

New Construction Energy Efficiency Narrative

In our effort to comply with the Tompkins County Energy Recommendations for New Construction, adopted in 2018, I have highlighted provisions that we are already taking, as well as choices that we have made to improve our proposed construction in the Town of Dryden. Our client has taken great strides to offer quality equipment and appliances as well as construction that improve the overall efficiency of our building.

1. Below is a list of equipment and appliances to be installed in the Dryden development, along with the coordinating spec sheet.

Water/ Bathroom Fixtures

- American Standard High Efficiency Toilet
 - o Meets EPA Water Sense Criteria
- American Standard Center set Lavatory
 - o Lead Free
- American Standard Electric Water Heater
- Elkay Two Station Wall Mount Water Cooler

I would like to point out that in various states our buildings have been given a variance for water usage. We are considered to have a low flow water demand. We use less water in our buildings than a standard 2 story, 3 bedroom home uses. Please see the letters provided speaking to this designation.

In several counties in the state of New York, including Tompkins, we have provided these letters to the County Health Department as proof that we will have a minimal affect on the water supply in the area in which we are developing.

LED Lighting

- Interior Lighting
 - o All new stores are fitted with LED fixtures on the inside.
 - o This provides around a 12% reduction vs fluorescent in energy spend across one of our stores annually.
- Exterior Lights
 - o All new stores are fitted with LED fixtures for items listed below.
 - Wall Packs
 - Light Poles
 - Long Arm Fixtures
 - o This provides around a 2% reduction in energy spend vs fluorescent across one of our stores annually.

Refrigeration

- True Coolers
 - o Model GDM-49F-HC-TSL01
 - This model is Energy Star Approved
 - These are used for our back room storage

- 2 units
- Zero Zone
 - Model Freedom Line RFL
 - Energy Efficiency Compliant with DOE as of 2017
 - These units are used on our sales floor.
 - 4-7 units

HVAC

- VFD Installation
 - All HVAC units across all new stores are implemented with variable frequency drives
 - This provides around a 10% reduction in energy spend vs non VFD installed HVAC units.

EMS (Electrical Management System)

- Emerson Site Supervisor
 - All stores are fitted with a site supervisor; EMS
 - This allows us to control all of our appliances detailed below:
 - Has lighting turn on and off at store opening and closing
 - Has the HVAC run at specified set points during the day and reduces these set points during unoccupied hours.

2. In an effort to comply with the second bullet of Tompkins County Energy Recommendations regarding heat pumps. I have discussed the use of heat pumps at this facility with our architects, engineers, and project managers. This form of heating would require an extensive overhaul to our prototypical plans.

Traditionally, in the state of New York we have opted to heat with natural gas as it is cleaner burning and more cost effective. We would prefer to continue with this manner of heating in the Dryden Development but are willing to install electric HVAC units as a means of reducing our dependency on fossil fuels if that is what the Town/ County would prefer.

3. In an effort to comply with the third bullet of the Tompkins County Energy Recommendations, renewable, we have done some research on solar power. Due to recent changes in NY laws, it is our understanding that we are no longer able to buy solar power for commercial facilities from a solar farm. We have asked a local provider to review our plans and provide a quote for the cost of solar array installation but are concerned that this may be too large of an undertaking for us to meet the contracted construction timelines that we have for this development.

In exchange, we are providing a High Albedo (white) roof on this building. This style of roofing adds a reflective quality to the roofs building, reflecting the sun's heat rather than absorbing it. This makes the building easier and more efficient to cool in summer months. Please see the revised COMCHECK that speaks to the energy efficiency of this building

4. In an effort to comply with the fourth bullet of the Tompkins County Energy Requirements, I would like to highlight that our building specs are 9100 SQ in a symmetrical, uniform shape, providing a more energy efficient building design. All building in New York include a vestibule to provide a double entry door system, keeping the weather out and the heating and cooling in. Furthermore, in New York, we wrap our building with an air tight bithuthene membrane (see the spec sheet provided) and seal all joints with DuPont mastic. Both of these products meet IECC air barrier requirements. Finally, we fit each building with (4) 5 ton HVAC units in an effort to equalize the heating and cooling distribution in our building and we have increased the insulation in the walls of this building from R19 to R25 (refer to the provided COMCHECK).