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May 25, 2022  
Via Email (jporcek@bridgeindustrial.com)

Bridge Industrial  
One Gatehall Drive – Suite 201  
Parsippany, NJ 07054

Attn: John Porcek  
Executive Vice President, Development

**RE: Bridge Point 8 Industrial Park  
Block 8, Lots 1-3, 12, 16, 28, 32.01, 39-41, & 45-49  
Block 15.14, Lots 18-20, 22, & 75  
Clarksville Road  
Township of West Windsor  
Mercer County, NJ**

Dear Mr. Porcek,

Please accept this Air Quality Statement, outlining that the mature trees to remain on the subject site in addition to the proposed reforestation as part of the above-referenced project, will effectively mitigate potential detrimental air quality effects associated with the proposed use of the site. This Air Quality Statement has been prepared utilizing a site plan set titled, Preliminary and Final Site Plan Application for Bridge Point 8 Industrial Park, prepared by Langan Engineering and Environmental Services Inc., dated December 3, 2021, last revised March 30, 2022 as reference.

The proposed development will result in approximately 20,000 new trees to be planted under full build out conditions. These trees include landscaping throughout the subject parcel as well as the reforestation of existing fields on the south side of Clarksville Road. In addition, approximately 2,000 existing mature trees over 5" in caliper will remain on-site, resulting in approximately 22,000 total trees to reach maturity. On average, a mature tree will produce approximately 260 pounds of oxygen (O<sub>2</sub>) each year, and absorb approximately 48 pounds of carbon dioxide (CO<sub>2</sub>) per year. Conversely, it is estimated that trucks burn approximately one gallon of fuel while idling for one hour, which emits about 20 pounds of CO<sub>2</sub>.

The calculations included below indicate the anticipated total number of trees to grow into maturity on-site at the conclusion of the proposed work, will be capable of mitigating the negative air quality effects of 1,856 trucks traversing the site each day. These calculations assume 30 minutes of truck idling creating in 10 pounds of CO<sub>2</sub> emissions, a conservative approach as the maximum idling time under state law is 3 minutes. Note that the assumed 30 minutes include time for a truck to enter the site, drop a trailer, picking up another trailer, and leaving the site. Under peak operating conditions, it is expected that a maximum of 1,050 trucks will traverse the site on a daily basis. Thus, the proposed development is expected to provide 177% of the number of mature trees required to offset potential detrimental air quality effects provided by the maximum expected daily truck trips.

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Regarding prevailing winds as they pertain to air quality, concentrations of air pollutants dilute rapidly when traveling along open routes, such as fields and wooded/landscaped areas, as opposed to closed routes, such as a roadway contained by skyscrapers along the perimeter. With prevailing winds originating from the west, air pollutants generated on-site will travel eastward over open/landscaped and wooded terrain, allowing for ample particle dispersion and return to background concentration levels in the vicinity of the residential uses without negative impact.

Given that redundancy in air quality control is provided by the 77% excess in number of mature trees and the dilution of air pollutants provided by prevailing winds, it is demonstrated that the anticipated air quality benefits of the proposed development outweigh the air quality detriments produced by on-site truck emissions.

$$22,000 \text{ Total Trees} * \frac{260 \text{ lbs } O_2 \text{ produced /year )}}{365 \frac{\text{days}}{\text{year}}} = 15,671 \text{ lbs } O_2 \text{ produced/day}$$

$$22,000 \text{ Total Trees} * \frac{48 \text{ lbs } CO_2 \text{ absorbed /year )}}{365 \frac{\text{days}}{\text{year}}} = 2,893 \text{ lbs } CO_2 \text{ absorbed/day}$$

$$\text{Number of Trucks offset by } O_2 \text{ production} = \frac{15,671 \text{ lbs } O_2}{10 \text{ lbs } CO_2/\text{truck}} = 1,567 \text{ trucks offset}$$

$$\text{Number of Trucks offset by } CO_2 \text{ absorption} = \frac{2,893 \text{ lbs } CO_2}{10 \text{ lbs } CO_2/\text{truck}} = 289 \text{ trucks offset}$$


$$\text{Total Number of Trucks offset} = 1,567 + 289 = \mathbf{1,856 \text{ Trucks}}$$

Sources: (1). <https://www.thoughtco.com/how-much-oxygen-does-one-tree-produce-606785>  
(2). <https://www.worktruckonline.com/279650/idle-reduction-benefits-extend-beyond-fuel-savings>  
(3). <https://www.hsy.fi/en/air-quality-and-climate/information-for-urban-planning/-effect-of-distance-and-height-on-air-quality>

We trust that the information provided herein will satisfactorily address the Township of West Windsor's air quality concerns stemming from the associated development. Should you have any questions or require additional information please do not hesitate to contact our office.

Sincerely,

**Dynamic Engineering Consultants, PC**

  
Daniel T. Sehnal, PE

  
Brett W. Skapinetz, PE, PP

Cc: Robert Byra