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This analysis looks at the impact on parking of the proposed buildout of blocks E, F and D. The following are key findings from our preliminary analysis.

BACKGROUND

The Garvies PUD was approved with the following development on Parcels D, E and F:

- 50,000 sf office building on Parcel D,
- 101 market-rate rentals units on Parcel E, and
- 56 workforce condos on Block F.

The new proposal for the three parcels is:

- 172 market-rate rental units on blocks E and F,
- A 5,500 sf restaurant and a 2,000 sf spa on blocks E and F (there will be another 14,900 sf of amenity space in the buildings, but this will be for residents only – library, gym, etc.-- and will not generate external parking demand).
- 308 parking spaces below the buildings.
- 156 (or 160, if four potential land banked spaces are created) parking spaces on Parcel D, with a goal of providing ferry parking during weekdays and commercial parking during weeknights and weekends.

ANALYSIS

SUMMARY PER FINDINGS

The Findings recommended the following ratios for the land uses:

- 1.65 spaces per residential rental unit.
- 19 spaces per 1,000 square feet of restaurant.
- 6 spaces per 1,000 square feet of spa.

Applying these ratios to the square footages above, we calculate the following recommended parking supply:

Table 1: Parking Calculations Per Findings

Land Use	Quantity	Parking Ratio	Parking Req.
Residential Rental	172 units	1.65 /unit	284
Restaurant	5,500 sf	19 /1,000 sf	105
Spa	2,000 sf	6 /1,000 sf	<u>12</u>
Total			401

The total parking proposed is 464 (or 468 with land banked spaces), of which 308 spaces are available during the day on weekdays.

On weekends, the 464-space supply is adequate to accommodate all 401 cars.

Calculated according to the ratios in The Findings, on weekdays there would be a deficit of 93 spaces until the ferry lot on Parcel D empties out in the evening and those 156 spaces start becoming available. However, this assumes the restaurant generates the same demand on a weekday as it does on a weekend. Industry research supports an alternative demand calculation for weekdays. The following sections outline our analysis of weekday parking and proposed solutions.

WEEKDAY DEMAND

The parking ratios outlined in The Findings are based on peak-hour parking needs in the Urban Land Institute’s *Shared Parking*¹ which is the leading reference on shared parking patterns in mixed-use developments. *Shared Parking* provides a model for projecting parking needs using the largest available collection of data on parking patterns from research done around the U.S. for a variety of land uses. The research includes:

- Parking generation ratios that express the peak demand generated by a land use on weekdays and weekends. The ratios are expressed as the number of cars generated per unit of land use (square footage, residential unit, hotel key, etc.).
- Hourly parking patterns at these uses, to show the variation in demand over the course of a day on a weekdays and weekends.

The data is used to create a model in mixed-use settings; by calculating the individual needs of each component land use over the course of a weekday and weekend, the model can find the overall combined peak. That peak is usually lower than if each land use were calculated separately, since in most cases the land uses will not all need their peak supply simultaneously.²

The Findings are based on the peak hour on the peak day of the week for each land use. However, they allow for a shared parking solution at the discretion of the Planning Board:

¹ Smith, Mary. *Shared Parking* (3rd Edition). Washington, DC, Urban Land Institute, 2020.

² Additionally, in mixed-use settings there are typically “captive markets” that reduce parking demand. A captive market is the walk-in traffic generated by people who are already parked in an area for the day or evening (residents, hotel guests, office employees, etc.) who create demand for commercial uses like restaurants without creating additional parking demand. The Shared Parking methodology enables adjustments to be made for these synergies that reduce driving trips and parking demand. We do not include these adjustments in our analysis.

Specifically, with respect to shared parking, the Zoning Ordinance provides, in relevant part, “[w]here two or more uses are on the same lot, or part of a planned development, the total amount of parking spaces to be provided shall be the sum of the requirements, if any, for each individual use on the lot.” Zoning Ordinance § 280-73.2I(3) (“Shared parking”). The Ordinance further provides that the “Planning Board may vary this requirement if the Board finds that the sharing of parking during the probable time of maximum use of such establishments is such as to permit a variation.” Zoning Ordinance § 280-73.2I(3) (emphasis added). In sum, the Planning Board is permitted to vary the amount of required parking based upon a finding that the shared parking proposed is adequate to meet maximum demand. (p.67)

As noted above, the parking ratios in The Findings were based on the Shared Parking model’s peak parking rate for each individual land use so that the development is planned to meet the worst-case scenario. However, the demand for restaurants is lower on weekdays than weekends, so the 93-space deficit calculated per The Findings is likely an overstatement. In comparison to the ratio recommended for weekend evenings (19 spaces per 1,000 sf³), ULI recommends a peak weekday demand ratio of 15.5 spaces per 1,000 sf on weekdays. In addition to the lower peak ratio, ULI research on utilization patterns over the course of a day suggests that restaurants do not hit their peak demand until 7 pm, by which point the ferries will be bringing commuters back.

Table 2: Hourly Restaurant Utilization Pattern - Weekday

		6 am	7 am	8 am	9 am	10 am	11 am	12 pm	1 pm	2 pm	3 pm	4 pm	5 pm	6 pm	7 pm	8 pm	9 pm	10 pm	11 pm	12 am
Fine/Casual Dining	Visitors	0%	0%	0%	0%	15%	40%	75%	75%	65%	40%	50%	75%	95%	100%	100%	100%	95%	75%	25%
	Employees	0%	20%	50%	75%	90%	90%	90%	90%	90%	75%	75%	100%	100%	100%	100%	100%	100%	85%	35%
Spa*	Visitors	0%	0%	90%	90%	100%	100%	30%	90%	100%	100%	90%	80%	67%	30%	15%	0%	0%	0%	0%
	Employees	0%	20%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	67%	30%	15%	0%	0%	0%	0%

*Spa utilization is based on medical office building research, as we understand this venue to be a Northwell "concierge" service rather than traditional spa.

Using the shared parking model to project weekday demand for the commercial components of Parcels E/F, we find that the combined peak demand is projected to be 90 spaces compared to the 117-space parking need calculated per The Findings (see the restaurant and spa totals in Table 1).

³ The Findings were based on the Second Edition of Shared Parking, published in 2005. The Urban Land Institute released a new model in 2020, and the research supporting that model suggests a lower parking rate on weekend evenings than the previous model; ULI now recommends 17.75 spaces per 1,000 sf rather than the 19 per 1,000 sf in the 2005 model and in The Findings.

Table 3: Weekday Peak Demand Per ULI Shared Parking Calculations

	10 am	11 am	12 pm	1 pm	2 pm	3 pm	4 pm	5 pm	6 pm	7 pm	8 pm
Spa	12	12	6	11	12	12	11	10	8	4	2
Restaurant	<u>23</u>	<u>41</u>	<u>66</u>	<u>66</u>	<u>59</u>	<u>39</u>	<u>46</u>	<u>68</u>	<u>82</u>	<u>86</u>	<u>86</u>
Total Demand	35	53	73	77	71	51	57	78	90	89	88
Available Supply*	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>102</u>	<u>180</u>
Surplus/(Deficit)	(11)	(29)	(49)	(53)	(47)	(27)	(33)	(54)	(66)	13	92

*Supply calculation:

464 spaces total for Parcels E/F and D (assuming no land bank spaces on Parcel D), with 284 reserved for residents/guests = 180 available nights/weekends.
 180 spaces less 156 ferry spaces during weekdays = 24 spaces available during the day on weekdays. 7 pm supply is an average of 6 pm and 8 pm as commuter cars start to leave the Parcel D lot.

As Table 3 shows, we project that the deficit during the day on weekdays will be approximately 53 spaces if the ferry parking fills. The deficit may increase to 66 spaces around 6 pm if evening diners start filling the restaurant before the ferries start coming in.

ON-STREET SHARED PARKING

The PUD application demonstrates that on-street parking is providing more spaces than are needed to meet the requirements of The Findings:

Table 4: Excess On-Street Capacity

Block	Planned Uses	Zoning Requirements/ Consistency with Findings	Parking Required	Planned Inventory		
				Public/ On-St	Total	Surplus/ Deficit
<i>Transient Marina & Anglers Marina</i>	<i>84 slips</i>	<i>0.63 per slip</i>	<i>53</i>			
<i>Accessible Park</i>	<i>11 acres</i>	<i>2.62 per acre</i>	<i>29</i>			
Subtotal - Public			82	112	112	30

Excess on-street parking can reduce the deficit. During weekdays, demand for the marinas and the parks will likely be lower than shown in the table above, in particular by the time the deficit grows to 66 spaces in the early evening. Incorporating shared use of excess on-street parking into the projections in Table 3, we would project a deficit of 23 spaces at lunch hour and 36 spaces at early dinner hour.

MANAGING THE DEFICIT

The weekday shortage can be managed through valet parking for the restaurant. The three major options are described below.

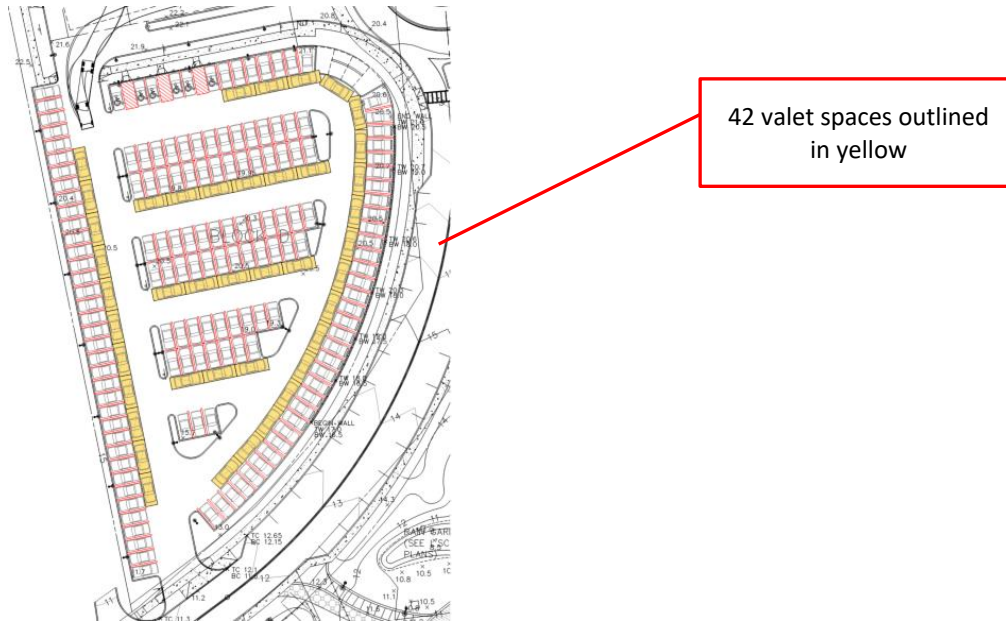
PARCEL D LOT

The Parcel D lot is a good option for valet parking. The lot is convenient to the Parcel E/F restaurant and minimizes excess circulation. Because the ferry cars stay parked all day, there will be minimal turnover between striped stalls and the aisle cars blocking them, which makes for an easy valet operation.

Walker prepared the following layout to show the possibility of using the aisles to valet-park cars after the

striped stalls have been filled by ferry parkers in the morning. It will be possible to park roughly 42 cars in the aisles. As discussed in the “On-Street Shared Parking” section above, this may be sufficient to accommodate all of the overflow cars. However, if on-street parking is not available, there may be between 12 and 24 cars that cannot be accommodated in the Parcel D lot. We recommend maximizing the aisle parking valet on Parcel D and then using a secondary option to accommodate the remaining cars as needed.

Figure 1: Valet Layout for Parcel D



VALET PARKING IN BUILDINGS E/F, H, AND I

The remaining 12 to 24 cars can be valet parked in Buildings E/F or H.

There is a natural shared use between the restaurant and residential needs: some percentage of the residents use their cars for work on the weekdays, leaving spaces open in the residential garages. While we believe this is an effective use of space and allows for a compact valet footprint, we understand that currently (in Building H, which is already open) residential parking spaces are individually reserved for specific tenants who may not allow use for other purposes. Building E/F will likely run on the same model. Without access to resident stalls, the valet can still be run using aisle parking, similar to the option proposed for the Parcel D lot.

Walker tested the aisle valet capacity in the E/F, H and I⁴ garages and found that even using a very conservative valet scenario (i.e., one where use of the aisles is not maximized), valets could park over 100 cars in these three garages as shown in the table below.

⁴ Not needed for the Parcel E/F, but may be useful in the future for Parcel J.

Table 5: Valet Inventory, Residential Buildings

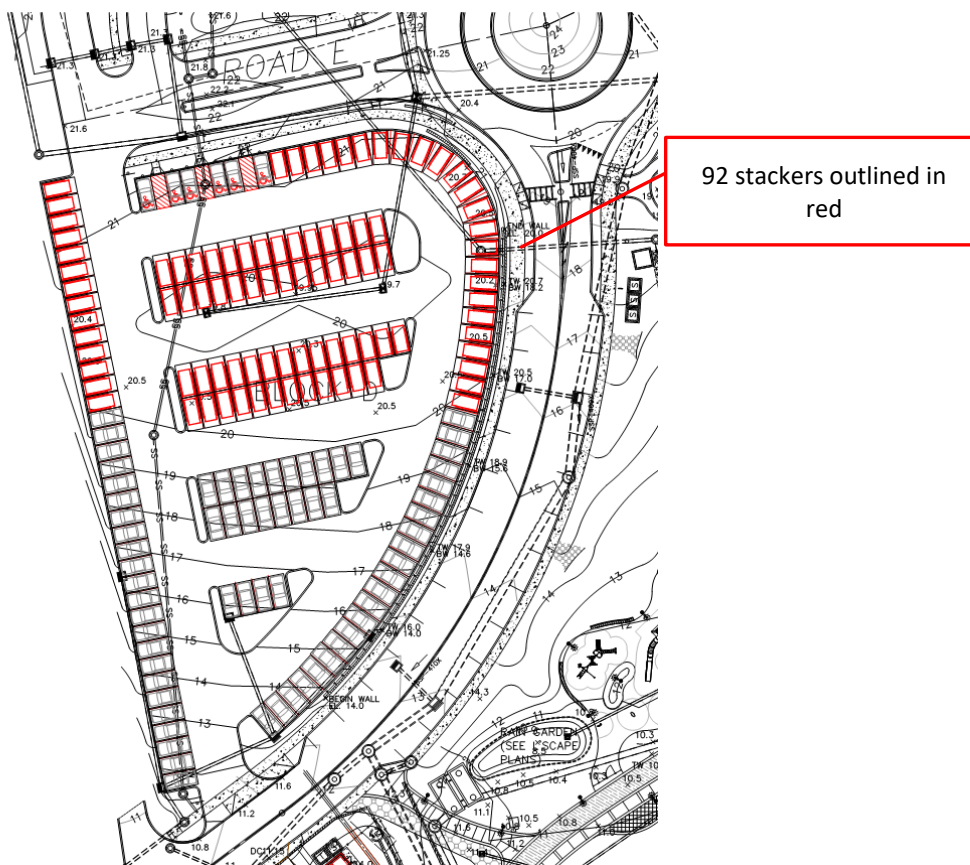
	Building E/F	Building H	Building I
L1 Level	24	14	
Grade Level	20	24	27
Total per building	44	38	27
Total all			109

In this scenario, valet attendants would have access cards for the gated residential garages and could move cars from the valet drop-off to available spaces. The use of multiple locations would not cause inconvenience to the customers.

STACKER PARKING

The Parcel D Lot also lends itself to stacker use. A two-level stacker creates extra parking spaces on a small footprint and operates similarly to a regular valet operation, except that cars arriving early are stored on top of another car in the same striped stall rather than behind a car parked in the aisle. The diagram below shows an option to add up to 92 stackers.

Figure 2: Potential Stacker Configuration



As with the regular valet option discussed previously, stackers would work well on this lot insofar as the turnover during the day will be low. Ferry parkers arriving in the morning would have their cars put in storage

on the top of a stacker. Valets would ask them for their anticipated return time so that the valets can ready the cars for retrieval in order of ferry arrival times. Restaurant parkers coming in for lunch would have their cars parked below the stored ferry cars for quick retrieval. Late in the afternoon before the evening dinner hour, valet attendants would start taking cars off the top stackers to ready them for pickup.

SUMMARY - APPROACH TO VALET

It is not yet known whether the ferry will need the full 156 spaces during weekdays, and to what extent ferry demand will overlap with the increasing restaurant demand in the evenings. On-street parking is planned with a surplus compared to marina/park needs, and will have a great surplus as dinner hour approaches and park-and-marina-goers start leaving. Given the unknowns, the combination of valet on Parcel D with overflow into the residential buildings as needed is preferred for its flexibility. The public may prefer regular valet to stackers as well, especially since it will allow Parcel D to operate as a self-park later in the evening and on weekends. The Applicant may opt for stackers if the valet operation is busy for many hours of the day in multiple garages.

CONCLUSION

The development is able to meet the peak weekend demand calculated per the ratios in The Findings. These ratios represent the individual peak for each land use. In this scenario, the lot on Parcel D provides parking for the Parcel E/F restaurant and will have a 72-space surplus that can serve overflow from Parcel J as needed.

Because the developer is allocating the Parcel D lot to The City on weekdays for ferry parking, the Lot may not be available to accommodate restaurant demand during the weekday lunch and early dinner hours; this will depend on the success of the ferry program. Based on a shared parking analysis specific to weekday demand patterns for the commercial uses on Parcel E/F, and assuming the ferry lot is fully unavailable during the day, we project that the development may need between 54 and 66 spaces on weekdays. The 30-space on-street surplus could accommodate much of this projected overflow.

The shortage can be solved using valet parking in Parcel D and, if needed, the surrounding residential garages. Our layout shows the potential to park 42 cars in the Parcel D lot aisles, and we have studied the residential garages and found that it would be feasible to create enough spaces in the garage aisles to accommodate easily the 12 to 24 cars that we project the Parcel D valet would not accommodate. The garages have additional capacity to accommodate Parcel J cars as well. A third-party valet company can coordinate lot and garage access and create a flexible solution.