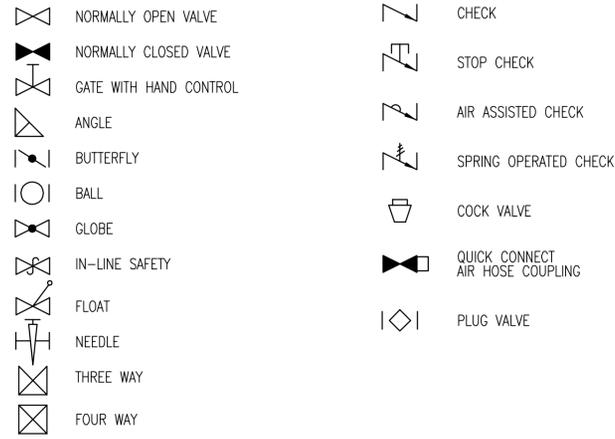
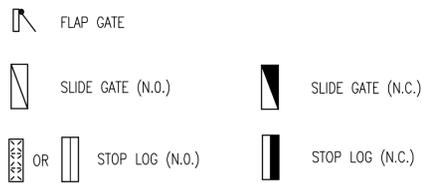


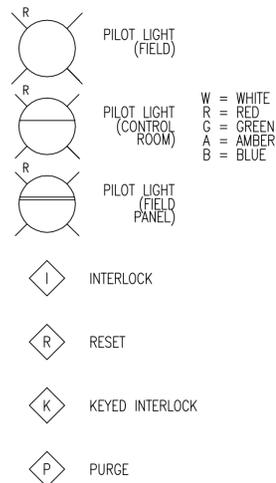
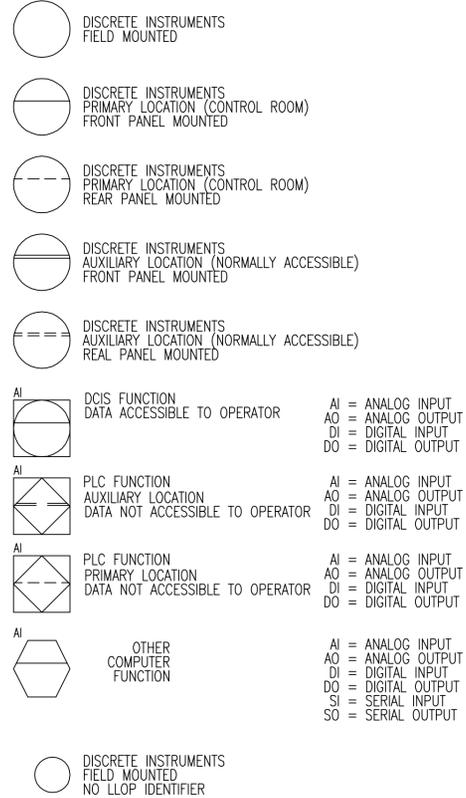
**VALVE SYMBOLS**



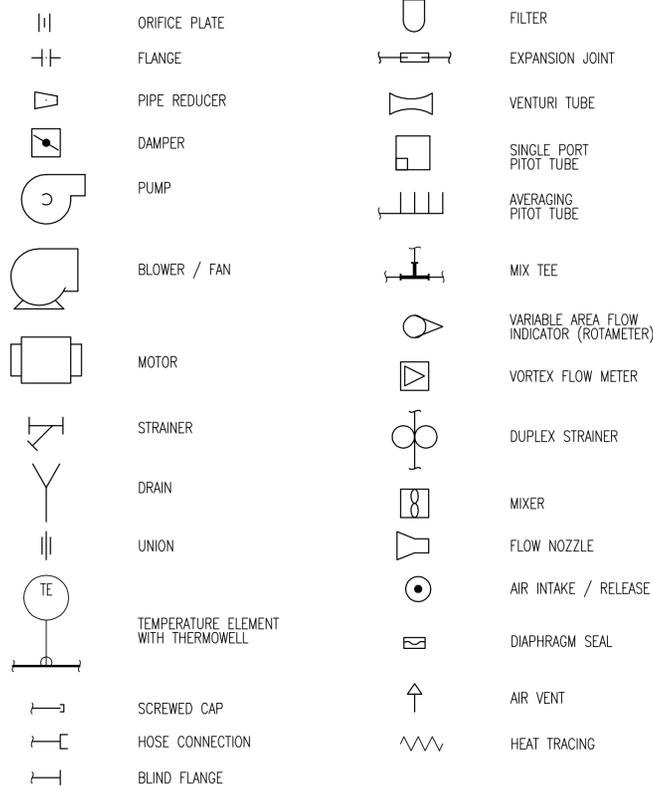
**GATE SYMBOLS**



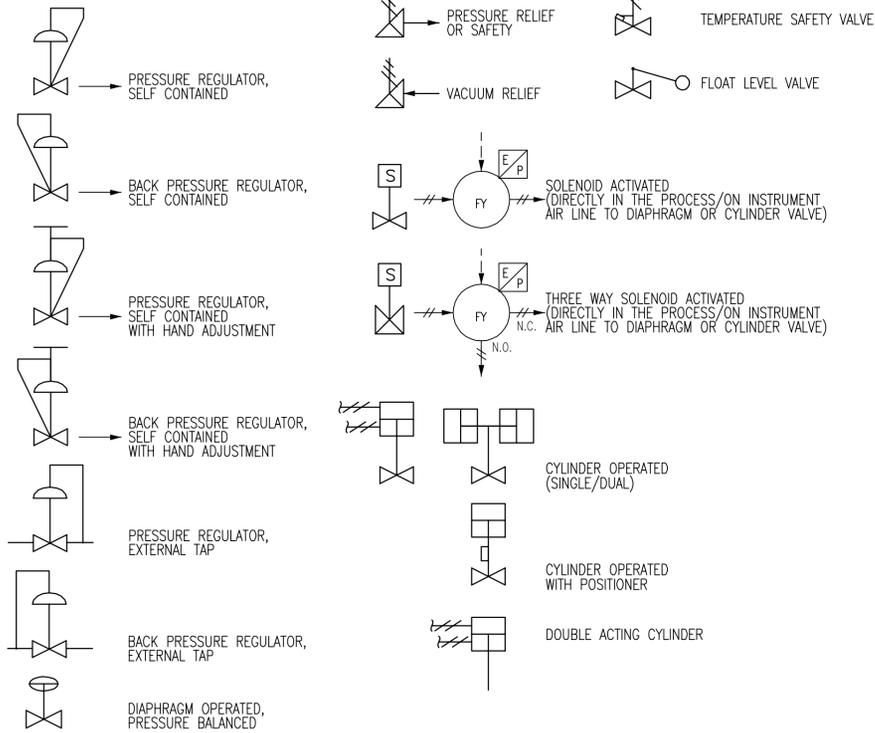
**INSTRUMENT SYMBOLS**



**ACCESSORY DEVICE SYMBOLS**



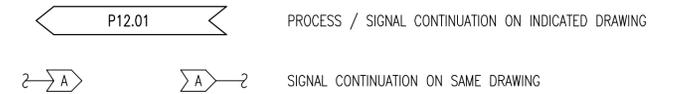
**ACTUATOR SYMBOLS**



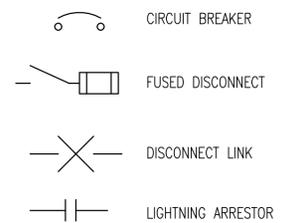
**PID STANDARDS**

- DRAWINGS UTILIZE CITY OF WINNIPEG STANDARDS FOR BORDER AND TITLE BLOCK. ALL DRAWINGS ARE PRODUCED ON AUTOCAD (LATEST REV., R2000 OR LATER).
- ALL UNITS ARE IN METRIC, EXCEPT AS NOTED OTHERWISE. ALL DIMENSIONS SHOWN ARE IN MILLIMETERS (mm).
- DRAWING CONTENT GENERALLY CONFORMS WITH TO ISA-5.1 STANDARD. AN EXCEPTION REGARDING EQUIPMENT TAGGING HAS BEEN MADE TO ALLOW BETTER CONFORMITY IN NAMING.
- PID'S INDICATE MAJOR PROCESS PIPING AND EQUIPMENT AND ASSOCIATED LOCAL INSTRUMENTATION, DCS AND OTHER PROCESS I/O.
- EQUIPMENT INCLUDING VESSELS, DRUMS, EXCHANGERS, HEATERS, PUMPS, COMPRESSORS, ETC. ARE ARRANGED IN SEQUENCE WITH PRINCIPLE FUNCTIONS AND FLOWS.
- ALL MAJOR EQUIPMENT INCLUDING PUMPS, COMPRESSORS, TANKS, ETC. ARE LABELED AS TO FUNCTION WITH DESIGN SIZES AND RATINGS.
- ALL PROCESS LINES ARE LABELED ACCORDING TO FUNCTION AND SIZE UTILIZING SYSTEM CODES DEFINED HEREIN.
- EACH SYSTEM INTERCONNECTION POINT BETWEEN DRAWINGS IS LABELED WITH A SOURCE DRAWING NUMBER OR DESTINATION DRAWING NUMBER. ARROWS ON PROCESS PIPING INDICATE DIRECTION OF FLOW BETWEEN DRAWINGS.

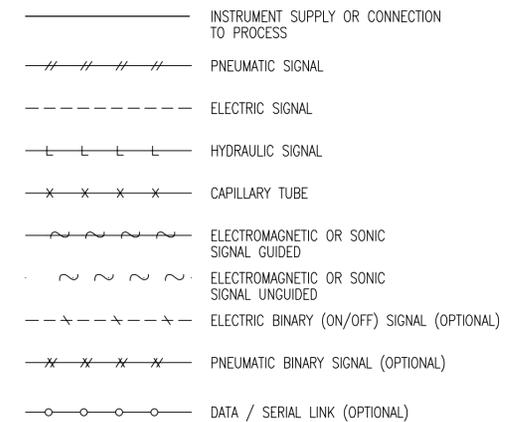
**CONNECTING ARROWS**



**ELECTRICAL SYMBOLS**



**INSTRUMENT LINE SYMBOLS**



THIS DRAWING IS BASED ON CITY OF WINNIPEG DRAWING NUMBER 1-0101A-D-A0001-001-06D

**NOTICE:**  
AS-CONSTRUCTED DIMENSIONS, MEASUREMENTS AND OTHER DETAILS CONTAINED IN THIS RECORD DRAWING HAVE BEEN OBTAINED BY AECOM CANADA LTD. ("AECOM") FROM VARIOUS SOURCES. SUCH INFORMATION REPRESENTS THE BEST INFORMATION AVAILABLE TO AECOM AT THE TIME OF PREPARATION OF THIS RECORD DRAWING. AECOM DOES NOT IN ANY WAY REPRESENT OR WARRANT THAT SUCH INFORMATION IS ACCURATE AND ASSUMES NO RESPONSIBILITY FOR ANY ERRORS OR OMISSIONS CONTAINED THEREIN.

REVISION 05 CHANGES	
THE ENGINEER'S DESIGN RESPONSIBILITIES ARE LIMITED TO THE CHANGES INDICATED IN THE CLOUDED WORK	
DESIGNED BY: NK	CHECKED BY: KJS
DRAWN BY: ES	APPROVED BY: KJS
DATE: 18/04/12	RELEASED FOR CONSTR. DATE: 18/04/12



NO.	REVISIONS	DATE	BY
05	ISSUED FOR TENDER: BID OP 281-2018	18/04/12	ES
04	ISSUED FOR CONSTRUCTION:	16/10/06	SE
03	ISSUED FOR TENDER: BID OP 547-2016	16/06/23	SRG
02	AS-CONSTRUCTED DRAWING	09/02/19	DEP
01	ISSUED FOR CONSTRUCTION	06/08/30	GLG
00	ISSUED FOR TENDER	06/05/15	GLG

<b>AECOM</b>		DESIGNED BY: LAE	CHECKED BY: SB
		DRAWN BY: LAE	APPROVED BY:
SCALE: NONE	RELEASED FOR CONSTRUCTION BY:	DATE: 2006/01/16	

ENGINEER'S SEAL
CONSULTANT DRAWING NO. P4.01

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

NEWPCC CENTRATE NUTRIENT TREATMENT NITROGEN REMOVAL FACILITY

PROCESS AND INSTRUMENTATION DIAGRAMS LEGEND AND DETAILS

CITY FILE NUMBER SHEET 1 OF 5  
CITY DRAWING NUMBER 1-0101C-P0016-001-05