pennsylvania
DEPARTMENT OF TRANSPORTATION

Date: 03/03/2017

Subject: Highway Occupancy Permit Application No. 128756 Returned For Revisions

To: Toll PA XVIII, L.P.
250 Gibraltar Road
Horsham, PA 19044

From: PennDOT Engineering District 6-0
7000 Geerdes Boulevard
King of Prussia, PA 19406

Dear Applicant,

PennDOT has reviewed your application for completeness, consistency and compliance with applicable Department Regulations. This review has identified issues that must be addressed in order for our review to continue.

The Department's review comments are attached.

Once the comments have been addressed, please resubmit the application and associated material for further review.

Upon resubmission, the applicant's engineer should put together a letter that describes how each comment has been addressed and where each can be found. This will help expedite the review. For guidance on HOP applications refer to 67 PA Code, Chapter 441, Chapter 459 and PennDOT Publication 282, "Highway Occupancy Permit Guidelines". Additional comments may follow upon review of the resubmitted application.

If you have any questions regarding this matter, you may contact Drew Sirianni, at (215) 254-7893.

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Response Comments
Date: 03/03/2017
Application Number: 128756

Form Letter Notes

(1) * Upon resubmission, the applicant's engineer must prepare a letter that describes how each comment has been addressed.

* Additional comments will follow upon review of the resubmitted application. If you have any questions pertaining to the technical aspects of this review, please contact the Department's representative, Drew E. Sirianni, PE, PTOE of Pennoni at 215.254.7893 or DSirianni@Pennoni.com.

* For guidance on Highway Occupancy Permit applications refer to PA Code Title 67, Chapter 441, Chapter 459 and PennDOT Publication 282. This will help expedite the review.

General

(1) It is clear that Alternative C, with the site access to SR 926 aligned with Bridlewood Boulevard, provides the best LOS results for the 2028 design year. While the following review comments apply to all alternatives, the Department prefers Alternative C with the access to SR 926 aligned with Bridlewood Boulevard. The applicant must proceed with access at this location moving forward.
(2) PLEASE SUBMIT A CHECK FOR $110.00 MADE PAYABLE TO PENNDOT-ATTN: MARY ELLEN CULHANE, PERMITS UNIT, 7000 GEERDES BLVD. KING OF PRUSSIA, PA. 19406. PLEASE INCLUDE THE APPLICATION NUMBER ON THE CHECK FOR OUR REFERNCE.
(3) The applicant should coordinate with Thornbury Township to provide traffic calming measures within Bridlewood Boulevard, which will ensure that any effects of the introduction of the proposed site access to the intersection of Street Road (SR 926) and Bridlewood Boulevard are mitigated.
(4) Provide evidence that Westtown Township's review comments have been addressed to their satisfaction. For example, Comments #11 and #15 do not appear to have been adequately addressed within the TIS as they relate to existing traffic signal timings and mitigation requirements at Street Road (SR 926) and New Street (Policies and Procedures for Transportation Impact Studies Related to Highway Occupancy Permits, Step 1)

Application

(1) Please note that consistent with current Department Policy, applicants for Highway Occupancy

Permits must apply for an EPS Business Partner ID (BPID). The EPS BPID is to be used in the establishment of a billing account for the invoicing of inspection costs. After an EPS BPID is obtained and activated by the applicant's system administrator, a user ID will then need to be created in order to ensure that the EPS BPID is integrated into EPS and searchable through the "looking glass" feature. Once this has been established, please provide the following information in the applicant contact information tab under "Applicant Team":

i. BPID

ii. Contact information (name/title/phone/email) for a general contact person (person that typically deals with the Highway Occupancy Permit application process)

iii. Contact information (name/title/phone/email) for a billing contact person (person that typically deals with the Highway Occupancy Permit invoicing process)

For information on obtaining an EPS BPID, you may visit:
https://www.dot14.state.pa.us/EPS/home/manageBPRegistration.jsp (follow the instructions that are in the pink shaded row) or contact the ECMS Help Desk. Please be aware that having an ECMS BPID does not guarantee the establishment of an EPS BPID as they are not reciprocal to one another.

Free online tutorials are also available detailing BPID registration at:
http://www.dot14.state.pa.us/epsTraining/BPID%20Registration%20for%20Municipalities%20and%20Planning%20Commissions.html

Please note that there are two applicable tutorials on the webpage (tabs on the left side bar), one providing info on ECMS registration and one providing info on creating an EPS user.

Transportation Impact Study/Transportation Impact Assessment

(1) STREET ROAD (SR 926) AND NEW STREET

a. Provide a roundabout analysis for the Department's review

b. At a minimum the following improvements must be provided at this intersection if the intersection is ultimately proposed to remain signalized:

- left turn lanes on all four approaches
- replacement and upgrade of all signal equipment and mast-arms

(2) Concept plans of full mitigation must be prepared with sufficient detail to describe their feasibility. The plans must also show Right-of-Way lines. The plan scale must be 50-scale (min). Please note that the concept plan will be reviewed to determine if the recommended improvements are feasible. A full review of the plans will be completed upon submission of the Highway Occupancy Permit (HOP) package. These plans must consist of the preferred Alternative only. (Policies and

Procedures for Transportation Impact Studies Related to Highway Occupancy Permits, Step 9)

(3) Per "Policies and Procedures for Transportation Impact Studies Related to Highway Occupancy Permits (Step 11)", roundabouts must be considered at all locations under signalization consideration. This applies to the intersection of Street Road (SR 926) and Bridlewood Boulevard/ Site Access, and also to the intersection of Street Road (SR 926) and New Street. The questionnaire found in Chapter 3, Appendix A of Publication 13M and Appendix AC of Publication 10X (SOL 482-13-13) should be used as guidance when evaluating the feasibility of installing a roundabout.

(4) WILMINGTON PIKE (SR 202) AND WEST PLEASANT GROVE ROAD
Based on the turn lane warrant analysis provided in Appendix I, a right turn deceleration lane is needed on the southbound approach of Wilmington Pike (SR 202) at this intersection. Please update the "Committed Improvements" section of the TIS to identify that the lane will be constructed by the applicant.

(5) If signalization is the chosen alternative for the intersection of Street Road (SR 926) and Bridlewood Boulevard/ Site Access, it is likely that signalization won't meet warrants for several years while the site is built out. As such, traffic volumes must be monitored during development to determine when a traffic signal is warranted. An intersection monitoring condition statement will be required.

(6) PennDOT iTMS Data for Site No. 24453 (NB and SB) and Site No. 28240 are greater than 3 years old. The Department requires that traffic counts be less than 3 years old. Provide new count data with your resubmission, including ATR Counts along New Street and West Pleasant Grove Road (between proposed access drives). It is also help to graphically include the location of iTMS count stations. (Policies and Procedures for Transportation Impact Studies Related to Highway Occupancy Permits, Step 2)

(7) It is required that new data obtained from 24-hour automatic traffic recorder counts include classification and speed data. (Policies and Procedures for Transportation Impact Studies Related to Highway Occupancy Permits, Step 2)

(8) Please provide, in the revised Traffic Impact Study, the updated and completely executed Scoping Meeting Application as per the December 2nd meeting and subsequent PennDOT and Township comments. (Policies and Procedures for Transportation Impact Studies Related to Highway Occupancy Permits, Step 1).

(9) At intersections, pedestrian activity as well as pedestrian accommodations must be recorded and reflected in the study. The report must identify if pedestrian activity at any of the study intersections is significant enough to impact the results of the analyses. (Policies and Procedures

for Transportation Impact Studies Related to Highway Occupancy Permits, Step 2) Confirm that pedestrians were included in the Turning Movement counts.

(10) Clearly identify the parties responsible for the improvements recommended in the study. Provide funding sources and construction schedules for all these improvements. All work recommended in the TIS is expected to be constructed prior to the opening of the development. For those improvements indicated as proposed by others, if the improvement is necessary to mitigate this development's impact, then the applicant will be responsible for their installation prior to opening if not already completed by others.

(11) In the Executive Summary and study recommendations, indicate that all improvements will be constructed to accommodate non-motorized access/circulation and be ADA-compliant. Describe how these connections connect to existing non-motorized facilities (e.g., Township Trails Plan). If pedestrian accommodations are not proposed, engineering justification must be provided in accordance with PennDOT Publications 236, 46, and 149. (Policies and Procedures for Transportation Impact Studies Related to Highway Occupancy Permits, Step 1) Walking school children and school bus stops must also be noted. (Policies and Procedures for Transportation Impact Studies Related to Highway Occupancy Permits, Step 2).

(12) Provide an updated site plan to reflect the preferred Alternative. Lot size, building size(s), types and location must be clearly defined on the map/plans per comments addressed within the revised TIS. (Policies and Procedures for Transportation Impact Studies Related to Highway Occupancy Permits, Appendix C)

(13) The data collection must be consistent with the parameters outlined in Publication 46, Chapter 10. The 4th leg of East Site access (with Hidden Pond Way) and West Site access (with Dunvegan Rd) were not counted. Revise the study to include traffic counts at these locations.

(14) Provide photographs at all study intersections, including the proposed access driveways. Photos must be in color, 4"x6" in size, and two views of each approach must be provided (200 feet from the intersection and 50-feet from the intersection showing the opposite approach). (Policies and Procedures for Transportation Impact Studies Related to Highway Occupancy Permits, Step 2)

(15) Confirm if the municipality has been contacted to obtain non-reportable crash data for the study area intersections. Include this crash data in the analysis. (Policies and Procedures for Transportation Impact Studies Related to Highway Occupancy Permits, Step 2)

(16) The traffic crash data analyses for several of the study area intersections/corridors indicate that crash trends exist, particularly at signalized intersections within the study area. Discuss how traffic generated from the development affects these locations, and provide improvements that would be beneficial in mitigating these trends. (Policies and Procedures for Transportation Impact Studies

Related to Highway Occupancy Permits, Step 2)

(17) The study must identify any existing or proposed pedestrian facilities (i.e. sidewalks, intersection treatments, and off-road paths or trails) or bicycle facilities (i.e. on-street bike lanes, paved shoulders, and off-road paths or trails) that would be affected by the development within or adjacent to the study area. Use the Bicycle and Pedestrian Checklist located in Publication 10A, Design Manual Part 1X. (Policies and Procedures for Transportation Impact Studies Related to Highway Occupancy Permits, Step 2)

(18) The study must note any impact on pedestrian and bicycle facilities, and note any impact on the ability of pedestrians to cross roadways within the study area, both at intersections and at identified common mid-block crossings. (Policies and Procedures for Transportation Impact Studies Related to Highway Occupancy Permits, Step 2)

(19) The study must describe how the proposed development was designed to accommodate pedestrians, bicycles and transit operations. (Policies and Procedures for Transportation Impact Studies Related to Highway Occupancy Permits, Step 2)

(20) The existing conditions must discuss multimodal transportation such as bicycles, pedestrians and transit and describe existing facilities or lack thereof. (Policies and Procedures for Transportation Impact Studies Related to Highway Occupancy Permits, Step 3)

(21) In the study, please specify the software type, version number, build number, and revision number used to complete the capacity and queue analyses.

(22) Verify the phasing and timings used in the analysis at the study signalized intersections reflect existing controller timings. Synchro analyses indicate that the Permit timings were utilized, however these timings have been revised per the permits provided in the TIS appendix.

(23) While the study includes traffic volumes from permitted developments for which HOPs have been issued and planned developments noted by Westtown Township (e.g., Arborview Commercial Development, Police Station Office, etc.), trip generation and distribution figures specific to these developments must be included that show this proposed anticipated traffic. (Policies and Procedures for Transportation Impact Studies Related to Highway Occupancy Permits, Step 4).

(24) The study must indicate if the planned development is consistent with any formal land use plans such as comprehensive plans, congestion management plans, or Act 209 Traffic Impact Fee/Capital Improvement plans. (Policies and Procedures for Transportation Impact Studies Related to Highway Occupancy Permits, Step 4)

(25) For all proposed driveways, a PHF of 0.90 must be used (e.g., Street Road (SR 926) / Site Access).

(26) Please provide calibrated Synchro analyses (in electronic format) for the study area intersections so that queuing impacts can be further reviewed.

(27) The final executive summary must include any/all memorandum of understandings, agreements including obligation dates, major milestones, and approved or denied design waivers. The final summary must list all traffic impacts identified and mitigation options. Figures and Tables must be mutually exclusive from those included in the TIS (Policies and Procedures for Transportation Impact Studies Related to Highway Occupancy Permits, Appendix C)

Signal Section (Publication 46, 148 And 149)

(1) If signalization is shown to be the preferred alternative for the intersections of Street Road (SR 926) and New Street, and Street Road (SR 926) and Bridlewood Boulevard, then it will be required to install coordinated signal operation along SR 926 from New Street to SR 202. In the TIS, the proposed signalized site access with Bridlewood Blvd is analyzed as actuated, yet un-coordinated. Subsequently, the turn lane design and capacity analyses would be impacted by the optimized cycle length of any coordinated traffic signals. Please address in the revised report.

(2) The report indicates that a signal is warranted at the intersection of Street Road (SR 926) and Bridlewood Boulevard/ Site Access, however all Traffic Signal Warrant analyses in Appendix G (all Alternatives) do not indicate whether volumes utilized are for the 2028 Design Year or 2023 Build-Out Year. Please clarify. (Policies and Procedures for Transportation Impact Studies Related to Highway Occupancy Permits, Step 11)

(3) Within the study there are recommendations to retime and/or install certain signals. None of these signals are currently part of a coordinated system. However, if a traffic signal is ultimately installed at the intersection of Street Road (SR 926) and Bridlewood Blvd/ Site Access, an East/West coordinated system (with consistent cycle lengths) must be included in the Design Year analyses; including turn lane mitigations to the intersection of New Street with Street Rd (SR 926). Future turn lane warrant analyses should then use the optimal cycle lengths to calculate the auxiliary turn lane lengths at these locations.