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September 27, 2018

Ms. Jennifer Howland, AICP,
Community Development Manager
CITY OF GRAND HAVEN
11 N. Sixth Street
Grand Haven, Michigan 49417

RE: City of Grand Haven Downtown Parking Garage Sites Analysis Report

Dear Jennifer,

Enclosed is the final report for the downtown parking garage sites analysis. Three printed copies of the report are included for your use. An electronic PDF copy of the report was sent to you on Thursday, September 27th. Walker Consultants sincerely appreciates the time and effort you and your team spent on this project. The information and insight you provided Walker during the project was very helpful. Thank you.

Please do not hesitate to contact us with your parking questions and information needs.

Sincerely,
Walker Consultants

A blue ink signature of R. Jake Jeppesen, written in a cursive style.

R. Jake Jeppesen
Principal

A blue ink signature of Rick G. Klein, written in a cursive style.

Rick G. Klein, PE
Vice President & Managing Principal

Enclosure: 3 printed copies of report



Parking Consulting Report

City of Grand Haven Downtown Parking Garage Sites Analysis

September 27, 2018



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EXECUTIVE SUMMARY

The City Grand Haven is currently evaluating several opportunities for significant developments in downtown. Common to each development opportunity are questions about parking including possibly meeting new parking needs with a parking garage or garages. The City has identified five potential sites in downtown for parking garages and has commissioned this study to gain conceptual information and understanding about each of these sites.

The analysis for each site includes:

- Confirming, on a conceptual basis, if the size and configuration of the site can accommodate a parking structure
- How the parking structure could be oriented on the site
- Estimating, on a conceptual level, the number of parking spaces provided on a typical level of the parking structure
- Additional comments and information specific to the site

The study also provides general information about parking structure capital costs, operation costs, maintenance, and break-even pricing.

Three of the five sites were found suitable for accommodating a parking structure. Those sites are One South Harbor Lot, Second Street Lot, and Fulton Street site. The Tip-A-Few Lot, and 1st Street Lot sites were found to be unsuitable for accommodating a parking structure.

The study determined One South Harbor Lot could accommodate a single supported-level of parking which would create approximately 35-40 additional parking spaces on the site.

The Second Street Lot site can accommodate a multi-level parking structure with up to 4 supported levels of parking which could provide approximately 290-310 parking spaces. Because approximately 80 spaces of surface parking currently occupy the site, the net gain of additional spaces would be approximately 210-230 spaces.

The Fulton Site can accommodate a multi-level parking structure with approximately 245-265 parking spaces. The vacant building occupying the site has approximately 10 adjacent parking spaces. Therefore, the net gain in new parking spaces is 235-255 spaces.

The limiting factors for the two sites deemed unsuitable for a parking structure include site dimensions, shape of the site, and required setbacks.

A formal ranking of the three sites was not included in the scope of this report. When comparing the sites informally, a parking structure on the 2nd Street site currently appears to provide the most positive impact on downtown parking due to its location in the Downtown Retail Zone and one-block proximity to the Waterfront Zone.



01

Potential Sites Analysis
Section

SECTION 1 -POTENTIAL SITES ANALYSIS**INTRODUCTION**

The City of Grand Haven has a vibrant and thriving downtown district with a healthy mix of residential, commercial, and retail properties. The City is currently evaluating several opportunities for significant developments in downtown. Common to each development opportunity are questions about parking including possibly meeting new parking needs with a parking garage or garages. The City has identified potential sites in downtown for parking garages and has commissioned this study to gain conceptual information and understanding about each of these sites. The information provided in this report will assist the City as it considers each site.

This study analyzes five potential downtown parking garage sites which are being considered by the City (See Figure 1). The analysis for each site includes:

- Confirming, on a conceptual basis, if the size and configuration of the site can accommodate a parking structure
- How the parking structure could be oriented on the site
- Estimating, on a conceptual level, the number of parking spaces provided on a typical level of the parking structure
- Additional comments and information specific to the site

This study also provides general information about parking structure capital costs, operating costs, maintenance, and break-even pricing.

City officials identified and provided information for the analysis of each site. This information included the site dimensions, zoning information (including height restrictions and setback information), and information specific to each site.

This study analysis is conceptual in nature and is designed to provide city officials with a basic understanding of the potential opportunities and/or limitations of each site. The only site characteristics evaluated in this conceptual analysis were site dimensions, setback requirements and height restrictions. Additional dimensions were extrapolated from City-supplied information using aerial photographs. The parking space layout plans, vehicle entry/exits, and stair/elevator locations shown in this study are conceptual in nature. Actual design of a parking structure on a site could utilize a different parking space layout plan and different locations for entry/exits and stair/elevator towers. If more detailed information is desired for a specific site, a Conceptual Design Feasibility Analysis should be conducted.

POTENTIAL SITES

Each site was initially evaluated to determine if it could accommodate a parking structure. If it could, a parking space layout plan for a typical supported-level of parking was developed. The conceptual plan includes the location of vehicle entry/exit(s), path of vehicular travel, and the location of stair/elevator towers. The plan also provides a conceptual number of parking spaces per typical parking level of the structure.

The results of the initial evaluations found that three of the five sites were suitable for accommodating a parking structure (See Figure 1).

Those sites were:

- One South Harbor Lot
- 2nd Street Lot
- Fulton Street

The Tip-A-Few Lot and First Street Lot sites were found to be unsuitable for accommodating a parking structure.

Figure 1 - Potential Sites



Fulton Site

1 South Harbor

1st Street

2nd Street

Tip-A-Few

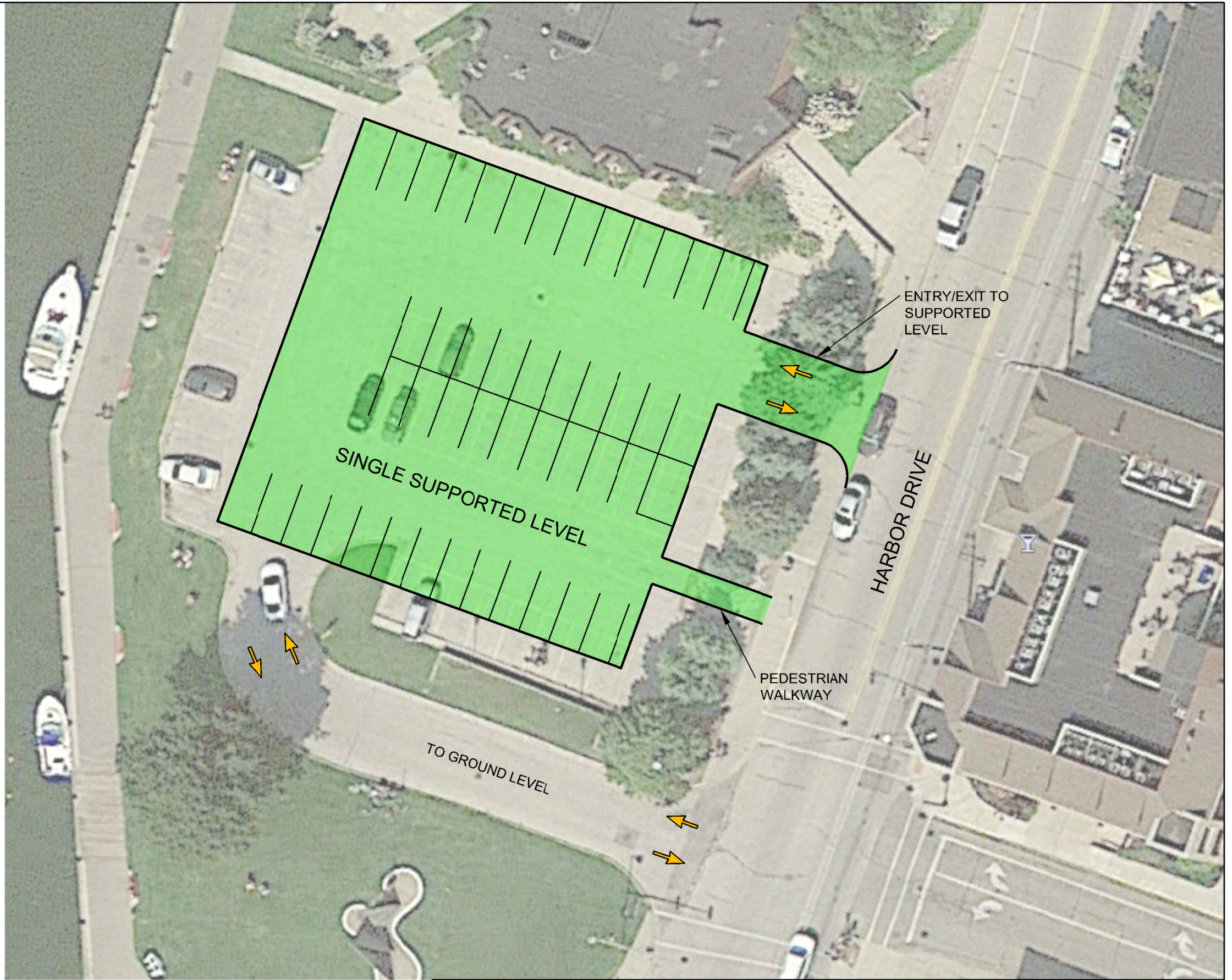
1 SOUTH HARBOR SITE

This site is in the Waterfront Zoning District. A parking lot currently occupies the site and provides approximately 58 parking spaces (see Figure 2).

- A single supported-level of parking can be accommodated on the site under a maximum zoning height restriction of 25' (measured along the front building wall, which is Harbor Drive). Minor excavation at grade level would be required to achieve this.
- The height of the structure is approximately 11'6" from driving-surface to driving-surface, with parapet walls extending a few feet higher.
- The structure has two separate vehicle entry/exits; ground level parking spaces are accessed from a driveway off Harbor Drive (similar to the way current surface parking spaces are accessed). The supported-level parking spaces are accessed by a vehicle entry/exit bridge, also located off Harbor Drive.
- Pedestrians access the ground level parking via sidewalk and stairs to Harbor Drive. Pedestrians access the supported-level of parking via pedestrian walkway to Harbor Drive.
- Site dimensions prevent adding additional supported levels of parking.
- The supported-level will provide approximately 35-40 new parking spaces to the One South Harbor Lot site.

CONSIDERATIONS

- The location of the site is in the Waterfront Zone, as identified in the WadeTrim 2017 Downtown Parking Study. Per the study, parking occupancy in this zone for on-and off-street parking is the busiest.
- The site is one block from the Downtown Retail Zone in which the parking study reports parking occupancy as fairly busy, especially those in the blocks immediately north and south of Washington Street.
- The 2017 parking study identifies six potential future developments in the Waterfront Zone which will provide retail, office and residential space. Additional parking demand will accompany these developments.
- Site dimensions and height restrictions prevent adding additional supported-levels of parking.
- Building a parking structure on this site (as opposed to it remaining a surface parking lot) will increase costs for developing the site for different land-uses at a later date.



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ONE SOUTH HARBOR SITE



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Job No: 20-1884.00

Date: AUGUST 31, 2018

FIG 2

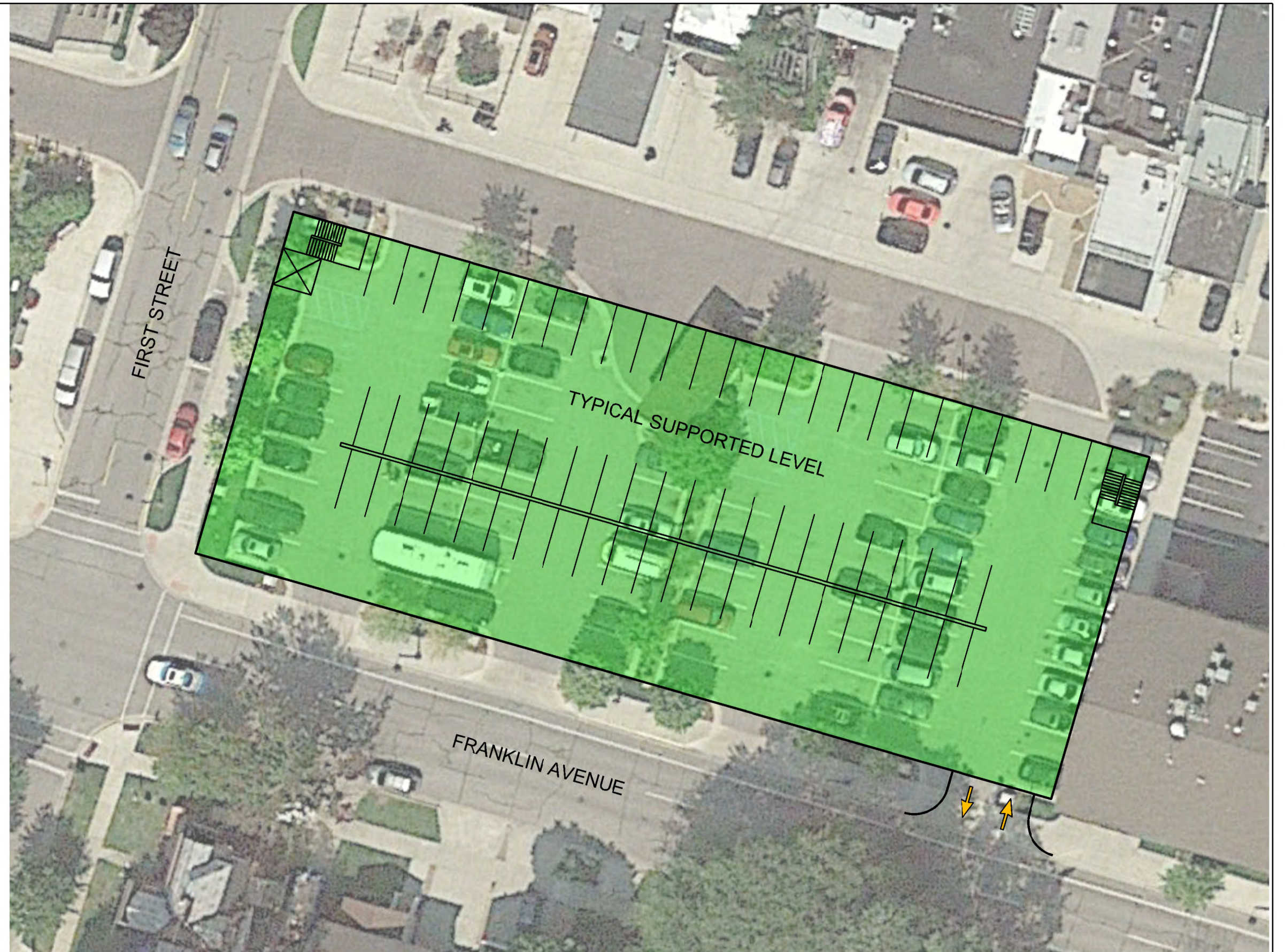
SECOND STREET LOT SITE

This site is in the Central Business Zoning District. A parking lot currently occupies the site and provides approximately 80 parking spaces (see Figure 3).

- A multi-level parking structure can be accommodated on the site.
- Maximum zoning height restriction is 52' or 5 stories.
- The parking structure consists of two bays. Two rows of parking spaces are located in the structure's north bay. Only one row of parking spaces can fit in the south bay, making this structure less efficient than a typical bay with parking on each side of the drive lane.
- The parking structure can consist of a ground level and 4 supported-levels of parking. Ground-level parking is located under the north parking bay. With a height of 11'6" between parking levels (driving-surface to driving-surface), the height of the parking structure for this scenario is approximately 46', with parapet walls extending a few feet higher, and stair/elevators extending 15 to 20 feet higher.
- Vehicle entry/exit to the upper levels of parking is located off Franklin Avenue. Vehicle entry/exit to the north-bay ground level parking is from the alley.
- Pedestrian ingress/egress includes a stair/elevator tower located at the corner of Franklin Avenue and the alley; a second stair tower is located at the northeast corner of the structure.
- A typical parking level will provide approximately 60-65 parking spaces.
- The existing surface parking lot on the site provides approximately 80 parking spaces. The conceptual analysis determines the parking structure can provide approximately 290-310 parking spaces. This equates to an approximate net gain of 210-230 additional parking spaces.
- The site could accommodate a mixed-use structure. Retail/commercial space could be located along First Street, residential space could be located atop the parking structure. However, the number of parking spaces would decrease, and height issues would have to be addressed.

CONSIDERATIONS

- The location of the site is in the Downtown Retail Zone, as identified in the WadeTrim 2017 Downtown Parking Study. Per the study, parking occupancy in this zone for on-and off-street parking is described as fairly busy, especially in those blocks immediately north and south of Washington Street.
- The site is located one block from the Waterfront Zone which the parking study reports parking occupancy is the busiest.
- The 2017 parking study identifies 14 potential future developments in the Downtown Retail Zone which will provide retail, office, lodging, and residential space. Additional parking demand will accompany these developments.



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SECOND STREET SITE



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FIG 3

FULTON STREET SITE

This site is in the Old Town Zoning District. A single building occupies the block on which the site is located; the remainder of the block is vacant. This building occupies most the site on which a parking structure can be accommodated (see figure 4).

- A multi-level parking structure can be accommodated on the site.
- A parking structure concept for the site has been previously developed by others, in conjunction with a potential development project. The south elevation of that parking structure concept runs almost the entire length of Fulton Avenue from North First Street to North Second Street. The concept provides 221 parking spaces.
- This study suggests an alternate parking structure concept which will:
 - Provide more parking spaces
 - Shorten the length of the structure
 - Provides significantly more buffering for residential properties along Second Street and Fulton Street
 - Utilize less site, leaving more land for possible future development
 - Provide more parking closer to the First Street and Harbor Drive.
- Maximum zoning height for the structure is 30'.
- The parking structure has two bays with two rows of parking in each bay.
- The vehicle entry/exit is located at the southeast corner of the parking structure along Fulton Street.
- Pedestrian entry exits are located at the southwest corner (stair/elevator tower) and northeast (stair tower) of the parking structure.
- The parking structure can consist of a ground level and 2 supported-levels of parking. Ground-level parking is located along the south bay and a portion of the north bay. With a height of 11'6" between parking levels (driving surface to driving surface), the height of the parking structure under this scenario is approximately 23'. Parapet walls will extend a few feet higher; stair/elevator towers will extend 15-20 feet higher.
- A typical supported-level will provide approximately 90-94 parking spaces.
- The conceptual analysis determines the parking structure can provide approximately 245-265 parking spaces. Approximately 10 parking spaces are currently on the site. Therefore, the net gain in new parking spaces is 235-255 spaces.
- The structure could accommodate Retail/Commercial space. Height restrictions would impact the number of levels comprising the structure. A liner building along North First Street could be considered. This would move the structure to the east.

CONSIDERATIONS

- The location of the site is in the Downtown Retail Zone (near its northern perimeter), as identified in the WadeTrim 2017 Downtown Parking Study. Per the study, parking occupancy in this zone for on-and off-street parking is described as fairly busy, especially in those blocks immediately north and south of Washington Street.

- The 2017 parking study identifies 14 potential future developments in the Downtown Retail Zone which will provide retail, office, lodging, and residential space. Additional parking demand will accompany these developments.



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FULTON STREET SITE



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FIG 4

TIP-A-FEW LOT SITE

- The Tip-a-Few Lot site cannot accommodate a parking structure with the current site footprint. Factors affecting this include the “notching” of the site’s south boundary and required setbacks.

FIRST STREET LOT

- The First Street Lot cannot accommodate a parking structure with the current footprint. Suitable site dimensions for a parking structure would encroach into the ally.

POTENTIAL SITES SUMMARY

The conceptual sites analysis confirmed that three of the five sites identified by city officials can accommodate a parking structure. A formal ranking of the three sites was not included in the scope of this report. When comparing the sites informally, a parking structure on the 2nd Street site currently appears to provide the most positive impact on downtown parking due to its location in the Downtown Retail Zone and one-block proximity to the Waterfront Zone. Per the 2017 WadeTrim Downtown Parking Study, parking occupancy in the Waterfront Zone is the busiest.

The 1 South Harbor site is located in the Waterfront Zone, however the site’s dimensions and shape limits efficient parking design. Additionally, zoning regulations prevent more than one supported-level of parking. Adding 35-40 parking spaces to the Waterfront Zone via a very small parking structure would come at a premium cost. It also would provide less positive impact (less parking spaces) to downtown’s parking supply than the 2nd Street site.

The Fulton Street site provides for an efficient parking structure design. However, when considering its location to the heart of downtown, it likely will have less positive impact on the current parking supply, when compared to the 2nd Street site.



02

Parking Garages: Conceptual Costs Section

SECTION 2 – PARKING GARAGES: CONCEPTUAL COSTS**CAPITAL COSTS**

Future parking improvements in downtown Grand Haven may include developing a stand-alone parking structure or a mixed-use building which includes a structured parking component. A parking facility built into a project as either the upper or lower floors of that development, compared to a stand-alone parking structure, requires the structure to use short-span construction. Short-span construction uses an increased number of columns to support the weight of the structural elements above it. The efficiencies of short-span construction are less than long-span construction because of the column projections that interfere with the parking layout. A typical short-span construction parking structure has an efficiency in the range of 400-450 square feet per space, depending upon the geometrics of the footprint. In a stand-alone parking structure, long-span construction can be used in which the columns can be located at the front of the parking stalls so there are no column projections. The efficiency of the parking structure can be improved to an approximate range of 315-350 square feet per space. This increase in efficiency allows more parking spaces inside the same footprint.

A general guideline for determining a conceptual opinion of probable cost for constructing a parking ramp is to apply a cost-per-space figure to the structure's target capacity. The cost of parking structures varies greatly based on location, site footprint, soil conditions, architectural features, sustainability features and whether the structure is above or below ground level. A reasonable cost range today for a stand-alone, above grade 250-450 space parking structure is \$20,000 to \$23,000 per space. This assumes long-span construction, a site with favorable dimensions and soils, moderate architectural treatments, and no hidden conditions affecting construction.

OPERATING COSTS

Operating expenses can vary dramatically since these depend on a number of independent variables. Traditional expenses can include costs associated with labor, utilities, maintenance, supplies, management and accounting, and insurance. Key factors in determining operating costs include the proposed hours of operation, type of parking access and revenue controls, and the application of active or passive security measures. Operating expenses for a parking structure are typically presented on a cost-per-space basis. Walker's research indicates actual operating expenses which range from \$150 to over \$1,000 per space annually. The operating expenses are lower at facilities which do not staff the parking structure with booth attendants, do not maintain revenue and access controls, and have limited hours of operation. Conversely, operating costs are higher at parking structures which are staffed, have parking access and revenue control systems in place, have active security systems, and operate 24 hours, 7 days a week. All parking structures require some degree of daily janitorial service including trash removal, sweeping, and minor repairs and maintenance such as lighting replacement. These responsibilities are often delegated to a city's public works department, if a parking department does not exist.

MAINTENANCE

Walker recommends new parking structure owners budget annually for *routine, *preventive, and **replacement maintenance costs at one percent (1%) of today's cost-per-space for building the structure, times the number of spaces in the structure. This amount should be placed in a sinking fund. Contributions to this fund accumulate over time and are available to cover structural maintenance and repair along with replacing systems at the end of their operational life (e.g., revenue and access control and lighting). Even the best designed and constructed parking structures require structural maintenance. For example, expansion joints need to be replaced and concrete invariably deteriorates over time and needs to be repaired to ensure safety and to prevent further deterioration. Parking structure owners tend to grossly underestimate the structural maintenance costs and do not budget adequately for timely corrective actions which must be performed to cost-effectively protect and extend the service life of the structure.

*Routine Maintenance includes repairing leaking joint sealant, clearing plugged drain lines, replacing damaged light fixtures, small area repairs to spalled or delaminated concrete, replacing expansion joint seals, and other similar work. Routine maintenance also includes other housekeeping actions such as cleaning and washing down floor surfaces.

*Preventive Maintenance includes actions which tend to extend the structure's service life. These items can include reapplication of surface sealers, traffic membrane, joint sealants and expansions joints. Preventive Maintenance does not usually entail major disruptions associated with structural repairs.

**Replacement maintenance includes replacement of structural and operational items at the end of their service life. Items such as concrete repairs to slabs, beams, and columns are included as are lighting system replacement, elevators, plumbing, and parking access and revenue control equipment.

BREAK-EVEN PRICING

Budgeting for the break-even cost to build, maintain and operate a parking structure typically establishes the amount of revenue which must be generated per month, by each parking space in the structure. The City of Grand Haven presently does not charge for on-street or off-street public parking. However, the following table- (Figure 5) provides a contextual reference of the break-even cost needed for a stand-alone, above-ground parking structure. If we assume the parking structure costs \$22,000 per-space to design and construct, and an annual per-space operating expense of \$450, the monthly per-space income required to break-even is \$157. When factored to a total annual cost for a 300-space parking structure, the total annual break-even cost is \$565,200.

The above example is presented solely to provide context in considering parking structure costs. Each new parking structure project is unique with many variables and factors that affect its construction and operation. Actual operating costs for parking structures, based upon Walker's research, can range from \$150-\$1,500 per space. The example above is not related in any way to the parking structure sites and concepts included in this report.

Figure 5.

MONTHLY INCOME REQUIRED TO BREAK-EVEN											
Project Cost	Cost per Space	Annual Operating Expense Per Space									
		\$300	\$350	\$400	\$450	\$500	\$550	\$600	\$650	\$700	\$750
	\$ 18,000	123	127	131	135	139	143	148	152	156	160
	\$ 19,000	128	132	136	140	145	149	153	157	161	165
	\$ 20,000	133	138	142	146	150	154	158	163	167	171
	\$ 21,000	139	143	147	151	156	160	164	168	172	176
	\$ 22,000	144	148	153	157	161	165	169	173	178	182
	\$ 23,000	150	154	158	162	166	171	175	179	183	187
	\$ 24,000	155	159	163	168	172	176	180	184	188	193
	\$ 25,000	161	165	169	173	177	181	186	190	194	198

