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F. A. Hesketh
& Associates, Inc.

February 20, 2024

Best Brokers
49 Twin Lakes Drive
Waterford, CT 06385

Attn: Mr. Daniel DelGrosso

RE: Traffic Impact Report
Roberts Village Housing
430 Mohegan Ave Parkway (Route 32)
Waterford, CT
Our File: 23186

Dear Mr. DelGrosso:

Pursuant to your request our office has prepared this traffic impact report outlining the potential traffic impact of a proposed 24 unit residential development known as Roberts Village on property located at 430 Mohegan Ave Parkway, CT Route 32, in the Town of Waterford, CT. The site proposed for development is shown in Figure 1. This letter presents our findings.

Proposed Development

The property proposed for development has frontage to Route 32 on the east as well as frontage to the cul-de-sac of Roberts Court. The proposed development is depicted on site plans prepared by Indigo Design, LLC. The plan depicts an extension of Roberts Court into the property with a loop roadway that turns to the north and returns to itself. A total of 24 units are proposed in 20 buildings located on the outside and the inside of the loop roadway. A total of 62 parking spaces are proposed. No access is proposed to Route 32.

Description of Area

Route 32 is a state-maintained roadway that originates at Route 82 in Norwich and extends in a southerly direction, along the Thames River, past the subject site to its terminus in downtown New London. Route 32 provides access to Route 2A and I-395 north of the site, and I-95 south of the site. Across the site frontage Route 32 carries two travel lanes and wide shoulders in each direction separated by a Jersey Barrier. The roadway is posted at 45 miles per hour in

each direction. Near the site, traffic signals are provided at Fitzgerald Avenue, north of the site, and Benham Avenue, south of the site. Land use along Route 32, within Waterford is mainly single family residential.

Roberts Court is a town-maintained roadway that originates at Senkow Drive and extends 300 feet to its terminus in a cul-de-sac at the subject property line. The roadway provides 30 feet of pavement with a single lane in each direction. The roadway is unmarked and has no posted speed limit. The roadway serves 7 single family residences.

Senkow Drive is a town-maintained roadway that originates at Route 32 and extends in a westerly direction, a distance of approximately 800 feet, to its terminus at Old Norwich Road. The roadway provides 32 feet of pavement with a single lane in each direction, separated by a painted double yellow centerline. The roadway is posted at 25 miles per hour. Land use along the roadway is single family residential. The Senkow Road approaches to Route 32 and Old Norwich Road each operate under stop sign control.

Old Norwich Road originates at a signalized intersection with Route 32 and extends in a southerly direction through Quaker Hill, past Senkow Drive and then continuing south into the City of New London where the roadway takes on the name of Willams Street. The roadway continues past Connecticut College and then interchanging with Route 32 and I-95. Old Norwich Road provides a width varying from 26 to 35 feet with a single travel lane in each direction, separated by a painted double yellow centerline. The roadway is posted at 30 miles per hour.

Background Traffic

The Connecticut DOT maintains a traffic volume count program on all state highways and some local roadways. Included in the database are counts on Route 32 south of Benham Road and on Old Norwich Road at the New London Townline. The most recent counts were conducted during March and April 2023. The count on Route 32 indicates an average daily traffic volume (ADT) of 25,300 vehicles with peak hour volumes of 2,060 vehicles during the morning peak hour (7:00 a.m.) and 2,001 vehicles during the afternoon peak hour (5:00 p.m.). The count on Old Norwich Road indicates an average daily traffic

volume (ADT) of 3,200 vehicles with peak hour volumes of 242 vehicles during the morning peak hour (8:00 a.m.) and 332 vehicles during the afternoon peak hour (4:00 p.m.). The ConnDOT counts are presented in Tables 1 and 2.

Our office arranged for the installation of an automated traffic volume counter on Senkow Drive west of Robers Court during July 2022. The count indicates that Senkow Drive carries a weekday ADT of 181 vehicles, with peak hour volumes of 15 vehicles during the morning peak hour (8:00 a.m.) and 18 vehicles during the afternoon peak hour (3:00 p.m.). This count is presented in Table 3.

In addition to the automated counts described above, manual turning movement counts were conducted at the intersections of Route 32 with Fitzgerald Avenue, Roue 32 with Benham Avenue, Route 32 at Senkow Drive and Old Norwich Road at Senkow Drive during the morning and afternoon peak commuter periods. These counts were conducted during October 2023. Figure 2 presents the observed traffic volumes. Figures 3 represents the 2022 existing traffic volumes for the peak entering and exiting church hours, within the study area, balanced between count locations by holding the higher observed volumes.

A review of recent ConnDOT counts, pre Covid, indicates that traffic volumes have decreased slightly on both Route 32 and Old Norwich Road between 2011 and 2023. To be conservative, a 1% per year growth rate was applied to grow the traffic to a 2025 design year. The results are presented in Figure 4 as the 2025 background traffic volumes.

Site Generated Traffic

The Institute of Transportation Engineers (ITE) *Trip Generation* Report was consulted for the purpose of estimating the trip generation of the proposed facility. *Trip Generation* presents trip generation estimates for many land uses based on counts conducted at existing facilities throughout the country. Included with the ITE database is Land Use Code (LUC) 210 – Single Family Detached Housing. The data for this land use is presented in terms of the number of units. Based on the ITE Data the proposed 24 unit development has a trip generation of 271 trips daily with a morning peak hour of 20 trips and an afternoon peak hour of 26 trips. The trip

generation is summarized in Table 4.

For the purposes of this analysis, we project a directional distribution of 50% to and from the north and 50% to and from the south. Due to the center median on Route 32, traffic to the site will either need to execute a u-turn at one of the signalized intersections north and south of Senkow Drive, or to utilize Old Norwich Road to approach from the south or to depart to the north. Figure 5 presents the anticipated directional distribution of the site generated traffic for the full build development.

Figure 6 depicts the site generated traffic based on this distribution. By adding the site generated traffic to the background traffic, the combined traffic volumes upon completion of the development can be determined. These volumes represent the 2025 combined traffic volumes as presented in Figure 7.

Capacity Analysis

Capacity analyses were conducted for the background and combined traffic volumes for both the entering and exiting Sunday peak hours at each of seven intersections. The analysis was conducted utilizing the intersection capacity analysis program called SYNCHRO. The analysis results are shown in Table 5.

Route 32 at Fitzgerald Avenue - This is an existing, four-way signalized intersection with Route 32 oriented in the north/south direction. Fitzgerald Avenue is oriented in the east/west orientation. The northbound and southbound Route 32 approaches each provide a dedicated left turn lane, one through lane and a shared through/right turn lane. The Fitzgerald Avenue approaches each provide a single lane approach. The intersection is under signalized control and operates with protected northbound and southbound advance left turns, followed by the northbound and southbound through movements, followed by the eastbound and westbound movements simultaneously.

Analysis indicates that the intersection operates at an overall LOS A during the Sunday entering and exiting peak hours under the background traffic volume conditions. With the introduction of

the site generated traffic, the intersection will continue to operate at the same levels of service as in the background conditions.

Route 32 at Benham Avenue - This is an existing, four-way signalized intersection with Route 32 oriented in the north/south direction. Benham Avenue is oriented in the east/west orientation. The northbound and southbound Route 32 approaches each provide a dedicated left turn lane, one through lane and a shared through/right turn lane. The Benham Avenue approaches each provide a single lane approach. The intersection is under signalized control and operates with protected northbound and southbound advance left turns, followed by the northbound and southbound through movements, followed by the eastbound and westbound movements simultaneously.

Analysis indicates that the intersection operates at an overall LOS A during the Sunday entering and exiting peak hours under the background traffic volume conditions. With the introduction of the site generated traffic, the intersection will continue to operate at the same levels of service as in the background conditions.

Route 32 at Senkow Drive - This is an existing unsignalized "T" intersection. Route 32 is oriented in the north/south direction. Senkow Drive approaches from the west. There is a Jersey barrier in the center of Route 32, so only the southbound lanes are accessible from Senkow Drive. Route 32 provides a two lane approach with a single through lane and a shared through/right tun lane. Roue 32 operates free. Senkow Drive provides a single lane approach, operates under stop sign control, and is restricted to right turn movements only.

Analysis indicates that under the background traffic volumes the southbound Route 32 approach operates at a LOS A during peak hours. The Senkow Drive approach operates at a LOS B during the Sunday peak hours. With the introduction of the site generated traffic, all approaches will continue to operate at the same levels of service as in the background conditions.

Old Norwich Road at Senkow Drive - This is an existing unsignalized "T" intersection. Old Norwich Road is oriented in the north/south direction. Senkow Drive approaches from the east.

All approaches provide a single lane. The Senkow Drive approach operates under stop sign control.

Analysis indicates that under the background traffic volumes the Old Norwich Road approaches operate at a LOS A during peak hours. The Senkow Drive approach operates at a LOS A during the Sunday peak hours. With the introduction of the site generated traffic, all approaches will continue to operate at the same levels of service as under the background conditions.

Senkow Drive at Roberts Court - This is an existing unsignalized "T" intersection. Senkow Drive is oriented in the east/west direction. Roberts Court approaches from the south. All approaches provide a single lane. The Roberts Court approach operates under stop sign control.

Analysis indicates under the background traffic volumes that the Senkow Drive approaches will operate at a LOS A and the Roberts Court approach will operate at a LOS A during the Sunday peak hours. With the introduction of the site generated traffic all approaches will continue to operate at the same levels of service as under the background conditions.

Driveway Location and Design

The proposed site driveway is an extension of Roberts Court. The driveway as proposed will provide 24 feet of pavement with a single 12 foot lane for entering traffic and a 12 foot lane for exiting traffic, separated by a painted double yellow centerline. We recommend that the driveway approach to the cul-de-sac be striped with a stop bar and stop sign for traffic control. Since the site driveway is an extension of Roberts Court, there are no sight line restrictions.

Accident Data

The University of Connecticut Crash Data Repository gathers and compiles traffic accident data for all state highways and some major local roadways. A list of accidents occurring in the area from October 1st, 2020 through October 1st, 2023 was reviewed. The data is presented by mile marker and includes information such as date, time, roadway and weather conditions, collision types, and other variables.

A 3-year accident history was compiled for Route 32 from a point 100 feet south of Benham Avenue to a point 100 feet north of Fitzgerald Avenue and for the full length of Old Norwich Road. No accidents were identified for either Senkow Drive or Roberts Court. A total of 31 accidents involving 59 vehicles occurred on Route 32 during the three year period reviewed. Twelve accidents occurred at the intersection of Benham Avenue, six accidents at Senkow Drive, and 13 accidents occurred at the intersection of Fitzgerald Avenue. 22 of the accidents were rear end accidents, there was one angle accident, two sideswipe accidents, five accidents involving fixed objects, and one involving a deer. 24 accidents were property damage only, five involved a suspected minor injury, one involved a suspected serious injury, and one accident was listed as a possible injury. There were no reported fatalities.

A total of eleven accidents involving 15 vehicles occurred on Old Norwich Road during the three year period reviewed. There were two accidents recorded at the intersections of Benham Road, one at Senkow Drive and no accidents at Fitzgerald Avenue. There were three rear end accidents, one sideswipe accident and the remaining seven accidents involving fixed objects. Six of the accidents were property damage only, three involved a suspected minor injury, and two accidents were listed as a possible injury. There were no reported fatalities.

Sate Approvals

The proposed development provides less than 100,000 s.f. of floor area and has fewer than 200 parking spaces. Therefore, the development does not fall under the jurisdiction of the Office of the State Traffic Administration (OSTA). Since the development does not propose any access to a State Highway, it is not necessary to obtain an Encroachment Permit from the Connecticut Department of Transportation's District II Office.

Conclusions

Based on the low volume of site generated traffic and the calculated levels of service as outlined in this report, it is my professional opinion that the local roadway network has sufficient capacity to accommodate the traffic volumes associated with the proposed development. The site access is proposed to Roberts Court, a very low volume roadway. The site driveway is properly designed to accommodate the anticipated peak hour volumes.

We appreciate the opportunity to provide this information to you. A representative from our firm will be available to present testimony before local commissions if needed. If you require any additional information, please do not hesitate to contact our office.

Very truly yours,
F. A. Hesketh & Associates, Inc.

Scott F. Hesketh, P. E.
Manager of Transportation Engineering

cc: Mr. Joe Wren, Indigo Design, LLC

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