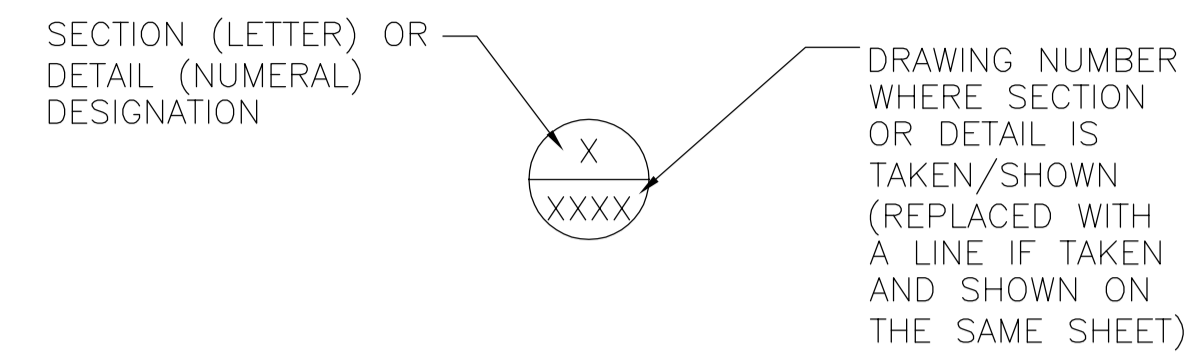


PIPE AND FITTING SYMBOLS

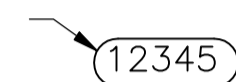
	EXISTING PIPE
	NEW PIPE
	EXISTING PIPE TO BE REMOVED
	WELDED JOINT
	FLANGED JOINT
	MECHANICAL JOINT
	BELL & SPIGOT JOINT (LEADED)
	FLANGED COUPLING ADAPTER
	FLEXIBLE COUPLING
	ELBOW, 90 DEGREE
	ELBOW UP
	ELBOW DOWN
	ELBOW, 45 DEGREE
	TEE UP
	TEE DOWN
	TEE
	LATERAL
	LATERAL UP
	LATERAL DOWN
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	UNION

MARKERS

DETAIL AND SECTION DESIGNATION



DESIGN DETAIL DESIGNATION



THE DESIGN DETAILS REPRESENT WORK TO BE PERFORMED AT VARIOUS LOCATIONS THROUGHOUT THE PROJECT. THE WORK SHOWN ON THE DESIGN DETAILS SHALL BE PERFORMED AT LOCATIONS AS APPLICABLE, WHETHER THESE LOCATIONS ARE SPECIFICALLY REFERENCED ON THE DRAWINGS OR NOT.

ABBREVIATIONS

LEGEND	SERVICE
—A—	AIR, PLANT UTILITY
—AHP—	AIR, HIGH PRESSURE PROCESS
—AI—	AIR, INSTRUMENT
—ALB—	AIR, LABORATORY
—ALP—	AIR, LOW PRESSURE PROCESS
—ARL—	AIR RELEASE LINE
—AWS—	AIR WASH SUPPLY
—BYP—	BYPASS
—C—	CARBON SLURRY
—CHD—	CHEMICAL DRAIN, GRAVITY
—D—	DRAIN (SANITARY)
—EA—	EXHAUST AIR
—EOF—	EMERGENCY OVERFLOW
—HUM—	HOT WATER (DOMESTIC)
—HW—	HOT SEPERATED POTABLE WATER
—HW2—	HOT WATER, W2
—HWR—	HEATING WATER RETURN
—HWS—	HEATING WATER SUPPLY
—LA—	LABORATORY AIR
—LCW—	LABORATORY COLD WATER
—LHW—	LABORATORY HOT WATER
—LPR—	LOW PRESURE RETURN (CONDENSATE)
—LPS—	LOW PRESSURE STEAM

ABBREVIATIONS

LEGEND	SERVICE
—P—	PROPANE GAS
—PD—	PROCESS DRAIN
—PE—	PRIMARY EFFLUENT
—PI—	PRIMARY INFLUENT
—PLE—	PLANT EFFLUENT
—PRL—	PRESSURE RELIEF LINE
—PS—	PRESSURE SEWER
—PSD—	PRIMARY SLUDGE
—RAW—	RAW WATER
—RD—	ROOF DRAIN
—RS—	RAW SEWAGE
—RV—	RELIEF VALVE
—RW—	RAIN WATER
—S—	SANITARY SEWER (GRAVITY)
—SC—	COLD SLUDGE
—SD—	STORM DRAIN
—SET—	SETTLED WATER
—SPD—	SUMP PUMP DISCHARGE
—SS—	STORM SEWER
—STD—	STORM DRAIN
—SW—	SURFACE WASH
—UD—	UNDERDRAIN
—V—	VENT
—VAC—	VACUUM
—VTR—	VENT THRU ROOF
—W1—	POTABLE WATER
—W2—	PLANT SERVICE WATER (NON-POTABLE)
—W3—	PLANT EFFLUENT WATER (NON-POTABLE)

PIPE MATERIAL ABBREVIATION

ABS	ACRYLONITRILE BUTADIENE STYRENE
CI	CAST IRON
CS	CARBON STEEL
DI	DUCTILE IRON
PVC	POLYVINYL CHLORIDE
SS/SST	STAINLESS STEEL

GENERAL PIPING NOTES

1. SIZE OF FITTINGS SHOWN ON DRAWINGS SHALL CORRESPOND TO ADJACENT STRAIGHT RUN OF PIPE, UNLESS OTHERWISE INDICATED. TYPE OF JOINT AND FITTING MATERIAL SHALL BE THE SAME AS SHOWN FOR ADJACENT STRAIGHT RUN OF PIPE.
2. LOCATION AND NUMBER OF PIPE HANGERS AND PIPE SUPPORTS IF SHOWN IS ONLY APPROXIMATE. FINAL SUPPORT REQUIREMENTS SHALL BE DETERMINED IN THE FIELD. MAXIMUM SPACING SHALL BE AS SPECIFIED.
3. ALL JOINTS SHALL BE WATERTIGHT.
4. ALL FLEXIBLE CONNECTORS OR FLANGED COUPLING ADAPTERS SHALL BE PROVIDED WITH THRUST TIES, BLOCKS, OR ANCHORS, UNLESS OTHERWISE NOTED.
5. SYMBOLS, LEGENDS, AND PIPE USE IDENTIFICATIONS SHOWN SHALL BE FOLLOWED THROUGHOUT THE DRAWINGS, WHEREVER APPLICABLE. NOT ALL OF THE VARIOUS PIPING COMPONENTS ARE NECESSARILY USED IN THE PROJECT.
6. WHERE A GROOVED END COUPLING IS SHOWN, IT SHALL BE THE RIGID JOINT TYPE, UNLESS OTHERWISE SPECIFIED. WHERE A FLANGED COUPLING ADAPTER IS SHOWN, A STANDARD FLANGE SHALL BE JOINED TO THE COUPLING ADAPTER. ONLY FLANGED END CONNECTIONS ARE SHOWN HERE FOR DOUBLE LINE FITTINGS.
7. FITTINGS WITH OTHER END PATTERNS ARE SHOWN SIMILARLY ON THE DRAWINGS. ALSO SEE PIPING SPECIFICATIONS.
8. EXISTING PIPE AND EQUIPMENT IS SHOWN LIGHT-LINED AND/OR SCREENED AND IS NOTED AS EXISTING. NEW PIPING AND EQUIPMENT IS SHOWN HEAVY-LINED.

NOTE:
FLOW STREAM IDENTIFICATION IS A STANDARD LEGEND. THEREFORE, NOT ALL OF THE INFORMATION SHOWN MAY BE USED ON THIS PROJECT.

VALVE SYMBOL

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

B.M. ELEV.	FIELD BOOK #:	CH2MHILL	ENGINEER'S SEAL
POSTED TO LBIS			ORIGINAL SIGNED BY E.J. SHARP 2007/11/28
		DESIGNED BY S.ARDAKANI	CHECKED BY J.BRANDKVIST
		DRAWN BY P.KWONG	APPROVED BY E.SHARP
		HOR. SCALE NTS	RELEASED FOR CONSTRUCTION
		VERTICAL	K. ZUREK
0 ISSUED FOR TENDER	07/11/28 PK		PROJECT No.: 358676
NO. REVISIONS	DATE BY	DATE 2007 06 20	PLOT DATE: 2007/11/28

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

Winnipeg

NORTH END WATER
POLLUTION CONTROL CENTRE
WET WELL REHABILITATION
PROCESS MECHANICAL
PIPING LEGENDS & NOTES

SHEET 16 OF 24
CONSULTANT DRAWING NUMBER P0001
CITY DRAWING NUMBER 1-0101M-D-P0001-001-00D