ASA SYSTEMS

NORCHEM
Model A*1100

The **NORCHEM Model A*1100 ASA** emulsification unit is designed to meter and emulsify ASA (alkenyl succinic anhydride) with an emulsifying polymer or modified grafted liquid starch at emulsion flowrates up to 20 gpm (1200 GPH) @ 1-5% concentration and up to 30 GPH (2000 ml/min) of neat ASA. The **A*1100** is modular in design consisting of a turbine hydraulic assembly, neat ASA and polymer / liquid starch metering modules, control panel and Powder Coat or SS base.

MODEL A*1100 SYSTEM SPECIFICATIONS:

FRAME:	**BASE:**	**42" W X 42" L X 64" H**
	CONSTRUCTION:	**POWDER COATED MILD STEEL**
PANEL:	**ENCLOSURE:**	**NEMA 4X**
TURBINE MODULE:	**PUMP:**	**STAINLESS STEEL, 300 PSI OPERATING PRESSURE**
	DRIVE:	**10 HP AC FREQUENCY**
	MOTOR:	**460/3/60, 10 HP, 12.5 AMP, 0-4800 RPM, TENV, WASHDOWN DUTY**
	SEAL:	**PROPRIETARY FLOW THRU ENCAPSULATED CARBIDE/GRAPHITE**
ASA/STARCH:	**PUMP:**	**ROTARY GEAR, STAINLESS STEEL, CHEMICAL SERVICE**
	DRIVE:	**AC FREQUENCY**
	MOTOR:	**460/3/60, 0.5 HP, 1.2 AMP, 0-1000 RPM, TEFC, WASHDOWN DUTY**
	CAPACITY:	**0-2000 ML/MIN @ 80 PSI**
SOLUTION OUTPUT:	**PRIMARY FLOW:**	**0.25 – 2.0 GPM (15-120 GPH)**
	SECONDARY FLOW:	**1 – 20 GPM (60-1200 GPH)**
	FLOWMETERS:	**ABB MAGNETIC FLOW TUBES**
	DISPLAYS:	**DIGITAL**
CONCENTRATION:	**SOLUTION:**	**PRIMARY: 5 - 50%, VOLUME ON VOLUME**
		SECONDARY: 0.2 TO 5.0%, VOLUME ON VOLUME
CONTROLS:	**PLC:**	**ALLEN-BRADLEY MICROLOGIX 1500**
	WATER:	**LOW WATER FLOW ALARM AND FAILSAFE, MANUAL RESET**
	LIQUID LEVEL:	**CONDUCTIVITY-TYPE, 4 STAINLESS STEEL PROBE ASSEMBLY**
UTILITIES:	**ELECTRICAL:**	**460 VAC, 3 PHASE, 60 HERTZ, 30 AMP**
	WATER:	**30 GPM @ 50 PSI, COOL, CLEAN SOURCE**

ENGINEERING SPECIFICATIONS:

The NORCHEM Model A*1100 ASA emulsification unit is designed to meter and emulsify ASA and polymer or grafted liquid starch to create a stable emulsion with proper particle size and distribution for good sizing reactivity. The Model A*1100 features a dual element polymer/starch pre-conditioning injection system and internal auto flow functions to preserve emulsion formation and performance. The emulsifier system consists of a variable speed single stage frame mounted stainless turbine with a low pressure stainless manifold emulsifier block, AC variable speed ASA and Polymer/Starch injection pumps with analog following capabilities, Allen-Bradley PLC for DCS integration, primary and secondary water flow dilution headers. Additional instrumentation includes low water flow alarms and Norchem's EQM **E**mulsion **Q**uality **M**onitor real time laser monitor

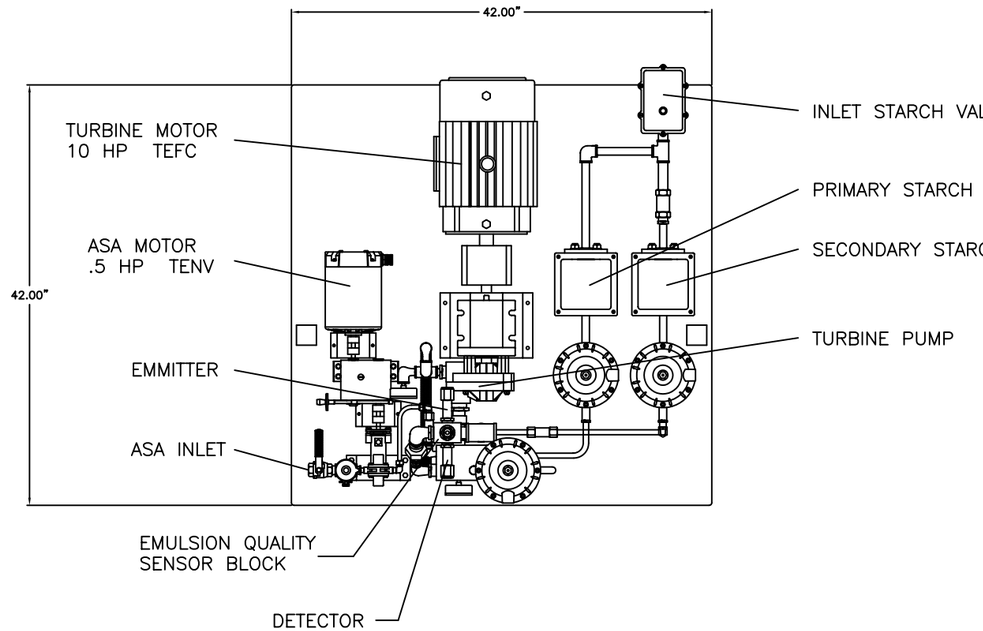
NORCHEM INC.

RIDGEPOINT TECH CENTER 8910 W. 192ND STREET MOKENA. IL 60448 708 478-4777

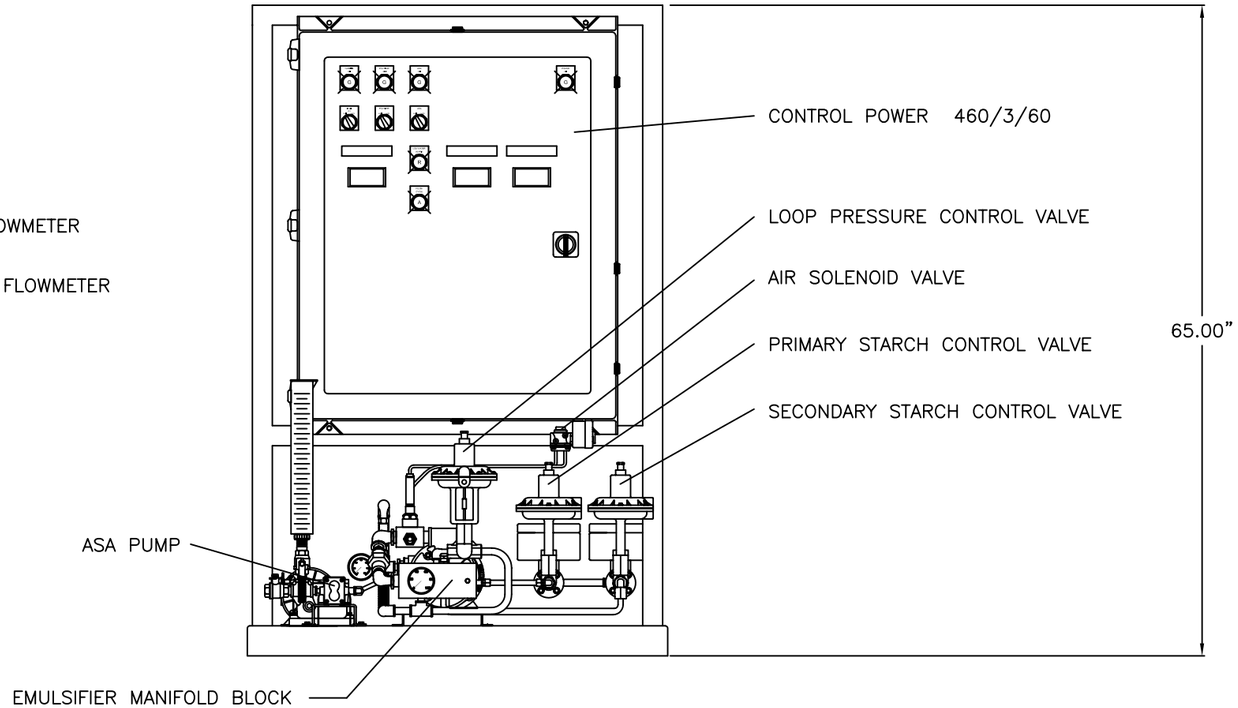
PLAN & ELEVATION

A*1000_SPEC_D

ASA EMULSIFICATION SYSTEMS



TOP VIEW



FRONT VIEW

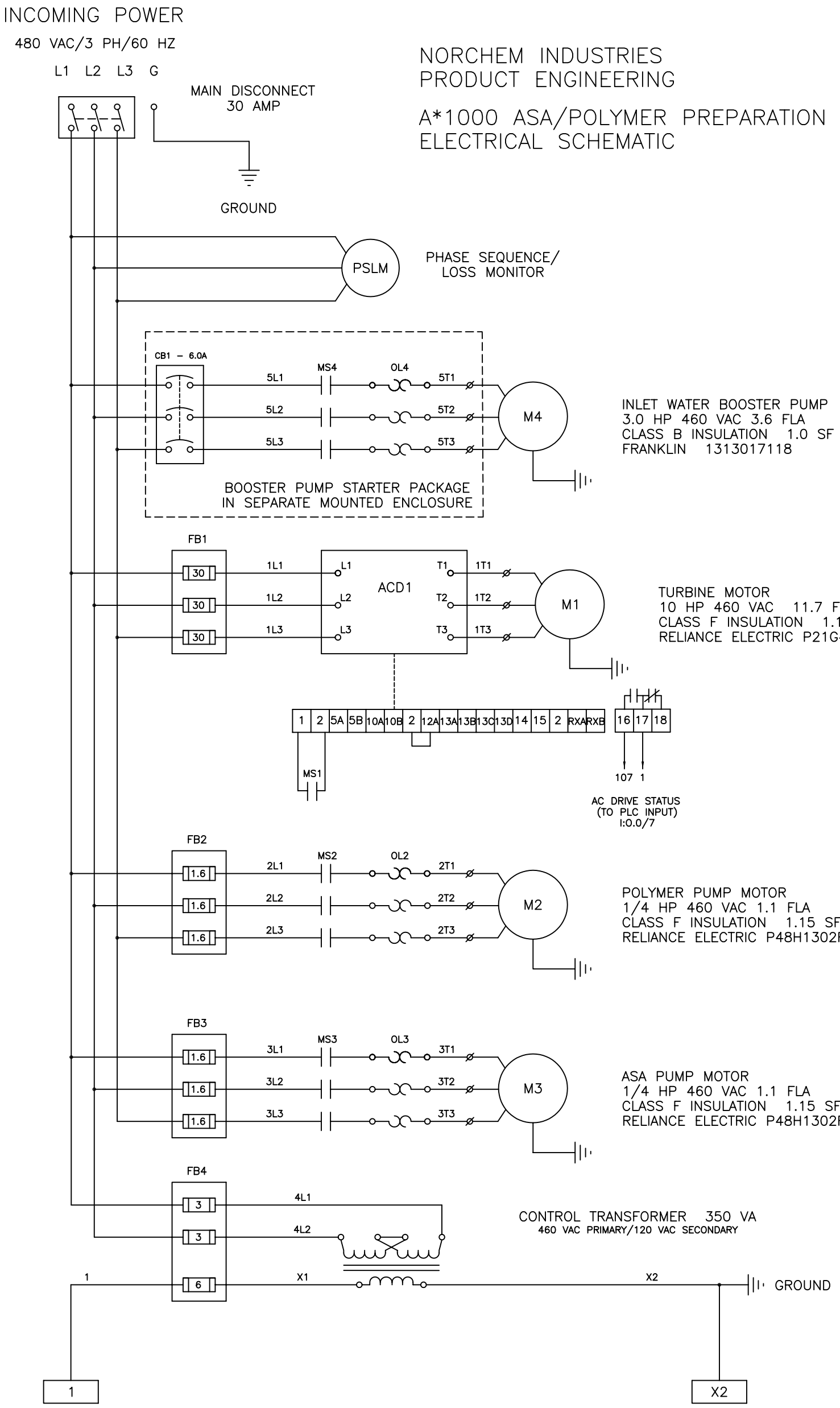
NOTE:
THIS DRAWING IS TYPICAL TO THE PROPOSED CONFIGURATION WITHOUT ASA OR STARCH MASS FLOWMETER.

NORCHEM INC.

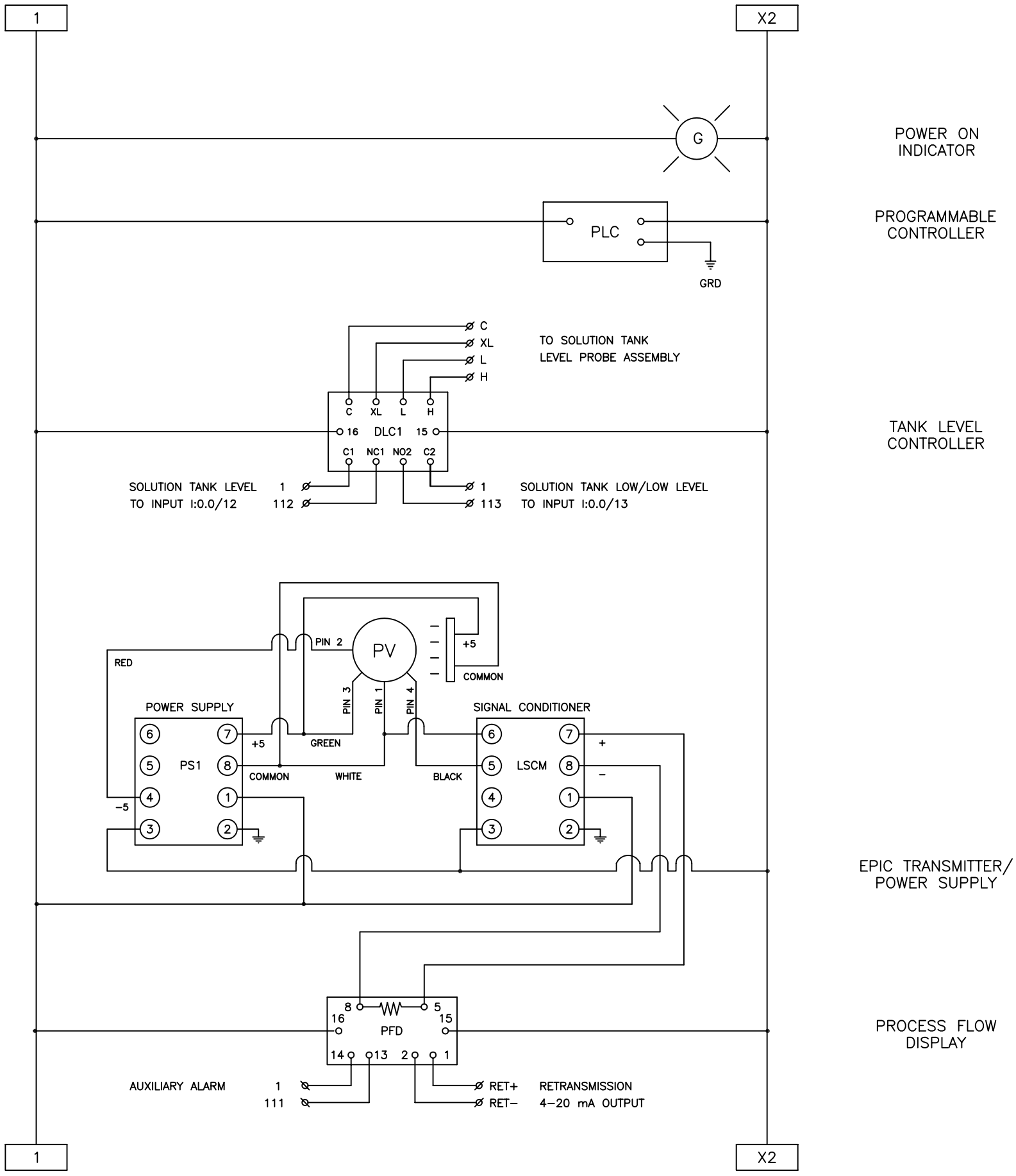
8910 W. 192nd STREET MOKENA, ILLINOIS 60448 708 . 478 . 4777 07.02

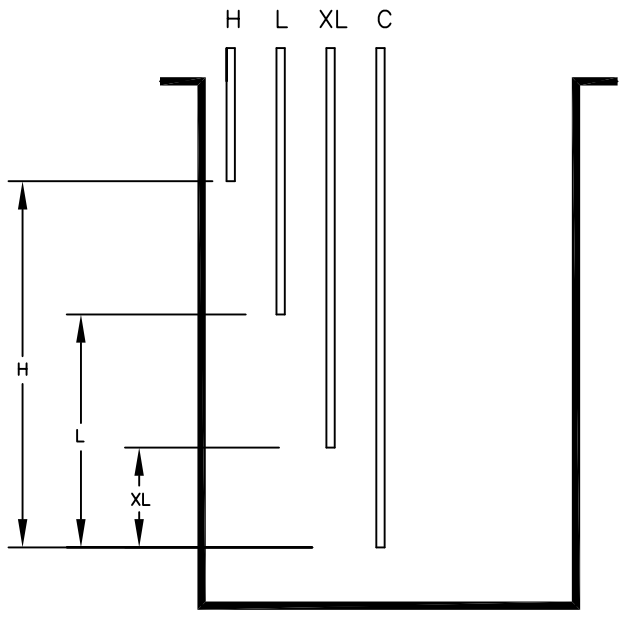
NORCHEM INDUSTRIES
PRODUCT ENGINEERING

A*1000 ASA/POLYMER PREPARATION SYSTEM
ELECTRICAL SCHEMATIC



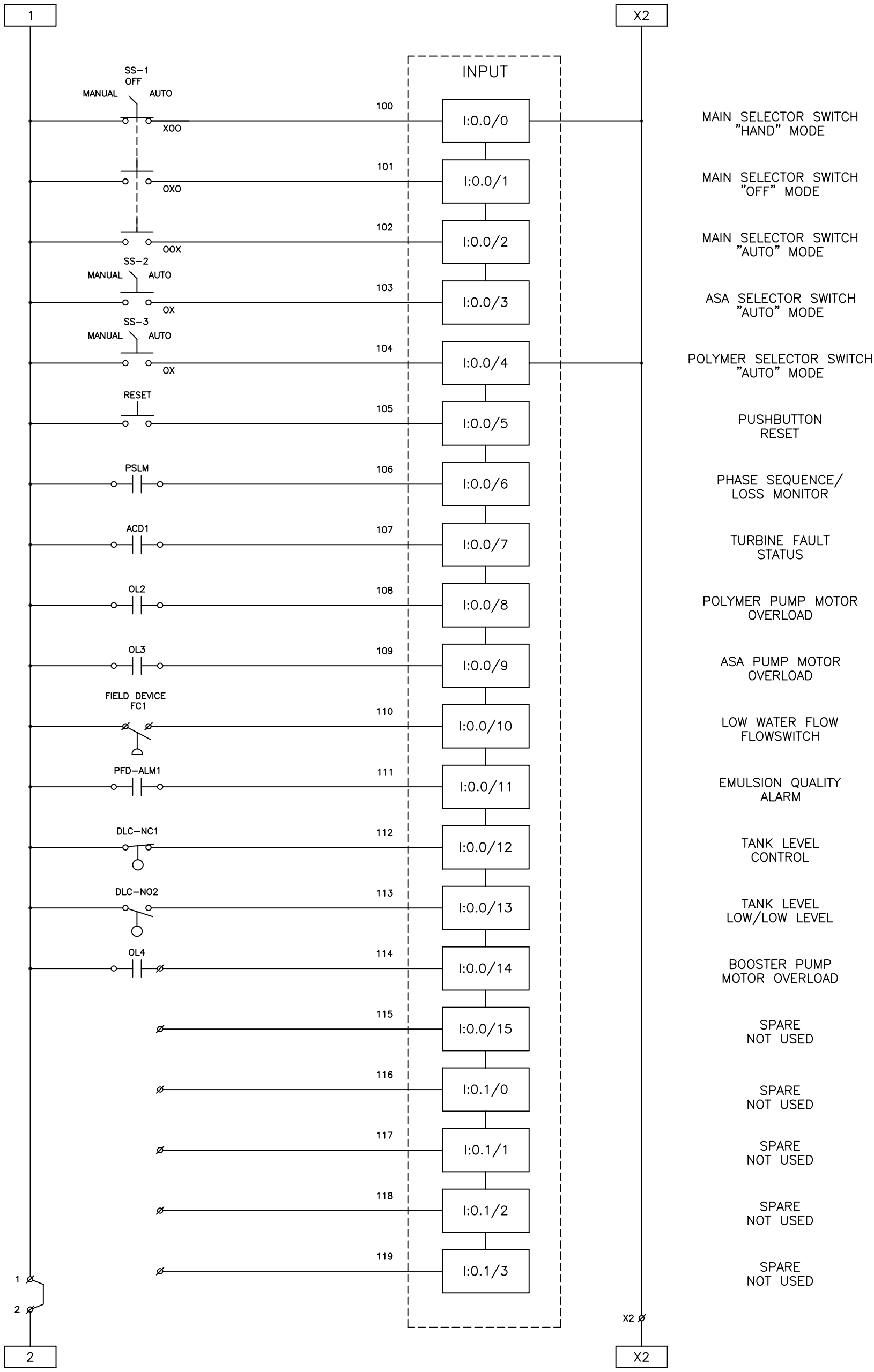
MODEL: A*1000
CUSTOMER: xxxxx
CUSTOMER P.O. NO.: xxxxx
NCI PROJECT: TYPICAL
SCHEMATIC NO.: NCI–082802–1A REV. A
SHEET 1 OF 4



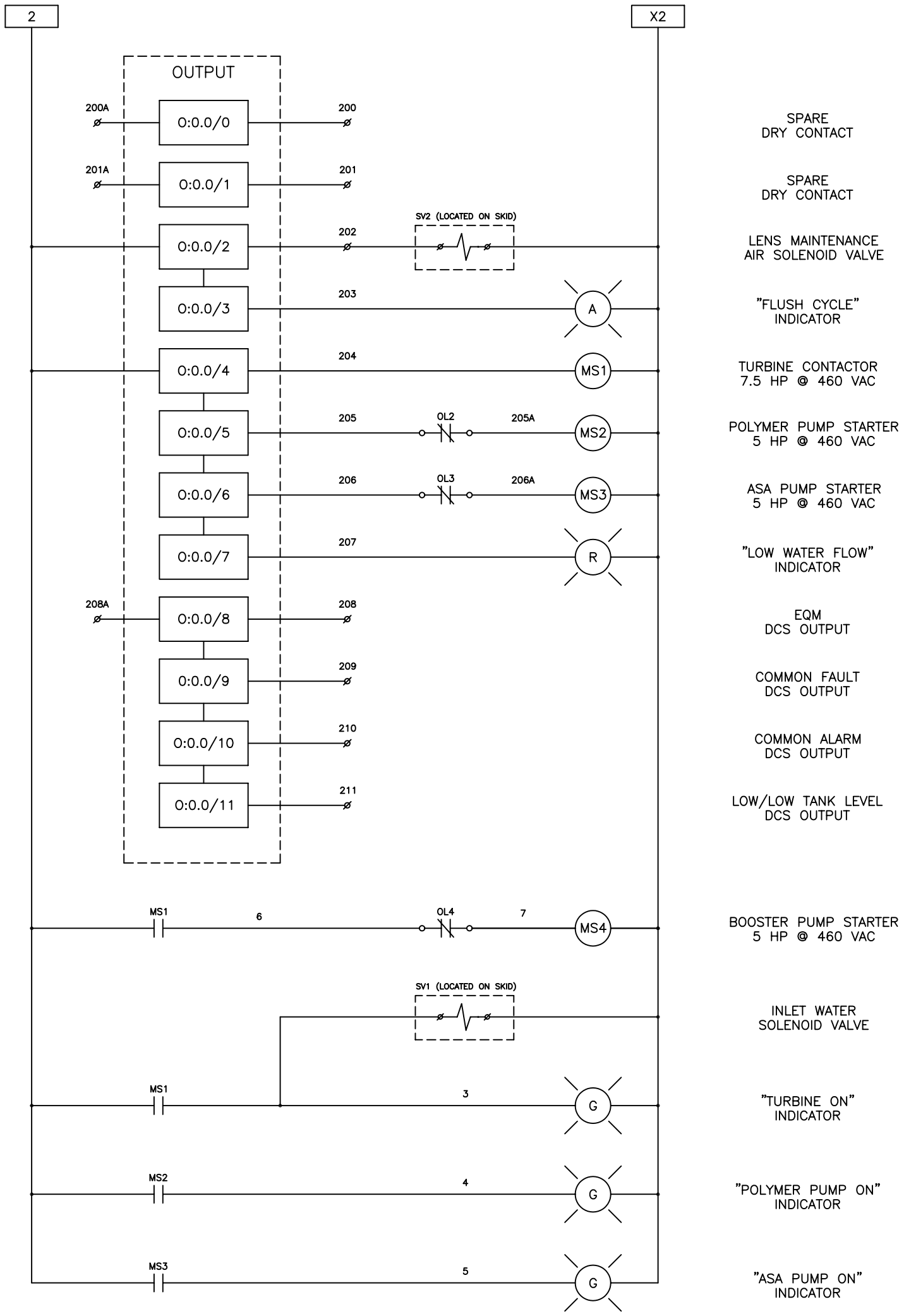


PROBE INSTALLATION

MODEL: AP-VS800
CUSTOMER:
CUSTOMER P.O. NO.:
NCI PROJECT: TYPICAL
SCHEMATIC NO.: NCI-082802-1 REV. B
SHEET 2 OF 4



MODEL: AP-VS800
CUSTOMER:
CUSTOMER P.O. NO.:
NCI PROJECT: TYPICAL
SCHEMATIC NO.: NCI-082802-1 REV. B
SHEET 3 OF 4



MODEL: AP–VS800
CUSTOMER:
CUSTOMER P.O. NO.:
NCI PROJECT: TYPICAL
SCHEMATIC NO.: NCI–082802–1 REV. B
SHEET 4 OF 4