	INSTRUMENT IDENTIFICATION TABLE		
	FIRST-LETTER	SUCCEEDIN	G-LETTERS
	MEASURED OR INITIATING VARIABLE	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION
Α	ANALYSIS (1)	ALARM	
В	BURNER, COMBUSTION	CLOSED	CLOSE
С	CONDUCTIVITY		CONTROL
D	DENSITY	OPEN	OPEN
Е	VOLTAGE	SENSOR (PRIMARY ELEMENT)	
F	FLOW RATE	FAILURE	
G	GAS	GLASS, VIEWING DEVICE	
Н	HAND	HIGH	
ı	CURRENT (ELECTRICAL)	INDICATE	
J	POWER		
К	TIME, TIME SCHEDULE		CONTROL STATION
L	LEVEL	LOW, LIGHT	
М	MOTOR	OPERATING OR ON/OFF	
N	MOISTURE		START
0		OVERLOAD	STOP
Р	PRESSURE, VACUUM	POINT (TEST) CONNECTION	
Q	COMMON	QUANTITY	
R	RADIATION	RECORD	
S	SPEED, FREQUENCY		SWITCH
Т	TEMPERATURE		TRANSMIT
U	MULTIVARIABLE	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECHANICAL ANALYSIS (1)		VALVE DAMPER, LOUVER
W	WEIGHT, FORCE	WELL	
X	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE OR PRESENCE (2)		RELAY, COMPUTE, CONVERT (3)
Z	POSITION, DIMENSION		DRIVER, ACTUATOR UNCLASSIFIED FINAL CONTROL ELEMENT

NOTES:

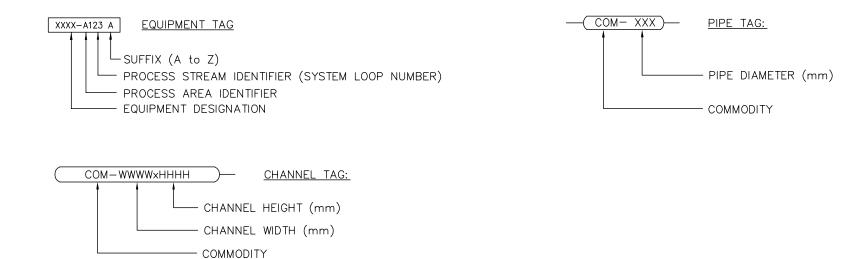
1. IT IS EXPECTED THAT THE TYPE OF ANALYSIS BE DEFINED OUTSIDE THE TAGGING BUBBLE.

2. FIRST LETTER Y IS INTENDED FOR USE WHEN CONTROL OR MONITORING RESPONCES ARE EVENT DRIVEN AS OPPOSED TO TIME OR TIME-SCHEDULE DRIVEN. THE LETTER Y, IN THIS POSITION, CAN ALSO SIGNIFY PRESENCE OR STATE.

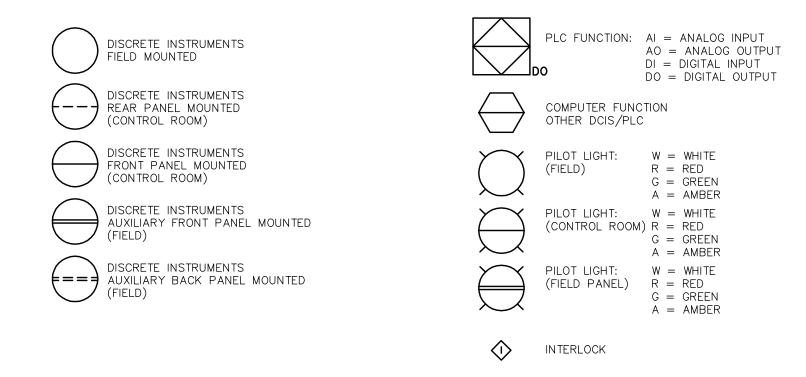
3. IT IS EXPECTED THAT THE FUNCTIONS ASSOCIATED WITH THE USE OF SUCCEEDING LETTER Y WILL BE DEFINED OUTSIDE THE TAGGING BUBBLE. THIS DEFINITION NEED NOT BE MADE WHEN THE FUNCTION IS SELF-EVIDENT, AS FOR A SOLINOID VALVE IN A FLUID SIGNAL LINE.

COMMON INSTRUMENT / DEVICE IDENTIFIERS				
ISA IDENTIFIER	INITIATING VARIABLE AND FUNCTION	ISA IDENTIFIER	INITIATING VARIABLE AND FUNCTION	
AS	ANALYSIS SWITCH	PI	PRESSURE INDICATOR	
AE	ANALYSIS ELEMENT	PT	PRESSURE TRANSMITTER	
АТ	ANALYSIS TRANSMITTER	PIT	PRESSURE INDICATOR TRANSMITTER	
CS	CONDUCTIVITY SWITCH	PS	PRESSURE SWITCH	
СТ	CONDUCTIVITY TRANSMITTER	SC	SPEED CONTROLLER	
DS	DENSITY SWITCH	SI	SPEED INDICATOR	
ET	VOLTAGE TRANSMITTER	ST	SPEED TRANSMITTER	
FC	FLOW CONTROLLER	TC	TEMPERATURE CONTROLLER	
FE	FLOW ELEMENT	TE	TEMPERATURE ELEMENT	
FI	FLOW INDICATOR	TI	TEMPERATURE INDICATOR	
FS	FLOW SWITCH	TS	TEMPERATURE SWITCH	
FT	FLOW TRANSMITTER	TT	TEMPERATURE TRANSMITTER	
FY	FLOW RELAY	TY	TEMPERATURE RELAY	
FZ	FLOW DRIVE	UR	MULTIVARIABLE RECORDER	
HS	HAND SWITCH	VT	VIBRATION TRANSMITTER	
IT	CURRENT TRANSMITTER	WE	WEIGHT ELEMENT	
JT	POWER TRANSMITTER	WT	WEIGHT TRANSMITTER	
KC	TIME CONTROLLER	XX	UNCLASSIFIED	
KI	ELAPSED TIME INDICATOR	YC	STATE CONTROL	
LE	LEVEL ELEMENT	YN	STATE ON	
LI	LEVEL INDICATOR	YY	EVENT RELAY	
LS	LEVEL SWITCH	YS	EVENT SWITCH	
LT	LEVEL TRANSMITTER	ZS	POSITION SWITCH	
LY	LEVEL RELAY	ZT	POSITION TRANSMITTER	
PC	PRESSURE CONTROLLER	ZZ	POSITION DRIVE	

EQUIPMENT IDENTIFICATION AND TAGGING



INSTRUMENT SYMBOLS



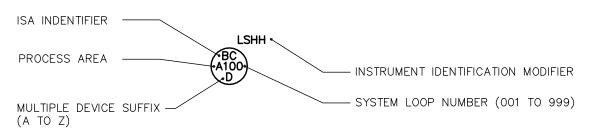
\longrightarrow XXXX — Drawing No.

—Source or destination

LINE CONTINUATION

ON-SITE HYPOCHLORITE GENERATION

INSTRUMENT DESIGNATION NUMBER



PURGE CONNECTION

001 - 999

NO. REVISIONS

POSITION FORMATS

PROCESS AREA IDENTIFIER		PROCESS STREAM IDENTIFIER (LOOP NUMBER)
CHEMICAL FEED DEACON BOOSTER PUMP STATION FILTRATION	C D F	001 - 999 001 - 999 001 - 999
PLANT UTILITIES: AIR PRESSURE ELECTRICAL DISTRIBUTION EMERGENCY GENERATOR ELECTRICAL SUBSTATION HVAC SITE COMMUNICATION FLUSH WATER NATURAL GAS FIRE PUMPS AUXILLIARY BUILDINGS HVAC BUILDING SAFETY & SECURITY PROCESS SUMPS SANITARY SUMPS POTABLE WATER	H	600 - 650 901 - 950 951 - 999 000 - 100 100 - 199 200 - 299 300 - 299 400 - 499 500 - 599 700 - 799
INLET WORKS & RAW WATER FREEZE THAW POND GENERAL SITE SERVICES/ MISCELLANEOUS:	l L M	001 - 999 001 - 999 001 - 999
YARD PIPING AND VALVE CHAMBERS SURGE TOWERS YARD PIPING YARD LIGHTING OZONE FLOCULATION AND DAF RESIDUALS HANDLING BULK CHEMICAL STORAGE TREATED WATER STORAGE & HANDLING (CLEARWELL) ULTRAVIOLET LIGHT DISINFECTION	N N N O P R S T U	001 - 099 100 - 199 200 - 299 001 - 999 001 - 999 001 - 999 001 - 999 001 - 999 001 - 999

INSTRUMENT IDENTIFICATION MODIFIER

LSH LEVEL SWITCH HIGH

CONDUCTIVITY ALARM HIGH

СОН	COMPUTER/OFF/HAND	LSL	LEVEL SWITCH LOW
DO	DISSOLVED OXYGEN	MCC	MOTOR CONTROL CENTRE
D/P	DIFFERENTIAL PRESSURE	0/L	OVERLOAD
FAH	FLOW ALARM HIGH	PAH	PRESSURE ALARM HIGH
FAL	FLOW ALARM LOW	PAL	PRESSURE ALARM LOW
FSH	FLOW SWITCH HIGH	рН	рН
FSL	FLOW SWITCH LOW	PSH	PRESSURE SWITCH HIGH
H/A	HAND / AUTO	PSL	PRESSURE SWITCH LOW
HOA	HAND / OFF / AUTO	RTD	RESISTIVE TEMPERATURE DEVICE
1/1	CURRENT / CURRENT ISOLATOR	S/S	START / STOP
I/P	CURRENT / PRESSURE CONVERTER	SEL	SELECTOR
IAH	CURRENT ALARM HIGH	SOL	SOLENOID
LAH	LEVEL ALARM HIGH	T/C	THERMOCOUPLE
LAL	LEVEL ALARM LOW	TAH	TEMPERATURE ALARM HIGH
		TAL	TEMPERATURE ALARM LOW
		TSH	TEMPERATURE SWITCH HIGH
L/L	LEAD / LAG	TSL	TEMPERATURE SWITCH LOW
LOS	LOCK-OFF-STOP	WDG	WINDING
L/R	LOCAL / REMOTE		

PROCESS LINE CODES

COMMODITY

AA	AQUA AMMONIA	GOX	GASEOUS OXYGEN
AGA	ATOMIZING AIR	HCO	HYDRAULIC OIL
AS	AIR SCOUR (FILTERS)	HFS	HYDROFLUOSILICIC ACID
AHP	AIR HIGH PRESSURE (OZONE)	HP	HYDROGEN PEROXIDE
ALP	AIR LOW PRESSURE (OZONE)	HST	12% HYPOCHLORITE SOLUTION
BS	BRINE SOLUTION	HYP	0.8% HYPOCHLORITE SOLUTION
BWS	BACKWASH SUPPLY WATER	ITA	INSTRUMENT AIR
BWW	BACKWASH WASTE WATER	LGO	LUBRICATING OIL
CA	COMPRESSED AIR (DAF)	LOX	LIQUID OXYGEN
CCW	CIRCULATING COOLING WATER	NG	GAS
CL2	CHLORINE	OF	OVERFLOW
CLG	CHLORINE GAS	OZG	OZONE OFF GAS
CLS	CHLORINE SOLUTION	OZO	OZONATED OXYGEN
CO2	CARBON DIOXIDE	OZW	OZONATED WATER
CRW	CLARIFIER DISCHARGE WATER	PEF	PHOSPHATE FEED
CS	CAUSTIC SODA	PLD	DRY POLYMER
CWR	COOLING WATER RETURN	PLS	POLYMER SOLUTION
CWS	COOLING WATER SUPPLY	PSW	PLANT SERVICE WATER
DD	DEACON EFFLUENT (POST UV)	PW	POTABLE WATER
DDW	DEMINERALIZED WATER	RD	ROOF DRAIN
DEA	DILUTE ACID	RW	RAW WATER

SAM

SBS

SCA

SHC

SPD

STD

SDR

SLO

SLU

SUP

SWD

SAMPLE

DRY SALT

SEAL OIL

SLUDGE

DAF RECYCLE

SUPERNATANT

SEAL WATER TREATED WATER

SANITARY DRAINAGE

SODIUM BISULPHITE

SODIUM HYPOCHLORITE

SUMP PUMP DISCHARGE

STORMWATER DRAINAGE

VACUUM LABORATORY

VENT TO ATMOSPHERE

SOFTENED WATER

PNEUMATIC

NOT APPLICABLE

SULPHURIC ACID

DEC

DF

DFR

DFS

DO

DRA

DRS

DS

DSW

EE

FPW

FTR

DILUTE CAUSTIC

DIESEL FUEL RETURN

DIESEL FUEL SUPPLY

DRAINAGE (FLOORS)

DRAINS, CLEAN DRAINS

DISOLVED OXYGEN

DEACON SUCTION

DISTILLED WATER DEACON UV (PRE UV)

ENGINE EXHAUST

FERRIC CHLORIDE FILTER MEDIA EDUCTION

FILTER INFLUENT

FIRE PROTECTION WATER

FILTER-TO-RECYCLE

DAF FLOAT

SUBDRAIN

FW	FILTERED WATER		
PIPE	EXPOSURE		
BUR EXP	BURIED EXPOSED	SUB ENC	SUBMERGED CONCRETE ENCASED
PIPE	MATERIAL		
CISP	CAST IRON SOIL PIPE	PCCP	PRESTRESSED CONCRETE CYLINDER
CLDI	CEMENT LINED DUCTILE IRON	PSTL	PVDF LINED STEEL
CMP	CORRUGATED METAL PIPE	PVC	POLYVINYL CHLORIDE
COP	COPPER	PVDF	POLYVINYLIDENE FLOURIDE
CPVC	CHLORINATED PVC	RCP	REINFORCED CONCRETE PIPE
DI	DUCTILE IRON	RSTL	RUBBER LINED STEEL
FRPX	FIBERGLASS REINFORCED PLASTIC	SST	STAINLESS STEEL
GLDI	GLASS LINED DUCTILE IRON	STL	STEEL
GSP	GALVANISED STEEL PIPE	VC	VITRIFIED CLAY PIPE
HDPE	HIGH DENSITY POLYETHYLENE		

PRESSURE TESTING

HYDROSTATIC

IN SERVICE

CH2MHILL	S Earth Toch

2005/12/21

ABBREVIATIONS

NO

0/A

W/S

WDG

NORMALLY OPEN

WATER SUPPLY

WINDING

OUTSIDE AIR

ACK

ALM

ACKNOWLEDGE

NORMALLY LIQUID LEVEL

NORMALLY NO FLOW

A/M	AUTO/MANUAL	0/C	OPEN/CLOSED
A/S	AIR SUPPLY	ODE	OPPOSITE DRIVE END
BRG	BEARING	PF	POWER FACTOR
CURR	CURRENT	PO	PUMP OUT
DEC	DECREASE	PSD	PLANT SHUTDOWN
DE	DRIVE END	PV	PROCESS VARIABLE
E/A	EXHAUST AIR	PWR	POWER
E/S	ELECTRICAL SUPPLY	RSP	REMOTE SET POINT
ESD	EMERGENCY SHUTDOWN	RST	RESET
FCL	FAIL CLOSE	SP	SAMPLE POINT or SET POINT
FOP	FAIL OPEN		(Depending on Application)
F/R	FORWARD or REVERSE	STN	STATION
н	HIGH	SPD	SPEED
HP	HORSE POWER (kW)	STDBY	STANDBY
kW	KILOWATT	STP	STOP
HVAC	HEATING/VENTILATION/AIR CONDITIONING	STR	START
INC	INCREASE	STS	STATUS
INJ	INJECTOR	TST	TEST
LO	LOW	TYP	TYPICAL
LOS	LOCAL/OFF/STOP	UV	ULTRA-VIOLET LIGHT
L/R	LOCAL/REMOTE	U/S	UNDER SIDE
MLD	MEGALITERS PER DAY	VAC	VACUUM
NC	NORMALLY CLOSED	VIB	VIBRATION

EQUIPMENT DESIGNATIONS				
ARV	AIR RELEASE VALVE	LJB	LOCAL JUNCTION BOX	
ACU	AIR CONDITIONING UNIT	LOP	LUBE OIL PUMP	
ACR	ACCESS CARD READER	LV	LEVEL CONTROL VALVE (OPEN/CLOSE)	
AD	AIR DRYER	М	MOTOR	
AHU	AIR HANDLING UNIT	MAU	MAKE-UP AIR UNIT	
ATS	AUTOMATIC TRANSFER SWITCH	MCC	MOTOR CONTROL CENTRE	
BAT	BATTERY	MD	MOTION DETECTOR	
BB BFP	BASEBOARD HEATER BACK FLOW PREVENTER	MDV	MUD VALVE	
BPV	BACK-PRESSURE VALVE	MP	METERING PUMP	
BKR	BREAKER	MXR	MIXER	
BLR	BOILER	OP P	ORIFICE PLATE PUMP	
BLW	BLOWER	PCT	PARTICLE COUNTER	
CAL	CALIBRATION COLUMN	PCU	POLYMER BULK BAG UNLOADER	
CC	COOLING COIL	PCV	PRESSURE CONTROL VALVE	
CCTV	CLOSED CIRCUIT TELEVISION	PFC	POWER FACTOR CORRECTION	
CDR	CONDENSER	PFLT	POWER FILTER (LINE REACTOR, ETC)	
CDU	CATALYTIC DESTRUCT UNIT	PNL	PANEL BOARD	
CE	CENTRIFUGE	PLC PPU	PROGRAMMABLE LOGIC CONTROLLER POLYMER PREPARATION UNIT	
CFR CHLR	CHEMICAL FEEDER (POLYMER, CHLORINATOR, ETC.) CHILLER	PRV	PRESSURE REGULATING / REDUCING VALVE	
CHR	BATTERY CHARGER	PSU	POWER SUPPLY UNIT	
CMP	COMPRESSOR	PSV	PRESSURE / VACUUM RELIEF VALVE	
CON	CONVEYOR	PV	PRESSURE VESSEL	
CP	PLC CONTROL PANEL	RV	RELIEF VALVE / RUPTURE DISC	
CPU	COMPUTER	SOL	SOLENOID ACTUATOR	
CRN	CRANE OR HOIST	SCRB	SCRUBBER	
CTS	CATHODIC TEST STATION	SE	SAMPLER ELEMENT	
CV	CHECK VALVE	SF	SUPPLY FAN	
DC	DOOR CONTACT	SP	SAMPLE PUMP	
DEM	DEMISTER	SLG	SLUICE GATE	
DES	DESICCANT DRYER	SLR SMP	SILENCER SUMP PUMP	
DF	DAF SKIMMER	SPS	SUPERNATANT PUMP STATION	
DIF DS	DIFFUSER DISCONNECT SWITCH	STA	STATIC MIXER	
	ENGINE ENGINE	STR	STRAINER	
E EF	EXHAUST FAN	SUB	SUBSTATION	
EL	ELECTROLYTIC CELL	SWGR	SWITCHGEAR	
EPR	EVAPORATOR	SWP	SWASH PLATE	
ETM	ELAPSED TIME METER	T	TRAP	
ETNK	EXPANSION TANK	TCV	TEMPERATURE CONTROL VALVE	
F	FAN	TNK TOTE	TANK (NON-PRESSURIZED) TOTE TANK	
FAP	FIRE ALARM ANNUNICATOR PANEL	TV	TEMPERATURE / VIBRATION MONITOR	
FC	FLOCCULATION CHAMBER	UH	UNIT HEATER ELECTRIC AND NON-ELECTRIC	
FCV	FLOW CONTROL VALVE	UPS	UNINTERRUPTIBLE POWER SUPPLY	
FF	FORCE FLOW HEATER	UVR	ULTRA-VIOLET LIGHT REACTOR	
FG FLC	FLAP GATE FLOCCULATOR	VFD	VARIABLE FREQUENCY DRIVE	
FLT	FILTER	VSD	VARIABLE SPEED DRIVE	
FV	FLOW CONTROL VALVE (OPEN/CLOSE)	V	VALVE	
GF	GAS FILTER	VP	VAPOURIZER	
GEN	GENERATOR	WP	WELL PUMP	
GV	GATE VALVE	W	WEIR	
GP	GLYCOL PUMP	WRT	WASHWATER RECOVERY TANK	
GT	GRAVITY THICKENER	WSF	WATER SOFTENER	
HC	HEAT COIL	XFMR	TRANSFORMER	
HEX	HEAT EXCHANGER	86	EQUIPMENT LOCKOUT RELAY	
HWH	HOT WATER HEATER			
HRC HTR	HEAT RECOVERY COIL ELECTRIC HEATER			
HV	HAND VALVE			
п v HWP	HOT WATER PUMP			
IMP	INSTRUMENT MARSHALLING PANEL			
KP	KEY PAD			
LCP	LOCAL CONTROL PANEL			
LCV	LEVEL CONTROL VALVE			

ENGINEER'S SEAL ELEV. **Earth lech** Frederickson Cooper ARCHITECTS DESIGNED CHECKED **Certificate of Authorization** APPROVED DRAWN Earth Tech Canada Inc. RELEASED FOR CONSTRUCTION BY: NONE SCALE: No. 730 Expiry: April 30, 2006 CONSULTANT DRAWING NO. 00 ISSUED FOR TENDER 06/03/07 LAE

DATE BY DATE

THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT Winnipeg ENGINEERING DIVISION

CITY FILE NUMBER WATER TREATMENT PLANT CONSTRUCTION OF DEWATERING CELLS

> CONSTRUCTION STANDARDS PROCESS AND INSTRUMENTATION IDENTIFICATION

CITY DRAWING NUMBER 1-0601L-D-P0003-001-00D

WL-P0003