The Knoxville-Knox County Planning Commission September 11, 2024

My name is Stephen A. Smith and I have lived in the Timbercrest Neighborhood for more than eighteen years at 5443 Yosemite Trail.

I'm requesting a delay in the approval of **9-SC-24-C** due to significant changes in road design allowing thoroughfare traffic, the need for additional review to address concerns about high soil slippage hazard, slope development, and tree management consistent with the Hillside and Ridgetop Protection Plan adopted by Knoxville City Council.

We bought in the neighborhood to raise our children in a safe community that had limited traffic flow due to its lack of thoroughfare traffic and buffered forest boundaries on three of the neighborhood's four sides.

I'm requesting the development plan NOT be allowed to interconnect with the adjacent neighborhood via Yosemite Trail and Farland Drive because it would increase thoroughfare traffic and safety concerns in our community.

Hillside and Ridgetop Protection

Over the past six years, we have seen significant lot development in our neighborhood and adjacent properties which has led to a significant reduction in forest cover in and around our community. The Timbercrest neighborhood is sandwiched between the I-75/I-40 interstate and Middlebrook Pike traffic. Reducing tree density has increased road noise in our community.

The 9-SC-24-C proposal appears to not follow the Hillside and Ridgetop Protection Plan. The area to be disrupted is land that meets the guidelines that warrant Hillside and Ridgetop Protection Plan (HRPP) review standards. I have copied several of relevant sections that are not adequately addressed in the current proposal. The Soil Slippage Potential map on page 12 of the HRPP shows the proposed development site is in an area of high soil slippage risk. This risk is coupled with the significant slope area >15%. I have posted a couple of sections on soil slippage from the HRPP below.

Issues and Concerns

MASS WASTING LANDSLIDES

"In 2003, improper clearing and grading during the construction of the Forest Ridge Apartments caused a landslide that destroyed an apartment building trapping and severely injuring an individual inside.[5] The term landslide is often used interchangeably with mass wasting. Mass wasting is essentially the downward movement of earth materials. The two forms of mass wasting are classified as slope failures or sediment flows, the latter of which is often induced through the addition of water. They occur predominately in areas with steep slopes (such as slopes greater than 15 percent). They can be caused by both natural events (heavy rains, erosion, and earthquakes) and human-caused alterations to the land or a combination thereof. Generally, alterations to hillside and ridgetop land in Knoxville-Knox County are

related to development activities and/or forestry practices. As slopes are cleared and graded, the likelihood of landslide events increases.

In evaluating soils and their capacity for development, the Natural Resources Conservation Service (NRCS) Soil Survey for Knox County identifies soil types by slippage hazard. Soil slippage hazard is a measure of "the possibility that a mass of soil will slip." When vegetation is cleared, water saturates the soil and normal construction practices are applied (such as the application of heavy machinery) soil failure is more likely. Soil slippage hazard classes are identified as high (unstable), medium (moderately unstable), or low (slightly unstable to stable.)

Classes are assigned based on observations of slope, mineral characteristics, strike and dip of bedrock geology, surface drainage patterns and occurrences of such features as slip scars and slumps. High slippage hazard soils are found predominately in steeply sloping hillside areas.".) The Knoxville Knox County Hillside and Ridgetop Protection Plan —p. 9

Geotechnical Analysis on Potential Landslide Areas

"A geotechnical analysis is a review of the surface and subsurface characteristics of soils to determine the properties that are relevant to a project and any associated risks. Soils that are on steep slopes generally have a high slip potential when either the soils downslope or the soils in the hazard area are disturbed. In the Hillside and Ridgetop Area, geotechnical analysis should be required on slopes that are 40 percent or greater, or have soils that are considered to have a high slip potential, before any land disturbing activities can commence." The Knoxville Knox County Hillside and Ridgetop Protection Plan —p. 45

I am requesting that a geotechnical analysis of the soils be completed and made public before the project is up for approval from the Commission.

In high-slope and high-risk soil slippage areas mature trees play a critical role in soil stabilization. The forest in this area is mature appearing to be minimally disrupted for the past 60-80 years based on aerial surveys on KGIS. These mature trees are valuable to the city's commitment to green space, a healthy urban canopy, and wildlife habitat. It is unclear how the developers will attempt to manage these valuable trees while dealing with high-slope and high-risk soil slippage areas.

TREE PROTECTION

"Knox County does not have a tree protection ordinance. However, the city of Knoxville has had a tree protection ordinance since 1992. In regard to clearing and grading the ordinance notes that where a building permit or subdivision approval has not been issued no more than 25 percent of the trees shall be cleared on any one parcel. For new land development and construction a minimum of six trees per acre shall be preserved unless because of cut and fill work such trees cannot be saved. The ordinance is administered by the city horticulturist. However, the definition

of trees is limited to those that have a trunk six inches or more in diameter at one foot above the ground; or those of a horticultural variety or that are highly ornamental (e.g. dogwood, redbud, crabapple, sourwood, flowering cherry or peach, southern magnolia, or holly) and has a trunk diameter of three inches or more at one foot above the ground. When trees cannot be preserved because of cut and fill or do not exist on the site, they are required to be provided within 12 months of construction completion, at the rate of eight trees per acre, with at least one-half of the required number being species capable of attaining a height of 50 feet or more at maturity. Such trees shall have a minimum trunk diameter of two inches at six inches above ground at planting, unless of an ornamental variety, which shall have a minimum trunk diameter of one and one-fourth inches at six inches above ground at planting." p.22 — The Knoxville Knox County Hillside and Ridgetop Protection Plan

I am requesting that a tree management plan be developed taking the geotechnical analysis of the soils into account and made public before the commission reviews this request. The plan should address visual impacts along the Ridgeline by removing large trees and creating blighted areas when viewed from the north and south directions.

I would also call to your attention growing concerns about extreme precipitation events that have been documented in our region as part of the atmospheric warming trends. I have directly experienced extreme rainfall events that have overwhelmed stormwater infrastructure in our neighborhood. I have had the city maintenance department increase the height of my roadside curbing due to the increased frequency of extreme rainfall events causing stormwater runoff to top the curb and flood my front and side yards instead of following engineered stormwater flow patterns.

More info can be found here:
https://www.epa.gov/climate-indicators/climate-change-indicators-heavy-precipitation

This development proposal will likely have significant water management issues as these trends continue. The site will not be connected to existing stormwater infrastructure and will attempt to depend on retention ponds with drainage on both sides of the sloped hillsides.

STORMWATER CONTROL AND WATER QUALITY

"Sediment is the foremost pollutant in Knox County's waterways. Construction activities, particularly grading and cleared un-stabilized sites are major causes. The runoff that flows across an uncovered lot can release as much as 30 tons of soil during a rainstorm. Sediment increases flooding, impacts public and private water supply, and destroys aquatic habitat. Runoff on cleared and graded steep slopes can be a particularly severe problem because of the increased velocity of downhill flow, resulting in greater potential for erosion. Hillside forest conservation is among the best strategies to avoid erosion problems. Trees intercept stormwater and reduce runoff. When rail falls the drops are deflected by leaves lessening the impact of the storm on underlying soils. Ground cover and roots hold the soils in place, also reducing the susceptibility of erosion. Stormwater runoff rates from forested areas are the least of any landscape type, which

helps to reduce flooding and serves as a filter of pollution. flooding and serves as a filter of pollution." The Knoxville Knox County Hillside and Ridgetop Protection Plan p. 16

In conclusion, it should not be the goal of the Knoxville-Knox County Planning Commission to approve every development proposal that comes before the commission. Overdevelopment decreases the quality of life in our community. The Knoxville Knox County Hillside and Ridgetop Protection Plan was adopted by the city to discourage the overdevelopment of these sensitive areas and prevent high-risk development schemes. This proposal has numerous issues that are problematic to achieving the goals of thoughtful development in our community.

Thank you for your consideration of these important issues.

Stephen A. Smith, DVM

5443 Yosemite Trail

Knoxville, TN 37909