

Technical Memorandum

Limited Parking and Traffic Study

Market Meadows Redevelopment

October 16, 2020

HR Green Project Number 200927

Prepared For:

Shorewood Development Group

790 Estate Drive, Suite 200

Deerfield, IL 60015

Prepared By:



HRGreen

Introduction

Shorewood Development Group is proposing a redevelopment of a portion of the Market Meadows Shopping Center in Naperville, Illinois. The proposed redevelopment would include the construction of a new self-storage facility, Big Blue Swim School, and retail storefronts in the existing shopping center, as well as the development of a currently vacant parcel, and some reconfiguration of the existing parking lot.

This study is being performed to verify if the parking lot is adequate to accommodate the potential redevelopment based on code requirements. An existing parking demand analysis was not performed at this time, due to the lower vehicle counts and uncertainty associated with the ongoing COVID-19 pandemic.

Site Layout

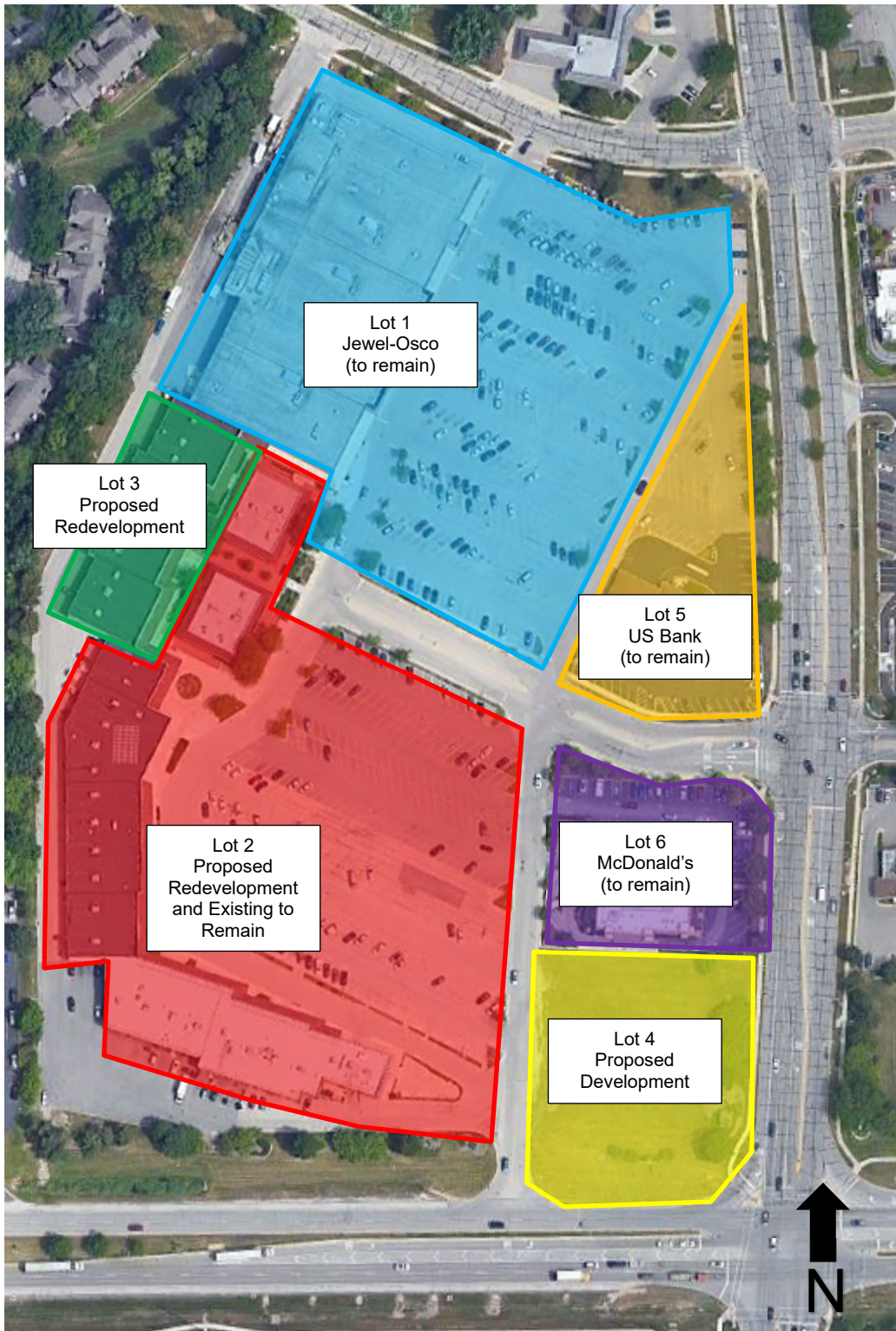
Market Meadows Shopping Center is located in the northwest corner of 75th Street and Naper Boulevard. The shopping center is subdivided into six lots as pictured in **Figure 1**. No developments are planned in Lots 1, 5, and 6, containing the existing Jewel-Osco grocery store, US Bank, and McDonald's. Lots 2 and 3 are the existing strip mall south of Jewel-Osco and occupying the southwest corner of the shopping center. The northernmost portion of this Lot will be redeveloped with planned storage and retail businesses, while the remaining retail storefronts will remain. Finally, Lot 4 is a currently vacant parcel in the southeast corner of the shopping center, which is planned to be developed with restaurant and bank tenants.

For the purposes of this study, the parking supply of the shopping center will be considered as a whole, and that cross-parking among the Lots will be common. The proposed parking supply is outlined in **Table 1**. A total of 885 parking spaces will be available after the proposed redevelopment. To be more conservative, this does not include 41 parking spaces marked off for the Jewel-Osco seasonal garden center. The garden center is operated from April through June, so for most of the year, those 41 spaces will be available for regular use, bringing the parking total to 926 spaces.

TABLE 1 – PARKING SUPPLY

<i>Location</i>	<i>Available Parking Spaces</i>
Lot 1 (existing Jewel-Osco)	286
Lot 2+3 (proposed redevelopment)	416
Lot 4 (proposed development)	49
Lot 5 (existing US Bank)	76
Lot 6 (existing McDonald's)	58
TOTAL	885

FIGURE 1 – SHOPPING CENTER LAYOUT

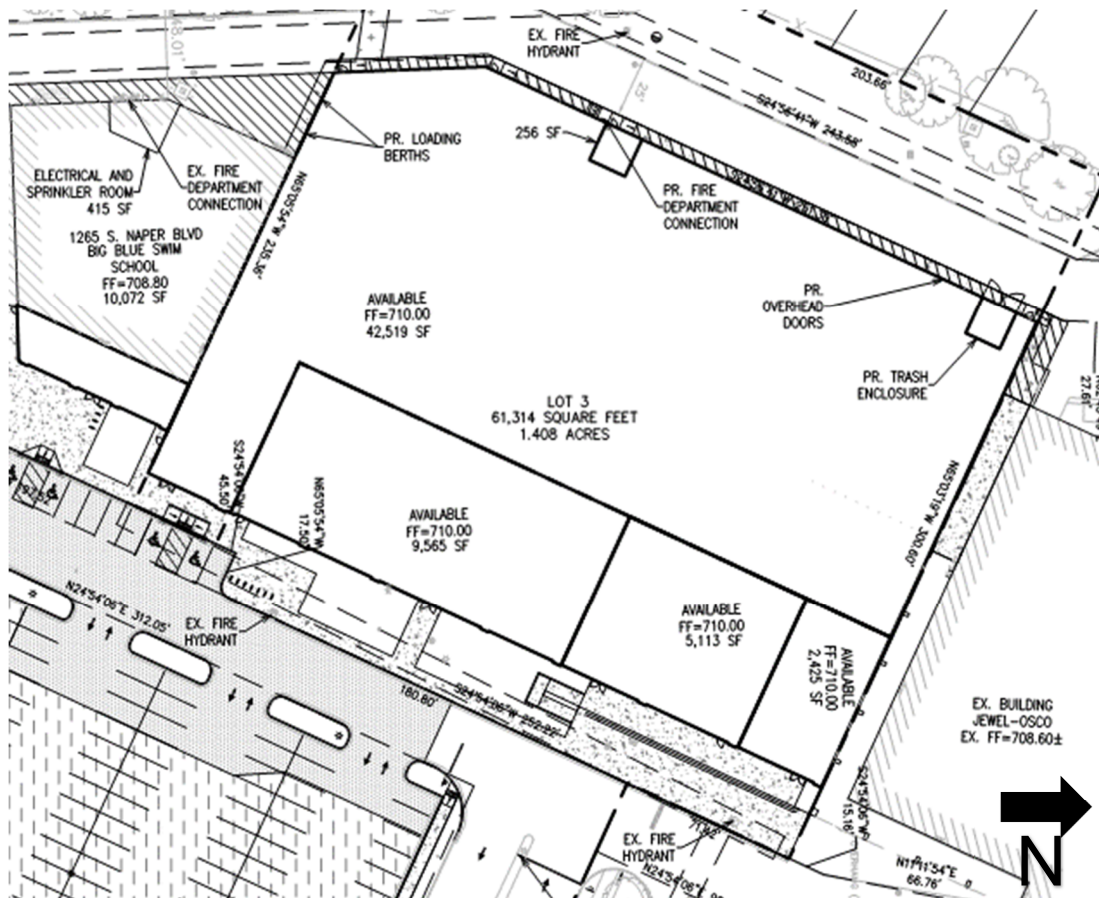


Proposed Development

The Lot 2/3 and Lot 4 development areas will be occupied by some new land uses. The full site plan is available in the Appendix, with portions reproduced within this report.

The development plan, shown in **Figure 2**, is for the construction of an approximately 129,045 s.f. self-storage facility in Lot 3. This redevelopment will be built alongside a 10,072 s.f. Big Blue Swim School, and three retail storefronts totaling approximately 17,103 s.f. under Lot 2.

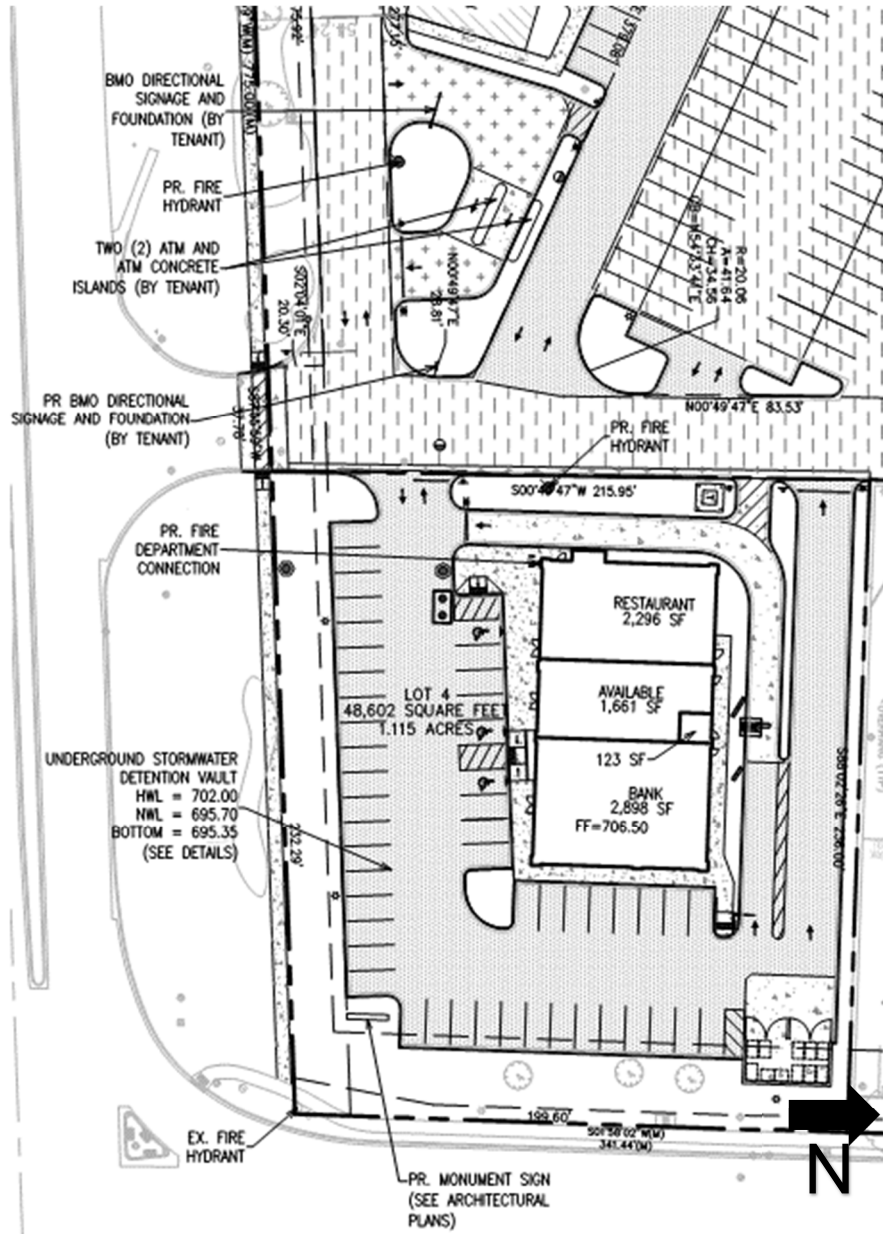
FIGURE 2 – LOT 2 REDEVELOPMENT



The portion of Lot 2 that is to remain is not expected to experience major redevelopment. Some tenants may change, with the possibility of some retail space being converted to restaurant space. As restaurant space tends to attract patrons at a higher rate than retail, these potential changes will also be analyzed. Restaurant space is limited to 23,500 s.f. in this shopping center. Accounting for the existing McDonald's and the proposed restaurant space in Lot 4, it was assumed that Lot 2 will contain approximately 8,811 s.f. of fast food space and 5,732 s.f. of non-fast food restaurant space.

The development of Lot 4 will consist of one building with three tenants, as pictured in **Figure 3**. The businesses will include a 2,898 s.f. bank, a 2,296 s.f. fast food restaurant with a drive-thru, and a 1,661 s.f. store front, assumed to be another fast food restaurant. The bank will have a drive-up ATM just west of the parcel, at the east end of Lot 2, with storage for 8 vehicles. The fast food restaurant will accommodate storage for 11 cars in the drive-thru lane.

FIGURE 3 – LOT 4 DEVELOPMENT



Projected Parking Requirements

Each of the land uses in the shopping center was considered for parking requirements, based on the Institute of Transportation Engineers (ITE) *Parking Generation, 5th Edition*. ITE provides either an average parking demand rate or a fitted curve equation based on their study data for peak parking demand by land use. ITE also provides data on the percentage of peak parking demand each hour, as experienced by each land use. Because peak parking demands will vary based on the business being studied, the shopping center's overall parking demand was analyzed on an hourly basis, in order to determine the overall peak parking demand for the entire shopping center.

In Lot 1, Jewel-Osco falls under ITE Land Use Code 850 – Supermarket. The existing building is approximately 67,103 s.f.,

The parking requirements for Lot 2 fall under several land use categories. Although ITE does not have a data category specifically for swimming schools, it was determined that the parking generation rates for ITE Land Use Category 492 – Health/Fitness Club would most closely apply to the Big Blue Swimming School. ITE describes a Health/Fitness Club as focusing on individual fitness or training, while also providing exercise classes. Additionally, the hourly parking demands for this land use indicate that peaks occur after school and on weekends, which coincide with the expected usage patterns of a swim school.

Restaurant land uses in Lot 2 are expected to fall under ITE Land Use Category 933 – Fast-Food Restaurant without Drive-Through Window and Category 932 – High-Turnover (Sit Down) Restaurant. Up to 8,811 s.f. of restaurant space is likely to be classified as fast food, where patrons order and pay at a counter. The High-Turnover land use is commonly referred to as casual dining, where diners are served by wait staff and pay after the meal. Approximately 5,732 s.f. of leasable area is designated as a likely high-turnover restaurant.

The remaining area in Lot 2 is a variety of mostly retail stores, both existing and proposed. Because ITE data does not exist specifically for each specific type of retail, the remaining storefronts can be classified under ITE Land Use Category 820 – Shopping Center. This land use provides a conservative estimate for relatively high-traffic retail businesses, usually consolidated into a strip mall, shopping mall, or shopping center. In Lot 2, this will include approximately 22,579 s.f. of existing storefronts and 17,103 s.f. of proposed retail space under the Lot 2 redevelopment, for a total of 39,682 s.f.

The redevelopment in Lot 3 will be the self-storage facility. This land use belongs to ITE Land Use Category 151 – Mini-Warehouse. The building footprint will be approximately 42,519 s.f., with an overall usable floor area of 129,045 s.f.

The Lot 4 development includes three land use types. The proposed 2,898 s.f. bank was classified as ITE Land Use 912 – Drive-In Bank. This land use provides for drive-in banking services like the ATM, as well as walk-in services. It was assumed that the bank would be only be open until 2pm on Saturdays. The 2,296 s.f. restaurant with a drive-through lane is expected to fall under Land Use 934 – Fast-Food with Drive-Through Window, while the remaining 1,661 s.f. restaurant was assumed to be Land Use 933 – Fast-Food without Drive-Through Window.

The US Bank in Lot 5 was also determined to be Land Use 912 – Drive-In Bank.

Finally, the 5,000 s.f. existing McDonald's building in Lot 6 was classified as Land Use 934 – Fast-Food with Drive-Through Window.

The *ITE Parking Generation* manual provides percentages of peak and off-peak parking demands for typical business hours during a weekday and Saturday. Where available, these percentages were used to calculate the parking demand for each business during all peak periods. Parking

demands for each land use were calculated and summed for the entire shopping center. The projected parking demands were reviewed to determine that the weekday peak parking hours are expected to be at 12pm and 6pm, and the peak weekend parking hours were at 12pm and 4pm. The peak period parking demands for each Lot are summarized in **Table 2**.

TABLE 2 – ITE PARKING REQUIREMENTS

Land Use	Building Size (s.f.)	ITE Land Use Code	ITE Parking Requirements			
			Weekday		Saturday	
			Mid-Day (12pm)	Evening (6pm)	Mid-Day (12pm)	Evening (4pm)
Lot 1 – Jewel-Osco	67,103	850	163	188	241	243
Lot 1 Totals	67,103	-	163	188	241	243
Lot 2 – Big Blue Swimming School	10,072	492	33	76	29	26
Lot 2 – Fast-Food Restaurant	8,811	933	118	73	118	53
Lot 2 – High-Turnover Restaurant	5,732	932	51	54	70	41
Lot 2 – General Retail	39,682	820	158	137	142	129
Lot 3 – Self-Storage	129,045	151	7	2	11	12
Lot 2+3 Totals	193,342	-	367	342	370	261
Lot 4 – Bank	2,898	912	9	4	9	0
Lot 4 – Fast-Food with Drive-Through	2,296	934	20	12	19	7
Lot 4 – Fast-Food without Drive-Through	1,661	933	14	9	14	6
Lot 4 Totals	6,855	-	43	25	42	13
Lot 5 – US Bank	5,000	912	16	7	13	0
Lot 5 Totals	5,000	-	16	7	13	0
Lot 6 – McDonald’s	5,000	934	43	27	40	14
Lot 6 Totals	5,000	-	43	27	40	14
OVERALL TOTAL			632	589	706	531

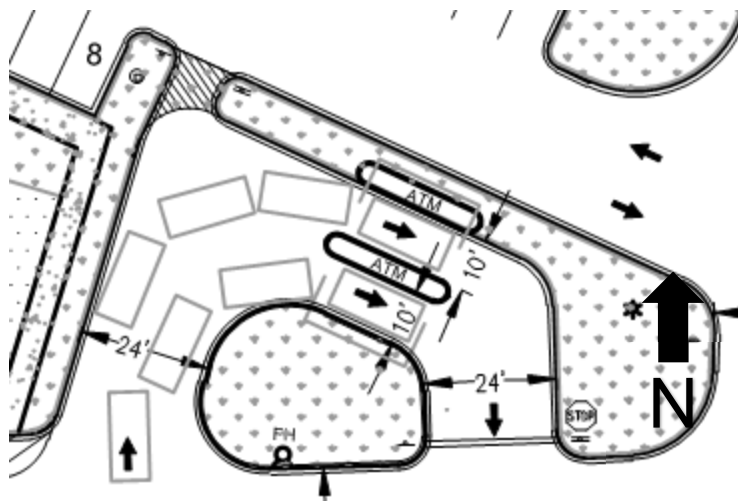
According to ITE parking rates, the highest parking demand is projected to be 706 vehicles during the Saturday mid-day peak period. Compared to the 885 available parking spaces, the overall parking utilization is predicted to be 79.8%. The analysis indicates that the parking supply is expected to be adequate for the development plans based on ITE code. The additional 20% of unutilized parking supply will likely aid in traffic circulation, as available parking spaces reduce the amount of time vehicles must spend driving through the lot, searching for a parking space. This unutilized parking percentage will increase to approximately 25% when the Jewel-Osco garden center is not in season, and those 41 additional spaces are available.

Site Traffic Circulation

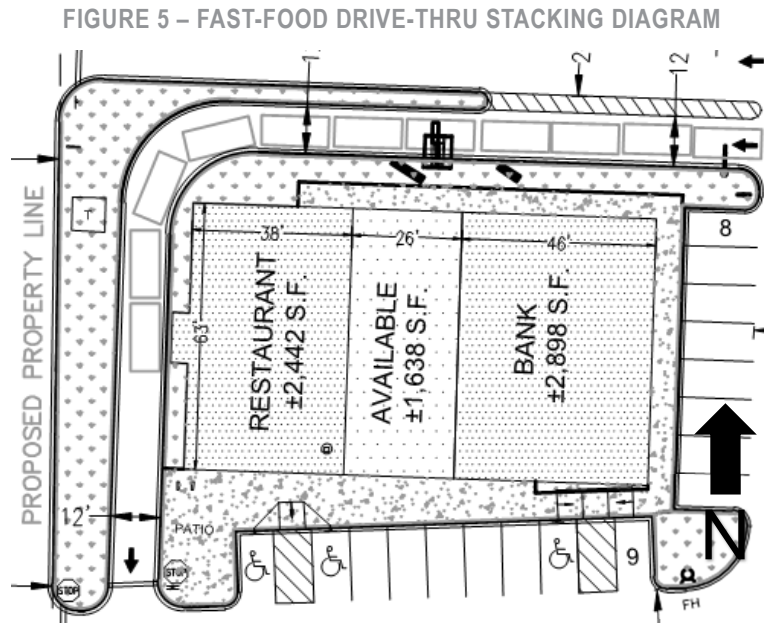
A high-level qualitative analysis of the proposed parking lot circulation was also performed. No changes are planned to the existing entrances to the shopping center, and the existing parking lot drive aisles are being maintained with a switch to perpendicular parking instead of angled parking in Lot 2. Two drive-through lanes are being added in the development – one for the proposed fast-food restaurant in Lot 4, and one for the drive-up ATM associated with the bank in Lot 4.

The Lot 4 bank drive-up ATM lane is located just east of the Lot 2 storefronts. Access to the drive through lane will be via the drive aisle south of the existing retail storefronts, which provides rear access to the Lot 2 businesses and the employee parking area. The lane is proposed to have two ATMs and stacking area for 8 vehicles, as shown in **Figure 4**. The ITE Trip Generation Manual projects that the peak hour demand for a drive-up bank is 39 entering vehicles. If we conservatively assume that the projected parking demand of 9 vehicles in that same peak period are the only vehicles that enter the bank building in the hour, we can assume that the remaining 30 vehicles will use the ATM lane over the course of that peak hour. This means an average of 7.5 vehicles would utilize the ATM lane every 15 minutes. Because a typical ATM trip takes far less than 15 minutes to complete, it is highly unlikely that queues will stretch outside of the 8-car stacking area. However, in a case where a large influx of ATM traffic might cause a longer queue, the southernmost drive aisle is a very low traffic aisle, used principally by retail employees. ATM vehicles that may queue into this drive aisle while waiting for the ATM would likely not cause a traffic bottleneck.

FIGURE 4 – ATM DRIVE-UP STACKING DIAGRAM



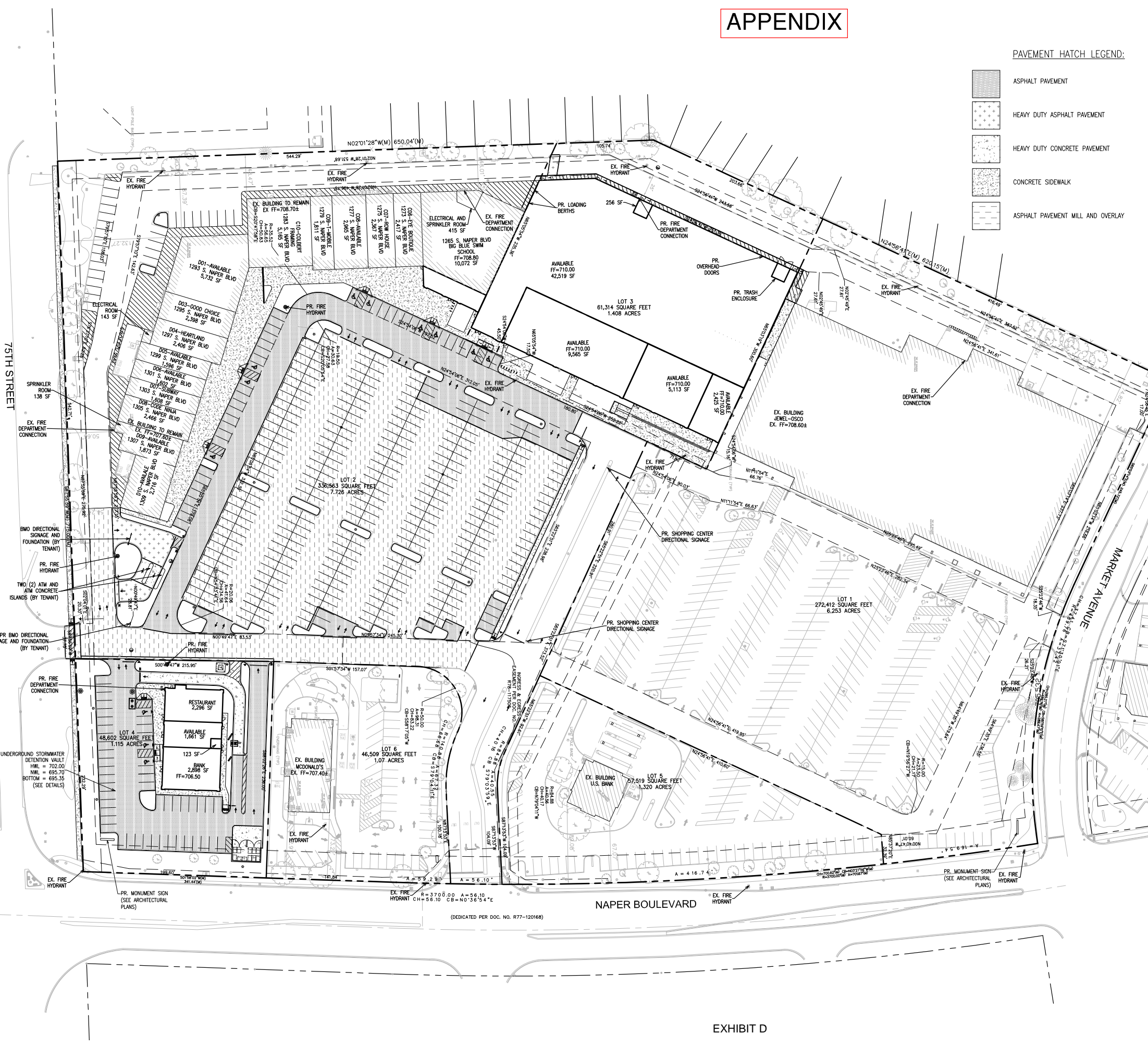
The fast-food drive-through lane in Lot 4 includes storage for 11 vehicles, as shown in **Figure 5**. The ITE Trip Generation Manual indicates that peak hour demand for a fast-food restaurant of this size is approximately 67 entering vehicles during the Saturday peak hour. The previously stated peak parking demand for Saturday mid-day was 20 vehicles. Assuming the remaining 47 vehicles use the drive-through throughout the hour, approximately 12 vehicles would use the drive-through every 15 minutes. Again, because a typical drive-through visit is far shorter than 15 minutes, it is unlikely that queues will regularly extend far beyond the stacking area. Additionally, because of the layout of the parking lot, an unusually long drive-through queue could wrap around the east and south sides of the building with minimal impact to traffic circulation in the Lot, and certainly no impact to traffic outside the Lot 4 area.








Conclusion

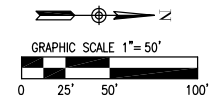
The projected parking demand for the proposed redevelopment in the Market Meadows Shopping Center was analyzed. Parking demand for mid-day and evening peak periods on a weekday and on a Saturday were analyzed for the development plan, according to ITE code requirements. The projected peak parking demands were shown to be less than the proposed number of parking spaces. Parking utilization for the two options is predicted to be 79.8% during the Saturday peak period. Additionally, traffic circulation surrounding the proposed fast-food and ATM drive-through lanes was reviewed. Drive-through queues are not likely to be longer than the stacking areas and are not expected to negatively impact traffic flow on major drive aisles in the shopping center.

APPENDIX



PAVEMENT HATCH LEGEND:

-  ASPHALT PAVEMENT
-  HEAVY DUTY ASPHALT PAVEMENT
-  HEAVY DUTY CONCRETE PAVEMENT
-  CONCRETE SIDEWALK
-  ASPHALT PAVEMENT MILL AND OVERLAY



SITE DATA TABLE:

PROJECT AREA:

LOT 1 (EXISTING JEWEL OSCO)	±272,412 SF / ±6.25 ACRES
LOT 2 (PROPOSED REDEVELOPMENT)	±336,563 SF / ±7.73 ACRES
LOT 3 (PROPOSED REDEVELOPMENT)	±61,314 SF / ±1.41 ACRES
LOT 4 (PROPOSED OUTPARCEL)	±48,602 SF / ±1.12 ACRES
LOT 5 (EXISTING US BANK)	±57,519 SF / ±1.32 ACRES
LOT 6 (EXISTING MCDONALD'S)	±46,509 SF / ±1.07 ACRES
TOTAL AREA:	±822,919 SF / ±18.89 ACRES

BUILDING AREA:

LOT 1 (EXISTING JEWEL OSCO)	±67,103 SF (FAR 24.63%)
LOT 2 + LOT 3 (PROPOSED REDEVELOPMENT)	±107,763 SF (FAR 27.08%)
LOT 2 (PROPOSED REDEVELOPMENT)	BB SWIM SCHOOL: ±10,072 SF
	EX. UTILITY ROOMS: ±996 SF
	EX. BUILDING TO REMAIN: ±37,122 SF
	TENANT (PROPOSED): ±9,565 SF
	TENANT (PROPOSED): ±5,113 SF
	TENANT (PROPOSED): ±2,425 SF
	±64,993 SF (FAR 19.31%)
LOT 3 (PROPOSED REDEVELOPMENT)	STORAGE (PROPOSED): ±42,519 SF
	UTILITY ROOM (PROPOSED): ±251 SF
	±42,770 SF (FAR 69.76%)
	(SEE COMBINED FAR % FOR LOT 2 + 3)

LOT 4 (PROPOSED OUTPARCEL):

RESTAURANT TENANT (PROPOSED)	±2,296 SF
AVAILABLE TENANT (PROPOSED)	±1,661 SF
UTILITY ROOM (PROPOSED)	±123 SF
BANK TENANT (PROPOSED)	±2,898 SF
	±6,978 SF (FAR 14.36%)

LOT 5 (EXISTING US BANK): ±5,000 SF (FAR 8.69%)

LOT 6 (EXISTING MCDONALD'S): ±5,000 SF (FAR 10.75%)

TOTAL AREA: ±191,844 SF (FAR 23.31%)

RESTAURANTS:

LOT 2-PROPOSED RESTAURANT (FAST FOOD)	±8,811 SF
LOT 2-PROPOSED RESTAURANT	±5,732 SF
LOT 4-PROPOSED RESTAURANT (FAST FOOD)	±2,296 SF
LOT 4-PROPOSED RESTAURANT (FAST FOOD)	±1,661 SF
LOT 6-EXISTING MCDONALD'S (FAST FOOD)	±5,000 SF
TOTAL RESTAURANTS	±23,500 SF (NOT TO EXCEED)

- PARKING CODE:**
- SHOPPING CENTER LESS THAN 250,000 SF, EXCLUSIVE OF RESTAURANT ESTABLISHMENTS - (4.5) PARKING SPACES PER 1000 SF OF GFA
 - EATING ESTABLISHMENT EXCLUSIVE OF FAST FOOD - (10) PARKING SPACES PER 1000 SF OF GFA
 - FAST FOOD ESTABLISHMENTS - (17) PARKING SPACES PER 1000 SF OF GFA
 - BICYCLE PARKING SPACES - (5X) VEHICLE PARKING REQUIREMENTS (MIN. 3 SPACES)
 - FAST CASUAL - (10) PARKING SPACES PER 1000 SF OF GFA

PARKING REQUIRED:

LOT 1 (EX. JEWEL OSCO):	67,103 SF/1000 X 4.5 =	302 PARKING SPACES
LOT 2 (PR. REDEVELOPMENT):	49,754 SF/1000 X 4.5 = 223.9	
	5,732 SF/1000 X 10 = 57.3	
	8,811 SF/1000 X 17 = 149.8	431 PARKING SPACES
LOT 3 (PR. REDEVELOPMENT):	42,519 SF/1000 X 4.5 =	192 PARKING SPACES
LOT 4 (PR. OUTPARCEL):	2,296 SF/1000 X 10 = 23.0	
	1,661 SF/1000 X 17 = 28.2	
	2,898 SF/1000 X 4.5 = 13.0	65 PARKING SPACES
LOT 5 (EX. U.S. BANK):	5,000 SF/1000 X 4.5 =	23 PARKING SPACES
LOT 6 (EX. MCDONALD'S):	5,000 SF/1000 X 17 =	85 PARKING SPACES
TOTAL PARKING REQUIRED:		1,098 PARKING SPACES

PARKING PROVIDED:

LOT 1 (EX. JEWEL OSCO):	316 SPACES + 11 HC SPACES =	327 TOTAL PARKING SPACES
LOT 2 (PR. REDEVELOPMENT):	407 SPACES + 9 HC SPACES =	416 TOTAL PARKING SPACES (21 BICYCLE SPACES)
LOT 4 (PR. OUTPARCEL):	46 SPACES + 3 HC SPACES =	49 TOTAL PARKING SPACES (3 BICYCLE SPACES)
LOT 5 (EX. U.S. BANK):	74 SPACES + 2 HC SPACES =	76 TOTAL PARKING SPACES
LOT 6 (EX. MCDONALD'S):	55 SPACES + 3 HC SPACES =	58 TOTAL PARKING SPACES
TOTAL PARKING PROVIDED:	899 + 28 HC SPACES =	926 PARKING SPACES

PROPOSED PARKING RATIO: 4.85/1000 SF

IMPERVIOUS AREA SUMMARY TABLE:

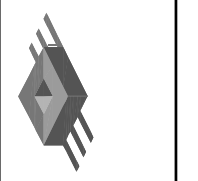
LOT 2 + LOT 3 AREA	397,877 SF
EXISTING IMPERVIOUS AREA	353,968 SF
PROPOSED IMPERVIOUS AREA	353,520 SF
NET NEW IMPERVIOUS AREA (NET REDUCTION IN IMPERVIOUS AREA)	-448 SF
LOT 4 AREA	48,602 SF
EXISTING IMPERVIOUS AREA	0 SF
PROPOSED IMPERVIOUS AREA	35,040 SF
NET NEW IMPERVIOUS AREA	35,040 SF

10/16/20	Date
9/8/20	Date
1 City Review	Description
1 Permit Set	No

SITE PLAN

MARKET MEADOWS SHOPPING CENTER
SHOREWOOD DEVELOPMENT GROUP LLC
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F805
1" = 50'
SP1