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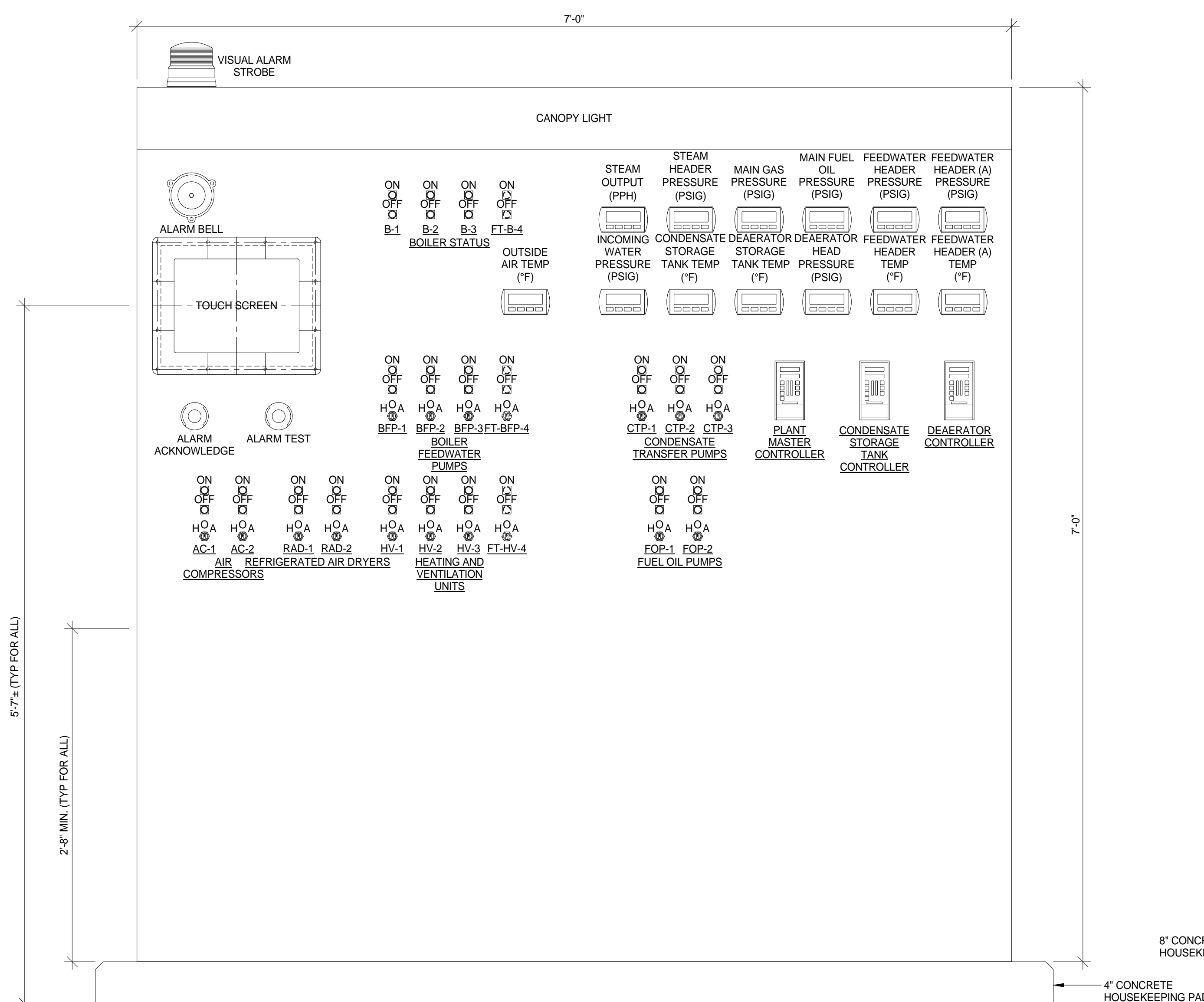
DETAIL - PIPE ALIGNMENT GUIDE

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- Diagram illustrating the isometric view of a boiler. The boiler is shown with a vertical axis labeled "LONG AXIS OF BOILER". The front of the boiler is labeled "FRONT OF BOILER". A "STEAM NOZZLE" is attached to the top. The diagram shows the following forces and moments acting on the boiler:
- $+F_y$ (Vertical force, upward)
 - $+M_y$ (Bending moment, around the horizontal axis)
 - $+M_z$ (Bending moment, around the vertical axis)
 - $+F_z$ (Horizontal force, along the vertical axis)
 - $+M_x$ (Torsional moment, around the horizontal axis)
 - $+F_x$ (Horizontal force, along the horizontal axis)
- ISOMETRIC VIEW

	Fx LB	Fy LB	Fz LB	Mx IN LB	My IN LB	Mz IN LB
B-1 (1170)	-40.37	-234.23	-21.00	-1,934.29	-7.94	1,452.47
B-2 (2180)	-60.98	-209.53	-5.16	-2,037.55	236.02	1,576.29
B-3 (3180)	-180.62	-387.17	21.30	-1,442.35	68.83	-1,728.50

- NOTES:**
1. BOILERS SHALL BE DESIGNED TO WITHSTAND THE FORCES AND MOMENTS SHOWN ABOVE.
 2. ADD ANY Fy FORCE (500 LB [230 Kg] MINIMUM) AS AN ESTIMATION OF THE WEIGHT EFFECT OF THE STEAM LEAD AND VALVE ON THE BOILER. BOILER AND PIPE HANGER SUPPLIERS SHALL COORDINATE TO DETERMINE THE EXACT Fy FORCE WHICH WILL BE IMPOSED ON THE STEAM NOZZLES.

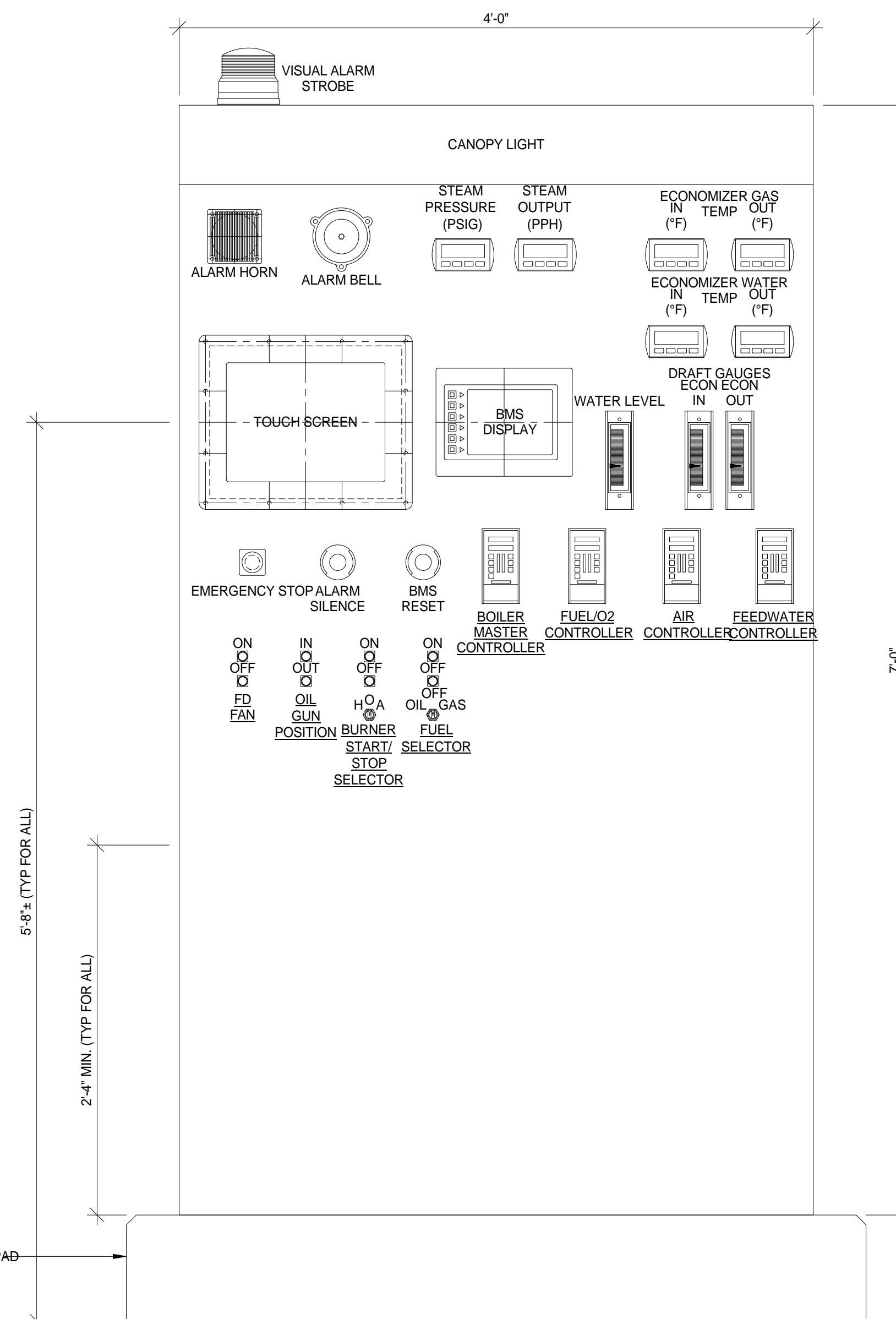
FORCES AND MOMENTS ON BOILER STEAM NOZZLES



BOILER PLANT MASTER CONTROL PANEL

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DETAIL - TYPICAL STEAM VALVE INSTALLATION



TYPICAL BOILER CONTROL PANEL
SCALE: NONE

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- Diagram illustrating the components of a chemical feed system:
- DIRECT DRIVE AGITATOR
 - HINGED LID
 - CHEMICAL TREATMENT TANK
 - GAUGE GLASS
 - 3/8" CHEMICAL FEED
 - RELIEF VALVE
 - CHEMICAL FEED PUMP
 - SHUT-OFF VALVE
 - STRAINER
 - 4" CONCRETE PAD
 - FINISHED FLOOR

CHEMICAL FEED TANK ELEVATION
SCALE: NONE