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February 16, 2005

Ms. Kimberly Williams, Vice President
The United Group of Companies, Inc.
80 State Street
Albany, New York 12207

**RE: Air Quality Assessment for Proposed Carriage Hill Estates, Town of
Brunswick, Rensselaer County, New York. CME Project #04-164**

Dear Ms. Williams:

Creighton Manning Engineering, LLP (CME) has conducted an assessment of the air quality for inclusion in the DEIS prepared for the Carriage Hill Estates project. Below is a summary of the analysis in a format suitable for inclusion in the DEIS.

Air Quality Assessment

As part of the New York State Environmental Quality Review Act (SEQRA) requirements, an air quality assessment was conducted for the proposed Carriage Hill Estates residential development. The air quality assessment conducted conforms to the procedures followed by the New York State Department of Environmental Conservation (NYSDEC). Currently, the NYSDEC follows the procedures of the New York State Department of Transportation (NYSDOT) as outlined in Chapter 1.1 of the *Environmental Procedures Manual (EPM)*, last updated January 2001. These procedures address the Clean Air Act Amendments of 1990 and guidance from the Environmental Protection Agency (EPA).

Existing Conditions

The proposed project site is located in Rensselaer County which is classified as marginal non-attainment for ozone and attainment for carbon monoxide. New York State collects air quality data for numerous pollutants at monitoring stations in each county through a program operated by the Bureau of Air Quality Surveillance. The EPA prescribes what pollutants are required to be monitored at different locations based on the characteristics of each region. Therefore, monitoring stations are disbursed throughout New York State with each station monitoring certain pollutants. In addition to the continuous and manual monitors in each county, ambient air quality data from private networks (utilities) is also an integral part of the state database for pollutants. The data from each monitoring station is recorded and summarized in the *New York State Air Quality Report, Air Monitoring System*. The latest data tables available are for the year 2003.

Engineers, Planners and Surveyors

A monitoring station located in Rensselaer County in Grafton State Park, approximately 10 miles from the study area, monitors ozone. Data was unavailable for the 8-Hour Average period for the last 3 years since data was not compiled in 2001. However, this station was in compliance with the New York State and National Ambient Air Quality Standards for ozone for the 1-hour average period in 2003. The monitoring station in Grafton also monitors sulfur dioxide. This station was in compliance with the New York State and National Ambient Air Quality Standards for one-hour and eight-hour averages for sulfur dioxide in 2003. The closest station which monitors carbon monoxide is located in Loudonville, approximately 15 miles from the project site in Albany County. The Loudonville station was in compliance with the one-hour and eight-hour averages for carbon monoxide in 2003.

Microscale Air Quality

General Requirements

A microscale air quality analysis is performed to determine carbon monoxide (CO) concentrations at various worst case receptors adjacent to the roadways in a project area. Based on the procedures outlined in the EPM, worst case receptors are typically chosen at signalized intersections where a level of service D, E, or F exists for the build conditions. Unsignalized intersections do not typically warrant a detailed air quality analysis since the major-street high volume approaches at these intersections operate as free flow conditions. Any intersection requiring a detailed air quality analysis based on the level of service criteria undergoes additional screenings based on an analysis of the site conditions with respect to the reduction in source-receptor distances, traffic volume increases, vehicle emission increases, and speed reduction. The screening process is used to pinpoint locations where vehicle emissions will be the highest and will contribute to the background air quality. Any detailed air quality analysis is conducted using CAL3QHC, Version 2.0, which is a computer based air quality dispersion model. This model is based on traffic parameters from the *Highway Capacity Manual* (HCM) and is capable of analyzing intersection and free flow receptors.

Intersection Screening Analysis

Based on a review of the Traffic Impact Study prepared for this project, the five study area intersections listed below were assessed for air quality:

- NYS Route 2/South Lake Avenue
- Pinewoods Avenue/Pawling Avenue (NYS Route 66)
- NYS Route 2/Pawling Avenue (NYS Route 66)
- NYS Route 2/Site Access Road
- Pinewoods Avenue/Site Access Road

The Traffic Impact Study should be referenced for additional details on the study area intersections and traffic analysis. The intersection of NYS Route 2 with South Lake Avenue and the two Site Access Road intersections are unsignalized intersections that screen out from requiring additional detailed air quality analyses. The two remaining

signalized intersections of Pinewoods Avenue/Pawling Avenue and NYS Route 2/Pawling Avenue were screened based on level of service criteria for the 2009 Build condition. Table 1 summarized the intersection level of service.

Table 1 – Level of Service Summary

Intersection	Build	
	AM	PM
Pinewoods Avenue/Pawling Avenue	B	B
NYS Route 2/Pawling Avenue	C	C

As shown in Table 1, both study area intersections are expected to operate at overall level of service C or better in the Build conditions with the signal timing improvements outlined in the traffic study as mitigation. No further analysis is required at these intersections. It should be noted that the City is considering construction of a modern roundabout at the NYS Route 2/Pawling Avenue intersection. A roundabout would be considered an unsignalized intersection and would not require further air quality analysis if this option is constructed.

An air quality analysis is not necessary since this project will not increase traffic volumes, reduce source-receptor distances or change other existing conditions to such a degree as to jeopardize attainment of the New York State and National Ambient Air Quality Standards.

Mesoscale Air Quality

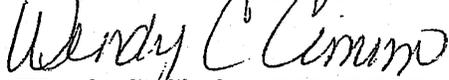
A mesoscale air quality analysis is conceptually similar to the microscale air quality analysis; however it covers a larger geographic area, typically larger than the immediate project area. In addition to carbon monoxide, a mesoscale air quality analysis monitors for volatile organic compounds (VOC) and nitrogen oxides (NO_x). In general, a mesoscale air quality analysis is required for projects involving the addition of through travel lanes (substantial in length) on main thoroughfares and major modification to highway interchanges. The proposed Carriage Hill Residential project will not affect traffic conditions over a large area and does not meet any of the criteria for a mesoscale air analysis found in Chapter 1.1 of the EPM therefore is not required.

Construction Impacts

The air quality within the project area may experience short-term impacts due to the construction of the project. During construction, airborne particulates will increase as dust is raised by construction vehicles in motion. This increase is expected to be sporadic and short-term in nature and will be most noticeable in the area immediately adjacent to the construction. The impacts should be minimized by the use of dust inhibitors, such as calcium chloride and other dust-control provisions found in the NYSDOT Standard Specifications for construction.

Please call our office if you have any questions on the above analysis.

Respectfully submitted,
Creighton Manning Engineering, LLP


Wendy C. Cimino, P.E., PTOE
Project Engineer