

## Homestead Road Tri Pointe

### ENERGY MANAGEMENT PLAN

The Energy Management Plan for the townhomes is closely associated with the elements of the Climate Action Plan included in the townhome construction. As stated in the Climate Action Plan response, the townhomes will include

- Watersense Faucets and Fixtures – 1.5 gpm or 30% reduction from standard fixtures
- Tankless water heaters – 8% -14% more energy efficient than standard
- Energy Star Dishwashers – 12% more energy efficient and 30% more water efficient
- Toilets – 1.28gpf – 20% less water than current federal standard
- EV outlet in garage – Available
- Rough in for optional solar panels included
- Whole House LED lighting standard
- Whole House energy management system included
- Low E glazing standard
- Techshield Radiant Barrier Roof Sheathing included
- LOW VOC Paints standard
- Programmable Wi—Fi thermostats standard
- Merv 13 Air Filters
- Duke Energy Hero Plan

#### GOALS:

##### 1. Meeting ASHRAE 90.2 Low Rise Residential

The elements described above will aim to incorporate a direction towards an energy performance better than the ASHRAE 90.2 standard. No specific calculation has been performed to determine the extent to which these elements will increase energy efficiency, and the actual usage by homeowners will in large part be the deciding factor. It is the intent of the builder to provide the appropriate equipment and information that will make energy reduction possible.

##### 2. Sustainable Energy Usage

Each townhome will be roughed in for future solar capacity making the addition of solar power an achievable option for the individual homeowner. It will be offered as an option in the sale of the home.

**3. Carbon Offsets**

No Carbon offsets have been evaluated or pursued for this project.

**4. Water Conservation Measures**

All of the fixtures and equipment included as standard in the townhomes will be water saving. As noted above, toilets will be 1.28 gpf, dishwashers 30% more water efficient; other fixtures 30% more efficient. The site will be developed with native species and no irrigation system is included.

**5. Lower Transportation Related Energy Consumption**

Electric Vehicle charging stations will be included as an option in all townhomes. The site is located on a bus line with bus stops on the immediately adjacent properties.

**6. Green Building Standard**

The project will comply with the requirements of the Duke Energy HERO (High Efficiency Residential Option) standards.

**7. Urban Heat Island Mitigation**

The site has been planned to retain large areas of natural vegetation. The buildings will also incorporate lighter colored roofs. Techshield radiant barriers are included in all homes.

**8. Site Design Water and Energy Conservation**

As stated above, the site has been designed to minimize the use of water and energy. All plantings in public areas will be native species and no irrigation system is planned. There is no predicted energy usage for the site other than street lighting – LED to be provided by Duke Energy.

**9. Location Based Energy Savings**

The site is located within the current urban services network. Developing it with the density indicated, fulfills some of the Town's stated need for this housing type, while not requiring extension of water, sewer, power, police, fire department, bus, or other urban services. Making efficient use of these already existing elements should contribute to energy savings in the development process.

**10. Reducing Greenhouse Emissions**

The townhomes will be all electric. As electric energy becomes more efficient in the future, these townhomes will take advantage of those network wide efficiencies. No fossil fuel will be consumed on site. Compliance with the Duke Energy HERO program also aims towards reduced greenhouse emissions.

**11. Efficient Lighting Design**

All lighting on site from the public areas to the interior fixtures in the townhomes will be LED.

**12. Natural Light for interior design**

Since this is a residential development, all habitable rooms will have the benefit of natural light. All glazing will be Low E.

**13. Building Envelope Sustainability**

As indicated above, the building envelope will have a radiant barrier. This barrier can reduce attic temperatures as much as 30 degrees. The building envelope in all other characteristics will meet or exceed the North Carolina Energy code as well as strict envelope leakage requirements incorporated in the HERO program (Blower door target of 4.00 ACH50).

**14. Building Materials Life Cycle Costs**

All finishes included in the building will be low VOC. Effort will be made to locally source materials, but market circumstances at the time of construction will dictate use.

**15. Mechanical Equipment Efficiency**

Energy management in the townhomes will be by programmable Wi-Fi thermostats allowing the users to control their energy usage – even remotely. Upgraded SEER-Rated HVAC will be available.

**16. Health and Safety Features**

Carbon monoxide detectors, touchless kitchen faucets, natural light throughout, low VOC paints, formaldehyde free insulation and carpet pads, MERV 13 Air Filters will all contribute to the health and safety on the townhomes.

**17. Addressing the Town's Climate Action Plan**

All of the items stated above will contribute towards the Town's Climate Action and Response Plan. The homes will be all electric design, and thereby reduce fossil fuel reduction. The homes will be prepped for renewable energy and solar options for homeowners will be available. EV charging will be an available option in the garages.

**18. Teaming with Duke Energy**

The townhome construction will participate in the Duke Energy HERO Plan. (High Efficiency Residential Option). That plan offers monetary incentives for energy efficient residences that meet the HERO Code Targets. To qualify, the construction must use less energy than the HERO reference home, reduce infiltration and air leakage through the envelope to 4.00 ACH50, and have 90% or greater efficient lighting.