



WEST WINDSOR TOWNSHIP

DEPARTMENT OF COMMUNITY DEVELOPMENT
DIVISION OF ENGINEERING

MEMORANDUM

TO: West Windsor Township Planning Board

FROM: Francis A. Guzik, PE, CME
Director of Community Development/Township Engineer

DATE: April 8, 2020

SUBJECT: **West Windsor – Plainsboro Regional School District
High School South - Phase 1 Site Work**
Site/Civil Engineering Review Comments - Courtesy Review
Princeton-Hightstown Road, Clarksville Road & Penn Lyle Road
Block 17.13, Lot 2
PB20-01

Documents Reviewed:

- Site Plans entitled “Phase 1 Site Work at West Windsor-Plainsboro High School South Regional School District”, sheets C-100 thru C-117, prepared by Van Cleef Engineering Associates and revised to February 24, 2020.
- Stormwater Management Report prepared by Van Cleef Engineering Associates and dated February 2020.
- Traffic Assessment Report prepared by Dynamic Traffic and dated March 9, 2020.
- Miscellaneous applications, checklists and submittals.

The applicant has provided for courtesy review a set of plans proposing revisions to the main parking lot fronting on Clarksville Road and Princeton-Hightstown Road so as to improve traffic circulation, and in anticipation of two future building additions at the existing High School South campus. The proposed work results in the separation of drop-off/pickup traffic from the traffic seeking to use the vehicular parking areas. The two driveways on Clarksville Road, currently one enter-only and one exit-only, will change. The west driveway will serve as enter-only for drop-offs/pickups along the building frontage. The east driveway will allow entrance for the parking area, plus exits for all traffic. Exits will have separate right run and left turn lanes to preserve the same efficiencies that exist.

This work requires the shifting of the entire parking field closer to both Clarksville Road and Princeton-Hightstown Road frontages. The driveway to Princeton-Hightstown will be shortened and condensed, but still provide for the same enter and exit movements as exists. The improvements also include underground utilities as necessary to serve the future building additions, plus a new stormwater management feature whose location will eliminate the existing berming along Clarksville Road frontage.

Based on review of the plans and reports provided, the following comments are offered:

1.0 Access and Circulation:

1. Population increases, both student and staff, should be discussed, along with associated impacts such as increased traffic (bus and pick up/drop off) and site parking requirements. The Traffic Report indicates the school population is expected to increase by 100 students and 20 staff, yet the revised parking results in an increase of only 9 parking stalls (296 existing and 305 proposed) on the entire campus.
2. The Traffic Report, Future Levels of Service, Table VIII indicates negligible impacts to future levels of service for all driveways and turning movements along all three frontage roadways, with the exception of the left turns onto Clarksville Road. Delays for vehicles making this movement are forecasted to increase from 23 seconds to 33 seconds in the AM peak hour. However, the report is based on a 2021 build year, rather than the actual build year when the future additions are anticipated to be completed. That build year should be analyzed separately and, if it significantly increases the delays, a recommendation for mitigating impacts should be provided and included as part of this project, or as part of the building additions construction project.
3. Clarksville Road is a County Road and is classified as a Principal Collector Road (2 lanes), as is Princeton-Hightstown Road (4-lane Principal Collector). Penn Lyle Road is a Township road, and designated as a Minor Collector street. Penn Lyle Road requires no additional improvements. Improvements to Princeton-Hightstown Road and Clarksville Road are deferred to Mercer County. It is noted that the proposed reconstruction of Princeton-Hightstown Road will include this signalized intersection, and additional right-of-way is required at the school's north property corner. A copy of the latest design from the County has been shared with the applicant's consultant for the District's consideration.
4. Pedestrian walks and connections to those facilities along the local streets are present, encouraging students walking and biking to and from the neighborhoods. It is presumed that additional bicycle parking facilities will be provided at the time of the future building additions.
5. The reconfigured parking lot places parking stalls much closer to Clarksville Road, which is lined with single family homes across the street. Setbacks to parking are reduced from 100 feet to less than 50 feet, with all or portions of twenty four (24) stalls within that setback range. Also, the proposed grading removes the 4' high berm that currently exists to screen parking from the homes. The proposed means of screening the homes from the new parking and closer stalls is to be addressed.
6. Ordinance Section 200-36.1 requires that pervious surfaces be used for all paved areas other than drives and parking areas, which includes sidewalks, trails, courtyards, and other site amenities. This project makes extensive use of concrete islands, rather than constructing them as landscaped islands or make use of pervious pavers/pavements. Options and opportunities for same should be discussed.
7. The south side of the parking lot is provided with a walkway to the building and the north side is not. The reasons for this should be discussed.
8. The reconfigured parking lot results in a total of nine (9) barrier free parking stalls, which meet the required standards. Four (4) stalls are not in close proximity to the building entrances, but may be for the recreation facilities. This should be confirmed.
9. A portion of the south walkway will be depressed so as to allow for snow removal operations to push snow from the lot into the open lawn area. It is questioned why similar feature is not provided on the

north side, where melting snows could reach the proposed infiltration basin and recharge into the soils. The northeast end of the lot, at the east end of the basin, could work for this with slight modifications.

10. Ordinance Section 200-29.M(4) requires that parking spaces shall be double-striped between spaces with lines 18 inches on center, at four inches wide. The plans should reflect this with a typical stall striping detail.

2.0 Stormwater Management

1. The project results in a net increase in impervious coverage of approximately 1.57 acres and an area of disturbance well over 1 acre, which meets the Township's definition of a major project for stormwater management. A stormwater management design report (Report) has been provided. It is noted that the report indicates it is designed to anticipate a third building addition, even though said addition is not anticipated or currently planned for construction.
2. A review of the Report finds the stormwater management features have been "over designed" and reduce post-development runoff rates well below the allowable runoff rates, due to the limited size of the outfall pipe that runs underneath a portion of the existing building. Similarly, the achieved annual groundwater recharge volume greatly exceeds the minimum required annual recharge volume by over a factor of 6. There are no objections to exceeding the minimum requirements of the Township's standards.
3. The stormwater management BMP proposed is a sand bottom infiltration basin, which relies on the volume of stormwater runoff produced by the water quality storm being kept in the basin and recharged into the site soils. Soils testing for the basin was performed in only one location, whereas a minimum of two are required. Also, the soils were tested for recharge rate at an elevation significantly above the proposed elevation of the bottom of the basin. Therefore, the applicant is strongly encouraged to require multiple inspections and in-situ tests of the basin subgrade at the elevation of the proposed bottom of basin, at the time of initial excavation, and prior to full construction, to insure the encountered soils and achieved recharge rates meet the design or better.
4. Because of the importance of preserving the recharge rate of the underlying soils in the basin area, and protecting them from compaction and/or clogging by siltation during construction, the plans should include all notes and details necessary to indicate how this will be achieved, including revisions to the proposed construction sequence. Several other technical comments on the design have been conveyed directly to the applicant's engineer.
5. A Stormwater Summary Form and an Operations & Maintenance (O&M) Manual for the project have been prepared and submitted as part of the Report. It is requested that an electronic copy of the Report, Summary Form and Manual be provided for the Township's records once all other agency approvals have been achieved.

3.0 Lighting

1. Existing site lighting fixtures within the project area are to be replaced with 25' high LED fixtures within the parking lot, and 12' high pedestrian-scale LED fixtures along the walkway from the County traffic signal to the recreation field access driveway. Given the residential neighbors, the use of a shield on the fixture in the northeast corner of the parking lot is recommended to avoid nuisance complaints from the neighbors. Ordinance Section 200-31.D states that where lighting is visible to adjacent residents, lights shall be appropriately shielded.
2. The applicant should review whether there are existing pole mounted fixtures at the Clarksville and Princeton-Hightstown Road intersections, or consider adjusting the plan to obtain achieve higher light

levels to insure vehicles using the driveways and pedestrians crossing through them will be visible to drivers on the main roads.

3. Lighting levels at the building entrances and along the barrier free routes have not been provided. An average lighting level of 0.5-footcandle is required by Township Code.
4. The plans do not note if the site lighting fixtures are to be placed on timers or other controls. Ordinance Section 200-31.D states that the lighting system shall be placed on a timer, and all but lighting for security purposes be turned off at 11 p.m. If not turned off, the possibility of reducing the intensity of the site parking lights after 11 p.m. should be discussed.

4.0 Utility Comments

1. Several utility connections are proposed as part of this project in anticipation of the future building additions. This includes water service from Princeton-Hightstown Road and the construction of a new sewer connection to the sewer main in Clarksville Road. The estimated increase in wastewater flows from the site provided by the applicant is 2,500 gallons per day, which requires a reservation of flow from Township Council. Actual flows in the new line will exceed this increase because of the nature of the facilities to be included in the additions, but they will be existing flows being shifted from other parts of the building, which are conveyed to other parts of the municipal collection system.

5.0 Miscellaneous

1. The applicant is required to receive approvals from all agencies having jurisdiction, including but not limited to:
 - Mercer County Soil Conservation District
 - Mercer County Planning Board
 - Delaware and Raritan Canal Commission

This completes the review of the plans and reports. Additional comments may be provided based on response to these comments and subsequent document revisions.

FG
Cc: Applicant




WEST WINDSOR TOWNSHIP

DEPARTMENT OF COMMUNITY DEVELOPMENT DIVISION OF ENGINEERING

MEMORANDUM

Date: April 6, 2020

To: West Windsor Township Planning Board

From: Dan Dobromilsky, LLA / PP / LTE
Landscape Architect, West Windsor Township 

Subject: WW-P Regional School District, High School South, Phase I Site Work
PB 20-01 Planning and Landscape Architectural Courtesy Review
(B-17.13, L-2) 346 Clarksville Road

The plans (dated 2-24-2020) submitted for this application have been analyzed and a site visit has been conducted. The following comments regarding the planning and landscape architectural aspects of this proposal are offered, for consideration by the Board, as a courtesy review of this application is conducted:

1. This phase one project appears to be in preparation for future building additions. This project will shift and expand the existing site access driveways, drop-off zone, and front parking lot, including the construction of a new massive stormwater detention basin. Land use on the opposite side of Clarksville Road is residential single-family homes. Township open space (Ronald R. Rogers Arboretum) is located on the opposing side of Princeton Hightstown Road. There are some significant existing trees (37) in the location of proposed construction, but the majority of these trees (with the exception of three trees) exhibit structural deficiencies and thus do not warrant special consideration.
2. This school is located in a residential zoning district (R-24), in the residential core of the community, along two major roadways. The facilities at the district schools are often utilized for recreation activities as well as community events and programs, so this facility and property offers support to the Township neighborhoods beyond the primary education function. The applicant should describe how the future additions onto this school will enhance the primary and secondary function of this school as an appropriate and necessary land use or function in the community.
3. The recent full reexamination of the Township Master Plan, Land Use Element indicates that the West Windsor Township population was 28,289 persons in 2017 (p. 131). The Community Facilities Element (last updated approximately year 2000) indicates that the school district was anticipating a West Windsor population of 31,000 to 32,000 persons to develop a district student capacity of 10,450 student. The applicant should discuss their current data and projections for the Township and District, and how the anticipated expansion of this school addresses these projections.
4. The vehicular drive, parking lot, and stormwater management basin proposed with this phase of school expansion present several concerns, as follows:

MEMORANDUM

To: West Windsor Planning Board
From: Dan Dobromilsky, LLA/PP/LTE
Re: PB 20-01
Date: April 6, 2020

4. cont.

- a. At present, the area proposed for portions of this parking lot and the new stormwater management basin exists as a massive earth berm that rises approximately 3.5' to 4' above the grade of Clarksville Road. This earth berm effectively screens the large parking area (which is basically void of landscape improvements) on the school property, as viewed from the busy public roads and adjacent residences. The Clarksville / Princeton Hightstown Road intersection has seen as a gateway to the downtown, Princeton Junction business district. The proposed parking expansion is essentially located in the front yard of the school, but will not encroach upon the 40' front yard setback required for this zone. Parking in front of a building is not permitted under Township Code (200-29 and 200-230).
- b. The stormwater management basin will be within the front yard setback and will effectively reduce the front yard to as little as 2', averaging about 5' from the Clarksville Road right of way. The placement of this element within the front yard will convert an earth berm that affords buffering of the parking lot to a deep depression that severely limits the potential for landscape buffers.

The Township Master Plan, Land Use Element, on page 16. Policy #1, offers the following, "continue to encourage the use of park-like suburban landscaping in connection with new development, particularly along major road frontages where this helps maintain a landscape design theme and visually unites the community." Furthermore, in approximately 6 locations the Township Master Plan (e.g. page 79, paragraph 3) suggests that, "all buffer standards should be reviewed to ensure that adequate screening is provided between non-residential and residential uses." The quoted paragraph is regarding a proposed office overlay zone for some existing residential properties located on the opposite corner of the Clarksville and Princeton Hightstown Road intersection from this school property.

- c. It should be determined if the Township or County are planning for road widening and intersection improvements in this area that could conflict with these improvements or further diminish the area between these improvements and the road/sidewalk.
- d. The existing parking lot consists of 296 parking stalls, including 7 accessible stalls and 7 visitor spaces. The new design will consist of 305 parking stalls, including 9 accessible stalls. It is not clear if any spaces will be designated for visitor parking. The applicant should indicate if they believe the quantity of parking stalls will meet the demand with expansion of the school.
- e. The reconfigured design of the parking lot will include two parking rows of greater than 20 continuous stalls. Township standards establish a maximum of 20 continuous stalls to be divided by 10' wide parking lot landscape islands or peninsulas. However, the parking lot islands will be surfaced in concrete pavement with no landscape planting. The light standards are located within some of these islands. Thus, the parking lot will consist of parking stalls and 425 feet of bus drop off lane in a continuous area of pavement. The proposed development will greatly differ from the purpose and objectives of Township code standards for parking lot design. The introduction of landscape islands and planting breaks up the area of paved surfacing; allows for a visual reinforcement of the traffic patterns; and enhances the environmental and aesthetic aspects of the property.

These findings suggest that this parking lot and stormwater basin will be inconsistent with some of the Township's land use policies, objectives, and code standards. The applicant should indicate what alternate layout options, and/or design modifications have been considered. Did the applicant explore any options that would maintain an adequate buffer along Clarksville Road, now and with any future widening of the road? Did the applicant consider landscape architectural development that addresses the standards of the Township and community?

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5. Clarksville Road is a County Road and is classified as a Principal Collector Road (2 lanes). The other streets that this property fronts upon, or has access to (Penn Lyle Road and Princeton Hightstown Road) are designated as Minor and Principal Collector streets. Vehicular ingress and egress from the property occurs on all three roads. Pedestrian walks and connections to the local streets are present, encouraging walking and biking to and from the neighborhood. It is most appropriate to retain the present Clarksville Road means of ingress and egress to this school and this proposal does keep and expand it. Two ingress drives are proposed to separate busses from regular vehicular traffic. This modification will result in massive areas of paved surfacing, for drive aisles, pedestrian walks and drop-off areas, but also includes pavement covering significant areas that appear to be only traffic islands. The Board and Applicant should discuss options that might reduce the area of paved surfacing, improve stormwater infiltration, enhance the appearance of this main entrance, and yet still address the high activity level that will occur at the front of this school.
6. The existing Clarksville Road streetscape includes 5' wide concrete sidewalk, street trees (8) and overhead utility lines. The utility lines were recently upgraded for regional transmission with taller poles. As a result, the street trees were pruned (topped) very harshly. Approximately 250' of the 1000' feet of sidewalk along the Clarksville Road frontage of this property will be reconstructed with the shift of the access driveway. The plans do not indicate if the street trees will be removed or retained. The Board and Applicant should discuss the streetscape design in this area. Is the sidewalk width adequate for the level of type of pedestrian activity created for the school? Can the streetscape and buffer landscape be integrated to develop an aesthetic and effective landscape design that fits with the pedestrian movements and presence of overhead wires? Coordination with County Shade Tree and Engineering would be appropriate.
7. The Proposed Greenbelt of the Township Master Plan does not occur on this property. The area of construction is outside any wetland or floodplain zones. As previously noted there are a few mature trees that appear to be structurally sound and healthy, which are slated for removal with this project. One of these trees is in the middle of the area to be developed for the new access drives, yet it might be possible to preserve it with some modifications. Two of these trees are present at the Clarksville / Princeton Hightstown Road intersection and it is not clear why removal is proposed. The potential to preserve these trees should be considered.
8. The proposed landscape design for this phase will include 3 shade trees at about 10' height; 3 flowering understory trees at about 7' height; 47 evergreen trees at 6' height; and 56 evergreen or semi-evergreen shrubs at 30" height. Almost all of the proposed landscaping will be installed within the narrow to very narrow strip afforded between the new stormwater basin and the road or drive. The length of this strip of landscape measures 800'. Township code standards for screening within undersized buffers generically requires the planting of 100 evergreen trees at 6' to 8' height for this strip. The landscape design does not address streetscape, parking lot landscape, or pedestrian space landscape architectural development as requested by Township code standards. The proposed planting and landscape architectural design will not adequately screen the nuisance elements created by this proposal and will greatly diminish the aesthetics this area of the community.

Upon review of the applicant's presentation and testimony before the board, additional commentary may be offered at the request of the Board.

cc: Applicant
Samuel J. Surtees
Francis Guzik, PE

West Windsor Township Fire & Emergency Services

Memorandum

DATE: May 19, 2020
TO: Sam Surtees, Land Use Manager
FROM: Chief Timothy M. Lynch
REGARDING: PB 20-01, West Windsor-Plainsboro High School South

OVERVIEW

The current application regards a courtesy review of proposed additions and site alterations to West Windsor-Plainsboro High School South.

ACCESS

- Further information needs to be provided regarding the alterations to the parking lot layout to ensure compliance with Township Ordinance regarding fire apparatus turning radii for fire department emergency access.
- Due to limited access, No Parking Fire Lanes shall be created by the applicant along all curb areas to restrict curbside parking from the entire site.

WATER SUPPLY FOR FIRE PROTECTION

- Proposed fire hydrant locations are adequate.
- Fire Protection water supply shall not be interrupted to the school during construction.

MISCELLANEOUS

- The position of the fire department connection that supports the fire sprinkler system shall be at the front of the building.

CONCLUSION

- Based upon the above comments further information is needed regarding fire apparatus turning radii compliance before approval can be recommended.



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