

GENERAL PIPING	
SYMBOL	DESCRIPTION
	EXISTING
	TO BE REMOVED
	PIPE TEE UP
	PIPE TEE DOWN
	PIPE TURNING DOWN
	BACKWATER VALVE
	BALANCING VALVE
	BALL VALVE
	BUTTERFLY VALVE
	CHECK VALVE, SWING
	COCK VALVE
	COMBINATION BALANCING AND SHUT-OFF VALVE
	CONTROL VALVE
	GATE VALVE
	GLOBE VALVE
	KNIFE-GATE VALVE
	NEEDLE VALVE
	PLUG VALVE
	PRESSURE REDUCING VALVE (PRESSURE SHOWN IN kPa)
	SAFETY RELIEF VALVE
	SOLENOID VALVE
	THERMAL VALVE
	3-WAY CONTROL VALVE (DIVERTING)
	3-WAY CONTROL VALVE (MIXING)
	BLIND FLANGE
	CONCENTRIC OR ECCENTRIC REDUCER
	END CAP
	EXPANSION JOINT
	HOSE CONNECTION
	STEAM TRAP
	METER - GAS - WATER
	PUMP
	PIPE ANCHOR
	UNION
	Y-STRAINER

HVAC-PLANS, SECTIONS AND DETAILS	
SYMBOL	DESCRIPTION
	UNIT HEATER, HORIZONTAL GAS HEATER, HORIZONTAL ELECTRIC HEATER, HORIZONTAL
	UNIT HEATER, VERTICAL GAS HEATER, VERTICAL ELECTRIC HEATER, VERTICAL
	BYPASS CONVECTOR ELECTRIC CONVECTOR WALL FIN CONVECTOR
	FILTER (FLAT)
	FILTER (V-BANK)
	SUPPLY/OUTSIDE AIR DUCT
	RETURN/EXHAUST AIR DUCT
	UNDERSIDE ELEVATION (DUCT)
	POINT OF CHANGE IN DUCT CONSTRUCTION (BY STATIC PRESSURE CLASS - kPa)
	ACOUSTICALLY INSULATED DUCT
	FLEXIBLE CONNECTION
	FLEXIBLE DUCT
	BACKDRAFT DAMPER
	MOTORIZED DAMPER
	ROUND BALANCING DAMPER
	HAND OPERATED DAMPER - WITH CHAIN OPERATOR - WITH CRANK OPERATOR
	MANUAL LOUVRE - WITH CHAIN OPERATOR - WITH CRANK OPERATOR
	FIRE DAMPER
	SPLITTER DAMPER
	VOLUME DAMPER
	AIR EXTRACTOR
	TURNING VANES
	DOOR GRILLE
	RETURN AIR GRILLE/DIFFUSER
	REGISTER/DIFFUSER/DOOR GRILLE IDENTIFICATION: TYPE (SEE SPEC)-MATERIAL SIZE AIR FLOW (LITRES/SECOND)

HVAC - SCHEMATICS	
SYMBOL	DESCRIPTION
	AIR DIRECTION
	FAN
	POSITIVE ROOM PRESSURE
	NEGATIVE ROOM PRESSURE
	LOW VOLTAGE CONTROL WIRING
	COMPRESSED AIR LINE

HVAC-PLANS & SECTIONS	
SYMBOL	DESCRIPTION
	COOLING COIL
	MECHANICAL COOLING (EVAPORATOR)
	HEATING COIL
	ELECTRIC HEATING COIL
	HEAT EXCHANGER

PIPE AND DUCT IDENTIFICATION	
DUCT	640X330 - OAD - SST
	SIZE - SERVICE - MATERIAL
PIPE	50 - HW - CS
	SIZE
DUCT - mm	INSIDE DIMENSIONS WITH FIRST FIGURE INDICATING DIMENSION SHOWN
PIPE - mm	NOMINAL DIAMETER
SERVICE DESIGNATIONS - DUCT	
SAD	SUPPLY AIR DUCT
OAD	OUTSIDE AIR DUCT
RAD	RETURN AIR DUCT
EAD	EXHAUST AIR DUCT
SERVICE DESIGNATIONS - PIPE	
PLUMBING & DRAINAGE	
CW	POTABLE COLD WATER
HW	POTABLE HOT WATER
HWRC	POTABLE HOT WATER RECIRCULATION
PD	PROCESS DRAIN
PW	PLANT WATER
RWL	RAIN WATER LEADER
SD	SANITARY DRAIN
SLW	SEAL WATER
SPD	SUMP PUMP DISCHARGE
SW	SEPARATED WATER
V	VENT
HVAC	
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
COND	CONDENSATE
HPS	HIGH PRESSURE STEAM (3500 kPa)
HWS	HOT WATER SUPPLY
HWR	HOT WATER RETURN
INA	INSTRUMENT AIR
LPS	LOW PRESSURE STEAM (100 kPa)
MPS	MEDIUM PRESSURE STEAM (700 kPa)
REF	REFRIGERANT
MISCELLANEOUS	
CA	COMPRESSED AIR
F	STANDPIPE
FP	FIRE PROTECTION
HPEW	HIGH PRESSURE EFFLUENT WATER
NG	NATURAL GAS
OIL	OIL
MATERIAL DESIGNATIONS	
AL	ALUMINUM
CI	CAST IRON
CPP	CONCRETE PRESSURE PIPE
CS	CARBON STEEL
CU	COPPER
DI	DUCTILE IRON
FRP	FIBRE REINFORCED PLASTIC
GALV	GALVANIZED STEEL
PE	POLYETHYLENE
PVC	POLYVINYL CHLORIDE
SST	STAINLESS STEEL

ABBREVIATIONS	
ACD	ACCESS DOOR
DG	DOOR GRILLE
DN	DOWN
EA	EXHAUST AIR
HB	HOSE BIBB
HR	HOSE RACK
HS	HAND SWITCH
IFB	INTEGRAL FACE AND BYPASS DAMPER
MT	MASTER THERMOSTAT
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
OA	OUTSIDE AIR
OED	OPEN END DUCT
PT	PRIMED TRAP
RA	RETURN AIR
SA	SUPPLY AIR
TG	TRANSFER GRILLE
TSH	THERMOSTATIC SHOWER
ZT	ZONE THERMOSTAT

EQUIPMENT TAGS	
ACU	AIR CONDITIONING UNIT
AHU	AIR HANDLING UNIT
CC	COOLING COIL
CWC	CENTRIFUGAL WATER CHILLER
CWP	CHILLED WATER PUMP
DC	DUST COLLECTOR
DHUM	DEHUMIDIFIER
EC	ELECTRIC CONVECTOR
EDH	ELECTRIC DUCT HEATER
EH	ELECTRIC HEATER
EF	EXHAUST FAN
EUH	ELECTRIC HEATER
EWH	ELECTRIC WATER HEATER
GDH	GAS DUCT HEATER
GFP	GLYCOL FEED PUMP
GTP	GLYCOL TRANSFER PUMP
GUH	GAS HEATER
GV	GRAVITY VENTILATOR
HB	HYDRONIC BOILER
HC	HEATING COIL
HRU	HEAT RECOVERY UNIT
HUM	HUMIDIFIER
HWCP	HOT WATER CIRCULATING PUMP
HWH	HOT WATER HEATER
MAU	MAKE-UP AIR UNIT
MD	MOTORIZED DAMPER
RWC	RECIPROCATING WATER CHILLER
RF	RECIRCULATION FAN
SB	STEAM BOILER
SF	SUPPLY FAN
SIL	SILENCER (DUCT)
SP	SUMP PUMP
UHT	UNIT HEATER
VAV	VARIABLE AIR VOLUME TERMINAL
WFC	WALL FIN CONVECTOR

HVAC - CONTROLS	
SYMBOL	DESCRIPTION
	ADJUSTABLE FAN DRIVE
	ANALOG INPUT
	ANALOG OUTPUT
	DIGITAL INPUT
	DIGITAL OUTPUT
	DIFFERENTIAL PRESSURE SENSOR
	HVAC CONTROL
	HAND SWITCH
	MOTORIZED DAMPER
	BLOWER MOTOR
	SMOKE DETECTOR
	TEMPERATURE SENSOR

APEGM
Certificate of Authorization
CH2M HILL Canada Ltd.
No. 1441 Expiry: April 30, 2008

B.M. ELEV.	FIELD BOOK #:
POSTED TO LBIS	
DESIGNED BY	D.LE
CHECKED BY	D.CUDDINGTON
DRAWN BY	P.KWONG
APPROVED BY	E.SHARP
HOR. SCALE	NTS
RELEASED FOR CONSTRUCTION	K. ZUREK
VERTICAL	
DATE	2007 06 20
DATE	2007/11/29
NO.	REVISIONS
DATE	BY

CH2MHILL

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RELEASED FOR CONSTRUCTION: K. ZUREK
VERTICAL: DATE: 2007 06 20
DATE: 2007/11/29

ENGINEER'S SEAL
ORIGINAL SIGNED BY
D.L. LE
2007/11/28
PROJECT No.: 358676
PLOT DATE: 2007/11/28

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

Winnipeg

NORTH END WATER
POLLUTION CONTROL CENTRE
WET WELL REHABILITATION
HVAC
BUILDING MECHANICAL LEGENDS & NOTES

SHEET 11 OF 24
CONSULTANT DRAWING NUMBER M0001
CITY DRAWING NUMBER 1-0101M-D-M0001-001-00D