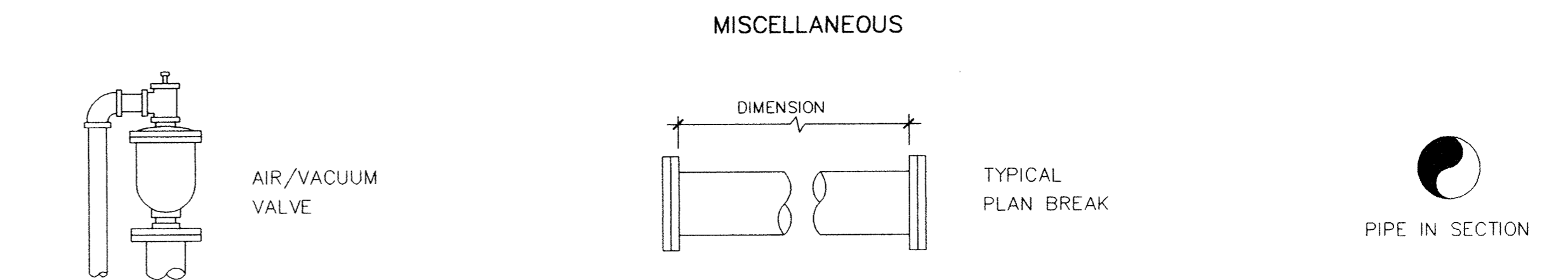
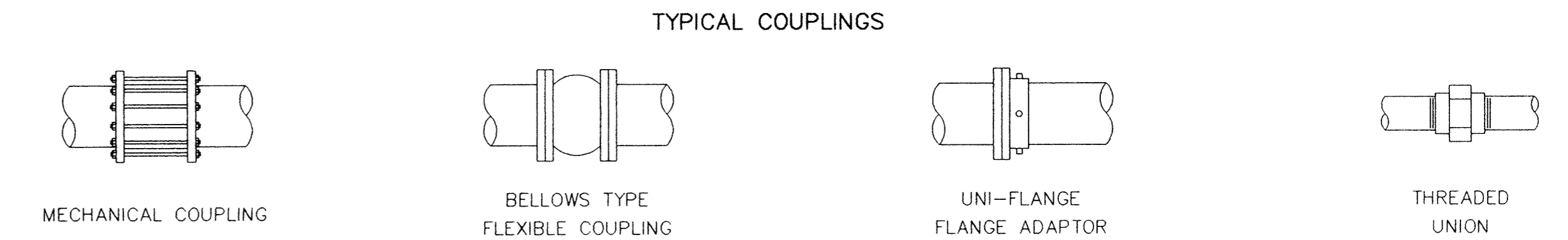
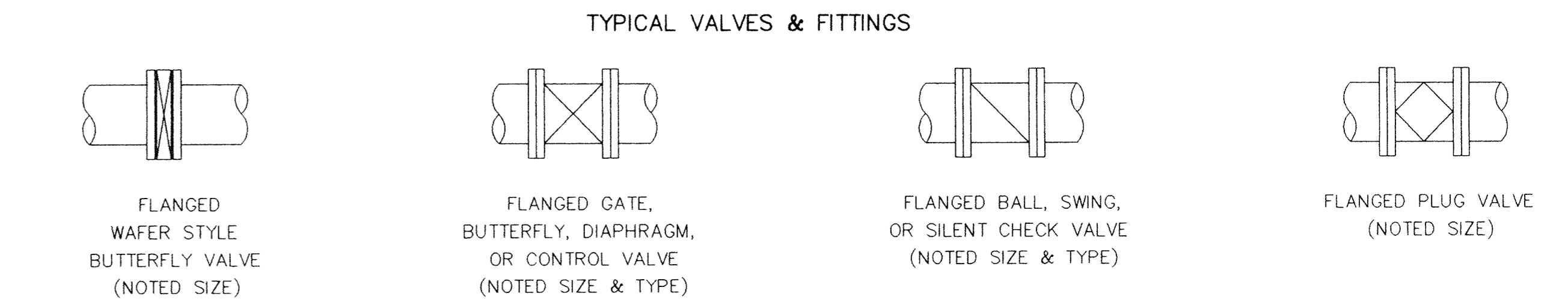
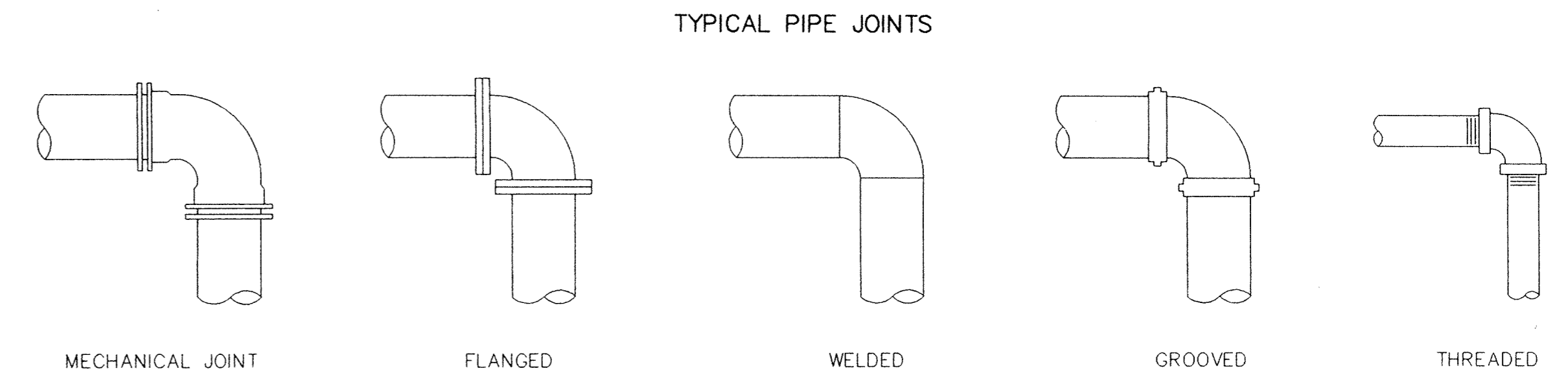


# PROCESS ABBREVIATIONS

ADDM	Addendum	GALV	Galvanized	QTY	Quantity
ADDL	Additional	GV	Gate Valve	QUAD	Quadrant
ALT	Alternate	GA	Gauge		
ALUM	Aluminum	GAL	Gallon	R	Radius
ASTM	American Society for Testing & Materials	GPH	Gallon Per Hour	RED	Reducer
AWA	American Waterworks Association	GPM	Gallon Per Minute	REF	Reference
AB	Anchor Bolt	GPS	Gallon Per Second	REINF	Reinforcing/Reinforcement
ANCH	Anchorage	GR	Grade	RCP	Reinforced Concrete Pipe
L	Angle	GRTG	Grating	RTRP	Reinforced Thermosetting Resin Pipe
APPROX	Approximate(ly)	GT	Groat	REQ'D	Required
ARCH	Architectural			REQMT	Requirement
@	At	HS	Headed Studs	REV	Revise/Revision
AVG	Average	HDR	Header	RPM	Revolutions Per Minute
AZ	Azimuth	HVAC	Heating, Ventilating and Air Conditioning	RPS	Revolutions Per Second
		HVY	Heavy	RO	Rough Opening
B/B	Back to Back	HGT	Height		
BAL	Balance	HEX	Hexagonal	SCH	Schedule
B PL	Base Plate	HDPE	High Density Polyethylene	SECT	Section
BSMT	Basement	HP	Horsepower	SHT	Sheet
BM	Beam or Bench Mark	HW	High Water Level	SIM	Similar
BRG	Bearing	HKL	Hook/Hooked	SVI	Sludge Volume Index
BRG R	Bearing Plate	HK	Horizontal	SG	Sluice Gate
BTWN	Between	HORIZ	Horizontal	SP	Space/Spacing
BOD	Biochemical Oxygen Demand	HD GALV	Hot Dipped Galvanized	SPEC	Specification
BITUM	Bituminous			SQ	Square
BF	Blind Flange	IN	Inch	SF	Square Feet
BLK	Block	INCH	Include	STAG	Staggered
BLKC	Blocking	INFO	Information	SS	Stainless Steel (preceded by type 304, 316, etc.)
BS	Both Sides	ID	Inside Diameter	STD	Standard
BOT	Bottom	INSUL	Insulation	SCFM	Standard Cubic Feet per Minute
BFE	Bottom of Footing Elevation	INT	Interior	STA	Station
BPE	Bottom of Plate Elevation	INV	Invert	STL	Steel
BRCG	Bracing	JT	Joint	STL JST	Steel Joist
BRKT	Bracket	JST	Joist	STRUCT	Structure/Structural
BHP	Brake Horsepower			SYMM	Symmetrical
BRK	Brick	KV	Knife Valve		
BTU	British Thermal Unit	KO	Knockout	TAN	Tangent
BLDG	Building			TEMP	Temporary/Temperature
BV	Butterfly Valve	LAM	Laminate/Lamination	TEF	Teflon
X	By	LG	Long/Length	THK	Thickness
		LWGT	Light Weight	THRD	Threaded
CPTY	Capacity	LIN	Lineal/Linear	T&B	Top & Bottom
CIP	Cast Iron Pipe	l	Liter	TBE	Top of Beam Elevation
CTR	Center	LL	Live Load	TCE	Top of Concrete Elevation
CL	Centerline	LD BRG	Load Bearing	TDE	Top of Deck Elevation
C/C	Center to Center	LOC	Location	TFE	Top of Footing Elevation
cm	Centimeter	LONGIT	Longitudinal	TGE	Top of Grout Elevation
CF	Cubic Feet	LR	Long Radius	TPE	Top of Pier Elevation
CFH	Cubic Feet per Hour	LP	Low Point	TPLE	Top of Plank Elevation
CFM	Cubic Feet per Minute			TSE	Top of Slab Elevation
CFS	Cubic Feet per Second	MH	Manhole	TSS	Total Suspended Solids
C	Channel	MFR	Manufacturer	TRANSV	Transverse
CV	Check Valve	MK	Mark	TYP	Typical
COD	Chemical Oxygen Demand	MAS	Masonry		
CO	Clean Out	MO	Masonry Opening	UNEXCAV	Unexcavated
CLR	Clear/Clearance	MATL	Material	UON	Unless Otherwise Noted
COL	Column	MAX	Maximum		
COMP	Composite	MECH	Mechanical	VB	Vapor Barrier
CON	Concentric	MJ	Mechanical Joint	VCP	Vitrified Clay Pipe
CONC	Concrete	MED	Medium	VERT	Vertical
CMU	Concrete Masonry Unit	MTL	Metal	VOL	Volume
CONN	Connection	m	Meter		
CONSTR	Construction	MEZZ	Mezzanine	WS	Water Surface
CONSTR JT	Construction Joint	MID	Middle	WGT	Weight
CONT	Continuous	ml	Milliliter	WWM	Welded Wire Mesh
CONTR	Contractor	mm	Millimeter	WF	Wide Flange
CJ	Control Joint	MGD	Million Gallons per Day	W/	With
COORD	Coordinate	MIN	Minimum	W/O	Without
		MISC	Miscellaneous	WP	Working Point
DEG	Degree	MOD	Module/Modular		
DEMO	Demolition	MTR	Mortar	YD	Yard
DET	Detail	MTD	Mounted		
DIAG	Diagonal	MV	Mud Valve		
DIA or Ø	Diameter				
DIM	Dimension	NBS	National Bureau of Standards		
DO	Dissolved Oxygen	NPS	National Pipe Size		
DIP	Ductile Iron Pipe	NPT	National Pipe Thread		
DBL	Double	NS	Near Side		
DT	Double Tee	NOM	Nominal		
DWL	Dowel	N.C.	Normally Closed		
DN	Down	N.O.	Normally Open		
DWV	Drain Waste and Vent	NA	Not Applicable		
DRWG	Drawing	NIC	Not in Contract		
		NTS	Not to Scale		
		NO or #	Number		
EA	Each				
EE	Each End	OC	On Center		
EW	Each Way	OPNG	Opening		
ECC	Eccentric	OPP	Opposite		
ELEC	Electrical	O/O	Out to Out		
EL	Elevation	OD	Outside Diameter		
EMB	Embedment	OF	Outside Face		
ENGR	Engineer	OH	Overhead		
EQ	Equal				
EQUIP	Equipment	PNL	Panel		
EX	Existing	PAR	Parallel		
EXP	Expansion	PPB	Parts Per Billion		
EXP BT	Expansion Bolt	PPM	Parts Per Million		
EXP JT	Expansion Joint	PERP	Perpendicular		
EXT	Exterior	PE	Plain End		
		PV	Plug Valve		
FAB	Fabricate(d)	PT	Point		
F/F	Face to Face	PD	Positive Displacement		
FS	Far Side	PL	Plate		
FT	Foot/Feet	PREF	Preformed		
FPM	Feet Per Minute	PRV	Pressure Reducing Valve		
FPS	Feet Per Second	LB	Pound/Pounds		
FIN	Finish	PSF	Pounds per Square Foot		
FLC	Flange	PSIA	Pounds per Square Inch Absolute		
FLEX	Flexible	PSI	Pounds per Square Inch Gauge		
FLR	Floor	PSIG	Pounds per Square Inch Gauge		
FM	Flow Meter	P.T.	Pressure Treated		
FTC	Footing	PROC	Process		
FDN	Foundation	PROJ	Projection		
FRMG	Framing	PVC	Polyvinyl Chloride		
FRP	Fiber Reinforced Polyester				

# TYPICAL PROCESS SYMBOLS



I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. <i>Bill C. [Signature]</i> DATE 3/2/94 REG. NO. 22610		1326 ENERGY PARK DRIVE ST. PAUL, MINNESOTA 55108 (612) 644-4389  9800 SHELARD PARKWAY MINNEAPOLIS, MINNESOTA 55441 (612) 546-0432	DATE _____	DESCRIPTION _____	DESIGNED BC GG CHECKED TAR DRAWN GG	CITY OF ELK RIVER WASTEWATER TREATMENT FACILITIES PROCESS ABBREVIATIONS & SYMBOLS	
			REVISIONS _____	GRAPHIC SCALE 0 HORIZ. 4 0 VERT. 4	DATE DEC. 1993 SHEET 21 OF 41 SHEETS PROJECT NO. 230-151		