



TMS Engineers, Inc.

Transportation Management Services

2112 Case Parkway South, #7 • Twinsburg, Ohio 44087

www.TMSEngineers.com

September 14, 2023

Mr. Mark Olsen
Bialosky Cleveland
6555 Carnegie Avenue, Suite 200
Cleveland, Ohio 44103

**Re: Proposed Ellsworth Hall Addition
City of Hudson, Ohio
Trip Generation Analysis**

Dear Mr. Olsen,

TMS Engineers, Inc. has performed the following trip generation analysis for the proposed addition to the Ellsworth Dining Hall within the Western Reserve Academy which is located in the City of Hudson, Ohio (see **Location Map, Figure 1**). The purpose of this trip generation analysis is to estimate the traffic that will be generated by the proposed addition to the dining hall. The site plan can be seen in **Figure 2**. The following are the results of our trip generation analysis.

Trip Generation

The calculation of future traffic requires an estimate of traffic the development will generate after construction. The most widely accepted method of determining the amount of traffic that a proposed development will generate is to compare the proposed site with existing facilities of the same use. This estimate is typically expressed as a trip rate. A trip rate is typically calculated using data and procedures found in the Institute of Transportation Engineers (ITE) "**Trip Generation**" **Manual, Eleventh Edition**. However, the ITE manual calculates the number of trips for a private high school by the number of students at school. The occupancy of the Ellsworth Dining Hall will not change with the construction of the additional, as stated in the Planning and Zoning Review Submission (shown in the attached **Figure 3**). Based on the ITE Manual, there would no additional trips for the addition since the number of students is anticipated to not change.

The parking requirements for the addition were analyzed and it was determined that there will be 28 spaces required after the addition is completed which requires 5 additional parking spaces be constructed. The parking analyses is shown in **Figure 4**. If it is assumed that all 5 additional parking spaces will be filled with vehicles during both peak hours and these motorists will leave the site, then there would be 10 additional trips in the AM and PM Peak hours (5 vehicles in and 5 vehicles out). This is a conservative estimate since vehicles could arrive at the parking spaces during off-peak periods or could leave during off-peak periods. The 10 additional trips is a worst case traffic scenario.

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Proposed Trip Generation Calculations

The worst case analyses described on the previous page shows that the proposed addition is expected to generate a total of 10 new trips in the AM peak hour and 10 new trips in the PM peak hour. It is our opinion that, when the anticipated changes in traffic volumes are at these levels, the traffic generated by the addition should not have an impact on the surrounding street network system.

This opinion is based upon the fact that traffic impact studies are recommended to be performed by the **Institute of Transportation Engineers** whenever an increase in trips in any peak hour is greater than 100 trips per hour. This recommendation is made because this is the point where a change in roadway capacity may be found and mitigation may or may not be needed. The anticipated generated volumes from this development are less than daily variations in the current volumes on the local roadway network and should not be perceived by the traveling public.

The Ohio Department of Transportation concedes that traffic studies are only necessary when the resulting trip increase is more than 60 trips in either of the peak hours. This is stated in their **State Highway Access Management Manual**. Since the proposed addition is expected to generate less than 60 trips, it is our professional opinion that the change in the amount of generated traffic will **not** have an impact on the surrounding roadway network nor require traffic analyses.

If you have any questions or need additional information, please do not hesitate to contact me.

Very truly yours,

TMS Engineers, Inc.

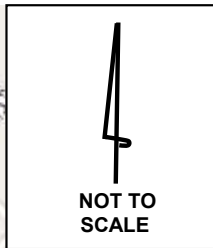
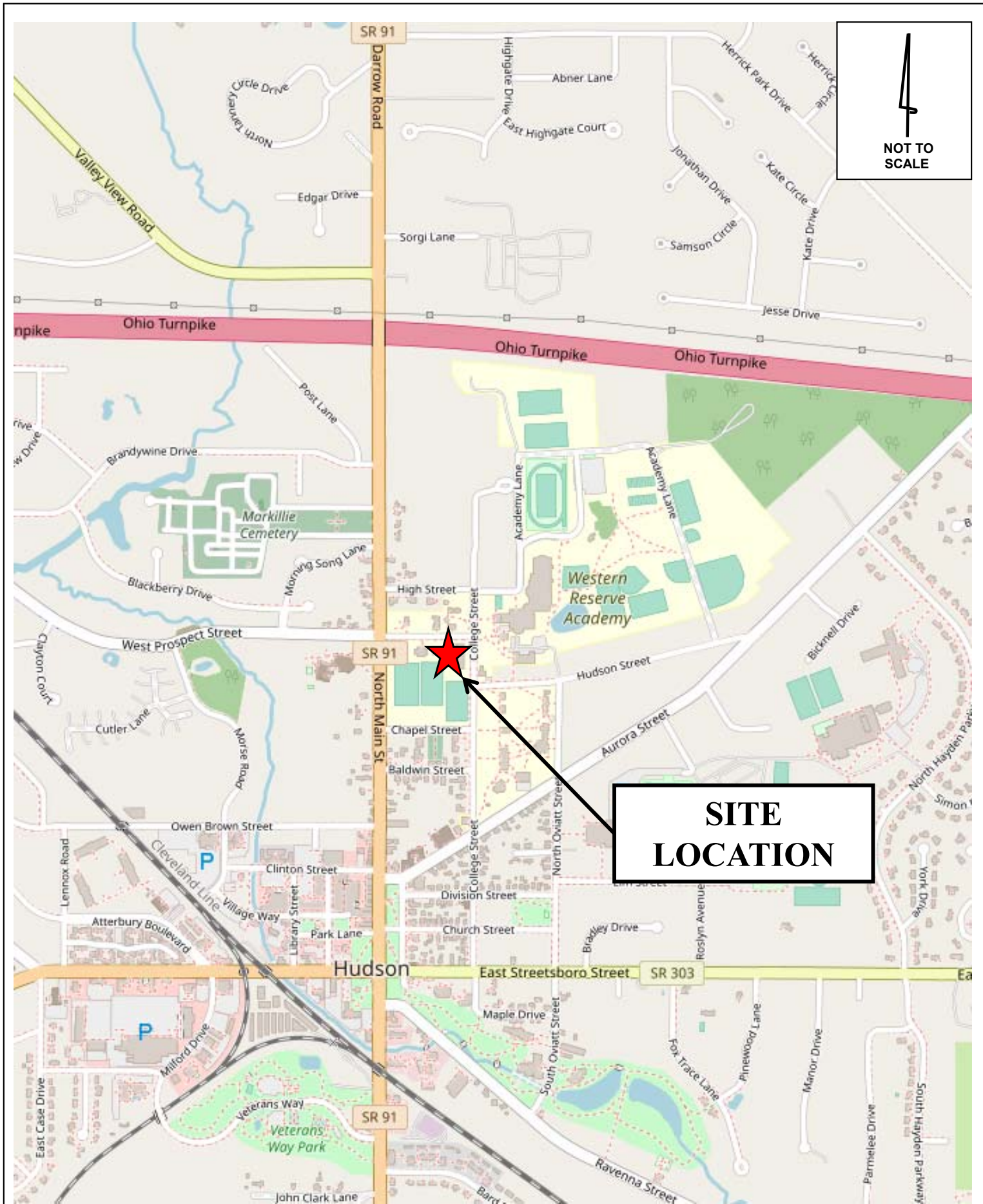


Andrew Pierson P.E.
Senior Traffic Engineer

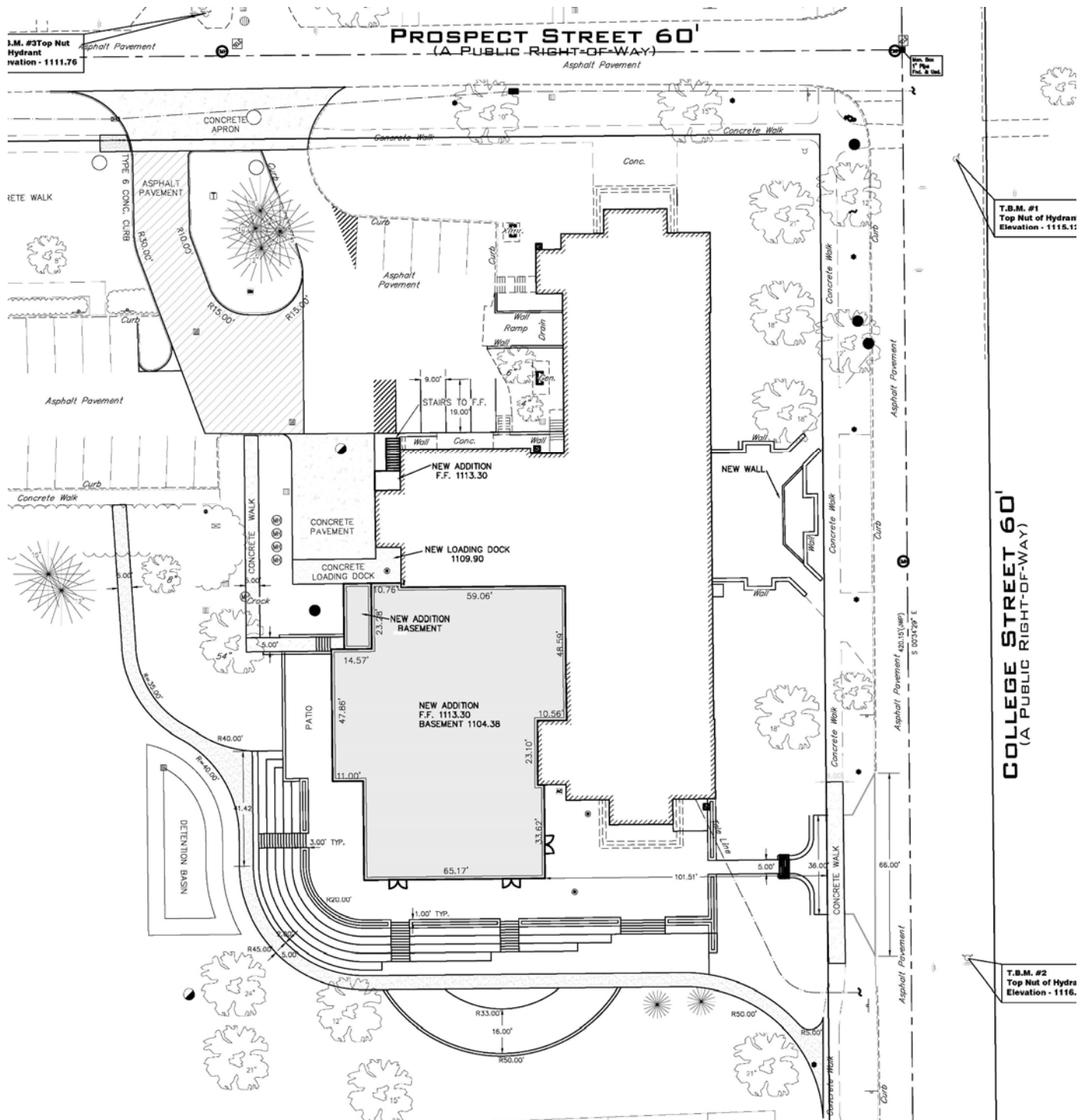
Attachments



FIGURES



**SITE
LOCATION**



NOT TO SCALE

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**Dining Hall Addition
 Hudson, Ohio
 Trip Generation Analysis**

Site Plan

Figure 2

Attachment