

CLIMATE ASSESSMENT FOR

ZTA 24-02, Agricultural and Rural Zones – Campground

PURPOSE OF CLIMATE ASSESSMENTS

The purpose of the Climate Assessments is to evaluate the anticipated impact of master plans and zoning text amendments (ZTAs) on the county’s contribution to addressing climate change. These assessments provide the County Council with a better understanding of the potential climate impacts and implications of proposed master plans and ZTAs, at the county level. The scope of the Climate Assessments is limited to addressing climate change, specifically the effect of land use recommendations in master plans and ZTAs on greenhouse gas (GHG) emissions and sequestration, and how actions proposed by master plans and ZTAs could improve the county’s adaptive capacity to climate change and increase community resilience.

While co-benefits such as health and cost savings may be discussed, the focus is on how proposed master plans and ZTAs may impact GHG emissions and community resilience.

SUMMARY

ZTA 24-02 will allow campgrounds in certain agricultural and rural zones under specific conditions.

- Under the current zoning ordinance, Campgrounds are only allowed in the Rural (R) and Residential Estate 2C (RE-2C) zones.
- ZTA 24-02 will expand the Campground use to the AR and RC zones on properties that satisfy the requirements for Farming in the zoning ordinance.
- Additional requirements include a minimum acreage, a maximum number of structures, a maximum number of nights per guest, and limitations on kitchen and sanitation facilities.

Considering the requirements of the ZTA including minimum property acreage, the maximum number of tents, recreational vehicles, or removable structures, and a maximum number of nights per guest, the ZTA is anticipated to result in minor negative impacts on greenhouse gas emissions, sequestration, and community resilience, and a combination of minor negative and positive impacts on adaptive capacity as described in greater detail below. Due to the uncertainty of the number and location of campgrounds that may result from this ZTA, data are not obtainable to quantify the greenhouse gas emissions and sequestration impacts.

BACKGROUND AND PURPOSE OF ZTA 24-02

Zoning Text Amendment (ZTA) 24-02, Agricultural and Rural Zones - Campground, was introduced on June 11, 2024, sponsored by Councilmembers Balcombe, Luedtke, Katz, and Fani-Gonzalez and co-sponsored by Council President Friedson, and Councilmembers Albornoz, Glass, and Sayles (Attachment A). The ZTA is scheduled for a District Council Public Hearing on July 16, 2024.

The county has put forth substantial effort and planning toward promoting the agricultural reserve in recent years including the 2019 Agritourism Study, and the recent update to the *Rustic Roads Functional Master Plan*. This ZTA seeks to expand upon these efforts, utilizing the state enabling legislation, and feedback received during the spring of 2024 to create additional tourism options that include limited overnight accommodations that promote and protect the agricultural reserve.

VARIABLES THAT COULD AFFECT THE ASSESSMENT

CLIMATE-RELATED VARIABLES

Transportation- Vehicle miles traveled by type, Number of trips, Non-vehicle modes of transportation

Building Embodied Emissions – Building square footage, Building life span, Pavement infrastructure, Material waste produced, Use of green building materials

Energy – Electricity usage, Stationary fuel usage

Land Cover and Management – Area of forest, Area of non-forest tree canopy, Area of green cover

RESILIENCE-RELATED VARIABLES

Exposure-Related Factors – Activity in flood-risk areas, Exposure to other hazards (e.g., storms, wind, drought), Potential for shelters to be inadequately designed and built to protect people from exposure to climate hazards.

Sensitivity-Related Factors – Change to forest cover, Change to non-forest tree canopy, Change to quality or quantity of other green areas, Change in perviousness, Change in stormwater management system treatments, Change to water quality or quantity, Change to air quality, Infrastructure design decisions.

ADAPTIVE CAPACITY-RELATED VARIABLES

Change to emergency response and recovery capabilities, Change to accessibility or prevalence of local food sources and other goods, Change in availability or distribution of economic and financial resources, Change to community connectivity, Change in distribution of resources and support.

OTHER VARIABLES

Other variables include the number and frequency of usage at each permitted campground, transportation options, and where the sites are located.

ANTICIPATED IMPACTS

Considering the requirements of the ZTA including minimum property acreage, the maximum number of tents, recreational vehicles, or removable structures, and a maximum number of nights per guest, the ZTA is anticipated to result in minor negative impacts on greenhouse gas emissions, sequestration, and community resilience, and a combination of negative and positive impacts on adaptive capacity as described in greater detail below. Due to the uncertainty of the number, location, and intensity of usage of campgrounds that result from this ZTA, data are not obtainable to quantify the greenhouse gas emissions and sequestration impacts.

GREENHOUSE GAS EMISSIONS, CARBON SEQUESTRATION, AND DRAWDOWN

ZTA 24-02 is anticipated to have minor negative impacts on greenhouse gas emissions and carbon sequestration. Note: The *Climate Assessment Recommendations for Master Plans and Zoning Text Amendments in Montgomery County* indicate that carbon sequestration, drawdown, and reduction are generally used interchangeably. The *Recommendations* document uses the term sequestration.

The transportation-related impacts are primarily due to the ZTA activities occurring in the Agricultural areas of the county, which tend to be located farther away from population-centers that would be the origin points for many of the trips taken. In addition, transportation options to access the farms offering campground facilities are more limited in the agricultural zones, with travel by individual automobile likely the most prevalent form of transportation, increasing vehicle miles traveled and number of trips. Given the restrictions of the ZTA, greenhouse gas emissions from transportation are likely to be minor.

The building embodied emissions result from permanent and removable structures required to support the establishment and operation of campgrounds, and any incidental pavement for access and parking. These emissions are expected to be minor, as relatively few structures are typically needed to support campgrounds compared to other uses and there are limitations on the number and size of tents and removable structures, and limitations on the number of recreational vehicles.

Energy-related emissions will depend on the sources and distribution of energy used and for the heating, lighting, food preparation, and incidental electricity consumed. In view of the limitations of the ZTA the greenhouse gas emissions from fire and charcoal-based cooking are expected to be minor. Electricity-based emissions could be reduced or eliminated through the use of clean energy generated on-site.

There may be some reductions in areas of forest, non-forest tree canopy, and natural ground cover. If such areas are cleared and graded to make room for the new campgrounds, access, and parking, it would result in reductions in the amount of carbon sequestered and stored. Because of the specified limits on the maximum number of tents, recreational vehicles, and removable structures, however, impacts to sequestration from Land Cover Change and Management are anticipated to be minor.

COMMUNITY RESILIENCE AND ADAPTIVE CAPACITY

Considering the requirements of the amendment, ZTA 24-02 is anticipated to have minor negative impacts to community resilience, and minor positive and minor negative impacts to community adaptive capacity.

Community resilience could be negatively impacted by increased exposure to the hazardous effects of climate change, including increased potential exposure to floods, storms, and temperature extremes. Changes to sensitivity-related factors may include changes (reductions) to forest cover and non-forest tree canopy, changes to the quality or quantity of other green areas, loss of some pervious land covers, increased stormwater management structures that alter natural flows and infiltration of precipitation runoff. The latter impacts have the potential to reduce water quality and quantity, affecting water supply and quality for both humans and natural systems.

Given the restrictions the ZTA places on the maximum number of tents, recreational vehicles, removable structures, and the number of consecutive nights a guest may stay, negative impacts to water quality are expected to be minor. Sanitation systems that are properly located and sized to handle the additional sewage generated from campground usage will also serve to minimize negative impacts on water quality. Due to the same limitations, water usage for showers, etc. can be expected to result in minor increases in water use.

Negative impacts to air quality may result from increased motor vehicle trips and vehicle miles traveled generated by additional travel to and through the agricultural zones.

There could be slight positive impacts to community adaptive capacity as the opportunities for camping create more opportunities for enjoying and connecting with the outdoors, promoting community connectedness and cohesiveness, strengthening support networks and increasing communication. These are seen as helpful to building adaptive capacity to respond to climate disruptions.

The availability or distribution of economic and financial resources may be increased as this new use introduces a new source of revenue for farms. The use may create additional visits to local farms and businesses.

ZTA 24-02 has the potential to have both positive and negative impacts on the accessibility of local food sources and other goods. The new use will bring more people to farms and may provide opportunities for people to obtain fresh produce and learn about farming and growing techniques

during their stays. Negative impacts can be expected to the degree that currently farmed fields and forested areas are converted to campgrounds.

RELATIONSHIP TO GREENHOUSE GAS REDUCTION AND SEQUESTRATION ACTIONS CONTAINED IN THE MONTGOMERY COUNTY CLIMATE ACTION PLAN (CAP)

ZTA 24-02 does not involve any GHG activities that relate to the GHG reduction actions from the County's Climate Action Plan. The ZTA does relate to several of the sequestration actions, and the ZTA has the potential to negatively affect the ability of the County to achieve goals related to the following CAP actions:

- S-1 Retain and Increase Forests
- S-2 Retain and Increase Tree Canopy
- S-3 Restore and enhance meadows and wetlands
- S-5 Restore soil fertility, microbial activity, and moisture-holding capacity

None of these actions were rated for reduction potential as evaluated within the CAP.

RECOMMENDED AMENDMENTS

The Climate Assessment Act requires the Planning Board to offer recommendations, as appropriate, such as amendments to the proposed ZTA 24-02, or other mitigating measures that could help counter any identified negative impacts through this Climate Assessment.

Any land disturbance greater than 5,000 square feet should initiate application of the Forest Conservation Law. On the other hand, the Forest Conservation Law does not preclude forest removal. Planning Staff recommend use standards for campgrounds that prohibit the removal of forest in establishing campgrounds. Staff also recommend use standards that require applicants to provide a campground development plan that complies with the Guidelines for Environmental Management of Development in Montgomery County.

While not fully appropriate for a ZTA, it may be beneficial to consider ways to ensure that campgrounds are not just co-located but integrated with Agritourism activities. This could include inclusion in farm outreach and education components to demonstrate regenerative agricultural techniques to campground guests.

SOURCES OF INFORMATION, ASSUMPTIONS, AND METHODOLOGIES USED

The climate assessment for ZTA 24-02 was prepared using the methodology for ZTAs contained within the *Climate Assessment Recommendations for Master Plans and Zoning Text Amendments in Montgomery County, December 1, 2022*.