ABBREVIATIONS									
ALM	ALARM	NC	NORMALLY CLOSED						
A/M	AUTO/MANUAL								
		NO	NORMALLY OPEN						
BRG	BEARING COMPUTER/HAND	0/4	OUTOIDE AID						
C/H CHOM	COMP./HAND/OFF/MAINT.	O/A O/C	OUTSIDE AIR OPEN/CLOSED						
	COMP./HAND/OFF/MAINT./ENGINE/TEST		OPPOSITE DRIVE END						
CHOMET C/L	COMPUTER/LOCAL	ODE OPN	OPEN						
C/L	CONTROL CONTROL	O/S/C	OPEN/STOP/CLOSE						
		0/0/0	S. 2.00.01752002						
СОН	COMPUTER/OFF/HAND	PDV	PUMP DISCHARGE VALVE						
СР	CONTROL PANEL	PF	POWER FACTOR						
CURR	CURRENT	PLC	PROGRAMMABLE LOGIC CONTROLLER						
DEC	DECREASE								
DE	DRIVE END	PSD	PLANT SHUTDOWN						
DOR	DOOR	PV	PROCESS VARIABLE						
		PWR	POWER						
E/A	EXHAUST AIR		DEMOTE OF TROUT						
ES	ELECTRICAL SUPPLY	RSP	REMOTE SET POINT						
E/S	EMERGENCY STOP EMERGENCY SHUTDOWN	RST	RESET RESISTANCE TEMPERATURE						
ESD	EMERGENCT SHOTDOWN	RTD	DETECTOR						
FC	FAIL CLOSE	SOL	SOLENOID						
FI	FAIL INDETERMINATE	SP	SAMPLE POINT OR SET POINT						
FLK	FAIL LAST		(DEPENDING ON APPLICATION)						
FOP	FAIL OPEN	STN	STATION						
F/R	FORWARD OR REVERSE	SPD	SPEED						
		STDBY	STANDBY						
G	GAS	STP	STOP						
	LUOU	STR	START						
HI	HIGH	STS	STATUS						
HP	HORSE POWER HEATING/VENTILATION/AIR	SW	SWITCH						
HVAC	CONDITIONING	Т	TRAP						
I/P	CURRENT TO PRESSURE TRANSDUCER	TST	TEST						
I/P	INPUT	TYP	TYPICAL						
INC	INCREASE								
		UPS	UNINTERRUPTIBLE POWER SUPPLY						
LCP	LOCAL CONTROL PANEL	V	VOLTAGE						
LO	LOW	VAC	VACUUM						
L/O/S	LOCAL/OFF/STOP	VIB	VIBRATION						
L/R	LOCAL/REMOTE	VLV	VALVE						
MCC	MOTOR CONTROL CENTRE	WS	WATER SUPPLY						
MCP	MAIN CONTROL PANEL	WDG	WINDING						
MLD	MEGALITERS PER DAY	86	EQUIPMENT LOCKOUT RELAY						

PROCESS LINE TYPE CODES

AS — AIR SUPPLY CL2—— CHLORINE COLD WATER SUPPLY GLAND WATER DRAIN — IA — INSTRUMENT AIR ——— NG ——— NATURAL GAS PD PROCESS DRAIN — WT — WATER

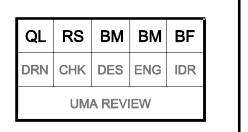
IMPERIAL PIPE SIZE CHART (METRIC EQUIVALENT)

14 = 35016 = 4001/4 = 63/8 = 1018 = 45020 = 5003/4 = 2022 = 5501 = 2524 = 600 $1 \, 1/4 = 32$ $1 \, 1/2 = 38$ 28 = 70030 = 7502 = 50 $2 \frac{1}{2} = 65$ 32 = 8003 = 7534 = 85036 = 900 $3 \, 1/2 = 90$ 38 = 9504 = 10040 = 1000 $4 \frac{1}{2} = 112$ 5 = 12542 = 105044 = 11006 = 1507 = 17546 = 11508 = 20048 = 12009 = 22510 = 25052 = 130012 = 300

INSTRUMENT LINE SYMBOLS

INSTRUMENT SUPPLY OR CONNECTION TO PROCESS -// // // PNEUMATIC SIGNAL ---- ELECTRIC SIGNAL L L L HYDRAULIC SIGNAL XXXX CAPILLARY TUBE ELECTROMAGNETIC OR SONIC — # — # — SIGNAL GUIDED ELECTROMAGNETIC OR SONIC SIGNAL UNGUIDED --+-+--+ ELECTRIC BINARY (ON/OFF) SIGNAL (OPTIONAL)

> Certificate of Authorization UMA Engineering Ltd. (MB) No. 256 Date: 07/12/14



		FIELD BOOK #:						ENGINEER'S SEAL
ELEV.		 		UMA AECOM				
P05	POSTED TO LBIS							
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						AS NOTED	RELEASED FOR	AND DAT
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Winnipeg WATER AND WASTE DEPARTMENT

PERIMETER ROAD PUMPING STATION UPGRADES Contract B - Building Upgrades

> Process and Instrumentation SYMBOLS LEGEND

SHEET REV. SIZE D 1-0111L-P0003