



**HEINRICH & KLEIN
ASSOCIATES, INC.**

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December 30, 2010

Anne W. Klepfer, Manager
East Rockhill Township
1622 Ridge Road
Perkasie, PA 18944

Re: McClennen Property Residential Development
East Rockhill Township, Bucks County, PA

Dear Ms. Klepfer:

Reference is made to correspondence addressed to you from David H. Horner, P.E., P.T.O.E. of Horner & Canter Associates, dated October 29, 2010, relative to the project listed above. In response, I offer the following:

1. Due to changes in the composition of the proposed development, as well as to respond to certain comments, a revised/expanded Traffic Impact Study (TIS) has been prepared and is enclosed for review.
 - a. It is anticipated that construction on the proposed development will begin in 2012. No construction phasing is anticipated.
 - b. It is not clear what relevance documentation of the proposed internal transportation system has on the determination of traffic impact from the proposed residential development. The reviewer is directed to the Site Plan relative to vehicular, bicycle and pedestrian circulation, internal roadway widths and rights-of-way, parking conditions and intersection traffic control.
 - c. It is not clear what relevance any limitation of the external roadway system that may adversely affect access to the site during an emergency has on the determination of traffic impact from the proposed residential development. It is also not clear what this may include since the external roadway system is properly under the jurisdiction of the State and/or local municipality to maintain in a safe condition for all users regardless of emergency or non-emergency use. Further, the design of site access via local roads, as proposed, must comply with local ordinances to provide safe and efficient access. To my knowledge, I am not aware of any adverse limitation that may apply.
 - d. A sketch of all of the intersections is included in the revised TIS.

- e. It is not clear what relevance average daily traffic (ADT) has in the context of a Traffic Impact Study of this nature. For informational purposes, it is estimated that the ADT along Old Bethlehem Pike north of Park Avenue is in the range of about 6,000 to 7,000 vehicles per day; while, the ADT along Hill Road is less than 1,000 vehicles per day.
 - f. It is not clear what relevance summarization of accident data for the entire study area has within the context of determining traffic impact of a new land development. The proposed development currently generates no traffic and does not contribute to any hazardous road condition that may exist; and, construction of new road improvements, including site access, must be designed and constructed in accordance with the appropriate standards for highway safety.
 - g. I am not aware of any other committed roadway or intersection improvements within the study area.
 - h. It is not clear what relevance a queuing analysis has within the context of this particular TIS since none of the intersection approaches at any of the study area intersections provides, or is proposed to provide, separate turning lanes.
 - i. It is not clear what relevance traffic calming improvements has relative to the design of a separate turning lane for site access.
2. The revised TIS has been expanded to include three of the five additional intersections requested. The two unsignalized intersections along Old Bethlehem Pike at Forrest Road and at Green Top Road are not included since the minor street approaches are low volume side streets with adequate sight distances along all intersection approaches similar to the intersection of Old Bethlehem Pike and Rockhill Road/Weikel Road. The impact of new traffic generated by the proposed development will not be significant at either of these two unsignalized intersections; and, no mitigation measures can be proposed at this time for the two intersections.
 3. The traffic counts conducted at the intersection of Old Bethlehem Pike and Rockhill Road/Weikel Road and the intersection of Rockhill Road and Hill Road were originally conducted after the end of school for the 2009-2010 school year. Adjustment of side street traffic is pointless due to the very low volumes. Through traffic along Old Bethlehem Pike, however, was seasonally adjusted for the revised TIS based on approach/departure traffic volumes at intersections upstream and downstream.
 4. No response necessary.
 5. As described in the TIS, most unsignalized side street intersection approaches along Old Bethlehem Pike currently operate, and are expected to continue to operate, at an acceptable LOS D or better during the typical weekday commuter rush hours. Observation reveals that there is adequate available sight distances for motorists to safely turn to/from most of the sides streets that intersect Old Bethlehem Pike. With the possible exception of the unsignalized intersection of Old Bethlehem Pike and Rich

Hill Road, as described in the TIS, conditions generally do not justify improvements such as installation of multi-way Stop-signs at any of the unsignalized intersections in the study area. Of course, the municipality and the adjacent property owners are responsible for ongoing maintenance of vegetation, signage, etc. within safe sight distance triangles at public road intersections.

6. As described in the revised TIS, the traffic signal timing at the signalized intersection of Ridge Road and Park Avenue is adequate for current conditions, but at some point in the future, may have to be adjusted to add an additional five or six second extension of the signal green time for the Park Avenue approaches to the intersection. This improvement may be required regardless of development of the McClennen Property as proposed. Since the intersection is maintained by the Borough of Perkasio, the Borough will be responsible for requesting any signal timing changes at this intersection as part of the approval process with PennDOT.
7. Observations reveal that back-ups along Ridge Road from the signalized intersection with Bethlehem Pike through the unsignalized intersection with Old Bethlehem Pike occur from time-to-time, but generally clear out with every signal cycle change. Most traffic exiting from the Stop-sign controlled approach of Old Bethlehem Pike is right turning traffic. At times when traffic is backed-up through Old Bethlehem Pike, traffic can still proceed into the intersection with a courtesy gap. As indicated in the TIS, all critical movements at this unsignalized intersection currently operate, and are projected to continue to operate, at an acceptable LOS C during both the morning and afternoon peak hours.
8. The volume and type of traffic generated by the proposed residential development and added to Hill Road does not represent a significant change in the volume and type of traffic already traveling along Hill Road. The integrity of existing bridge structures on local roads is the maintenance responsibility of the municipality regardless of any development of the McClennen Property and is not relevant in the context of the TIS.
9. Clarification is required as to the nature of the diversion of traffic that may be desirable to be discouraged.
10. No response necessary.
11. Trip generation for most residential developments is predominantly outbound in the morning and inbound in the afternoon consistent with commuter rush hour traffic patterns. Accordingly, the distribution of site generated traffic is based on the sum and percentages of traffic exiting the study area during the morning peak hour and entering during the afternoon peak hour.
12. The only other development of consequence within East or West Rockhill Townships is a potential assisted living development with 40 dwelling units along Hill Road that can be expected to generate 12 trips per hour during the morning peak hour and 16 trips per hour during the afternoon peak hour. While small enough to be considered as a

component of background traffic growth, the specific traffic generation characteristics of this potential development has been distributed to area roadways in the revised TIS.

13. As described in the TIS, these three unsignalized intersections currently operate, and are expected to continue to operate, at an acceptable LOS D or better during the typical weekday commuter rush hours. Observations reveal that there is adequate available sight distances for motorists to safely turn to/from the sides streets at these three unsignalized intersections. Accordingly, conditions do not justify improvements such as installation of multi-way Stop-signs, or other mitigation measures, at any of these three unsignalized intersections.
14. No response necessary.
15. As indicated in the TIS, available sight distances along Old Bethlehem Pike at the proposed site access location are well in excess of 500 feet in both directions along Old Bethlehem Pike. The available sight distance in excess of 500 feet is adequate for 85th% vehicle operating speeds in excess of 50 miles per hour.
16. A conceptual layout plan, or fully designed roadway improvement plan as the case may be, for the recommended left turn lane along southbound Old Bethlehem Pike at the proposed access location will be provided at the appropriate time in the preparation of land development plans for the proposed development. It is understood that the Applicant will be responsible for the implementation of this site access improvement.
17. As stated in comment #14, there is concurrence with the number and location of access points for the proposed development. The internal roads in the proposed development will be offered for dedication to East Rockhill Township as public roads; and, Stone Edge Road is a public road. As public streets, cut-through traffic can not be prohibited. While there may very well be some cut-through traffic between the existing and the proposed developments, review of traffic patterns on the surrounding intersections provides an indication that there will be little through traffic from outside the two developments. Based on the Sketch Plan for the proposed development, there will not be a continuous through road connecting between Old Bethlehem Pike and Hill Road. Thus, the configuration of the internal circulation roads is an effective traffic calming measure in that any through traffic traveling through the proposed development will necessarily have to turn through an intersection within the development.
18. The available site road frontage along Hill Road is rather limited and situated predominantly north of the access location opposite Stone Edge Road and immediately south of the horizontal curve in Hill Road. While some road widening may be considered to provide minimum lane width and/or lateral clearance, road widening in this section may have the undesirable affect of increasing travel speeds. Frontage improvements, if necessary, will be considered in greater detail at the appropriate time in the preparation of land development plans for the proposed development.
19. Access design will consider the turning radii of the appropriate design vehicle. It should be noted, however, that residential developments do not generate significant

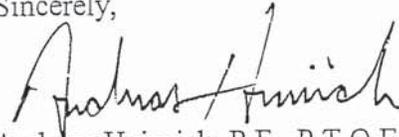
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truck traffic; and, while emergency vehicle access is important to consider, their turning paths are typically not constrained by lane delineation lines.

20. Access and circulation for the required design vehicle within the townhouse section of the development will be considered in greater detail at the appropriate time in the preparation of land development plans for the proposed development.

If you should have any questions, or wish to discuss these issues in greater detail, please call me at your convenience.

Sincerely,



Andreas Heinrich, P.E., P.T.O.E.
Principal

AH:rh

cc: David H. Horner, P.E., P.T.O.E.
Steven Baluh, P.E.
Clay Heckler
Michael D. Kracht, Esq.