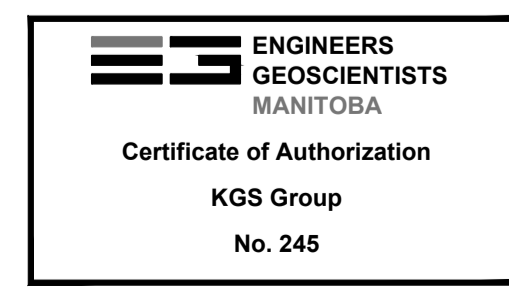
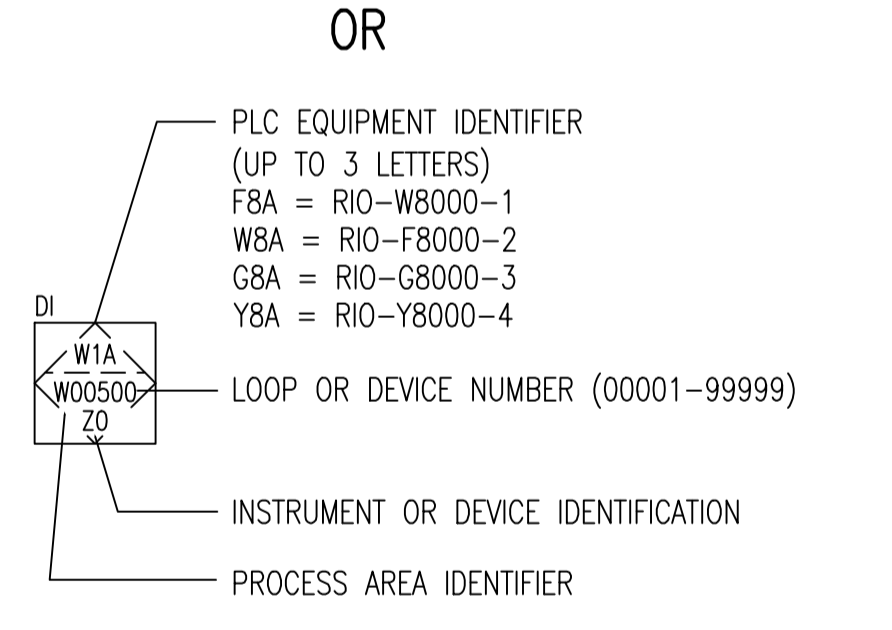
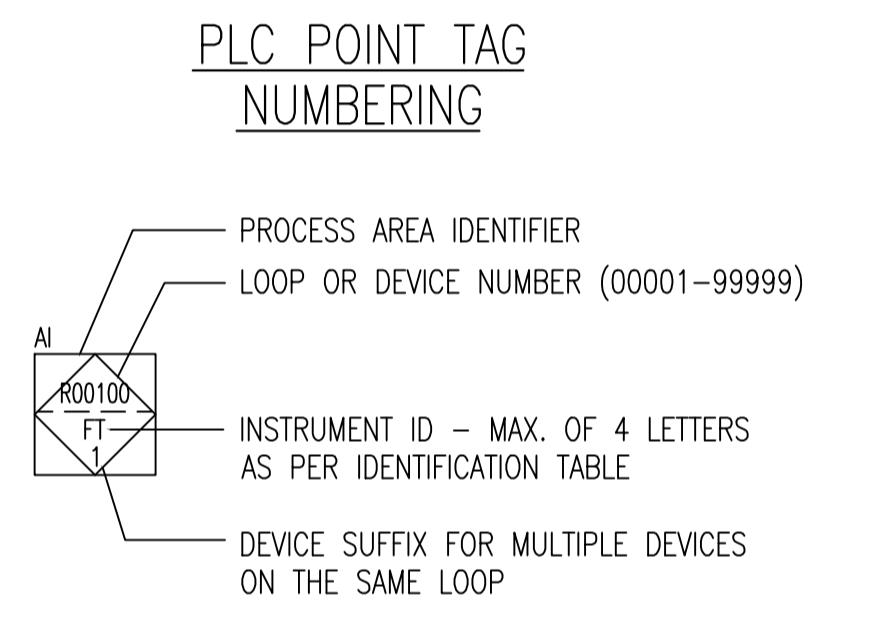
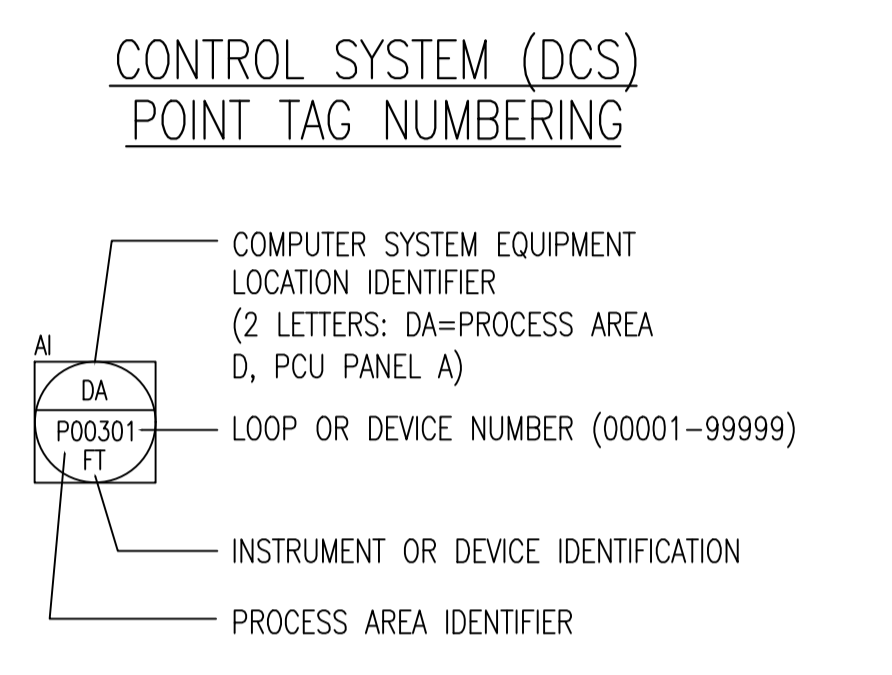
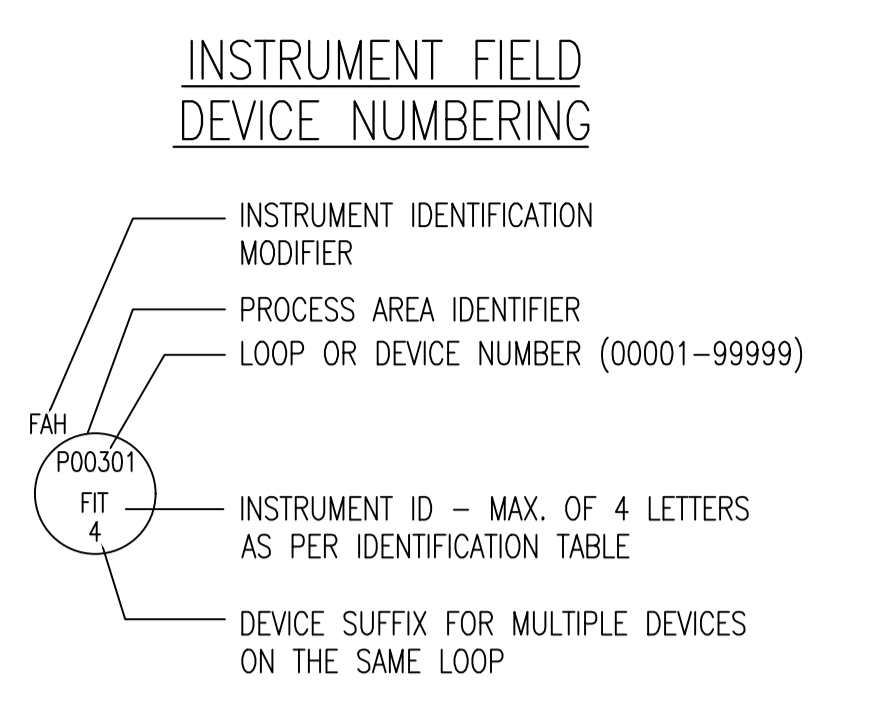


INSTRUMENT AND DEVICE IDENTIFICATION TABLE				
FIRST-LETTER		SUCCEEDING-LETTERS		
MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS OR SAMPLER		ALARM, TROUBLE	
B	BURNER FLAME			CLOSE, DECREASE (1)
C	CONDUCTIVITY		CONTROL	
D	DENSITY	DIFFERENTIAL		OPEN, INCREASE (1)
E	VOLTAGE (EMF)		SENSOR (PRIMARY ELEMENT)	
F	FLOW RATE	RATIO (FRACTION)	FAILURE	
G	GAS		GLASS, VIEWING DEVICE, GAUGE (2)	GENERATOR (ULTRASONIC)
H	HAND (MANUAL)			HIGH
I	CURRENT (ELECTRICAL)		INDICATE	
J	POWER	SCAN		
K	TIME	TIME RATE OF CHANGE		CONTROL STATION
L	LEVEL		LIGHT (3)	LOW
M	MOTOR	MOMENTARY	OPERATE, ON/OFF	MIDDLE, INTERMEDIATE
N	MOISTURE			START
O	TORQUE		ORIFACE, RESTRICTION	STOP, OVERLOAD
P	PRESSURE, VACUUM		POINT (TEST CONNECTION)	
Q	COMMON, QUANTITY	INTEGRATE, TOTALIZE		
R	RADIOACTIVITY		RECORD	
S	SPEED, FREQUENCY	SAFETY		SWITCH
T	TEMPERATURE		TRANSMITTER	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECHANICAL ANALYSIS, VALVE, DAMPER (4)			VALVE, DAMPER, LOUVER
W	WEIGHT, FORCE		WELL	
X	UNCLASSIFIED (5)	X AXIS	UNCLASSIFIED (5)	UNCLASSIFIED (5)
Y	EVENT, STATE, OR PRESENCE	Y AXIS		RELAY, COMPUTE, CONVERT
Z	POSITION	Z AXIS		DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT

INSTRUMENT FIELD DEVICE IDENTIFIERS			
IDENTIFIER	DEFINITION	IDENTIFIER	DEFINITION
AAH	ANALYSIS ALARM - HIGH	PSHH	PRESSURE SWITCH HIGH (2ND STAGE)
AAHH	ANALYSIS ALARM - HIGH-HIGH	PSL	PRESSURE SWITCH LOW
AE	ANALYSIS ELEMENT	PSV	PRESSURE SAFETY VALVE (RELIEF)
AIT	ANALYSIS INDICATING TRANSMITTER (ANALYTIC INST.)	PT	PRESSURE TRANSMITTER
AK	ANALYSIS (AMPLER) CONTROL STATION	PY	PRESSURE RELAY (I/I CONVERTER)
ASH	ANALYSIS SWITCH - HIGH	SI	SPEED INDICATOR
ASHH	ANALYSIS SWITCH - HIGH-HIGH	SK	SPEED CONTROL STATION
ASY	ANALYSIS SAFETY RELAY	ST	SPEED TRANSMITTER
AT	ANALYSIS TRANSMITTER (ANALYTIC INST.)	TE	TEMPERATURE ELEMENT
BK	BURNER CONTROL STATION	TG	TEMPERATURE GAUGE
BS	BURNER FLAME SWITCH	TI	TEMPERATURE INDICATOR
BV	BURNER VALVE	TIC	TEMPERATURE INDICATING CONTROLLER
DE	DENSITY ELEMENT	TIT	TEMPERATURE INDICATING TRANSMITTER
DR	DENSITY RECORDER	TR	TEMPERATURE RECORDER
DT	DENSITY TRANSMITTER	TSH	TEMPERATURE SWITCH HIGH
DX	DENSITY SOURCE (X = SOURCE)	TSL	TEMPERATURE SWITCH LOW
EE	VOLTAGE ELEMENT/TRANSFORMER	TT	TEMPERATURE TRANSMITTER
EI	VOLTAGE INDICATOR	TV	TEMPERATURE VALVE
ET	VOLTAGE TRANSMITTER	TW	TEMPERATURE THERMOWELL
FE	FLOW ELEMENT	TY	TEMPERATURE RELAY (SOLENOID VALVE OR M/P)
FG	FLOW METER ULTRASONIC GENERATOR	XE	VELOCITY ELEMENT
FI	FLOW INDICATOR	XI	VELOCITY INDICATOR
FIC	FLOW INDICATING CONTROLLER	XK	UNCLASSIFIED CONTROL STATION (X = FIRE)
FIT	FLOW INDICATING TRANSMITTER	XT	POWER FACTOR TRANSMITTER
FQI	FLOW TOTALIZING INDICATOR	XT	VELOCITY TRANSMITTER (X = VELOCITY)
FQY	FLOW TOTALIZING / INTEGRATING RELAY	XX	UNCLASSIFIED (XX = ALARM ANNUNCIATOR)
FR	FLOW RECORDER	YS	COMPUTER SWITCH
FRC	FLOW RECORDING CONTROLLER	YSA	STATE SAFETY ALARM
FRQ	FLOW RECORDING TOTALIZER	YSL	STATE SAFETY LIGHT
FSL	FLOW SWITCH LOW	ZI	POSITION INDICATOR
FT	FLOW TRANSMITTER	ZS	POSITION SWITCH
FV	FLOW VALVE	ZSB	POSITION SWITCH CLOSED (LIMIT SWITCH)
FY	FLOW COMPUTER / RELAY	ZSDL	POSITION SWITCH OPEN (LIMIT SWITCH)
GE	GAS ELEMENT	ZSH	POSITION SWITCH HIGH
GS	GAS SWITCH MODULE	ZSL	POSITION SWITCH LOW
HK	HAND CONTROL STATION	ZT	POSITION TRANSMITTER
HS	HAND SWITCH		
HSS	HAND SAFETY SWITCH		
HV	HAND VALVE		
IS	CURRENT SWITCH		
IE	CURRENT ELEMENT/TRANSFORMER		
II	CURRENT INDICATOR		
IY	CURRENT RELAY		
KY	TIMER RELAY		
LCV	LEVEL CONTROL VALVE		
LE	LEVEL ELEMENT		
LI	LEVEL INDICATOR		
LIC	LEVEL INDICATING CONTROLLER		
LIT	LEVEL INDICATING TRANSMITTER		
LR	LEVEL RECORDER		
LSL	LEVEL SWITCH LOW		
LSH	LEVEL SWITCH HIGH		
LSHL	LEVEL SWITCH HIGH/LOW		
LT	LEVEL TRANSMITTER		
LV	LEVEL VALVE		
LY	LEVEL RELAY (I/I CONVERTER)		
MB	MOTOR DECREASE OR REVERSE		
MD	MOTOR INCREASE OR FORWARD		
MF	MOTOR FAILURE		
MM	MOTOR RUN		
NS	MOISTURE SWITCH		
PCV	PRESSURE CONTROL VALVE		
PE	PRESSURE ELEMENT		
PG	PRESSURE GAUGE		
PI	PRESSURE INDICATOR		
PIC	PRESSURE INDICATING CONTROLLER		
PIT	PRESSURE INDICATING TRANSMITTER		
PR	PRESSURE RECORDER		
PS	PRESSURE SWITCH		
PSH	PRESSURE SWITCH HIGH		

INSTRUMENT IDENTIFICATION MODIFIER	
IDENTIFIER	DEFINITION
(N)	N MULTIPLE INSTRUMENTS
AA	AUDIBLE ALARM
A/M	AUTO / MANUAL
C/L	COMPUTER / LOCAL
CLS	CLOSE
C/O	COMPUTER / OFF
COB	COMPUTER / OFF / BYPASS
COH	COMPUTER / OFF / HAND
COT	COMPUTER / OFF / TIME
DCS	DISTRIBUTED CONTROL SYSTEM
DS	DECREASE SPEED
E/S	EMERGENCY STOP
FOR	FORWARD / OFF / REVERSE
H/A	HAND / AUTO
HOA	HAND / OFF / AUTO
HOR	HAND / OFF / REMOTE
I/D	INCREASE / DECREASE
INT/EXT	INTERNAL / EXTERNAL
IS	INCREASE SPEED
LCP	LOCAL CONTROL PANEL
LD	LOCKABLE DISCONNECT
LJB	LOCAL JUNCTION BOX
L/O	LOCAL / OFF
LOR	LOCAL / OFF / REMOTE
LOS	LOCK OFF STOP
L/R	LOCAL / REMOTE
LSR	LOCAL / STOP / REMOTE
MCC	MOTOR CONTROL CENTER
O/A	OFF / AUTO
O/C	OPEN / CLOSE
O/M	OFF / MAINTENANCE
O/O	OFF / ON
OPN	OPEN
RST	RESET
RTD	RESISTIVE TEMPERATURE DEVICE
SEL	SELECTOR
S/F	SLOW / FAST
SOF	SLOW / OFF / FAST
SOL	SOLENOID
S/S	START / STOP
S/W	SUMMER / WINTER
TAH	TEMPERATURE ALARM HIGH
TAL	TEMPERATURE ALARM LOW
TSH	TEMPERATURE SWITCH HIGH
TSL	TEMPERATURE SWITCH LOW
T/C	THERMOCOUPLE
VIB	VIBRATION



00	ISSUED FOR CONSTRUCTION	2026-04-02	
NO.	REVISIONS	DATE	DESIGN CHECK

KGS GROUP

DESIGNED BY: N. RUSSI
 CHECKED BY: P. SILVA
 DRAWN BY: R.V. DIAZ
 APPROVED BY: P. SILVA
 SCALE: NTS
 ISSUED FOR CONSTRUCTION BY:
 DATE: 2026-02-27
 DATE:
 CONSULTANT NO.: 25-0107-017_M4-02

ENGINEER'S SEAL

THE CITY OF WINNIPEG
 WATER AND WASTE DEPARTMENT

NORTH END SEWAGE TREATMENT PLANT (NEWPCC)
SLUDGE CAKE PUMP UPGRADE
MECHANICAL
PROCESS AND INSTRUMENTATION DIAGRAM
LEGENDS AND DETAILS (SHEET 2 OF 3)

CITY DRAWING NUMBER: 1-0101-PAAA-W001
 SHEET: 002
 REV: 00
 SIZE: A1