER TO BE LOCATED OUTSIDE. CONTRACTOR TO PROVIDE ALL CONDUIT AND CABLING REQUIRED FOR COMPLETE INSTALLATION OF ALL POWER AND CONTROLS. SCRUBBER PROVIDED BY MECHANICAL CONTRACTOR.
- 3 PROVIDE 60A RATED, NON-FUSIBLE, WEATHERPROOF DISCONNECT SWITCH DS-C670.
- 4 PROVIDE NEW ON/OFF DAMPER ACTUATORS AS SHOWN INCLUDING ALL ASSOCIATED CONDUIT AND CABLING REQUIRED FOR THE COMPLETE INSTALLATION OF ALL POWER AND CONTROLS. PROVIDE ALL MOUNTING ACCESSORIES REQUIRED TO INSTALL ACTUATORS. CONTRACTOR IS RESPONSIBLE FOR MOUNTING SCHEME. ACTUATORS ARE TO BE NEMA 4X COMPLIANT AND PROVIDE WEATHERPROOF ENCLOSURE FOR ALL OUTDOOR ACTUATORS.
- 5 PROVIDE NEW EXHAUST FAN AS SHOWN. CONTRACTOR TO PROVIDE ALL CONDUIT AND CABLING REQUIRED FOR COMPLETE INSTALLATION OF POWER AND CONTROLS.
- 6 PROVIDE 120V MOTOR STARTER PANEL FOR EXHAUST FAN EF-C640 AND EF-C641. ENCLOSURES ARE TO BE NEMA 4X RATED. REFER TO MOTOR SCHEMATIC DRAWINGS FOR DETAILS. CONTRACTOR TO DESIGN PANEL AS PER SCHEMATIC. PANEL SHALL BE DESIGNED TO FIT IN THE DESIGNATED LOCATION.
- 7 PROVIDE NEW 600V DUCT HEATER HCE-C620 AND ALL CONDUIT AND CABLING REQUIRED FOR THE COMPLETE INSTALLATION OF POWER AND CONTROLS. DUCT HEATER TO INCLUDE CONTROL PANEL, THERMOSTAT AND SENSOR.
- 8 PROVIDE NEW 120V SUPPLY FAN SF-C630 COMPLETE WITH DAMPER ACTUATOR AND ALL ASSOCIATED CONDUIT AND CABLING REQUIRED FOR POWER AND CONTROL.
- 9 PROVIDE NEW 208V HEATER HTR-C663 COMPLETE WITH BUILT IN THERMOSTAT. PROVIDE ALL ASSOCIATED CONDUIT AND CABLING REQUIRED FOR COMPLETE INSTALLATION OF POWER AND CONTROLS.
- 10 PROVIDE MAKE-UP AIR UNITS AHU-C601 AND AHU-C602 WITH INTEGRAL OPEN/CLOSE DAMPERS OUTSIDE LOCATED ON THE CHLORINE BUILDING ROOF. PROVIDE ALL CONDUIT AND CABLING REQUIRED FOR A COMPLETE INSTALLATION OF ALL POWER AND CONTROLS. MAKE-UP AIR UNIT PROVIDED BY MECHANICAL CONTRACTOR.
- 11 RETAIN EXISTING ATI-D12 CHLORINE GAS DETECTOR CONTROLLER AND RENAME ATI-C6903-2. RELOCATE CONTROLLER TO TONNER SCALE ROOM AND PROVIDE ALL ADDITIONAL WIRING AND CONDUIT REQUIRED. PROVIDE PULL BOX AT EXISTING LOCATION TO EXTEND EXISTING ANALOG SIGNAL CABLING AND CONDUIT.
- 12 RETAIN EXISTING CHLORINE GAS SENSOR. EXISTING LOCATION TO BE RETAINED. PROVIDE NEW GAS GENERATOR MODULE ASSOCIATED WITH CONTROLLER AND SENSOR. CONNECT NEW WIRING TO EXISTING CONTROLLER AS PER DRAWING 1-0640C-A0016. REFER TO MANUFACTURER INFORMATION FOR INSTALLATION.
- 13 PROVIDE NEW TEMPERATURE TRANSMITTERS AS SHOWN ON DRAWING. PROVIDE NEW CABLING AND CONDUIT.
- 14 PROVIDE NEW EMERGENCY SHOWER FLOW SWITCH AS PART OF VENDOR SUPPLIED PACKAGE AS SHOWN ON DRAWING. PROVIDE NEW CABLING AND CONDUIT FOR PLC MONITORING.
- 15 PROVIDE NEW PRESSURE DIFFERENTIAL TRANSMITTER PDT-M6012. PROVIDE NEW CABLING AND CONDUIT. TRANSMITTER TO MEASURE BETWEEN TONNER ROOM AND OUTSIDE. PROVIDE ALL NECESSARY EQUIPMENT TO FACILITATE INSTALLATION.
- 16 PROVIDE NEW SWITCH FOR TONNER ROOM OCCUPANCY STATUS. PROVIDE ALL NEW CABLING AND CONDUIT.
- 17 PROVIDE NEW TONNER ROOM OCCUPANCY LIGHT AS SHOWN. OCCUPANCY LIGHT TO BE GREEN AND ACTIVE WHEN AHU-C601 OR AHU-C602 IS RUNNING. CONTRACTOR TO PROVIDE ALL NECESSARY MOUNTING ACCESSORIES AND SIGNAGE THAT READS "SUPPLY AIR ON. COORDINATE WITH CONTRACT ADMINISTRATOR SIZE AND DESCRIPTION PRIOR TO PRODUCTION.
- 18 REPLACE ALL EXISTING RECEPTACLE COVER PLATES WITHIN THE CHLORINE BUILDING SPACE WITH WEATHERPROOF COVERS SUITABLE FOR USE IN CATEGORY 2 LOCATIONS AS PER SECTION 22 OF THE CEC.
- 19 ALL EXISTING EMT CONDUIT SYSTEMS INCLUDING ALL PULL BOXES OR JUNCTION BOXES THAT ARE NOT NEMA 4X RATED ARE TO BE PAINTED WITH A NON CORROSIVE PAINT TO COMPLY WITH CATEGORY 2 CLASSIFICATION.
- 20 PROVIDE NEW 200A RATED, NON-FUSIBLE DISCONNECT SWITCH FOR AHU-C601 AND NEW 60A RATED, NON-FUSIBLE DISCONNECT SWITCH FOR AHU-C602. BOTH DISCONNECTS ARE TO BE WEATHERPROOF. DISCONNECT SHALL COME COMPLETE WITH AN AUXILIARY CONTACT FOR READY SIGNAL.
- 21 PROVIDE NEW 15A RATED, NON-FUSIBLE, DISCONNECT SWITCH FOR EXHAUST FANS SF-C630, EF-C640, EF-C641, AND EF-C642. INDOOR SWITCHES TO BE NEMA 4X, OUTDOOR TO BE WEATHERPROOF. DISCONNECTS ARE TO BE COMPLETE WITH AUXILIARY CONTACT FOR READY SIGNAL.
- 22 PROVIDE NEW E-STOP C/W WITH COVER, PC-809-HS-2, IN THE NEW TONNER STORAGE VESTIBULE FOR THE CHLORINE EMERGENCY ISOLATION SYSTEM. CONTRACTOR TO WIRE IN SERIES WITH THE EXISTING E-STOP AT THE CHLORINATOR EQUIPMENT ROOM ENTRANCE AND CONNECTED TO THE MODIFIED CHLORINE EMERG. ISOLATION SYSTEM. REFER TO DRAWING 1-0640C-A0026. PROVIDE LAMACOID SIMILAR TO EXISTING E-STOP.
- 23 PROVIDE NEW CHLORINE NEMA 4X GAS ALARM STROBE OR HORN/STROBE DUAL UNIT AS SHOWN IN NEW TONNER STORAGE ROOM ENTRY VESTIBULE AND CHLORINATOR EQUIPMENT ROOM. REFER TO DRAWING 1-0640C-A0017 FOR DETAILS. CONTRACTOR TO CONFIRM EXISTING CIRCUIT ON SITE AND TIE IN NEW DEVICES TO EXISTING. PROVIDE WARNING SIGNAGE (RED WITH WHITE LETTERS) THAT READ "CHLORINE ALARM".
- 24 PROVIDE NEW VENTILATION CONTROL PANEL CP-C601 FOR THE MAKE UP AIR UNITS AHU-C601, AND AHU-C602. ENCLOSURE TO BE NEMA 4X RATED AND SUITABLE FOR CEC CATEGORY 2 LOCATIONS. REFER TO DRAWING 1-0640C-A0011 FOR DETAILS.
- 25 PROVIDE NEW TEMPERATURE SWITCH IN TONNER STORAGE ROOM VESTIBULE. PROVIDE NEW CABLING AND CONDUIT.
- 26 PROVIDE NEW FLOW SWITCH ON EXISTING SAFETY SHOWER IN CHLORINATOR EQUIPMENT ROOM. EXISTING SAFETY SHOWER IS FROM MANUFACTURER ENCON. PROVIDE FLOW SWITCH ALARM KIT PART #0210000. CONTRACTOR TO FEED POWER TO FLOW SWITCH RELAY FROM PNL-C731E, CCT 10. PROVIDE ALL NEW CONDUIT AND CABLING FOR A COMPLETE AND WORKING SYSTEM.
- 27 PROVIDE NEW GAS DETECTION CONTROLLER/TRANSMITTERS, ATI-C6903-1, AND ATI-C6903-3 FOR CHLORINE DETECTION. PROVIDE NEW CABLING, CONDUIT, AND ALL NECESSARY MOUNTING ACCESSORIES. REFER TO DWG. 1-0640C-A0015 AND A0017. CONTRACTOR TO LOCATE CONTROLLER TO ENSURE EXISTING CONTROLLER CAN REMAIN OPERATIONAL PRIOR TO SWITCHOVER.
- 28 PROVIDE NEW GAS DETECTOR SENSORS AE-C6903-1 AND AE-C6903-3. SENSORS ARE LOCATED ON WALL BELOW GAS DETECTION HEADS. PROVIDE NEW CABLING, CONDUIT AND ALL NECESSARY MOUNTING HARDWARE. MOUNT SENSOR NEAR GROUND LEVEL. REFER TO DRAWING 1-0640C-A0015 AND A0017 FOR WIRING DETAILS.
- 29 PROVIDE NEW KEYED BYPASS SWITCH COMPLETE WITH INDICATING PILOT HOUSED IN A NEMA 4X ENCLOSURE FOR THE CHLORINE DETECTION SYSTEM LOCATED IN THE TONNER SCALE ROOM. REFER TO DRAWING 1-0640C-A0025 AND A0026. PROVIDE NEW CABLING/CONDUIT TO FACILITATE EQUIPMENT IN EXISTING SYSTEM.
- 30 PROVIDE NEW JUNCTION BOX JBA-C6903, FOR CHLORINE DETECTION SYSTEM TO FACILITATE CONNECTION TO EXISTING HVAC PLC AND CHLORINE NOTIFICATION EQUIPMENT. REFER TO JUNCTION BOX LAYOUT DRAWING 1-0640C-A0023 AND CHLORINE DETECTION LOOP DRAWINGS FOR DETAILS.
- 31 CHLORINE TONNER ROOM AND CHLORINATOR EQUIPMENT ROOM SPACE IS LIMITED DUE TO EXISTING EQUIPMENT AND CONDUIT RUNS. CONTRACTOR TO COORDINATE WITH OWNER AND CONTRACTOR ADMINISTRATOR FINAL EQUIPMENT LOCATION AND CABLE ROUTING METHODOLOGY PRIOR TO INSTALLATION.
- 32 INSTALL RECEPTACLES A MINIMUM OF 750 mm ABOVE THE ROOF FINISHED FLOOR TO ACCOMMODATE SNOW ACCUMULATION. RECEPTACLE SHALL BE 5-20R CSA CONFIGURATION, PROTECTED BY A CLASS A TYPE GFCI BREAKER, AND TO HAVE A WET LOCATION COVERPLATE MARKED "EXTRA-DUTY" AS PER CITY OF WINNIPEG BYLAW 26-710. EACH ROOFTOP EQUIPMENT (AHU-C601, AHU-C602, EF-C640, EF-C641, AND EF-C642) SHALL HAVE A RECEPTACLE WITHIN 7.5 METERS.
- 33 PROVIDE 120V MOTOR STARTER PANEL FOR SUPPLY FAN SF-C630 AND EXHAUST FAN EF-C642. PANELS ENCLOSURES ARE TO BE NEMA 4X RATED. REFER TO MOTOR SCHEMATIC DRAWINGS FOR DETAILS. CONTRACTOR TO DESIGN PANEL AS PER SCHEMATIC. PANEL SHALL BE DESIGNED TO FIT IN THE DESIGNATED LOCATION.
- 34 PROVIDE 600V POWER TO NEW TANKLESS WATER HEATER FOR THE EMERGENCY SAFETY SHOWERS. PROVIDE NEW CABLING AND CONDUIT FROM SOURCE TO HEATER.
- 35 PROVIDE NEW REMOTE I/O PANEL CP-C827 LOCATED IN THE CHLORINATOR EQUIPMENT ROOM. PROVIDE FIBRE SIGNAL FROM HVAC PLC PANEL CP-M826 LOCATED IN THE PUMPHOUSE MECHANICAL ROOM. REFER TO CP-C827 AUTOMATION DRAWINGS FOR MORE DETAILS.
- 36 PROVIDE NEW OVERHEAD DOOR COMPLETE WITH CONTROLS. WIRE AND CONNECT POWER AND CONTROLS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. PROVIDE NEW DISCONNECT SWITCH. EXISTING CABLING/CONDUIT FROM SOURCE PANEL TO BE REUSED AND EXTENDED TO PROVIDE CONNECTION TO NEW OVERHEAD DOOR. PROVIDE ALL NECESSARY EQUIPMENT REQUIRED FOR CABLE MODIFICATION. PROVIDE NEW CABLING/CONDUIT FROM DISCONNECT SWITCH AND CONTROLLER TO MOTOR UNIT.
- 37 TIE EXISTING CHLORINE ALARM HORN/STROBES INTO NEW CHLORINE DETECTION SYSTEM. PROVIDE AND MODIFY CABLING AND CONDUIT ACCORDINGLY.
- 38 NEW VESTIBULE IS EQUIPPED WITH NEW WATER DRAINAGE PIPE BELOW GRADE TO ACCOMMODATE EMERGENCY SAFETY SHOWER. CONTRACTOR TO PROVIDE HEAT TRACE ON THE PORTION OF THE PIPE BELOW VESTIBULE. REFER TO DRAWING 1-0640C-E0017 FOR HEAT TRACE DETAILS.
- 39 PROVIDE NEW MODULATING DAMPER ACTUATOR INCLUDING ALL ASSOCIATED CONDUIT AND CABLING REQUIRED FOR A COMPLETE INSTALLATION OF ALL POWER AND CONTROLS. PROVIDE ALL MOUNTING ACCESSORIES REQUIRED TO INSTALL ACTUATORS. CONTRACTOR IS RESPONSIBLE FOR MOUNTING SCHEME. ACTUATOR TO BE NEMA 4X COMPLIANT.
- 40 PROVIDE NEW DOOR CONTACT AND ASSOCIATED CABLING/CONDUIT FOR TONNER STORAGE ROOM AND WIRE STATUS TO REMOTE I/O PANEL. REFER TO LOOP DRAWING 1-0640C-A0020.



CHLORINE BUILDING ROOF

SCALE: 1 : 50



CHLORINE BUILDING GROUND FLOOR

SCALE: 1 : 50

- 41 CONTRACTOR TO PROVIDE AIR FLOW SWITCH TO PROVE ASSOCIATED HVAC EQUIPMENT IS RUNNING. LOCATION OF FLOW SWITCH ON DRAWING IS APPROXIMATE. CONFIRM ON SITE OPTIMAL LOCATION OF FLOW SWITCH IN DUCT FOR EACH HVAC UNIT. FINAL LOCATION TO BE DETERMINED AFTER COMMISSIONING BASED ON PERFORMANCE. REFER TO MECHANICAL AND P&ID DRAWINGS FOR FURTHER DETAILS.
- 42 CONTRACTOR TO REPLACE EXISTING INTERIOR DUAL HORN AND STROBE WITH NEW NEMA 4X DUAL UNIT TO MATCH THE MAKE AND MODEL OF NEW GAS DETECTION HORN/STROBE DEVICES BEING ADDED. CONTRACTOR TO PROVIDE AND MODIFY CABLING/CONDUIT ACCORDINGLY TO FACILITATE CONNECTION.
- 43 CONTRACTOR TO RECONNECT EXISTING HORN/STROBE SILENCE TIMER TO NEW GAS DETECTION CIRCUITS AS REQUIRED.

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Atkins Réalis Canada Inc.
No. 4489

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DATE: 2023/07/21	DATE: 2025/04/30
NO. REVISIONS	CONSULTANT NO.:
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DATE DESIGN	DATE CHECK

THE CITY OF WINNIPEG
Winnipeg
WATER AND WASTE DEPARTMENT

MPHILLIPS PUMPING STATION
CHLORINE SYSTEM UPGRADES
ELECTRICAL EQUIPMENT AND INSTRUMENTATION PLAN
CHLORINE BUILDING

CITY DRAWING NUMBER
1-0640C-E0015

HEET 001
REV. 00
SIZE A1