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**REPORT OF JOE MEHRA, P.E. PTOE, CONCERNING PARKING STUDY
SUBMITTED BY GOROVE/SLADE FOR THE MEMORY CARE CENTER AT 2619-
2623 WISCONSIN AVENUE NW.**

The following comments are based on my review of the Parking Study dated May 2, 2018 and the Applicant's Supplemental Memorandum on Parking dated September 17, 2018 prepared by Gorove/Slade, DDOT Report dated September 14, 2018, industry practices and on-site visit.

1. Parking Code: The proposed development is for a memory care center, under a Continuing Care Retirement Community ("CCRC") special exception, and includes a building in an R-1-B zone consisting of a 34 unit facility for 36 residents. Historically, the residential parking standard of one parking space per two units was applied to CCRCs, which would have required 17 parking spaces. However, the CCRC special exception, as of July 2017, includes a parking condition which must be met in order for the CCRC special exception to be granted. That condition is that "[t]he use and related facilities shall provide sufficient off-street parking spaces for employees, residents, and visitors" (Subtitle U, Section 203.1(f)(4)). As this is a condition to the CCRC special exception being granted, additional relief cannot be sought from this parking requirement.

Even if the historically applied residential standard of one parking space per two units were to be applied in this case, the Zoning code for parking requirements takes into consideration the fact that the site is in an urban setting and that the site is near public transportation (typical of almost all the sites in Washington, DC). Therefore, requesting a further reduction in parking because the site is near a bus stop is "double dipping." As an example, suburban jurisdictions have a higher parking requirement than the District of Columbia does. In Arlington County, multi-family requirements on transit corridors for 34 units would require

28 parking spaces. In Fairfax County, multi-family requirements on transit station areas for 34 units would require 55 parking spaces. Exhibit 1 shows parking requirements for Elderly Housing/Assisted Living in several cities.

Using the parking requirements listed in Exhibit 1, the proposed site would require a minimum of 12 parking spaces to a maximum of 68 parking spaces.

2. Parking Availability Methodology: The discussion of the availability of on-street parking is moot because the CCRC parking condition requires sufficient off-street parking for staff, visitors and residents.

Even if on-street parking were relevant to this application, which it is not because of the CCRC special exception parking condition, the overall methodology for determining existing on-street parking inventory and the existing parking demand is technically wrong. The parking analysis included RPP parking spaces, it included time restricted spaces which for all practical purposes are not suitable for use by employees and by visitors who want to spend quality time at the memory care center. The only non-restricted parking spaces are available on Calvert Street – and those are usually occupied and could not be counted on as being available for staff and visitors to the memory care center. According to Gorove/Slade, only a total of 24 parking spaces are non-restricted. For all practical purposes, these are the only parking spaces that are potentially available to the memory care center.

Even if on-street parking were relevant to this application, which it is not because of the CCRC special exception parking condition, another major error in the analysis is the selection of the time period for parking surveys. Gorove/Slade conducted the parking occupancy study of nearby streets near the site location between the hours of 4:00 PM and 9:00 PM on weekdays. According to the data from the Institute of Transportation Engineers Trip Generation Manual (10th edition), the overall highest vehicle volumes during the weekday AM and PM periods were counted between 11:30 AM and 12:30 PM and between 12:30 and 1:30 PM for facilities such as the memory care center. However, Gorove/Slade did not survey the availability of parking spaces during this period. Therefore, the parking surveys conducted by Gorove/Slade cannot verify or conclude that parking spaces are available on-street during weekday peak usage periods of the memory care center. In other words, the weekday parking analysis was a futile exercise since it did not include the critical time periods.

3. Parking Space Inventory: Even if on-street parking were relevant to this application, which it is not because of the CCRC special exception parking

condition, there are errors in counting of available parking spaces along the blocks. For example, the Gorove/Slade Parking Study shows that 16 spaces are available along Calvert Street (on the south side) between Wisconsin Avenue and 36th Street. A count shows that only 13 vehicles were parked along the street with no space for any additional vehicles that could park on that block. Similarly, it seems that 9 parking spaces are available along Edmunds Street on the north side, just east of Wisconsin Avenue. Gorove/Slade shows availability of 16 parking spaces on the west side of Wisconsin Avenue between Edmunds Street and Fulton Street. After incorporating the driveways, no parking in front of building entrances, the total number of available spaces is more like 13 instead of 16. These are some examples of discrepancies in the Gorove/Slade Parking Study. It should be noted that curb space cannot be used for parking when there are fire hydrants, no parking to corner, driveways, curb cuts, etc. that limit the number of vehicles that can park on any block. Another factor that results in a reduction in available parking supply is the fact that the parking spaces are not marked or delineated. People tend to park by leaving adequate space in front so they can pull out without too much back and forth movements.

4. Non-Restricted Parking Spaces: Even if on-street parking were relevant to this application, which it is not because of the CCRC special exception parking condition, the only non-restricted spaces in the Gorove/Slade report are along Calvert Street. The report shows a total of 24 unrestricted spaces. My count shows a total of 21 available spaces. All 21 spaces were occupied based on a spot check. Essentially, it is likely that no unrestricted spaces would be available to the memory care center staff or visitors. The Gorove/Slade report confirms my observations as the report states, “[D]uring the Thursday peak period, occupancies by block varied greatly, but generally the most densely occupied street parking facilities were located along the unrestricted north and south sides of Calvert Street within two blocks of the site. Block faces along these streets realized peak period occupancies of 88 percent or higher. Occupancies ranging from 70 to 90% were seen along the west side of Wisconsin Avenue and along portions of Fulton, Edmunds, and Davis Streets. During the Saturday peak hour, the same patterns of higher occupancy levels applied along Calvert Street and Wisconsin Avenue.” Therefore, it can be concluded that the unrestricted spaces are currently being used at capacity and almost no parking spaces would be available for employees and/or visitors to the memory care center.
5. Supplemental Parking Analysis: The original parking study conducted by Gorove/Slade concluded, “The observed supply of available on-street parking will adequately serve the vehicular needs of the development based on the proposed

use of the site. The available on-street parking supply would be able to meet the parking relief being sought.” However, at the request of ANC 3C, Gorove/Slade analyzed the parking requirements using employees and their mode of travel. Gorove/Slade arbitrarily assumed that 45% of the employees are anticipated to use non-auto modes of transportation to get to and from the site. This arbitrary selection of 45% is significantly higher than anticipated. The reasons are that the employees will be working in shifts that begin early in the morning and end late at night. Further, the employees would be coming from various areas of the Washington metropolitan area (Washington, DC., Virginia and Maryland). The bus schedules and headways are not conducive to travelling by bus during the early and late hours. For example, the headway for Route 30N is almost one hour during the early and late hours. If the employee misses the bus for whatever reasons, the employee would have to wait for almost an hour for the next bus. Further, there is the potential for multiple transfers between bus transit and rail transit to travel back and forth from Maryland or Virginia (bus from home to metrorail station; rail to Washington, DC including rail transfer; bus from metrorail station to site and then reverse process to go home). Based on these reasons, my best estimate of non-auto mode share is 10%. This means that 90 % of staff to the memory care facility will drive to the facility.

Using the mode split assumptions, Gorove/Slade calculated the parking demand for the memory care facility using Institute of Transportation Engineers’ (ITE) Parking Generation, 4th Edition Land Use 620, Nursing Home. Gorove/Slade applied a 45% reduction to the ITE computed requirement of 13 parking spaces and came up with 7 parking spaces. There is a major flaw in the Gorove/Slade methodology for computing required parking spaces. Gorove/Slade assumed that all 13 spaces computed using ITE formula are for employee use only. This is an erroneous assumption. The ITE parking requirements include parking spaces needed for visitors, maintenance vehicles and other users of the site. *The parking spaces needed for these other uses have to be subtracted from the 13 spaces before applying the mode share factor.* Assuming that 30% of the parking spaces are for non-employees and applying the 10% non-auto mode share, the parking requirements using ITE formula is 12. The Applicant is providing only 9 parking spaces, therefore there is a shortfall of 3 parking spaces using the ITE formula.

6. Alley Operations: The alley between Edmunds Street and Davis Street has an effective width of 12 feet due to the presence of electric utility poles along it. The Applicant is proposing to use the alley for access to the 9 parking spaces, for access to the loading area, for access to the dumpsters and for boarding and

alighting of the memory care center occupants into and out of a van/shuttle bus when they go out. It is not clear from the applicant's submissions how trucks will access the loading dock which is parallel to the alley. The Applicant should use "AutoTurn" to show that the trucks can safely enter and exit the loading dock. Where will the trucks enter the alley and where would they exit. The narrow width of the alley will not allow vehicles to travel in opposite directions at the same time. It is not clear how the memory care center occupants will get to the alley for boarding and alighting from the van/shuttle bus, since there is no rear entrance to the building. It would be safer and more convenient for the memory care center occupants to exit the memory care center on Wisconsin Avenue and board and alight from the van/shuttle bus on Wisconsin Avenue. The alley will be significantly impacted due to these operations in the alley. The trucks and van/shuttle buses will spend a significant amount of time in the alley to conduct their business. This will lead to safety issues with neighbors trying to get to their parking garages located at the rear of their homes. Further, Edmunds Street (westbound) and Davis Street (eastbound) are both one-way streets and the alley is used as a cut-through to avoid traveling on Wisconsin Avenue.

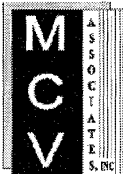
The Gorove/Slade supplemental report states, "The proposed development is expected to generate approximately two (2) loading trips per week. This includes general deliveries consisting of trash removal, mail, parcel delivery, and food deliveries. Based on the expected truck deliveries and the loading facilities provided, Gorove/Slade concludes in its supplemental report that the loading plan for the site is adequate." The loading plan for the site is not adequate because Gorove/Slade's approximation of two loading trips per week for this memory care center is significantly underestimating the actual number of truck trips. There will likely be at least two trash pickups per week, two recycling pickups per week, and several food deliveries from various vendors per week similar to a restaurant since staff at the memory care center will be preparing at least three meals per day for 36 patient residents and possibly also meals for staff and visitors to purchase. There will also be weekly medication deliveries, linen deliveries, FedEx and UPS deliveries, move-ins and move-outs of memory care center occupants, emergency vehicles including ambulances and fire trucks, etc. The loading plan as provided is adequate for two loading trips per week. However, as set forth above, there would be many more loading trips than two necessary in order for the memory care facility to operate. Therefore the loading plan put forward by Gorove/Slade is not adequate.

7. Conclusions: The methodology for computing available parking spaces in the neighborhood is technically wrong and, therefore, cannot be used to draw any conclusions. The inventory of existing parking spaces is incorrect and is much

less than computed by Gorove/Slade. The supplemental parking analysis was based on arbitrary assumptions and incorrect use of ITE data. The loading plan, as developed, is for two weekly truck trips and is inadequate for the projected number of truck trips on a weekly basis. The alley operations will be significantly impacted due to the emphasis of the site operations in the alley and the significant amount of time required to conduct the various tasks. In conclusion, there is a shortfall of parking spaces and therefore the CCRC parking condition is not met, and the activities that need to be conducted on-site are being conducted in the alley affecting the residential neighbors who use the alley to come and go from the back gates of their homes on foot or from their garages located on the alley by car.

- 0.4 parking spaces for each dwelling unit (Arlington, Mass.)
- 0.5 spaces per unit (Kearney, Nebr., pop. 27, 431; St. Charles, Ill.)
- 0.6 of a parking space for each unit (Fairfield, Conn.)
- 1 space per 1,000 square feet of gross floor area (Spartanburg, S.C.)
- 1 space per staff person during the shift with the maximum number of employees, plus 1 space per 4 residents. For assisted living facilities in the R-3 (single-family medium density) residential district that have agreed to prohibit residents from parking vehicles at the facility, the parking requirements may be reduced for the residents, provided at least 1 visitor space per 10 residents is available (Ormond Beach, Fla.)
- 1 space per dwelling unit (Mesa, Ariz.)
- 1 per each dwelling unit, plus 1 per every 3 employees (Royal Oak, Mich.)
- 1 per employee, plus 0.25 per bed or 0.25 per dwelling unit (Lakewood, Ohio)
- 1 for each 3 beds (Ewing Township, N.J.)
- 2 spaces for each living unit (Harlingen, Tex.)

Source: City of Crystal Lake



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Elderly Housing/Assisted Living
 (Continuing Care Retirement
 Community) Parking Requirements

Exhibit 1