

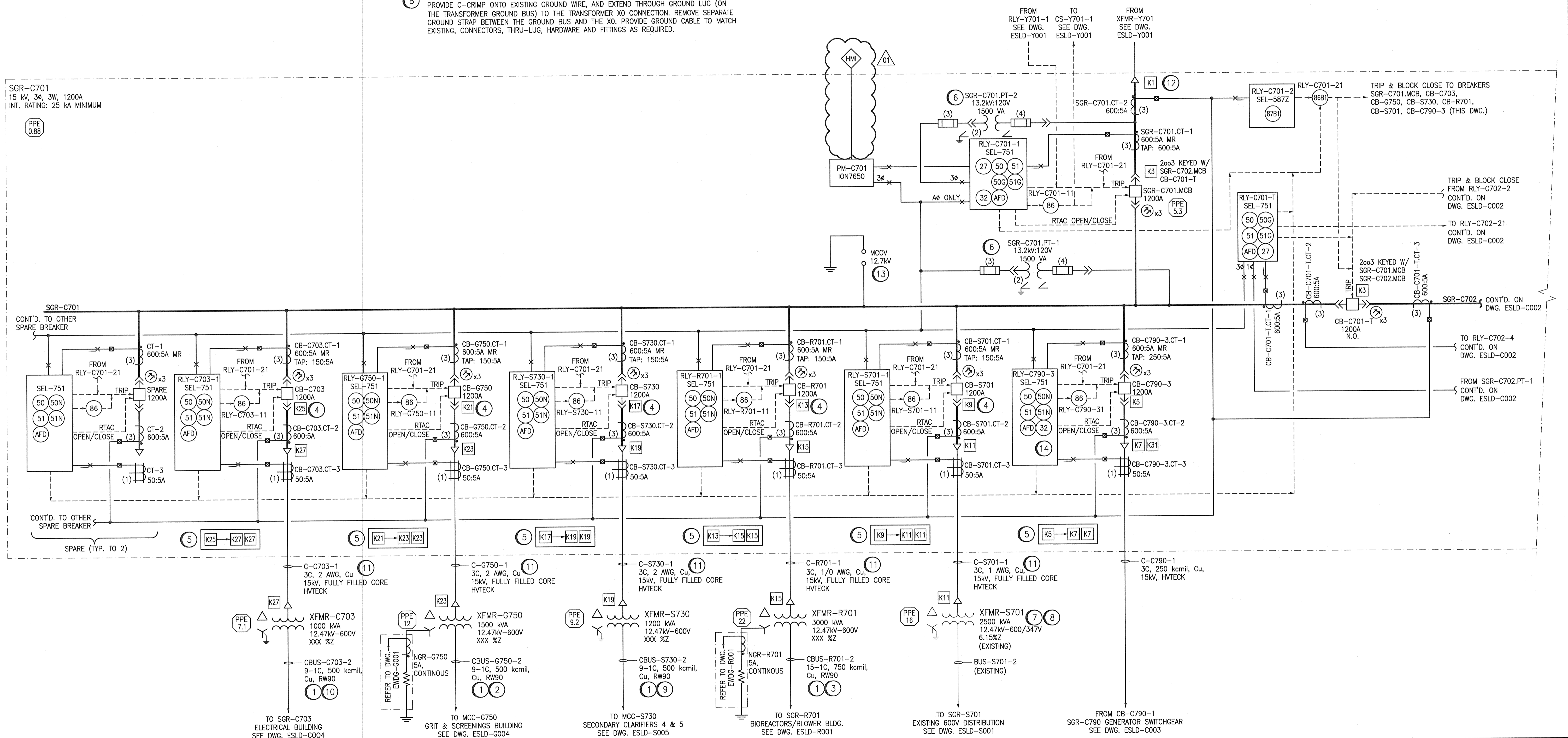
LEGEND

- (27) UNDERVOLTAGE RELAY
- (50) PHASE INSTANTANEOUS OVERCURRENT RELAY
- (51) PHASE TIME-OVERCURRENT RELAY
- (50N) NEUTRAL INSTANTANEOUS OVERCURRENT RELAY
- (51N) NEUTRAL TIME-OVERCURRENT RELAY
- (50G) GROUND FAULT PROTECTION INSTANTANEOUS OVERCURRENT RELAY
- (51G) GROUND FAULT PROTECTION AC TIME-OVERCURRENT RELAY
- (86) LOCKOUT RELAY
- (87) DIFFERENTIAL RELAY
- (87B) BUS DIFFERENTIAL LOCKOUT RELAY
- (AFD) ARC FAULT DETECTOR RELAY
- (32) DIRECTIONAL POWER RELAY
- SEL-751 FEEDER PROTECTION RELAY
- SEL-587Z HIGH IMPEDANCE BUS DIFFERENTIAL RELAY
- ION7650 POWER MONITOR
- K10 KEYED INTERLOCK
- C.T. TEST BLOCK
- P.T. TEST BLOCK
- SHORTING TERMINAL BLOCK
- ARC (LIGHT) SENSOR

SPECIFIC NOTES

- 1 AS PER RULE 8-104 IN THE CANADIAN ELECTRICAL CODE, SUPPLY CABLE HAS BEEN SIZED WITH AN 85% DERATING FACTOR AS IT IS FEEDING A 100% RATED CIRCUIT BREAKER. CABLES SHALL BE FT-4 TRAY RATED AND SUITABLE FOR WET / OUTDOOR LOCATION.
- 2 CABLES ROUTED FROM XFMR-G750 TO MCC-G750 WILL UTILIZE CABLE BUS SYSTEM. SEE DRAWING 1-0102-ECRT-0001 FOR DETAILS.
- 3 CABLES ROUTED FROM XFMR-R701 TO SGR-R701 WILL UTILIZE CABLE BUS SYSTEM. SEE DRAWING 1-0102-ECRT-R001 FOR DETAILS.
- 4 KEYED INTERLOCK WITH DOWNSTREAM TRANSFORMER ACCESS COMPARTMENT DOOR. PROVIDE SUITABLE PADLOCK FOR ALL TRANSFORMERS.
- 5 INTERLOCK KEY TRANSFER BAR TO BE MOUNTED AT BREAKER COMPARTMENT FRONT DOOR RESPECTIVELY.
- 6 STANDARD RATIO OF 110:1 USED.
- 7 DISCONNECT AND REMOVE EXISTING MB HYDRO 12.47 kV PRIMARY SIDE CABLING. DISCONNECT AND REMOVE EXISTING TIE CABLING BETWEEN TRANSFORMERS XFMR-S701 AND XFMR-S702. PROVIDE H.V CONNECTOR PLUG COVERS. RE-FEED TRANSFORMERS, WITH CABLE SIZE AS INDICATED HEREIN.
- 8 THE EXISTING GROUND CONNECTIONS DO NOT MEET CURRENT CEC REQUIREMENTS/STANDARDS. PROVIDE C-CRIMP ONTO EXISTING GROUND WIRE, AND EXTEND THROUGH GROUND LUG (ON THE TRANSFORMER GROUND BUS) TO THE TRANSFORMER XO CONNECTION. REMOVE SEPARATE GROUND STRAP BETWEEN THE GROUND BUS AND THE XO. PROVIDE GROUND CABLE TO MATCH EXISTING, CONNECTORS, THRU-LUG, HARDWARE AND FITTINGS AS REQUIRED.
- 9 CABLES ROUTED FROM XFMR-S730 TO MCC-S730 WILL UTILIZE CABLE BUS SYSTEM. SEE DRAWING 1-0102-ECRT-S002 FOR DETAILS.
- 10 CABLES ROUTED FROM XFMR-C703 TO SGR-C703 WILL UTILIZE CABLE BUS SYSTEM. SEE DRAWING 1-0102-ECRT-C001 FOR DETAILS.
- 11 15 kV POWER CABLING SHALL BE HVTECK, HAVE 100% INSULATION LEVEL, FULLY FILLED CORE (FOR CABLE THAT CAN ACCOMMODATE A MINIMUM OF 2500LBS/FT FULL STRENGTH) AND 15% OVERLAP COPPER TAPE SHIELD. TYPICAL.
- 12 SWITCHGEAR MANUFACTURER TO COORDINATE KEY INTERLOCK WITH CIRCUIT SWITCHER MANUFACTURER.
- 13 SURGE ARRESTER TO BE STATION CLASS RATED.
- 14 ELEMENT 32 - REVERSE POWER FLOW - TRIP ON POWER FLOW FROM SGR-C701 TO SGR-C790.

SGR-C701
15 kV, 3φ, 3W, 1200A
INT. RATING: 25 kA MINIMUM



REFERENCE DRAWINGS	DESCRIPTION
1-0102-EAAA-A001	ELECTRICAL, LEGEND AND DETAILS



01	ISSUED FOR ADDENDUM 1 - 976-2016	2017/05/26	SLJ	DEB
00	ISSUED FOR CONSTRUCTION - 976-2016	2017/04/05	SLJ	DEB

CH2MHILL

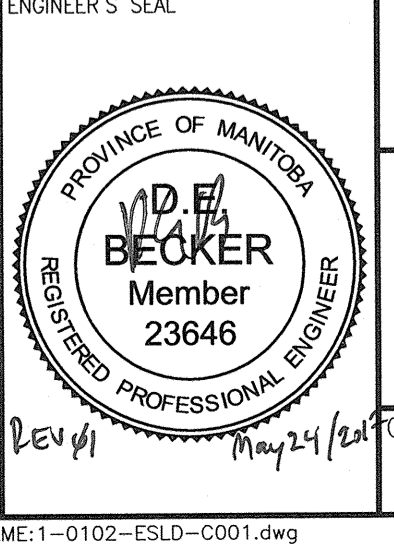
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SCALE: NTS
ISSUED FOR CONSTRUCTION BY: J. SHUMKA

DATE: 2014/10/10
DATE: 2017/04/05

CONSULTANT NO.: 474248



THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

SOUTH END WATER POLLUTION CONTROL CENTRE
SEWPPC UPGRADING/EXPANSION PROJECT
ELECTRICAL - SINGLE LINE DIAGRAM
ELECTRICAL BUILDING
12.47kV MAIN DISTRIBUTION - SGR-C701

CITY DRAWING NUMBER: 1-0102-ESLD-C001
SHEET: 001
REV: 01
SIZE: A1