

VILLAGE BOARD: VILLAGE OF CHESTNUT RIDGE

In the Matter of the Petition of

PETITION

ARTIS SENIOR LIVING, LLC,

For the Addition of a New Use in the NS Zoning District to Be Designated "Assisted Living Residence".

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STATE OF VIRGINIA        )  
  ) ss.:  
COUNTY OF FAIRFAX     )

MAX FERENTINOS, being duly sworn, deposes and says:

1. I am the Vice President of the Petitioner in the above-captioned matter, and as such am fully familiar with the facts herein.

2. Artis Senior Living, LLC, is a Virginia-based company whose mission is to develop high-quality general assisted living and memory care assisted living facilities that serve individuals suffering from Alzheimer's disease and other forms of dementia. It wishes to develop a memory care assisted living facility in Chestnut Ridge that will serve approximately 64 individuals.

3. Artis has identified a vacant 5.48 acre parcel located on the North side of Chestnut Ridge Road (NYS Route 45), just West of its intersection with Red Schoolhouse Road. This parcel has sufficient size to locate the facility and ancillary parking, while providing privacy for its residents and for existing neighbors.

4. The parcel is located in two zoning districts: the front half is in an NS district, while the rear half is in an R-40 district. This split zoning appears to reflect the result of a prior attempt at developing the property as a restaurant. The district lines are reinforced by a 1985 Declaration of

Covenants, effectively prohibiting commercial development in the R-40 portion of the lot. Artis will abide by the Declaration and keep the building and all parking areas and roadways in the NS portion of the lot.

5. Aside from the Declaration, the site is constrained by the current use regulations for the NS district. The proposed use is not currently permitted in that district, nor in any other district in the Village.<sup>1</sup> Therefore, if this project is to go forward, an amendment to the Zoning Code is required.

6. The applicant has been working with the Village's professionals to determine the best way to pursue such an amendment. It appears to be the consensus of those concerned that any such amendment take the form of adding a special permit use category to the existing NS district, with the special permit to be granted by the Village Board.

7. In order to provide context to the proposed amendment, attached as Appendix 1 is a copy of a Narrative Summary submitted to, and considered by, the Village's Community Design Review Committee ("CDRC").

8. As a result of the submission to CDRC, Artis has had further conversations with the Village's Planning Consultant, Robert Geneslaw, and the Village Attorney. The result of those conversations is that, indeed, a new use needs to be added to the NS district if this project is to move ahead. The following is based upon a memorandum prepared by Mr. Geneslaw dated June 27, 2014. The entire proposed local law is set forth in Appendix 2 hereto.

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<sup>1</sup>The Esplanade at Chestnut Ridge, 168 Red Schoolhouse Road, is located in an LO district. It received a use variance (July 14, 1994) to allow it to change from its previous incarnation as a hotel into a general assisted living facility.

9. To that end, Artis proposes to add a new use to the NS district, to be designated “Assisted Living Residence”. The use is to be a special permit use under the jurisdiction of the Village Board.

Assisted Living Residence is to be defined as:

Those residences as defined in Chapter X Assisted Living Residences of the NYS Public Health Law Part 1001 and shall not include any services specifically excluded in the NYS Public Health Law. An Assisted Living Residence consists of a building for residents needing assistance on a daily basis, consisting of housekeeping and linen services, transportation for shopping and other needs, prepared meals which are served in quarters or with other residents in a dining area, planned on-site leisure and recreational activities and other therapies as needed. There is limited access to licensed professionals for consultation and evaluation, and other professional services are provided by independent licensed individuals not on staff. ALR allows for Enhanced Assisted Living Residences and Special Needs Assisted Living Residences. ALR does not include the treatment of alcohol, drug or other dependencies.

10. We further propose the addition of a definition for “Assisted Living Unit”:

Private or semiprivate rooms, may be in the form of a studio or may consist of one or two bedrooms, with a separate living area along with a bathroom consisting of a bath and or shower and (1) one toilet.

11. As noted above, we proposed that the Assisted Living Residence Use be allowed by Special Permit of the Village Board. In addition to the general special permit requirements of Article XII of the Zoning Code, we propose specific requirements for the ALR use. These requirements are set out in Appendix 2.

12. We further propose some changes to Columns F and G of the Use Table for the NS district to provide parking requirements for the ALR use and to eliminate some impediments to the ALR use. Parking would be set at ½ parking space per Assisted Living Unit. This is consistent with Petitioner’s experience in operating ALRs and with a paper prepared by the Institute for Traffic

Engineers. More detail about these parking analyses is found in the attached Narrative (Appendix 1).

13. The changes proposed for Column G of the Use Table involve (a) clarifying the calculation of buffer areas (Column G, #1) and (b) adding ALRs to the list of exclusions from operating hours limits (Column G, #2). The buffer clarification makes clear that the measurement is to the nearest residential lot. The operating hours exclusion is needed because an ALR, by its very nature, must operate 24 hours each day, every day. The proposed wording of these changes is set forth in Appendix 2.


14. Last, we propose the addition of a new Use Group to the Bulk Table, which would apply only to ALRs. The new Use Group is needed because the existing Use Groups do not contemplate ALRs. This new Use Group, to be Use Group “M”, is based upon concept studies prepared by Artis and reviewed by CDRC and Mr. Geneslaw. The proposed Use Group parameters are set forth in Appendix 2.

15. According to information provided to us by Mr. Geneslaw, the NS District is a compact district located at the intersection of Chestnut Ridge Road and Red Schoolhouse Road. It contains approximately 22.44 acres of land, all of which is developed, with the exception of the Artis parcel. Of the other parcels, only five have sufficient lot area to meet Use Group “M” requirements. These are tax lots 62.16-1-11 (the “Barn”); 63.13-1-15 (a retail center directly northeast of the Artis parcel); 63.13-1-16 (an office building on Chestnut Ridge Road); 63.13-1-7 (a retail center on Red Schoolhouse Road, just South of Chestnut Ridge Road); and 63.13-1-7.1 (South Spring Valley Fire District house).

16. While nothing in the proposed amendment prohibits the demolition of existing buildings or the assemblage of parcels, the likelihood that another ALR will be proposed in this location in the foreseeable future appears small. Further, the development of the Artis parcel, with the attendant visitors and staff, will provide additional customers for many of the existing retail, restaurant, and service businesses in the immediate area.

17. Artis firmly believes that the proposed ALR will help to meet the needs of many Chestnut Ridge and Rockland County residents who have memory issues or who have family members with memory issues. The ALR will also enhance the existing NS district and add another source of tax revenue for the Village, without significantly drawing on Village resources.

WHEREFORE, your Petitioner respectfully requests that the proposed amendment to the Zoning Code set forth in Appendix 2 be adopted.

BY:   
MAX FERENTINOS  
VICE PRESIDENT  
ARTIS SENIOR Living. LLC

LLC VERIFICATION

STATE OF VIRGINIA     )  
  ) ss.:  
COUNTY OF FAIRFAX    )

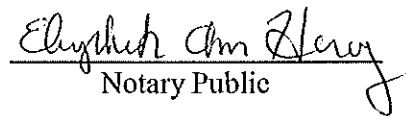
MAX FERENTINOS, being duly sworn, deposes and says:

I am the Vice President of Artis Senior Living, LLC, a limited liability company, the Petitioner herein. I have read the annexed Petition, know the contents thereof, and the same are true to the best of my knowledge, except those matters therein which are stated to be alleged on information and belief, and as to those matters, I believe them to be true.

My belief, as to those matters therein not stated upon knowledge, is based upon information contained in the books and records of the company.

by:   
Max Ferentinos

Sworn to before me this  
15 day of September, 2014

  
Notary Public



# APPENDIX 1

LAW OFFICE

## Ira M. Emanuel, P.C.

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E-mail: Info@EmanuelLaw.com

www.EmanuelLaw.com

### CHESTNUT RIDGE COMMUNITY DESIGN REVIEW COMMITTEE NARRATIVE SUMMARY

ARTIS SENIOR LIVING  
801 Chestnut Ridge Road  
Tax Lot 62.16-1-34

Map dated April 16, 2014

Artis Senior Living, LLC, is a Virginia-based company whose mission is to develop high-quality general assisted living and memory care assisted living facilities that serve individuals suffering from Alzheimer's disease and other forms of dementia. It wishes to develop a memory care assisted living facility in Chestnut Ridge that will serve approximately 64 individuals. Artis has identified a vacant 5.45 acre parcel located on the North side of Chestnut Ridge Road (NYS Route 45), just West of its intersection with Red Schoolhouse Road. This parcel has sufficient size to locate the facility and ancillary parking, while providing privacy for its residents and for existing neighbors.

The parcel is located in two zoning districts: the front half is in an NS district, while the rear half is in an R-40 district. This split zoning appears to reflect the result of a prior attempt at developing the property as a restaurant. The district lines are reinforced by a 1985 Declaration of Covenants, effectively prohibiting commercial development in the R-40 portion of the lot. Artis will abide by the Declaration and keep the building and all parking areas and roadways in the NS portion of the lot.

Aside from the Declaration, the site is constrained by the current use regulations for the NS district. The proposed use is not currently permitted in that district, nor in any other district in the Village.<sup>1</sup> Therefore, if this project is to go forward, an amendment to the Zoning Code is required.

The applicant has been working with the Village's professionals to determine the best way to pursue such an amendment. It appears to be the consensus of those concerned that any such amendment take the form of adding a special permit use category to the existing NS district, with the special permit to be granted by the Village Board.

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<sup>1</sup>The Esplanade at Chestnut Ridge, 168 Red Schoolhouse Road, is located in an LO district. It received a use variance (July 14, 1994) to allow it to change from its previous incarnation as a hotel into a general assisted living facility.

In order to provide context to the proposed amendment, we offer the following information relating to Artis' proposal.

### *Existing conditions*

The subject parcel is a 5.45 acre vacant lot located in the Village's NS zoning district. The NS district is a contiguous district centered on the intersection of Chestnut Ridge Road and Red Schoolhouse Road. The parcel is just West of that intersection. It is surrounded by small scale strip retail centers to the East and West, and across Chestnut Ridge Road to the South. North of the site (forming its rear lot line) is the Pine Brook, beyond which is a small residential development on a cul-de-sac (Janna Court). Only two of these house lots abut the subject parcel.

As noted above, the parcel is split between the NS district in the front and the R-40 district in the rear. This division between commercial and residential development is reinforced by a Declaration of Covenants dating to an unrealized 1985 proposal to build a restaurant. The distance between the NS/R-40 zoning boundary and the rear lot lines of the Janna Court abutters ranges from 93 feet at its shortest (on the eastern side lot line of the subject) to 195 feet at its greatest (on the western side lot line of the subject). The R-40 portion of the subject is heavily wooded.

Chestnut Ridge Road is also designated as New York State Route 45. Red Schoolhouse Road is designated as Rockland County Route 41. The intersection is signalized with dedicated turn lanes westbound on Chestnut Ridge Road, northbound on Red Schoolhouse Road, and southbound on the driveway exit from the two commercial developments opposite Red Schoolhouse Road.

Public sanitary sewer and all utility services are available in Chestnut Ridge Road. Sanitary sewer service is also available in Janna Court. Transport of Rockland (TOR) bus route 92 operates along Chestnut Ridge Road, with a designated bus stop at the intersection of Chestnut Ridge Road and Red Schoolhouse Road, just to the East of the subject site.

### *Proposed Use*

Artis proposes to develop the site for use as a memory-care assisted living facility. All residents will be ambulatory, but may have varying levels of memory impairment. The facility will require a Certificate of Need as an assisted living facility from the New York State Department of Health.

### General site improvements and design

Site improvements will consist primarily of a building for residential units and services, parking, and ancillary stormwater management, sanitary sewer, and utility services. The building is currently proposed as a one-story, 32,000± sf structure. Its main entrance will face Chestnut Ridge Road. The facility will be designed to provide residential assisted care to 64 individuals. A concept plan is attached as Exhibit A.



The interior will be built to provide security and privacy for residents. It will be divided into four distinct "neighborhoods" surrounding a central core. Each neighborhood will have a distinct name and theme to aid in identification and will contain a front porch, central hallway, individual bedrooms, a common family room, dining room, and pantry.

The central core will be designed with a streetscape façade and will provide a variety of services, including a beauty salon/barber shop and an apothecary. Also included in the core will be an office, main kitchen, a community room, and an arts and crafts area. A large rear porch will be located on the northern side of the building. The building will be fully sprinklered.

The façade of the one-story building will be distinctly residential in nature and constructed using stone, brick, and siding. Other architectural features, including the scale, bulk, height, materials, and textures were all designed and selected with the intended goal of ensuring the compatibility of the Residence with the adjacent residential community. An attractive privacy fence will screen the activity and also serve as an enclosure to the property. Lighting will be limited to downward directional lights that do not create a halo effect or nightglow, decreasing the visibility of the lighting from the surrounding community. Any remaining ambient lighting will be shielded from the adjacent properties by the privacy fence and the landscape trees located around the perimeter of the property.

Within the enclosure of the property fence, residents will have access to walking paths and sitting areas. This will allow residents a certain amount of independence, but within a safe, controlled environment.

#### Parking and traffic circulation

A parking lot with 32 - 34 parking spaces will line the area between the front of the building and Chestnut Ridge Road. It will be separated from the remainder of the property by the building and the privacy fence. The industry standard for facilities of this kind is 0.5 parking spaces per bed. A 1996 Institute of Traffic Engineers paper concluded that the average peak parking demand was "0.40 vehicles per dwelling unit for residents, employees and visitors".<sup>2</sup> At 64 residents, this yields a need of between 25.6 and 32 parking spaces.

A staffing and parking analysis for this site is attached as Exhibit C. It shows a peak need of 24 parking spaces for employees at 3pm, which covers a shift change from day shift to evening shift. Most of the day shift requires between 14 and 18 parking spaces. The overnight shift, from 11:30pm to 6:00am requires only 5 spaces.

The applicant has had consultations with the Village's Asst. Fire Inspector (Adam Peltz) with respect to the site's Fire Code compliance. Some minor modifications may be required, such as moving the vehicle entrance from Red Schoolhouse Road closer to the center of the proposed building. Consultations will continue as the project moves forward.

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<sup>2</sup>See, Stephen B. Corcoran, P.E., Institute of Traffic Engineers, "Senior Housing Trip Generation and Parking Demand Characteristics", pp. 6-7 (1996), copy attached as Exhibit B.

Deliveries for food and supplies are made via box trucks and vans, which can be accommodated within the proposed parking area. Based on the applicant's operational experience, large trucks and tractor-trailers are not used for deliveries to this type of facility.

The building and parking area will be confined to the NS portion of the parcel. Some grading and retaining walls will extend approximately 20 feet into the R-40 portion, as will a small portion of the walking paths and the enclosure fence. The remainder of the R-40 portion will be left in its natural state.

#### Storm water management

Storm water will be discharged to the rear of the site, into the Pine Brook. The storm water management facilities will adhere to the zero net incremental rate of runoff standard used by the Village, and will conform to all Village and State regulations and requirements. The facilities have not yet been fully designed. The design and calculations will be in a form acceptable to the Planning Board and the Village Engineer.

The applicant's project engineer, Stuart Strow, P.E., of Brooker Engineering, P.C., has provided the following preliminary drainage evaluation:

The proposed project is expected to disturb an area greater than one acre, so the site will require post construction water quality and water quantity mitigation. A stormwater management system has to be designed to provide water quality and quantity controls as required by the New York State Department of Environmental Conservation (NYSDEC) SPDES General Permit for Stormwater Discharges from Construction. The current NYSDEC stormwater regulations also require runoff reduction techniques to be assessed and incorporated into the design of the project. These techniques can include measures such as rain gardens, permeable pavements, tree planting, infiltration trenches, rooftop disconnection and preservation of buffer zones. A Stormwater Pollution Prevention Plan (SWPPP) is also required to be prepared.

Depending on the percolation rates of the soils on the property, the site might be suitable for the use of infiltration techniques. Infiltration basins and trenches are used to meet NYSDEC stormwater quality requirements. They can also be sized to provide stormwater detention and meet the "no net increase in peak runoff rates" for the required recurrence interval storm events, the maximum of which is the 100-year storm. Due to the location of the wetlands and the additional restrictions imposed on the westerly portion of the site by the buffer, it is unlikely that stormwater management facilities can be located on the westerly portion of the property. Alternative stormwater detention measures could include a system of underground storage pipes or chambers, located either below the parking lot or on the southerly portion of the property that is outside the restricted buffer. Outflows from the various stormwater management facilities that could be implemented on the project site would be directed westerly toward the existing stream. A minor encroachment into the buffer would be required for the discharge

pipe for the stormwater management facilities. The pipe would discharge to a level spreader or similar device that would serve to widely distribute the flow and limit potential erosion.

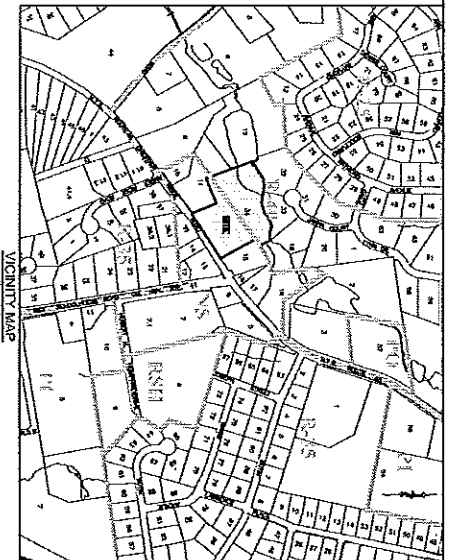
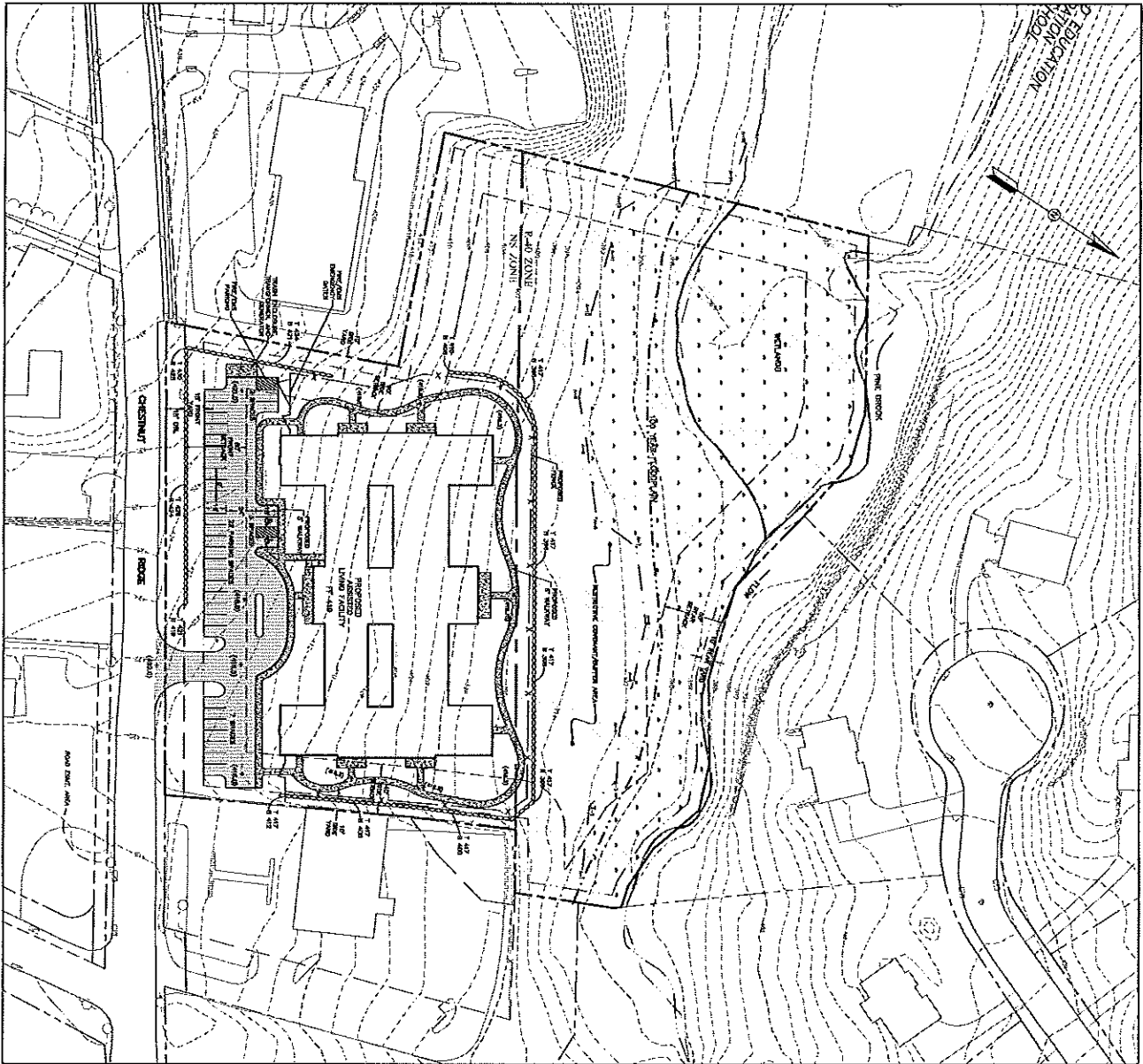
Because of the nature of the facility and the shape of the lot, none of the existing use groups provide appropriate bulk requirements. Artis has been working with the Village's consultants to prepare new bulk standards for this use.

Dated: April 15, 2014  
New City, New York



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Ira M. Emanuel, P.C.  
Attorney for Applicant



# EXHIBIT A



EXHIBIT A	REV	DATE	DESCRIPTION
	01	4/10/15	ISSUED FOR PERMITS
	02	4/10/15	ISSUED FOR PERMITS
	03	4/10/15	ISSUED FOR PERMITS

**ARTIS SENIOR LIVING**  
 VILLAGE OF CHESTNUT RIDGE  
 ROCKLAND COUNTY, NEW YORK  
**CONCEPT PLAN**

**BROOKER ENGINEERING, PLLC**  
 PROFESSIONAL ENGINEERS  
 LAND USE • DEVELOPMENT • STRUCTURAL • HYDROLOGICAL • SURVEYING  
 31 DAVENPORT AVENUE  
 SUITE 100, NEW YORK, NY 10017  
 (212) 262-2000 FAX (212) 262-2001

88 SANDY VALLEY ROAD  
 MANASSA, NEW JERSEY 07433  
 (201) 891-2800 FAX (201) 891-2801

BRUN A. BROOKER, P.E.	REV.	DESCRIPTION	DATE
NY, E. 80, 80222			

# SENIOR HOUSING TRIP GENERATION AND PARKING DEMAND CHARACTERISTICS

by

**Stephen B. Corcoran, P.E. (M)<sup>a</sup>**

presented at the  
**Institute of Transportation Engineers  
66th Annual Meeting**

## INTRODUCTION

As the baby boomer generation ages, special housing projects have been developed for them in lieu of the traditional single-family home or apartment. Congregate care facilities, independent living apartments, assisted-care units, and senior apartments are being marketed, developed, and built to handle the needs of older adults.

The changing lifestyle of older adults affects their transportation needs and usage as well. Trip generation and parking demand within this age group vary significantly from traditional residential uses because residents no longer have to be at work, pick up their children, or do their shopping at specific times. Also many senior communities provide on-site services to meet their residents' needs. This paper will present the author's experiences with senior housing and its trip and parking characteristics along with data on projects in suburban Chicago, Illinois and around the United States.

## SENIOR HOUSING TYPES

Older adults have many special needs that change over time. Many seniors are clearly independent and need little assistance other than help with major chores or repairs. They are generally active and healthy. As time goes by, however, their needs change and grab bars become important, as well as, other features such as higher electrical outlets, emergency response systems, and lower reach cabinets. Good nutrition, socialization, and access to medical and supportive care also becomes more important. Several distinct types of housing have been developed to accommodate these needs:

**Senior Single Family Homes** are senior-only subdivisions which have been developed for retirees ages 55 and up in the southeast and southwest sections of the United States. These developments typically include recreational facilities. Many of the residents are retired.

**Senior Apartments** are traditional apartment complexes with a minimum age requirement of 55 years old. Some amenities include recreational facilities, security, and special design features. Residents are independent and may still be working.

**Independent Living Units** are cottages or apartments where older adults live independently but without the worries of maintenance or housekeeping. Medical care can be available at the facility or by visiting medical staff. A variety of amenities are provided for the residents depending on the size of the community.

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<sup>a</sup> Senior Transportation Consultant, Metro Transportation Group, Inc, Hanover Park, Illinois

**Assisted-Care Units** are for older adults having difficulty managing in an independent living arrangement but who do not need nursing home care. Assisted-care is usually apartment living with additional staff to help with normal daily activities.

**Congregate Care Facilities** contain a full spectrum of housing types in one development with town homes or cottages, independent living units, assisted-care units, and nursing care. Congregate Care Facilities (CCF) allow the elderly to age in one place with nursing care available if they need it. This is particularly important for elderly couples wishing to stay together with one spouse needing special care. CCFs are in essence self-contained communities. Table 1 lists the amenities that are typically available at a CCF.

**Table 1**

**Typical Congregate Care Facility On-Site Services and Facilities**

Standard Services	Extra Services	Common Facilities
<ul style="list-style-type: none"> <li>• Main Meal of the Day</li> <li>• 24-Hour Nursing</li> <li>• Daily Check-In</li> <li>• Weekly Laundry</li> <li>• Utilities</li> <li>• Housecleaning</li> <li>• Organized Programs</li> <li>• In Room Food Service</li> <li>• Bus Shuttle</li> <li>• 24-Hour Security</li> <li>• Complete Maintenance</li> <li>• Free Parking</li> <li>• Garbage Collection</li> <li>• Notary Public Service</li> <li>• Supportive Care Nurse</li> <li>• Chaplain</li> </ul>	<ul style="list-style-type: none"> <li>• Breakfast and Lunch</li> <li>• Extended Room Service</li> <li>• Specialized Diets</li> <li>• Guest Meals</li> <li>• Catering</li> <li>• Physician</li> <li>• Podiatrist</li> <li>• Physical/Speech Therapy</li> <li>• Insurance</li> <li>• Chauffeur Service</li> <li>• Garages</li> <li>• Telephone</li> <li>• Cable TV</li> <li>• Photocopying</li> </ul>	<ul style="list-style-type: none"> <li>• Lounge Area</li> <li>• Dining Room</li> <li>• Library</li> <li>• Chapel</li> <li>• Recreation Room</li> <li>• Country Store</li> <li>• Pharmacy</li> <li>• Arts and Crafts Room</li> <li>• Workshop</li> <li>• Cafe</li> <li>• Exercise Room</li> <li>• Beauty/Barber Shop</li> <li>• Bank Branch Office</li> <li>• Solarium</li> <li>• Whirlpool</li> <li>• Outside Patio</li> <li>• Garden Plots</li> </ul>

Source: Milwaukee, Wisconsin CCF Brochure

**LITERATURE REVIEW**

A review was made of available data on senior trip generation and parking demands. Information was obtained from the Institute of Transportation Engineers Trip and Parking Generation Manuals, the author's files, data from other consultants, as well as, information from California, Arizona, and Florida Departments of Transportation. After reviewing the data, it became clear that the amount of data is small and that the definition of senior housing was not consistent among each source. The data did not distinguish between the five categories mentioned previously.

## **FACTORS AFFECTING TRIP GENERATION AND PARKING**

Several factors affect the trip generation and parking demand at any particular facility. These include the number of dwelling units, nursing beds, average age of residents, resident's affluence, number of employees, and available bus shuttle/chauffeur service. More data needs to be collected in order to properly analyze their relationship to trip generation and parking demand. The trip generation rates for individual facilities varied. Insufficient information on all the survey locations made it difficult to statistically draw conclusions on individual impact of those factors.

However, experience has indicated that as the average age of residents increases, the number of trips and parking demand decreases. This is an obvious affect of the aging process. Nursing beds require more staff to service a patient needs than a more independent resident. When the proportion of nursing beds to residential units increases, the amount of traffic and parking generally increase. The economic well being of residents increases the likelihood that they own a car and thus drive and park. Lastly, bus shuttle/chauffeur service will provide an option to the auto for residents keeping traffic and parking rates lower.

## **DAILY TRAFFIC GENERATION**

Information on daily trip ends was obtained from surveys by the California Department of Transportation (Caltrans) and the Florida and Arizona Departments of Transportation. This data generally categorized the facilities as retirement communities but included CCFs, senior apartment complexes, and may have nursing beds. The author's data consisted of one CCF in Pennsylvania. Table 2 summarizes the trip data and rates. The average trip rate daily varied between 2.78 and 8.91 trips per unit. The variation in rates supports the conclusion that the number of units/beds is not the only variable influencing trip production. The weighted average trip ends were 4.52 trips per unit which included one large development of 3,122 units. Without the 3,122 unit project, the weighted average rate was 5.64 trips per units.

The weighted daily trip generation rate, was 5.64 trip ends a day for senior housing developments. Senior housing generates two-thirds the amount of traffic compared to a typical single-family development. It's closer to other multi-family categories, including apartments (6.47 trips/unit) and condominiums or townhouses (5.86 trips/units). Table 3 shows the weekly variation in volumes based on one facility. The weekday volumes were consistent. Weekend traffic volumes were slightly lower.

Table 4 illustrates the hourly distribution of traffic throughout an average weekday, Saturday, and Sunday. The peak-hour volumes of the facility occurred at lunch time and mid-afternoon (2:00 to 4:00 PM). Caltrans data indicated that the peak-hour occurred between 11:00 AM and 4:00 PM, depending on the facility. These peak-hour times do not coincide with the peak-hour of adjacent street traffic because the residents do not have or want to travel during the rush hour. Also, the employee shifts are generally off peak. Most facilities are staffed 24 hours a day with a 7:00 AM-3:00 PM, 3:00 PM -11:00 PM, 11:00 PM-7:00 AM shift schedule. Some administrative staff follow a typical 9:00 AM to 5:00 PM shift.

## **PEAK-HOUR TRIP GENERATION RATES**

Table 5 shows the trip generation rates for eight facilities during the morning and evening peak-hour of the adjacent street system. The weighted average trip rate was 0.222 trips per unit/bed in the morning peak and 0.247 trips per unit/bed in the evening peak. Trip rates ranged from 0.085 to 0.450 per unit. The directional splits were 65% inbound and 35% outbound in the morning and 40% inbound and 60% outbound in the evening. Compared to other residential land-uses, senior developments generate significantly less traffic on a per unit basis.

**Table 2**

**Daily Trip Generation Rates for Senior Housing**

Source	Number of Dwelling Units	Daily Trips	Trip Rates
Caltrans	3122	9630	3.09
	300	830	2.78
	108	310	2.87
	76	260	3.42
	460	2252	4.90
Florida DOT	366	3262	8.91
	560	1985	3.55
	187	1449	7.75
	120	901	7.51
	127	561	4.42
Arizona DOT	125	972	7.78
	176	855	4.86
	74	447	6.04
	60	285	4.75
	216	1386	6.42
	175	1058	6.05
	129	941	7.30
	112	922	8.23
	106	820	7.74
	89	538	6.05
81	529	6.53	
60	494	8.23	
59	432	7.30	
Penn. CCF	247	1163	4.71
<b>Weighted Average</b>	<b>7135</b>	<b>32282</b>	<b>4.52</b>
<b>Without 3,122 units</b>	<b>4013</b>	<b>22652</b>	<b>5.64</b>
<b>ITE Average Weekday Daily Rates</b>			
Single-Family (Code 210)			9.55
Apartment (Code 220)			6.47
Condo/townhouse (Code 230)			5.86
Congregate Care Facility (Code 251)			2.15

**Table 3**

**Weekly Volume Distribution**

Day of the Week	Percentage
Monday	15%
Tuesday	15%
Wednesday	16%
Thursday	17%
Friday	15%
Saturday	12%
Sunday	10%
<b>Total</b>	<b>100%</b>

**Table 4**

**Hourly Traffic Distribution**

Start Hour	Average Weekday	Saturday	Sunday
12:00 AM	1.46%	1.45%	2.76%
1:00 AM	0.07%	0.12%	0.26%
2:00 AM	0%	0.00%	0.26%
3:00 AM	0.12%	0.00%	0.00%
4:00 AM	0.46%	0.00%	0.66%
5:00 AM	0.41%	0.60%	0.39%
6:00 AM	1.94%	2.05%	1.71%
7:00 AM	5.74%	5.06%	3.94%
8:00 AM	6.70%	5.06%	4.99%
9:00 AM	6.19%	5.78%	6.17%
10:00 AM	7.20%	9.40%	7.74%
11:00 AM	9.33%	9.04%	8.53%
12:00 PM	7.05%	8.07%	8.01%
1:00 PM	7.44%	6.27%	4.86%
2:00 PM	9.76%	7.59%	8.40%
3:00 PM	9.54%	10.24%	9.84%
4:00 PM	8.39%	9.40%	9.32%
5:00 PM	5.26%	6.14%	6.96%
6:00 PM	3.14%	3.25%	3.54%
7:00 PM	2.90%	2.89%	4.20%
8:00 PM	2.59%	2.05%	2.49%
9:00 PM	1.10%	1.57%	1.31%
10:00 PM	1.24%	1.33%	1.05%
11:00 PM	1.96%	2.65%	2.62%



Table 5

Peak-Hour Trip Generation Rates

Facility	Location	Occupied Units		Total	AM Peak Volume	Rate	PM Peak Volume
		Dwelling Units	Nursing Beds				
Covenant Village	Northbrook, IL	220	151	371	86	.231	133
Friendship Village	Lombard, IL	620	100	720	86	.120	180
Presbyterian Home	Evanston, IL	312	166	478	92	.193	139
Glenview Terrace	Glenview, IL	243		243			21
Good Shephard Manor	Barrington, IL	102		102	18	.180	17
Mayslake	Oakbrook, IL	630		630	67	.106	75
Leisure Village	New Jersey	200		200	65	.325	62
Pennsylvania CCF		210	37	247	78	.316	111
<b>Totals</b>		<b>2537</b>	<b>454</b>	<b>2991</b>	<b>492</b>		<b>738</b>
<b>Weighted Average Trip Rate</b>						<b>.164</b>	<b>.247</b>
<b>Inbound Percentage</b>						<b>65%</b>	<b>40%</b>
<b>Outbound Percentage</b>						<b>35%</b>	<b>60%</b>
<b><u>Comparison to other ITE Residential Rates</u></b>							
Single Family Homes (Land Use Code 26)					0.74		1.01
Apartments (Land Use Code 220)					0.51		0.63
Condominiums/Townhouses (Land Use Code 230)					0.44		0.55

## PARKING DEMAND SURVEYS

Parking demand characteristics were obtained from a number of surveys conducted in the Chicago metropolitan area. The peak parking demand occurred during the mid-day between 11:00 AM to 3:00 PM corresponding, in part, with the largest employee shift on-site. **Table 6** summarizes those surveys. The peak day of the year is Mother's Day when many facilities run out of visitor parking, according to the on-site staff.

The peak parking demand rates varied between 0.214 and 0.579 vehicles per unit/bed with a weighted average rate of 0.404 vehicles per unit/bed. Employee, resident, and visitor parking is included. This rate is one third to one half the parking rate of other residential uses. Readers should note that the survey sites with the higher parking rates generally have more nursing beds which requires more employees than the residential units.

**Table 6**

### **Peak Parking Demand Surveys**

<u>Development</u>	<u>Location</u>	<u>Dwelling Units</u>	<u>Nursing Beds</u>	<u>Total Units/Beds</u>	<u>Peak Parking Rate</u>	<u>Peak Parking Demand</u>	
Covenant Village	Northbrook, IL	220	151	371	0.490	182	
Beacon Hill	Lombard, IL	235	23	258	0.565	146	
Friendship Village	Schaumburg, IL	620	100	720	0.390	281	
Presbyterian Home	Evanston, IL	312	166	478	0.579	277	
Glenview Terrace	Glenview, IL	243		243	0.214	52	
Mayslake	Oakbrook, IL	630		630	0.408	257	
<u>EJM Engineering Studies</u>							
Lilac Lodge	Waukegan, IL	203		203	0.315	64	
Deerfield Place	Deerfield, IL	98		98	0.230	23	
<u>ITE Parking Manual, 2nd Ed</u>							
Retirement Community (Land Use Code 250)		500		500	0.270	135	
		3061	440	3501		1417	
		<b>Weighted Average</b>				<b>0.404</b>	
<u>ITE Parking Manual, 2nd Edition</u>							
Low/Mid-Rise Apartments (Land Use Code 221)					1.21		
High-Rise Apartments (Land Use Code 222)					0.88		
Residential Condominium (Land Use Code 230)					1.11		

## Conclusions

Based on the analyses and studies for this paper, the following findings were made:

1. The overall category of senior housing should be broken down into at least five categories for trip generation and parking demand purposes. These categories could be:

- Senior Single-Family Housing
- Senior Apartments
- Independent Living Units
- Assisted-Care Units
- Congregate Care Facility

2. Several factors affect the trip generation and parking demand at any particular facility. Any new survey should include the number of dwelling units, nursing beds, average age of residents, resident's affluence, number of employees, and available bus shuttle/chauffeur service. More data needs to be collected in order to properly analyze their relationship to trip generation and parking demand.

3. Daily trip generation rates were found to be 4.52 to 5.64 trip ends a day for senior housing developments. Senior housing generates two-thirds the amount of traffic compared to a typical single-family development. Its daily rates are similar to other multi-family categories, including apartments (6.47 trips/unit) and condominiums/townhouses (5.86 trips/units).

4. Trip generation rates during the peak hour of adjacent street traffic are significantly less because most employees arrive/depart during off-peak periods and residents avoid the peak-hour congestion. The peak hour rates are one-half to one-fourth that of other residential land-uses.

5. The peak-hours of site traffic occurs in the late-morning or early afternoon.

6. The peak parking demand at most senior facilities occurred midday with an average peak demand of 0.40 vehicles per dwelling unit for residents, employees, and visitors. Mother's Day is the highest parking day of the year with many facilities short of spaces for that one day.

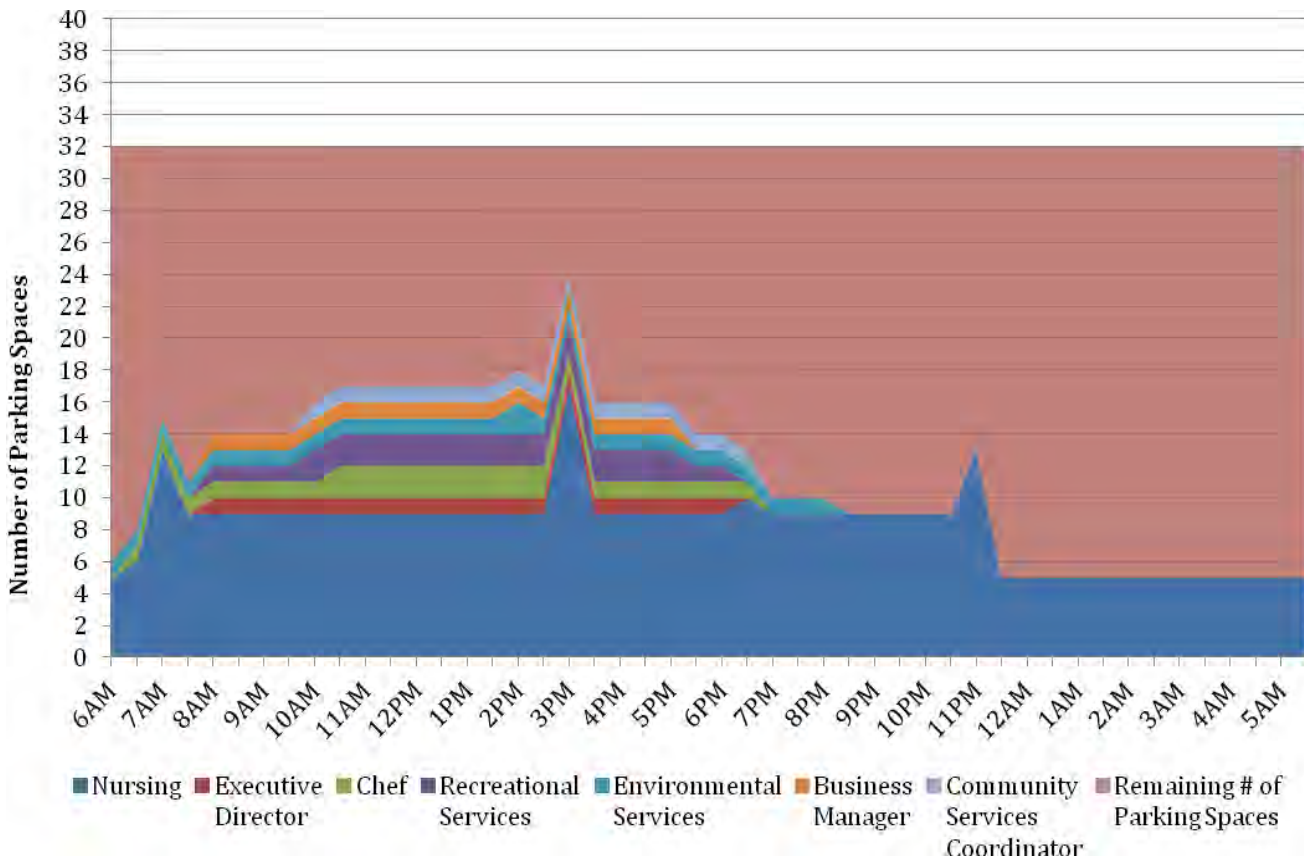
## References

1. Trip Generation Manual, 5th Edition; Institute of Transportation Engineers; January, 1991
2. Parking Generation Manual, 2nd Edition; Institute of Transportation Engineers; August, 1987
3. Parking Requirements for Retirement Centers Requirements and Demands; EJM Engineering; May, 1987
4. 6th Progress Report of Trip Ends Generation Research Counts; California Department of Transportation; 1965-1970
5. Florida Department of Transportation Trip Generation Data
6. Arizona Department of Transportation Trip Generation Data

## Village of Chestnut Ridge, New York - Parking Analysis

Artis memory care assisted living facilities are staffed 24 hours per day, seven days per week. While there are three main work shifts 7AM to 3 PM, 3PM to 11PM, and 11PM to 7AM for the nursing and care giving staff, the hours for other staff vary.

Staff Department	Shift	Number of Shift Employees
Nursing/Caregiving Staff	7 AM – 3 PM	8
	3 PM – 11 PM	8
	11 PM – 7 AM	4
	6:30 AM – 6:30 PM	1
	6:30 PM – 6:30 AM	1
Executive Director	8 AM – 6 PM	1
Chef	6:30 AM – 2:30 PM	1
	10:30 AM – 6:30 PM	1
Recreational Services	8 AM – 5 PM	1
	10 AM – 6 PM	1
Environmental Services	6 AM – 2 PM	1
	2 PM – 8 PM	1
Business Manager	8 AM – 5 PM	1
Community Services Coordinator	10 AM – 6:30 PM	1



ARTIS SENIOR LIVING LLC

APPENDIX 2

PROPOSED AMENDMENTS TO CHESTNUT RIDGE ZONING CODE

ARTICLE XVIII - WORD USAGE

Add in their proper alphabetical locations:

Assisted Living Residence – Those residences as defined in Chapter X Assisted Living Residences of the NYS Public Health Law Part 1001 and shall not include any services specifically excluded in the NYS Public Health Law. An Assisted Living Residence consists of a building for residents needing assistance on a daily basis, consisting of housekeeping and linen services, transportation for shopping and other needs, prepared meals which are served in quarters or with other residents in a dining area, planned on-site leisure and recreational activities and other therapies as needed. There is limited access to licensed professionals for consultation and evaluation, and other professional services are provided by independent licensed individuals not on staff. ALR allows for Enhanced Assisted Living Residences and Special Needs Assisted Living Residences. ALR does not include the treatment of alcohol, drug or other dependencies.

Assisted Living Unit – Private or semiprivate rooms, may be in the form of a studio or may consist of one or two bedrooms, with a separate living area along with a bathroom consisting of a bath and or shower and (1) one toilet.

ARTICLE XII – CONDITIONAL USE AND SPECIAL PERMIT STANDARDS

Add new section 16:

16. Assisted Living Residences (ALR).

A. There shall be a minimum lot area of 75,000square feet in the NS zoned portion of the property.

B. No dwelling units shall be allowed in a basement.

C. Assisted Living Units shall not contain cooking facilities, (we did not use the term kitchen facilities because a small refrigerator is probably OK to keep juices etc- the main point is no cooking facilities be permitted which pose safety/fire risks in assisted living residences, the Board may consider permitting microwaves in individual units). Units shall not be used as apartments for transient tenants, units shall not contain more than 2 bedrooms, a separate living area and bathroom and shall not be connected by interior doors in groups of more than two (2). No unit shall contain more than 2 bedrooms.

D. All Assisted Living units shall have access through interior corridor only.

E. An ALR shall not exceed a height of 25 feet or (2) stories whichever is less.

F. Bath facilities, which include a shower or bath and (1) toilet may be shared by no more than 2 assisted living units.

G. The ALR shall provide a main kitchen, dining, recreational/exercise, therapeutics and personal care areas. Any outdoor sitting areas or walking paths shall be well defined by walls, fences, hedges or planting designed to impart a sense of containment or security and to provide group privacy.

H. A small staff kitchen/dining area is permitted.

I. The minimum distance from the facility to any interior driveway/parking area shall be fifteen (15) feet from an Assisted Living Unit bedroom.

J. Parking standards shall conform to General Use Table.

K. The number of assisted living units shall not exceed thirty (30) per acre of the NS zoned land.

L. Within the facility, certain accessory uses are permitted such as laundry, medical infirmary only to the extent that they meet the needs of the residents of the facility.

M. The residence shall provide adequate lighted driveways and parking and said lighting shall not be directed on adjacent streets or properties.

N. Parking and driveways shall be landscaped with suitable screening.

O. The front yard depth may be reduced by the Planning Board upon site development plan approval where local conditions warrant.

P. Small pantry areas with a sink, microwave oven and refrigerator are permitted in the common areas for use by residents and guests.

Q. Loading facilities shall be determined by the Planning Board.

R. Walking paths may be permitted in required side and rear yards; sitting areas may be permitted in required side and rear setbacks.

TABLE OF GENERAL USE REQUIREMENTS - PART II: NON-RESIDENTIAL DISTRICTS

Add to Columns D and D-1:

D	D-1
Uses by Special Permit of the Village Board (subject to Article XVI and Article XI, Section 2)	Use Group

4. Assisted Living Residence (ALR) M

Add to Column F:

Minimum Off-Street Parking Spaces (subject to Article VII	
For	At Least 1 Parking Space for Each Unit of Measurement Listed or as Otherwise Noted Below:

8. Assisted Living Residence ½ parking space per unit

Amend Column G, item 1:

1. A buffer of not less than 50 feet shall be provided between any use first permitted in this district, and any lot in a residence district. A buffer of not less than 50 feet will be provided between any conditional or special permit use and any lot in a residence district.

Amend Column G, item 3:

3. The operation of any use, excluding public utilities and Assisted Living Residence (ALR), shall be limited to the hours between 6:30 AM and 2:00 AM daily.

TABLE OF BULK REQUIREMENTS - PART II

Add new Use Group "M":

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Use Group	Minimum Lot Area	Width (feet)	Front Setback (feet)	Front Yard (feet)	Side Setback (feet)	Total Side Setback (feet)	Side Yard (feet)	Rear Setback (feet)	Rear Yard (feet)	Street Frontage (feet)	Maximum Height (feet)	Development Coverage (percent)	Floor Area Ratio (FAR)
M**	<u>60,000sf</u>	<u>250</u>	<u>30</u>	<u>15</u>	<u>30</u>	<u>60</u>	<u>10</u>	<u>25***</u>	<u>15</u>	<u>150</u>	<u>25</u>	<u>70</u>	<u>0.40</u>

\*\*Dimensional requirements apply to NS portion of properties in more than one zoning district.

\*\*\*May be reduced to 15 feet where protective covenant provided.