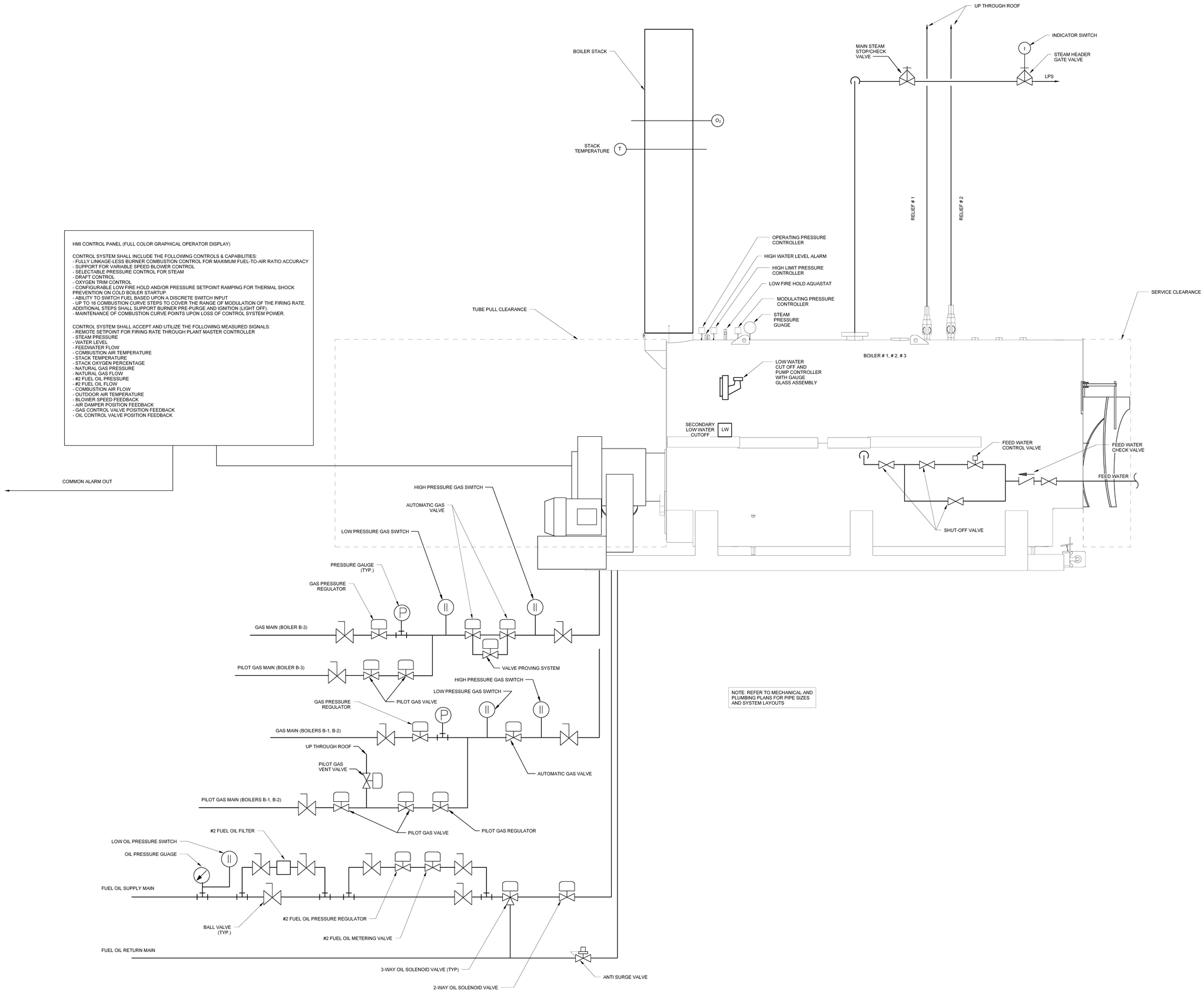
HMI CONTROL PANEL (FULL COLOR GRAPHICAL OPERATOR DISPLAY)

CONTROL SYSTEM SHALL INCLUDE THE FOLLOWING CONTROLS & CAPABILITIES:
- FULLY LINKAGE-LESS BURNER COMBUSTION CONTROL FOR MAXIMUM FUEL-TO-AIR RATIO ACCURACY
- SUPPORT FOR VARIABLE SPEED BLOWER CONTROL
- SELECTABLE PRESSURE CONTROL FOR STEAM
- DRAFT CONTROL
- OXYGEN TRIM CONTROL
- CONFIGURABLE LOW FIRE HOLD AND/OR PRESSURE SETPOINT RAMPING FOR THERMAL SHOCK PREVENTION ON COLD BOILER STARTUP.
- ABILITY TO SWITCH FUEL BASED UPON A DISCRETE SWITCH INPUT
- UP TO 16 COMBUSTION CURVE STEPS TO COVER THE RANGE OF MODULATION OF THE FIRING RATE. ADDITIONAL STEPS SHALL SUPPORT BURNER PRE-PURGE AND IGNITION (LIGHT OFF).
- MAINTENANCE OF COMBUSTION CURVE POINTS UPON LOSS OF CONTROL SYSTEM POWER.

CONTROL SYSTEM SHALL ACCEPT AND UTILIZE THE FOLLOWING MEASURED SIGNALS:
- REMOTE SETPOINT FOR FIRING RATE THROUGH PLANT MASTER CONTROLLER
- STEAM PRESSURE
- WATER LEVEL
- FEEDWATER FLOW
- COMBUSTION AIR TEMPERATURE
- STACK TEMPERATURE
- STACK OXYGEN PERCENTAGE
- NATURAL GAS PRESSURE
- NATURAL GAS FLOW
- #2 FUEL OIL PRESSURE
- #2 FUEL OIL FLOW
- COMBUSTION AIR FLOW
- OUTDOOR AIR TEMPERATURE
- BLOWER SPEED FEEDBACK
- AIR DAMPER POSITION FEEDBACK
- GAS CONTROL VALVE POSITION FEEDBACK
- OIL CONTROL VALVE POSITION FEEDBACK

COMMON ALARM OUT



NOTE: REFER TO MECHANICAL AND PLUMBING PLANS FOR PIPE SIZES AND SYSTEM LAYOUTS

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HARRIMAN

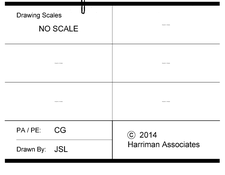
AUBURN PORTLAND MANCHESTER

UNIVERSITY OF SOUTHERN MAINE CENTRAL HEAT PLANT UPGRADES

PORTLAND, ME

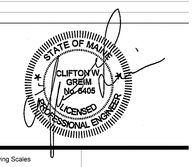
Harriman Project No.	14411

Key Plan — Proj North



Issues and Revisions

Mark	Date	Description
	08-25-14	REVISED SCHEMATIC DESIGN
	09-05-14	DESIGN DEVELOPMENT
	09-19-14	PROGRESS REVIEW
	09-26-14	PROGRESS REVIEW
	10-03-14	PROGRESS REVIEW
	10-10-14	FINAL REVIEW
	10-23-14	100% REVIEW
	10-31-14	ISSUED FOR BID



Drawing Scales: NO SCALE

PA / PE: CG

Drawn By: JSL

TYPICAL BOILER SCHEMATIC DETAIL

M30.1