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Memorandum

To: Town of Orangetown Planning Board
From: Ashley Ley, AICP; Elaine Du, PE; and Marissa Tarallo, PE, PTOE
Date: September 14, 2022
Re: WPT Industrial REIT Proposed Warehouse – Planning and Traffic Review

This technical memorandum summarizes AKRF’s review of the following documents in connection with the proposed WPT Industrial REIT Warehouse located at 13 Mountainview Avenue, Orangetown:

- Traffic Impact Study and associated materials prepared by Dynamic Traffic last revised November 18, 2021 (“Dynamic Traffic Study”)
- Site Development Plan set (22 sheets) prepared by Colliers Engineering & Design, Inc., dated November 22, 2021
- Short Environmental Assessment Form, prepared by Colliers Engineering, dated 2/24/2022
- Full Environmental Assessment Form, prepared by Colliers Engineering, dated 11/4/2021

Additionally, AKRF reviewed the following independent traffic study requested by the Orangetown Planning Board:

- Traffic Impact Study and associated materials prepared by Creighton Manning Engineering; LLP dated September 1, 2022 (“Creighton Manning Study”)

PROJECT DESCRIPTION

WPT Acquisitions (the “Applicant”) proposes to construct a 175,760-square foot (sf) warehouse with 150 on-site parking spaces, 30 trailer storage spaces, 30 land banked parking spaces, and 34 loading bays (the “Proposed Project”) on a 13.805-acre property located at 13 Mountainview Avenue in the CC, LI, LO, and Route 303 Overlay Zoning Districts (the “Project Site”). The Project Site comprises three tax lots: 74.07-1-36 (12.07-acres), 74.07-1-33 (0.39 acres), and 74.07-1-2 (1.34 acres) which would be merged as part of the Proposed Project. The Project Site is presently improved with a vacant approximately 106,000 sf church which would be demolished to accommodate the Proposed Project. The Proposed Project requires site plan and re-subdivision approval from the Town of Orangetown Planning Board.

A. PLANNING REVIEW AND RECOMMENDATIONS

AKRF has reviewed the above submission, as well as written comments from Town Staff and Rockland County Planning, and offers the following comments on the Proposed Project.

1. The Applicant prepared two separate Environmental Assessment Forms (EAFs) for the Proposed Project – a Short EAF for the re-subdivision application and a Full EAF for the site plan application. Since both actions are inter-related, one Full EAF should be prepared that addresses both actions associated with the Proposed Project. The Proposed Project is a Type I Action under the State Environmental Quality Review Act (SEQRA) per 617.4(b)(6)(v).
2. The Full EAF should include a project narrative that more fully describes the use of the proposed building and proposed operation of the site (e.g., hours of operation, number of employees, anticipated shift changes).
3. The site plan should be revised to show the Zoning District boundaries, including the Route 303 Overlay district. The portion of the Project Site that falls within the Route 303 Overlay District must comply with the provisions set forth in Section 13.10.B of the Town Code. In particular, the site plan should be revised to address the following provisions:
 - a. Include a 25-foot wide vegetated buffer (see §13.10.B(2)).
 - b. Compliance with the minimum curb cut distances required by §13.10.B(11) should be shown.
 - c. The applicant should demonstrate the need for detention basins in lieu of subsurface systems (see §13.10.B(14)).
4. The existing Project Site is substantially developed with extensive impervious parking areas and a 106,000 square foot church. However, the Proposed Project would increase the development footprint on the Project Site and would disturb some of the existing trees and brush that currently buffer views of the Project Site from the surrounding roadways. Consistent with the legislative intent of the Route 303 Overlay Zoning District, additional screening to buffer views and sensitive land uses may be required.
5. The Proposed Project involves grading and the installation of stormwater management features along the Mountainview Avenue and Route 303 frontages, which has the potential to increase the visibility of the proposed warehouse building from these public vantage points. The Applicant should prepare a tree protection and preservation plan to more clearly identify which trees would be maintained and how they would be protected during construction. Grading within the dripline of a tree can adversely impact a tree's root system. In addition, site sections and photo-simulations that demonstrate the potential visibility of the project from Mountainview Avenue and Route 303 should be provided.
6. The Proposed Project would maintain a very slim buffer along the western boundary with the railroad line. The site plan indicates a generalized tree line that would remain but indicates no specific plantings. Additional detail related to the existing trees and brush, and the limits of grading, should be provided. Additional landscaping may be required along this property line.
7. AKRF received a black and white set of conceptual elevations. The Planning Board should be provided with colored elevations to aid in its assessment of the potential visibility of the project.
8. The site plan and elevations should indicate the location mechanical systems that may be ground or roof mounted (e.g., HVAC systems) and proposed screening.
9. A lighting plan has been provided. The proposed lighting levels are generally low (below five foot-candles) across the Project Site. However, there are a few instances where the proposed lighting would spill over the property line. The lighting should be adjusted to further reduce the spillover. In addition, a table that shows the minimum, maximum, and average footcandles should be provided. Lastly, the Correlated Color Temperature (CCT) should be specified.
10. Back-up calculations for proposed lot coverage should be provided.

B. DYNAMIC TRAFFIC STUDY REVIEW

EXISTING CONDITION

The Dynamic Traffic Study analyzed intersection operations at the following study intersections:

- Route 303 & Mountainview Avenue
- Route 303 & Orangeburg Road (CR 20)/Chase Bank Driveway
- Route 303 & Route 340/South Greenbush Road
- Route 303 & Glenshaw Street
- Proposed right-in/right-out driveway & Route 303 (Build Condition Only)
- Proposed site driveway & Mountainview Avenue (Build Condition Only)

Based on the proposed use and the estimated trip generation, the number and location of the study intersections are reasonable.

Traffic data was collected in August 2021 and was adjusted to pre-COVID traffic conditions using NYS DOT historical traffic counts. Additionally, the traffic data was supplemented by historical traffic data from the *125 and 155 Greenbush Road TIS* which was collected in 2019.

The peak hours of the study area intersections from the August 2021 traffic counts were determined to be 7:45 AM to 8:45 AM and 4:30 PM to 5:30 PM for the weekday AM and PM periods, respectively.

Dynamic Traffic should conduct an Existing Condition capacity analysis and include the results and Synchro reports in the TIS.

2023 AND 2043 NO BUILD CONDITION

The No Build traffic volumes at Route 303 and Mountainview Avenue were developed using the Build volumes from the *125 and 155 Greenbush Road TIS* and applying a one percent per year background growth rate to 2023.

The No Build traffic volumes for the remainder of the study intersections were developed using a one percent per year background growth rate to 2023 and balanced with the above-mentioned adjusted *125 and 155 Greenbush Road TIS* traffic volumes.

The one percent background growth rate to 2023 is sufficient to accommodate for background traffic growth in the region. **However, Dynamic Traffic should confirm that all nearby developments are included in the No Build volumes at all intersections, including:**

- **125 and 155 Greenbush Road**
- **Hudson Crossing Industrial Park at 700 Bradley Hill Road**
- **200-400 Oritani Drive**
- **Instrumentation Laboratory at 526 Route 303**
- **Linen Choice Warehouse**
- **South Corner Plaza**

In addition to the 2023 analysis, Dynamic Traffic provided a 2043 Estimated Time to Complete (ETC)+20 analysis. The 2043 No Build volumes were developed using a compounded 0.5 percent annual growth rate. **Dynamic Traffic should provide historical data to justify the 0.5 percent annual growth rate.**

2023 AND 2043 BUILD CONDITION

The Build Volumes were developed by incorporating vehicle and truck trips generated by the proposed warehouse with the No Build volumes. A trip generation credit was not applied for the church as it is assumed to be vacant.

BUILD TRIP GENERATION

The proposed redevelopment of the site would consist of a 175,760 square foot warehouse with ceiling heights of over 40 feet. The *ITE Trip Generation Manual, 11th Edition* Land Use Code 150 – Warehousing was used to develop trip generation estimates for the proposed. This land use code represents a general warehouse use, separate from a high-cube warehouse which utilizes automation and has ceiling heights of over 24 feet.

As a specific tenant or warehouse use is unknown, Land Use Code 156 – High-Cube Parcel Hub Warehouse would be more appropriate for the proposed use based on the size and height of the proposed warehouse, and to provide a more conservative analysis. In addition, Dynamic Traffic should revise the truck trip generation to reflect the truck trip generation rates and directional distributions in the *ITE Trip Generation Manual, 11th Edition*.

TRIP ASSIGNMENT

Project-generated trips were assigned to the study area based on the location of primary arterial roadways, major signalized intersections, and existing traffic patterns. Approximately 50 percent, 30 percent, 10 percent, and 10 percent of vehicle trips were assigned to arrive from/depart to the south, north, east, and west, respectively. All truck trips were assigned to arrive from/depart to the north for access to/from I-287/I-87. The trip assignments for both truck and non-truck trips are acceptable.

TRAFFIC CAPACITY ANALYSIS

Dynamic Traffic conducted a capacity analysis for the weekday AM and PM peak hours using Synchro 11 and the *Highway Capacity Manual, 6th Edition* for the study intersections, and mitigation measures were provided at the intersection of Route 303 with Mountainview Avenue.

The methodology utilized is acceptable; however, the following should be revised in the capacity analysis:

- **Revise signal timings at the Route 303 and Mountainview Avenue, Route 303 and Orangeburg Road, and Route 303 and Route 340 intersections to be consistent with the NYSDOT signal timing plans including vehicle and pedestrian phasing, split timing, and recall modes.**
- **The heavy vehicle percentages from adjacent intersections should be applied to the driveway intersections on the mainline roadway (i.e., Mountainview Avenue and Route 303).**
- **Adjust the Build Condition heavy vehicle percentages based on the truck trip generation of the site.**
- **Include 50th and 95th percentile queue lengths in the Level of Service tables and note where queue impacts (when the queue length exceeds the provided storage length) are projected to occur.**

TRAFFIC IMPACTS AND MITIGATION

A traffic impact is defined as deterioration of the Build Condition Level of Service from the No Build Condition: from LOS A, B, C, or D to E or F; from LOS E to LOS F. Based on preliminary results from the Dynamic Traffic Study analysis, which needs to be revised to address AKRF's comments, the proposed project would result in impacts in the following scenarios:

- 2023 Build Condition PM peak hour – Route 303 & Mountainview Avenue northbound approach

- 2043 Build Condition AM peak hour – Route 303 & Mountainview Avenue northbound approach

To mitigate the traffic impact at the Route 303 & Mountainview Avenue northbound approach, Dynamic Traffic proposes a minor signal timing adjustment, shifting one second from the southbound phase to the northbound phase. It should be noted that the proposed mitigation measure results in an impact in the 2043 Build Condition PM peak hour at the Route 303 & Mountainview Avenue southbound approach.

Dynamic Traffic should consider other mitigation measures, such as adding left turn lanes on Route 303 and/or Mountainview Avenue as suggested by NYSDOT in an email dated March 28, 2022.

SIGNAL WARRANT

Signal warrant studies have been conducted for Route 303 and Glenshaw Street following MUTCD guidelines. The analysis used 2043 Build Condition volumes and showed that the study intersection does not meet signal warrants. The approach used for the signal warrant study is conservative and appropriate.

PARKING

The parking and loading presented on the site plans indicate that 58 vehicle parking spaces and 10 truck loading spaces are required based on one parking space per two employees and one truck loading space per 20,000 sf, per the Town Zoning Code. A total of 150 parking spaces and 36 loading spaces are proposed, including five van accessible parking spaces, meeting the requirements of the Americans with Disabilities Act of 1990.

SITE PLAN AND CIRCULATION

AKRF has reviewed the site plans prepared by Colliers Engineering & Design, Inc., dated November 22, 2021, and has the following comments:

- **Provide sight distance diagrams for the proposed driveways in addition to any proposed traffic control signage and striping (i.e., stop bar and stop sign) if applicable. Ensure that any plantings and signage within the sight triangle are below two feet tall.**
- **Provide an internal circulation plan.**
- **Provide truck turning analyses for: (1) Mountainview Avenue and site driveway, (2) Route 303 and site driveway, and (3) Route 303 and Mountainview Avenue, as requested by NYSDOT.**
- **Because the site is located in close proximity to Dominican University, Tappan Zee High School, and the Joseph B. Clarke Rail Trail, consider improvements to sidewalks along the site frontage and pedestrian considerations such as crosswalks at the Mountainview Avenue driveway.**

C. CREIGHTON MANNING STUDY REVIEW

EXISTING CONDITION

The Creighton Manning Study analyzed traffic operations at the same intersections as analyzed in the Dynamic Traffic Study.

Traffic data was collected in June 2022 and were adjusted to pre-COVID traffic conditions using NYSDOT historical traffic counts.

In general, the Existing traffic volumes developed by Creighton Manning were approximately 0 to 15 percent higher than the Existing traffic volumes developed by Dynamic Traffic.

2023 AND 2043 NO BUILD CONDITION

The No Build traffic volumes were developed using a one percent annual growth rate to the Build years 2023 and 2043. However, the Creighton Manning Study should also include trips generated by 200-400 Oritani Drive and the Linen Choice Warehouse.

2023 AND 2043 BUILD CONDITION – TRIP GENERATION AND ASSIGNMENT

Creighton Manning evaluated trip generation for three separate land uses: LU 110 – General Light Industrial, LU 150 – Warehousing, and LU 156 – High-Cube Parcel Hub Warehouse. Based on this analysis, Creighton Manning stated that the proposed development could generate between 45 and 123 trips during the AM peak hour, and between 48 and 112 trips during the PM peak hour. The Dynamic Traffic Study analyzed the warehouse as LU 150 – Warehousing, which is the lowest of the estimates.

The Creighton Manning Study analyzed the Build Condition using the three separate land uses and assigned traffic using the same trip assignments as the Dynamic Traffic Study.

TRAFFIC IMPACTS AND MITIGATION

Using the same impact criteria in evaluating the Dynamic Traffic Study, the Creighton Manning Study found that traffic impacts would be experienced under the following scenarios at the following locations:

LU 110 – General Light Industrial

2023 Build

- Route 303 and Mountainview Avenue – PM peak hour: Northbound approach, southbound approach

2043 Build

- Route 303 and Route 340/South Greenbush Road – PM peak hour: Westbound approach, northbound approach, intersection
- Route 303 and Orangeburg Road/Driveway – AM peak hour: Eastbound left turn/through movement; PM peak hour: Northbound approach, intersection
- Route 303 and Mountainview Avenue – AM peak hour: Eastbound approach, northbound approach, intersection; PM peak hour: Northbound approach, southbound approach, intersection
- Route 303 and Glenshaw Street – AM peak hour: eastbound approach; PM peak hour: eastbound approach

LU 150 – Warehousing

2023 Build

- Route 303 and Mountainview Avenue – AM peak hour: Eastbound approach; PM peak hour: Northbound approach, southbound approach

2043 Build

- Route 303 and Route 340/South Greenbush Road – PM peak hour: Westbound approach, northbound approach, intersection
- Route 303 and Orangeburg Road/Driveway – PM peak hour: Northbound approach, intersection
- Route 303 and Mountainview Avenue – AM peak hour: Eastbound approach, northbound approach, intersection; PM peak hour: Northbound approach, southbound approach, intersection
- Route 303 and Glenshaw Street – AM peak hour: eastbound approach; PM peak hour: eastbound approach

LU 156 – High-Cube Parcel Hub Warehouse

2023 Build

- Route 303 and Mountainview Avenue – AM peak hour: Eastbound approach; PM peak hour: Northbound approach, southbound approach

2043 Build

- Route 303 and Route 340/South Greenbush Road – PM peak hour: Westbound approach, northbound approach, intersection
- Route 303 and Orangeburg Road/Driveway – PM peak hour: Northbound approach, intersection
- Route 303 and Mountainview Avenue – AM peak hour: Eastbound approach, northbound approach, intersection; PM peak hour: Northbound approach, southbound approach, intersection
- Route 303 and Glenshaw Street – AM peak hour: eastbound approach; PM peak hour: eastbound approach

Based on the findings of the Creighton Manning Study, the proposed warehouse would result in additional traffic impacts not disclosed in the Dynamic Traffic Study. **Dynamic Traffic should analyze and propose additional traffic mitigation measures at the impacted locations for LU 156 – High-Cube Parcel Hub Warehouse.**

SIGHT DISTANCE

Creighton Manning conducted a sight distance analysis for the proposed site driveways along Mountainview Avenue and Route 303 and concluded that the vegetation to the west of the Mountainview Avenue driveway would block the view of exiting vehicles. **The site plan should indicate the clearing necessary along Mountainview Avenue to achieve intersection sight distance in compliance with AASHTO guidelines, as recommended by Creighton Manning.**

D. TRAFFIC RECOMMENDATIONS

The following actions are recommended to the Applicant and Dynamic Traffic:

1. Dynamic Traffic should revise the traffic volumes and analyses to reflect the following comments:
 - a. Conduct an Existing Condition capacity analysis and include the results and Synchro reports in the TIS.
 - b. Confirm that all nearby developments are included in the No Build volumes at all intersections, such as the following: 125 and 155 Greenbush Road, Hudson Crossing Industrial Park at 700 Bradley Hill Road, 200-400 Oritani Drive, Instrumentation Laboratory at 526 Route 303, Linen Choice Warehouse, South Corner Plaza.
 - c. Provide historical data to justify the 0.5 percent annual growth rate from 2023 to 2043.

- d. The heavy vehicle percentages from adjacent intersections should be applied to the driveway intersections on the mainline roadway (i.e., Mountainview Avenue and Route 303).
- e. Adjust the Build Condition heavy vehicle percentages based on the truck trip generation of the site.
- f. Revise the truck trip generation to reflect the truck trip generation rates and directional distributions in the *ITE Trip Generation Manual, 11th Edition*.
- g. Revise signal timings at the Route 303 and Mountainview Avenue, Route 303 and Orangeburg Road, and Route 303 and Route 340 intersections to be consistent with the NYSDOT signal timing plans including vehicle and pedestrian phasing, split timing, and recall modes.
- h. Include 50th and 95th percentile queue lengths in the Level of Service tables and note where queue impacts (when the queue length exceeds the provided storage length) are projected to occur.

In lieu of revising the traffic volumes and analysis, with the permission of the Town of Orangetown, Dynamic Traffic can utilize the traffic volumes and analysis files developed by Creighton Manning with minor adjustments.

2. As a specific tenant or warehouse use is unknown, Land Use Code 156 – High-Cube Parcel Hub Warehouse would be more appropriate for the proposed use based on the size and height of the proposed warehouse, and to provide a more conservative analysis.
3. Analyze and propose additional traffic mitigation measures at the impacted locations for LU 156 – High-Cube Parcel Hub Warehouse, based on the Creighton Manning Study. Consider other mitigation measures, such as adding left turn lanes on Route 303 and/or Mountainview Avenue as suggested by NYSDOT in an email dated March 28, 2022.
4. Provide sight distance diagrams for the proposed driveways in addition to any proposed traffic control signage and striping (i.e., stop bar and stop sign) if applicable. Ensure that any plantings and signage within the sight triangle are below two feet tall.
5. The site plan should indicate the clearing necessary along Mountainview Avenue to achieve intersection sight distance in compliance with AASHTO guidelines, as recommended by Creighton Manning.
6. Provide an internal circulation plan.
7. Provide truck turning analyses for: (1) Mountainview Avenue and site driveway, (2) Route 303 and site driveway, and (3) Route 303 and Mountainview Avenue, as requested by NYSDOT.
8. Because the site is located in close proximity to Dominican University, Tappan Zee High School, and the Joseph B. Clarke Rail Trail, consider improvements to sidewalks along the site frontage and pedestrian considerations such as crosswalks at the Mountainview Avenue driveway.