

ADVISORY PARKING COMMITTEE
WEDNESDAY, April 19, 2023 @ 7:30am

1. Roll Call
2. Introductions
3. Approval of Minutes, February 1, 2022
4. Moped parking – Poles/bollards installed – Waiting on ETA on sleeves
5. Parking Citations – Propose to increase fines for various citations – Captain Wald to present
6. Monthly Parking
 - a Increase Monthly rate – Starting July 1st
 - b Survey
 - c Increase allocation to sell?
 - i Park St. Garage – increase by 100 passes
 - ii Pierce St. Garage – increase by 50 passes
7. Addendums to Two Contracts
 - a WJE Amendment - \$192,000 – Park St. Garage Façade Alternative
 - b Traffic & Safety - \$72,706 – N. Old Woodward island replacement
8. N. Old Woodward Garage Construction
 - a Pulling ahead construction of this garage.
 - b Bid Opening – 4/28/23
 - c Project work to start May 9th with a completion of October 31st.
 - d Peabody and Chester Garages next
9. Misc. Communication
 - a March APS Update

- b RH Article - <https://www.downtownpublications.com/single-post/commissioners-approve-new-rh-final-site-plan>

10. Meeting open to the public for items not on the agenda

11. Next Meeting – May 3 2023

12. Adjournment

Notice: Please note that board meetings will be conducted in person. Members of the public can attend in person at Birmingham City Hall or may attend virtually at <https://us06web.zoom.us/j/86082330819>

Meeting ID: 860 8233 0819

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Advisory Parking Committee
Meeting of February 1, 2023
151 Martin Street, City Commission Room, Birmingham, MI

Minutes

These are the minutes of the Advisory Parking Committee ("APC") regular meeting held on Wednesday, February 1, 2023. The meeting was called to order at 7:30 a.m. by Chair Vaitas.

1. Rollcall

Present: Chair Al Vaitas, Vice-Chair Richard Astrein; Jim Arpin, Kelly Cobb, Kevin Kozlowski, Mary-Claire Petcoff, Lisa Silverman, Jennifer Yert

Absent: Lisa Clark

Staff: Parking Systems Manager Ford; City Transcriptionist Eichenhorn

SP+: Catherine Burch, Annie Jay

2. Introductions

3. Review of the Agenda

4. Approval Of Minutes: Meeting Of November 2, 2022

Motion by VC Astrein

Seconded by Mr. Kozlowski to accept the minutes of November 2, 2022 as submitted.

Motion carried, 8-0.

VOICE VOTE

Yeas: Vaitas, Kozlowski, Astrein, Petcoff, Arpin, Cobb, Silverman, Yert

Nays: None

5. Moped parking

PSM Ford presented the item and answered brief informational questions from the APC.

A number of APC members commented that bicycle racks would be useful in some of the spaces since bicycles are more commonly used in town than mopeds. APC members said they also thought it would be acceptable to allow motorcycle parking in the moped spaces.

PSM Ford said he would communicate the APC's feedback to the Multi-Modal Transportation Board (MMTB).

6. Misc. Communication

PSM Ford provided a brief update on the garage entry equipment.

The Chair said he had a good experience with the equipment.

In reply to VC Astrein, PSM Ford noted that bluetooth or the app would prevent a user from having to roll down their vehicle windows and reach the equipment.

VC Astrein asked that the Chester Street garage be switched back to two entry and two exit lanes.

PSM Ford provided updates on garage construction. Ms. Burch reported on upcoming cleaning of the garages.

The Chair thanked Staff for cleaning up the dead spruce trees at the rear of Lot 6.

PSM Ford stated that DPS intended to plant new trees in the rear of Lot 6.

Mr. Arpin stated that he was advocating for total parking supply and demand numbers in the City based on square footage and uses.

PSM Ford noted that request would require a lot of Staff time, and would therefore need to be requested by the City Commission.

When the Chair noted the demand total would be imprecise, Mr. Arpin concurred and advocated for an approximate reference number.

Ms. Burch noted that the City commissioned a parking study by Nelson Nygaard in 2018 that contained information relevant to the discussion. She also noted that the APC would have to consider whether and how to include private parking.

Mr. Kozlowski noted that there was not an objective ratio of parking spaces required per business square footage, citing the parking differences between strip malls and Manhattan, New York City, New York as proof. He said trends in parking post-Covid remained unclear, but that the City seemed presently to have sufficient capacity. He said another parking study in a few years may be appropriate.

Dr. Silverman expressed concern about the removal of parking south of downtown.

Ms. Petcoff said it would be appropriate to review Table A in a few years to see whether it reflects post-pandemic parking conditions.

Mr. Cobb noted that meter occupancy could likely be determined based on revenues and cost per hour. He said that combined with the garage occupancy could provide an general indication of the City's parking supply and demand.

The Chair said that might be a good way to start.

a. Citation Information

PSM Ford provided the APC with information on citations and answered brief informational questions from the APC.

PSM Ford said he would take the topic to Chief Grewe to determine whether repeat offenders could be discouraged in additional ways, including potential fine increases or potential increased impounding of repeat offenders' vehicles.

Mr. Kozlowski observed that there were very few frequent repeat offenders. He said those individuals probably had a limited impact on the parking system as a whole. He noted that they probably parked in the same space regularly and that enforcement could target those areas if they wanted to deter the behavior.

Ms. Petcoff recommended that the City inform businesses that parking enforcement would be increasing in order to discourage employees from occupying the on-street parking spaces.

b. December APS Update

In reply to Mr. Arpin, Ms. Jay explained that SP+ did counts at 6 a.m., 10 a.m., and 2 p.m. every day to determine average daily occupancy of each garage.

Ms. Jay and PSM Ford confirmed the new garage entry equipment would be able to generate its own occupancy reports.

7. Meeting open to the public for items not on the agenda
8. Adjournment

No further business being evident, the meeting adjourned at 8:42 a.m.



Aaron Ford, Parking Systems Manager

Laura Eichenhorn, City Transcriptionist



MEMORANDUM

(Police Department)

DATE: April 12, 2023

TO: Advisory Parking Committee

FROM: Captain Greg Wald, Police Department

SUBJECT: Parking Ticket Fine Schedule

INTRODUCTION:

The primary goal of parking enforcement is to regulate on-street and structure parking spaces and to gain compliance through enforcement. Fines should be structured to encourage long term parkers to use the structures versus the on street spaces. The City maintains a fee schedule that is reviewed and amended every year. This schedule has over 50 different fines and fees for varying items. The oldest item amended on this list is the Parking Offenses and Fines. While revenue is a byproduct of parking violations, it is not the primary objective of the Police Department or this review. The primary objective here is to keep and maintain order via deterrence.

BACKGROUND:

The parking violation fine schedule was last updated on February 22, 2010. The APC briefly discussed raising meter violations in 2015, but discovered the fines Birmingham imposed were in line with other local communities at the time.

The current fine schedule is relatively straight forward; \$10 for most meter violations, \$15 for overtime violations in a time zone less than two hours, \$30 for all other violations absent snow emergency and handicap violations. Birmingham, along with many other communities with metered parking, have an increased fine for repeat offenders with multiple violations within the same calendar year. The late fine for Birmingham violations is \$10 for all violations other than snow emergency and handicap.

Below is a table comparison of communities with metered parking who impose fines locally (not through the District Court). It should be noted, some communities have reduced fines for those paid with a short timeframe, like 24-72 hours. For comparison sake, only the actual fine is included in this table.

	Expired Meter	Repeat Offender Expired Meter	Other Illegal Parking	Handicap Violation
Birmingham	\$10	\$30 after 7	\$30	\$100
Ferndale	\$30	None	\$35	\$175
Ann Arbor	\$25	None	\$35	\$125
Lansing	\$25	None	\$25-35	\$110
Royal Oak	\$20	None	\$50	\$150
Rochester	\$10	\$100 after 6	\$30	\$100

Birmingham has the lowest fine for expired meter violations. The current max fee in the structures for a non-permit holder is \$10, which is the same fine one would be issued for parking at a meter without paying. The fine structure does not deter a parker from using on-street parking. Through discussions with Police Department and Treasury Department personnel, it is strongly believed that some drivers are willing to pay a \$10 or even \$30 fine to have a "premium" parking spot as opposed to the "inconvenience" of a parking structure. Increasing the expired meter fine and repeat offender fine may help deter this behavior. Additionally, moderate increases in the other violations may help deter those violators in the respective situations.

The Police Department recommends increasing the expired meter violation and the fine after seven violations in a calendar year. Other illegal parking and handicap violations should increase as well.

LEGAL REVIEW:

Should the committee recommend any fine adjustments a staff report will be sent to the City Attorney for review.

SUGGESTED COMMITTEE ACTION:

Make a motion to recommend to the City Commission the increase of expired meter violations to \$25 and \$50 after seven violations in a calendar year. Also, to increase other parking violations to \$35 and handicap violations to \$150.

OR

Make a motion to recommend to the City Commission the increase of expired meter violations to \$30 and \$60 after seven violations in a calendar year. Also, to increase other parking violations to \$40 and handicap violations to \$175.



MEMORANDUM

Parking System

DATE: 4/19/23

TO: Advisory Parking Committee

FROM: Aaron Ford, Parking Systems Manager

SUBJECT: Monthly Parking Rate Increase

INTRODUCTION:

After six years, the City has budgeted and planned to increase the monthly parking rate at all five City garages. The Parking Department has multiple capital improvement projects scheduled over the next five years. A \$20.00 rate increase at each garage starting in July of 2023 is being requested to help pay for these projects.

BACKGROUND:

April of 2017 was the last time the City increased the rate for monthly parking. At the time the rates were increased from \$35 to \$50 at the Chester St. Garage and from \$50 to \$70 at the remaining four garages. Due to COVID-19, the City waived the fee for parking from March 2020 until June 2021.

Monthly parking passes are available on a first come first serve bases at each of the five City garages. Passes are available to anyone who might find them convenient. A combination of residents, employees, and employers buy monthly passes, however the majority of monthly passes are purchased by companies looking to provide parking to their colleagues. Those people who don't have monthly parking must pay the going rate based on the amount of time they are parked. All five City garages have a tiered rate schedule with a maximum rate of \$10 per day.

The Parking Department is in the middle of numerous capital improvement projects to help improve the efficiency and maintenance of the City's parking facilities. Some of these projects include the installation of new parking equipment, ongoing concrete repairs, façade assessment of the Park St. garage, ADA compliance upgrades , painting, installation of LED lights, and making each garage compatible to support future EV charging. To help offset the cost of these projects the City is proposing to increase the rate of monthly parking at the start of the next fiscal year, which is July 1, 2023.

For comparison, the City of Ann Arbor has increased their monthly parking rate by \$5 each year. Below is a table showing the current monthly rate and the new proposed monthly rate, along with the rates of some of our local communities.

	Current Rate	Per Day Rate (21 Days)	Per Day Rate (30 Days)
Chester Garage	\$50.00	\$2.38	\$1.67
Old Woodward	\$70.00	\$3.33	\$2.33
Park Garage	\$70.00	\$3.33	\$2.33
Peabody Garage	\$70.00	\$3.33	\$2.33
Pierce Garage	\$70.00	\$3.33	\$2.33

	Proposed Rate	Per Day Rate (21 Days)	Per Day Rate (30 Days)
Chester Garage	\$70.00	\$3.33	\$2.33
Old Woodward	\$90.00	\$4.29	\$3.00
Park Garage	\$90.00	\$4.29	\$3.00
Peabody Garage	\$90.00	\$4.29	\$3.00
Pierce Garage	\$90.00	\$4.29	\$3.00

Royal Oak	\$40-50
Rochester	\$20.00
Gross Pointe	\$40.00
Detroit	\$182 Avg
Ann Arbor	\$200.00

LEGAL REVIEW:
None

FISCAL IMPACT:
The Following chart shows a comparison of what the 2023-2024 fiscal year revenue would be for monthly parking if the rate were to remain at the current rate vs. the new project \$20 increase.

The current APS fund balance as of March 31st is \$25,360,625.

The APS currently has the following capital projects scheduled for the next few years.

Pierce	Projected	<u>2022-2023</u>	Grand Total	% Increase
	Proposed	<u>2023-2024</u>		
			\$ 657,840.00	29%
			\$ 848,880.00	

Peabody	Projected	<u>2022-2023</u>	Grand Total	% Increase
	Proposed	<u>2024-2025</u>		
			\$ 449,160.00	29%
			\$ 578,040.00	

Park	Projected	<u>2022-2023</u>	Grand Total	% Increase
	Proposed	<u>2024-2025</u>		
			\$ 753,240.00	29%
			\$ 969,000.00	

N. Old Woodward	Projected	<u>2022-2023</u>	Grand Total	% Increase
	Proposed	<u>2024-2025</u>		
			\$ 720,480.00	29%
			\$ 926,880.00	

Chester	Projected	<u>2022-2023</u>	Grand Total	% Increase
	Proposed	<u>2024-2025</u>		
			\$ 679,440.00	40%
			\$ 952,560.00	

Total	Projected	<u>2022-2023</u>	Grand Total	% Increase
	Proposed	<u>2024-2025</u>		
			\$ 3,260,160.00	31%
			\$ 4,275,360.00	

Pierce – Projected CapEX Projects

GL Number Information											
GL Number: 514.1-594.002-977.0000				Description: BUILDINGS							
Current Year YTD Activity: \$28,350.00				Current Year Amended Budget: \$1,200,000.00							
Previous Year Activity: \$4,757.90				Previous Year Amended Budget: \$0.00							

1. Budget Footnotes	2. Position Budget
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Budget Footnotes											
☒ Freeze Notes Column											
Start Year	End Year	Note	2022-23 Projected	2023-24 REQUESTED	2024-25 PLANNED	2025-26 PLANNED	Denied	Flagged	Details		
2023		PIERCE STRUCTURE REPAIRS AS IDENTIFIED	0.00	1,000,000.00	125,000.00	125,000.00	☐	☐	Det...		✗
2023		ASSESSMENT REPORT (3 YEAR PLAN TO COM	126,000.00	0.00	0.00	0.00	☐	☐	Det...		✗
2024		SIGNAGE UPGRADE	0.00	500,000.00	0.00	0.00	☐	☐	Det...		✗
2024		LED LIGHTING UPGRADE	0.00	0.00	1,000,000.00	0.00	☐	☐	Det...		✗
2024		PAINTING UPDATE	0.00	0.00	1,000,000.00	0.00	☐	☐	Det...		✗
2024		WJE CONSTRUCTION PERIOD SERVICES	0.00	67,000.00	67,000.00	67,000.00	☐	☐	Det...		✗
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Park St. Garage – Projected CapEx Projects

GL Number Information

GL Number: 514.1-594.003-977.0000Description: BUILDINGS

Current Year YTD Activity: \$27,494.20Current Year Amended Budget: \$1,200,000.00

Previous Year Activity: \$169,668.40Previous Year Amended Budget: \$73,332.00

1. Budget Footnotes2. Position Budget

Budget Footnotes

☒ Freeze Notes Column

Start Year	End Year	Note	2022-23 Projected	2023-24 REQUESTED	2024-25 PLANNED	2025-26 PLANNED	Denied	Flagged	Details	
2023		PARK STRUCTURE REPAIRS AS IDENTIFIED IN	0.00	1,983,070.00	192,590.00	192,590.00	☐	☐	Det...	✖
2023		ASSESSMENT REPORT (3 YEAR PLAN TO CO	121,000.00	0.00	0.00	0.00	☐	☐	Det...	✖
2024		WJE CONSTRUCTION PERIOD SERVICES	0.00	67,000.00	67,000.00	67,000.00	☐	☐	Det...	✖
2024		SIGNAGE UPGRADE	0.00	500,000.00	0.00	0.00	☐	☐	Det...	✖

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Peabody – Projected CapEx Projects

GL Number Information

GL Number: 514.1-594.004-977.0000Description: BUILDINGS

Current Year YTD Activity: \$62,844.11Current Year Amended Budget: \$1,293,289.10

Previous Year Activity: \$357,476.15Previous Year Amended Budget: \$146,664.00

1. Budget Footnotes2. Position Budget

Budget Footnotes

☒ Freeze Notes Column

Start Year	End Year	Note	2022-23 Projected	2023-24 REQUESTED	2024-25 PLANNED	2025-26 PLANNED	Denied	Flagged	Details	
2023		PEABODY STRUCTURE REPAIRS AS IDENTIFIE	0.00	310,060.00	216,650.00	216,650.00	☐	☐	Det...	✖
2023		ASSESSMENT REPORT (3 YEAR PLAN TO CO	101,000.00	0.00	0.00	0.00	☐	☐	Det...	✖
2024		SIGNAGE UPGRADE	0.00	500,000.00	0.00	0.00	☐	☐	Det...	✖
2024		LED LIGHTING UPGRADE	0.00	0.00	0.00	1,000,000.00	☐	☐	Det...	✖
2024		PAINTING UPDATE	0.00	0.00	0.00	1,000,000.00	☐	☐	Det...	✖
2024		WJE CONSTRUCTION PERIOD SERVICES	0.00	67,000.00	67,000.00	67,000.00	☐	☐	Det...	✖

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N. Old Woodward – Projected CapEx Projects

GL Number Information										
GL Number: 514.1-594.005-977.0000		Description: BUILDINGS								
Current Year YTD Activity: \$220,847.92		Current Year Amended Budget: \$1,946,573.90								
Previous Year Activity: \$364,118.00		Previous Year Amended Budget: \$1,036,303.00								

1. Budget Footnotes											2. Position Budget										
Budget Footnotes																					
☒ Freeze Notes Column																					
Start Year	End Year	Note	2022-23 Projected	2023-24 REQUESTED	2024-25 PLANNED	2025-26 PLANNED	Denied	Flagged	Details												
2023		N OLD WOODWARD STRUCTURE REPAIRS AS	0.00	573,100.00	467,390.00	467,390.00	☐	☐	Det...	☒											
2023		ASSESSMENT REPORT (3 YEAR PLAN TO COM	83,000.00	0.00	0.00	0.00	☐	☐	Det...	☒											
2024		SIGNAGE UPGRADE	0.00	500,000.00	0.00	0.00	☐	☐	Det...	☒											
2024		WJE CONSTRUCTION PERIOD SERVICES	0.00	67,000.00	67,000.00	67,000.00	☐	☐	Det...	☒											
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Chester St. Garage – Projected Repairs

GL Number Information										
GL Number: 514.1-594.008-977.0000		Description: BUILDINGS								
Current Year YTD Activity: \$55,215.45		Current Year Amended Budget: \$1,624,642.00								
Previous Year Activity: \$237,443.75		Previous Year Amended Budget: \$303,804.00								

1. Budget Footnotes											2. Position Budget										
Budget Footnotes																					
☒ Freeze Notes Column																					
Start Year	End Year	Note	2022-23 Projected	2023-24 REQUESTED	2024-25 PLANNED	2025-26 PLANNED	Denied	Flagged	Details												
2023		CHESTER STRUCTURE REPAIRS AS IDENTIFIE	0.00	726,600.00	123,210.00	123,210.00	☐	☐	Det...	☒											
2023		ASSESSMENT REPORT (3 YEAR PLAN TO COM	103,000.00	0.00	0.00	0.00	☐	☐	Det...	☒											
2023		ADDITION TO PARKING OFFICE TO ACCOMODA	0.00	0.00	0.00	0.00	☐	☐	Det...	☒											
2024		LED LIGHTING UPGRADE	0.00	1,000,000.00	0.00	0.00	☐	☐	Det...	☒											
2024		PAINTING UPDATE	0.00	1,000,000.00	0.00	0.00	☐	☐	Det...	☒											
2024		SIGNAGE UPGRADE	0.00	500,000.00	0.00	0.00	☐	☐	Det...	☒											
2024		WJE CONSTRUCTION PERIOD SERVICES	0.00	67,000.00	67,000.00	67,000.00	☐	☐	Det...	☒											
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PUBLIC COMMUNICATIONS:

None

SUMMARY:

The City is proposing to increase the monthly parking rate by \$20.00 at all five City garages. The proposed rate increase is the first increase in six years. The proposed increase (\$20) is the same amount that occurred in 2017 and still provides monthly parkers a significant discount from what they would pay if they were to pay the daily rate.

The Parking Department, which is an enterprise fund, is in the middle of multiple capital improvement projects over the next five years. Increasing the monthly rate for parking will help pay for these needed repairs and improvements.

ATTACHMENTS:

None

SUGGESTED COMMITTEE ACTION:

Make a motion to recommend a rate increase for monthly parking at the five City parking structures starting on July 1, 2023.

Monthly Parking Waitlist Survey

Parking in the City of Birmingham's Parking Garages can be a convenience for companies and patrons. Monthly parking is a way for guests and companies to receive a discounted rate for parking for those who frequent the city.

Unfortunately, limited spaces are available for monthly parking. The City is gathering information from those who are currently waiting to receive monthly parking. Answering some of these key questions will help the City and SP+ determine if more monthly passes can be made available and if any other options might be available to help provide parking to those who need it.

Thank you for completing this short survey. For more information, please visit bhamgov.org/parking.

1. Are you still interested in obtaining a monthly parking pass from the City of Birmingham?

Mark only one oval.

☐ Yes

☐ No

2. Would the pass be used for work or personal use?

Mark only one oval.

☐ Work

☐ Personal

3. If for work, is your employer covering the cost?

Mark only one oval.

☐ Yes

☐ No

4. What is the name of the employer?

5. What garage are you on a waitlist for?

Mark only one oval.

☐ Pierce

☐ Peabody

☐ Park

6. Are you currently parking in one of our garages and paying the posted daily rate?

Mark only one oval.

☐ Yes

☐ No

7. How many estimated days a week would the pass be used?

Mark only one oval.

- ☐ Daily
- ☐ 1-2 days per week
- ☐ 3-5 days per week
- ☐ Weekend Only
- ☐ Other

8. If for work use for 10+ people, would you be interested in using a validation account instead of a monthly pass? (Validating is the ability for companies to pay for employee parking on a per use basis at the posted rate.)

Mark only one oval.

- ☐ Yes
- ☐ No

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Google Forms

Monthly Parking Waitlist Survey

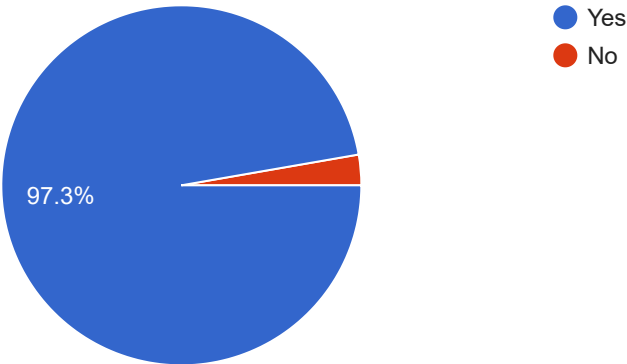
73 responses

[Publish analytics](#)

Are you still interested in obtaining a monthly parking pass from the City of Birmingham?

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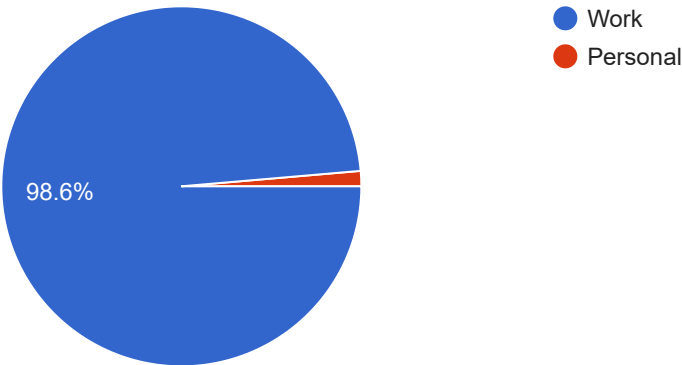
73 responses



Would the pass be used for work or personal use?

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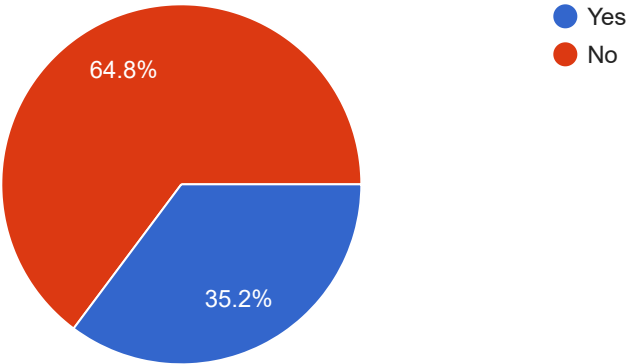
73 responses



If for work, is your employer covering the cost?

 Copy

71 responses



What is the name of the employer?

69 responses

Swift Home Loans

Morgan Stanley

Brilliant Earth

Social

Keller Williams Domain

Wells Fargo Advisors

Koach Capital

Morgan Stanley

Townsend hotel

220 Merrill

The Townsend Hotel

Lone Pine Investments

Visual Comfort/ Circa Lighting

Galway Bay Capital, LLC

Lazear Capital Partners

Merien Daka

Ross Mortgage

Common wealth cafe

Lazear Capital

Cb2



Remax Nexus

Shades Optical

Wachler Estate Collection

Michael J. Dul & Associates

Rock Harbor LLC

Rivage Day Spa

Cosmo Salon Studios

220 Merrill Restaurant

Commonwealth

KW Domain

Wellsfargo bank

Commonwealth cafe

Morgan stanley

220 Merrill

Kirk Gibson Foundation

Wells Fargo Bank

Paris Baguette

The Gwynn Building LLC

CB2

Townsend hotel

The Townsend Hotel

Rivage Day Spa



Baird

Steve Moffett

Fifth Third Bank

Drybar

The Sheppard Residence

Ignite Social Media

Circa Lighting now Visual Comfort & CO.

Amazon

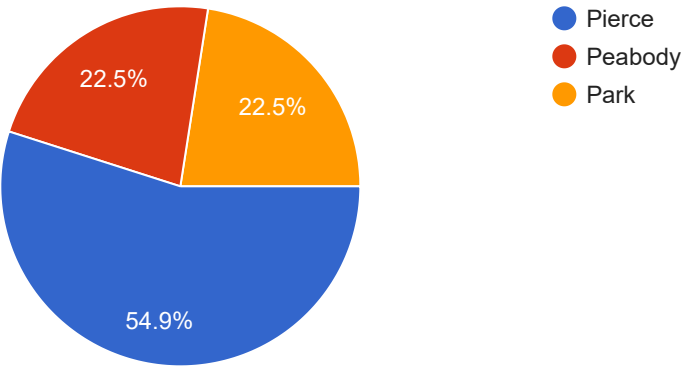
R.collective salon

R.Collective Salon

What garage are you on a waitlist for?

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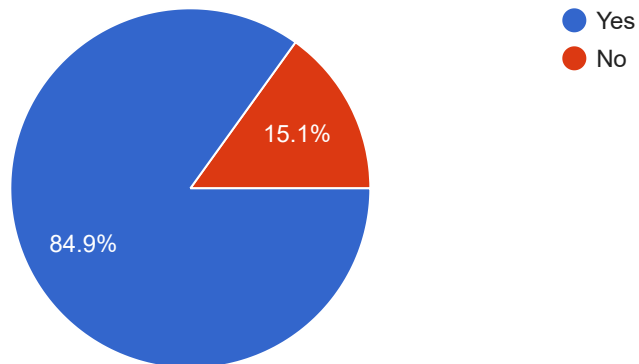
71 responses



Are you currently parking in one of our garages and paying the posted daily rate?

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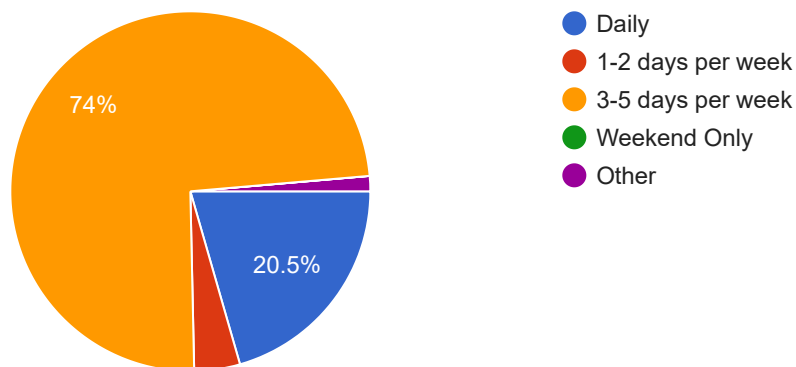
73 responses



How many estimated days a week would the pass be used?

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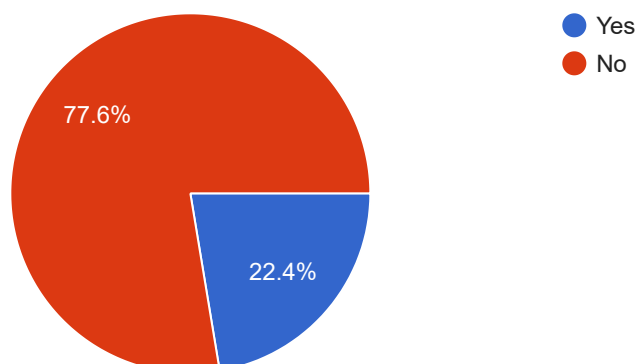
73 responses



If for work use for 10+ people, would you be interested in using a validation account instead of a monthly pass? (Validating is the ability for companies to pay for employee parking on a per use basis at the posted rate.)

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67 responses



Google Forms







MEMORANDUM

Parking System

DATE: 03/13/23

TO: Thomas M. Markus, City Manager

FROM: Aaron Ford, Parking Systems Manager

SUBJECT: Repair Design & Construction Document Development Addendum

INTRODUCTION:

Wiss, Janney, Elstner Associates, Inc. (WJE) has provided an addendum to the current *Agreement of Repair Design & Construction Document Development* dated November 14, 2022 (Agreement) to address items that were not included in the original scope of services. The scope of work items presented in this addendum are based on the findings from the further investigation items included in their previous reports and include modifications to the proposed scope of work regarding the facade panels at the Park Street garage, and the glazing and roofing systems at the Chester Street garage. In addition, the City requested that WJE review the applicable code requirements and provide recommendations with respect to bringing all five parking structures into compliance with the provisions of the Americans with Disabilities Act (ADA).

BACKGROUND:

In the summer of 2020, WJE issued four reports regarding condition assessments of the North Old Woodward (NOW), Chester, Park, and Peabody parking structures. These reports included the findings of their assessments with recommendations for maintenance and rehabilitation, as well as items requiring further investigation. Following completion of these assessments and delivery of the reports, the City elected to perform limited repairs at the NOW, Chester, Park, and Peabody parking structures from 2021-2022. As requested, WJE designed repairs, developed construction documents, and provided construction period services for these repair projects, all of which have been completed.

WJE subsequently issued a proposal dated September 30, 2022, for development of construction documents for each parking structure listed above, as well as the Pierce parking structure, to address conditions not included in the 2021 repairs. This proposal also included performing the recommended further investigation items and provided budgetary estimates for the respective engineering work. Based their findings from the additional investigations performed at the Park and Chester garages, additional engineering services are recommended to remediate the

observed conditions, which are the subject of this addendum, as well as the requested additional services to review and provide recommendations with respect to ADA compliance.

LEGAL REVIEW:

The City's attorney has reviewed and approved the agreement.

FISCAL IMPACT:

Provided in WJE's addendum is the fee schedule for the proposed work. See below:

Table 1. Fee Estimate

Park Facade Replacement	Fee Estimate
Conceptual Replacement Design, Structural Design, and Construction Documents	\$50,000
Facade Selection (if requested)	\$10,000
Subtotal for Park	\$60,000
Chester Glazing and Roofing	Fee Estimate
Glazing	\$24,500
Roofing	\$17,500
Subtotal for Chester	\$42,000
ADA Compliance	Fee Estimate
Document Review, Site Visits, ADA Standards Review and Report	\$40,000
Expected Range for ADA Construction Documents	\$30,000 to \$50,000
Subtotal for ADA (5 Garages)	\$70,000 to \$90,000
Total Modified Scope of Services	\$172,000 to \$192,000

PUBLIC COMMUNICATIONS:

None

SUMMARY:

WJE has provided an addendum to the current *Agreement of Repair Design & Construction Document Development* dated November 14, 2022 (Agreement) to address items that were not included in the original scope of services. The scope of work items presented in this addendum are based on the findings from the further investigation items included in their previous reports and include modifications to the proposed scope of work regarding the facade panels at the Park Street garage, and the glazing and roofing systems at the Chester Street garage. In addition, the City requested that WJE review the applicable code requirements and provide recommendations with respect to bringing all five parking structures into compliance with the provisions of the Americans with Disabilities Act (ADA).

ATTACHMENTS:

1. Addendum of agreement with WJE
2. Attachment A – WJE Addendum to WJE Scope of Services Agreement for 11/14/22 Agreement
3. Original WJE repair design & construction document development proposal

SUGGESTED COMMISSION ACTION:

Make a motion to adopt the resolution approving the addendum to the contract to Wiss, Janney, Elstner Associates, Inc. for the proposed Repair Design & Construction Document Development for Park, Peabody, Pierce, Chester, and North Old Woodward parking Structures in the amount of \$192,000.00; further, to charge the contract to each structure's capital outlay account as costs are incurred. Furthermore, to authorize the Mayor and City Clerk to sign the contract on behalf of the city.

**ADDENDUM TO THE AGREEMENT OF
REPAIR DESIGN & CONSTRUCTION DOCUMENT DEVELOPMENT
DATED NOVEMBER 14, 2022 BETWEEN THE CITY OF BIRMINGHAM AND
WJE ENGINEERS AND ARCHITECTS**

THIS ADDENDUM, entered into on _____, 2023, amends the Agreement for Repair Design and Construction Document Development dated November 14, 2022 by and between the **CITY OF BIRMINGHAM**, having its principal municipal office at 151 Martin Street, Birmingham, MI 48009, and **WJE ENGINEERS AND ARCHITECTS**, having its principal office at 30700 Telegraph Road, Suite 3580, Bingham Farms, MI 48025, does hereby amend its Agreement as follows:

WHEREAS, City of Birmingham Parking Systems Manager met with representatives of WJE to discuss parking garage issues beyond the scope of work presented in the original agreement dated November 14, 2022; and

WHEREAS, further investigation was completed by WJE and WJE has findings that identify additional work to be performed at the Park and Chester garages, indicating additional engineering services are recommended to remediate the observed conditions which are the subject of this Addendum: and

WHEREAS, the City of Birmingham Parking Systems Manager also is inquiring for services in order to review and provide recommendations with respect to ADA compliance for all five City of Birmingham garages, which was not included in the original proposal; and

WHEREAS, in the Park Street Garage, WJE concluded that repairs to the façade system would likely result in system failures under vehicle impact loads, would not mitigate the widespread failures observed under service loads and would be unsightly; and

WHEREAS, it has been agreed that WJE would modify their previous proposed Scope of Services to now include design of a replacement system in the Park Street Garage, rather than designing repairs for the existing system; and

WHEREAS, in evaluating the Chester Street Garage in regards to roofing and glazing, it has now been determined that replacement of the roofing in isolated areas is strongly recommended rather than performing repairs which was assumed under the previous Scope of Services; and

WHEREAS, the City of Birmingham is desirous to have all five parking garages come into compliance with the current ADA standards within the next two years. As a result, the City requested that WJE review the current status and provide recommendations with respect to the scope of work necessary to achieve this goal. These tasks were not included in the Scope of Services presented with the September 30, 2022 proposal. The additional services required to achieve this request are outlined in the Modified Scope of Services in Attachment A, which will become a permanent part of this addendum.

NOW, THEREFORE, in consideration of the respective agreements and undertakings herein, the parties agree as follows:

1. It is mutually agreed upon that the Scope of Services will change pursuant to Attachment A to this Addendum which is a letter dated February 22, 2023, from WJE to the City of Birmingham, which includes a seven page Scope of Services Determination and updated schedule.

2. The terms and conditions are as presented on page 5 of the letter in Attachment A with a total price for Park Garage changes for an additional charge of Sixty Thousand Dollars (\$60,000.00).

3. The terms and conditions are as presented on page 5 of the letter in Attachment A with a total price for Chester Garage changes for an additional charge of Forty-two Thousand Dollars (\$42,000.00).

4. The terms and conditions are as presented on page 5 of the letter in Attachment A with a total price for the five garages to come into compliance with ADA standards Seventy Thousand Dollars for an additional charge of (\$70,000.00) to Ninety Thousand Dollars (\$90,000.00).

5. All other terms and conditions of the original contract dated November 14, 2023 remains in full force and effect.

6. If any of the provisions of this Addendum is declared invalid, illegal or unenforceable, all other provisions in this Addendum and the original Agreement shall remain in full force and effect.

THIS SECTION INTENTIONALLY LEFT BLANK

IN WITNESS WHEREOF, the said parties have caused this Addendum to be executed on this _____ day of _____, 2023.

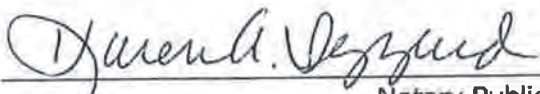
WJE ENGINEERS AND ARCHITECTS, LLC

By: 
Matthew Lewis, P.E.
Its: Senior Associate

STATE OF MICHIGAN)
) ss:
COUNTY OF OAKLAND)

On this 2nd day of March, 2023, before me personally appeared Matthew Lewis, P.E., Senior Associate, who acknowledged that with authority on behalf of WJE ENGINEERS AND ARCHITECTS, LLC to do so he signed this Agreement.



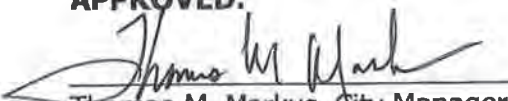

Notary Public
MACOMB County, Michigan
Acting in OAKLAND County, Michigan
My commission expires: 8/15/2029

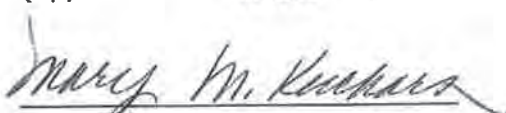
CITY OF BIRMINGHAM:

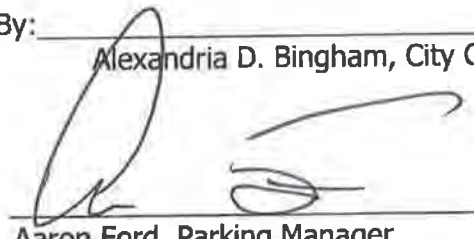
By: _____
Therese Longe, Mayor

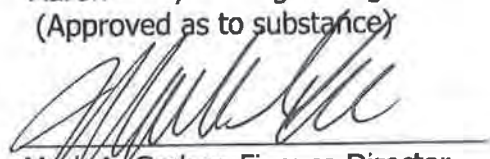
By: _____
Alexandria D. Bingham, City Clerk

APPROVED:


Thomas M. Markus, City Manager
(Approved as to substance)


Mary M. Kucharek, City Attorney
(Approved as to form)


Aaron Ford, Parking Manager
(Approved as to substance)


Mark A. Gerber, Finance Director
(Approved as to Financial Obligation)

ATTACHMENT A



Wiss, Janney, Elstner Associates, Inc.
3609 South Wadsworth Boulevard, Suite 400
Lakewood, Colorado 80235
303.914.4300 tel
www.wje.com

February 22, 2023

Aaron Ford
Parking Systems Manager
City of Birmingham
151 Martin Street
Birmingham, Michigan 48009

City of Birmingham Parking Structures

Addendum to WJE Scope of Services for November 14, 2022 Agreement
WJE No. 2022.0566

Dear Mr. Ford:

As requested, Wiss, Janney, Elstner Associates, Inc. (WJE) has prepared this addendum to our *Agreement of Repair Design & Construction Document Development* dated November 14, 2022 (Agreement) to address items that were not included in our original scope of services. The scope of work items presented in this addendum are based on the findings from the further investigation items included in our previous reports and include modifications to the proposed scope of work regarding the facade panels at the Park Street garage, and the glazing and roofing systems at the Chester Street garage. In addition, you requested that WJE review the applicable code requirements and provide recommendations with respect to bringing all five parking structures into compliance with the provisions of the Americans with Disabilities Act (ADA). This letter presents our understanding of the requirements for each item and provides our fees to perform the additional services.

BACKGROUND

In the summer of 2020, WJE issued four reports regarding our condition assessments of the North Old Woodward (NOW), Chester, Park, and Peabody parking structures owned by the City of Birmingham (City). These reports included the findings of our assessments with recommendations for maintenance and rehabilitation, as well as items requiring further investigation. Following completion of these assessments and delivery of the reports, the City elected to perform limited repairs at the NOW, Chester, Park, and Peabody parking structures from 2021-2022. As requested, WJE designed repairs, developed construction documents, and provided construction period services for these repair projects, all of which have been completed.

WJE subsequently issued a proposal dated September 30, 2022, for development of construction documents for each parking structure listed above, as well as the Pierce parking structure, to address conditions not included in the 2021 repairs. This proposal also included performing the recommended further investigation items and provided budgetary estimates for the respective engineering work. Based on our findings from the additional investigations performed at the Park and Chester garages, additional engineering services are recommended to remediate the observed conditions, which are the subject of

this addendum, as well as the requested additional services to review and provide recommendations with respect to ADA compliance.

PARK FACADE SYSTEM

With the intent of developing a repair design for the existing facade system at the Park Street garage, WJE performed further assessment, including review of the original construction documents, on-site geometric measurements and close-up access, and structural analysis, of the existing configuration and condition.

The findings of this investigation are summarized below:

1. The facade was found to be a proprietary system generally consisting of aluminum facade panels, aluminum stanchions, and aluminum retention clips anchored to the post-tensioned (PT) slab edges and attached to the steel edge beams.
2. Widespread failure of the retention clips was observed with the majority of failures located at the proprietary closure end of the clip.
3. Several additional panels have been impacted by vehicles, and a few have been removed and temporarily replaced with plywood.
4. Construction defects, such as exclusion of nuts and washers at the stanchion base plates and improperly placed screws for the retention clips were noted in several locations.
5. The current system does not satisfy the design load criteria of the 2015 *Michigan Building Code* with respect to vehicle impact loads; however, as noted in our previous reports, this is not required to be upgraded since the system was installed prior to the current requirements being in place.

Based on these findings, WJE concluded that repair in-kind of the facade system would likely result in similar failures under vehicle impact loads, would not mitigate the widespread failures of the retention clips observed under service loads, could not address all of the observed construction defects, and would be unsightly. After meeting with you on January 31, 2023 to discuss these findings, it was agreed that WJE would modify our previously proposed scope of services to include design of a replacement system, rather than designing repairs for the existing system. *The additional services required to achieve this request are outlined below in the Modified Scope of Services section of this letter.*

CHESTER ROOFING AND GLAZING

Our original scope of services assumed that only standard maintenance type repairs would be required for the curtainwall system at the Chester garage, including glazing replacement, sealant replacement between the masonry and perimeter frame, and painting curtainwall frames, and as they pertain to water and air infiltration into the stair tower. However, during our review of the glazing weather sealants, a broken tempered laminated glass unit and glass units with a low percentage of structural silicone sealant bite (i.e., the width where the structural silicone adheres to the glass or substrate) bonded to the glass were observed. Where such conditions are present, the corresponding glass unit is at risk of falling to grade. Evaluating and designing for deglazing and reglazing select units due to these conditions was not included as a part of the anticipated standard maintenance repairs.

In addition, during our close-up further investigation of the existing areas of roofing at the three stair towers, the extent of deterioration and previous repairs was found to be more severe than anticipated. Our original scope of services assumed repairs would be needed at the tie-in between the roofing, gutter, and downspout to address water staining and organic growth on the exterior brick facade. However, widespread deterioration of the roofing assembly was observed and, in conjunction with the findings of the curtainwall system scope, the roofing was found to be a contributing source of water infiltration within the stairwell interiors. Therefore, due to the observed conditions, replacement or reroofing of the roofing at the three stair towers is recommended. Further, the existing roofing and coping assemblies do not match the detailing shown in the original construction drawings and instead directly tie into the sloped curtainwall assembly at the top of the stair towers, making replacement and repair efforts more challenging to design and detail than a traditional replacement or reroof. Evaluating and designing for roofing repairs due to these conditions was not included as a part of the anticipated roofing maintenance repairs.

The additional services required to achieve these tasks are outlined below in the Modified Scope of Services section of this letter.

ADA COMPLIANCE

It is our understanding that the City is required to bring all five parking garages into compliance with current ADA standards within the next two years. As a result, the City requested that WJE review the current status and provide recommendations with respect to the scope of work necessary to achieve this goal. These tasks were not included in the scope of services presented in our September 30, 2022 proposal. *The additional services required to achieve this request are outlined below in the Modified Scope of Services section of this letter.*

MODIFIED SCOPE OF SERVICES

The following tasks are proposed as modifications to the scope of work included in our Agreement dated November 14, 2022:

Park Facade Replacement

The following tasks are proposed in addition to the 20 hours originally proposed for repair design of the Park facade system:

1. **Conceptual Replacement Design.** WJE will develop a structural design concept for replacement of the facade system. We anticipate the new structural system will be similar to the system installed at NOW; however, additional factors will need to be considered since Park is a post-tensioned structure. At this time, it is our understanding that this new structural vehicle barrier system may be used to support an architectural facade system designed by others. WJE's design will consider the potential increase in weight and wind loading should an architectural facade be installed at a later date. WJE will meet with representatives from the City to discuss the conceptual design and to receive direction from you regarding how to proceed.

2. **Structural Design and Construction Drawings.** Based on the direction we receive from you, WJE will design the facade system to act as a guardrail and vehicle barrier system that complies with current code requirements (2015 MBC). WJE will return to the site to verify existing conditions in support of the replacement design, as new attachment methods are anticipated. WJE will produce drawings and details to supplement the construction documents for facade panel repairs included in our initial scope of work.
3. **Facade Selection.** If requested, WJE will assist the City with selection of an architectural facade system to be attached to the structural system we design.

Chester Glazing and Roofing

The following tasks are proposed to supplement our original scope of work:

Glazing Issues

1. **Site Visit.** WJE will perform a visual survey, aided with binocular or telephoto equipment from grade or roof and garage level surfaces to qualitatively categorize the structural sealant condition at each vision unit. Spandrel units are not readily evaluated from a visual survey due to being opaque and will largely be excluded from our survey. Each visible pane will be assessed on a three-level scale: low, intermediate, or normal. In addition, WJE will systematically collect photographs of the current state of adhesion for intermediately bonded panels for monitoring purposes and future reference.

During this visit, WJE will also assess the ability of the existing structure to support permanent roof-level fall arrest tie-off (anchorage) points to facilitate the required curtainwall remediation work, as well as future cleaning and maintenance activities. The anchorage points will not be designed or detailed at this time; however, the viability and potential advantages of installing them will be discussed with the City once more is known about the salient conditions.
2. **Construction Documents.** WJE will prepare additional drawings, details, and outline specifications related to deglazing and reglazing select glass units to be included in the repair documents which are currently being prepared.

Roofing Replacement

1. **Site Visit.** WJE will perform a detailed visual survey of the existing areas of roofing as they relate to the perimeter coping termination and differences in the original construction drawings. Pertinent conditions will be documented to assist with the design of the new roofing system.
2. **Roofing Design.** Based on our observations and experience, WJE will design a new roofing system for the subject areas.
3. **Construction Documents.** WJE will prepare additional drawings, details, and outline specifications related to the new roofing to be included in the repair documents which are currently being prepared.

ADA Compliance

The following tasks are proposed to supplement our original scope of work:

1. **Document Review.** WJE will review the original construction drawings previously provided by the City with respect to ADA compliance items.
2. **Site Visits.** WJE will visit each of the five garages to review and document the as-built conditions with respect to ADA compliance options. One full day for one architect at each garage has been assumed for this task.
3. **ADA Standards Review.** Based on information gathered from the previous tasks, WJE will review the as-built conditions relative to the applicable provisions of the currently adopted 2010 *ADA Standards for Accessible Design* and develop recommendations for modifications to satisfy those provisions.
4. **Report.** WJE will prepare a written report summarizing the findings from our document review, site visits, and review of the ADA standards tasks. Conceptual level recommendations for modifications will be presented in the report for the City's consideration.

WJE is also available to assist the City with development of construction drawings to perform the agreed upon ADA modifications. However, considering that the scope of modifications is not known at this time, we cannot definitively state the scope of services or fees to complete this task. Based on our previous experience preparing similar documents, we estimate the fees to be in the range of \$30,000 to \$50,000.

TERMS AND CONDITIONS

WJE will perform the *Modified Scope of Services* described above for a fixed fee as outlined in Table 1 below. WJE's work will be performed in accordance with the terms of our previously executed Agreement dated November 14, 2022. WJE will not perform additional services that exceed the budget prior to obtaining written permission from the City.

Table 1. Fee Estimate

Park Facade Replacement	Fee Estimate
Conceptual Replacement Design, Structural Design, and Construction Documents	\$50,000
Facade Selection (if requested)	\$10,000
Subtotal for Park	\$60,000
Chester Glazing and Roofing	Fee Estimate
Glazing	\$24,500
Roofing	\$17,500
Subtotal for Chester	\$42,000
ADA Compliance	Fee Estimate
Document Review, Site Visits, ADA Standards Review and Report	\$40,000
Expected Range for ADA Construction Documents	\$30,000 to \$50,000
Subtotal for ADA (5 Garages)	\$70,000 to \$90,000
Total Modified Scope of Services	\$172,000 to \$192,000

UPDATED SCHEDULE

Based on our September 30, 2022 proposal and the contract received on November 14, 2022, the schedule of milestones was as follows (prior to issuing this Addendum):

- November 14: Work commences
- January 14: Project team meeting following completion of fieldwork and analysis
- **April 1: WJE issues 90% complete set for "Owner Review"**
- April 7: City/SP+ provides "Owner Review" comments to WJE
- **May 1: WJE issues completed construction documents for bid solicitation**
- May 7: Pre-bid meeting/walkthrough
- May 10: Deadline for technical questions
- May 14: WJE issues Addendum, if necessary
- **May 29: Bidding deadline**

Due to the outlined additional scope of services, we anticipate an additional 3-5 weeks on the current project schedule to perform the Chester Glazing and Roofing fieldwork and to integrate the findings into the current repair drawings. For the Park Facade Replacement, we anticipate an additional 6-8 weeks on the current project schedule which will also be dependent on coordination with the City.

To facilitate the overall project objectives while accommodating extended schedules for individual garages, we propose staggering the garage deliverables as follows. This excludes construction documents related to the ADA related work, which we understand will be addressed separately.

- ***NOW Parking Structure:*** Structural and waterproofing contract documents issued for bid on or around March 17, 2023 with project commencement anticipated in Spring-Summer 2023. This construction scope will be a continuation of the 2021-2022 work and will include concrete and waterproofing related work on the lower levels and stairwells. MEP-related contract documents to be issued at a later date as a Bulletin to the base scope or bid as a separate project scope.
- ***Chester, Pierce, and Peabody Parking Structures:*** Contract documents to be issued for bid on or before June 1, 2023 with project commencement anticipated in Summer-Fall 2023 based on contractor input and work extending into Spring-Summer 2024 as originally anticipated.
- ***Park Street Parking Structure:*** Contract documents to be issued for bid on or around July 1, 2023, pending coordination with the City, with project commencement anticipated in Summer 2024.

CLOSING

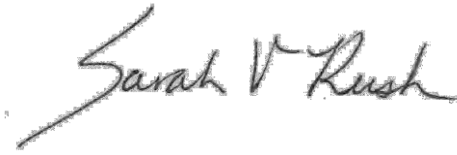
We appreciate the continued opportunity to work with the City of Birmingham and to assist with the care of its public structures. Please feel free to contact Matthew Lewis or Sarah Rush at (248) 593-0900 if you have any questions or comments regarding our recommended scope of work.

Sincerely,

WISS, JANNEY, ELSTNER ASSOCIATES, INC.

A handwritten signature in black ink, appearing to read "Matt Lewis". The signature is fluid and cursive, with a large, sweeping "L" at the end.

Matthew E. Lewis, PE
Project Manager and Senior Associate

A handwritten signature in black ink, appearing to read "Sarah V. Rush". The signature is cursive, with a large "S" at the beginning and a "V" in the middle.

Sarah V. Rush, PE
Project Manager and Senior Associate



MEMORANDUM

Parking System

DATE: 10/24/22

TO: Thomas M. Markus, City Manager

FROM: Aaron Ford, Parking Systems Manager

SUBJECT: Repair Design & Construction Document Development

INTRODUCTION:

Structural assessment reports were completed at all five of the City's parking structures by Wiss, Janney, Elstner Associates, Inc. (WJE). As part of those assessments, WJE was asked to prepare a 5-year plan to address all the repairs needed. More "Immediate Repair Recommendations" were approved by the City Commission in September of 2021. Those "Immediate Recommendations" have been completed, except at the North Old Woodward structure, which are still ongoing. WJE is now submitting a proposal to design repairs and develop construction documents for each of the City's five parking structures as part of a long-term (3-5 years) repair plan with construction beginning in 2023.

BACKGROUND:

In 2020 and 2021, WJE performed condition assessments at four of the five subject parking structures for the purpose of developing short, mid, and long-term repair and maintenance strategies, as well as solutions to rehabilitate and extend the useful life of the structures. Following the completion of the condition assessments, the City chose to perform limited repairs at the North Old Woodward, Chester, Park, and Peabody parking structures. WJE designed repairs, developed construction documents, and provided construction period services for the repair projects during fall 2021. The projects at the Chester, Park, and Peabody parking structures have been completed. The project at the NOW structure is ongoing, with completion expected in late fall 2022. WJE also has previous experience, prior to the 2020-2021 assessment program, with the North Old Woodward and Pierce Street parking structures.

At a meeting with WJE on February 3, 2022, staff requested that WJE submit a proposal to design repairs and prepare construction drawings for the anticipated comprehensive repair projects at each parking structure, with the repair work to be performed over the subsequent years. The anticipated repair projects were to include all remaining repair recommendations outlined in WJE's original condition assessment reports, which generally consist of structural repairs, waterproofing

and facade repairs. City staff also requested that WJE include aesthetic and serviceability improvements within the parking structures and stairwells, including painting, and lighting.

WJE will retain a mechanical, electrical (lighting), and plumbing (MEP) sub consultant to assess the parking structures and assist with the assessment, design, and development of construction documents with respect to the MEP elements of the garages. Some of the MEP sub consultant tasks for each garage will include, but are not limited to the review of the original MEP construction drawings, building code review of the MEP systems, cost estimating, LED lighting upgrade design and lighting controls, egress lighting calculation and design, and electric Vehicle (EV) charging station design.

LEGAL REVIEW:

The City's attorney has reviewed and approved the agreement.

FISCAL IMPACT:

Provided in WJE's proposal is the fee schedule for the proposed work. See below:

Table 1. Fee Schedule	
Scope	Fee
<i>Fieldwork, Analysis, Schematic Design, Repair Design and Construction Document Development:</i>	
Peabody Street Parking Structure	\$56,000
Park Street Parking Structure	\$76,000
Chester Street Parking Structure	\$58,000
North Old Woodward Avenue Parking Structure	\$38,000
Pierce Street Parking Structure, including condition assessment phase	\$81,000
WJE Scope Subtotal	\$309,000
<i>MEP Subconsulting:</i>	
Assessment and Reporting	\$6,000 per garage = \$30,000
Scope Development, Repair Design, and Construction Documents	\$35,000 to \$45,000 per garage = \$175,000 to \$225,000
MEP Subconsulting Subtotal	\$205,000 to \$255,000
2023 Bidding Assistance	\$10,000
Total	\$574,000

A 10% (\$57,400) contingency is being included to cover any unexpected costs that may arise as the documents are finalized, bringing the total cost to \$631,400. This cost was anticipated in each structure's capital outlay building account budget for fiscal year 2022-2023. There is sufficient funding in these accounts for this contract.

PUBLIC COMMUNICATIONS:

None

SUMMARY:

WJE, who performed Condition Assessments on all five of the City's parking structures provided three repair recommendations in 2021: Immediate (within 1 year), Near-Term (within 1-2 years), and Long-Term (within 3-5 years). In September 2021, "Immediate Recommendations" were approved by the City Commission for the Park, Peabody, Chester, and North Old Woodward parking structures. These "Immediate Recommendations" were completed except at the North Old Woodward Garage, which will be completed by late fall 2022.

At the request of staff, WJE is submitting a proposal for Repair Design and Construction Document Development for all five parking structures. This proposal is for all remaining repairs. These repairs were part of the original assessment provided by WJE, however, they also include aesthetic and serviceability improvements and includes painting and lighting. Included in their services is project schedule, repair design and development of construction documents, assistance with bidding, and including an MEP sub consultant for addressing all the structures mechanical, electrical (lighting) and plumbing elements.

ATTACHMENTS:

1. City contract for agreement with WJE
2. Insurance Certificates
3. WJE repair design & construction document development proposal
https://drive.google.com/file/d/1qf9k6khEyguIhn6TqAm3YeZQZyKs777F/view?usp=share_link
4. Assessment report repair recommendations for each garage
 - a. Chester
https://drive.google.com/file/d/1ZnG_XnmnOmmTZszpma4TU_xlIYGbwcPj/view?usp=share_link
 - b. North Old Woodward https://drive.google.com/file/d/1nPTIcdksxGR6IubZmEUJm-LUpfyBxiMP/view?usp=share_link
 - c. Park
https://drive.google.com/file/d/14qqYiBSGvi6WuIsOoO_dpt7BNU1gFkwr/view?usp=share_link
 - d. Peabody-https://drive.google.com/file/d/1KWU0rCcr-Qni9JnWeD1IEIH9WT7vaM4n/view?usp=share_link

SUGGESTED COMMISSION ACTION:

Make a motion to adopt the resolution awarding the contract to Wiss, Janney, Elstner Associates, Inc. for the proposed Repair Design & Construction Document Development for Park, Peabody, Pierce, Chester, and North Old Woodward parking Structures in the amount of \$631,400.00; further, to charge the contract to each structure's capital outlay account as costs are incurred. Furthermore, to authorize the Mayor and City Clerk to sign the contract on behalf of the city.

AGREEMENT OF REPAIR DESIGN & CONSTRUCTION DOCUMENT DEVELOPMENT

THIS AGREEMENT is entered into this 14 day of November, 2022, by and between the **CITY OF BIRMINGHAM**, whose address is 151 Martin Street, Birmingham, MI 48009 (hereinafter referred to as the City) and **WJE ENGINEERS AND ARCHITECTS**, A Michigan P.C., whose address is 30700 Telegraph Road, Suite 3580, Bingham Farms, MI 48025, (hereafter referred to as Contractor and the foregoing shall collectively be referred to as the parties.

WHEREAS, the City desires hiring a qualified professional firm to furnish repair design and construction documents for the five City owned parking structures known generally as: N. Old Woodward Ave, Park St, Peabody St, Pierce St, and Chester St.; and

WHEREAS, the Contractor has professional qualifications and unique historical knowledge that meet the project requirements and has provided a response and cost proposal to perform the requested repair design and construction document development as descriptive in the scope of work.

NOW, THEREFORE, in consideration of the foregoing preambles, the adequacy of which is acknowledged by and between the parties to this Agreement, the parties agree as follows:

1. MUTUALLY AGREE: It is mutually agreed by and between the parties that the City's Request for Proposal for Repair Design and Construction Document Development dated September 30, 2022, shall be fully incorporated herein by reference and shall become a part of this Agreement, and shall be binding upon both parties hereto (attached hereto as Attachment "A").

2. TERM: This Agreement shall have a term of one (1) years from the date stated above. The City shall have the right to unilaterally terminate this Agreement on thirty (30) days written notice. In the event of termination, the Contractor shall receive compensation for services to the date the termination takes effect and the City shall be entitled to retain and use the results of all design and construction documents prepared by the Contractor through such date.

3. TERMS OF PAYMENT: The Contractor will invoice monthly for all labor supplied and work completed. In no event shall invoices be submitted more than 45 days after completion of services. Submitted invoices shall include the following detailed information: the type of work performed, the time spent on the work, the individual who performed the work and the per hour billing rate charged. The City may, at its sole discretion demand review and the right to request at any time further detailed accounting information for any or all bills. The right to inspection of any bill and invoice shall never be at any cost or billings to the City, nor shall preparation of said invoices be billed to the City or against the general retainer. Payment terms will be net 30 days unless otherwise specified by the City. The total contract amount is \$574,000 and includes the scope of work as indicated in Table 1. Fee Schedule on page 7 of the Repair Design and Construction Document which is attachment A.

4. Contractor shall employ personnel of good moral character and fitness in performing all services under this Agreement.

5. INSURANCE SUBMISSION REQUIREMENTS: The Contractor has submitted proof to the City that it meets all City insurance requirements. Insurance, with coverage amounts at no less than the City's minimum requirements, must be held by the Contractor throughout the

term of this Agreement. Certificates of insurance as stated below will be required no later than five (5) business days from the date of Contractors acceptance of the terms of this Agreement.

6. CONFIDENTIAL AND OR PROPRIETARY INFORMATION: The Contractor acknowledges that in performing services pursuant to this Agreement, certain confidential and/or proprietary information (including, but not limited to, internal organization, methodology, personnel and financial information, etc.) may become involved. The Contractor recognizes that unauthorized exposure of such confidential or proprietary information could irreparably damage the City. Therefore, the Contractor agrees to use reasonable care to safeguard the confidential and proprietary information and to prevent the unauthorized use or disclosure thereof. The Contractor shall inform its employees of the confidential or proprietary nature of such information and shall limit access thereto to employees rendering services pursuant to this Agreement. The Contractor further agrees to use such confidential or proprietary information only for the purpose of performing services pursuant to this Agreement.

7. INDEPENDENT CONTRACTOR: The Contractor and the City agree that the Contractor is acting as an independent contractor with respect to the Contractor's role in providing services to the City pursuant to this Agreement, and as such, shall be liable for its own actions and neither the Contractor nor its employees shall be construed as employees of the City. Nothing contained in this Agreement shall be construed to imply a joint venture or partnership and neither party, by virtue of this Agreement, shall have any right, power or authority to act or create any obligation, express or implied, on behalf of the other party, except as specifically outlined herein. Neither the City nor the Contractor shall be considered or construed to be the agent of the other, nor shall either have the right to bind the other in any manner whatsoever, except as specifically provided in this Agreement, and this Agreement shall not be construed as a contract of agency. The Contractor shall not be considered entitled or eligible to participate in any benefits or privileges given or extended by the City, or be deemed an employee of the City for purposes of federal or state withholding taxes, FICA taxes, unemployment, workers' compensation or any other employer contributions on behalf of the City.

8. COMPLIANCE WITH LAWS: Contractor agrees to fully and faithfully carry out the duties of set forth herein using its professional efforts in accomplishing all assignments from the City, and further, in addition to upholding all federal, and state laws and applicable codes of professional conduct to which Contractor is subject, Contractor hereby agrees to be bound by all Federal, State, or City of Birmingham ordinances, rules, regulations and policies as are amended from time to time, and including without limitation the Fair Labor Standards Act, the Equal Employment Opportunity rules and regulations, the Transportation Safety Act and the Occupational Safety and Health Acts.

9. NON-COMPLIANCE WITH INSURANCE REQUIREMENTS: Failure to deliver and maintain insurance in accordance with the terms of this Agreement will be cause for the City, by and through its City Manager, to terminate this Agreement, or at the City's option, the City may purchase on the open market such required insurance and shall be entitled to charge any additional cost to the Contractor, either by offset to any amounts due and owing Contractor for services provided to the City, or, by separate bill and demand for payment. Nothing in this paragraph shall be deemed to create or be interpreted as establishing a "for cause" termination; Contractor agrees and understands that its engagement is at will and may be terminated by the City Manager for any cause or no cause.

10. INDEMNIFICATION: To the fullest extent permitted by law, the Contractor and any entity or person for whom the Contractor is legally liable, agrees to be responsible for any liability, defend, pay on behalf of, indemnify, and hold harmless the City of Birmingham, its elected and appointed officials, employees and volunteers and others working on their behalf against any and all claims, demands, suits, or loss, including all costs and reasonable attorney fees connected therewith, and for any damages which may be asserted, claimed or recovered against or from the City, its elected and appointed officials, employees, volunteers or others working on their behalf, by reason of personal injury, including bodily injury and death and/or property damage, including loss of use thereof, to the extent caused by the negligent acts, errors or omissions of the Contractor including its employees and agents, in the performance of this Agreement. Such responsibility shall not be construed as liability for damage caused by or resulting from the sole act or omission of its elected or appointed officials, employees, volunteers or others working on behalf of the City.

11. STANDARD INSURANCE REQUIREMENTS:

The Contractor shall maintain during the life of this Agreement the applicable types of insurance coverage and minimum limits as set forth below:

A. Workers' Compensation Insurance:

For Non-Sole Proprietorships: Contractor shall procure and maintain during the life of this Agreement, Workers' Compensation Insurance, including Employers 4 Liability Coverage, in accordance with all applicable statutes of the State of Michigan.

For Sole Proprietorships: Contractor shall complete and furnish to the City prior to the commencement of work under this Agreement a signed and notarized Sole Proprietor Form, for sole proprietors with no employees or with employees, as the case may be.

B. Commercial General Liability Insurance: Contractor shall procure and maintain during the life of this Agreement, Commercial General Liability Insurance on an "Occurrence Basis" with limits of liability not less than **\$1,000,000** per occurrence combined single limit, Personal Injury, Bodily Injury and Property Damage. Coverage shall include the following extensions: (A) Contractual Liability; (B) Products and Completed Operations; (C) Independent Contractor Coverage; (D) Broad Form General Liability Extensions or equivalent; (E) Deletion of all Explosion, Collapse and Underground (XCU) Exclusions, if applicable.

C. Motor Vehicle Liability: Contractor shall procure and maintain during the life of this Agreement Motor Vehicle Liability Insurance, including all applicable no-fault coverages, with limits of liability of not less than \$1,000,000 per occurrence combined single limit Bodily Injury and Property Damage. Coverage shall include all owned vehicles, all non-owned vehicles, and all hired vehicles.

D. Additional Insured: Commercial General Liability and Motor Vehicle Liability Insurance, as described above, shall include an endorsement stating the following **Additional Insureds: The City of Birmingham, including all elected and appointed officials, all employee and volunteers, all boards, commissions and/or authorities and board members, including employees and volunteers**

thereof. This coverage shall be primary to any other coverage that may be available to the additional insured, whether any other available coverage by primary, contributing or excess.

E. Professional Liability: If applicable, professional liability insurance with limits of not less than \$2,000,000 per claim if Contractor will provide services that are customarily subject to this type of coverage.

F. Coverage Expiration: If any of the above coverages expire during the term of this Agreement, Contractor shall deliver renewal certificates and/or policies to the City at least (10) days prior to the expiration date.

G. Proof of Insurance Coverage: Contractor shall provide the City of Birmingham at the time the Agreement is returned for execution, Certificates of Insurance and/or policies, acceptable to the City of Birmingham, as listed below.

1. Two (2) copies of Certificate of Insurance for Workers' Compensation Insurance, or a signed and notarized copy of the Sole Proprietor Form;
2. Two (2) copies of Certificate of Insurance for Commercial General Liability Insurance;
3. Two (2) copies of Certificate of Insurance for Vehicle Liability Insurance;
4. Two (2) copies of Certificate of Insurance for Professional Liability Insurance, if applicable;
5. If so requested, Certified Copies of all policies mentioned above will be furnished.

H. Maintaining Insurance: Upon failure of the Contractor to obtain or maintain such insurance coverage for the term of the Agreement, the City of Birmingham may, at its option, purchase such coverage and subtract the cost of obtaining such coverage from the Agreement amount. In obtaining such coverage, the City of Birmingham shall have no obligation to procure the most cost-effective coverage but may contract with any insurer for such coverage.

12. WRITTEN NOTICES: Written notices regarding this Agreement shall be addressed to the following:

City: City of Birmingham
P.O. Box 3001
Birmingham, Michigan 48012
Attn: Aaron Ford
(248) 530-1257

Contractor: Matthew E. Lewis, PE
Senior Associate and Project Manager
WJE Engineers and Architects
(Wiss, Janney, Elstner Associates)
30700 Telegraph Road - Suite 3580
Bingham Farms, MI 48025
Phone: 248-593-0900

13. COVID: The Contractor shall follow all of the City's COVID-19 safety protocols while on City property. Additionally, Contractor staff which will be in physical contact with city staff must have current vaccinations against COVID-19. The City, at its discretion, may ask for proof of vaccination of Contractor's staff. Failure to provide proof of vaccination when requested will cause the City to request un-vaccinated personnel to leave, request alternate staff, and if the Contractor is unable to comply, this violation of safety protocols will constitute a breach of contract by the Contractor.

14. AMENDMENTS: No amendment, modification or supplement to this Agreement shall be binding unless it is in writing and signed by authorized representatives of the parties.

15. WAIVER OF BREACH: No waiver by either party of any breach of any of the terms, covenants or conditions herein contained by the other party shall be construed as a waiver of any succeeding breach of this same or of any other term, covenant or condition.

16. COMPLETE AGREEMENT: The parties agree that the conditions set forth in this Agreement sets forth all terms and conditions of Contractor agreement with the City of Birmingham. This Agreement supersedes all prior agreements or understandings between the parties. There are no promises, conditions or understandings other than those stated herein, and, that any prior negotiations, terms or conditions discussed between the City and the Contractor shall not constitute a part of this Agreement. The term "agreement" as used in this clause shall include any future written amendments, modifications, or supplements made in accordance herewith.

17. DIRECT OR INDIRECT INTEREST: If, after the effective date of this Agreement, any official of the City, or spouse, child, parent or in-law of such official or employee shall become directly or indirectly interested in this Agreement or the affairs of the Contractor, the City shall have the right to terminate this Agreement without further liability to the Contractor if the disqualification has not been removed within thirty (30) days after the City has given the Contractor notice of the disqualifying interest. Ownership of less than one percent (1%) of the stock or other equity interest in a corporation or partnership shall not be a disqualifying interest. Employment shall be a disqualifying interest.

18. FAILURE TO PERFORM. If Contractor fails to perform its obligations hereunder, the City may take any and all remedial actions provided by the general specifications or otherwise permitted by law.

19. LEGAL PROCEEDINGS: Any controversy or claim arising out of or relating to this Agreement, or the breach thereof, shall be settled either by commencement of a suit in Oakland

County Circuit Court, the 48th District Court or by arbitration. If both parties elect to have the dispute resolved by arbitration, it shall be settled pursuant to Chapter 50 of the Revised Judicature Act for the State of Michigan and administered by the American Arbitration Association with one arbitrator being used, or three arbitrators in the event any party's claim exceeds \$1,000,000. Each party shall bear its own costs and expenses and an equal share of the arbitrator's and administrative fees of arbitration. Such arbitration shall qualify as statutory arbitration pursuant to MCL §600.5001 et seq., and the Oakland County Circuit Court or any court having jurisdiction shall render judgment upon the award of the arbitrator made pursuant to this Agreement. The laws of the State of Michigan shall govern this Agreement, and the arbitration shall take place in Oakland County, Michigan. In the event that the parties elect not to have the matter in dispute arbitrated, any dispute between the parties may be resolved by the filing of a suit in a federal or state court with jurisdiction over Oakland County, Michigan.

20. RESPONSE TO REQUESTS FOR PROPOSALS: The Contractor shall be held to and bound by all terms, conditions, warranties and representations which it made in its written proposal dated September 30, 2022. In the event of a conflict in any of the terms of this Agreement and the proposal dated September 30, 2022, the terms of this Agreement shall prevail.

21. FAIR PROCUREMENT OPPORTUNITY: Procurement for the City of Birmingham will be handled in a manner providing fair opportunity for all businesses. This will be accomplished without abrogation or sacrifice of quality and as determined to be in the best interest of the City of Birmingham.

IN WITNESS WHEREOF, the parties hereto agree to be bound by the above terms and conditions, and Contractor, by its authorized signature below, expressly accepts this Agreement upon the above provided terms and conditions contained in this Agreement as of the date first above written.

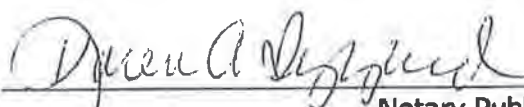
WJE ENGINEERS AND ARCHITECTS

By: MATTHEW LEWIS, P.E. 
Its: SENIOR ASSOCIATE

STATE OF MICHIGAN)
) ss:
COUNTY OF OAKLAND)

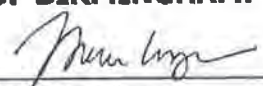
On this 1ST day of NOVEMBER, 2022, before me personally appeared MATTHEW LEWIS, who acknowledged that with authority on behalf of WJE ENGINEERS AND ARCHITECTS to do so he/she signed this Agreement.

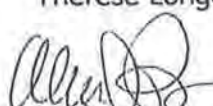



Notary Public
MACOMB County, Michigan
Acting in OAKLAND County, Michigan

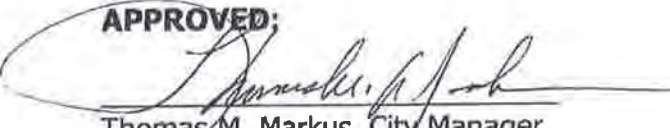
My commission expires: 8/15/2029

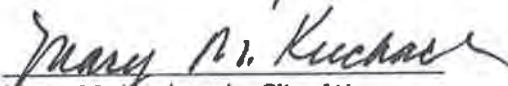
CITY OF BIRMINGHAM:

By: 
Therese Longe, Mayor

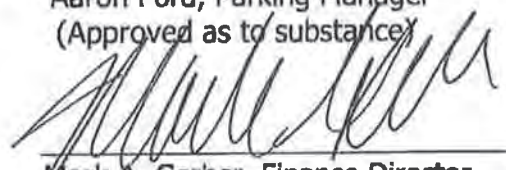
By: 
Alexandria D. Bingham, City Clerk

APPROVED:


Thomas M. Markus, City Manager
(Approved as to substance)


Mary M. Kucharek, City Attorney
(Approved as to form)


Aaron Ford, Parking Manager
(Approved as to substance)


Mark A. Gerber, Finance Director
(Approved as to Financial Obligation)

City of Birmingham Parking Structures

Repair Design & Construction Document Development

North Old Woodward, Pierce Street, Park Street, Peabody Street, and
Chester Street Parking Structures



September 30, 2022

WJE No. 2022.0566

PREPARED FOR:

City of Birmingham
ATTN: City Clerk's Office
151 Martin Street
Birmingham, Michigan 48009

PREPARED BY:

Wiss, Janney, Elstner Associates, Inc.
30700 Telegraph Road, Suite 3580
Bingham Farms, Michigan 48025
248.593.0900 tel



City of Birmingham Parking Structures

Repair Design & Construction Document Development

North Old Woodward, Pierce Street, Park Street, Peabody Street, and Chester Street Parking Structures

A handwritten signature in black ink, reading "Matthew E. Lewis".

Matthew E. Lewis, P.E.
Project Manager and Senior Associate

A handwritten signature in black ink, reading "Sarah V. Rush".

Sarah V. Rush, P.E.
Senior Associate

September 30, 2022
WJE No. 2022.0566

PREPARED FOR:

City of Birmingham
ATTN: City Clerk's Office
151 Martin Street
Birmingham, Michigan 48009

PREPARED BY:

Wiss, Janney, Elstner Associates, Inc.
30700 Telegraph Road, Suite 3580
Bingham Farms, Michigan 48025
248.593.0900 tel



CONTENTS

Introduction	1
Project Background	1
Recent Work	1
Description of Structures	1
Request for Services	1
Scope of Services	2
Kick-off Meeting	2
Fieldwork and Analysis	2
Repair Design and Construction Document Development	3
Construction Document Finalization	4
Bidding Assistance	4
MEP Subconsultant	4
Local Office & Project Contacts	4
Related Project Experience	5
WJE Qualifications	5
Project Staffing	6
Terms and Conditions	6
Schedule	7
Additional Services	8
Closing	8
APPENDIX A. Structure Specific Background and Additional Scope	
APPENDIX B. Personnel Qualifications	

INTRODUCTION

Wiss, Janney, Elstner, Inc. (WJE) is pleased to submit this proposal to perform professional engineering services for five City of Birmingham (City) parking structures located at the following addresses:

- North Old Woodward (NOW) Garage, located at 333 N Old Woodward Avenue,
- Pierce Street Garage, located at 333 Pierce Street,
- Park Street Garage, located at 333 State Park Street,
- Peabody Garage, located at 222 Peabody Street, and
- Chester Garage, located at 180 Chester Street.

The intent of this project is to design repairs and develop construction documents for each parking structure with the understanding that repair construction will begin in 2023 and continue into subsequent years, as determined by the City.

PROJECT BACKGROUND

Recent Work

In 2020 and 2021, WJE performed condition assessments at four of the five subject parking structures for the purpose of developing short, mid, and long term repair and maintenance strategies, as well as solutions to rehabilitate and extend the useful life of the structures. Following the completion of the condition assessments and delivery of the reports outlining our findings and recommendations, the City elected to perform limited repairs at the NOW, Chester, Park, and Peabody parking structures. As requested, WJE designed repairs, developed construction documents, and provided construction period services for the repair projects during Fall 2021. The projects at the Chester, Park, and Peabody parking structures have been completed. The project at the NOW structure is ongoing, with completion expected in late Fall 2022.

WJE has additional previous experience, prior to the 2020-2021 assessment program, with the North Old Woodward and Pierce Street parking structures. Additional project background information specific to each parking structure can be found in **Appendix A**.

Description of Structures

Descriptions of the individual parking structures are provided in **Appendix A**

Request for Services

On February 3, 2022, Mr. Matthew Lewis and Ms. Sarah Rush, both of WJE, met with representatives of the City to discuss the project objectives. The City requested that WJE submit a proposal to design repairs and prepare construction drawings for the anticipated comprehensive repair projects at each parking structure, with the repair work to be performed over the subsequent years. The anticipated repair projects were to include all repair recommendations outlined in our original condition assessment reports, which generally consist of structural, waterproofing and facade repairs. The City further requested that WJE's repair documents include aesthetic and serviceability improvements within the parking structures and stairwells, including painting work. The City also requested that WJE retain a mechanical, electrical (lighting), and

plumbing (MEP) subconsultant to assess the parking structures and, following City input and approval, develop repair documents for their recommended repairs and improvements.

The City indicated all programming (e.g., signage, wayfinding, gates, etc.) would be excluded from WJE's scope, to be contracted directly by the garage operator, SP+, under separate bid solicitation. We assume wayfinding color selection for each level of the garages will be provided by the City/SP+, which can be incorporated into WJE's painting specification.

We understand the City has estimated the total design and construction cost for the upcoming projects at all five garages to be approximately \$15M to be allocated over the next few years. We understand this estimate was based on the findings and cost estimates outlined in WJE's condition assessment reports, contractor cost estimates for work such as installation of new LED lighting and interior painting efforts, and based on WJE consulting during and subsequent to the February 3 meeting.

The City and WJE discussed multiple options to package and bid the construction documents, including packaging of the bid documents for all five parking structures under one awarded contract (i.e., to one general contractor with the work performed over a number of years) or packaging the bid documents for each individual parking structure as separate contracts with bid solicitations occurring over multiple years. The benefits and disadvantages to either approach and final selection of the preferred package method can be determined during the "Kick-off Meeting" or "Owner Review" phases noted below.

SCOPE OF SERVICES

Based on our understanding of the project objectives, our familiarity with the parking structures, and our extensive experience assessing and developing construction drawings for repair of parking garages, we propose the following general scope of services applicable to all five garages. Please also refer to **Appendix A** for descriptions of services unique to each specific garage.

Kick-off Meeting

WJE will meet with the City to gain input on their priorities for the repair projects and the extent of the repair scopes and bid packaging method in relation to the February 3, 2022 discussion. We will also finalize the proposed design project schedule at this time.

Fieldwork and Analysis

WJE will visit the sites to collect relevant as-built information, to perform additional investigation of select conditions as recommended in our original reports, and as needed to gather the information necessary to develop the repair drawings, details, and the scope of work to address the observed conditions, which may have changed since our previous inspections. At the fifth parking structure, Pierce Street, WJE will conduct a more thorough condition assessment as discussed in **Appendix A**.

WJE will lead a meeting with the City and our MEP subconsultant to summarize and discuss the findings of this project phase and in preparation of moving into repair design and construction document development. WJE will update our Opinion of Cost estimates to facilitate this discussion.

Repair Design and Construction Document Development

Based on the findings from the *Fieldwork and Analysis* task, as well as input from the City, WJE will design the repairs and develop construction documents consisting of project specifications and drawings detailing requirements for completing the work, including all outstanding work items referenced in WJE's *City of Birmingham Parking Garage Structural Assessment Program* reports dated April 30 and May 5, 2021. The specifications will consist both of technical sections describing the repair work items and construction contract provisions, defining unit cost work items, and establishing the general working conditions during construction. Given our experience with similar structures, we anticipate that the drawings will consist of the following:

- Plan and elevation drawings identifying the repair locations and work items, as well as the painting scope and color-coding schemes provided by the City
- Select concrete repair details, such as partial depth concrete horizontal repair, full-depth horizontal, concrete repair, underside concrete repair, curb repair details, formed vertical and overhead repairs, crack repair
- Select details for the repair of post-tensioning tendons for the post-tensioned concrete parking structures, such as end/intermediate anchorage repairs, tendon splice repairs, sheathing repairs
- Required shoring loads and locations, as needed
- Select waterproofing repair details, such as sealant replacement, expansion joint replacement, traffic coating repair, traffic coating installation, elastomeric coating installation, penetrating sealer installation, drain replacement, supplemental drain installation
- Select facade repair details, such as concrete or brick masonry cladding repointing and reconstruction, sealant replacement, masonry shelf angle flashing repairs, curtainwall glazing replacement, curtainwall frame painting, concrete and masonry facade cleaning
- Select stairwell repair details, such as railing and railing post repair, stair nosing replacement, concrete stair repairs, and concrete masonry (block) repairs
- Miscellaneous details specific to each structure, as needed

As a part of this effort, WJE will coordinate with a MEP consultant for support pertaining to mechanical, electrical (lighting), and plumbing repairs and improvements throughout the parking structures. MEP equipment and materials will be visually depicted and specified in the repair documents.

Over the course of the design development, WJE will lead 3 meetings with the City to discuss the scope of work, review repair options and work alternates, review phasing options and owner requirements, and to confirm the bid packaging and solicitation method.

WJE will provide the City with a set of drawings and specifications for review and input when they have been developed to approximately 30 percent and again at 90 percent of the final construction set. WJE will submit an updated engineering opinion of cost estimate as part of the 90 percent "Owner Review" set for the City's consideration and planning purposes.

Construction Document Finalization

WJE will finalize the construction documents incorporating WJE's internal review comments and input from the City. The construction documents will be used by the City to obtain pricing from qualified contractors to perform the work.

Bidding Assistance

WJE will lead a pre-bid meeting at the project sites to discuss the project scope and conduct a walkthrough with the bidding contractors, SP+, and City representatives. During the bidding period, WJE will address relevant technical or scoping questions that may arise by responding to contractor requests for information and issue formal addenda, if needed. After the bidding period, WJE will review and analyze the provided bids to assist the City with selecting a restoration contractor and work alternates.

MEP Subconsultant

WJE will engage directly with a MEP subconsultant to assist with assessment, design, and development of construction documents with respect to the MEP elements of the garages. The MEP subconsultant tasks for each garage shall include:

- Assessment and Reporting
 - Review of the original MEP construction drawings
 - Field assessment
 - Building code review of the MEP systems
 - Assessment report
 - Cost estimating
 - Attend assessment summary meeting with the City to discuss and select work scope
- Design and Construction Documents
 - Design for modifications, repairs, and improvements selected by the City
 - Attendance at select progress update and schematic design meetings with the City
 - LED lighting upgrade design and lighting controls
 - Egress lighting calculation and design
 - Electric Vehicle (EV) charging station design
 - Development of construction documents

With respect to the *Design and Construction Documents* task, the scope of services required to be provided by the MEP subconsultant is not fully known at this time and will be determined based on the results of the *Assessment and Reporting* task. Thus, the fee estimate provided below is presented as a budget range and will be refined following submission of the MEP assessment reports and final selection of a scope of MEP work by the City.

Exclusions: Work associated with the existing elevators and fire protection systems.

LOCAL OFFICE & PROJECT CONTACTS

The Project Managers and primary points of contact are Mr. Matthew Lewis, P.E. and Mrs. Sarah Rush, P.E., both Senior Associates at WJE's Detroit location. Their contact information is provided below:



Wiss, Janney, Elstner, Inc.
30700 Telegraph Road, Suite 3580
Bingham Farms, Michigan 48025
(p) 248.593.0900

Matthew E. Lewis, P.E.
(e) mlewis@wje.com
(d) 248.594.0145
Sarah V. Rush, P.E.
(e) srush@wje.com
(d) 248.594.0153

RELATED PROJECT EXPERIENCE

WJE's Detroit office has completed local condition assessments or designed repairs for at least 30 parking structures over the past five years. The table below lists five recent projects completed by local WJE staff that have similarities to and provide beneficial experience for the City of Birmingham parking structures.

Project Name	Client Name & Contact	Description of Services
Primary Street Parking Structure Condition Assessment, Structural Consulting Services, Repair Design	OHM Advisors City of Auburn Hills Kim O'Rear (734) 466-4454	Assessment, material testing, repair design, and construction document development for a 2000s precast prestressed parking structure containing precast plant manufacturer defects.
Henry Ford Hospital Detroit Structural Condition Assessments and Repair Design of Parking Structures	Henry Ford Hospital Detroit Hiep Nguyen (313) 693-5718	Assessment, repair design, and construction document development for waffle slab and flat slab with drop panel parking structures.
Grand Circus Parking Structure Engineering Services	Pullman Construction Pete Wallace (734) 282-3801	WJE partnered on a design-built team to design and implement a large restoration of two below-grade parking structures in downtown Detroit constructed in 1955.
Beaumont Hospital Grosse Pointe Parking Deck Repair Design and Construction Period Services	Beaumont Health System Dave Tremberth (734) 679-6371	Assessment, repair design, and construction document development for a precast prestressed parking structure.
Baltimore Parking Structure Detroit Restoration of Single-Tee Concrete Parking Structure	Patrick Meehan (313) 446-8790	WJE partnered on a design-built team to design and implement a \$5.5 million restoration of a 270,000 square foot post-tensioned parking structure built in 1964.

WJE QUALIFICATIONS

With over 700 professionals operating from offices and laboratories located across the United States and around the world, WJE has the resources to respond to virtually any problem and offers a wide range of technical services and expertise in virtually all aspects of design and construction technology.

Unlike other professional architectural or engineering firms, our interdisciplinary firm, with in-house laboratory facilities, is comprised of recognized experts in the design and construction industry. WJE's staff consists of members and chairs of national technical committees. WJE is the industry leader in concrete technology, having completed numerous research and training projects on concrete deterioration and corrosion protection for the American Concrete Institute (ACI), Post-Tensioning Institute (PTI), Federal Highway Administration (FHWA), National Highway Cooperative Research Project (NHCPR), Concrete Reinforcing Steel Institute (CRSI) and others.

Project Staffing

Our project team consists of engineers with significant experience assessing deterioration, analyzing structural behavior, and designing repairs in parking structures. The project will be managed by Mr. Matthew Lewis and Ms. Sarah Rush. Both are experienced in the investigation of parking structures, as well as many other types of historic and contemporary structures. Their projects involve field investigation, structural analysis, nondestructive testing and instrumentation, structural damage and failure assessment, structural repair design, preparation of construction documents and drawings, and building code investigations. As project managers, they are responsible for client relations, project staffing and budgeting, coordination, and development and quality of project deliverables. Ms. Rush is a board member of the ACI Greater Michigan Chapter and Mr. Lewis' Grand Circus Parking Garage project recently won an Award of Excellence from the International Concrete Repair Institute (ICRI). Both are licensed Professional Engineers in Michigan.

Ms. Tracy Naso and Mr. Peter Tarara will serve as Project Advisors. In their role, they will assist with developing technically sound repair recommendations and serving as quality assurance reviewers for all work product. Ms. Naso and Mr. Tarara have extensive experience in field and analytic assessment of new and historic structures and are both experts in the design, evaluation, and restoration of concrete structures, including facades, balconies, plazas, and parking structures. Ms. Naso is the Unit Manager of one of WJE's two Chicago office units and is a member of ACI and PTI, including chairing and serving on technical committees for PTI related to repair, rehabilitation, and strengthening of post-tensioned structures. Mr. Tarara is an Associate Principal and the Unit Manager of one of WJE's Structures III group located in WJE's headquarters and is a member of ACI committees 362 - Parking Structures, 364 - Rehabilitation, and 546 - Repair of Concrete.

In addition to Mr. Lewis and Ms. Rush, Mr. Justin Barden will act as a project engineer. Mr. Barden is experienced in performing condition assessments and construction period observations on concrete repair projects, including the recent work performed at the City's parking structures. In addition to having extensive experience in reinforced concrete structures, Mr. Barden is a board member of ICRI's Greater Michigan Chapter.

Detailed Personnel Qualifications may be found in **Appendix B**.

TERMS AND CONDITIONS

WJE will perform the Scope of Services described above and in **Appendix A** for the amounts shown in Table 1 below. In the absence of other agreed upon terms, WJE's work will be performed in accordance with the attached *Terms and Conditions for Professional Services*; however, we are amenable to working under terms similar to our previous contracts with the City. These services will be performed on a fixed fee basis. WJE will not perform additional services that exceed the budget prior to obtaining permission from the City.

Table 1. Fee Schedule

Scope	Fee
<i>Fieldwork, Analysis, Schematic Design, Repair Design and Construction Document Development:</i>	
Peabody Street Parking Structure	\$56,000
Park Street Parking Structure	\$76,000
Chester Street Parking Structure	\$58,000
North Old Woodward Avenue Parking Structure	\$38,000
Pierce Street Parking Structure, including condition assessment phase	\$81,000
WJE Scope Subtotal	\$309,000
<i>MEP Subconsulting:</i>	
Assessment and Reporting	\$6,000 per garage = \$30,000
Scope Development, Repair Design, and Construction Documents	\$35,000 to \$45,000 per garage = \$175,000 to \$225,000
MEP Subconsulting Subtotal	\$205,000 to \$255,000
2023 Bidding Assistance	\$10,000
Total	\$574,000

SCHEDULE

We understand the City intends to commence with competitive bid solicitation for all five parking structures under one construction contract by Summer 2023. WJE proposes the following schedule of milestones pending approval by the City (schedule assumes WJE has authorization to proceed by October 14, 2022):

- October 14: Work commences
- November 1: WJE and MEP subconsultant meet with City and SP+ representatives to confirm work items and to review phasing options and owner requirements (Kick-off Meeting)
- December 14: Project team meeting following completion of fieldwork and analysis
- February 1: WJE issues an approximately 30% complete set for review and discussion
- March 1: WJE issues 90% complete set for "Owner Review"
- March 7: City/SP+ provides "Owner Review" comments to WJE
- April 1: WJE issues completed construction documents for bid solicitation
- April 7: Pre-bid meeting/walkthrough
- April 10: Deadline for technical questions
- April 14: WJE issues Addendum, if necessary
- April 29: Bidding deadline

ADDITIONAL SERVICES

WJE would be pleased to provide additional services at your request and under separate authorization, such as, but not limited to: attendance at meetings beyond those included in our scope of work and to provide construction administration and construction observation services, as described below, during the repairs. Appropriate budgets can be established once the final scope and construction duration is known.

Construction Period Services. These services include reviewing the work during the repairs to:

- provide a degree of quality assurance / quality control relative to the work being performed in general accordance with the intent of the design and contract documents,
- answer contractor questions,
- address unanticipated conditions that are inherent to any restoration project in an existing structure,
- measure work quantities for verification of contractor payment applications,
- provide material submittal reviews,
- and provide construction administration tasks such as review of contractor payment applications, answer formal RFI's, or review change orders.

The level of effort required during the construction period will depend on the duration and phasing of the construction, the relative intensity of the work, the capabilities of the contractor, and any unforeseen problems encountered during the work. WJE can submit a proposal for additional services at your request once the final scope is determined and the bidding contractor is awarded.

CLOSING

WJE has extensive experience in the investigation and repair of distressed and deteriorated concrete parking structures. Our project team that has been selected for this assignment has decades of combined experience with post-tensioned and precast/prestressed concrete structures, as well as intimate knowledge of all five of the subject parking structures. Because of this experience and our extensive hands-on experience in the design and implementation of concrete parking garage repairs, we believe that we are highly qualified to perform the work required.

Thank you for the opportunity to submit this proposal. We look forward to the continued opportunity to work with City of Birmingham and to assist with the care of its public structures. Please feel free to contact Matthew Lewis or Sarah Rush at (248) 593-0900 if you have any questions or comments regarding our recommended scope of work.



APPENDIX A. STRUCTURE SPECIFIC BACKGROUND AND ADDITIONAL SCOPE



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NORTH OLD WOODWARD PARKING STRUCTURE

Description of Structure

The North Old Woodward (NOW) Avenue parking structure was constructed in 1966 and has five levels of parking with a centralized ramp system. The structural system on the supported levels consists of a two-way slab system comprised of reinforced concrete flat slabs supported on columns with drop panels. Level 1 is a reinforced concrete slab on ground, and Level 5 is uncovered rooftop parking. The supported slabs are approximately 15 inches thick, including a concrete topping that varies in thickness from three to six inches. The structure is square in plan with approximate dimensions of 200 feet by 200 feet, for a total area of 200,000 square feet of floor space between all levels. The facade at the corner towers is primarily brick masonry cladding with concrete masonry unit (CMU) backup; additionally, precast concrete units with an exposed aggregate finish extends from grade to the top of the corner towers, surrounding the windows and doors. At the time of the initial visual portion of the assessment, the remaining portions of the facade consisted of exposed aggregate precast concrete panels individually attached at each slab level; now, the panels have been removed and a prestressed cable vehicle barrier system is in place.

Project Background

WJE originally visited the site in July 2019 as a part of a previous limited structural assessment project. The City of Birmingham was considering modifications to the property on which the parking structure is located and, as a result, was interested in determining preliminary cost estimates to repair the existing parking structure. During an approximate 8-hour site visit, the assessment included a limited visual inspection of the accessible and exposed portions of the structural components, a limited visual inspection of the facade, and a limited sounding survey of portions of the structural components as summarized in WJE's *NOW Parking Structure Preliminary Assessment* report, dated July 5, 2019.

During the limited July 2019 assessment, WJE observed conditions that we identified as "Immediate Recommendations." Specifically, the recommendations pertained to loose overhead concrete and precast concrete facade panels of immediate concern. We recommended removing loose overhead concrete throughout the parking structure and facade to minimize the potential for concrete pieces to dislodge and impact pedestrians or vehicles. Additionally, we recommended stabilizing, repairing, or replacing the facade panels of immediate concern. Subsequently, WJE was requested to further document the facade panels, develop a temporary stabilization repair design and sketch, and provide a letter report to summarize our observations and to present our recommendations (*NOW Parking Structure Recommendations* dated July 26, 2019). The stabilization repairs were then performed by a contractor at select facade panels.

Following the implementation of the stabilization repairs, an existing facade panel connection, without supplemental stabilization installed, failed, resulting in the facade panel falling onto a drive lane below. It was observed that the existing connection failed due to advanced corrosion within the faced panel, unobservable and concealed when in its original installed position. Because of this, The City of Birmingham proactively elected to remove all existing precast concrete panels that comprise the facade of the parking structure. The facade panels served as the vehicle barrier system for the perimeter of each

above-ground level. Thus, the City of Birmingham requested that WJE design a new vehicle barrier system to be installed in order to maintain the existing level of safety within the garage with the facade panels removed. A steel cable-based barrier system was the method preferred by the City of Birmingham for this application, and the installation of the barrier system was completed in July 2020. As a part of the installation of the new barrier system, concrete repairs were performed at the slab edges along the entire structure perimeter. The new vehicle barrier system was purposely designed to accommodate various options with respect to architectural cladding systems in the future.

In 2020 and 2021, WJE performed condition assessment of the NOW garage, for the purpose of estimating short, mid, and long term mitigation strategies, as well as to develop repair solutions to extend the useful life of the structures. The findings and recommendations for the NOW garage were presented in WJE's *City of Birmingham Parking Garage Structural Assessment Program* report dated May 5, 2021. The City of Birmingham elected to perform limited repairs at the NOW Parking Structure. As requested, WJE designed repairs, developed construction documents, and provided construction period services for the repair projects. The project at NOW is ongoing, with completion expected in late Fall 2022.

SCOPE OF SERVICES

In **addition** to the general scope of services presented in the main body of this document, the following tasks will be performed for the North Old Woodward parking structure:

Fieldwork

WJE will review the condition of the stair treads, risers, handrails, and nosings to develop appropriate repair details and associated construction work scopes within the stair towers.

Repair Design and Construction Document Development

Based on the fieldwork of WJE's stairwell and drain assessment fieldwork, WJE will develop corresponding repair details as needed.

WJE will present multiple options for proprietary architectural cladding systems for the consideration and selection of the City and their design architect. WJE will then design and detail mechanical attachments for the selected architectural cladding system. For the purposes of this proposal, a 40 hour allowance is assumed. Design of the cladding system and its components is a delegated design and the responsibility of others.

WORK ITEMS BASED ON 2020 ASSESSMENT PROGRAM

Please refer to the attached table below regarding the work items and their respective statuses identified during WJE's *City of Birmingham Parking Garage Structural Assessment Program*:

Immediate Recommendations (within 1 year)				
Item Description	Est. Qty.	Units	Unit cost	Est. Cost*
Loose concrete removal COMPLETED 2021	2	work day	\$ 1,000	\$ 2,000
Replace damaged/missing drain covers PARTIALLY COMPLETED 2022	24	each	\$ 350	\$ 8,400
Reset displaced and loose stair tower metal cover plates PARTIALLY COMPLETED 2022	10	each	\$ 200	\$ 2,000
Immediate Recommendations Subtotal				\$ 12,400
Near-Term Repair Recommendations (within 1 to 2 years)				
Item Description	Est. Qty.	Units	Unit cost	Est. Cost*
Concrete				
Partial-depth topside slab concrete repairs PARTIALLY COMPLETED 2022	5,000	SF	\$ 45	\$ 225,000
Partial-depth underside slab concrete repairs PARTIALLY COMPLETED 2022	4,500	SF	\$ 100	\$ 450,000
Waterproofing and Drainage Improvements				
Rout and seal cracks and joints in slab PARTIALLY COMPLETED 2022	25,000	LF	\$ 6	\$ 150,000
Traffic bearing membrane on Level 5 COMPLETED 2022	41,000	SF	\$ 5	\$ 205,000
Inspect and clean drain lines PARTIALLY COMPLETED 2022	1	each	\$ 15,000	\$ 15,000
Masonry Repairs				
Replace concrete masonry units at stair towers PARTIALLY COMPLETED 2022	50	SF	\$ 20	\$ 1,000
Subtotal				\$ 1,046,000
General Conditions, Overhead and Profit (15%)				\$ 156,900
Project Contingency (15%)				\$ 156,900
Engineering/Testing/Construction Period Services (10%)				\$ 104,600
Near-Term Recommendations Total				\$ 1,464,400
Long-Term Repair Recommendations (within 3 to 5 years)				
Item Description	Est. Qty.	Units	Unit cost	Est. Cost*
Concrete				
Partial-depth topside slab concrete repairs PARTIALLY COMPLETED 2022	5,000	SF	\$ 45	\$ 225,000
Partial-depth underside slab concrete repairs PARTIALLY COMPLETED 2022	4,500	SF	\$ 100	\$ 450,000
Concrete column repairs PARTIALLY COMPLETED 2022	150	SF	\$ 110	\$ 16,500
Concrete wall repairs PARTIALLY COMPLETED 2022	60	SF	\$ 100	\$ 6,000
Waterproofing Improvements				
Traffic bearing membrane on Level 2, 3, and 4	123,000	SF	\$ 5	\$ 615,000
Replace sealant at cove seal joints PARTIALLY COMPLETED 2022	1,000	LF	\$ 6	\$ 6,000
Masonry Repairs				
Localized repointing of clay masonry veneer PARTIALLY COMPLETED 2022	100	SF	\$ 20	\$ 2,000
Replacement of clay brick masonry units	60	EA	\$ 15	\$ 900
Steel lintel clean and coat	40	LF	\$ 350	\$ 14,000
Subtotal				\$ 1,335,400
General Conditions, Overhead and Profit (15%)				\$ 200,310
Project Contingency (15%)				\$ 200,310
Engineering/Testing/Construction Period Services (10%)				\$ 133,540
Long-Term Recommendations Total				\$ 1,869,560
Grand Total				\$ 3,346,360
*Prices based on current (2021) dollars and do not include increases for inflation (recommended 3 percent per year)				

PIERCE STREET PARKING STRUCTURE

Description of Structure

The parking structure was constructed in 1968 and is a four-story reinforced concrete flat slab structure. Five parking levels (including the slab-on-ground level) are connected via a north-south ramp at the middle of the structure. The nominal 12-1/2 inch elevated floor slabs are supported directly by reinforced concrete columns, with drop panels 10 feet by 11 feet by 4 inches at each column. The typical column spacing is approximately 29 feet in the north-south direction and 34 feet in the east-west direction. The floor slabs cantilever approximately 15 feet at the perimeter of the structure from the columns to an upturned edge beam/guardrail. The slabs also cantilever approximately 15 feet to the two interior expansion joints.

In plan, the structure consists of two joined rectangles with the long dimension of each rectangle in the north-south direction and each floor comprising about 60,000 square feet. The larger rectangle is approximately 130 feet east-west by 325 feet north-south with the smaller rectangle to its west, approximately 70 feet east-west by 180 feet north-south. The larger rectangle is split approximately in half by an east-west expansion joint, and a north-south expansion joint separates the larger and smaller rectangles.

Project Background

At the request of the City of Birmingham, WJE performed a limited structural assessment of the garage in 2018 to assess safety concerns caused by the visible differential deflection at the expansion joints of the supported floors and to provide an assessment of the working condition of the drainage system. The findings from this assessment were presented in our *Slab Differential Deflection Safety Assessment* letter, dated September 28, 2018. Based on this report's findings and recommendations, WJE issued a proposal letter, dated October 11, 2018, with a detailed proposed scope of services as continuation of the initial assessment of the Pierce Street parking garage. These tasks were incorporated into the scope of services for our 2020 *Parking Garage Structural Assessment Program*. The tasks performed and respective statuses are as follows:

- Floor laser survey
 - Completed by TruePoint Laser Scanning, LLC in January 2020
 - Data provided to WJE for review and analysis
- Drainage system clean-out and video inspection
 - Video inspection performed by Plumber's Service Inc. (PSI) in January 2020.
 - Some repair work performed as directed by the City of Birmingham; however, WJE was not involved in this work.
- Structural analyses
 - Completed in 2020 and 2021
 - Analysis will be updated following our upcoming condition assessment (see below)

- Site work
 - To be performed as part of our upcoming condition assessment (see below)
- Materials testing
 - To be performed as part of our upcoming condition assessment (see below)
- Report
 - Will be provided following our upcoming condition assessment (see below)

Throughout the process, the City of Birmingham was verbally updated on our progress with respect to these tasks. Based on the City's positive response to the condition assessments performed at the other four garages, it was decided that a similar assessment should also be performed for the Pierce Street garage and the remaining work items would be incorporated into that project, as represented below.

SCOPE OF SERVICES

In **addition** to the general scope of services presented in the main body of this document, the following tasks will be performed for the Pierce Street parking structure:

Additional Condition Assessment

WJE will perform a field assessment of the parking structure to observe and document the various types of deterioration beyond the previously assessed differential slab deflections. The primary intent of the assessment will be to visually assess accessible portions of the structure in order to determine what types of repairs may be required and the likely extent of those repairs. The assessment will include visual inspection, chain dragging and hammer sounding of select representative structural elements.

For the exterior walls and facade, a binocular survey will be performed from grade. Lastly, the condition of the roofing will be visually assessed. Observed conditions will be digitally documented with Plannote by use of iPads and with photographs.

Materials Testing

Concrete samples will be tested to estimate the cement-to-aggregate ratio (cement content) and water-to-cement ratio, and to measure the compressive strength. Petrography and compressive strength testing will be completed at WJE's laboratory in Northbrook, Illinois. Estimated cement content and water-to-cement ratios may inform the interpretation of the observed deflections of the floors. Estimates of the concrete compressive strength based on the results of the compression testing will be used to refine the calculations of load carrying capacity of the regions.

Finalize Analysis

WJE will refine our analysis and update the results based on the information gained from the assessment and materials testing tasks.

Condition Assessment Report

Similar to the reports provided for the other four garages, WJE will prepare a written report summarizing our findings and conclusions for Pierce Street, including recommendations for a repair and rehabilitation

program. The report will include a prioritized list of repair recommendations to address structural and other conditions of concern. The report will also provide an engineering level estimate of probable construction costs, to be used for developing a preliminary budget. Repair costs for observed structural and water infiltration distress will be projected based on the visual survey and our experience with past parking structure repair construction.



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PARK PARKING STRUCTURE

Description of Structure

The Park Street parking structure was constructed during the mid-1970s and has five levels of parking with a centralized ramp. Level 1 and a portion of the ramp from Level 1 to Level 2 are a reinforced concrete slab on ground, and Level 5 is uncovered rooftop parking. The four-bay, side-by-side structure is rectangular in plan, with approximate overall dimensions of 250 by 225 feet, for a total area of about 270,000 square feet between all levels. The north and south ends of the structure are unsloped, while the remaining bays of the garage are sloped to serve as circulation ramps.

The structure consists of 5-1/2-inch-thick, one-way, post-tensioned (PT) concrete slabs supported by steel beams, girders, and columns. The PT tendons consist of single 7-wire strands in plastic sheathing. The structural tendons run in the north-south direction with the temperature and shrinkage tendons running in the east-west direction. One construction joint exists in each bay. The exterior perimeter columns are steel pipes, and the interior columns, beams, and girders are steel wide flange shapes. Steel tube diagonal bracing members, intended to provide lateral stability in the north-south direction, span between four pairs of columns at the ends of both interior column grid lines. Steel moment frames at the north and south ends of the interior column grid provide lateral stability in the east-west direction.

Steel channels that span between the interior columns run along the lengths of the interior slab edges at an approximate height of two feet above the slab, to act as vehicle barriers between ramps. Intermediate steel wide flange posts that run the full height of the structure are located between interior columns and provide lateral support to the vehicle barriers at their midspans. These intermediate posts are embedded in concrete foundations at their base, and are supported by bolted connections to angles at each of the slab edges above.

The facade consists of corrugated metal panels supported by light gauge steel vertical posts anchored to the top surface of the concrete slabs. Struts along the bottom edges of the panels connect to the steel edge beams below to provide lateral support to the facade panels. Stair towers with concrete masonry (CMU) walls, brick veneer cladding, and steel stairs are present at each of the four garage corners, with expansion joints separating the towers from the remaining structure.

Project Background

In 2020 and 2021, WJE performed a condition assessment of the Park garage for the purpose of estimating short, mid, and long term mitigation strategies, as well as to develop repair solutions to extend the useful life of the structures. The assessment included a visual inspection of the accessible and exposed portions of the structure and facade, a limited sounding survey of portions of the structural components, and isolated inspection openings to review the condition of the post-tensioned tendons.

The findings and recommendations for the Park garage were presented in WJE's *City of Birmingham Parking Garage Structural Assessment Program* report April 30, 2021. The City of Birmingham elected to perform limited repairs at the Park Street Parking Structure, and the 2021-2022 repair project was completed in August 2022.

SCOPE OF SERVICES

In **addition** to the general scope of services presented in the main body of this document, the following tasks will be performed for the Park Street parking structure:

Fieldwork and Analysis

Portions of the existing cladding system have been removed due to vehicle impact damage. The cladding system also serves as the vehicle barrier system at the garage perimeter. WJE will design a new assembly to restore the system and replicate the original system, 20 hours assumed. We plan to repair the system in-kind. We also plan to consider modifying the type and positioning of the existing vehicle curbs/wheel stops to mitigate future vehicle impact damage.

WJE will review the construction documents to help determine the as-built configuration of the existing footings located below the corroded intermediate posts of the interior vehicle barrier system. WJE will analyze the structural system of the garage as a whole to determine the significance of the intermediate post base connections and to develop appropriate repairs, 20 hours assumed.

Repair Design and Construction Document Development

WJE will design and develop structural steel repair details associated with the work items identified in the attached table. This includes the design of new post bases and foundation connections at the corroded intermediate posts. WJE's construction documents will also specify the removal of all abandoned, corroded steel conduit that is embedded in the floor slabs. WJE assumes the City and our MEP subconsultant will assist with the identification of abandoned conduit that may be removed to mitigate further distress to the structural system.

Exclusions: As discussed in our condition assessment report, several deterioration conditions are present related to the exterior vehicle barriers and facade panels. Code upgrades to the perimeter vehicle barrier system are not required if the system is repaired in-kind. Therefore, we understand the City does not wish to replace the perimeter architectural cladding system, and the panels will be repaired in-kind only. Should the City wish to pursue alternative systems for the facade cladding and vehicle barrier system, WJE would be happy to assist upon separate authorization.

WORK ITEMS BASED ON 2020 ASSESSMENT PROGRAM

Please refer to the attached table below regarding the work items and their respective statuses identified during WJE's *City of Birmingham Parking Garage Structural Assessment Program*:

Near-Term Recommendations (within 1 to 2 Years)				
Item Description	Est. Qty.	Units	Unit cost	Est. Cost**
Replace construction joint sealant* COMPLETED 2022	900	LF	\$ 6	\$ 5,400
Repair column stiffener and moment connection plates* COMPLETED 2022	24	EA	\$ 1,000	\$ 24,000
Inspect and clean drain lines* COMPLETED 2022	1	LS	\$ 15,000	\$ 15,000
Traffic bearing membrane - complete replacement or new installation	142,000	SF	\$ 4	\$ 568,000
Traffic bearing membrane - add'l top coat only	72,000	SF	\$ 2.50	\$ 180,000
Rout and seal cracks in elevated slabs	1,500	LF	\$ 6	\$ 9,000
Replace expansion joint seals at stair towers	100	LF	\$ 125	\$ 12,500
Localized concrete repairs in slab, partial depth topside	2,500	SF	\$ 45	\$ 112,500
Localized concrete repairs in slab, full depth	11,000	SF	\$ 80	\$ 880,000
P/T slab tendon and anchor repair - allowance, approx. 50 repairs	1	LS	\$ 250,000	\$ 250,000
Subtotal				\$ 2,056,400
General Conditions, Overhead and Profit (15%)				\$ 308,460
Project Contingency (15%)				\$ 308,460
Engineering/Testing/Construction Period Services (10%)				\$ 205,640
Near-Term Recommendations Total				\$ 2,878,960
Long-Term Recommendations (within 3-5 Years)				
Item Description	Est. Qty.	Units	Unit cost	Est. Cost**
Concrete Structure Repairs				
Localized concrete repairs in slab, partial depth topside	100	SF	\$ 45	\$ 4,500
Localized concrete repairs in slab, full depth	150	SF	\$ 80	\$ 12,000
Structural Steel Repairs				
Repair column base plates and/or anchorages	10	EA	\$ 250	\$ 2,500
Repair exterior pipe column bases	44	EA	\$ 750	\$ 33,000
Repair beam-to-column shear connections	70	EA	\$ 500	\$ 35,000
Repair intermediate vehicle barrier post connections, properly clean and paint	115	EA	\$ 250	\$ 28,750
Replace intermediate vehicle barrier post connections, in-kind	50	EA	\$ 500	\$ 25,000
Repair intermediate vehicle barrier post bases ‡	18	EA	\$ 10,000	\$ 180,000
Replace vehicle barriers, in kind	5	EA	\$ 400	\$ 2,000
Facade Repairs				
Replace facade panels and posts impacted by vehicles	1	LS	\$ 5,000	\$ 5,000
Replace missing anchors at facade base plates	1	LS	\$ 2,500	\$ 2,500
Reattach facade panel tie-backs ‡	1	LS	\$ 200,000	\$ 200,000
Miscellaneous				
Repair stair landings, tread/risers, CMU walls, and brick headers	1	LS	\$ 20,000	\$ 20,000
Subtotal				\$ 550,250
General Conditions, Overhead and Profit (15%)				\$ 82,538
Project Contingency (15%)				\$ 82,538
Engineering/Testing/Construction Period Services (10%)				\$ 55,025
Long Term Recommendations Total				\$ 770,350
Grand Total				\$ 3,649,310
* Highest priority of near-term repair items.				
** Prices based on current (2021) dollars, and do not include increases for inflation (recommended 3% per year).				
‡ Pending further analysis during repair design phase.				



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CHESTER PARKING STRUCTURE

Description of Structure

Constructed in 1988, the Chester parking structure features six levels of parking. Tiers A and B are below grade, with Tier B consisting of a reinforced concrete slab on ground, while the Ground Tier (Tier 1) and Tiers 2 through 4 are above grade. The structure is rectangular-shaped, extending 167 feet in the north-south direction and 330 feet in the east-west direction for a total parking area of approximately 282,500 square feet. The central and south bays are sloped to serve as circulation ramps, while the north bay has a minor transverse slope for drainage. The floor plans for Tiers 2, 3, and 4 are set back in increments at the garage perimeter (terraced). Stair towers with elevator shafts project from the building plan on the east corners of the parking structure and are connected to the adjacent sidewalk with pedestrian bridges at grade. A third stair tower is present to the west of the vehicle entrance.

The structure consists of cast-in-place conventionally reinforced concrete columns supporting cast-in-place post-tensioned (PT) concrete beams and slabs. The PT tendons consist of single 7-wire strands in plastic sheathing with additional bonded reinforcement. The one-way structural slab consists of tendons extending in the east-west direction spanning between the PT beams, while the temperature and shrinkage tendons run in the north-west direction. One expansion joint is present on the east end of the garage, while multiple construction joints are present in each bay, which corresponds to locations of intermediate PT anchorages. The PT beam tendons are draped and continuous between aligned bays. A portion of the floor slab near the elevator shafts of each level (approximately 18 feet by 8 feet), consists of a composite reinforced concrete slab with a corrugated steel deck. This slab portion is independent of the adjacent post-tensioned slab and is separated by an expansion joint.

The perimeter walls generally consist of conventionally reinforced concrete supported on the concrete slab, which are clad with brick veneer. Concrete spandrel panels are present at the roof level and recessed areas on the north facade. The stair towers are clad in brick masonry veneer and curtainwall assemblies. The vehicle barrier system at interior column lines consists of post-tensioned cables.

Project Background

In 2020 and 2021, WJE performed a condition assessment of the Chester garage for the purpose of estimating short, mid, and long term mitigation strategies, as well as to develop repair solutions to extend the useful life of the structures. The assessment included a visual inspection of the accessible and exposed portions of the structure and facade, a limited sounding survey of portions of the structural components, and isolated inspection openings to review the condition of the post-tensioned tendons.

The findings and recommendations for the Chester garage were presented in WJE's *City of Birmingham Parking Garage Structural Assessment Program* report dated April 30, 2021), the City of Birmingham elected to perform limited repairs at the Chester Street Parking Structures. As requested, WJE designed repairs, developed construction documents, and provided construction period services for the repair projects. The 2021-2022 repair project at the Peabody Street parking structure was completed in August 2022.

During construction, the City of Birmingham requested that WJE determine the cause(s) of the water infiltration within the southeast elevator pit. WJE determined multiple paths of water infiltration were contributing to the ponded water within the elevator pit due to deficiencies in the curtainwall and glazing system above, deficiencies in the pedestrian bridge waterproofing and expansion joints, and deficiencies in the exterior masonry cladding at the base of the curtainwall. Temporary measures were taken to remediate water within the elevator pit, including the installation of a sump and sump pump within the base of the southeast stairwell and repairs to the masonry and curtainwall at grade. Long-term repairs are anticipated to include installation of permanent drain lines and electrical outlets servicing the sump pump and repairs to the curtainwall and glazing assembly above grade.

SCOPE OF SERVICES

In addition to the general scope of services presented in the main body of this document, the following tasks will be performed for the Chester Street parking structure:

Fieldwork and Analysis

WJE will visually assess the three stair tower roof areas related to locations of masonry deterioration that were not accessible during WJE's original assessment. WJE will develop appropriate roofing, gutter, and downspout repair details as necessary. WJE will retain a qualified roofing contractor to provide ladder access and create roofing inspection openings.

WJE will create an isolated inspection opening at the cracked and outwardly displaced masonry within the southeast stair tower to review the as-built construction and to develop appropriate repair details. WJE will retain a qualified masonry contractor to assist with the creation and temporary protection of this inspection opening.

Repair Design and Construction Document Development

WJE will develop repair details associated with the stair tower roof areas and water management systems, permanent drain lines and electrical outlets servicing the sump pump in the base of the southeast stair tower, deterioration of the structural and waterproofing elements of the pedestrian bridges, and repair of the curtainwall and glazing systems.

WORK ITEMS BASED ON 2020 ASSESSMENT PROGRAM

Please refer to the attached table below regarding the work items and their respective statuses identified during WJE's *City of Birmingham Parking Garage Structural Assessment Program*:

Near-Term Recommendations (within 1 to 2 Years)				
Item Description	Est. Qty.	Units	Unit cost	Est. Cost**
Localized concrete repairs in slab, full depth	1,500	SF	\$ 80	\$ 120,000
Localized concrete repairs in slab, partial depth PARTIALLY COMPLETED 2022	500	SF	\$ 45	\$ 22,500
P/T slab tendon repairs - allowance	1	LS	\$ 75,000	\$ 75,000
Replace pre-molded expansion joint seals (Tier A through Tier 3), including expansion joints near stairs* COMPLETED 2022	1,200	LF	\$ 125	\$ 150,000
Replace control joint sealant at intermediate PT anchorages (N-S joints)* COMPLETED 2022	2,000	LF	\$ 6	\$ 12,000
Rout and seal cracks in elevated slab and replace failed sealant at isolated cracks COMPLETED 2022	750	LF	\$ 6	\$ 4,500
Install traffic bearing membrane at control joints, expansion joints, and PT tendon repair areas	36,000	SF	\$ 5	\$ 180,000
Apply concrete slab sealer on elevated levels	195,000	SF	\$ 0.40	\$ 78,000
Install waterproofing and flashing improvements at pedestrian bridges	2	LS	\$ 8,000	\$ 16,000
Replace deteriorated horizontal lines at floor drains and associated components* COMPLETED 2022	150	LF	\$ 90	\$ 13,500
Inspect and clean lines as part of repair effort* COMPLETED 2022	1	LS	\$ 15,000	\$ 15,000
Remove loose brick coping fragments and verify all brick coping units are secure (not loose)* COMPLETED 2021	1	LS	\$ 1,500	\$ 1,500
Repair brick distress within east stair towers (vertical cracking and outward displacement). Coordinate with waterproofing efforts at pedestrian bridges.	2	LS	\$ 24,000	\$ 48,000
Subtotal				\$ 736,000
General Conditions, Overhead and Profit (15%)				\$ 110,400
Project Contingency (15%)				\$ 110,400
Engineering/Testing/Construction Period Services (10%)				\$ 73,600
Near-Term Recommendations Total				\$ 1,030,400
Long-Term Recommendations (within 3 to 5 Years)				
Item Description	Est. Qty.	Units	Unit cost	Est. Cost**
Structural Repairs				
Localized concrete repairs in slab, full depth	250	SF	\$ 80	\$ 20,000
Localized concrete repairs in slab, partial depth	100	SF	\$ 45	\$ 4,500
Partial depth concrete repair at beams, columns, walls, spandrels	1,000	SF	\$ 90	\$ 90,000
Repair composite steel decking and supporting steel framing elements	1	LS	\$ 7,500	\$ 7,500
Waterproofing Repairs				
Replace winged expansion joints at Tier 4 (roof)	275	LF	\$ 125	\$ 34,375
Install traffic bearing membrane outside elevators at Tier 1 and at column bases at inclined columns (small areas)	700	SF	\$ 8	\$ 5,600
Install traffic bearing membrane at drains (small areas)	350	SF	\$ 8	\$ 2,800
Replace remaining joint sealant on elevated levels, including perimeter cove seal.	5,000	LF	\$ 6	\$ 30,000
Crack repairs at foundation walls and perimeter walls where active water infiltration is present PARTIALLY COMPLETED 2022	150	LF	\$ 35	\$ 5,250
Add drain in region of standing water on northeast end of Tier 1	1	LS	\$ 4,000	\$ 4,000
Facade, Stairwell and Miscellaneous Repairs				
Replace deteriorated brick coping units in-kind ‡	900	LF	\$ 100	\$ 90,000
Repoint deteriorated brick mortar PARTIALLY COMPLETED 2022	900	SF	\$ 50	\$ 45,000
Clean efflorescence (including exterior facade access)	1	LS	\$ 4,000	\$ 4,000
Rout and seal cracks on slab on ground and replace failed joint sealant (Tier B)	1,500	LF	\$ 6	\$ 9,000
Subtotal				\$ 352,025
General Conditions, Overhead and Profit (15%)				\$ 52,804
Project Contingency (15%)				\$ 52,804
Engineering/Testing/Construction Period Services (10%)				\$ 35,203
Long Term Recommendations Total				\$ 492,835
Grand Total				\$ 1,523,235
* Highest priority of near-term repair items.				
**Prices are based on current (2021) dollars.				
‡ See report discussion for alternative repair options.				



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PEABODY PARKING STRUCTURE

Description of Structure

The Peabody Street parking structure (Peabody) was constructed during the mid-1980s and has eight levels of parking. A Lower Level is located below grade and consists of a reinforced concrete slab on ground. The garage vehicle entrance is located on Level 1 on the east side of the building. Level 7 and a portion of Level 6 are uncovered rooftop parking. The double-threaded helix structure is rectangular in plan with a truncated corner at the southeast and approximate overall dimensions of 200 feet by 115 feet, for a total area of about 170,000 square feet of floor space between all levels.

The structural system at the supported levels generally consists of a one-way post-tensioned (PT) slab supported by PT beams and conventionally reinforced concrete columns. The PT tendons consist of single 7-wire strands in plastic sheathing with additional bonded mild reinforcement. The structural slab tendons span in the north-south direction with two intermediate anchorage points at construction joints in each bay. Temperature tendons span perpendicular to the structural tendons in the east-west direction. The PT beam tendons are draped and continuous between aligned bays. The conventional mild reinforcement within the PT slab is epoxy coated; plain reinforcing bars are located elsewhere within the concrete structure. Large concrete washes (sloped curbs) are present at the slab edges, which were cast monolithically with the slab.

The exterior wall assembly consists of clay brick masonry veneer with concrete masonry (CMU) back-up. These partial height walls are approximately 3 feet tall and serve as the vehicle barrier system for the garage perimeter. The brick is supported by shelf angles that are anchored to the slab edges, while the reinforced CMU bears on top of the slab. The vehicle barrier system at interior column lines consists of post-tensioned cables. Stair towers with CMU walls, brick veneer, concrete stairs, and storefront window assemblies are present at the northeast and southwest corners of the structure. Expansion joints are present between the deck and stair towers and between the slab on ground and first elevated level. Mechanical and storage spaces are located within the Lower Level, and a vaulted sidewalk plenum space is present at the vehicle entrance.

Project Background

In 2020 and 2021, WJE performed a condition assessment of the Peabody garage for the purpose of estimating short, mid, and long term mitigation strategies, as well as to develop repair solutions to extend the useful life of the structures. The assessment included a visual inspection of the accessible and exposed portions of the structure and facade, a limited sounding survey of portions of the structural components, and isolated inspection openings to review the condition of the post-tensioned tendons. During this assessment, WJE observed conditions at Peabody that we identified as "Immediate Recommendations". Specifically, we recommended further investigation of concrete distress within two Lower Level columns located on the southwest end of the garage within 1 year.

The findings and recommendations for the Peabody garage were presented as part of WJE's *City of Birmingham Parking Garage Structural Assessment Program* report dated April 30, 2021. The City of

Birmingham elected to perform limited repairs at the Peabody Street Parking Structure and included the investigation of the Lower Level Peabody columns as part of the scope of work. As requested, WJE designed repairs, developed construction documents, and provided construction period services for the repair projects.

The investigation of the Lower Level Peabody columns exposed significant concrete cracking, inadequate original reinforcement installation in relation to the construction drawings, and structurally significant distress within the two columns. The capacity of the columns had been significantly reduced and, as such, immediate shoring and repairs were recommended, which were designed and implemented in Spring 2022. Additional investigation efforts at other locations of the garage were also recommended following the exposed conditions, which were completed in Spring 2022, and resulted in the concrete repair of Column 13-E on Level 5.

The 2021-2022 repair project at the Peabody Street parking structure was completed in August 2022.

SCOPE OF SERVICES

In **addition** to the general scope of services presented in the main body of this document, the following tasks will be performed for the Peabody Street parking structure:

Fieldwork and Analysis

WJE will visually assess the condition of the vaulted sidewalk located at the garage entrance, including access to interior mechanical, storage, and office spaces that were not accessible during WJE's original assessment. We assume the City will coordinate WJE access to these regions. WJE will analyze the remaining capacity of the vaulted sidewalk as deemed necessary, 10 hour allowance assumed.

Repair Design and Construction Document Development

WJE will develop repair and replacement details for the vehicle barrier cables located along the interior column lines of the parking structure and develop brick masonry and waterproofing repair details for the interior stairwell walls. WJE will develop concrete and waterproofing repairs for the vaulted sidewalk as needed.

WORK ITEMS BASED ON 2020 ASSESSMENT PROGRAM

Please refer to the attached table below regarding the work items and their respective statuses identified during WJE's *City of Birmingham Parking Garage Structural Assessment Program*:

Immediate Recommendations (within 1 Year)				
Item Description	Est. Qty.	Units	Unit cost	Est. Cost**
Investigation and repair of two Lower Level columns ‡ COMPLETED 2022	1	LS	\$ 50,000	\$ 50,000
Immediate Recommendations Total				\$ 50,000
Near-Term Recommendations (within 1 to 2 Years)				
Item Description	Est. Qty.	Units	Unit cost	Est. Cost**
Localized concrete repairs in slabs, full depth	300	SF	\$ 80	\$ 24,000
Localized concrete repairs in slabs, partial depth topside PARTIALLY COMPLETED 2022	500	SF	\$ 45	\$ 22,500
P/T slab tendon splice and materials - allowance	1	LS	\$ 50,000	\$ 50,000
Replace construction joint sealant* COMPLETED 2022	1,500	LF	\$ 6	\$ 9,000
Rout and seal cracks in elevated slabs and replace failed sealant at isolated cracks COMPLETED 2022	500	LF	\$ 6	\$ 3,000
Replace expansion joint seals* COMPLETED 2022	150	LF	\$ 125	\$ 18,750
Install traffic bearing membrane at construction joints, occupied areas, and vehicle entrance lanes	25,000	SF	\$ 5	\$ 125,000
Apply concrete sealer at all elevated levels	147,500	SF	\$ 0.40	\$ 59,000
Inspect and clean drain lines* COMPLETED 2022	1	LS	\$ 15,000	\$ 15,000
Subtotal				\$ 326,250
General Conditions, Overhead and Profit (15%)				\$ 48,938
Project Contingency (15%)				\$ 48,938
Engineering/Testing/Construction Period Services (10%)				\$ 32,625
Near-Term Recommendations Total				\$ 456,750
Long-Term Recommendations (within 3 to 5 Years)				
Item Description	Est. Qty.	Units	Unit cost	Est. Cost
Concrete Structure Repairs				
Localized concrete repairs in slabs, full depth	150	SF	\$ 80	\$ 12,000
Localized concrete repairs in slabs, partial depth	100	SF	\$ 45	\$ 4,500
P/T slab tendon splice and materials - allowance	1	LS	\$ 25,000	\$ 25,000
Partial depth concrete repairs at beams, columns, foundation walls, and stairs and isolated crack repairs at beam-column intersections PARTIALLY COMPLETED 2022	1,000	SF	\$ 90	\$ 90,000
Waterproofing Repairs				
Install traffic bearing membrane at drains and concrete repairs	2,500	SF	\$ 8	\$ 20,000
Replace cove sealant at roof level, install cove sealant at other isolated locations	2,500	LF	\$ 6	\$ 15,000
Modify stair tower roof downspouts	1	LS	\$ 2,500	\$ 2,500
Facade, Stair Tower, and Miscellaneous Repairs				
Repair brick masonry cladding - allowance PARTIALLY COMPLETED 2022	1	LS	\$ 250,000	\$ 250,000
Repair stairwell storefront assemblies	1	LS	\$ 50,000	\$ 50,000
Stairwell handrail repairs, clean and paint metal surfaces	1	LS	\$ 150,000	\$ 150,000
Subtotal				\$ 619,000
General Conditions, Overhead and Profit (15%)				\$ 92,850
Project Contingency (15%)				\$ 92,850
Engineering/Testing/Construction Period Services (10%)				\$ 61,900
Long Term Recommendations Total				\$ 866,600
Grand Total				\$ 1,323,350
* Highest priority of near-term repair items.				
** Prices based on current (2021) dollars, and do not include increases for inflation (recommended 3% per year).				
‡ Pending further analysis during repair design phase; includes engineering, shoring, and masonry allowances.				



APPENDIX B. PERSONNEL QUALIFICATIONS



PERSONNEL QUALIFICATIONS

Matthew E. Lewis | Senior Associate



EDUCATION

- Michigan Technological University
 - Bachelor of Science, Civil Engineering, 2002
 - Master of Science, Civil Engineering, 2003

PRACTICE AREAS

- Code Consulting
- Construction Troubleshooting
- Failure/Damage Investigations
- Litigation Consulting
- Fire Damage
- Repair and Rehabilitation Design
- Structural Evaluation

REGISTRATIONS

- Professional Engineer in MI
- Professional Engineer in IN

PROFESSIONAL AFFILIATIONS

- American Institute of Steel Construction (AISC)
- American Society of Civil Engineers (ASCE)
- Structural Engineering Institute (SEI)

CONTACT

mlewis@wje.com
248.593.0900
www.wje.com

EXPERIENCE

Since joining WJE in 2003, Matthew Lewis has performed various consulting services with regard to the investigation and assessment of problems with historic and contemporary buildings, parking structures, stadiums, municipal structures and smokestacks, as well as retail, office and residential buildings. His projects involve a wide variety of services including field investigation, structural analysis, nondestructive testing and instrumentation, structural damage and failure assessment, design of structural repairs, preparation of construction documents and drawings, construction observations and building code investigation.

Prior to joining WJE, Mr. Lewis performed research at Michigan Technological University in fatigue analysis and evaluation of large steel overhead sign support structures. The result of his work was a comparative method for structures based on a combination of their economic and performance characteristics. This method was made available to state departments of transportation nationwide for use in the development of a stronger, more economic sign support structure.

REPRESENTATIVE PROJECTS

Parking Structures

- Grand Circus Park – Detroit, MI: Design-build assessment, repair design, construction documents and construction observations for large underground parking garage.
- City of Birmingham – Birmingham, MI: Assessment, repair design, construction documents and construction observations for five parking garages
- Fisher Building – Detroit, MI: Assessment and development of strategic repair approach for historic parking structure

Construction Troubleshooting

- Conner Creek - Detroit, MI: Observation of extensive reinforced concrete repairs in a historic CSO facility
- Palo Verde Water Reclamation Facility - Palo Verde, AZ: Observation of concrete repairs for large water treatment structures at nuclear power plant

- Cobo Conference/Exhibition Center Roof Deck - Detroit, MI: Observation of concrete repairs at helix bridge and roof level parking

Failure/Damage Investigations

- Cadillac Place - Detroit, MI: Causation investigation for partial collapse of historical plaster ceiling
- Joplin Schools - Joplin, MO: Structural assessment of tornado damage at multiple educational facilities
- Mt. Zion Church - Auburn Hills, MI: Structural investigation of an auditorium roof that partially collapse during a storm event
- Comerica AHOC - Auburn Hills, MI: Investigation, repair and in-situ drying of post tensioned tendons for concrete slabs

Litigation Consulting

- Center for Forensic Psychiatry - Ann Arbor, MI: Analysis of construction change order items related to project cost overrun and delay
- Criminal Justice Center - Huntsville, AL: Extensive field inspection and evaluation of construction documents for new correctional facility
- Tractor Supply Company - Fenton, MI: field inspection, evaluation, and structural analysis of tornado damaged commercial building

Fire Damage

- Fifth Third Ballpark - Grand Rapids, MI: Fire damage investigation and repair of a baseball stadium
- Oakland Hills Country Club – Bloomfield, MI: Fire damage assessment and building code review for historic country club building

Structural Evaluation

- Arkansas Public Schools - Little Rock and Morrilton, AR: Field inspection of fire-retardant-treated truss structures
- Major Retail Store Chain - Various Locations Nationwide: Field inspection, structural analysis, repair design and construction documents for large metal-frame buildings
- GM SMCO - Saginaw, MI: Investigation, testing and repair of elevated concrete slab at an engine casting facility

Sarah V. Rush | Senior Associate



EDUCATION

- Michigan Technological University
 - Bachelor of Science, Civil Engineering, 2010
 - Master of Science, Civil Engineering, 2012

PRACTICE AREAS

- Failure/Damage Investigation
- Repair and Rehabilitation
- Structural Analysis
- Fire Damage
- Facade Assessment
- Nondestructive Evaluation
- Water/Air Leakage Assessment
- Roofing and Waterproofing

REGISTRATIONS

- Professional Engineer in MI

PROFESSIONAL AFFILIATIONS

- American Concrete Institute - Greater Michigan Chapter

CONTACT

srush@wje.com
248.593.0900
www.wje.com

EXPERIENCE

Sarah Rush has been involved in numerous projects of various structure types and objectives related to both structural engineering and architecture. Her responsibilities have included field investigation and analysis of existing and damaged structures, development of technical repair and rehabilitation documents, and construction observations. She has performed structural analysis on steel, concrete, masonry, and wood structures. Ms. Rush has assisted with several nondestructive investigations and completed multiple condition assessments. Additionally, she has experience in litigation assistance, code review, and water infiltration investigations.

As a graduate student at Michigan Technological University, Ms. Rush performed finite element modeling and shrinkage testing of polymer and steel fiber reinforced ultra-high performance concrete as a bonded overlay on concrete bridge decks. The result of this work was a comparative method to standard overlay technologies based on economic, performance, constructability, and service life characteristics.

REPRESENTATIVE PROJECTS

Structural Analysis

- Mt. Zion - Clarkston, MI: Structural steel evaluation of a curved, three-dimensional, partial roof collapse
- Aunt Millie's Bakery - Plymouth, MI: Condition assessment of a distressed, elevated concrete slab, including analysis and repair recommendations
- Indoor Athletic Facility - College Station, TX: Assessment and testing of the steel cable bracing systems of two fabric-hoop structures after a partial roof collapse
- Major Retail Store Chain - Various Locations Nationwide: Field inspection, structural analysis, repair recommendations, and design for large metal frame buildings

Fire Damage

- Pontiac Central High School - Pontiac, MI: Structural assessment of fire damage to elevated concrete slab and concrete masonry

- Rue Versailles Apartments - Oak Park, MI: Structural assessment of fire damage to a wood-framed apartment building and preparation of technical repair documents

Facade Assessment

- Grand Park Centre - Detroit, MI: Condition assessment, including terra cotta, limestone, and clay brick masonry elements submitted to owner and City of Detroit to satisfy facade ordinance requirements
- Metropolitan United Methodist Church - Detroit, MI: Condition assessment, technical repair document development, and construction observation services, including sandstone, granite, and brick masonry elements
- C. C. Little Building, University of Michigan - Ann Arbor, MI: Condition assessment, water infiltration testing, technical repair document development, and construction observation services, including clay brick masonry and limestone elements
- Beaumont Hospital - Grosse Pointe, MI: Condition assessment, technical repair document development, and construction observation services, including clay brick masonry walls

Nondestructive Evaluation

- Automotive Manufacturing Facility - Saginaw, MI: Use of impact echo to locate distressed concrete in elevated concrete slab
- Carlyle Place Apartments - Clinton Township, MI: Use of ground penetrating radar to locate voids in concrete slab on ground

Water/Air Leakage Assessment

- Auto-Owners Insurance Headquarters - Lansing, MI: Water infiltration quality insurance testing of unitized curtain wall panel and insulated wall panel joints and tie-ins during recladding construction

Roofing and Waterproofing

- 35th Macomb Centre - Clinton Township, MI: Condition assessment, design, and construction observation services of tearoff and installation of EPDM membrane system



EDUCATION

- University of Kentucky
 - Bachelor of Science, Civil Engineering, 2003
- University of Illinois at Urbana-Champaign
 - Master of Science, Structural Engineering, 2004

PRACTICE AREAS

- Repair and Rehabilitation Design
- Concrete Structures
- Steel Structures
- Parking Structures
- Waterproofing
- Failure/Damage Investigations
- Construction Troubleshooting

REGISTRATIONS

- Professional Engineer in ND and WI
- Structural Engineer in HI, IL, and NE

PROFESSIONAL AFFILIATIONS

- American Concrete Institute (ACI)
- American Society of Civil Engineers (ASCE)
- Post-Tensioning Institute (PTI)
- Structural Engineers Association (SEA)

TECHNICAL COMMITTEES

- PTI CRT-60: Repair, Rehabilitation, and Strengthening Field Personnel Certification
- PTI DC-80: Repair, Rehabilitation, and Strengthening Committee, chair

EXPERIENCE

Tracy Naso specializes in the investigation and repair of structures. Her emphasis is on reinforced concrete systems, including conventional, post-tensioned, prestressed, and antiquated systems. She has extensive experience with a wide variety of structures, including high-rise towers, parking structures, plazas, pools, tunnels, and stadiums. Ms. Naso also investigates failures and collapse due to storms, fire, extreme events, and structural deficiency. She is experienced with available methods of nondestructive testing and sampling to establish properties of existing structures and has developed expertise in the selection of strengthening, repair, and waterproofing methods and materials. Ms. Naso designs repairs for the remediation, strengthening, and protection of new and existing structures, develops construction documents, and provides construction period observation and administration services for the implementation of those designs.

REPRESENTATIVE PROJECTS

Repair and Rehabilitation Design

- Northwestern University Utility Tunnels - Evanston, IL: Condition assessment and restoration program for one-hundred-year-old tunnel system
- Olympia Centre - Chicago, IL: Development of nonlinear inelastic analysis computer model to determine structural behavior and structural repair design to address shear failure of multiple transfer girders in a sixty-four-story reinforced concrete structure
- 400 East Randolph - Chicago, IL: Repair and renovation of reinforced concrete pool and geodesic glass and metal dome structures
- Warehouse Conversion - Chicago, IL: Evaluation of existing historic masonry and concrete structure for reuse for offices and the addition of new floor

Concrete Structures

- International Airport - FL: Condition assessment and repair of elevated concrete guideway for Automated People Mover system
- University of Nebraska, Memorial Stadium - Lincoln: Condition assessment and repair for ongoing stadium rehabilitation work

- North Dakota State University - Fargo: Condition assessment, structural, and waterproofing repair design for utility tunnel system

Parking Structures

- Hospital Parking Garage - Hoffman Estates, IL: Assessment of structural cracking, investigation of failure of structural connectors and sealants, and evaluation of deficient materials in ten-year-old precast/prestressed concrete parking structure
- Baxter Healthcare - Deerfield, IL: Annual assessment and repair of steel-framed parking structures
- Corporate Headquarters - Milwaukee, WI: Condition assessment and repair of post-tensioned concrete parking structure, modification of structure for new exit, and comprehensive review of wayfinding system

Waterproofing

- Commercial Building - Chicago, IL: Investigation and repair of roof waterproofing failure in one-year-old building
- Trustmark Insurance Headquarters - Lake Forest, IL: Plaza restoration and improvements
- Residential High-Rise - Milwaukee, WI: Investigation of structural deterioration and extensive leakage in recently repaired plaza; repair design and litigation support

Failure/Damage Investigations

- Optima Horizons - Evanston, IL: Assessment and strengthening of reinforced concrete floors exhibiting excessive deflection, cracking, and punching shear distress
- Commercial Building - Chicago, IL: Determination of cause of failure of structural connections between precast structural members in three-year-old building
- Grocery Store Roof Collapse - Brookfield, WI: Investigation of collapse and repair of steel truss roof

CONTACT

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EDUCATION

- University of Iowa
 - Bachelor of Science, Civil Engineering, 2001
- Illinois Institute of Technology
 - Master of Science, Structural Engineering, 2007

PRACTICE AREAS

- Failure Investigation
- Field Testing
- Repair and Rehabilitation Design
- Reinforced Concrete Structures
- Steel Structures
- Structural Analysis
- Structural Evaluation

REGISTRATIONS

- Professional Engineer in IL
- Structural Engineer in IL

PROFESSIONAL AFFILIATIONS

- American Concrete Institute
- Structural Engineers Association of Illinois

TECHNICAL COMMITTEES

- ACI 362 - Parking Structures
- ACI 364 - Rehabilitation
- ACI 546 - Repair of Concrete

CONTACT

ptarara@wje.com
312.325.0921
www.wje.com

EXPERIENCE

Peter Tarara joined WJE in 2001 and has broad-based experience with structural investigations, evaluations, analyses, and strengthening of existing structures. His analytical work has included the use of computer models to analyze various structures.

Mr. Tarara has been involved with restoration of several historic, modern, and architecturally significant structures. Most of his experience involves restoration of reinforced concrete structures, including facades, balconies, plazas, and parking garages. These projects have been completed through the investigation, development of repair documents, and construction observation stages. Mr. Tarara has worked on several balcony railing repair and replacement projects as well as several precast concrete structures, including investigation of wall panels and double-tee slabs and connections. Several of his projects have included field and laboratory testing.

REPRESENTATIVE PROJECTS

Failure Investigation

- Sixty-Eighth Street Pumping Station - Chicago, IL: Investigation of partial facade collapse of building under repair
- 8216 South Racine - Chicago, IL: Investigation of partial structural collapse of building under construction
- IPC Petsmart Precast Warehouse Building - Ottawa, IL: Investigate wall panel building collapse

Field Testing

- 500 West Monroe - Chicago, IL: Davit socket and arm testing for code compliance
- Chicago Midway Airport Terminal Garage - IL: Failure investigation, field and laboratory testing, and repair of cable barrier restraint system
- Jefferson National Expansion Memorial (Gateway Arch) - St. Louis, MO: Field and laboratory testing of concrete overlay on stairs
- Midway Airport Economy Parking Garage - Chicago, IL: Precast panel corbel investigation, repair, and load testing
- Talcott Resurrection Parking Garage - Chicago, IL: Load testing of column corbels

Repair and Rehabilitation Design

- 1010 Lake Shore Drive Building - Chicago, IL: Concrete balcony repairs, including replacement of balcony railings
- Hemingway House Condominiums - Chicago, IL: Concrete facade and brick masonry repairs
- Malibu Condominium - Chicago, IL: Concrete balcony repairs, including replacement of balcony railings
- Beverly Wilshire Hotel - Beverly Hills, CA: Concrete balcony and railing repairs
- Marquette Building - Chicago, IL: Restoration of facade and cornice
- Promontory Apartments - Chicago, IL: Exterior facade repair on historic Mies Van der Rohe high-rise
- Trump Village Buildings - New York, NY: Concrete eyebrow investigation and repair
- River Plaza - Chicago, IL: Plaza restoration, including slab and waterproofing repairs
- Sandburg Village South Mall - Chicago, IL: Plaza restoration
- Pioneer Court Plaza - Chicago, IL: Granite paving and waterproofing restoration
- Advocate Good Samaritan Hospital Parking Garages - Downers Grove, IL: Precast double-tee flange-to-flange connection repairs

Structural Analysis and Evaluation

- Aloha Stadium - Honolulu, HI: Seismic and wind analysis of existing stadium
- Chatham Tower - Miami Beach, FL: Structural evaluation of wind and gravity loading using finite element analysis
- Four Winds Casino Parking Garage - New Buffalo, MI: Shear collar repair on column caps
- NASA's Vehicle Assembly Building (VAB) - Titusville, FL: Investigation of metal and fiberglass sandwich facade panels
- AMC Theatres - Canada: Investigation and analysis and repair of cracked precast sandwich wall panels



EDUCATION

- University of Michigan
 - Bachelor of Science, Civil Engineering, 2018
 - Master of Science, Civil Engineering, 2019

PRACTICE AREAS

- Concrete Structures
- Wood Structures
- Failure Investigation
- Facade Assessment
- Leakage Investigation

REGISTRATIONS

- Professional Engineer in MI

PROFESSIONAL AFFILIATIONS

- International Concrete Repair Institute (ICRI) - Greater Michigan Chapter

CONTACT

jbarden@wje.com
248.593.0900
www.wje.com

EXPERIENCE

Since joining WJE in 2018, Justin Barden has been involved in many projects related to both structural engineering and the exterior architecture of new and existing buildings. He has been involved in assessments, investigations, structural analyses, structural damage and failure evaluations, and the preparation of construction documents. Mr. Barden has performed multiple structural and water-related investigations, developed repair designs, and conducted quality control construction observations pertaining to the repair of concrete, steel, and wood structures.

REPRESENTATIVE PROJECTS

Concrete Structures

- NOW Parking Structure - Birmingham, MI: Condition assessment of parking structure, development of emergency facade stabilization, design of new cable barrier system and concrete repairs, and construction observation of a two-way reinforced concrete structure
- Henry Ford Health Systems - Detroit, MI: Condition assessment and development of repair and maintenance plan of a two-way reinforced concrete structure
- Beaumont Hospital - Dearborn, MI: Evaluation of prestressed, double-tee beam structure with corrosion-related distress
- General Motors Warren Technical Center - Warren, MI: Assessment, development of repairs, and construction observation of pre-stressed, double-tee beam parking structures with connection failures
- Westin Hotel - Boston, MA: Design of repairs for a post-tensioned concrete parking structure

Wood Structures

- University of Michigan, Hoover Building - Ann Arbor, MI: Assessment and structural analysis of historic wood trusses
- Detroit Central Farmer's Market - Detroit, MI: Structural analysis and conceptual design of historic timber-framed structure with traditional timber frame joinery
- Beaver United Church - Dayton, OH: Investigation, structural analysis, and development of repair recommendations for historic queen rod timber trusses

- The Salvation Army - Bay City, MI: Investigation, structural analysis, and construction observation of wood bowstring trusses
- Saint Alfred Church - Taylor, MI: Structural analysis and repair design of curved glulam beams
- Taylor Creek Stables - Davison, MI: Assessment and repair design of laterally buckled metal plate connected wood trusses
- Old Dominion Freight Line - Buffalo, NY: Investigation and analysis of historic wood trusses with split ring connections

Failure Investigation

- Lee Middle and High School - Wyoming, MI: Investigation of partial building collapse and development of structural framing demolition documents
- Multiple Schools and Apartment Buildings - Dayton, OH: Failure and damage investigation of tornado-damaged buildings
- Suburban Office Building - Southfield, MI: Investigation of roof and floor collapse

Facade Assessment

- Historic School Buildings - Detroit, MI: Structural and facade assessment of multiple vacant historic school buildings
- Cadillac Place - Detroit, MI: Facade ordinance assessment of limestone cladding
- Royal Oak Middle School - Royal Oak, MI: Assessment of failed masonry cladding and design of stabilization repairs
- Book Depository - Detroit, MI: Facade assessment of vacant historic building and rehabilitation construction observation

Leakage Investigation

- General Motors Warren Technical Center - Warren, MI: Investigation of water leakage of exterior wall insulated metal panels
- Apartment Building - Birmingham, MI: Investigation of water leakage of apartment building terraces and exterior walls clad with brick masonry and fiber cement siding
- Dominican Sisters of Mary Mother of the Eucharist - Ann Arbor, MI: Investigation of water leakage of standing seam metal roofing and single-ply membrane roofing

**ADDENDUM TO THE AGREEMENT FOR
PARKING ACCESS AND REVENUE CONTROL SYSTEM
DATED JUNE 30, 2022 BETWEEN THE CITY OF BIRMINGHAM AND
TRAFFIC & SAFETY CONTROL SYSTEMS, INC.**

THIS ADDENDUM entered into this 8TH day of MARCH, 2023, amends the Agreement for Parking Access and Revenue Control System dated June 30, 2022 by and between the **CITY OF BIRMINGHAM** (hereinafter "City"), having its principal municipal office at 151 Martin Street, Birmingham, MI 48009, and **TRAFFIC & SAFETY CONTROL SYSTEMS, INC.** (hereinafter "Contractor"), having its principal office at 48584 Downing, Wixom, MI 48393-3501, does hereby amend its Agreement as follows:

WHEREAS, the City and Contractor entered into an Agreement for Parking Access and Revenue Control System on June 30, 2022; and,

WHEREAS, the City and Contractor desire to enter into an Addendum so that Contractor may install a complete new island, drive lanes and curbing (north side only) at the alley off of Old N. Woodward, for the turnkey installation of the island.

NOW, THEREFORE, in consideration of the respective agreements and undertakings herein, the parties agree as follows:

1. It is mutually agreed upon that the Scope of Services will change pursuant to Attachment A to this Addendum, which is a letter dated February 23, 2023, from Traffic & Safety Control Systems, Inc.

2. The terms and conditions are as presented in the letter in Attachment A with a total price for the Project of Seventy-two Thousand Seven Hundred Six and 00/100 Dollars (\$72,706.00). The quote for this Project is to provide and install a complete new island, drive lanes and curbing (north side only) at the alley off of Old N. Woodward. The quote is for a turnkey installation of the island.

3. All other terms and conditions of the original contract dated June 30, 2022 remain in full force and effect.

4. If any of the provisions of this Addendum are declared invalid, illegal or unenforceable, all other provisions in this Addendum and the original Agreement shall remain in full force and effect.

IN WITNESS WHEREOF, the said parties have caused this Addendum to be executed

on this 8TH day of MARCH, 2023.

TRAFFIC & SAFETY CONTROL SYSTEMS,
INC.

By: [Signature]
Robert Puhr
Its: Sales Representative

STATE OF MICHIGAN)
) ss:
COUNTY OF OAKLAND)

On this 8th day of March, 2023, before me personally appeared Robert Puhr, Sales Representative, who acknowledged that with authority on behalf of TRAFFIC & SAFETY CONTROL SYSTEMS, INC. to do so he signed this Agreement.

Robin A. Giese
Notary Public
Oakland County, Michigan
Acting in Oakland County, Michigan
My commission expires: 4-28-2023

ROBIN A. GIESEY
Notary Public, State of Michigan
County of Oakland
My Commission Expires Apr. 28, 2023
Acting in the County of Oakland

CITY OF BIRMINGHAM:

By: [Signature]
Therese Longe, Mayor

By: [Signature]
Alexandria D. Bingham, City Clerk

APPROVED:

[Signature]
Thomas M. Markus, City Manager
(Approved as to substance)

[Signature]
Mary M. Kucharek, City Attorney
(Approved as to form)

[Signature]
Aaron Ford, Parking Manager
(Approved as to substance)

[Signature]
Mark A. Gerber, Finance Director
(Approved as to Financial Obligation)



MEMORANDUM

Parking Department

DATE: 4/19/2023

TO: Advisory Parking Committee

FROM: Aaron Ford, Parking Systems Manager

SUBJECT: Miscellaneous Communication

September APS Update

Capacity

MARCH AVG CAPACITY	
Chester Garage (880)	60.69%
Old Woodward (745)	46.21%
Park Garage (811)	33.86%
Peabody Garage (437)	86.41%
Pierce Garage (706)	75.90%

Monthly Contract Parking Usage

MARCH MONTHLY CONTRACT PARKING			
LOCATION	PERMITS SOLD	AVG USED	% USED
Chester Garage (880)	1060	289	27.27%
Old Woodward (745)	839	321	38.20%
Park Garage (811)	945	71	7.48%
Peabody Garage (437)	536	202	37.61%
Pierce Garage (706)	829	269	32.40%

Meter Revenue

	Cash	Credit Card	ParkMobile	Total
May-22	\$ 47,739.00	\$ 50,583.00	\$ 76,123.00	\$ 174,445.00
Jun-22	\$ 54,107.00	\$ 55,136.00	\$ 75,262.00	\$ 184,505.00
Jul-22	\$ 51,237.15	\$ 53,466.25	\$ 71,809.40	\$ 176,512.80
Aug-22	\$ 54,566.85	\$ 55,769.25	\$ 77,324.00	\$ 187,660.10
Sep-22	\$ 48,244.00	\$ 50,221.25	\$ 69,869.15	\$ 168,334.40
Oct-22	\$ 46,806.60	\$ 48,206.50	\$ 75,009.75	\$ 170,022.85
Nov-22	\$ 47,039.00	\$ 48,690.00	\$ 72,460.00	\$ 168,189.00
Dec-22	\$ 50,125.00	\$ 52,509.00	\$ 84,603.00	\$ 187,237.00
Jan-23	\$ 42,500.00	\$ 44,027.00	\$ 71,905.00	\$ 158,432.00
Feb-23	\$ 41,032.00	\$ 41,559.00	\$ 71,375.00	\$ 153,966.00
Mar-23	\$ 47,873.00	\$ 49,480.00	\$ 84,574.00	\$ 181,927.00

Structure Revenue

	Monthly	Daily	Total
Apr-22	\$ 249,180.00	\$ 156,828.00	\$ 406,008.00
May-22	\$ 299,175.00	\$ 188,511.00	\$ 487,686.00
Jun-22	\$ 291,492.00	\$ 219,681.00	\$ 511,173.00
Jul-22	\$ 283,933.00	\$ 182,025.00	\$ 465,958.00
Aug-22	\$ 298,570.00	\$ 212,035.00	\$ 510,605.00
Sep-22	\$ 260,818.00	\$ 206,705.00	\$ 467,523.00
Oct-22	\$ 311,298.00	\$ 160,173.00	\$ 471,471.00
Nov-22	\$ 248,466.00	\$ 165,724.00	\$ 414,190.00
Dec-22	\$ 289,439.00	\$ 189,512.00	\$ 478,951.00
Jan-23	\$ 343,744.00	\$ 182,862.00	\$ 526,606.00
Feb-23	\$ 215,175.00	\$ 139,243.00	\$ 354,418.00
Mar-23	\$ 286,762.00	\$ 143,014.00	\$ 429,776.00

MONTHLY PARKING PERMIT & ACTIVITY REPORT

For the month of: March
Date Compiled: April 12, 2023

Space Count	Pierce	Park	Peabody	N.Old Wooc	Chester					Total
Total Garage Spaces	706	811	437	745	880					3579
Garage Monthly Permits Authorized	829	945	536	981	1368					4659

	<i>cost per month</i>	\$70	\$70	\$70	\$70	\$50					Total
Permits Issued	Pierce	Park	Peabody	N.Old Wooc	Chester						
Garage permits end of previous month	832	942	519	828	1070						4191
Garage permits canceled in month	7	3	8	53	13						84
Garage permits added in month	1	5	11	64	3						84
Total Garage permits end of month	826	944	522	839	1060						4191
Garage permits available	3	1	14	142	308						468
Garage evening passes	45	7	19	12	11						94

						\$210	\$150	\$180	\$105	
Hangtags						Lot #6	Lot #6 econ	Lot A & C	Lot B	Total
Total Hangtag Lot Spaces						174	79	8	40	301
Hangtag Lot Quarterly Permits Authorized						177	40	8	30	255
Hangtags issued						10	5	3	2	20
Hangtags available						167	35	5	28	235

Waiting List	Pierce	Park	Peabody	N.Old Wooc	Chester	Lot #6	Lot #6 econ	Lot A & C	Lot B	Total
# of Passes On Wait List - end of month	469	513	362	0	0					1344
People Requesting Passes on Waitlist	166	89	85							