A1 SIZE – 594mm x 841mm

NETWORK ARCHITECTURE SYMBOLS

- XXX–XXX — MULTILAYER NETWORK SWITCH
- XXX–XXX — NETWORK SWITCH
- E/MB — ETHERNET TO MODBUS RTU (SERIAL) GATEWAY
- E/PB — ETHERNET TO PROFIBUS GATEWAY
- PROGRAMMABLE LOGIC CONTROLLER / REMOTE I/O
- COMPUTER WORKSTATION – MAINTENANCE, DESKTOP
- COMPUTER WORKSTATION – OPERATOR, DESKTOP
- COMPUTER WORKSTATION – OPERATOR, TOUCHSCREEN
- STANDALONE TOUCHSCREEN – HUMAN MACHINE INTERFACE
- PRINTER
- XXX–XXX — FIREWALL
- COMPUTER WORKSTATION – OPERATOR, WALL–MOUNT DISPLAY
- WIRELESS NETWORK ACCESS POINT
- HMI/DATA SERVER
- HISTORIAN SERVER

SEGMENT DIAGRAM SYMBOLS

- ON/OFF DP — PROFIBUS DP TERMINAL CONNECTION TERMINATION RESISTOR SETTING
- DP — PROFIBUS DP DB9 CONNECTOR
- PA T — PROFIBUS PA TERMINAL CONNECTION WITH TERMINATION RESISTOR
- ST FIBRE CONNECTOR
- ST FIBRE PORT

NETWORK DIAGRAM SYMBOLS

- CAT 6 CABLE
- R — CAT 6 CABLE – PART OF DEVICE NETWORK RIO RING
- D — CAT 6 CABLE – PART OF DEVICE NETWORK DIO RING
- FIBRE CABLE
- MODBUS RS–485 CABLE
- T — MODBUS NETWORK TERMINATED
- TERMINAL BLOCK
- RS–485 — MODBUS RS–485 PORT
- RJ45 CONNECTOR UNSHIELDED
- RJ45 CONNECTOR SHIELDED
- LC FIBRE CONNECTOR
- RJ45 PORT OR PATCH PANEL PORT
- FIBRE PORT OR PATCH PANEL
- WALL PLATE RJ45 JACK

PLAN/GENERAL ARRANGEMENT SYMBOLS

- NETWORK ACCESS POINT
- COMMUNICATION OUTLET (1 VOICE, 1 DATA)
- COMMUNICATION OUTLET (3D = 3 DATA, 1D = 1 DATA)
- TELEPHONE RECEPTACLE
- DUPLEX RECEPTACLE
- INSTRUMENT LOCATION – WHERE MECHANICAL EQUIPMENT IS NOT SHOWN ON DRAWING
- WORKSTATION

SCHEMATIC SYMBOLS

- FEED THROUGH TERMINALS
- FUSED TERMINAL
- ISOLATED GROUND
- EQUIPMENT GROUND
- PLC INPUT
- PLC OUTPUT
- 1 CB–XXX 3 / 2 — ELECTRONIC CIRCUIT PROTECTOR

AUTOMATION EQUIPMENT ABBREVIATIONS AND FUNCTIONAL DESIGNATIONS

ADDR	ADDRESS
ADP	AUTOMATION DEVICE PANEL
ANT	ANTENNA
CA	CABLE – AUTOMATION
CN	CABLE – NETWORK
CNP	CABLE – NETWORK PATCH CABLE
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CS	COMPUTER SERVER
CTL	PROGRAMMABLE CONTROLLER THAT IS NOT A PLC
CW	COMPUTER WORKSTATION
CWO	COMPUTER WORKSTATION – OPERATOR
DCS	DISTRIBUTED CONTROL SYSTEM
DIO	DISTRIBUTED I/O
FDP	FIELD DEVICE PANEL (EXISTING EQUIPMENT)
GDC	GAS DETECTION CONTROLLER
HMI	HUMAN MACHINE INTERFACE, STANDALONE
JBA	JUNCTION BOX – AUTOMATION
LCP	LOCAL CONTROL PANEL
MDM	MODEM
NAP	NETWORK ACCESS POINT
ND	NETWORK DEVICE
NFW	NETWORK FIREWALL
NGW	NETWORK GATEWAY
NJ	NETWORK JACK
NMC	NETWORK MEDIA CONVERTER
NP	NETWORK PANEL
NPP	NETWORK PATCH PANEL
NRD	NETWORK RADIO
NRT	NETWORK ROUTER
NSP	NETWORK SEGMENT PROTECTOR
NSW	NETWORK SWITCH, ETHERNET
NT	NETWORK TERMINATOR
PLC	PROGRAMMABLE LOGIC CONTROLLER (RACK IDENTIFIERS DESIGNATED BY RX SUBCOMPONENTS, WHERE X IS A SEQUENTIAL NUMBER BEGINNING AT ZERO)
PRN	PRINTER
RIO	REMOTE I/O (RACK IDENTIFIERS DESIGNATED BY RX SUBCOMPONENTS, WHERE X IS A SEQUENTIAL NUMBER BEGINNING AT ZERO)
RTU	REMOTE TERMINAL UNIT
PSP	POWER SUPPLY PANEL
PM	POWER METER
SH	SHIELD
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION DEVICE (COMMUNICATION DEVICE LIGHTNING PROTECTION)
UPS	UNINTERRUPTIBLE POWER SUPPLY

AUTOMATION SUBCOMPONENTS

CB	ELECTRONIC CIRCUIT PROTECTOR
CR	CONTROL RELAY
F	FUSE
FN	FAN
NRP	PROFIBUS DP REPEATER
NGW	PORFIBUS DP/PA GATEWAY
PS	POWER SUPPLY
RM	REDUNDANCY MODULE
R0	RACK 0
R1	RACK 1
TB	TERMINAL BLOCK

APEGM Certificate of Authorization
SNC-Lavalin Inc.
No. 4489

NO.	REVISIONS	DATE	DESIGN	CHECK
00	ISSUED FOR CONSTRUCTION – 976–2016	2017/04/05	TMC	PC

CH2MHILL. SNC·LAVALIN KGS GROUP

DESIGNED BY: T. CHURCH	CHECKED BY: P. CHICATUN
DRAWN BY: MJ. PERSSON	APPROVED BY: E. RYCZKOWSKI
SCALE: NTS	ISSUED FOR CONSTRUCTION BY: J. SHUMKA
DATE: 2014/04/11	DATE: 2017/04/05
CONSULTANT NO.: 474248	

ENGINEER'S SEAL: PROVINCE OF MANITOBA — T.M. CHURCH Member 32682 — REGISTERED PROFESSIONAL ENGINEER — Apr. 3, 2017

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

SOUTH END WATER POLLUTION CONTROL CENTRE
SEWPCC UPGRADING/EXPANSION PROJECT
AUTOMATION
AUTOMATION & NETWORK EQUIPMENT
LEGEND AND DETAILS

CITY DRAWING NUMBER	SHEET	REV.	SIZE
1–0102–AAAA–A001	001	00	A1

PLOT DATE: Apr 01, 2017 – 4:01pm
FILE NAME:1–0102–AAAA–A001.dwg

LAST SAVE: 2017/04/01 – 4:01pm
PATH: C:\pw_workdir\ch2mhill_wbg\sh043264\d0356273\1–0102–AAAA–A001.dwg