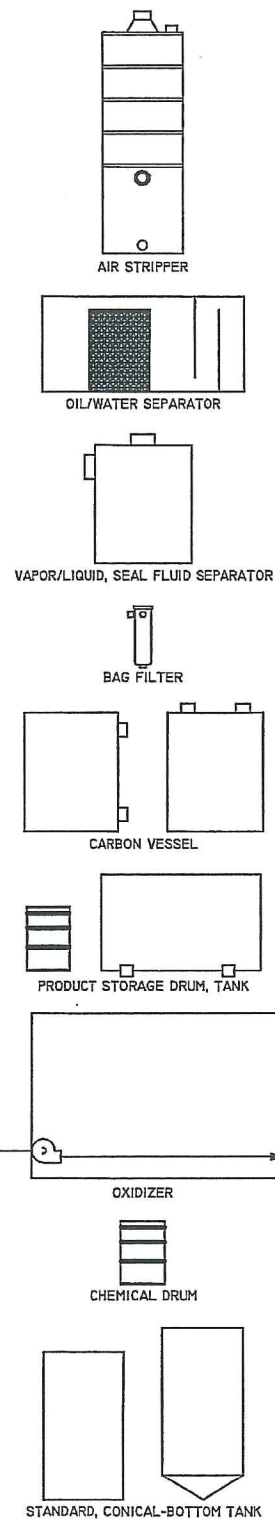


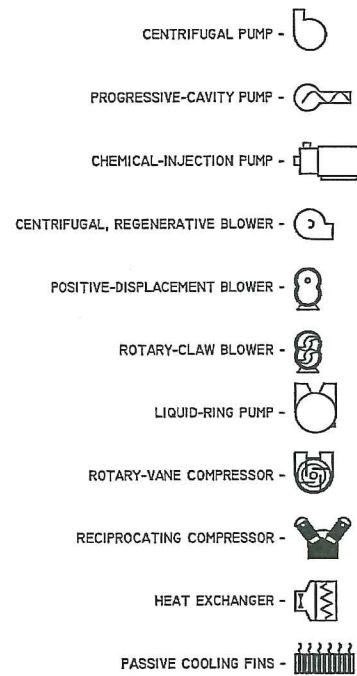
# VALVES AND PIPING

NO	NC
BALL VALVE -	
GATE VALVE -	
GLOBE VALVE -	
NEEDLE VALVE -	
SLIDE VALVE -	
SOLENOID VALVE -	
BUTTERFLY VALVE -	
SWING CHECK VALVE -	
WAFFER CHECK VALVE -	
SPRING CHECK VALVE -	
WYE STRAINER -	
SAMPLE PORT -	
PRESSURE RELIEF VALVE -	
VACUUM RELIEF VALVE -	
CAMLOCK CONNECTION -	
FERMCO CONNECTION -	
FLEXIBLE CONNECTION -	
FLANGED CONNECTION -	
REDUCER -	
UNION -	
ADSORBENT FILTER -	
COALESCING FILTER -	
PARTICULATE FILTER -	
FILTER, SILENCER -	
PRESSURE REGULATOR -	
REGULATOR W/ FILTER -	
AIR DRYER -	

# EQUIPMENT



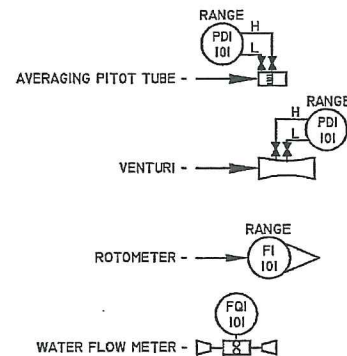
# EQUIPMENT



# EQUIPMENT

AS - AIR STRIPPER  
BLD - BUILDING, TRAILER OR SKID  
FLT - FILTER VESSEL  
LPC - LIQUID-PHASE CARBON VESSEL  
MFD - MANIFOLD  
OWS - OIL/WATER SEPARATOR  
OX - OXIDIZER  
PST - PRODUCT STORAGE TANK  
SOS - SEAL OIL SEPARATOR  
SWS - SEAL WATER SEPARATOR  
TNK - TANK  
VLS - VAPOR/LIQUID SEPARATOR  
VPC - VAPOR-PHASE CARBON VESSEL

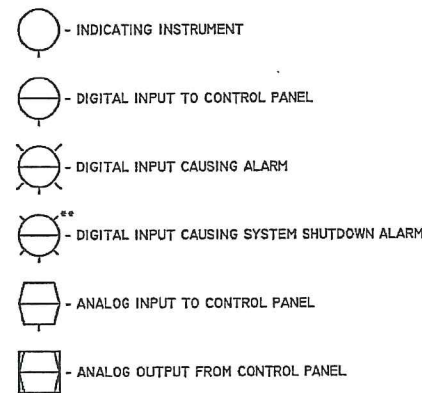
# FLOW MEASUREMENT



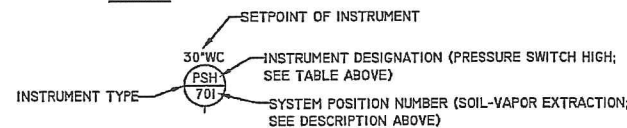
# INSTRUMENT DESIGNATION

INPUT	1ST MODIFIER	2ND MODIFIER	3RD MODIFIER	OUTPUT	1ST MODIFIER
A		ALARM			A
B					B
C	CYCLE				C
D		DIFFERENTIAL			D
E					E
F	FLOW				F
G	GAS (LEL)				G
H		GAUGE			H
I	CURRENT	INDICATOR			I
J					J
K					K
L	LEVEL		LOW		L
M				MOTORIZED	M
N					N
O					O
P	PRESSURE			PNEUMATIC	P
Q		QUANTITY			Q
R					R
S	SPEED	SWITCH		SOLENOID	S
T	TEMPERATURE	TRANSMITTER			T
U					U
V					V
W					W
X					X
Y					Y
Z	POSITION				Z

# INSTRUMENT IDENTIFICATION



# EXAMPLE



# SYSTEM POSITION DESIGNATION

100 - VACUUM INLET MANIFOLD  
300 - INLET HEAT EXCHANGER  
400 - VAPOR/LIQUID SEPARATOR  
500 - VAPOR/LIQUID SEPARATOR - 2  
700 - SOIL-VAPOR EXTRACTION  
1000 - LIQUID-RING PUMP  
1300 - SVE HEAT EXCHANGER  
1600 - VAPOR-PHASE CARBON  
1900 - OXIDIZER  
2200 - AIR SPARGE  
2500 - SPARGE HEAT EXCHANGER  
2800 - SPARGE OUTLET MANIFOLD  
3100 - AIR COMPRESSOR  
3400 - COMPRESSED-AIR OUTLET MANIFOLD  
3700 - PNEUMATIC WELL PUMPS  
4000 - SUBMERSIBLE WELL PUMPS  
4300 - SURFACE-MOUNT WELL PUMPS  
4600 - GROUNDWATER INLET MANIFOLD  
4900 - OIL/WATER SEPARATOR  
5200 - PRODUCT STORAGE TANK  
5500 - INLET TANK  
5800 - UPSTREAM BAG FILTER  
6100 - CHEMICAL INJECTION  
6400 - AIR STRIPPER  
6700 - PRE-CARBON BAG FILTER  
7000 - LIQUID-PHASE CARBON  
7100 - PRE-MEDIA BAG FILTER  
7200 - ACTIVATED ALUMINA  
7300 - DISCHARGE TANK  
7400 - POST-TREATMENT BAG FILTER  
7600 - REINJECTION  
7900 - BUILDING, TRAILER OR SKID  
8200 - CONTROL PANEL  
8500 - ELECTRICAL PARTS  
9900 - EXTRAS



**HATCH**

H337697 Mary River Project  
Oily Water Treatment System

E337697-PM403-50-031-0003

**PIPING DETAILS:**  
- WATER FLOW METERS: PROVIDE 10 DIA. OF STRAIGHT PIPE BEFORE AND 5 DIA. OF STRAIGHT PIPE AFTER METERS. ENSURE THAT THROTTLING VALVES ARE NOT DIRECTLY IN LINE WITH METERS.  
- AIR FLOW METERS: PROVIDE 8 DIA. OF STRAIGHT PIPE BEFORE AND 3 DIA. OF STRAIGHT PIPE AFTER METERS, IF POSSIBLE. AVOID TEES AND ELBOWS BEFORE AND AFTER METERS.  
- MATERIALS OF VALVES AND FITTINGS TO BE THE SAME AS THE DESCRIPTION AT THE LINE. IF THERE IS A TRANSITION FROM PVC TO STEEL, THE VALVE SHOULD BE BRASS.  
- THERE ARE NO SPECIAL PIPING REQUIREMENTS OTHER THAN WHAT IS EXPLAINED ON THE DIAGRAM.  
- WHEN PVC HOSE IS SPECIFIED, ALWAYS USE VACUUM HOSE; USE GREEN HOSE FOR PRESSURES LESS THAN 60PSI; USE TANK TRUCK HOSE FOR PRESSURES BETWEEN 60PSI AND 150PSI.  
- PVC PIPE MAY BE SUBSTITUTED WITH EQUAL-SIZED PVC HOSE WHERE A FLEXIBLE CONNECTION IS PREFERRED.

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A	SEPT. 13 2011	MH	FOR REVIEW
LEVEL	DATE	BY	REVISION

DWG. NO:	101002-01 (PAGE 3 OF 3)
TITLE:	PROCESS & INSTRUMENTATION DRAWING
CUSTOMER:	CHEMICAL WATER TREATMENT SYSTEM MARY RIVER WWTP BAFFINLAND FILTER INNOVATIONS INC.