



**HEINRICH & KLEIN
ASSOCIATES, INC.**

TRAFFIC ENGINEERING & PLANNING
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November 9, 2015

Jason Bobst, Manager
West Norriton Township
1630 W. Marshall Street
Jeffersonville, PA 19403

Re: Westover Sporting Complex - VRJ Associates, L.P.
South Schuylkill Avenue and Port Indian Road
West Norriton Township, Montgomery County, PA

Dear Mr. Bobst:

In accordance with your request, I have completed a review of the Westover Sporting Complex proposed as a redevelopment of the Westover Golf Course site with frontage along South Schuylkill Avenue and along Port Indian Road in West Norriton Township, Montgomery County, Pennsylvania. I am in receipt of a Transportation Impact Study (TIS) prepared by McMahon Associates, Inc., dated September 28, 2015, and Preliminary Land Development Plans prepared by Edward B. Walsh & Associates, Inc., revision dated 9-28-15.

The site is currently occupied by an 18-hole golf course with clubhouse, restaurant, and banquet/meeting facility. The existing clubhouse, restaurant, and banquet/meeting facility, comprised of 30,000 square feet of floor space, will be maintained, as will five holes of the existing golf course (in addition to four holes to remain situated on the east side of South Schuylkill Avenue). It is proposed to eliminate the remaining nine holes of the golf course, and construct a new clubhouse comprised of 40,000 square feet of floor space plus a variety of sports fields, courts and other venues including five little league sized baseball fields, a football field and track facility, an Olympic size swimming pool and a second smaller swimming pool, two tot lots, two picnic pavilions, five basketball courts, eight tennis courts, a skate park, and one championship soccer field plus four other soccer fields including one undersized soccer field. It is proposed to provide on-site parking to accommodate a total of 1,758 vehicles.

Primary access to the site will be maintained via a driveway that intersects South Schuylkill Avenue at a point opposite Rivers Edge Drive approximately 600 feet south of Brandon Road. It is proposed to construct two new driveways that will intersect Port Indian Road; and, it is proposed to extend Hemlock Road into the site to provide an emergency access driveway.

My comments, following the outline and sequence of my previous review comments dated April 20, 2015, are as follows:

TRANSPORTATION IMPACT STUDY

1. Satisfied, an updated TIS has been submitted.
2. Satisfied.
3. Satisfied, in fact, the plan has been revised to limit access via Hemlock Road to pedestrian/emergency use only. The gate design and access shall be subject to review and approval by Township Emergency Management Personnel.
4. Satisfied, although the convenience of parking could still be an issue. For example, if all five of the soccer fields are in use simultaneously, based on the calculations, there could be the need for 330 parking spaces. Only 145 parking spaces are provided adjacent to the soccer fields. The nearest overflow parking is available along the opposite side of the main circulation road around the existing clubhouse building, or at least 750 feet to the west near the tennis courts. While normal day-to-day activity will likely not rise to this level of parking demand, the concern is for short durations of time when arriving vehicles for scheduled soccer matches arrive before the fields have been cleared from the previous matches. While a sufficient parking supply appears to be available on-site, the need for adequate and safe pedestrian circulation between the sport venues and the parking fields must clearly be addressed by provision of properly situated and designed pedestrian facilities including sidewalks/crosswalks along and across the main circulation road.
5. Satisfied.
6. Satisfied.
7. Satisfied.
8. Satisfied.
9. Satisfied.
10. Based on the estimated trip generation included in the TIS the proposed development is anticipated to generate a total of 326 new PM peak hour trips. The resultant Traffic Impact Fee calculation is estimated to be \$239,427.44 (i.e., 326 new PM peak hour trips X \$734.44 per PM peak hour trip = \$239,427.44).
11. Satisfied, subject to the Applicant agreeing, as a condition of approval, to complete an after-study (concurrence of scope to be determined during discussion between the Applicant and Township and subject to modification to address actual conditions that may arise after development).

12. Satisfied.

13. Satisfied.

14. Satisfied.

15. Satisfied.

16. Satisfied.

17. As a condition of approval, the Applicant must agree to install a new traffic control signal, with associated necessary road widening/realignment, at the intersection of Egypt Road and Port Indian Road/Mill Road. Unfortunately, the traffic signal warrant analysis is necessarily based on projected traffic volume which does not conclusively support installation of a new traffic control signal. As requested previously, a Spot Speed study should be completed along Egypt Road to determine the 85th% vehicle operating speeds for use in evaluating signal warrants. In the event the 85th% vehicle operating speeds exceed 40 mile per hour, the minor street approach volume threshold for the Four Hour Volume Warrant is lowered from 80 vehicles per hour to 60 vehicles per hour for a single lane approach. Between preliminary approval and final approval, it is recommended the Applicant submit a fully detailed Traffic Signal Warrant Evaluation to PennDOT for review. Final approval shall not be granted unless PennDOT approves warrants for the installation of a new traffic control signal at the intersection of Egypt Road and Port Indian Road/Mill Road. Otherwise, traffic generated by the proposed development is likely to seek other avenues of approach/departure which could adversely affect other areas of the Township beyond what is considered in the TIS.

Also, please confirm that the volume data is properly coded by direction/approach for the Turn Lane Warrant and Length Analysis Workbooks.

18. Satisfied, please provide electronic SYNCHRO files.

It should be noted that recommendations for improvements in the TIS apparently do not consider the feasibility to implement certain improvements such as realignment of Port Indian Road and/or Mill Road, widening of Egypt Road at Port Indian Road/Mill Road for separate left turn lanes, and lengthening the northbound left turn lane on Schuylkill Avenue at Main Street. The feasibility for implementation of these recommended improvements shall be confirmed, or alternative improvements to replace any or all of these improvements shall be identified and confirmed, prior to grant of Final Land Development Approval.

19. Satisfied.

20. Satisfied, except to note that, in lieu of payment of Act 209 funds, it is recommended that all of the proposed improvements outlined in the TIS be

implemented by the Applicant and be operational prior to opening of the proposed development.

21. Satisfied, except to reiterate that all correspondence to/from PennDOT should be copied to the Township.
22. Satisfied.
23. Although the Applicant has indicated agreement to implement a number of low-cost safety improvement measures along Port Indian Road and along Schuylkill Avenue, it is not clear if the extent of improvements identified is sufficient for the grant of preliminary approval, with the understanding that the full scope of improvements can be agreed to during final land development review. Without an identified full scope of improvements, as a condition of approval, the Applicant shall agree to have completed a detailed roadway design evaluation/safety audit for both Port Indian Road and Schuylkill Avenue, and be responsible for implementation of all recommended improvements to the satisfaction of the Township Engineer and Township Traffic Engineer.
24. As noted above, it is not clear if the extent of improvements identified is sufficient for the grant of preliminary approval, with the understanding that the full scope of improvements can be agreed to during final land development review. The Roadway Design Evaluation also suggests that additional measures may be identified upon completion of a more detailed roadway design evaluation or safety audit. These more detailed evaluations should be completed by the Applicant and any recommendations should be implemented in conjunction with access improvements at the Applicant's expense. Further, it is recommended that a Traffic Calming Strategy be provided and implemented by the Applicant for the following residential streets:
 - Schuylkill Avenue south of Main Street
 - Brandon Road
 - Hemlock Road
 - School Lane south of Egypt Road
 - Juniata Road
 - Butler Avenue
 - Whitehall Road south of Main Street.

PRELIMINARY LAND DEVELOPMENT PLAN

25. The driveway alignment of the South Schuylkill Avenue driveway appears to be acceptable, but a signage and pavement plan is still required to confirm the alignment of lanes across the intersection. Specifically, the South Schuylkill Avenue driveway appears to be wide enough for three lanes which suggest one inbound lane, a shared left/through outbound lane and a separate right turn outbound lane. That being the case, it is not clear what purpose a separate right-turn exit lane to southbound South Schuylkill Avenue serves.

26. As stated previously, *"A separate signage and pavement marking plan should be included in the plan set. The location and placement of signs and pavement markings is an important consideration in the review of the Preliminary Plans."* It is indicated that signage and striping will be provided on the Final Plans, but several questions/concerns remain to be addressed to assure safe and efficient access and circulation is provided. Also, calculations should be provided to support the transition lengths relative to the proposed left turn lanes along South Schuylkill Avenue and along Port Indian Road. As a condition of approval, the Applicant shall provide a signage and pavement marking plan, with supporting calculations where necessary, to be implemented to the satisfaction of the Township Engineer and Township Traffic Engineer.
27. As stated previously, *"The Truck Circulation Plan is based on a WB-50 semi-trailer. Unless it can be demonstrated that truck access can be limited or restricted to a WB-50 semi-trailer, the Truck Circulation Plan should be revised for a WB-62 design vehicle as well as the appropriate emergency response vehicle."* As a condition of approval, the Applicant shall agree that trucks larger than a WB-50 semi-trailer will be prohibited from accessing the site.
28. As stated previously, *"A separate pedestrian circulation plan should be included in the plan set."* Further, *"The current plans do not adequately illustrate the design and location of curb ramps and crosswalks that are ADA compliant and properly positioned for pedestrian safety. Pedestrian signage/markings should be reviewed as part of the Preliminary Plan review."* There remain a number of driveway openings without adequate pedestrian facilities. As a condition of approval, the Applicant shall provide a pedestrian circulation plan to show ADA compliance, to the satisfaction of the Township Engineer and Township Traffic Engineer.
29. Satisfied, except to note that for a few driveways that intersect the main internal road at or near the inside of a horizontal curve or in the vicinity of the proposed median, the sight triangle can extend outside of the traveled way. It is mandatory that landscaping in these areas outside the traveled way, but inside the sight lines be maintained as paving (i.e., sidewalk) and/or grass.
30. Satisfied, except to note that signage and pavement marking legends still need to be indicated on the plans for all access driveways along South Schuylkill Avenue and along Port Indian Road; and, lane lines, etc. need to be indicated for each access driveway.
31. As stated previously, *"While lane lines or dimensions are not shown, the plans indicate the South Schuylkill Avenue driveway to be 38 feet wide narrowing down to 24 feet wide. The 38 foot width appears to be excessive for a single inbound lane and a single outbound lane. Additional detail must be added to the plans."* As noted previously, it is indicated that signage and striping will be provided on the Final Plans, but several questions/concerns remain to be addressed to assure safe and efficient access and circulation is provided.

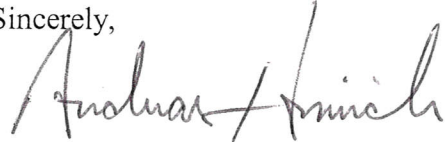
32. As stated previously, *"New sidewalk is indicated along South Schuylkill Avenue. All curb ramps must be shown to be ADA compliant with proper crosswalk markings across the site driveway. Sidewalks/trails should be provided extending into and throughout the site; and, crosswalks should be delineated across South Schuylkill Avenue."* Although the design of each and every curb ramp in compliance with ADA requirements can be provided during Final Plan review, the location of curb ramps and crosswalks should be indicated in the Preliminary Plans. For example, several textured crosswalks are indicated on the plans at mid-block locations, or too far back of the intersection (i.e., behind the position of where a vehicle would stop at the Stop-sign). There are numerous instances where sidewalk is extended entirely through the corner radius suggesting the potential location of a crosswalk and curb ramps too far back of intersection where the sidewalk terminates. As noted previously, as a condition of approval, the Applicant shall provide a pedestrian circulation plan to show ADA compliance, to the satisfaction of the Township Engineer and Township Traffic Engineer
33. As stated previously, *"The parking area parallel to the main circulation road between station 24+00 and 31+50 is too close to the main circulation road and must be set back a sufficient distance to provide a buffer/screen to separate parked vehicles from moving traffic along the road, to provide larger corner radii (i.e., 25 feet desirable) at the driveways that intersect the main circulation road, and provide a larger centerline radius for the access roads at both ends of the parking bay. The parking lot access roads must provide sufficient stacking for a least one exiting vehicle at a 90° angle to the flow of traffic along the main access road. A crosswalk should be provided across the main circulation road at this intersection. The driveway at the west end of the parking bay should be reconfigured to provide proper alignment with the driveway opposite along the east side of the existing clubhouse, restaurant, and banquet/meeting facility."* The centerline radius for both driveways is not adequate for two-way travel, and the geometry and configuration of both driveways do not adequately provide sufficient stacking for vehicles exiting the driveway. As a condition of approval, both driveways shall be re-designed as necessary for safe vehicular access/circulation to the satisfaction of the Township Traffic Engineer.
34. As stated previously, *"The main circulation road through the intersection at approximate station 23+75 does not properly transition to the widened boulevard treatment that begins west of the intersection. Signage and pavement markings will be required to guide vehicles safely past the nose of the median. The pedestrian crosswalk should be properly aligned to the corners of the intersection. An additional crosswalk should be provided across the south leg of the intersection, and perhaps the east leg of the intersection. The mid-block crosswalk south of the intersection should be eliminated."* Until signage and pavement markings are provided, it can not be determined if signage and pavement markings alone will adequately and safely address the comment.

35. As stated previously, *"The plans should consider replacement of the median with a continuous center left turn lane for a total cross-section width of 40 feet for the main road for its entire length through the site."* As has been discussed with the Applicant, provision of the three-lane cross-section as suggested is not a requirement of plan approval.
36. Satisfied.
37. Satisfied, subject to review of placement of crosswalks and curb ramps.
38. Satisfied.
39. Satisfied, subject to review of signage and pavement markings.
40. As stated previously, *"The crosswalk with ADA compliant curb ramps across the main circulation road in the vicinity of station 14+75 should be better positioned in the intersection. A crosswalk, with ADA compliant curb ramps should also be provided across the parking lot access driveway at this location."* It is not clear what, if any adjustment was made, and no crosswalk has been added to the driveway opening.
41. Satisfied, subject to review of signage and pavement markings to assure the center island does not represent an obstruction in the middle of the road.
42. Satisfied.
43. Satisfied, subject to review of signage and pavement markings to assure that adequate transition areas/lengths are provided and the median does not represent an obstruction in the middle of the road.
44. Satisfied.
45. Satisfied, subject to provision of ADA compliant pedestrian facilities at the new intersections along Port Indian Road. Also, the proposed sidewalk along Port Indian Road should be widened from four feet to five feet.
46. Satisfied, although it is noted that corner radii of at least 25 feet should be provided for the driveway intersections along Port Indian Road.
47. Satisfied, but see discussion on the convenience of parking as described in comment #4 and the affect on pedestrian circulation.
48. Satisfied, although traffic control during special events may deserve some further consideration.
49. Satisfied, subject to review of signage and pavement markings in advance of the proposed crosswalk/golf cart crossing near Port Indian Road.

Jason Bobst, Manager
West Norriton Township
November 9, 2015
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If you should have any questions, or wish to discuss these issues in greater detail, please call me at your convenience. Additional comments may follow.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Andreas Heinrich', written in a cursive style.

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

AH:rh

cc: Christen G. Pionzio, Esq.
Michael J. Valyo, Director of Public Works and Planning
Joseph M. Estock, P.E., P.L.S.
E. Van Rieker, AICP