THE RESIDENCES AT PINNACLE POINT
PINNACLE DRIVE – WALPOLE, MA
APPLICATION FOR COMPREHNSIVE PERMIT
UNDER M.G.L. C. 40B

ZONING BOARD OF APPEALS OF THE TOWN OF WALPOLE
COMPREHENSIVE PERMIT REGULATIONS
APRIL 28, 2022

SECTION 3.2.14 – TRAFFIC IMPACT REPORT

Kimley»Horn

April 25, 2022

Mr. Lou Petrozzi
Wall Street Development Corp.
2 Warthin Circle
Norwood, MA 02062

RE: ***Traffic Review Letter***
Proposed Pinnacle Estates Development, Pinnacle Drive, Walpole

Dear Lou,

In response to your request, Kimley-Horn & Associates, Inc. has completed a traffic assessment related to the proposed development off Pinnacle Drive in East Walpole. The letter summarizes existing characteristics of the immediate roadway network, estimated traffic generation and site plan analysis relative to sight distances at the new point of access as well as large vehicle maneuvering. It was completed as a limited study consistent with the Zoning Board of Appeals regulations for small residential projects.

INTRODUCTION

The proposed development is to consist of 28 townhouse residences constructed as 2, 3, or 4 attached unit structures. Access to the proposed development project will be to and from Pinnacle Drive. Pinnacle Drive currently serves 26 homes. The point of access will be approximately 300 feet down Pinnacle Drive from East Street. Land use in the surrounding area of the proposed development project is primarily residential under the Walpole zoning district, GR except in the nearby Washington Street corridor where commercial uses exist. A small park and ballfield are located off East Street near Pinnacle Drive.

A site visit was conducted to review the general conditions of the project area and the characteristics of the street network in the vicinity of the development site. The project location is shown in Figure 1 with respect to the surrounding area.

Figure 1

EXISTING CONDITIONS

The following paragraphs describe Pinnacle Drive and its intersection with East Street.

Pinnacle Drive

Pinnacle Drive is a town-owned, local road that follows an east to west alignment off East Street. It is an approximately a 30-foot-wide road accommodating two-way flow and is not a through street. The street currently serves 26 single family homes. Typical of many residential subdivision streets, the roadway does not have any pavement markings. There is a 5-foot-wide sidewalk with a 3-foot-wide grass buffer along the north side of Pinnacle Drive that extends from East Street. There are no specific bicycle accommodations along Pinnacle Drive, but being a wide, low volume, low speed residential street, it can accommodate bikes travel without difficulty.

Pinnacle Drive at East Street

East of the proposed project site drive, Pinnacle Drive meets East Street to form a traditional three-way 'T' type intersection. The intersection lies in a semi-wooded setting. Markings include a double-yellow centerline and edge lines along East Street. East Street operates "free" while Pinnacle Drive is "STOP" controlled. The lane configuration at this intersection includes one lane for all movements on each approach approximately 12 feet in width and 1-foot-wide shoulders. There is a 5-foot-wide sidewalk along the north side of Pinnacle Drive. There are no defined bicycle accommodations at this intersection. A review of the MassDOT crash portal shows that there were no reported crashes at the Pinnacle Street at East Street intersection within a recent three-year period.

- **Public Transportation**

As part of the existing conditions inventory, the presence of nearby public transit systems was researched. Based on the review, a fixed route bus route (MBTA Bus Route 34E) serving the project area was noted along Washington Street. There is also MBTA commuter rail service in the town with a station in the Walpole center while there are also several stations in Norwood in close proximity to the proposed project. Residents of the proposed development who use the commuter rail to travel to/from their workplace would still have to drive to the station(s) given the distances. Consequently, the availability of transit with respect to this proposed development is a positive situation, however, would be expected to have a minimal effect on the vehicle trip generation characteristics of the proposed project during the normal commuter periods.

ESTIMATED PROJECT TRAFFIC

An estimate of traffic to be generated by the proposed development project was completed. The proposed residential development project is expected to consist of 28 housing units in attached townhouse type

design structures. Four (4) units are currently proposed along the frontage of Pinnacle Drive while the remaining 24 units will be internal along the new proposed project roadway.

In order to estimate the number of trips that could be generated by the proposed development, statistics published by the Institute of Transportation Engineers (ITE) in Trip Generation Manual[1] for similar land uses were examined. The ITE trip generation statistics represent compilations of data based on observations of actual built projects throughout the United States collected over the past 50+ years on trip generation characteristics for different types of land uses. The data have been compiled to provide transportation analysts with guidance in forecasting daily and peak hour volumes for the specific use. Based on a review of the ITE database, Land Use Code (LUC) 220 – Multi-Family, Low Rise Housing has been selected as the most similar to the project type.

As shown in Table 2 and using the regression models, the proposed project is expected to generate a total of approximately 256 vehicle trips over the course of an average weekday including 128 entering trips and 128 exiting trips. The weekday morning peak hour is estimated to generate approximately 32 new trips with 8 trips entering and 24 trips exiting the project site, and the weekday afternoon peak hour is estimated to generate approximately 33 new trips with 21 trips entering and 12 trips exiting.

TABLE 1
SUMMARY OF SITE GENERATED TRIP GENERATION
Proposed Pinnacle Estates

Time Period	Entering Trips	Exiting Trips	Total
Weekday	128	128	256
AM Peak Hour	8	24	32
PM Peak Hour	21	12	33

Compared to the weighted average trip rate models, the regression models will present a somewhat conservative estimate of trip generation. Based on these estimates, this proposed development is considered to be a low generator of new vehicle traffic. In addition, the proximity of the project site to a park and the neighborhood commercial uses on Washington Street is likely to result in a number of walk trips over the course of the day thereby reducing the total number of estimated vehicle trips generated by the development on an average day.

- **Sight Distances**

Adequate sight distance is important safety consideration at intersections and driveways. Sight distances were reviewed at the proposed site drive location with Pinnacle Drive. Stopping sight distance (SSD) is the distance required for an approaching driver (with an eye height of 3.5 feet) to perceive and stop in time to avoid a collision with an object 2 feet high in the roadway. The values are based on a perception and reaction time of 2.5 seconds and braking distance required under wet, level pavements. Corner or intersection sight distance (ISD) is based upon the time required to perceive, react and complete a desired

[1] Institute of Transportation Engineers, Trip Generation Manual, 11th Edition, Washington, D.C., 2021.

exiting maneuver from a driveway once the driver decides to execute the maneuver. ISD is more related to operations and to some degree, the convenience or inconvenience of oncoming motorist.

The minimum criteria are defined by the American Association of State and Highway and Transportation Officials (AASHTO)[2]. SSD relates specifically to safety. As indicated by AASHTO, if available ISD meets or exceeds the minimum SSD criteria, then there is an adequate safe sight distance available for motorists to avoid collisions.

The speed of 30 mph (consistent with subdivision project design regulations) was used in the sight distance analysis for the proposed site drive intersection with Pinnacle Drive although this local, short street likely experiences speeds generally below 30 mph on average, particularly in the section of the proposed site drive, which is within approximately 300 feet of East Street. The required sight distance for Pinnacle Drive and the proposed site drive would be 200 feet which would be exceeded in both directions.

CONCLUSION

Based on the review of physical street conditions at the project site, the estimate of site generate vehicle trips and review of visibility at the proposed site drive, it is anticipated that the proposed residential development can be safely accommodated by the existing street network with safe, efficient access experienced by its residents. The proposed site drive should be STOP controlled and the existing sidewalk will need to be repaired where construction occurs. The sidewalk crossing at the proposed project site drive should also include ADA compliant ramps on each side of the crossing.

If there are any questions, do not hesitate to contact me at bill.scully@kimley-horn.com.

Very truly yours,
KIMLEY-HORN & ASSOCIATES, INC.

Bill

William J. Scully, P.E. (MA #33298)

WJS/-

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[2] American Association of State Highway and Transportation Officials (AASHTO), A Policy on Geometric Design of Highways and Streets, (Green Book) Washington, D.C., 2018.

Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

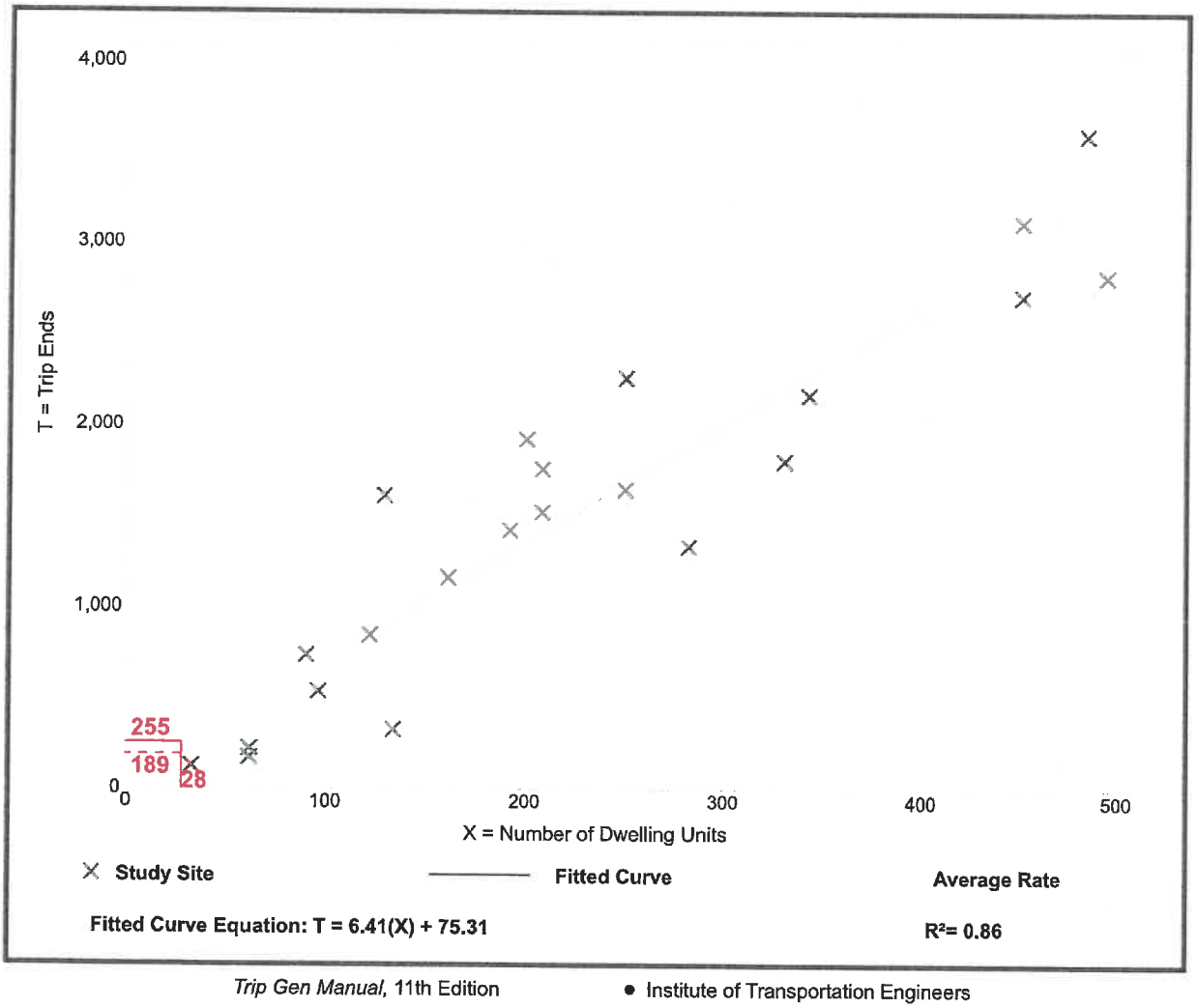
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 22
Avg. Num. of Dwelling Units: 229
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
6.74	2.46 - 12.50	1.79

Data Plot and Equation



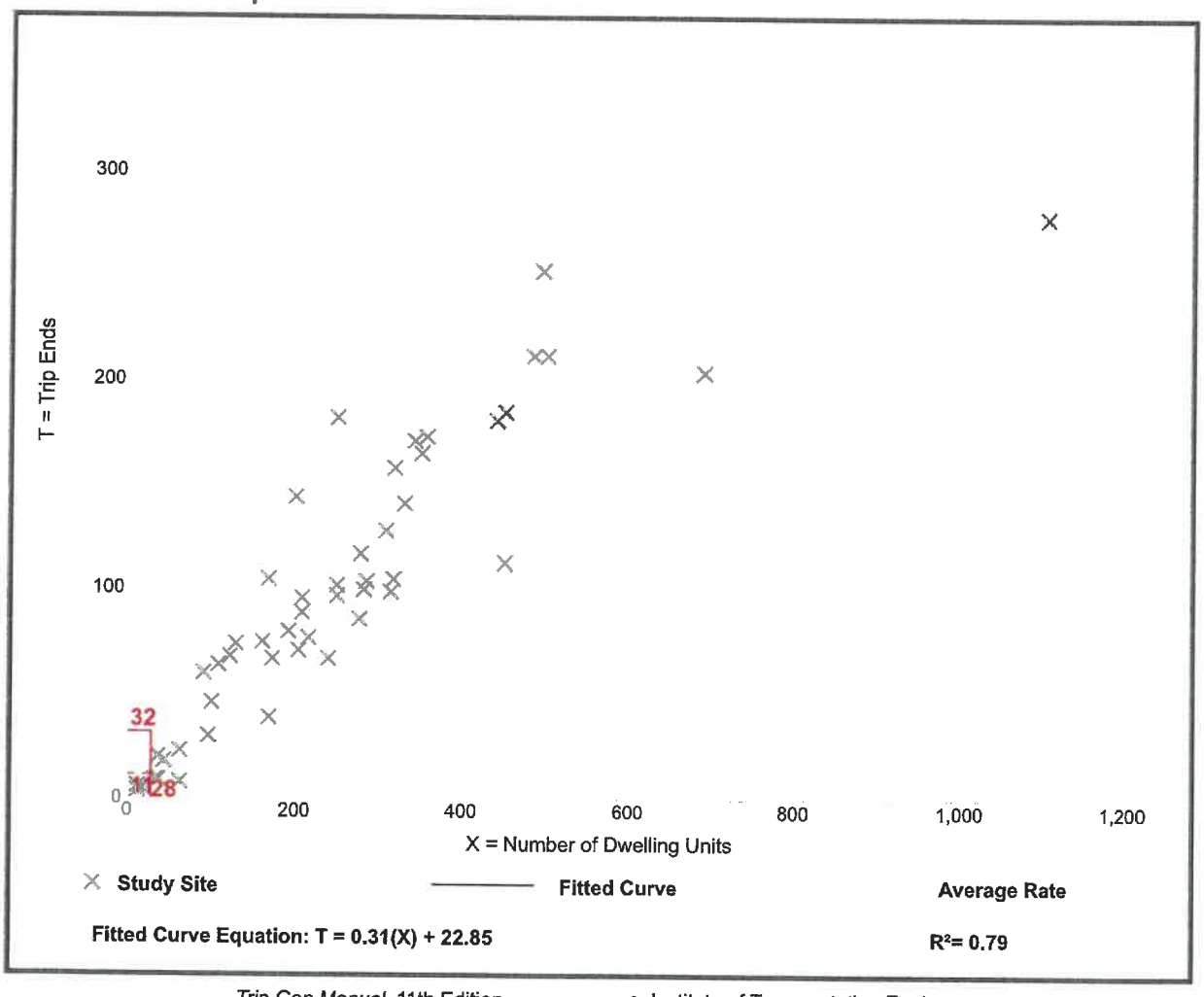
Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	49
Avg. Num. of Dwelling Units:	249
Directional Distribution:	24% entering, 76% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.40	0.13 - 0.73	0.12

Data Plot and Equation



Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	59
Avg. Num. of Dwelling Units:	241
Directional Distribution:	63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.51	0.08 - 1.04	0.15

Data Plot and Equation