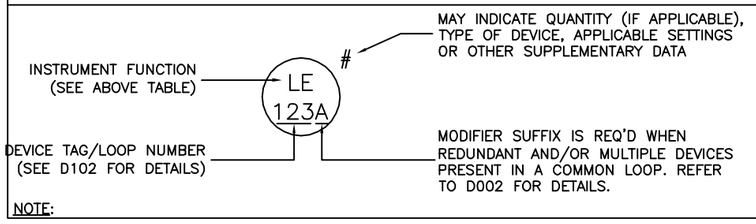
INSTRUMENT LETTER IDENTIFICATION

	FIRST–LETTER		SUCCEEDING–LETTERS		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYZER		ALARM		
B	BURNER		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C	USER'S CHOICE	CONTROL		CONTROL	CLOSE
D	USER'S CHOICE	DIFFERENTIAL			
E	VOLTAGE		PRIMARY ELEMENT		
F	FLOW	RATIO			
G	USER'S CHOICE		GLASS		
H	HAND				HIGH
I	CURRENT		INDICATE		
J	POWER	SCAN			
K	TIME			CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	USER'S CHOICE	MOMENTARY			MEDIUM
N	USER'S CHOICE		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE		ORIFICE		OPEN
P	PRESSURE		POINT TEST CONN.		
Q	QUANTITY	INTEGRATE/TOTALIZE			
R	RADIATION	RELIEF	RECORD		
S	SPEED	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTI–VARIABLE		MULTI–FUNCTION	MULTI–FUNCTION	MULTI–FUNCTION
V	VIBRATION			VALVE, DAMPER	
W	WEIGHT, FORCE		WELL		
X	UNCLASSIFIED	X–AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE	Y–AXIS		RELAY, COMPUTE	
Z	POSITION	Z–AXIS		DRIVER, ACTUATOR UNCLASSIFIED FINAL CONTROL ELEMENT	

INSTRUMENT SYMBOL IDENTIFICATION



NOTE:

TABLE IS BASED ON ANSI/ISA–5.1–1984 (R1992).

TRANSDUCER FUNCTIONS

E/E	VOLTAGE TO VOLTAGE
E/I	VOLTAGE TO CURRENT
E/P	VOLTAGE TO PNEUMATIC
I/P	CURRENT TO PNEUMATIC
P/I	PNEUMATIC TO CURRENT

LEVEL TABLE

WHERE X = DISTANCE ABOVE TANGENT OR FROM BOTTOM OF STRAIGHT SIDE WALL. EXAMPLE TABLE BELOW; MODIFY AS REQUIRED.

ALARM HIGH	LAH####=X'
START 2103	LSH####=X'
STOP 2103	
START 2104	LSM####=X'
STOP 2104	
ALARM LOW	LAL####=X'

REFERENCE ELEVATION
SWITCH TAG
SWITCH FUNCTION

2708

INSTRUMENT SYMBOLS

- LOCALLY MOUNTED (FIELD)
- FRONT OF PANEL MOUNTED
- LOCAL PANEL MOUNTED
- BACK OF PANEL MOUNTED OR INACCESSIBLE
- SHARED DISPLAY FUNCTION NOT NORMALLY ACCESSIBLE TO THE OPERATOR
- SHARED DISPLAY FUNCTION NORMALLY ACCESSIBLE TO THE OPERATOR
- SHARED DISPLAY FUNCTION REMOTE LOCATION
- PLC FUNCTION
- INSTRUMENTS SHARING COMMON HOUSING
- NOT BY VEOLIA WATER
- PILOT LIGHT
- HOST COMPUTER NOT NORMALLY ACCESSIBLE TO THE OPERATOR
- HOST COMPUTER NORMALLY ACCESSIBLE TO THE OPERATOR
- R — RESET
- I — INTERLOCK
- P — PURGE

COMPUTING FUNCTION IDENTIFICATION

- Σ — ADD
- Σ/n — AVERAGE
- Δ — DIFFERENCE
- 1:1 — BOOSTER
- HIGH LIMIT
- LOW LIMIT
- d/dt — RATE OF CHANGE
- ± — BIAS
- ÷ — DIVIDE
- > — HIGH SELECTOR
- < — LOW SELECTOR
- X — MULTIPLY
- ∫ — INTEGRATE
- x^n — EXPONENTIAL
- VELOCITY LIMITER
- –K — NEGATIVE GAIN
- K — PROPORTIONAL GAIN
- 2:1 — PROPORTIONAL
- f(t) — TIME FUNCTION
- ROOT EXTRACTION
- CONVERT

INSTRUMENT ABBREVIATIONS

AI	ANALOG INPUT	FWD	FORWARD
AO	ANALOG OUTPUT	KT	K–TYPE THERMOCOUPLE
BCD	BINARY CODED DECIMAL	LC	LOCKED CLOSED
C	COMPUTER	LO	LOCKED OPEN
CPT	CONTROL POWER TRANSFORMER	MN	MODBUS NETWORK
DI	DIGITAL INPUT	MS	MOTOR STARTER
DL	DATA LOGGER	NC	NORMALLY CLOSED
DO	DIGITAL OUTPUT	NO	NORMALLY OPEN
FB	FEEDBACK	PLC	PROGRAMMABLE LOGIC CONTROLLER
FC	FAIL CLOSED	PV	PROCESS VARIABLE
FI	FAIL INTERMEDIATE	RSP	REMOTE SETPOINT
FLP	FAIL LAST POSITION	REV	REVERSE
FO	FAIL OPEN	SP	SETPOINT
FP	FILL PORT	EL	ELEVATION
		IAR	INSTRUMENT AIR

CONNECTIONS

- THREADED (GENERAL)
- BUTT WELDED
- SOCKET WELDED
- FLANGED

VALVE SYMBOLS

- BALL
- BUTTERFLY
- CHECK, GENERAL
- CHECK, SPLIT DISK
- DIAPHRAGM
- GATE
- GLOBE
- KNIFE GATE
- NEEDLE
- PINCH
- PLUG
- ANGLE
- THREE–WAY (Ball type shown)
- PRESSURE RELIEF
- PRESSURE REDUCING (EXTERNAL SENSOR)
- PRESSURE REDUCING (INTERNAL SENSOR) HAND WHEEL ADJ. SETPOINT
- PRESSURE RELIEF VACUUM VENT

NOTE: VALVE COLOR DURING TYPICAL OPERATION IS GREEN=OPEN AND RED=CLOSED.

CONTROL VALVE ACTUATORS

- PISTON WITH SPRING RETURN
- FO — FAIL OPEN
- PISTON
- FC — FAIL CLOSED
- M / FI — ELECTRIC FAIL INDETERMINATE
- LY — VALVE MOUNTED I/P CONVERTER
- FC — DIAPHRAGM ACTUATOR
- S — SOLENOID

LINE SYMBOLS

- MAJOR PROCESS PIPING
- MINOR/INSTRUMENT PIPING
- EXISTING PIPING
- ELECTRICAL SIGNAL
- CAPILLARY TUBING
- SOFTWARE OR DATA LINK
- MECHANICAL LINK
- PNEUMATIC SIGNAL/PIPING
- HYDRAULIC SIGNAL
- GUIDED WAVE
- UNGUIDED WAVE

NOTE: PROCESS LINES ARE COLOR–KEYED IN ACCORDANCE WITH THE PFD LINE COLOR KEY TABLE.

TYPICAL I/O SYBMOLS

- DI — DIGITAL INPUT TO PLC
- DO — DIGITAL OUTPUT FROM PLC
- AI — ANALOG INPUT TO PLC
- AO — ANALOG OUTPUT FROM PLC
- MB — MODBUS COMMUNICATIONS
- KT — K–TYPE THERMOCOUPLE

PRIMARY FLOW ELEMENTS

- ORIFICE PLATE WITH FLANGE PIPE TAPS OR VENA CONTRACTA
- ORIFICE PLATE IN QUICK–CHANGE FITTING
- AVERAGING PITOT TUBE
- TURBINE OR PROPELLER TYPE
- PITOT TUBE
- POSITIVE DISPLACEMENT
- VENTURI TUBE
- ROTAMETER
- VORTEX SENSOR
- FLOW NOZZLE
- M — MAGNETIC
- WEIR (V–NOTCH SHOWN)
- ULTRASONIC — ULTRASONIC (DOPPLER)
- C — CORIOLIS
- FLUME
- TRANSIT TIME — TRANSIT TIME

NO.	REVISIONS	BY	DATE	APP	NO.	REVISIONS	BY	DATE	APP
0	Engineering	RGC	07/18/05						

SCALE: None
APPVD:
DATE:

ISSUE DATE: August 2010
ISSUE FOR: General Training

DESIGNED	RGC
DRAFTED	RGC
CHECKED	

P&ID LEGEND SHEET 1 OF 2
INSTRUMENTATION AND VALVES

[COMPANY NAME]

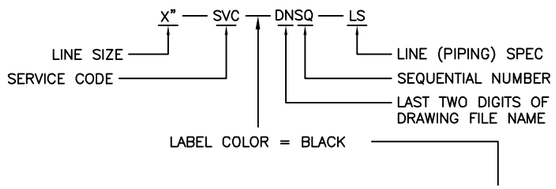
Project: 123456

DRAWING NO.
D001

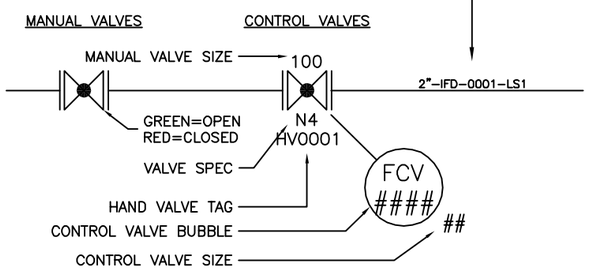
FLUID SERVICE CODES

ALM – ALUMINUM SULFATE
AMN – AMMONIUM NITRATE
AMH – AMMONIUM HYDROXIDE
ABF – AMMONIUM (BI)FLUORIDE
AMS – AMMONIUM SULFATE
ASO – ACID SOLUBLE ORGANICS
BAR – BACKWASH AIR
CAF – CALCIUM FLUORIDE
CAR – COMPRESSED AIR
CBW – CLEAN BACKWASH WATER
CFD – CAUSTIC RAW FEED (GEN. USE)
CO2 – CARBON DIOXIDE
CHC – CALCIUM HYPOCHLORITE
CL2 – CHLORINE
DBW – DIRTY BACKWASH WATER
DRN – PROCESS DRAIN
DSL – DIESEL FUEL
EFF – EFFLUENT (GENERAL USE)
FEC – FERRIC CHLORIDE
FEW – FILTER EFFLUENT WATER
FIW – FILTER INFLUENT WATER
FOL – FUEL OIL
HCL – HYDROCHLORIC ACID
HF – HYDROFLUORIC ACID
HPX – HYDROGEN PEROXIDE
IAR – INSTRUMENT AIR
IFD – INDUSTRIAL RAW FEED
LSY – LIME SLURRY
MEL – METHANOL
NAG – NATURAL GAS
NIA – NITRIC ACID
N2 – NITROGEN
OIL – OIL (GENERAL USE)
PAR – PROCESS AIR
PFD – POLYMER FEED
PHA – PHOSPHORIC ACID
KF – POTASSIUM FLUORIDE
KOH – POTASSIUM HYDROXIDE
PSL – PROCESS SLURRY/SLUDGE
PVP – PROCESS VAPOR
PWR – POTABLE WATER
SAH – SULFURIC ACID, >75%
SAL – SULFURIC ACID, <75%
SHC – SODIUM HYPOCHLORITE
SOC – SODIUM CARBONATE
SOH – SODIUM HYDROXIDE
SLP – STEAM, <125#
SMB – SODIUM METABISULFITE
STM – STEAM, 125–220 #
SNY – SANITARY SEWER
STO – STORM DRAIN
SWR – SERVICE WATER
TFL – THERMAL FLUID
UAR – UTILITY AIR
UWR – UTILITY WATER
VNT – VENT (GENERAL USE)
WOL – WASTE OIL
WWR – WASTEWATER (GENERAL USE)

LINE NUMBERS



VALVE TAGS



EQUIPMENT TYPE CODES

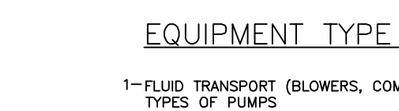
1 – FLUID TRANSPORT (BLOWERS, COMPRESSORS AND ALL TYPES OF PUMPS
2 – SOLIDS TRANSPORT (BELT AND SCREW CONVEYORS, FEEDERS, ETC.)
3 – PYSICAL SEPARATION (PHASE SEPARATION EQUIPMENT, FILTERS, SCREENS, GRAVITY SEPARATORS, CENTRIFUGES, MICRO/ULTRAFILTERS, ETC.)
4 – MIXERS (AGITATORS, IN–LINE MIXERS, SHREDDERS, BLENDERS, ETC.)
5 – HEAT TRANSFER (HEAT EXCHANGERS, HEATERS, COOLING TOWERS, BURNERS, ETC.)
6 – MASS TRANSFER (AD/ABSORBERS, ION EXCHANGE, SCRUBBERS, STRIPPERS, COLUMNS, EVAPORATORS, ETC.)
7 – CONTAINMENT (TANKS, VESSELS, PITS, SUMPS, SILOS, ETC.)
8 – REACTORS (CHEMICAL REACTORS OR PRECIPITATORS, CRYSTALLIZERS, ETC.)
9 – VENDOR PACKAGES & MISC. (PREFABRICATED SYSTEMS FROM 3RD PARY SUPPLIERS, SPECIALTY EQUIPMENT UNCLASSIFIED ELSEWHERE)

AREA NUMERS

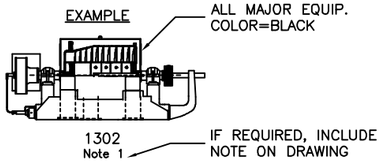
(PROJECT SPECIFIC)

1 – TANK FARM
2 – TRAIN 1
3 – SOLIDS DEWATERING
4 – TRAIN 2
5 – VAPOR HANDLING SYSTEM

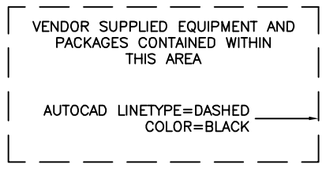
EQUIPMENT TAG FORMAT



NOTE: HYPHENS ARE NOT A PART OF EQUIPMENT TAG INSTANCES.



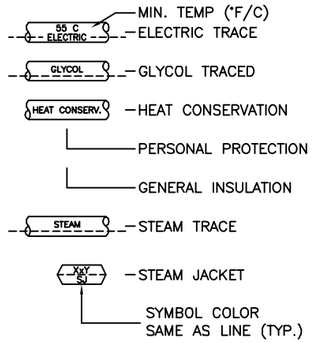
VENDOR DELINEATION



TRACING AND INSULATION CODES

ET – ELECTRIC TRACE
FP – FIRE PROTECTION
HC – HEAT CONSERVATION
I – INSULATED, GENERAL
PP – PERSONAL PROTECTION
S – STEAM TRACE
SJ – STEAM JACKET

INSULATION SYMBOLS



EQUIPMENT LABELS

EXAMPLE FOR PUMP

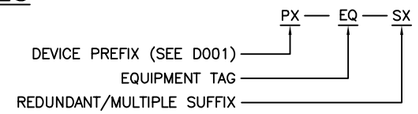
1105
PUMP NAME
NOMINAL CAP: X M3/HR @ Y M TDH
TYPE: HORIZONTAL CENTRIFUGAL
MOTOR: X KW 420V/3 PH/50 HZ TEFC
SPEED: 1500 RPM
CONSTRUCTION: 316 SS
MANUFACTURER: ACME
MODEL: ABC–3XR9

EXAMPLE FOR TANK

1705
NAME OF TANK
TYPE: VERTICAL CYLINDRICAL
NOMINAL CAP: 40 M3
SIZE: X M DIA X Y M HIGH
CONSTRUCTION: A36 CARBON STEEL
DESIGN: API 650
OTHER: NEOPRENE RUBBER LINED
MANUFACTURER: ACME FABRICATORS

NOTE: LABELS VARY IN ACCORDANCE WITH EQUIPMENT DESCRIBED. ALL LABELS ARE LOCATED ALONG BOTTOM OF THE P&I DIAGRAM.

INSTRUMENT/DEVICE TAGS

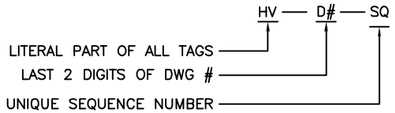


NOTE: HYPHENS ARE NOT RQD BETWEEN PX AND EQ.

REDUNDANT/MULTIPLE SUFFIX RULES:

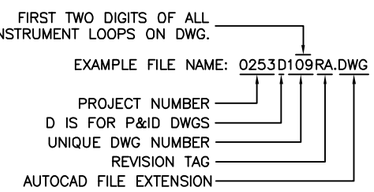
1. UTILIZE SEQUENTIAL NON–HYPHENATIED ALPHABETIC SUFFIXES FOR REDUNDANT DEVICES.
2. FOR MULTIPLE ITEMS OF SAME TYPE, EMPLOY A SEQUENTIAL, HYPHENATED NUMERIC SUFFIX.

HAND VALVE TAGS



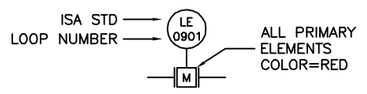
NOTE: HYPHENS ARE NOT A PART OF HAND VALVE TAG INSTANCES.

P&I DRAWING FILENAME

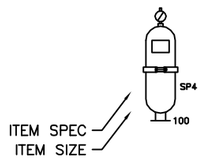


FLOW ELEMENT TAGS

MAG METER EXAMPLE



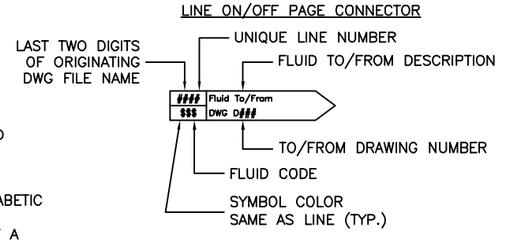
SPECIALTY ITEMS



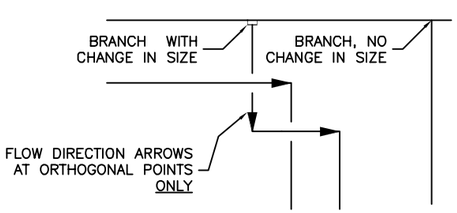
NOTE: THE LOCATION OF TAGGING VARIES WITH THE TYPE OF SPECIALTY ITEM.

MISC. TAGS & LABELS

LINE ON/OFF PAGE CONNECTOR



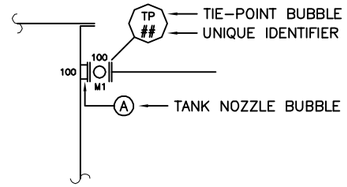
FLOW ARROWS, BRANCHES AND LINE BREAKS



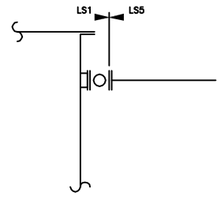
LINE BREAK RULES:

1. MAJOR PROCESS LINE CROSSES BREAK AT THE VERTICAL LINE.
2. MINOR LINES WILL YIELD AND BREAK AT ANY MAJOR PROCESS LINE CROSS.
3. ANY MINOR OR MAJOR LINE MAY BE BROKE, AS REQUIRED, TO ACCOMMODATE NOTES OR LEADERS.
4. ALL INSTRUMENTATION SIGNALS YIELD AND BREAK TO MAJOR AND MINOR PROCESS LINES.

TIE–POINT & NOZZLE TAGS



SERVICE SPEC BREAK



NOTE: THIS IS A STANDARD LEGEND SHEET. THEREFORE, ALL SYMBOLS AND ABBREVIATIONS SHOWN MAY NOT APPEAR ON THE P&ID DIAGRAMS.

NO.	REVISIONS	BY	DATE	APP
0	Engineering	RGC	07/18/05	

SCALE: None
APPVD:
DATE:
DESIGNED RGC
DRAFTED RGC
CHECKED

ISSUE DATE: August 2010
ISSUE FOR: General Training

P&ID LEGEND SHEET 2 OF 2
CODES, TAGS AND LABELS

[COMPANY NAME]

Project: 123456

DRAWING NO.
D002

TRUCK UNLOADING SKID

INDUSTRIAL FEED
5000 gal Tanker

CAUSTIC FEED
5000 gal Tanker

PROCESS DRAIN

AUTO/MAN HS 101-2

ZI 101-2

HS 101-2

SV 101-2

XV 101-2

ZSO 101-2

ZSC 101-2

ZI 101-1

ZSO 101-1

ZSC 101-1

SV 101-1

XV 101-1

HS 101-1 (DSC / ON / OFF / AUTO)

HS 1101A (AUTO/MAN)

ZI 1101 (AUTO)

PI 1101

FQR 1101

FI 1101

FIT 1101

FE 1101

Meter Proving

Meter Proving and Transfer Pad Spill Return

1101

YI 1101 RUNNING

YA 1101 FAULT

KQR 1101 RUNTIME

Temporary Hose For Truck Transfer Spills

AUTO/MAN HS 703-

ZI 703-

SV 703-

ZSO 703-

ZSC 703-

XV 703-

AUTO/MAN HS 705-

ZI 705-

SV 705-

ZSO 705-

ZSC 705-

XV 705-

AUTO/MAN HS 706-

ZI 706-

SV 706-

ZSO 706-

ZSC 706-

XV 706-

1101:3 RAW FEED TO 1703 IFD DWG D100

1101:4 CAUSTIC FEED TO 1705 CFD DWG D101

1101:5 CAUSTIC FEED TO 1706 CFD DWG D101

D601:17 WATER FROM HEADER UWR DWG D601

1"-UWR-D601:17-LS3

6"/hr = 112 gpm on Transfer Pad

6103 Note 1

General Use

TRUCK TRANSFER PAD
15' Wide x 120' Long

Transfer Pad Sump
2' Wide x 2' Long x 2' Deep

Temporary Hose for Clean Rain Water Discharge to Storm Water Collection

1101
UNLOAD PUMP
TYPE: Centrifugal Slurry
CAPACITY: 250 gpm @ 78 ft. TDH
MOTOR: 20 HP 480 V/3 PH/1800 RPM
CONSTRUCTION: Maxalloy 2
OTHER:
MANUFACTURER: Wilfley
MODEL: 2 1/2 K

DRAWING NOTES:
1. Pump is supplied loose and may be moved where required. (See also D100)

NO.	REVISIONS	BY	DATE	APP
A	HazOp	RGC	07/21/05	
B	HazOp Recommendations	RGC	07/28/05	
C	General Revisions	RGC	09/12/05	
0	Fabrication	RGC	10/17/05	
1	Construction	RGC	12/27/05	

SCALE: None
APPVD:
DATE:

DESIGNED RGC
DRAFTED RGC
CHECKED

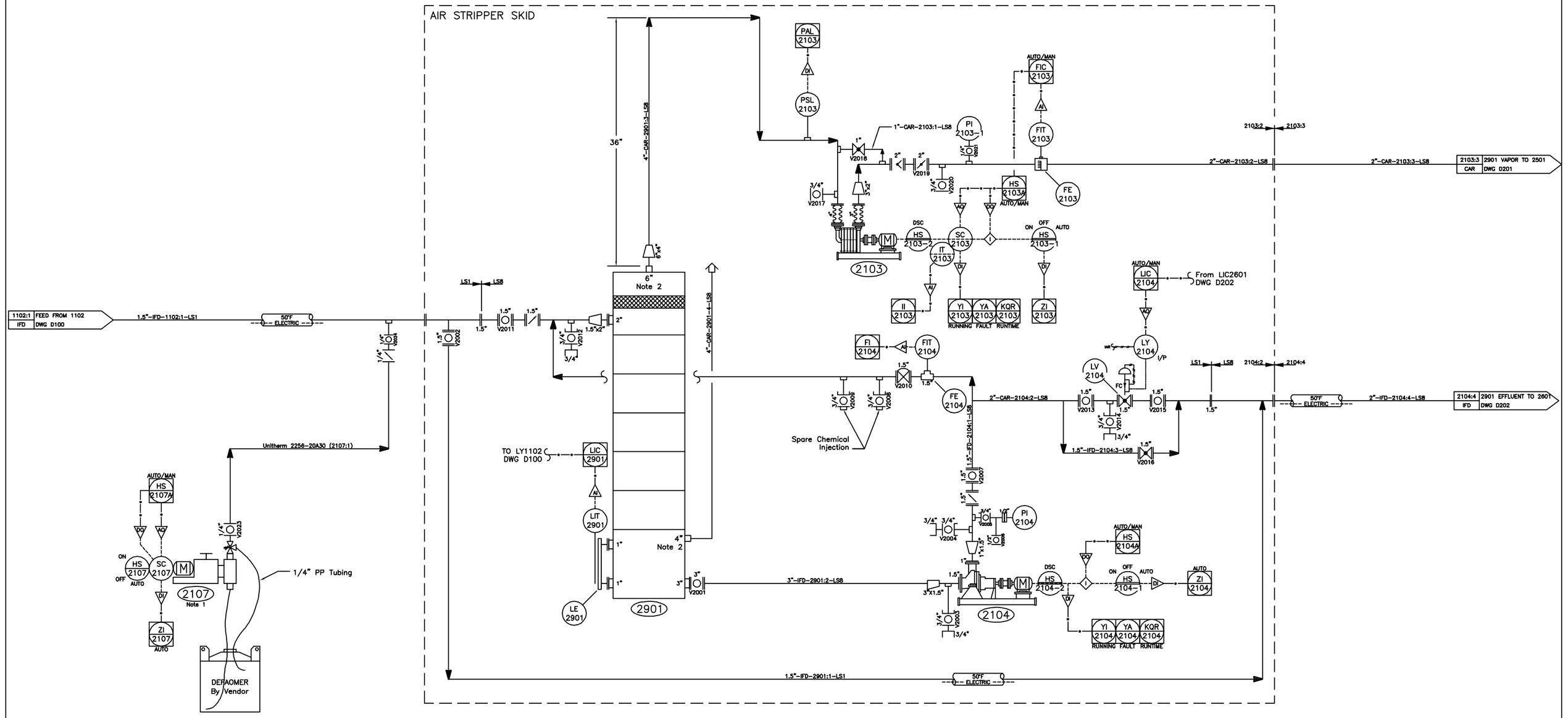
ISSUE DATE: August 2010
ISSUE FOR: General Training

[CLIENT NAME]
[CLIENT LOCATION]
[NAME OF PROCESS]
PIPING & INSTRUMENTATION DIAGRAM
TRUCK UNLOADING & TRANSFER PAD

[COMPANY NAME]

Project: 123456

DRAWING NO.
D100



2107
T1 DEFOAMER PUMP

TYPE: Solenoid pulse
CAPACITY: X LPH
MOTOR: 120 V/1 PH/– RPM
CONSTRUCTION:
OTHER:
MANUFACTURER: LMI
MODEL:

2901
AIR STRIPPER

TYPE:Sieve Tray
CAPACITY:35 gpm nominal
SIZE: Five Trays w/30 gal sump
CONSTRUCTION:304SS
DESIGN: 150 SCFM @ <=6" Hg
OTHER: Modified T1 SVC
MANUFACTURER: [BY COMPANY]

2103
STRIPPER BLOWER

TYPE: Mult–Stage Centrifugal
CAPACITY: 150 SCFM @ 5" Hg vacuum
MOTOR: 480 V/3 PH/Z RPM
CONSTRUCTION: Xylan–coated Al turbines
OTHER: 2950 rpm operating speed
MANUFACTURER: Gardner Denver
MODEL: Turbotron

2104
STRIPPER EFFLUENT PUMP

TYPE: Horizontal Centrifugal
CAPACITY: 35 gpm @ 45 ft. TDH
MOTOR: 2HP 480V/3 PH/1800RPM
CONSTRUCTION: DCI
OTHER:
MANUFACTURER: Durco
MODEL: 1K1.5x1–82RVM3STFPD

DRAWING NOTES:
1. Defoamer and 2107 located inside press building.
2. Straight pipe connection may be coupled with Fernco.

NO.	REVISIONS	BY	DATE	APP	NO.	REVISIONS	BY	DATE	APP
A	HazOp	RGC	07/21/05						
B	HazOp Recommendations	RGC	07/30/05						
C	Vendor Feedback Updates	RGC	09/13/05						
0	Fabrication	RGC	10/17/05						
1	Construction	RGC	12/27/05						

SCALE: None
APPVD:
DATE:

DESIGNED	RGC
DRAFTED	RGC
CHECKED	

ISSUE DATE: August 2010
ISSUE FOR: General Training

[CLIENT NAME]
[CLIENT LOCATION]
[NAME OF PROCESS]
PIPING & INSTRUMENTATION DIAGRAM
AIR STRIPPER AND DEFOAMER

LIQUID SOLUTIONS LLC

Project: 123456

DRAWING NO.
D200

1703:7 VNT VENT HEADER FROM DWG D100

4"-VNT-1703:7-LS1

Tap at top of header

1703:7 VNT VENT HEADER TO DWG D102

PSE 1705

3"-VNT-1705:3-LS1

PCV 1706

1101:5 CFD CAUSTIC FROM 1101 DWG D104

3"-CFD-1101:5-LS1

50°F ELECTRIC

1101:4 CFD CAUSTIC FROM 1101 DWG D104

3"-CFD-1101:4-LS1

50°F ELECTRIC

INTFACE LI 705-2 TI 1705

TOTAL LI 705-

LT 705-1

LT 705-2

TT 1705

LSH 1705

LS 1705

3"-VNT-1705:2-LS1

INTFACE LI 706-2 TI 1706

TOTAL LI 706-

LT 706-1

LT 706-2

TT 1706

LSH 1706

LS 1706

3"-VNT-1703:8-LS1

1/2"-VNT-1703:8-LS1

LE 705-1 Total

LE 705-2 Int

TE 1705

LE 706-1 Total

LE 706-2 Int

TE 1706

ZI 705-2

ZSO 705-2

ZSC 705-2

ZI 706-2

ZSO 706-2

ZSC 706-2

1505

TC 1505 SP=50°F

1506

TC 1506 SP=50°F

1705

1706

XV 705-2

XV 706-2

SV 705-2

SV 706-2

AUTO/MAN HS 705-2

AUTO/MAN HS 706-2

2"-CFD-1705:1-LS1

2"-CFD-1706:1-LS1

50°F ELECTRIC

PSH 1001

PS 1001

Accessible From Grade

1/2" V1117

T1 & T2 FEED SKID

SG AI 1105 FI 1105 FQ 1105

Pulse

LY 1105 I/P

From LIC4601 DWG D401

AIT 1105

FIT 1105

LV 1105

FE 1105

PI 1105

1.5"-CFD-1105:1-LS1

1.5"-CFD-1105:2-LS1

50°F ELECTRIC

1105:1 CFD CAUSTIC FEED TO 4601 DWG D401

AUTO/MAN HS 1105A

DSC HS 1105-2

ON OFF AUTO HS 1105-1

AUTO ZI 1105

1105

YI 1105 RUNNING

YA 1105 FAULT

KQR 1105 RUNTIME

SKID BOUNDRY CONTINUES ON DWG D100

SKID BOUNDRY CONTINUES ON DWG D100

1705/6 T2 FEED TANKS

TYPE: Vertical Cylindrical
CAPACITY: 25000 gal
SIZE: 12' Dia. x 30' SSW
CONSTRUCTION: A36 CS
DESIGN: Atm psig at 180°F
OTHER: 3/16" Shell & 1/4" Bottom
MANUFACTURER: Precision Tank

1505/6 T2 TANK HEATERS

TYPE: Electric Immersion
MOUNT SIZE: 6" Flange
ELEMENTS: KW
IMMERSION LENGTHS: SS
OTHER:
MANUFACTURER:
MODEL:

1105 T2 FEED PUMP

TYPE: Horizontal Centrifugal
CAPACITY: 20 gpm @ 47 ft. TDH
MOTOR: 2HP 480V/3PH/1800RPM
CONSTRUCTION: DCI
OTHER:
MANUFACTURER: Durco
MODEL: 1K1.5x1-82RVM3STFPD

NO.	REVISIONS	BY	DATE	APP
A	HazOp	RGC	07/21/05	
B	HazOp Recommendations	RGC	07/28/05	
C	General Revision	RGC	09/12/05	
0	Fabrication	RGC	12/01/05	
1	Construction	RGC	12/27/05	

NO.	REVISIONS	BY	DATE	APP

SCALE: None
APPVD:
DATE:

DESIGNED	RGC
DRAFTED	RGC
CHECKED	

ISSUE DATE: August 2010
ISSUE FOR: General Training

[CLIENT NAME]
[CLIENT LOCATION]
[NAME OF PROCESS]
PIPING & INSTRUMENTATION DIAGRAM
CAUSTIC STORAGE & FEED

[COMPANY NAME]

Project: 123456

DRAWING NO.
D101