

DESIGNATED AREA CODE	
01-Collector System	
Code	Detail Description
1	Main/Trunk Sewer
2	Outfall Sewer
3	Separate System
4	Combined System
5	Pump Station 1
6	Pump Station 2
7	Pump Station 3
8	Pump Station 4
9	Pump Station 5
10-Inlet Works/Primary Treatment	
Code	Detail Description
11	Raw Wastewater Pump Station
12	Screenings Removal
13	Grit Removal
14	Balancing Tanks & Pumps
15	Flow Measurement
16	Primary Settling Tanks
17	Raw Sludge Pump Station
18	Return Pump Stations
19	Incinerator
20-Biological/Secondary Treatment	
Code	Detail Description
21	Pre-fermenter
22	Activated Sludge Reactor (anaerobic)
23	Activated Sludge Reactor (Anoxic)
24	Activated Sludge Reactor (aerobic)
25	Biofilters
26	Clarifiers/Humus Tank
27	RAS/Humus Pump Station
28	WAS Pump Station or Withdrawal
30-Tertiary Treatment	
Code	Detail Description
31	Disinfection Unit
32	Maturation Units
33	Sand Filters
34	Flow Measurements
35	Effluent Pump Station
40-Sludge Handling	
Code	Detail Description
41	Sludge Thickening Tank
42	Dissolved Air Flotation Units
43	Sludge Digesters
44	Sludge Lagoons
45	Sludge Dewatering Units
46	Sludge Handling Pump Stations
47	Sludge Disposal
48	Sludge Drying Beds
60-Chemical Dosing	
Code	Detail Description
61	Chlorine Dosing
62	Ferric Chloride Dosing
63	Lime Dosing
64	Poly-electrolyte Dosing

Equipment	
Mixer	
Aerator	
Ball Valve	
Diaphragm Valve	
Non Return Valve	
Solenoid Valve	
Globe Valve	
Air Release Valve	
Hydrosphere	
Hand Operated Penstock	
Venturi Flume	
Centrifugal Pump	
Submersible Pump	
Electric Motor	
Gearbox	
Rotameter	
Line Types	
Pipe	
Electrical	
Concrete Structure	

ANSI TABLE 4.1- Identification letters					
	First letters (1)		Succeeding letters (15)		
	Column 1	Column 2	Column 3	Column 4	Column 5
	Measured/Initiating Variable	Variable Modifier (10)	Readout/Passive Function	Output/ Active Function	Function Modifier
A	Analysis (2)(3)(4)		Alarm		
B	Burner, Combustion (2)		User's Choice (5)	User's Choice (5)	User's Choice (5)
C	User's Choice (3a)(5)			Control (23a)(23e)	Close (27b)
D	Torque	Difference, Differential, (11a)(12a)			Deviation (28)
E	Voltage (2)		Sensor,Primary Element		
F	Flow, Flow Rate (2)	Ratio (12b)			
G	User's Choice		Glass, Gauge, Viewing Device (16)		
H	Hand (2)				High(27a)(28a)(29)
I	Current (2)		Indicate (17)		
J	Power (2)		Scan(18)		
K	Time, Schedule (2)	Time Rate of Change (12c)(13)		Control Station (24)	
L	Level (2)		Light(19)		Low(27b)(28)(29) Middle, Intermediate
M	User's Choice (3a)(5)				
N	User's Choice (5)		User's Choice(5)	User's Choice (5)	User's Choice (5)
O	User's Choice (5)		Orifice, Restriction		Open (27a)
P	Pressure (2)		Point (Test Connection)		
Q	Quantity (2)	Integrate, Totalize (11b)	Integrate, Totalize		
R	Radiation (2)		Record (20)		Run
S	Speed, Frequency (2)	Safety (14)		Switch (23b)	Stop
T	Temperature (2)			Transmit	
U	Multivariable (2)(6)		Multifunction (21)	Multifunction (21)	
V	Vibration, Mechanical Analysis (2)(4)(7)			Valve, Damper, Louver (23c)(23e)	
W	Weight, Force (2)		Well, Probe		
X	Unclassified (8)	X-axis (11c)	Accessory Devices (22), Unclassified (8)	Unclassified (8)	Unclassified (8)
Y	Event, State, Presence (2)(5)	Y-axis (11c)		Auxiliary Devices (23d)(25)(26)	
Z	Position, Dimension (2)	Z-axis (11c), Safety Instrumented System		Driver, Actuator, Unclassified	

ANSI/ISA-5.1-2009 Instrumentation Symbols and Identification. USA p. 30 table 4.1

ANSI TABLE 5.1.1- Instrumentation device and function symbols					
No.	Share display, Shared control (1)		C	D	Location & accessibility (6)
	A	B			
	Primary Choice or Basic Process Control System (2)	Alternative Choice or Safety Instrumented System (3)	Computer Systems and Software (4)	Discrete (5)	
1					<ul style="list-style-type: none">Located in fieldNot panel, cabinet, or console mounted.Visible at field locationNormally operator accessible.
2					<ul style="list-style-type: none">Located in or on front of central main panel or console.Visible on front of panel or on video display.Normally operator accessible at panel front or console.
3					<ul style="list-style-type: none">Located in rear of central or main panel.Located in cabinet behind panel.Not visible on front of panel or on video display.Not normally operator accessible at panel or console.
4					<ul style="list-style-type: none">Located in or on front of secondary or local panel console.Visible on front of panel or on video display.Normally operator accessible at panel front or console
5					<ul style="list-style-type: none">Located in rear of secondary or local panel.Located in field cabinet.Not visible on front of panel or on video display.Not normally operator accessible at panel or console.

ANSI/ISA-5.1-2009 Instrumentation Symbols and Identification. USA p. 36 table 5.1.1



ISSUED FOR TENDER

NOTES:

LOCAL MUNICIPALITY: MAP

SPONSOR & REGULATOR: DWS

ISSUED FOR TENDER

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100 MILLIMETRES ON ORIGINAL DRAWING

A

BEFORE CONTRACT COMMENCES

A

AFTER CONSTRUCTION CONTRACT HAS COMMENCED

Nr.

DATE

AMENDMENTS

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