

## ***MECHANICAL (HVAC) ENGINEERING***

**Everything you need for permits.**

- **Residential**
- **Commercial**
- **Loads**
- **Energy Calculations**
- **Duct Drawings**

If you are planning on building a house, an addition, a multi-family building or a commercial building, you will need completed and signed, accurate HVAC loads and energy calculation forms for permits. In some cases, depending on the municipality, you may even need an HVAC duct design for permitting.

Using the industry standard, Air Conditioning Contractors of America (ACCA) approved, Wrightsoft Manual J8 computer software programs and Energy Gauge, Air West can expedite the process of supplying accurate mechanical loads and energy calculations, completed forms for permitting and mechanical designs.

It is important, for many reasons, that HVAC loads are accurate for new buildings. Undersized systems will have longer run cycles and therefore larger electric bills. Oversized systems will have shorter run cycles, however, the run cycles will be too short and not enough humidity will be extracted from the air to produce a comfortable environment. Properly sized HVAC systems provide a balance of comfort and smaller electric bills.

There are many energy efficiency rating choices available for HVAC systems. The choice you make can save a lot of money on your electric bill. Old jealousy type (crank) windows leak fresh air into the house and let cold air out of the home. This is called infiltration. New codes now demand better quality windows to be installed in new construction residential homes.

Even the least expensive windows have much better frames that will withstand high winds. These windows also don't allow as much outside air infiltration into the home. There are many windows with different levels of efficiency. All these things will affect the accuracy of HVAC loads. An Air West representative will discuss these window choices with you.

For many years, the codes for commercial buildings have required fresh air to be brought directly into the HVAC systems. The latest codes now require fresh air to be brought in to new construction homes. This means that warm, humid air is introduced directly into the HVAC system and increases the load (tonnage) and electrical costs. Due to this code change, it is even more important that HVAC loads are accurate. An Air West Comfort Care Specialist can discuss options to control the air flow and/or pre-cool and dehumidify this fresh air before it enters your HVAC system.

These options will dramatically save on electrical cooling costs for the homeowner. So do not wait until the last minute. The sooner you discuss the options with our representative, the more time you will have to make informed and intelligent decisions.