

**ABBREVIATIONS**

ALM	ALARM	NC	NORMALLY CLOSED
A/M	AUTO/MANUAL	NO	NORMALLY OPEN
BRG	BEARING	O/A	OUTSIDE AIR
C/H	COMPUTER/HAND	O/C	OPEN/CLOSED
CHOM	COMP./HAND/OFF/MAINT.	ODE	OPPOSITE DRIVE END
CHOMET	COMP./HAND/OFF/MAINT./ENGINE/TEST	OPN	OPEN
C/L	COMPUTER/LOCAL	O/S/C	OPEN/STOP/CLOSE
COH	COMPUTER/OFF/HAND	PDV	PUMP DISCHARGE VALVE
CP	CONTROL PANEL	PF	POWER FACTOR
CURR	CURRENT	PLC	PROGRAMMABLE LOGIC CONTROLLER
DEC	DECREASE	PSD	PLANT SHUTDOWN
DE	DRIVE END	PV	PROCESS VARIABLE
DOR	DOOR	PWR	POWER
E/A	EXHAUST AIR	RSP	REMOTE SET POINT
ES	ELECTRICAL SUPPLY	RST	RESET
E/S	EMERGENCY STOP	RTD	RESISTANCE TEMPERATURE DETECTOR
ESD	EMERGENCY SHUTDOWN	SOL	SOLENOID
FC	FAIL CLOSE	SP	SAMPLE POINT OR SET POINT (DEPENDING ON APPLICATION)
FI	FAIL INDETERMINATE	STN	STATION
FLK	FAIL LAST	SPD	SPEED
FOP	FAIL OPEN	STDBY	STANDBY
F/R	FORWARD OR REVERSE	STP	STOP
G	GAS	STR	START
HI	HIGH	STS	STATUS
HP	HORSE POWER	SW	SWITCH
HVAC	HEATING/VENTILATION/AIR CONDITIONING	T	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
CWS	COLD WATER SUPPLY
CWR	COLD WATER RETURN
GWD	GLAND WATER DRAIN
IA	INSTRUMENT AIR
NG	NATURAL GAS
PD	PROCESS DRAIN
SA	SAMPLE
WT	WATER

**INSTRUMENT LINE SYMBOLS**

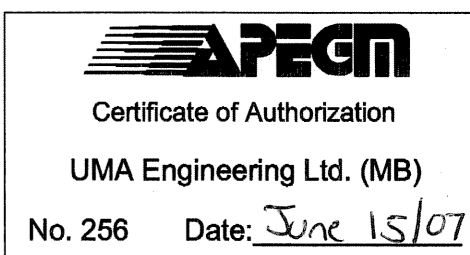
—————	INSTRUMENT SUPPLY OR CONNECTION TO PROCESS
— // // // —	PNEUMATIC SIGNAL
-----	ELECTRIC SIGNAL
— L L L L —	HYDRAULIC SIGNAL
— X X X X —	CAPILLARY TUBE
— # # # # —	ELECTROMAGNETIC OR SONIC SIGNAL GUIDED
— > > > —	ELECTROMAGNETIC OR SONIC SIGNAL UNGUIDED
— - X - X - X - X -	ELECTRIC BINARY (ON/OFF) SIGNAL (OPTIONAL)
— X X X X —	PNEUMATIC BINARY SIGNAL (OPTIONAL)
— o o o o —	DATA / SERIAL LINK (OPTIONAL)

**IMPERIAL PIPE SIZE CHART (METRIC EQUIVALENT)**

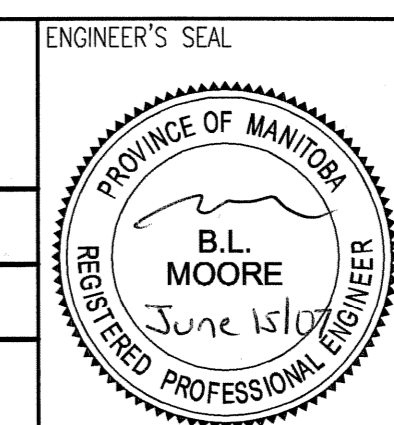
IN	MM	IN	MM
1/8	= 3	14	= 350
1/4	= 6	16	= 400
3/8	= 10	18	= 450
1/2	= 12	20	= 500
3/4	= 20	22	= 550
1	= 25	24	= 600
1 1/4	= 32	26	= 650
1 1/2	= 38	28	= 700
2	= 50	30	= 750
2 1/2	= 65	32	= 800
3	= 75	34	= 850
3 1/2	= 90	36	= 900
4	= 100	38	= 950
4 1/2	= 112	40	= 1000
5	= 125	42	= 1050
6	= 150	44	= 1100
7	= 175	46	= 1150
8	= 200	48	= 1200
9	= 225	50	= 1250
10	= 250	52	= 1300
11	= 275	54	= 1350
12	= 300		

NOTE:

DRN	CHK
DES	ENG
IDR	
UMA   AECOM REVIEW	



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HOR. SCALE	VERTICAL	DATE	DATE
C ISSUED FOR BID	07/06/15	SCK	
B ISSUED FOR 99% REVIEW	07/05/04	SCK	
A ISSUED FOR 75% REVIEW	07/03/15	SCK	
NO. REVISIONS	DATE	BY	FILENAME: D285-199-00_01-IL0003_RX.dwg



**THE CITY OF WINNIPEG**  
WATER AND WASTE DEPARTMENT

**G. C. MACLEAN PUMPING STATION**  
Contract No.  
Natural Gas Engine Drives Replacement  
Process and Instrumentation Diagrams  
Legend and Details

CITY DRAWING NUMBER: **1-0630A-D-A0003** SHEET: **001** REV: **C** SIZE: **D**