



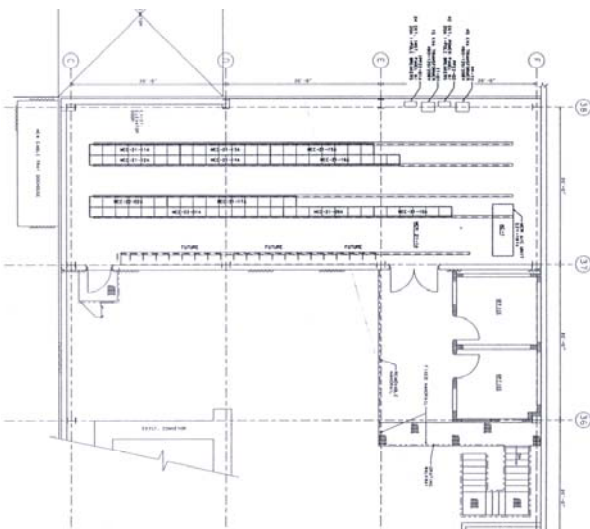
ELECTRICAL EQUIPMENT UPGRADE PROJECT

PULP AND PAPER MILL – SOUTHEAST USA

TOTAL INSTALLED COST \$3,000,000

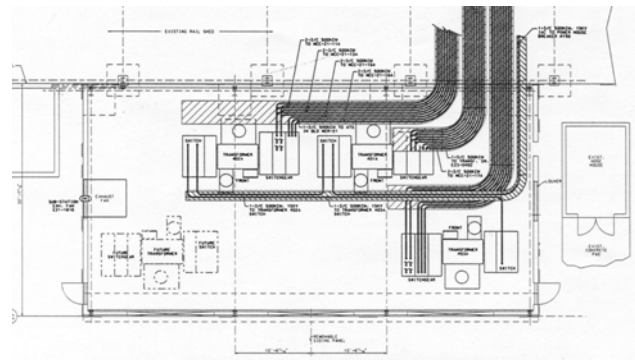
PENTA provided complete engineering and design for the installation of three new 1500 KVA secondary unit substations and new motor control centers feeding 285 existing loads in a Pulp Mill Dryer building. PENTA developed construction drawings of the new spaces, HVAC and electrical systems. The majority of the loads were transferred while the Pulp Mill was operating with close coordination with the operations personnel. The remaining loads were transferred during a 10 day shutdown

A new single-story building was provided to house the new substations, including space for one future substation. A new two-story structure was added in the Pulp Finishing and Shipping area. New Lab, CCR and maintenance areas were added on the operating floor. The MCC room and offices were located approximately 12 feet above the operating floor on a new mezzanine. Lighting, HVAC and convenience power were provided for the Lab, CCR and Maintenance areas, as well as a complete ground system for all new equipment and structures.



MCC ROOM AND OFFICE LAYOUT

Medium voltage power distribution to the substation primary switches was provided. The design for feeding the new secondary substations was a simple radial system. Low voltage power distribution from the three new substation secondary switchgear to the new motor control centers was provided.



All miscellaneous feeders, motor feeders, control cables, HOA switches, cable tray, and cable tray supports to 275 existing motors and loads were provided. A new PLC based control system for the motors and field devices controlling the Layboy, Cutter and Swing Conveyor was also provided.

New GAI-Tronics 5 channel station, smoke detectors and manual pull alarm stations were provided in the substation building and the MCC room.