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TRANSPORTATION AND TRAFFIC ENGINEERING

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PLEASE REPLY TO PA OFFICE

February 15, 2011

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

Re: Traffic Engineering Review #2
McClennen Property Residential Development
East Rockhill Township, Bucks County, Pennsylvania
HCA File No. 10-096

Dear Ms. Klepfer:

Horner & Canter Associates has completed a second traffic engineering review for the McClennen Property Residential Development located along Old Bethlehem Pike and Hill Road. The following additional documents were provided for our review:

- Revised Traffic Impact Study for the McClennen Property Residential Development, prepared by Heinrich & Klein Associates, Inc., dated December 2010 (revised)

- Response Letter, prepared by Heinrich & Klein Associates, Inc., dated December 30, 2010, addressing comments contained within our first Traffic Engineering Review letter, dated October 29, 2010

The comment numbers below correspond to the comments contained in our October 29, 2010 letter. An indication is made as to whether the prior comment has been satisfied or whether additional information is still needed.

1. a. Satisfied. Based on the response provided, no construction phasing is anticipated. The study evaluates one build-out horizon year (2017), which we found to be appropriate to assess the traffic impact of this development on the surrounding roadway network.

   b. Satisfied. Our office was not provided with a copy of the Site Plan for review; thus, we will defer to the Township Engineer, C. Robert Wynn Associates, Inc., for review of the Site Plan.

c. Satisfied. The applicant's traffic engineer has indicated there are no adverse limitations on the external roadway network which would impede access to the site during an emergency. We concur with this finding.

d. Satisfied. Sketches for all studied intersections have been provided.

e. Satisfied. The average daily traffic information has been provided.

f. Not Satisfied. While we agree with the applicant's traffic engineer that the existing accident history is not attributable to the proposed development, we believe it is relevant in the context of the overall evaluation of the study intersections in close proximity to a proposed traffic generator and their ability to accommodate the additional traffic in a safe manner. The applicant's traffic engineer has been provided with the five-year accident records for the intersections formed by Old Bethlehem Pike/Three Mile Run Road/Park Avenue. This data should be analyzed and testimony should be provided as to what improvements can be considered, if any, to improve the safety of these intersections.

g. Satisfied. The applicant's traffic engineer has indicated that there are no known roadway or intersection improvements committed by others.

h. Not Satisfied. A queue which extends from one intersection to an adjacent intersection, thus negatively impacting the operation of the adjacent intersection can occur whether the intersection provides for a single or multiple lane approach. We continue to recommend a queuing analysis (where applicable) be included in the study.

i. Not Satisfied. Traffic calming improvements should be incorporated into the Site Plan.

2. Partially Satisfied. The revised traffic study expanded the scope of study to include three of the five recommended additional intersections. The intersections along Old Bethlehem Pike at Forrest Road and Green Top Road were not studied.

3. Satisfied. We find the adjustment of traffic in the revised study along Old Bethlehem Pike at Rockhill Road/Weikel Road to be acceptable.

4. Satisfied. No response was required.

5. Partially Satisfied. While the applicant has addressed the sight distance at the study area intersections and the warrants for multi-way stops signs along Old Bethlehem Pike, we continue to recommend the accident history at the three intersections formed by Old Bethlehem Pike/Three Mile Run Road/Park Avenue be evaluated and potential improvements investigated. Supporting documentation for the multi-way stop analysis conclusions should also be provided.

6. Partially Satisfied. The applicant's traffic engineer has indicated that the green time for Park Avenue at its signalized intersection with Ridge Road may need to be extended in the future with or without this development. It is recommended that the 2017 horizon year analysis be modified to an optimized 90-second signal cycle and the resultant timing modifications be pursued and implemented by the applicant.

7. Partially Satisfied. Queue data should be provided to substantiate the applicant's traffic engineer's observations. Depending on the queue data, consideration should be given to timing modifications at Ridge Road/Bethlehem Pike (West Rockhill Township).

8. Satisfied. The proposed residential development will add 14 and 17 peak hour trips to the bridge structure along Hill Road during the AM and PM peak hours, respectively. We concur the additional traffic generated by this development will not represent a significant change in the volume or type of traffic and that this additional traffic can be acceptably accommodated.

9. Satisfied. Improvement options for these intersections should be investigated by the applicant in the context of the accident history, etc. (see Comments 1.f. and 5).

10. Satisfied. No response was required.

11. Satisfied. We find the trip distribution generally acceptable.

12. Satisfied. The applicant has indicated the only known potential development of consequence in the area is a 40-unit assisted living development along Hill Road. The traffic generated by this development has been included in the revised study.

13. Partially Satisfied. We concur with the findings with regard to LOS at these three (Park Avenue/Three Mile Run Road, Old Bethlehem Pike/Three Mile Run Road and Old Bethlehem Pike/Park Avenue). Supporting documentation for the multi-way stop analysis conclusions should be provided.

    The northbound approach at the intersection of Old Bethlehem Pike/Rich Hill Road is anticipated to operate with LOS F delays during the PM peak period. The Ordinance defines a design threshold of LOS D or better. The applicant indicates a new traffic signal at Old Bethlehem Pike and Tollgate Road (Richland Township) will mitigate the LOS F delays. The study suggests that consideration for multi-way stop control at this intersection is recommended. Supporting documentation for the multi-way stop analysis should be provided.

14. Satisfied. No response was required.

15. Satisfied. Although a speed study has not been provided to measure the 85th percentile travel speeds on Old Bethlehem Pike, the applicant's traffic engineer has

indicated sight lines are well in excess of 500 feet in both directions along Old Bethlehem Pike at the proposed site access, which meets AASHTO sight distance requirements for a design speed of 45 MPH.

16. Partially Satisfied. The applicant's traffic engineer has agreed to provide a conceptual layout of the proposed left-turn lane at the site's access along Bethlehem Pike at the time of preparation of land development plans.

17. Not Satisfied. We continue to recommend the applicant should provide traffic calming measures within the development.

18. Not Satisfied. We continue to recommend the existing pavement section of Hill Road along the property frontage be widened to meet the minimum cartway/shoulder standards for local roads within the Township.

19. Not Satisfied. We concur with the applicant's comment that residential developments do not typically generate significant truck traffic. It is important, however, to design the internal roadways and intersections to accommodate the largest vehicle anticipated to enter/exit the development (including emergency vehicles). As such, we continue to recommend a truck turning template plan should be provided.

20. Satisfied. Additional details regarding the access and circulation within the townhouse section of the development can be deferred.

If you have any questions, please do not hesitate to contact me.

Very truly yours,

David H. Horner, P.E., PTOE

DHH/mac

cc: East Rockhill Board of Supervisors
East Rockhill Planning Commission
Steven Baluh, P.E.